KONICA MINOLTA

SERVICE MANUAL

bizhub 367/287/227

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KONICA MINOLTA, INC.

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Revision List

bizhub 367/287/227 Function Version 1.0

No.	ID	Title	Ver.	Descriptions of revision	Date
1	-	Issue of the first edition	-	-	2015/04/30

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, KONICA MINOLTA, INC. (hereafter called KM) strongly recommends that all servicing be performed only by KM-trained service technicians.
- Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, KM 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.

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

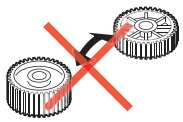
3.1 MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA, INC.

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 be taken 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

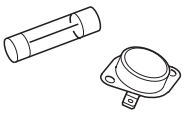
- Do not make any modifications to the product unless otherwise instructed by KM.
- Do not use any part not specified by KM.



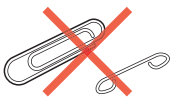
- Do not use any power cord or power plug not specified by KM.



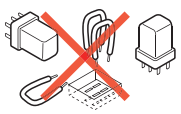
- Use only the protective fuses specified by KM.
  Use of any type of fuse or related part not specified by KM makes safety devices inoperative which may result in a fire from high heat.



- 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.

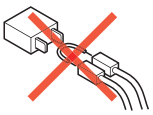


- Do not disable relay functions (for example, inserting a piece of paper between relay contacts to hamper circuit action.)
  Fire may result from high heat.



⚠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 cord shall 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.

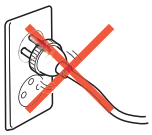


- If the wall outlet has two or more receptacles and the product and another electrical appliance are plugged into this wall outlet, make sure that the total load does not exceed the rating of the wall outlet. The current that can be passed through the outlet is limited and any current exceeding the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

- 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.

⚠WARNING

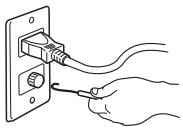
- Make sure the power cord is plugged into the wall outlet securely.
  If the power plug is left loose in the wall outlet, contact failure may occur, leading to abnormal heating of the power plug and a risk of fire.



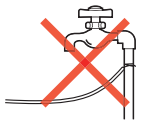
(2) Ground Connection

⚠WARNING

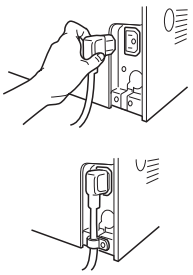
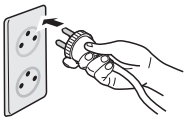
- Check whether the product is grounded properly.
  If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product.
  Connect power plug to grounded wall outlet.



- 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.

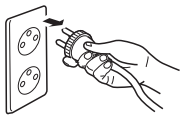


(3) Power Plug and Cord

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.	
• 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 sheath is damaged. If the power plug, cord, or sheath is damaged, replace with a new power cord (with plug and connector on each end) specified by KMBT. 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 plug into the wall outlet with a wet hand. The risk of electric shock exists.	

⚠WARNING

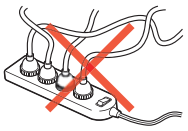
- When unplugging the power cord, grasp the plug, not the cable.
  The cable may be broken, leading to a risk of fire and electric shock.



(4) Wiring

⚠WARNING

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



- 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.

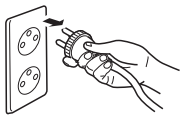


- Do not place the product in a place exposed to water such as rain.
  A risk of fire and electric shock exists.

(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

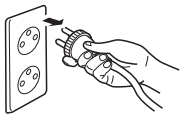


- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure using the recommended personal safety equipment and using only the prescribed tools.
  Do not make any adjustment not described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





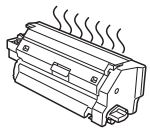
- Before conducting an inspection, be sure to disconnect the power plugs from the Main Body and Accessories (Options).
  When the power plug is inserted into the wall outlet, some units are still powered even if the POWER switch is turned OFF.
  A risk of electric shock exists.



⚠ CAUTION



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



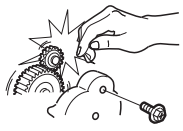
CAUTION

- 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.



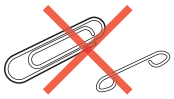
- When removing a part that secures a motor, gear, or other moving part, disassembling a unit, or reinstalling any of such parts and units, be careful about moving parts and use care not to drop any part or unit. During the service procedure, give sufficient support for any heavy unit.
  You may be injured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

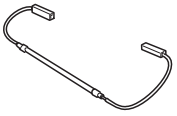
- Check high-voltage cables and sheaths for any damage.
  Damage may lead to product failure and/or the risk of fire.



- 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.

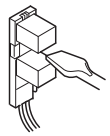
- Do not supply power with the write unit (PH unit) shifted from the specified mounting position.
  The laser light can enter your eye, leading to a risk of loss of eyesight.

- 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 interlock switch 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.



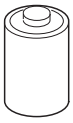
CAUTION

- 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.

CAUTION

- 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 FUSE

CAUTION Double pole / neutral fusing
ATTENTION Double pôle / fusible sur le neutre.

3.5 Used Batteries Precautions

3.5.1 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.

3.5.2 Germany

VORSICHT!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie.
Ersatz nur durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ.
Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

3.5.3 France

ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie.
Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur.
Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

3.5.4 Denmark

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

3.5.5 Finland, Sweden

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin.
Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

VARNING

Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

3.5.6 Norway

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.
Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

3.6 Laser Safety

3.6.1 Laser Safety

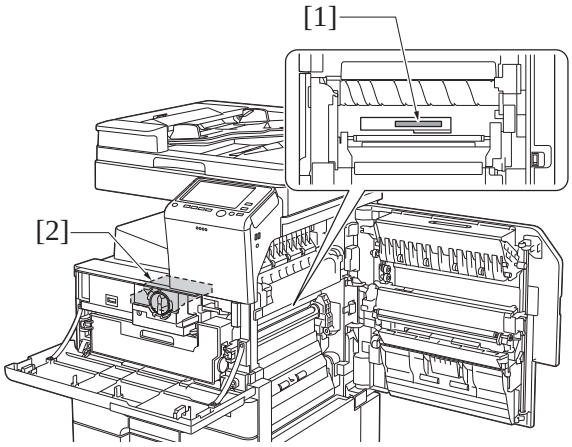
This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

3.6.2 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	7mW
Maximum average radiation power (*)	19.03 µW (bizhub 367) 15.47 µW (bizhub 287/227)
Wavelength	770 to 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.3.6.3 Laser Safety Label" indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

⚠CAUTION

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	7 mW
Wavelength	770 to 800 nm

(2) All Areas

⚠ CAUTION

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	7 mW
Wavelength	770 to 800 nm

(3) Denmark

⚠ADVARSEL

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling. Klasse 1 laser produkt der opfylder IEC60825-1 sikkerheds kravene.

halvlederlaser	
Laserdiodens højeste styrke	7 mW
bølgelængden	770 to 800 nm

(4) Finland, Sweden

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

⚠VAROITUS!

Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

puolijohdelaser	
Laserdiodin suurin teho	7 mW
aallonpituus	770 to 800 nm

⚠VARNING!

Om apparaten används på annat sätt än i denna bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

halvledarlaser	
Den maximala effekten för laserdioden	7 mW
våglängden	770 to 800 nm

⚠VARO!

Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättomälle lasersäteilylle. Älä katso säteeseen.

⚠ VARNING!

Osynlig laserstråining när denna del är öppnad och spärren är urkopplad. Betrakta ej stråien.

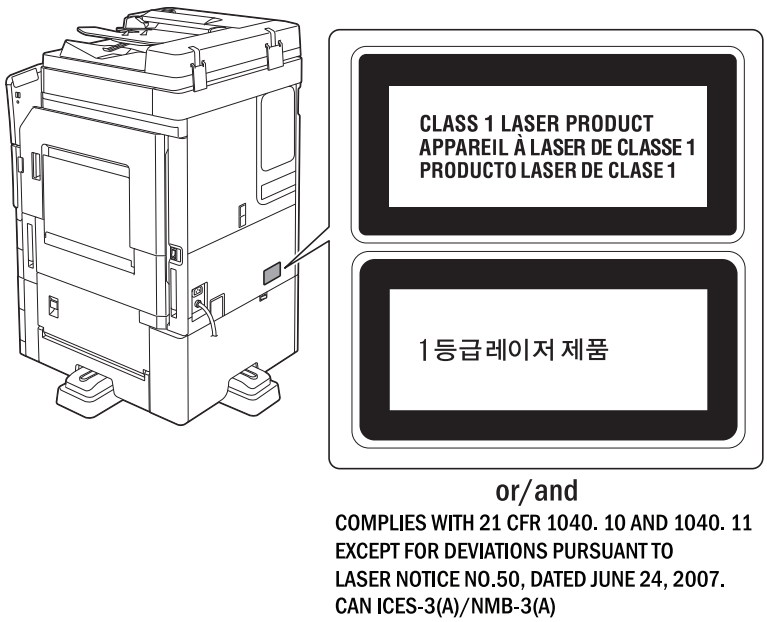
(5) Norway

⚠ ADVERSEL
Dersom apparatet brukes på annen måte enn spesifisert i denne bruksanvisning, kan brukeren utsettes for unsynlig laserstrålning, som overskrider grensen for laser klass 1.

halvleder laser	
Maksimal effekt till laserdiode	7 mW
bølgelengde	770 to 800 nm

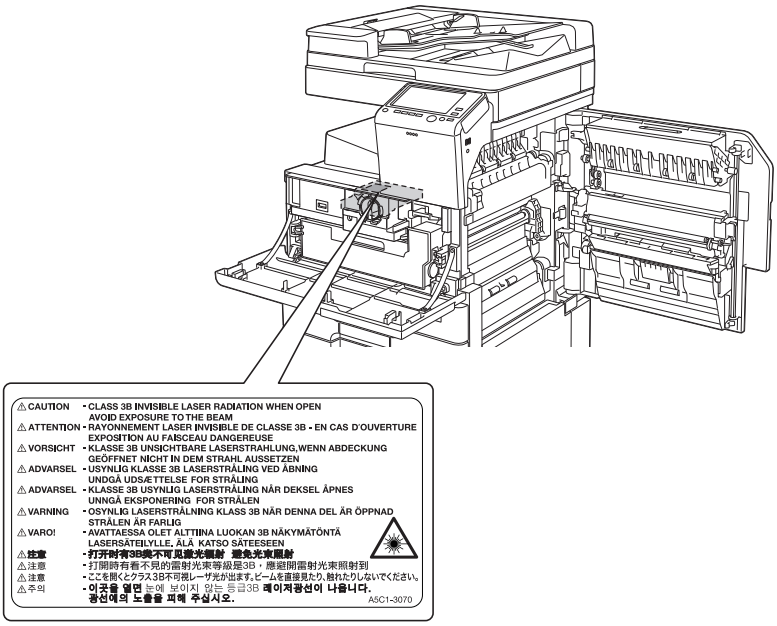
3.6.3 Laser Safety Label

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



3.6.4 Laser Caution Label

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



3.6.5 PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

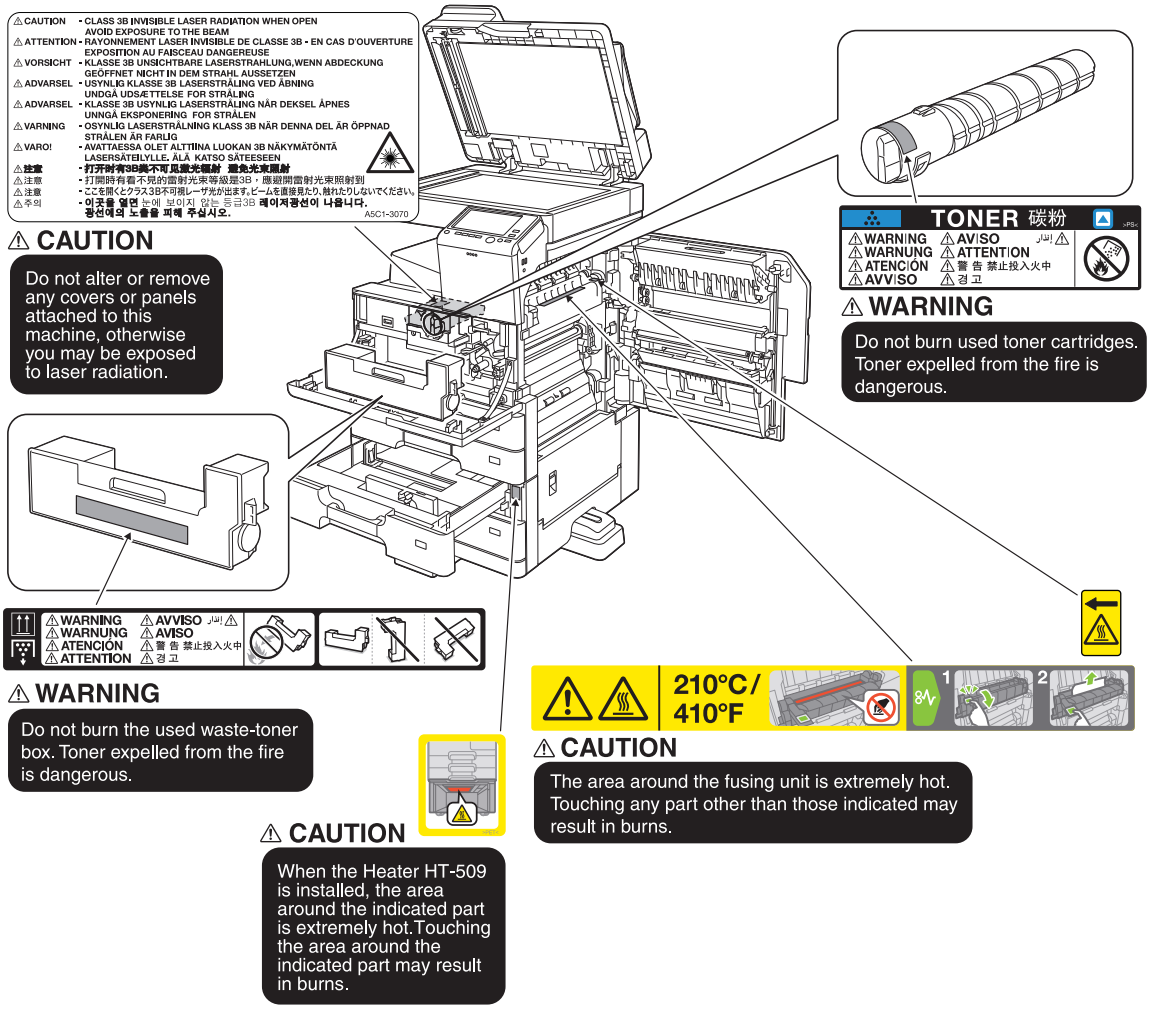
- Be sure to unplug the power cord whenever performing a service job in the laser beam path (around the PH unit).
- If it is absolutely unavoidable to perform a service job with the power cord plugged in, strictly observe the following precautions:
  1. Before starting the service job, take off your 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

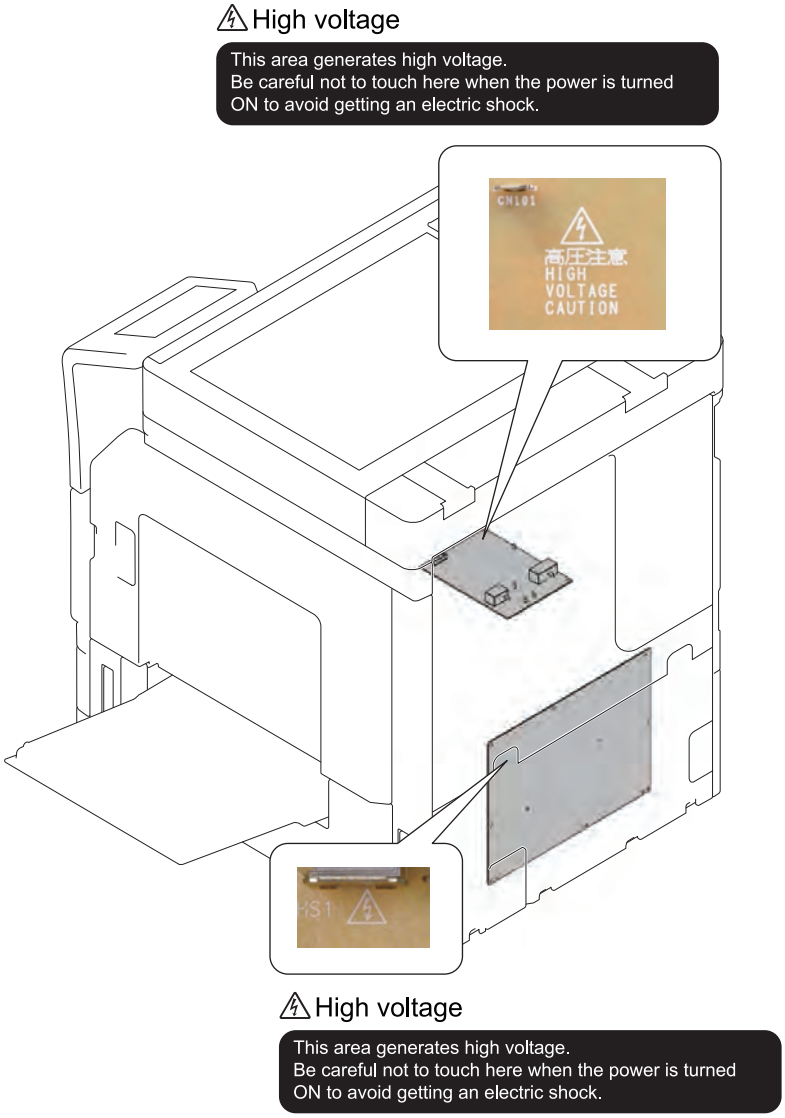
Caution labels shown are attached in some areas on/in the machine.
When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.

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



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 KM 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 KM.
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	bizhub 367/287/227	Main body
2	FS-534 with SD-511	FS-534SD
3	Microsoft Windows Vista	Windows Vista
4	Microsoft Windows 7	Windows 7
5	Microsoft Windows 8	Windows 8
6	When the description is made in combination of the OS's mentioned above	Windows Vista/7/8

NOTE

- **Some models within the product series listed in this manual may not be available in some countries and regions.**

3. BRAND NAME

3.1 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.

3.2 OWN TRADEMARKS

- KONICA MINOLTA, KONICA MINOLTA logo, bizhub, and PageScope are the registered trademarks of KONICA MINOLTA, INC.
- © 2015 KONICA MINOLTA, INC.

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

C PRODUCT SPECIFICATIONS

1. bizhub 367/287/227

1.1 Type

Type	Desktop/console * scanner/printer
Control panel	7-inch TFT color LCD WVGA (resistive touch panel)
Printing process	laser electrostatic process copying system
Scanning resolution (Main scanning direction)	600 dpi
Scanning resolution (Sub scanning direction)	600 dpi
Exposure lamp	LED (5 W or less)
Original glass	Stationary
Original scanning	• CCD optical system with integrated scanning module • Sheet through system when using DF-628
Original alignment	Rear left edge
Paper feeding separation system (Manual bypass)	Small roller separation system with torque limiter
Paper feeding separation system (Tray 1)	Roller separation system with pick-up mechanism
Paper feeding separation system (Tray 2)	Roller separation system with pick-up mechanism
Exposure system (Exposing system)	1-beam LD exposing system
Exposure system (Scan system)	Polygon mirror scan system
Exposure resolution (Main scanning direction)	Equivalent to 1,800 dpi
Exposure resolution (Sub scanning direction)	600 dpi
Photo conductor	OPC drum: KM-110
Developing system	Dry 2 components developing method, HMT developing system
Charging system	Serrate electrode scorotron system
Neutralizing system	Pre-charged sheets + Red LED system
Image transfer system	Roller transfer system
Paper separating system	Combination of curvature, separating claws, and charge neutralizing bias needle system
Fusing system	Roller fusing system
Heating system	Halogen lamp

*: Only when the optional paper feed cabinet/desk is installed.

1.2 Function

Types of original	Sheets, Books, Three-dimensional objects	
Max. original size	A3 or 11 x 17	
Max. original weight	Max. 2 kg	
Multiple copies	1 to 9999	
Warm-up time (at an ambient temperature of 23° C/73.4° F and rated source voltage)	20 sec. or less (Period from the time main power switch was turned on to the time this machine is ready for printing.)	
First copy time (Tray1/2 A4 or 8 $^1/_2$ x 11, full size)	bizhub 367: 4.5 sec. or less	
	bizhub 287: 5.3 sec. or less	
	bizhub 227: 5.3 sec. or less	
Image loss	Copy	• Leading edge: 4.2 mm (3/16 inch) • Trailing edge: 3 mm (1/8 inch) • Rear edge: 3 mm (1/8 inch) • Front edge: 3 mm (1/8 inch)
	PC print	• Leading edge: 4.2 mm (3/16 inch) • Trailing edge: 4.2 mm (3/16 inch) • Rear edge: 4.2 mm (3/16 inch) • Front edge: 4.2 mm (3/16 inch)
Processing speed	Plain paper, Recycled paper, Special paper (Envelope/OHP film)	• 166.45 mm/s (bizhub 367) • 136.188 mm/s (bizhub 287/227)
	Thick 1, Thick 1+, Thick 2, Thick 3 (Postcard/Label sheet/Index paper)	• 83.225 mm/s (bizhub 367/287/227)
Copying speed for multi-copy cycle (A4 or 8 1/2 x 11, plain paper)	Plain paper	bizhub 367: 1-sided: 36 sheets/min.; 2-sided: 36 sheets/min.
		bizhub 287: 1-sided: 28 sheets/min.; 2-sided: 28 sheets/min.

		bizhub 227: 1-sided: 22 sheets/min.; 2-sided: 22 sheets/min.
	Thick 1, Thick 1+, Thick 2, Thick 3	bizhub 367: 1-sided: 18 sheets/min.; 2-sided: 18 sheets/min.
		bizhub 287: 1-sided: 18 sheets/min.; 2-sided: 18 sheets/min.
		bizhub 227: 1-sided: 18 sheets/min.; 2-sided: 18 sheets/min.
Fixed zoom ratios	Full Size	×1.000
	Reduction	x0.500, x0.707, x0.816, x0.866 (JP/EU) x0.500, x0.647, x0.733, x0.785 (US)
	Enlargement	x1.154, x1.224, x1.414, x2.000 (JP/EU) x1.214, x1.294, x1.545, x2.000 (US)
	Zoom ratios memory	3 memories
Variable zoom ratios	x0.250 to x4.000	in 0.001 increments
Paper size	Tray 1	• Width: 139.7 mm to 297 mm (5 1/2 inches to 11 11/16 inches) • Length: 182 mm to 364 mm (7 3/16 inches to 14 5/16 inches)
	Tray 2	• Width: 139.7 mm to 297 mm (5 1/2 inches to 11 11/16 inches) • Length: 182 mm to 431.8 mm (7 3/16 inches to 17 inches)
	Manual bypass tray	• Width: 90 mm to 297 mm (3 9/16 inches to 11 11/16 inches) • Length: 139.7 mm to 431.8 mm (5 1/2 inches to 17 inches)
Copy exit tray capacity	Plain paper	250 sheets
	Thick paper	10 sheets
	OHP film	1 sheet
External memory function	Supported external memory devices	• USB flash memory compatible with the USB (1.1/2.0) interface • FAT32-formatted memory device • Not including security features (Possible to turn OFF security features) • Memory capacity of 32 GB or less recommended. • A USB flash memory that appears as multiple drives on a computer cannot be used.
Memory capacity	Main memory	2 GB (2048 MB)
	HDD	250 GB (Option for destination except for Japan, North America and Europe area)

1.3 Paper

Type		Paper source (maximum tray capacity)		
		Tray 1	Tray 2	Manual bypass tray
Copy paper type	Plain paper (60 to 90 g/m^2, 16 to 24 lb)	○ (500 sheets)	○ (500 sheets)	○ (100 sheets)
	Recycled paper (60 to 90 g/m^2, 16 to 24 lb)	○ (500 sheets)	○ (500 sheets)	○ (100 sheets)
	Translucent paper	-	-	-
	OHP film *1	-	-	○ (20 sheets)
	Thick 1 (91 to 120 g/m^2, 24 1/4 to 32 lb)	○(150 sheets)	○(150 sheets)	○ (20 sheets)
	Thick 1+ (121 to 157 g/m^2, 32 1/4 to 41 3/4 lb)			
	Thick 2 (158 to 209 g/m^2, 42 to 55 1/2 lb)			
	Thick 3 (210 to 220 g/m2, 55 3/4 to 58 1/2 lb) *2			
	Postcard	-	-	○ (20 sheets)
	Envelope	-	-	○ (10 sheets)
	Label sheet	-	-	○ (20 sheets)
	Index paper	-	-	○ (20 sheets)
Copy paper dimensions	Width	139.7 mm to 297 mm (5 1/2 inches to 11 11/16 inches)	139.7 mm to 297 mm (5 1/2 inches to 11 11/16 inches)	90 mm to 297 mm (3 9/16 inches to 11 11/16 inches)
	Length	182 mm to 364 mm (7 3/16 inches to 14 5/16 inches)	182 mm to 431.8 mm (7 3/16 inches to 17 inches)	139.7 mm to 431.8 mm (5 1/2 inches to 17 inches)

- *1: Only for feeding landscape oriented.
- *2: Images are out of guarantee.

NOTE

- **Translucent paper, OHP film, thick 3, envelope, label sheet and index paper cannot be fed for duplex printing.**

1.4 Material

1.4.1 Number of field standard printed pages

- This machine has the field standard yield which indicates the available print numbers estimated by the quantities and usage of the unit in the market standard job mode. Number of field standard printed pages described as life value of each consumable in this manual. Yields for each preventative maintenance unit will differ depending on actual usage.

(1) Japan

Parts name	Serial number	Number of prints (Field standard yield)		
		bizhub 367	bizhub 287	bizhub 227
Toner cartridge	TN323	-	23,000	23,000
Drum unit	DR312	-	85,000	80,000
Developing unit	DV312	-	545,000	520,000
Waste toner box	WX-104	-	110,000	110,000

(2) North America

Parts name	Serial number	Number of prints (Field standard yield)		
		bizhub 367	bizhub 287	bizhub 227
Toner cartridge	TN323	23,000	23,000	23,000
Drum unit	DR312	110,000	105,000	85,000
Developing unit	DV312	590,000	590,000	590,000
Waste toner box	WX-104	110,000	110,000	110,000

(3) Europe

Parts name	Serial number	Number of prints (Field standard yield)		
		bizhub 367	bizhub 287	bizhub 227
Toner cartridge	TN323	23,000	23,000	23,000
Drum unit	DR312	110,000	105,000	85,000
Developing unit	DV312	600,000	600,000	600,000
Waste toner box	WX-104	110,000	110,000	110,000

1.4.2 Specified conditions of field standard yield

(1) Japan

Terms and conditions	bizhub 367	bizhub 287	bizhub 227
Printing	-	2 P/J	2 P/J
Original density (average coverage ratio)	-	B/W = 6%	
Paper size ratio	-	A4: 50%, A4S: 50%	
Average print volume (pages/ month)	-	2,500	1,400

(2) North America

Terms and conditions	bizhub 367	bizhub 287	bizhub 227
Printing	4 P/J	3 P/J	2 P/J
Original density (average coverage ratio)	B/W = 6%		
Paper size ratio	Letter: 93%, LetterS: 7%		
Average print volume (pages/ month)	6,700	4,300	2,800

(3) Europe

Terms and conditions	bizhub 367	bizhub 287	bizhub 227
Printing	4 P/J	3 P/J	2 P/J
Original density (average coverage ratio)	B/W = 6%		
Paper size ratio	A4: 93%, A4S: 7%		
Average print volume (pages/ month)	9,000	5,800	3,800

1.5 Print volume

- Average print volume (pages/month)

Product	Japan	Europe	North America
bizhub 367	-	9,000 sheets	6,700 sheets
bizhub 287	2,500 sheets	5,800 sheets	4,300 sheets
bizhub 227	1,400 sheets	3,800 sheets	2,800 sheets

- Maximum print volume (pages/month)

Product	Japan	Europe	North America
bizhub 367	-	48,000 sheets	48,000 sheets
bizhub 287	28,000 sheets	28,000 sheets	28,000 sheets
bizhub 227	19,000 sheets	19,000 sheets	19,000 sheets

1.6 Machine specifications

Power requirements	Voltage:	AC 100 V	AC 110 V	AC 120 V	AC 230 V
	Current:	15 A	15 A	12 A	7 A
	Frequency:	50/60 Hz	60 Hz	60 Hz	50/60 Hz
Max. power consumption		1,500 W or less			
Dimensions		585 mm *1 (W) x 660 mm (D) x 735 mm (H) *2 (23 1/16 inches *1 (W) x 26 inches (D) x 28 15/16 inches (H) *2)			
Space requirements		899 mm *3 (W) x 1,172 mm *4 (D) x 735 mm (H) *2 (35 3/8 inches *3 (W) x 46 1/8 inches *4 (D) x 28 15/16 inches (H) *2)			
Weight		Approx. 56.5 kg (124 9/16 lb) (without toner cartridge)			

*1: Width when the manual bypass tray is closed
*2: Height up to the original glass
*3: Manual bypass tray/tray extension is pulled out.
*4: Paper tray is pulled out.

1.7 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%/h)
Levelness	Difference between front and back, right and left should be 1 degree or under.

1.8 Print function

First print time (Tray1/2, A4 or 8 1/2x11, full size)	• bizhub 367: 4.5 sec. or less • bizhub 287: 5.3 sec. or less • bizhub 227: 5.3 sec. or less
Printing speed for multi-print cycle (A4 or 8 1/2 x 11, plain paper)	• bizhub 367: 1-sided, 36 sheets/min.; 2-sided, 36 sheets/min. • bizhub 287: 1-sided, 28 sheets/min.; 2-sided, 28 sheets/min. • bizhub 227: 1-sided, 22 sheets/min.; 2-sided, 22 sheets/min.
Print resolution	• Equivalent to 1,800 dpi in main scanning direction x 600 dpi in sub scanning direction
Printer language	• PCL5c/e Emulation • PCL 6 (XL Version 3.0) Emulation • PostScript 3 Emulation (3016) • XPS ver.1.0
Supported operating systems (server)	• Windows Server 2003, Windows Server 2003 64-bit, Windows Server 2003 R2, Windows Server 2003 R2 64-bit • Windows Server 2008, Windows Server 2008 64-bit, Windows Server 2008 R2 • Windows Server 2012, Windows Server 2012 R2
Supported operating systems (client)	• Windows Vista, Windows Vista 64-bit, Windows 7, Windows 7 64-bit, Windows 8, Windows 8 64-bit, Windows 8.1, Windows 8.1 64-bit • Mac OSX 10.6, Mac OSX 10.7, Mac OSX 10.8 • Red Hat Enterprise Linux
Printer driver (PCL6)	• Windows Vista, Windows Vista 64-bit, Windows 7, Windows 7 64-bit, Windows 8, Windows 8 64-bit, Windows 8.1, Windows 8.1 64-bit • Windows Server 2003, Windows Server 2003 64-bit, Windows Server 2003 R2, Windows Server 2003 R2 64-bit, Windows Server 2008, Windows Server 2008 64-bit, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2
Printer driver (PostScript 3)	• Windows Vista, Windows Vista 64-bit, Windows 7, Windows 7 64-bit, Windows 8, Windows 8 64-bit, Windows 8.1, Windows 8.1 64-bit • Windows Server 2003, Windows Server 2003 64-bit, Windows Server 2003 R2, Windows Server 2003 R2 64-bit, Windows Server 2008, Windows Server 2008 64-bit, Windows Server 2008 R2, Windows Server 2012 • Mac OSX 10.6 PPD+PDE, Mac OSX 10.7 PPD+PDE, Mac OSX 10.8 PPD+PDE • Red Hat Enterprise Linux PPD
Printer driver (XPS)	• Windows Vista, Windows Vista 64-bit, Windows 7, Windows 7 64-bit, Windows 8, Windows 8 64-bit, Windows 8.1, Windows 8.1 64-bit

	• Windows Server 2008, Windows Server 2008 64-bit, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2
Printer controller	CPU: ARM Cortex-A7 Dual-core 1.2GHz
Work memory	2 GB
Host interface	• Ethernet (10Base-T/100Base-TX/1000Base-T) • USB1.1/2.0 • USB_Host
Built-in fonts (PCL)	European 80 fonts
	Japanese: HGMinchoL, HGPMinchoL, HGGothicB, HGPGothicB
Built-in fonts (PostScript 3 Emulation)	European 137 fonts
	Japanese: HGMinchoL, HGGothicB

1.9 Scan function

Scannable scan range	Conforms to the copy function
Scanning resolution	• Push: 200 dpi/300 dpi/400 dpi/600 dpi • Pull: 100 dpi/200 dpi/300 dpi/400 dpi/600 dpi
Scanning speed	• Monochrome: 45 sheets/min. • Color: 45 sheets/min. (using DF-628, A4, 1-sided original, scanning resolution of 300 dpi)
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 17 inches) (Max.): 400 dpi or less • Width 297 mm x Length 431.8 mm (Width 11 11/16 inches x Length 17 inches) (Max.): 600 dpi
Interface	Ethernet (10Base-T/100Base-TX/1000Base-T)
Communication protocol	TCP/IP (FTP, SMB, SMTP, WebDAV) IPv4/IPv6
Supported operating system	• Windows Vista (32-bit/64-bit) • Windows 7 (32-bit/64-bit) • Windows 8 (32-bit/64-bit) • Windows 8.1 (32-bit/64-bit)
Driver	• TWAIN Driver • HDD TWAIN Driver
Function	Scan to E-mail, SMB Send, FTP Send, WebDAV Send, Save in User Box, WS scan, TWAIN scan, Scan Server Send
Output method	TIFF, PDF, Compact PDF, JPEG, XPS, Compact XPS, OOXML (pptx, xlsx, docx), Searchable PDF, PDF/A, Linearized PDF
Output page setting	Specified number of separate pages (1 to 999 pages), Multi page

• *: When an optional unit is installed

1.10 Web browser function

• Main specifications of the web browser installed are as follows.

Browser engine	Webkit
Supported protocol	• HTTP (HTTP 0.9/1.0/1.1) • HTTPS • TCP/IP
Supported markup language	• HTML 4.01 • A part of HTML 5.0 • XHTML 1.1/Basic
Style sheet	• CSS1 • CSS2.1
Script language	• JavaSrcript 1.7 • ECMAScript 3rd Edition • ActionScript 3.0 • Ajax*1
DOM	• Level 1 • Level 2
File type	• JPEG • BMP • PNG • GIF • Animation GIF • PDF • Flash 10 and earlier
Supported SSL/TLS version	• SSL3.0 • TLS1.0
Supported character code	• Japanese (Shift_JIS) • Japanese (ISO-2022-JP) • Japanese (EUC-JP)

	• Chinese Simplified (GB2312) • Chinese Traditional (Big5) • Western European (ISO-8859-1) • Unicode (UTF-8)
PDF viewer	Adobe Reader LE
Flash player	Adobe Flash Player 10

• • *1: Limited to the JavaScript-supported range only.

NOTE

- **Using the web browser function available with this machine, the contents on the Internet can be accessed from the control panel. Users are responsible for the contents that they access, download, or upload as well as the contents of other communication. Users shall follow the rules of their company and laws of their country. Konica Minolta, Inc. and its group companies accept no responsibility for the users' use of the Internet.**

NOTE

The Flash player installed on the MFP does not support the following:

- **The function to trigger an event caused by a key operation.**
- **The function to paste or acquire data such as character strings from the clipboard.**
- **The context menu.**
- **The Flash printing function.**
- **The function to execute JavaScript from Flash or to operate Flash by JavaScript.**
- **A screen that has no window (pop-up).**
- **The Flash bookmark function.**
- **The function to send/receive data in real time using the Flash Media Server.**
- **The function to communicate via the XMLSocket.**

NOTE

- **When using a web browser function, 26 dots from the perimeter of the touch panel area is not sensitive area.**
  It is possible to narrow the non-sensitive area by using [Software Switch Setting] in Service Mode as with followings. However, the touch panel cannot detect touch operation correctly.
  - **Switch No.143 [00000000] at Bit assignment/[00] at HEX assignment non-sensitive area: 26 dots from the perimeter of the touch panel**
  - **Switch No.143 [00000001] at Bit assignment/[01] at HEX assignment non-sensitive area: 16 dots from the perimeter of the touch panel**
  - **Switch No.143 [00000010] at Bit assignment/[02] at HEX assignment non-sensitive area: 9 dots from the perimeter of the touch panel**

1.11 Note for the Specifications

- These specifications are subject to change without notice.
- Some models within the product series listed in this manual may not be available in some countries and regions.

2. DF-628

2.1 Type

Name	Reverse automatic document feeder	
Type	Original feed section	Paper feed from top of stack
	Original reading section	Sheet-through system
	Original switchback section	Switchback system
	Original exit section	Straight exit system
Installation	Screw clamp to the main body	
Original alignment	Center	
Original loading	Face up	
Option	Stamp unit (SP-501)	

2.2 Function

Mode	Standard mode/Thin paper mode, Mixed original detection mode, Scan/FAX mode

2.3 Type of document

Type	Standard mode/Thin paper mode (plain paper)	1-sided mode: 35 to 128 g/m^2 (9 5/16 to 34 1/16 lb)
		2-sided mode: 50 to 128 g/m^2 (13 5/16 to 34 1/16 lb)
	Mixed original detection mode (Plain paper)	1-sided / 2-sided mode: 50 to 128 g/m^2 (13 5/16 to 34 1/16 lb)
	Scan/FAX mode (Plain paper)	1-sided mode: 35 to 128 g/m^2 (9 5/16 to 34 1/16 lb)
		2-sided mode: 50 to 128 g/m^2 (13 5/16 to 34 1/16 lb)
Original size *1	Standard mode, Scan/FAX mode	B6S to A3, 5 1/2 x 81/2 to 11 x 17
Capacity	Standard mode	130 sheets (68 g/m2 (18 1/16 lb)) or stack of 12 mm (1/2 inches) and below (including paper curl)
	Mixed original detection mode, Scan/FAX mode	100 sheets (68 g/m2 (18 1/16 lb)) or stack of 12 mm (1/2 inches) and below (including paper curl)

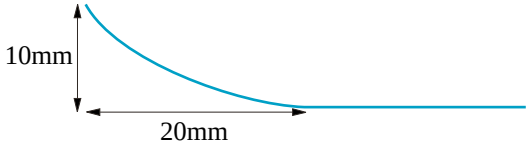
- *: For the combined original detection mode, refer to the mixed original feed chart.

2.4 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
Ultra lightweight paper (Oji special paper, View Corona series or other)	Paper feed failure, transport failure

- *1: 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 image quality are guaranteed.
  *2: Limited to vertical feeding
  *3: No crease on perforation
  *4: Creases must be smoothed out. (amount of float: 15 mm or less)



2.5 Prohibited original

- Prohibited originals that cause trouble

Type of original
Sheets stapled or clipped together

Type of original
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 128 g/m^2 (34 1/16 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

2.6 Mixed original feed chart

For Japan models

			Maximum document width								
			297 mm		257 mm		210 mm		182 mm	148 mm	128 mm
			A3	A4	B4	B5	A4S	A5	B5S	A5S	B6S
Mixed original size	297 mm	A3	◎	◎	-	-	-	-	-	-	-
		A4	◎	◎	-	-	-	-	-	-	-
	257 mm	B4	○	○	◎	◎	-	-	-	-	-
		B5	○	○	◎	◎	-	-	-	-	-
	210 mm	A4S	○	○	○	○	◎	◎	-	-	-
		A5	×	×	×	×	◎	◎	-	-	-
	182 mm	B5S	×	×	○	○	○	○	◎	-	-
	148 mm	A5S	×	×	×	×	×	×	○	◎	-
	128 mm	B6S	×	×	×	×	×	×	×	○	◎

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

For North America models

			Maximum document width					
			11 inches		8 1/2 inches			5 1/2 inches
			11×17	8 1/2×11	8 1/2×14	8 1/2×11S	5 1/2×8 1/2	5 1/2×8 1/2S
Mixed original size	11 inches	11×17	◎	◎	-	-	-	-
		8 1/2×11	◎	◎	-	-	-	-
	8 1/2 inches	8 1/2×14	○	○	◎	◎	◎	-
		8 1/2×11S	○	○	◎	◎	◎	-
		5 1/2×8 1/2	×	×	◎	◎	◎	-
	5 1/2 inches	5 1/2×8 1/2S	×	×	×	×	×	◎

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

For Europe models

			Maximum document width							
			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	○	○	◎	◎	-	-	-	-

			Maximum document width							
			297 mm		257 mm		210 mm		182 mm	148 mm
			A3	A4	B4	B5	A4S	A5	B5S	A5S
	210 mm	A4S	○	○	○	○	◎	◎	-	-
		A5	×	×	×	×	◎	◎	-	-
	182 mm	B5S	×	×	○	○	○	○	◎	-
	148 mm	A5S	×	×	×	×	×	×	○	◎

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

2.7 Machine specification

Power requirement	Power supply: DC 24 V, DC 5 V (for recovering from the sleep mode)
	Supplying method: Supplied from the main body
Max. power consumption	60 W or less
Dimension	585 mm (W) x 504 mm (D) x 127 mm (H) (23 1/16 inches (W) x 19 13/16 inches (D) x 5 inches (H))
Weight	Approx. 9.0 kg (19 13/16 lb)

2.8 Operating environment

- Conforms to the operating environment of the main body.

2.9 Note for the Specifications

- These specifications are subject to change without notice.

3. PC-113/PC-213

3.1 Type

Name	• 1-way paper feed cabinet (PC-113) • 2-way paper feed cabinet (PC-213)
Type	Front loading type • 1-way paper feed device (PC-113) • 2-way paper feed device (PC-213)
Installation	Desk type
Original alignment	Center

3.2 Paper

Type	Size	Capacity	
		Tray 3	Tray 4
Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	• A3, B4, A4S, B5S, A4, B5 • A5S *2 • Letter, LetterS, Legal, Ledger • Foolscap *3 • 8K, 16K	500 sheets	500 sheets
Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))			
Thick 1 (91 to 120 g/m2 (24 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 g/m2 to 220 g/m2 (55 7/8 to 58 1/2 lb)) *1			
Copy paper dimension	Width	139.7 to 297.0 mm (5 1/2 to 11 11/16 inches)	
	Length	182 to 431.8 mm (7 3/16 to 17 inches)	

- *1: Images are out of guarantee.
- *2: See Invoice S for inch sizes.
- *3: There are 4 types to be selected from in the service mode; 8x13, 8.25x13, 8.5x13, 8.5x13.5.

3.3 Machine specification

Power requirement	Supplied from the main body	
Max. power consumption	15 W or less	
Dimension	564 mm (W) x 640 mm (D) x 298 mm (H) (22 1/4 inches (W) x 25 3/16 inches (D) x 11 3/4 inches (H))	
Weight	PC-113	Approx. 23 kg (50 11/16 lb)
	PC-213	Approx. 26 kg (57 5/16 lb)

3.4 Operating environment

- Conforms to the operating environment of the main body.

3.5 Note for the Specifications

- **These specifications are subject to change without notice.**

4. PC-413

4.1 Type

Name	Large capacity cabinet
Type	Front loading type LCC
Installation	Desk type
Original alignment	Center

4.2 Paper

Type	Size	Capacity
Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))	A4/Letter, 8 1/2 x 11	2,500 sheets
Recycled paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb))		
Thick 1 (91 g/m^2 to 120 g/m^2 (24 3/16 lb to 31 15/16 lb))		1,000 sheets
Thick 1+ (121 g/m^2 to 157 g/m^2 (32 3/16 lb to 41 3/4 lb))		
Thick 2 (158 g/m^2 to 209 g/m^2 (42 lb to 55 5/8 lb))		
Thick 3 (210 g/m^2 to 220 g/m^2 (55 7/8 lb to 58 1/2 lb)) *1		

- *1: Images are out of guarantee.

4.3 Machine specification

Power requirement	Supplied from the main body
Max. power consumption	45 W or less
Dimension	564 mm (W) x 640 mm (D) x 298 mm (H) (22 1/4 inches (W) x 25 3/16 inches (D) x 11 3/4 inches (H))
Weight	Approx. 24.5 kg (54 lb)

4.4 Operating environment

- Conforms to the operating environment of the main body.

4.5 Note for the Specifications

- **These specifications are subject to change without notice.**

5. JS-506

5.1 Type

Type	Job separator with movable tray
Installation	Fixed at the exit section of the main body
Original alignment	Center

5.2 Function

Mode	• Non sort • Sort, group • Sort offset, group offset

5.3 Capacity

Exit tray	Mode	Paper size	Paper type		Capacity
Tray 1 *1, *3	• Non sort • Sort • Group	• A6S, A5S, A5, B5S, B5, B6S, A4S, A4, B4, A3 • InvoiceS, Invoice, LetterS, Letter, Legal, Ledger, ExecutiveS, Executive • 16KS, 16K, 8K • Postcard S • Custom size paper (Width: 90 mm to 297 mm (3 9/16 inches to 11 11/16 inches) / Length: 139.7 mm to 431.8 mm (5 1/2 inches to 17 inches))	Plain paper, Recycled paper (60 g/m^2 to 90 g/m^2 (15 15/16 lb to 23 15/16 lb))		100 sheets
			Thick (91 g/m^2 to 220 g/m^2 (24 3/16 lb to 58 1/2 lb))		10 sheets
			Special paper	Postcard	
				Label sheet	
				OHP film	
				Index paper	
				Envelope	
Tray 2 *2	• Non sort • Sort • Group	• A6S, A5S, A5, B5S, B5, B6S, A4S, A4, B4, A3 • InvoiceS, Invoice, LetterS, Letter, Legal, Ledger, ExecutiveS, Executive • 16KS, 16K, 8K • Postcard S • Custom size paper (Width: 90 mm to 297 mm (3 9/16 inches to 11 11/16 inches) / Length: 139.7 mm to 431.8 mm (5 1/2 inches to 17 inches))	Plain paper, Recycled paper (60 g/m^2 to 90 g/m^2 (15 15/16 lb to 23 15/16 lb))		150 sheets
			Thick (91 g/m^2 to 220 g/m^2 (24 3/16 lb to 58 1/2 lb))		20 sheets
			Special paper	Postcard	
				Label sheet	
				OHP film	
				Index paper	
				Envelope	10 sheets
	• Sort offset • Group offset	• B5S, B5, A4S, A4, B4, A3 • LetterS, Letter, Legal, Ledger, ExectiveS, Exective, 16KS, 16K, 8K • Custom size paper (Width: 182 mm to 297 mm (7 3/16 inches to 11 11/16 inches) / Length: 182 mm to 431.8 mm (7 3/16 inches to 17 inches))	Plain paper, Recycled paper (60 g/m^2 to 90 g/m^2 (15 15/16 lb to 23 15/16 lb))		150 sheets
			Thick 1 (91 g/m^2 to 220 g/m^2 (24 3/16 lb to 58 1/2 lb))		20 sheets

- *1: 22.5 mm (7/8 inches) in stack height (stacked height is determined by a sensor)
- *2: 49.9 mm (1 15/16 inches) in stack height (no sensor detection mechanism for stacked height)
- *3: If either the number or height of stacked sheets reaches the specified value, “Tray paper full” is determined.

5.4 Offset function

Exit tray	Tray 2
Shift amount	30 mm (1 3/16 inches)

5.5 Machine specifications

Power requirements	DC 24 V ± 10 % (supplied from the main body)
Max. power consumption	24 W or less
Dimensions	Tray 1: 412.0 mm (W) x 469.0 mm (D) x 130.0 mm (H) (16 1/4 inches (W) x 18 7/16 inches (D) x 5 1/8 inches (H))
	Tray 2: 451.0 mm (W) x 386.0 mm (D) x 127.0 mm (H) (17 3/4 inches (W) x 15 3/16 inches (D) x 5 inches (H))
Weight	1.5 kg (3 5/16 lb)

5.6 Operating environment

- Conforms to the operating environment of the main body.

5.7 Note for the Specifications

- **These specifications are subject to change without notice.**

6. FS-533

6.1 Type

Type	Multi staple finisher built into the main body
Installation	Installed in main body
Original alignment	Center
Consumable	Staples (5,000 staples / cartridge)

6.2 Function

Mode	• Non sort • Sort, group • Sort offset, group offset • Sort staple

6.3 Paper process ability

6.3.1 Non sort/sort/group

(1) Capacity

Paper type	Basis weight	Max. capacity (Number of stacked sheets/Height of stacked sheets)*	
		A4S or less	B4 or greater
Plain paper	60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)	500 sheets / 73 mm	250 sheets / 36 mm
Recycled paper			
Thick 1	91 to 120 g/m^2 (24 3/16 to 31 15/16 lb)	10 sheets / 73 mm	10 sheets / 36 mm
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 220 g/m^2 (55 7/8 to 58 1/2 lb)		
Postcard	190 g/m^2 (50 9/16 lb)		
OHP film	-		
Envelope	-		
Label sheet	-		
Letterhead	-		
Tab paper	-		

• *: If either the number or height of stacked sheets reaches the specified value, “Tray paper full” is determined.

(2) Paper size

Type	Size
Regular size paper	• A6S, A5S, A5, B6S, B5S, B5, A4S, A4, B4, A3 • Invoice S, Invoice, Letter S, Letter, Legal, Ledger, Exective S, Exective • 16KS, 16K, 8KS, 8K • Postcard S
Custom size paper	• Max.: Width 297 mm x Length 431.8 mm (Width 11 11/16 inches x Length 17 inches) • Min.: Width 90 mm x Length 139.7 mm (Width 3 9/16 inches x Length 5 1/2 inches)

6.3.2 Sort offset/group offset

(1) Capacity

Paper type	Basis weight	Paper capacity (Number of stacked sheets/ Height of stacked sheets) *	
		A4S or less	B4 or greater
Plain paper	60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)	500 sheets / 73 mm	250 sheets / 36 mm
Recycled paper			
Thick 1	91 to 120 g/m^2 (24 3/16 to 31 15/16 lb)	10 sheets / 73 mm	10 sheets / 36 mm
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 220 g/m^2 (55 7/8 to 58 1/2 lb)		

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

(2) Paper size

Type	Size
Regular size paper	• B5, A4S, A4, B4, A3 • Letter S, Letter, Legal, Ledger, Exective • 16K, 8K
Custom size paper	• Max.: Width 297 mm x Length 431.8 mm (Width 11 11/16 inches x Length 17 inches) • Min.: Width 210 mm x Length 182 mm (Width 8 1/4 inches x Length 7 3/16 inches)

6.3.3 Sort staple

(1) Capacity

Paper type	Basis weight	Max. capacity (Number of stacked sheets/Height of stacked sheets)*1	
		A4S or less	B4 or greater
Plain paper	60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)	• 500 sheets • 50 copies • 73 mm	• 250 sheets • 30 copies • 36 mm
Recycled paper			
Thick 1 *2	91 to 120 g/m^2 (24 3/16 to 31 15/16 lb)	Not specified	
Thick 1+ *2	121 to 150 g/m^2 (32 3/16 to 39 7/8 lb)		

- *1: If either the number or height of stacked sheets reaches the specified value, “Tray paper full” is determined.
- *2: Thick papers can be used only in "Front Cover/ Back Cover" in Cover sheet mode.

(2) Basis weight

Mode	Basis weight
Normal mode	60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)
Cover sheet mode	60 to 150 g/m^2 (15 15/16 to 39 7/8 lb) (2 sheets or less for thick paper)

(3) Paper size

Type	Size
Regular size paper	• B5, A4S, A4, B4, A3 • Letter S, Letter, Legal, Ledger, Exective • 16K, 8K
Custom size paper	• Max.: Width 297 mm x Length 431.8 mm (Width 11 11/16 inches x Length 17 inches) • Min.: Width 210 mm x Length 182 mm (Width 8 1/4 inches x Length 7 3/16 inches)

(4) No. of sheets to be stapled

Mode	Max. No. of sheets to be stapled	
	A4S or less	B4 or greater
Normal mode	50 sheets	30 sheets
Cover sheet mode *	48 sheets (Plain paper / Recycled paper) + 2 sheets (Thick paper)	28 sheets (Plain paper / Recycled paper) + 2 sheets (Thick paper)

- *: Thick paper can be used only in "Front Cover/ Back Cover".

(5) Stapling position

Stapling position	• Back of the corner (Parallel) • Front of the corner (Parallel) • Center two points (parallel)

6.4 Machine specification

Power requirement	DC 24 V ± 10% (supplied from the main body)
Max. power consumption	40 W or less
Dimension	472.5 mm* (W) x 583.5 mm* (D) x 194.7 mm (H) (18 5/8 inches* (W) x 23 inches* (D) x 7 11/16 inches (H))
Weight	12.0 kg (26 7/16 lb)

- *: Includes mounting part

6.5 Operating environment

- Conforms to the operating environment of the main body.

6.6 Note for the Specifications

- **These specifications are subject to change without notice.**

7. PK-519

7.1 Type

Name	Punch kit
Type	FS-integrated type punching operation device

7.2 Function

Punching method	Stops and punches every paper
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

7.3 Paper

Size	• B5S, B5, A4S, A4, B4, A3 • Letter S, Letter, Legal, Ledger, Exective S, Exective • 16KS, 16K, 8K
Supported paper	• Plain paper (60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)) • Thick 1 (91 to 120 g/m^2 (24 3/16 to 31 15/16 lb)), Thick 1+ (121 to 157 g/m^2 (32 3/16 to 41 3/4 lb))
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

7.4 Machine specification

Power requirement	DC 24 V (supplied from the finisher)
	DC 5 V (supplied from the finisher)
Max. power consumption	Included in the max. power consumption of finisher
Dimension	110.2 mm (W) x 483.5 mm (D) x 203.2 mm (H) (4 5/16 inches (W) x 19 1/16 inches (D) x 8 inches (H))
Weight	Approx. 3.2 kg (7 1/16 lb)

7.5 Operating environment

- Conforms to the operating environment of the main body.

7.6 Note for the Specifications

- **These specifications are subject to change without notice.**

8. FS-534/FS-534SD

8.1 Type

Name	Multi staple finisher
Type	Freestanding
Original alignment	Center
Consumable	Staples • FNS section 1 cartridge (5,000 staples / cartridge) • Saddle section two cartridges (5,000 staples / cartridge)

• *: FS-534SD only

8.2 Function

Mode	• Non sort • Sort, group • Sort offset, group offset • Sort staple • Saddle stitching (Normal mode, Cover mode, Thick paper mode)* • Folding (Normal mode, Thick paper mode)* • Tri-folding*

• *: FS-534SD only

8.3 Paper process ability

8.3.1 Non sort/sort/group

(1) Sub tray

NOTE

- **Non sort only**

(a) Paper capacity

Paper type	Basis weight	Max. capacity (Number of stacked sheets/ Height of stacked sheets)
Plain paper	60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)	200 sheets /35 mm *1
Recycled paper		
Thick 1	91 to 120 g/m^2 (24 3/16 to 31 15/16 lb)	20 sheets /35 mm *1
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 220 g/m^2 (55 7/8 to 58 1/2 lb)	
Postcard	190 g/m^2 (50 9/16 lb)	
OHP film	-	
Envelope	-	
Label sheet	-	
Letterhead	-	
Index paper	-	

• *1: If either the number or height of stacked sheets reaches the specified value, “Tray paper full” is determined.
• *2: Includes falling off the tray

(b) Paper size

Type	Size
Regular size paper	• A6S, A5S, A5, B5S, B5, B6S, A4S, A4, B4, A3, Postcard S • Invoice S, Invoice, Letter S, Letter, Legal, Ledger • 16K S, 16K, 8K
Custom size paper	• Max.: Width 297 mm x Length 431.8 mm (Width 11 11/16 inches x Length 17 inches) • Min.: Width 90 mm x Length 139.7 mm (Width 3 9/16 inches x Length 5 1/2 inches)

(2) Main tray

(a) Number of stacked sheets

Paper type	Basis weight	Max. capacity (Number of stacked sheets/Height of stacked sheets)*1		
		A5/A5S or less	B5/B5S or greater, A4S or less	B4 or greater
Plain paper	60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)	• 500 sheets/ 375 mm • 500 sheets/ 250 mm *2	• 3,000 sheets/ 375 mm • 2,000 sheets/ 250 mm *2	1,500 sheets/ 187.5 mm
Recycled paper				

Paper type	Basis weight	Max. capacity (Number of stacked sheets/Height of stacked sheets)*1		
		A5/A5S or less	B5/B5S or greater, A4S or less	B4 or greater
Thick 1	91 to 120 g/m^2 (24 3/16 to 31 15/16 lb)	• 20 sheets/ 375 mm • 20 sheets/ 250 mm *2		
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 220 g/m^2 (55 7/8 to 58 1/2 lb)			
OHP film	-			
Envelope	-			
Label sheet	-			
Letterhead	-			

- *1: If either the number or height of stacked sheets reaches the specified value, “Tray paper full” is determined.
- *2: FS-534SD

(b) Paper size

Type	Size
Regular size paper	• A6S, A5S, A5, B5S, B5, B6S, A4S, A4, B4, A3, Postcard S • Invoice S, Invoice, Letter S, Letter, Legal, Ledger • 16K S, 16K, 8K
Custom size paper	• Max.: Width 297 mm x Length 431.8 mm (Width 11 11/16 inches x Length 17 inches) • Min.: Width 130 mm x Length 139.7 mm (Width 5 1/8 inches x Length 5 1/2 inches)

(3) 3rd tray

NOTE

- **Non sort only**

(a) Paper capacity

Paper type	Basis weight	Max. capacity (Number of stacked sheets/ Height of stacked sheets)*
Plain paper	60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)	100 sheets/ 22.5 mm
Recycled paper		
Thick 1	91 to 120 g/m^2 (24 3/16 to 31 15/16 lb)	20 sheets/ 22.5 mm
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 220 g/m^2 (55 7/8 to 58 1/2 lb)	
Postcard	190 g/m^2 (50 9/16 lb)	
OHP film	-	
Envelope	-	
Label sheet	-	
Letterhead	-	

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

(b) Paper size

Type	Size
Regular size paper	• A6S, A5S, A5, B5S, B5, B6S, A4S, A4, B4, A3, Postcard S • Invoice S, Invoice, Letter S, Letter, Legal, Ledger • 16K S, 16K, 8K
Custom size paper	• Max.: Width 297 mm x Length 431.8 mm (Width 11 11/16 inches x Length 17 inches) • Min.: Width 90 mm x Length 139.7 mm (Width 3 9/16 inches x Length 5 1/2 inches)

8.3.2 Sort offset/group offset

(1) Main tray

(a) Offset function

Exit tray	Main tray
Shift amount	20 mm (13/16 inches)

(b) Number of stacked sheets

Paper type	Basis weight	Max. capacity (Number of stacked sheets/Height of stacked sheets)*1		
		less than B5	A4/A4S, B5	B4 or greater
Plain paper	60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)	• 500 sheets/ 375 mm • 500 sheets/ 250 mm *2	• 3,000 sheets/ 375 mm • 2,000 sheets/ 250 mm *2	1,500 sheets/ 187.5 mm
Recycled paper				
Thick 1	91 to 120 g/m^2 (24 3/16 to 31 15/16 lb)	• 20 sheets/ 375 mm • 20 sheets/ 250 mm *1, *2		
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 220 g/m^2 (55 7/8 to 58 1/2 lb)			

- *1: If either the number or height of stacked sheets reaches the specified value, “Tray paper full” is determined.
- *2: FS-534SD

(c) Paper size

Type	Size
Regular size paper	• A5, B5S, B5, A4S, A4, B4, A3 • Letter S, Letter, Legal, Ledger, Exective S, Exective • 16K S, 16K, 8K
Custom size paper	• Max.: Width 297 mm x Length 431.8 mm (Width 11 11/16 inches x Length 17 inches) • Min.: Width 182 mm x Length 148.5 mm (Width 7 3/16 inches x Length 5 7/8 inches)

8.3.3 Sort staple

(1) Main tray

(a) Paper capacity

Paper type	Basis weight	No. of sheets to be stapled	Max. capacity (Number of stacked sheets/Height of stacked sheets)*1	
			A4S or less	B4 or less
• Plain paper • Recycled paper	60 to 90 g/m^2 (15 15/16 to 23 15/16 lb)	2 sheets to 9 sheets	• 100 copies / 375 mm • 100 copies / 250 mm *2	100 copies / 187.5 mm
		10 sheets to 20 sheets	• 50 copies / 375 mm • 50 copies / 250 mm *2	50 copies / 187.5 mm
		21 sheets to 30 sheets	• 30 copies / 375 mm • 30 copies / 250 mm *2	30 copies / 187.5 mm
		31 sheets to 40 sheets	• 25 copies / 375 mm • 25 copies / 250 mm *2	25 copies / 187.5 mm
		41 sheets or greater	• 20 copies / 375 mm • 20 copies / 250 mm *2	20 copies / 187.5 mm
Thick 1	91 to 120 g/m^2 (24 3/16 to 31 15/16 lb)	30 sheets or less	• 20 copies / 375 mm • 20 copies / 250 mm *2	20 copies / 187.5 mm
Thick 1+	121 to 150 g/m^2 (32 3/16 to 39 7/8 lb)	15 sheets or less		

- *1: If either the number or height of stacked sheets reaches the specified value, “Tray paper full” is determined.
- *2: FS-534SD

(b) Paper size

Type	Size
Regular size paper	• A5, B5S, B5, A4S, A4, B4, A3 • Letter S, Letter, Legal, Ledger, Exective S, Exective • 16K S, 16K, 8K
Custom size paper	• Max.: Width 297 mm x Length 431.8 mm (Width 11 11/16 inches x Length 17 inches) • Min.: Width 182 mm x Length 148.5 mm (Width 7 3/16 inches x Length 5 7/8 inches)

(c) No. of sheets to be stapled

Mode	Max. No. of sheets to be stapled
Normal mode*	• Plain paper/Recycled paper: 50 sheets • Thick 1: 30 sheets • Thick 1+: 30 sheets
Cover sheet mode	48 sheets (Plain paper / Recycled paper) + 2 sheets (Thick paper)

- *: Maximum stapling sheets/ copies for printing high image density is 20 x 20 copies.

(d) Stapling position

Stapling position	Paper size
Back/Front of the corner (45 degree)	• A4, A3, B5, B4 • Letter, Ledger
Back/Front of the corner (Parallel)	• A4S, B5S, A5 • Letter S, Legal
Side: Parallel 2 point	• A4S, A4, A3, B5S, B5, B4, A5 • Letter S, Letter, Legal, Ledger

8.3.4 Saddle stitching/folding

NOTE

- **FS-534SD saddle tray only**

Supported paper in saddle stitching/ folding	• Plain paper (60 g/m2 to 90 g/m2 (15 15/16 lb to 23 15/16 lb)) • Thick 1 (91 g/m2 to 120 g/m2 (24 3/16 lb to 31 15/16 lb)) *1, *2 • Thick 1+ (121 g/m2 to 150 g/m2 (32 3/16 lb to 39 7/8 lb)) *1, *2
Supported paper sizes	• A4S, B4, A3 • Letter S, Legal, Ledger • 8K • Custom size paper (Width: 210 mm to 297 mm (8 1/4 inches to 11 11/16 inches), Length: 279.4 mm to 431.8 mm (11 11/16 inches x 17 inches))
Supported mode and basis weight	• Normal mode: 60 g/m2 to 90 g/m2 (15 15/16 lb to 23 15/16 lb) • Cover mode: 60 g/m2 to 150 g/m2 (15 15/16 lb to 39 7/8 lb) *3 • Thick paper mode: 91 g/m2 to 209 g/m2 (24 3/16 lb to 55 5/8 lb)
Number of sheets stacked on the saddle tray	• 1 sheet to 3 sheets: 20 copies • 4 sheets to 10 sheets: 10 copies • 11 sheets to 20 sheets: 5 copies
Number of stitching sheets	• Normal mode: 2 sheets to 20 sheets (maximum 80 pages) • Cover mode: 2 sheets to 20 sheets (maximum 80 pages) *4
Stapling position	Saddle stitching (2 staples)
Number of folding sheets	• Normal mode: 5 sheets • Thick paper mode: 1 sheet

- *1: For saddle stitching, available only with 1 cover sheet of cover mode
- *2: For folding, available only with 1 cover sheet
- *3: Use only 1 sheet as a cover sheet for cover mode
- *4: Cover sheet: 1 sheet (60 g/m2 to 209 g/m2 (15 15/16 lb to 55 5/8 lb)) + body page: 19 sheets (60 g/m2 to 90 g/m2 (15 15/16 lb to 23 15/16 lb))

8.3.5 Tri-folding

NOTE

- **FS-534SD saddle tray only**

Supported paper in tri-folding	• Plain paper (60 g/m2 to 90 g/m2 / 15 15/16 lb to 23 15/16 lb)
Supported paper sizes	• A4S • LetterS • 16KS
Number of tri-folding sheets and copies *	• 1 sheet folding: 30 copies • 2 sheet foldings: 10 copies • 3 sheet foldings: 10 copies

- *: Up to 3 sheets in tri-folding

8.4 Machine specification

Power requirement	DC 24 V ± 10 % (supplied from the main body)
Max. power consumption	56 W or less
Dimension	• 528 mm (W) x 641 mm (D) x 1,023 mm (H) (20 13/16 inches (W) x 25 1/4 inches (D) x 40 1/4 inches (H)) • 658 mm (W) x 641 mm (D) x 1,065 mm (H) (25 7/8 inches (W) x 25 1/4 inches (D) x 41 15/16 inches (H)) *1
Weight	• 40.0 kg (88 3/16 lb) • 64.0 kg (141 1/8 lb) *2

- *1: Size when the paper output tray is pulled out
- *2: FS-534SD

8.5 Operating environment

- Conforms to the operating environment of the main body.

8.6 Note for the Specifications

NOTE

- **These specifications are subject to change without notice.**

9. PK-520

9.1 Type

Name	Punch kit
Type	FS-integrated type punching operation device

9.2 Function

Punching method	Stops and punches every paper
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

9.3 Paper

Size	• B5S, B5, A4S, A4, B4, A3 • Letter S, Letter, Legal, Ledger, Exective S, Exective • 16KS, 16K, 8K
Supported paper	Conforms to the operating environment of the main body. • Plain paper (60 g/m^2 to 90 g/m^2 (15 15/16 lb to 23 15/16 lb)) • Thick 1 (91 g/m^2 to 120 g/m^2 (24 3/16 lb to 31 15/16 lb)) • Thick 1+ (121 g/m^2 to 157 g/m^2 (32 3/16 lb to 41 3/4 lb)) • Thick 2 (158 g/m^2 to 209 g/m^2 (42 lb to 55 5/8 lb)) • Thick 3 (210 g/m^2 to 220 g/m^2 (55 7/8 lb to 58 1/2 lb))
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

9.4 Machine specification

Power requirement	DC 24 V (supplied from the finisher)
	DC 5 V (supplied from the finisher)
Max. power consumption	Included in the max. power consumption of finisher
Dimension	61 mm (W) x 492 mm (D) x 142 mm (H) (2 3/8 inches (W) x 19 3/8 inches (D) x 5 9/16 inches (H))
Weight	Approx. 1.8 kg (3 15/16 lb)

9.5 Operating environment

- Conforms to the operating environment of the main body.

9.6 Note for the Specifications

- **These specifications are subject to change without notice.**

10. FK-513

Applicable lines	PSTN, PBX	
Communication	Group 3 (compliant to ITU-T T.30) • Konica Minolta non-standard protocol: No • Group 4: No TCP/IP, SMTP, POP3 (compliant to ITU-T T.37 and W-NET FAX)	
Communication resolution (G3 fax)	• Normal: 203 dpi x 98 dpi • Fine: 203 dpi x 196 dpi • Super fine: 406 dpi x 391dpi • Ultra fine: 600 dpi x 600 dpi	
Communication resolution (Internet fax)	Transmission	• Normal: 200 x 100 dpi (8 dot/mm×3.85 dot/mm) • Fine: 200 x 200 dpi (8 dot/mm×7.7 dot/mm) • Super fine: 400 dpi x 400 dpi (16 dot/mm×15.4 dot/mm) • Ultra fine: 600 dpi x 600 dpi (23.6 dot/mm×23.6 dot/mm)
	Reception	• 200 x 100 dpi, 204 x 196 dpi, 200 x 200 dpi, 408 x 391 dpi, 400 x 400 dpi, 600 x 600 dpi
Compatibility	ECM/Super G3	
Communication speed	2400/4800/7200/9600/12000/14400/16800/19200/21600/24000/26400/28800/31200/33600 bps	
Fax transmission speed	2 seconds/page (at A4, V.34, 33.6kbps, JBIG) • Resolution: Normal mode • Original: Our standard original	
Coding method	• G3 fax: MH, MR, MMR and JBIG • Internet fax (Transmission): TIFF-S (MH), TIFF-F (MR/MMR) • Internet fax (Reception): TIFF-S (MH), TIFF-F (MR/MMR)	
Modulation method	• V.27 ter, V.29, V.17, V.34, V.21 (300 bps) • V.8, V.23 (1200 bps: reception only)	
Max. scanning size	• ADF: 297 x 1000 mm (11 11/16 x 39 3/8 inchs) • Original glass: 297 x 431.8 mm (11 11/16 x 17 inchs)	
Max. recording size	A3 (11 x 17 inches) • Originals larger than 39 3/8 inches (1000 mm) in length cannot be received. • The fax message is printed according to the setting of Print Separate Fax Pages, if an original longer than the paper loaded in the machine is received.	
Scanning speed	28 sheets/min. (8 1/2 x 11, A4)	
Function	Abbreviated dial	Max. 2000 stations to be registered
	Program dial	Max. 400 numbers to be registered
	Key pad dial	• 38 digits maximum (during off-hook dial mode) • 60 digits maximum (during on-hook dial mode)
	Group dial	Max. 100 groups to be registered. Up to 500 abbreviated dial numbers can be registered for each group.
	Manual redial	Possible to select from five latest histories.
	Automatic redial	• Automatically redial when remote stations are busy or return no responses or transmission errors occur at the memory transmission Note that, this is not performed at a manual (off-hook) transmission. • Possible to receive during redial waiting. • Another call is possible.
	Pulse/tone switching	Capable of switching from pulse to tone by using the [*] key on the control panel or [Tone] key on LCD.
	PBX mode setting	• Possible to turn ON or OFF the PBX connection and to register the external access code. • There is the automatic removal function of external access code to registered abbreviated remote station No. Nothing is automatic addition function.
	Pseudo off-hook	Manual start is possible with the "Off-Hook" button on the LCD screen.
	Call progress detection	• DC loop (Depends on country spec) • Dial tone (Depends on country spec) • Busy tone (Depends on country spec)
	Dialing method	To be selected from among PB, 10 pps, and 20 pps
	Line monitor sound	• ON: Sound a monitor sound during FAX transmission. • OFF: Monitoring sound is not sounded.
	Automatic switching between TEL/FAX	Automatically switches between telephone and fax operation when an external telephone is connected.
	Voice response function	Supports voice response when the TEL/FAX switching mode is enabled.
	Call to external telephone	No
	Voicemail	The device connects to the line and starts receiving data once there is a CNG detection that the external line is off-hook.
	Off-Hook alarm	Notifies the user if the external telephone is off-hook at the end of fax communication.

Note for the Specifications

- **These specifications are subject to change without notice.**

11. i-Option

- The functions available for i-Option are as follows.

11.1 List of advanced functions

Function	Overview
Voice guidance	This function also helps people who have difficulty viewing the screen to carry out operations more smoothly via voice guidance. It is available on the Enlarge Display screen, Guidance screen, or Accessibility Settings screen. English and Japanese are available.
PDF processing	Allows you to use features such as encryption of a PDF file, addition of an electronic signature, addition of file properties, creation of a PDF/A-based PDF file, and PDF linearization when sending a PDF file.
Encryption PDF (Digital ID)	Allows you to encrypt the PDF using a user digital signature when sending a PDF file.
Searchable PDF	Allows you to paste transparent text data into a PDF file when converting scanned original data into PDF files, and create a searchable PDF file. This function automatically creates text information from scanned images using OCR character recognition technology.
Searchable PDF (Fax RX Document)	Allows you to create a text searchable PDF file when converting a received fax into a PDF file using the Forward TX function or TSI Routing function and sending it to PC.
OOXML File Conversion	Allows you to send or store the scanned original data by converting it into an OOXML (DOCX or XLSX) file. Also allows you to paste transparent text data and create a text searchable OOXML file. This function automatically creates text information from scanned images using OCR character recognition technology.
Compact PDF (Print RX Document)	Allows you to select a file type as Compact PDF when fetching the data stored in the box of this machine using the printer driver and sending it by E-mail or sending it to PC.
High image quality compact PDF	This function improves the image processing accuracy when creating a Compact PDF data. This function improves the reproducibility of the colored characters or lines. Also, it allows you to set the reversed characters as the texts to be searched.
Barcode font	Allows you to generate a bar code based on data sent to this machine from the ERP (Enterprise Resource Planning) system, and print it from this machine. You can directly print data without using the printer driver.
Unicode font	Allows you to print text information (unicode) of multiple languages sent to this machine from the ERP (Enterprise Resource Planning) system. You can directly print data without using the printer driver.
OCR font	OCR font can be used on this machine. *1
E-mail RX Print	Allows you to print the file attached to an E-mail from this machine when the E-mail has been sent to the address of this machine.
ThinPrint function	Allows you to enable the ThinPrint function on this machine. ThinPrint is such a function allows you to make a speedy print by compressing the data or controlling the marginal zone when sending a print job from ThinPrint Engine (.print Engine) to ThinPrint Client (.print Client). This machine operates as ThinPrint Client (.print Client).
Ubiquitous Printing	Ubiquitous printing is a function that executes print jobs, which are spooled in an MFP through the user's computer once, from any MFP in a ubiquitous group that consists of multiple MFPs.
TPM (Trusted Platform Module) (This function is to be soon mounted.)	TPM (Trusted Platform Module) is a hardware chip used for processing such as information encryption and decryption. Security enhancement is realized by encrypting confidential information such as certificates and passwords of this machine. The TPM key used for encrypting confidential information on the machine is saved in a dedicated storage space mounted on the TPM chip. No external devices can access the storage space and the confidential information can be kept in utmost security. In addition, for future possible replacement of the TPM chip, information required for restoring the TPM key can be saved for backup in a USB memory device.
My Panel	Allows you to use the touch panel, which is customized only for you, through any MFP connected to the network. The touch panel customization settings are stored on the My Panel Manager server. If necessary, they can be changed on My Panel Manager.
My Address	Allows you to use a dedicated address book through any MFP connected to the network. The dedicated address book is stored on the My Panel Manager server. If necessary, it can be edited on My Panel Manager.

- *1: OCR font is standardized font that enables text to be appropriately recognized when the OCR (Optical Character Recognition) is used.

11.2 Types of advanced functions

NOTE

- **To use the i-Option functions, the upgrade kit UK-211 must be installed. (Except LK-111 and LK-115)**

11.2.1 Table 1

Function	Kit name				
	Upgrade kit	i-Option			Local Interface Kit
	UK-211	LK-102 v3	LK-104 v3	LK-105 v4	EK-608
PDF processing	○	○	-	-	-

Function	Kit name				
	Upgrade kit	i-Option			Local Interface Kit
	UK-211	LK-102 v3	LK-104 v3	LK-105 v4	EK-608
Voice guidance *1	○	-	○	-	○
Searchable PDF	○	-	-	○	-

- *1: To use voice guidance, in addition to the LK-104 license activation, the optional local interface kit EK-608 must be installed.

11.2.2 Table 2

Function	Kit name			
	Upgrade kit	i-Option		
	UK-211	LK-106	LK-107	LK-108
Barcode font	○	○	-	-
Unicode font	○	-	○	-
OCR font	○	-	-	○

11.2.3 Table 3

Function	Kit name				
	Upgrade kit	i-Option			
	UK-211	LK-110 v2	LK-111	LK-114	LK-115 v2
Searchable PDF (Fax RX Document)	○	○	-	-	-
Compact PDF (Print RX Document)	○	○	-	-	-
High image quality compact PDF	○	○	-	-	-
Encryption PDF (Digital ID)	○	○	-	-	-
OOXML File Conversion	○	○	-	-	-
E-mail RX Print	○	○	-	-	-
ThinPrint function	-	-	○	-	-
Ubiquitous Printing	○	-	-	○	-
TPM (Trusted Platform Module) (This function is to be soon mounted.)	-	-	-	-	○

11.2.4 Table 4

Function	Kit name		
	Upgrade kit	My Panel Manager	
	UK-211	Application license	Device license
My Panel	○	○	○
My Address	○	○	○

11.3 Activation procedures of i-Option

For details of the activation procedures, refer to the followings.

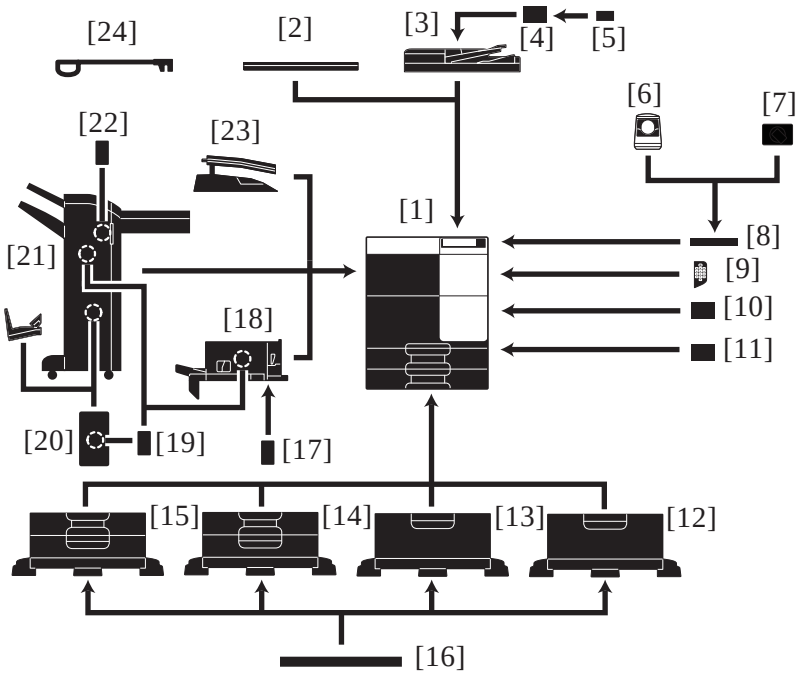
- Activation via Administrator Settings: I.2.4.2 License Settings
- Activation via Service Mode: I.7.3.10 License management - Activation

D OVERALL COMPOSITION

1. SYSTEM CONFIGURATION

1.1 System configuration

1.1.1 System front view

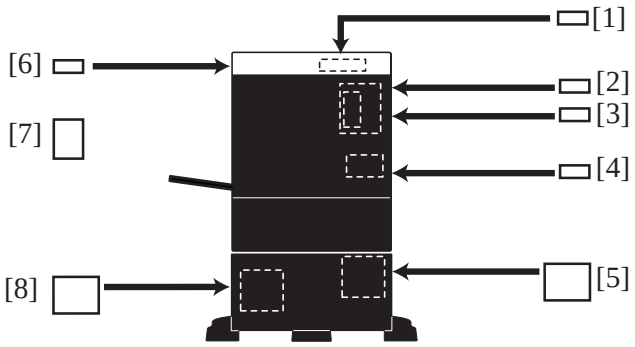


[1]	bizhub 367/287/227	[2]	Original Cover OC-514
[3]	Reverse automatic document feeder DF-628	[4]	Stamp Unit SP-501
[5]	Spare TX Marker Stamp 2	[6]	Authentication Unit AU-102
[7]	Authentication Unit AU-201S	[8]	Working Table WT-506
[9]	Keypad KP-101	[10]	Local Interface Kit EK-608
[11]	Upgrade kit UK-212	[12]	Desk DK-513
[13]	Paper Feed Cabinet PC-413	[14]	Paper Feed Cabinet PC-213
[15]	Paper Feed Cabinet PC-113	[16]	Heater HT-509
[17]	Punch Kit PK-519	[18]	Finisher FS-533
[19]	Staple Kit SK-602 (including FS-534SD/FS-534)	[20]	Saddle Stitcher SD-511 (including FS-534SD)
[21]	Finisher FS-534SD/FS-534	[22]	Punch Kit PK-520
[23]	Job Separator JS-506	[24]	Assist Handle AH-101

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.**

1.1.2 System rear view



[1]	Condensation prevention heater HT-513 *1	[2]	Storage Kit HD-522
[3]	Upgrade kit UK-211	[4]	Fax Kit FK-513
[5]	Power Supply BOX MK-734 *2	[6]	Key Counter Mount Kit 1
[7]	i-Option LK-102 v3/104 v3/105 v4/106/107/108/110 v2/111/114/115 v2	[8]	Condensation prevention heater power supply box MK-719 *1

- *1: Japan models only

- *2: Excluding Japan models

1.2 Optional configuration

1.2.1 Combination configuration of main body and document options

1	Main body	OC-514		
2	Main body	DF-628	SP-501	Spare TX Marker Stamp

1.2.2 Combination configuration of main body and paper feed options

1	Main body	DK-513
2	Main body	PC-113
3	Main body	PC-213
4	Main body	PC-413

1.2.3 Combination configuration of main body and post-processing options

1	Main body	JS-506		
2	Main body	FS-533	PK-519	MK-602
3	Main body	RU-514	FS-534	PK-520
4	Main body	RU-514	FS-534SD	PK-520

1.2.4 Combination of main body (scanner) and moisture prevention heater

(1) Japan models only

1	Main body	HT-513	MK-719

(2) Excluding Japan models

- No optional settings

1.2.5 Combination configuration of paper feed options and moisture prevention heater

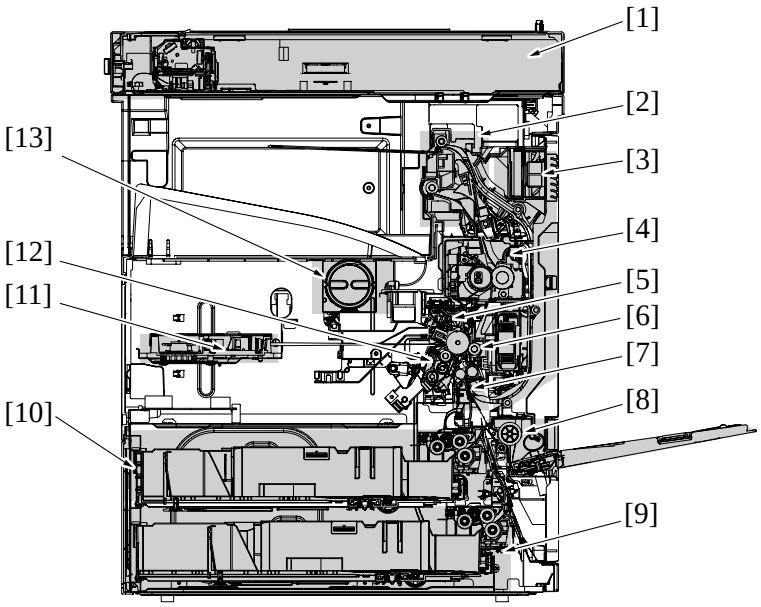
(1) Japan models only

1	DK-513 (moisture prevention heater is standard equipment)	HT-509
2	PC-113 (moisture prevention heater is standard equipment)	HT-509
3	PC-213 (moisture prevention heater is standard equipment)	HT-509
4	PC-413 (moisture prevention heater is standard equipment)	HT-509

(2) Excluding Japan models

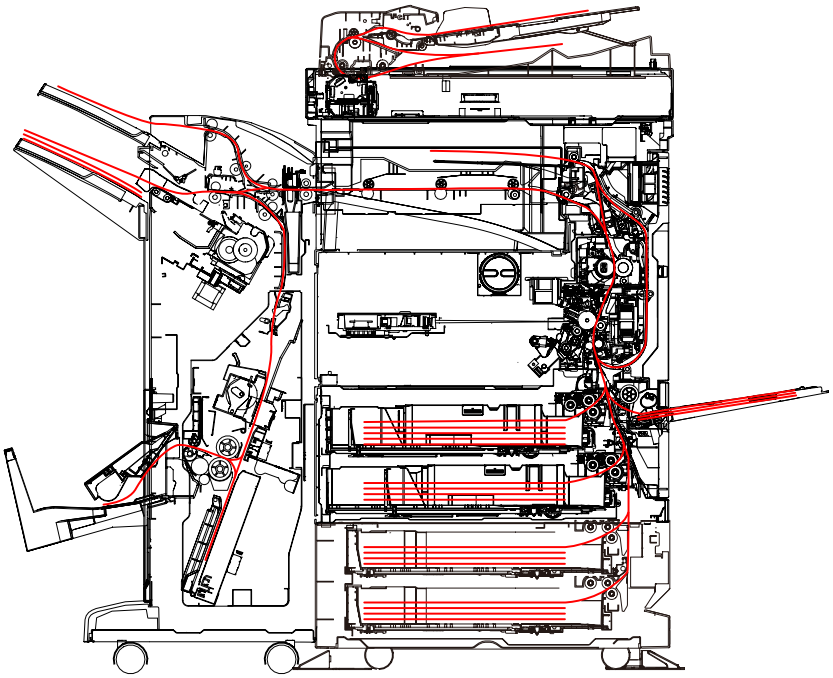
1	DK-513	HT-509	MK-734
2	PC-113	HT-509	MK-734
3	PC-213	HT-509	MK-734
4	PC-413	HT-509	MK-734

2. SECTION CONFIGURATION

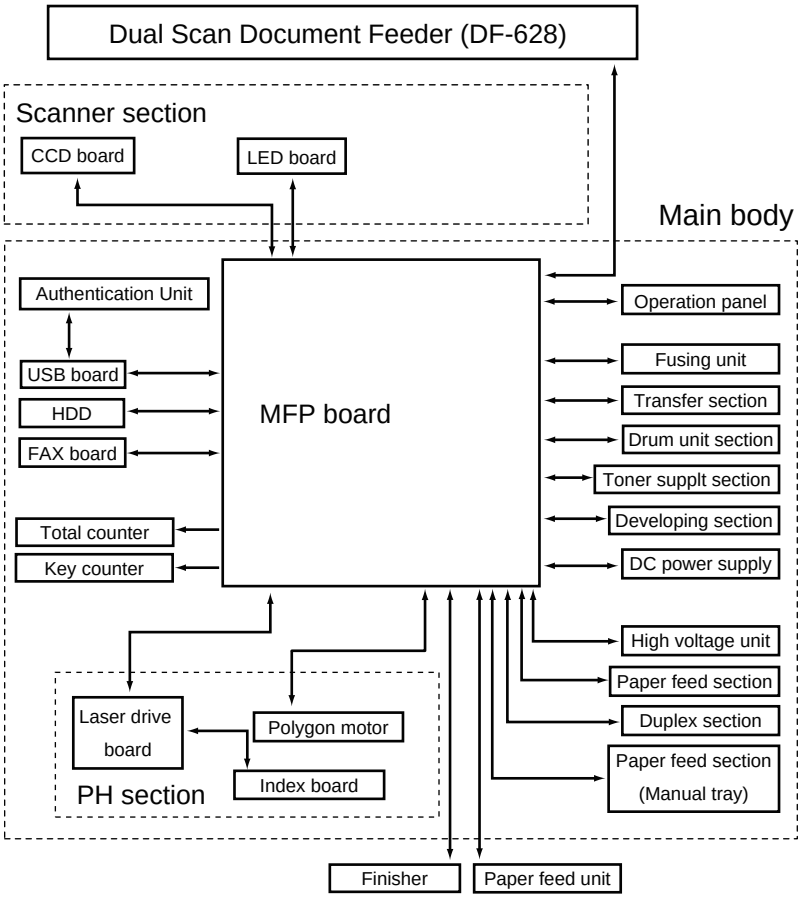


[1]	Scanner section	[2]	Paper exit/reverse section
[3]	Duplex section	[4]	Fusing section
[5]	Drum unit	[6]	Transfer section
[7]	Registration section	[8]	Paper feed section (Manual bypass tray)
[9]	Paper feed section (Tray 2)	[10]	Paper feed section (Tray 1)
[11]	Write section (PH section)	[12]	Developing section
[13]	Toner supply section	-	-

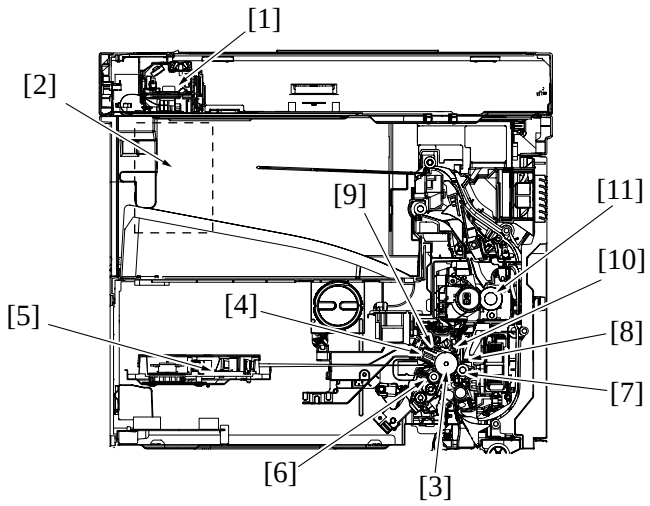
3. PAPER PATH



4. CONTROL BLOCK DIAGRAM

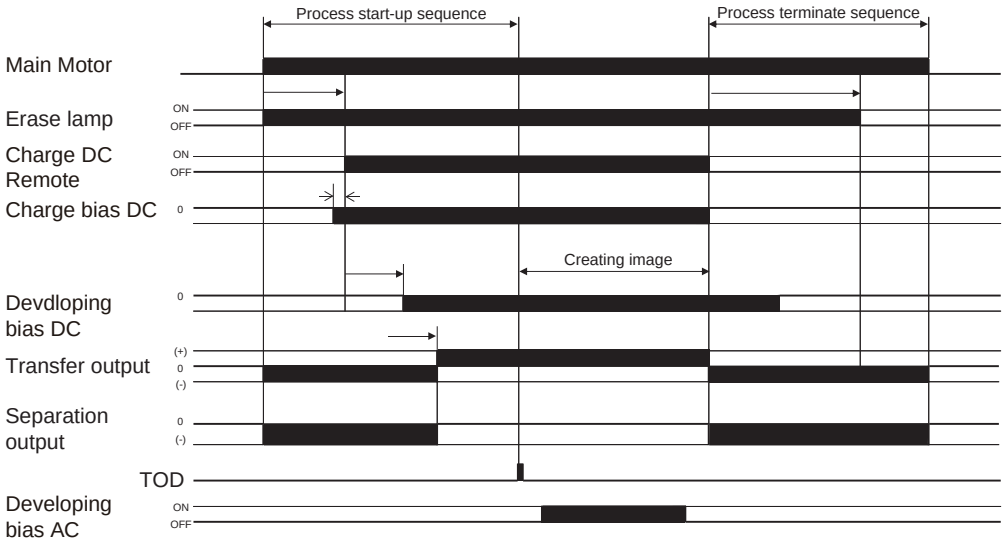


5. IMAGE CREATION PROCESS



[1]	Photoelectric conversion	Light reflected from the document surface is converted into electrical signals by the CCD and then sent to the MFP board.
[2]	Printer image processing	• The electric signal is converted into digital image signals. After going through some corrections, video signals are output to the printer image processing section. • D/A conversion will be performed after the VIDEO signals are corrected. This data will control the emission of the laser diode.
[3]	Photo conductor	The image of the original projected onto the surface of the photo conductor is changed to a corresponding electrostatic latent image.
[4]	Photo conductor charging	Supply DC (-) charge on the photo conductor.
[5]	Laser exposure	Expose photo conductor 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 photo conductor. 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]	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 roller to be transferred onto the paper.
[8]	Paper separation	Paper separates from the photo conductor by the charge neutralizing needle and separation clips.
[9]	Cleaning	The residual toner left on the surface of the photo conductor is scraped off.
[10]	Erase	The surface of the photo conductor is irradiated with light, which neutralizes any surface potential remaining on the surface of the photo conductor.
[11]	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.

6. IMAGE FORMING CONTROL



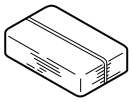
7 PROCESS SPEED

Paper Type	bizhub 367	bizhub 287	bizhub 227
• Plain paper • Recycled paper • Special paper (Envelopes/OHP film)	166.45 mm/s	136.188 mm/s	136.188 mm/s
• Thick paper 1 • Thick paper 1+ • Thick paper 2 • Thick paper 3 • Special paper (Postcard/Label sheets/Index paper)	83.225 mm/s	83.225 mm/s	83.225 mm/s

E SERVICE TOOL

1. bizhub 367/287/227

1.1 Service material list

Name	Shape	Material No.	Remarks
Cleaning pad		000V-18-1	10pcs/1pack
Isopropyl alcohol		-	
Hydro-wipe		65AA-9920	10pcs/1 pack

1.2 CE tool list

Tool name	Shape	Quantity	Parts No.	Remarks
Color chart		1	9J06 PJP1 ##	
Monochrome chart		1	4040 PJP1 ##	

1.3 Utility tool

1.3.1 IC card information setting tool of AU-201S/AU-202H/OMNIKEY 5427CK (AU-205H)/SCL-010/YSoft card reader

(1) Outline

- Before connecting the AU-201S/AU-202H/OMNIKEY 5427CK (AU-205H)/SCL-010 card reader to the MFP, it is necessary to prepare an IC card information setting file with the loadable driver. To prepare this file, a tool is used for preparing the IC card information setting file for use in each card reader.

(2) IC card information setting file preparation tool

(a) Tool names

Tools for CE

- For AU-201S: Auth Device Tool Advanced for AU-201S
- For SCL-010: Auth Device Tool Advanced for SCL-010
- For AU-202H: Auth Device Tool Advanced for AU-202H
- For OMNIKEY 5427CK (AU-205H): Auth Device Advanced for 5427CK (AU-205H)
- For the YSoft card reader: Auth Device Tool Advanced for YSoft CRv2

(b) System requirement of tools for CE

OS	• Windows Vista • Windows 7 • Windows 8 Support both 32-bit (x86) and 64-bit (x64) editions.
Library (Any of these needs to be installed)	• Microsoft .Net Framework2.0 SP2 • Microsoft .Net Framework3.0 SP2 • Microsoft .Net Framework3.5 SP1 • Microsoft .Net Framework3.5.1
Hard disk	3 MB or more free space is required
Display	800 x 600 pixels,16 bit full color

(3) IC card information setting procedures

(a) Preparations for the following (c), (e), (g), (j), (k) or (m) procedures

- Using the PageScope Data Administrator, register the target MFP in advance.
- Set the MFP into a state in which it can communicate over the network.
- Accessing PageScope Web Connection -> [Administrator mode] -> [Security Settings], issue a self-signed certificate from [Device Certificate Setting] and install it.
- Accessing PageScope Web Connection -> [Administrator mode] -> [Network Settings], set use of [SSL/TLS] in [OpenAPI] to “SSL Only”.

NOTE

- **Only one loadable device driver must be stored in the USB memory, and please do not save any other data in the USB memory.**

(b) Auth Device Tool Advanced for AU-201S (Setting IC card information in the loadable driver in advance)

1. Obtain the loadable driver (ICC_LDR.tar) for use in AU-201S that is compatible with the type of card used.
2. Start the Auth Device Tool Advanced for AU-201S.
3. Select [Import Loadable Driver] from [File] and select the loadable driver.
4. Select card type.
5. If the card is good for detailed settings, click [Detail Setting/Extra Data Setting].
6. Input the necessary extended data. (For details, ask the IC card administrator.)
7. Select Loadable Driver in [Export Format] and click [Export].
8. Select the loadable driver to be updated and the output location of the loadable driver and click [OK].
9. Copy the output loadable driver (ICC_LDR.tar) to the root directory of the USB memory.
   NOTE
   - **Please do not save any other data in the USB memory.**
10. Call the Service Mode to the screen of the MFP.
11. Select [System 2] -> [Driver Install] -> [Install].
12. Connect the USB memory in which the loadable driver has been saved to the USB port on the side of the control panel.
13. Select [Loadable driver] and touch the [Start] to install the loadable driver.
14. Remove the USB memory and, accessing [Billing Settings] -> [Management Function Choice] -> [Authentication Device 2], select [Card].
15. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
16. Set the authentication user.

(c) Auth Device Tool Advanced for AU-201S (Installing IC card information setting only in the MFP afterward)

1. Install the loadable driver for use in AU-201S that is compatible with the type of card used.
2. Start the Auth Device Tool Advanced for AU-201S.
3. Select card type.
4. If the card is good for detailed settings, click [Detail Setting/Extra Data Setting].
5. Input the necessary extended data. (For details, ask the IC card administrator.)
6. Select IC card information setting file in [Export Format] and click [Export].
7. Set the encrypted password.
8. Save the file (iccConfig.bin).
9. Start the PageScope Data Administrator, and select the target MFP.
10. In the [Settings for multiple device] tab, click [Batch setting of IC Card Information].
11. Using [Browse], select the file saved in step 8.
12. Click [Open] and type the encrypted password set in step 7.
13. Click [Next] and select the device to be imported.
14. Click [Start] and write the file in the MFP.
15. Check that “Normal” is shown in [Status].
16. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
17. Set the authentication user.

(d) Auth Device Tool Advanced for SCL-010 (Setting IC card information in the loadable driver in advance)

1. Obtain the loadable driver (ICC_LDR.tar) for use in SCL-010 that is compatible with the type of card used.
2. Start the Auth Device Tool Advanced for SCL-010.
3. Select card type.
4. Select Loadable Driver in [Export Format] and click [Export].
5. Select the loadable driver to be updated and the output location of the loadable driver and click [OK].
6. Copy the output loadable driver (ICC_LDR.tar) to the root directory of the USB memory.
   NOTE
   - **Please do not save any other data in the USB memory.**
7. Call the Service Mode to the screen of the MFP.
8. Select [System 2] -> [Driver Install] -> [Install].
9. Connect the USB memory in which the loadable driver has been saved to the USB port on the side of the control panel.
10. Select [Loadable driver] and touch the [Start] to install the loadable driver.
11. Remove the USB memory and, accessing [Billing Settings] -> [Management Function Choice] -> [Authentication Device 2], select [Card].
12. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
13. Set the authentication user.

(e) Auth Device Tool Advanced for SCL-010 (Installing IC card information setting only in the MFP afterward)

1. Install the loadable driver for SCL-010 to the MFP.
2. Start the Auth Device Tool Advanced for SCL-010.

3. Select card type.
4. Select IC card information setting file in [Export Format] and click [Export].
5. Set the encrypted password.
6. Save the file (iccConfig.bin).
7. Start the PageScope Data Administrator, and select the target MFP.
8. In the [Settings for multiple device] tab, click [Batch setting of IC Card Information].
9. Using [Browse], select the file saved in step 6.
10. Click [Open] and type the encrypted password set in step 5.
11. Click [Next] and select the device to be imported.
12. Click [Start] and write the file in the MFP.
13. Check that “Normal” is shown in [Status].
14. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
15. Set the authentication user.

(f) Auth Device Tool Advanced for AU-202H (Setting IC card information in the loadable driver in advance)

1. Obtain the loadable driver (ICC_LDR.tar) for use in AU-202H that is compatible with the type of card used.
2. Start the Auth Device Tool Advanced for AU-202H.
3. Set the card ID length.
4. Select Loadable Driver in [Export Format] and click [Export].
5. Select the loadable driver to be updated and the output location of the loadable driver and click [OK].
6. Copy the output loadable driver (ICC_LDR.tar) to the root directory of the USB memory.
   NOTE
   - **Please do not save any other data in the USB memory.**
7. Call the Service Mode to the screen of the MFP.
8. Select [System 2] -> [Driver Install] -> [Install].
9. Connect the USB memory in which the loadable driver has been saved to the USB port on the side of the control panel.
10. Select [Loadable driver] and touch the [Start] to install the loadable driver.
11. Remove the USB memory and, accessing [Billing Settings] -> [Management Function Choice] -> [Authentication Device 2], select [Card].
12. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
13. Set the authentication user.

(g) Auth Device Tool Advanced for AU-202H (Installing IC card information setting only in the MFP afterward)

1. Install the loadable driver for AU-202H to the MFP.
2. Start the Auth Device Tool Advanced for AU-202H.
3. Set the card ID length.
4. Select IC card information setting file in [Export Format] and click [Export].
5. Set the encrypted password.
6. Save the file (iccConfig.bin).
7. Start the PageScope Data Administrator, and select the target MFP.
8. In the [Settings for multiple device] tab, click [Batch setting of IC Card Information].
9. Using [Browse], select the file saved in step 6.
10. Click [Open] and type the encrypted password set in step 5.
11. Click [Next] and select the device to be imported.
12. Click [Start] and write the file in the MFP.
13. Check that “Normal” is shown in [Status].
14. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
15. Set the authentication user.

(h) Auth Device Tool Advanced for 5427CK (Setting IC card information in the loadable driver in advance: TypeA/ HID Prox/Multiple)

NOTE
- **Selecting [Multiple] makes cards of HID Prox, HID iCLASS and TypeA available at the same time.**

1. Obtain the loadable driver (ICC_LDR.tar) for use in OMNIKEY 5427CK (AU-205H) that is compatible with the type of card used.
2. Start the Auth Device Tool Advanced for 5427CK (AU-205H).
3. Select card type. (Except for HID iCLASS)
4. Select Loadable Driver in [Export Format] and click [Export].
5. Select the loadable driver to be updated and the output location of the loadable driver and click [OK].
6. Copy the output loadable driver (ICC_LDR.tar) to the root directory of the USB memory.
   NOTE
   - **Please do not save any other data in the USB memory.**
7. Call the Service Mode to the screen of the MFP.
8. Select [System 2] -> [Driver Install] -> [Install].
9. Connect the USB memory in which the loadable driver has been saved to the USB port on the side of the control panel.
10. Select [Loadable driver] and touch the [Start] to install the loadable driver.
11. Remove the USB memory and, accessing [Billing Settings] -> [Management Function Choice] -> [Authentication Device 2], select [Card].
12. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
13. Set the authentication user.

(i) Auth Device Tool Advanced for 5427CK (Setting IC card information in the loadable driver in advance: HID iCLASS).

1. Obtain the loadable driver (ICC_LDR.tar) for use in OMNIKEY 5427CK (AU-205H) that is compatible with the type of card used.

2. Start the Auth Device Tool Advanced for 5427CK (AU-205H).
3. Select HID iCLASS.
4. Click [Detail Setting].
5. Set the card ID length.
6. Select Loadable Driver in [Export Format] and click [Export].
7. Select the loadable driver to be updated and the output location of the loadable driver and click [OK].
8. Copy the output loadable driver (ICC_LDR.tar) to the root directory of the USB memory.
   NOTE
   - **Please do not save any other data in the USB memory.**

9. Call the Service Mode to the screen of the MFP.
10. Select [System 2] -> [Driver Install] -> [Install].
11. Connect the USB memory in which the loadable driver has been saved to the USB port on the side of the control panel.
12. Select [Loadable driver] and touch the [Start] to install the loadable driver.
13. Remove the USB memory and, accessing [Billing Settings] -> [Management Function Choice] -> [Authentication Device 2], select [Card].
14. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
15. Set the authentication user.

(j) Auth Device Tool Advanced for 5427CK (Installing IC card information setting only in the MFP afterward: TypeA/HID Prox/Multiple)

1. Install the [loadable driver] for the OMNIKEY 5427CK (AU-205H) on the MFP.
2. Start the Auth Device Tool Advanced for 5427CK (AU-205H).
3. Select card type. (Except for HID iCLASS)
4. Select IC card information setting file in [Export Format] and click [Export].
5. Set the encrypted password.
6. Save the file (iccConfig.bin).
7. Start the PageScope Data Administrator, and select the target MFP.
8. In the [Settings for multiple device] tab, click [Batch setting of IC Card Information].
9. Using [Browse], select the file saved in step 6.
10. Click [Open] and type the encrypted password set in step 5.
11. Click [Next] and select the device to be imported.
12. Click [Start] and write the file in the MFP.
13. Check that “Normal” is shown in [Status].
14. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
15. Set the authentication user.

(k) Auth Device Tool Advanced for 5427CK (Installing IC card information setting only in the MFP afterward: HID iCLASS)

1. Install the [loadable driver] for the OMNIKEY 5427CK (AU-205H) on the MFP.
2. Start the Auth Device Tool Advanced for 5427CK (AU-205H).
3. Select HID iCLASS.
4. Click [Detail Setting].
5. Set the card ID length.
6. Select IC card information setting file in [Export Format] and click [Export].
7. Set the encrypted password.
8. Save the file (iccConfig.bin).
9. Start the PageScope Data Administrator, and select the target MFP.
10. In the [Settings for multiple device] tab, click [Batch setting of IC Card Information].
11. Using [Browse], select the file saved in step 8.
12. Click [Open] and type the encrypted password set in step 7.
13. Click [Next] and select the device to be imported.
14. Click [Start] and write the file in the MFP.
15. Check that “Normal” is shown in [Status].
16. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
17. Set the authentication user.

(l) Auth Device Tool Advanced for YSoft CRv2 (Setting IC card information in the loadable driver in advance)

NOTE

- **If a YSoft card reader is used, when performing authentication, the default setting for the loadable driver makes the card to be informed as an HID Prox card regardless of which type you are using. To change the card type when performing authentication, using Auth Device Tool Advanced for YSoft CRv2 to choose a corresponding card type to be reported to the authentication program from the following list.**

Card Reader Name	Readable Card Type	IC Card Information Setting (card type to be reported)
KM USB Reader v2 MultiReader HF	Mifare	TypeA (1) *1
KM USB Reader v2 Legic Advant	LEGIC	TypeA (1) *1
KM USB Reader v2 ASK FSK 125kHz	EM4100, EM4102, RFID 125kHz	EM4100/ EM4102/ RFID 125kHz
KM USB Reader v2 Mot/Ind W26	Indala	Indala
KM USB Reader v2 HID Prox	HID Prox	HID Prox (1) *2
KM USB Reader v2 HID iCLASS	HID iCLASS	HID iCLASS (1) *3

- ***1 The content (ID) to be read from the type A card setting differs from which to be read by using AU-201S.**
- ***2 The content (ID) to be read from the HID Prox card setting differs from which to be read by using AU-201H.**
- ***3 The content (ID) to be read from the HID iCLASS card setting differs from which to be read by using AU-202H.**

1. Obtain the loadable driver (ICC_LDR.tar) for the YSoft card reader.
2. Start the Auth Device Tool Advanced for YSoft CRv2.
3. Select card type.
4. Select Loadable Driver in [Export Format] and click [Export].
5. Select the loadable driver to be updated and the output location of the loadable driver and click [OK].
6. Copy the output loadable driver (ICC_LDR.tar) to the root directory of the USB memory.
   NOTE
   - **Please do not save any other data in the USB memory.**
7. Call the Service Mode to the screen of the MFP.
8. Select [System 2] -> [Driver Install] -> [Install].
9. Connect the USB memory in which the loadable driver has been saved to the USB port on the side of the control panel.
10. Select [Loadable driver] and touch the [Start] to install the loadable driver.
11. Remove the USB memory and, accessing [Billing Settings] -> [Management Function Choice] -> [Authentication Device 2], select [Card].
12. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
13. Set the authentication user.

(m) Auth Device Tool Advanced for YSoft CRv2 (Installing IC card information setting only in the MFP afterward)

NOTE

- **If a YSoft card reader is used, when performing authentication, the default setting for the loadable driver makes the card to be informed as an HID Prox card regardless of which type you are using. To change the card type when performing authentication, using Auth Device Tool Advanced for YSoft CRv2 to choose a corresponding card type to be reported to the authentication program from the following list.**

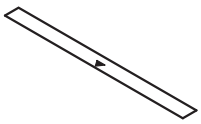
Card Reader Name	Readable Card Type	IC Card Information Setting (card type to be reported)
KM USB Reader v2 MultiReader HF	Mifare	TypeA (1) *1
KM USB Reader v2 Legic Advant	LEGIC	TypeA (1) *1
KM USB Reader v2 ASK FSK 125kHz	EM4100, EM4102, RFID 125kHz	EM4100/ EM4102/ RFID 125kHz
KM USB Reader v2 Mot/Ind W26	Indala	Indala
KM USB Reader v2 HID Prox	HID Prox	HID Prox (1) *2
KM USB Reader v2 HID iCLASS	HID iCLASS	HID iCLASS (1) *3

- ***1 The content (ID) to be read from the type A card setting differs from which to be read by using AU-201S.**
- ***2 The content (ID) to be read from the HID Prox card setting differs from which to be read by using AU-201H.**
- ***3 The content (ID) to be read from the HID iCLASS card setting differs from which to be read by using AU-202H.**

1. Install the loadable driver for the YSoft card reader to the MFP.
2. Start the Auth Device Tool Advanced for YSoft CRv2.
3. Select card type.
4. Select IC card information setting file in [Export Format] and click [Export].
5. Set the encrypted password.
6. Save the file (iccConfig.bin).
7. Start the PageScope Data Administrator, and select the target MFP.
8. In the [Settings for multiple device] tab, click [Batch setting of IC Card Information].
9. Using [Browse], select the file saved in step 6.
10. Click [Open] and type the encrypted password set in step 5.
11. Click [Next] and select the device to be imported.
12. Click [Start] and write the file in the MFP.
13. Check that “Normal” is shown in [Status].
14. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.
15. Set the authentication user.

2. DF-628

2.1 CE tool list

Tool name	Shape	Quantity	Parts No.	Remarks
DF reading chart		1	9J06 PJG1 XX	

F PERIODICAL MAINTENANCE

1. Concept of periodical maintenance

- Cleaning/replacement cycle for each maintenance item of main body/options can be evaluated with the total counter or each life counter value of [Service Mode] -> [Counter] -> [Life].

2. Periodical maintenance items

2.1 Main body

2.1.1 bizhub 367

(1) Periodical maintenance 1 (Total counter; every 60,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Overall	Paper feed and image conditions	-		●		
2		Appearance	-	●	●		
3	Conveyance section	Registration roller	-	●			
4	Image transfer section	Around waste toner port	-	●			
5	Duplex section	Duplex transport roller	-	●			

(2) Periodical maintenance 2 (Field standard yield; 110,000 (North America), 110,000 (Europe))

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Drum unit/K	1			●	

(3) Periodical maintenance 3 (Field standard yield; every 150,000 sheets)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Ozone filter (front side)	1			●	
2		Toner filter	1			●	
3		Paper dust remover unit	1			●	*
4	Image transfer section	Transfer roller unit	1			●	
5	Registration section	Ozone filter (registration section)	1			●	

- *: The ozone filter is furnished with the transfer roller unit (A7AH R729) so that all of them are replaced at same time.

(4) Periodical maintenance 4 (Life counter; every 200,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Paper feed section	Manual bypass tray feed roller	1			●	
2		Manual bypass tray separation roller assy	1			●	

(5) Periodical maintenance 5 (Life counter; every 300,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Paper feed section	Tray 1 pick-up roller	1			●	
2		Tray 1 feed roller	1			●	
3		Tray 1 separation roller	1			●	
4		Tray 2 pick-up roller	1			●	
5		Tray 2 feed roller	1			●	
6		Tray 2 separation roller	1			●	

(6) Periodical maintenance 6 (Field standard yield; 440,000 (North America), 440,000 (Europe))

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Fusing section	Fusing unit	1			●	

(7) Periodical maintenance 7 (Field standard yield; 590,000 (North America), 600,000 (Europe))

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Developing unit/K	1			●	

(8) Periodical maintenance 8 (Total counter; every 900,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Registration section	Registration roller bushing	4			●	
2		Registration roller gear/1	1			●	
3		Registration roller gear/2	1			●	

2.1.2 bizhub 287

(1) Periodical maintenance 1 (Total counter; every 60,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Overall	Paper feed and image conditions	-		●		
2		Appearance	-	●	●		

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
3	Conveyance section	Registration roller	-	●			
4	Image transfer section	Around waste toner port	-	●			
5	Duplex section	Duplex transport roller	-	●			

(2) Periodical maintenance 2 (Field standard yield; 85,000 (Japan), 105,000 (North America), 105,000 (Europe))

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Drum unit/K	1			●	

(3) Periodical maintenance 3 (Field standard yield; every 150,000 sheets)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Ozone filter (front side)	1			●	
2		Toner filter	1			●	
3		Paper dust remover unit	1			●	*
4	Image transfer section	Transfer roller unit	1			●	
5	Registration section	Ozone filter (registration section)	1			●	

- *: The ozone filter is furnished with the transfer roller unit (A7AH R729) so that all of them are replaced at same time.

(4) Periodical maintenance 4 (Life counter; every 200,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Paper feed section	Manual bypass tray feed roller	1			●	
2		Manual bypass tray separation roller assy	1			●	

(5) Periodical maintenance 5 (Life counter; every 300,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Paper feed section	Tray 1 pick-up roller	1			●	
2		Tray 1 feed roller	1			●	
3		Tray 1 separation roller	1			●	
4		Tray 2 pick-up roller	1			●	
5		Tray 2 feed roller	1			●	
6		Tray 2 separation roller	1			●	

(6) Periodical maintenance 6 (Field standard yield; 320,000 (Japan), 400,000 (North America), 400,000 (Europe))

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Fusing section	Fusing unit	1			●	

(7) Periodical maintenance 7 (Field standard yield; 545,000 (North America) : 590,000 (Europe) : 600,000)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Developing unit/K	1			●	

(8) Periodical maintenance 8 (Total counter; every 900,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Registration section	Registration roller bushing	4			●	
2		Registration roller gear/1	1			●	
3		Registration roller gear/2	1			●	

2.1.3 bizhub 227

(1) Periodical maintenance 1 (Total counter; every 60,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Overall	Paper feed and image conditions	-		●		
2		Appearance	-	●	●		
3	Conveyance section	Registration roller	-	●			
4	Image transfer section	Around waste toner port	-	●			
5	Duplex section	Duplex transport roller	-	●			

(2) Periodical maintenance 2 (Field standard yield; 80,000 (Japan), 85,000 (North America), 85,000 (Europe))

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Drum unit/K	1			●	

(3) Periodical maintenance 3 (Field standard yield; every 150,000 sheets)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Ozone filter (front side)	1			●	
2		Toner filter	1			●	
3		Paper dust remover unit	1			●	*
4	Image transfer section	Transfer roller unit	1			●	
5	Registration section	Ozone filter (registration section)	1			●	

- *: The ozone filter is furnished with the transfer roller unit (A7AH R729) so that all of them are replaced at same time.

(4) Periodical maintenance 4 (Life counter; every 200,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Paper feed section	Manual bypass tray feed roller	1			●	
2		Manual bypass tray separation roller assy	1			●	

(5) Periodical maintenance 5 (Life counter; every 300,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Paper feed section	Tray 1 pick-up roller	1			●	
2		Tray 1 feed roller	1			●	
3		Tray 1 separation roller	1			●	
4		Tray 2 pick-up roller	1			●	
5		Tray 2 feed roller	1			●	
6		Tray 2 separation roller	1			●	

(6) Periodical maintenance 6 (Field standard yield; 305,000 (Japan), 320,000 (North America), 320,000 (Europe))

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Fusing section	Fusing unit	1			●	

(7) Periodical maintenance 7 (Field standard yield; 520,000 (Japan), 590,000 (North America), 600,000 (Europe))

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Developing unit/K	1			●	

(8) Periodical maintenance 8 (Total counter; every 900,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Registration section	Registration roller bushing	4			●	
2		Registration roller gear/1	1			●	
3		Registration roller gear/2	1			●	

2.2 Option

2.2.1 DF-628

(1) Periodical maintenance 1 (total counter; every 50,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
1	Overall	Paper feed and image conditions	-		●			
2		Appearance	-	●	●			
3	Paper feed section	Pick-up roller	-	●				
4		Feed roller	-	●				
5		Separation roller	-	●				
6	Conveyance section	Rollers and rolls	-	●				
7	Scanning section	Scanning guide	-	●				
8	Paper feed section	Reflective sensor section	-	●				

(2) Periodical maintenance 2 (life counter; every 200,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
1	Paper feed section	Pick-up roller	2				●	*

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
2		Feed roller	1				●	
3		Separation roller assy	1				●	

*: Replace those three parts at the same time.

2.2.2 PC-113/PC-413

(1) Periodical maintenance 1 (life counter; every 300,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
1	Overall	Paper feed and image conditions	-		●			
2		Appearance	-	●	●			
3	Paper feed section	Pick-up roller	1				●	
4		Feed roller	1				●	*
5		Separation roller	1				●	

*: Replace those three parts at the same time.

2.2.3 PC-213

(1) Periodical maintenance 1 (life counter; every 300,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
1	Overall	Paper feed and image conditions	-		●			
2		Appearance	-	●	●			
3	Paper feed section	Pick-up roller	2				●	
4		Feed roller	2				●	*
5		Separation roller	2				●	

*: Replace those three parts at the same time.

2.2.4 FS-534/FS-534SD

(1) Periodical maintenance 1 (total counter; every 300,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
1	Overall	Paper feed and image conditions	-		●			
2		Appearance	-	●	●			
3	Conveyance section	Roller and rolls	-	●				
4		Paddle	9	●				

(2) Periodical maintenance 2 (life counter; every 2,000,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
1	Conveyance section	Paddle unit	3				●	

2.2.5 SD-511

(1) Periodical maintenance 1 (total counter; every 300,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
1	Overall	Paper feed and image conditions	-		●			
2		Appearance	-	●	●			
3	Conveyance section	Conveyance roller	-	●				
4		Upper paddle	4	●				
5		Lower paddle	8	●				
6	Folding section	Folding roller	-	●				

(2) Periodical maintenance 2 (life counter; every 2,000,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
1	Conveyance section	Upper paddle assy	1				●	
2		Lower paddle unit	4				●	

2.2.6 FS-533

(1) Periodical maintenance 1 (total counter; every 300,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
1	Overall	Paper feed and image conditions	-		●			
2		Appearance	-	●	●			

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
3	Conveyance section	Roller and rolls	-	●				
4	Paper exit section	Paddle	4	●				

(2) Periodical maintenance 2 (life counter; every 1,000,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Lubrication	Replace	Descriptions
1	Alignment section	Alignment roller assy/ F	1				●	*
2		Alignment roller assy/ R	1				●	

*: Replace those three parts at the same time.

3. Periodical replacement parts list

- To ensure that the machine produces good copies and to extend its service life, it is recommended that the maintenance jobs described in this schedule be carried out as instructed.
- The replacement period is determined by the total counter value, various life counter values,number of field standard yields, or the message displayed on the control panel.
- Maintenance conditions are based on the case of A4 or 8 $^{1}/_{2}$ x 11, standard mode and low power mode OFF.

Standard mode	bizhub 367	4 pages per job
	bizhub 287	3 pages per job
	bizhub 227	2 pages per job

3.1 bizhub 367/287/227

Classification	Parts name		Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Paper feed section	Tray 1 pick-up roller		A5C1 5622 ##	1	300,000	*2 *4	F.6.7.1 Replacing the tray 1 feed roller, tray 1 pick-up roller, tray 1 separation roller
	Tray 1 feed roller		A00J 5636 ##	1	300,000		
	Tray 1 separation roller			1	300,000		
	Tray 2 pick-up roller		A5C1 5622 ##	1	300,000	*2 *4	F.6.7.2 Replacing the tray 2 feed roller, tray 2 pick-up roller, tray 2 separation roller
	Tray 2 feed roller		A00J 5636 ##	1	300,000		
	Tray 2 separation roller			1	300,000		
	Manual bypass tray feed roller		A00F 6232 ##	1	200,000	*2 *4	F.6.7.3 Replacing the manual bypass tray feed roller, manual bypass tray separation roller assy
	Manual bypass tray separation roller assy		4658 0151 ##	1	200,000		
Processing section	Toner cartridge/K *1		-	1	23,000	*3	F.6.4.1 Replacing the toner cartridge
	Drum unit/K *1	bizhub 367	-	1	North America: 110,000	*3	F.6.2.1 Replacing the drum unit
					Europe: 110,000		
		bizhub 287	-	1	Japan: 85,000		
					North America: 105,000		
					Europe: 105,000		
		bizhub 227	-	1	Japan: 80,000		
					North America: 85,000		
					Europe: 85,000		
	Developing unit/K	bizhub 367	-	1	North America: 590,000	*3	F.6.3.1 Replacing the developing unit
					Europe: 600,000		
		bizhub 287	-	1	Japan: 545,000		
					North America: 590,000		
					Europe: 600,000		
		bizhub 227	-	1	Japan: 520,000		
					North America: 590,000		
					Europe: 600,000		
	Toner filter		A7AH R726 ##	1	150,000	*3	F.6.1.2 Replacing the toner filter
	Paper dust remover unit		A7AH R729 ##	1	150,000	*3 *5	F.6.3.2 Replacing the paper dust remover unit
	Ozone filter		A7AH R703 ##	1	150,000	*3	F.6.1.1 Replacing the ozone filter (front side)
	Waste toner box *1		A7XW WY2	1	(110,000)	*3 *6	F.6.6.1 Replacing the waste toner box
Image transfer section	Transfer Roller Unit		A7AH R729 ##	1	150,000	*3	F.6.5.1 Replacing the transfer roller unit
Registration section	Ozone filter		A7AH R720 ##	1	150,000	*3	F.6.8.2 Replacing the ozone filter (registration section)

Classification	Parts name		Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
	Registration roller bushing		A7AH 7032 ##	4	900,000	*3 *4	F.6.8.3 Replacing the registration roller bushing/ registration roller gear
	Registration roller gear/1		A7AH 7075 ##	1	900,000		
	Registration roller gear/2		1164 3515 ##	1	900,000		
Fusing section	Fusing unit	bizhub 367	• A7AH R722 ## (100V) • A7AH R723 ## (120V) • A7AH R724 ## (220-240V)	1	North America: 440,000	*3	F.6.9.1 Replacing the fusing unit
					Europe: 440,000		
		bizhub 287		1	Japan: 320,000		
					North America: 400,000		
					Europe: 400,000		
		bizhub 227		1	Japan: 305,000		
					North America: 320,000		
					Europe: 320,000		

*1: The parts can be replaced either by user or service engineer.
*2: Actual durable cycle (life counter value)
*3: Field standard yield C.1.4 Material
*4: Replace those three parts at the same time.
*: The ozone filter is furnished with the transfer roller unit (A7AH R729) so that all of them are replaced at same time.
*6: A waste toner full condition is detected with detecting the actual waste toner emissions.

3.2 Option

3.2.1 DF-628

Parts name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Pick-up roller	A143 PP52 ##	2	200,000	*1 *2	F.7. Periodical maintenance procedure DF-628
Feed roller	A143 5631 ##	1	200,000		
Separation roller assy	A3CF PP4H ##	1	200,000		

*1: Actual durable cycle (life counter value)
*2: Replace those three parts at the same time.

3.2.2 PC-113

Parts name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Pick-up roller	A5C1 5622 ##	1	300,000	*1 *2	F.8.1.1 Replacing the tray 3 feed roller, tray 3 pick-up roller, tray 3 separation roller
Feed roller	A00J 5636 ##	1	300,000		
Separation roller	A00J 5636 ##	1	300,000		

*1: Actual durable cycle (life counter value)
*2: Replace those three parts at the same time.

3.2.3 PC-213

Parts name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Pick-up roller	A5C1 5622 ##	2	300,000	*1 *2	F.8.1.1 Replacing the tray 3 feed roller, tray 3 pick-up roller, tray 3 separation roller F.8.1.2 Replacing the tray 4 feed roller, tray 4 pick-up roller, tray 4 separation roller
Feed roller	A00J 5636 ##	2	300,000		
Separation roller	A00J 5636 ##	2	300,000		

*1: Actual durable cycle (life counter value)
*2: Replace those three parts at the same time.

3.2.4 PC-413

Parts name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Pick-up roller	A5C1 5622 ##	1	300,000	*1 *2	F.9.1.1 Replacing the feed roller, pick-up roller, separation roller
Feed roller	A00J 5636 ##	1	300,000		
Separation roller	A00J 5636 ##	1	300,000		

*1: Actual durable cycle (life counter value)
*2: Replace those three parts at the same time.

3.2.5 FS-534/FS-534SD

Parts name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Paddle unit	A3EP PPD3 ##	2	2,000,000	*1	F.10. Periodical maintenance procedure FS-534/FS-534SD
	A3EP PPD4 ##	1	2,000,000		

*1: Actual durable cycle (life counter value)

3.2.6 SD-511

Parts name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Upper paddle assy	A3ER PP38 ##	1	2,000,000	*1	F.11. Periodical maintenance procedure SD-511
Lower paddle unit	A3ER PP7Y ##	4	2,000,000	*1	

*1: Actual durable cycle (life counter value)

3.2.7 FS-533

Parts name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Alignment roller assy/ F	A2YU PPK0 ##	1	1,000,000	*1 *2	F.12. Periodical maintenance procedure FS-533
Alignment roller assy/ R	A2YU PPK1 ##	1	1,000,000		

*1: Actual durable cycle (life counter value)
*2: Replace those three parts at the same time.

4. Periodical cleaning parts list

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

4.1 Main unit

Classification	Parts name	Cleaning cycle	Descriptions	Ref. page
Conveyance section	Registration roller	60,000	*1	F.6.8.1 Cleaning of the registration roller
Image transfer section	Area around the waste toner collecting port	60,000	*1	F.6.6.2 Cleaning of the area around the waste toner collecting port
Duplex section	Duplex transport roller	60,000	*1	F.6.10.1 Cleaning of the duplex transport rollers

*1: Total counter value

4.2 DF-628

Parts name	Cleaning cycle	Descriptions	Ref. page
Pick-up roller	50,000	*1	F.7. Periodical maintenance procedure DF-628
Feed roller	50,000	*1	
Separation roller	50,000	*1	
Rollers and rolls	50,000	*1	
Scanning guide	50,000	*1	
Reflective sensor section	50,000	*1	

*1: Total counter value

4.3 FS-534/FS-534SD

Parts name	Cleaning cycle	Descriptions	Ref. page
Roller and rolls	300,000	*1	F.10. Periodical maintenance procedure FS-534/FS-534SD
Paddle	300,000	*1	

*1: Total counter value

4.4 SD-511

Parts name	Cleaning cycle	Descriptions	Ref. page
Conveyance roller	300,000	*1	F.11. Periodical maintenance procedure SD-511
Folding roller	300,000	*1	
Upper paddle	300,000	*1	
Lower paddle	300,000	*1	

*1: Total counter value

4.5 FS-533

Parts name	Cleaning cycle	Descriptions	Ref. page
Roller and rolls	300,000	*1	F.12. Periodical maintenance procedure FS-533
Paddle	300,000	*1	

*1: Total counter value

5. Concept of parts life

5.1 Life value of consumables and parts

- The life counter value of each material and parts is available from [Service Mode] -> [Counter] -> [Life].
- Life specification value means an actual life terminated when prints are made under the conditions as defined in the next section, “Conditions for life specifications values.”
  The actual life may vary greatly depending on how the machine has been used and other factors.
- “M” refers to the rotation time of each unit.

Consumables/parts name	Target model	Field standard yield *	Near life	Life	Life stop
Drum unit (K)	bizhub 367	North America: 110,000	-	4445M	5000M
		Europe: 110,000			
	bizhub 287	Japan: 85,000	-	5477M	6224M
		North America: 105,000			
		Europe: 105,000			
	bizhub 227	Japan: 80,000	-	5290M	6224M
		North America: 85,000			
		Europe: 85,000			
Developing unit	bizhub 367	North America: 590,000	-	600,000 counts	610,000 counts
		Europe: 600,000			
	bizhub 287	Japan: 545,000	-		
		North America: 590,000			
		Europe: 600,000			
	bizhub 227	Japan: 520,000	-		
		North America: 590,000			
		Europe: 600,000			
Transfer Roller Unit	-	150,000	-	150,000	160,000
Ozone filter (front side)	-	150,000	-		
Ozone filter (Registration section)	-	150,000	-		
Toner filter	-	150,000	-		
Paper dust remover unit	-	150,000	-		
Toner cartridge (K)	-	23,000	22,000	-	23,000
Waste toner box	bizhub 367	110,000	107,000	-	110,000
	bizhub 287	110,000	108,000	-	110,000
	bizhub 227	110,000	109,000	-	110,000
Fusing unit	bizhub 367	North America: 440,000	-	480,000 counts	500,000 counts
		Europe: 440,000			
	bizhub 287	Japan: 320,000	-	450,000 counts	470,000 counts
		North America: 400,000			
		North America: 400,000			
	bizhub 227	Japan: 305,000	-	340,000 counts	360,000 counts
		North America: 320,000			
		Europe: 320,000			

- *: For details of conditions of field standard yield, see “C.1.4 Material”.

5.2 Details of the life specifications

Item	Description
Waste toner box	The waste toner full sensor detects near full for the toner replenishment level of the waste toner box. When the waste toner near full is detected, the waste toner counter starts counting, and the waste toner full is detected when the life threshold is reached.
Fusing unit	Rotation time of the fusing unit is counted, and detected when it reaches to the set life value.
Transfer Roller Unit	When the number of printed pages *1 reaches the set life threshold, the end of unit life is detected.
Ozone filter (front side)	When the number of printed pages *1 reaches the set life value, the end of unit life is detected.
Ozone filter (registration section)	When the number of printed pages *1 reaches the set life value, the end of unit life is detected.
Toner filter	When the number of printed pages *1 reaches the set life value, the end of unit life is detected.

Paper dust remover unit	When the number of printed pages *1 reaches the set life value, the end of unit life is detected. *2
Drum unit/K	Rotation time of the photo conductor and number of prints *1 are counted, and detected when one of those values reaches to the set life value. However, only the photo conductor rotation time is available from the life counter.
Developing unit/K	When the number of printed pages *1 reaches the set life value, the end of unit life is detected.

*1: For counting with number of prints, the paper size in the sub scan direction is accumulated and counts one when it reaches to 216.0 mm. For the paper with sub scan size of less than 216.0mm, it is accumulated with the size of 216.0 mm.
*2: The paper dust remover unit is included in the transfer roller unit package. Since they are both replaced at the same time, when the transfer roller unit is replaced with a new one, the value of the life counter is cleared.

6. Periodical maintenance procedure bizhub 367/287/227

NOTE

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

6.1 Housing section

6.1.1 Replacing the ozone filter (front side)

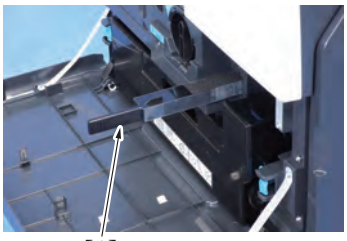
(1) Periodically replacing parts/cycle

- Ozone filter (front side): Every 150,000 sheets

* The toner filter is supplied with the transfer roller unit, and these are replaced at the same time.

(2) Procedure

1. Open the front door.
2. Remove the ozone filter [1].



[1]

3. To reinstall, reverse the order of removal.

6.1.2 Replacing the toner filter

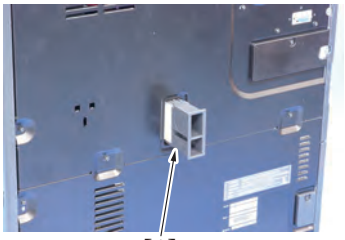
(1) Periodically replacing parts/cycle

- Toner filter: Every 150,000 sheets

* The toner filter is supplied with the transfer roller unit, and these are replaced at the same time.

(2) Procedure

1. Remove the toner filter [1].



[1]

2. To reinstall, reverse the order of removal.

6.2 Photo conductor section

6.2.1 Replacing the drum unit

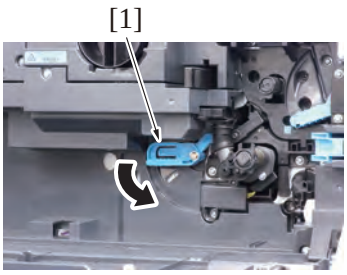
(1) Periodically replacing parts/cycle

Model	Japan	North America	Europe
bizhub 367	-	110,000 sheets	110,000 sheets
bizhub 287	85,000 sheets	105,000 sheets	105,000 sheets
bizhub 227	80,000 sheets	85,000 sheets	85,000 sheets

(2) Removal procedure

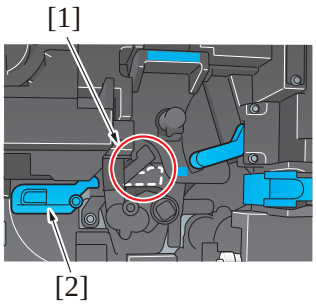
1. Open the front door.
2. Open the right door.
3. Remove the waste toner box.
   F.6.6.1 Replacing the waste toner box

4. Turn the developing unit lock lever [1] and release the lock.

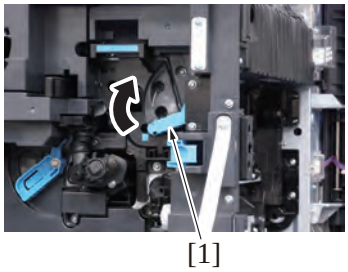


NOTE

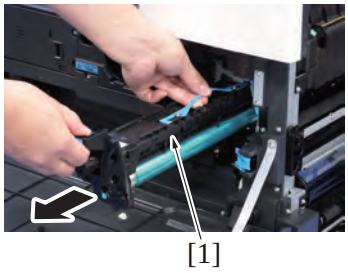
- **Make sure that the lock [1] in the red circle is aligned with the broken line.**
- **If the lock [1] in the red circle is not aligned with the broken line, press in the blue knob [2] of the drum unit to release the lock.**



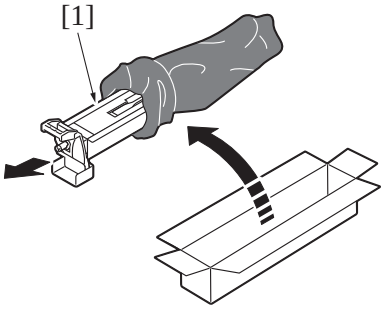
5. Turn the drum unit lock lever [1] and release the lock.



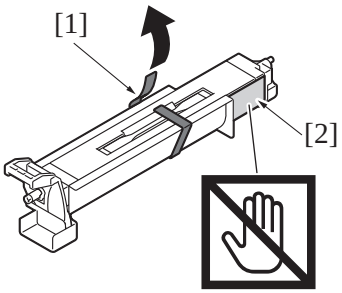
6. Pull the drum unit [1] to you and remove it from the machine.



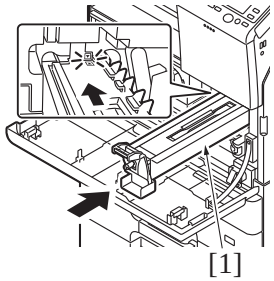
(3) Reinstall procedure



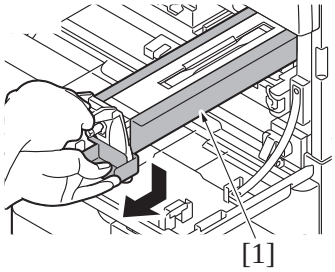
1. Remove the drum unit [1] from its package.
2. Remove the drum unit [1] from the plastic bag.



3. Peel off the tape [1].
NOTE
- **Do not hold the drum unit by the part covered by the protective sheet [2]. Holding it by the upper part can cause scratches on the surface of the photo conductor, resulting in the deterioration of image quality.**

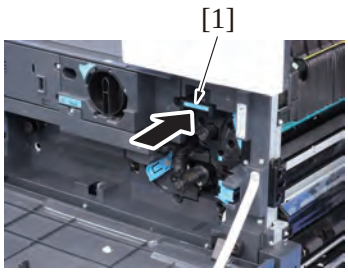


4. Align the "▲" mark on the drum unit with the "▼" mark on the machine and insert the drum unit [1] into the machine.

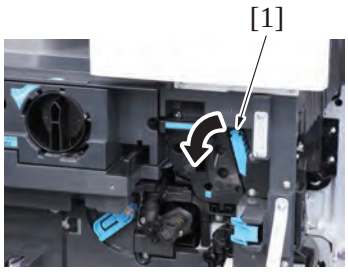


5. Remove the photo conductor protective part [1].

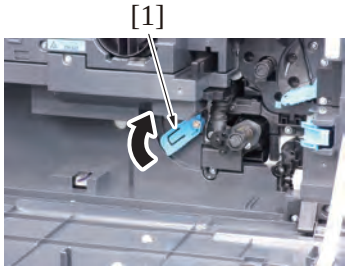
6. Completely insert the drum unit [1].



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. Turn the developing unit lock lever [1] and lock the drum unit.
NOTE
- **If the lock lever is hard to rotate, turn the lever while pushing the developing unit to the rear.**



9. Close the right door.
10. Reinstall the waste toner box.

11. Close the front door.
12. Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and carry out gradation adjust.

6.3 Developing section

6.3.1 Replacing the developing unit

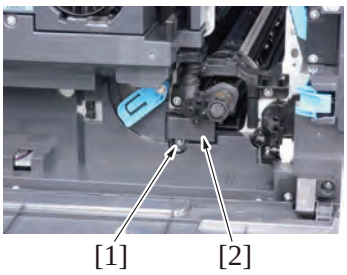
(1) Periodically replacing parts/cycle

Model	Japan	North America	Europe
bizhub 367	-	590,000 sheets	600,000 sheets
bizhub 287	545,000 sheets	590,000 sheets	600,000 sheets
bizhub 227	520,000 sheets	590,000 sheets	600,000 sheets

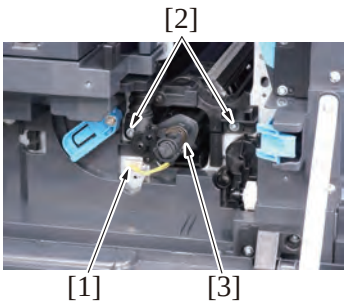
(2) Procedure

1. Open the front door.
2. Remove the waste toner box.
F.6.6.1 Replacing the waste toner box
3. Remove the drum unit.
F.6.2.1 Replacing the drum unit

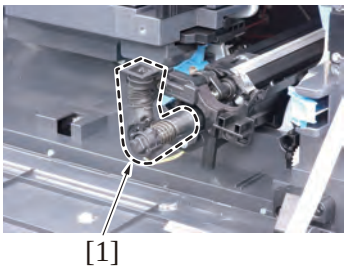
4. Remove the screw [1], and remove the cover [2].



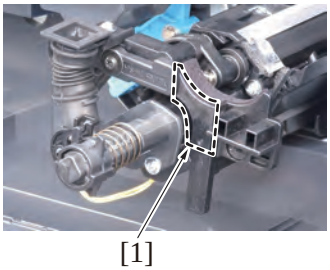
5. Disconnect the connector [1].
6. Remove two screws [2], and remove the developing unit [3].



NOTE
- **When installing/removing the developing unit, do not hold it by the parts [1] shown in the figure.**



7. To reinstall, reverse the order of removal.
NOTE
- **To install the two screws in the developing unit, press the position [1] with your finger as shown in the illustration.**



8. Carry out the [Service Mode] -> [Image Process Adjustment] -> [Gradation Adjust].

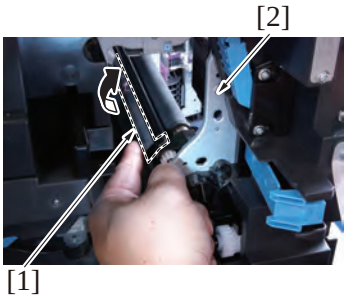
6.3.2 Replacing the paper dust remover unit

(1) Periodically replacing parts/cycle

- Paper dust remover unit: Every 150,000 sheets

(2) Procedure

1. Open the right door.
2. Open the front door.
3. Remove the waste toner box.
   F.6.6.1 Replacing the waste toner box
4. Remove the drum unit.
   F.6.2.1 Replacing the drum unit
5. Remove the developing unit.
   F.6.3.1 Replacing the developing unit



6. Remove the paper dust remover unit [1].
   NOTE
   - **When installing/removing the paper dust remover unit [1], be careful that the metal plate [2] does not hurt your hands or damage the paper dust remover unit.**
7. To reinstall, reverse the order of removal.

6.4 Toner supply section

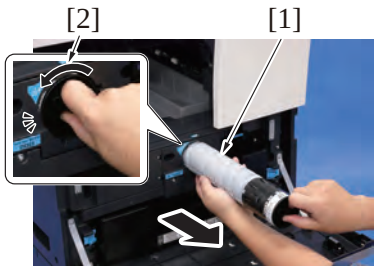
6.4.1 Replacing the toner cartridge

(1) Periodically replacing parts/cycle

- Toner cartridge: Every 23,000 sheets

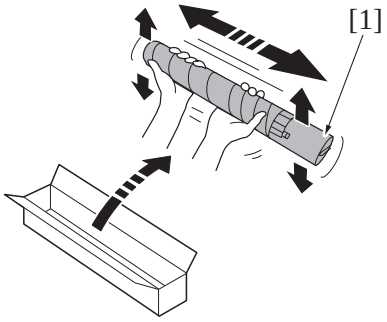
(2) Removal procedure

1. Open the front door.

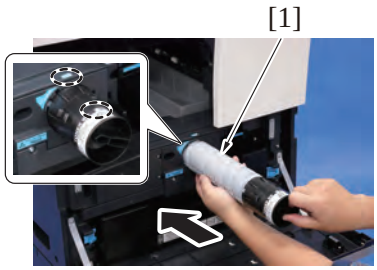


2. Turn the toner cartridge [1] in the direction [2] as shown in the illustration to release the lock.
3. Remove the toner cartridge [1].

(3) Reinstall procedure



1. Remove the new toner cartridge [1] from its packaging, and the 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.
NOTE
- **Make sure that the blue label position of the toner cartridge is matched with the one of the machine side.**



3. Completely insert the toner cartridge into the machine and turn it in the direction as shown in the illustration in order to fix the toner cartridge.

6.5 Transfer/separation section

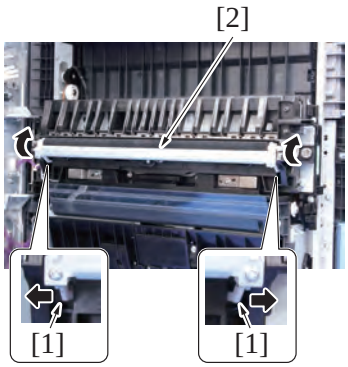
6.5.1 Replacing the transfer roller unit

(1) Periodically replacing parts/cycle

- Transfer roller unit: Every 150,000 sheets

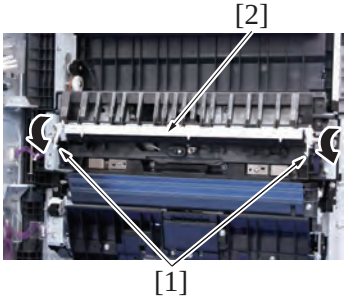
(2) Removal procedure

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].

(3) Reinstall procedure



1. Holding onto the lock levers [1] (at two places), mount 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.

6.6 Toner collection section

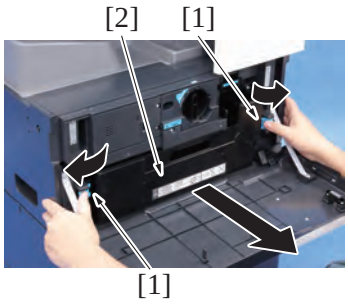
6.6.1 Replacing the waste toner box

(1) Periodically replacing parts/cycle

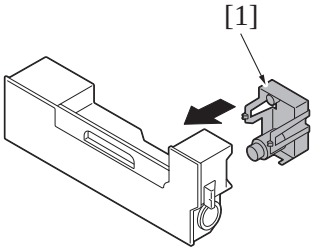
- Waste toner box: Every 110,000 counts

(2) Removal procedure

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

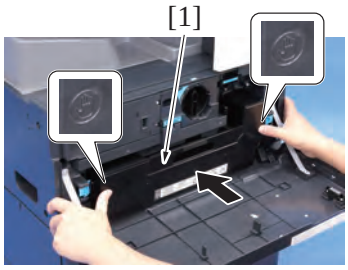


3. Clean the surface around the waste toner collecting port.
F.6.6.2 Cleaning of the area around the waste toner collecting port
4. Take out the cap [1] from the new waste toner box package, and attach it to the old waste toner box.



(3) 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.

6.6.2 Cleaning of the area around the waste toner collecting port

(1) Periodically cleaning parts/cycle

- Area around the waste toner collecting port: Every 60,000 counts (upon each call)

(2) Procedure

1. Remove the waste toner box.
F.6.6.1 Replacing the waste toner box
2. Wipe the areas around the waste toner collecting port clean of spilled toner and dirt using a cleaning pad with water or alcohol.



6.7 Paper feed section

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

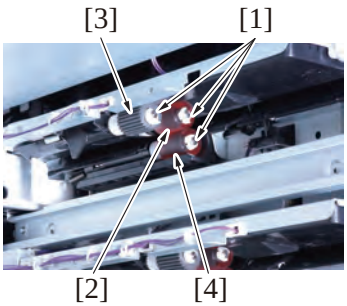
(1) Periodically replacing parts/cycle

- Tray 1 feed roller: Every 300,000 counts
- Tray 1 pick-up roller: Every 300,000 counts

- Tray 1 separation roller: Every 300,000 counts

(2) Procedure

1. Open the right door.
2. Remove the tray 1.
   G.5.2.15 Tray 1
3. Remove the tray 2.
   G.5.2.16 Tray 2
4. Remove the C-clip [1] each, and remove the tray 1 feed roller [2], tray 1 pick-up roller [3] and tray 1 separation roller [4].



5. To reinstall, reverse the order of removal.
6. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [1st.].

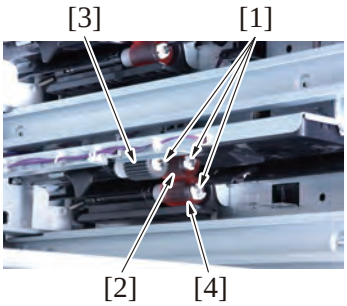
6.7.2 Replacing the tray 2 feed roller, tray 2 pick-up roller, tray 2 separation roller

(1) Periodically replacing parts/cycle

- Tray 2 feed roller: Every 300,000 counts
- Tray 2 pick-up roller: Every 300,000 counts
- Tray 2 separation roller: Every 300,000 counts

(2) Procedure

1. Open the right door.
2. Remove the tray 1.
   G.5.2.15 Tray 1
3. Remove the tray 2.
   G.5.2.16 Tray 2
4. Remove the C-clip [1] each, 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.
6. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [2nd.].

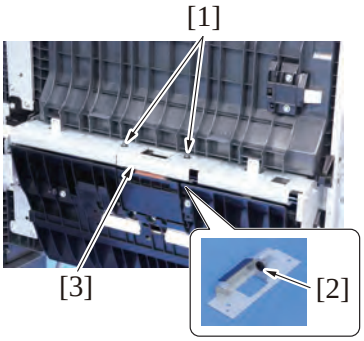
6.7.3 Replacing the manual bypass tray feed roller, manual bypass tray separation roller assy

(1) Periodically replacing parts/cycle

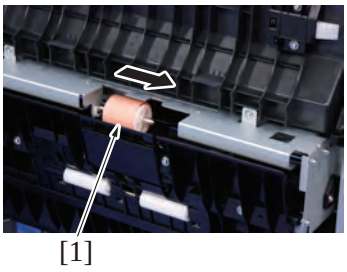
- Manual bypass tray feed roller: Every 200,000 counts
- Manual bypass tray separation roller assy: Every 200,000 counts

(2) Procedure

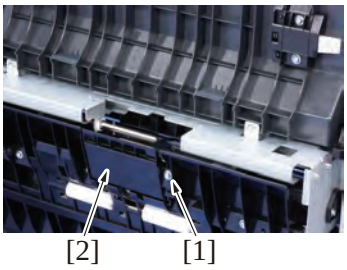
1. Open the right door.
2. Open the regist unit.



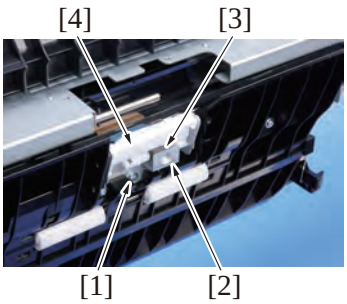
3. Remove two screws [1], and remove the bushing [2] and the plate [3].



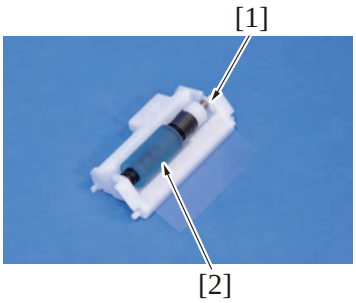
4. Remove the manual bypass tray feed roller [1].



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



6. Remove the screw [2], and remove the plate [3].
7. Remove the manual bypass tray separation roller unit [4].



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

9. To reinstall, reverse the order of removal.
10. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [Manual Tray].

6.8 Registration section

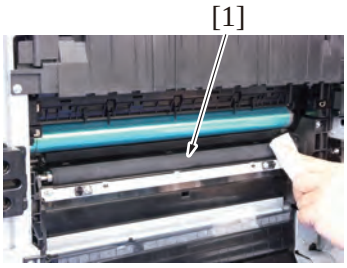
6.8.1 Cleaning of the registration roller

(1) Periodically cleaning parts/cycle

- Registration roller: Every 60,000 counts (upon each call)

(2) Procedure

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



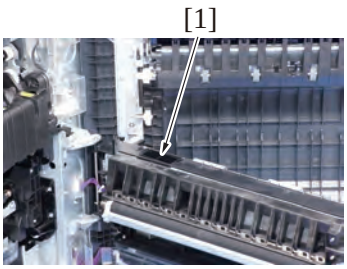
6.8.2 Replacing the ozone filter (registration section)

(1) Periodically replacing parts/cycle

- Ozone filter (registration section): every 150,000 counts

(2) Procedure

1. Open the right door.
2. Open the registration unit.
3. Remove the ozone filter [1].



4. To reinstall, reverse the order of removal.

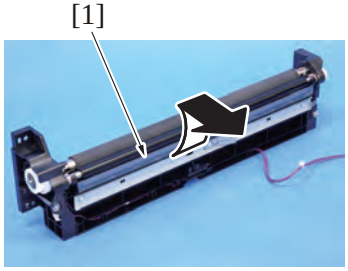
6.8.3 Replacing the registration roller bushing/registration roller gear

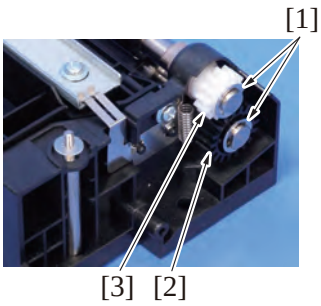
(1) Periodically replacing parts/cycle

- Registration roller bushing: Every 900,000 sheets
- Registration roller gear/1: Every 900,000 sheets
- Registration roller gear/2: Every 900,000 sheets

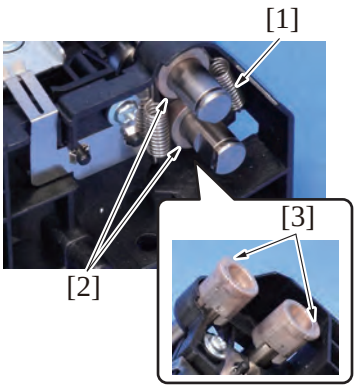
(2) Procedure

1. Slide out the tray 1 and the tray 2.
2. Open the right door.
3. Remove the paper feed unit.
   G.5.3.2 Paper feed unit
4. Remove the transport unit.
   G.5.3.9 Transport unit
5. Remove the paper dust remover [1].

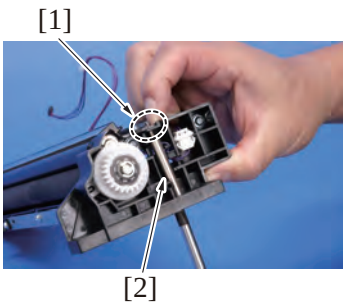




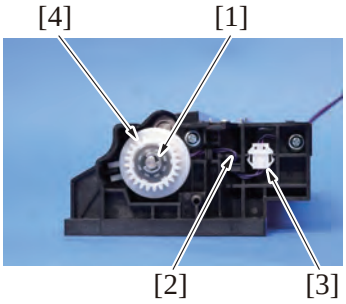
6. Remove two E-rings [1].
7. Remove the registration roller gear/1 [2] and registration roller gear/2 [3].



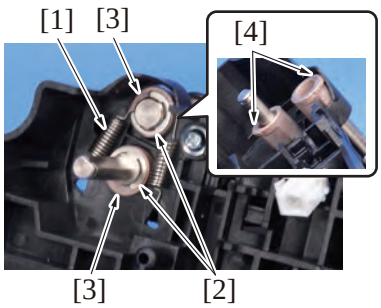
8. Remove the spring [1], and remove two registration roller bushing [2].
NOTE
- **When installing the bushing, place brim [3] of the bushing on the outside.**



9. While pressing the washer [1], turn the screw [2] to remove the washer [1] and the screw [2].



10. Remove the E-ring [1], and remove the harness from harness guide [2].
11. Disconnect the connector [3], and remove the registration clutch [4].
NOTE
- **When mounting the registration clutch, set the convex part of the stopper into the concave part of the registration clutch [4].**



12. Remove the spring [1] and two E-rings [2], and remove two registration roller bushing [3].
NOTE
- **When installing the bushing, place brim [4] of the bushing on the outside.**

13. To reinstall, reverse the order of removal.

6.9 Fusing section

6.9.1 Replacing the fusing unit

⚠ CAUTION

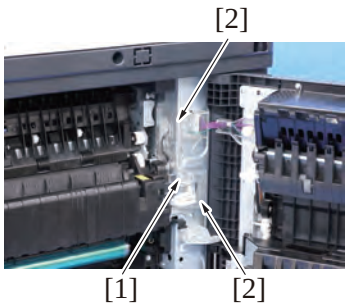
- **The temperature gets high in the vicinity of the fusing unit. You may get burned when you come into contact with the area.**
  Before replacement operations, make sure that more than 20 minutes have elapsed since the main power switch was turned off.

(1) Periodically replacing parts/cycle

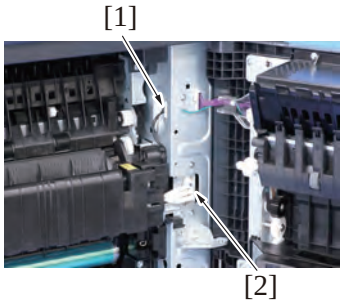
Model	Japan	North America	Europe
bizhub 367	-	440,000	440,000
bizhub 287	320,000	400,000	400,000
bizhub 227	305,000	320,000	320,000

(2) Procedure

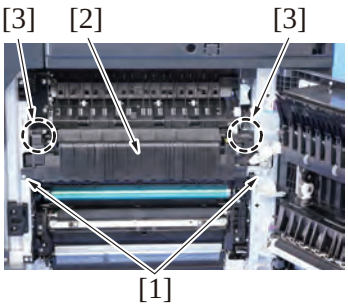
1. Open the right door.



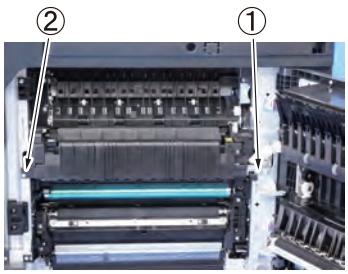
2. Remove the screw [1], and remove the two connector protective covers [2].



3. Disconnect the connector [1].
4. Disconnect the connector [2].
   NOTE
   - **When removing the connector [2], press the claw to release the lock, then remove it.**



5. Remove two screws [1], and remove the fusing unit [2].
   NOTE
   - **When removing the fusing unit, hold the parts [3] shown on the picture so that it would not fall.**



NOTE
- **When installing the fusing unit, tighten the screws in the order shown in the illustration.**

6. To reinstall, reverse the order of removal.
7. Carry out the [Service Mode] -> [Counter] -> [Life] -> [New Release].

6.10 Duplex section

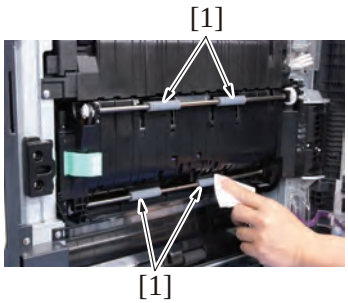
6.10.1 Cleaning of the duplex transport rollers

(1) Periodically cleaning parts/cycle

- Duplex transport rollers: Every 60,000 counts (upon each call)

(2) Procedure

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



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

7. Periodical maintenance procedure DF-628

NOTE

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

7.1 Take-up section

7.1.1 Cleaning of the pick-up roller/feed roller

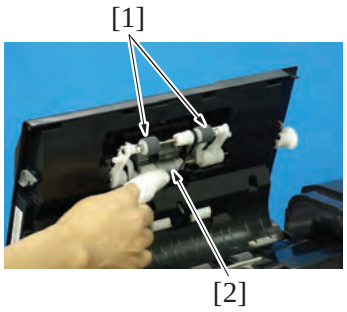
(1) Periodically cleaning parts/cycle

- Pick-up roller: Every 50,000 counts
- Feed roller: Every 50,000 counts

(2) Procedure



1. Open the left cover [1].



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

7.1.2 Cleaning of the separation roller

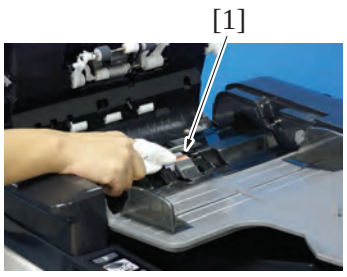
(1) Periodically cleaning parts/cycle

- Separation roller: Every 50,000 counts

(2) Procedure



1. Open the left cover [1].



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

7.1.3 Replacing the pick-up roller/feed roller

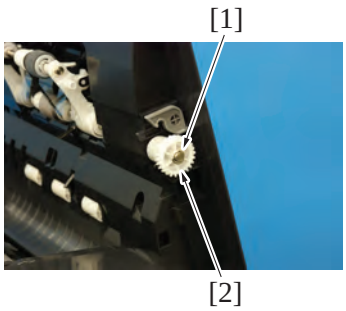
(1) Periodically replacing parts/cycle

- Pick-up roller: Every 200,000 counts
- Feed roller: Every 200,000 counts

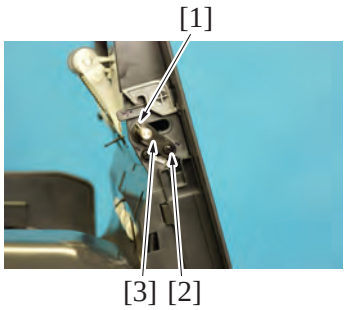
(2) Procedure



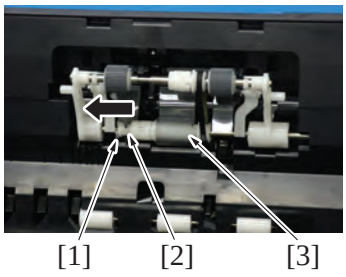
1. Open the left cover [1].



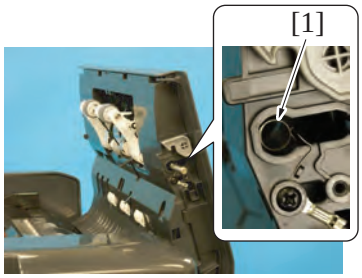
2. Remove the E-ring [1] and the gear assy [2].
   NOTE
   - **When reinstalling the gear assy [2], push the gear assy [2] into position while rotating it.**



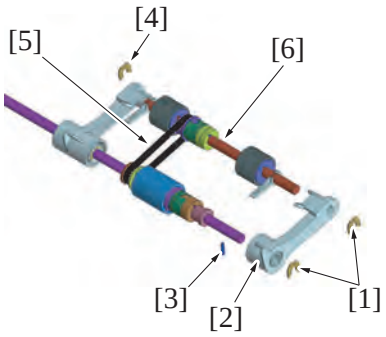
3. Remove the pin [1].
   NOTE
   - **Be careful not to lose the pin [1].**
4. Remove the screw [2] and remove the bearing [3].



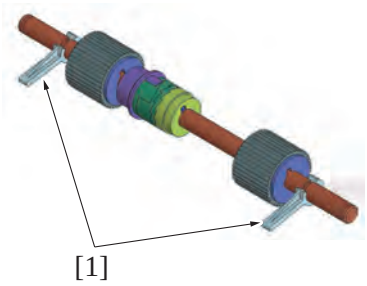
5. Remove the C-clip [1] and slide the bushing [2] in the direction of the arrow.
6. Remove the pick-up roller/feed roller assy [3].



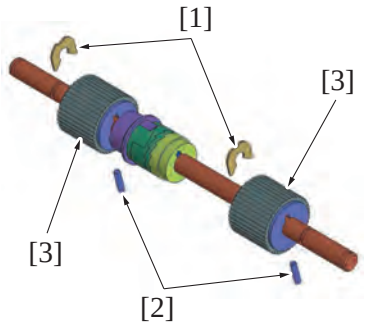
NOTE
- **When installing the pick-up roller/feed roller assy, insert the shaft to the spring [1].**



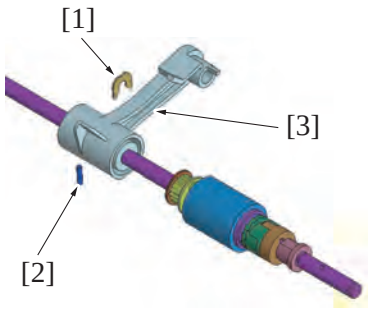
7. Remove two C-rings [1].
8. Remove the arm [2] and the pin [3].
   NOTE
   - **Be careful not to lose the pin [3].**
9. Remove the C-ring [4] and the belt [5], and remove the pick-up roller assy [6].



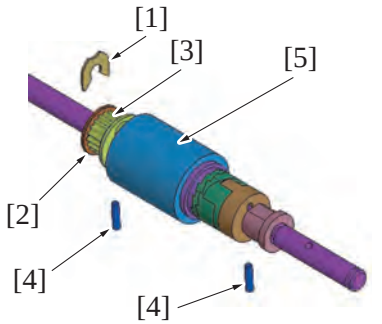
10. Remove two levers [1].



11. Remove two C-rings [1] and two pins [2], and remove two pick-up rollers [3].
    NOTE
    - **Be careful not to lose the pin [2].**



12. Remove the C-ring [1] and the pin [2], and remove the arm [3].
    NOTE
    - **Be careful not to lose the pin [2].**



13. Remove the C-ring [1], the pulley [2] and the gear [3].
14. Remove two pins [4], and remove the feed roller [5].
    NOTE
    - **Be careful not to lose the pin [4].**

15. To reinstall, reverse the order of removal.

7.1.4 Replacing the separation roller assy

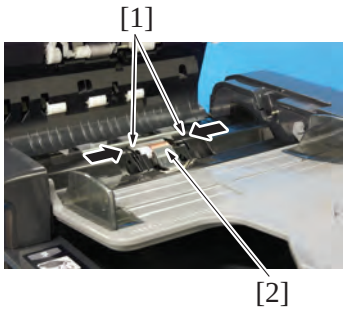
(1) Periodically replacing parts/cycle

- Separation roller assy: Every 200,000 counts

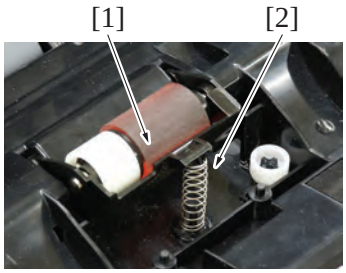
(2) Procedure



1. Open the left cover [1].



2. Grip both sides [1] of the holder and remove the cover [2].





3. Remove the separation roller assy [1].
NOTE
- **Do not lose the spring [2] at the lower part of the separation roller assy [1].**

4. To reinstall, reverse the order of removal.

7.2 Transport section

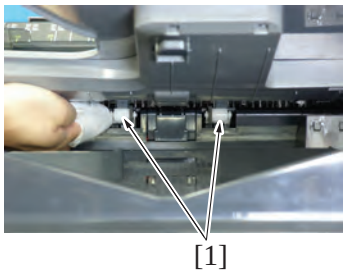
7.2.1 Cleaning of the miscellaneous rolls

(1) Periodically cleaning parts/cycle

- Miscellaneous rolls: Every 50,000 counts

(2) Procedure

1. Lift up the document feed tray.



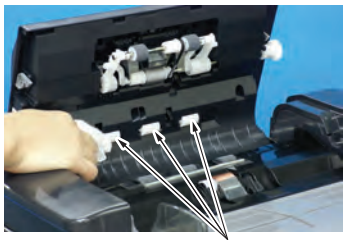
2. Using a cleaning pad dampened with alcohol, wipe the roll [1].

3. Open the left cover [1].

[1]



4. Using a cleaning pad dampened with alcohol, wipe the roll [1].



[1]

7.2.2 Cleaning of the miscellaneous rollers

(1) Periodically cleaning parts/cycle

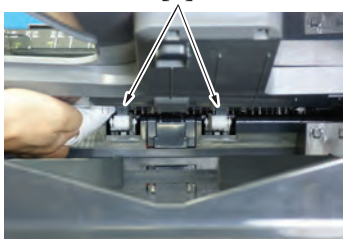
- Miscellaneous rollers: Every 50,000 counts

(2) Procedure

1. Lift up the document feed tray.

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

[1]



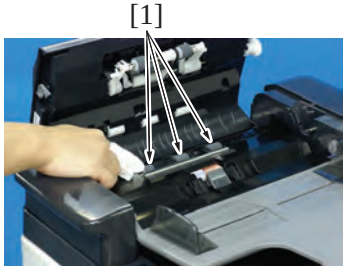
3. Open the left cover [1].

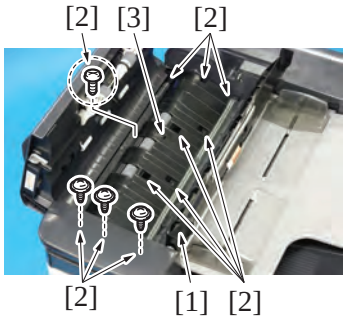
[1]



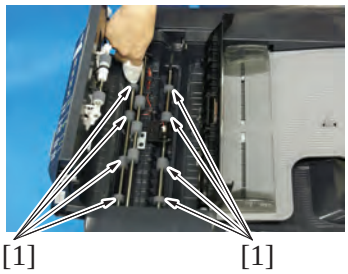
4. Using a cleaning pad dampened with alcohol, wipe the roller [1].

[1]





5. Lift up the guide plate DF1 [1].
6. Remove 11 screws [2], and remove the transport guide [3].
   NOTE
   - **Use care when mounting the screw [2] in the dashed circle (one on the left when looking from the front) since it is different from other 10 screws [2].**



7. Using a cleaning pad dampened with alcohol, wipe the roller [1].

7.3 Scanning section

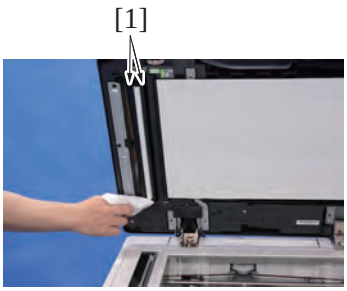
7.3.1 Cleaning of the scanning guide

(1) Periodically cleaning parts/cycle

- Scanning guide: Every 50,000 counts

(2) Procedure

1. Open the reverse automatic document feeder.



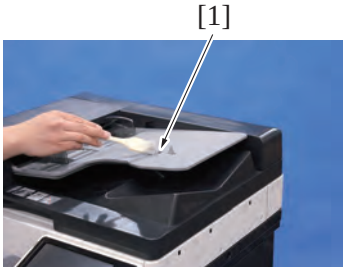
2. Using a cleaning pad dampened with alcohol, wipe the scanning guide [1] clean of dirt.
   NOTE
   - **Be careful not to damage the sheet.**

7.3.2 Cleaning of the reflective sensor section

(1) Periodically cleaning parts/cycle

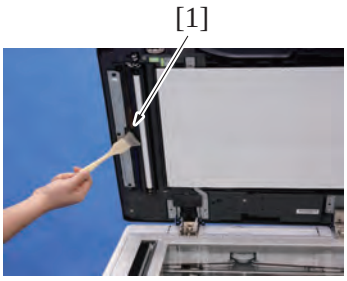
- Reflective sensor section: Every 50,000 counts

(2) Procedure



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

2. Open the reverse automatic document feeder.



3. Clean the reflective part [1] using a brush or other similar tools.

8. Periodical maintenance procedure PC-113/PC-213

8.1 Paper feed section

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

(1) Periodically replacing parts/cycle

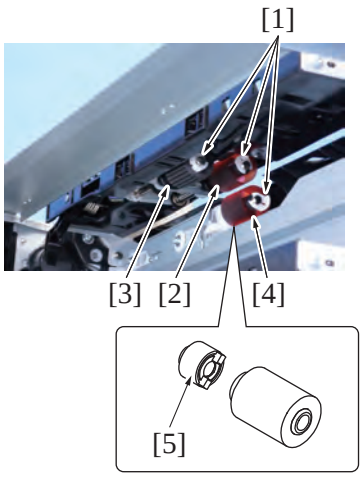
- Tray 3 feed roller: Every 300,000 counts
- Tray 3 pick-up roller: Every 300,000 counts
- Tray 3 separation roller + torque limiter: Every 300,000 counts

NOTE

- **Replace the tray 3 feed roller, tray 3 pick-up roller and tray 3 separation roller at the same time.**

(2) Procedure

1. Open the right door.
2. Remove the tray 3.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)
3. Remove the tray 4 or storage box.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)



4. Remove the C-clip [1] each, 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.**
5. To reinstall, reverse the order of removal.
6. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [3rd.].

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

(1) Periodically replacing parts/cycle

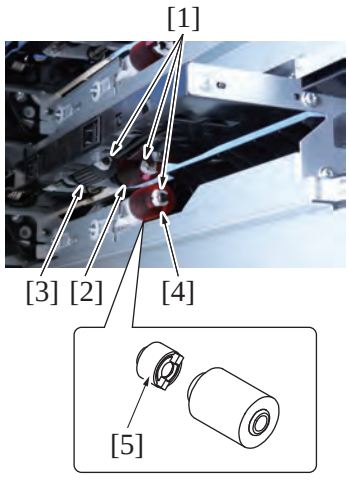
- Tray 4 feed roller: Every 300,000 counts
- Tray 4 pick-up roller: Every 300,000 counts
- Tray 4 separation roller + torque limiter: Every 300,000 counts

NOTE

- **Replace the tray 4 feed roller, tray 4 pick-up roller and tray 4 separation roller at the same time.**

(2) Procedure

1. Open the right door.
2. Remove the tray 3 and tray 4.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)



3. Remove the C-clip [1] each, 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.

5. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [4th.].

9. Periodical maintenance procedure PC-413

9.1 Paper feed section

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

(1) Periodically replacing parts/cycle

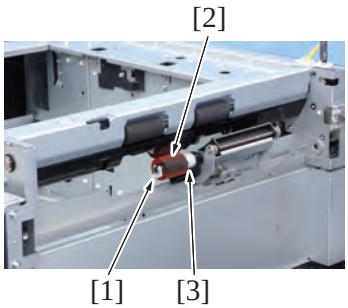
- Feed roller: Every 300,000 counts
- Pick-up roller: Every 300,000 counts
- Separation roller + torque limiter: Every 300,000 counts

NOTE

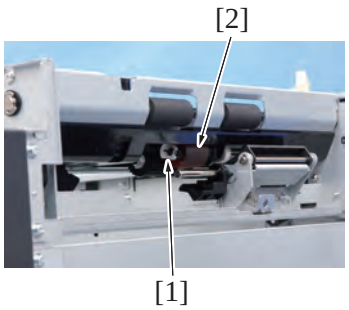
- **Replace the feed roller, pick-up roller and separation roller at the same time.**

(2) Procedure

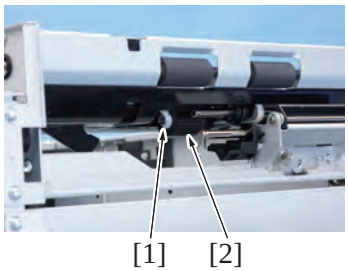
1. Slide out the paper feed tray.
2. Open the right door.



3. Remove the C-clip [1], and remove the separation roller [2].
   NOTE
   - **When replacing the separation roller, replace the torque limiter [3] at the same time.**



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



5. Remove the C-clip [1], and remove the pick-up roller [2].

6. To reinstall, reverse the order of removal.
7. Select [Service Mode] -> [Counter] -> [Life] and clear the count of [3rd.].

10. Periodical maintenance procedure FS-534/FS-534SD

NOTE

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

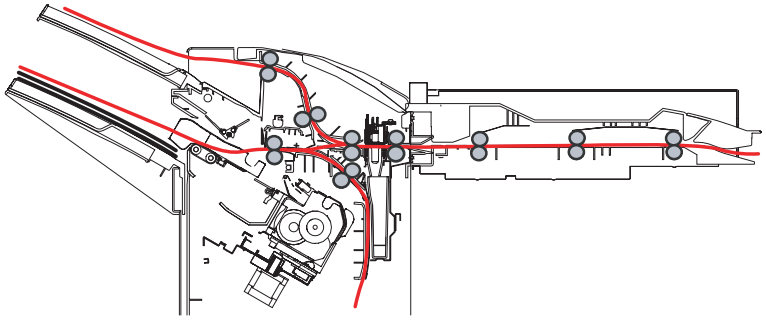
10.1 Paper exit section

10.1.1 Cleaning procedure for each rollers/each rolls

(1) Periodically cleaning parts/cycle

- Each rollers/Each rolls: Every 300,000 counts

(2) Cleaning point

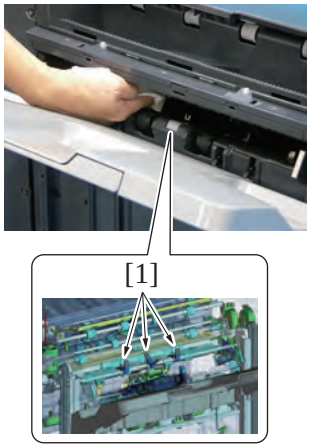


10.1.2 Cleaning the paddles

(1) Periodically cleaning parts/cycle

- Paddle: Every 300,000 counts

(2) Procedure



1. Using a cleaning pad dampened with alcohol, wipe the paddle [1].

10.1.3 Replacing the paddle units

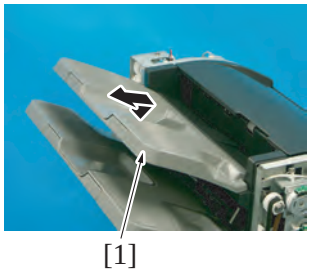
(1) Periodically replacing parts/cycle

- Paddle units: Every 2,000,000 counts

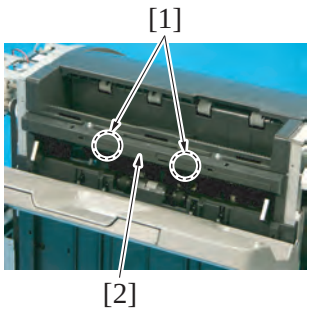
(2) Procedure

1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the front door of the finisher.
   G.6.6.2 Front door (FS-534/FS-534SD)
3. Remove the front upper cover of the finisher.
   G.6.6.3 Front upper cover (FS-534/FS-534SD)
4. Remove the rear cover of the finisher.
   G.6.6.1 Rear cover (FS-534/FS-534SD)

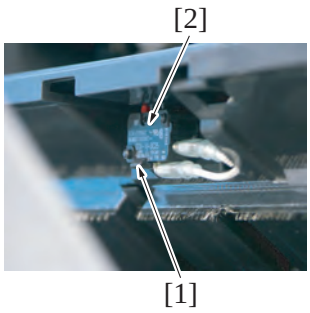
5. Remove the paper exit tray [1].



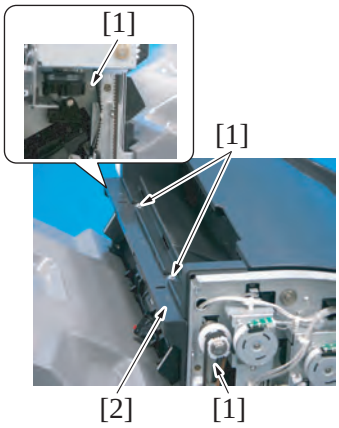
6. Remove two tabs [1], and remove the cover [2].

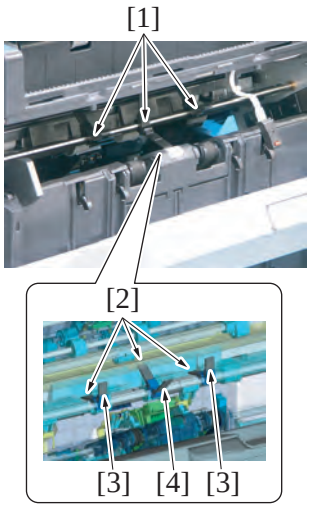


7. Release the tab [1], and remove the main tray upper position detect switch [2].



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





10. To reinstall, reverse the order of removal.

9. Remove three paddle units [1].

NOTE

- **When reinstalling the paddle units, be careful not to attach them at an incorrect location or in an incorrect orientation. Length: [4] > [2] > [3]**

11. Periodical maintenance procedure SD-511

NOTE

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

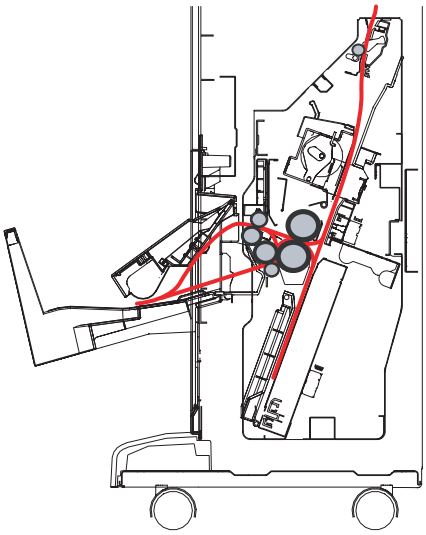
11.1 Paper exit section

11.1.1 Cleaning procedure for each rollers/each rolls

(1) Periodically cleaning parts/cycle

- Each rollers/Each rolls: Every 300,000 counts

(2) Cleaning point



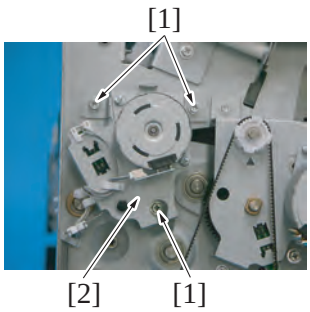
11.1.2 Cleaning the upper paddle

(1) Periodically cleaning parts/cycle

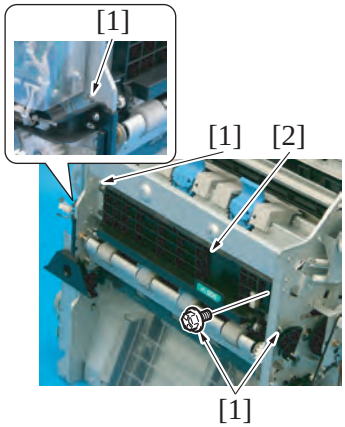
- Upper paddle: Every 300,000 counts

(2) Procedure

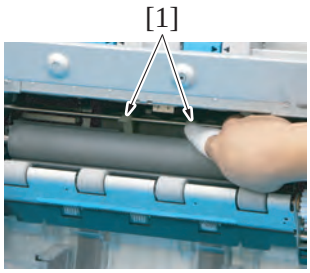
1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)
2. Remove the front cover.
   G.6.8.1 Front cover (SD-511)



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



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



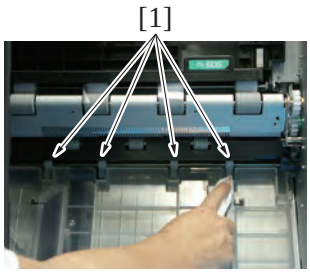
5. Using a cleaning pad dampened with alcohol, wipe the paddle [1].

11.1.3 Cleaning the lower paddle

(1) Periodically cleaning parts/cycle

- Lower paddle: Every 300,000 counts

(2) Procedure



1. Using a cleaning pad dampened with alcohol, wipe the paddle [1].

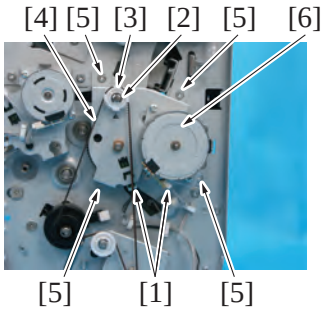
11.1.4 Replacing the upper paddle assy

(1) Periodically replacing parts/cycle

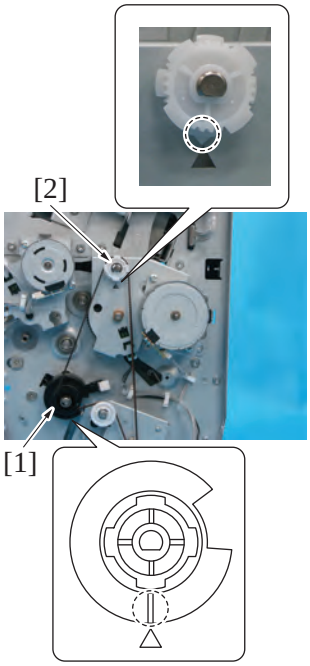
- Upper paddle assy: Every 2,000,000 counts

(2) Procedure

1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)
2. Remove the front cover.
   G.6.8.1 Front cover (SD-511)



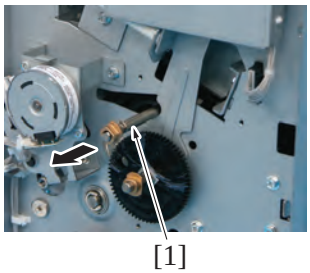
3. Disconnect two connectors [1].
4. Remove the E-ring [2].
5. Remove the gear [3] and the belt [4].
6. Remove four screws [5], and remove the center fold guide motor assy [6].

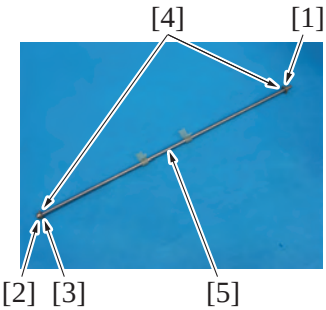


NOTE

- **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.**

7. Remove the upper paddle assy [1].





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

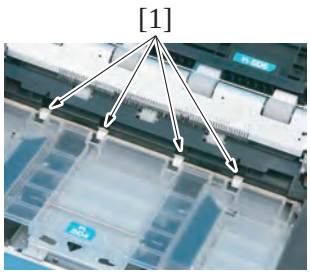
12. To reinstall, reverse the order of removal.

11.1.5 Replacing the lower paddle unit

(1) Periodically replacing parts/cycle

- Lower paddle unit: Every 2,000,000 counts

(2) Procedure



1. Remove four lower paddle units [1].

12. Periodical maintenance procedure FS-533

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

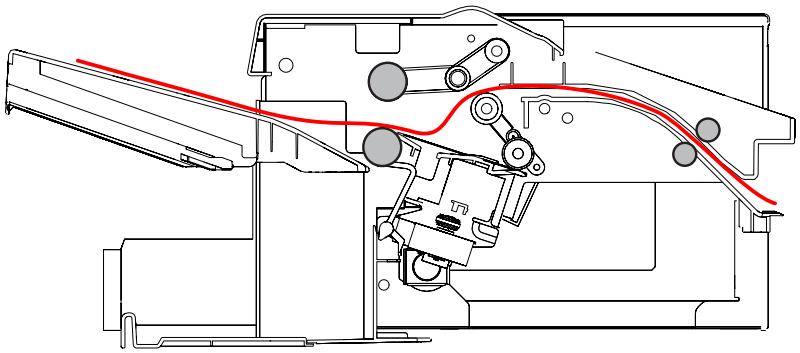
12.1 Paper exit section

12.1.1 Cleaning procedure for each parts

(1) Periodically cleaning parts/cycle

- Each rollers/Each rolls: Every 300,000 counts

(2) Cleaning point



NOTE
- **Do not clean the alignment roller F/R.**

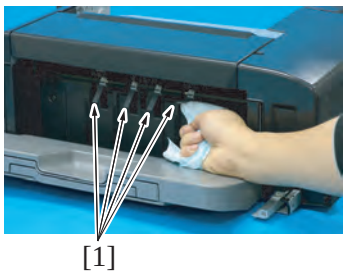
12.1.2 Cleaning the paper exit paddle

(1) Periodically cleaning parts/cycle

- Paper exit paddle: Every 300,000 counts

(2) Procedure

1. Using a cleaning pad dampened with alcohol, wipe the paper exit paddle [1].

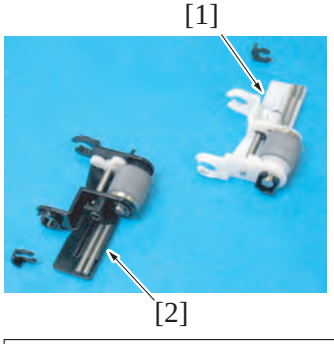


12.2 Alignment section

12.2.1 Replacing the alignment roller assy F/R

(1) Periodically replacing parts/cycle

- Alignment roller assy F/R: Every 1,000,000 counts

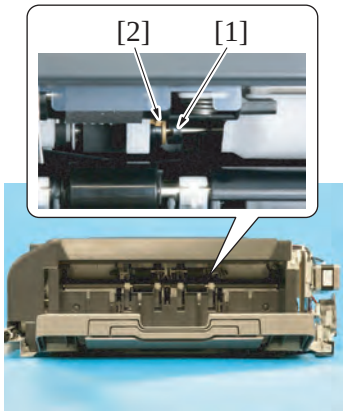


[1]	Alignment roller assy R	[2]	Alignment roller assy F

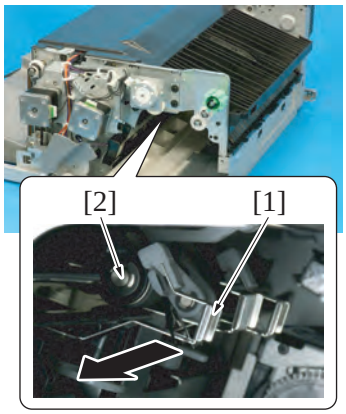
(2) Removal procedure

1. Remove the front cover.

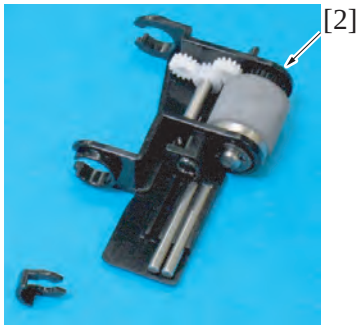
G.6.9.1 Front cover (FS-533)

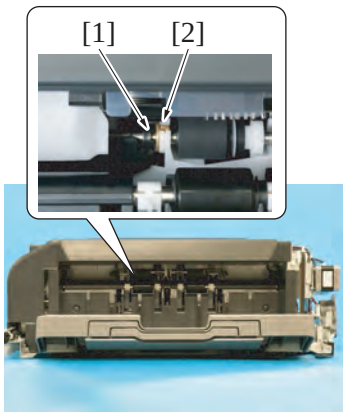


2. Remove the C-clip [1].
3. Move the bushing [2] to the right.

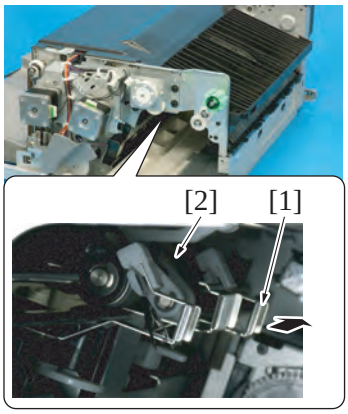


4. Pull the paper stopper [1] and remove the alignment roller assy /F [2].

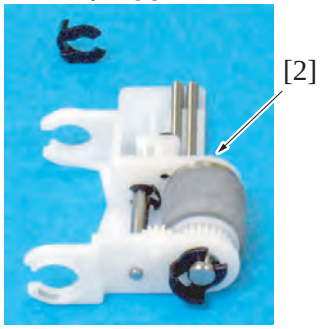




5. Remove the C-clip [1].
6. Move the bushing [2] to the left.



7. Press the paper stopper [1] to the rear and remove the alignment roller assy /R [2].



8. To reinstall, reverse the order of removal.

G 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.
- 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.
- 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 board

2.1.1 Reason for prohibition

- Since the accuracy of the CCD board is guaranteed as a unit, no accuracy is guaranteed if it is disassembled. Therefore, screws that lead to the disassembly of the CCD board must not be removed.

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 PWBs

⚠CAUTION

- When removing or installing a circuit board or other electrical component, refer to “Handling of PWBs” 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

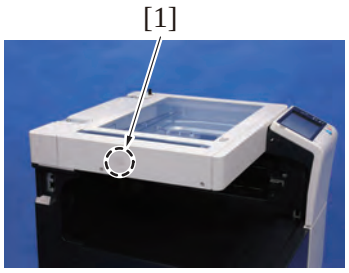
NOTE

- **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

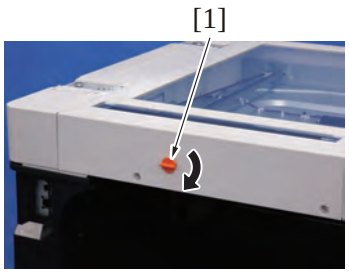
4.1.1 CCD unit fixture

1. The CCD unit fixture checks if the CCD unit is at the home position.



2. Remove the seal [1].

3. Install the CCD unit fixture [1] to fix the CCD unit in place.



5. bizhub 367/287/227

5.1 Disassembly/reassembly parts list

5.1.1 Exterior parts

No.	Part name	Ref. page
1	Scanner rear cover	G.5.2.1 Scanner rear cover
2	Scanner front cover	G.5.2.2 Scanner front cover
3	Scanner left cover	G.5.2.3 Scanner left cover
4	Control panel left cover	G.5.2.4 Control panel left cover
5	Control panel unit	G.5.2.5 Control panel unit
6	Original glass assy	G.5.2.6 Original glass assy
7	Front door	G.5.2.7 Front door
8	Front cover	G.5.2.8 Front cover
9	Left cover	G.5.2.9 Left cover
10	Exit tray	G.5.2.10 Exit tray
11	Exit cover	G.5.2.11 Exit cover
12	Upper right cover	G.5.2.12 Upper right cover
13	Lower rear cover	G.5.2.13 Lower rear cover
14	Upper rear cover	G.5.2.14 Upper rear cover
15	Tray 1	G.5.2.15 Tray 1
16	Tray 2	G.5.2.16 Tray 2

5.1.2 Units

No.	Part name	Ref. page
1	LED exposure unit	G.5.3.1 LED exposure unit
2	Paper feed unit	G.5.3.2 Paper feed unit
3	PH unit	G.5.3.3 PH unit
4	Right door unit	G.5.3.4 Right door unit
5	Manual bypass tray unit	G.5.3.5 Manual bypass tray unit
6	Regist unit	G.5.3.6 Regist unit
7	Hard disk	G.5.3.7 Hard disk
8	Main drive unit	G.5.3.8 Main drive unit
9	Transport unit	G.5.3.9 Transport unit
10	Toner hopper drive unit	G.5.3.10 Toner hopper drive unit
11	Scan-IR unit/CCD unit	G.5.3.11 Scan-IR unit/CCD unit
12	Toner cartridge drive assy	G.5.3.12 Toner cartridge drive assy
13	Exit/reverse unit	G.5.3.13 Exit/reverse unit

5.1.3 Boards

No.	Part name	Ref. page
1	DC power supply (DCPU)	G.5.4.1 DC power supply (DCPU)
2	MFP board (MFPB)	G.5.4.2 MFP board (MFPB)
3	High voltage unit (HV)	G.5.4.3 High voltage unit (HV)
4	SATA board (SATAB)	G.5.4.4 SATA board (SATAB)
5	eMMC board (eMMC)	G.5.4.5 eMMC board (eMMC)
6	Backup board (ERB)	G.5.4.6 Backup board (ERB)
7	DIMM (upgrade kit UK-211) (Option)	G.5.4.7 DIMM (Upgrade kit UK-211) (Option)

5.1.4 Motors

No.	Part name	Ref. page
1	Transport motor (M1)	G.5.5.1 Transport motor (M1)
2	Main motor (M3)	G.5.5.2 Main motor (M3)
3	Reverse motor (M4)	G.5.5.3 Reverse motor (M4)
4	ADU transport motor (M5)	G.5.5.4 ADU transport motor (M5)
5	Toner supply motor/K (M6)	G.5.5.5 Toner supply motor/K (M6)
6	Toner cartridge motor (M10)	G.5.5.6 Toner cartridge motor (M10)
7	Tray 1 lift-up motor (M12)	G.5.5.7 Tray 1 lift-up motor (M12)
8	Tray 2 lift-up motor (M13)	G.5.5.8 Tray 2 lift-up motor (M13)

No.	Part name	Ref. page
9	Scanner motor (M101)	G.5.5.9 Scanner motor (M101)

5.1.5 Clutches

No.	Part name	Ref. page
1	Tray 2 paper feed clutch (CL1)	G.5.6.1 Tray 2 paper feed clutch (CL1)
2	Tray 2 vertical transport clutch (CL2)	G.5.6.2 Tray 2 vertical transport clutch (CL2)
3	Tray 1 paper feed clutch (CL3)	G.5.6.3 Tray 1 paper feed clutch (CL3)
4	Registration clutch (CL4)	G.5.6.4 Registration clutch (CL4)
5	Bypass paper feed clutch (CL7)	G.5.6.5 Bypass paper feed clutch (CL7)

5.1.6 Fans

No.	Part name	Ref. page
1	Power supply cooling fan (FM1)	G.5.7.1 Power supply cooling fan (FM1)
2	Main cooling fan (FM2)	G.5.7.2 Main cooling fan (FM2)
3	Paper exit cooling fan (FM3)	G.5.7.3 Paper exit cooling fan (FM3)
4	Toner suction fan (FM4)	G.5.7.4 Toner suction fan (FM4)
5	Reverse cooling fan (FM5)	G.5.7.5 Reverse cooling fan (FM5)

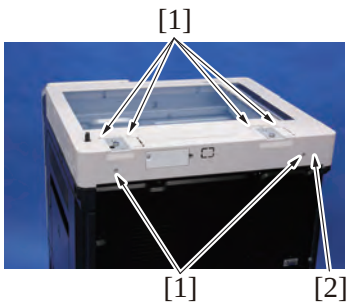
5.1.7 etc.

No.	Part name	Ref. page
1	Bypass pick-up solenoid (SD1)	G.5.8.1 Bypass pick-up solenoid (SD1)
2	Gate switch solenoid (SD3)	G.5.8.2 Gate switch solenoid (SD3)
3	Speaker/1 (SP1)	G.5.8.4 Speaker/1 (SP1)
4	Bypass CD paper size sensor (VR1)	G.5.8.3 Bypass CD paper size sensor (VR1)
5	Harness guide	G.5.8.5 Harness guide

5.2 Disassembly/reassembly procedure (Exterior parts)

5.2.1 Scanner rear cover

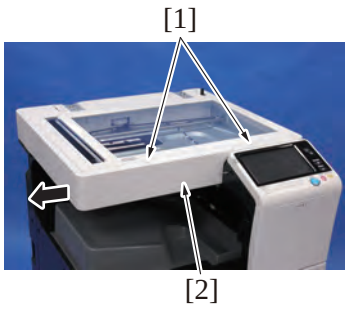
1. Remove six screws [1], and remove the scanner rear cover [2].



2. To reinstall, reverse the order of removal.

5.2.2 Scanner front cover

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

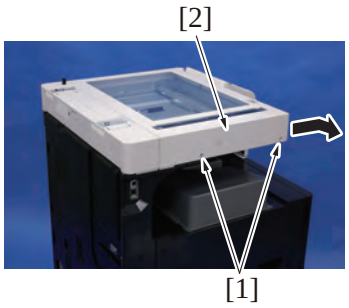


2. To reinstall, reverse the order of removal.

5.2.3 Scanner left cover

1. Remove the scanner front cover.
   G.5.2.2 Scanner front cover

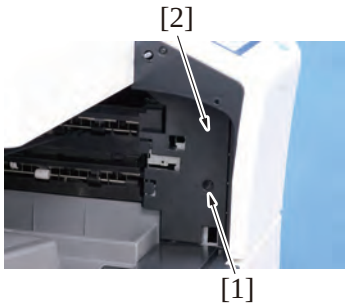
2. Remove two screws [1], and remove the scanner left cover [2].



3. To reinstall, reverse the order of removal.

5.2.4 Control panel left cover

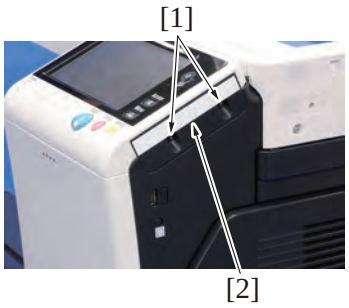
1. Remove the screw [1], and remove the control panel left cover [2].



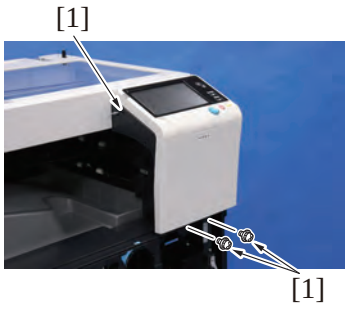
2. To reinstall, reverse the order of removal.

5.2.5 Control panel unit

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

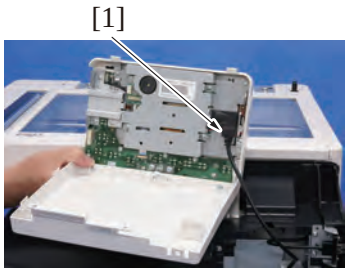


3. Remove three screws [1].

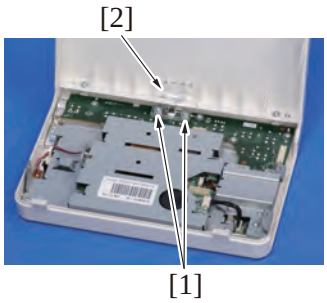




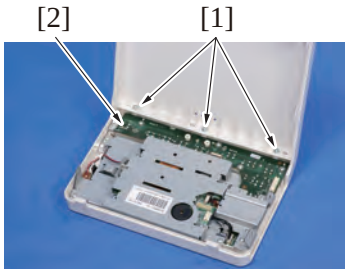
4. Release the six hooks [1], and remove the control panel assy [2].
NOTE
- **Do not forcefully remove the control panel assy since there is a connector connected to the back of the assy.**



5. Disconnect the connector [1].



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



7. Remove three screws [1], and remove the control panel [2].

8. To reinstall, reverse the order of removal.
9. Carry out the touch panel calibration.
G.5.2.5.(1) Touch panel calibration

(1) Touch panel calibration

- After replacing the control panel unit, you must perform the touch panel calibration.
Perform one of the calibration procedures described below.

(a) Panel Calibration by using USB memory

1. Connect the USB memory containing the MFP firmware data to the USB port.
For information on how to store the firmware data into a USB memory, refer to "J.2. USB memory".
2. While pressing the 'Reset' key, turn the main power switch ON.
3. As the calibration screen appears, press the Start key, perform calibration and wait for a while.
4. Confirm that the completion message. Touch [Close].
5. Turn OFF the main power switch, and remove the USB memory.

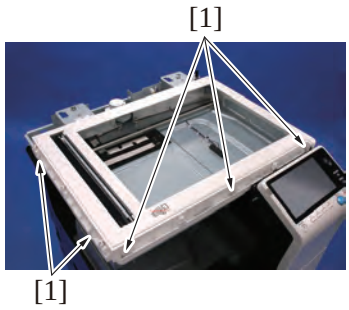
NOTE
- **Once the panel calibration has been completed, panel screen transit to the firmware writing mode and start to update automatically after 30 seconds.**

(b) Panel Calibration by manual operation

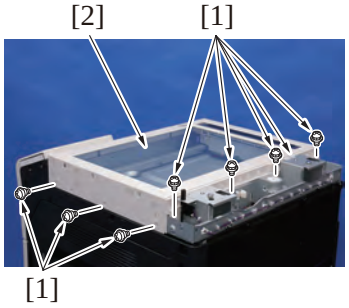
1. Press [Menu] -> [Counter] -> [Display Keypad].
2. Press Stop -> Clear -> 1 -> 1 -> 6 -> 6 -> Start key, then calibration starts.
3. After 30 seconds, turn OFF the main power switch.

5.2.6 Original glass assy

1. Remove the scanner front cover.
   G.5.2.2 Scanner front cover
2. Remove the scanner left cover.
   G.5.2.3 Scanner left cover
3. Remove the scanner rear cover.
   G.5.2.1 Scanner rear cover
4. Remove five screws [1].



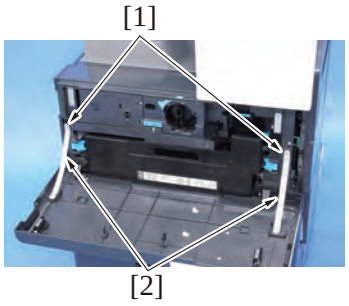
5. Remove eight screws [1], and remove the original glass assy [2].



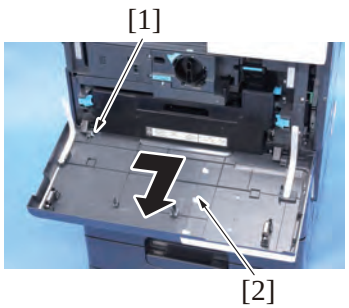
6. To reinstall, reverse the order of removal.
7. Carry out the [Service Mode] -> [Machine] -> [Scan Area] -> [Scanner Image Side Edge] .
8. Carry out the [Service Mode] -> [Machine] -> [Scan Area] -> [Image Position: Leading Edge] .

5.2.7 Front door

1. Open the front door.
2. Remove two screws [1], and remove two stoppers [2].



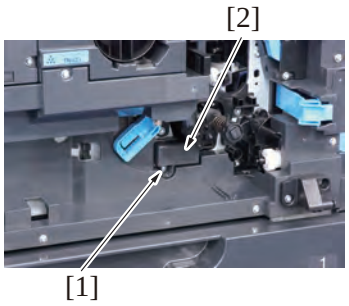
3. Remove the C-clip [1], and remove the front door [2].



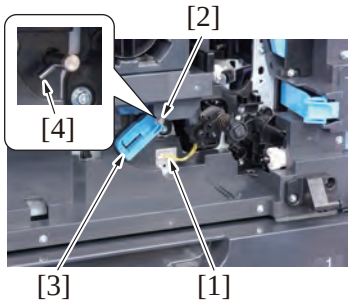
4. To reinstall, reverse the order of removal.

5.2.8 Front cover

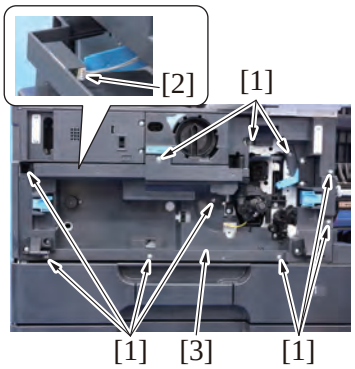
1. Open the right door.
2. Open the front door.
3. Remove the waste toner box.
   F.6.6.1 Replacing the waste toner box
4. Remove the drum unit.
   F.6.2.1 Replacing the drum unit
5. Remove the front door.
   G.5.2.7 Front door



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



7. Disconnect the connector [1].
8. Remove the E-ring [2], and remove the lever [3].
   NOTE
   - **Make sure not to lose the pin [4] when removing the lever [3].**

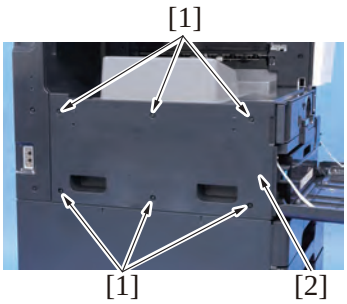


9. Remove the ten screws [1].
10. Disconnect the connector [2], and remove the front cover [3].

11. To reinstall, reverse the order of removal.

5.2.9 Left cover

1. Open the front door.

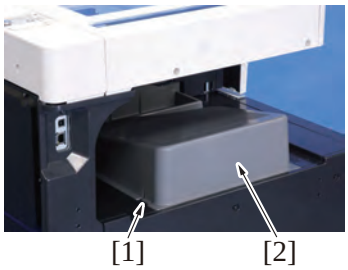


2. Remove six screws [1], and remove the left cover [2].

3. To reinstall, reverse the order of removal.

5.2.10 Exit tray

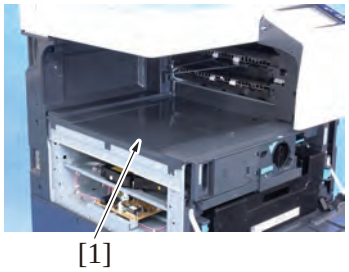
1. Release the hook [1], and remove the output tray [2].



2. To reinstall, reverse the order of removal.

5.2.11 Exit cover

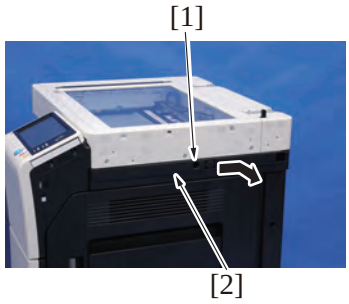
1. Open the front door.
2. Remove the output tray.
   G.5.2.10 Exit tray
3. Remove the left cover.
   G.5.2.9 Left cover
4. Remove the output cover [1].



5. To reinstall, reverse the order of removal.

5.2.12 Upper right cover

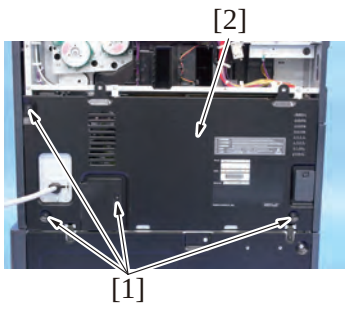
1. Remove the screw [1], and remove the upper right cover [2].



2. To reinstall, reverse the order of removal.

5.2.13 Lower rear cover

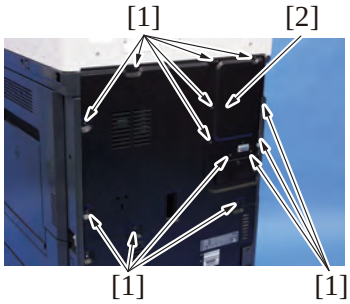
1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover
3. Remove the four screws [1], and remove the lower rear cover [2].



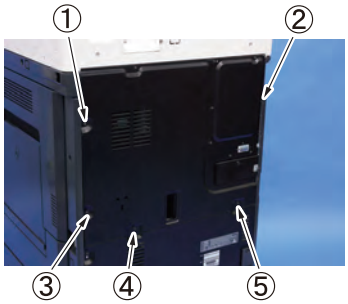
4. To reinstall, reverse the order of removal.

5.2.14 Upper rear cover

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter



2. Remove 13 screws [1], and remove the upper rear cover [2].



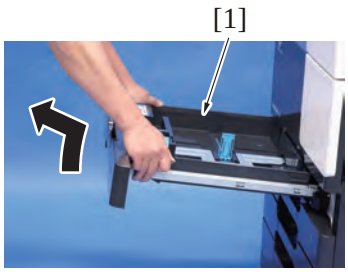
NOTE

- **When installing the upper rear cover, attach the five screws in the order shown in the figure before attaching the remaining screw.**

3. To reinstall, reverse the order of removal.

5.2.15 Tray 1

1. Slide out the tray 1, and remove the paper.

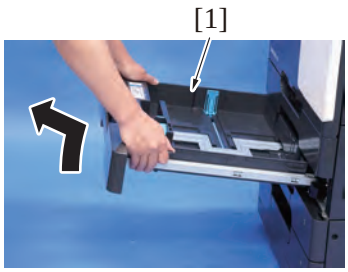


2. Hold up the tray 1 [1] to remove it.

3. To reinstall, reverse the order of removal.

5.2.16 Tray 2

1. Slide out the tray 2, and remove the paper.



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

3. To reinstall, reverse the order of removal.

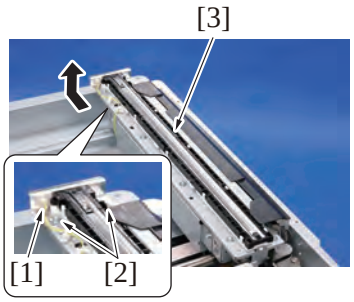
5.3 Disassembly/reassembly procedure (Units)

5.3.1 LED exposure unit

1. Remove the scanner front cover.
   G.5.2.2 Scanner front cover
2. Remove the scanner left cover.
   G.5.2.3 Scanner left cover
3. Remove the scanner rear cover.

G.5.2.1 Scanner rear cover

4. Remove the original glass assy.
G.5.2.6 Original glass assy

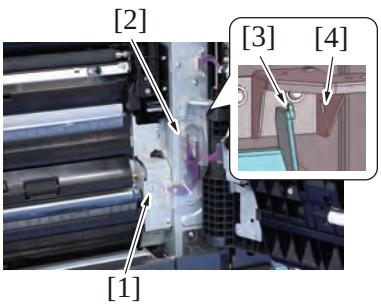


5. Disconnect the connector [1].
6. Remove two screws [2], and remove the LED exposure unit [3].

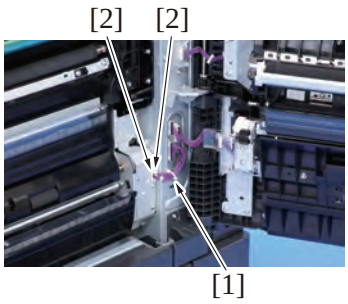
7. To reinstall, reverse the order of removal.
NOTE
- **When replacing the LED exposure unit with a new one, remove the protective seal after installing a new LED exposure unit.**

5.3.2 Paper feed unit

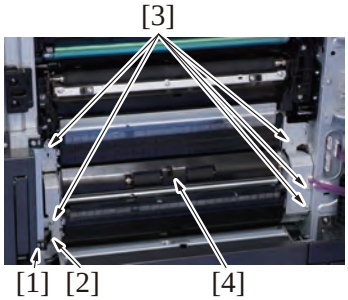
1. Slide out the tray 1 and tray 2.
2. Open the right door.



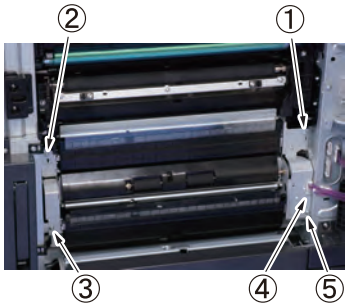
3. Remove the screw [1], and remove the connector cover [2].
NOTE
- **Pay attention to the protrusion of the connector cover [3] and the hole of the metal plate [4] installation/removal.**



4. Remove the harness from the wire saddle [1], and disconnect the two connectors [2].



5. Remove the screw [1], and remove the stopper [2].
6. Remove the five screws [3], and remove the paper feed unit [4].



NOTE
- **When installing the paper feed unit, tighten the screws in the order shown in the illustration.**

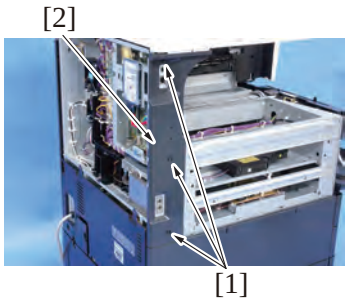
7. To reinstall, reverse the order of removal.

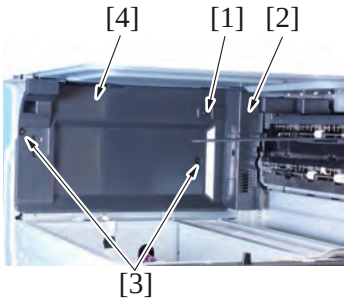
5.3.3 PH unit

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.
	• 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.

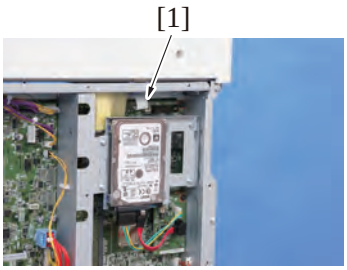
1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover
3. Open the front door.
4. Remove the output tray.
   G.5.2.10 Exit tray
5. Remove the left cover.
   G.5.2.9 Left cover
6. Remove the output cover.
   G.5.2.11 Exit cover

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

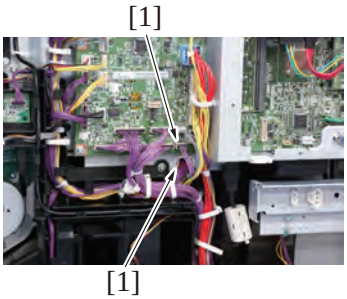




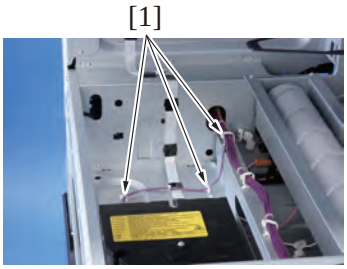
8. Remove the screw [1], and remove the cover [2].
9. Remove two screws [3], and remove the cover [4].



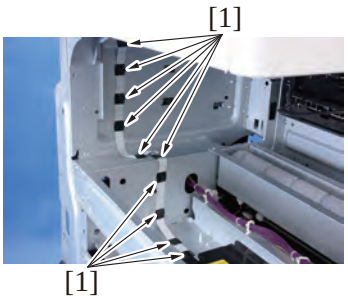
10. Disconnect the flat cable (CN18) [1] from the MFP board.



11. Disconnect the connector (CN6E) [1] from the MFP board, and remove the harness from the edge cover [2].

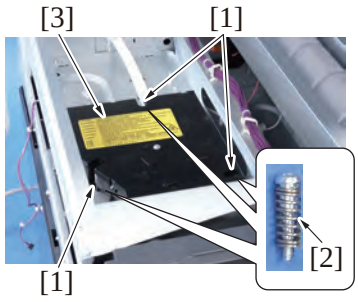


12. Remove the harness from the three wire saddles [1].



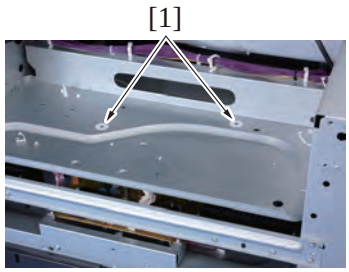
13. Remove the ten cable holders [1] of the flat cable.

14. Remove the three screws [1] and three springs [2], and remove the PH unit [3].



NOTE

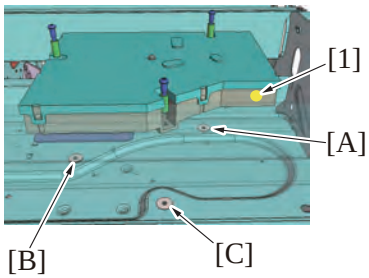
- **When removing the PH unit, always remember the mounting position of the spacer [1] since the position, number, and color of the installed spacer [1] vary by product. (A spacer may not be provided depending on the product.)**
- **When reinstalling the PH unit, make sure to install the spacer [1] back to its original state.**



NOTE

- **When replacing the PH Unit, install spacers according to the color of the PH label [1].**

	Screw Position		
PH label color	**A**	**B**	**C**
Green label	**No spacer**	**No spacer**	**No spacer**
Blue label	**No spacer**	**0.1 mm spacer**	**0.2 mm spacer**
Yellow label	**0.2 mm spacer**	**0.1 mm spacer**	**No spacer**



- **Spacers Used**

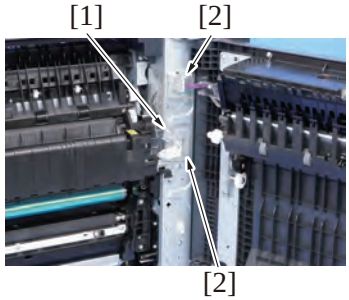
	Part No.	Spacer Color
0.1 mm spacer	**4030-2053-01**	**Black**
0.2 mm spacer	**4030-2054-01**	**White**

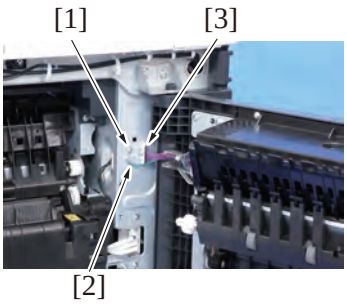
15. To reinstall, reverse the order of removal.
16. Carry out the [Service Mode] -> [Machine] -> [Printer Area] -> [Leading Edge Adjustment] .
17. Carry out the [Service Mode] -> [Machine] -> [Printer Area] -> [Printer Image Centering Side 1] .

5.3.4 Right door unit

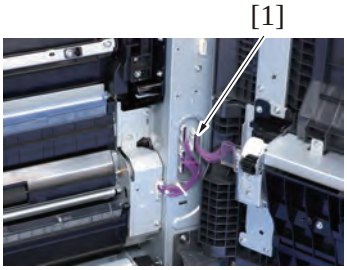
1. Open the right door.
2. Remove the upper right cover.
   G.5.2.12 Upper right cover
3. Remove the regist unit.
   G.5.3.6 Regist unit

4. Remove the screw [1], and remove two connector covers [2].

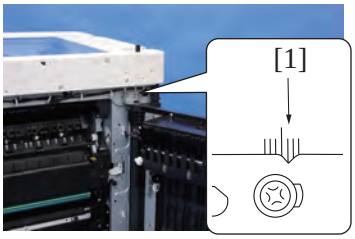




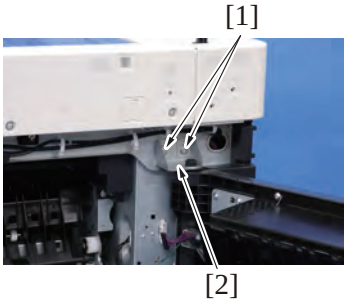
5. Remove the screw [1], and remove the ground terminal [2].
6. Disconnect the connector [3].



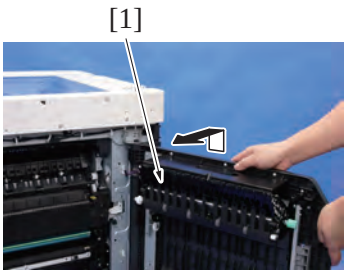
7. Disconnect the connector [1].



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



9. Remove two screws [1], and remove the hinge [2].
NOTE
- **When you have removed the screw [1], firmly support the right door so that it will not fall down.**

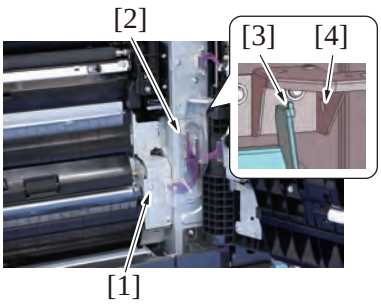


10. Hold up the right door unit [1] to remove it.

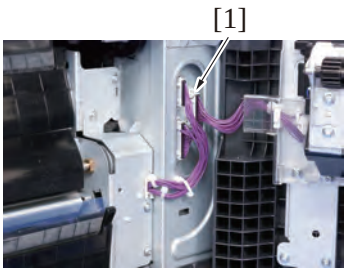
11. To reinstall, reverse the order of removal.
NOTE
- **When installing the right door unit, align it with the guide lines drawn on the scales indicated on the machine frame. Open and close the right door to check for any interference and correct if necessary.**

5.3.5 Manual bypass tray unit

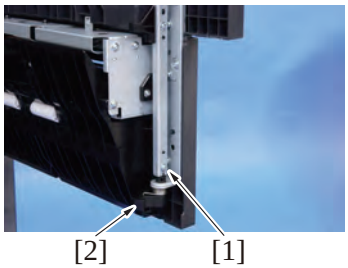
1. Open the right door.
2. Open the registration unit.



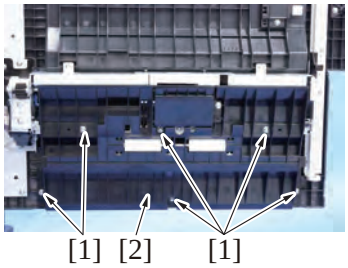
3. Remove the screw [1], and remove the connector cover [2].
NOTE
- **Pay attention to the protrusion of the connector cover [3] and the hole of the metal plate [4] installation/removal.**



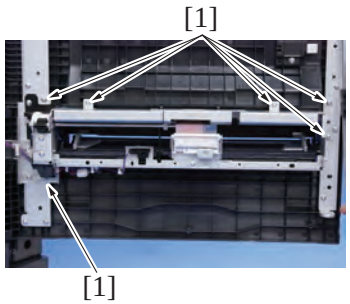
4. Disconnect the connector [1].



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

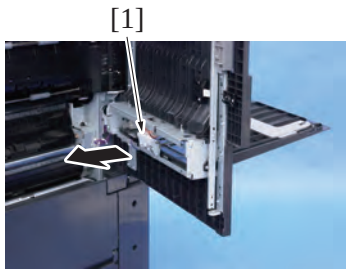


6. Remove six screws [1], and remove the vertical transport roll assy [2].



7. Remove the six screws [1].

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



9. To reinstall, reverse the order of removal.

5.3.6 Regist unit

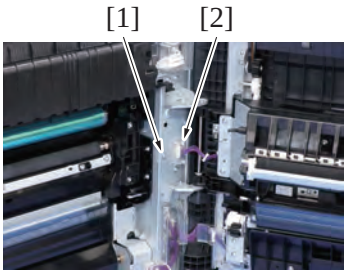
(1) Removal procedure

1. Open the right door.

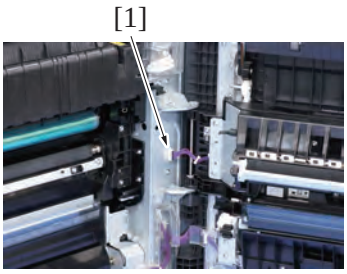
NOTE

- **Perform the removal process with the registration unit locked by the right door to prevent it from falling out.**

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



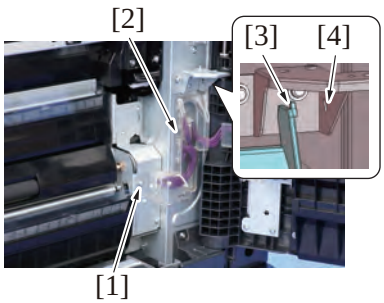
3. Disconnect the connector [1].



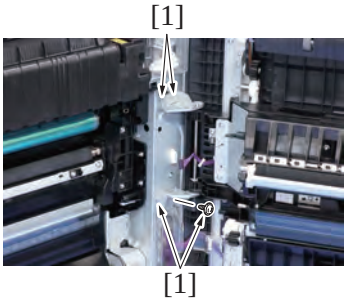
4. Remove the screw [1], and remove the connector cover [2].

NOTE

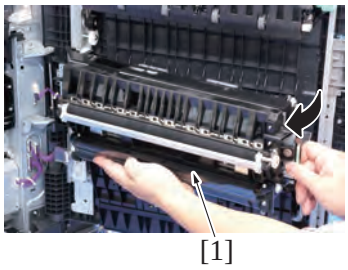
- **Pay attention to the protrusion of the connector cover [3] and the hole of the metal plate [4] installation/removal.**



5. Remove the four screws [1].

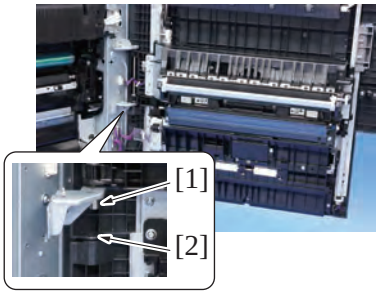


6. While supporting the registration unit [1] with your hand, release the lock and remove the registration unit [1].

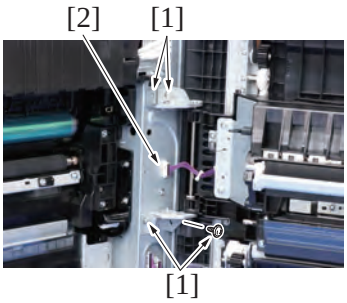


(2) Reinstall procedure

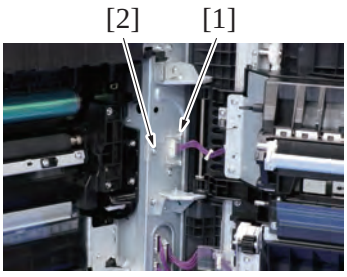
1. Install the registration unit on the right door.
   NOTE
   - **Insert the shaft [1] into the hole [2].**



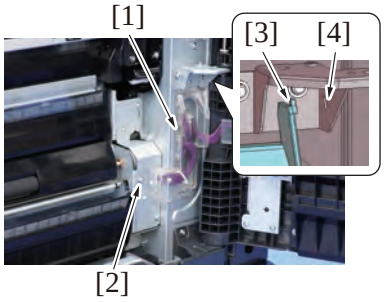
2. Loosen the four screws [1].
3. Connect the connector [2].

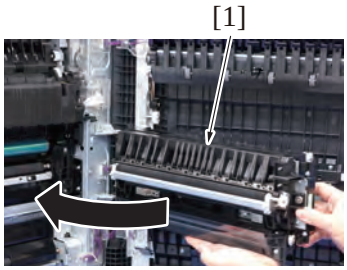


4. Install the connector cover [1] and attach the screw [2].

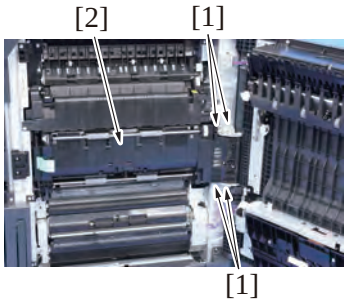


5. Install the connector cover [1] and attach the screw [2].
   NOTE
   - **Pay attention to the protrusion of the connector cover [3] and the hole of the metal plate [4] installation/removal.**

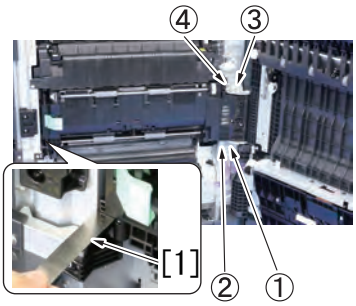




6. While supporting the registration unit [1] with your hand, set it in the main unit side.



7. Tighten the four screws [1].
8. Confirm that the registration unit [2] is operating smoothly by opening and closing it.

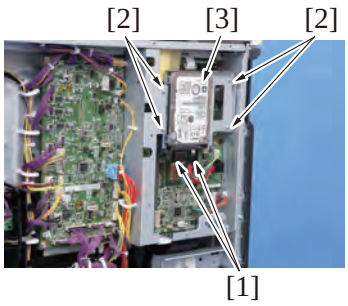


NOTE

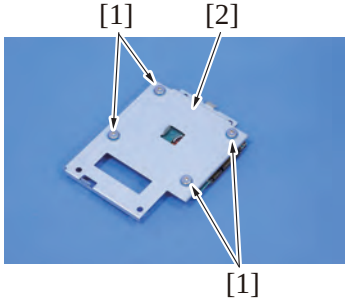
- **Make sure to tighten the screw while keeping the spacer [1] (thickness: 0.5mm) inserted in the part shown in the illustration.**
- **Make sure to tighten the screws in the order shown in the illustration.**

5.3.7 Hard disk

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover

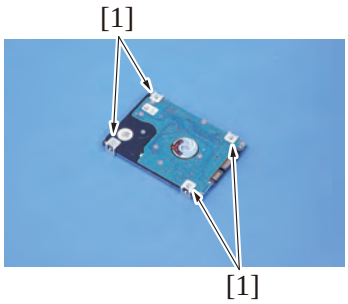


3. Disconnect two connectors [1].
4. Remove four screws [2], and remove the hard disk assy [3].



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

6. Remove four plate [1].

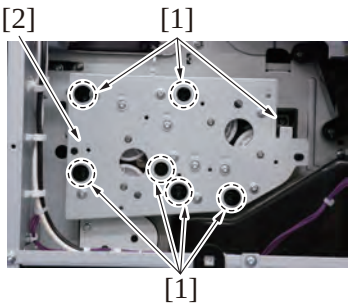


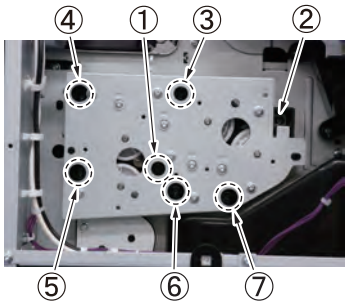
7. To reinstall, reverse the order of removal.
8. Carry out the [Service Mode] -> [State Confirmation] -> [Memory/HDD Adj.] -> [HDD Format] for logical format.
9. Carry out the [Service Mode] -> [State Confirmation] -> [Memory/HDD Adj.] -> [HDD R/W Check] and check the HDD operations.

5.3.8 Main drive unit

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover
3. Remove the transport motor.
   G.5.5.1 Transport motor (M1)
4. Remove the main motor.
   G.5.5.2 Main motor (M3)
5. Remove the harness guide.
   G.5.8.5 Harness guide

6. Remove the seven screws [1], and remove the main drive unit [2].





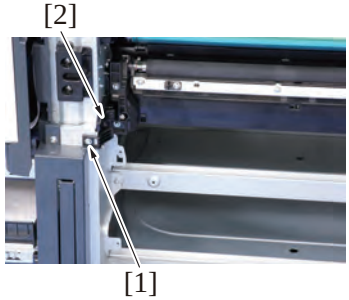
NOTE
- **When installing the main drive unit, tighten the screws in the order shown in the illustration.**

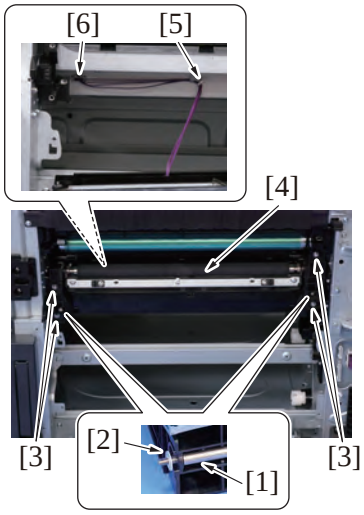
7. To reinstall, reverse the order of removal.

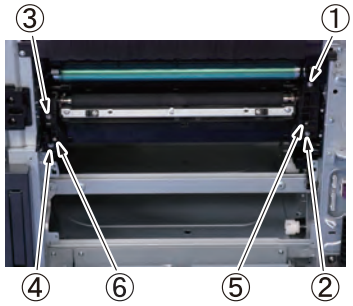
5.3.9 Transport unit

1. Slide out the tray 1 and the tray 2.
2. Open the right door.
3. Remove the paper feed unit.
   G.5.3.2 Paper feed unit

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



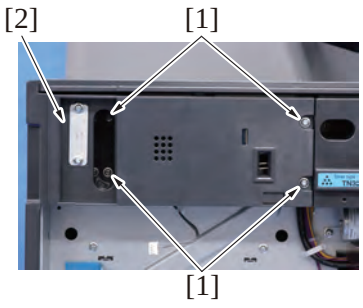


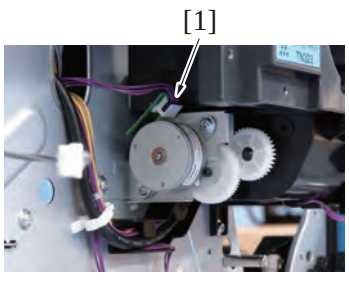


8. To reinstall, reverse the order of removal.

5.3.10 Toner hopper drive unit

1. Open the right door.
2. Open the front door.
3. Remove the waste toner box.
   F.6.6.1 Replacing the waste toner box
4. Remove the ozone filter (front side).
   F.6.1.1 Replacing the ozone filter (front side)
5. Remove the drum unit.
   F.6.2.1 Replacing the drum unit
6. Remove the front cover.
   G.5.2.8 Front cover
7. Remove the toner supply motor/K.
   G.5.5.5 Toner supply motor/K (M6)





5. Loosen the two screws [1].
   NOTE
   - **Since each screw [1] has a washer [2], be careful not to overtighten the screws [1].**

6. Remove the four 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 tray 1 paper feed unit.**
   - **Do not forcefully remove the transport unit since there is a connector connected to the back of the unit.**

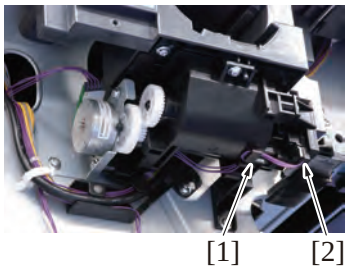
7. Remove the harness from the wire saddle [5]. Disconnect the connector [6] and remove the transport unit [4].

   NOTE
   - **When installing the transport unit, tighten the screws in the order shown in the illustration.**

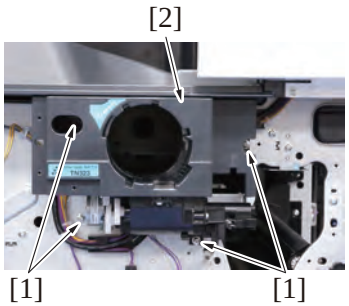
8. Remove the four screws [1], and remove the cover [2].

9. Disconnect the connector [1].

10. Remove the harness from the harness guide [1], and disconnect the connector [2].



11. Remove the four screws [1], and remove the toner hopper drive unit [2].

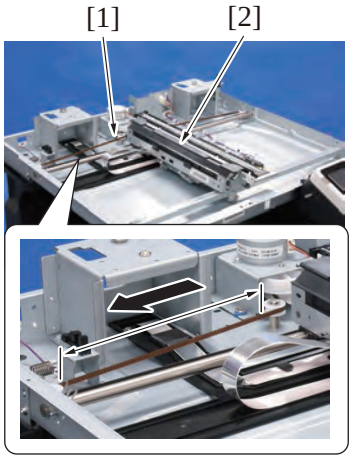


12. To reinstall, reverse the order of removal.

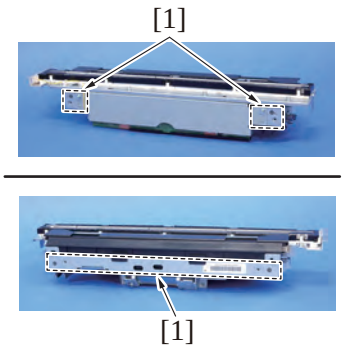
5.3.11 Scan-IR unit/CCD unit

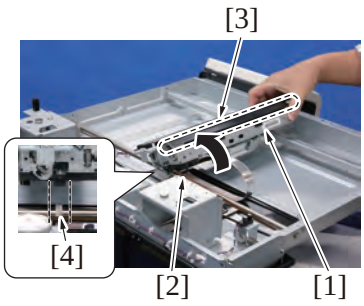
1. Remove the scanner front cover.
   G.5.2.2 Scanner front cover
2. Remove the scanner left cover.
   G.5.2.3 Scanner left cover
3. Remove the scanner rear cover.
   G.5.2.1 Scanner rear cover
4. Remove the original glass assy.
   G.5.2.6 Original glass assy

5. Pull the belt [1] and move the scan-IR unit [2] towards the center.
   NOTE
   - **When pulling the belt [1], hold it at the position shown in the figure and pull it towards the direction of the arrow.**

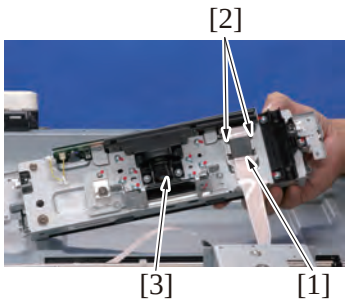


NOTE
- **At removing/attaching the scan-IR unit [1], do not touch parts other than what is shown in the figure.**

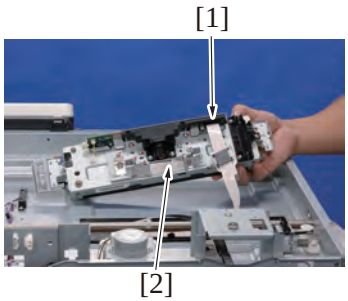




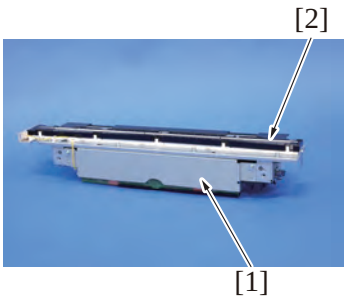
6. Hold up the scan-IR unit [1] slightly and remove the belt [2].
NOTE
- **Do not touch the light guide [3] with the bare hands.**
- **When installing the LED, install it with the felt [4] going into the bottom of the scan-IR unit [1].**



7. Release the two hooks [2] of the ferrite core holder [1], and remove the ferrite core holder [1] from the scan-IR unit [3].



8. Release the hook of the connector [1], and remove the scan-IR unit [2].



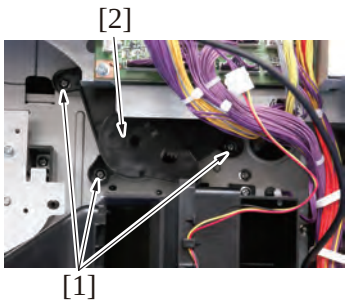
NOTE
- **To replace the CCD unit [1] only, remove the LED exposure unit from the scan-IR unit.**

9. To reinstall, reverse the order of removal.
10. To replace the CCD unit, make the following settings.
Select [OFF] for [Service Mode] -> [System 2] -> [CCD Calibration].

5.3.12 Toner cartridge drive assy

1. Remove the toner filter.
F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
G.5.2.14 Upper rear cover
3. Remove the harness guide.
G.5.8.5 Harness guide
4. Remove the toner cartridge motor.
G.5.5.6 Toner cartridge motor (M10)
5. Remove the main motor.
G.5.5.2 Main motor (M3)

6. Remove three screws [1], and remove the toner cartridge drive assy [2].

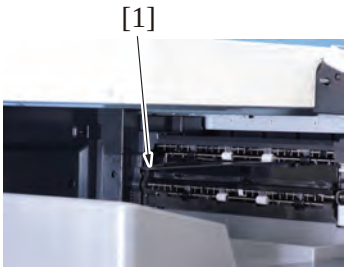


7. To reinstall, reverse the order of removal.

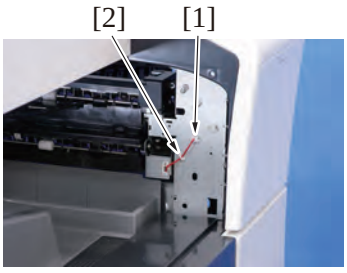
5.3.13 Exit/reverse unit

1. Open the right door.
2. Remove the fusing unit.
   F.6.9.1 Replacing the fusing unit
3. Remove the control panel left cover.
   G.5.2.4 Control panel left cover

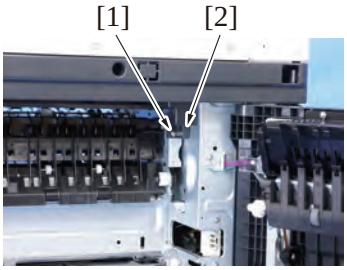
4. Remove the guide [1].



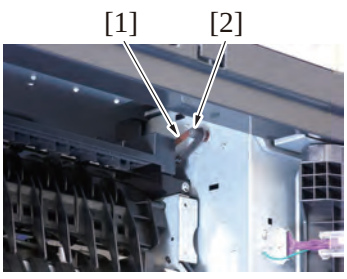
5. Disconnect the connector [1], and remove the harness from the wire saddle [2].



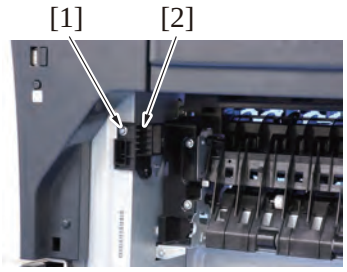
6. Remove the screw [1], and remove the cover [2].



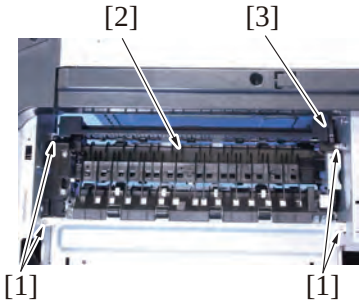
7. Remove the belt [1] from the gear [2].



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



9. Remove four screws [1], and remove the exit/reverse unit [2].
NOTE
- **Make sure not to lose the belt [3].**



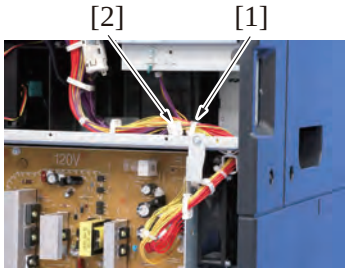
10. To reinstall, reverse the order of removal.

5.4 Disassembly/reassembly procedure (Boards)

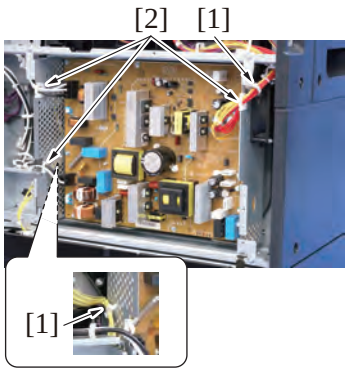
5.4.1 DC power supply (DCPU)

1. Remove the toner filter.
F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
G.5.2.14 Upper rear cover
3. Remove the lower rear cover.
G.5.2.13 Lower rear cover
4. Remove the FAX Kit. (Option)
G.6.11.1 Fax Kit (FK-513)

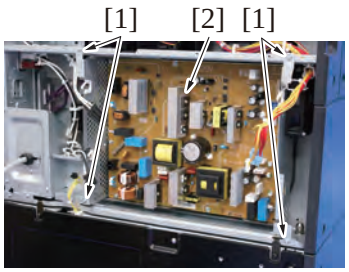
5. Remove the harness from the wire saddle [1], and disconnect the connector [2].



6. Remove the harness from two wire saddles [1] and three edge covers [2].
7. Disconnect all connectors on the DC power supply.



8. Remove four screws [1], and remove the DC power supply [2].



9. To reinstall, reverse the order of removal.

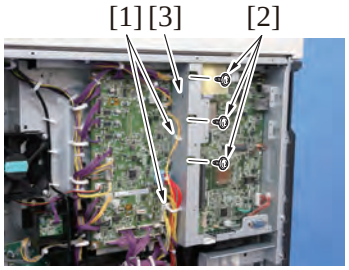
5.4.2 MFP board (MFPB)

NOTE

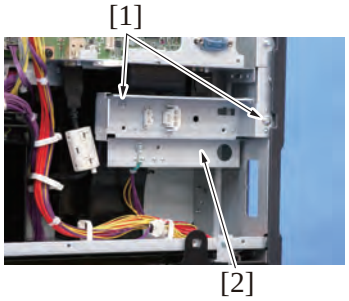
- **Never use the combination of the used MFP board removed from another machine and the original eMMC board or backup board. This combination causes corruption of stored data.**
  Note that the combination of the original MFP board and the used eMMC board or backup board removed from another machine also causes the same problem.
- **Do not replace the MFP board and the eMMC board or backup board with new ones at the same time.**

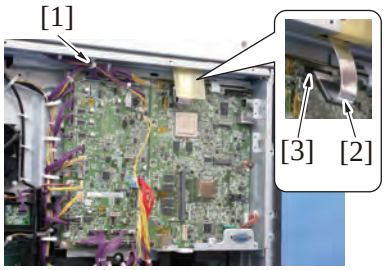
1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover
3. Remove the hard disk.
   G.5.3.7 Hard disk
4. Remove the SATA board.
   G.5.4.4 SATA board (SATAB)
5. Remove the eMMC board.
   G.5.4.5 eMMC board (eMMC)
6. Remove the DIMM. (Option)
   G.5.4.7 DIMM (Upgrade kit UK-211) (Option)
7. Remove the FAX Kit. (Option)
   G.6.11.1 Fax Kit (FK-513)

8. Remove the harness from the two wire saddles [1].
9. Remove three screws [2], and remove the plate [3].

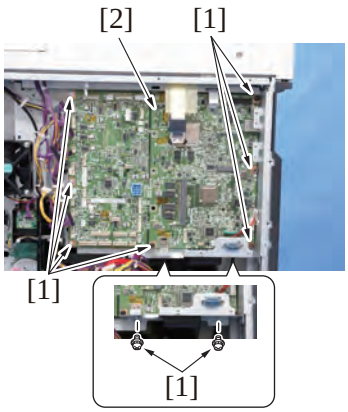


10. Remove two screws [1], and remove the plate [2].





11. Remove the harness from the wire saddle [1].
12. Remove all connectors and flat cables on the MFP board.
NOTE
- **When removing the flat cable [2], release the connector locks [3] and remove each connector.**

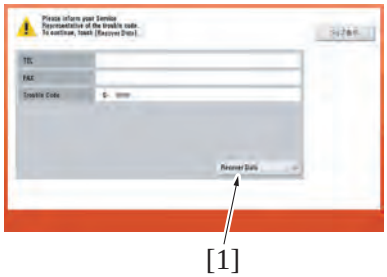


13. Remove nine screws [1], and remove the MFP board [2].

14. To reinstall, reverse the order of removal.
15. After replacing the board, install the firmware and enter the model information.
J.2. USB memory
16. Turn OFF the main power switch, and remove the USB memory.



17. Wait 10 seconds, turn ON the main power switch and wait 2 minutes until boot up the machine completely.



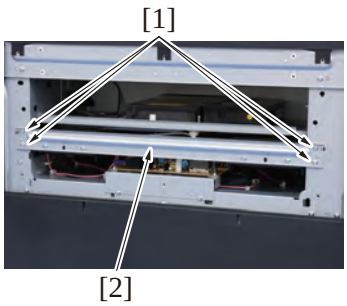
18. C-D390 code will appear. (C-D390 is normal operation when replacing the MFPB with a NEW MFPB.)
19. Wait until [Recover Data] [1] appears. (MFP will reboot maximum 2 times by itself, it may take 5 minutes.)

20. Touch [Recover Data] and [Yes].
21. Turn OFF the main power switch, wait 10 seconds, then turn ON the main power switch, after “Turn the main switch OFF and ON.” message is appeared.

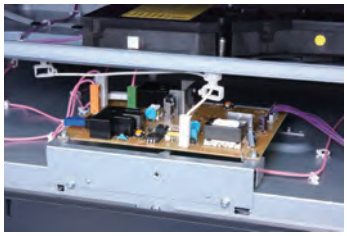
5.4.3 High voltage unit (HV)

1. Open the front door.
2. Remove the left cover.
G.5.2.9 Left cover

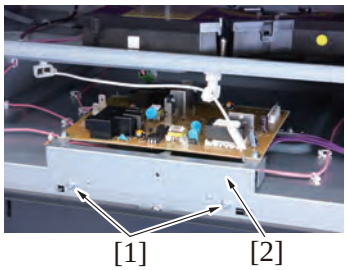
3. Remove four screws [1], and remove the plate [2].



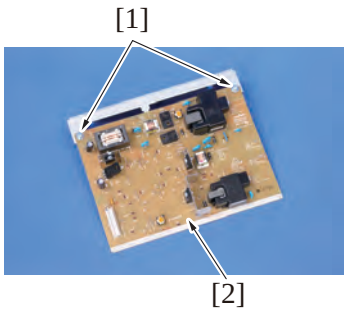
4. Disconnect all connectors and solderless terminals on the high voltage unit.



5. Remove two screws [1], and remove the high voltage unit assy [2].



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

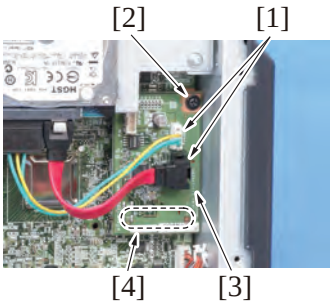


7. To reinstall, reverse the order of removal.

5.4.4 SATA board (SATAB)

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover

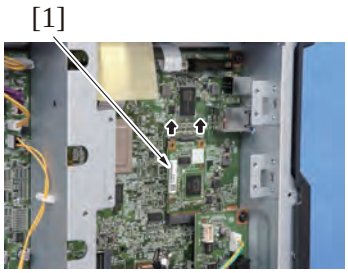
3. Disconnect two connectors [1].
4. Remove the screw [2], and remove the SATA board [3].
   NOTE
   - **Disconnect two connectors [1] while pressing the portion [4] shown in the illustration.**



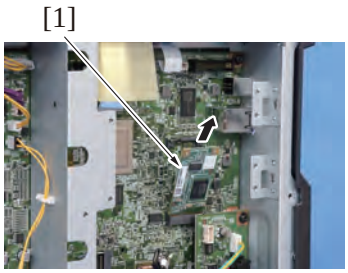
5. To reinstall, reverse the order of removal.

5.4.5 eMMC board (eMMC)

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover
3. Remove the hard disk.
   G.5.3.7 Hard disk



4. Release the lock of the eMMC board [1].
   NOTE
   - **Be careful not to drop the eMMC board.**

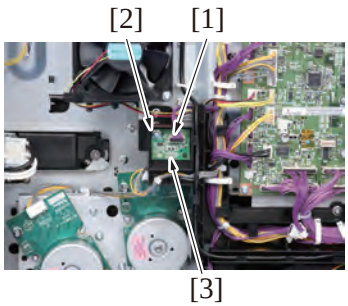


5. Remove the eMMC board [1].

6. To reinstall, reverse the order of removal.

5.4.6 Backup board (ERB)

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover



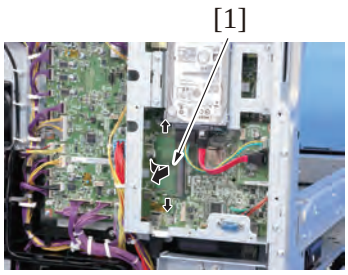
3. Disconnect the connector [1].
4. Remove the screw [2], and remove the backup board [3].

5. To reinstall, reverse the order of removal.

5.4.7 DIMM (Upgrade kit UK-211) (Option)

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover

3. Remove the DIMM [1] from the MFP board.

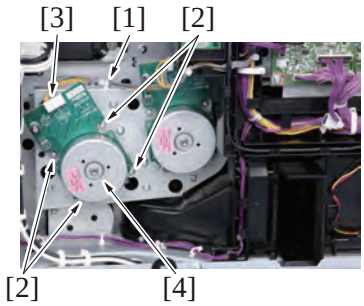


4. To reinstall, reverse the order of removal.

5.5 Disassembly/reassembly procedure (Motors)

5.5.1 Transport motor (M1)

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover

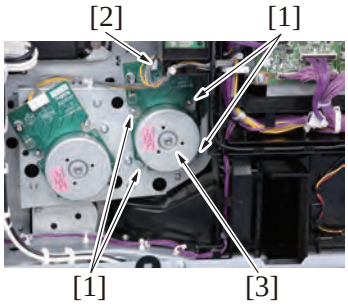


3. Remove the harness from the wire saddle [1].
4. Remove the four screws [2]. Disconnect the connector [3], and remove the transport motor [4].
   NOTE
   - **When installing the motor, use care not to mistake in the kind of the mounting screws (M3x6mm).**

5. To reinstall, reverse the order of removal.

5.5.2 Main motor (M3)

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover



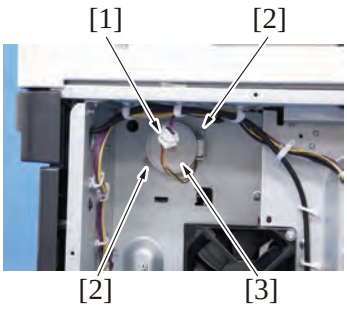
3. Remove the four screws [1]. Disconnect the connector [2] and remove the main motor [3].
   NOTE
   - **When installing the motor, use care not to mistake in the kind of the mounting screws (M3x6mm).**

4. To reinstall, reverse the order of removal.

5.5.3 Reverse motor (M4)

(1) Removal procedure

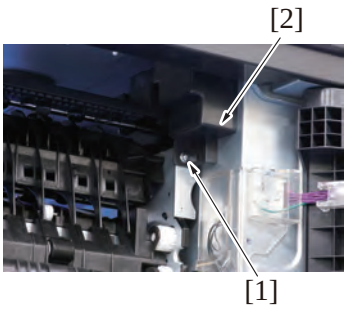
1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover



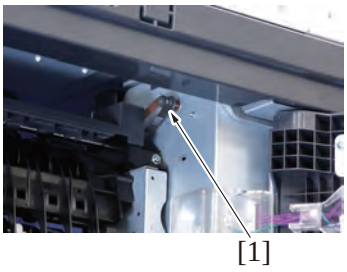
3. Disconnect the connector [1].
4. Remove the screw [2], and remove reverse motor [3].

(2) Reinstall procedure

1. Open the right door.



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

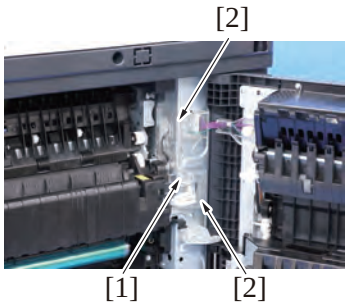


3. Attach the drive belt [1] to the gear of the reverse motor.

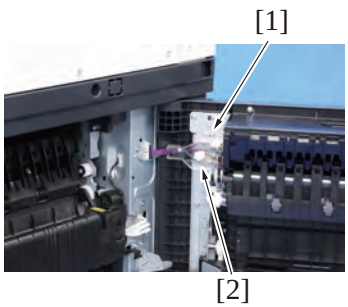
4. Attach it in reversed procedures of removal.

5.5.4 ADU transport motor (M5)

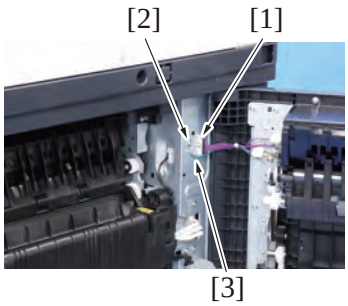
1. Open the right door.



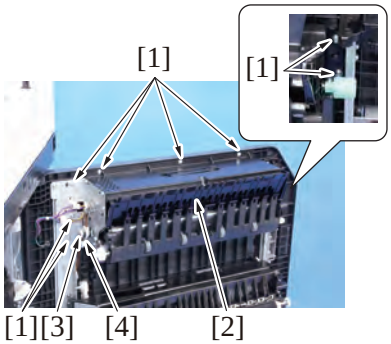
2. Remove the screw [1], and remove the two covers [2].



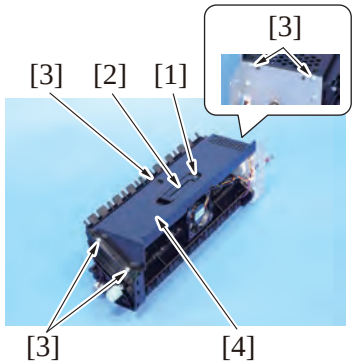
3. Remove the screw [1], and remove the connector cover [2].



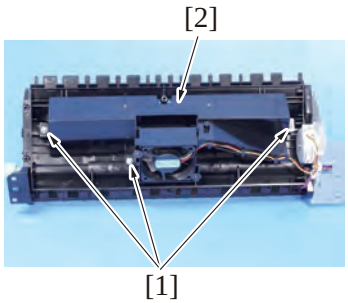
4. Disconnect the connector [1].
5. Remove the screw [2], and remove the ground terminal [3].



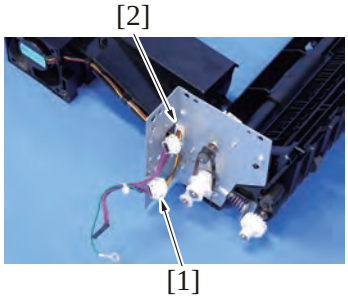
6. Remove the eight screws [1], and remove the ADU transport assy [2].
NOTE
- **When installing the motor, attach the belt [4] to the gear [3].**



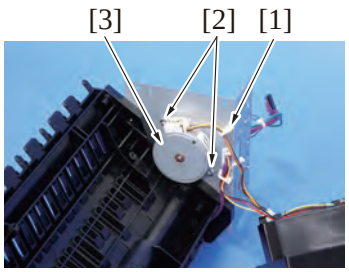
7. Remove the screw [1], and remove the ozone filter [2].
8. Remove the five screws [3], and remove the guide [4].



9. Remove the three screws [1], and free the reverse cooling fan assy [2].



10. Disconnect the connector [1], and remove the harness from the edge cover [2].

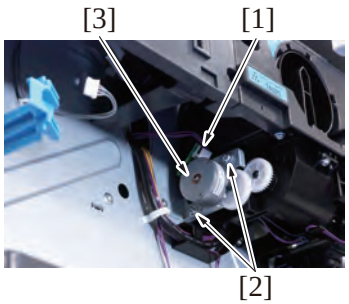


11. Remove the harness from the wire saddle [1].
12. Remove the two screws [2], and remove the ADU transport motor [3].

13. To reinstall, reverse the order of removal.

5.5.5 Toner supply motor/K (M6)

1. Open the right door.
2. Open the front door.
3. Remove the waste toner box.
   F.6.6.1 Replacing the waste toner box
4. Remove the drum unit.
   F.6.2.1 Replacing the drum unit
5. Remove the front door.
   G.5.2.7 Front door
6. Remove the front cover.
   G.5.2.8 Front cover

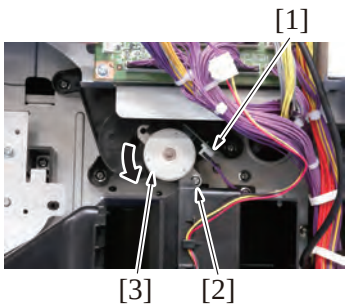


7. Disconnect the connector [1], remove two screws [2], and remove the toner supply motor/K [3].

8. To reinstall, reverse the order of removal.

5.5.6 Toner cartridge motor (M10)

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover
3. Remove the harness guide.
   G.5.8.5 Harness guide



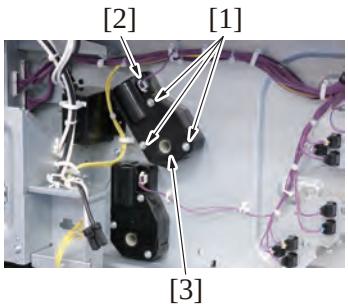
4. Disconnect the connector [1].
5. Remove the screw [2], and remove the toner cartridge motor [3].
   NOTE
   - **When removing the toner cartridge motor [3], make sure to turn it in the direction shown in the illustration.**

6. To reinstall, reverse the order of removal.

5.5.7 Tray 1 lift-up motor (M12)

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover
3. Remove the lower rear cover.
   G.5.2.13 Lower rear cover
4. Remove the FAX Kit. (Option)
   G.6.11.1 Fax Kit (FK-513)
5. Remove the DC power supply.
   G.5.4.1 DC power supply (DCPU)

6. Slide out the tray 1.

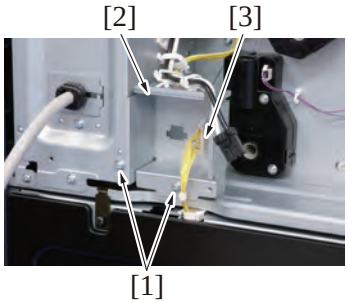


7. Remove three screws [1]. Disconnect the connector [2], and remove the tray 1 lift-up motor [3].

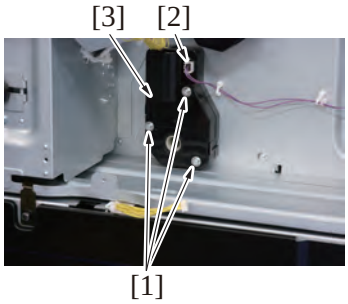
8. To reinstall, reverse the order of removal.

5.5.8 Tray 2 lift-up motor (M13)

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover
3. Remove the lower rear cover.
   G.5.2.13 Lower rear cover
4. Remove the FAX Kit. (Option)
   G.6.11.1 Fax Kit (FK-513)
5. Remove the DC power supply.
   G.5.4.1 DC power supply (DCPU)
6. Slide out the tray 2.



7. Remove two screws [1], and remove the plate [2].
   NOTE
   - **Remove the optional paper feed unit connector [3] if it is connected to the metal plate [2]**

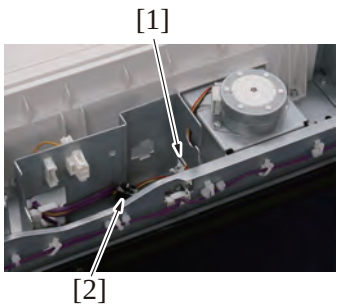


8. Remove three screws [1]. Disconnect the connector [2], and remove the tray 2 lift-up motor [3].

9. To reinstall, reverse the order of removal.

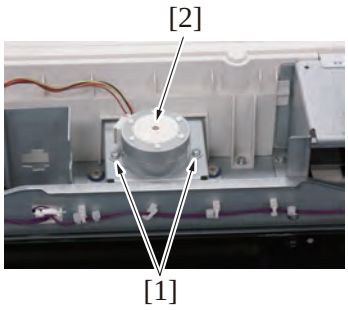
5.5.9 Scanner motor (M101)

1. Remove the scanner rear cover.
   G.5.2.1 Scanner rear cover



2. Remove the harness from the edge guide [1], and disconnect the connector [2].

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



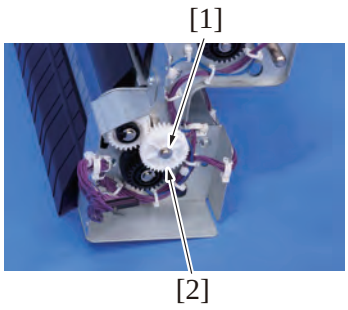
4. Reinstall procedure Reverse the order of removal.
5. Carry out the [Service] -> [Machine] -> [Scan Area] -> [Main Scan Zoom Adj.].

5.6 Disassembly/reassembly procedure (Clutches)

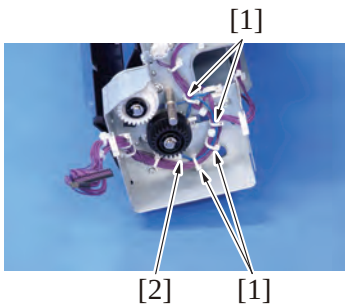
5.6.1 Tray 2 paper feed clutch (CL1)

1. Slide out the tray 1 and tray 2.
2. Open the right door.
3. Remove the paper feed unit.
   G.5.3.2 Paper feed unit

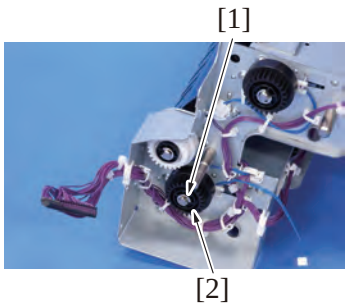
4. Remove the E-ring [1], and remove the gear [2].



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



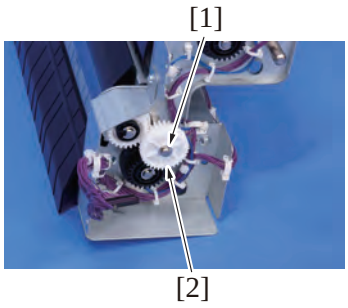
6. Remove the E-ring [1], and remove the tray 2 paper feed clutch [2].
   NOTE
   - **When mounting the tray 2 paper feed clutch [2], set the convex part of the stopper into the concave part of the tray 2 paper feed clutch.**



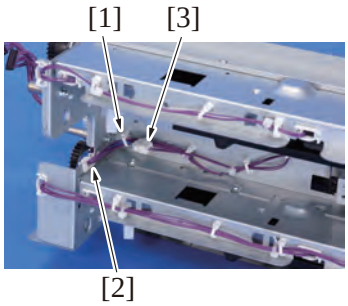
7. To reinstall, reverse the order of removal.

5.6.2 Tray 2 vertical transport clutch (CL2)

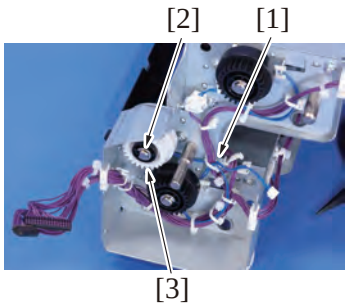
1. Slide out the tray 1 and tray 2.
2. Open the right door.
3. Remove the paper feed unit.
   G.5.3.2 Paper feed unit



4. Remove the E-ring [1], and remove the gear [2].



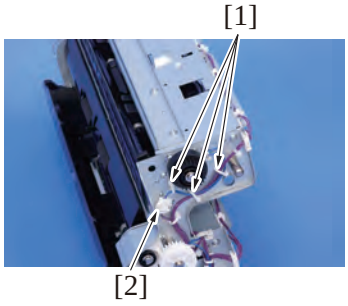
5. Remove the harness from wire saddle [1] and edge cover [2], and disconnect the connector [3].



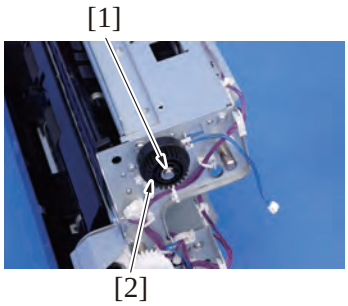
6. Remove the harness from the wire saddle [1].
7. Remove the E-ring [2], and remove the tray 2 vertical transport clutch [3].
   NOTE
   - **When mounting the tray 2 vertical transport clutch [2], set the convex part of the stopper into the concave part of the tray 2 vertical transport clutch.**
8. To reinstall, reverse the order of removal.

5.6.3 Tray 1 paper feed clutch (CL3)

1. Slide out the tray 1 and tray 2.
2. Open the right door.
3. Remove the paper feed unit.
   G.5.3.2 Paper feed unit



4. Remove the harness from three wire saddles [1], and disconnect the connector [2].

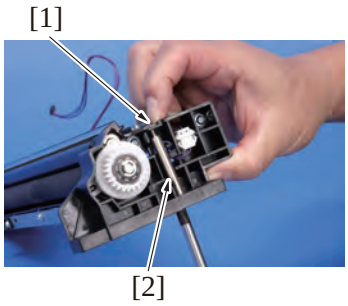


5. Remove the E-ring [1], and remove the tray 1 paper feed clutch [2].
   NOTE
   - **When mounting the tray 1 paper feed clutch [2], set the convex part of the stopper into the concave part of the tray 1 paper feed clutch.**

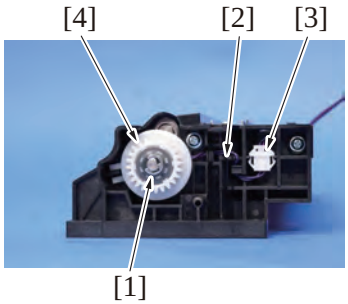
6. To reinstall, reverse the order of removal.

5.6.4 Registration clutch (CL4)

1. Slide out the tray 1 and the tray 2.
2. Open the right door.
3. Remove the paper feed unit.
   G.5.3.2 Paper feed unit
4. Remove the transport unit.
   G.5.3.9 Transport unit



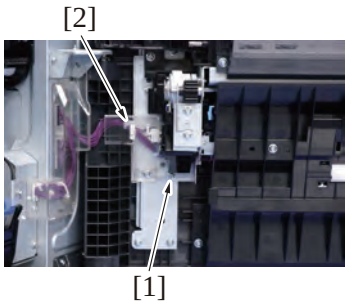
5. While pressing the washer [1], turn the screw [2] to remove the washer [1] and the screw [2].



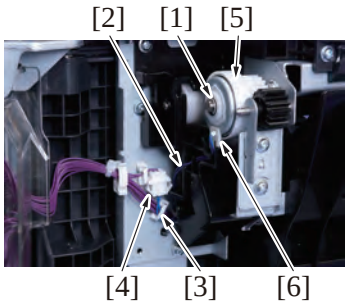
6. Remove the E-ring [1], and remove the harness from harness guide [2].
7. Disconnect the connector [3], and remove the registration clutch [4].
   NOTE
   - **When mounting the registration clutch, set the convex part of the stopper into the concave part of the registration clutch [4].**
8. To reinstall, reverse the order of removal.

5.6.5 Bypass paper feed clutch (CL7)

1. Open the right door.



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



3. Remove the E-ring [1].
4. Disconnect the harness from the harness guide [2] and wire saddle [3].
5. Disconnect the connector [4], and remove the bypass paper feed clutch [5].
   NOTE
   - **When installing the bypass paper feed clutch, install it with the stopper [6] coming to the position shown in the figure.**
6. To reinstall, reverse the order of removal.

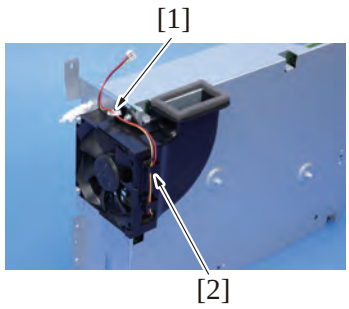
5.7 Disassembly/reassembly procedure (Fans)

5.7.1 Power supply cooling fan (FM1)

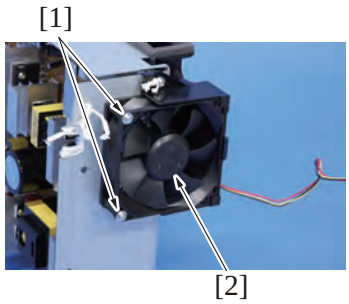
1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.

G.5.2.14 Upper rear cover
3. Remove the lower rear cover.
G.5.2.13 Lower rear cover
4. Remove the FAX Kit. (Option)
G.6.11.1 Fax Kit (FK-513)
5. Remove the DC power supply.
G.5.4.1 DC power supply (DCPU)

6. Remove the harness from the wire saddle [1] and harness guide [2].



7. Remove two screws [1], and remove the power supply cooling fan [2].

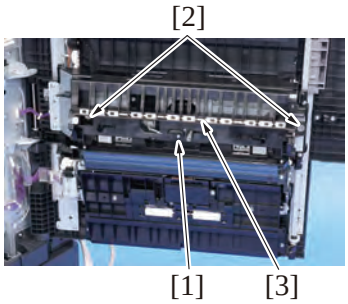


8. To reinstall, reverse the order of removal.

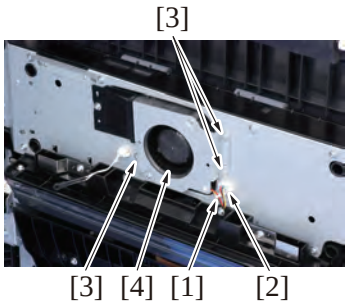
5.7.2 Main cooling fan (FM2)

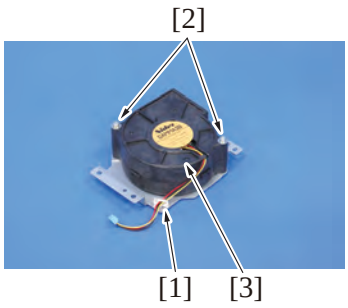
1. Open the right door.
2. Remove the transfer roller unit.
F.6.5.1 Replacing the transfer roller unit

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



5. Remove the harness from the wire saddle [1], and disconnect the connector [2].
6. Remove three screws [3], and remove the main cooling fan assy [4].



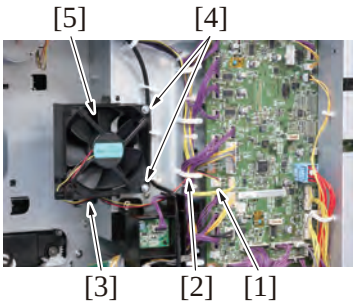


7. Remove the harness from the wire saddle [1].
8. Remove two screws [2], and remove the main cooling fan [3].

9. To reinstall, reverse the order of removal.

5.7.3 Paper exit cooling fan (FM3)

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover

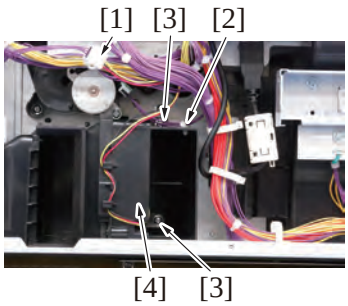


3. Disconnect the connector (CN41E) [1], and remove the harness from the wire saddle [2] and harness guide [3].
4. Remove two screws [4], and remove the Paper exit cooling fan [5].

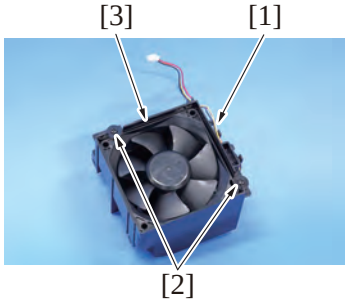
5. To reinstall, reverse the order of removal.

5.7.4 Toner suction fan (FM4)

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover
3. Remove the harness guide.
   G.5.8.5 Harness guide



4. Disconnect the connector [1].
5. Remove the harness from the wire saddle [2].
6. Remove the two screws [3], and remove the toner suction fan assy [4].



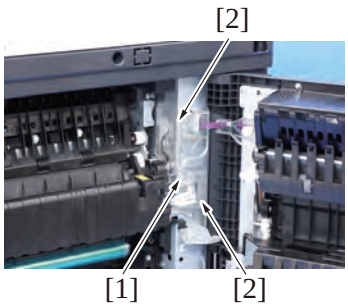
7. Remove the harness from harness guide [1].
8. Remove the two screws [2], and remove the toner suction fan [3].

9. To reinstall, reverse the order of removal.

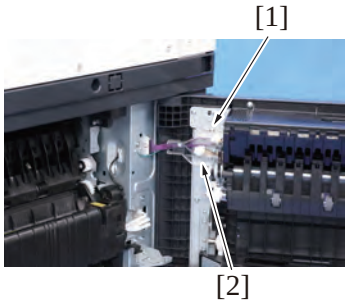
5.7.5 Reverse cooling fan (FM5)

1. Open the right door.

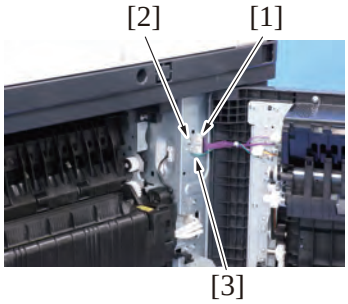
2. Remove the screw [1], and remove two connector covers [2].



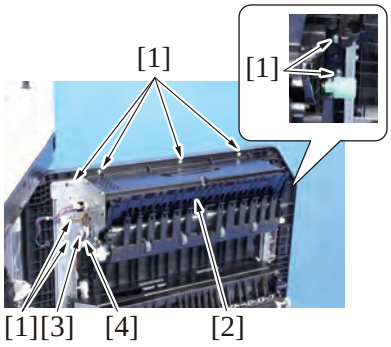
3. Remove the screw [1], and remove the connector cover [2].



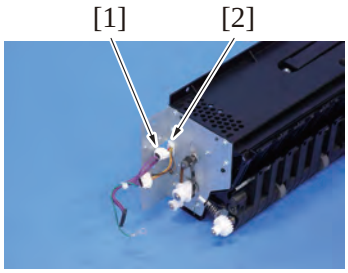
4. Disconnect the connector [1].
5. Remove the screw [2], and remove the ground terminal [3].

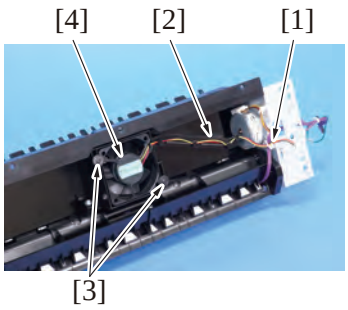


6. Remove eight screws [1], and remove the ADU transport assy [2].
NOTE
- **When installing the motor, attach the belt [4] to the gear [3].**



7. Disconnect the connector [1], and remove the harness from the edge cover [2].



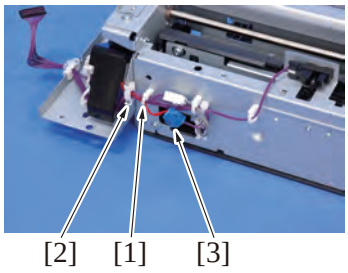


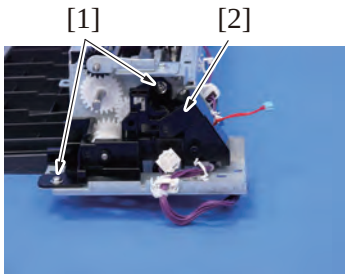
10. To reinstall, reverse the order of removal.

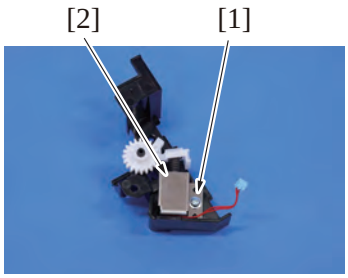
5.8 Disassembly/reassembly procedure (etc.)

5.8.1 Bypass pick-up solenoid (SD1)

1. Open the right door.
2. Open the registration unit.
3. Remove the manual bypass tray unit.
G.5.3.5 Manual bypass tray unit
4. Remove the bypass paper feed clutch.
G.5.6.5 Bypass paper feed clutch (CL7)





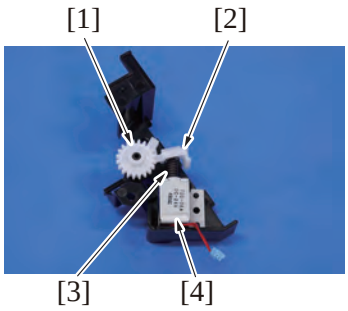


8. Remove the harness from the wire saddle [1] and the harness guides [2].
9. Remove two screws [3], and remove the reverse cooling fan [4].

5. Remove the harness from wire saddle [1] and edge cover [2], and disconnect the connector [3].

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

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

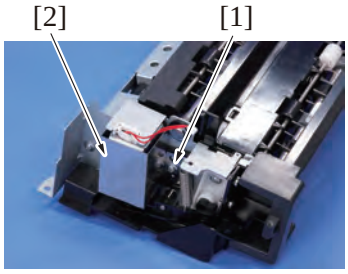


8. Remove the gear [1], actuator [2], and spring [3].
9. Remove the bypass pick-up solenoid [4].

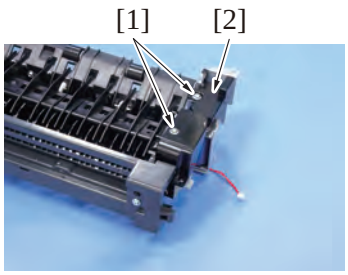
10. To reinstall, reverse the order of removal.

5.8.2 Gate switch solenoid (SD3)

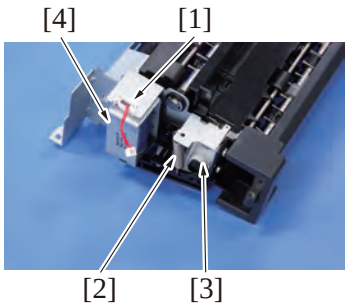
1. Open the right door.
2. Remove the fusing unit.
F.6.9.1 Replacing the fusing unit
3. Remove the control panel left cover.
G.5.2.4 Control panel left cover
4. Remove the exit/reverse unit.
G.5.3.13 Exit/reverse unit



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

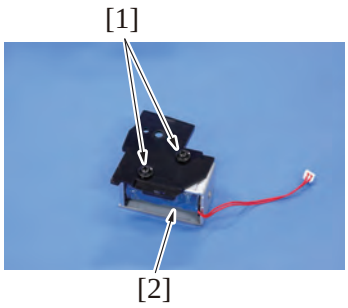


6. Remove the two screws [1], and remove the cover [2].



7. Remove the harness from the edge cover [1].
8. Remove the spring [2] from the actuator [3] and remove the gate switch solenoid assy [4].

9. Remove the two screws [1], and remove the gate switch solenoid [2].

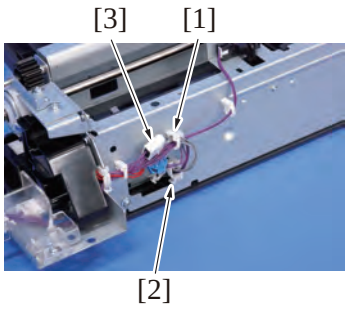


10. To reinstall, reverse the order of removal.

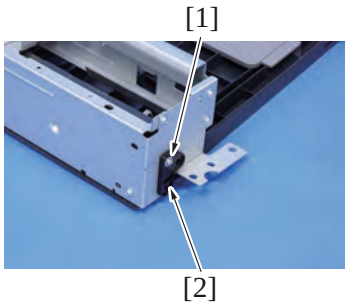
5.8.3 Bypass CD paper size sensor (VR1)

1. Open the right door.
2. Open the registration unit.
3. Remove the manual bypass tray unit.
G.5.3.5 Manual bypass tray unit

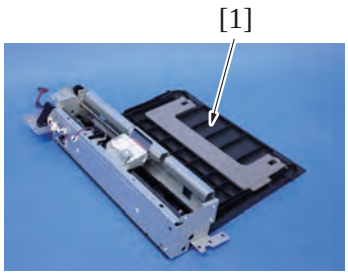
4. Remove the harness from wire saddle [1] and edge cover [2], and disconnect the connector [3].



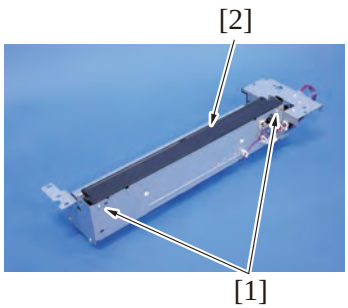
5. Remove the screw [1], and remove the hinge [2].



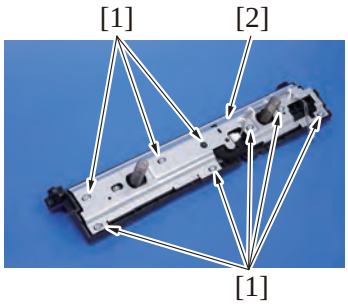
6. Remove the manual bypass tray [1].



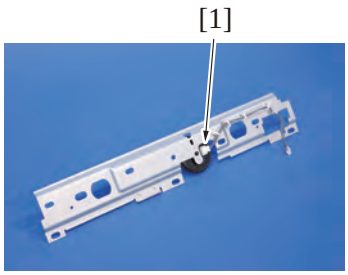
7. Remove the two screws [1], and remove the paper regulating board assy [2].



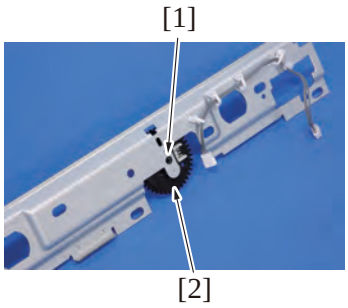
8. Remove eight screws [1], and remove the cover [2].



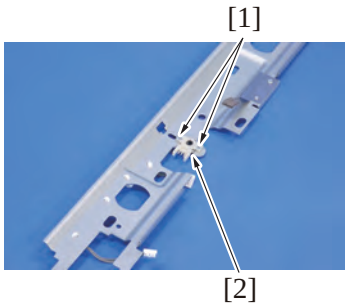
9. Disconnect the connector [1].



10. Remove the tab [1], and remove the gear [2].



11. Remove two screws [1], and remove the bypass CD paper size VR [2].

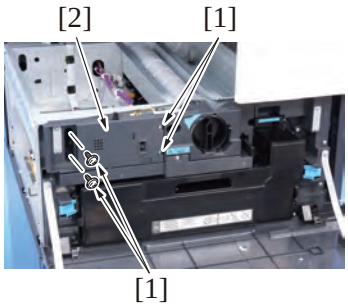


12. To reinstall, reverse the order of removal.

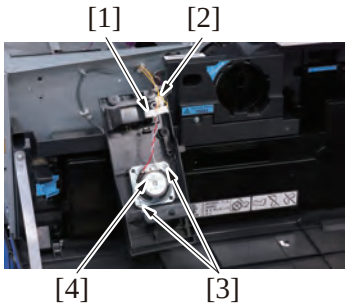
5.8.4 Speaker/1 (SP1)

1. Remove the output tray.
   G.5.2.10 Exit tray
2. Open the front door.
3. Remove the left cover.
   G.5.2.9 Left cover
4. Remove the output cover.
   G.5.2.11 Exit cover

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



6. Remove the harness from the wire saddle [1], and disconnect the connector [2].
7. Remove the two screws [3], and remove the speaker/1 [4].

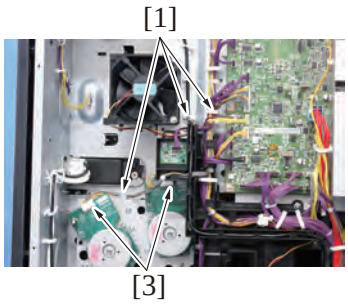


8. To reinstall, reverse the order of removal.

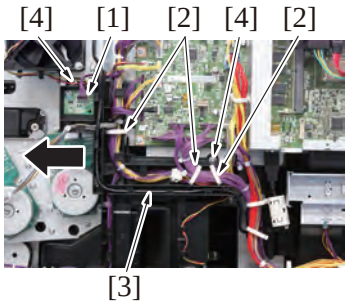
5.8.5 Harness guide

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover

3. Remove the harness from three wire saddles [1].
4. Disconnect two connectors [2].



5. Disconnect the connector [1].
6. Remove harness from the three wire saddles [2] and remove all harnesses from the harness guide [3].
7. Remove the two screws [4], and remove the harness guide [3].



8. To reinstall, reverse the order of removal.

6. Option

6.1 Disassembly/reassembly parts list

6.1.1 DF-628

Section	Part name	Ref. page
Exterior parts	Front cover	G.6.2.1 Front cover (DF-628)
	Rear cover	G.6.2.2 Rear cover (DF-628)
	Left cover unit	G.6.2.3 Left cover unit (DF-628)
Units	Reverse automatic original feeder	G.6.2.4 Reverse automatic document feeder (DF-628)
	Glass cleaning roller unit	G.6.2.5 Glass cleaning roller unit (DF-628)
Board and etc.	DF control board (DFCB)	G.6.2.6 DF control board (DFCB) (DF-628)
	Original width size sensor (VR1)	G.6.2.7 Document width size sensor (VR1) (DF-628)
Others	Original reading motor (M1)	G.6.2.8 Document reading motor (M1) (DF-628)
	Original feed motor (M2)	G.6.2.9 Document feed motor (M2) (DF-628)
	Registration motor (M3)	G.6.2.10 Registration motor (M3) (DF-628)
	Glass cleaning motor (M4)	G.6.2.11 Glass cleaning motor (M4) (DF-628)
	Reading roll release motor (M5)	G.6.2.12 Reading roll release motor (M5) (DF-628)
	Original exit roller release solenoid (SD1)	G.6.2.13 Original exit roller release solenoid (SD1) (DF-628)
	Stamp unit	G.6.2.14 Stamp unit (SP-501)
	Spare TX Marker Stamp 2	G.6.2.15 Stamp (SP-501)

6.1.2 PC-113/PC-213

Section	Part name	Ref. page
Exterior parts	Rear right cover	G.6.3.1 Rear right cover (PC-113/PC-213)
	Rear cover	G.6.3.2 Rear cover (PC-113/PC-213)
	Tray 3, Tray 4	G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)
Units	Paper feed cabinet	G.6.3.4 Paper feed cabinet (PC-113/PC-213)
	Tray 3 paper feed unit	G.6.3.5 Tray 3 paper feed unit (PC-113/PC-213)
	Tray 4 paper feed unit	G.6.3.6 Tray 4 paper feed unit (PC-213)
Boards	PC control board (PCCB)	G.6.3.7 PC control board (PCCB) (PC-113/PC-213)
	Tray 3 FD paper size board (FDPSB/3)	G.6.3.8 Tray 3 FD paper size board (FDPSB/3), tray 4 FD paper size board (FDPSB/4) (PC-113/PC-213)
	Tray 4 FD paper size board (FDPSB/4)	
	Tray 3 CD paper size board (CDPSB/3)	G.6.3.9 Tray 3 CD paper size board (CDPSB/3) (PC-113/PC-213)
	Tray 4 CD paper size board (CDPSB/4)	G.6.3.10 Tray 4 CD paper size board (CDPSB/4) (PC-213)
Motors	Tray 3 paper feed motor (M111)	G.6.3.11 Tray 3 paper feed motor (M111), tray 4 paper feed motor (M121) (PC-113/PC-213)
	Tray 4 paper feed motor (M121)	
	Tray 3 vertical transport motor (M112)	G.6.3.12 Tray 3 vertical transport motor (M112), tray 4 vertical transport motor (M122) (PC-113/PC-213)
	Tray 4 vertical transport motor (M122)	
	Tray 3 lift-up motor (M113)	G.6.3.13 Tray 3 lift-up motor (M113), tray 4 lift-up motor (M123) (PC-113/PC-213)
	Tray 4 lift-up motor (M123)	

6.1.3 PC-413

Section	Part name	Ref. page
Exterior parts	Rear right cover	G.6.4.1 Rear right cover (PC-413)
	Rear cover	G.6.4.2 Rear cover (PC-413)
	Paper feed tray	G.6.4.3 Paper feed tray (PC-413)
Units	Paper feed cabinet	G.6.4.4 Paper feed cabinet (PC-413)
	Paper feed unit	G.6.4.5 Paper feed unit (PC-413)
Boards	PC control board (PCCB)	G.6.4.6 PC control board (PCCB) (PC-413)
Motors	Paper feed motor (M131)	G.6.4.7 Paper feed motor (M131) (PC-413)
	Vertical transport motor (M132)	G.6.4.8 Vertical transport motor (M132) (PC-413)
	Elevator motor (M134)	G.6.4.9 Elevator motor (M134) (PC-413)
	Shifter motor (M133)	G.6.4.10 Shifter motor (M133) (PC-413)
etc.	Wire	G.6.4.11 Wire (PC-413)

6.1.4 JS-506

Section	Part name	Ref. page
Exterior parts	Exit tray 1	G.6.5.1 Exit tray 1 (JS-506)
	Exit tray 2	G.6.5.2 Exit tray 2 (JS-506)
Units	Job separator	G.6.5.3 Job separator (JS-506)
	Sensor unit	G.6.5.4 Sensor unit (JS-506)
Boards	JS control board (JSCB)	G.6.5.5 JS control board (JSCB) (JS-506)
Motors	Tray shift motor (M1)	G.6.5.6 Tray shift motor (M1) (JS-506)

6.1.5 FS-534/FS-534SD

Section	Part name	Ref. page
Exterior parts	Rear cover	G.6.6.1 Rear cover (FS-534/FS-534SD)
	Front door	G.6.6.2 Front door (FS-534/FS-534SD)
	Front upper cover	G.6.6.3 Front upper cover (FS-534/FS-534SD)
	Left lower cover	G.6.6.4 Left lower cover (FS-534/FS-534SD)
	Front lower cover	G.6.6.5 Front lower cover (FS-534/FS-534SD)
Units	Finisher	G.6.6.6 Finisher (FS-534/FS-534SD)
	RU transport unit	G.6.6.7 RU transport unit (FS-534/FS-534SD)
	Stapler unit	G.6.6.8 Stapler unit (FS-534/FS-534SD)
	Sensor unit	G.6.6.9 Sensor unit (FS-534/FS-534SD)
	Saddle unit	G.6.6.10 Saddle unit (FS-534SD)
Boards	FS control board (FSCB)	G.6.6.11 FS control board (FSCB) (FS-534/FS-534SD)
Motors	RU transport motor (M1)	G.6.6.12 RU transport motor (M1) (FS-534/FS-534SD)
	FNS entry transport motor (M2)	G.6.6.13 FNS entry transport motor (M2) (FS-534/FS-534SD)
	FNS discharge motor (M3)	G.6.6.14 FNS discharge motor (M3) (FS-534/FS-534SD)
	Receiving roller retraction motor (M4)	G.6.6.15 Receiving roller retraction motor (M4) (FS-534/FS-534SD)
	FNS paddle motor (M5)	G.6.6.16 FNS paddle motor (M5) (FS-534/FS-534SD)
	Trailing edge stopper motor (M6)	G.6.6.17 Trailing edge stopper motor (M6) (FS-534/FS-534SD)
	Alignment motor/front (M7)	G.6.6.18 Alignment motor/front (M7) (FS-534/FS-534SD)
	Alignment motor/rear (M8)	G.6.6.19 Alignment motor/rear (M8) (FS-534/FS-534SD)
	Pre-eject drive motor (M9)	G.6.6.20 Pre-eject drive motor (M9) (FS-534/FS-534SD)
	Bundle eject motor (M10)	G.6.6.21 Bundle eject motor (M10) (FS-534/FS-534SD)
	Main tray up/down motor (M11)	G.6.6.22 Main tray up/down motor (M11) (FS-534/FS-534SD)
	Paper receiving control motor (M12)	G.6.6.23 Paper receiving control motor (M12) (FS-534/FS-534SD)
	Side stapler movement motor (M13)	G.6.6.24 Side stapler movement motor (M13) (FS-534/FS-534SD)

6.1.6 PK-520

Section	Part name	Ref. page
Units	Punch kit	G.6.7.1 Punch kit (PK-520)

6.1.7 SD-511

Section	Part name	Ref. page
Exterior parts	Front cover	G.6.8.1 Front cover (SD-511)
Units	Saddle unit	G.6.8.2 Saddle unit (SD-511)
	Paper exit tray	G.6.8.3 Paper exit tray (SD-511)
	Staple unit	G.6.8.4 Staple unit (SD-511)
Boards	SD drive board (SDDB)	G.6.8.5 SD drive board (SDDB) (SD-511)
Motors	SD transport motor (M1)	G.6.8.6 SD transport motor (M1) (SD-511)
	Paper discharge control motor (M2)	G.6.8.7 Paper discharge control motor (M2) (SD-511)
	Alignment motor (M3)	G.6.8.8 Alignment motor (M3) (SD-511)
	Stopper drive motor (M4)	G.6.8.9 Stopper drive motor (M4) (SD-511)

Section	Part name	Ref. page
	Center fold roller motor (M5)	G.6.8.10 Center fold roller motor (M5) (SD-511)
	Tri-folding guide motor (M6)	G.6.8.11 Tri-folding guide motor (M6) (SD-511)
	SD paddle motor (M7)	G.6.8.12 SD paddle motor (M7) (SD-511)
	Center fold guide motor (M8)	G.6.8.13 Center fold guide motor (M8) (SD-511)
	Center fold knife motor (M9)	G.6.8.14 Center fold knife motor (M9) (SD-511)
	Stopper solenoid (SD1)	G.6.8.15 Stopper solenoid (SD1) (SD-511)

6.1.8 FS-533

Section	Part name	Ref. page
Exterior parts	Front cover	G.6.9.1 Front cover (FS-533)
	Upper cover	G.6.9.2 Upper cover (FS-533)
	Rear cover	G.6.9.3 Rear cover (FS-533)
Units	Finisher	G.6.9.4 Finisher (FS-533)
	Stapler unit	G.6.9.5 Stapler unit (FS-533)
	Paper exit tray unit	G.6.9.6 Paper exit tray unit (FS-533)
Boards	FS control board (FSCB)	G.6.9.7 FS control board (FSCB) (FS-533)
	Stapler relay board (STREYB)	G.6.9.8 Stapler relay board (STREYB) (FS-533)
Motors	Paper conveyance motor (M101)	G.6.9.9 Paper conveyance motor (M101) (FS-533)
	Paper exit motor (M102)	G.6.9.10 Paper exit motor (M102) (FS-533)
	Alignment roller motor (M103)	G.6.9.11 Alignment roller motor (M103) (FS-533)
	Exit roller lift up motor (M104)	G.6.9.12 Exit roller lift up motor (M104) (FS-533)
	Alignment motor/F (M105)	G.6.9.13 Alignment motor/F (M105), Alignment motor/R (M106) (FS-533)
	Alignment motor/R (M106)	G.6.9.13 Alignment motor/F (M105), Alignment motor/R (M106) (FS-533)
	Stapler movement motor (M107)	G.6.9.14 Stapler movement motor (M107) (FS-533)
	Tray lift up motor (M109)	G.6.9.15 Tray lift up motor (M109) (FS-533)
	Paper surface detect solenoid (SD101)	G.6.9.16 Paper surface detect solenoid (SD101) (FS-533)
	Batch solenoid (SD102)	G.6.9.17 Batch solenoid (SD102) (FS-533)
	Paper exit roller solenoid (SD103)	G.6.9.18 Paper exit roller solenoid (SD103) (FS-533)
etc.	Paper exit paddle	G.6.9.19 Paper exit paddle (FS-533)

6.1.9 PK-519

Section	Part name	Ref. page
Units	Punch kit	G.6.10.1 Punch kit (PK-519)
Boards	PK control board (PKCB)	G.6.10.2 PK control board (PKCB) (PK-519)
Motors	Punch motor (M201)	G.6.10.3 Punch motor (M201) (PK-519)

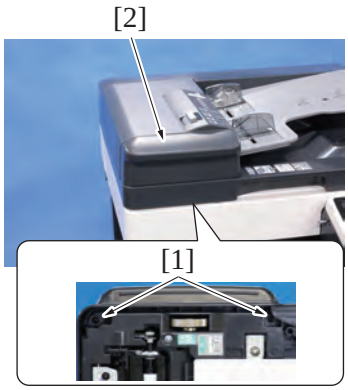
6.1.10 FK-513

Section	Part name	Ref. page
Units	Fax Kit	G.6.11.1 Fax Kit (FK-513)

6.2 Disassembly/reassembly procedure (DF-628/SP-501)

6.2.1 Front cover (DF-628)

1. Open the reverse automatic document feeder.

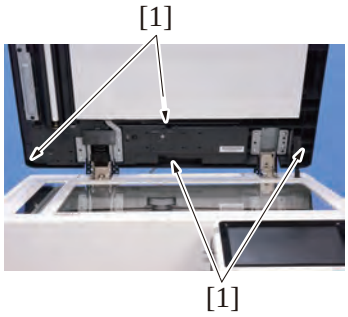


2. Remove two screws [1] and remove the front cover [2].

3. To reinstall, reverse the order of removal.

6.2.2 Rear cover (DF-628)

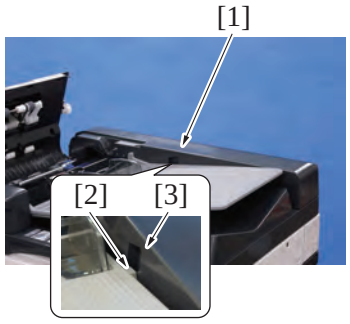
1. Open the reverse automatic document feeder.



2. Remove four screws [1].
NOTE
- **If the reverse automatic 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 reverse automatic document feeder can be opened completely.**



3. Open the left cover [1].

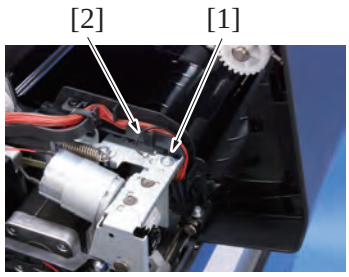


4. Remove the rear cover [1].
NOTE
- **For mounting the rear cover, mount it so that the protrusion [2] of the document feed tray will fit to the groove [3] on the rear cover.**

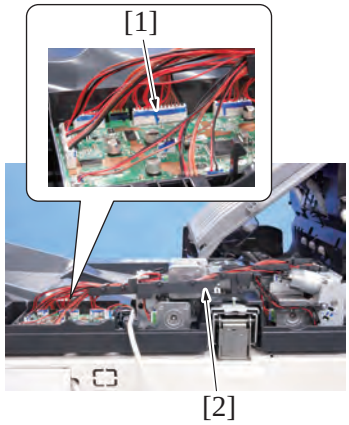
5. To reinstall, reverse the order of removal.

6.2.3 Left cover unit (DF-628)

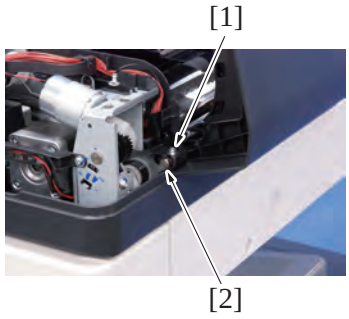
1. Remove the rear cover.
G.6.2.2 Rear cover (DF-628)



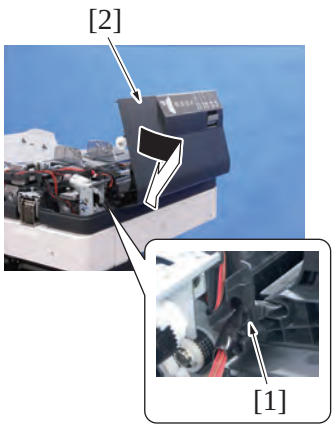
2. Remove the screw [1], and remove the ground earth [2] from the harness guide.



3. Disconnect the connector (CN14) [1], and remove the harness from the harness guide [2].



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

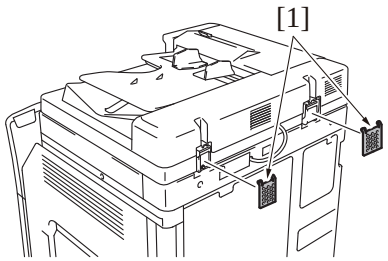


5. Remove the left cover unit [2] as shown in the illustration while pressing the harness into the hole [1] shown in the illustration.

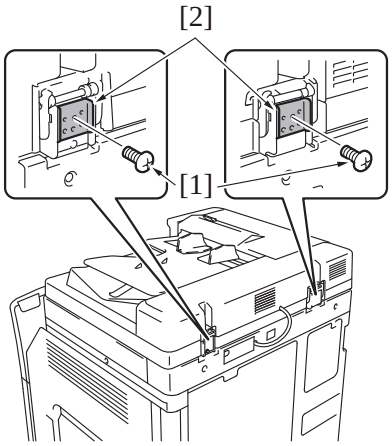
6. To reinstall, reverse the order of removal.

6.2.4 Reverse automatic document feeder (DF-628)

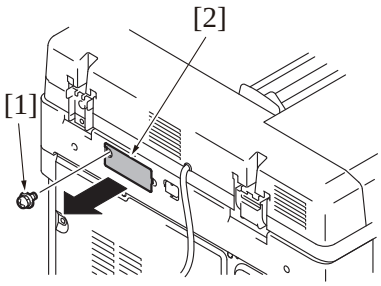
1. Remove two hinge covers [1].



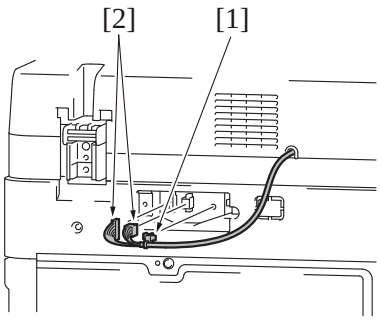
2. Remove two screws [1], and remove two stoppers [2].
NOTE
- **When installing the stopper [2], install it in its original position.**



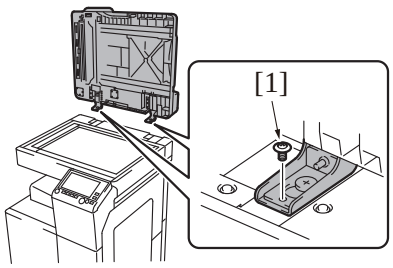
3. Remove the screws [1], and remove the DF cable cover [2] from the back of the main body.



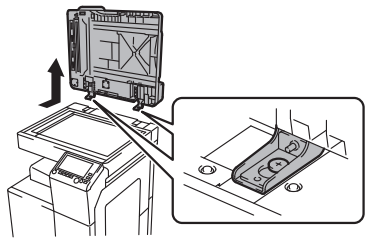
4. Remove the cable tie [1], and disconnect two connectors [2].

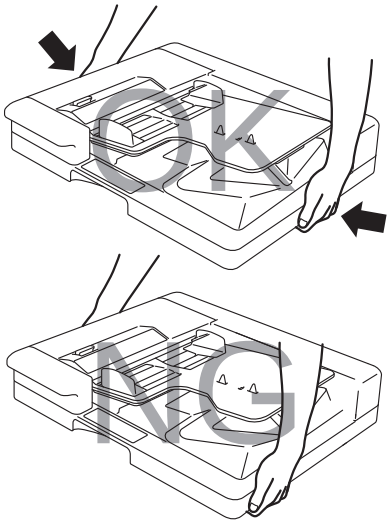


5. Open the reverse automatic document feeder.
6. Remove two screws [1].



7. Remove the reverse automatic document feeder [1].





NOTE
- **When carrying the reverse automatic 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 reverse automatic document feeder from the machine, place it on the floor or the like as shown in the illustration.**



8. To reinstall, reverse the order of removal.

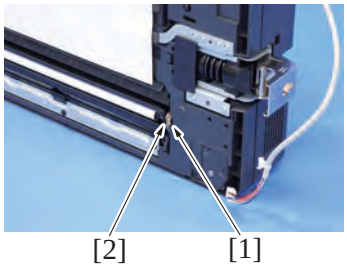
6.2.5 Glass cleaning roller unit (DF-628)

1. Remove the front cover.
   G.6.2.1 Front cover (DF-628)
2. Remove the reverse automatic document feeder.
   G.6.2.4 Reverse automatic document feeder (DF-628)

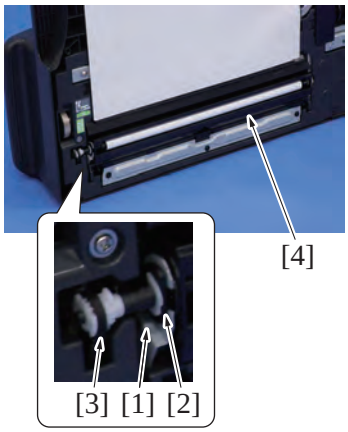


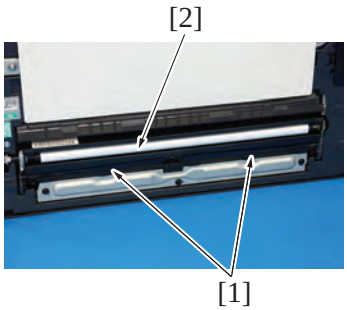
3. Place the reverse automatic document feeder vertically as shown in the illustration.

4. Remove the C-clip [1] and the bushing [2].



5. Remove the C-clip [1], and shift the bushing [2], and remove the belt [3].
6. Remove the glass cleaning roller unit [4].





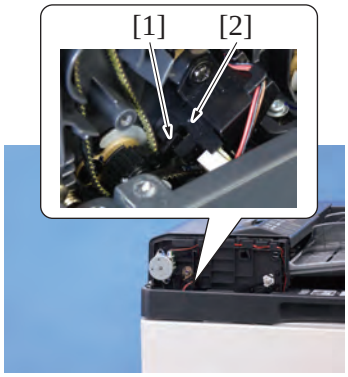
NOTE

- **When installing the glass cleaning roller unit [2], make sure that the transparent sheets [1] are outside of the glass cleaning roller unit [2].**

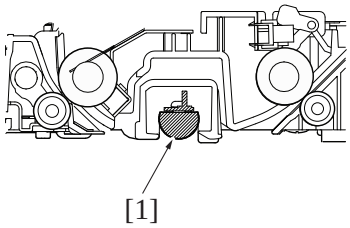
7. To reinstall, reverse the order of removal.

NOTE

- **When installing the glass cleaning roller unit, the following adjustment is necessary.**
- **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.**

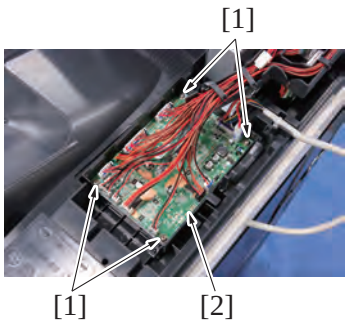


- **After completing the above adjustment, when you turn ON the main power switch, make sure that the shaft [1] is at the correct position (home position).**



6.2.6 DF control board (DFCB) (DF-628)

1. Remove the rear cover.
   G.6.2.2 Rear cover (DF-628)



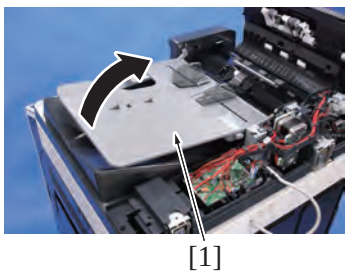
2. Disconnect all connectors from the FS control board.
3. Remove four screws [1], and remove the DF control board [2].
4. To reinstall, reverse the order of removal.

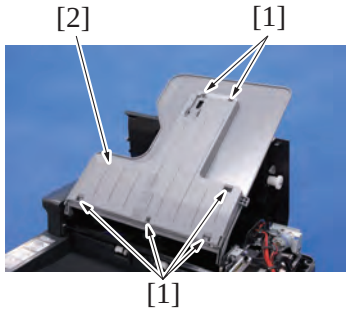
NOTE

- **Be sure to perform the following steps after the DF control board has been replaced with a new one.**
- **Install the firmware.**
- **Execute [Service Mode] -> [ADF] -> [Original Tray Width].**
  I.5.21.6 Original Tray Width
- **Execute [Service Mode] -> [ADF] -> [Mixed original Size adjustment].**
  I.5.21.10 Mixed original size adjustment

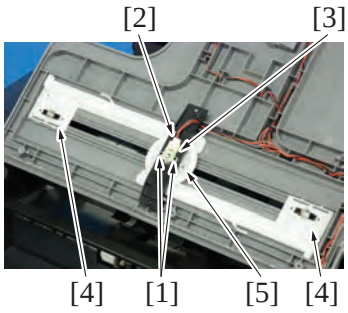
6.2.7 Document width size sensor (VR1) (DF-628)

1. Remove the rear cover.
   G.6.2.2 Rear cover (DF-628)
2. Lift up the document feed tray [1].

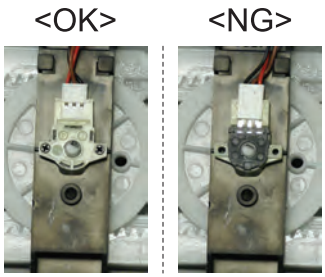




3. Remove six screws [1], and remove the cover [2].



4. Remove two screws [1] and disconnect the connector [2], and remove the document width size sensor [3].
NOTE
- **For mounting the document width size sensor, widen the side edge stop [4] of the document feed tray fully and make sure that the round hole [5] of the gear is at the position as shown on the illustration.**



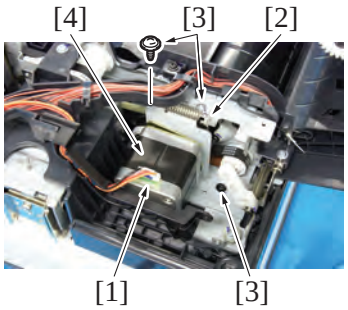
NOTE
- **For mounting the document width size sensor, mount it in the direction shown on the illustration.**

5. To reinstall, reverse the order of removal.

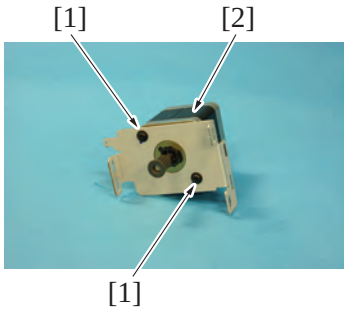
NOTE
- **Be sure to perform the following operation when the document width size sensor is replaced.**
- **Execute [Service Mode] -> [ADF] -> [Original Tray Width].**
  I.5.21.6 Original Tray Width
- **Turn OFF the main power switch and turn it ON again and check whether size detection operates normally.**

6.2.8 Document reading motor (M1) (DF-628)

1. Remove the rear cover.
   G.6.2.2 Rear cover (DF-628)
2. Remove the reading roller release motor.
   G.6.2.12 Reading roll release motor (M5) (DF-628)

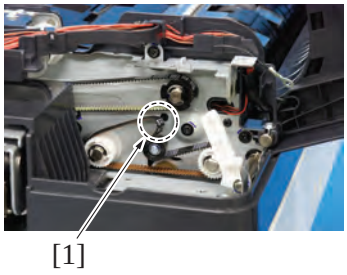


3. Disconnect the connector [1].
4. Remove the spring [2], and remove three screws [3].
5. Remove the document reading motor assy [4].



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

NOTE
- **For mounting it, set the document reading motor to the belt position [1] shown on the illustration.**

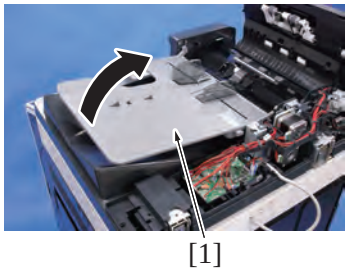


7. To reinstall, reverse the order of removal.

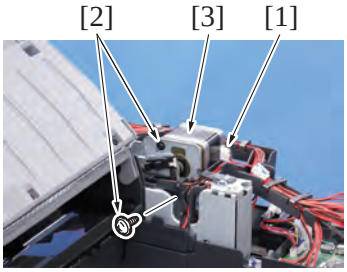
6.2.9 Document feed motor (M2) (DF-628)

1. Remove the rear cover.
G.6.2.2 Rear cover (DF-628)

2. Lift up the document feed tray [1].



3. Disconnect the connector [1].
4. Remove two screws [2], and remove the document feed motor [3].

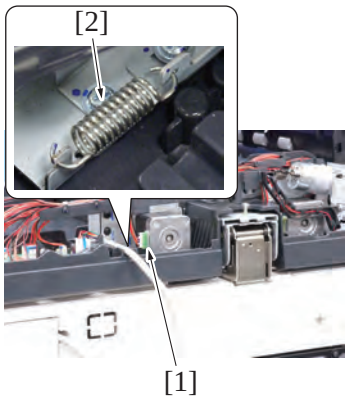


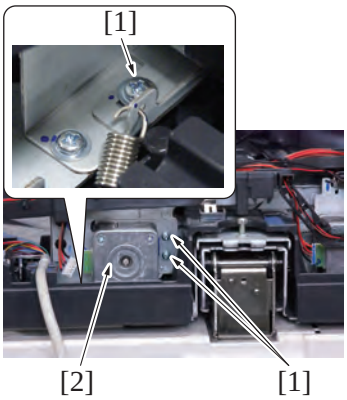
5. To reinstall, reverse the order of removal.

6.2.10 Registration motor (M3) (DF-628)

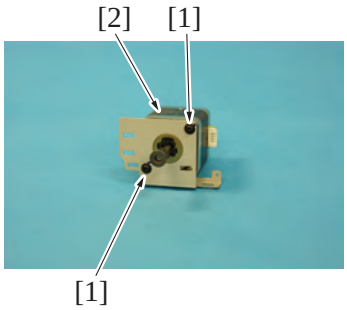
1. Remove the rear cover.
G.6.2.2 Rear cover (DF-628)
2. Remove the document feed motor.
G.6.2.9 Document feed motor (M2) (DF-628)

3. Disconnect the connector [1].
4. Remove the spring [2].





5. Remove three screws [1], and remove the registration motor assy [2].

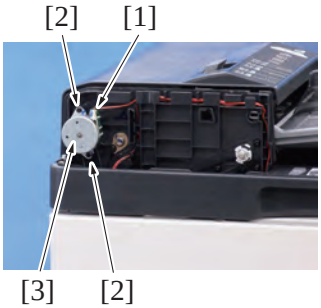


6. Remove two screws [1], and remove the registration motor [2].

7. To reinstall, reverse the order of removal.

6.2.11 Glass cleaning motor (M4) (DF-628)

1. Remove the front cover.
G.6.2.1 Front cover (DF-628)

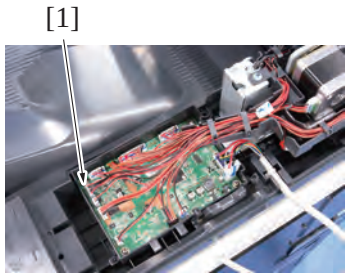


2. Disconnect the connector [1].
3. Remove two screws [2], and remove the glass cleaning motor [3].

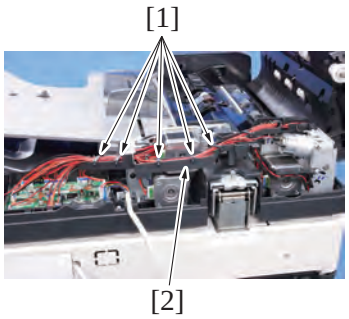
4. To reinstall, reverse the order of removal.

6.2.12 Reading roll release motor (M5) (DF-628)

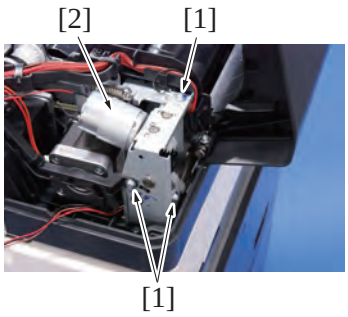
1. Remove the rear cover.
G.6.2.2 Rear cover (DF-628)



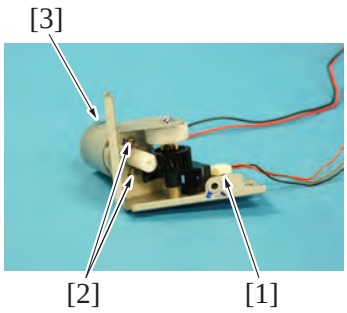
2. Disconnect the connector (J18) [1] on the DF control board.



3. Remove five wire saddles [1] and remove the harness from the harness guide [2].



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

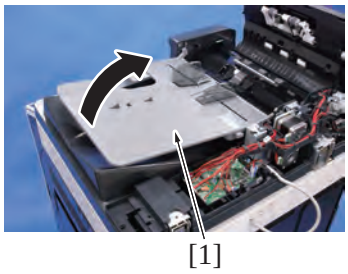


5. Disconnect the connector [1].
6. Remove two screws [2], and remove the reading roll release motor [3].

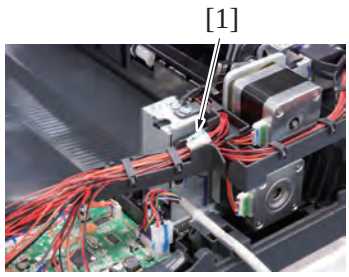
7. To reinstall, reverse the order of removal.

6.2.13 Original exit roller release solenoid (SD1) (DF-628)

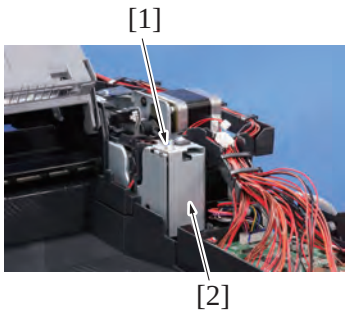
1. Remove the rear cover.
G.6.2.2 Rear cover (DF-628)



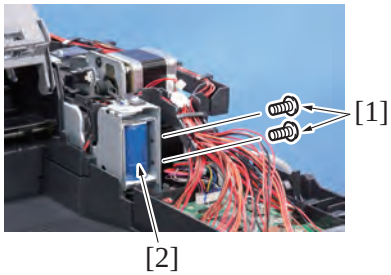
2. Lift up the document feed tray [1].



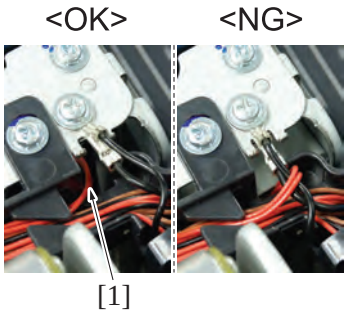
3. Disconnect the hookup connector [1].



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



5. Remove two screws [1], and remove the original exit roller release solenoid [2].



NOTE

- **When mounting it, set the harness through the hole [1] shown on the illustration.**



NOTE

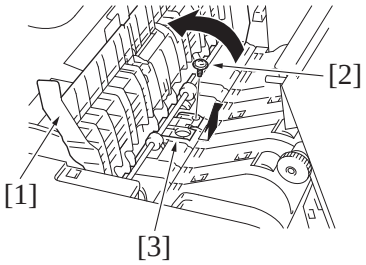
- **Insert the core at the bottom [1] so that the parts shown as [2] on the illustration will be properly set before mounting the original exit roller release solenoid.**

6. To reinstall, reverse the order of removal.

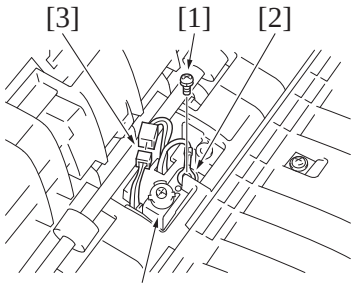
6.2.14 Stamp unit (SP-501)



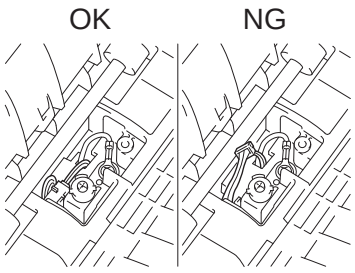
1. Open the left cover [1].



2. Lift up the guide plate DF1 [1].
3. Remove the screw [2], and remove the cover [3].



4. Remove the screw [1], and remove the ground terminal [2].
5. Disconnect the connector [3].
6. Remove the stamp unit [4].
   NOTE
   - **Ensure that the ground terminal is on the upper side of the mounting bracket of stamp unit.**
   - **Route the harness as shown in the illustration to place its connector under the guide plate.**

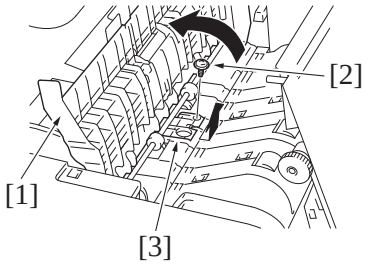


7. To reinstall, reverse the order of removal.

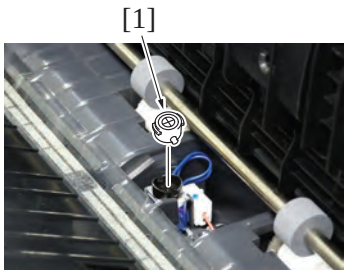
6.2.15 Stamp (SP-501)



1. Open the left cover [1].



2. Lift up the guide plate DF1 [1].
3. Remove the screw [2], and remove the cover [3].

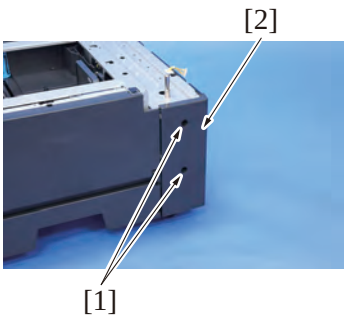


4. Remove the used stamp, and install the new stamp of replacement [1].
NOTE
- **Align the round pin of the stamp with the slit in the stamp unit side.**

5. To reinstall, reverse the order of removal.

6.3 Disassembly/reassembly procedure (PC-113/PC-213)

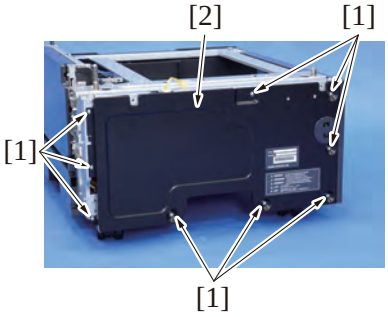
6.3.1 Rear right cover (PC-113/PC-213)



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

6.3.2 Rear cover (PC-113/PC-213)

1. Remove the rear right cover.
G.6.3.1 Rear right cover (PC-113/PC-213)

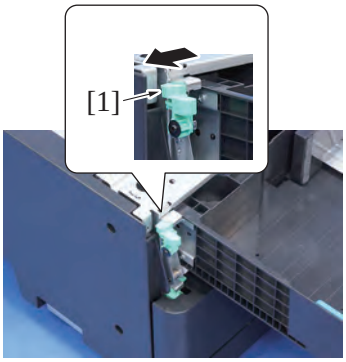


2. Remove nine screws [1], and remove the rear cover [2].
3. To reinstall, reverse the order of removal.

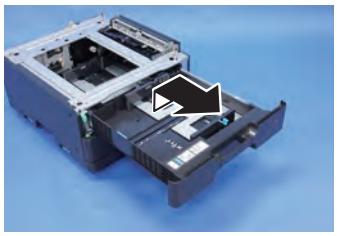
6.3.3 Tray 3, Tray 4 (PC-113/PC-213)

NOTE
- **The tray 3 and the tray 4 are of the same form and mechanism. This procedure shows the steps taken for the tray 3.**

1. Slide out the tray 3.



2. Slide the stopper [1].



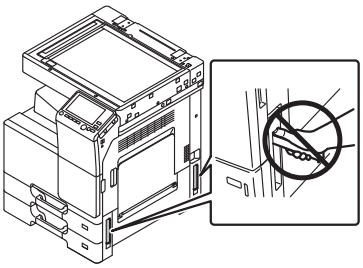
3. Hold up the tray 3 to remove it.

4. To reinstall, reverse the order of removal.

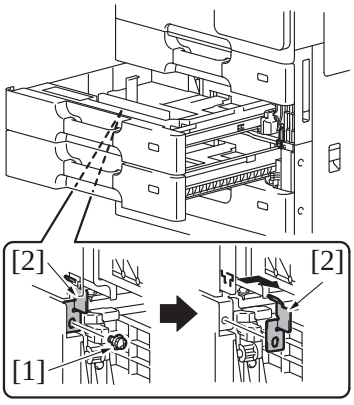
6.3.4 Paper feed cabinet (PC-113/PC-213)

CAUTION

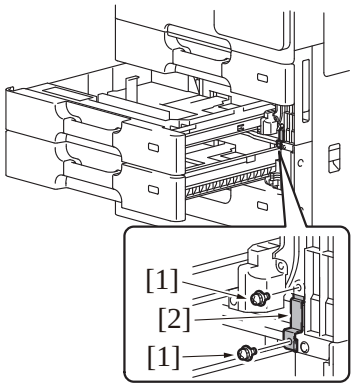
- When holding the transportation handles, be careful not to catch your fingers in the main body.



1. Slide out the tray 2 and tray 3.

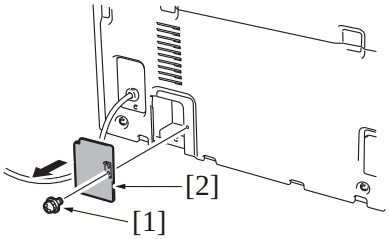


2. Remove the screw [1], and remove the fixing bracket [2].

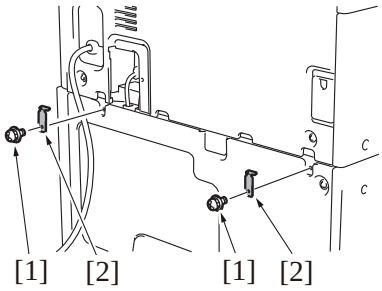


3. Remove two screws [1], and remove the fixing bracket [2].

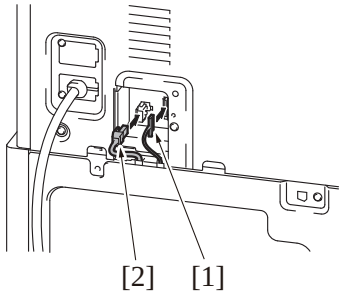
4. Slide the tray 2 and tray 3 back in.



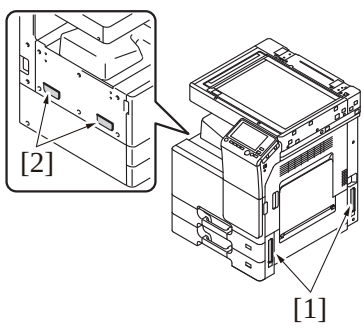
5. Remove the screw [1], and remove the connector cover [2].



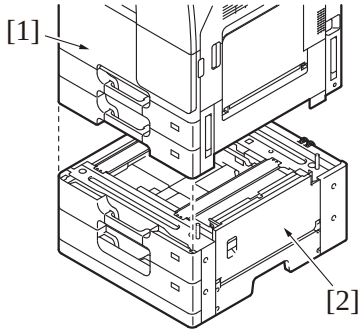
6. Remove two screws [1], and remove two fixing brackets [2].



7. Disconnect the connector [1].
Disconnect the connector [2]. (Japan only)



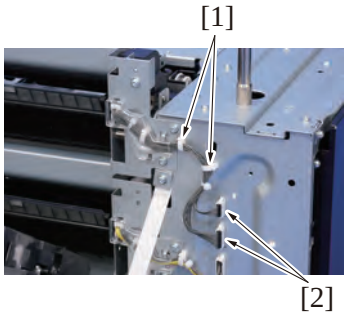
8. Pull out the transportation handles [1].
9. Hold the main body by the parts [2] shown in the figure on the left and by the transport handles on the right.



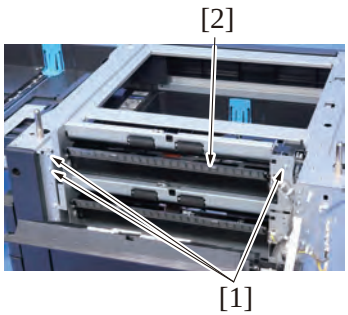
10. Hold up the main body [1] up and remove the paper feed cabinet.
NOTE
- **When transporting or moving the main body, assign adequate number of persons.**

6.3.5 Tray 3 paper feed unit (PC-113/PC-213)

1. Open the right door.
2. Remove the rear right cover.
G.6.3.1 Rear right cover (PC-113/PC-213)
3. Slide out the tray 3.



4. Remove the harness from two wire saddles [1].
5. Disconnect two connectors [2].

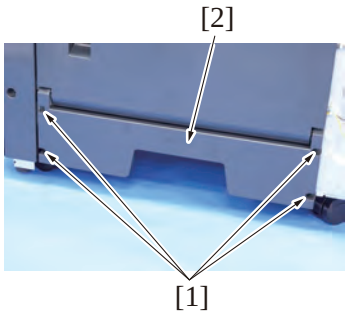


6. Remove three screws [1], and remove the tray 3 paper feed unit [2].

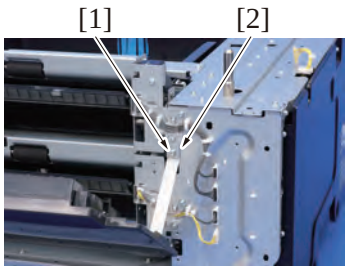
7. To reinstall, reverse the order of removal.

6.3.6 Tray 4 paper feed unit (PC-213)

1. Remove the rear right cover.
G.6.3.1 Rear right cover (PC-113/PC-213)

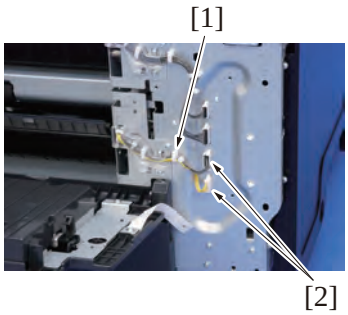


2. Remove four screws [1], and remove the cover [2].

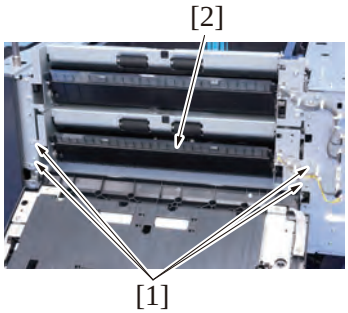


3. Open the right door, and remove the screw [1] and plate [2].

4. Slide out the tray 4.



5. Remove the harness from the wire saddle [1].
6. Disconnect two connectors [2].

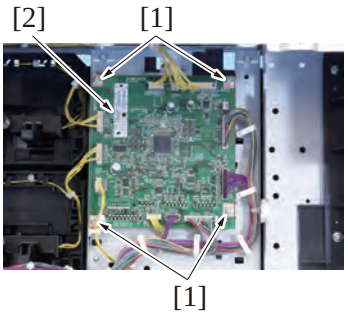


7. Remove four screws [1], and remove the tray 4 paper feed unit [2].

8. To reinstall, reverse the order of removal.

6.3.7 PC control board (PCCB) (PC-113/PC-213)

1. Remove the rear right cover.
   G.6.3.1 Rear right cover (PC-113/PC-213)
2. Remove the rear cover.
   G.6.3.2 Rear cover (PC-113/PC-213)



3. Disconnect all connectors on the PC control board.
4. Remove four screws [1], and remove the PC control board [2].

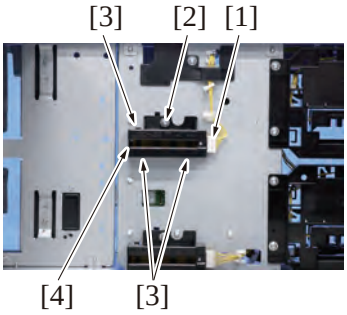
5. To reinstall, reverse the order of removal.

6.3.8 Tray 3 FD paper size board (FDPSB/3), tray 4 FD paper size board (FDPSB/4) (PC-113/PC-213)

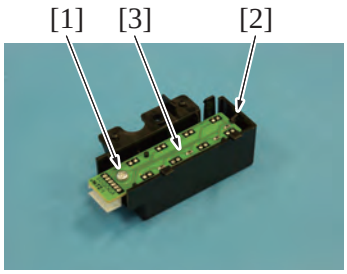
NOTE

- **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.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)
2. Remove the tray 4.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)



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

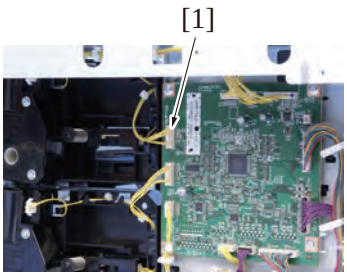


5. Remove the screw [1] and the tab [2], and remove the tray 3 FD paper size board [3].

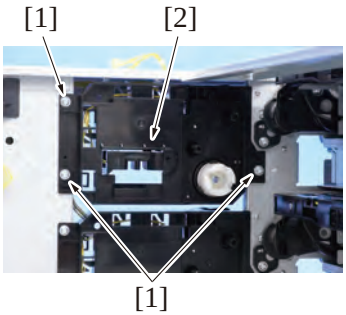
6. To reinstall, reverse the order of removal.

6.3.9 Tray 3 CD paper size board (CDPSB/3) (PC-113/PC-213)

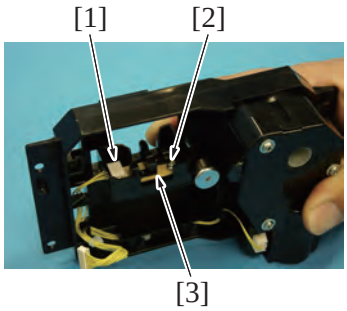
1. Remove the tray 3.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)
2. Remove the tray 4.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)
3. Remove the rear right cover.
   G.6.3.1 Rear right cover (PC-113/PC-213)
4. Remove the rear cover.
   G.6.3.2 Rear cover (PC-113/PC-213)



5. Disconnect the connector [1] on the PC control board.



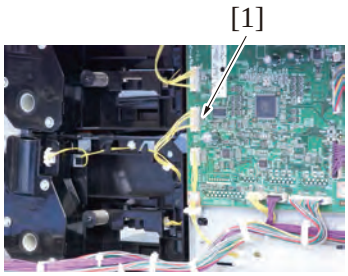
6. Remove three screws [1], and remove the tray 3 lift-up motor assy [2].



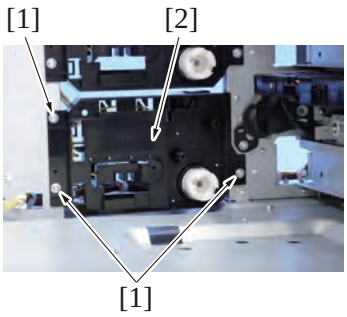
7. Disconnect the connector [1].
8. Remove the screw [2], and remove the tray 3 CD paper size board [3].
9. To reinstall, reverse the order of removal.

6.3.10 Tray 4 CD paper size board (CDPSB/4) (PC-213)

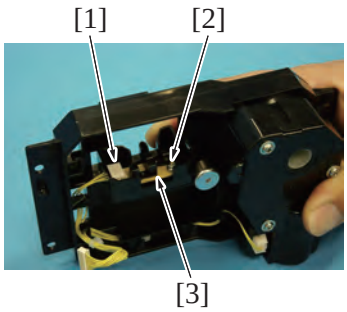
1. Remove the tray 3 and tray 4.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)
2. Remove the rear right cover.
   G.6.3.1 Rear right cover (PC-113/PC-213)
3. Remove the rear cover.
   G.6.3.2 Rear cover (PC-113/PC-213)



4. Disconnect the connector [1] on the PC control board.



5. Remove three screws [1], and remove the tray 4 lift-up motor assy [2].



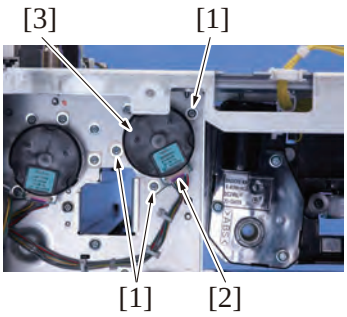
6. Disconnect the connector [1].
7. Remove the screw [2], and remove the tray 4 CD paper size board [3].
8. To reinstall, reverse the order of removal.

6.3.11 Tray 3 paper feed motor (M111), tray 4 paper feed motor (M121) (PC-113/PC-213)

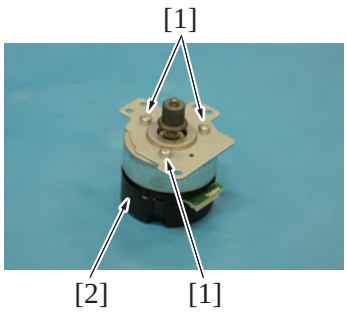
NOTE

- **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 right cover.
   G.6.3.1 Rear right cover (PC-113/PC-213)
2. Remove the rear cover.
   G.6.3.2 Rear cover (PC-113/PC-213)



3. Remove three screws [1].
4. 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.**



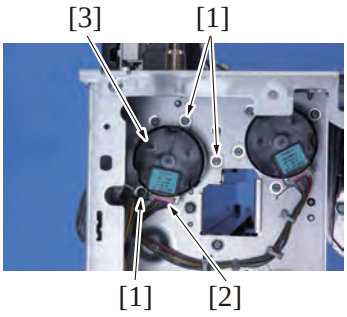
5. Remove three screws [1], and remove the tray 3 paper feed motor [2].

6. To reinstall, reverse the order of removal.

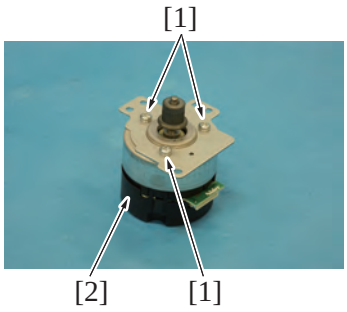
6.3.12 Tray 3 vertical transport motor (M112), tray 4 vertical transport motor (M122) (PC-113/PC-213)

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 right cover.
   G.6.3.1 Rear right cover (PC-113/PC-213)
2. Remove the rear cover.
   G.6.3.2 Rear cover (PC-113/PC-213)



3. Remove three screws [1].
4. 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.**



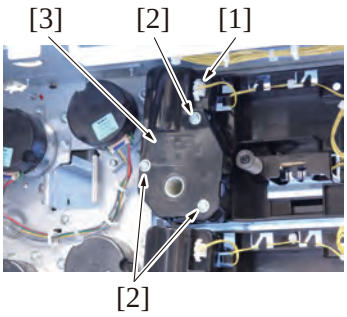
5. Remove three screws [1], and remove the tray 3 vertical transport motor [2].

6. To reinstall, reverse the order of removal.

6.3.13 Tray 3 lift-up motor (M113), tray 4 lift-up motor (M123) (PC-113/PC-213)

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 right cover.
   G.6.3.1 Rear right cover (PC-113/PC-213)
2. Remove the rear cover.
   G.6.3.2 Rear cover (PC-113/PC-213)

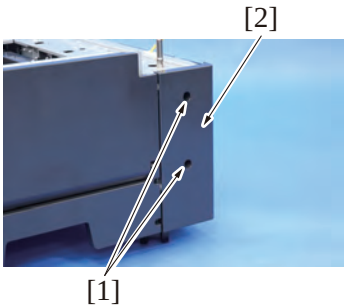


3. Disconnect the connector [1].
4. Remove three screws [2], and remove the tray 3 lift-up motor [3].

5. To reinstall, reverse the order of removal.

6.4 Disassembly/reassembly procedure (PC-413)

6.4.1 Rear right cover (PC-413)

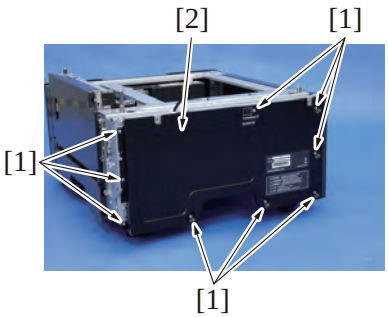


1. Remove two screws [1], and remove the rear right cover [2].

2. To reinstall, reverse the order of removal.

6.4.2 Rear cover (PC-413)

1. Remove the rear right cover.
G.6.4.1 Rear right cover (PC-413)

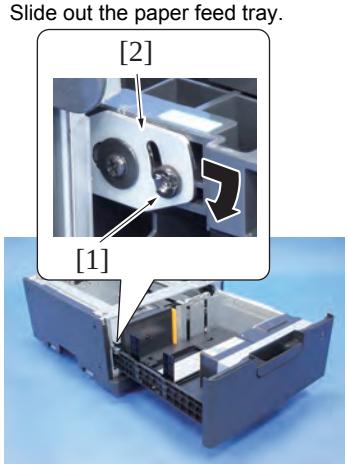


2. Remove nine screws [1], and remove the rear cover [2].

3. To reinstall, reverse the order of removal.

6.4.3 Paper feed tray (PC-413)

1. Slide out the paper feed tray.



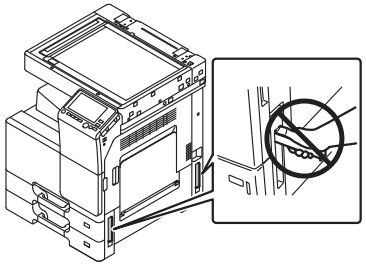
2. Loosen the screw [1], pulling the stopper [2].
3. Remove the paper feed tray.

4. To reinstall, reverse the order of removal.

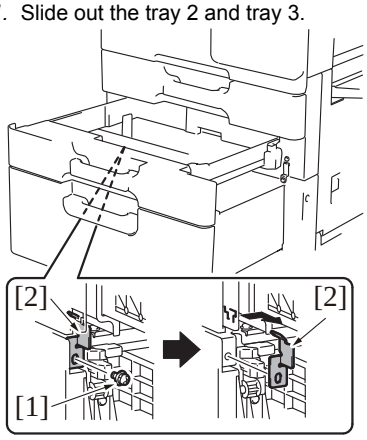
6.4.4 Paper feed cabinet (PC-413)

⚠CAUTION

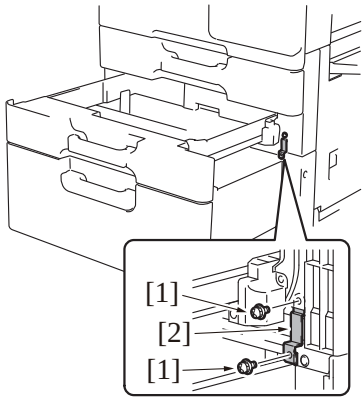
- When holding the transportation handles, be careful not to catch your fingers in the main body.



1. Slide out the tray 2 and tray 3.

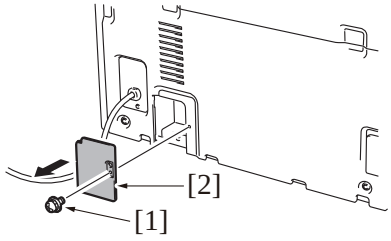


2. Remove the screw [1], and remove the fixing bracket [2].

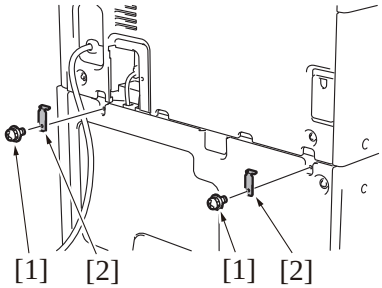


3. Remove two screws [1], and remove the fixing bracket [2].

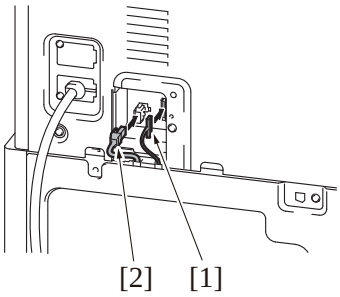
4. Slide the tray 2 and tray 3 back in.



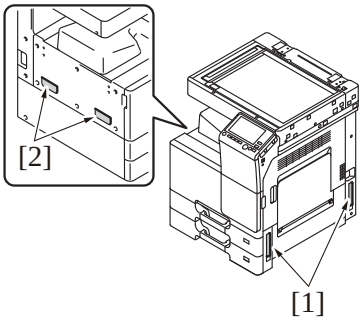
5. Remove the screw [1], and remove the connector cover [2].



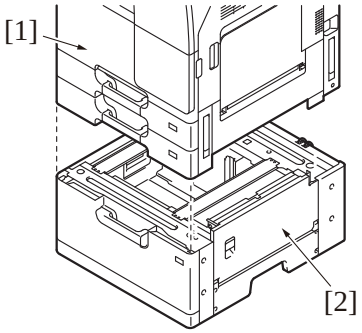
6. Remove two screws [1], and remove two fixing brackets [2].



7. Disconnect the connector [1].
   Disconnect the connector [2]. (Japan only)



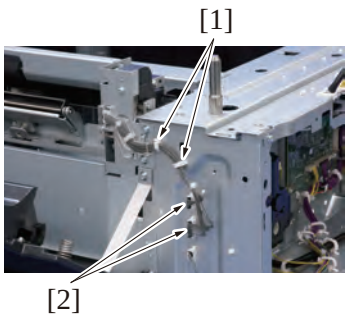
8. Pull out the transportation handles [1].
9. Hold the main body by the parts [2] shown in the figure on the left and by the transport handles on the right.



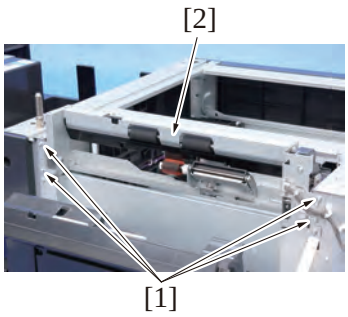
10. Hold up the main body [1] up and remove the paper feed cabinet [2].
    NOTE
    - **When transporting or moving the main body, assign adequate number of persons.**

6.4.5 Paper feed unit (PC-413)

1. Open the right door.
2. Remove the rear right cover.
   G.6.4.1 Rear right cover (PC-413)
3. Slide out the paper feed tray.



4. Remove the harness from the two wire saddles [1].
5. Disconnect two connectors [2].

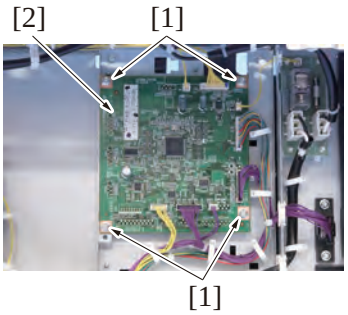


6. Remove the four screws [1], and remove the paper feed unit [2].

7. To reinstall, reverse the order of removal.

6.4.6 PC control board (PCCB) (PC-413)

1. Remove the rear right cover.
   G.6.4.1 Rear right cover (PC-413)
2. Remove the rear cover.
   G.6.4.2 Rear cover (PC-413)

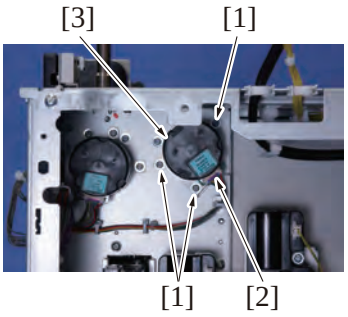


3. Disconnect all connectors on the PC control board.
4. Remove four screws [1], and remove the PC control board [2].

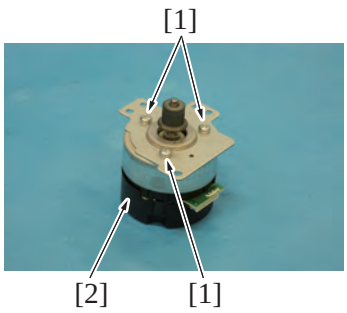
5. To reinstall, reverse the order of removal.

6.4.7 Paper feed motor (M131) (PC-413)

1. Remove the rear right cover.
   G.6.4.1 Rear right cover (PC-413)
2. Remove the rear cover.
   G.6.4.2 Rear cover (PC-413)



3. Remove three screws [1].
4. 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.**

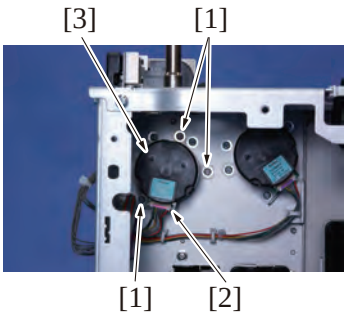


5. Remove three screws [1], and remove the paper feed motor [2].

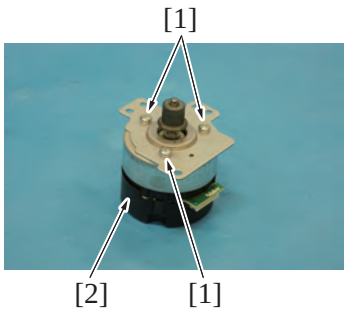
6. To reinstall, reverse the order of removal.

6.4.8 Vertical transport motor (M132) (PC-413)

1. Remove the rear right cover.
   G.6.4.1 Rear right cover (PC-413)
2. Remove the rear cover.
   G.6.4.2 Rear cover (PC-413)



3. Remove three screws [1].
4. Disconnect the connector [2], and remove the vertical transport motor assy [3].
   NOTE
   - **When mounting the vertical transport motor assy, use care not to forget to set the belt to the gear.**

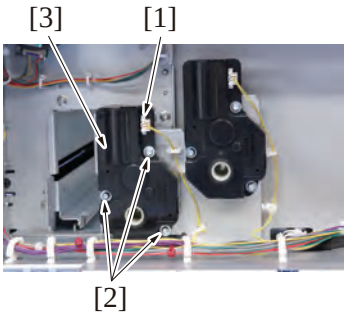


5. Remove three screws [1], and remove the vertical transport motor [2].

6. To reinstall, reverse the order of removal.

6.4.9 Elevator motor (M134) (PC-413)

1. Slide out the paper feed tray.
2. Remove the rear right cover.
   G.6.4.1 Rear right cover (PC-413)
3. Remove the rear cover.
   G.6.4.2 Rear cover (PC-413)

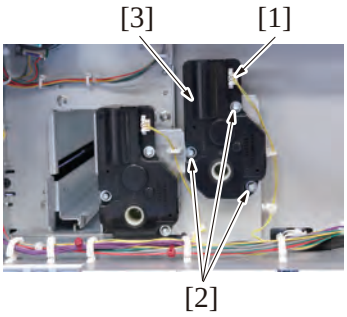


4. Disconnect the connector [1].
5. Remove three screws [2], and remove the elevator motor [3].

6. To reinstall, reverse the order of removal.

6.4.10 Shifter motor (M133) (PC-413)

1. Slide out the paper feed tray.
2. Remove the rear cover.
   G.6.4.2 Rear cover (PC-413)

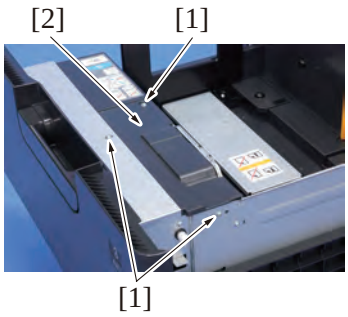


3. Disconnect the connector [1].
4. Remove three screws [2], and remove the shifter motor [3].

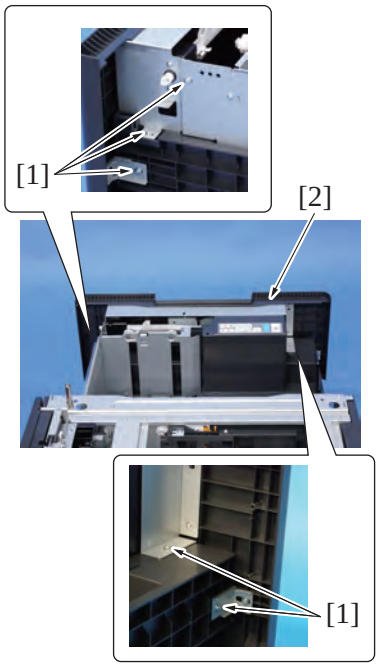
5. To reinstall, reverse the order of removal.

6.4.11 Wire (PC-413)

1. Slide out the paper feed tray.

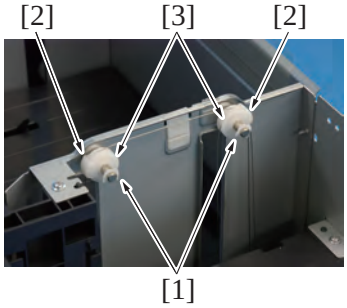


2. Remove three screws [1], and remove the cover [2].

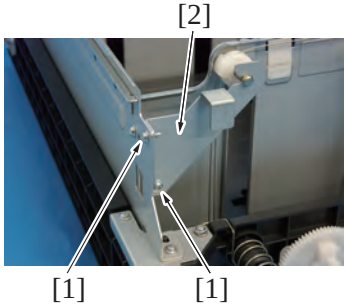


3. Remove five screws [1], and remove the front cover assy [2].

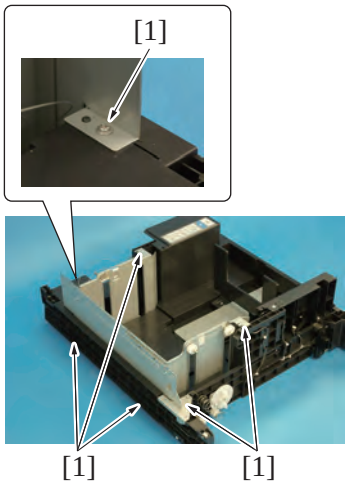
4. Remove the paper feed tray.
G.6.4.3 Paper feed tray (PC-413)



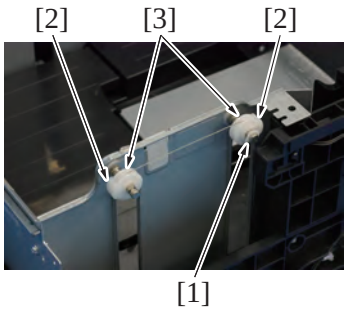
5. Remove two C-rings [1].
6. Remove two pulley covers [2].
7. Remove two pulleys [3].



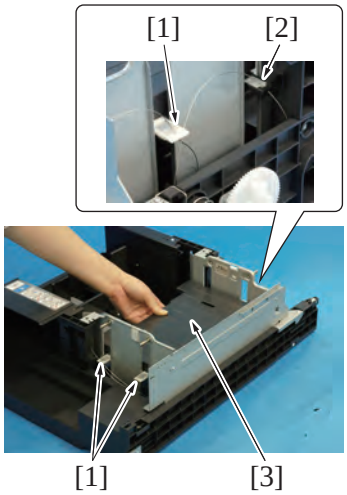
8. Remove two screws [1], and remove the metal plate [2].



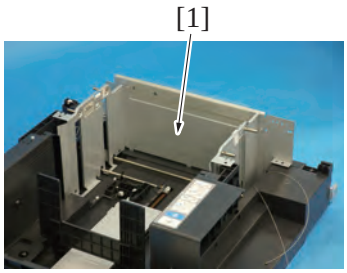
9. Remove six screws [1] of the right paper guide plate.



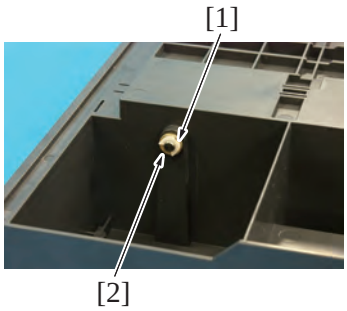
10. Remove the C-ring [1].
11. Remove two pulley covers [2].
12. Remove two pulleys [3].



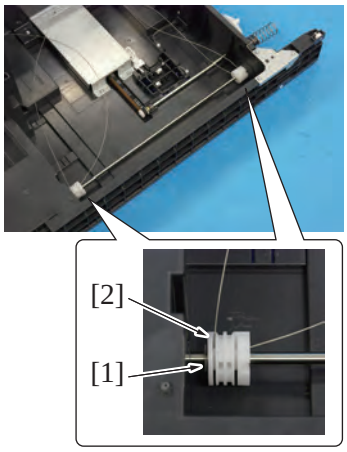
13. Remove three cable holding jigs (white) [1] and the cable holding jig (black) [2], and remove the main tray [3].
NOTE
- **Use care not to bend the wires.**



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].

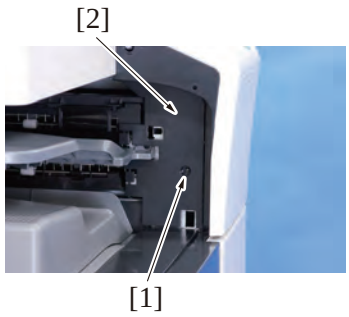


17. Turn the tray back to the original status.
18. Remove two C-rings [1] and two wire pulleys [2].
19. Remove the wire from the wire pulley [2].
NOTE
- **Take care not to lose the pin.**
- **When reinstalling the wire pulley [2], check that the direction of the wire coming from both wire pulleys are the same.**

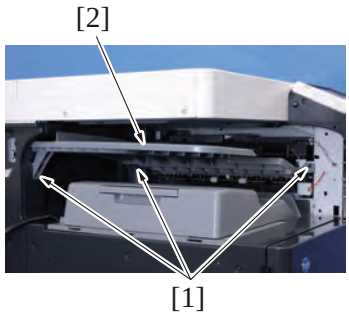
20. To reinstall, reverse the order of removal.

6.5 Disassembly/reassembly procedure (JS-506)

6.5.1 Exit tray 1 (JS-506)



1. Remove the screw [1], and remove the control panel left cover [2].

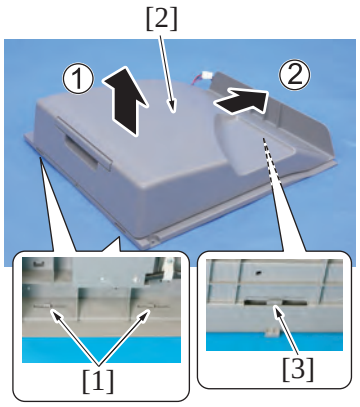


2. Remove three screws [1], and remove the exit tray [2].

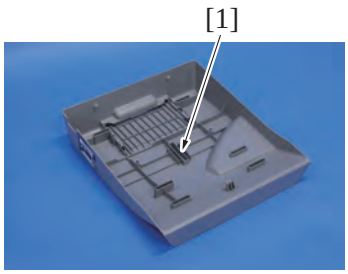
3. To reinstall, reverse the order of removal.

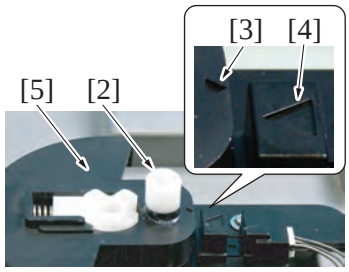
6.5.2 Exit tray 2 (JS-506)

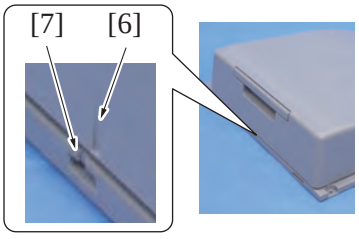
1. Remove the job separator.
G.6.5.3 Job separator (JS-506)



2. Remove two claws [1] and move the exit tray 2 [2] upward.
3. Slide the exit tray 2 [2] to unlock the claws [3], and remove the exit tray 2 [2].





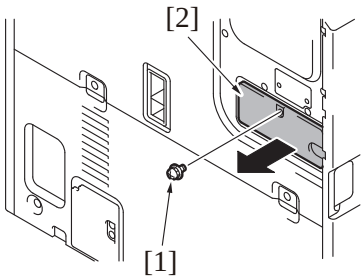


NOTE

- **When mounting the exit tray 2, mount the exit tray 2 in the following step so that the shaft [2] of the actuator can be set to the groove [1] of the exit tray 2.**
- **Adjust the actuator [5] so that the positioning marks [3] and [4] will be aligned.**
- **Press the exit tray 2 down with the positioning mark [6] for the exit tray 2 and the positioning mark [7] for the shift unit being aligned.**

4. To reinstall, reverse the order of removal.

6.5.3 Job separator (JS-506)

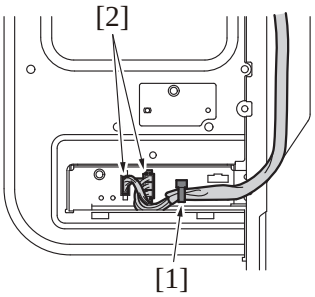


1. Remove the screw [1], and remove the cover [2].

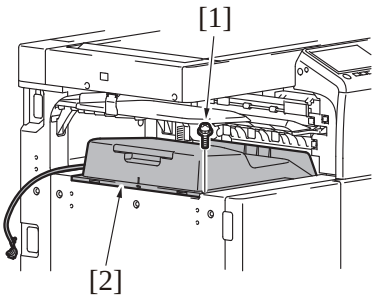
NOTE

- **Make sure that the harness is not pinched by the cover when attaching the cover.**

2. Remove the cable tie [1], and disconnect two connectors [2].



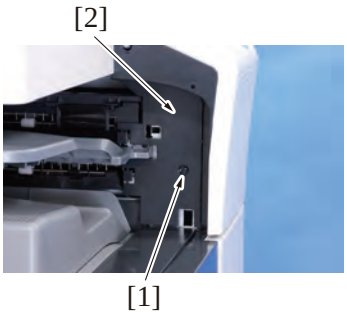
3. Remove screw [1], and remove the job separator [2].



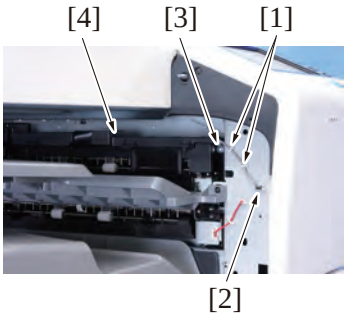
4. To reinstall, reverse the order of removal.

6.5.4 Sensor unit (JS-506)

1. Remove the screw [1], and remove the control panel left cover [2].



2. Remove the harness from two wire saddles [1].
3. Disconnect the connector [2].
4. Remove the screw [3], and remove the sensor unit [4].

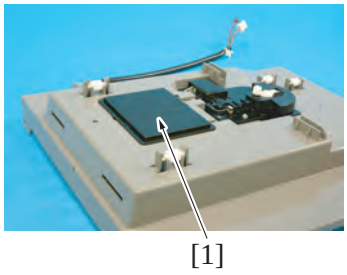


5. To reinstall, reverse the order of removal.

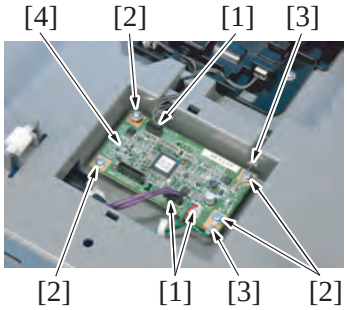
6.5.5 JS control board (JSCB) (JS-506)

1. Remove the job separator.
G.6.5.3 Job separator (JS-506)
2. Remove the exit tray 2.
G.6.5.2 Exit tray 2 (JS-506)

3. Remove the cover [1].



4. Disconnect three connectors [1].
5. Remove four screws [2], and remove two ground terminals [3].
6. Remove the JS control board [4].

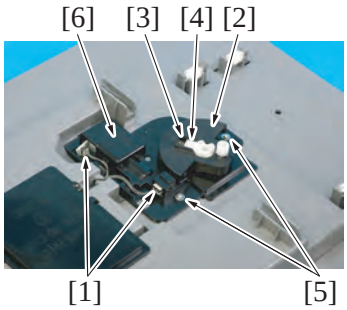


7. To reinstall, reverse the order of removal.

6.5.6 Tray shift motor (M1) (JS-506)

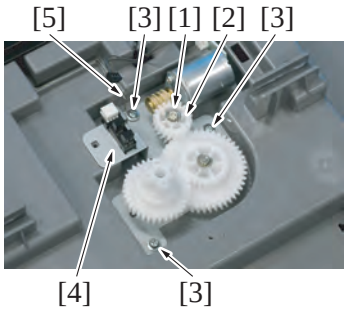
1. Remove the job separator.
G.6.5.3 Job separator (JS-506)
2. Remove the exit tray 2.
G.6.5.2 Exit tray 2 (JS-506)

3. Disconnect two connectors [1].
4. Remove the actuator [2].
NOTE
- **Be careful not to lose the spring [3] and stopper [4].**

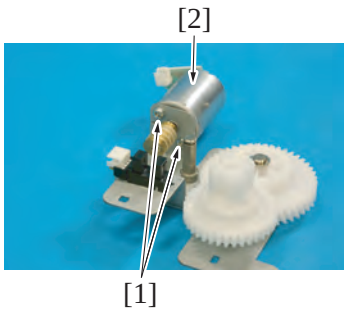


5. Remove two screws [5], and remove the cover [6].

6. Remove the E-ring [1], and remove the gear [2].
7. Remove three screws [3], and remove the tray shift motor drive assy [4].
NOTE
- **When mounting the tray shift motor drive assy, place the earth terminal [5] on the plate for the tray shift motor drive assy and tighten the screw.**



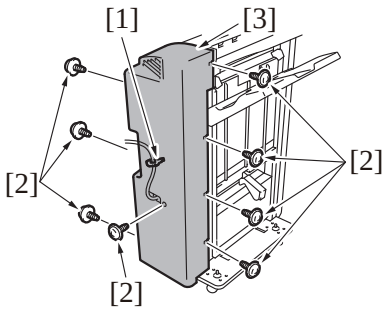
8. Remove two screws [1], and remove the tray shift motor [2].



9. To reinstall, reverse the order of removal.

6.6 Disassembly/reassembly procedure (FS-534/FS-534SD)

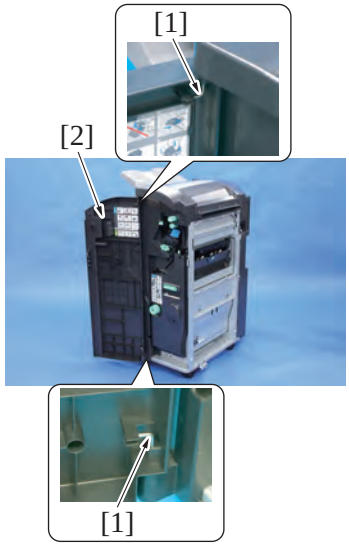
6.6.1 Rear cover (FS-534/FS-534SD)



1. Remove the harness from the wire saddle [1].
2. Remove eight screws [2], and remove the rear cover [3].

3. To reinstall, reverse the order of removal.

6.6.2 Front door (FS-534/FS-534SD)

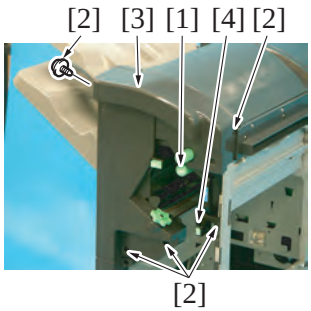


1. Remove the upper and lower stoppers [1], and remove the front door [2].

2. To reinstall, reverse the order of removal.

6.6.3 Front upper cover (FS-534/FS-534SD)

1. Remove the front door.
G.6.6.2 Front door (FS-534/FS-534SD)

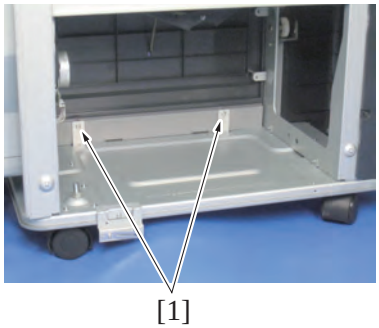


2. Remove the dial (FS5) [1].
3. Remove five screws [2], and remove the front upper cover [3].
NOTE
- **When the saddle unit is attached, move the guide plate [4] and then remove the front upper cover.**

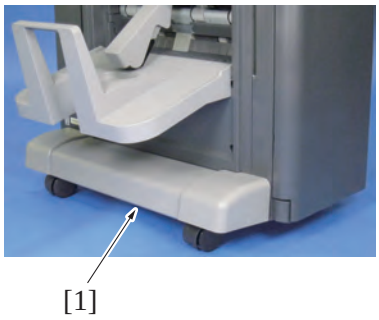
4. To reinstall, reverse the order of removal.

6.6.4 Left lower cover (FS-534/FS-534SD)

1. Remove the finisher from the main body.
G.6.6.6 Finisher (FS-534/FS-534SD)



2. Remove two screws [1].
NOTE
- **If the saddle unit is installed, pull out the saddle unit, and then remove two screws [1].**

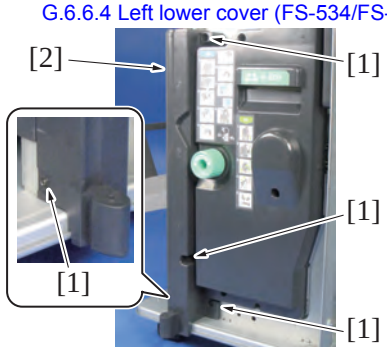


3. Remove the left lower cover [1].

4. To reinstall, reverse the order of removal.

6.6.5 Front lower cover (FS-534/FS-534SD)

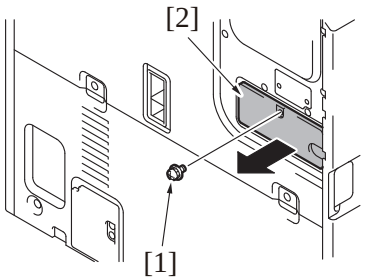
1. Remove the front door.
G.6.6.2 Front door (FS-534/FS-534SD)
2. Remove the front upper cover.
G.6.6.3 Front upper cover (FS-534/FS-534SD)
3. Remove the left lower cover.
G.6.6.4 Left lower cover (FS-534/FS-534SD)



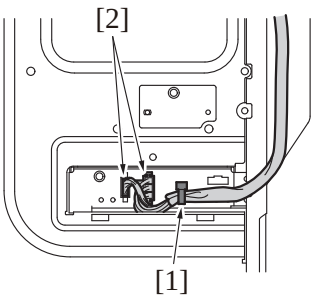
4. Remove four screws [1], and remove the front lower cover [2].

5. To reinstall, reverse the order of removal.

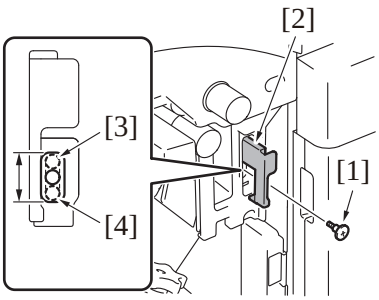
6.6.6 Finisher (FS-534/FS-534SD)

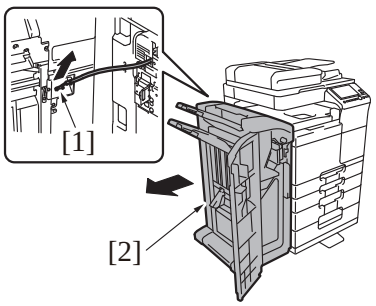


1. Remove the screw [1], and remove the cover [2].
NOTE
- **Make sure that the harness is not pinched by the cover when attaching the cover.**



3. Open the front door.





7. To reinstall, reverse the order of removal.

6.6.7 RU transport unit (FS-534/FS-534SD)

1. Remove the finisher from the main body.
G.6.6.6 Finisher (FS-534/FS-534SD)

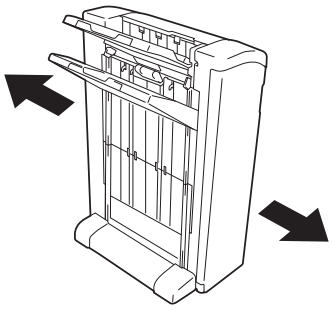
2. Remove the cable tie [1], and disconnect two connectors [2].

4. Remove the screw [1], and pull out the lever [2].
NOTE
- **At the time of the finisher installation, make sure that the screw hole [3] locates within the scope of the mounting hole of the lever [4].**

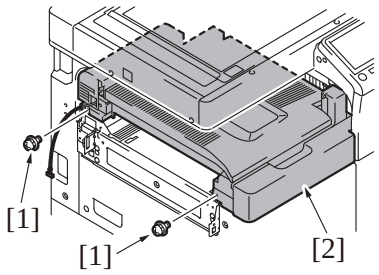
5. Disconnect the connector [1].
6. Remove the finisher [2] from the main body.

CAUTION

- When transporting the finisher, make sure to push it to the direction as shown in the illustration. (to prevent turnover during transportation)



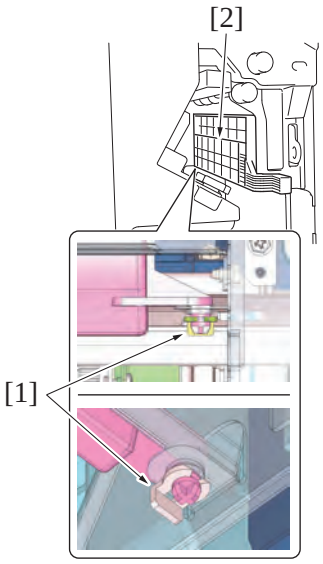
2. Remove two screws [1], and remove the RU transport unit [2].



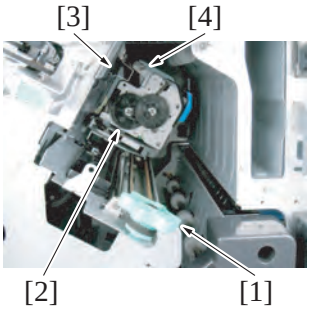
3. To reinstall, reverse the order of removal.

6.6.8 Stapler unit (FS-534/FS-534SD)

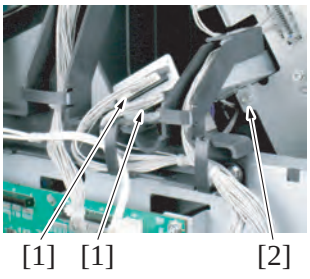
1. Open the front door.
2. Remove the rear cover.
G.6.6.1 Rear cover (FS-534/FS-534SD)



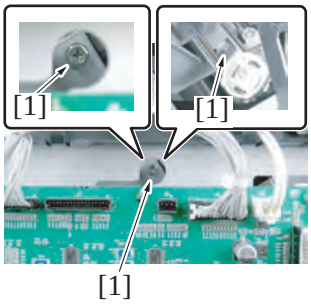
3. When the saddle unit is attached, remove the C-clip [1], and remove the guide plate [2].



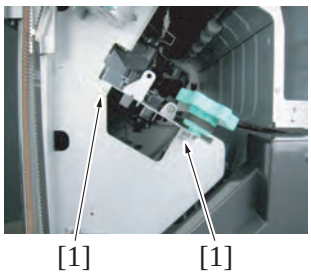
4. Rotate the stapler transfer dial [1] until the stapler [2] has been moved to the location shown in the figure (the location where the back-end stopper [3] does not interact with the clincher staple arm [4]).



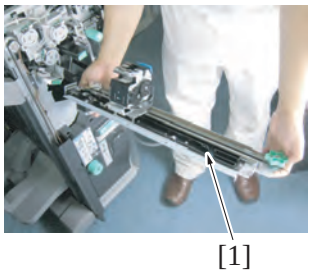
5. Disconnect two connectors [1] from the back of the finisher.
6. Remove the screw [2].



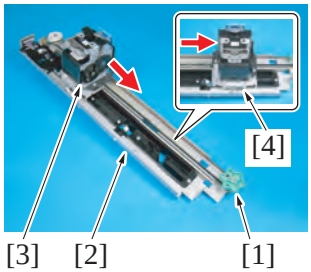
7. Remove the screw [1].



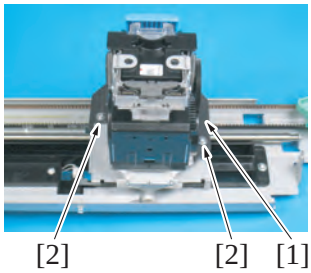
8. Remove two screws [1] from the front of the finisher.



9. 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.**

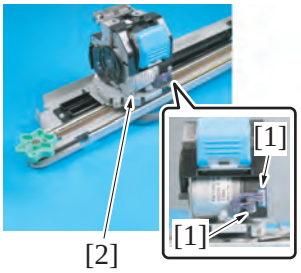


10. Put the stapler assy [2] on a stable workbench.
11. Rotate the stapler transfer dial [1] until the stapler unit [3] has been moved to the near side [4].

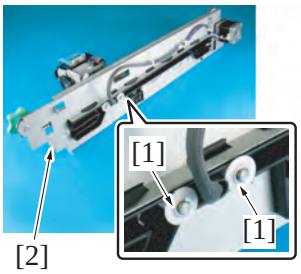


12. Remove two screws [2], and remove the cover [1].

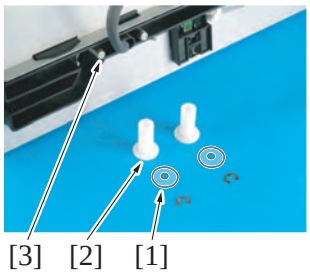
13. Disconnect two connectors [1] of the stapler unit [2].



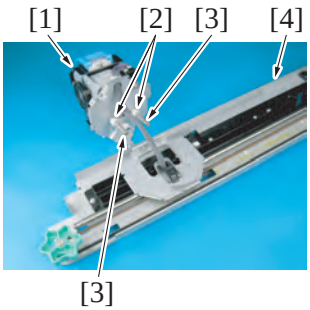
14. Flip the stapler assy [2] over.
15. Remove two E-rings [1] from the guide shafts.



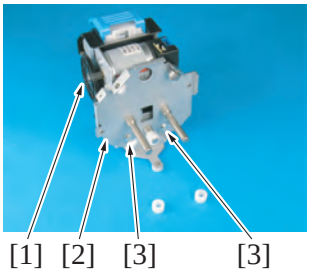
16. Remove the clear spacers [1] and white rollers [2] on both shafts [3].
NOTE
- **Be careful not to lose the clear spacers.**



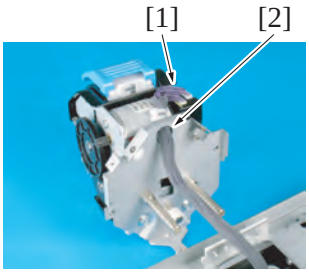
17. Slowly remove the stapler unit [1] from the stapler assy [4].
18. Remove the white rollers [2] on both shafts [3].
NOTE
- **Ensure that the harness does not get damaged in the process.**
- **Be careful not to lose the white rollers.**



19. Remove two screws [3] of the stapler unit, and remove the stapler base plate [2] from the stapler unit [1].

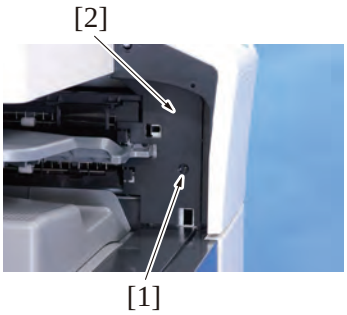


20. To reinstall, reverse the order of removal.
NOTE
- **When installing the stapler unit, ensure that the two connectors [1] removed in the process 13 are put through the hole in the base plate [2] and connected to the stapler unit before attaching the base plate.**

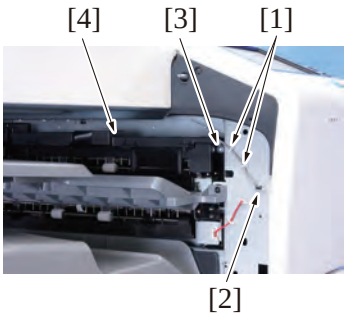


6.6.9 Sensor unit (FS-534/FS-534SD)

1. Remove the horizontal transport unit.
G.6.6.7 RU transport unit (FS-534/FS-534SD)



2. Remove the screw [1], and remove the control panel left cover [2].



3. Remove the harness from two wire saddles [1].
4. Disconnect the connector [2].
5. Remove the screw [3], and remove the sensor unit [4].
6. To reinstall, reverse the order of removal.

6.6.10 Saddle unit (FS-534SD)

⚠CAUTION

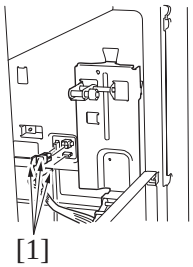
- Be careful not to catch your finger in the edge of the rail when mounting the saddle unit on the right rail for the saddle unit installation.
- Be careful not to jam your finger in the connecting section of the pantograph.

1. Remove the finisher.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the front door of the finisher.
   G.6.6.2 Front door (FS-534/FS-534SD)

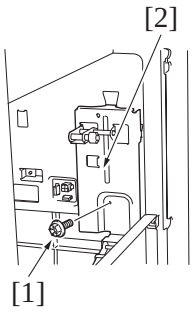


3. Pull out the saddle unit [1].

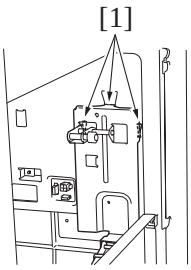
4. Remove the left lower cover.
   G.6.6.4 Left lower cover (FS-534/FS-534SD)
5. Remove the front upper cover.
   G.6.6.3 Front upper cover (FS-534/FS-534SD)
6. Remove the front lower cover.
   G.6.6.5 Front lower cover (FS-534/FS-534SD)



7. Disconnect three connectors [1].

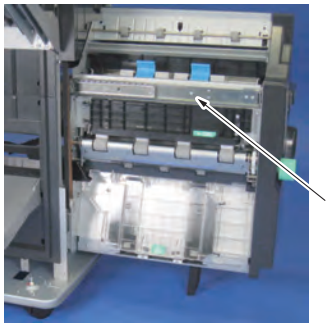


8. Remove the screw [1], and remove the pantograph [2].

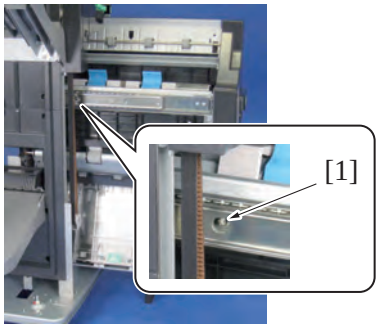


NOTE

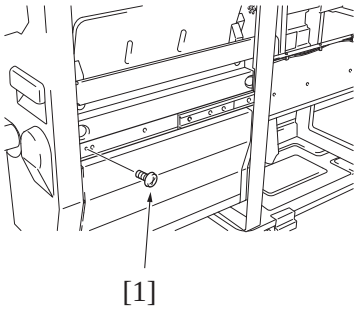
- **For installation of the pantograph, insert three hooks [1] on the pantograph of the saddle unit into the back holes inside the finisher.**



9. Remove the screw [1].

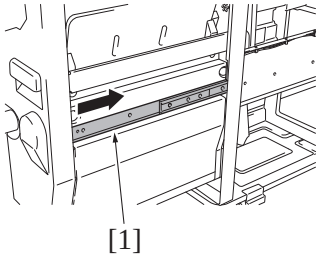


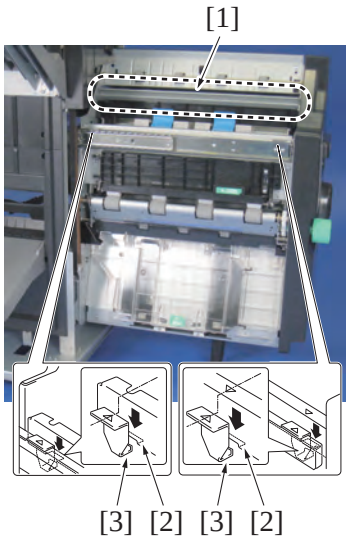
10. Push back the saddle unit into the position of the illustration, and then remove the screw [1].



11. Pull out the saddle unit, and then remove the screw [1].

12. Insert the rail [1] on the right side into the finisher.





14. To reinstall, reverse the order of removal.

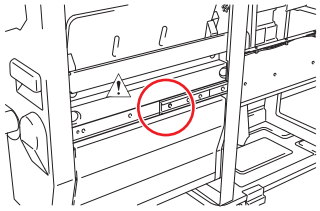
13. Grip the portion as shown in the illustration [1] to raise the saddle unit and take it out.

NOTE

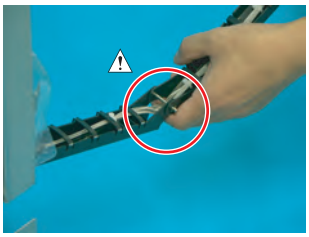
- **For installation of the saddle unit, insert two hooks on the left rail [3] into the two holes of the saddle unit [2].**

⚠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.

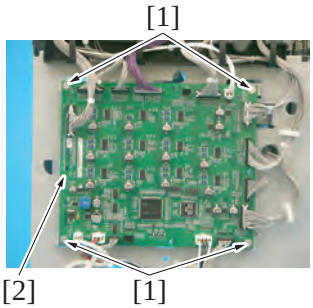


- Be careful not to jam your finger in the connecting section of the pantograph.



6.6.11 FS control board (FSCB) (FS-534/FS-534SD)

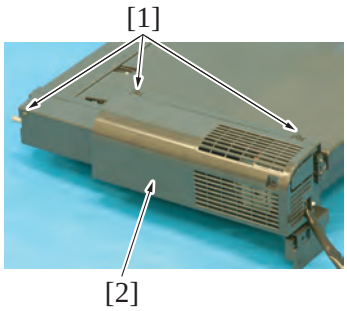
1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the rear cover.
   G.6.6.1 Rear cover (FS-534/FS-534SD)



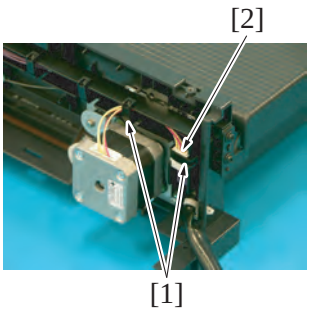
3. Remove all connectors from the FS control board.
4. Remove four screws [1], and remove the FS control board [2].
5. To reinstall, reverse the order of removal.

6.6.12 RU transport motor (M1) (FS-534/FS-534SD)

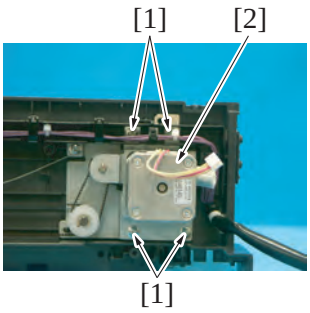
1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the RU transport unit.
   G.6.6.7 RU transport unit (FS-534/FS-534SD)



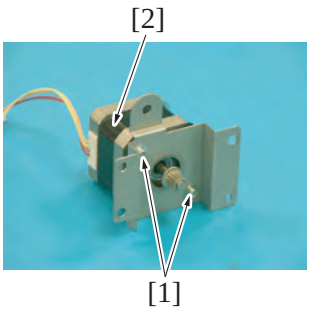
3. Remove three screws [1], and remove the rear cover [2] of the RU transport unit.



4. Remove the harness from two wire saddles [1].
5. Disconnect the connector [2].



6. Remove four screws [1], and remove the RU transport motor assy [2].

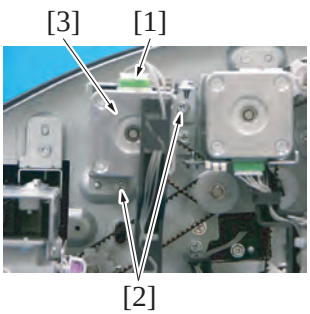


7. Remove two screws [1], and remove the RU transport motor [2].

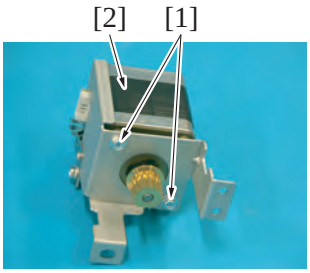
8. To reinstall, reverse the order of removal.

6.6.13 FNS entry transport motor (M2) (FS-534/FS-534SD)

1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the rear cover.
   G.6.6.1 Rear cover (FS-534/FS-534SD)



3. Disconnect the connector [1].
4. Remove two screws [2], and remove the FNS entry transport motor assy [3].

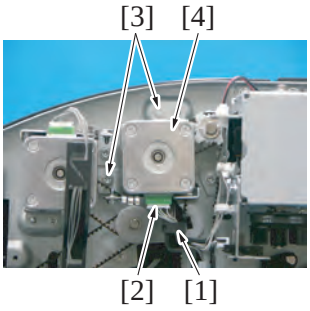


5. Remove two screws [1], and remove the FNS entry transport motor [2].

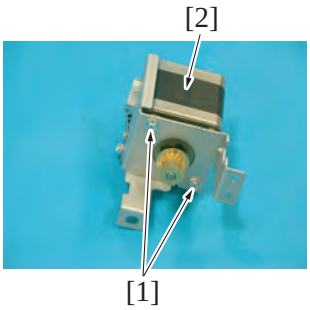
6. To reinstall, reverse the order of removal.

6.6.14 FNS discharge motor (M3) (FS-534/FS-534SD)

1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the rear cover.
   G.6.6.1 Rear cover (FS-534/FS-534SD)



3. Remove the harness from the wire saddle [1], and disconnect the connector [2].
4. Remove two screws [3], and remove the FNS discharge motor assy [4].

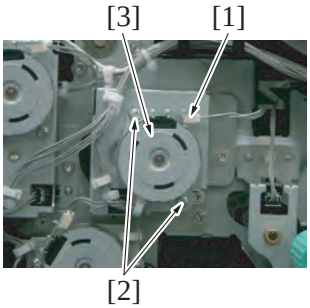


5. Remove two screws [1], and remove the FNS discharge motor [2].

6. To reinstall, reverse the order of removal.

6.6.15 Receiving roller retraction motor (M4) (FS-534/FS-534SD)

1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the front door.
   G.6.6.2 Front door (FS-534/FS-534SD)
3. Remove the front upper cover.
   G.6.6.3 Front upper cover (FS-534/FS-534SD)



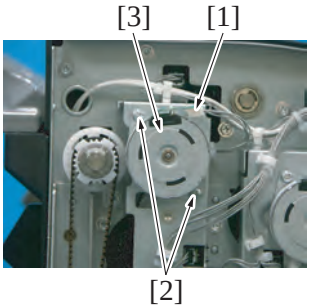
4. Disconnect the connector [1].
5. Remove two screws [2], and remove the receiving roller retraction motor [3].

6. To reinstall, reverse the order of removal.

6.6.16 FNS paddle motor (M5) (FS-534/FS-534SD)

1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)

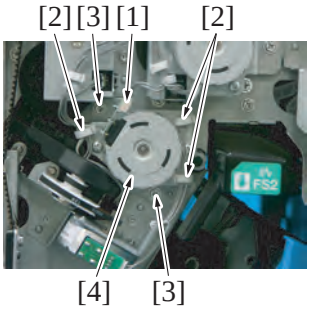
2. Remove the front door.
   G.6.6.2 Front door (FS-534/FS-534SD)
3. Remove the front upper cover.
   G.6.6.3 Front upper cover (FS-534/FS-534SD)



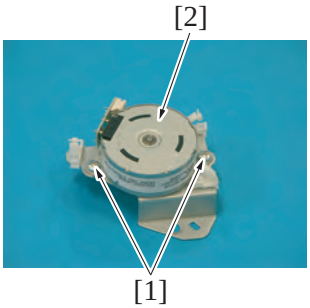
4. Disconnect the connector [1].
5. Remove two screws [2], and remove the FNS paddle motor [3].
6. To reinstall, reverse the order of removal.

6.6.17 Trailing edge stopper motor (M6) (FS-534/FS-534SD)

1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the front door.
   G.6.6.2 Front door (FS-534/FS-534SD)
3. Remove the front upper cover.
   G.6.6.3 Front upper cover (FS-534/FS-534SD)



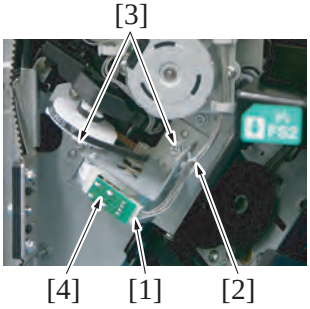
4. Disconnect the connector [1].
5. Remove the harness from three wire saddles [2].
6. Remove two screws [3], and remove the trailing edge stopper motor assy [4].



7. Remove two screws [1], and remove the trailing edge stopper motor [2].
8. To reinstall, reverse the order of removal.

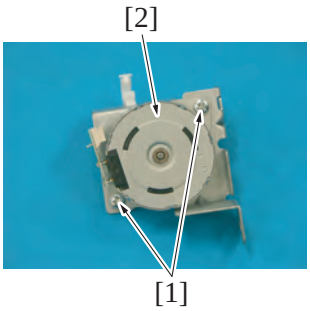
6.6.18 Alignment motor/front (M7) (FS-534/FS-534SD)

1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the front door.
   G.6.6.2 Front door (FS-534/FS-534SD)
3. Remove the front upper cover.
   G.6.6.3 Front upper cover (FS-534/FS-534SD)



4. Disconnect the connector [1].
5. Remove the harness from the wire saddle [2].
6. Remove two screws [3], and remove the alignment motor/front assy [4].

7. Remove two screws [1], and remove the alignment motor/front [2].

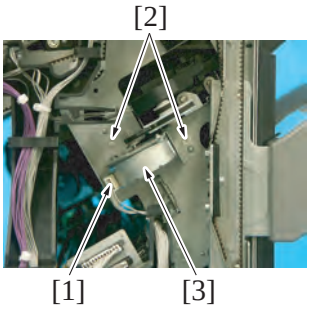


8. To reinstall, reverse the order of removal.

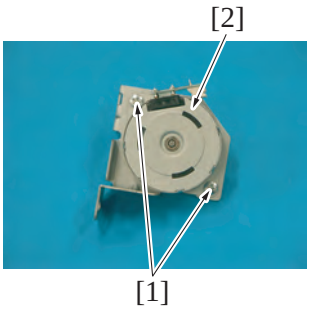
6.6.19 Alignment motor/rear (M8) (FS-534/FS-534SD)

1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the rear cover.
   G.6.6.1 Rear cover (FS-534/FS-534SD)

3. Disconnect the connector [1].
4. Remove two screws [2], and remove the alignment motor/rear assy [3].



5. Remove two screws [1], and remove the alignment motor/rear [2].

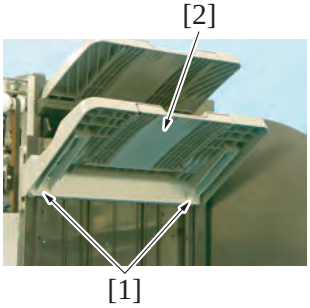


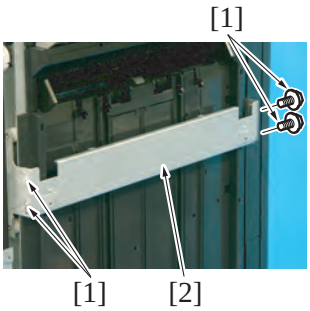
6. To reinstall, reverse the order of removal.

6.6.20 Pre-eject drive motor (M9) (FS-534/FS-534SD)

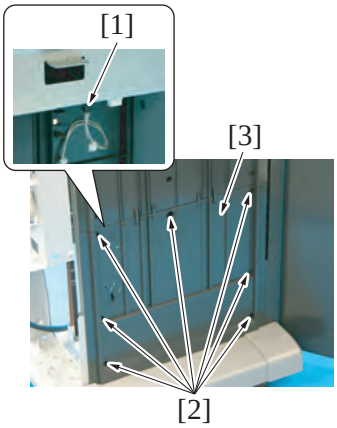
1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the rear cover.
   G.6.6.1 Rear cover (FS-534/FS-534SD)
3. When the saddle unit is attached, open the front door and pull out the saddle unit.

4. Remove two screws [1], and remove the exit tray [2].

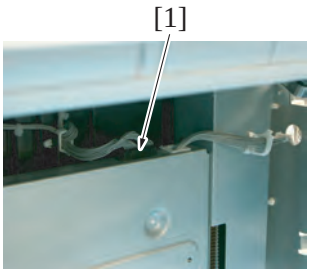




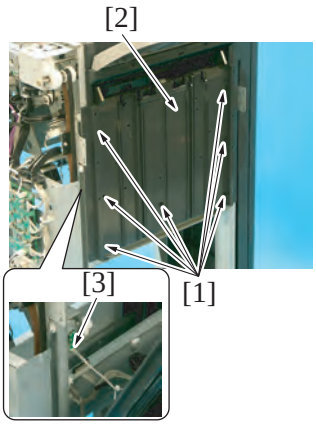
5. Remove four screws [1], and remove the plate [2].



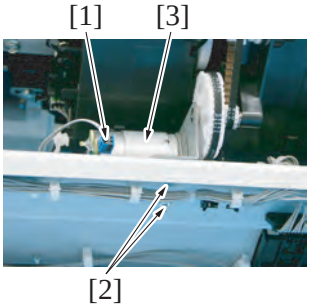
6. Disconnect the connector [1].
7. Remove seven screws [2], and remove the left lower cover [3].
   NOTE
   - **When the saddle unit is attached, disconnect two connectors.**



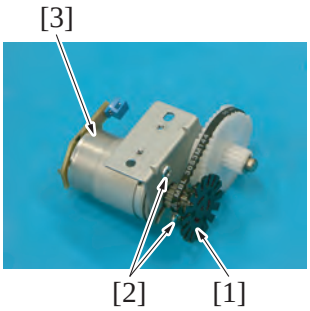
8. Disconnect the connector [1].



9. Remove seven screws [1], and remove the left upper cover [2].
10. Disconnect the connector [3].



11. Disconnect the connector [1].
12. Remove two screws [2], and remove the pre-eject drive motor assy [3].

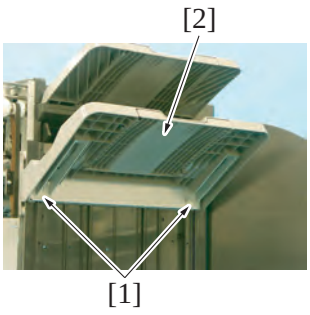


13. Remove the rotating disk [1].
14. Remove two screws [2], and remove the pre-eject drive motor [3].

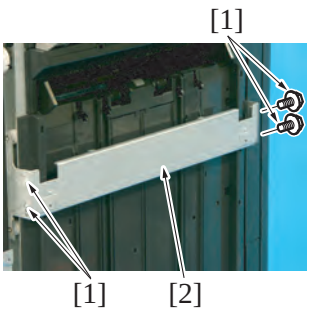
15. To reinstall, reverse the order of removal.

6.6.21 Bundle eject motor (M10) (FS-534/FS-534SD)

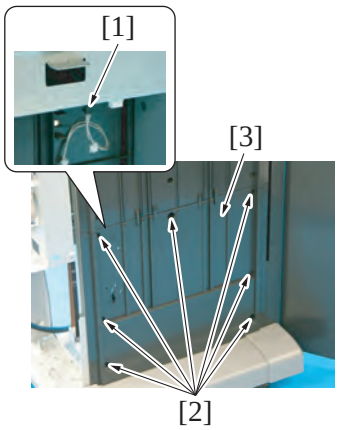
1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the rear cover.
   G.6.6.1 Rear cover (FS-534/FS-534SD)
3. When the saddle unit is attached, open the front door and pull out the saddle unit.



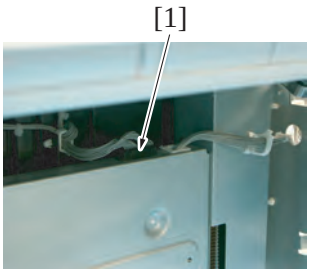
4. Remove two screws [1], and remove the exit tray [2].



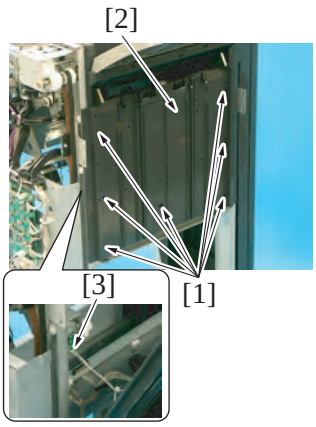
5. Remove four screws [1], and remove the plate [2].



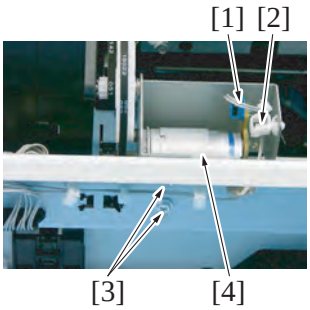
6. Disconnect the connector [1].
7. Remove seven screws [2], and remove the left lower cover [3].
   NOTE
   - **When the saddle unit is attached, disconnect two connectors.**



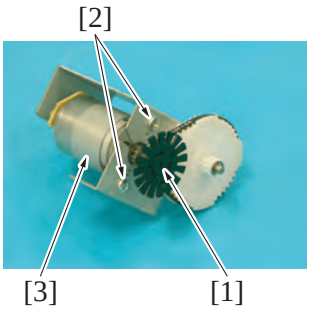
8. Disconnect the connector [1].



9. Remove seven screws [1], and remove the left upper cover [2].
10. Disconnect the connector [3].



11. Disconnect the connector [1], and remove the harness from the wire saddle [2].
12. Remove two screws [3], and remove the bundle eject motor assy [4].

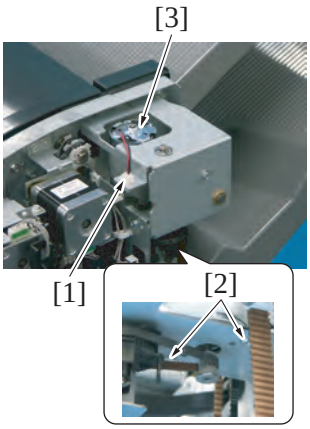


13. Remove the rotating disk [1].
14. Remove two screws [2], and remove the bundle eject motor [3].

15. To reinstall, reverse the order of removal.

6.6.22 Main tray up/down motor (M11) (FS-534/FS-534SD)

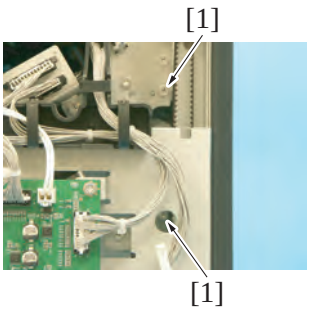
1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the rear cover.
   G.6.6.1 Rear cover (FS-534/FS-534SD)



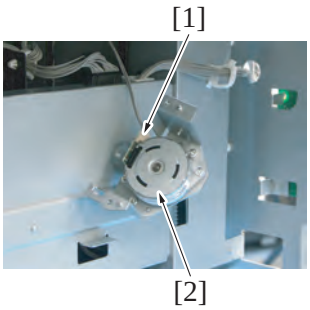
3. Disconnect the connector [1].
4. Remove two screws [2], and remove the main tray up/down motor [3].
5. To reinstall, reverse the order of removal.

6.6.23 Paper receiving control motor (M12) (FS-534/FS-534SD)

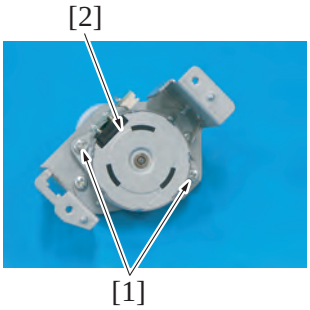
1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the rear cover.
   G.6.6.1 Rear cover (FS-534/FS-534SD)
3. When the saddle unit is attached, open the front door and pull out the saddle unit.



4. Remove two screws [1].



5. Disconnect the connector [1], and remove the paper receiving control motor assy [2].

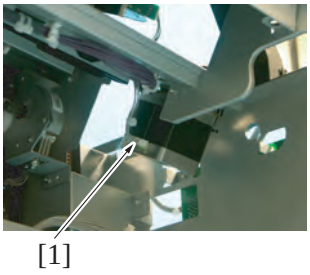


6. Remove two screws [1], and remove the paper receiving control motor [2].
7. To reinstall, reverse the order of removal.

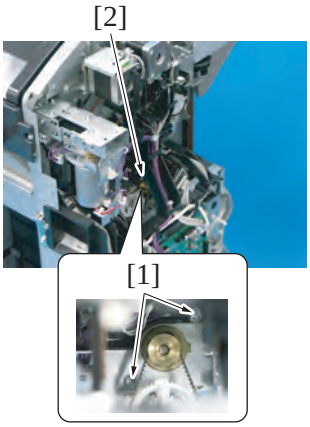
6.6.24 Side stapler movement motor (M13) (FS-534/FS-534SD)

1. Remove the finisher from the main body.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the rear cover.
   G.6.6.1 Rear cover (FS-534/FS-534SD)
3. When the saddle unit is attached, open the front door and pull out the saddle unit.

4. Disconnect the connector [1].



5. Remove two screws [1], and remove the side stapler movement motor [2].



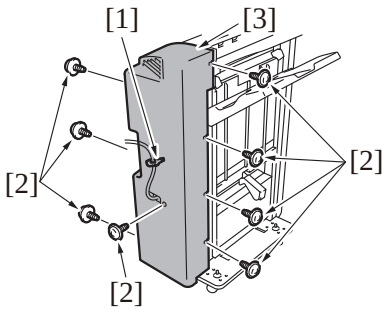
6. To reinstall, reverse the order of removal.

6.7 Disassembly/reassembly procedure (PK-520)

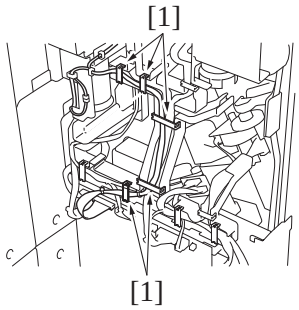
6.7.1 Punch kit (PK-520)

1. Remove the finisher from the main body.
G.6.6.6 Finisher (FS-534/FS-534SD)

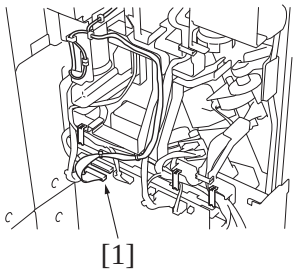
2. Remove the harness from the wire saddle [1].
3. Remove eight screws [2], and remove the rear cover [3].



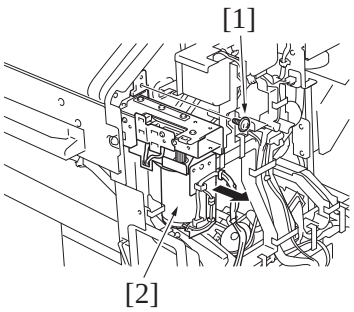
4. Remove the harness from five wire saddles [1].



5. Disconnect the connector [1].



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

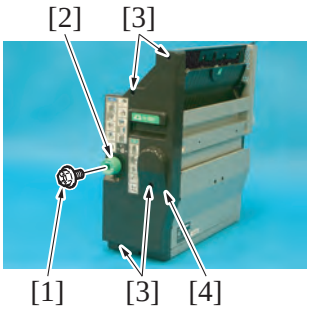


7. To reinstall, reverse the order of removal.

6.8 Disassembly/reassembly procedure (SD-511)

6.8.1 Front cover (SD-511)

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.

6.8.2 Saddle unit (SD-511)

⚠CAUTION

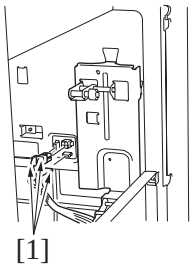
- Be careful not to catch your finger in the edge of the rail when mounting the saddle unit on the right rail for the saddle unit installation.
- Be careful not to jam your finger in the connecting section of the pantograph.

1. Remove the finisher.
   G.6.6.6 Finisher (FS-534/FS-534SD)
2. Remove the front door of the finisher.
   G.6.6.2 Front door (FS-534/FS-534SD)

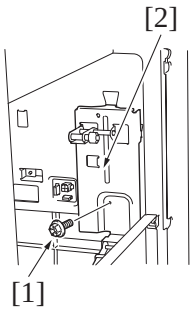


3. Pull out the saddle unit [1].

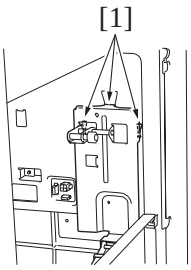
4. Remove the left lower cover.
   G.6.6.4 Left lower cover (FS-534/FS-534SD)
5. Remove the front upper cover.
   G.6.6.3 Front upper cover (FS-534/FS-534SD)
6. Remove the front lower cover.
   G.6.6.5 Front lower cover (FS-534/FS-534SD)



7. Disconnect three connectors [1].

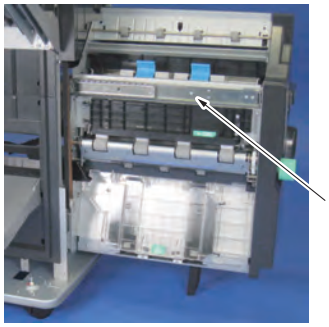


8. Remove the screw [1], and remove the pantograph [2].

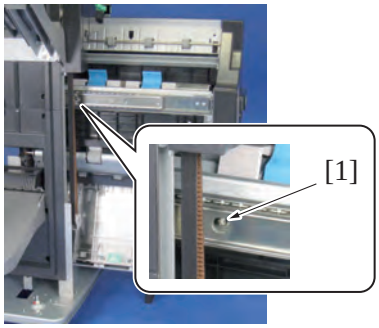


NOTE

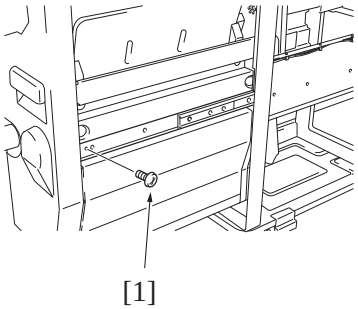
- **For installation of the pantograph, insert three hooks [1] on the pantograph of the saddle unit into the back holes inside the finisher.**



9. Remove the screw [1].

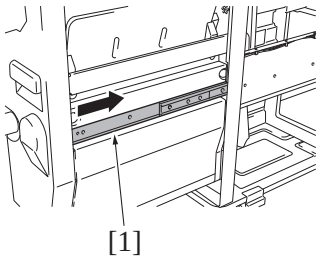


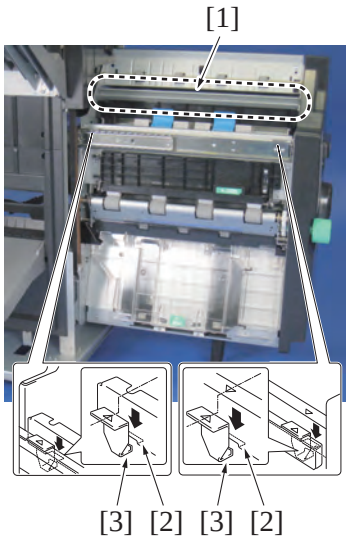
10. Push back the saddle unit into the position of the illustration, and then remove the screw [1].



11. Pull out the saddle unit, and then remove the screw [1].

12. Insert the rail [1] on the right side into the finisher.





14. To reinstall, reverse the order of removal.

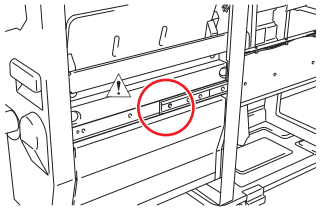
13. Grip the portion as shown in the illustration [1] to raise the saddle unit and take it out.

NOTE

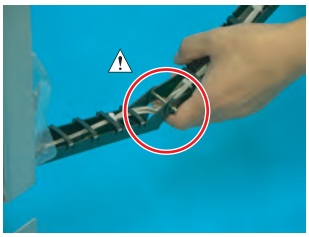
- **For installation of the saddle unit, insert two hooks on the left rail [3] into the two holes of the saddle unit [2].**

⚠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.



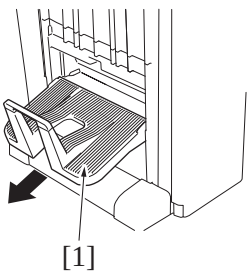
- Be careful not to jam your finger in the connecting section of the pantograph.



6.8.3 Paper exit tray (SD-511)



1. Remove the pin [1], and remove the exit lever [2].

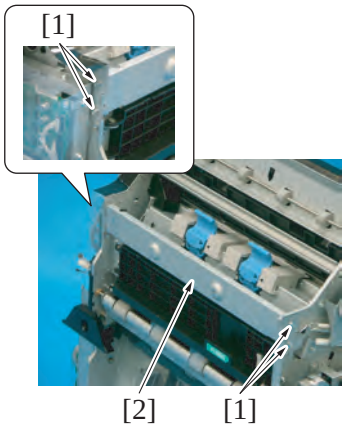


2. Remove the paper exit tray [1].

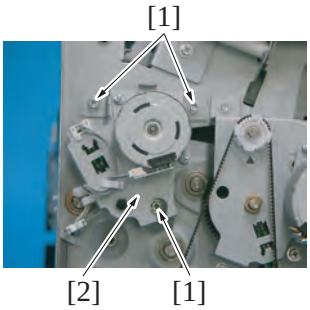
3. To reinstall, reverse the order of removal.

6.8.4 Staple unit (SD-511)

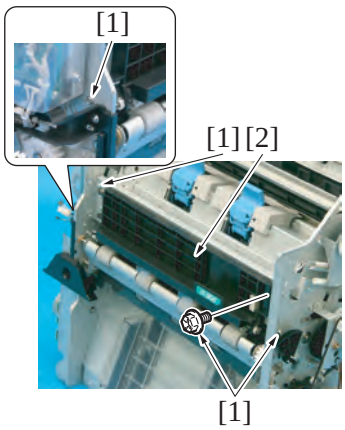
1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)
2. Remove the front cover.
   G.6.8.1 Front cover (SD-511)



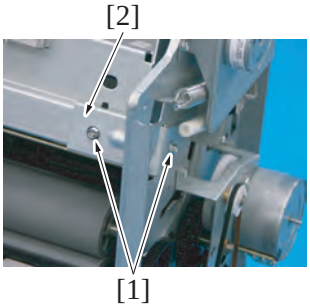
3. Remove four screws [1], and remove the plate [2].



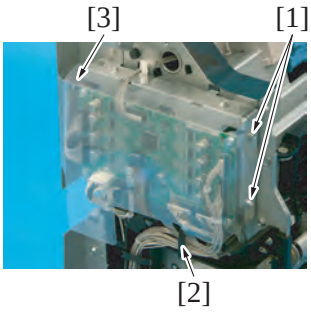
4. Remove three screws [1], and remove the tri-folding guide motor assy [2].



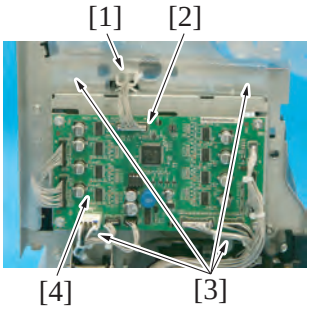
5. Remove four screws [1], and remove the conveyance assy [2].



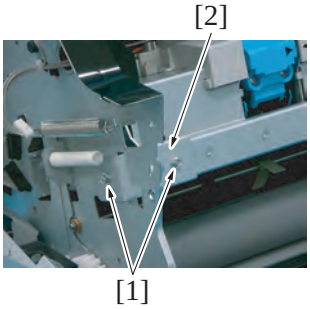
6. Remove two screws [1], and remove the plate [2].



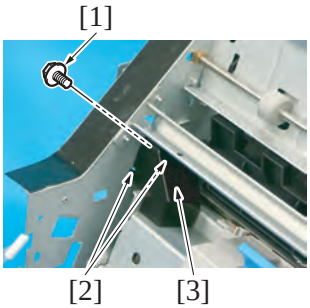
7. Remove two screws [1].
8. Detach the board support film [3] from the harness guide tabs [2].



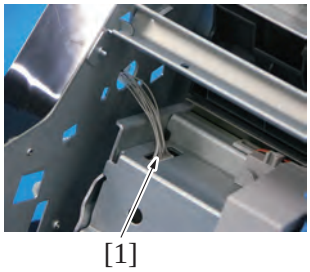
9. Remove the harness from the wire saddle [1].
10. Disconnect the connector [2].
11. Remove four screws [3], and remove the SD drive board assy [4].



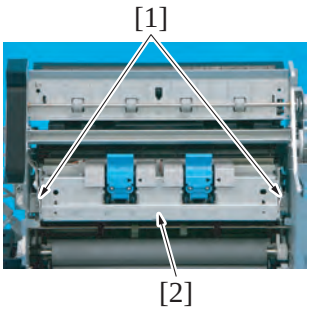
12. Remove two screws [1], and remove the plate [2].



13. Remove the screw [1].
14. Release two tabs [2], and remove the cover [3].



15. Disconnect the connector [1].

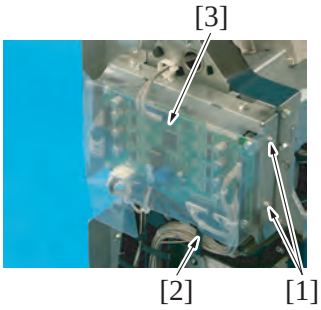


16. Remove two screws [1], and remove the staple unit [2].

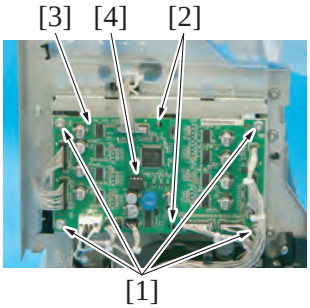
17. To reinstall, reverse the order of removal.

6.8.5 SD drive board (SDDB) (SD-511)

1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)



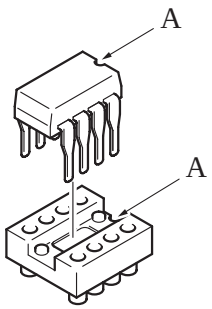
2. Remove two screws [1].
3. Remove the board support film [3] from the harness guide [2].



4. Disconnect all the connectors from the SD drive board.
5. Remove four screws [1].
6. Detach the SD drive board [3] from the two tabs [2].

NOTE

- **When the SD drive board (SDDB) has been replaced, be sure to remount EEPROM (U3) [4].**
  Remove EEPROM (U3) [4] from the old SD drive board and mount it on the new SD drive board.



NOTE

- **When mounting EEPROM (U3), align the notches (indicated by “A” in the illustration).**

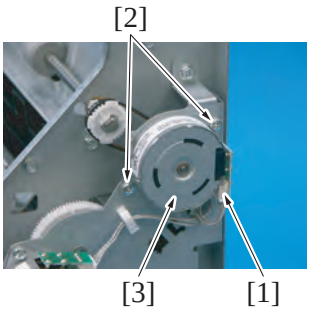
7. To reinstall, reverse the order of removal.

NOTE

- **After replacing the SD drive board, be sure to install the latest firmware.**

6.8.6 SD transport motor (M1) (SD-511)

1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)
2. Remove the front cover.
   G.6.8.1 Front cover (SD-511)

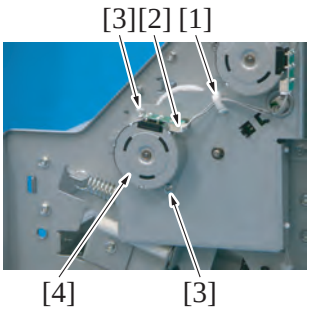


3. Disconnect the connector [1].
4. Remove two screws [2], and remove the SD transport motor [3].

5. To reinstall, reverse the order of removal.

6.8.7 Paper discharge control motor (M2) (SD-511)

1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)
2. Remove the front cover.
   G.6.8.1 Front cover (SD-511)

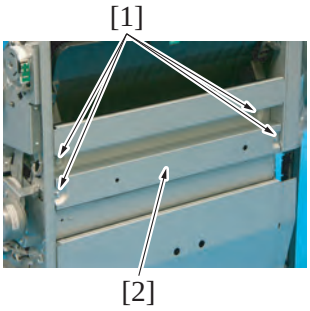


3. Remove the harness from the wire saddle [1], and disconnect the connector [2].
4. Remove two screws [3], and remove the paper discharge control motor [4].

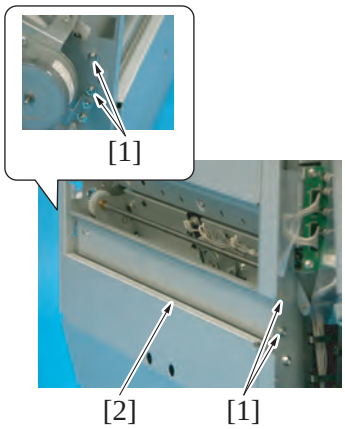
5. To reinstall, reverse the order of removal.

6.8.8 Alignment motor (M3) (SD-511)

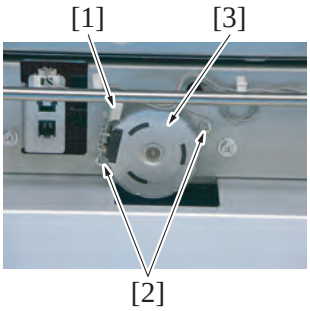
1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)
2. Remove the front cover.
   G.6.8.1 Front cover (SD-511)



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



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

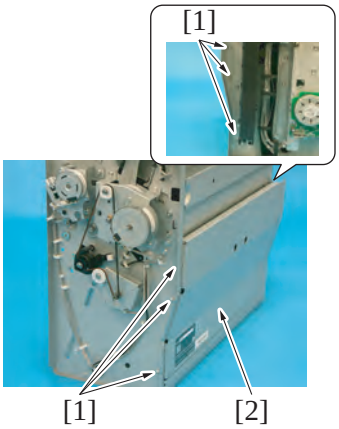


5. Disconnect the connector [1].
6. Remove two screws [2], and remove the alignment motor [3].

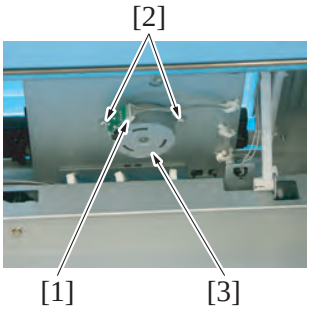
7. To reinstall, reverse the order of removal.

6.8.9 Stopper drive motor (M4) (SD-511)

1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)
2. Remove the front cover.
   G.6.8.1 Front cover (SD-511)



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

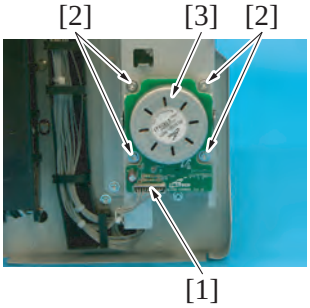


4. Disconnect the connector [1].
5. Remove two screws [2], and remove the stopper drive motor [3].

6. To reinstall, reverse the order of removal.

6.8.10 Center fold roller motor (M5) (SD-511)

1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)



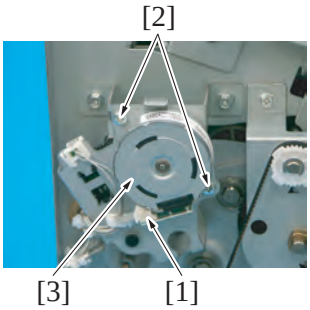
2. Disconnect the connector [1].
3. Remove four screws [2], and remove the center fold roller motor [3].

4. To reinstall, reverse the order of removal.

6.8.11 Tri-folding guide motor (M6) (SD-511)

1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)

2. Remove the front cover.
G.6.8.1 Front cover (SD-511)

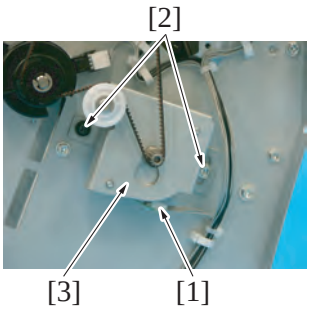


3. Disconnect the connector [1].
4. Remove two screws [2], and remove the tri-folding guide motor [3].

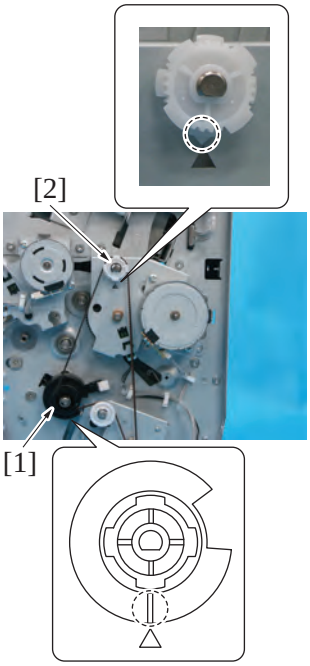
5. To reinstall, reverse the order of removal.

6.8.12 SD paddle motor (M7) (SD-511)

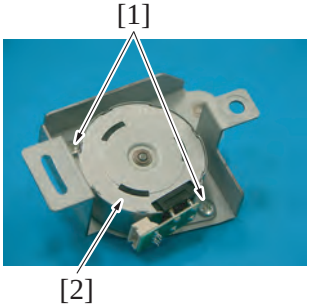
1. Remove the saddle unit.
G.6.8.2 Saddle unit (SD-511)
2. Remove the front cover.
G.6.8.1 Front cover (SD-511)



3. Disconnect the connector [1].
4. Remove two screws [2], and remove the SD paddle motor assy [3].



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.**

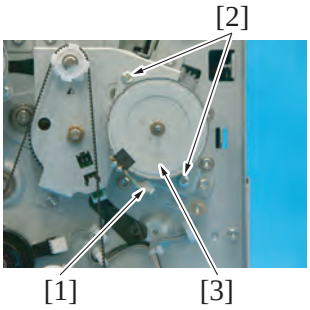


5. Remove two screws [1], and remove the SD paddle motor [2].

6. To reinstall, reverse the order of removal.

6.8.13 Center fold guide motor (M8) (SD-511)

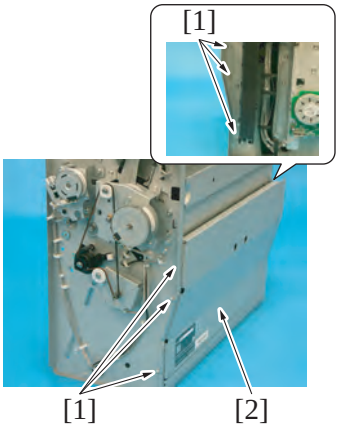
1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)
2. Remove the front cover.
   G.6.8.1 Front cover (SD-511)



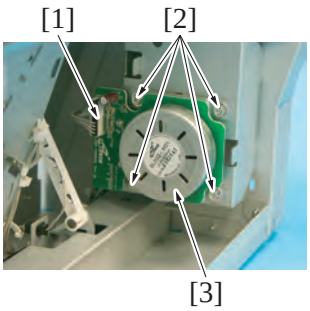
3. Disconnect the connector [1].
4. Remove two screws [2], and remove the center fold guide motor [3].
5. To reinstall, reverse the order of removal.

6.8.14 Center fold knife motor (M9) (SD-511)

1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)
2. Remove the front cover.
   G.6.8.1 Front cover (SD-511)



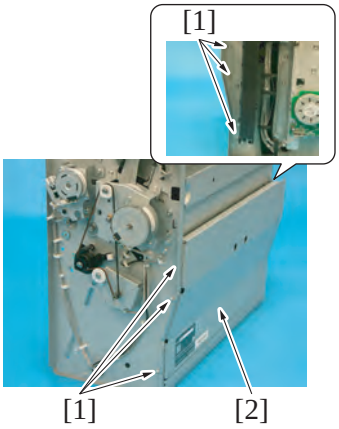
3. Remove six screws [1], and remove the plate [2].



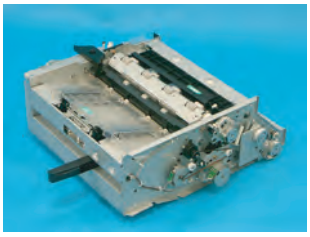
4. Disconnect the connector [1].
5. Remove four screws [2], and remove the center fold knife motor [3].
6. To reinstall, reverse the order of removal.

6.8.15 Stopper solenoid (SD1) (SD-511)

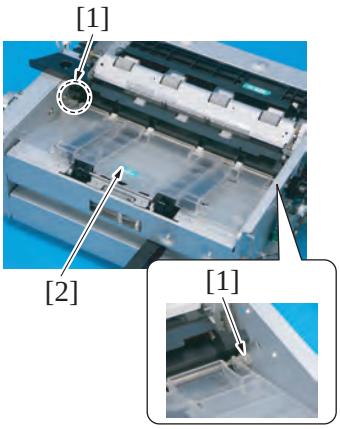
1. Remove the saddle unit.
   G.6.8.2 Saddle unit (SD-511)
2. Remove the front cover.
   G.6.8.1 Front cover (SD-511)



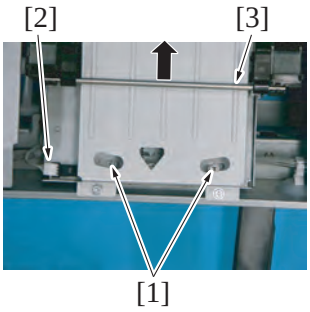
3. Remove six screws [1], and remove the plate [2].



4. Place the saddle unit as shown in the illustration.

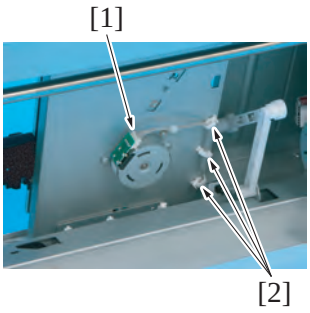


5. Remove two stoppers [1], and remove the guide plate [2].

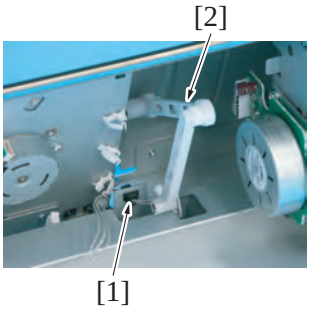


6. Slide the lever unit [3] upward.
7. Remove two screws [1], and disconnect the connector [2].

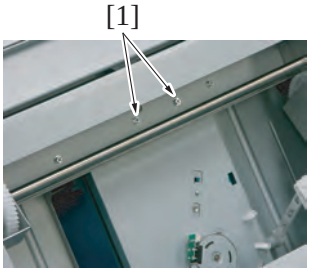
8. Raise the saddle unit.



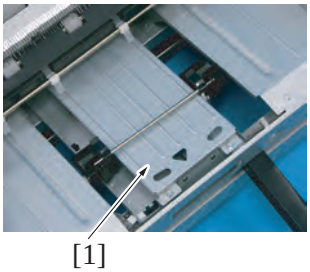
9. Disconnect the connector [1], and remove the harness from three wire saddles [2].



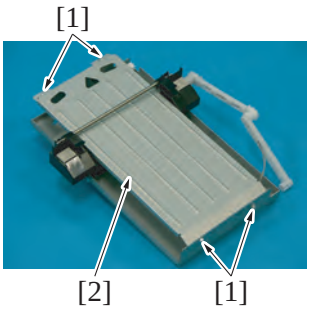
10. Disconnect the connector [1], and remove the drive lever [2].



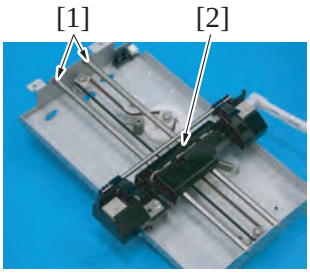
11. Remove two screws [1].



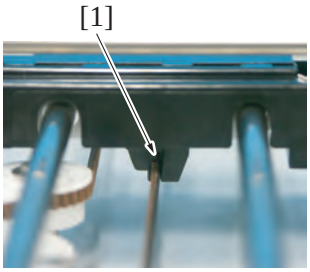
12. Remove the guide plate assy [1].
NOTE
- **When reinstalling the guide plate assy, perform mechanical adjustment.**
I.16.1.1 Half-fold skew adjustment



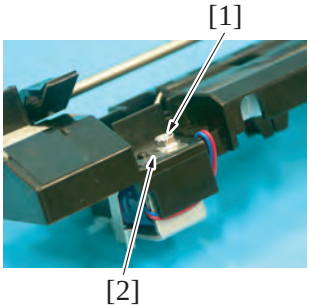
13. Remove four screws [1], and remove the plate [2].



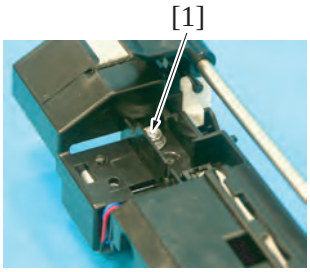
14. Remove two E-rings [1], and remove the stopper guide [2].



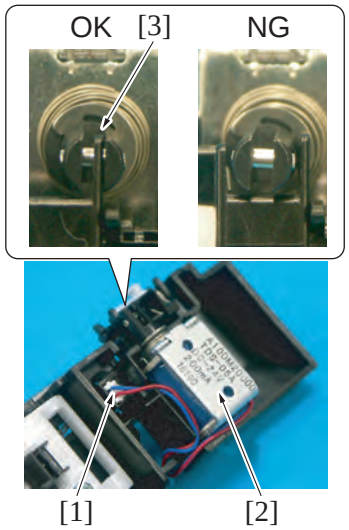
NOTE
- **When reinstalling the stopper guide, fit the belt into the stopper guide groove [1].**



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



16. Remove the screw [1].



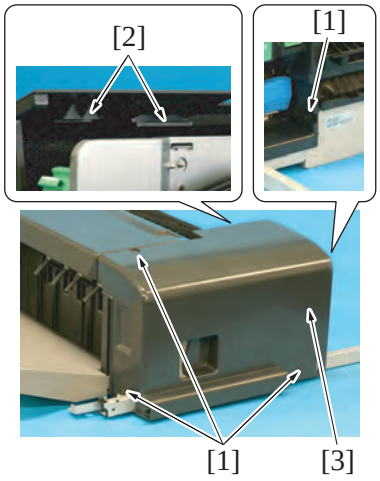
17. Disconnect the connector [1], and remove the stopper solenoid [2].

NOTE
- **When reinstalling the stopper solenoid, fit its tip into the place [3] shown in the illustration.**

18. To reinstall, reverse the order of removal.

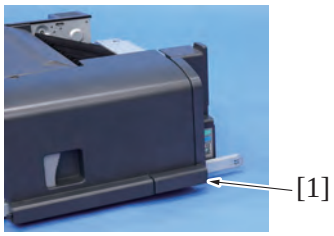
6.9 Disassembly/reassembly procedure (FS-533)

6.9.1 Front cover (FS-533)



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

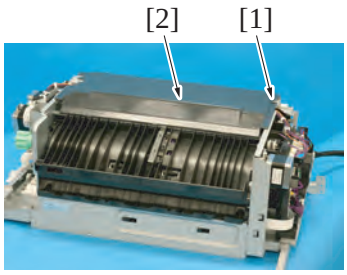
NOTE
- **When the punch kit (PK-519) is installed, the cover [1] should be removed.**



2. To reinstall, reverse the order of removal.

6.9.2 Upper cover (FS-533)

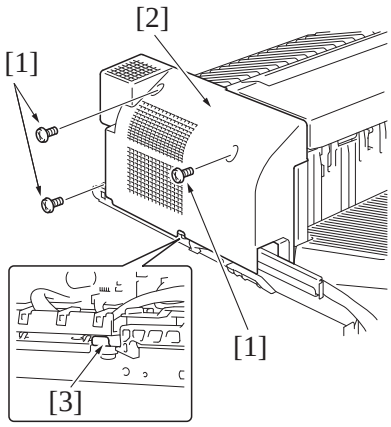
1. Remove the front cover.
G.6.9.1 Front cover (FS-533)
2. Remove the rear cover.
G.6.9.3 Rear cover (FS-533)



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

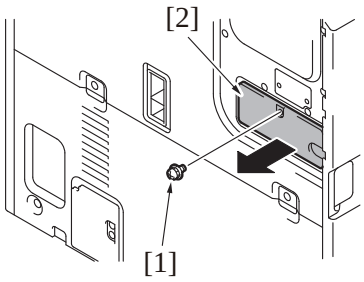
4. To reinstall, reverse the order of removal.

6.9.3 Rear cover (FS-533)

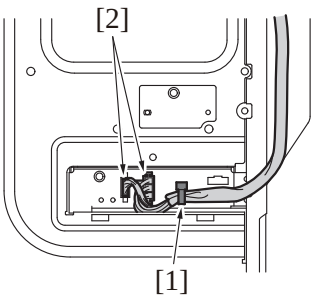


1. Remove three screws [1], and remove the rear cover [2].
   NOTE
   - **When mounting the rear cover, hook the tab [3] on the plate to the rear cover.**
2. To reinstall, reverse the order of removal.

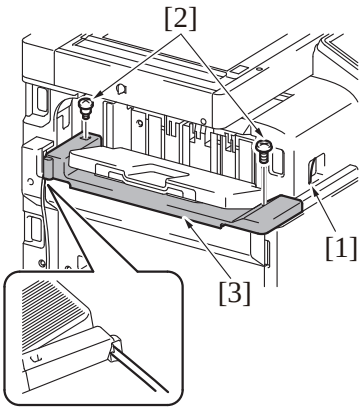
6.9.4 Finisher (FS-533)



1. Remove the screw [1], and remove the cover [2].
   NOTE
   - **Make sure that the harness is not pinched by the cover when attaching the cover.**

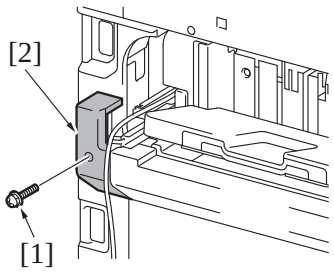


2. Remove the cable tie [1], and disconnect two connectors [2].

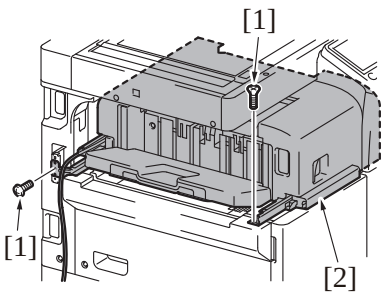


3. Slide the finisher by pulling the lever [1].
4. Remove two screws [2], and remove the cover [3].
   NOTE
   - **When mounting the cover, make the finisher's cable come out from the cover at the position shown in the illustration.**

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

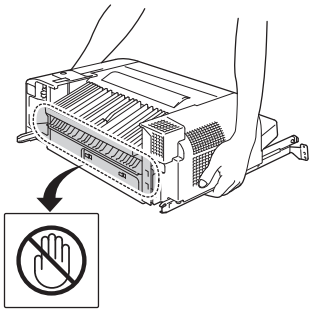


6. Remove two screws [1], and remove the finisher [2] from the main body.



NOTE

- **When carrying the finisher, be sure to hold the finisher by the sides as shown in the illustration.**

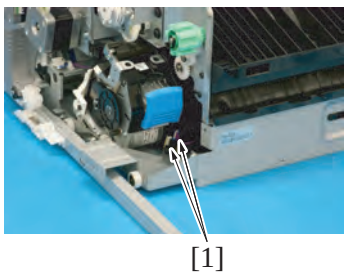


7. To reinstall, reverse the order of removal.

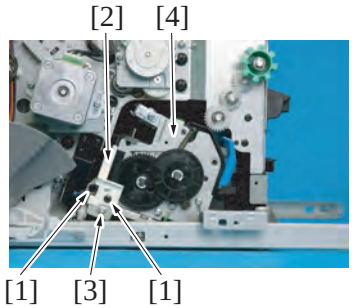
6.9.5 Stapler unit (FS-533)

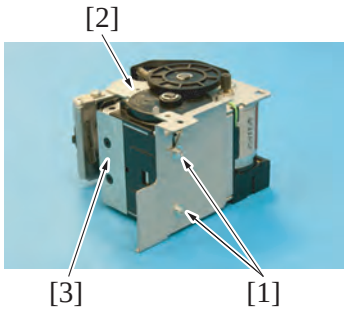
1. Remove the front cover.
G.6.9.1 Front cover (FS-533)

2. Disconnect two connectors [1].



3. Remove two screws [1], and remove the cover [2].
4. Remove the screw [3], and remove the stapler unit assy [4].

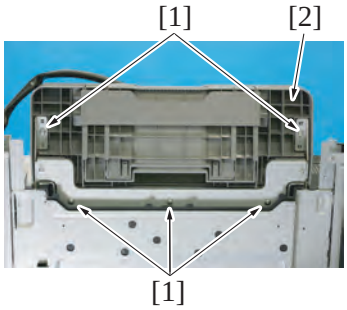




5. Remove two screws [1], and remove the stapler unit [2].
NOTE
- **When replacing the stapler unit, attach the guide [3] (Parts No.: A2YU PPE9 ##) to the stapler unit.**

6. To reinstall, reverse the order of removal.

6.9.6 Paper exit tray unit (FS-533)

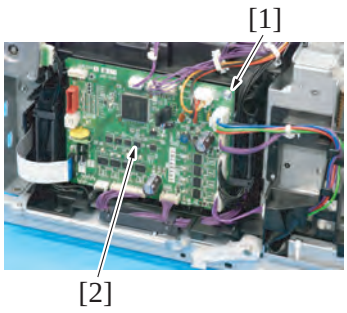


1. Remove five screws [1], and remove the paper exit tray unit [2].

2. To reinstall, reverse the order of removal.

6.9.7 FS control board (FSCB) (FS-533)

1. Remove the rear cover.
G.6.9.3 Rear cover (FS-533)

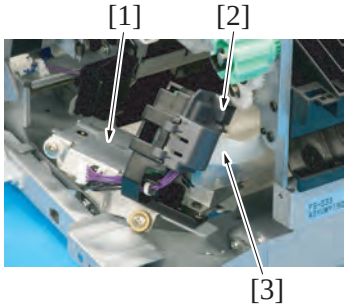


2. Remove all connectors from the FS control board.
3. Remove the screw [1], and remove the FS control board [2].

4. To reinstall, reverse the order of removal.
5. Install the firmware.

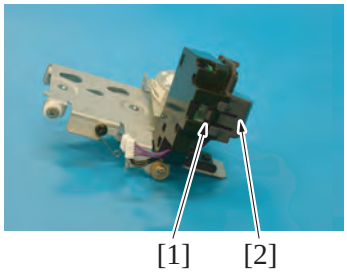
6.9.8 Stapler relay board (STREYB) (FS-533)

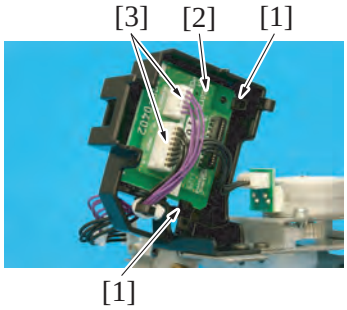
1. Remove the front cover.
G.6.9.1 Front cover (FS-533)
2. Remove the stapler unit.
G.6.9.5 Stapler unit (FS-533)



3. Pull out the stapler drive assy [1].
4. Release the lock [2] of the board cover, and remove the flat cable [3].

5. Unhook the tab [1], and remove the board cover [2].



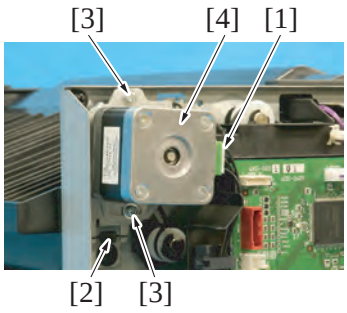


6. Unhook two tabs [1], and remove the stapler relay board [2].
7. Disconnect two connectors [3].

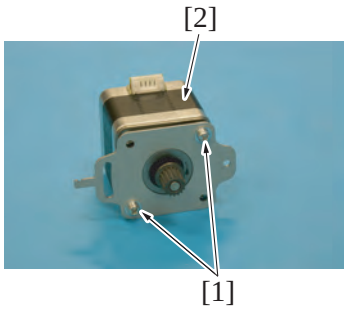
8. To reinstall, reverse the order of removal.

6.9.9 Paper conveyance motor (M101) (FS-533)

1. Remove the rear cover.
   G.6.9.3 Rear cover (FS-533)



2. Disconnect the connector [1].
3. Remove the spring [2].
4. Remove two screws [3], and remove the paper conveyance motor assy [4].

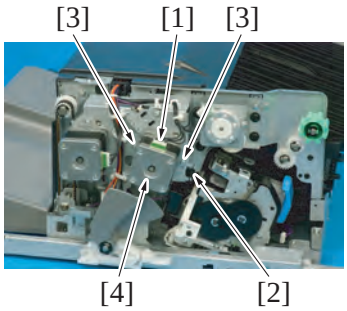


5. Remove two screws [1], and remove the paper conveyance motor [2].

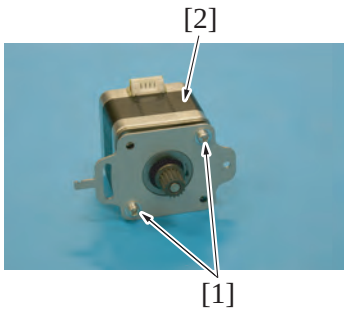
6. To reinstall, reverse the order of removal.

6.9.10 Paper exit motor (M102) (FS-533)

1. Remove the front cover.
   G.6.9.1 Front cover (FS-533)



2. Disconnect the connector [1].
3. Remove the spring [2].
4. Remove two screws [3], and remove the paper exit motor assy [4].

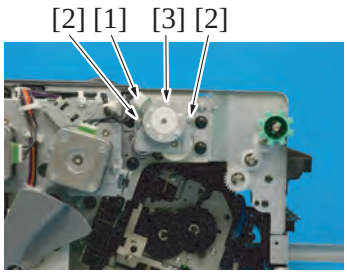


5. Remove two screws [1], and remove the paper exit motor [2].

6. To reinstall, reverse the order of removal.

6.9.11 Alignment roller motor (M103) (FS-533)

1. Remove the front cover.
G.6.9.1 Front cover (FS-533)

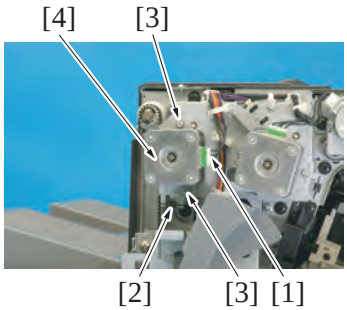


2. Disconnect the connector [1].
3. Remove two screws [2], and remove the alignment roller motor [3].

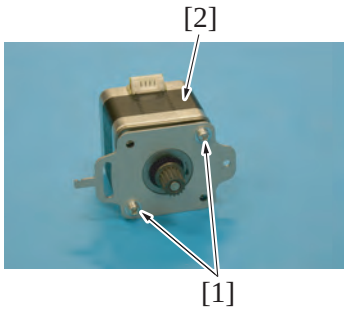
4. To reinstall, reverse the order of removal.

6.9.12 Exit roller lift up motor (M104) (FS-533)

1. Remove the front cover.
G.6.9.1 Front cover (FS-533)



2. Disconnect the connector [1].
3. Remove the spring [2].
4. Remove two screws [3], and remove the exit roller lift up motor assy [4].

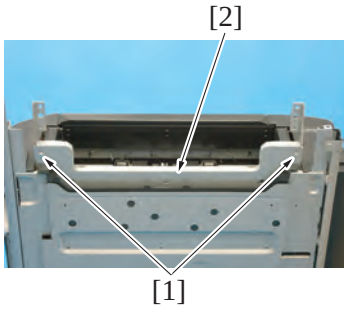


5. Remove two screws [1], and remove the exit roller lift up motor [2].

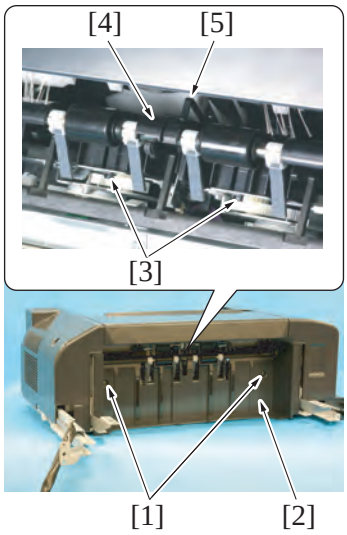
6. To reinstall, reverse the order of removal.

6.9.13 Alignment motor/F (M105), Alignment motor/R (M106) (FS-533)

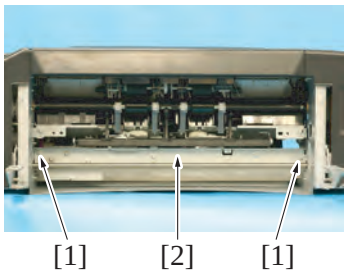
1. Remove the paper exit tray unit.
G.6.9.6 Paper exit tray unit (FS-533)



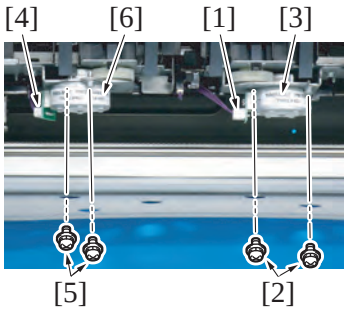
2. Remove two screws [1], and remove the plate [2].



3. Remove two screws [1], and remove the cover [2].
NOTE
- **When removing the cover [2], two claws [3] may come off and the alignment tray [4] may come up. This may cause the alignment tray to contact the actuator [5] and cause malfunction of the actuator.**
- **When mounting the cover [2], make sure two claws [3] are attached to the plate.**



4. Remove two screws [1], and pull out the paper surface detect solenoid assy [2].

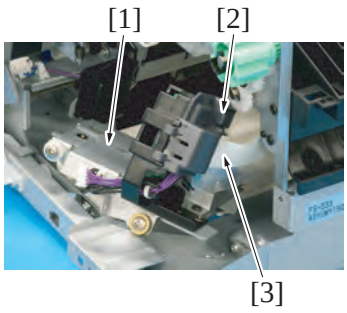


5. Disconnect the connector [1], remove two screws [2], and remove the alignment motor/F [3].
6. Disconnect the connector [4], remove two screws [5], and remove the alignment motor/R [6].

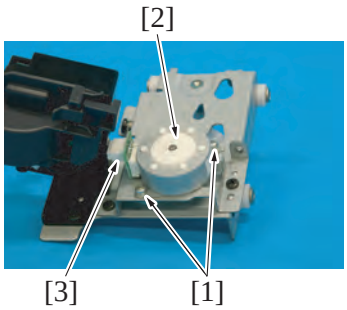
7. To reinstall, reverse the order of removal.

6.9.14 Stapler movement motor (M107) (FS-533)

1. Remove the front cover.
   G.6.9.1 Front cover (FS-533)
2. Remove the stapler unit.
   G.6.9.5 Stapler unit (FS-533)



3. Pull out the stapler drive assy [1].
4. Release the lock [2] of the board cover, and remove the flat cable [3].

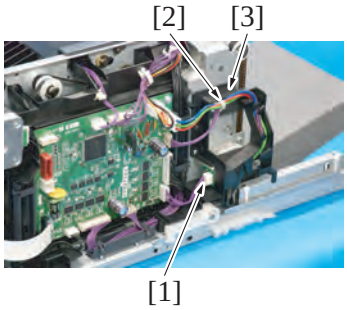


5. Remove two screws [1], and remove the stapler movement motor [2].
6. Disconnect the connector [3].

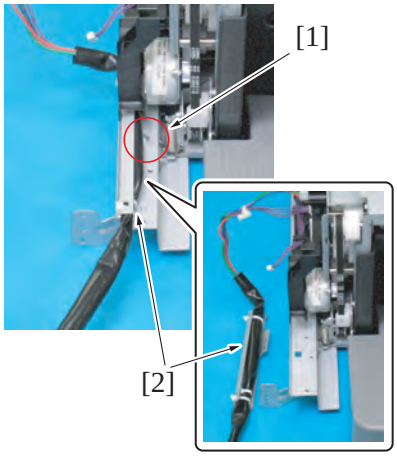
7. To reinstall, reverse the order of removal.

6.9.15 Tray lift up motor (M109) (FS-533)

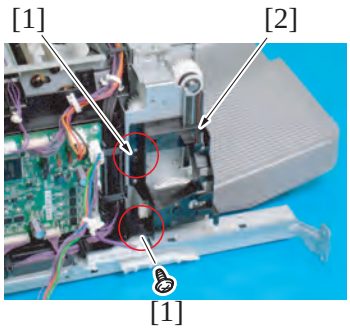
1. Remove the rear cover.
   G.6.9.3 Rear cover (FS-533)



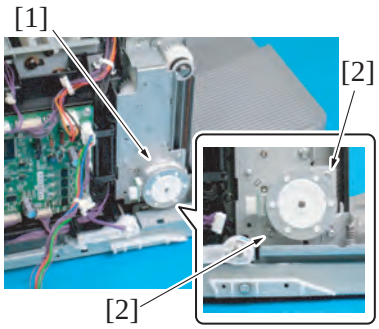
2. Disconnect the connector [1].
3. Remove the harness tie [2] and harness from the harness guide [3].



4. Remove the screw [1], and remove the finisher's cable [2].



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

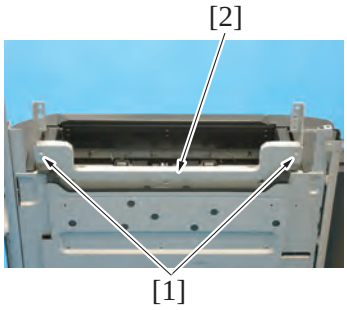


6. Remove two screws [2], and remove the tray lift up motor [1].

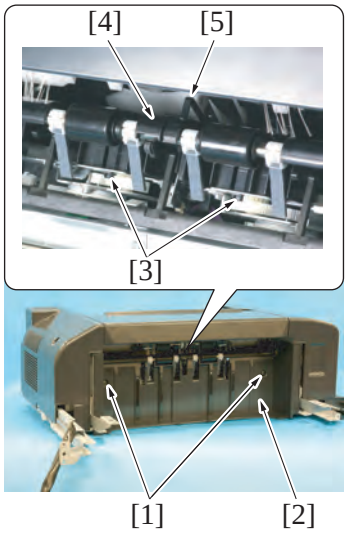
7. To reinstall, reverse the order of removal.

6.9.16 Paper surface detect solenoid (SD101) (FS-533)

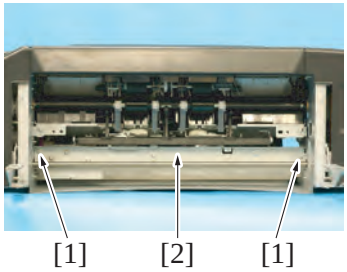
1. Remove the paper exit tray unit.
G.6.9.6 Paper exit tray unit (FS-533)



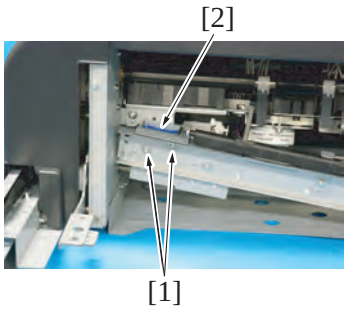
2. Remove two screws [1], and remove the plate [2].



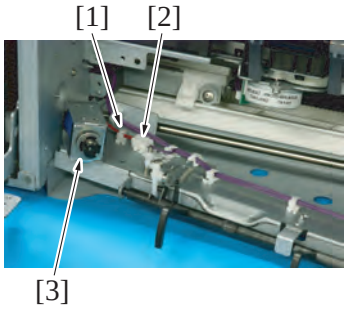
3. Remove two screws [1], and remove the cover [2].
NOTE
- **When removing the cover [2], two claws [3] may come off and the alignment tray [4] may come up. This may cause the alignment tray to contact the actuator [5] and cause malfunction of the actuator.**
- **When mounting the cover [2], make sure two claws [3] are attached to the plate.**



4. Remove two screws [1], and pull out the paper surface detect solenoid assy [2].



5. Remove two screws [1], and pull out the paper surface detect solenoid [2].



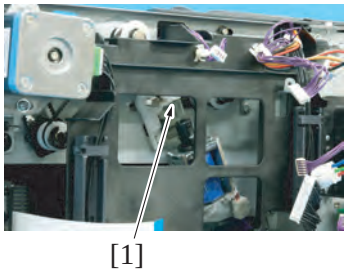
6. Remove the harness from wire saddle [1], and disconnect the connector [2] and remove the paper surface detect solenoid [3].

7. To reinstall, reverse the order of removal.

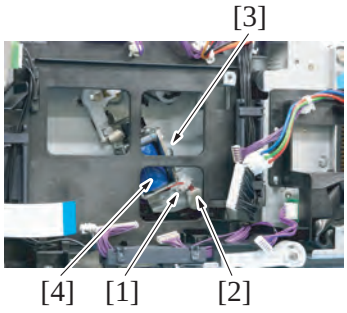
6.9.17 Batch solenoid (SD102) (FS-533)

1. Remove the rear cover.
G.6.9.3 Rear cover (FS-533)
2. Remove the FS control board.
G.6.9.7 FS control board (FSCB) (FS-533)

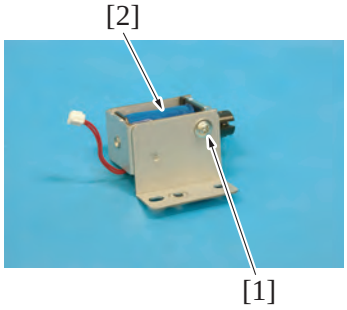
3. Remove the spring [1].



4. Remove the harness from the wire saddle [1].
5. Disconnect the connector [2].
6. Remove the screw [3], and remove the batch solenoid assy [4].



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

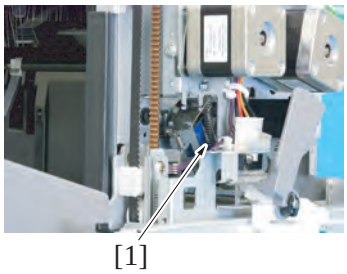


8. To reinstall, reverse the order of removal.

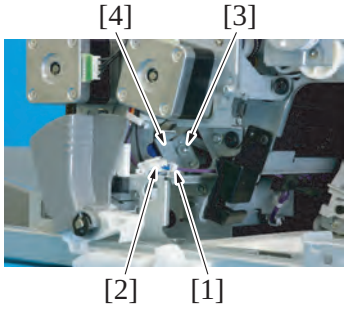
6.9.18 Paper exit roller solenoid (SD103) (FS-533)

1. Remove the front cover.
G.6.9.1 Front cover (FS-533)

2. Remove the spring [1].

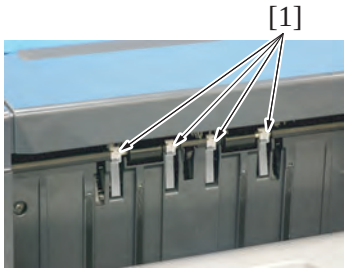


3. Remove the harness from the wire saddle [1].
4. Disconnect the connector [2].
5. Remove the screw [3], and remove the paper exit roller solenoid [4].



6. To reinstall, reverse the order of removal.

6.9.19 Paper exit paddle (FS-533)

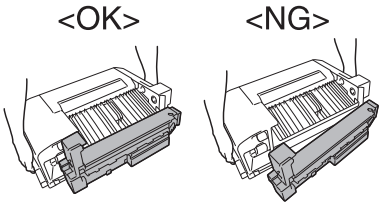


1. Pull the knobs [1] to remove the exit paddle.

2. To reinstall, reverse the order of removal.

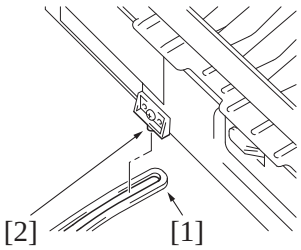
6.10 Disassembly/reassembly procedure (PK-519)

6.10.1 Punch kit (PK-519)

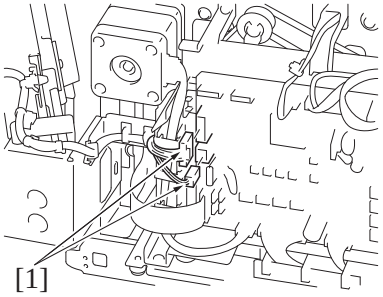


1. Remove the finisher from the main body.
   G.6.9.4 Finisher (FS-533)
   NOTE
   - **Make sure that the punch unit is locked to the finisher before removing it.**

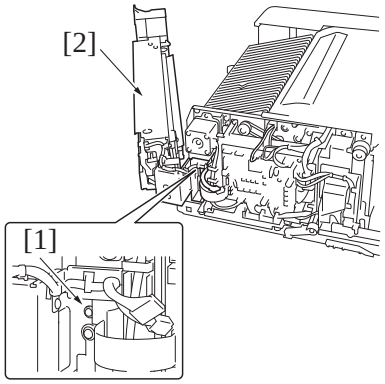
2. Remove the rear cover.
   G.6.9.3 Rear cover (FS-533)



3. Open the punch unit.
4. Remove the stopper arm [1] from the stopper pin [2].



5. Disconnect two connectors [1].

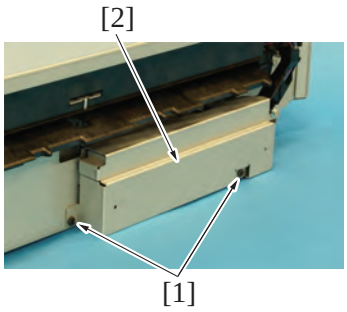


6. Remove the screw [1], and remove the punch unit [2].

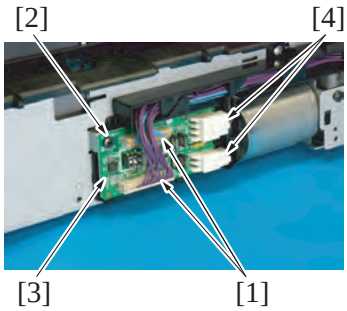
7. To reinstall, reverse the order of removal.

6.10.2 PK control board (PKCB) (PK-519)

1. Remove the finisher.
G.6.9.4 Finisher (FS-533)



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

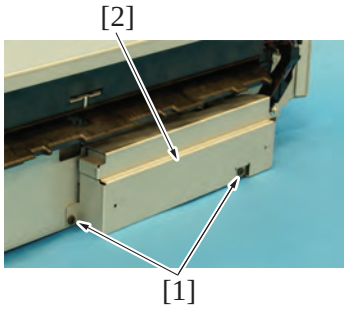


3. Disconnect two connectors [1].
4. Remove the screw [2], and pull out the PK control board [3].
5. Disconnect two connectors [4], and remove the PK control board [3].

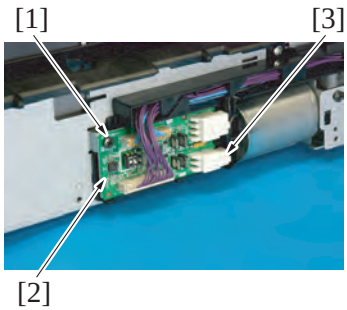
6. To reinstall, reverse the order of removal.

6.10.3 Punch motor (M201) (PK-519)

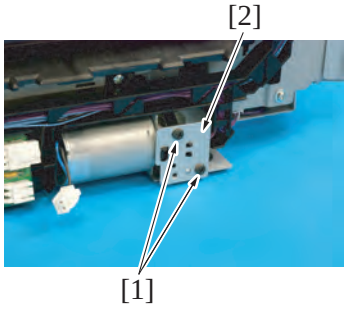
1. Remove the finisher.
G.6.9.4 Finisher (FS-533)



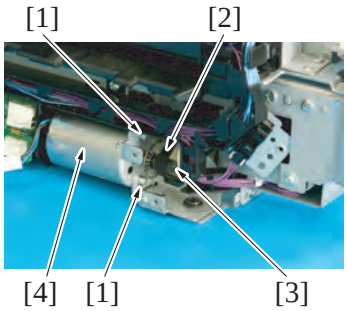
2. Remove two screws [1], and remove the plate [2].



3. Remove the screw [1], and pull out the PK control board [2].
4. Disconnect the connector [3].



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

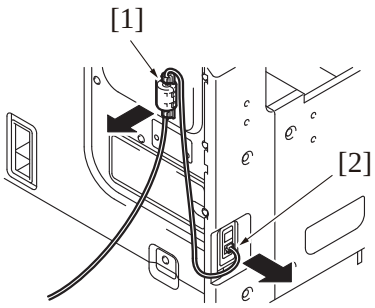


6. Remove two screws [1], and remove the drive belt [2] from the gear [3].
7. Remove the punch motor [4].

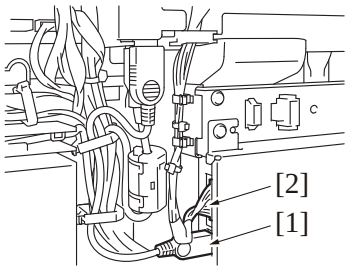
8. To reinstall, reverse the order of removal.

6.11 Disassembly/reassembly procedure (FK-513)

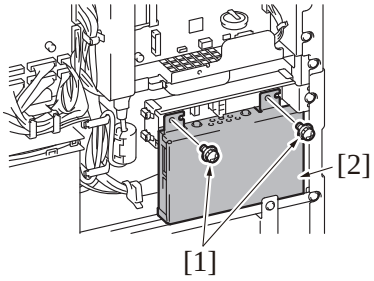
6.11.1 Fax Kit (FK-513)



1. Remove the ferrite core [1], and disconnect the modular cable [2].
2. Remove the upper rear cover.
G.5.2.14 Upper rear cover



3. Disconnect the USB cable [1] and connector [2].



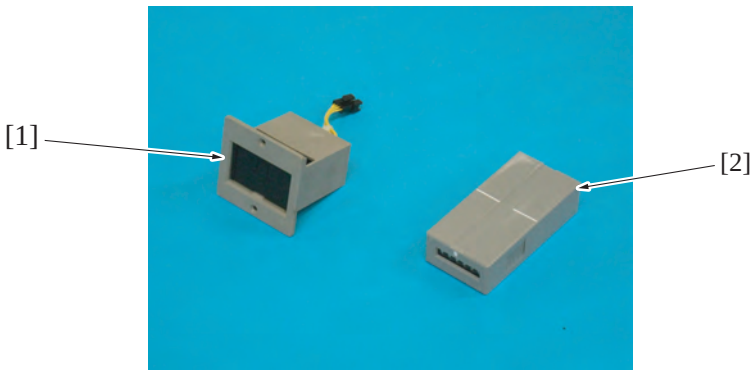
4. Remove two screws [1], and remove the Fax Kit [2].

5. To reinstall, reverse the order of removal.

7. COMMERCIALLY AVAILABLE PARTS

7.1 Installing the key counter

7.1.1 Configuration



[1]	Key counter socket	[2]	Key counter

7.1.2 Procedure

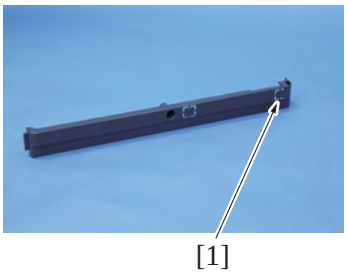
NOTE

- **The optional key counter kit, KIT-1 (4623-485), is required to install the key counter.**
- **Procedure for directly mounting the key counter to the main unit is described below.**
  For mounting the key counter to the optional working table WT-506, refer to WT-506 installation manual.

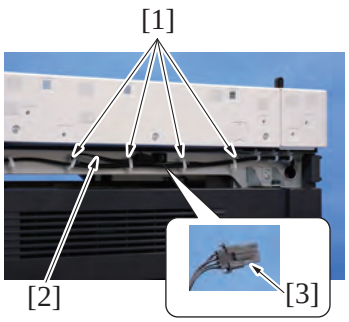
(1) Key counter kit KIT-1 (4623-485)

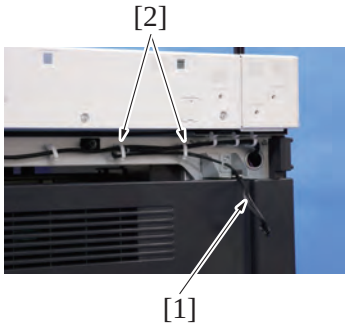
1. Remove the upper right cover.
   G.5.2.12 Upper right cover

2. Remove the split cover [1] of the top right cover.

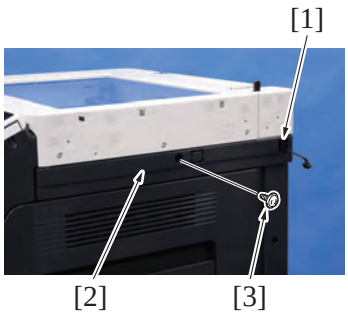


3. Remove the harness [2] for the key counter from the four wire saddles [1].
   Remove the connector cover [3].

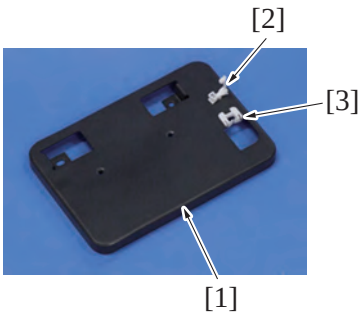




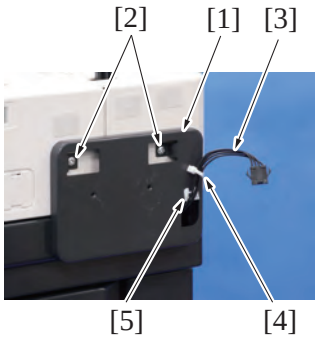
4. Route the harness [1] through two wire saddles [2] as shown in the illustration.



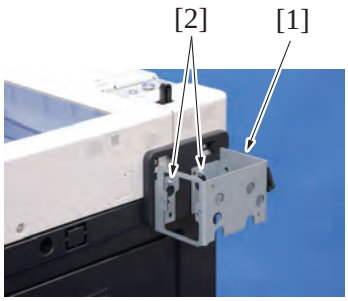
5. Route the harness through the hole [1] on the top right cover, and install the upper right cover [2] in the main body using screws [3].



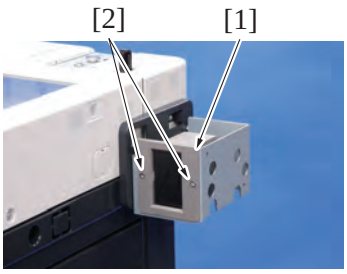
6. Attach the wire saddle [2] and edge cover [3] to the metal plate [1].



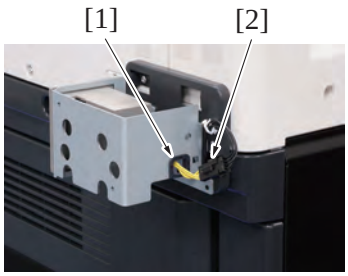
7. Prepare the two screws (M3 x 12).
8. Install the metal plate [1] using the prepared screws [2].
9. Attach the wire saddle [4] and edge cover [5] to the harness [3].



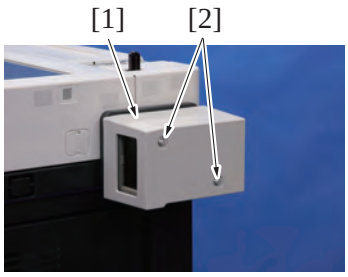
10. Using two screws [2], secure the key counter mounting bracket [1].
NOTE
- **For the screws, use the two screws (M3 x 8) that came with the product.**



11. Using two screws [2], secure the key counter socket [1].
NOTE
- **For the screws, use the two screws (M3 x 8) that came with the product.**



12. Attach the edge cover [1] to the key counter mounting bracket and fit the harness to the edge cover.
13. Connect the key counter socket connector [2].

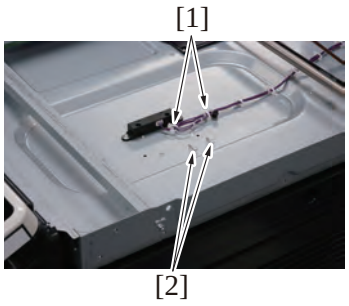


14. Using two screws (M3 x 8) [2], secure the key counter cover [1].

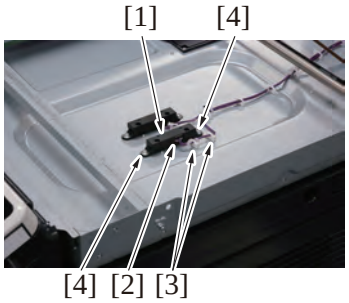
15. Select [Service Mode] -> [Billing Setting] -> [Management Function Choice] -> [Key Counter Only] or [Vendor 2] (Use the key counter and the vendor 2 together). Then, set the relative items.
For details on setting, see "I.7.3.2 Management Function Choice".

7.2 Original size sensor/2 (Option)

1. Remove the original glass assy.
G.5.2.6 Original glass assy

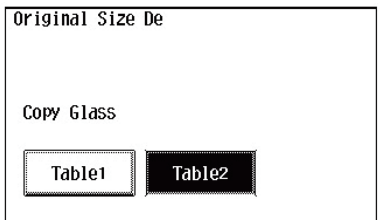


2. Remove the harness from the two wire saddles [1].
3. Install the two wire saddles [2].

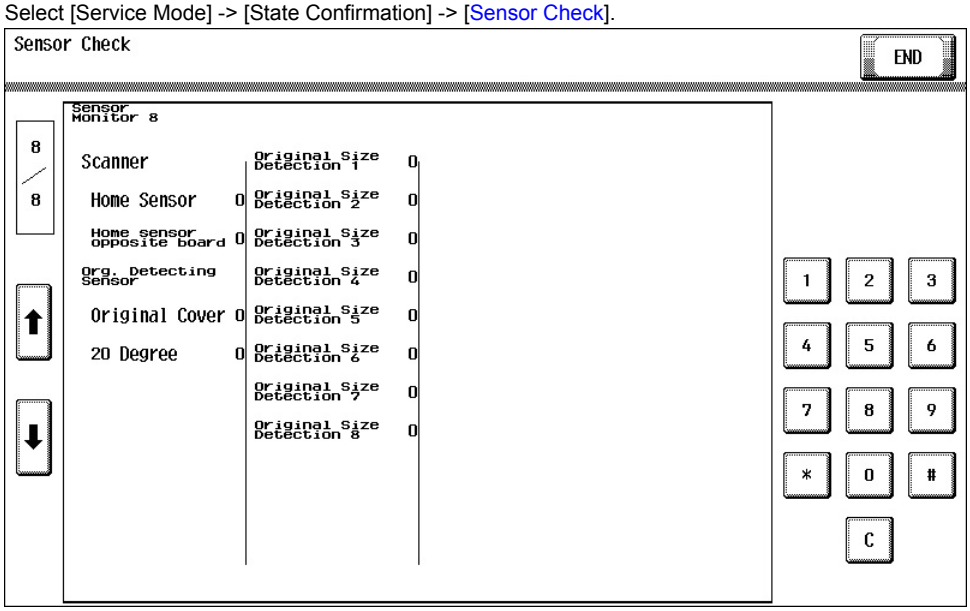


4. Connect the connector [2] to the original size sensor/2 [1].
5. Attach the harness to the two wire saddles [3].
6. Fix the original size sensor/2 (PS102) [1] with two screws [4].
   NOTE
   - **Refer to the Parts Guide Manual for the part numbers of the wire saddle, screws, and original size sensor.**

7. Select [Service Mode] -> [System 1] -> [Original Size Detection], and set the original glass to [Table2].



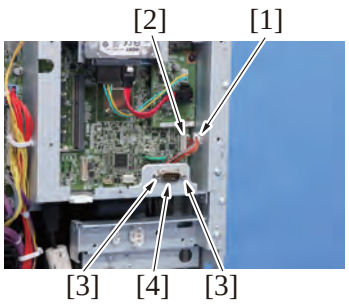
8. Select [Service Mode] -> [State Confirmation] -> [Sensor Check].



9. Set the original on the original glass, and check that the data for “Original Size Detection” changes from “0” to “1” on the screen.

7.3 CSRC cable

1. Remove the toner filter.
   F.6.1.2 Replacing the toner filter
2. Remove the upper rear cover.
   G.5.2.14 Upper rear cover



6. Reinstall the upper rear cover and toner filter.

3. Install the wire saddle [1] in the main body.
4. Connect the CSRC cable to the MFP board connector [2], and attach it to the wire saddle [1].
5. Attach the CSRC cable connector [4] to the main unit using the two screws [3].

NOTE

- **Refer to the Parts Guide Manual for the part numbers of the wire saddle, screws, and CSRC cable.**

H CLEANING/LUBRICATION

1. bizhub 367/287/227

1.1 Cleaning parts list

No.	Section	Parts name	Ref. page
1	Tray 1	Tray 1 feed roller	H.1.3.1 Tray 1 feed roller, tray 1 pick-up roller, tray 1 separation roller
2		Tray 1 pick-up roller	
3		Tray 1 separation roller	
4	Tray 2	Tray 2 feed roller	H.1.3.2 Tray 2 feed roller, tray 2 pick-up roller, tray 2 separation roller
5		Tray 2 pick-up roller	
6		Tray 2 separation roller	
7		Tray 2 transport roller	H.1.3.3 Tray 2 transport roller
8	Manual bypass tray	Manual bypass tray feed roller	H.1.3.4 Manual bypass tray feed roller
9		Manual bypass tray separation roller	H.1.3.5 Manual bypass tray separation roller
10	Scanner section	Original glass	H.1.3.6 Original glass
11		Scanner rails	H.1.3.7 Scanner rails
12		Mirrors	H.1.3.8 Mirrors
13		Lens	H.1.3.9 Lens

1.2 Lubrication parts list

NOTE

- **With this machine, the lubrication is not necessary.**

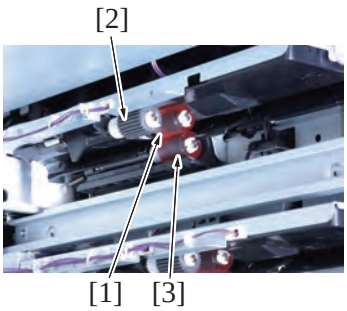
1.3 Cleaning procedure

NOTE

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

1.3.1 Tray 1 feed roller, tray 1 pick-up roller, tray 1 separation roller

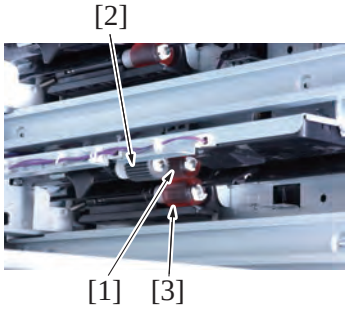
1. Remove the tray 1.
   G.5.2.15 Tray 1
2. Remove the tray 2.
   G.5.2.16 Tray 2



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

1.3.2 Tray 2 feed roller, tray 2 pick-up roller, tray 2 separation roller

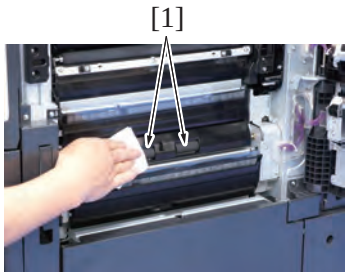
1. Remove the tray 1.
   G.5.2.15 Tray 1
2. Remove the tray 2.
   G.5.2.16 Tray 2



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

1.3.3 Tray 2 transport roller

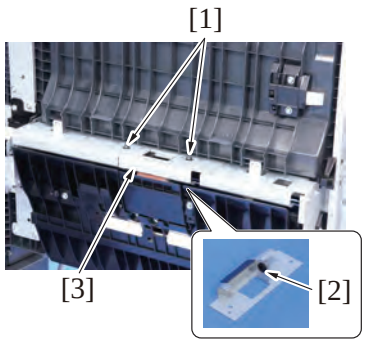
1. Open the right door.



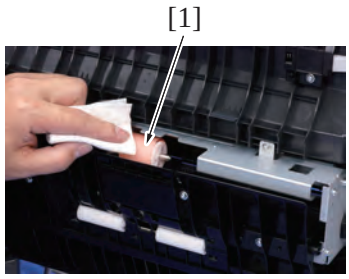
2. Using a cleaning pad dampened with alcohol, wipe the tray 2 transport rollers [1] clean of dirt.

1.3.4 Manual bypass tray feed roller

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



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

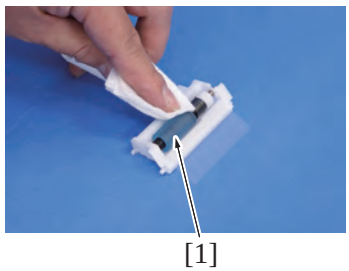


4. Using a cleaning pad dampened with alcohol, wipe the manual bypass tray feed roller [1] clean of dirt.

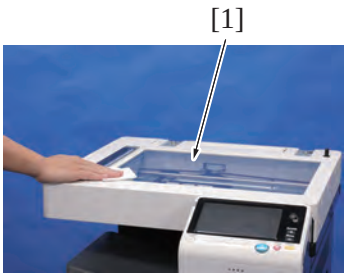
1.3.5 Manual bypass tray separation roller

1. Remove the manual bypass tray separation roller unit.
F.6.7.3 Replacing the manual bypass tray feed roller, manual bypass tray separation roller assy

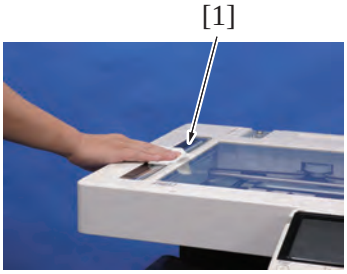
2. Using a cleaning pad dampened with alcohol, wipe the manual bypass tray separation roller [1] clean of dirt.



1.3.6 Original glass



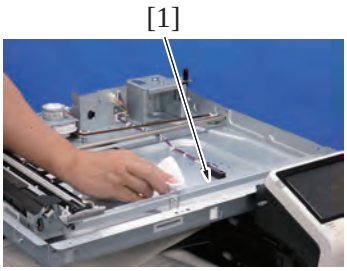
1. Using a cleaning pad dampened with alcohol, wipe the original glass [1] clean of dirt.



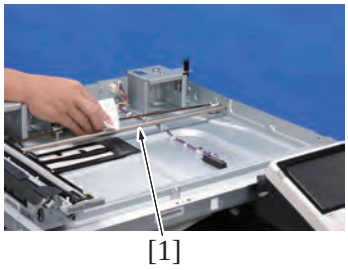
2. Using a cleaning pad dampened with alcohol, wipe the original reading glass [1] clean of dirt.

1.3.7 Scanner rails

1. Remove the original glass.
   G.5.2.6 Original glass assy

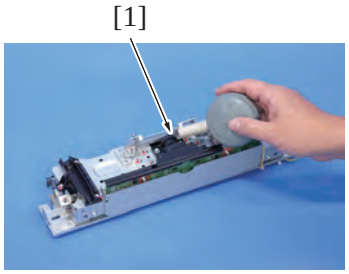


2. Using a cleaning pad dampened with alcohol, wipe the scanner rails [1] clean of dirt.
   NOTE
   - **Apply lubricant after cleaning.**



1.3.8 Mirrors

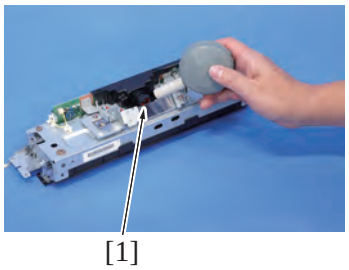
1. Remove the original glass.
   G.5.2.6 Original glass assy
2. Remove the CCD module unit.
   G.5.3.11 Scan-IR unit/CCD unit



3. Clean the mirror [1].

1.3.9 Lens

1. Remove the original glass.
   G.5.2.6 Original glass assy
2. Remove the CCD module unit.
   G.5.3.11 Scan-IR unit/CCD unit



3. Clean the lens [1].

2. Option

2.1 Cleaning parts list

2.1.1 PC-113/PC-213

No.	Section	Parts name	Ref. page
1	Feed section	Tray 3 feed roller	H.2.2.1 Tray 3 feed roller, tray 3 pick-up roller, tray 3 separation roller
2		Tray 3 pick-up roller	
3		Tray 3 separation roller	
4		Tray 4 feed roller	H.2.2.2 Tray 4 feed roller, tray 4 pick-up roller, tray 4 separation roller
5		Tray 4 pick-up roller	
6		Tray 4 separation roller	
7	Transport section	Tray 3 vertical transport roller	H.2.2.3 Tray 3 vertical transport roller, tray 4 vertical transport roller
8		Tray 4 vertical transport roller	

2.1.2 PC-413

No.	Section	Parts name	Ref. page
1	Feed section	Feed roller	H.2.3.1 Feed roller, Pick-up roller, Separation roller
2		Pick-up roller	
3		Separation roller	
4	Transport section	Vertical transport roller	H.2.3.2 Vertical transport roller

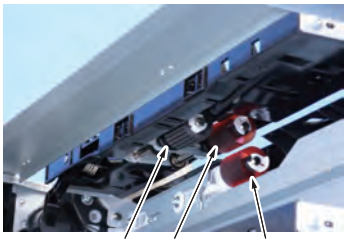
2.2 Cleaning procedure (PC-113/PC-213)

NOTE

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

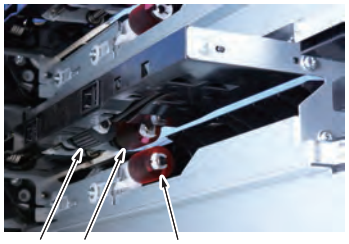
2.2.1 Tray 3 feed roller, tray 3 pick-up roller, tray 3 separation roller

1. Remove the tray 3.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)
2. Remove the tray 4 or storage box.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)
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.



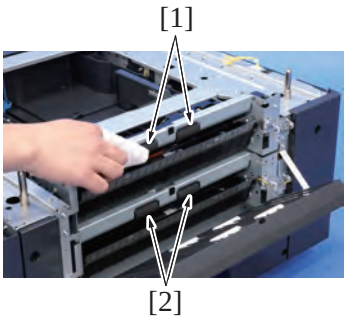
2.2.2 Tray 4 feed roller, tray 4 pick-up roller, tray 4 separation roller

1. Remove the tray 3.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)
2. Remove the tray 4.
   G.6.3.3 Tray 3, Tray 4 (PC-113/PC-213)
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.



2.2.3 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 roller [1], tray 4 vertical transport roller [2] clean of dirt.

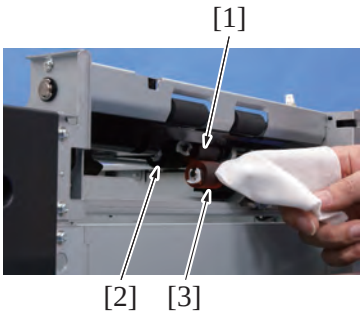
2.3 Cleaning procedure (PC-413)

NOTE

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

2.3.1 Feed roller, Pick-up roller, Separation roller

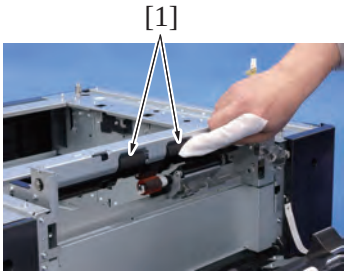
1. Slide out the tray.
2. Open the right door.



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

2.3.2 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.

I ADJUSTMENT/SETTING

1. How To Use The Adjustment/Setting Section

1.1 How to use the adjustment/setting section

- “Adjustment/Setting” contains detailed information on the adjustment items and procedures for this machine.

1.2 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, original 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

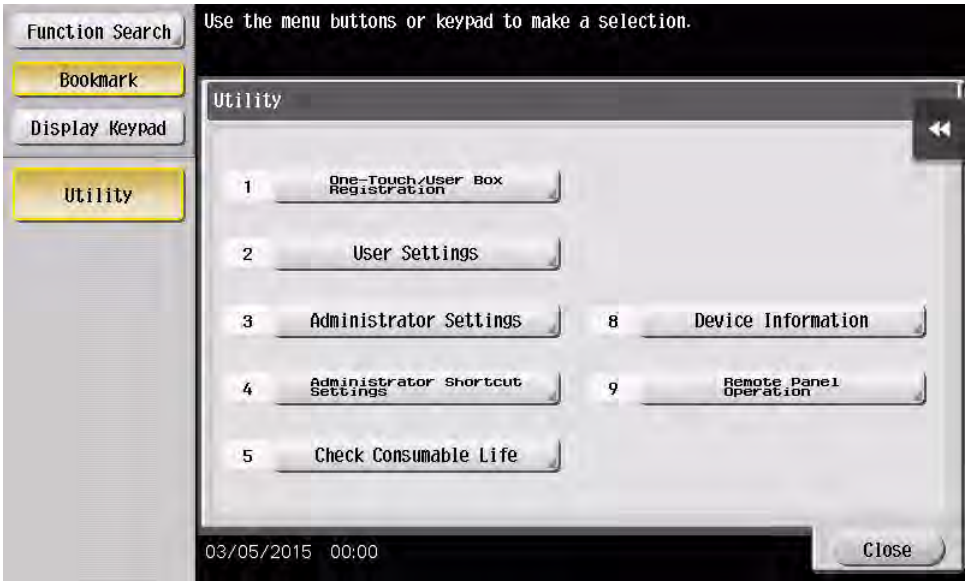
- To unplug the power cord of the machine before starting the service job procedures.
- If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.
- Special care should be used when handling the 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. List of utility mode

List of utility mode (outline)



NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**
- One-Touch/User Box Registration
  - Create One-Touch Destination
  - Create User Box
  - Limiting Access to Destinations
- User Settings
  - System Settings
  - Custom Display Settings
  - Copier Settings
  - Scan/Fax Settings
  - Printer Settings
  - Change Password
  - Change E-Mail Address
  - Register Authentication Information
  - Synchronize User Auth. and Account Track
- Administrator Settings [1/2]
  - System Settings
  - Administrator/Machine Settings
  - One-Touch/User Box Registration
  - User Authentication/Account Track
  - Network Settings
  - Copier Settings
  - Printer Settings
  - Fax Settings
  - System Connection
- Administrator Settings [2/2]
  - Security Settings
  - License Settings
  - Voice Guidance Settings
  - OpenAPI Certification Management Setting
  - External Memory Backup
  - Remote Access Setting
  - Eco Copier Settings
- Administrator Shortcut Settings
  - Register/Edit Shortcut
- Check Consumable Life
  - Print List
- My Panel Settings
- Device Information
- Remote Panel Operation

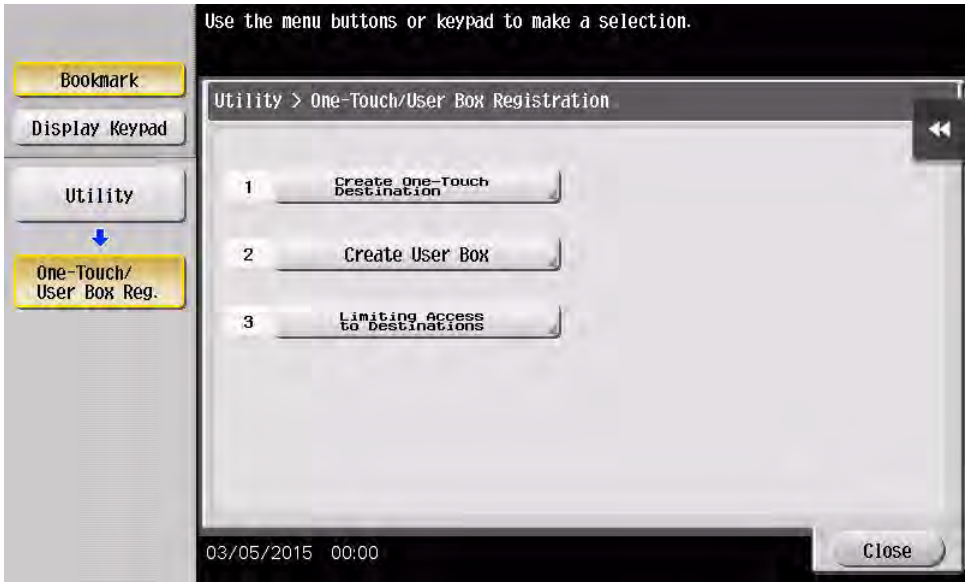
(1) Starting procedure

1. Touch Menu.
2. Touch [Utility].
3. The Utility Mode screen will appear.

(2) Exiting procedure

1. Touch the [Close] key.

2.1 One-Touch/User Box Registration



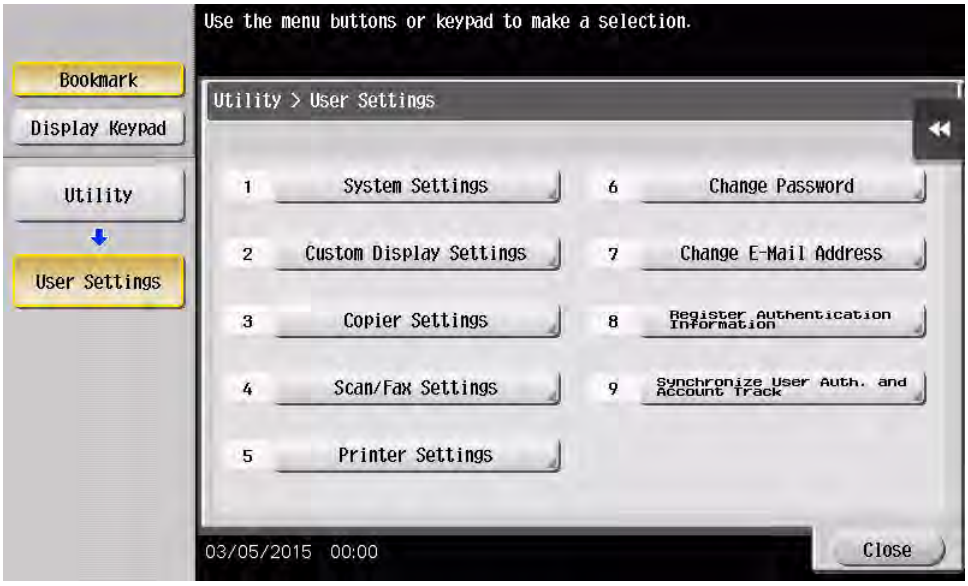
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**
- **In a machine where the user authentication function that uses an external server or MFP is set to ON, when you operate the machine without performing user authentication, this menu is not displayed.**
- **It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted.**

Key name	Function/Precondition		
Create One-Touch Destination	Address Book (Public)/ (Personal)	E-Mail	-
		User Box	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 or the vendor 2 is mounted. (It will be displayed when the key counter is mounted.)
		Fax	-
		PC (SMB)	-
		FTP	-
		WebDAV	-
		IP Address Fax	Setting will be available when [IP Address Fax Function] is set to “ON” in [Administrator Settings] -> [Network Settings] -> [Network Fax Settings] -> [Network Fax Function Settings].
		Internet Fax	Setting will be available when [Internet Fax Function] is set to “ON” in [Administrator Settings] -> [Network Settings] -> [Network Fax Settings] -> [Network Fax Function Settings].
	Group		-
	E-Mail Settings	E-Mail Subject	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the management device 2 is mounted.
		E-mail Body	
Create User Box	Public/Personal User Box		• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted. (It will be displayed when the key counter is mounted.) • It will not be displayed due to functional restriction upon user authentication when [User Box] is set to “Restrict.” • It will not be displayed when [Administrator Settings] -> [System Settings] -> [User Box Settings] -> [Allow/ Restrict User Box] is set to “Prohibit.”

Key name	Function/Precondition		
	Bulletin Board User Box		• It will be displayed when the optional fax kit FK-513 is mounted. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted. (It will be displayed when the key counter is mounted.) • It will not be displayed due to functional restriction upon user authentication when [User Box] is set to "Restrict." • It will not be displayed when [Administrator Settings] -> [System Settings] -> [User Box Settings] -> [Allow/Restrict User Box] is set to "Prohibit." • It will not be displayed due to functional restriction upon user authentication when [Fax] is set to "Restrict."
	Relay User Box		• It will be displayed when the optional fax kit FK-513 is mounted. • It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Relay] is set to "ON." • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted. (It will be displayed when the key counter is mounted.) • It will not be displayed due to functional restriction upon user authentication when [User Box] is set to "Restrict." • It will not be displayed when [Administrator Settings] -> [System Settings] -> [User Box Settings] -> [Allow/Restrict User Box] is set to "Prohibit."
Limiting Access to Destinations	Apply Levels/Groups to Destinations	Address Book	-
		Group	-
		Program	-

2.2 User Settings List

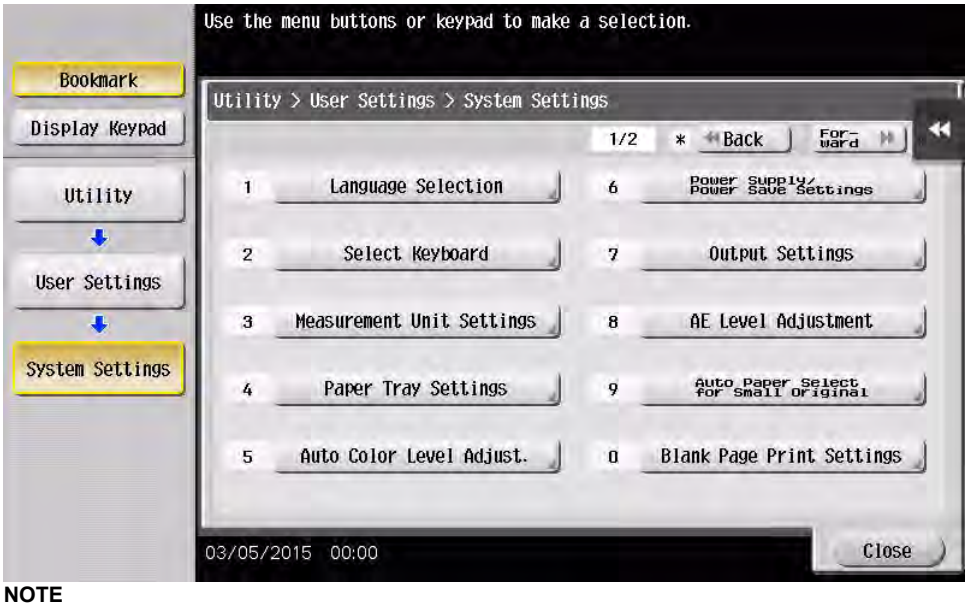


NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**
- User Settings
  - System Settings
  - Custom Display Settings
  - Copier Settings
  - Scan/Fax Settings
  - Printer Settings
  - Change Password
  - Change E-Mail Address
  - Register Authentication Information
  - Synchronize User Auth. and Account Track

2.2.1 System Settings

(1) User Settings > System Settings [1/2]



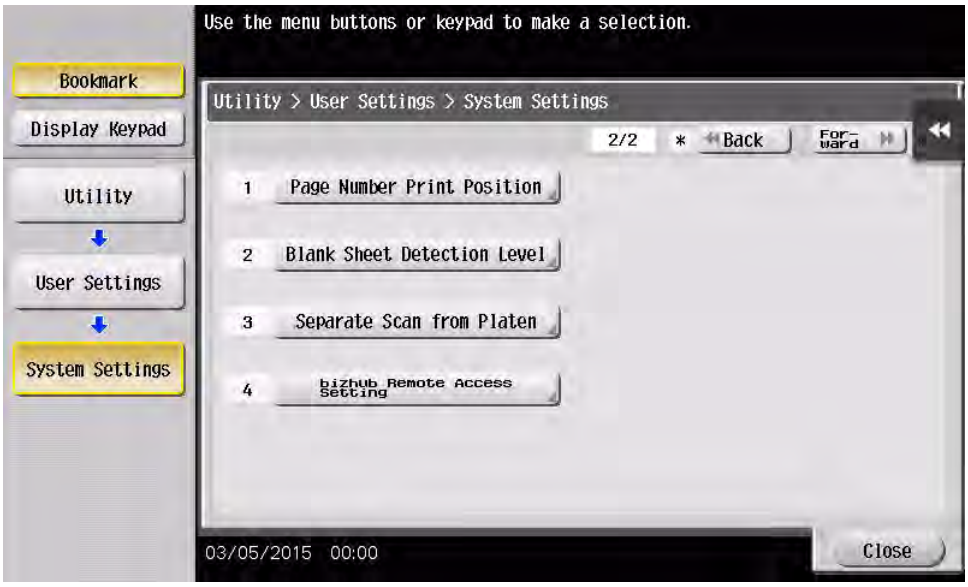
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition		
Language Selection	The language as a default depend on the marketing area selected in [Marketing Area] available from [System 1] under Service Mode.		
Select Keyboard	The type of keyboard to be displayed when [Local Keyboard] is selected depends on the language selected in [User Settings] -> [System Settings] -> [Language Selection].		
Measurement Unit Settings	-		
Paper Tray Settings	Auto Tray Selection Settings	-	
	Auto Tray Switch ON/OFF	-	
	No Matching Paper in Tray Setting	-	
	Print Lists	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 or the vendor 2 is mounted. (It will be displayed when the key counter is mounted.)	
Auto Color Level Adjust.	-		
Power Supply/Power Save Settings	Low Power Mode Settings Sleep Mode Settings	• It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to “Level 1” or “Level 2.” • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted. • The upper limit can be set up to 240 min. only when the switch number “157” is specified to “02” at HEX assignment by setting [Service Mode] -> [System 2] -> [Software Switch Setting].	
Output Settings	Print/Fax Output Settings	Print	• It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to “Level 1” or “Level 2.” • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted.
		Fax	• It will be displayed when the optional fax kit FK-513 is mounted. • It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to “Level 1” or “Level 2.” • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted.
	Output Tray Settings		• It will be displayed when the optional finisher FS-534/FS-534SD is mounted. • It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to “Level 1” or “Level 2.” • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted.

Key name	Function/Precondition
AE Level Adjustment	• It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to “Level 2.” • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted.
Auto Paper Select for Small Original	-
Blank Page Print Settings	• It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to “Level 2.” • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted.

(2) User Settings > System Settings [2/2]



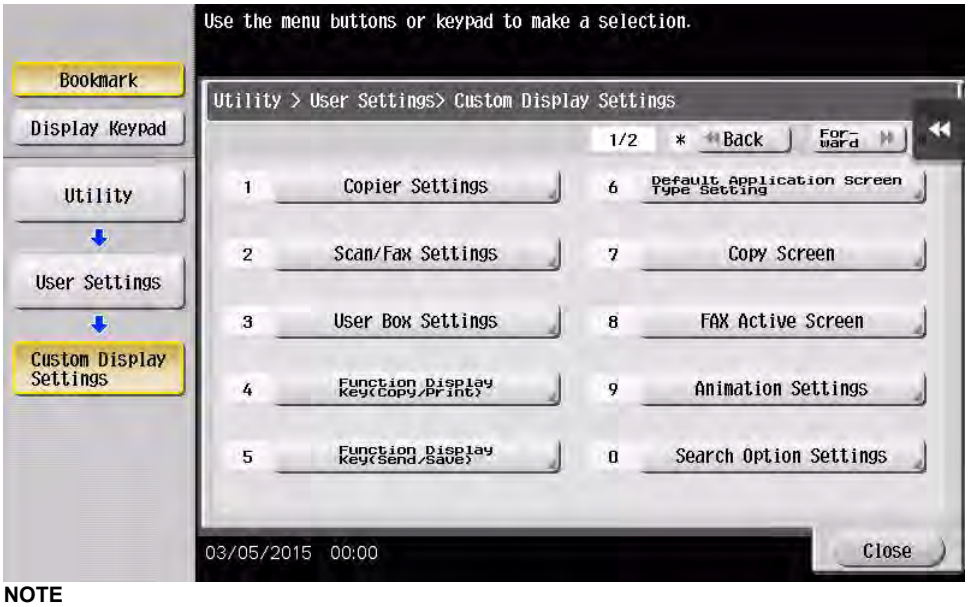
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Page Number Print Position	It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to “Level 2.”
Blank Sheet Detection Level	-
Separate Scan from Platen	-
bizhub Remote Access Setting	This is displayed when an Android tablet terminal is connected.

2.2.2 Custom Display Settings

(1) User Settings > Custom Display Settings [1/2]

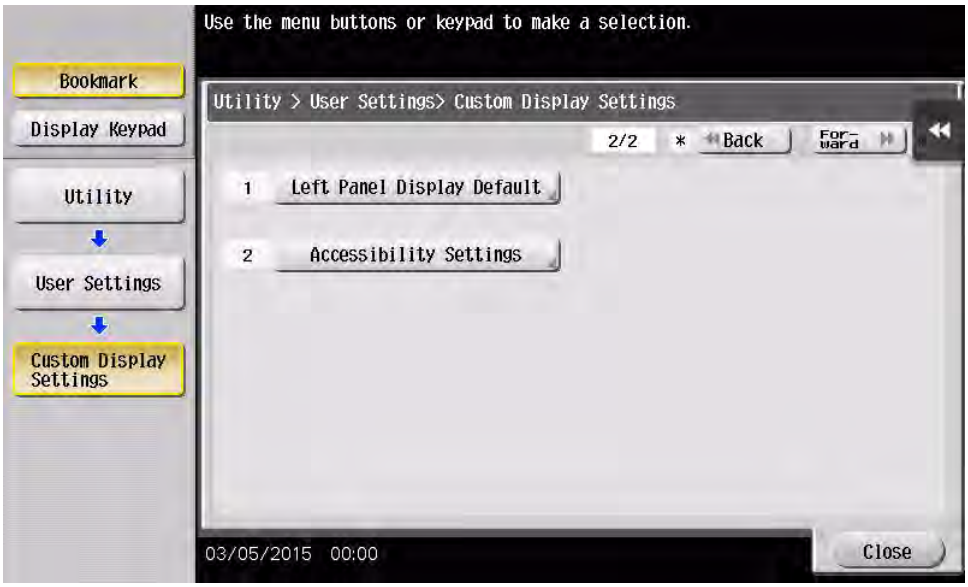


NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition	
Copier Settings	Default Tab	-
	Quick Settings 1	When this setting is set to ON, select the copy functions you wish to register.
	Quick Settings 2	
	Default Paper Type Display	This displays when a custom paper is registered.
Scan/Fax Settings	Default Tab	-
	Program Default	-
	Address Book Index Default	-
	Default Address Sort Method	-
	Default Address Display Method	-
User Box Settings	Default Tab	-
	Shortcut Key 1	When this setting is set to ON, select auxiliary functions to get their shortcut keys displayed on the screen.
	Shortcut Key 2	
Function Display Key (Copy/Print)	This is not displayed when [Administrator Settings] -> [System Settings] -> [Custom Display Settings] -> [Function Display Key Permission Setting] -> [Copy/Print] is set to “Restrict.”	
Function Display Key (Send/Save)	This is not displayed when [Administrator Settings] -> [System Settings] -> [Custom Display Settings] -> [Function Display Key Permission Setting] -> [Send/Save] is set to “Restrict.”	
Default Application Screen Type Setting	-	
Copy Screen	Copy Operating Screen	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that key counter or vendor 2 is mounted. However, this menu is available when the key counter is installed and [Service Mode] -> [Billing Setting] -> [Management Function Choice] -> [The next job reservation] is set to "License."
Fax Active Screen	TX Display	• It will be displayed when the optional fax kit FK-513 is mounted. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that key counter or vendor 2 is mounted.
	RX Display	
Animation Settings	-	
Search Option Settings	-	

(2) User Settings > Custom Display Settings [2/2]



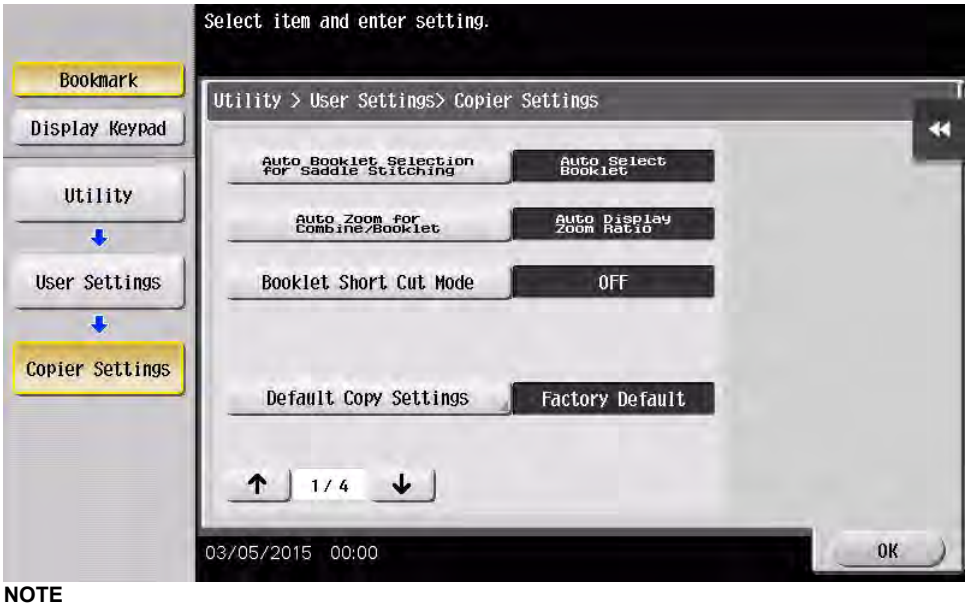
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Left Panel Display Default	-
Accessibility Settings	-

2.2.3 Copier Settings

(1) User Settings > Copier Settings [1/4]

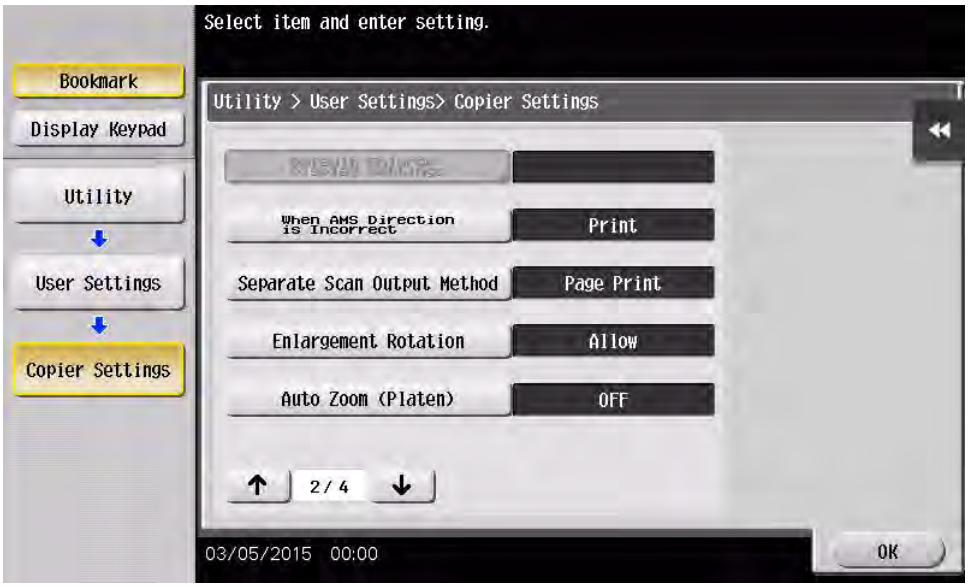


NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to “User's Guide.”**

Key name	Function/Precondition
Auto Booklet Selection for Saddle Stitching	It will be displayed when the optional finisher FS-534SD is installed.
Auto Zoom for Combine/ Booklet	-
Booklet Short Cut Mode	-
Default Copy Settings	• This menu is unavailable if user authentication is not made while either of authentication device 2 is set to set in the [Service Mode] -> [Billing Setting] -> [Management Function Choice]. • This menu is not available when the key counter is set or when a warning appears to inform that the vendor’s main power switch needs to be checked or coins (a card) are not inserted under the condition where the vendor 2 is set to Set in the [Service Mode] -> [Billing Setting] -> [Management Function Choice].

(2) User Settings > Copier Settings [2/4]

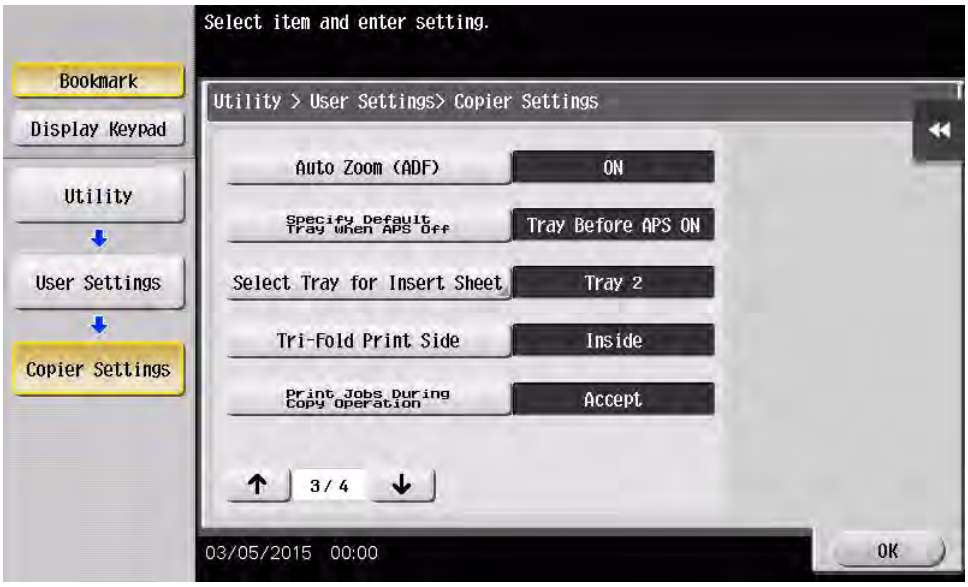


NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Default Enlarge Display Settings	Displayed when you select [Utility] -> [User Settings] -> [Copier Settings] in the enlarge display mode.
When AMS Direction is Incorrect	-
Separate Scan Output Method	-
Enlargement Rotation	-
Auto Zoom (Platen)	It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to "Level 1" or "Level 2."

(3) User Settings > Copier Settings [3/4]



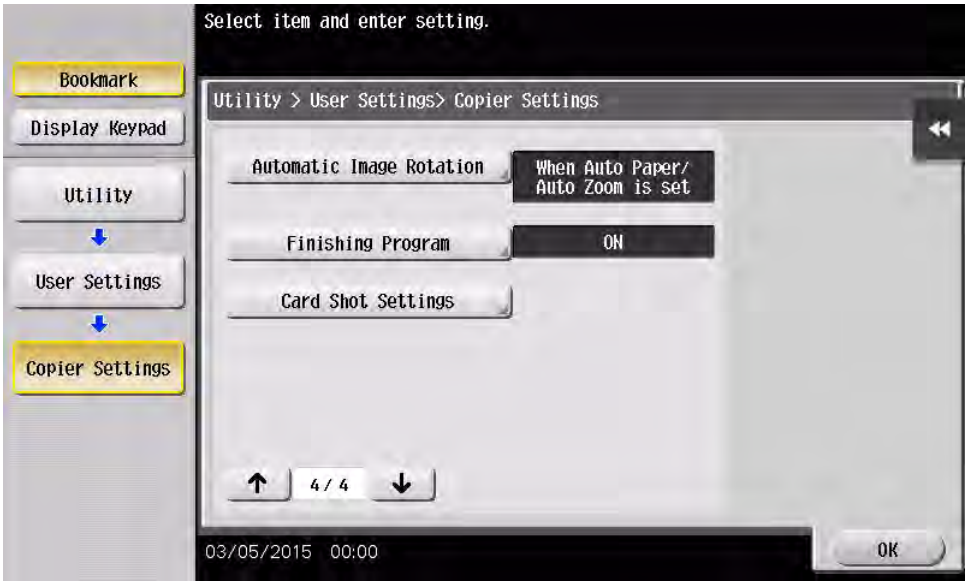
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Auto Zoom (ADF)	It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to "Level 1" or "Level 2."
Specify Default Tray when APS Off	
Select Tray for Insert Sheet	-

Key name	Function/Precondition
Tri-Fold Print Side	• It will be displayed when the optional finisher FS-534SD is installed. • It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to “Level 1” or “Level 2.”
Print Jobs During Copy Operation	It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to “Level 2.”

(4) User Settings > Copier Settings [4/4]



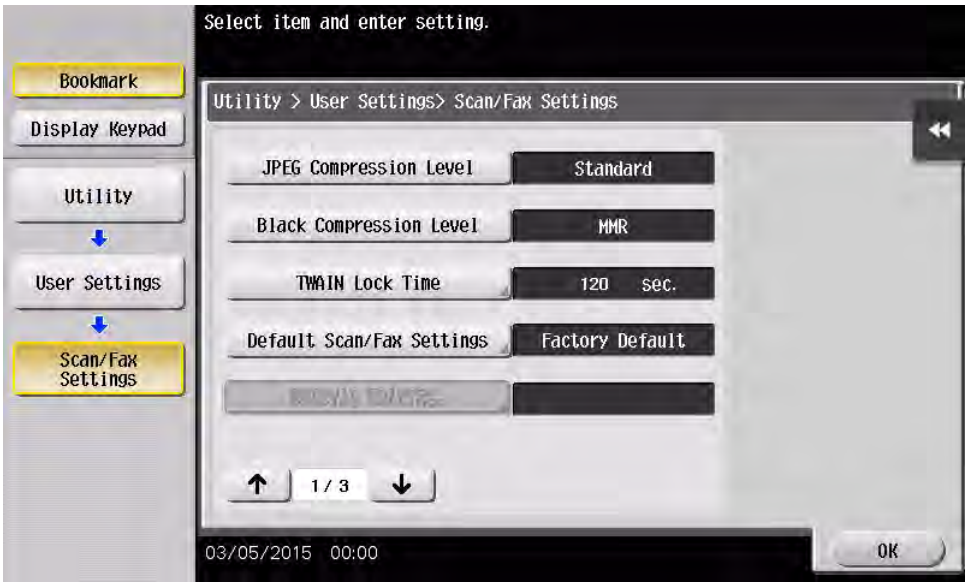
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to “User's Guide.”**

Key name	Function/Precondition	
Automatic Image Rotation	It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to “Level 1” or “Level 2.”	
Finishing Program	• It will be displayed when the optional finisher FS-533/FS-534/FS-534SD is mounted. • When selecting “ON,” select the contents to be registered in the finishing program.	
Card Shot Settings	Layout	-
	Zoom	-
	Store Original Size	-

2.2.4 Scan/Fax Settings

(1) User Settings > Scan/Fax Settings [1/3]

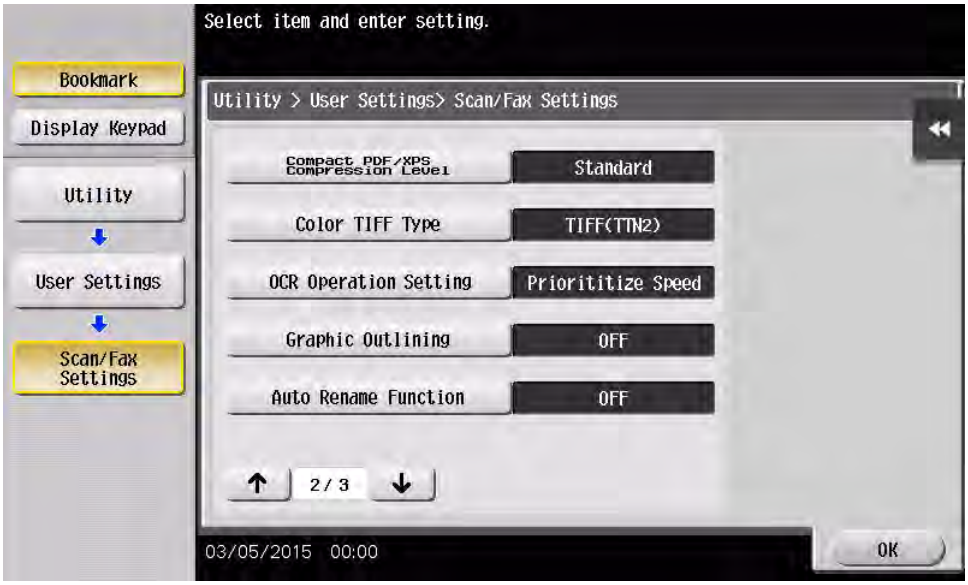


NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
JPEG Compression Level	-
Black Compression Level	-
TWAIN Lock Time	-
Default Scan/Fax Settings	• This menu is unavailable if user authentication is not made while either of authentication device 2 is set to set in the [Service Mode] -> [Billing Setting] -> [Management Function Choice]. • This menu is not available when the key counter is set or when a warning appears to inform that the vendor's main power switch needs to be checked or coins (a card) are not inserted under the condition where the vendor 2 is set to Set in the [Service Mode] -> [Billing Setting] -> [Management Function Choice].
Default Enlarge Display Settings	Displayed when you select [Utility] -> [User Settings] -> [Scan/Fax Settings] in the enlarge display mode.

(2) User Settings > Scan/Fax Settings [2/3]

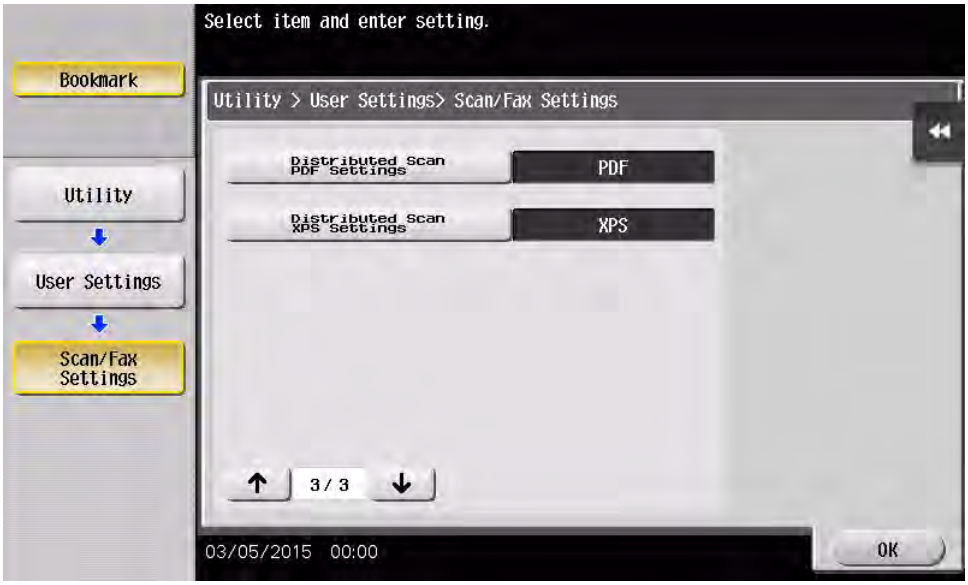


NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Compact PDF/XPS Compression Level	-
Color TIFF Type	-
OCR Operation Setting	• This is displayed when the optional i-Option LK-105 v4 and upgrade kit UK-211 are enabled. • To specify the file type to DOCX or XLSX, the optional i-Option LK-110 v2 and upgrade kit UK-211 are required.
Graphic Outlining	-
Auto Rename Function	-

(3) User Settings > Scan/Fax Settings [3/3]

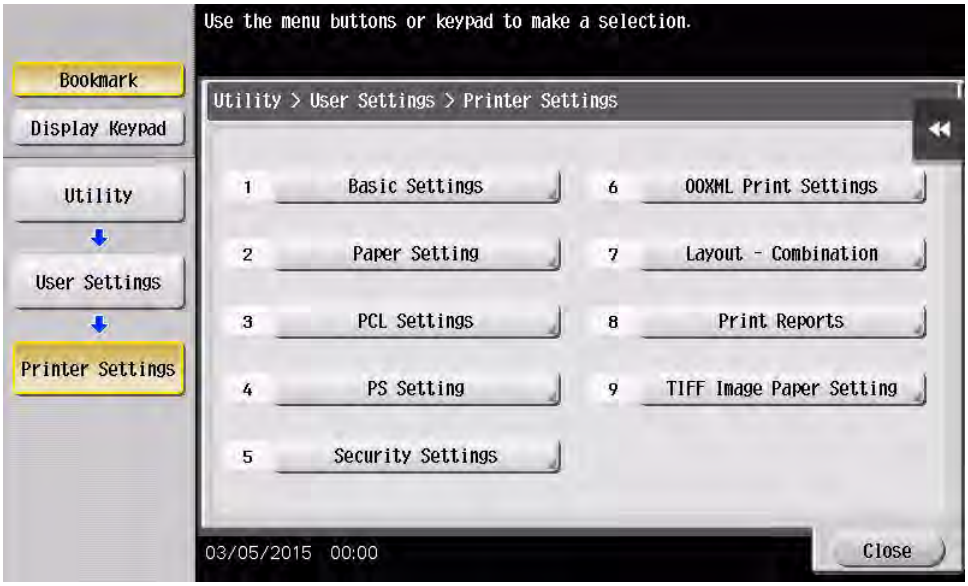


NOTE
- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Distributed Scan PDF Settings	This displays when the following conditions are satisfied. • The authentication server type is set to Active Directory. • [Distributed Scan Settings] is set to [Use] in [Administrator Settings] -> [Network Settings]. • User allows scan operation.
Distributed Scan XPS Settings	

2.2.5 Printer Settings

User Settings > Printer Settings



NOTE
- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition	
Basic Settings	PDL Setting	-
	Original Type	-
	Edge Enhancement	-
	Number of Copies	-
	Original Direction	-
	Toner Save	-
	Fold Type Settings	It will be displayed when the optional finisher FS-534SD is installed.
	Half-Fold/Tri-Fold Specification Settings	
	Binding Direction Adjustment	-
	Spool Print Jobs in HDD before RIP	-
	A4/A3 <--> LTR/LGR Auto Switch	-
	Banner Sheet Setting	-
	Line Width Adjustment	-
	Gray Background Text Correction	-
	Minimal Print	-
	OOXML Print Mode	-
Paper Setting	Paper Tray	-
	Paper size	-
	Paper Type	-
	2-Sided Print	-
	Binding Position	-
	Staple	It will be displayed when the optional finisher FS-533/FS-534/FS-534SD is mounted.

Key name	Function/Precondition	
	Punch	• It will be displayed when the optional punch kit PK-519 is installed in the finisher FS-533. • It will be displayed when the optional punch kit PK-520 is installed in the finisher FS-534/FS-534SD. • The number of punch holes being set is available from [Service Mode] -> [Finisher].
	Banner Paper Tray	-
PCL Settings	Font Settings	-
	Symbol Set	-
	Font Size	-
	Line/Page	Default setting value differs depending on the values by setting [Utility] -> [User Setting] -> [Printer Setting] -> [Basic Settings] -> [Original Direction] and setting [Utility] -> [User Setting] -> [Printer Setting] -> [Paper Setting] -> [Paper Size].
	Thin Line	-
	CR/LF Mapping	-
	Bar Code Font Settings	This is displayed when the optional i-Option LK-106 and upgrade kit UK-211 are enabled.
PS Setting	Print PS Errors	-
Security Settings	Verify XPS/OOXML Digital Signature	-
OOXML Print Settings	Print Sheet/Book	-
	Paper size	The paper size selected in [Foolscap Size Setting] in service mode is displayed.
	Paper Type	-
Layout - Combination	-	
Print Reports	Configuration Page	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted. (It will be displayed when the key counter is mounted.)
	Demo Page	
	PCL Font List	
	PS Font List	
TIFF Image Paper Setting	Paper Selection	When “Auto Paper Select” is selected and paper larger than the image size is not in the paper trays, paper size error occurs.

2.2.6 Change Password

NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Change Password	• When conducting user authentication (MFP only), it will be displayed when the authentication is complete. • When conducting user authentication or account track input, it will be displayed when login is authenticated as user box administrator. • When [Password Rules] which can be displayed by [Utility] -> [Administrator Settings] -> [Security Settings] -> [Security Details] is set to “Enable”, password using the single letter or the password same with the previous one, less than 8-digit will not be modified. • When [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, entering the incorrect password three times will cause access lock.

2.2.7 Change E-Mail Address

NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Change E-Mail Address	• When conducting user authentication (MFP only), it will be displayed when the authentication is complete. • It will be displayed when [Administrator Settings] -> [Security Settings] -> [Administrator Security Levels] is set to “Level 2.”

2.2.8 Register Authentication Information

NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Register Authentication Information	It will be displayed when user authentication (MFP) is completed and the following is met; • [Biometric/IC Card Info. Registration] is set to “Allow” in [Administrator Settings] -> [System Settings] -> [Restrict User Access] -> [Restrict Access to Job Settings]. • [Biometric/IC Card Info. Registration] is set to “Allow” in [Administrator Settings] -> [User Authentication/ Account Track] -> [User Authentication Settings] -> [User Registration] -> [Function Permission].

2.2.9 Synchronize User Auth. and Account Track

NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

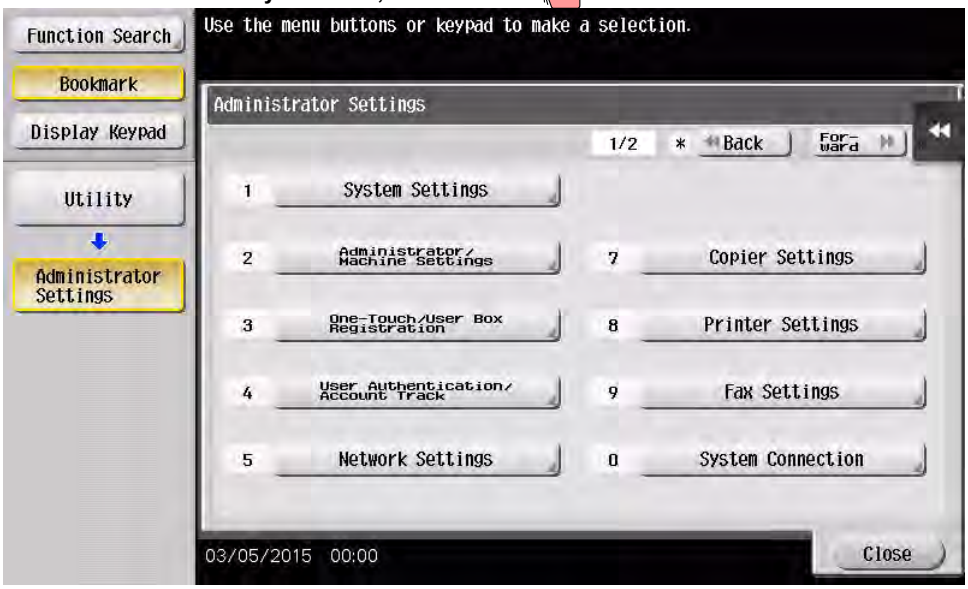
Key name	Function/Precondition
Synchronize User Auth. and Account Track	• When conducting user authentication (ON (MFP), External Server Authentication, or Main + External Server), it will be displayed only when the authentication is complete. • It will be displayed when [Administrator Settings] -> [User Authentication/Account Track] -> [General Settings] -> [Synchronize User Authentication & Account Track] is set to “Synchronize by User.”

2.3 Administrator Settings List [1/2]

Administrator settings outline 1/2

NOTE

- **The Administrator Settings will be available by entering the administrator password (16 digits) set by the Administrator Settings or Service Mode. (The administrator password is initially set to “1234567812345678.”)**
- **When [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, entering the incorrect administrator password three times will cause access lock. The access lock is released after the lapse of a predetermined period of time (Default setting: 5 min.) after the main power switch is turned OFF and then ON more than 10 seconds later. The access lock can be released by [Service Mode] -> [Enhanced Security] -> [Administrator unlocking].**
- **For details of the utility functions, refer to "User's Guide."**



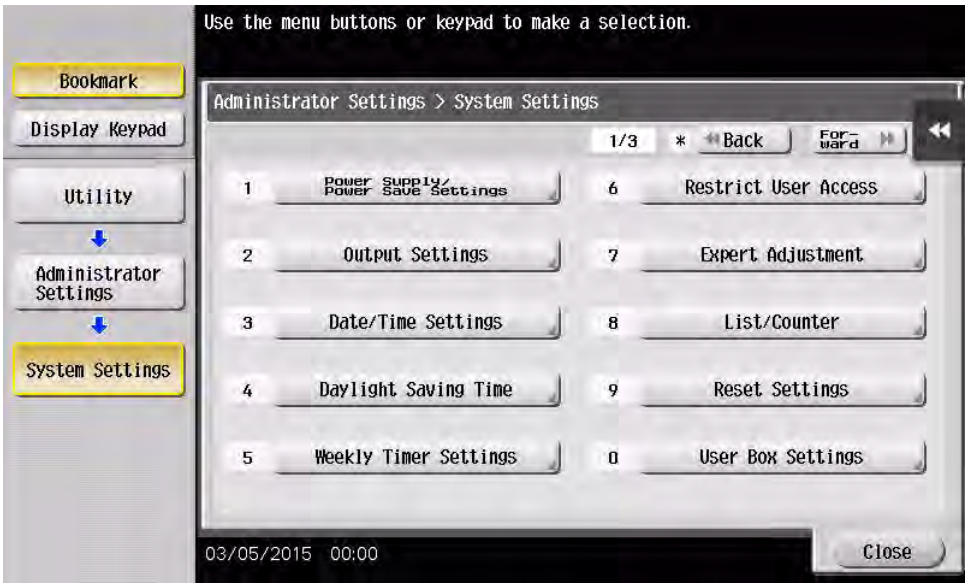
- Administrator Settings [1/2]
  - System Settings
  - Administrator/Machine Settings
  - One-Touch/User Box Registration
  - User Authentication/Account Track
  - Network Settings
  - Copier Settings
  - Printer Settings
  - Fax Settings
  - System Connection
- Administrator Settings [2/2]
  - Security Settings
  - License Settings
  - Voice Guidance Settings
  - OpenAPI Certification Management Setting
  - External Memory Backup
  - Remote Access Setting
  - Eco Copier Settings

2.3.1 System Settings

NOTE

- **Keys displayed on screens are different depending on the setting.**

(1) Administrator Settings > System Settings [1/3]



NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

(a) Power Supply/Power Save Settings

Key name	Function/Precondition
Low Power Mode Settings	The upper limit can be set up to 240 min. only when the switch number “157” is specified to “02” at HEX assignment by setting [Service Mode] -> [System 2] -> [Software Switch Setting].
Sleep Mode Settings	• When [Service Mode] -> [System 1] -> [Sleep ON/OFF Choice Setting] is allowed, the setting to turn sleep on and off displays and becomes selectable. • The sleep mode will begin in 48 hours even if it sets it to “OFF.” • The upper limit can be set up to 240 min. only when the switch number “157” is specified to “02” at HEX assignment by setting [Service Mode] -> [System 2] -> [Software Switch Setting].
Power Key Setting	In ErP auto power OFF mode, this machine cannot receive data or faxes, and also it cannot scan or print an original.
Power Save Settings	-
Enter Power Save Mode	-
Power Consumption in Sleep Mode	-
Power Saving Fax/Scan	This function is available when the option other than “Copy” is selected in [Administrator Settings] -> [System Settings] -> [Reset Settings] -> [System Auto Reset] -> [Priority Mode].

(b) Output Settings

Key name	Function/Precondition	
Print/Fax Output Settings	Print	-
	Fax	[Fax] will be displayed when the optional fax kit FK-513 is mounted.
Output Tray Settings	• It will be displayed when the optional finisher FS-534/FS-534SD is mounted. • It will be displayed when the optional job separator JS-506 is mounted.	
Shift Output Each Job	• It will be displayed when the optional finisher FS-533/FS-534/FS-534SD is mounted. • It will be displayed when the optional job separator JS-506 is mounted.	

(c) Date/Time Setting

Key name	Function/Precondition
Date/Time Setting	When [Administrator Settings] -> [Network Settings] -> [Detail Settings] -> [Time Adjustment Setting] is set to “ON”, [Set Date] will be displayed. Touch [Set Date] and modify the time.

(d) Daylight Saving Time

Key name	Function/Precondition
Daylight Saving Time	When setting to “Yes”, set the time difference to move up. • Default setting: 60 min. • Setting range: 1 to 150

(e) Weekly Timer Settings

NOTE

- **It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted.**

Key name	Function/Precondition
Weekly Timer ON/OFF Settings	-
Time Settings	-
Date Settings	-
Select Time for Power Save	When “Yes” is selected, using the 10-key pad, input the Power Save Start Time and Power Save End Time.
Password for Non-Business Hours	When setting to “Yes”, enter the password (eight digits).
Tracking Function Settings	-
Display ON/OFF Time	-

(f) Restrict User Access

Key name		Function/Precondition
Restrict Program Function Setting	-	
Copy Program Lock Settings	-	
Delete Saved Copy Program	-	
Restrict Access to Job Settings	Changing Job Priority	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted. • If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, selecting “Allow” for [Registering and Changing Addresses] cancels enhanced security mode. • The [Biometric/IC Card Info. Registration] key displays if authentication device 2 is mounted via [Service Mode] -> [Billing Setting] -> [Management Function Choice], and [Administrator Settings] -> [User Authentication/Account Track] -> [General Settings] -> [User Authentication] is set to "ON (MFP)." • [Synchronize User Auth. and Account Track] does not display when [Administrator Settings] -> [User Authentication/Account Track] -> [General Settings] -> [Synchronize User Authentication & Account Track] is set to “Synchronize by User.”
	Delete Other User Jobs	
	Registering and Changing Addresses	
	Changing Zoom Ratio	
	Changing the “From” Address	
	Change Registered Overlay	
	Biometric/IC Card Info. Registration	
	Synchronize User Authentication & Account Track	
Restrict Operation	Restrict Broadcasting	-

(g) Expert Adjustment

NOTE

- **It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted. (It will be displayed when the Key Counter is mounted when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.33 is set to [00000001] at Bit assignment/[01] at HEX assignment.)**

Key name		Function/Precondition
AE Level Adjustment	-	
Printer Adjustment	Leading Edge Adjustment	This menu is unavailable when the key counter is not inserted while only the key counter is set to Set by [Service Mode] -> [Billing Setting] -> [Management Function Choice].
	Centering	
	Leading Edge Adjustment (Duplex Side 2)	
	Centering (Duplex 2nd Side)	
	Erase Leading Edge	It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to “Level 2.” • The adjusted values from [Erase Leading Edge] are also updated to the service mode as the "I.5.4.9 Lead Edge Erase Adjustment" function in service mode is opened to administrators. • The adjusted values from [Vertical Adjustment] are also updated to the service mode as the "I.5.4.3.(5) Paper Feed Direction Adj." function in service mode is opened to administrators.
	Vertical Adjustment	
	Media Adjustment	This function is provided to open [Transfer Voltage Fine Adj] of Service Mode up to administrator and the fine-adjusted value is reflected in the Service Mode setting.
Finisher Adjustment	Center Staple Position	It will be displayed when the optional finisher FS-534/FS-534SD is mounted.

Key name	Function/Precondition	
	Half-Fold Position	It will be displayed when the optional finisher FS-534SD is installed.
	1st Tri-Fold Position Adjustment	
	2nd Tri-Fold Position Adjustment	
	Punch Horizontal Position Adjustment	It will be displayed when the optional punch kit PK-520 is installed in the finisher FS-534/FS-534SD.
	Paper Alignment Plate Settings	It will be displayed when the optional finisher FS-533 is installed.
	Punch Regist Loop Size Adjustment	• It will be displayed when the optional punch kit PK-519 is installed in the finisher FS-533. • It will be displayed when the optional punch kit PK-520 is installed in the finisher FS-534/FS-534SD.
Gradation Adjustment	Maximum Density Adjustment	This menu is unavailable when the key counter is not inserted while only the key counter is set to set by [Service Mode] -> [Billing Setting] -> [Management Function Choice].
	Gradation Adjustment	
	Initialization	
Scanner Area	Scanner Adjustment: Leading Edge	• It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to “Level 2.” • This menu is unavailable when the key counter is not inserted while only the key counter is set to set by [Service Mode] -> [Billing Setting] -> [Management Function Choice]. • The adjusted values from [Scan Area] are also updated to the service mode as the "I.5.4.4 Scan Area" function in service mode is opened to administrators.
	Scanner Adjustment: Centering	
	Horizontal Adjustment	
	Vertical Adjustment	
ADF Adjustment	Centering	It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to “Level 2.”
	Original Stop Position	
	Centering Auto Adjustment	• It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to “Level 2.” • When the adjustment result is [Unable], confirm the orientation of the original document and manually adjust the [Original Stop Position].
	Auto Adj. of Stop Position	
Line Detection	Prior Detection Setting	Be aware that selecting “No” and performing the pre-detection with [Service Mode] -> [Machine] -> [ADF Scan Glass Contamination] will display “NG.”
	Feed Cleaning Settings	-
User Paper Settings	• It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to “Level 2.” • The feature available from [Service Mode] -> [System 2] -> [User Paper Settings] is extended to Administrator. However, the fusing temperature setting is not possible in Administrator Settings.	
Erase Adjustment	Non-Image Area Erase Operation Settings	-
PS Designer Settings	-	
Drum Dry	-	
Max. Density Adjustment	-	

(h) List/Counter

Key name	Function/Precondition	
Management List	Job Settings List	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted. (It will be displayed when the Key Counter is mounted when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.33 is set to [00000001] at Bit assignment/ [01] at HEX assignment.)
Paper Size/Type Counter	-	
Meter Counter List	Setting will be available when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that management device 2 or vendor 2 is mounted.	
Check Consumables List		
Transmission Meter Count and Device Information	• The counter information is collected via CS Remote Care. • Though this setting is set to [Allow], the information is not sent if [Service Mode] -> [System 2] -> [Acquiring Settings] is set to “OFF.”	
TX Operation Log Output	This is displayed when [Administrator Settings] -> [Security Settings] -> [Security Details] -> [TX Operation Log] is set to “Save.”	

(i) Reset Settings

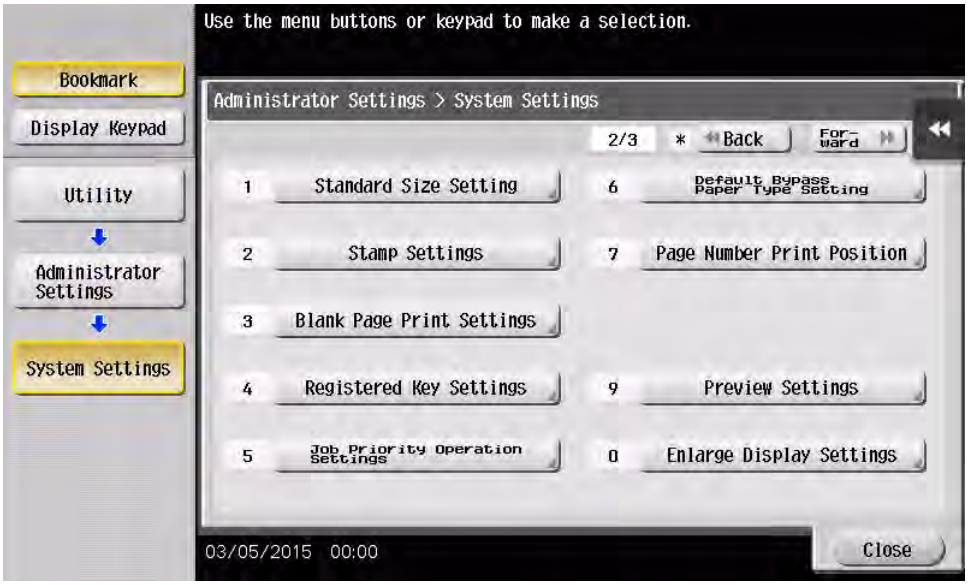
Key name	Function/Precondition
System Auto Reset	The screen saver function displays when the screen saver application is registered.
Auto Reset	-

Key name	Function/Precondition		
Job Reset	When Account is changed	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted.	
	When original is set on ADF	-	
	Next Job	Staple Setting	-
		Original Set/Bind Direction	-
		Reset Data After Job	-
	Default Basic/Enlarge Display Common Setting	-	

(j) User Box Settings

Key name	Function/Precondition
Delete Unused User Box	-
Delete Secure Print Documents	-
Auto Delete Secure Document	-
Encrypted PDF Delete Time	-
ID & Print Delete Time	This is displayed when [Administrator Settings] -> [User Authentication/Account Track] -> [User Authentication Settings] -> [Administrative Settings] -> [ID & Print Settings] is set to “ON.”
Document Hold Setting	-
External Memory Function Settings	-
Allow/Restrict User Box	-
ID & Print Delete after Print Setting	-
Document Delete Time Setting	-
Document in MFP Shared Folder Delete Time Setting	This is displayed when [Administrator Settings] -> [Network Settings] -> [SMB Settings] -> [SMB Server Settings] -> [Share SMB File Setting] is set to “ON”.

(2) Administrator Settings > System Settings [2/3]



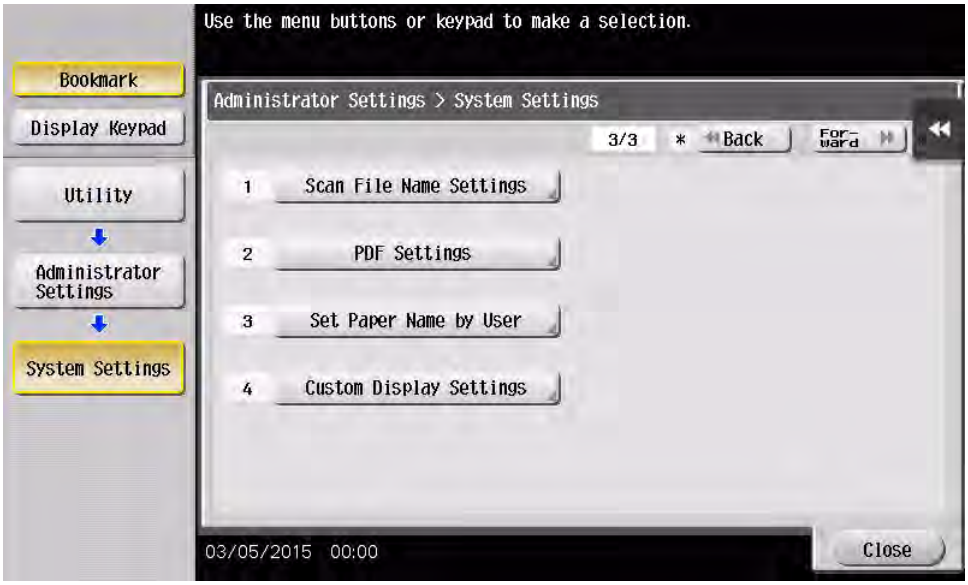
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition	
Standard Size Setting	Original Glass Original Size Detect	It will be displayed when [Service Mode] -> [Enhanced Security] -> [Administrator Feature Level] is set to “Level 2.”
	Foolscap Size Setting	
Stamp Settings	Header/Footer Settings	-
	Fax TX Settings	-

Key name	Function/Precondition	
Blank Page Print Settings	-	
Registered Key Settings	Hard Key	-
	Softkey	-
Job Priority Operation Settings	Fax RX Job Priority	-
	Skip Job (Fax)	-
	Skip Job (Copy, Print)	-
Default Bypass Paper Type Setting	-	
Page Number Print Position	-	
Preview Settings	Original Direction Confirmation Screen	-
	Realtime Preview	-
	Set key Initial display	-
	Preview Display Conditions (Standard Application)	-
	Preview Display Conditions (Registered Application)	-
Enlarge Display Settings	Display Default Settings	-
	Apply Basic Setting to Enlarge Display	-

(3) Administrator Settings > System Settings [3/3]



NOTE

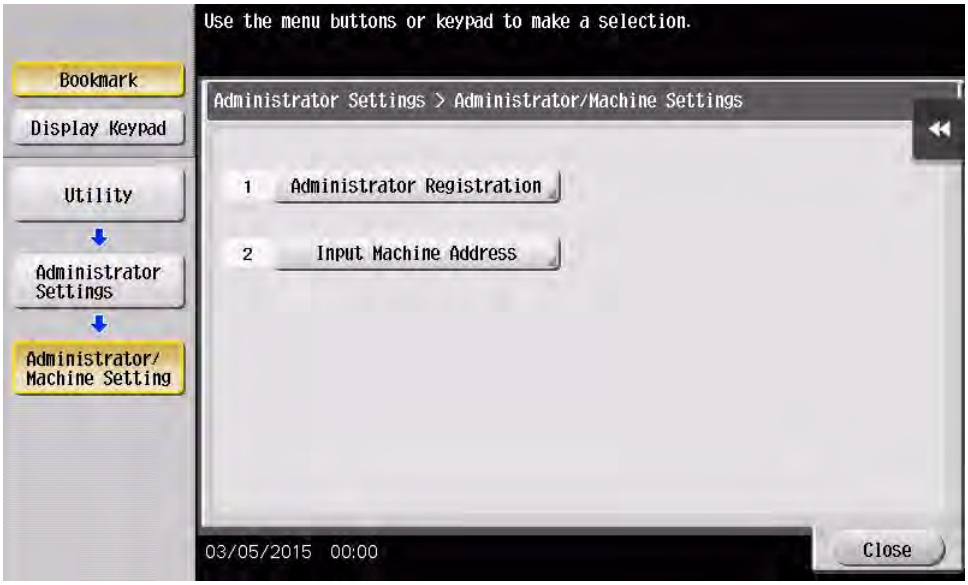
- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition	
Scan File Name Settings	Function Mode Initial	-
	Supplementary File Name	-
PDF Settings	PDF/A Default Settings	• This is displayed when the optional i-Option LK-102 v3 and upgrade kit UK-211 are enabled. • To use the searchable PDF function, the optional upgrade kit UK-211 and i-Option LK-105 v4 is required.
	PDF Web Optimization Default Settings	
	Searchable PDF Settings	
Set Paper Name by User	-	

Key name	Function/Precondition		
Custom Display Settings	Main Menu Default Settings	-	
	Main Menu Display Settings	-	
	Custom Function Pattern Selection	When a custom function pattern is registered or imported in [Service Mode] -> [System 2] -> [Custom Pattern], the pattern ([Custom Pattern 1] to [Custom Pattern 3]) also can be selected.	
	User/Admin Function Permissions	Setting is disabled if user authentication or account track is not performed.	
	Function Display Key Permission Setting	Copy/Print	When selecting [Allow], [Function Display Key (Copy/Print)] is displayed in [User Settings] -> [Custom Display Settings] and you can configure the setting.
		Send/Save	When selecting [Allow], [Function Display Key (Send/Save)] is displayed in [User Settings] -> [Custom Display Settings] and you can configure the setting.
	Temporary Change Language Setting	The temporarily enabled language is returned to the language configured in [User Settings] after any of the following operations. • Main power switch OFF • Power key OFF • Sleep mode • Low power mode • System Auto Reset • Logout	
	Display 10 Keypad when entering Number of Sets	-	
	Widget Settings	-	
	Slide Menu Settings	-	

2.3.2 Administrator/Machine Settings

Administrator Settings > Administrator/Machine Settings



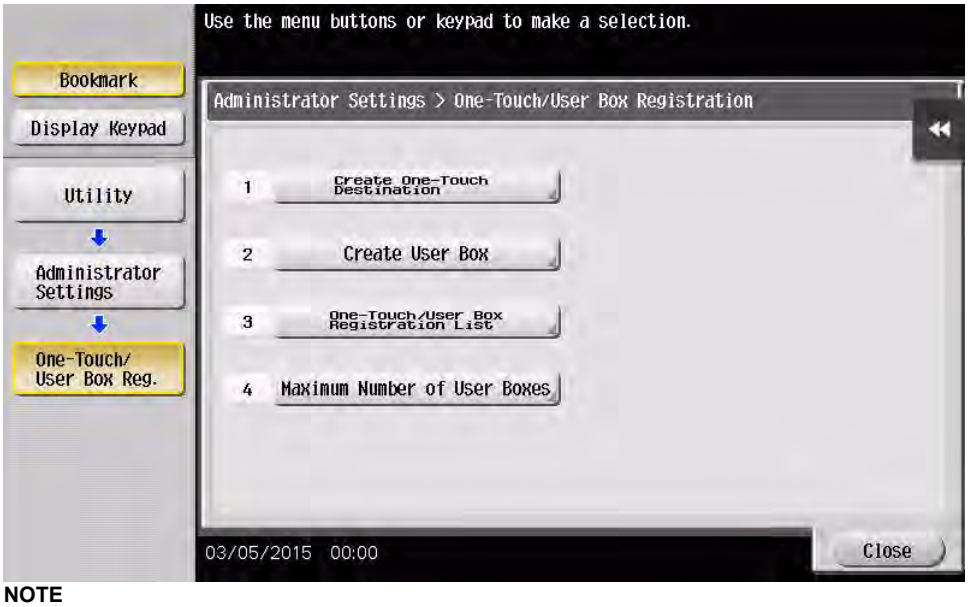
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Administrator Registration	-
Input Machine Address	-

2.3.3 One-Touch/User Box Registration

Administrator Settings > One-Touch/User Box Registration



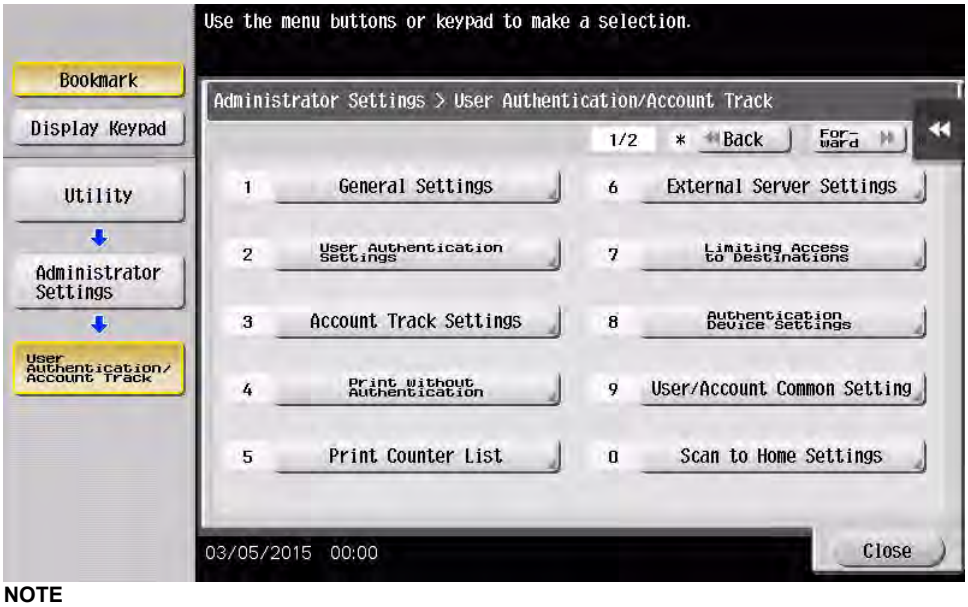
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition		
Create One-Touch Destination	Address Book (Public)/ (Personal)	E-Mail	-
		User Box	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 or the vendor 2 is mounted.
		Fax	It will be displayed only when [Service Mode] -> [System 2] -> [Option Board Status] shows that fax is set to “Set.”
		PC (SMB)	-
		FTP	-
		WebDAV	-
		IP Address Fax	It will be displayed when [Administrator Settings] -> [Network Settings] -> [Network Fax Settings] -> [Network Fax Function Settings] -> [IP Address Fax Function] is set to “ON.”
		Internet Fax	It will be displayed when [Administrator Settings] -> [Network Settings] -> [Network Fax Settings] -> [Network Fax Function Settings] -> [Internet Fax Function] is set to “ON.”
	Group	-	
	E-Mail Settings	E-Mail Subject	-
		E-mail Body	-
Create User Box	Public/Personal User Box	-	
	Bulletin Board User Box	-	
	Relay User Box	-	
	Annotation User Box	-	
One-Touch/User Box Registration List	Address Book List	-	
	Group List	-	
	Program List	-	
	E-Mail Subject/Text List	-	
Maximum Number of User Boxes	• If the maximum number of user boxes is set to “0”, you cannot create new ones. • If the selected user has already created three user boxes, for example, you can set the maximum number of user boxes within the range of 3 to 1000.		

2.3.4 User Authentication/Account Track

(1) Administrator Settings > User Authentication/Account Track [1/2]



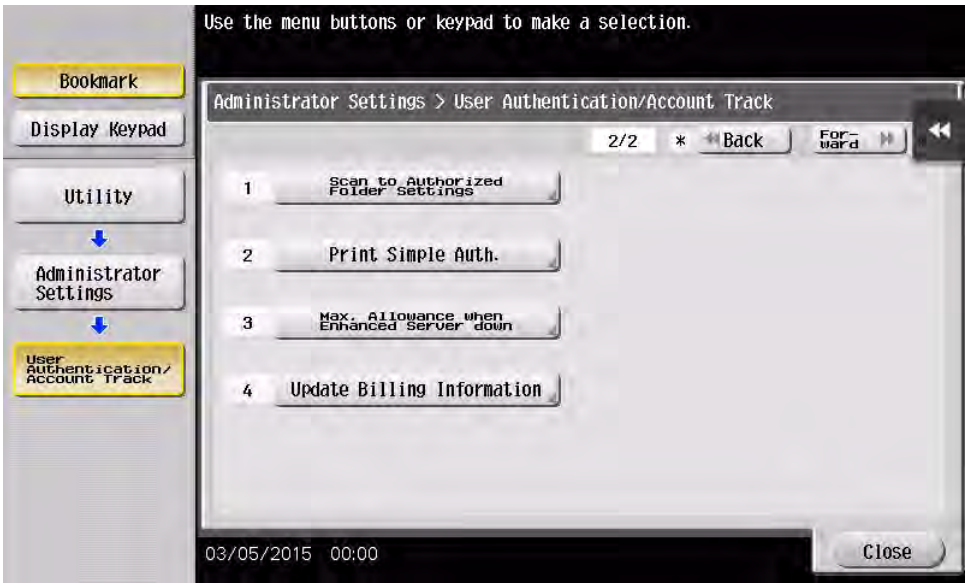
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that key counter or vendor 2 is mounted.**
- **Before registering a user, select an authentication method. If all management data is cleared after the authentication method was selected, the histories of the registered users, print, send, receive, and save jobs are deleted.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition		
General Settings	User Authentication	Authentication Method	• If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, selecting “OFF” in this setting cancels enhanced security mode.
		Default Authentication Method	• [External Server Authentication] cannot be selected when external servers are not registered in [Administrator Settings] -> [User Authentication/ Account Track] -> [External Server Settings]. • [External Server Authentication] cannot be selected when the presence of management device is set in [Service Mode] -> [Billing Setting] -> [Management Function Choice].
		Overwrite User Info	• When the external server authentication is used, authenticated user information is also managed on this machine. If the number of users who have executed the external server authentication reaches the maximum number of users this machine can manage, authentication of any new users will not be permitted. If you select [Allow], the oldest authenticated user information is erased and the new user is registered. • If [Enhanced Server Authentication] or [Main + Enhanced Server] is selected with [Authentication Method], [Allow] is specified forcibly.
		Temporarily Save Authentication Info.	-
	Public User Access	• This setting is not available without user authentication. • If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, selecting “ON” in this setting cancels enhanced security mode.	
	Prohibited Function Login Setting	-	
	Account Track	-	
	Account Track Input Method	• This setting is not available without the account track. • “Password Only” cannot be set when using both user authentication and account track.	
	Synchronize User Authentication & Account Track	The setting is available only when carrying out the user authentication and account track.	
	When # of Jobs Reach Maximum	-	
	Number of Counters Assigned	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the management device 2 is mounted. • The setting is available only when carrying out the user authentication and account track.	
	Ticket Hold Time Setting	This setting takes effect only when the authentication server type is set to active directory.	
	LDAP-IC Card Authentication Setting	When [Administrator Settings] -> [User Authentication/Account Track] -> [General Settings] -> [User Authentication] is set to [External Server Authentication] or [Main + External Server], this function is available.	

Key name	Function/Precondition		
User Authentication Settings	Administrative Settings	User Name List	• This setting is not available without user authentication. • If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, selecting “ON” in this setting cancels enhanced security mode.
		Default Function Permission	This setting is not available without user authentication.
		ID & Print Settings	
		ID & Print Operation Settings	• This setting is not available without user authentication. • It will be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted.
		Default Operation Selection	-
	User Registration	• It cannot be entered when conducting authentication by external server. • [Register Auth. Info.] does not appear when the presence of Authentication Device 2 is unset in [Service Mode] -> [Billing Setting] -> [Management Function Choice]. • [Custom Pattern Function] does not appear when [Administrator Settings] -> [System Settings] -> [Custom Display Settings] -> [User/Admin Function Permissions] is unset to “Allow.” • [Synchronize Account Track] does not appear when [Administrator Settings] -> [User Authentication/Account Track] -> [General Settings] -> [Synchronize User Authentication & Account Track] is unset to “Synchronize by User.”	
	User Counter	-	
Account Track Settings	Account Track Registration	• When the “Password Only” is selected for [Account Track Input Method], [Account Name] does not appear. • When the “Account Name & Password” is selected for [Account Track Input Method], [Name] does not appear. • [Custom Pattern Function] does not appear when [Administrator Settings] -> [System Settings] -> [Custom Display Settings] -> [User/Admin Function Permissions] is unset to “Allow.”	
	Account Track Counter	-	
Print without Authentication	If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, selecting “Allow” in this setting cancels enhanced security mode.		
Print Counter List	• The setting is available only when carrying out the user authentication or account track. • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that key counter, vendor 2, or management device 2 is mounted.		
External Server Settings	• Neither [NTLM v1] nor [NTLM v2] appear when “OFF” is selected in [Administrator Settings] -> [Network Settings] -> [SMB Settings] -> [Client Settings] -> [User Authentication (NTLM)]. • [NDS over IPX] and [NDS over TCP/IP] do not appear when “OFF” is selected in [Administrator Settings] -> [Network Settings] -> [NetWare Settings] -> [User Authentication Setting (NDS)]. • [NDS over IPX] does not appear when "OFF" is selected in [Administrator Settings] -> [Network Settings] -> [NetWare Settings] -> [IPX Settings].		
Limiting Access to Destinations	Create Group	-	
	Apply Levels/Groups to Destinations	-	
	Apply Levels/Groups to Users	-	
Authentication Device Settings	General Settings	• It will be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted. • It will be displayed when [Administrator Settings] -> [Network Settings] -> [IWS Settings] is set to “ON.” • For details of the functions, refer to "I.2.10.1 User Authentication/Account Track-Authentication Device Settings."	
	Logoff Settings		
User/Account Common Setting	Logout Confirmation Screen Display Setting	-	
	Counter Remote Control	-	
Scan to Home Settings	-		

(2) Administrator Settings > User Authentication/Account Track [2/2]



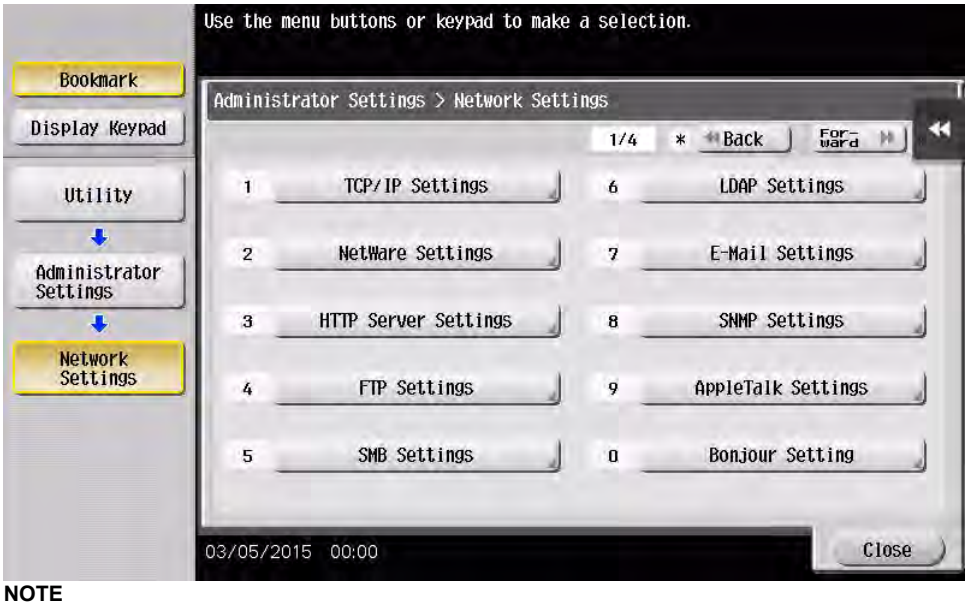
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that key counter or vendor 2 is mounted.**
- **Before registering a user, select an authentication method. If all management data is cleared after the authentication method was selected, the histories of the registered users, print, send, receive, and save jobs are deleted.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition	
Scan to Authorized Folder Settings	-	
Print Simple Auth.	Authentication Setting	-
	Register Authentication Server	When [Administrator Settings] -> [User Authentication/Account Track] -> [General Settings] -> [User Authentication] is set to [External Server Authentication], this function is available.
Max. Allowance when Enhanced Server down	It will be displayed when [Administrator Settings] -> [User Authentication/Account Track] -> [General Settings] -> [User Authentication] -> [Temporarily Save Authentication Info.] is set to “Enable.”	
Update Billing Information	-	

2.3.5 Network Settings

(1) Administrator Settings > Network Settings [1/4]



NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

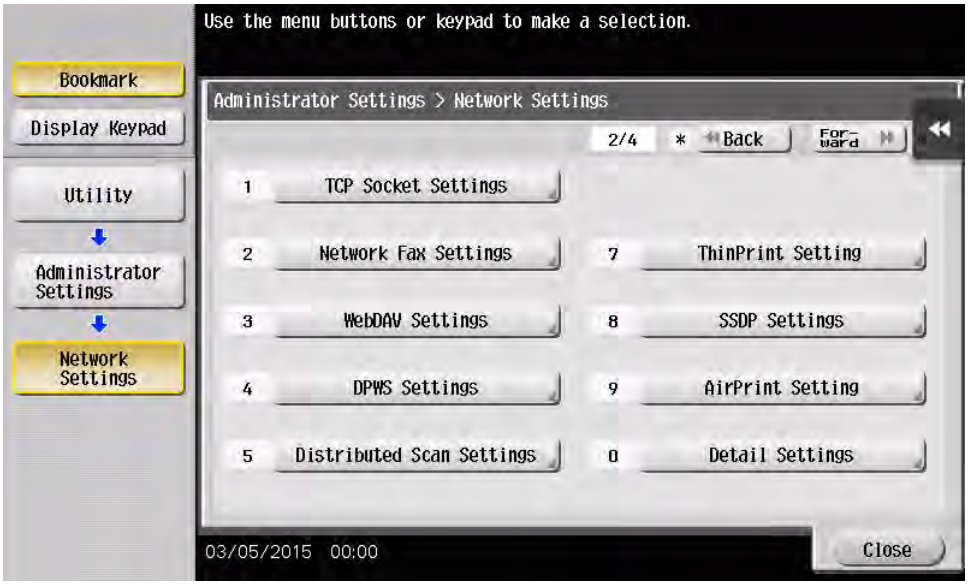
Key name	Function/Precondition	
TCP/IP Settings TCP/IP Settings - Wired Setting *1	IPv4 Settings	-
	IPv6 Settings	-

Key name	Function/Precondition	
	DNS Host	-
	DNS Domain	-
	DNS Server Settings (IPv4)	-
	DNS Server Settings (IPv6)	-
	IPsec Settings	-
	IPv4 Filtering (Permit Access)	Setting will be available when [Administrator Settings] -> [Network Settings] -> [TCP/IP Settings] -> [Quick IP Filtering] is set to “No Filtering”.
	IPv4 Filtering (Deny Access)	
	IPv6 Filtering (Permit Access)	
	IPv6 Filtering (Deny Access)	
	Quick IP Filtering	-
	RAW Port Number	-
	LLMNR Setting	-
TCP/IP Settings - Wireless Setting *1	IPv4 Settings	-
	IPv6 Settings	-
NetWare Settings	IPX Settings	-
	NetWare Print Settings	-
	User Authentication Setting (NDS)	-
HTTP Server Settings	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted. • To use the PageScope Web Connection, enable "JavaScript" and "Cookie" of the Web browser. If this machine is connected to the internet via a proxy server, register the Proxy Settings of the Web browser as "Exceptions". When the PageScope Web Connection is not displayed properly even if the above settings have been conducted, delete the cache of the Web browser.	
FTP Settings	FTP TX Settings	-
	FTP Server Settings	If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] or [Image Log Transfer Settings] is set to “ON”, selecting “ON” for the [FTP Server Settings] cancels enhanced security mode.
SMB Settings	Client Settings	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted. • Select [ON] for [DFS Setting] when using SMB transmission under an environment that uses a distributed file system (DFS). DFS function is supported only in the environment that structured with the following Windows server operating systems. :Windows Server 2003 , Windows Server 2008, Windows Server 2008 R2, Windows Server 2012
	SMB Server Settings	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted.
	WINS/NetBIOS Settings	
	Direct Hosting Setting	
LDAP Settings	Enabling LDAP	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted.
	Setting Up LDAP	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted. • The [Check Connection] does not display when [Enabling LDAP] is set to “OFF.” • [Check Connection] does not display when [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Manual Destination Input] is set to “Restrict.” • [Login Name] and [Password] cannot be configured when authentication method is set to anonymous.
	Default LDAP Server Setting	-
	Default Search Result Display Setting	
E-Mail Settings	E-Mail TX (SMTP)	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted. • When [SMTP Authentication] is set to "ON", enter the [User ID], [Password], [Domain Name], [Authentication Setting], and [SMTP Authentication Method].
	E-Mail RX (POP)	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted. • [Check for New Messages] and [Polling Interval] do not display when [Administrator Settings] -> [Network Setting] -> [Network Fax Settings] -> [Network Fax Function Settings] -> [Internet Fax Function] is set to “OFF”.

Key name	Function/Precondition	
	E-mail RX Print	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted. • This is displayed when the optional i-Option LK-110 v2 and upgrade kit UK-211 are enabled. • [E-Mail Body Print] displays only when Switch No. “152” is set to “01” in HEX Assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].
	S/MIME Communication Settings	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted.
SNMP Settings	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted. • If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, enabling [SNMP v1/v2 Settings] cancels enhanced security mode. • If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, setting [Security Level] to [OFF] cancels enhanced security mode.	
AppleTalk Settings	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted.	
Bonjour Setting	-	

• *1: It will be displayed when the optional upgrade kit UK-212 and local interface kit EK-608 are mounted.

(2) Administrator Settings > Network Settings [2/4]



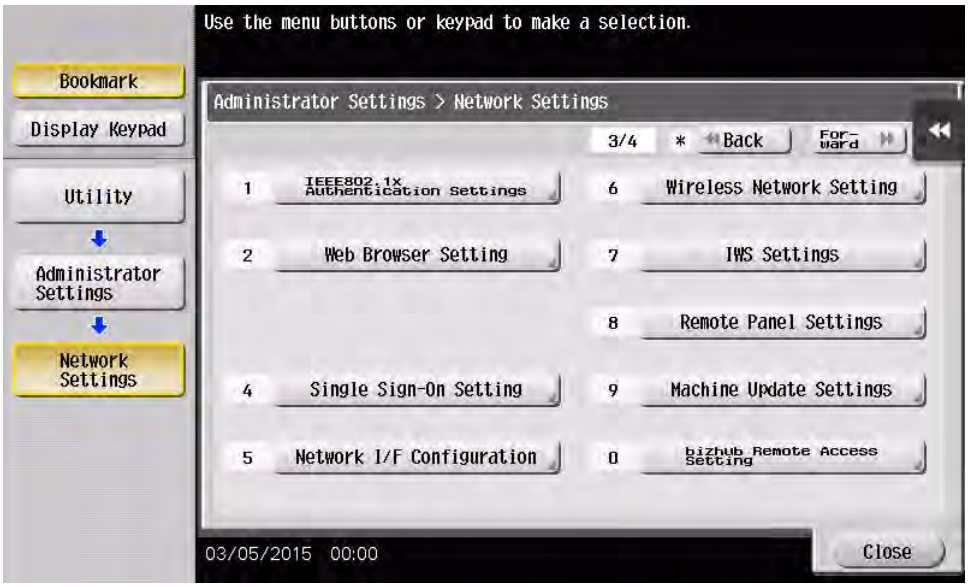
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition		
TCP Socket Settings	TCP Socket	-	
	TCP Socket (ASCII Mode)	-	
Network Fax Settings	Network Fax Function Settings	IP Address Fax Function	• This setting is available when [IP Address Fax] or [Internet Fax] is set to “ON” from [Service Mode] -> [System 2] -> [Network Fax Settings]. • For details of the functions, refer to I.2.10.2 Network Settings-Network Fax Settings.
		Internet Fax Function	
	SMTP TX Settings	-	
	SMTP RX Settings	-	
WebDAV Settings	WebDAV Client Settings	-	
	WebDAV Server Settings	• If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, setting [SSL Setting] to [SSL Only] cancels enhanced security mode. • Press [Initial Password] under [Password Setting] to initialize the password. (Default password: sysadm)	
	Proxy Setting for Remote Access	To configure the settings of the proxy server used when MFP accesses to KM license server via WebDAV connection from [Administrator Settings] -> [License Settings] -> [Install License] (WebDAV connection) or [Service Mode] -> [Billing Setting] to activate i-Option function.	
DPWS Settings	DPWS Common Settings	-	
	DPWS Extension Settings	-	
	Printer Settings	-	
	Scanner Settings	-	

Key name	Function/Precondition		
Distributed Scan Settings	• It will be displayed when [Administrator Settings] -> [Network Settings] -> [DPWS Settings] -> [Scanner Settings] is set to “ON.” • It will be displayed when [Administrator Settings] -> [Network Settings] -> [DPWS Settings] -> [DPWS Common Settings] -> [Enable SSL] is set to “ON.”		
ThinPrint Setting	This is displayed only when the optional i-Option LK-111 is enabled.		
SSDP Settings	-		
AirPrint Setting	Print Settings	-	
	Scanner Setting	-	
Detail Settings	Device Setting	-	
	Time Adjustment Setting	-	
	Status Notification Setting	Register Notification Address	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted.
	Total Counter Notification Settings	-	
	PING Confirmation	-	
	SLP Setting	-	
	LPD Setting	-	
	Prefix/Suffix Setting	ON/OFF Setting	-
		Prefix/Suffix Setting	-
	Error Code Display Setting	-	

(3) Administrator Settings > Network Settings [3/4]



NOTE

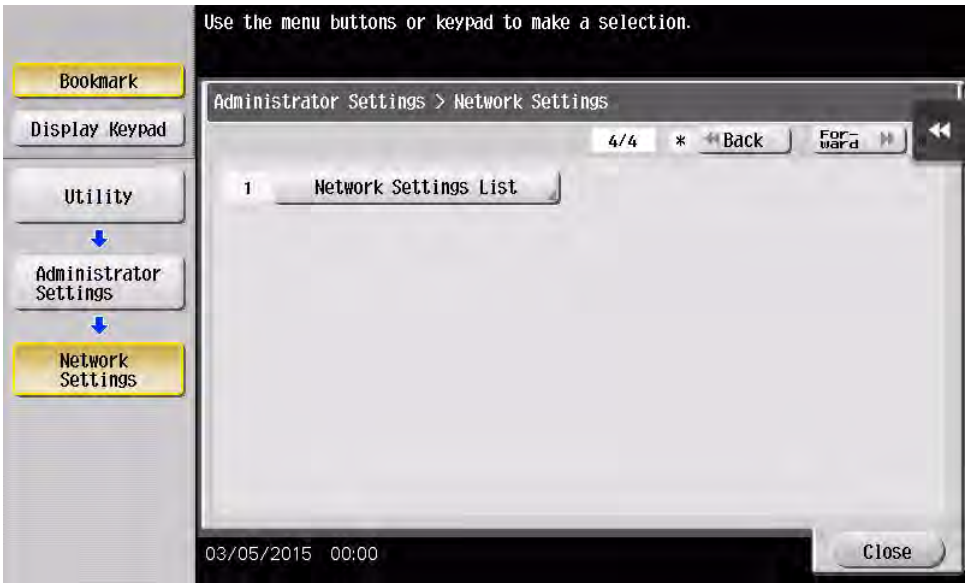
- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition	
IEEE802.1X Authentication Settings	IEEE802.1X authentication settings are made with PageScope Web Connection.	
Web Browser Setting	Web Browser Usage Settings	To enable the Web browser function, this machine is automatically connected to the License Management Server (LMS) on the Internet in order to register the license. Check that this machine can be connected to the Internet before beginning this procedure.
	File Operation Permission Setting	
Single Sign-On Setting	Domain Login Setting	When [Administrator Settings] -> [User Authentication/Account Track] -> [General Settings] -> [User Authentication] is set to [External Server Authentication] or [Main + External Server], this function is available.
	Applications and Settings	
	Auto Log Out Time	
Network I/F Configuration *1	For details of the functions, refer to I.2.10.3 Network Settings-Network I/F Configuration.	
Wireless Network Setting *1	For details of the functions, refer to I.2.10.4 Network Settings-Wireless Network Setting.	
IWS Settings	For details of the functions, refer to I.2.10.5 Network Settings-IWS Settings.	

Key name	Function/Precondition		
Remote Panel Settings	For details of the functions, refer to "I.2.10.6 Network Settings - Remote Panel Settings (outline)", "I.2.10.7 Network Settings - Remote Panel Settings (Server Settings)", and"I.2.10.8 Network Settings - Remote Panel Settings (Client Settings)".		
Machine Update Settings	Internet ISW Settings	Update Firmware at Specified Time	• This is displayed when [Function Setting] is set to [ON] in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • This is displayed when [Open Mode Settings] is set to [Set] in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • For details of the functions, refer to I.2.10.9 Machine Update Settings - Internet ISW Settings.
		FTP Server Settings	• This is displayed when [Function Setting] is set to [ON] in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • This is displayed when [FTP data acquisition setting] is set to [ON] in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [FTP Setting]. • For details of the functions, refer to I.2.10.9 Machine Update Settings - Internet ISW Settings.
		Firmware Update Parameters	• This is displayed when [Function Setting] is set to [ON] in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • This is displayed when [Open Mode Settings] is set to [Set] in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • To download the firmware, in addition to the necessary proxy settings configured in [FTP Server Settings], you need to configure appropriate settings in [Service Mode] -> [Machine Update Setting] ->[Internet ISW] -> [HTTP Setting], [FTP Setting], and [Forwarding Access Setting]. • For details of the functions, refer to I.2.10.9 Machine Update Settings - Internet ISW Settings.
	Machine Auto Update setting	Auto Update Settings for This Machine	• This is displayed when [Function Setting] is set to [ON] in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set]. • This function is same (I.5.26.7 Machine Auto Update setting - Auto Update setting) as that of the service mode, but it will not be used together with the function of the service mode. • For details of the functions, refer to I.2.10.10 Machine Update Settings - Machine Auto Update setting.
		Relay Server Function Setting	
		Log TX setting	
		Log Confirmation	
		Immediate Update	
		Machine Update Password	
	HTTP Proxy Settings	For details of the functions, refer to I.2.10.11 Machine Update Settings - HTTP Proxy Settings.	
bizhub Remote Access Setting	-		

- *1: It will be displayed when the optional upgrade kit UK-212 and local interface kit EK-608 are mounted.

(4) Administrator Settings > Network Settings [4/4]

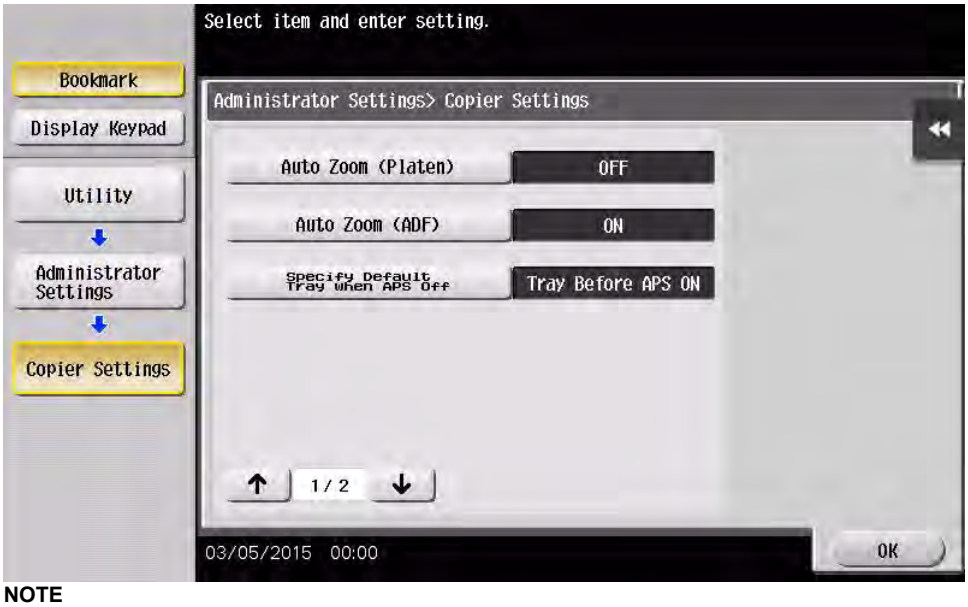


NOTE
- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Network Settings List	-

2.3.6 Copier Settings

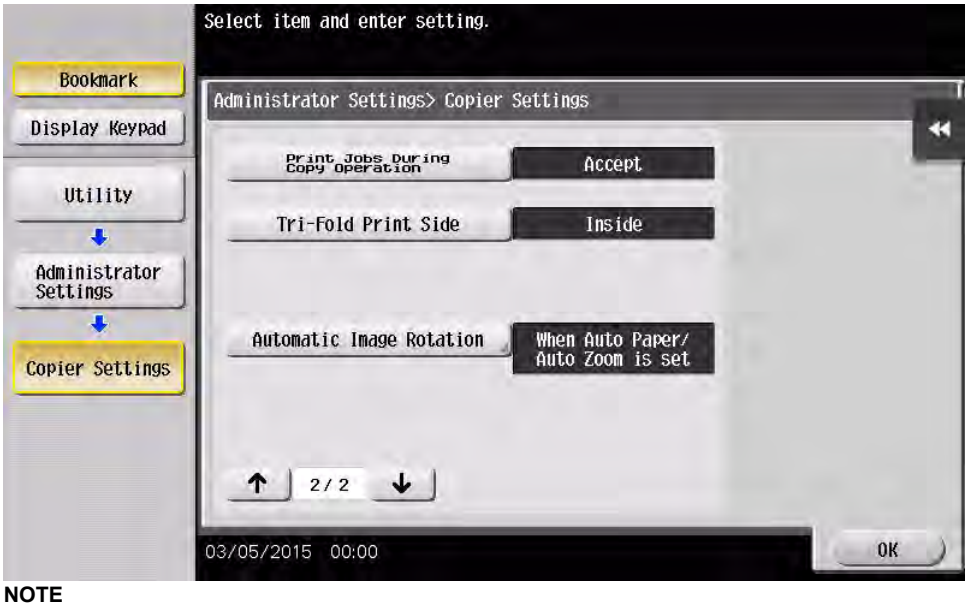
(1) Administrator Settings > Copier Settings [1/2]



NOTE
- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Auto Zoom (Platen)	-
Auto Zoom (ADF)	-
Specify Default Tray when APS Off	-

(2) Administrator Settings > Copier Settings [2/2]



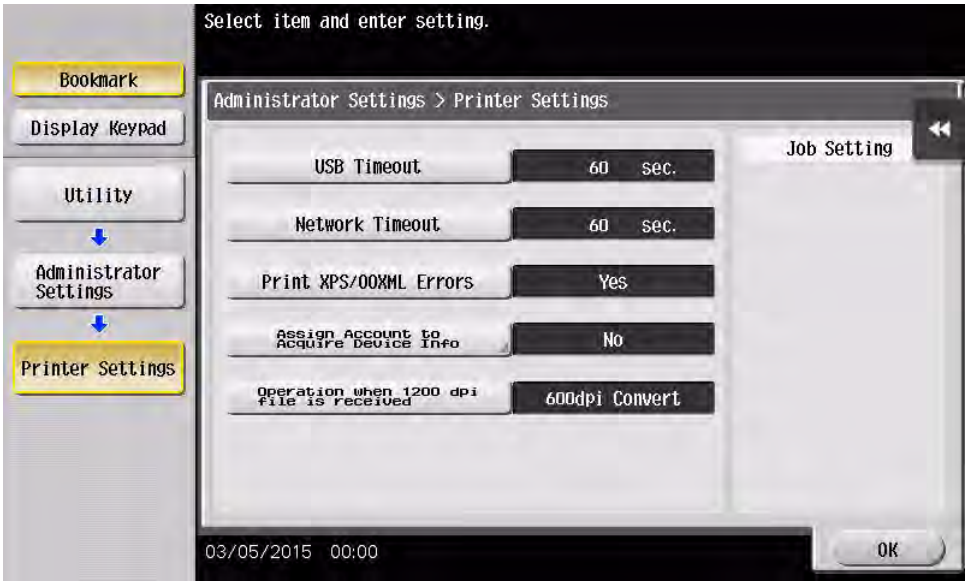
NOTE
- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Print Jobs During Copy Operation	-
Tri-Fold Print Side	It will be displayed when the optional finisher FS-534SD is mounted.

Automatic Image Rotation	-

2.3.7 Printer Settings

Administrator Settings > Printer Settings



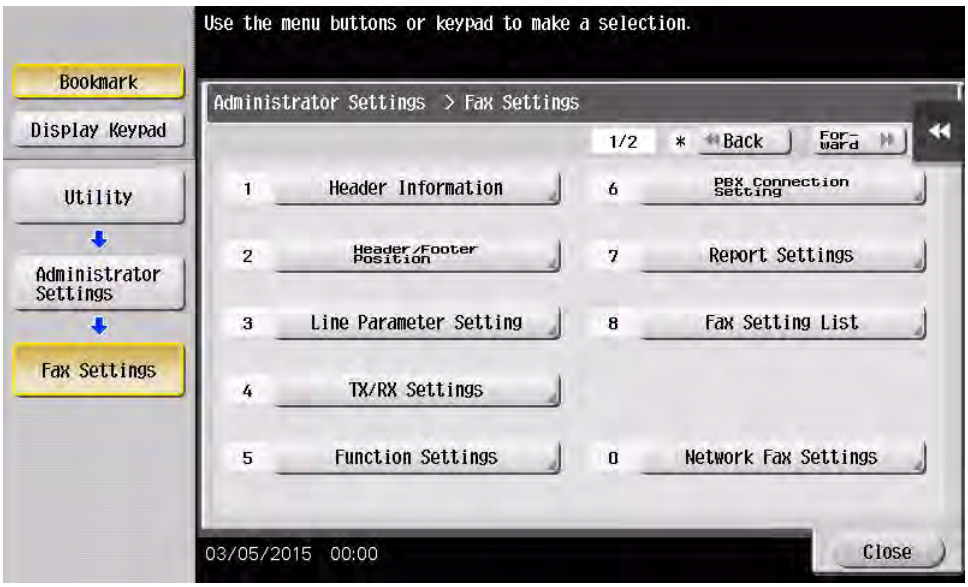
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
USB Timeout	-
Network Timeout	-
Print XPS/OOXML Errors	-
Assign Account to Acquire Device Info	-
Operation when 1200 dpi file is received	-

2.3.8 Fax Settings

(1) Administrator Settings > Fax Settings [1/2]



NOTE

- **Keys displayed on screens are different depending on the setting.**
- **It will be displayed when the optional fax kit FK-513 is mounted.**
- **For details of the utility functions, refer to "User's Guide."**

(a) Header Information

Key name	Function/Precondition
Header Information	-

(b) Header/Footer Position

Key name	Function/Precondition
Header Position	[OFF] cannot be used on the USA and Hong Kong models.
TTI Print Position and Character Size	-
Print Receiver's Name	This setting is not available on the USA and Hong Kong models.
Footer Position	-

(c) Line Parameter Setting

Key name	Function/Precondition
Dialing Method	-
Receive Mode	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the management device 2 is mounted.
Number of RX Call Rings (Receive Time Interval Setting)	When [Service Mode] -> [FAX] -> [Network] -> [Network Setting 1] -> [Receive Signal Detection Mode] is set to "Time", [Receive Time Interval Setting] will be displayed.
Number of Redials	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted.
Redial Interval	
Line Monitor Sound	-
Line Monitor Sound Volume (Send)	-
Line Monitor Sound Volume (Receive)	-
Manual RX V34 Settings	-
Ring Detection Pattern	This setting is available only on the New Zealand model.

(d) TX/RX Settings

Key name	Function/Precondition
Duplex Print (RX)	It will not be displayed when [Administrator Settings] -> [Fax Settings] -> [TX/RX Settings] -> [Print Separate Fax Pages] is set to "ON."
Letter/Ledger over A4/A3	-
Print Paper Selection	-
Print Paper Size	To make the setting of Print Paper Size enable, set [Administrator Settings] -> [Fax Settings] -> [TX/RX Settings] -> [Tray Selection for RX Print] to "Auto."
Incorrect User Box No. Entry	-
Tray Selection for RX Print	-
Min. Reduction for RX Print	-
Print Separate Fax Pages	It will not be displayed when [Administrator Settings] -> [Fax Settings] -> [TX/RX Settings] -> [Duplex Print (RX)] is set to "ON."
File After Polling TX	-
No. of Sets (RX)	-

(e) Function Settings

Key name	Function/Precondition	
Function ON/OFF Setting	F-Code TX	When the setting is changed, turn off the main power switch and turn it on again more than 10 seconds after.
	Relay RX	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Relay] is set to "ON."
	Relay Printing	
	Destination Check Display Function	-
	Confirm Address (TX)	-
	Confirm Address (Register)	-
	PIN Code Display Mask Function	-

Key name	Function/Precondition	
Memory RX Setting	• It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] - [Compulsory Memory RX] is set to “ON.” • It will not be displayed when any one of [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [PC-Fax RX Setting], [Forward TX Setting], or [TSI User Box Setting] is set to “ON.”	
RX Data Deletion Restriction Settings	Password Deletion	• This setting is not available without user authentication. • This setting is not available without the account track. • This function cannot be set if the User Box Administrator has not been set.
	Administrator User Box Deletion	
Closed Network RX	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Closed area RX] is set to “ON.”	
Forward TX Setting	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that vendor 2 or authentication device 2 is mounted. • It will not be displayed when any one of [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [PC-Fax RX Setting], [Memory RX Setting], or [TSI User Box Setting] is set to “ON.” • A forwarding address except a case of the fax, specify [File Type] a fax can be converted into a file. The file types able to be specified are PDF, XPS, and TIFF. To specify other file types, set the switch No.124 to [00000001] at Bit assignment/[01] at HEX assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].	
Incomplete TX Hold	• It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Re-Transmission] is set to “ON.” • It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that key counter or vendor 2 is mounted.	
PC-Fax Permission Setting	-	
PC-Fax RX Setting	It will not be displayed when any one of [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [Forward TX Setting], [Memory RX Setting], or [TSI User Box Setting] is set to “ON.”	
TSI User Box Setting	It will not be displayed when any one of [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [Forward TX Setting], [Memory RX Setting], or [PC-Fax RX Setting] is set to “ON.”	
TSI All File Type Settings	• It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that vendor 2 or key counter IF vendor is mounted. • It will not be displayed when any one of [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [Forward TX Setting], [Memory RX Setting], or [PC-Fax RX Setting] is set to “ON.” • This is displayed when the optional i-Option LK-110 v2 and upgrade kit UK-211 are enabled.	

(f) PBX Connection Setting

Key name	Function/Precondition
PBX Connection Setting	-

(g) Report Settings

Key name	Function/Precondition
TX Result Report	-
TX Result Report Print Confirmation screen	-
Sequential TX Report	-
Broadcast Result Report	-
Bulletin TX Report	-
Relay TX Result Report	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Relay] is set to “ON.”
TX Result Report Print Settings	• This function can be set if E-mail address has been set in [Administrator Settings] -> [Administrator/Machine Settings] -> [Administrator Registration]. • This function can be set if "ON" is set for [E-Mail TX (SMTP)] and "ON" is set for [Scan to E-mail] in [Administrator Settings] -> [Network Settings] -> [E-Mail Settings].
Activity Report	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted.
Relay Request Report	It will be displayed when [Service Mode] -> [FAX] -> [System] -> [Display Setting] -> [Relay] is set to “ON.”
PC-Fax TX Error Report	-
Timer Reservation TX Report	-
Confidential RX Report	-
Network Fax RX Error Report	It will be displayed when either [IP Address Fax Function] or [Internet Fax Function] is set to “ON” in [Administrator Settings] -> [Network Settings] -> [Network Fax Settings] -> [Network Fax Function Settings].
Print Job Number	• It will not be displayed when the report addition information is set to “Diagnosis Code” or “Dial Number” by [Service Mode] -> [FAX] -> [List Output] -> [Report Addition]. • It will not be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.77 is set to [00000100] at Bit assignment/[04] at HEX assignment.

Key name	Function/Precondition
MDN Message	It will be displayed when [Administrator Settings] -> [Network Settings] -> [Network Fax Settings] -> [Network Fax Function Settings] -> [Internet Fax Function] is set to “ON”.
DSN Message	
Print E-mail Message Body	

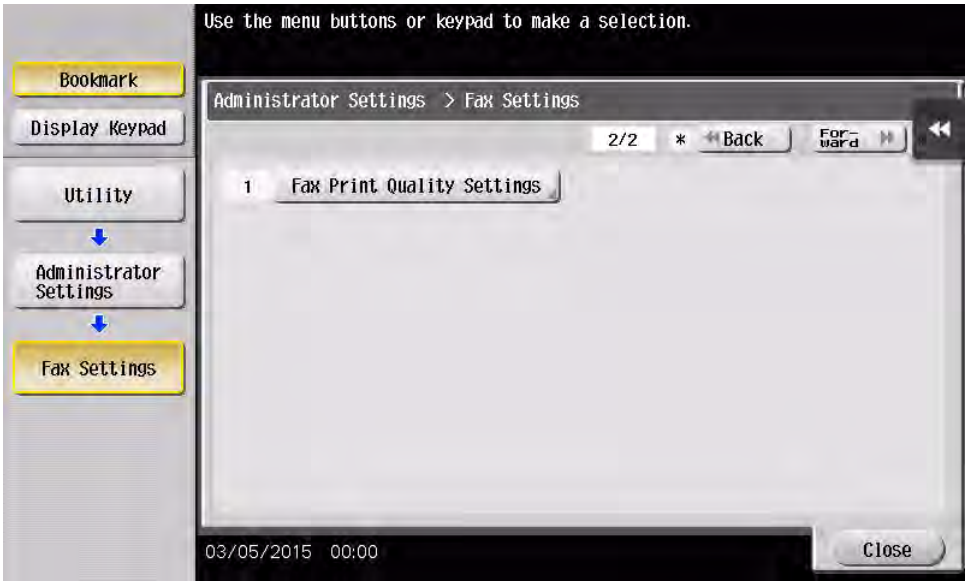
(h) Fax Setting List

Key name	Function/Precondition
Fax Setting List	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted. (It will be displayed when the Key Counter is mounted when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.33 is set to [00000001] at Bit assignment/[01] at HEX assignment.)

(i) Network Fax Settings

Key name	Function/Precondition
Black Compression Level	It will be displayed when either [IP Address Fax Function] or [Internet Fax Function] is set to “ON” in [Administrator Settings] -> [Network Settings] -> [Network Fax Settings] -> [Network Fax Function Settings].
Color/Grayscale Multi-Value Compression Method	
Internet Fax Self RX Ability	It will be displayed when [Administrator Settings] -> [Network Settings] -> [Network Fax Settings] -> [Network Fax Function Settings] -> [Internet Fax Function] is set to “ON”.
Internet Fax Advanced Settings	
IP Address Fax Operation Settings	It will be displayed when [Administrator Settings] -> [Network Settings] -> [Network Fax Settings] -> [Network Fax Function Settings] -> [IP Address Fax Function] is set to “ON”.

(2) Administrator Settings > Fax Settings [2/2]



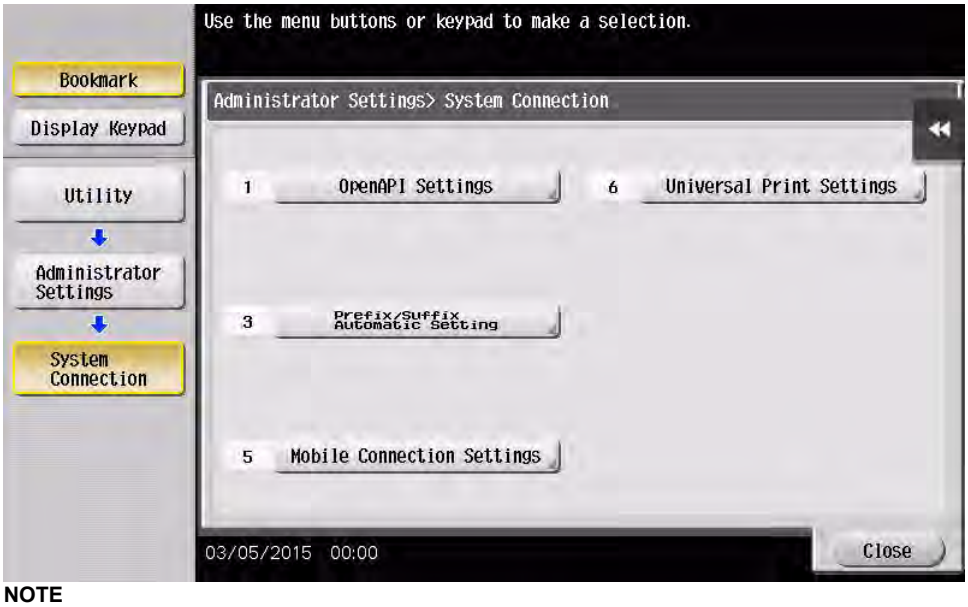
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **It will be displayed when the optional fax kit FK-513 is mounted.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Fax Print Quality Settings	-

2.3.9 System Connection

Administrator Settings > System Connection



NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition	
OpenAPI Settings	Access Setting	-
	SSL/Port Settings	-
	Authentication	-
	External Application Connection	-
	Proxy Settings	-
	Specified Application Start Setting	It will be displayed when [Service Mode] -> [System 2] -> [Application Change Setting] is set to “Permit.”
	Single Sign-On Setting	This displays when an authentication application is registered.
Call Remote Center	For details of the functions, refer to "I.5.7 CS Remote Care (Outlines)".	
Prefix/Suffix Automatic Setting	-	
Mobile Connection Settings	QR Code Setting	-
Universal Print Settings *1	Store Print Documents Settings	This setting is disabled when the following settings are made in [Service Mode] -> [Network Settings] -> [2nd Network Setting] -> [Network Interface Settings]: • Wired + Wireless (Secondary Mode) • Wired + Wireless (Primary Mode) • Wired + Wireless (Wi-Fi Direct)
	Client Function Setting	-
	Universal Print Group Setting	-

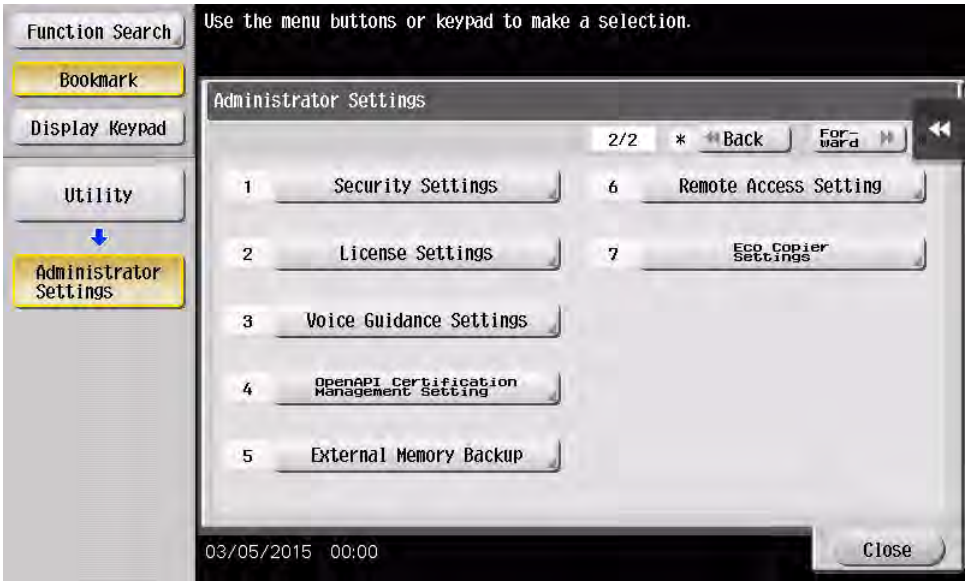
- *1: This setting will be available when the optional i-Option LK-114 and upgrade kit UK-211 are enabled.

2.4 Administrator Settings List [2/2]

Administrator settings outline 2/2

NOTE

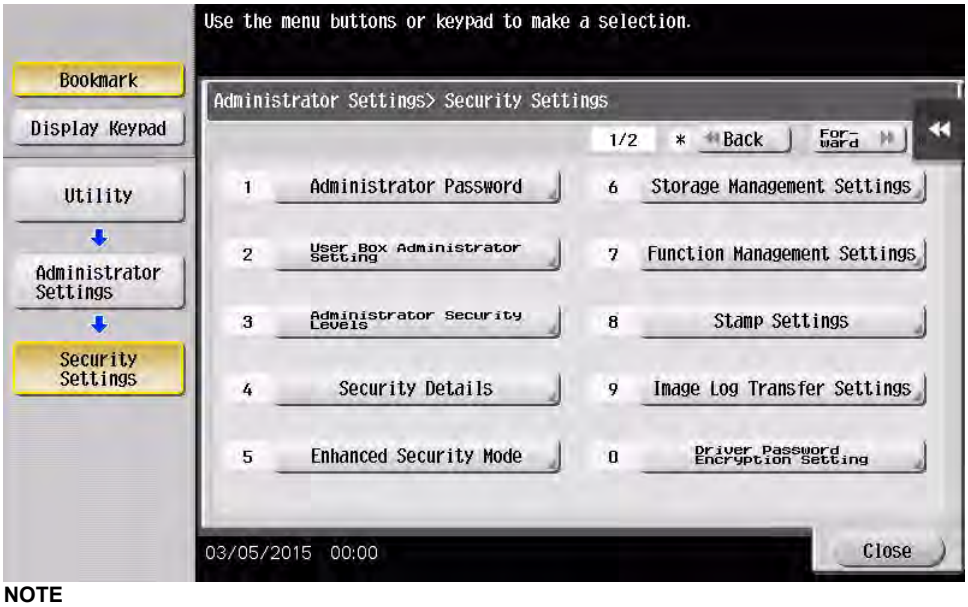
- **The Administrator Settings will be available by entering the administrator password (16 digits) set by the Administrator Settings or Service Mode. (The administrator password is initially set to “1234567812345678.”)**
- **When [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, entering the incorrect administrator password three times will cause access lock. The access lock is released after the lapse of a predetermined period of time (Default setting: 5 min.) after the main power switch is turned OFF and then ON more than 10 seconds later. The access lock can be released by [Service Mode] -> [Enhanced Security] -> [Administrator unlocking].**
- **For details of the utility functions, refer to "User's Guide."**



- Administrator Settings [1/2]
  - System Settings
  - Administrator/Machine Settings
  - One-Touch/User Box Registration
  - User Authentication/Account Track
  - Network Settings
  - Copier Settings
  - Printer Settings
  - Fax Settings
  - System Connection
- Administrator Settings [2/2]
  - Security Settings
  - License Settings
  - Voice Guidance Settings
  - OpenAPI Certification Management Setting
  - External Memory Backup
  - Remote Access Setting
  - Eco Copier Settings

2.4.1 Security Settings

(1) Administrator Settings > Security Settings [1/2]



NOTE

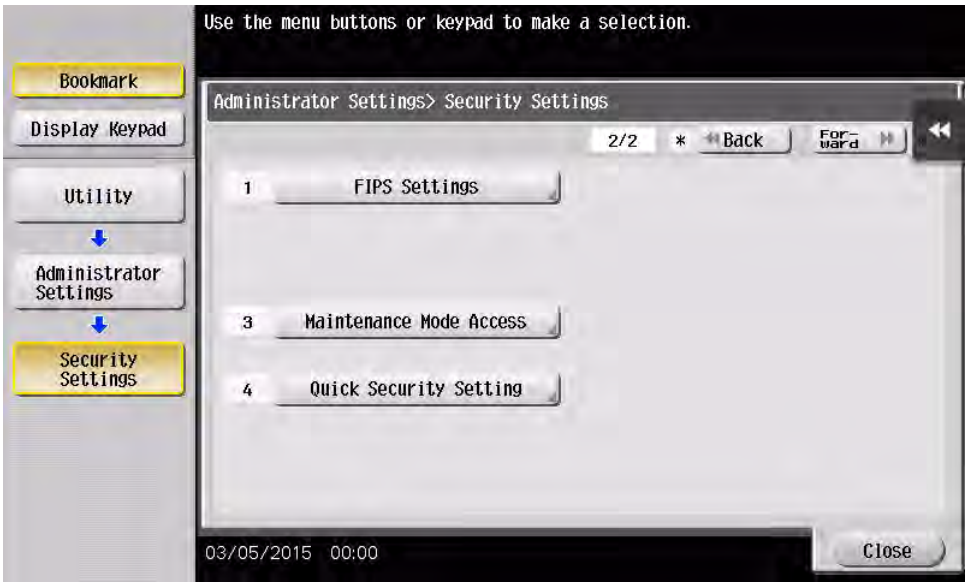
- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Administrator Password	When “Enable” is selected in [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Password Rules], the following passwords cannot be accepted: password of single repeated characters, password same as the one before being changed, and password where the number of characters is less than the minimum number specified in [Set Minimum Password Length].

Key name	Function/Precondition	
User Box Administrator Setting	• [Allow] cannot be selected when user authentication and account track are not conducted. • If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, selecting “Allow” in this setting cancels enhanced security mode. • When “Enable” is selected in [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Password Rules], the following passwords cannot be accepted: password of single repeated characters, password same as the one before being changed, and password where the number of characters is less than the minimum number specified in [Set Minimum Password Length].	
Administrator Security Levels	It will not be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the vendor 2 is mounted.	
Security Details	Password Rules	• [Enable] cannot be selected when [Service Mode] -> [Enhanced Security] -> [CE Authentication] is set to “OFF.” “OFF” setting of [CE Authentication] will not be displayed and cannot be set to “OFF” when [Password Rules] is set to “Enable.” • If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, selecting “Disable” in this setting cancels enhanced security mode. • When the password rule is set to [Enable], the password cannot be changed or registered unless it follows the above conditions.
	Prohibited Functions When Authentication Error	• If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, selecting “Mode 1” in this setting cancels enhanced security mode. Only the number of times for trials up to the access lock can be changed. • For details of the functions, refer to "I.2.10.12 Security Settings - Prohibited Functions When Authentication Error."
	Confidential Document Access Method	It cannot be changed at the operator’s option since it will automatically be set according to the [Prohibited Functions When Authentication Error] setting. • It will be set to [Mode 1] when [Prohibited Functions When Authentication Error] is set to [Mode 1]. • It will be set to [Mode 2] when [Prohibited Functions When Authentication Error] is set to [Mode 2].
	Manual Destination Input	-
	Print Data Capture	• To be used when carrying out [Service Mode] -> [System 2] -> [Data Capture]. • If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, selecting “Allow” in this setting cancels enhanced security mode.
	Job Log Settings	When “ON” is selected in [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode], this setting is automatically set to “Yes.”
	Restrict Fax TX	-
	Address Selection Confirmation Display	It will be displayed when [Administrator Settings] -> [System Settings] -> [Restrict User Access] -> [Restrict Operation] -> [Restrict Broadcasting] is set to “OFF.”
	Personal Data Security Settings	-
	Hide Personal Information (MIB)	If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, selecting “OFF” in this setting cancels enhanced security mode.
	Display Activity Log	-
	Initialize	-
	Secure Print Only	-
	Web browser contents access	• It will be displayed when an extended function of the web browser via OpenAPI application is enabled. • When using the application where server authentication is carried out by web browser extensions, [Allow] is automatically selected.
	TX Operation Log	To print the saved sending operation logs or save them in USB memory, select [Utility] -> [Administrator Settings] -> [System Settings] -> [List/Counter] -> [TX Operation Log Output] on the Control Panel.
	Hardware Encryption	-
	Export Debug Log	• This is displayed when Switch No. “155” is set to “01” in HEX Assignment in [Service Mode] -> [System 2] -> [Software Switch Setting]. • Use: To select whether or not allow CE to export debug information (logs) from the MFP to use the information to analyze problem in the MFP. • Default setting: Restrict
	Write the Configuration from USB	-
	Storage data backup	• To set whether to permit our service representative to back up or restore the storage on this machine. • For details of the functions, refer to [Service Mode] -> [Enhanced Security] -> [HDD Data Backup].
Enhanced Security Mode	Enhanced Security Mode	For details of the functions, refer to "I.2.10.13 Security Settings - Enhanced Security Mode."
Storage Management Settings	Check Capacity	-

Key name	Function/Precondition	
	Overwrite HDD Data	It is necessary to make HDD format when encryption priority/overwrite priority setting is changed. Make sure to configure the following settings after formatting the HDD. • Installing the firmware. • Reinstall movie data, voice data, OCR dictionary data, and PDF/A fonts from [Service Mode] -> [System 2] -> [Install Data].
	Overwrite All Data	-
	Overwrite All Data-Report Settings	-
	HDD Lock Password	• Don't forget the password. • After setting a lock password, if you replace the HDD due to its breakage or other reasons and install a new HDD, an error message is displayed. In that case, clear the HDD lock password and set a new password using this function.
	Format	• It is subject to logical formatting here, therefore if starting with physical formatting, follow as [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format]. • Make sure to configure the following settings after formatting the HDD. Installing the firmware. Next, reinstall movie data, voice data, OCR dictionary data, and PDF/A fonts from [Service Mode] -> [System 2] -> [Install Data]. • Make sure to install the firmware after the format of the hard disk. Otherwise a trouble code “C-D012 mount error due to unformatted HDD” will appear.
	HDD Encryption Setting	For details of the functions, refer to "I.2.10.14 Security Settings - HDD Encryption Setting."
	Debug Log Encryption Settings	• Use: To set a password used to encrypt debug data when storing it into the HDD. • Default setting: 01234567890123456789 • For details of the functions, refer to "I.2.10.15 Security Settings - Debug Log Encryption Settings."
Function Management Settings	Usage Setting for Each Function	It will be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that vendor 2 or management device 2 is mounted.
	Maximum Job Allowance	
	Network Function Usage Settings	When the vendor or management device setting in the Service Mode is set, this setting is set to “OFF.” Exercise caution since it will stay in “OFF” setting even when “unset” is selected on vendor or management device setting in Service Mode later.
Stamp Settings	Apply Stamps	-
	Delete Registered Stamp	-
Image Log Transfer Settings	• This is displayed only when Switch No. “63” is set to [00000001] at Bit assignment/[01] at HEX assignment (Type 1) or [00000010] at Bit assignment/[02] at HEX assignment (Type 2) in [Service Mode] -> [System 2] -> [Software Switch Setting]. • For details of the functions, refer to [I.2.10.16 Security Settings - Image Log Transfer Settings (Type1).] • For details of the functions, refer to [I.2.10.17 Security Settings - Image Log Transfer Settings (Type2).]	
Driver Password Encryption Setting	For details of the functions, refer to [I.2.10.18 Security Settings - Driver Password Encryption Setting.]	

(2) Administrator Settings > Security Settings [2/2]



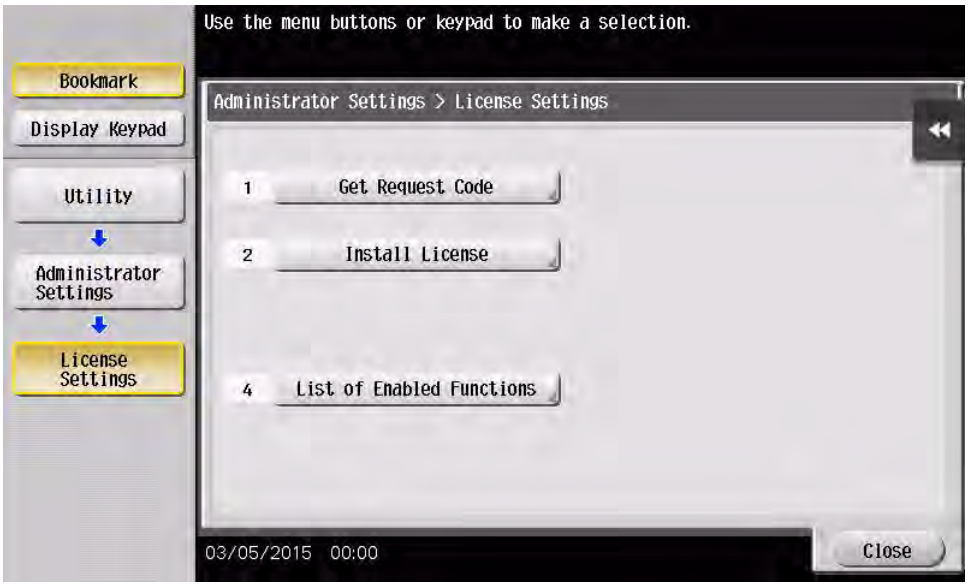
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
FIPS Settings	-
Maintenance Mode Access	To enable Maintenance Mode Access, set [Maintenance Mode] of Service Mode to [Effective]. [Service Mode] -> [System 2] -> [Maintenance Mode]
Quick Security Setting	For details of the functions, refer to Quick Security setting.

2.4.2 License Settings

Administrator Settings > License Settings



NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Get Request Code	-
Install License	• By making settings in [Service Mode] -> [Billing Setting], CE can also activate functions provided by i-Option. • When activating i-Option, MFP accesses to KM license server via WebDAV connection. Set the proxy server setting in [Administrator Settings] -> [Network Settings] -> [WebDAV Settings] -> [Proxy Setting for Remote Access] as occasion demands. • For accessing to KM license server, it is necessary to select “Fixed Address” in [Service Mode] -> [Billing Setting] -> [WebDAV Server Setting]. • For details of the functions, refer to I.2.10.24 License Settings.
List of Enabled Functions	It is displayed when this machine is equipped with an optional upgrade kit UK-211.

2.4.3 Voice Guidance Settings

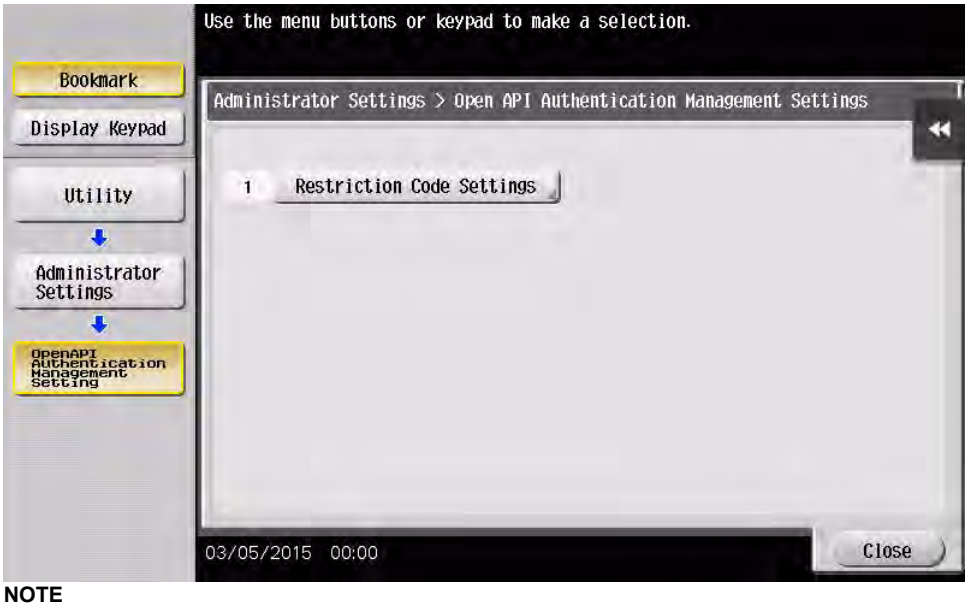
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Voice guidance	• To use voice guidance, the optional upgrade kit UK-211 and i-Option LK-104 v3 must be activated, and the optional local interface kit EK-608 must be mounted. • For details of the functions, refer to I.2.10.25 Voice Guidance Settings-Voice Guidance.

2.4.4 OpenAPI Certification Management Setting

Administrator Settings > OpenAPI Certification Management Setting



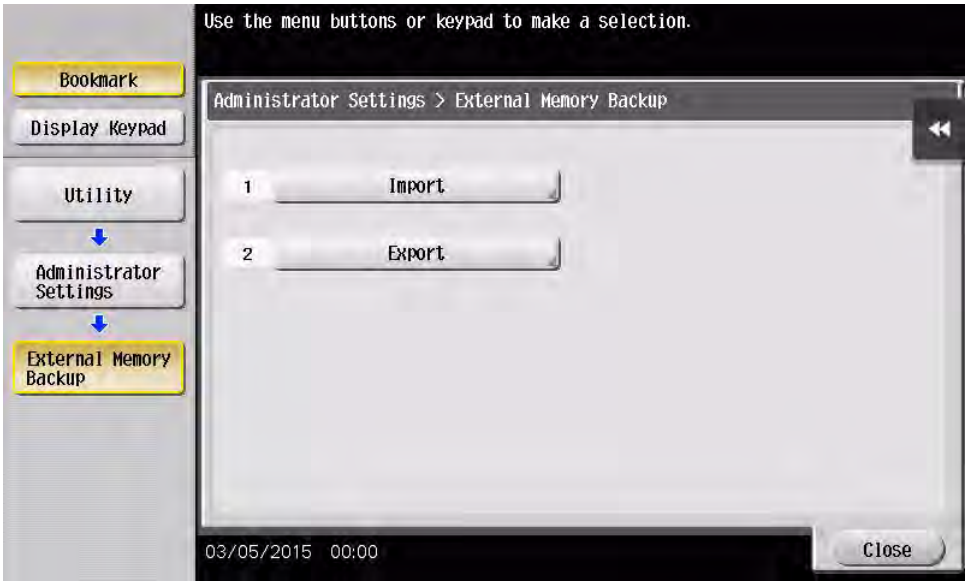
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Restriction Code Settings	These are communication settings for the application which is developed by the third vendor. Do not set or change these settings without vendor's instructions.

2.4.5 External Memory Backup

Administrator Settings > External Memory Backup



NOTE

- **Keys displayed on screens are different depending on the setting.**

Key name	Function/Precondition
Import	• It will be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.72 is set to [00000100] at Bit assignment/[04] at HEX assignment. • For details of the functions, refer to "I.2.10.26 External Memory Backup - Import/Export".
Export	

2.4.6 Remote Access Setting

NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition	
Import/Export User Data	Allow	This displays when using the CS Remote Care system.
	Restrict	

2.4.7 Eco Copier Settings

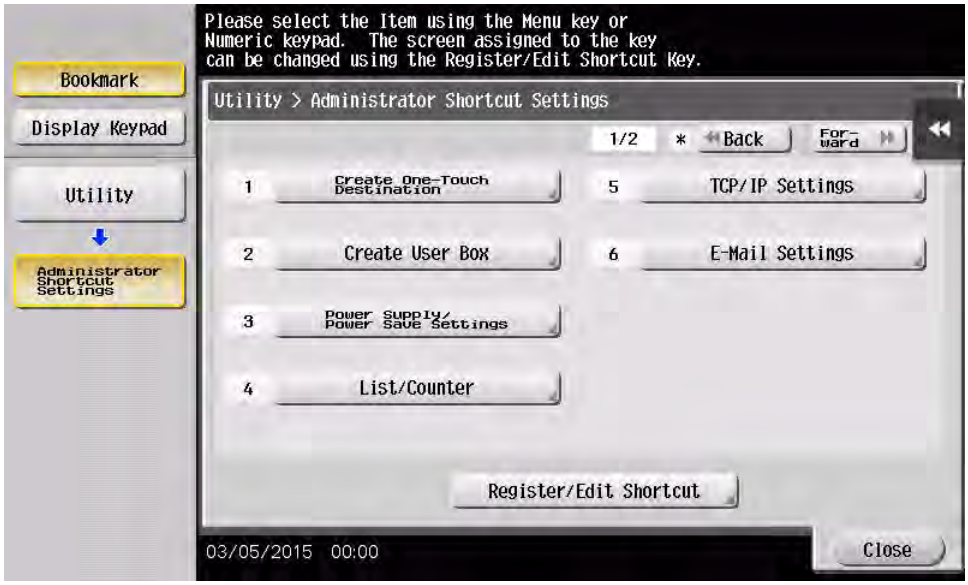
NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Eco Copier Settings	-

2.5 Administrator Shortcut Settings

2.5.1 Administrator Shortcut Settings [1/2]

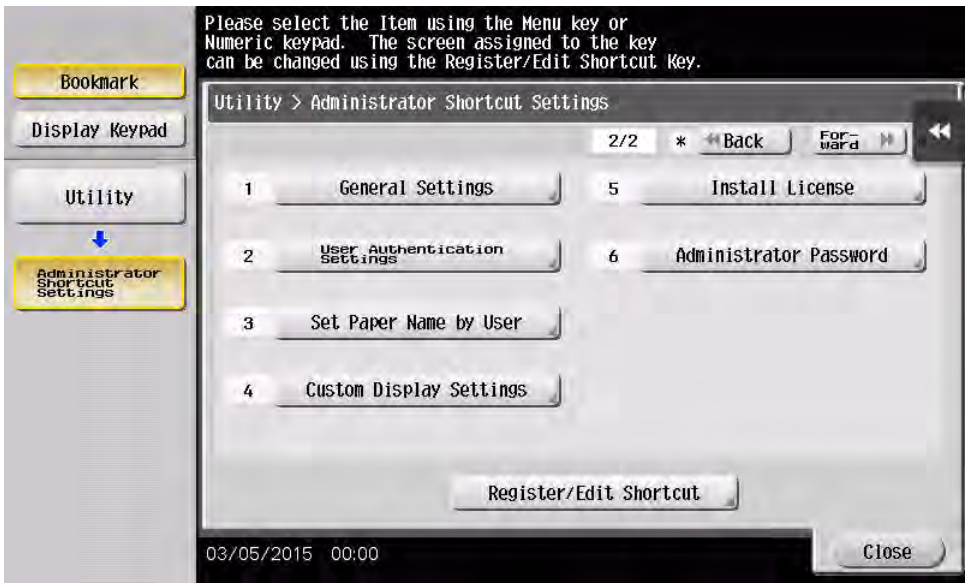


NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Create One-Touch Destination	The default setting for short cut keys 7/8 is "Do Not Use".
Create User Box	
Power Supply/Power Save Settings	
List/Counter	
TCP/IP Settings	
E-Mail Settings	

2.5.2 Administrator Shortcut Settings [2/2]



NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

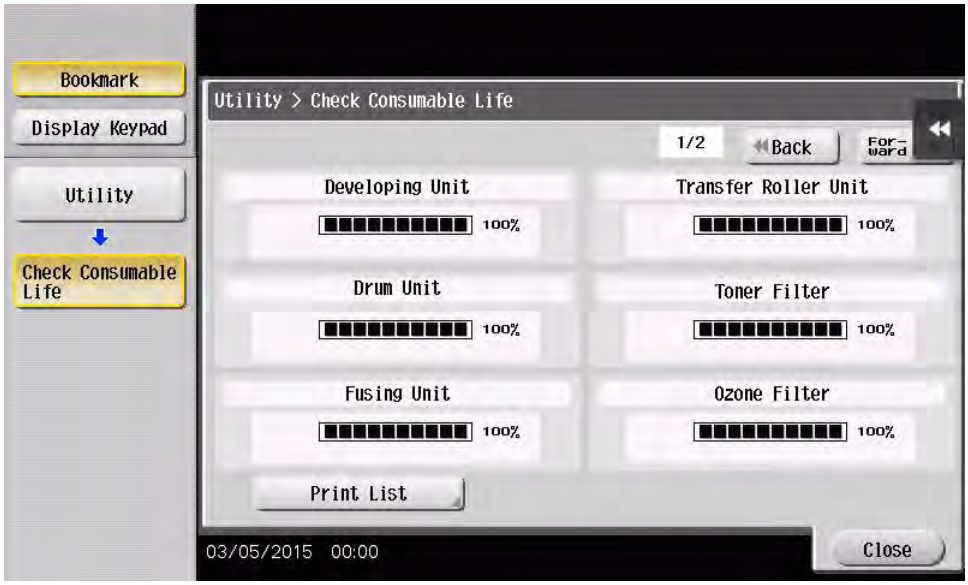
Key name	Function/Precondition
General Settings	The default setting for short cut keys 15/16 is "Do Not Use".
User Authentication Settings	
Set Paper Name by User	
Custom Display Settings	
Install License	
Administrator Password	

2.6 Check Consumables List

NOTE

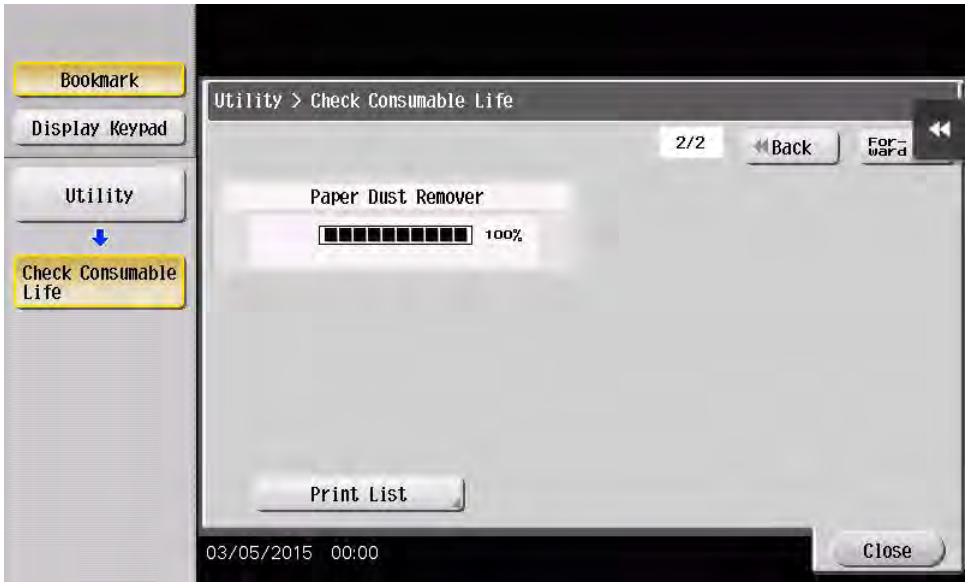
- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

2.6.1 Check Consumable Life [1/2]



Unit Name
Developing Unit
Drum Unit
Fusing Unit
Transfer Roller Unit
Toner Filter
Ozone Filter

2.6.2 Check Consumable Life [2/2]



Unit Name
Paper Dust Remover

2.7 My Panel Settings

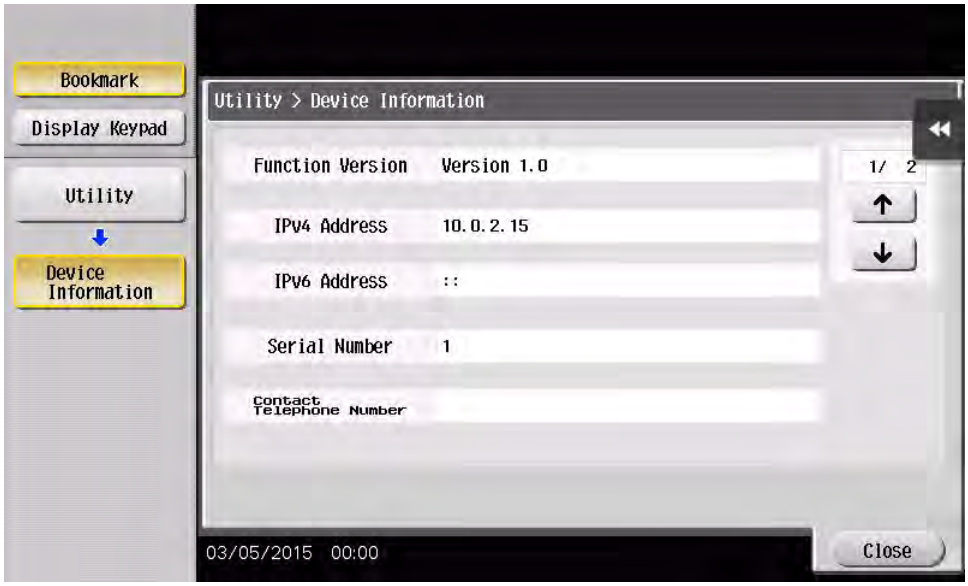
NOTE

- **Keys displayed on screens are different depending on the setting.**

Function Name	Function/Precondition
Language Setting	• It is displayed when the optional upgrade kit UK-211 is validated and PageScope My Panel Manager is installed. • This is displayed when a registered user is logging in after user authentication. However, this is not displayed when both management device 2 and user authentication are used. • Use : To make various settings about My Panel. To customize My Panel screen for individual registered users. • Registering, editing, and deleting My Panel settings are allowed when logging in as a registered user. • When My Panel is not customized, the settings for machine take effect in the three of the control panel settings, Language setting, Measurement unit setting, and Color selection setting. • Depending on the functions provided by each machine and the optional device configuration, not all My Panel settings may not take effect.
Measurement Unit Setting	
Copier Settings	
Scan/Fax Settings	
User Box Settings	
Function Display Key (Copy/Print)	
Function Display Key (Send/Save)	
Main Menu Settings	
Initial Screen Setting	

2.8 Device Information List

2.8.1 Device Information [1/2]

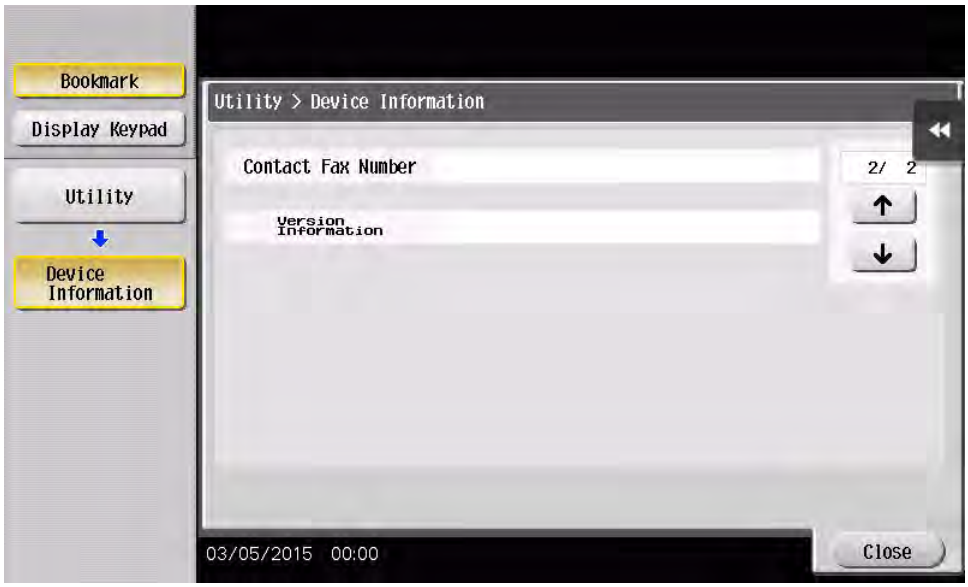


NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Function Name
Function Version
IPv4 Address
IPv6 Address
Serial Number
Contact Telephone Number

2.8.2 Device Information [2/2]



NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Function Name
Contact Fax Number
Version Information

2.9 Remote Panel Operation List

NOTE

- **Keys displayed on screens are different depending on the setting.**
- **For details of the utility functions, refer to "User's Guide."**

Key name	Function/Precondition
Start	• It will be displayed when [Administrator Settings] -> [Network Settings] -> [Remote Panel Settings] -> [Client Settings] is set to “ON.” • To start remote operations of the control panel of the machine.

2.10 Supplementary explanation of utility mode

2.10.1 User Authentication/Account Track-Authentication Device Settings

- It will be displayed when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that the authentication device 2 is mounted.
- It will be displayed when [Administrator Settings] -> [Network Settings] -> [IWS Settings] is set to “ON.”

(1) General Settings

(a) Use

- Specifies a device used for user authentication.

Card Authentication	IC Card type setting		Select the type of the required IC card. • To use the FeliCa card, select [FeliCa], [SSFC], [FCF], or [FCF (Campus)]. When [SSFC] is selected, detailed information such as the company code or company identification code is registered. • To use the Type A card, select [Type A]. • To use the FeliCa and Type A cards together, select [FeliCa+TypeA], [SSFC+TypeA], [FCF +Type A], or [FCF(Campus)+Type A]. When [SSFC+TypeA] is selected, detailed information such as the company code or company identification code is registered.
		Card Detail Settings	The settings information of for the registered IC card loadable driver can be changed via the Web browser on the machine. This does not display if any of the following conditions are satisfied. • A driver other than the AU-201S loadable driver is installed.
	IC Card Type		The type of the IC card which has been set will be displayed. • This is displayed when the loadable driver used for the YSoft card reader has been installed.
	Operation Settings		Set how to log in to this machine. • [Card Authentication]: Pass the IC card over the authentication unit to log in. • [Card Authentication + Password]: Pass the IC card over the authentication unit, and enter the password to log in. [Card Authentication] is specified by default.

	Authentication Card ID Number	• Specify whether to notify the counter, which collects the use status of this machine, of the authentication card ID. • [Ignore] is specified by default.
Bio Authentication	Beep Sound	• Set whether to give a "blip" sound when the finger vein pattern is scanned successfully. • [ON] is specified by default.
	Operation Settings	Set how to log in to this machine. • [1-to-many authentication]: A user simply needs to place his or her finger to log in. • [1-to-1 authentication]: A user needs to enter the user name and place his or her finger to log in. [1-to-many authentication] is specified by default.

(b) Procedure

- Select either one of the authentication devices and press the corresponding key to go to the individual operation setting screen.
- The screen displays the authentication device that is selected in [Service Mode] -> [Billing Setting] -> [Management Function Choice] -> [Authentication Device 2].
- If SSFC (Shared Security Formats Cooperation) is selected in Card Authentication, set [Company Code], [Company Identification Code], [Area No.], [Building No.], [Floor No.], [Room No.], and [Security Level].

(c) Setting items for SSFC card information

- When using SSFC card, acquire the following information from the administrator and convert the value to input using the control panel.

Information to be obtained from the administrator		
Items of Felica SSFC detail setting	Sample-data (decimal number)	Setting value (hexadecimal number)
Room number	37	00 25
Floor number	15	00 0F
Building number	50	00 32
Area number	85	00 55
Security level	2	00 02
Company identification code (CL code) *1	06BGLQVX17 (ASCII code)	30 36 42 47 4C 51 56 58 31 37
Company code *2	CompanyA (ASCII code)	CompanyA

*1: The character length of the company code is 10 bytes.
*2: Use alphabetical upper case/lower case characters and numeric characters for Company code. When the company code is not set, this space will be left blank.

(2) Logoff Settings

(a) Use

- Select whether or not the user is logged off after a scan or fax is sent or after the copy document is scanned.

(b) Default setting

- Do not log off

(c) Setting item

- Do not log off
- Log off

2.10.2 Network Settings-Network Fax Settings

- It will not be displayed on the screen when all items are set to “OFF” in [Service Mode] -> [System 2] -> [Network Fax Settings].

(1) Network Fax Function Settings

(a) IP Address Fax Function

- Setting will be available when [IP Address Fax] is set to “ON” in [Service Mode] -> [System 2] -> [Network Fax Settings].

(a) Use

- To set whether or not to use IP address fax function.

(b) Default setting

- OFF

(c) Setting item

- ON
- OFF

(b) Internet Fax Function

- Setting will be available when [Internet Fax] is set to “ON” in [Service Mode] -> [System 2] -> [Network Fax Settings].

(a) Use

- To set whether or not to use Internet fax function.

(b) Default setting

- OFF

(c) Setting item

- ON
- OFF

(2) SMTP TX Settings

(a) Use

- To set SMTP TX when network fax function is being used.
- To set SMTP TX port number and connecting time out period when network fax function is being used.

(b) Port No.

(a) Procedure

1. Touch [Input].
2. Enter the port number between 1 and 65535 using the 10-key pad.

(c) Connection Timeout

(a) Procedure

1. Touch [Input].
2. Enter the connection timeout time between 5 and 1000 (sec.) using the 10-key pad.

(3) SMTP RX Settings

(a) Use

- To set SMTP RX when network fax function is being used.
- To set SMTP RX port number and connecting time out period when network fax function is being used.

(b) SMTP RX

(a) Default setting

- OFF

(b) Setting item

- ON
- OFF

(c) Port No.

(a) Procedure

1. Touch [Input].
2. Enter the port number between 1 and 65535 using the 10-key pad.

(d) Connection Timeout

(a) Procedure

1. Touch [Input].
2. Enter the connection timeout time between 5 and 1000 (sec.) using the 10-key pad.

2.10.3 Network Settings-Network I/F Configuration

- It will be displayed when the optional upgrade kit UK-212 and local interface kit EK-608 are mounted.

(1) Use

- To add a network interface to this machine, set a network interface configuration.

Wired Only	Select this option to use this machine only in the wired LAN environment.
Wireless Only	Select this option to use this machine only in the wireless LAN environment. This machine runs as a wireless LAN adapter in the wireless LAN environment.
Wired + Wireless (Secondary Mode)	Select this option to use this machine in both the wired LAN environment and wireless LAN environment. This machine runs as a wireless LAN adapter in the wireless LAN environment.
Wired + Wireless (Primary Mode)	Select this option to use this machine in both the wired LAN environment and wireless LAN environment. This machine runs as a wireless LAN access point in the wireless LAN environment.
Wired + Wireless (Wi-Fi Direct)	Select this option to use this machine in both the wired LAN environment and wireless LAN environment. This machine runs as a group owner of Wireless LAN Direct in the wireless LAN environment.

(2) Default setting

- Wired Only

2.10.4 Network Settings-Wireless Network Setting

- Configure settings to use this machine as a wireless LAN access point or wireless LAN adapter.
- It will be displayed when the optional upgrade kit UK-212 and local interface kit EK-608 are mounted.

(1) Use

- [Wireless Only] or [Wired + Wireless (Secondary Mode)] is selected in [Administrator Settings] -> [Network Settings] -> [Network I/F Configuration]

Awake from ErP	Select the method to return the machine from the ErP Auto Power Off mode. • [OFF]: The machine is not returned from the ErP Auto Power Off mode. • [Awake with Magic Packet]: The machine returns from the ErP Auto Power Off mode when receiving a magic packet. • [Awake with ARP + Unicast Communication]: The machine returns from the ErP Auto Power Off mode when receiving a unicast communication packet. [Awake with Magic Packet] is specified by default.
Easy Setting (WPS)	Configure a setting to automatically obtain connection information from an access point. The access point must support the WPS function. • [Push Button Method]: Select [Push Button Method], and touch [Start Operation] to try a connection with an access point. If you press the WPS setting button at the access point, settings such as SSID and security required for a connection are configured automatically. • [PIN Method]: Select [PIN Method], and tap [Start Operation] to display the PIN code. If you enter the displayed PIN code at the access point, settings such as SSID and security required for a connection are configured automatically. This function requires a computer that contains Windows 7 or later as the operating system.
Manual Setting	Manually configure settings items such as SSID and the encryption scheme that are required for a connection. • [SSID]: Enter the SSID of the wireless LAN access point connected to the machine (using up to 32 characters). • [40 to 20 MHz Auto Switch]: Select [ON] to try a high-speed communication with 40MHz. [OFF] is specified by default. • [Authentication/Encryption Algorithm]: Select the algorithm used for authentication or encryption. If [WEP] is selected, specify [Key Input Method] and [WEP Key]. To specify multiple WEP keys, select the required WEP keys in [Use key settings]. If an algorithm other than WEP is selected, specify [Key Input Method] and [Passphrase].
Connection Status	Allows you to check the access point connected to this machine, the radio field intensity of the access point, and the current communication speed.
Device Setting	Allows you to check the MAC address of the wireless network adapter.

- [Wired + Wireless (Primary Mode)] or [Wired + Wireless (Wi-Fi Direct)] is selected in [Administrator Settings] -> [Network Settings] -> [Network I/F Configuration]

Awake from ErP	Select the method to return the machine from the ErP Auto Power Off mode. • [OFF]: The machine is not returned from the ErP Auto Power Off mode. • [Awake with Magic Packet]: The machine returns from the ErP Auto Power Off mode when receiving a magic packet. • [Awake with ARP + Unicast Communication]: The machine returns from the ErP Auto Power Off mode when receiving a unicast communication packet. [Awake with Magic Packet] is specified by default. Set [Awake with ARP + Unicast Communication] for this function.
AP Mode Setting	Manually configure settings to use this machine as a wireless LAN access point. • [SSID]: Enter the SSID of this machine (using up to 32 bytes). When [Wired + Wireless (Primary Mode)] is selected in [Network I/F Configuration], the SSID of the access point is used. When [Wired + Wireless (Wi-Fi Direct)] is selected in [Network I/F Configuration], the SSID for Wi-Fi Direct connection is used. The SSID specified here is displayed on the Wi-Fi Direct (setting) screen of the terminal compatible with Wi-Fi Direct. If you cannot connect to this machine by specifying the SSID on the Wi-Fi Direct (setting) screen, specify [Virtual SSID] on the Wi-Fi (setting) screen to make a connection. • [40 to 20 MHz Auto Switch]: Select [ON] to try a high-speed communication with 40 MHz. [OFF] is specified by default. • [Authentication/Encryption Algorithm]: Select the algorithm used for authentication or encryption. [No Authentication/Encryption] is specified by default. Specify [Key Input Method] and [WEP Key] when [WEP] is selected in [Authentication/ Encryption Algorithm]. To specify multiple WEP keys, select the required WEP keys in [Use key settings]. When [Wired + Wireless (Wi-Fi Direct)] is selected in [Network I/F Configuration], [WEP] is not available.

	When an algorithm other than [WEP] or [No Authentication/Encryption] is selected in [Authentication/Encryption Algorithm], specify [Key Input Method] and [Passphrase]. Also, specify whether to automatically update the passphrase in [Passphrase Auto Update]. To automatically update the passphrase, enter its update interval.
Wireless Channel	Set a wireless channel to be used by the access point. Selecting [Auto] searches for a channel that is not being used for other access points, and automatically assigns it to the access point. [Auto] is specified by default.
ANY connection	Select whether to allow ANY connection. If [Restrict] is selected, the SSID cannot be detected automatically as an access point in the wireless LAN adapter side. [Allow] is specified by default. This option is displayed only when [Wired + Wireless (Primary Mode)] is selected in [Network I/F Configuration].
MAC Address Filtering	Restricts wireless LAN adapters that can be connected to the access point using the MAC address. Enter the MAC addresses of wireless LAN adapters that can be connected to the access point. MAC addresses of up to 16 devices can be registered. This option is displayed only when [Wired + Wireless (Primary Mode)] is selected in [Network I/F Configuration].
DHCP Server Settings	Configure a setting to use the DHCP server function. • [Enable Settings]: Select whether to enable the DHCP server function. [Disabled] is specified by default. • [IPv4 lease address]: Specify the range of IPv4 addresses to be leased from the DHCP server when enabling the DHCP server function. • [Subnet Mask]: Specify the subnet mask of the IPv4 address to be leased from the DHCP server when enabling the DHCP server function. • [Lease Period]: Specify the lease period of the IPv4 address to be leased from the DHCP server when enabling the DHCP server function.
No. of Concurrent Devices Allowed	Enter the number of devices that can be connected simultaneously to the access point. [5] devices is specified by default.
Signal Strength Setting	Select the radio field intensity of the access point from three levels (Low, Middle, and High). [High] is specified by default.
Device Setting	Allows you to check the MAC address of the wireless network adapter.
Display Connected Devices	Displays a list of names and MAC addresses of wireless LAN adapters that are connected to the access point.
Virtual SSID	Displays the automatically generated virtual SSID. This option is available when a terminal incompatible with Wi-Fi Direct is connected to this machine. A virtual SSID is displayed on the Wi-Fi (setting) screen of a terminal incompatible with Wi-Fi Direct. The virtual SSID is displayed with "DIRECT-XXXXXX" ("XXXXXX" indicates a combination of the random alphanumeric characters and the specified value of [SSID]). This option is displayed when [Wired + Wireless (Wi-Fi Direct)] is selected in [Network I/F Configuration].

2.10.5 Network Settings-IWS Settings

NOTE

- **It will be displayed when [Administrator Settings] -> [Security Settings] -> [FIPS Settings] is set to “Disable.”**

(1) Use

- To configure the settings of the WebDAV server which is used to transfer data in the IWS (Internal Web Server) function.

(2) Default setting

- OFF

(3) Setting item

- ON
- OFF

(4) Procedure

- When selecting [ON], configure the following settings.

1. Set the port number in [Port Number] (Web Server/Application Installation) using the 10-key pad.
2. Set Allow/Restrict for the connection of application in [Connect IWS Apps to Network].
3. Select whether to allow an external application to operate the IWS application on this machine in [Permit Access for Communication between the applications].
4. Select whether to notify you of the user name and password of the user who is using this machine, when the IWS application on this machine operates that of a different device in [Login Information Notification Settings].

- The following settings are available when the IWS application has been registered.

<Print Data Conversion Setting>

- Select a print data conversion application.

<Authentication Screen Setting>

- Select an authentication screen application.

<Background Application Setting>

- Select a background application.

<Application List>

- Display the list of the registered applications (up to 50 applications)

2.10.6 Network Settings - Remote Panel Settings (outline)

- It will not be displayed when [Service Mode] -> [Enhanced Security] -> [CE Authentication] is set to “OFF.”
- Issue and install the self-signed certificate from Device Certificate Setting under Security Setting of PageScope Web Connection.
- Enable CE Password.
- The control panel of this machine can be operated remotely from a computer on the network.
- The following two methods are available for operating the control panel.

Using the dedicated software	This method uses the dedicated software that collects screen information of the control panel of this machine periodically, and operates the control panel from a computer on the network. You must prepare a dedicated remote control software program and server. Despite the burden, this method enables you to control the machine remotely even from a computer located outside the router network.
Accessing the machine directly	This method accesses this machine directly from another computer on the network, and operates the control panel of the machine using a Web browser. A dedicated remote control software program is not required, but the computer used for the remote control must be able to access this machine.

- During remote operations, display on the control panel can be masked to thereby lock the operation on the machine side (the machine control panel is forced into the locked state when the machine is set into the service mode through remote operation).
- The control panel can also be unlocked through remote operation. The machine control panel is enabled when unlocked remotely.
- Operations performed through the machine control panel while it is in the unlocked state can be reflected in the remote panel side.
- The remote operations are disabled under the following conditions:
  - Service mode operations are being performed on the machine.
  - Remote operations are already performed from another PC.

2.10.7 Network Settings - Remote Panel Settings (Server Settings)

(1) Use

- To access this machine directly and control the control panel of the machine remotely, select [ON].

(2) Default setting

- OFF

(3) Setting item

- ON
- OFF

(4) Procedure

- If [ON] is selected, configure the following settings.

(a) <Server Settings - Password Authentication>

- Select whether to request password entry for connecting with this machine. To request for a password entry, select [Yes], and enter the password (using up to 64 characters).

(b) <Server Settings - IP Filtering (Permit Access)>

- Select [Enable] to specify IP addresses allowed to access. Also enter the range of IP addresses allowed to access.

(c) <Port Number>

- To set the port number.

NOTE
Starting the remote operations
Access the machine web server (URL: https://IP_address_of_MFP:Port_Number/panel/top.html) through the web browser.
- **If Password Authentication is set, enter the set password.**
- **If IP Filtering is enabled, connection can be established only through the authorized address.**

2.10.8 Network Settings - Remote Panel Settings (Client Settings)

(1) Use

- To control the control panel of this machine remotely using the dedicated software, select [ON].

(2) Default setting

- OFF

(3) Setting item

- ON
- OFF

(4) Procedure

- If [ON] is selected, configure the following settings.

(a) <Port No.>

- To set the port number.

(b) <Connection Timeout>

- To set the time-out time. (60 Second is specified by default)

(c) <Server Address>

- Enter the address of the server where the dedicated software was installed.

(d) <Certificate Verification Level Settings>

- To verify the server certificate, configure settings to verify the certificate.

Expiration Date	Select whether to check that the server certificate is within the validity period.
Key Usage	Select whether to check that the server certificate is used according to the purpose approved by the issuer.
Chain	Select whether to check that the server certificate chain (certification path) is correct.
Expiration Date Confirmation	Select whether to check that the server certificate is within the validity period. The OCSP service and CRL (Certificate Revocation List) are checked in this order when the expiration date of the certificate is checked.
CN	Select whether to check that the CN of the server certificate matches the server address.

(e) <Synchronize WebDAV Client Setting>

- Select whether to use the proxy server for WebDAV transmission as a proxy server for the server where the dedicated software was installed.
- To use a different proxy server, select [Individual Settings] and enter the proxy server information.

(f) <Launch Remote Panel from vCare>

- To set whether or not to allow the remote panel to be started from the remote diagnosis system.

2.10.9 Machine Update Settings - Internet ISW Settings

- This is displayed when [Function Setting] is set to [ON] in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set].

(1) Update Firmware at Specified Time

- This is displayed when [Open Mode Settings] is set to [Set] in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set].

(a) Use

- To update the downloaded firmware at the specified time.

(b) Default setting

- No

(c) Setting item

- Yes
- No
- If [Yes] is selected, set the time to update the firmware.

(2) FTP Server Settings

- This is displayed when [FTP data acquisition setting] is set to [ON] in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [FTP Setting].

(a) Use

- To set whether to connect via a proxy server to access the FTP server.
- To configure the settings related to the server for connection via a proxy server.

(b) Default setting

- OFF

(c) Setting item

- ON
- OFF

(d) Procedure

- If [ON] is selected, configure the following settings.

1. Touch [Host Address] in [Proxy Server Address] to set the host address of the proxy server.
2. Set the port number used to access the proxy server in [Proxy Server Port Number].

(3) Firmware Update Parameters

- This is displayed when [Open Mode Settings] is set to [Set] in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set].

(a) Use

- To download and update the firmware.
- When you wish to update the firmware at the specified time, after downloading it in the way described here, you can specify the time in [Update Firmware at Specified Time].

(b) Procedure

1. Touch [Download] in [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [Internet ISW Settings] -> [Firmware Update Parameters].
2. Select [Yes] in the confirmation screen and touch [OK].
3. The firmware download starts.
4. The message to show the status will be displayed on the screen while connecting and transferring data.
5. Select [Upgrade] or [Delete].
   - Touching [Upgrade] starts updating using the downloaded firmware data. Select [Yes] in the confirmation screen and touch [OK].
   - Touching [Delete] will delete the downloaded firmware data. Select [Yes] in the confirmation screen and touch [OK].
6. When the firmware is normally upgraded, the main body will automatically be restarted to complete the Internet ISW.

NOTE

- **To download the firmware, in addition to the necessary proxy settings configured in [FTP Server Settings], you need to configure appropriate settings in [Service Mode] -> [Machine Update Setting] ->[Internet ISW] -> [HTTP Setting], [FTP Setting], and [Forwarding Access Setting].**

2.10.10 Machine Update Settings - Machine Auto Update setting

- Obtain the update file for this machine from the file storage server to update the firmware or settings of the machine.
- This function is same as that of the service mode, but it will not be used together with the function of the service mode.
- Refer to J-4 for how to create an update file.

(1) Auto Update Settings for This Machine

(a) Use

- To obtain the update file from the specified location, and configure settings to update the machine at the specified time.

(b) Default setting

- OFF

(c) Setting item

- ON
- OFF

(d) Procedure

If [ON] is selected, configure the following settings.

(1) When configuring the settings for SMB with the download protocol

NOTE

- **If the machine relay server is used as a server on the data providing side, the SMB protocol will not be used.**
- <Host Name>: Set the host name of the SMB server.
- <File Path>: Set the file path used in the SMB server communication.
  NOTE
  - **Specify the folder in which C_UpdateList.ini is stored. Refer to J-4 for details.**
- <User Name>: Set the user name used to access the SMB server.
- <Password>: Set the password used to access the SMB server.
- <Number of retries>: Set the number of times to retry when failed to obtain.
- <Update Time>: Touch Clear to set the time to update the machine.
- <Polling Interval>: Set the polling period for obtaining the update list.
- <Retry Interval>: Set the period for retrying when failed to obtain.

(2) When configuring the settings for HTTP with the download protocol

- <URL>: Set the address of the http server.
  NOTE
  - **Specify the folder in which C_UpdateList.ini is stored. Refer to J-4 for details.**
- <User Name>: Set the user name used to access the http server.
- <Password>: Set the password used to access the http server.
- <Proxy>: Select whether to use the proxy server.
  NOTE
  - **If [ON] is selected, set the proxy with [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [HTTP Proxy Settings].**
- <Connection Timeout>: Set the timeout period for connecting to the server.
- <Update Time>: Touch Clear to set the time to update the machine.

- <Polling Interval>: Set the polling period for obtaining the update list.
- <Retry Interval>: Set the period for retrying when failed to obtain.

(2) Relay Server Function Setting

Obtain an update relay data, and configure settings for the relay server function which enables the file to be shared with the other machine.

(a) Update File Download

- Set a relay server to obtain the update relay data from file storage server.
- When [ON] is selected, configure the following settings.
- [OFF] is default.

(1) Procedure

- <URL>: Set the address of the file storage server.
  NOTE
  - **Specify the folder in which S_UpdateList.csv is stored. Refer to J-5 for details.**
- <User Name>: Set the user name used to access the file storage server.
- <Password>: Set the password used to access the file storage server.
- <Proxy>: Select whether to use the proxy server.
  NOTE
  - **If [ON] is selected, set the proxy with [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [HTTP Proxy Settings].**
- <Polling Interval>: Set the polling period for obtaining the update list.
- <Retry Interval>: Set the period for retrying when failed to obtain.
- <Connection Timeout> Set the timeout period for connecting to the server.

(b) Authentication Setting

- Configure the authentication settings of access management works as an update relay data sharing server.
- When [ON] is selected, configure the following settings.
- [OFF] is default.

(1) For SMB Setting

- DO NOT use the SMB setting

(2) For HTTP Setting

- <User Name>: Set the user name used to access the relay server by http protocol.
- <Password>: Set the password used to access the relay server.

NOTE

- **Once a password is set, be sure not to forget it. It is required for reset.**
- **Please refer to "J.5.3.3 Download the firmware opened from the relay server by using the Auto Update function on the other MFP." for the file path of relayed data.**

(3) Log TX setting

(a) Update File Download/Update Log

- Save the update file download log for auto update of the machine, and send it to the specified location.
- When [ON] is selected, configure the settings for transmission protocol.
- [OFF] is default.

(1) For PC (SMB)

- <Host Name>: Set the host name of the SMB server.
- <File Path>: Set the file path used for SMB server communication.
- <User Name>: Set the user name used to access the SMB server.
- <Password>: Set the password used to access the SMB server.

(2) For WebDAV

- <URL>: Set the address of the WebDAV server.
- <User Name>: Set the user name used to access the WebDAV server.
- <Password>: Set the password used to access the WebDAV server.
- <Proxy>: Select whether to use the proxy server.
  NOTE
  - **If [ON] is selected, set the proxy with [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [HTTP Proxy Settings].**

(b) Relay Update File Download Log

- Save the log related to update relay data download for the relay server, and send it to the specified location.
- When [ON] is selected, configure the settings for transmission protocol.
- [OFF] is default.

(1) For PC (SMB)

- <Host Name>: Set the host name of the SMB server.

- <File Path>: Set the file path used for SMB server communication.
- <User Name>: Set the user name used to access the SMB server.
- <Password>: Set the password used to access the SMB server.

(2) For WebDAV

- <URL>: Set the address of the WebDAV server.
- <User Name>: Set the user name used to access the WebDAV server.
- <Password>: Set the password used to access the WebDAV server.
- <Proxy>: Select whether to use the proxy server.

NOTE

- **If [ON] is selected, set the proxy with [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [HTTP Proxy Settings].**

(4) Log Confirmation

- Check the log related to update file download for auto update of the machine or update relay data download for relay server.
- The latest five logs can be checked.

(5) Immediate Update

- This is displayed when [Auto Update Settings for This Machine] is set to [ON] in, [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [Machine Auto Update setting] with the following condition.
- This is displayed when the update file for auto update settings has been downloaded in HDD.

(a) Use

- To conduct Machine Auto Update manually.

(b) Procedure

- Touch [Immediate Update] to start update.
- Touch [Yes] on the confirmation screen, and touch [OK].

NOTE

Do not set the power to OFF under the following state.

- **It takes about 45 seconds from touching [Immediate Update] -> [Start] to the next operation of the MFP (Auto Power OFF).**
- **About one minute after the download completed screen being displayed, the MFP will restart.**
- **When rewriting configuration files followed by the firmware, the MFP will restart again.**

(6) Machine Update Password

(a) Use

To set a password used to decrypt the configuration file(s) of the machine.

(b) Procedure

Enter the decryption password using the on-screen keyboard.

- <Current Password>: Enter the currently used decryption password (only when the decryption password has been set).
- <New Password>: Enter the new decryption password.
- <Password Confirmation>: Enter the new decryption password again.

NOTE

- **Once a password is set, be sure not to forget it. It is required for reset.**
- **Please refer to J-4 for how to make the configuration file(s).**

2.10.11 Machine Update Settings - HTTP Proxy Settings

(1) Use

- To select whether to connect via a proxy server to access the http server.
- To configure the settings of the server related to connection via a proxy server.

(2) Default setting

- OFF

(3) Setting item

- ON
- OFF

(4) Procedure

- If [ON] is selected, configure the following settings.

1. Touch [Host Address] in [Proxy Server Address] to set the host address of the proxy server.
2. Set the port number used to access the proxy server in [Proxy Server Port Number].
3. Select whether to perform an authentication to access a proxy server. If [ON] is set, enter the user name and password.

2.10.12 Security Settings - Prohibited Functions When Authentication Error

(1) Use

- To set the function for prohibiting authentication operation in order to prevent the unauthorized access.
- To use when setting the system to prohibit authentication failure when conducting authentication by password, etc.

- Authentications which are subjected to this function: CE authentication, administrator authentication, user+ accounts authentication, SNMP authentication, secure print authentication, user box authentication.

Mode 1	When failed to authenticate, authentication operation (entering the password) will be prohibited for a certain period of time.
Mode 2	• When failed to authenticate, authentication operation (entering the password) will be prohibited for a certain period of time. The number of times failure occurred will be counted, and when the number reaches to the specified time, authentication will be prohibited and the access will be locked. • When the machine goes into an access lock condition, release the lock in the following procedure.
User & Accounts authentication	• Touch keys in the following order. [Administrator Settings] -> [Security Setting] -> [Security Details] -> [Prohibited Functions When Authentication Error]. Then touch [Release].
SNMP authentication	
Secure print authentication	
User Box authentication	
WebDAV Server authentication	
Remote Panel authentication	
Administrator authentication	• After the main power switch is turned OFF and ON, the access lock is released automatically after the lapse of a predetermined period of time.
	• [Service Mode] -> [Enhanced Security] -> [Administrator unlocking]
CE authentication	1. Main power switch is turned OFF and ON. 2. Touch Menu -> [Counter] -> [Print List]. 3. Touch [Display Keypad], displaying 10-key pad. 4. The lock release timer starts to operate by input the Stop -> 0 -> 9 -> 3 -> 1 -> 7 5. When the timer reaches the time specified in this setting, the access lock is released.

(2) Default setting

- Mode 1

(3) Setting item

- Mode 1
- Mode 2

NOTE

- **If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to "ON", selecting "Mode 1" in this setting cancels enhanced security mode.**
  Only the number of times for trials up to the access lock can be changed.
- **When [Mode 2] is selected, set the number of times where checks are made before access is locked.**

(4) Procedure

- Touch [Release Time Settings] and set a period of time that elapses before access lock is released.

2.10.13 Security Settings - Enhanced Security Mode

(1) Use

- To set whether or not to enhance security.
- To use when enhancing the security function at user's option.
- The following settings are necessary for setting the security enhancement "ON".

Administrator Password	Change it with the one which meets password rules.
User Authentication	Set to "ON (MFP)", "External Server Authentication", or "Main + External Server".
HDD encryption word	Set the encryption word with 20 characters.
SSL Certificate	Register self-certificate for SSL communication from the PSWC.
CE Password	Change it with the one which meets password rules.
CE Authentication	Set to [ON].
Management Function Choice	Set to "Unset."

(2) Default setting

- OFF

(3) Setting item

- ON
- OFF

NOTE

- **Note that setting Enhanced Security Mode to "ON" disables the following functions.**
  - **Print Data Capture (forcibly prohibited when Enhanced Security Mode is set to "ON")**
  - **In CS Remote Care, the following operation is prohibited.**
    - **Rewriting instructions of firmware, communication of the account track counter information, the setting renewal of the machine.**
    - **Firmware upgrading through Internet ISW (When the Enhanced Security Mode is set to ON, the setting of this function cannot be changed from "OFF.")**

- **Setting the Enhanced Security Mode "ON" will change the setting values for the following functions.**
- **In addition, the indicator of "not be changed" below indicates that the settings cannot be changed while Enhanced Security Mode is maintained "ON".**

Function Name		Default Setting	When Enhanced Security mode is set to [ON]
Password Rules	To apply the password rule to enhance security.	Disable	Enable (not to be changed)
Prohibited Functions When Authentication Error	To set the function for prohibiting Authentication operation in order to prevent the unauthorized access.	Mode 1	Mode 2 (not to be changed): Three times is set. * The number of times can be changed to once, twice, or three times. (It is twice, four or six times for WebDAV server password.)
Confidential Document Access Method	To display the status of the Authentication system on the control panel for the Confidential document access.	Mode 1	Mode 2 (not to be changed) * In association with Prohibited Functions When Authentication Error, the method is changed from authentication using Secure Document ID and password (Mode 1) to that using the password with the Secure Document first narrowed down by Secure Document ID (Mode 2).
Public User Access	To permit use by a public user having no user registration if user authentication setting has been made.	Restrict	Restrict (not to be changed)
User Name List	To display the list key for User names on User Authentication screen.	OFF	OFF (not to be changed)
Print without Authentication	To allow or restrict printing which user and account are not specified.	Restrict	Restrict (not to be changed)
Counter Remote Control	To select whether or not to allow the Center to acquire counter information managed by the machine when CS Remote Care is used.	Restrict	Restrict (not to be changed)
Print Simple Auth. (Authentication Setting)	You can print from the printer driver using authentication that requires only your user name (without password).	Restrict	Restrict (not to be changed)
User Box Administrator Setting	To set whether to allow or restrict the Box Administrator to use the system.	Restrict	Restrict (not to be changed)
SSL	To set whether to encrypt access by SSL.	OFF	ON (not to be changed)
SSL Encryption Strength	To set the SSL encryption strength for the SSL encryption communication.	AES-256, 3DES-168, RC4-128	AES/3DES (not to be changed to one containing strength lower than AES/3DES)
Automatically Obtain Certificates of S/MIME	-	No	No (not to be changed)
S/MIME Encryption Method	-	3DES	3DES (not to be changed to DES or RC-2)
FTP Server	To set whether to use FTP server or not.	ON	OFF (not to be changed)
SNMPv1/v2c	To use when changing Write setting.	Read/Write enable	Only Read is enabled (not to be changed)
SNMP v3 Security Level and auth/priv-password	To set the security level for the Reading/Writing Authority User which is used for SNMP v3.	auth/priv-password	• The security level can be selected from among [auth-password] and [auth/priv-password]. • An 8-digit-or-more auth-password and priv-password can both be set.
Print Data Capture	To set whether to allow or restrict capturing the Print Job Data.	Allow	Restrict (not to be changed)
Network Setting Clear	To clear the network setting through PageScope Web Connection.	Enabled	Restrict
Release Time Settings	To set the period of time to be elapsed before the access lock state is released.	5 min.	The setting value should be 5 min. or more (no value less than 5 can be set)
Destination Registration Change by User (Address Book and Program destination)	-	Allow	Restrict (not to be changed)
Secure Print User Box Preview	-	Thumbnail View, Detail View, and	Only Detail View is enabled before password authentication (Mode 2)

Function Name		Default Setting	When Enhanced Security mode is set to [ON]
		Document Details are enabled	
Initialize (Network Settings)	To clear the network related settings.	Enabled	Restrict (not to be changed)
Image Log Transfer Settings	Specifies whether to transfer the input or output image data to the server using whenever machine inputs or outputs image data.	OFF	OFF (not to be changed)
Machine Update Settings	To set firmware upgrading by Internet ISW, and enable or disable various settings.	No	No (not to be changed)
operation Ban release time (CE Authentication)	To set the period of time to be elapsed before the access lock state is released in CE password authentication.	5 min.	The setting value should be 5 min. or more (no value less than 5 can be set)
E-mail RX Print	To print an E-mail attachment, send an E-mail to the E-mail address of this machine.	OFF	OFF (not to be changed)
IWS Settings	Set the operating environment of IWS (Internal Web Server) function.	OFF	OFF (not to be changed)
Storage data backup	To set whether to permit our service representative to back up or restore the storage on this machine.	Restrict	Restrict (not to be changed)
CS Remote Care	CS Remote Care enables the machine and the computer at CS Remote Care center to exchange data through telephone/fax line, network or E-mail in order to control the machine.	Usable	Remote device setting disabled
Maintenance Mode Access	To set whether to permit your service representative to change [Administrator Settings] of a device without authentication.	Restrict	Restrict (not to be changed)
QR Code Setting	To set whether to display the QR code on the screen of this machine.	OFF	OFF (not to be changed)

2.10.14 Security Settings - HDD Encryption Setting

(1) Use

- To set the encrypting passphrase.
- To re-set encrypting passphrase due to exchange of SSD board or etc.

NOTE

- **HDD formatting is required after this setting. Therefore it is necessary to retrieve certain data from HDD in advance.**
  The following data will be lost after HDD formatting.
  1. **Address data**
  2. **Authentication data: Authentication mode, user authentication setting, account track setting**
  3. **Box setting data: Box and text in the box, setting information of each box, box for fax**
  4. **Job history, fax transmission history**

  And after setting the HDD encryption key, the movie data, voice data, OCR dictionary data, PDF/A font, OCR font, and Unicode font need to be reinstalled as necessary since these data will be deleted by HDD format.
- **If you replace the HDD due to its breakage or other reasons, you can automatically reset the encryption passphrase by installing a new HDD and performing the logical format.**
- **Make sure to configure the following settings after formatting the HDD.**
  - **Installing the firmware.**
  - **Reinstall movie data, voice data, OCR dictionary data, and PDF/A fonts with the install data function under the service mode. [Service Mode] -> [System 2] -> [Install Data]**
- **Make sure to install the firmware after the format of the hard disk. Otherwise a trouble code "C-D012 mount error due to unformatted HDD" will appear.**

(2) Procedure

1. Press [HDD Encryption Setting].
2. Enter encryption passphrase (20 characters) with the keyboard on the operation panel and press [OK].
   NOTE
   - **Double-byte and identical characters are not acceptable.**
3. Turn OFF the main power switch and turn it ON again more than 10 seconds after.

4. Open [Administrator Settings] and conduct HDD formatting according to the instruction appeared on the panel.
5. Turn OFF the main power switch and turn it ON again more than 10 seconds after.

2.10.15 Security Settings - Debug Log Encryption Settings

(1) Debug Log Encryption Settings

(a) Use

- To set a password used to encrypt debug data when storing it into the HDD.

(b) Default setting

- 01234567890123456789

(c) Procedure

- Enter an encryption passphrase from the on-screen keyboard.
  1. Enter the encryption passphrase currently in use.
  2. Encryption Passphrase: Enter a new encryption passphrase.
  3. Encryption Passphrase Confirmation: Re-enter the new encryption passphrase.

2.10.16 Security Settings - Image Log Transfer Settings (Type1)

NOTE

- **This is displayed only when Switch No. "63" is set to [00000001] at Bit assignment/[01] at HEX assignment (Type 1) or [00000010] at Bit assignment/[02] at HEX assignment (Type 2) in [Service Mode] -> [System 2] -> [Software Switch Setting].**

(1) Use

- Specifies whether to transfer the input or output image data to the server using whenever machine inputs or outputs image data. Makes the settings of the WebDAV Server, the FTP Server, or the SMB Server where image data are transferred.
- Use this settings to keep logs of input and output image data for security purpose.

(2) Default setting

- OFF

(3) Setting item

- ON
- OFF

(4) Procedure

- When selecting [ON], configure the following settings.

1. Select Forwarding Destination and configure the sever settings.

WebDAV Server setting	Host Name, File Path, User Name, Password, Port Number, Proxy, SSL Settings
FTP Server setting	Host Name, File Path, User Name, Password, Port Number, PASV, and Proxy
SMB Server setting	Host Name, File Path, User Name, Password

2. Specify Audit Item.

All Items	Applied to Fax TX, Fax RX, Scan, and Others.
Individual Item	Can be selected from Fax, Fax RX, and Scan.

2.10.17 Security Settings - Image Log Transfer Settings (Type2)

NOTE

- **This is displayed only when Switch No. "63" is set to [00000001] at Bit assignment/[01] at HEX assignment (Type 1) or [00000010] at Bit assignment/[02] at HEX assignment (Type 2) in [Service Mode] -> [System 2] -> [Software Switch Setting].**

(1) Use

- To select whether or not to transfer only input/output images in Fax TX/RX to the server when image data is input or output to or from the machine.

(2) Default setting

- OFF

(3) Setting item

- ON
- OFF

(4) Procedure

- When selecting [ON], configure the following settings.

1. Configure the file type and scan setting.
2. Select Forward or Do Not Forward for Fax TX/RX. To transfer data, select [Forwarding Dest.] and configure the server settings.

FTP Server setting	Host Name, File Path, User Name, Password, Port Number, PASV, and Proxy
SMB Server setting	Host Name, File Path, User Name, Password
WebDAV Server setting	Host Name, File Path, User Name, Password, Port Number, Proxy, SSL Settings

2.10.18 Security Settings - Driver Password Encryption Setting

(1) Use

- To set whether to use the factory default encryption word or user-defined one as a common key that encrypts a password used for a print job.

User-Defined	Sets an encryption word. Enter an encryption word of 20 letters.
Use Factory Default	Uses the factory default encryption word (undisclosed predefined encryption key).

NOTE

- **When selecting [User-Defined], set an encryption key being consisted of the same letters in the printer driver. If the encryption word set in the machine differs from the encryption key set in the printer driver, different encrypted passwords are created and printing cannot be made.**
- **The use of OpenAPI allows an encryption key to be obtained from the machine.**

(2) Default setting

- Use Factory Default

(3) Setting item

- User-Defined
- Use Factory Default

2.10.19 Security Settings - Quick Security Setting - Administrator Password

(1) Use

- To set/change the administrator password.

(2) Procedure

- Enter the administrator password on the on-screen keyboard.
  1. Enter the current administrator password
  2. Password: Enter the new administrator password to be used
  3. Password Confirmation: Re-enter the new administrator password

NOTE

- **When “Enable” is selected in [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Password Rules], the following passwords cannot be accepted: password of single repeated characters, password same as the one before being changed, and password where the number of characters is less than the minimum number specified in [Set Minimum Password Length].**

2.10.20 Security Settings - Quick Security Setting - Password Rules

(1) Use

- To set whether to apply the password rules.
- To apply the password rule to enhance security.
- Passwords to be covered: CE password, administrator password, user password, account track password, public user box password, user box administrator password, passwords for confidential documents, WebDAV server password, SNMPv3 Write User password, remote panel server password, Encryption Passphrase
- Details of the password rules:
  - Minimum number of characters specified in [Set Minimum Password Length] (Default: 12 characters)
  - Upper- and lower-case letters are distinguished in alphabetical letters.
  - Only one-byte symbols can be used.
  - Password with only the same letter is prohibited.
  - Password same with the one prior to change is prohibited.

  NOTE

  - **When the password rule is set to [Enable], the password cannot be changed or registered unless it follows the above conditions.**

- When [Enable] is selected, it is possible to determine the minimum number of characters that a password can contain. (8 to 64 characters, Default: 12 characters)

(2) Default setting

- Disable

(3) Setting item

- Enable
- “Disable”

NOTE

- **If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, selecting “Disable” in this setting cancels enhanced security mode.**

- **[Enable] cannot be selected when [Service Mode] -> [Enhanced Security] -> [CE Authentication] is set to "OFF." "OFF" setting of [CE Authentication] will not be displayed and cannot be set to "OFF" when [Password Rules] is set to "Enable."**

2.10.21 Security Settings - Quick Security Setting - Quick IP Filtering

(1) Use

- A function that only allows access to the MFP from devices within the same IP group.
- Determine the receiving IP for the decided IP when setting the address to the MFP by DHCP or manually.

(2) Default setting

- Synchronize IP Address (Japan)
- No Filtering (except for Japan)

(3) Procedure

- Quick IP Filtering activates automatically.

(a) Synchronize IP Address

- IPv4 address: Only reception by an IP address with the upper 3 bites same as that of the IP address set in the MFP is allowed.
  NOTICE
  - If the MFP IP address is set to [192.168.0.134], the filtering range is as follows.
    192.168.0.0 to 192.168.0.255

- IPv6 address: Only Global Unicast Address (2000::/3) is available. Only reception by an IP address with the upper 64 bits same as that of the IP address set in the MFP is allowed.
  NOTICE
  - If the MFP IP address is set to "2345:1:2:3:4:5:6:7", the filtering range is as follows.
    2345:1:2:3::0 to 2345:1:2:3:FFFF:FFFF:FFFF:FFFF

(b) Synchronize Subnet Musk

- IPv4 address: Use the IP address set in the MFP and the Subnet Mask to allow receptions by IP addresses within the range belongs to the same network.
  NOTICE
  - If the MFP IP address is set to [150.176.17.134] and the Subnet Mask is set to [255.255.252.0], the filtering range is as follows.
    150.16.16.*** to 150.16.19.****
  - If the Subnet Mask has not been set, or it has been set to [0.0.0.0], only accesses from the IP address with the end differs from that of the IP address set in the MFP are restricted. As a result, filtering runs in the same way as that it has been set in [Synchronize IP Address].
- IPv6 address: Only Global Unicast Address (2000::/3) is available. And use the Global IP address and Prefix to perform filtering.
  NOTICE
  - If the MFP IP address is set to [IP address=2345:1:2:3:4:5:6:7], and the Prefix is set to [/64], the filtering range is as follows.
    2345:1:2:3::0 to 2345:1:2:3:FFFF:FFFF:FFFF:FFFF
  - If the Prefix has not been set, filtering runs in the same way as that the Prefix is set to 64 bit.

(c) No Filtering

- For both IPv4 address and IPv6 address, no filtering is performed.

2.10.22 Security Settings - Quick Security setting - PSWC Setting

(1) Use

- To set whether to use the PageScope Web Connection.

NOTE

- **To use the PageScope Web Connection, enable "JavaScript" and "Cookie" of the Web browser.**
- **If this machine is connected to the internet via a proxy server, register the Proxy Settings of the Web browser as "Exceptions".**
- **When the PageScope Web Connection is not displayed properly even if the above settings have been conducted, delete the cache of the Web browser.**

(2) Default setting

- ON (Japan)
- OFF (except for Japan)

(3) Setting item

- ON
- OFF

2.10.23 Security Settings - Quick Security setting - Security Warning Display Setting

(1) Use

- To select whether or not to display the security warning screen if an administrator password is still remained as default setting or does not meet the password rules.

(2) Default setting

- ON (Japan)

- OFF (except for Japan)

(3) Setting item

- ON
- OFF

2.10.24 License Settings

(1) Get Request Code

(a) Use

- To display and print a request code and serial number used to activate i-Option.

(b) Procedure

1. Touch [Get Request Code], and [Yes].
2. A serial number and request code are issued.
3. By touching [Print], the serial number and request code are printable.

(2) Install License

- It is displayed when this machine is equipped with an optional upgrade kit UK-211.

(a) Use

- To allow administrator to activate functions provided by i-Option.
- The functions can be activated by entering Function/License Code or Token Code.
- By making settings in [Service Mode] -> [Billing Setting], CE can also activate functions provided by i-Option.

NOTE

- **When activating i-Option, MFP accesses to KM license server via WebDAV connection. Set the proxy server setting in [Administrator Settings] -> [Network Settings] -> [WebDAV Settings] -> [Proxy Setting for Remote Access] as occasion demands.**
- **For accessing to KM license server, it is necessary to select "Fixed Address" in [Service Mode] -> [Billing Setting] -> [WebDAV Server Setting].**
- **When the server connection error "MAE001" is displayed, check the network settings.**

(b) Procedure (Function/License Code)

1. Touch [Install License].
2. Touch [Function/License Code].
3. Touch [Function Code].
4. Enter the Function Code.
5. Touch [OK].
6. Touch [License Code].
7. Enter the license code that was issued in the license management server using the key board on the control panel, and touch [OK].
8. Touch [Install].
9. Confirm the message, select [Yes], and touch [OK].
10. Turn OFF and ON the main power switch.

(c) Procedure (Token Code)

1. Touch [Token Code].
2. Touch one of the Token Codes 1 to 10.
3. Enter the Token Code.
4. Touch [OK].
5. Touch [Install].
6. Confirm the message, select [Yes], and touch [OK].
7. Turn OFF and ON the main power switch.

(3) List of Enabled Functions

- It is displayed when this machine is equipped with an optional upgrade kit UK-211.

(a) Use

- To display currently activated functions.

2.10.25 Voice Guidance Settings-Voice Guidance

(1) Use

- To select whether or not to enable the voice guidance function.
- Selecting [ON] allows you to configure the settings on the voice guidance function in the [Accessibility] screen.

NOTE

- **To use voice guidance, the optional upgrade kit UK-211 and i-Option LK-104 v3 must be activated, and the optional local interface kit EK-608 must be mounted.**

(2) Default setting

- OFF

(3) Setting item

- ON
- OFF

2.10.26 External Memory Backup - Import/Export

- It will be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.72 is set to [00000100] at Bit assignment/[04] at HEX assignment.

(1) Use

- To export various types of setting information to an external memory (USB memory).
- To import various types of setting information from other machine via the USB memory.
- Types of data that can be exported and imported: Address Book, Authentication Data, Network Settings, Remote Access Setting, User Setting, Administrator Setting

(2) Procedure (Import)

1. Connect the external memory to the machine.
2. Touch [Import].
3. Touch [Password], enter the password previously set for the import data, and touch [OK].
4. Touch [Start].
5. Import results appear.

(3) Procedure (Export)

1. Connect the external memory to the machine.
2. Touch [Export].
3. Select the item to be exported.
4. Touch [Password], enter the password of the export data, and touch [OK].
5. Touch [Start].
6. Export results appear.

2.10.27 Remote Access Setting - Import/Export User Data

(1) Use

- To set whether to remotely rewrite (import or export) user data such as address information using the CS Remote Care.

(2) Default setting

- Restrict

(3) Setting item

- Allow
- Restrict

3. ADJUSTMENT ITEM LIST

3.1 Replace feed roller, pick-up roller, separation roller (tray 1, tray 2)

Replacement part/Service job	Adjustment/setting items	Procedure
Replace feed roller, pick-up roller, separation roller (tray 1, tray 2)	[Service Mode] / [Counter] / [Life] / [Counter Clear]	1

3.2 Replace feed roller, separation roller assy (manual bypass tray)

Replacement part/Service job	Adjustment/setting items	Procedure
Replace feed roller, separation roller assy	[Service Mode] / [Counter] / [Life] / [Counter Clear]	1

3.3 Install LCT (Built-in)

Replacement part/Service job	Adjustment/setting items	Procedure
Install LCT (Built-in)	[Service Mode] / [System2] / [LCT (Built-in) Size Settings]	1
	[Service Mode] / [Machine] / [Printer Area] / [Printer Image Centering Side 1]	2
	[Service Mode] / [Machine] / [Printer Area] / [Prt. Image Center. Side 2 (Dup)]	3
	[Service Mode] / [Machine] / [Printer Area] / [Tray Printing Position: Tip]	4

3.4 Replace CCD unit

Replacement part/Service job	Adjustment/setting items	Procedure
Replace CCD unit	[Service Mode] / [System2] / [CCD Calibration]	1
	[Service Mode] / [System2] / [Line Mag Setting]	2
	[Service Mode] / [Machine] / [Printer Area] / [Paper Feed Direction Adj.]	3
	[Service Mode] / [Machine] / [Scan Area] / [Main Scan Zoon Adj.]	4
	[Service Mode] / [Machine] / [Scan Area] / [Scanner Image Side Edge]	5

3.5 Replace developing unit

Replacement part/Service job	Adjustment/setting items	Procedure
Replace developing unit	[Service Mode] / [Imaging Process Adjustment] / [Gradation Adjust]	1

3.6 Replace drum unit

Replacement part/Service job	Adjustment/setting items	Procedure
Replace drum unit	[Service Mode] / [Imaging Process Adjustment] / [Gradation Adjust]	1

3.7 Replace fusing unit

Replacement part/Service job	Adjustment/setting items	Procedure
Replace fusing unit	[Service Mode] / [Counter] / [Life] / [New Release]	1

3.8 Replace PH unit

Replacement part/Service job	Adjustment/setting items	Procedure
Replace PH unit	[Service Mode] / [Machine] / [Printer Area] / [Leading Edge Adjustment]	1
	[Service Mode] / [Machine] / [Printer Area] / [Printer Image Centering Side 1]	2

3.9 Replace original size detection sensor

Replacement part/Service job	Adjustment/setting items	Procedure
Replace original size detection sensor	Installation of original size sensor	1
	[Service Mode] / [State Confirmation] / [Table Number]	2

3.10 Replace scanner home sensor

Replacement part/Service job	Adjustment/setting items	Procedure
Replace scanner home sensor	[Service Mode] / [Machine] / [Scan Area] / [Image Position: Leading Edge]	1

3.11 Replace MFP board

Replacement part/Service job	Adjustment/setting items	Procedure
Replace MFP board	Entering the machine type information	1
	Installing the firmware	2

Replacement part/Service job	Adjustment/setting items	Procedure
	Restore (backup) data	3
	[Service Mode] / [Imaging Process Adjustment] / [Gradation Adjust]	4

3.12 Replace eMMC board

Replacement part/Service job	Adjustment/setting items	Procedure
Replace eMMC board	Installing the firmware	1

NOTE
- **Contact Konica Minolta technical support if the eMMC board needs to be replaced.**

3.13 Replace the backup board

NOTE
- **Contact Konica Minolta technical support if the backup board needs to be replaced.**

3.14 Replace original glass assy

Replacement part/Service job	Adjustment/setting items	Procedure
Replace original glass assy	[Service Mode] / [Machine] / [Scan Area] / [Scanner Image Side Edge]	1
	[Service Mode] / [Machine] / [Scan Area] / [Image Position: Leading Edge]	2

3.15 Replace hard disk

Replacement part/Service job	Adjustment/setting items	Procedure
Replace hard disk	[Service Mode] / [State Confirmation] / [Memory/Storage Adjustment] / [Format]	1
	[Service Mode] / [State Confirmation] / [Memory/Storage Adjustment] / [Storage R/W Check]	2
	Install Data	3

3.16 Replace control panel unit

Replacement part/Service job	Adjustment/setting items	Procedure
Replace control panel unit	Touch panel calibration	1
	[Accessibility] / [Touch Panel Adjustment]	2

3.17 Replace DF control board (DF-628)

Replacement part/Service job	Adjustment/setting items	Procedure
Replace DF control board	Installing the firmware	1
	[Service Mode] / [ADF] / [Original Tray Width]	2
	[Service Mode] / [ADF] / [Mixed original Size adjustment]	3

3.18 Add key counter

Replacement part/Service job	Adjustment/setting items	Procedure
Add key counter	Re-entry of Enhanced Security settings	1

3.19 Execute initialize

Replacement part/Service job	Adjustment/setting items	Procedure
Execute initialize	Re-entry of Utility settings	1
	[Service Mode] / [System 1] / [Serial Number]	2
	[Service Mode] / [System 1/2] and re-entry of setting values	3
	Re-entry of Enhanced Security settings	4

3.20 Add an optional device

Replacement part/Service job	Adjustment/setting items	Procedure
Add an optional device	[Service Mode] / [Firmware Version]	1

3.21 Execute F/W update

Replacement part/Service job	Adjustment/setting items	Procedure
Execute F/W update	[Service Mode] / [Firmware Version]	1

3.22 Add fax board

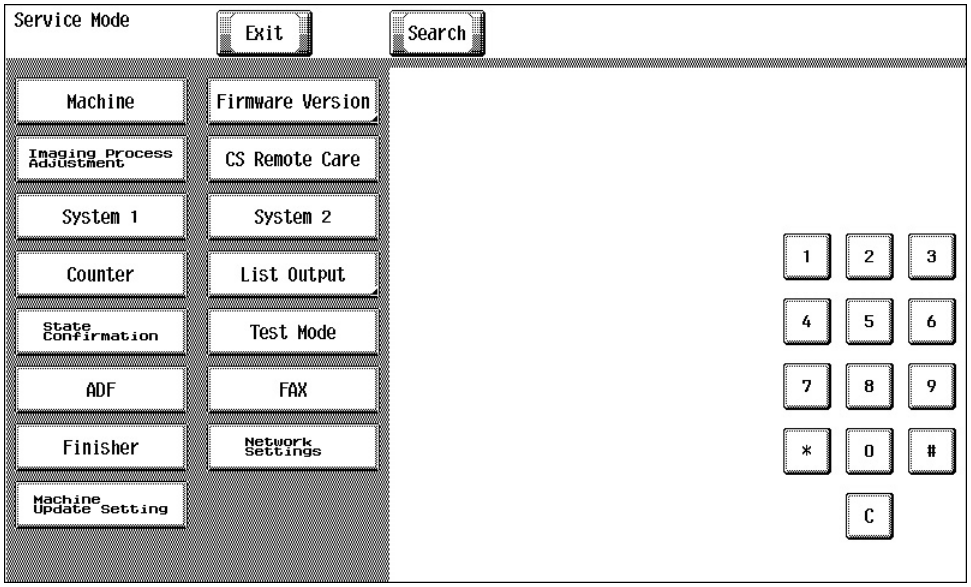
Replacement part/Service job	Adjustment/setting items	Procedure
Add fax board	[Service Mode] / [System2] / [Option Board Status]	1
	Installing the firmware	2
	[Service Mode] / [System1] / [Marketin Area] / [Fax Target]	3

3.23 Attach DF-628

Replacement part/Service job	Adjustment/setting items	Procedure
Attach DF-628	ADF adjusting the height	1
	Adjusting front side skew feed on ADF	2
	[Service Mode] / [ADF] / [Read Pos Adj]	3
	[Service Mode] / [ADF] / [Feed Zoom]	4

4. LIST OF SERVICE MODE

4.1 List of service mode (outline)



NOTE

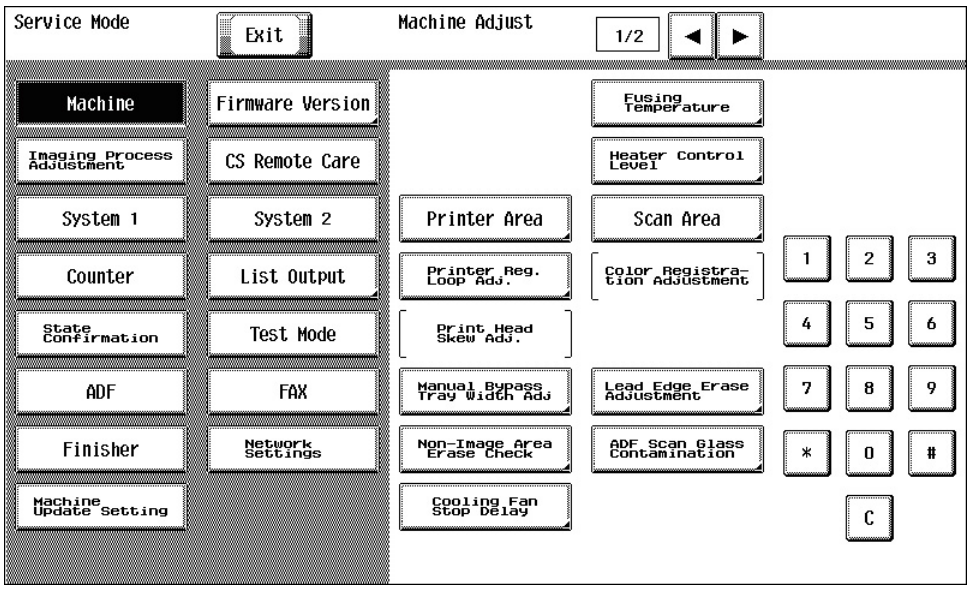
- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

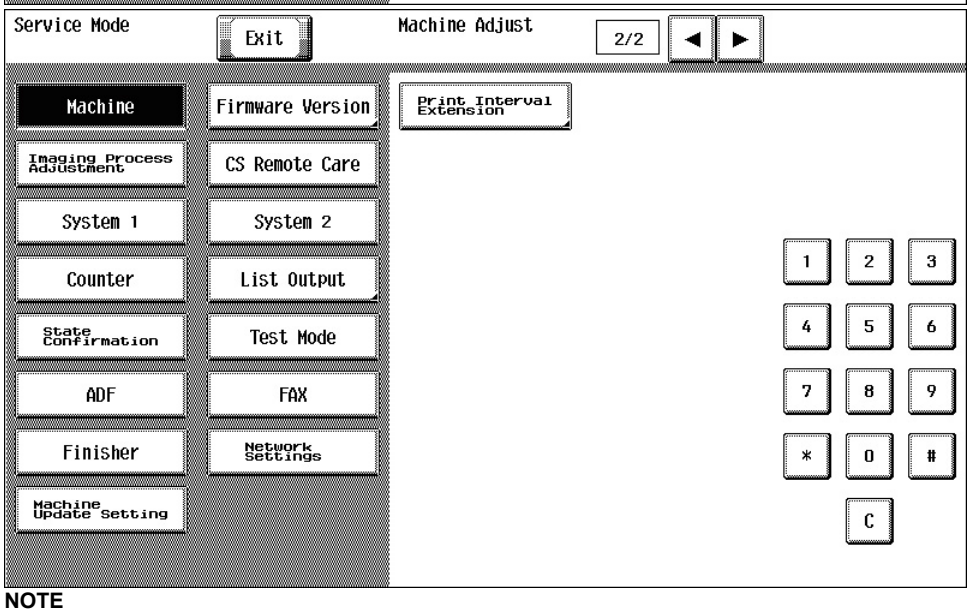
Service Mode	Search	I.5.3 Search
	Machine	I.4.2.1 Machine
	Firmware Version	I.5.5 Firmware Version
	Imaging Process Adjustment	I.4.2.2 Imaging Process Adjustment
	CS Remote Care	I.4.2.3 CS Remote Care
	System 1	I.4.2.4 System 1
	System 2	I.4.2.5 System 2
	Counter	I.4.2.6 Counter
	List Output	I.4.2.7 List Output
	State Confirmation	I.4.2.8 State Confirmation
	Test Mode	I.4.2.9 Test Mode
	ADF *1	I.4.2.10 ADF
	FAX *2	I.4.2.11 FAX
	Finisher *3	I.4.2.12 Finisher
	Network Settings	I.4.2.13 Network Settings
	Machine Update Setting	I.4.2.14 Machine Update Setting

- The function tree is shown to comply with the format displayed on the screen.
- *1: It will be displayed only when the optional automatic document feeder DF-628 is mounted.
- *2: It will be displayed only when the optional fax kit FK-513 is mounted.
- *3: It will be displayed only when the optional finisher FS-533, FS-534 or FS-534SD is mounted.

4.2 List of service mode (detail)

4.2.1 Machine





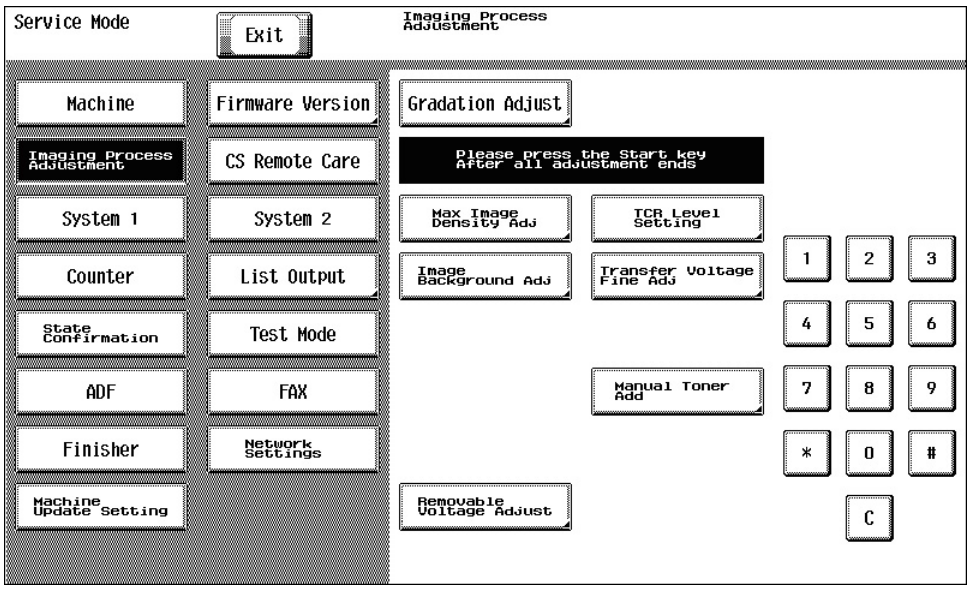
NOTE

- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

Machine		Ref. Page
Fusing Temperature		I.5.4.1 Fusing Temperature
Heater Control Level		I.5.4.2 Heater Control Level
Printer Area	Leading Edge Adjustment	I.5.4.3.(1) Leading Edge Adjustment
	Printer Image Centering Side 1	I.5.4.3.(2) Printer Image Centering Side 1
	Leading Edge Adj. Side 2 (Duplex)	I.5.4.3.(3) Leading Edge Adj. Side 2 (Duplex)
	Prt. Image Center. Side 2 (Dup)	I.5.4.3.(4) Prt. Image Center. Side 2 (Dup)
	Paper Feed Direction Adj.	I.5.4.3.(5) Paper Feed Direction Adj.
	Tray Printing Position: Tip	I.5.4.3.(6) Tray Printing Position: Tip
Scan Area	Image Position: Leading Edge	I.5.4.4.(1) Image Position: Leading Edge
	Scanner Image Side Edge	I.5.4.4.(2) Scanner Image Side Edge
	Main Scan Zoom Adj.	I.5.4.4.(3) Main Scan Zoom Adj.
	Sub Scan Zoom Adj.	I.5.4.4.(4) Sub Scan Zoom Adj.
Printer Reg. Loop Adj.		I.5.4.5 Printer Reg. Loop Adj.
Color Registration Adjustment		Do Not Use
Print Head Skew Adj.		Do Not Use
Manual Bypass Tray Width Adj		I.5.4.8 Manual Bypass Tray Width Adj
Lead Edge Erase Adjustment		I.5.4.9 Lead Edge Erase Adjustment
Non-Image Area Erase Check		I.5.4.10 Non-Image Area Erase Check
ADF Scan Glass Contamination		I.5.4.11 ADF Scan Glass Contamination

Machine	Ref. Page
Cooling Fan Stop Delay	I.5.4.12 Cooling Fan Stop Delay
Print Interval Extension	I.5.4.13 Print Interval Extension

4.2.2 Imaging Process Adjustment

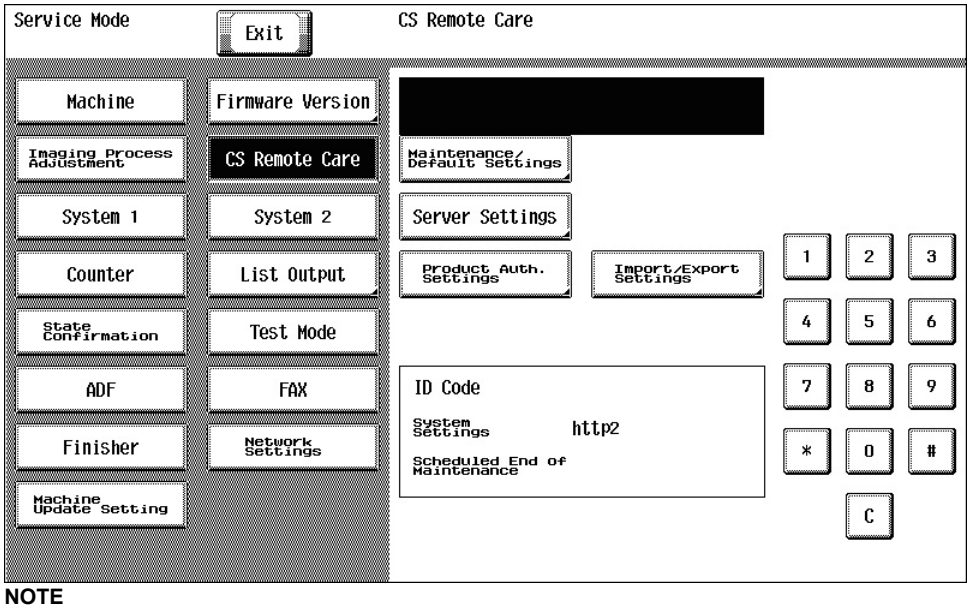


NOTE

- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

Imaging Process Adjustment		Ref. Page
Gradation Adjust		I.5.6.1 Gradation Adjust
Max Image Density Adj	Copy	I.5.6.2 Max Image Density Adj
	Printer	
TCR Level Setting		I.5.6.3 TCR Level Setting
Image Background Adj		I.5.6.4 Image Background Adj
Transfer Voltage Fine Adj	Primary transfer adj.	I.5.6.5 Transfer Voltage Fine Adj
	2nd Transfer Adj.	
Manual Toner Add	Manual Toner Add	I.5.6.6 Manual Toner Add
	Hopper Toner Filling	
Removable Voltage Adjust		I.5.6.7 Removable Voltage Adjust

4.2.3 CS Remote Care



NOTE

- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

CS Remote Care	Ref. Page

Maintenance / Default Settings	I.5.14.1 Maintenance/Default Settings - System Selection
Maintenance Start	-
Maintenance Complete	-
Server Settings	I.5.14.4 Maintenance/Default Settings - Server Setting (E-Mail1 or E-mail2 is selected.) I.5.14.5 Maintenance/Default Settings - Server Setting (http1 or http2 is selected)
Detail Setting	I.5.14.3 Maintenance/Default Settings - Detail Setting
Product Auth. Settings	I.5.14.6 Product Auth. Settings
Import/Export Settings	I.5.14.7 Import/Export Settings

(1) Setting up the CS Remote Care

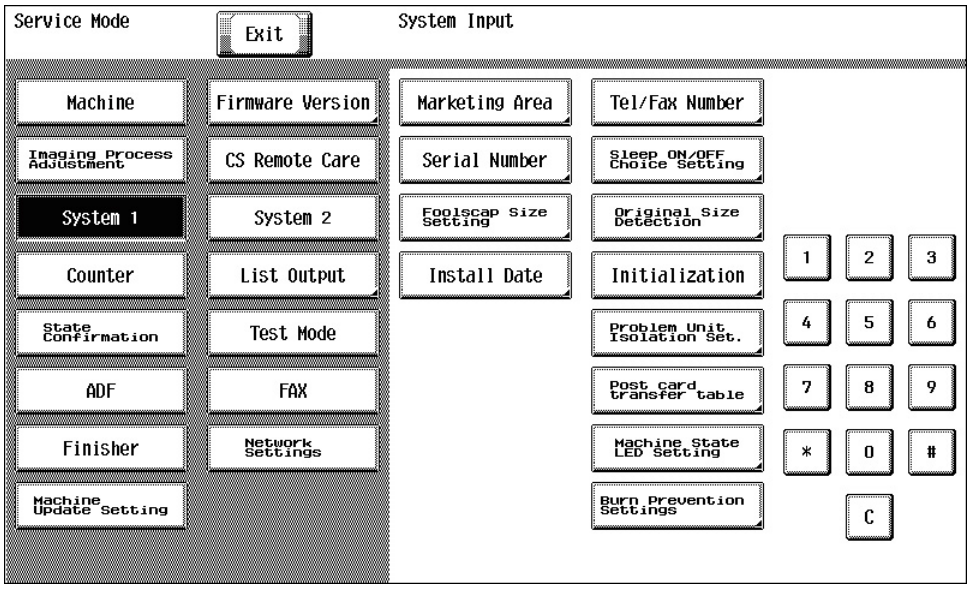
CS Remote Care		Ref. Page
Using the telephone line modem		I.5.8.1 Using the telephone line modem
Using the fax line modem		I.5.8.2 Using the Fax line modem
Using the E-mail		I.5.8.3 Using the E-mail
When using a WebDAV server in http communication	http (bilateral communication)	I.5.8.4.(1) Bilateral communication
	http (unilateral communication: Device to Center)	I.5.8.4.(2) Unilateral communication: Device to Center

(2) List of software SW for CS Remote Care

SW No.	Functions		Ref. page
01	Communication settings	Dial Mode	I.5.9.3 SW No. 01
		Line for send only	
		Baud rate	
02	Auto call	Emergency transmission	I.5.9.4 SW No. 02
		Date specified transmission	
		Call parts replace date	
		Call drum replace date	
		Call regular service date (PM)	
		Auto call on the IC Life	
		Auto call of the IR shortage	
		Auto call on the zero reset of the fixed parts replacement	
03	Trouble display setting	Trouble display setting	I.5.9.5 SW No. 03
		Auto call on the toner empty	
		Auto call on the waste toner bottle full	
04	CS Remote Care communication mode		I.5.9.6 SW No. 04
05	Modem redial interval		I.5.9.7 SW No. 05
06	Modem redial times		I.5.9.8 SW No. 06
07	Redial for response time out		I.5.9.9 SW No. 07
08	Retransmission interval on E-Mail/http delivery error		I.5.9.10 SW No. 08
09	Retransmission times on E-Mail/http delivery error		I.5.9.11 SW No. 09
10	Time zone settings		I.5.9.12 SW No. 10
11	Timer 1	RING reception -> CONNECT reception	I.5.9.13 SW No. 11
12	Timer 2	Dial request completed -> CONNECT reception	I.5.9.14 SW No. 12
13	Not used		-
14	Timer 4	Line connection -> Start request telegram delivery	I.5.9.15 SW No. 14
15	Timer 5	Wait time for other side's response	I.5.9.16 SW No. 15
16	Not used		-
17	Not used		-
18	Attention display	To set whether to give the alarm display when using the modem but the power for the modem is OFF.	I.5.9.17 SW No. 18
19	Not used		-
20	Not used		-

SW No.	Functions		Ref. page
21	Transmission of misfeed frequent occurrence warning	Transmission of paperbased misfeed frequent occurrence warning	I.5.9.18 SW No. 21
		Transmission of originalbased misfeed frequent occurrence warning	
		Automatic transmission of chronological misfeed data at the time of transmission of misfeed frequent occurrence warning	
22	Paper-based misfeed frequent occurrence threshold value		I.5.9.19 SW No. 22
23	Original-based misfeed frequent occurrence threshold value		I.5.9.20 SW No. 23
24 to 40	Not used		—

4.2.4 System 1

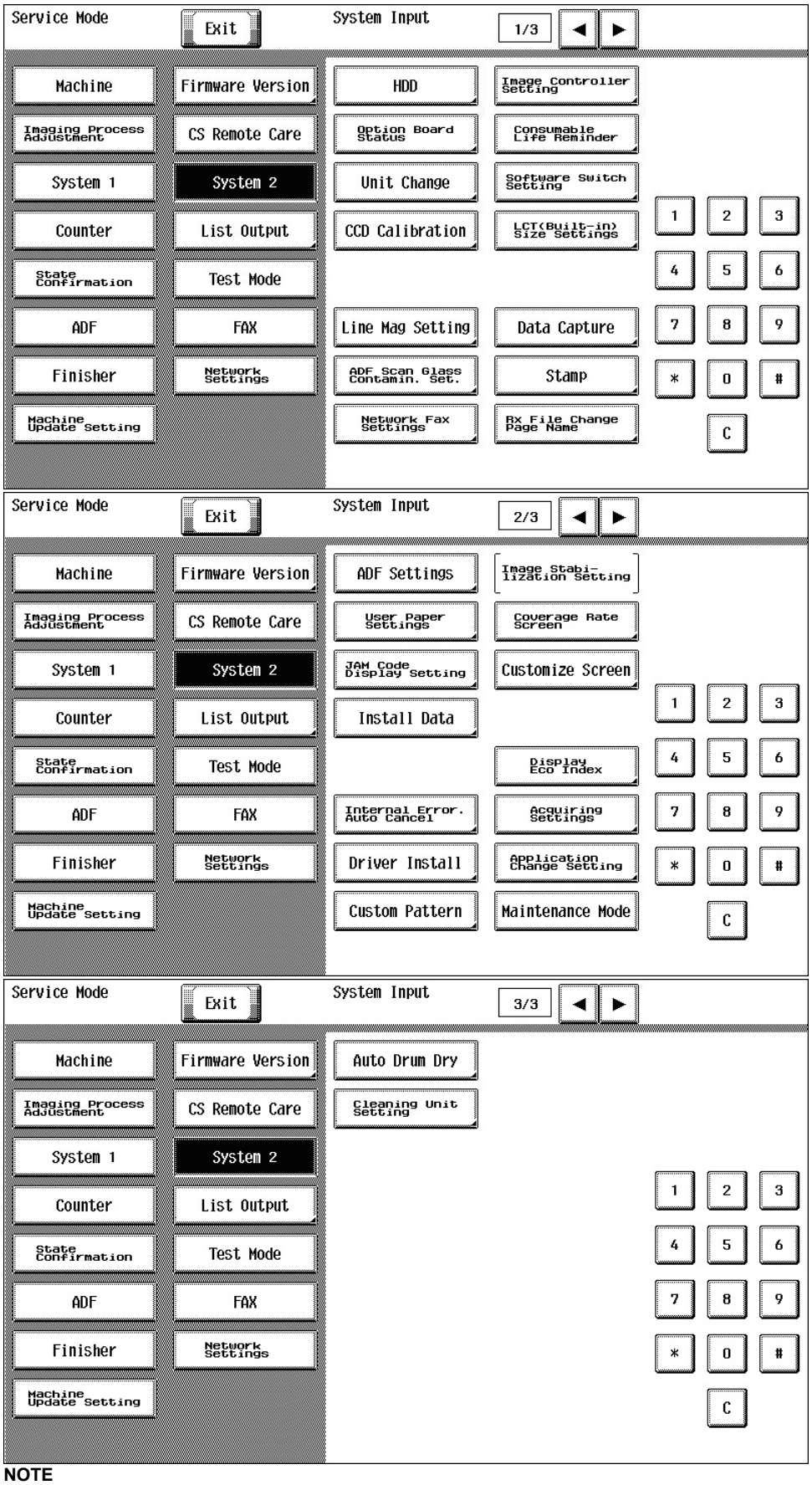


NOTE

- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

System 1			Ref. Page
Marketing Area			I.5.15.1 Marketing Area
Tel/Fax Number			I.5.15.2 Tel/Fax Number
Serial Number			I.5.15.3 Serial Number
Sleep ON/OFF Choice Setting			I.5.15.4 Sleep ON/OFF Choice Setting
Foolscap Size Setting			I.5.15.5 Foolscap Size Setting
Original Size Detection			I.5.15.6 Original Size Detection
Install Date			I.5.15.7 Install Date
Initialization	Clear All Data		I.5.15.8 Initialization-Clear All Data
	Clear Individual Data	Copy Program Data	I.5.15.9.(1) Copy Program Data
		Address Registration Data	I.5.15.9.(2) Address Registration Data
		Fax Setting Data	I.5.15.9.(3) Fax Setting Data
		All History Data	I.5.15.9.(4) All History Data
		Network Setting Data	I.5.15.9.(5) Network Setting Data
		Server Cache Data	I.5.15.9.(6) Server Cache Data
	System Error Clear		I.5.15.10 Initialization-System Error Clear
Problem Unit Isolation Set.			I.5.15.11 Problem Unit Isolation Set.
Post card transfer table			I.5.15.12 Post card transfer table
Machine State LED Setting			I.5.15.13 Machine State LED Setting
Burn Prevention Settings			I.5.15.14 Burn Prevention Settings

4.2.5 System 2



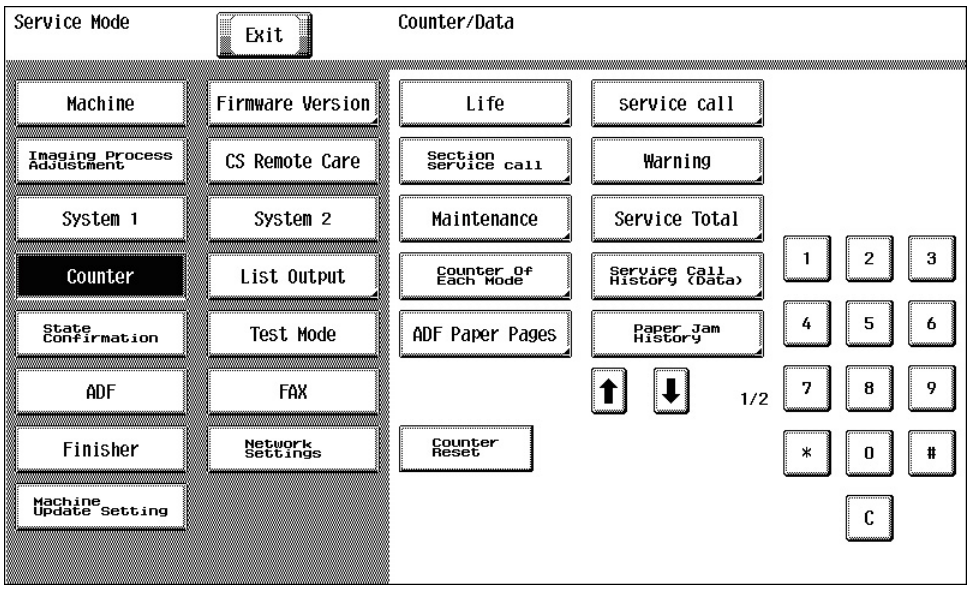
NOTE

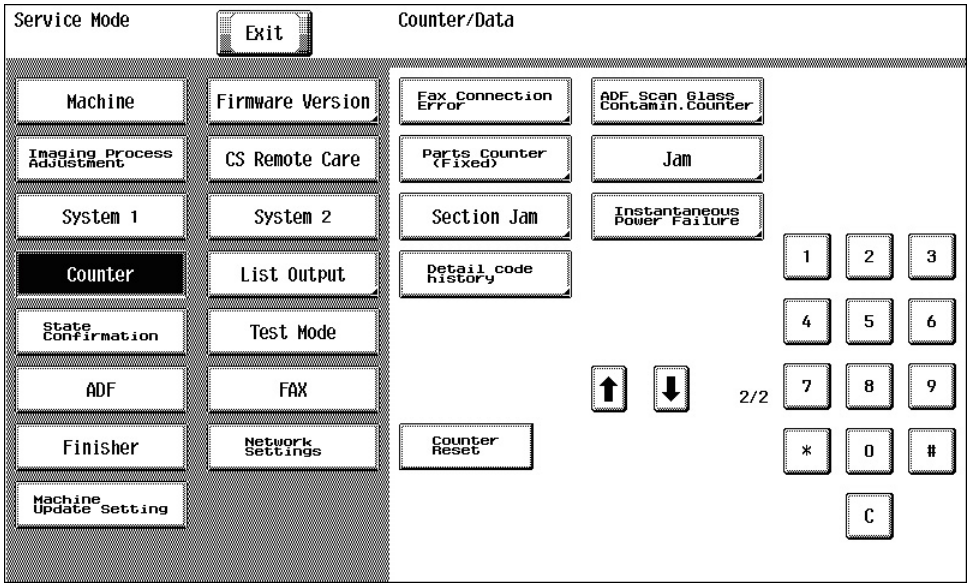
- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

System 2	Ref. Page
HDD	I.5.16.1 HDD
Image Controller Setting	I.5.16.2 Image Controller Setting
Option Board Status	I.5.16.3 Option Board Status

System 2		Ref. Page
Consumable Life Reminder		I.5.16.4 Consumable Life Reminder
Unit Change		I.5.16.5 Unit Change
Software Switch Setting		I.5.16.6 Software Switch Setting
CCD Calibration		I.5.16.7 CCD Calibration
LCT (Built-in) Size Settings		I.5.16.8 LCT (Built-in) Size Settings
Line Mag Setting		I.5.16.9 Line Mag Setting
Data Capture		I.5.16.10 Data Capture
ADF Scan Glass Contamin. Set.		I.5.16.11 ADF Scan Glass Contamin. Set.
Stamp		I.5.16.12 Stamp
Network Fax Settings		I.5.16.13 Network Fax Settings
RX File Change Page Name		I.5.16.14 RX File Change Page Name
ADF Settings		I.5.16.15 ADF Settings
Image Stabilization Setting		Do Not Use
User Paper Settings		I.5.16.16 User Paper Settings
Coverage Rate Screen		I.5.16.17 Coverage Rate Screen
JAM Code Display Setting		I.5.16.18 JAM Code Display Setting
Customize Screen	BootUp Screen	I.5.16.19.(1) BootUp Screen
	Machine Image	I.5.16.19.(2) Machine Image
Install Data		I.5.16.20 Install Data
Display Eco Index		I.5.16.21 Display Eco Index
Internal Error. Auto Cancel		I.5.16.22 Internal Error. Auto Cancel
Acquiring Settings		I.5.16.23 Acquiring Settings
Driver Install		I.5.16.24 Driver Install
Application Change Setting		I.5.16.25 Application Change Setting
Custom Pattern		Do Not Use
Maintenance Mode		I.5.16.27 Maintenance Mode
Auto Drum Dry		I.5.16.28 Auto Drum Dry
Cleaning Unit Setting		I.5.16.29 Cleaning Unit Setting

4.2.6 Counter





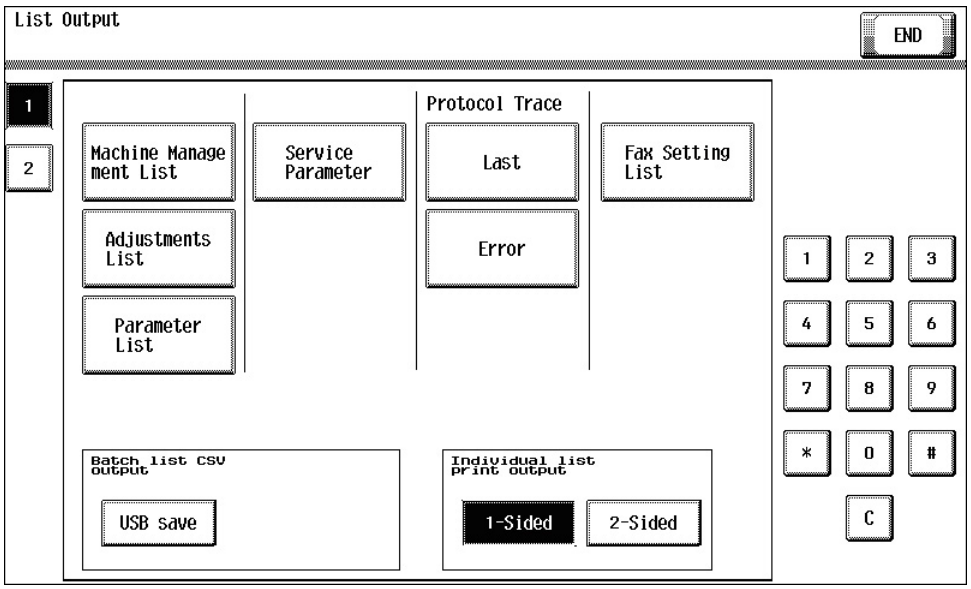
NOTE

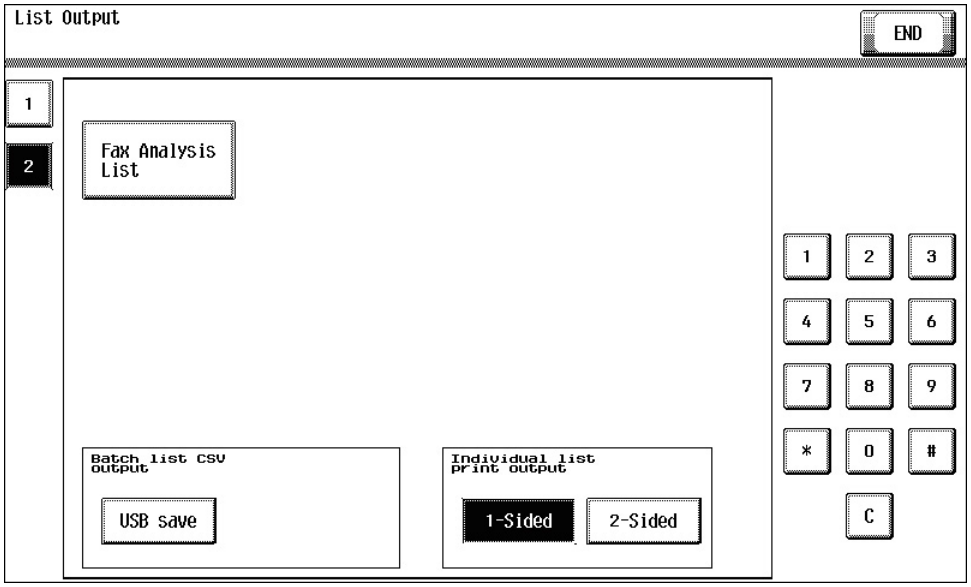
- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

Counter	Ref. Page
Life	I.5.17.2 Life
Service Call	I.5.17.3 Service Call
Section Service Call	I.5.17.4 Section Service Call
Warning	I.5.17.5 Warning
Maintenance	I.5.17.6 Maintenance
Service Total	I.5.17.7 Service Total
Counter Of Each Mode	I.5.17.8 Counter of Each Mode
Service Call History (Data)	I.5.17.9 Service Call History (Data)
ADF Paper Pages	I.5.17.10 ADF Paper Pages
Paper Jam History	I.5.17.11 Paper Jam History
Fax Connection Error	I.5.17.12 Fax Connection Error
ADF Scan Glass Contamin. Counter	I.5.17.13 ADF Scan Glass Contamin. Counter
Parts Counter (Fixed) *1	I.5.17.14 Parts Counter (Fixed)
Jam	I.5.17.15 Jam
Section JAM	I.5.17.16 Section JAM
Instantaneous Power Failure	I.5.17.17 Instantaneous Power Failure
Detail code history	I.5.17.18 Detail code history
Counter Reset	-

*1: It will be displayed only when the optional finisher FS-533, FS-534 or FS-534SD is mounted.

4.2.7 List Output



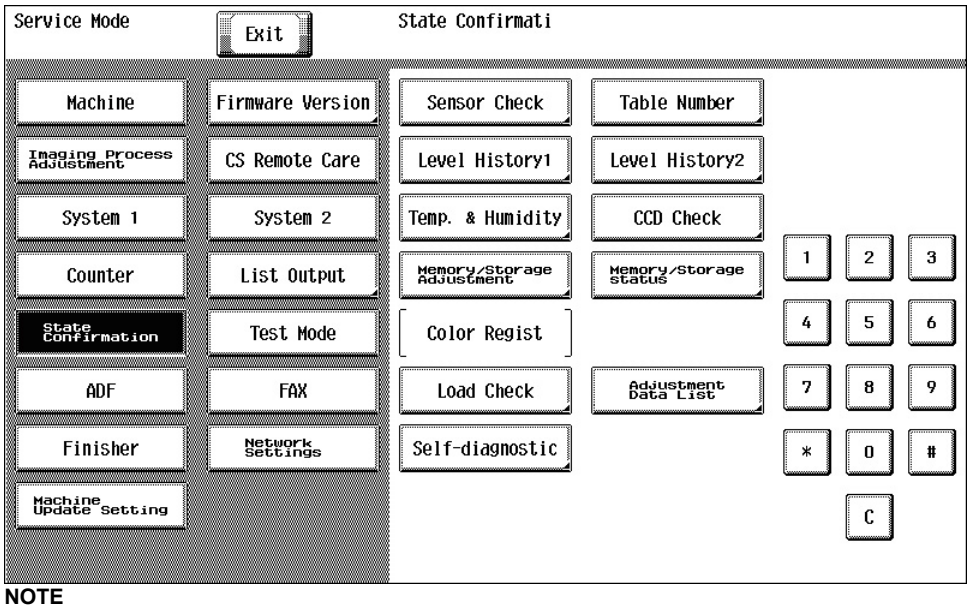


NOTE

- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

List Output		Ref. Page
Batch list CSV output		I.5.18.1 Batch list CSV output
Individual list print output		-
Machine Management List		I.5.18.2 Machine Management List
Adjustments List		I.5.18.3 Adjustments List
Parameter List		I.5.18.4 Parameter List
Service Parameter		I.5.18.5 Service Parameter
Protocol Trace	Last	I.5.18.6 Protocol Trace
	Error	
Fax Setting List		I.5.18.7 Fax Setting List
Fax Analysis List		I.5.18.8 Fax Analysis List

4.2.8 State Confirmation



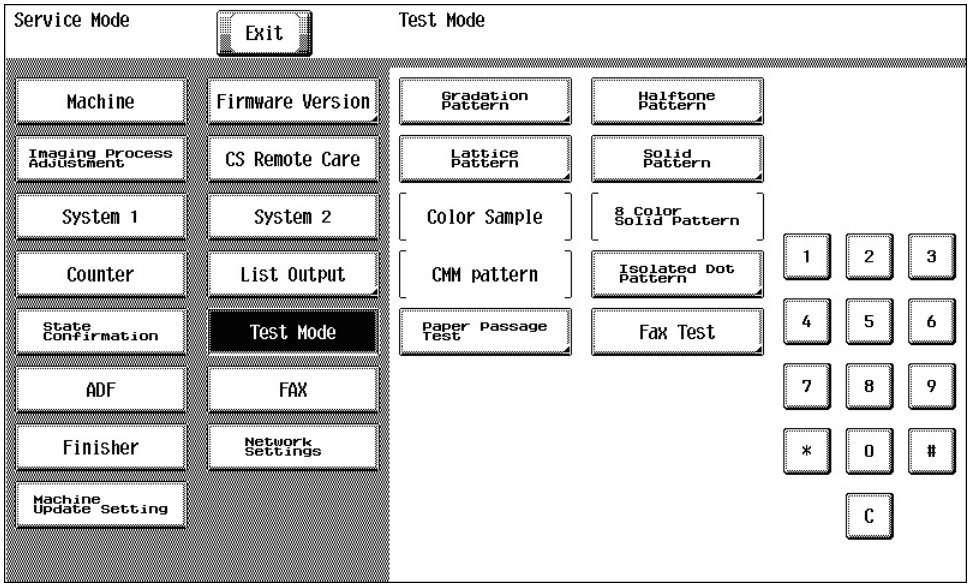
NOTE

- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

State Confirmation	Ref. Page
Sensor Check	I.5.19.1 Sensor Check
Table Number	I.5.19.2 Table Number
Level History1	I.5.19.3 Level History 1
Level History2	I.5.19.4 Level History 2
Temp. & Humidity	I.5.19.5 Temp. & Humidity

State Confirmation		Ref. Page
CCD Check		I.5.19.6 CCD Check
Memory/Storage Adjustment	Memory Check	I.5.19.7.(1) Memory Check
	Compress / Decompression Check	I.5.19.7.(2) Compress / Decompression Check
	Memory Bus Check	I.5.19.7.(3) Memory Bus Check
	DSC Bus Check	I.5.19.7.(4) DSC Bus Check
	Storage R/W Check	I.5.19.7.(5) Storage R/W Check
	Format	I.5.19.7.(6) Format
	eMMC -> HDD Data Copy	I.5.19.7.(7) eMMC -> HDD Data Copy
Memory/Storage Status		I.5.19.8 Memory/Storage Status
Color Regist		Do Not Use
Load Check		I.5.19.10 Load Check
Adjustment Data List		I.5.19.11 Adjustment Data List
Self-diagnostic		I.5.19.12 Self-diagnostic

4.2.9 Test Mode



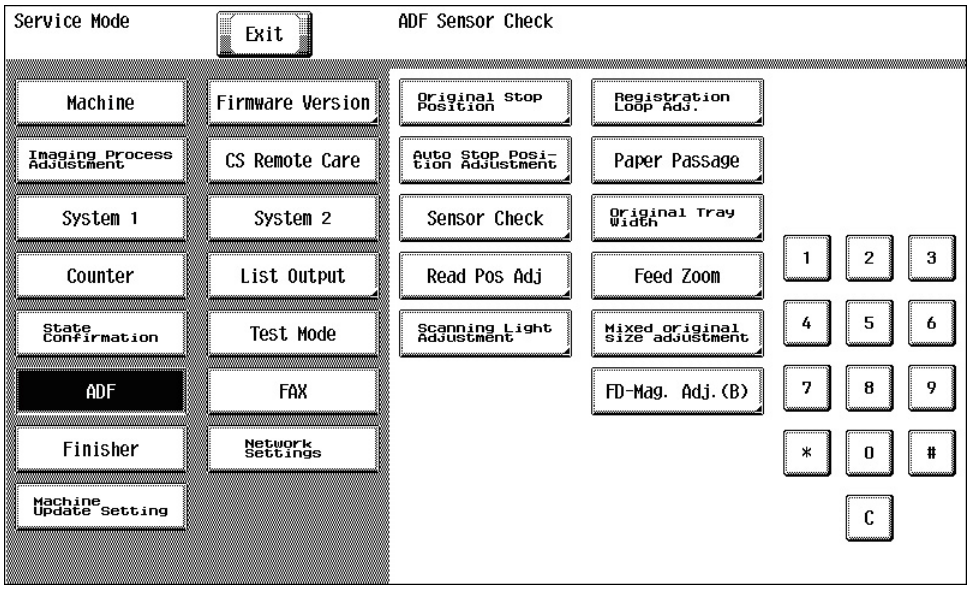
NOTE

- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

Test Mode	Ref. Page
Gradation Pattern	I.5.20.2 Gradation Pattern
Halftone Pattern	I.5.20.3 Halftone Pattern
Lattice Pattern	I.5.20.4 Lattice Pattern
Solid Pattern	I.5.20.5 Solid Pattern
Color Sample	Do Not Use
8 Color Solid Pattern	Do Not Use
CMM pattern	Do Not Use
Isolated Dot Pattern	I.5.20.9 Isolated Dot Pattern
Paper Passage Test	I.5.20.10 Paper Passage Test
Fax Test *	I.5.20.11 Fax Test-Signal Send Test I.5.20.12 Fax Test-Signal Receive Test I.5.20.13 Fax Test-NCU TEST

*: It will be displayed only when the optional fax kit FK-513 is mounted.

4.2.10 ADF

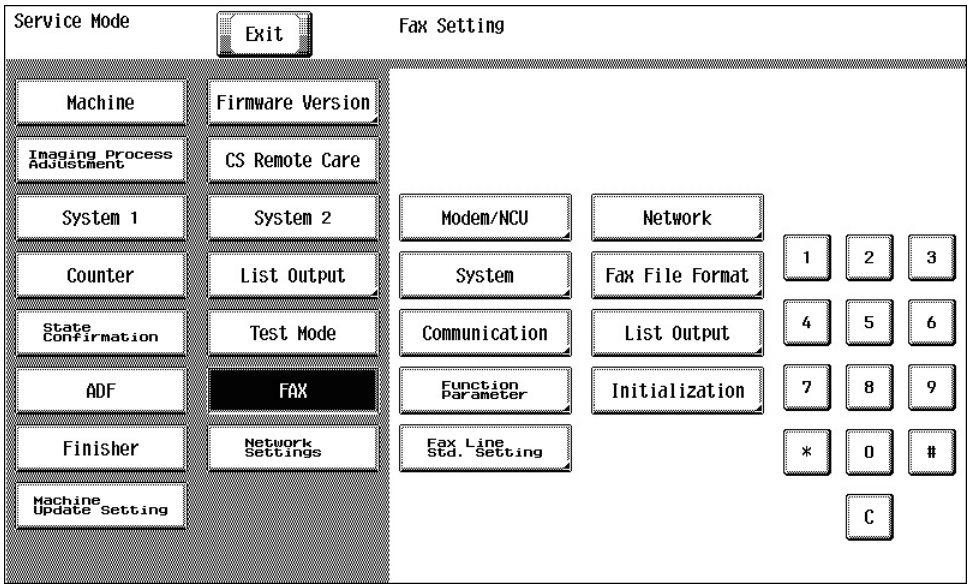


NOTE

- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

ADF Adjustment		Ref. Page
Original Stop Position		I.5.21.1 Original Stop Position
Registration Loop Adj.		I.5.21.2 Registration Loop Adj.
Auto Stop Position Adjustment		I.5.21.3 Auto Stop Position Adjustment
Paper Passage		I.5.21.4 Paper Passage
Sensor Check		I.5.21.5 Sensor Check
Original Tray Width		I.5.21.6 Original Tray Width
Read Pos Adj	Read Pos Adj	I.5.21.7 Read Pos Adj
	Auto Adjust	
Feed Zoom	Orig. Feed Zoom Ad	I.5.21.8 Feed Zoom
	Auto Adjust	
Scanning Light Adjustment		I.5.21.9 Scanning Light Adjustment
Mixed original size adjustment		I.5.21.10 Mixed original size adjustment
FD-Mag. Adj. (B)	Orig. Feed Zoom Ad	I.5.21.11 FD-Mag. Adj. (B)
	Auto Adjust	

4.2.11 FAX



NOTE

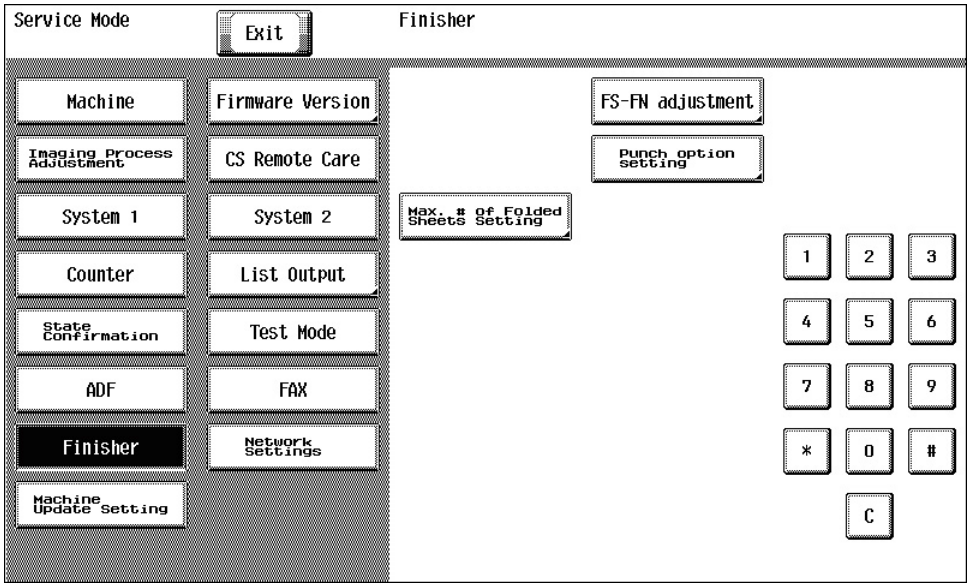
- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

FAX *1	Ref. Page

Modem/NCU	I.5.22.1 Modem/NCU
Network	I.5.22.2 Network
System	I.5.22.3 System
Fax File Format	I.5.22.4 Fax File Format
Communication	I.5.22.5 Communication
List Output	I.5.22.6 List Output
Function Parameter	I.5.22.7 Function Parameter
Initialization	I.5.22.8 Initialization
FAX Line Std. Setting	I.5.22.9 FAX Line Std. Setting

*1: It will be displayed only when [Service Mode] -> [System 2] -> [Option Board Status] shows that FAX (circuit 1) is set to “Set”.

4.2.12 Finisher



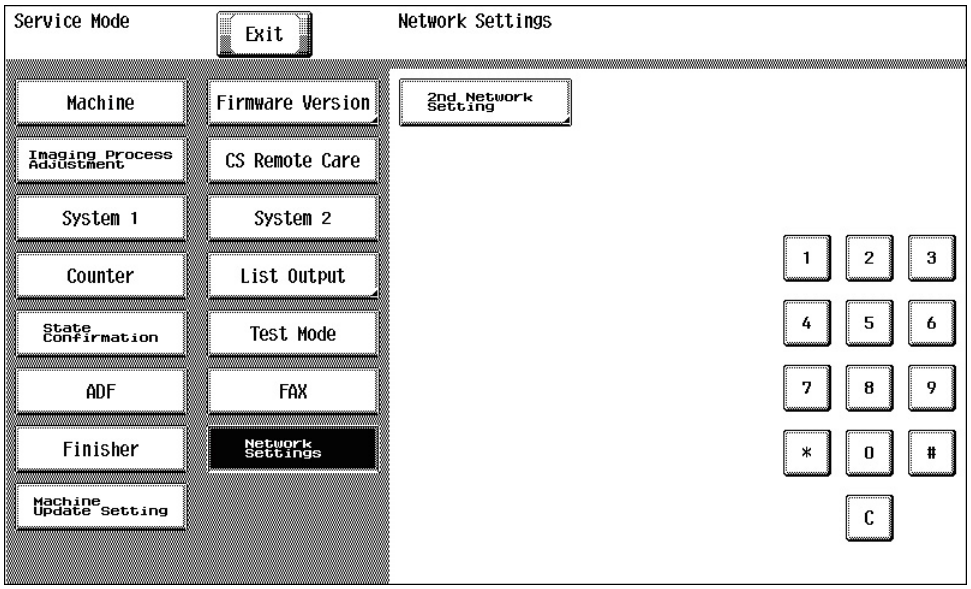
NOTE

- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

Finisher		Ref. Page
FS-FN adjustment *1	Center Staple Position *2	I.5.24.1 FS-FN adjustment - Center Staple Position
	Half-Fold Position *2	I.5.24.2 FS-FN adjustment - Half-Fold Position
	1st Tri-Fold Adjustment *3	I.5.24.3 FS-FN adjustment - 1st Tri-Fold Adjustment/ 2nd Tri-Fold Adjustment
	2nd Tri-Fold Adjustment *3	
	Punch Edge Adj. *4	I.5.24.4 FS-FN adjustment - Punch Edge Adj
	Punch Regist Loop Size *7	I.5.24.5 FS-FN adjustment - Punch Regist Loop Size
	Finisher Components Test Mode *1	I.5.24.6 FS-FN adjustment - Finisher Components Test Mode
	Alignment Plate Position *5	I.5.24.7 FS-FN adjustment - Alignment plate Position
	Paper Alignment Guides W. Adj. *3	I.5.24.8 FS-FN adjustment - Paper Alignment Guides W. Adj.
Punch option setting *1		I.5.24.9 Punch Option Setting
Max. # of Folded Sheets Setting *2		I.5.24.10 Max. # of Folded Sheets Setting
Job Separator *6		I.5.24.11 Job Separator

*1: It will be displayed only when the optional finisher FS-533, FS-534 or FS-534SD is mounted.
*2: It will be displayed only when the optional finisher FS-534 or FS-534SD is mounted.
*3 It will be displayed only when the optional finisher FS-534SD is mounted.
*4: It will be displayed only when the optional punch kit PK-520 is mounted.
*5: It will be displayed only when the optional finisher FS-533 is mounted.
*6: It will be displayed only when the optional job separator JS-506 is mounted.
*7: It will be displayed only when the optional punch kit PK-519 or PK-520 is mounted.

4.2.13 Network Settings



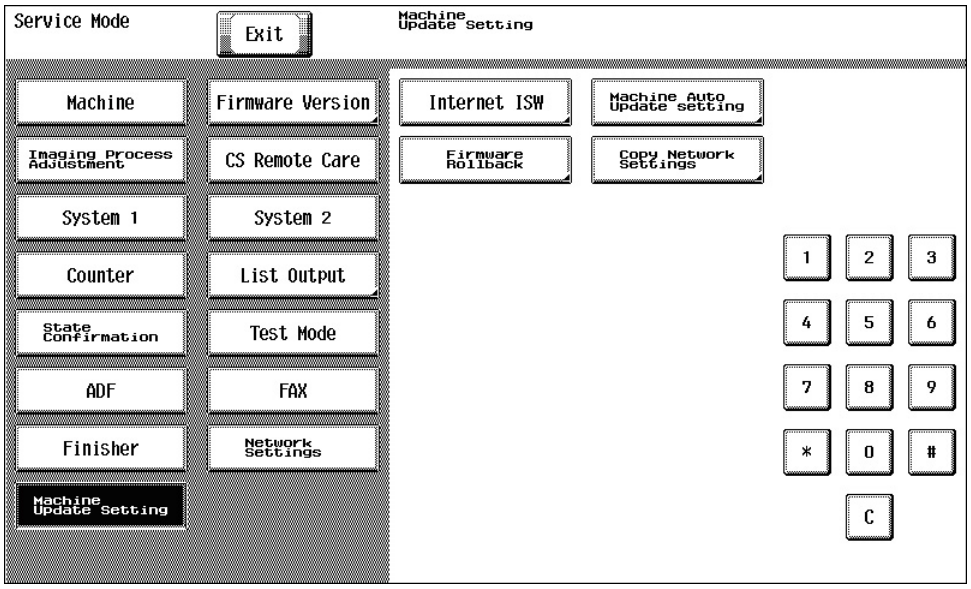
NOTE

- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

Network Settings	Ref. Page
2nd Network Setting *1	I.5.25.1 2nd Network Setting - 2nd network card settings

*1: This is displayed only when the optional upgrade kit UK-212 is installed.

4.2.14 Machine Update Setting



NOTE

- **After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again after waiting 10 seconds makes the changes to the Service Mode setting take effect.**

Machine Update Setting			Ref. Page
Internet ISW	Internet ISW Set	Function Setting	I.5.26.1 Internet ISW - Internet ISW Set
		Open Mode Settings	
	HTTP Setting *1		I.5.26.2 Internet ISW - HTTP Setting
	FTP Setting *1		I.5.26.3 Internet ISW - FTP Setting
	Forwarding Access Setting *1		I.5.26.4 Internet ISW - Forwarding Access Setting
	Download *1		I.5.26.5 Internet ISW - Download
	Update Start Time Settings *1		I.5.26.6 Internet ISW - Update Start Time Settings
Machine Auto Update setting	Auto Update setting		I.5.26.7 Machine Auto Update setting - Auto Update setting

Machine Update Setting		Ref. Page
	Relay server setting	I.5.26.8 Machine Auto Update setting - Relay server setting
	Transmission log Update	I.5.26.9 Machine Auto Update setting - Transmission log Update
	Transmission Server Log	I.5.26.10 Machine Auto Update setting - Transmission Server Log
	Update Log Display	I.5.26.11 Machine Auto Update setting - Update Log Display
	Relay Server Log Confirmation	I.5.26.12 Machine Auto Update setting - Relay Server Log Confirmation
	Manually Update	I.5.26.13 Machine Auto Update setting - Manual Update
	Machine Export setting	I.5.26.14 Machine Auto Update setting - Machine Export setting
	Machine Update Password	I.5.26.15 Machine Auto Update setting - Machine Update Password
Firmware Rollback	Firmware Rollback	I.5.26.16.(1) Firmware Rollback
	Open Mode Settings	I.5.26.16.(2) Open Mode Settings
Copy Network Settings		I.5.26.17 Copy Network Settings

*1: To be displayed only when the following setting is set to “ON”. [Machine Update Setting] -> [Internet ISW] -> [Internet ISW set] -> [Function Setting]

5. SERVICE MODE

5.1 Starting/Setting/Exiting

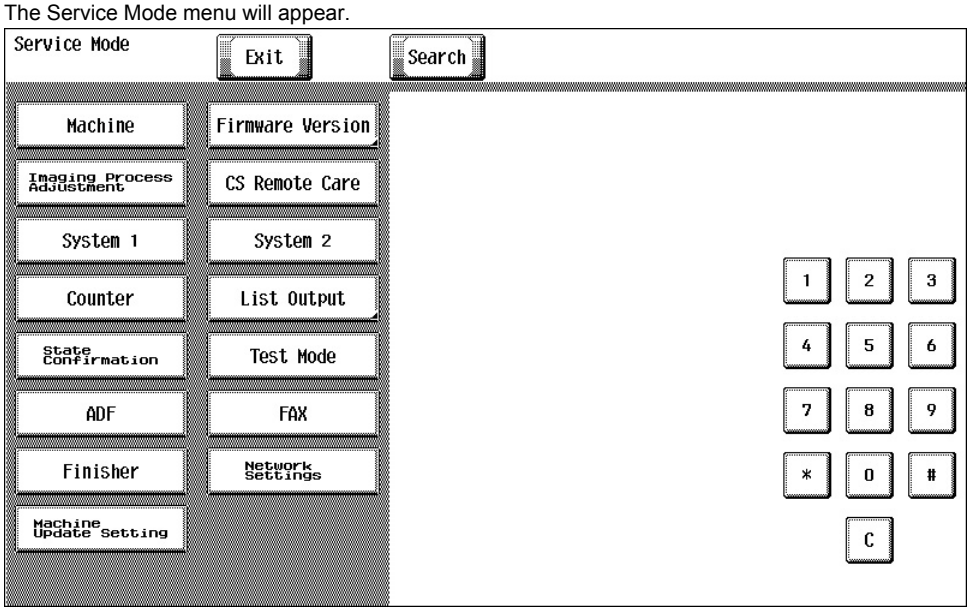
5.1.1 Starting procedure

NOTE

- **Ensure appropriate security for Service Mode function setting procedures. They should NEVER be shown to any unauthorized person not involved with service jobs.**

(1) Procedure

1. Touch Menu.
2. Touch [Counter].
3. Touch [Display Keypad].
4. Press the following keys in this order.
   - Stop -> 0 -> 0 -> Stop -> 0 -> 1
5. Enter the CE password and touch [END].
   (The CE password is initially set to "9272927292729272.")
   NOTE
   - **When [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to "ON", CE password authentication is necessary.**
   - **If a wrong CE password is entered, re-enter the right password.**
     The machine will not enter Service Mode unless the CE password is entered correctly. To return to the basic screen, turn OFF the main power switch and turn it ON again.
   - **When [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Prohibited Functions When Authentication Error] is set to "Mode 2", operation will be prohibited since it indicates authentication failure by failing to enter the correct CE password within the specified number of times.**
     If the access lock is activated, the lock release timer starts to operate by input the Stop -> 0 -> 9 -> 3 -> 1 -> 7 in Menu -> [Counter] -> [Print List] -> [Display Keypad] after the main power switch is turned OFF and On.
     When the timer reaches the time specified in this setting, the access lock is released.
   - **The service code entered is displayed as " * "**
6. The Service Mode menu will appear.



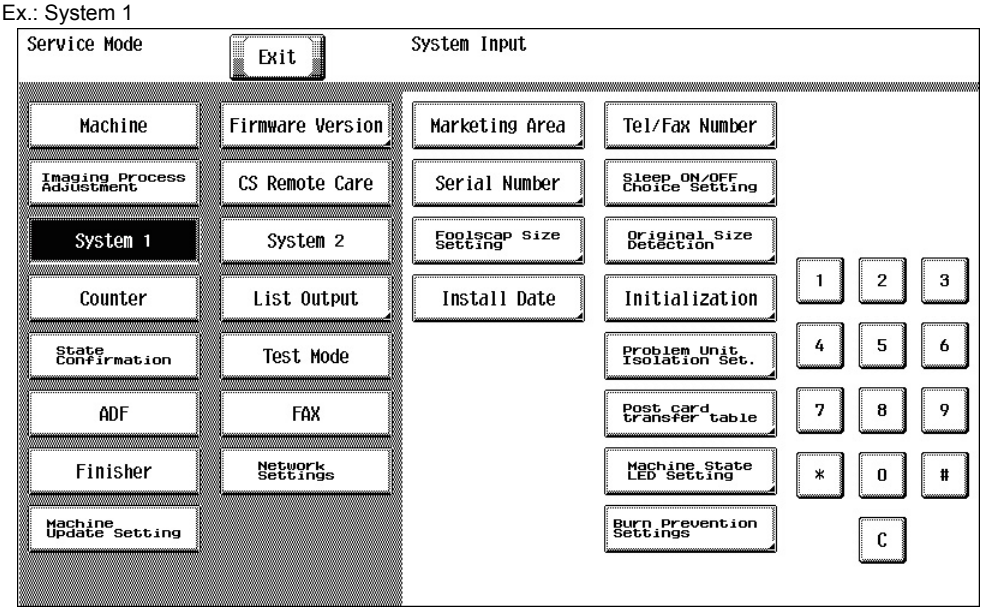
NOTE

- **Be sure to change the CE password from its default value.**
- **For the procedure to change the CE password, see the "I.6.3.1 CE Password."**
- **NEVER forget the CE password.**

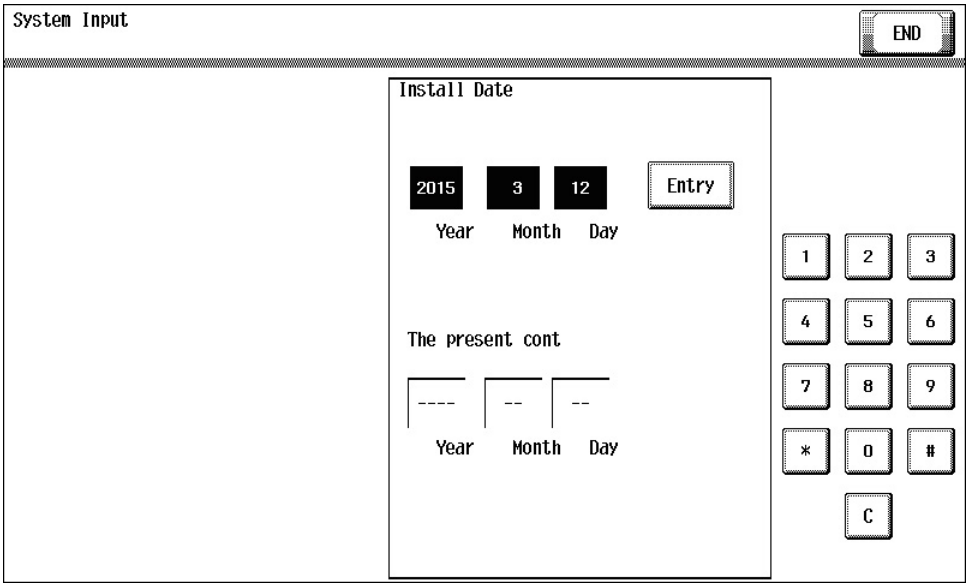
5.1.2 Setting procedure

1. Press the key corresponding to the function you would like to change the setting for. Keys or setting screens will appear for each function.

Ex.: System 1



2. Press the key for the item that you would like to change the setting for. Setting screens will appear for each item.
Ex.: Install Date



3. Press the key for the setting you would like to change. You can also input the numerical value using the 10-key pad. (the [+]/[-] keys can also be used for settings. Follow the directions on the screen to input numerical values.)
NOTE
- **For more details, see the description pages for each setting item.**
  I.4.1 List of service mode (outline)

4. Touch [END]. This closes the setting screen and returns to the Service Mode screen. (If deep within the hierarchy of the setting screen, it may be necessary to touch [END] several times)
5. Touch [Exit]. This will close the Service Mode screen and exit the Service Mode.
6. Turn OFF the main power switch. After waiting 10 seconds, turn ON the main power switch again. Turning the main power switch OFF and then ON again makes the changes to the Service Mode setting take effect.
NOTE
- **Simply exiting the Service Mode will not make the changed settings take effect. You must turn the main power switch OFF and then ON again.**

5.1.3 Exiting procedure

1. Touch [Exit] on the Service Mode screen.
2. Turn OFF the main power switch. Wait 10 seconds, then turn ON the main power switch again.

5.2 Time Zone/Date & Time Input mode

5.2.1 Use

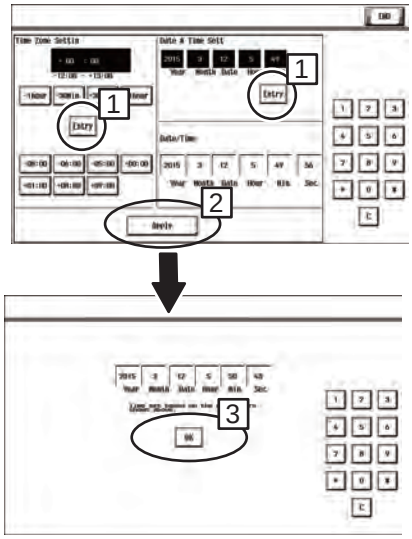
- This mode is used to set time-of-day and date.
- The set time zone/date & time are automatically reflected in the date and time setting of Administrator Settings.

Time Zone Setting	Set the time zone applicable to the area. After the setting, touch [Entry] and then [Apply] to validate the time.

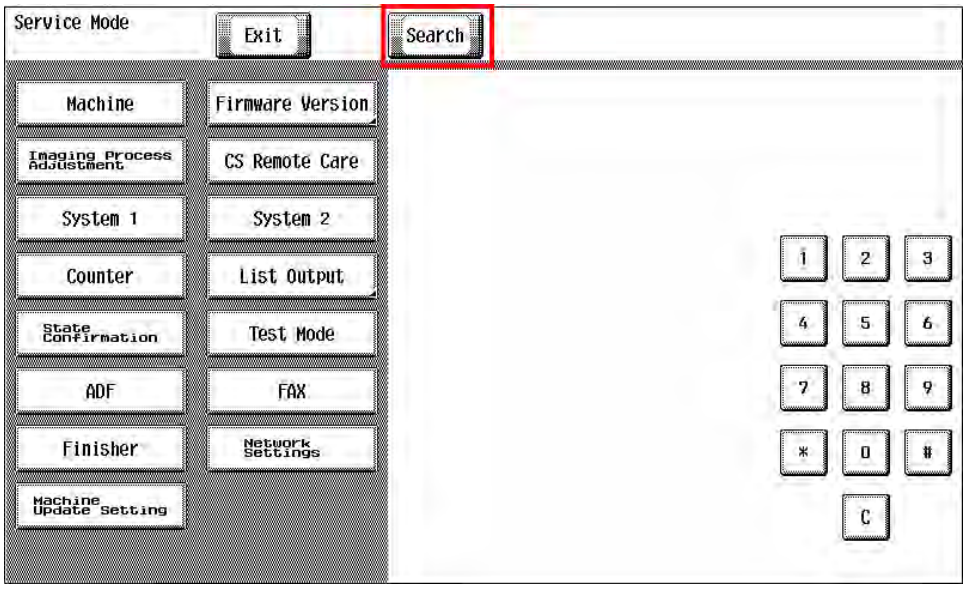
	The following lists settings of time zones of different areas. -08:00: U.S.: Pacific Standard Time -06:00: U.S.: Central Standard Time -05:00: U.S.: Eastern Standard Time -00:00: England: Greenwich mean time +01:00: Western European countries +08:00: China, Taiwan, western part of Australia +09:00: Japan, Korea
Date & Time Setting	Enter the time from the 10-key pad to set the time-of-day. Before making any entry, first press Clear. After the time has been set, touch [Entry] and then [Apply].

5.2.2 Procedure

1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   - Stop -> 1 -> 1 -> 4 -> 4 -> Clear
3. Enter time zone year, month, day, hour, and minute, in that order, from 10-key pad.
   NOTE
   - **Before entering date and time, touch Clear to delete the present time from the place where data and time is entered.**
   - **When setting the month, day, hour, or minute, enter "0" first if the data one digit.**
4. Make sure that the correct value has been entered, then touch [Entry] and then [Apply].
5. After the confirmation screen appears, touch [OK].



5.3 Search



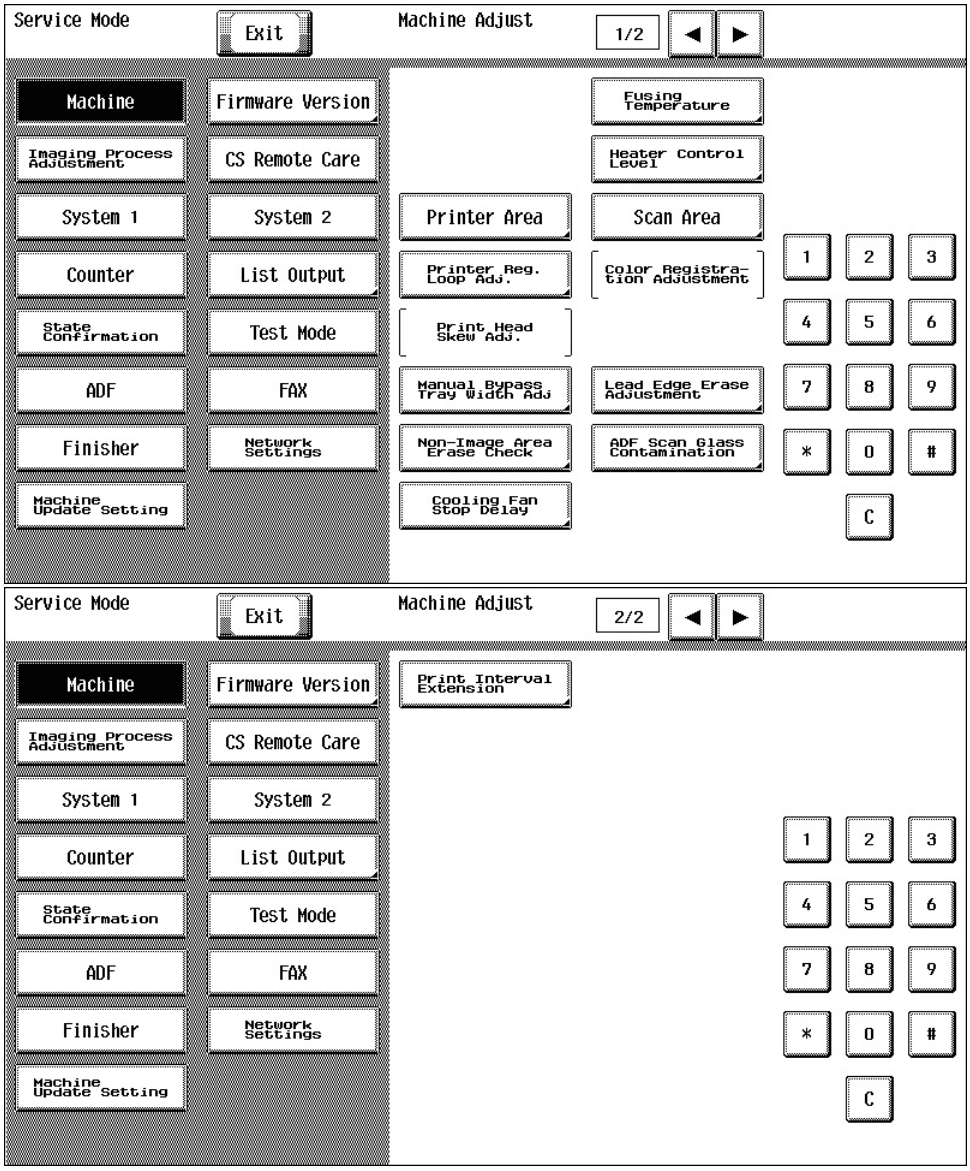
5.3.1 Use

- Searches parameters that include the entered keyword.
- You can display the function screen from the search results.

5.3.2 Procedure

1. Touch [Search] at the top of the service mode screen.
2. Enter the desired search keyword.
3. Touch [END].
4. Select the desired function from the displayed search results and touch [Start].
5. The screen for the selected function displays.

5.4 Machine



5.4.1 Fusing Temperature

(1) Use

- To adjust individually the temperature of the heating roller for each type of paper, thereby coping with varying fusing performance under changing environmental conditions.
- When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change.
- Use when the curling of the paper due to the paper type or environmental change occurred, or when the paper jam, as well as stapling or folding position error occurred due to the curling of the paper.
- By setting the temperature higher (+), gloss of print can be improved.
- By setting the temperature lower (-), exit roller mark can be reduced.

(2) Adjustment range

Paper type	Setting range	Step
Plain Paper	-20 °C to +10 °C	5 °C
Thin Paper		
OHP Film		
Thick 1		
Thick 1+		
Thick 2		

Paper type	Setting range	Step
Thick 3		
Thick 4		
Post.		
Enve.		
Recycled		

(3) Procedure

1. Call the Service Mode to the screen.
2. Touch these keys in this order: [Machine] -> [Fusing Temperature].
3. Select the paper type.
4. Enter the new setting from the [+] / [-] key.
   - If fusing performance is poor, increase the setting.
   - If wax streaks occur, decrease the setting.
   - If offset is poor, decrease the setting.
   - If curling of the paper occurs, decrease the setting.
5. Touch [END].
6. Return to the basic screen.
7. Output two or three test patterns and check to see whether the image has any problem.
8. Make the adjustment for each type of paper.

5.4.2 Heater Control Level

(1) Use

- It switches the control level of the fusing unit phase to control the flicker when turning on/off the fusing heater.

(2) Default setting

- Level 2

(3) Setting range

- Level 1 to Level 4 (Step: 1)

(4) Procedure

1. Call the Service Mode to the screen.
2. Touch [Machine] -> [Heater Control Level].
3. Enter the new setting from the [+] / [-] key.
   - When the fluorescent light flickers: Turn down the level. (Example: Level 2 -> Level 1)
   - When there is a noise at power source system such as DC power supply: Turn up the level. (Example: Level 2 -> Level 3 -> Level 4)

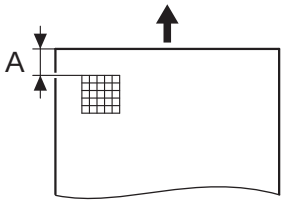
5.4.3 Printer Area

(1) Leading Edge Adjustment

(a) Use

- To vary the print start position in the sub scan direction for each of different paper types. (to adjust the timing where paper is sent out from the registration roller)
- Although the adjustment is made on the manual bypass tray, the adjusted values are reflected to each paper tray.
- The PH unit has been replaced.
- The paper type has been changed.
- The print image deviates in the sub scan direction.
- A faint image occurs on the leading edge of the image.
- This setting can be made independently for plain paper, thick 1/1+ thick 2, thick 3, OHP film, and envelopes.

(b) Setting range



- Width A on the test pattern produced should fall within the following target.

Target	4.2 ± 1.0 mm
Setting range	-3.0 mm to +3.0 mm (in 0.2 mm increments)

(c) Procedure

1. Load manual bypass tray with A3 or 11 x 17 plain paper.
2. Call the Service Mode to the screen.
3. Touch [Machine] -> [Printer Area] -> [Leading Edge Adjustment].
4. Select [Leading Edge Adjustment].

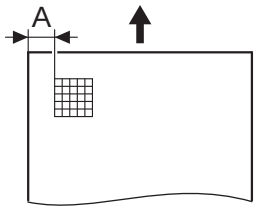
5. Select the [Plain Paper].
6. Press the Start key to let the machine produce a test pattern.
7. Check the dimension of width A on the test pattern.
8. If width A falls outside the target, change the setting using the [+] / [-] key.
   - If width A is longer than the target, make the setting value smaller than the current one.
   - If width A is shorter than the target, make the setting value greater than the current one.
9. Press the Start key to let the machine produce a test pattern.
10. Check the dimension of width A on the test pattern.
11. If width A is outside the target, change the setting again and make a check again.
12. If width A falls within the target, touch [END].
13. Following the same procedure, adjust for thick paper, OHP film, and envelope.

(2) Printer Image Centering Side 1

(a) Use

- To vary the print start position in the main scan direction for each paper source.
- The PH unit has been replaced.
- A paper feed unit has been added.
- The print image deviates in the main scan direction.

(b) Setting range



- Width A on the test pattern produced should fall within the following target.

Target	3.0 ± 1.0 mm
Setting range	-3.0 mm to +3.0 mm (in 0.2 mm increments)

(c) Procedure

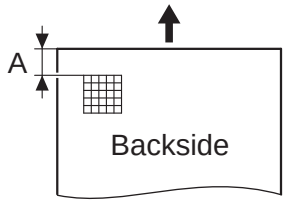
1. Call the Service Mode to the screen.
2. Touch [Machine] -> [Printer Area] -> [Printer Image Centering Side 1].
3. Select [Leading Edge Adjustment].
4. Select the paper source to be adjusted.
5. Press the Start key to let the machine produce a test pattern.
6. Check the dimension of width A on the test pattern.
7. If width A falls outside the target, change the setting using the [+] / [-] key.
   - If width A is longer than the target, make the setting value smaller than the current one.
   - If width A is shorter than the target, make the setting value greater than the current one.
8. Press the Start key to let the machine produce a test pattern.
9. Check the dimension of width A on the test pattern.
10. If width A is outside the target, change the setting again and make a check again.
11. If width A falls within the target, touch [END].
12. Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 x 11 plain paper for the bypass.)

(3) Leading Edge Adj. Side 2 (Duplex)

(a) Use

- For individual types of paper, this function allows the adjustment of the image write start position in the sub scan direction on the 2nd side of duplex printing. (to adjust the timing where paper is sent out from the registration roller)
- Although the adjustment is made on the manual bypass tray, the adjusted values are reflected to each paper tray.
- This adjustment is made when the image on the 2nd side of paper deviates from the original position in the sub scan direction.
- This adjustment can be made independently for each of plain paper, thick paper 1/1+, thick paper 2, and thick paper 3.

(b) Setting range



- Width A on the test pattern produced should fall within the following target.
- For measurement, use the image produced on the backside of the test pattern.

Target	4.2 ± 1.0 mm
Setting range	-3.0 mm to +3.0 mm (in 0.2 mm increments)

(c) Procedure

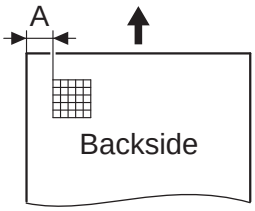
1. Load manual bypass tray with A3 or 11 x 17 plain paper.
2. Call the Service Mode to the screen.
3. Touch [Machine] -> [Printer Area] -> [Leading Edge Adj. Side 2 (Duplex)].
4. Select [Leading Edge Adjustment].
5. Select the [Plain Paper].
6. Press the Start key to let the machine produce a test pattern.
7. Check the dimension of width A on the test pattern.
8. If width A falls outside the target, change the setting using the [+] / [-] key.
   - If width A is longer than the target, make the setting value smaller than the current one.
   - If width A is shorter than the target, make the setting value greater than the current one.
9. Press the Start key to let the machine produce a test pattern.
10. Check the dimension of width A on the test pattern.
11. If width A is outside the target, change the setting again and make a check again.
12. If width A falls within the target, touch [END].
13. Following the same procedure, adjust for thick paper.

(4) Prt. Image Center. Side 2 (Dup)

(a) Use

- To vary the print start position in the main scan direction for each paper source in the 2-Sided mode.
- The image on the backside of the 2-sided copy deviates in the main scan direction.

(b) Setting range



- Width A on the test pattern produced should fall within the following target.
- For measurement, use the image produced on the backside of the test pattern.

Target	3.0 ± 1.0 mm
Setting range	-3.0 mm to +3.0 mm (in 0.2 mm increments)

(c) Procedure

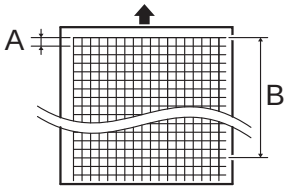
1. Call the Service Mode to the screen.
2. Touch [Machine] -> [Printer Area] -> [Prt. Image Center. Side 2 (Dup)].
3. Select [Leading Edge Adjustment].
4. Select the paper source to be adjusted.
5. Press the Start key to let the machine produce a test pattern.
6. Check the dimension of width A on the test pattern.
7. If width A falls outside the target, change the setting using the [+] / [-] key.
   - If width A is longer than the target, make the setting value smaller than the current one.
   - If width A is shorter than the target, make the setting value greater than the current one.
8. Press the Start key to let the machine produce a test pattern.
9. Check the dimension of width A on the test pattern on the backside of the copy.
10. If width A is outside the target, change the setting again and make a check again.
11. If width A falls within the target, touch [END].
12. Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2 x 11 plain paper for the manual bypass tray.)

(5) Paper Feed Direction Adj.

(a) Use

- To synchronize the paper transport speed with the image writing speed.
- [Sub Scan Zoom Adj.] becomes necessary.
- The print image on the copy distorts (stretched, shrunk).
- When the print image on the copy is stretched in the sub scan direction.
- This adjustment can be made independently for each of plain paper, thick paper 1/1+, thick paper 2, and thick paper 3.

(b) Setting range



- Width A and width B on the test pattern produced should fall within the following target.

NOTE
- **Width A: equivalent to one grid**
- **Width B: equivalent to 48 grids**

Target	A: 8.13 ±0.2 mm
	B: 390.14 ±2.0 mm
Setting range	A: -7 to +7
	B: -7 to +7

(c) Procedure

1. Load manual bypass tray with A3 or 11 x 17 plain paper.
2. Call the Service Mode to the screen.
3. Touch [Machine] -> [Printer Area] -> [Paper Feed Direction Adj.].
4. Select [Lattice Pattern].
5. Select the [Plain Paper].
6. Press the Start key to let the machine produce a test pattern.
7. Check width A (equivalent to one grid) and width B (equivalent to 48 grids) on the test pattern.
8. Touch [Machine] -> [Printer Area] -> [Paper Feed Direction Adj.].
9. If width of A or B falls outside the target, change the setting using the [+] / [-] keys.
   - If width A or B is longer than the target, make the setting value smaller than the current one.
   - If width A or B is shorter than the target, make the setting value greater than the current one.
10. Press the Start key to let the machine produce a test pattern again.
11. Check width A and width B on the test pattern.
12. If width A or B falls outside the target, change the setting value and make a check again.
13. If width A or B falls within the target, touch [END].
14. Following the same procedure, adjust for thick paper.

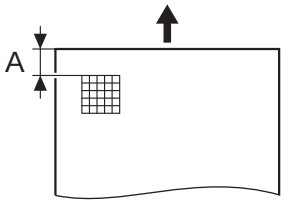
(6) Tray Printing Position: Tip

(a) Use

- To change and adjust image printing position at vertical scanning direction by each feed. (to adjust the timing starting from the roller connection up to start of transfer output). It is not applicable in case the job is fed at re-feed.
- To be used when [Printer Area-Leading Edge Adjustment] is not enough for full adjustment (as such case that image printing position gets deviated due to pattern of each feed.)
- Setting is available according to feed of 1st. Short (the length of paper at vertical scanning direction is under 276.4 mm), 1st. Long (the length of paper at vertical scanning direction is over 276.4 mm), 2nd, 3rd, 4th and Manual.
- Adjustment is made for plain paper.

(b) Setting range

NOTE
- **[Printer Area-Leading Edge Adjustment] should be made within target.**
- **Image printing position at vertical scanning direction is adjusted based on the combination value of this setting figure and [Printer Area-Leading Edge Adjustment] figure. In case the value is larger than +3.0mm or less than -3.0mm, the figure should be rounded to 3.0mm or -3.0mm.**



- Width A on the test pattern produced should fall within the following target.

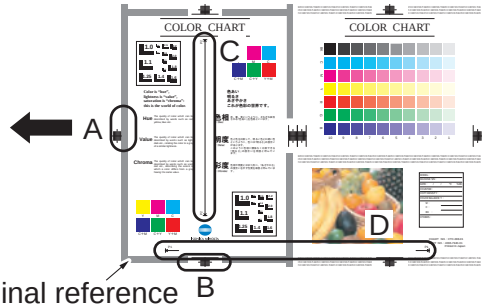
Target	4.2 ± 1.0 mm
Setting range	-3.0 mm to +3.0 mm (in 0.2 mm increments)

(c) Procedure

1. Call the Service Mode to the screen.
2. Touch [Machine] -> [Printer Area] -> [Tray Printing Position: Tip].
3. Set plain paper to the targeted tray, and select the feed tray.
4. Press the Start key to let the machine produce a test pattern.
5. Check the dimension of width A on the test pattern.
6. If width A falls outside the target, change the setting using the [+] / [-] key.
   - If width A is longer than the target, make the setting value smaller than the current one.
   - If width A is shorter than the target, make the setting value greater than the current one.
7. Press the Start key to let the machine produce a test pattern.
8. Check the dimension of width A on the test pattern.
9. If width A is outside the target, change the setting again and make a check again.
10. If width A falls within the target, touch [END].

5.4.4 Scan Area

- Use the following color chart for the adjustment of the scanner section.
- If the color chart is not available, a scale may be used instead.



Adjustment item	Reference
A: Image Position: Leading Edge	I.5.4.4.(1) Image Position: Leading Edge
B: Scanner Image Side Edge	I.5.4.4.(2) Scanner Image Side Edge
C: Main Scan Zoom Adj.	I.5.4.4.(3) Main Scan Zoom Adj.
D: Sub Scan Zoom Adj.	I.5.4.4.(4) Sub Scan Zoom Adj.

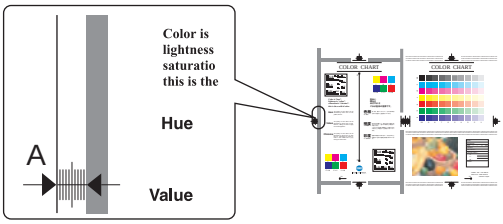
(1) Image Position: Leading Edge

(a) Use

- To adjust variations in mounting accuracy and sensitivity of the scanner home sensor and in mounting accuracy of the original width scale by varying the scan start position in the main scan direction.
- The original glass assy has been replaced.
- The scanner home sensor has been replaced.
- The CCD unit has been replaced.

(b) Setting range

Enlarged view of the color chart



- A width on the color chart and one on the test pattern are measured and adjusted so that the difference of A width satisfies the target shown below.
- An adjustment must have been completed correctly of [Leading Edge Adjustment] of the [Printer Area].

Target	A: ± 1.5 mm
Setting range	-3.0 mm to +3.0 mm (in 0.1 mm increments)

(c) Procedure

1. Call the Service Mode to the screen.
2. Touch [Machine] -> [Scan Area] -> [Image Position: Leading Edge].
3. Position the color chart correctly so that the original reference point is aligned with the scale.
4. Press the Start key to make a copy.
5. Check point A on the test pattern.
6. If width A on the test pattern falls outside the target, change the setting using the [+] / [-] key.
   - If the copy image is less than the target, increase the setting value.
   - If the copy image exceeds the target, decrease the setting value.
7. Press the Start key to make another test pattern.
8. Check the image on the test pattern to see if the specifications are met.
9. Make adjustments until the targets are met.

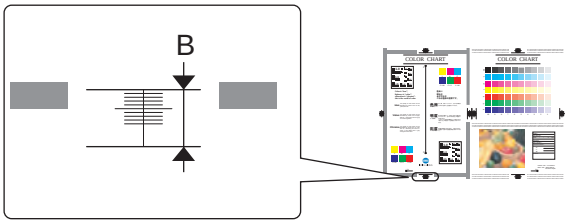
(2) Scanner Image Side Edge

(a) Use

- To adjust part-to-part variations in accuracy of scanner parts and their mounting accuracy by varying the scan start position in the main scan direction.
- When the CCD unit is replaced.
- The original glass assy has been replaced.
- The scanner home sensor has been replaced.

(b) Setting range

Enlarged view of the color chart



- B width on the color chart and one on the test pattern are measured and adjusted so that the difference of B width satisfies the target shown below.
- An adjustment must have been completed correctly of [Printer Image Centering Side 1] of [Printer Area].

Target	Width B: ± 1.5 mm
Setting range	-5.7 mm to +5.7 mm (in 0.1 mm increments)

(c) Procedure

1. Call the Service Mode to the screen.
2. Touch [Machine] -> [Scan Area] -> [Scanner Image Side Edge].
3. Position the color chart correctly so that the original reference point is aligned with the scale.
4. Press the Start key to make a copy.
5. Check point B on the image of the test pattern.
6. If the test pattern falls outside the target, change the setting using the [+] / [-] key.
   - If the copy image is less than the target, increase the setting value.
   - If the copy image exceeds the target, decrease the setting value.
7. Press the Start key to make a test pattern.
8. Check point B of the image on the test pattern to see if the specifications are met.
9. Make adjustments until the targets are met.

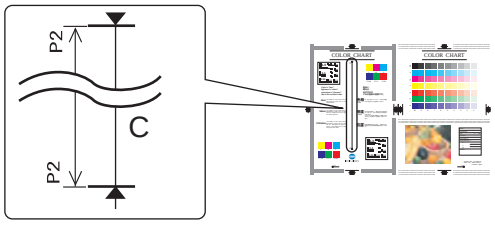
(3) Main Scan Zoom Adj.

(a) Use

- To adjust the zoom ratio in the main scan direction for the scanner section.
- When the CCD unit is replaced.

(b) Setting range

Enlarged view of the color chart



- Measure C width on the color chart and on the test pattern, and adjust the gap to be within the following target.
- An adjustment must have been completed correctly of [Paper Feed Direction Adj.] of [Printer Area].

Target	Width C: ± 1.0 mm
Setting range	0.990 to 1.015 (steps: 0.001)

* Standard size when using a scale: 200.0 mm

(c) Procedure

1. Call the Service Mode to the screen.
2. Touch [Machine] -> [Scan Area] -> [Main Scan Zoom Adj.].
3. Position the color chart correctly so that the original reference point is aligned with the scale.
4. Press the Start key to make a test pattern.
5. Check the C width on the image of the copy.
6. If the test pattern falls outside the target, change the setting using the [+] / [-] key.
   - If the C width on the copy sample is less than one on color chart, increase the setting.
   - If the C width on the copy sample exceeds one on color chart, decrease the setting.
7. Press the Start key to make another test pattern.
8. Check the image on the test pattern to see if the specifications are met.
9. Make adjustments until the targets are met.

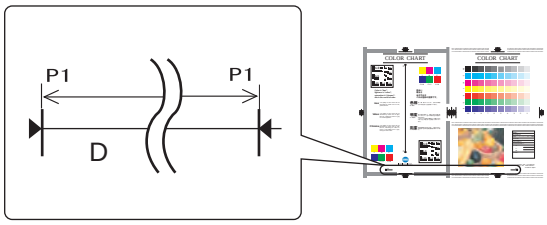
(4) Sub Scan Zoom Adj.

(a) Use

- To adjust the zoom ratio in the sub scan direction for the scanner section.
- The LED exposure unit or the scanner motor has been replaced.

(b) Setting range

Enlarged view of the color chart



- Measure D width on the color chart and on the test pattern, and adjust the gap to be within the following target.
- An adjustment must have been completed correctly of [Paper Feed Direction Adj.] of [Printer Area].

Target	Width D: ± 1.5 mm
Setting range	0.990 to 1.015 (steps: 0.001)

* Standard size when using a scale: 300.0 mm

(c) Procedure

1. Call the Service Mode to the screen.
2. Touch [Machine] -> [Scan Area] -> [Sub Scan Zoom Adj.].
3. Position the color chart correctly so that the original reference point is aligned with the scale.
4. Press the Start key to make a test pattern.
5. Check the D width on the image of the test pattern.
6. If the test pattern falls outside the target, change the setting using the [+] / [-] key.
   - If the D width on the copy sample is less than one on color chart, increase the setting.
   - If the D width on the copy sample exceeds one on color chart, decrease the setting.
7. Press the Start key to make another test pattern.
8. Check the image on the test pattern to see if the specifications are met.
9. Make adjustments until the targets are met.

5.4.5 Printer Reg. Loop Adj.

(1) Use

- To set the correction value of the paper loop length for each process speed of tray 1, tray 2-4 and LCT, manual or Duplex.
- To adjust the length of the loop formed in paper before the registration rollers.
- Use “Paper Passage” for paper passage check.
- When a paper skew occurs or paper misfeed occurs.

(2) Setting range

- The adjustable range is different depending on paper source and paper type.

	Tray 1	Tray 2/tray 3-4 (optional)/ LCT (option)	manual	Duplex
Plain paper	-25 to +11	-11 to +11	-11 to +7	-12 to +28
Thick paper	-25 to +11	-6 to +30	-11 to +15	-12 to +28

(3) Procedure

1. Call the Service Mode to the screen.
2. Touch [Machine] -> [Printer Reg. Loop Adj.].
3. Select a paper source and a processing speed where the settings are made by touching the corresponding keys.
4. Enter the new setting from the 10-key pad.
   - To decrease the loop amount: Decrease the setting value.
   - To increase the loop amount: Increase the setting value.

5.4.6 Color Registration Adjustment

- Not used

5.4.7 Print Head Skew Adj.

- Not used

5.4.8 Manual Bypass Tray Width Adj

(1) Use

- To set the maximum width and the minimum width for the bypass paper width detection resistor of the manual bypass guide.
- Use when the bypass paper width detection resistor of the manual bypass guide has been changed.
- Use when a false paper size is displayed when the manual bypass is used.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [Machine] -> [Manual Bypass Tray Width Adj].
3. Touch [Max. Width].
4. Load the bypass tray with paper having a width of 297 mm.
5. Press the Start key and check that the results are [OK].

6. Touch [Min. Width.].
7. Load the bypass tray with paper having a width of 110 mm.
8. Press the Start key and check that the results are [OK].

* Make the adjustment again if the results are [NG].

5.4.9 Lead Edge Erase Adjustment

(1) Use

- To set the leading edge erase amount of the paper.
- Upon user requests, it is possible to specify the void area where image is not printed along the leading edge.
- This adjustment can be made individually for First Side and Second Side.

(2) Default setting

(a) First Side/Second Side

- 4 mm

(3) Setting item

(a) First Side/Second Side

- 4 mm
- 5 mm
- 7 mm

NOTE

- **When 4 mm is selected, 4.2 mm is the actual amount to be erased in print based on the control system of the machine.**

5.4.10 Non-Image Area Erase Check

(1) Use

- The non-image area erase function may not work properly under bright light source. Incoming light quantity is checked to verify that the non-image area erase function can work properly under the environment.
- Verification results are shown as follows:

OK	Works properly.
NG1	Works properly. However, data that may interfere with the non-image area erase function was found. This function may not work well with dark original.
NG2	Data that may interfere with the non-image area erase function was found.

- Use this feature when installing a new machine or reinstalling a machine in a new place.
- Use this feature when the non-image area erase function fails to work properly due to the changes of the surrounding environment at the installation site.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [Machine] -> [Non-Image Area Erase Check].
3. Press the Start key to start a check.

   NOTE

   - **Before the check, make sure that the DF or original cover is completely opened. In addition, make sure that no scratch or stain exists on the original glass.**

4. Check the result is “OK.”

* If the check result is “NG1” or “NG2,” reinstall the machine in another place or adjust the orientation of the machine to reduce light incidence on the machine. Then, perform the check again.

5.4.11 ADF Scan Glass Contamination

(1) Use

- To check the stain on the ADF scan glass and display the result.
- To manually perform the pre-detection of the stain which is normally conducted when the main power switch is turned ON, recovering from the sleep/low power mode, etc.
- [ADF Scan Glass Contamination] will be conducted with the detection level set by [Service Mode] -> [System 2] -> [ADF Scan Glass Contamin. Set.] -> [ADF Scan Glass Contamin. Sensitivity]. When the above setting is set to “Not Set”, “NG1” or “NG2” will be displayed even though the pre-detection is conducted.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [Machine] -> [ADF Scan Glass Contamination].
3. Press the start key to start the pre-detection.
4. Check to make sure that “OK” is displayed for the result.

* When the result says “NG1” or “NG2”, clean the glass and check again.

5.4.12 Cooling Fan Stop Delay

(1) Use

- Sets the period of time till the main cooling fan (FM2) stops.
- The time to bring the main cooling fan to a stop from full-speed rotation is delayed to thereby cool the area around the photo conductor.

(If the device has transitioned to sleep mode, sleep mode is given priority and so the main cooling fan is stopped.)

(2) Default setting

- 0

(3) Procedure

- 0 to 15 (minutes) can be entered with the 10-key pad. (Default is 0.)

NOTE

- **When this setting is set to 0 (minute), the fan motor runs for 20 seconds before it stops.**

5.4.13 Print Interval Extension

(1) Use

- If output pages are curled, extend the print interval to reduce the occurrence of curl.

(2) Default Setting

- 0

(3) Setting item

1	Control is performed if the internal environment is at low temperature and low humidity or high temperature and high humidity.
2	Control is always performed regardless of the internal environment.

5.5 Firmware Version

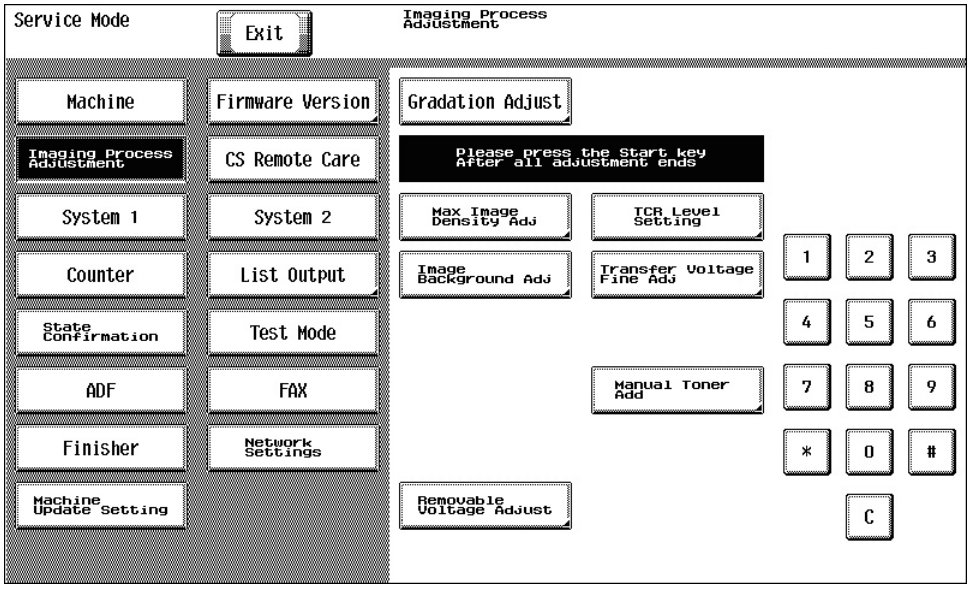
5.5.1 Use

- To check the firmware version.
- Use when the firmware is upgraded.
- When the firmware is upgraded or PWB is replaced.

5.5.2 Procedure

1. Call the Service Mode to the screen.
2. Touch [Firmware Version].
3. Touch the [↑]/[↓] key to check the firmware version.

5.6 Imaging Process Adjustment



5.6.1 Gradation Adjust

(1) Use

- To make an automatic adjustment of gradation based on the test pattern produced and the readings taken by the scanner.
- Color reproduction performance becomes poor.

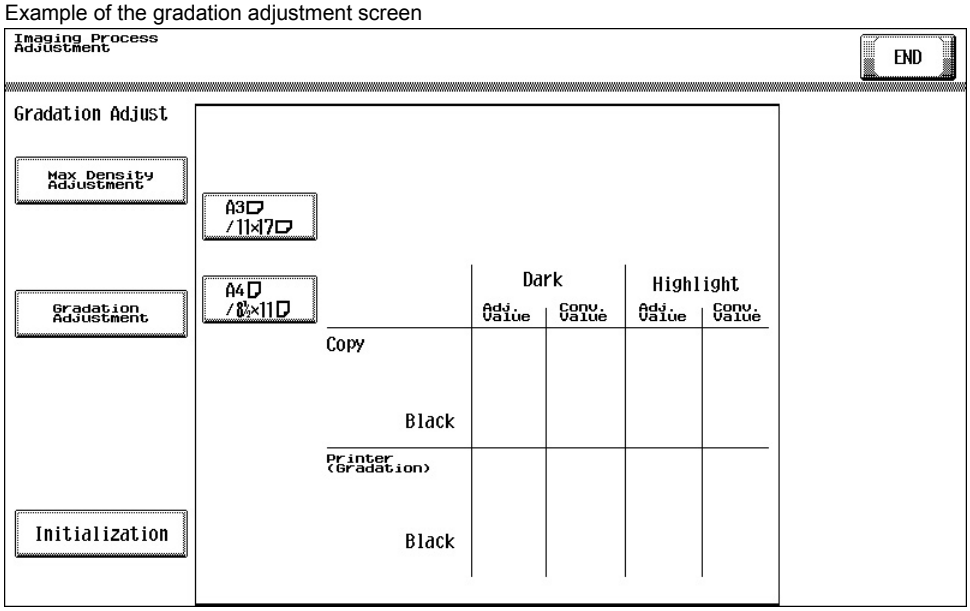
NOTE

- **Only the gradation adjustment is performed (maximum density adjustment is not performed) when replacing the drum unit and developing unit.**

* The Adj. Values of “Dark” and “Highlight” shown on the gradation adjust screen represent how much corrections are made to produce an ideal image output. Conv. Value shows the difference from the ideal image density.
* The closer the Conv. Value to 0, the more ideal the image.

Mode key	Description
Max. Density Adjustment	This scans the amount of toner applied to paper and adjusts the Vdc in accordance with this result to control variations in developing, the exposure amount, variations in sensitivity of the photo conductor, and changes in the environment, durability, and the amount of charge in toner.
Gradation Adjustment	Performs gradation adjustment.
Initialization	Clear the current gradation adjustment table (an adjustment item in [Gradation Adjustment] and Vdc difference value (an adjustment item in [Max Density Adjustment]). Select [Initialize] and then press the Start key to initialize.

Example of the gradation adjustment screen



(2) Procedure

<Max. Density Adjustment>

NOTE

- **When executing the gradation adjustment, make sure to use the white paper for color copy.**

1. Load the tray with normal A3 or A4 paper.
2. Call the Service Mode to the screen.
3. Touch these keys in this order: [Image Process Adjustment] -> [Gradation Adjust].
4. Touch [Max Density Adjustment], select the paper size, and then press the Start key.
   Outputs a test pattern.
5. Place the test pattern produced on the original glass.
   NOTE
   - **Depending on the size of the test pattern, it is set in a different position. Set the test pattern according to the instructions displayed on the control panel.**
6. Place ten blank sheets of paper on the test pattern and lower the original cover.
7. Press the Start key. (The machine will then start scanning the test pattern.)
8. After the original document is scanned, make sure that the "Max Density Adjustment" result is OK in the upper-right of the screen.
9. Runs the gradation adjustment.

<Gradation Adjustment>

1. Touch [Gradation Adjustment], select the paper size, and press the Start key.
   Outputs a test pattern.
2. Place the test pattern produced on the original glass.
3. Place ten blank sheets of paper on the test pattern and lower the original cover.
4. Press the Start key. (The machine will then start scanning the test pattern.)
5. Repeat steps 1 through 4 twice. (a total of three times)
6. Select [Gradation Adjustment] to display the adjustment values and conv. values of darks and highlights.
7. Use the following procedures to check the Conv. Value.

NOTE

- **Dark: 0 ± 100 and Highlight: 0 ± 60: It completes the adjustment procedure.**
- **If neither Dark nor Highlight falls outside the ranges specified above: 0 ±60, perform from step 4 of Max Density Adjustment to step 5 Gradation Adjustment.**
- **If the convergence falls within the specified range after the second Gradation Adjustment, further adjustment may not be necessary.**
- If a fault is detected, “0” is displayed for all values. In that case, after turning off the main power switch, turn it on again more than 10 seconds after and then make the gradation adjustment again.
- If either dark or highlight still remains outside the specified ranges perform Max Image Density Adj.
- If a total of four sequences of gradation adjust do not bring the values into the specified range, check the image.
- If the image is faulty, perform the troubleshooting procedures for image problems.

5.6.2 Max Image Density Adj

(1) Use

- To adjust gradation and image density to target reproduction levels by varying the maximum amount of toner sticking to paper through auxiliary manual fine-adjustment of gamma after the gradation adjustment.
- An image quality problem is not corrected even after the gradation adjustment has been run.

(2) Default setting

- 0

(3) Setting range

- -8 to +8 (step: 1 *)
  *: 1 step corresponds to 0.03 in density difference.

(4) Procedure

1. Call the Service Mode to the screen.
2. Touch [Imaging Process Adjustment] -> [Max Image Density Adj].
3. Enter the new setting from the 10-key pad and [+/-].
   The maximum amount of toner sticking
   - To increase the maximum amount of toner sticking, increase the setting value.
   - To decrease the maximum amount of toner sticking, decrease the setting value.
4. Touch [END] to return to the [Imaging Process Adjustment] menu screen.
5. Press the Start key to validate the adjustment value.
6. Check the print image for any image problem.

5.6.3 TCR Level Setting

(1) Use

- To adjust the T/C control level when an abnormal image density occurs as a result of a change in the amount of charge of toner and carrier due to an environmental change.
- Use when T/C changes due to changes in environmental conditions of the user site.

(2) Default setting

- 0

(3) Setting range

- -3 to +3 (1 step in positive (+) direction: 0.5 % increase, 1 step in negative (-) direction: 0.5 % decrease, Center value 0 corresponds to 6.5 % T/C ratio.)

(4) Procedure

1. Call the Service Mode to the screen.
2. Touch [Imaging Process Adjustment] -> [TCR Level Setting].
3. Enter the new setting from the 10-Key pad and [+/-] key.
   - To increase T/C, increase the setting value.
   - To decrease T/C, decrease the setting value.
4. Touch [END] to validate the adjustment value.
5. Check the print image for any image problem.

5.6.4 Image Background Adj

(1) Use

- To adjust the highlight portion (fog level) to the target reproduction level by making an auxiliary manual fine-adjustment of γ of each color after gradation adjust.
- Use when a foggy background occurs due to a printer problem.

(2) Default setting

- 0

(3) Setting range

- -5 to +5 (step: 1*)
  *: 1 step corresponds to 10 V.

(4) Procedure

1. Call the Service Mode to the screen.
2. Touch [Imaging Process Adjustment] -> [Image Background Adj].
3. Enter the new setting from the 10-key pad and [+/-] key.
   foggy background
   - To make the background level foggier, decrease the setting value.
   - To make the background level less foggy, increase the setting value.
4. Touch [END] to return to the [Image Adjust] menu screen.
5. Press the Start key to validate the adjustment value.
6. Check the print image for any image problem.

5.6.5 Transfer Voltage Fine Adj

(1) Use

- Adjust the image transfer output (ATVC) on the 1st page and the 2nd page for each paper type.
- To use when the transfer failure occurs.
- Pressing the [Auto] key down activates the image transfer amperage upper and lower limit control. In this case, the machine uses the voltage determined by the auto transfer voltage control and the image transfer voltage fine adj value does not take effect.

(2) Default setting

- Auto

(3) Setting range

- -8 to +7 (step: 1 *)
  - *: 1 step is equivalent to 100 V.

(4) Procedure

1. Call the Service Mode to the screen.
2. Touch [Imaging Process Adjustment] -> [Transfer Voltage Fine Adj].
3. Select the image side (1st or 2nd side) where transfer failure occurs.
   NOTE
   - **For envelopes smd OHP film, only first side can be selected.**
4. Select the paper type with the transfer failure.
5. Enter the new setting from the [+] / [-] keys.
   - To increase the ATVC value (in the direction of a foggier image), increase the setting value.
   - To decrease the ATVC value (in the direction of a less foggy image), decrease the setting value.
6. Touch [END] to validate the setting value.
7. Check the print image for any image problem.

NOTE

- **Touch [Auto] to automatically control the image transfer output without using the image transfer voltage fine adj value.**

5.6.6 Manual Toner Add

(1) Manual Toner Add

(a) Use

- To adjust the set T/C level by replenishing an auxiliary supply of toner when a low ID occurs due to a lowered T/C after large numbers of prints have been made of originals having a high image density.
- When there is a drop in T/C ratio.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [Imaging Process Adjustment] -> [Manual Toner Add].
3. Pressing the Start key will let the machine detect the current toner density and; if the density is lower than a reference value, a toner replenishing sequence and then a developer agitation sequence are run.
4. Operation above is repeated maximum of ten sets of times with one set consisting of three sequences until it reaches to the reference value. When it is higher than the reference value, only the agitation is conducted.

(2) Hopper Toner Filling

(a) Use

- To fill the sub hopper with toner and perform agitate in the developing unit.
- Used when toner is manually supplied to the toner hopper and agitate in the developing unit is performed.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [Imaging Process Adjustment] -> [Manual Toner Add] -> [Hopper Toner Filling].
3. Press the Start key to start filling and agitating operations.

5.6.7 Removable Voltage Adjust

(1) Use

- To allow the basic charge neutralizing voltage to be adjusted.
- To prevent separation failure (jam, paper conveyance failure) that may occur when paper other than recommended one is used by adjusting the neutralization voltage to the one that suits the type of paper the user uses.

(2) Default setting

- Auto

(3) Setting range

- -5 to +5 (Step: 1*)
  *: 1 step is equivalent to 1,000 V.

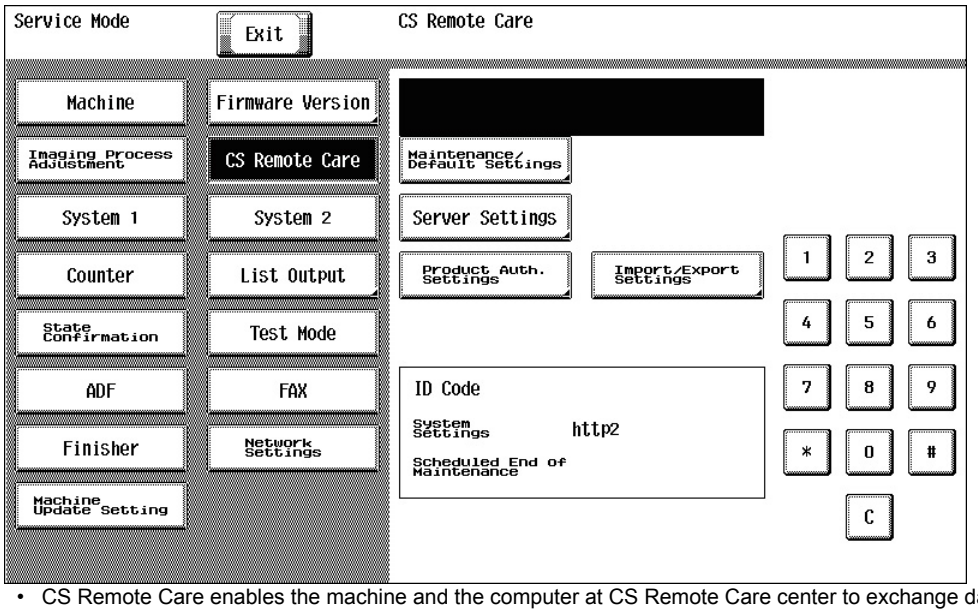
(4) Procedure

1. Call the Service Mode to the screen.
2. Touch [Imaging Process Adjustment] -> [Removable Voltage Adjust].
3. Select [Plain paper First Side], [Plain paper 2nd Side], [First Side] or [Second Side].
4. Enter the new setting from the [+] / [-] keys.
   - To increase the neutralization voltage, increase the setting value.
   - To decrease the neutralization voltage, decrease the setting value.
5. Touch [END] to validate the setting value.
6. Check the print image for any image problem.

* Select [Auto] at each paper type to automatically control the neutralization voltage without using the neutralization voltage setting value.

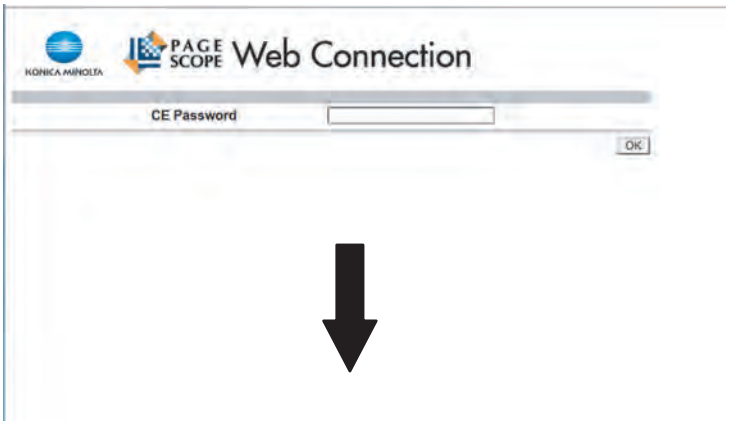
5.7 CS Remote Care (Outlines)

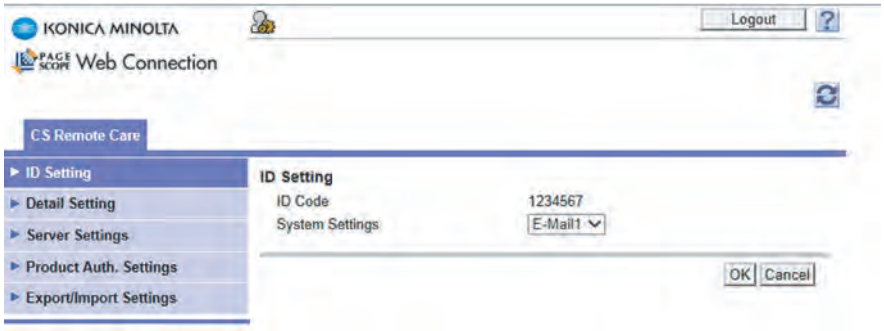
<Service Mode screen>



- CS Remote Care enables the machine and the computer at CS Remote Care center to exchange data through telephone/fax line, network or E-mail in order to control the machine.
- CS Remote Care enables the machine to call the computer at the center when trouble occurs. It also enables the computer at the center to contact the machine for the necessary data.
- Data which CS Remote Care handles can be divided into the following groups.
  - Data which show the status of use of the machine such as total count, PM count.
  - Data which show the abnormal situation on the machine such as where and how often errors occur.
  - Data on adjustment
  - Data on setting

<PageScope Web Connection display>





- CS Remote Care can be set also from PageScope Web Connection. Enter the following address, then enter the CE password and touch [OK].
  - http://(IP address)/csrc_index.html
- For the setting procedure, see I.5.8 Setting up the CS Remote Care.

5.8 Setting up the CS Remote Care

NOTE

- **For resetting up the machine which CS Remote Care has already been set up, clear the RAM for CS Remote Care before resetting.**
- **When using a telephone line modem for connection, use the data modem which is based on the ITU-T recommendations V.34/V.32 bis/V.32 and AT command.**

5.8.1 Using the telephone line modem

1. Register the device ID
   - Register the device ID to the application at CS Remote Care center.
     NOTE
     - **The initial connection is not available unless the device ID is registered.**
2. Connecting the modem
   - Turn the power for the modem OFF. Connect the machine and the modem with a modem cable. Connect the modem and the modular jack with a modular cable.
     NOTE
     - **For connecting the modular cable, see the manual for the modem.**
3. Inputting the ID code
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [ID Code].
   2. Input the seven digits ID of the service person, and touch [ID Code] again.
4. Clearing the RAM
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [RAM Clear].
   3. Select [Set], and touch [OK].
5. Selecting the CS Remote Care function
   - Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings] -> [System Selection], and touch [Modem].
6. Inputting the ID code
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [ID Code].
   2. Input the seven digits ID of the service person, and touch [ID Code] again.
7. Setting the date and time for CS Remote Care
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Date & Time Setting].
   3. Input the date, time and the time zone using the 10-key pad, and touch [Set].
8. Setting the Center ID
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Center ID], and input the Center ID (five digits).

9. Confirm the Device ID
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Device ID], and input Device ID (13 digits).
      NOTE
      - **[Device ID] displays the serial number that is entered in [Service Mode] -> [System 1] -> [Serial Number].**
10. Setting the telephone number of the Center
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Center Telephone Number].
   3. Input the telephone number of the center using the 10-key pad and [P], [T], [W], [-].
11. Inputting the device telephone number
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Device Telephone Number].
   3. Input the Device telephone number using the10-key pad and [P], [T], [W], [-].
12. Inputting the AT command for initializing the modem
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [AT Command].
   3. Input AT Command.
      NOTE
      - **Change this command only when it is necessary. (They do not need to be changed in normal condition.)**
      - **For details on AT command, see the manual for the modem.**
13. Setting the DIPSW for CS Remote Care
   NOTE
   - **This setting is not normally necessary. Take this step only when necessary in a specific connecting condition.**

14. Executing the initial transmission
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Basic Setting] -> [Initial Transmission].
   3. Touch [initial transmission] key on the right bottom of the screen to start initial transmission.
   4. When the machine is properly connected with the center, CS Remote Care setting screen will be displayed.
      NOTE
      - **The initial transmission key at the right bottom of the screen will be displayed only when the center ID, the device ID, Telephone number of the center and the device telephone number have been input.**
        However, if an invalid value is input as the device ID, the initial transmission key is not displayed.

5.8.2 Using the Fax line modem

NOTE
- **Setting will be available only when the optional fax board is installed.**

1. Register the device ID
   - Register the device ID to the application at CS Remote Care center.
     NOTE
     - **The initial connection is not available unless the device ID is registered.**
2. Remove the telephone line modem
   - Be sure to remove the telephone line modem when the fax line is used.
3. Inputting the ID code
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [ID Code].
   2. Input the seven digits ID of the service person, and touch [ID Code] again.
4. Clearing the RAM
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [RAM Clear].
   3. Select [Set], and touch [OK].
5. Selecting the CS Remote Care function
   - Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings] -> [System Selection], and touch [Fax].
6. Inputting the ID code
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [ID Code].
   2. Input the seven digits ID of the service person, and touch [ID Code] again.
7. Setting the date and time for CS Remote Care
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Date & Time Setting].
   3. Input the date, time and the time zone using the 10-key pad, and touch [Set].
8. Setting the Center ID
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Center ID], and input the Center ID (five digits).
9. Confirm the Device ID
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Device ID], and input Device ID (13 digits).
      NOTE
      - **[Device ID] displays the serial number that is entered in [Service Mode] -> [System 1] -> [Serial Number].**
10. Setting the telephone number of the Center
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Center Telephone Number].
   3. Input the telephone number of the center using the 10-key pad and [P], [T], [W], [-].
11. Inputting the device telephone number
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Device Telephone Number].
   3. Input the Device telephone number using the10-key pad and [P], [T], [W], [-].
12. Setting the DIPSW for CS Remote Care

NOTE
- **This setting is not normally necessary. Take this step only when necessary in a specific connecting condition.**

13. Executing the initial transmission
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [Basic] -> [Initial Transmission].
    3. Touch [initial transmission] key on the right bottom of the screen to start initial transmission.
    4. When the machine is properly connected with the center, CS Remote Care setting screen will be displayed.
    NOTE
    - **The initial transmission key at the right bottom of the screen will be displayed only when the center ID, the device ID, Telephone number of the center and the device telephone number have been input.**
      However, if an invalid value is input as the device ID, the initial transmission key is not displayed.

5.8.3 Using the E-mail

1. Register the device ID
   - Register the device ID to the application at CS Remote Care center.
   NOTE
   - **The initial connection is not available unless the device ID is registered.**
2. Remove the telephone line modem
   - Be sure to remove the telephone line modem when e-mail is used.
3. Inputting the ID code
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [ID Code].
    2. Input the seven digits ID of the service person, and touch [ID Code] again.
4. Clearing the RAM
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [RAM Clear].
    3. Select [Set], and touch [OK].
5. Selecting the CS Remote Care function
   - Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings] -> [System Setting], and touch [E-Mail 1] or [E-Mail 2].
6. Inputting the ID code
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [ID Code].
    2. Input the seven digits ID of the service person, and touch [ID Code] again.
7. Setting the date and time for CS Remote Care
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [Date & Time Setting].
    3. Input the date, time and the time zone using the 10-key pad, and touch [Set].
8. Setting the Center ID
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [Machine Setting] -> [Center ID], and input the Center ID (five digits).
9. Confirm the Device ID
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [Machine Setting] -> [Device ID], and input Device ID (13 digits).
    NOTE
    - **[Device ID] displays the serial number that is entered in [Service Mode] -> [System 1] -> [Serial Number].**
10. Encryption setting
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [Basic Setting] and select either Encryption or No Encryption.
11. Retransmission interval on e-mail delivery error
    - When selecting [E-mail 2], set the retransmission interval on e-mail delivery error in software SW setting.
12. Setting the Respond Timeout
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [Respond Timeout] and enter the response timeout using the 10-key pad.
    NOTE
    - **Under normal conditions, there is no need to change the default setting.**
13. Setting the E-mail address
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Server Set].
    2. Touch [Server for RX], and set POP3 server address, POP3 login name, POP3 password and POP3 port number.
    3. Touch [Receive], and set the E-Mail address, Mail Check, Connection Time Out and APOP Authentication.
    4. Touch [Send], and set the SMTP server address, SMTP port number, Connection Time Out, and APOP Authentication.
    5. Touch [TX/RX Test], and press Start key to carry out a transmission/reception test. If it fails to exchange messages, see the error message to take necessary measure, and try again.
14. When selecting [E-Mail2]:
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [Schedule] and set the schedule of periodic transmission.
    3. Touch [Center Notifi. Item] and set items that will be reported to the Center.
15. Receiving the initial connection E-mail message
    - Sending the initial connection E-mail message from the center to the address of the copier.
    NOTE
    - **When receiving the initial connection E-mail message from the center while CS Remote Care-related screen is being displayed, the current setting information will be deleted, and CS Remote Care setting will be displayed.**
    - **For sending the initial connection E-mail, see the manual for CS Remote Care center.**
    - **Messages can be exchanged only between the center with initial connection and the copier.**
    - **The initial connection from the center will be carried out, and the E-mail address of the center will be stored in the copier.**
    - **When the initial registration is complete, the E-mail address of the center will be displayed by selecting [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings] -> [Detail Setting] -> [Basic Setting] -> [E-Mail address].**

5.8.4 When using a WebDAV server in http communication

NOTE

- **When MFP is connected to the Internet via a proxy, the proxy server related settings are necessary in advance. The proxy settings used in the http communication for CS Remote Care is configured in [Administrator Settings] -> [Network Settings] -> [WebDAV Settings] -> [Proxy Setting for Remote Access].**

(1) Bilateral communication

1. Register the device ID
   - Register the device ID to the application at CS Remote Care center.
     NOTE
     - **The initial connection is not available unless the device ID is registered.**
2. Remove the telephone line modem
   - Be sure to remove the telephone line modem when the http communication is used.
3. Inputting the ID code
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [ID Code].
   2. Input the seven digits ID of the service person, and touch [ID Code] again.
4. Clearing the RAM
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [RAM Clear].
   3. Select [Set], and touch [OK].
5. Selecting the CS Remote Care function
   - Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings] -> [System Selection], and touch [http1].
6. Inputting the ID code
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [ID Code].
   2. Input the seven digits ID of the service person, and touch [ID Code] again.
7. Setting the date and time for CS Remote Care
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Date & Time Setting].
   3. Input the date, time and the time zone using the 10-key pad, and touch [Set].
8. Setting the Center ID
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Center ID], and input the Center ID (five digits).
9. Confirm the Device ID
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Device ID], and input Device ID (13 digits).
      NOTE
      - **[Device ID] displays the serial number that is entered in [Service Mode] -> [System 1] -> [Serial Number].**
10. Encryption setting
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [Basic Setting] -> [Client Setting] and select either Encryption or No Encryption.
11. Heart Beat
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings]] -> [Detail Setting] -> [Basic Setting], and touch [Heart Beat].
    2. In [Communication], set whether or not to enable Heart Beat communication. (Default: No)
    3. Touch [Comm. Interval] and enter a Heart Beat transmission interval (1 to 256 minutes, Default: 30 minutes).
    4. In [Specified Transmission], set whether or not to enable Heart Beat transmission at a specified interval. (Default: Yes)
    5. Touch [Hour] and [Minute] and enter a time for specified transmission.
       NOTE
       - **Heart Beat is a feature that uploads a Heart Beat file to the registered web server at a specified interval to report that the device is operating. Heart Beat files include total counter and status information.**
12. Polling interval
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings] -> [Detail Setting].
    2. Touch [Polling Interval] and enter the polling interval (1 to 256 min., default: 5 min.).
13. Setting the http server
    1. Select [Service Mode] -> [CS Remote Care], and touch [Server Settings].
    2. Touch [HTTP Server Settings] and set a URL address, account, password, and port number.
    3. Touch [SSL Settings] and make SSL settings.
14. Setting the DIPSW for CS Remote Care
    NOTE
    - **This setting is not normally necessary. Take this step only when necessary in a specific connecting condition.**

15. Executing the initial transmission
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [initial transmission] key on the right bottom of the screen to start initial transmission.
       NOTE
       - **The initial transmission key at the right bottom of the screen will be displayed only when the center ID, device ID and the URL address have been input.**
         However, if an invalid value is input as the device ID, the initial transmission key is not displayed.

    3. When the machine is properly connected with the center, CS Remote Care setting screen will be displayed.
    - If communication error between the machine and Center occurs, check the error code that appears.

(2) Unilateral communication: Device to Center

1. Register the device ID
   - Register the device ID to the application at CS Remote Care center.

NOTE
- **The initial connection is not available unless the device ID is registered.**

2. Remove the telephone line modem
   - Be sure to remove the telephone line modem when the http communication is used.
3. Inputting the ID code
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [ID Code].
   2. Input the seven digits ID of the service person, and touch [ID Code] again.
4. Clearing the RAM
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [RAM Clear].
   3. Select [Set], and touch [OK].
5. Selecting the CS Remote Care function
   - Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings] -> [System Selection], and touch [http2].
6. Inputting the ID code
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [ID Code].
   2. Input the seven digits ID of the service person, and touch [ID Code] again.
7. Setting the date and time for CS Remote Care
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Date & Time Setting].
   3. Input the date, time and the time zone using the 10-key pad, and touch [Set].
8. Setting the Center ID
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Center ID], and input the Center ID (five digits).
9. Confirm the Device ID
   1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
   2. Touch [Machine Setting] -> [Device ID], and input Device ID (13 digits).

      NOTE
      - **[Device ID] displays the serial number that is entered in [Service Mode] -> [System 1] -> [Serial Number].**
10. Encryption setting
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [Basic Setting] -> [Client Setting] and select either Encryption or No Encryption.
11. Notification Setting
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings] -> [Detail Setting], and touch [Notification Setting].
    2. Touch [Schedule] and set the schedule of periodic transmission.
    3. Touch [Center Notifi. Item] and set items that will be reported to the Center.
12. Setting the http server
    1. Select [Service Mode] -> [CS Remote Care], and touch [Server Set].
    2. Touch [HTTP Server Settings] and set a URL address, account, password, and port number.
    3. Touch [SSL Settings] and make SSL settings.
13. Setting the DIPSW for CS Remote Care

    NOTE
    - **This setting is not normally necessary. Take this step only when necessary in a specific connecting condition.**

14. Executing the initial transmission
    1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings], and touch [Detail Setting].
    2. Touch [initial transmission] key on the right bottom of the screen to start initial transmission.

       NOTE
       - **The initial transmission key at the right bottom of the screen will be displayed only when the center ID, device ID and the URL address have been input.**
         However, if an invalid value is input as the device ID, the initial transmission key is not displayed.

    3. When the machine is properly connected with the center, CS Remote Care setting screen will be displayed.
    - If communication error between the machine and Center occurs, check the error code that appears.

5.9 Software SW setting for CS Remote Care

NOTE
- **Software SW bits data are written into the memory region on the MFP board every time a change is made. In case you changed bit data by accident, be sure to restore the previous state.**
- **Do not change any bit not described on this table.**

5.9.1 Input procedure

1. Select [Service Mode] -> [CS Remote Care] -> [Maintenance/Default Settings] -> [Detail Setting], and touch [Software Switch Setting].
2. Touch [Switch No.], and input the switch number (two digits) using the 10-key pad.
3. Touch [Bit Assignment], and select switch bit number using the arrow keys, and input 0 or 1 using the 10-key pad.
   (For setting by hexadecimal numbers, touch [HEX Assignment] key, and input using the 10-key pad or A to F keys.)
4. Touch [Fix].

NOTE
- **About functions of each switch, see to "I.5.9.2 List of software SW for CS Remote Care."**

5.9.2 List of software SW for CS Remote Care

SW No.	Functions	Ref. page
01	• Dial Mode, Line for send only, Baud rate	"I.5.9.3 SW No. 01"
02	• Emergency transmission, Date specified transmission, Call parts replace date, Call drum replace date, Call regular service date (PM), Auto call on the IC Life,	"I.5.9.4 SW No. 02"

SW No.	Functions	Ref. page
	Auto call of the IR shortage, Auto call on the zero reset of the fixed parts replacement	
03	• Trouble display setting, Auto call on the toner empty, Auto call on the waste toner bottle full	"I.5.9.5 SW No. 03"
04	• CS Remote Care communication mode	"I.5.9.6 SW No. 04"
05	• Modem redial interval	"I.5.9.7 SW No. 05"
06	• Modem redial times	"I.5.9.8 SW No. 06"
07	• Redial for response time out	"I.5.9.9 SW No. 07"
08	• Retransmission interval on E-Mail/http delivery error	"I.5.9.10 SW No. 08"
09	• Retransmission times on E-Mail/http delivery error	"I.5.9.11 SW No. 09"
10	• Time zone settings	"I.5.9.12 SW No. 10"
11	• Timer 1 RING reception -> CONNECT reception	"I.5.9.13 SW No. 11"
12	• Timer 2 Dial request completed -> CONNECT reception	"I.5.9.14 SW No. 12"
13	• Reservation	-
14	• Timer 4 Line connection -> Start request telegram delivery	"I.5.9.15 SW No. 14"
15	• Timer 5 Wait time for other side's response	"I.5.9.16 SW No. 15"
16	• Reservation	-
17	• Reservation	-
18	• Attention display To set whether to give the alarm display when using the modem but the power for the modem is OFF.	"I.5.9.17 SW No. 18"
19	• Reservation	-
20	• Reservation	-
21	• Automatic transmission of chronological misfeed data at the time of transmission of misfeed frequent occurrence warning, transmission of paper-based misfeed frequent occurrence warning, transmission of original-based misfeed frequent occurrence warning	"I.5.9.18 SW No. 21"
22	• Paper-based misfeed frequent occurrence threshold value	"I.5.9.19 SW No. 22"
23	• Original-based misfeed frequent occurrence threshold value	"I.5.9.20 SW No. 23"
24 : 40	• Reservation	-

5.9.3 SW No. 01

(1) Default

Bit	7	6	5	4	3	2	1	0
	1	0	0	0	0	0	0	1
HEX	81							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Baud rate	0110		9600 bps
6		0111		19.2 Kbps
5		1000		38.4 Kbps
4		Other		Not available
3	Reservation			
2				
1	Line for send only	Disable	Enable	
0	Dial Mode	Pulse	Tone	

5.9.4 SW No. 02

(1) Default

Bit	7	6	5	4	3	2	1	0
	1	1	1	1	1	1	1	1
HEX	FF							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Auto call on the zero reset of the fixed parts replacement	Disable	Enable	
6	Auto call of the IR shortage	Disable	Enable	
5	Auto call on the IC Life	Disable	Enable	
4	Call regular service date (PM)	Disable	Enable	
3	Call drum replace date	Disable	Enable	
2	Call parts replace date	Disable	Enable	
1	Date specified transmission	Disable	Enable	
0	Emergency transmission	Disable	Enable	

5.9.5 SW No. 03

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	1	0	1	0
HEX	0A							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Reservation			
6				
5				
4				
3	Auto call on the waste toner bottle full	Disable	Enable	
2	Reservation			
1	Auto call on the toner empty	Disable	Enable	
0	Trouble Display setting	When the CSRC is not connected	When the CSRC is connected	Select the type of message to be displayed at the time of automatic trouble notification made when the CSRC is connected, either the message when the CSRC is connected or that when the CSRC is not connected. If "When the CSRC is not connected" is selected when the CSRC is connected, an automatic notification is made to the center when a trouble occurred. Only the display on the control panel shifts to the massage when the CSRC is not connected.

5.9.6 SW No. 04

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	0	0	1	0
HEX	02							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Reservation			
6				
5				
4				

Bit	Functions	Logic		Description
		0	1	
3				
2				
1	CS Remote Care communication mode	00		DATA
0		01		FAX
		10		E-mail
		11		Not available

5.9.7 SW No. 05

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	0	0	1	1
HEX	03							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Reservation			
6				
5				
4	Modem redial interval	00001		1 minute
3		00010		2 minutes
2		00011		3 minutes
1		00100		4 minutes
0		00101		5 minutes
		00110		6 minutes
		00111		7 minutes
		01000		8 minutes
		01001		9 minutes
		01010		10 minutes
		Others		Not available

5.9.8 SW No. 06

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	1	0	1	0
HEX	0A							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Modem redial times	0000 0000		0 times
6		0000 0001		1 time
5		:		:
4		0000 1010		10 times
3		:		:
2		0110 0010		98 times
1		0110 0011		99 times
0		Others		Not available

5.9.9 SW No. 07

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	0	0	0	1
HEX	01							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Redial for response time out	0000 0000		0 times
6		0000 0001		1 time
5		Others		Not available
4				
3				
2				
1				
0				

5.9.10 SW No. 08

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	0	1	1	0
HEX	06							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Retransmission interval on E-mail/http delivery error	0000 0000		0 minutes
6		0000 0001		10 minutes
5		:		:
4		0000 0110		60 minutes
3		:		:
2		0000 1011		110 minutes
1		0000 1100		120 minutes
0		Others		Not available

5.9.11 SW No. 09

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	1	0	1	0
HEX	0A							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Retransmission times on E-mail/http delivery error	0000 0000		0 times
6		0000 0001		1 time
5		:		:
4		0000 1010		10 times
3		:		:
2		0110 0010		98 times
1		0110 0011		99 times
0		Others		Not available

5.9.12 SW No. 10

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	0	0	0	0
HEX	00							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Time zone settings	0000 0000		0

Bit	Functions	Logic		Description
		0	1	
6		0000 0001		+1
5		:		:
4		0000 1100		+12
3		1111 0100		-12
2		:		:
1		1111 1111		-1
0		Others		Not available

5.9.13 SW No. 11

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	1	0	0	0	0	0
HEX	20							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Timer 1 RING reception -> CONNECT reception	0000 0000		0 sec
6		0000 0001		1 sec
5		:		:
4		0010 0000		32 sec
3		:		:
2		1111 1110		254 sec
1		1111 1111		255 sec
0				

5.9.14 SW No. 12

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	1	0	0	0	0	0	0
HEX	40							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Timer 2 Dial request completed -> CONNECT reception	0000 0000		0 sec
6		0000 0001		1 sec
5		:		:
4		0100 0000		64 sec
3		:		:
2		1111 1110		254 sec
1		1111 1111		255 sec
0				

5.9.15 SW No. 14

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	1	0	0	0	0	0
HEX	20							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Timer 4 Line connection -> Start request telegram delivery	0000 0000		0 msec
6		0000 0001		100 msec
5		:		:

Bit	Functions	Logic		Description
		0	1	
4		0010 0000		3,200 msec
3		:		:
2		1111 1110		25,400 msec
1		1111 1111		25,500 msec
0				

5.9.16 SW No. 15

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	1	1	1	1	0
HEX	1E							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Timer 5 Wait time for other side's response	0000 0000		0 sec
6		0000 0001		1 sec
5		:		:
4		0001 1110		30 sec
3		:		:
2		1111 1110		254 sec
1		1111 1111		255 sec
0				

5.9.17 SW No. 18

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	0	0	0	1
HEX	01							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Reservation			
6				
5				
4				
3				
2				
1				
0	Attention display To set whether to give the alarm display when using the modem but the power for the modem is OFF.	OFF	ON	

5.9.18 SW No. 21

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	0	0	0	0
HEX	00							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Reservation			
6				

Bit	Functions	Logic		Description
		0	1	
5				
4				
3				
2	Automatic transmission of chronological misfeed data at the time of transmission of misfeed frequent occurrence warning	OFF	ON	
1	Original-based misfeed frequent occurrence threshold value	OFF	ON	If the number of jams exceeds the threshold specified per day (0:00 to 23:59), Jam Frequent Occurrence Warning is sent. At 12 a.m. of the next day, the counter is reset.
0	Paper-based misfeed frequent occurrence threshold value	OFF	ON	

5.9.19 SW No. 22

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	0	1	0	1
HEX	05							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Paper-based misfeed frequent occurrence threshold value	0000 0001		1
6		0000 0010		2
5		:		:
4		0000 0101		5
3		:		:
2		0000 1110		14
1		0000 1111		15
0		Others		Not available

5.9.20 SW No. 23

(1) Default

Bit	7	6	5	4	3	2	1	0
	0	0	0	0	0	1	0	1
HEX	05							

(2) Functions

Bit	Functions	Logic		Description
		0	1	
7	Original-based misfeed frequent occurrence threshold value	0000 0001		1
6		0000 0010		2
5		:		:
4		0000 0101		5
3		:		:
2		0000 1110		14
1		0000 1111		15
0		Others		Not available

5.10 Setup confirmation

- Follow the steps below to make sure that CS Remote Care has been properly set up.

1. Call the Service Mode to the screen.
2. Touch [CS Remote Care].
3. Check to make sure that only selected item is displayed.

5.11 Calling the maintenance

- When CE starts maintenance, inputting the ID code of CE (seven digits: numbers which CE can identify. They are controlled by the distributor.) will transmit the information to the Center side and tells that the maintenance has started. When the maintenance is finished, touching [Maintenance Complete] key will transmit the information to the center and tells that it is finished.

NOTE

- **The MFP sends the maintenance start information to the Center. While the MFP is in maintenance mode, the communication between the MFP and the Center is unavailable. Therefore, CE must touch [Maintenance Complete] immediately after the completion of maintenance to end maintenance mode.**

5.11.1 When starting the maintenance

1. Call the Service Mode to the screen.
2. Touch [CS Remote Care].
3. Touch [Maintenance Start].
4. Input the ID code using the 10-key pad.
5. Select estimated hours that elapse before the completion of the maintenance from the options of [2 hours], [4 hours], [6 hours], [8 hours], [10 hours], or [12 hours].
6. Touch [OK].

NOTE

- **The Start key blinks while maintenance mode is being carried out.**
- **You cannot extend the estimated hours while the maintenance is in progress.**
- **If you forget to touch [Maintenance Complete] after the completion of the maintenance, the maintenance completion information is automatically sent after the lapse of the selected estimated hours and the normal communication becomes available.**

5.11.2 When finishing the maintenance

1. Call the Service Mode to the screen.
2. Touch [CS Remote Care].
3. Touch [Maintenance Complete].

5.12 Calling the center from the administrator

- When the CS Remote Care setup is complete, the administrator can call the CS Remote Care center.

1. Touch [Settings] -> [System Connection]
2. Touch [Admin. transmission].
3. Press the Start key.
   When the setup is not complete or another transmission is being carried out, the Admin. transmission key will not be displayed, and the transmission is not available.

NOTE

- **For transmitting data of the machine by calling the center on the specified date and time, refer to the manual for CS Remote Care center.**

5.13 Checking the transmission log

- The transmission log list will be output to be checked.

1. Call the Service Mode to the screen.
2. Touch [CS Remove Care] -> [Maintenance/Default Settings] -> [Detail Setting].
3. Touch [Communication Log Print].
4. Load tray 1 or bypass tray with A4S paper.
5. Press the Start key to output transmission log.

5.14 Detail on settings for CS Remote Care

5.14.1 Maintenance/Default Settings - System Selection

(1) Use

- To select the system type for remote diagnosis.
- Use to newly build or change the system.

(2) Setting range

- E-Mail1
- E-Mail2
- Modem
- Fax
- http1
- http2

(3) Procedure

- Select [E-Mail 1], [E-Mail 2], [http 1], [http 2], [Modem], or [Fax].
- Fax is available only when the optional fax kit is being installed.

5.14.2 Maintenance/Default Settings - ID Code

(1) Use

- To register the service ID.

(2) Procedure

1. Touch [ID code] and enter the service ID.
   - Enter a 7-digit code from the 10-key pad. (0000001 to 9999999)
2. Touch [ID code] to register the ID.
3. The [Detail Setting] will appear when the ID has been registered.

5.14.3 Maintenance/Default Settings - Detail Setting

(1) Basic Setting (E-Mail1, E-Mail2, Modem or Fax)

(a) Use

- Execute the primary setting.
- Use to register the machine to the CS Remote Care center.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [CS Remote Care] -> [Maintenance/Default Settings].
3. Touching the [Detail Setting] will display the primary setting.

<Center Setting>

- Set the center ID, Device ID, and the phone No.
- When e-mail is selected for system and all setup procedures are completed, e-mail address of the center is displayed.
  * When entering the phone number, 10-key and keys on the screen have following meanings.

[-] Pose	Waits to start transmitting after dialing
[W] Wait	Detects the dial tone of the other end
[T] Tone dial	Carry out tone dialing
[P] Pulse dial	Carry out pulse dialing
[*], [#]	To be used as necessary

<Schedule (Only when the [E-Mail2] is selected)>

- Set the schedule of notification to the center.
- Up to three different notification schedules can be registered.
- Select the notification cycle from [Day], [Week], or [Month].
  When selecting [Day] for the notification cycle, set the Day Frequency.
  When selecting [Week] for the notification cycle, set the Week Frequency and day of the week.
  When selecting [Month], set the Month Frequency and the date of the month.

<Center Notification (Only when the [E-Mail2] is selected)>

- Select the items of data that will be sent to the center in one-way transmission through E-Mail2.
- The following table shows each of the notification item keys and corresponding data.

[1]	Sales count data	[7]	EKC data
[2]	Error count data	[8]	Adjustment data
[3]	Service count data	[9]	Coverage data
[4]	Life count data Life cycle data	[10]	Not used
[5]	CSRC-System data Device config data	[11]	Not used
[6]	History data	[12]	Not used

NOTE

- **Multiple items of data can be selected and sent at one time. However, be sure that only EKC data cannot be sent together with other items of data.**

<Initial Transmission>

- Touching the Initial Transmission key will sent the information to the CS Remote Care center to register the machine.
  (Only when the modem or fax is selected on the system Input.)

(2) Basic Setting (http1 or http2)

(a) Use

- Execute the primary setting.
- Use to register the machine to the CS Remote Care center.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [CS Remote Care] -> [Maintenance/Default Settings].
3. Touching the [Detail Setting] will display the primary setting.

<Center Setting>

- Set the center ID.
- Display the device ID.

<Client Setting>

- To set whether or not to encrypt communication.

<Heart Beat>

NOTE

- **The heat beat function is only available to http1.**
- To make Heart Beat related settings.
- Heart Beat is a feature that uploads a Heart Beat file to the registered web server at a specified interval to report that the device is operating. Heart Beat files include total counter and status information.

<Polling Interval>

NOTE

- **The polling interval function is only available to http1.**
- To set the polling time in http communication.

<Initial Transmission>

- Touching the Initial Transmission key will sent the information to the CS Remote Care center to register the machine.

(3) Date & Time Setting

(a) Use

- To set the data and time-of-day.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [CS Remote Care] -> [Maintenance/Default Settings].
3. Touch [Detail Setting] to access Date & Time Setting.
4. Enter the date (month, day and year), time-of-day, and the time zone from the 10-key pad.
5. Touch [SET] to start the clock.

(4) RAM Clear

(a) Use

- To clear the following data at the center.
  Service ID, Basic setting, Date & time setting (time zone), Software SW setting, AT command
- To be used for setting CS Remote Care.
- To be used for reset the every data of the center to default.

NOTE

- **If RAM clear is selected during transmission, RAM clear processing will be implemented at the time the transmission is completed regardless of whether it is done properly or not.**

(b) Default setting

- Unset

(c) Setting item

- Set
- Unset

(5) Communication Log Print

(a) Use

- To print out the communication log.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [CS Remote Care] -> [Maintenance/Default Settings].
3. Touch [Detail Setting] to access communication log print.
4. Load a paper tray with A4S/A4 or 81/2 x 11S/81/2 x 11 paper.
5. Select [1-Sided] or [2-Sided].
6. Press Start key to print out the communication log.

(6) Software Switch Setting

(a) Use

- To change the CS Remote Care settings.

(b) Procedure

- Refer to "I.5.9 Software SW setting for CS Remote Care" for the setting.

(7) Response Time Out

(a) Use

- It sets the intervals for resending e-mails when transmission error occurred.
- It can be set only when [E-Mail] is selected in [System Setting].

(b) Default setting

- 60 minutes

(c) Setting range

- 10 to 1440

(8) AT Command

(a) Use

- To set the command to be issued at the time of modem initialization.

- This setting is available only when [Modem] is selected in [System Setting].

(b) Procedure

- Enter the command and touch [SET] to register.

(9) Notification Setting

(a) Use

- To make the settings of notification to the center that is performed under unilateral communication via http.
- This setting is available only when [http2] is selected in [System Setting].

(b) Procedure

<Schedule>

- Set the schedule of notification to the center.
- Up to three different notification schedules can be registered.
- Select the key of the registration number, and then touch [Enable].
- Select the notification cycle from [Day], [Week], or [Month].
  When selecting [Day] for the notification cycle, set the Day Frequency.
  When selecting [Week] for the notification cycle, set the Week Frequency and day of the week.
  When selecting [Month], set the Month Frequency and the date of the month.
- Touch [SET] to register the schedule.

<Center Notifi. Item>

- Select the notification item to the center.
- The following table shows each of the notification item keys and corresponding data.

[1]	Sales count data	[7]	EKC data
[2]	Error count data	[8]	Adjustment data
[3]	Service count data	[9]	Coverage data
[4]	Life count data Life cycle data	[10]	Not used
[5]	CSRC-System data Device config data	[11]	Not used
[6]	History data	[12]	Not used

NOTE

- **Multiple items of data can be selected and sent at one time. However, be sure that only EKC data cannot be sent together with other items of data.**

5.14.4 Maintenance/Default Settings - Server Setting (E-Mail1 or E-mail2 is selected.)

(1) Server for RX-POP3 server

(a) Use

- To set the POP3 server address used for the CS Remote Care.
- POP3 server address can be set with IP address or the domain name.

(b) Procedure

<Input IP Address>

- IP address version 4 format
  [0 to 255].[0 to 255].[0 to 255].[0 to 255]

<FQDN Input>

- Enter the domain name.

(2) Server for RX-POP3 login name

(a) Use

- To set the login name for the POP3 server used for the CS Remote Care.

(b) Procedure

- Up to 64 characters can be used. (alphanumeric characters and symbols)

(c) Default setting

- No

(3) Server for RX-POP3 password

(a) Use

- To set the logon password for the POP3 server used for the CS Remote Care.

(b) Procedure

- Up to 15 characters can be used. (alphanumeric characters and symbols)

(c) Default setting

- No

(4) Server for RX-POP3 port number

(a) Use

- To set the POP3 port number used for the CS Remote Care.

(b) Default setting

- 110

(c) Setting range

- 1 to 65535

(5) Receive-E-mail Address

(a) Use

- To set the e-mail address used for the CS Remote Care.

(b) Procedure

- Up to 129 characters can be used. (alphanumeric characters and symbols)

(c) Default setting

- No

(6) Receive-Mail Check

(a) Use

- To set whether or not to use mail check and the time interval for the POP server used for the CS Remote Care.

(b) Default setting

- No

(c) Setting item

- No
- 1 to 120 min.

(7) Receive-Connection Time-out

(a) Use

- To set the timeout period for connection during reception.

(b) Default setting

- 60 Sec

(c) Setting range

- 30 to 300 Sec

(8) Receive-APOP Authentication

(a) Use

- To set whether or not to authenticate the APOP during reception.

(b) Default setting

- No

(c) Setting item

- Yes
- No

(9) Send-SMTP server

(a) Use

- To set the SMTP sever address for transmission used for the CS Remote Care.
- SMTP server address can be set by the IP address or the domain name.

(b) Procedure

<Input IP Address>

- IP address version 4 format
  [0 to 255].[0 to 255].[0 to 255].[0 to 255]

<FQDN Input>

- Enter the domain name.

(10) Send-SMTP port number

(a) Use

- To set the SMTP port number for transmission used for the CS Remote Care.

(b) Default setting

- 25

(c) Setting range

- 1 to 65535

(11) Send-SMTP Connection Time-out

(a) Use

- To set the timeout period for transmission.

(b) Default setting

- 60 Sec

(c) Setting range

- 30 to 300 Sec

(12) Send-Authentication Setting

(a) Use

- To set whether or not to authenticate during transmission via SMTP server.
- To use when authenticating during transmission.
  Available authentication mode: POP Before SMTP, SMTP authentication

(b) Default setting

- OFF

(c) Setting item

- OFF
- POP Before SMTP
- SMTP Authentication

NOTE

- **Setting to "POP Before SMTP" will set the time for POP Before SMTP.**
  - **Default setting: 60 Sec**
  - **Setting range: 0 to "60 Sec"**
- When setting to SMTP authentication, touch the "Setting Check" key for authentication.

User ID	Enter the user ID for SMTP authentication.
Password	Enter the password for SMTP authentication.
Domain name	Enter the domain name for SMTP authentication.

(13) TX/RX Test

(a) Use

- To determine the correct transmission and reception using CS Remote Care.

(b) Procedure

1. Press the Start key to let the machine start the transmission and reception test.
2. The test procedure and result will be displayed on the screen.

(14) Data Initialization

(a) Use

- To initialize the contents for the sever setting.

(b) Default setting

- No

(c) Setting item

- Yes
- No

5.14.5 Maintenance/Default Settings - Server Setting (http1 or http2 is selected)

(1) HTTP Server Settings

(a) Use

- To set a http server at the other end that is used in CS Remote Care.

(b) Procedure

<URL>
- To set the address of the http server.

<Account>
- To set an account that is used to access the http server.

<Password>
- To set a password that is used to access the http server.

<Port Number>
- To set a port number that is used to access the http server.

(2) SSL Settings

(a) Use

- To make SSL settings of the http server at the other end that is used in CS Remote Care.

(b) Procedure

- To set whether or not to use SSL communication.

(3) Data Initialization

(a) Use

- To initialize values in the server settings.

5.14.6 Product Auth. Settings

(1) Product Authentication

(a) Use

- To set whether or not to enable product authentication.

NOTE
- **When changing this setting under the condition where http is used for CS Remote Care communication, you need to perform RAM Clear and then initial transmission again.**

(b) Default setting

- No

(c) Setting item

- Yes
- No

(2) WebDAV

(a) Use

- To set a WebDAV server for the product authentication.

(b) Procedure

<URL>
- To set the address of the WebDAV server.

<Account>
- To set an account that is used to access the WebDAV server.

<Password>
- To set a password that is used to access the WebDAV server.

<Port Number>
- To set a port number that is used to access the WebDAV server.

(3) Register Manually

(a) Use

- To install the certificate to be used in product authentication.

(b) Procedure

<LMS>
1. Call the Service Mode to the screen.
2. Touch [CS Remote Care] -> [Product Auth. Settings].
3. Touch [Register Manually] -> [LMS].
4. Touch [Start] to communicate with LMS (License Management System) and install the certificate.
5. Check that the "Install OK" message appears.

<USB>
1. Connect the USB flash drive where the certificate obtained from LMS (License Management System) is stored to the USB port of MFP.

2. Call the Service Mode to the screen.
3. Touch [CS Remote Care] -> [Product Auth. Settings].
4. Touch [Register Manually] -> [USB].
5. Touch [Start] to install the certificate.
6. Check that the "Install OK" message appears.

5.14.7 Import/Export Settings

(1) WebDAV Setting

(a) Use

- To configure WebDAV server settings used to remotely export or import MFP data (address book data, authentication setting data).

(b) Procedure

<URL>
- To set the address of the WebDAV server.

<Folder Name>
- To set a folder name of the WebDAV server that is used to transfer data.

<Account>
- To set an account that is used to access the WebDAV server.

<Password>
- To set a password that is used to access the WebDAV server.

(2) Port Number

(a) Use

- To set a port number that is used to access the WebDAV server.

(b) Procedure

- Set the port number of the WebDAV server using the 10-key pad.

(3) SSL Settings

(a) Use

- To configure the WebDAV server's SSL settings.

(b) Default setting

- No

(c) Setting item

- Yes
- No

(4) Data Initialization

(a) Use

- To initialize the settings on the server.

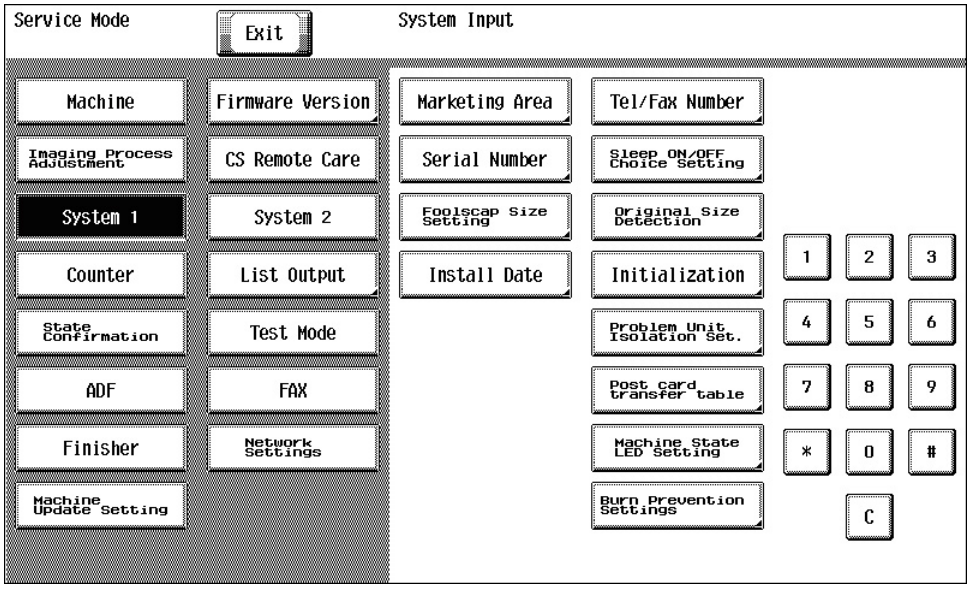
(b) Default setting

- No

(c) Setting item

- Yes
- No

5.15 System 1



5.15.1 Marketing Area

(1) Use

- To make the various settings (language, paper size, fixed zoom ratios, etc.) according to the applicable marketing area.
- Upon setup.

(2) Procedure

Marketing Area

- Select the applicable marketing area and touch [END] to set the marketing area.

Wireless LAN applications (displayed when the optional upgrade kit UK-212 and local interface kit EK-608 are mounted)

1. Touch the [Wireless LAN Destination].
2. Select the applicable marketing area using [+] and [-] keys, and touch [decision].
3. Turn OFF and ON the main power switch.

Fax Target

1. Touch the [Fax Target].
2. Select the applicable marketing area using [+] and [-] keys, and touch [END].

(3) Setting item

Marketing Area

- Japan
- US
- Europe
- Others1 to 5

Wireless LAN Destination

- OT, US, CA, JP, AU, NZ, EU, DE, GB, FR, CH, NL, BE, AT, NO, SE, FI, IE, DK, IT, ES, PT, PL, ZA, TW, SA, CN, MY, SG, KR, HK, AR, BR, VN, PH, RU

Fax Target

- JP, AU, NZ, EU, DE, GB, FR, CH, NL, BE, AT, NO, SE, FI, IE, DK, IT, ES, PT, PL, ZA, TW, SA, CN, MY, SG, KR, HK, AR, BR, VN, PH, RU, OT, US, CA

(a) List of functions affected by marketing area setting

- The listed are the functions of which setting is automatically changed depending on the selected marketing area.

Marketing area / Setting item	Japan	US	Europe	Others1	Others2	Others3	Others4	Others5
Language (Default value)	Japanese	English	English	English	English	Simplified Chinese	Traditional Chinese	English
Language Selection (Selectable language)	Japanese English French Italian German Spanish Simplified Chinese Traditional Chinese Hangul	English French Italian German Spanish Japanese Simplified Chinese Traditional Chinese Hangul	English French Italian German Spanish Japanese Simplified Chinese Traditional Chinese Hangul	English French Italian German Spanish Japanese Simplified Chinese Traditional Chinese Hangul	English French Italian German Spanish Japanese Simplified Chinese Traditional Chinese Hangul	Simplified Chinese English French Italian German Spanish Japanese Traditional Chinese Hangul	Traditional Chinese English French Italian German Spanish Japanese Simplified Chinese Hangul	English French Italian German Spanish Japanese Simplified Chinese Traditional Chinese Hangul
Foolscap size	8 x 13	8 x 13	8 x 13	8 x 13	8 x 13	8 x 13	8 x 13	8 x 13
LCT(Built-in) size	A4 LEF	Letter LEF	A4 LEF	A4 LEF	A4 LEF	A4 LEF	A4 LEF	A4 LEF

Marketing area / Setting item		Japan	US	Europe	Others1	Others2	Others3	Others4	Others5
Unit		Metric	Inch	Metric	Metric	Metric	Metric	Metric	Metric
Registered Key Settings (default)	Registered Key 1	User Box	Scan/Fax	Scan/Fax	Scan/Fax	Scan/Fax	Scan/Fax	Scan/Fax	Scan/Fax
	Registered Key 2	Scan/Fax	Copy	Copy	Copy	Copy	Copy	Copy	Copy
	Registered Key 3	Copy	10 keypad	10 keypad	10 keypad	10 keypad	10 keypad	10 keypad	10 keypad
Total counter mode		Mode1	Mode2	Mode2	Mode2	Mode2	Mode2	Mode2	Mode2
Size counter		No count	A3, 11x17	A3, B4, 11x17, 8 1/2x14	A3, B4, 11x17, 8 1/2x14	A3, B4, 11x17, 8 1/2x14	A3, B4, 11x17, 8 1/2x14	A3, B4, 11x17, 8 1/2x14	A3, B4, 11x17, 8 1/2x14
Unit Change		Japan	US	Europe	Europe	Europe	Europe	Europe	Europe

NOTE

- **The language used in the service mode depends on the Language Selection setting, and changes to the language as following table.**

Language Selection	Service Mode
Japanese	**Japanese**
Simplified Chinese	**Simplified Chinese**
Traditional Chinese	**Traditional Chinese**
Hangul	**Hangul**
Language other than listed above	**English**

5.15.2 Tel/Fax Number

(1) Use

- To enter the tel/fax number of the service contact that will appear on the control panel when a malfunction occurs in the machine.
- Upon setup.

(2) Procedure

- Enter the tel/fax number from the 10-key pad. (19 digits)
- Use Interrupt key to enter "-."

5.15.3 Serial Number

(1) Use

- To register the serial numbers of the machine and options.
- To display the serial number of the PH unit.
- The numbers will be printed on the list output.
- To use the serial number as device ID during CS Remote Care communication.
- Upon setup.

NOTE

- **When main power switch was turned ON while the serial No. was not entered, the message to require entering the serial No. will be displayed.**
- **Do not change the serial number registered in the machine. If memory data is lost and entering the serial number is required, enter the original correct serial number.**
  Be careful to enter the correct serial number since characters other than alphanumeric can be also entered. CSRC communication is not available if a wrong serial number is entered.
- **The serial number of "Printer" can be checked through the following: Menu -> [Counter].**

(2) Procedure

- Type the serial numbers.
  Printer, Scanner, ADF, Output Option, Duplex, Vendor, RU, Fax1

NOTE

- **The serial number of a PH unit can only be displayed but not be changed.**

5.15.4 Sleep ON/OFF Choice Setting

(1) Use

- To display the option of "No" for the sleep mode setting screen available from [Administrator Settings] -> [System Settings] -> [Power Supply/Power Save Settings].
- The sleep mode will begin in 48 hours even if it sets it to "OFF."

(2) Default setting

- Prohibit

(3) Setting item

- Permit

- Prohibit

5.15.5 Foolscap Size Setting

(1) Use

- To set the size for foolscap paper.
- Upon setup.

(2) Procedure

- Select the size from among the following six.

(3) Default setting

- 8 x 13

(4) Functions

- $8^1/_2$ x $13^1/_2$
- 220 x 330 mm
- $8^1/_2$ x 13
- $8^1/_4$ x 13
- $8^1/_8$ x $13^1/_4$
- 8 x 13

NOTE

- **"$8^1/_8$ x $13^1/_4$" and "220 x 330 mm" setting are corresponding to paper fed from the manual bypass tray only.**

5.15.6 Original Size Detection

(1) Copy Glass

(a) Use

- To change the size detection table for the document glass.

(b) Default setting

- The default setting varies depending on the marketing area.

(c) Setting item

- Table1
- Table2

  NOTE
  - **Table 2 can be set only when original size sensor 2 is being mounted.**

(2) $8^1/_2$ x 14/Foolscap Size Detection

(a) Use

- To set whether paper of $8^1/_2$ x $13^1/_2$ size is detected as $8^1/_2$ x 14 or foolscap in original glass or DF size detection.

  When Table 1 is selected in Copy Glass, paper of $8^1/_2$ x $13^1/_2$ size is detected as Foolscap despite of the setting of $8^1/_2$ x 14/Foolscap Size Detection.

(b) Default setting

- $8^1/_2$ x 14

(c) Setting item

- $8^1/_2$ x 14
- Foolscap

(3) ADF Size Detection

(a) Use

- To set whether or not to give a priority to the detection of 8K/16K size when DF is used.

(b) Default setting

- K Size

(c) Setting item

- K Size
- B series

5.15.7 Install Date

(1) Use

- To register the date the main body was installed.
- Upon setup.

NOTE

- **When using without setting the install date, the date/month/year at which the total counter reaches more than 100 sheets of paper will be set as an install date automatically.**

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [System 1] -> [Install Date].
3. Touch Clear.
4. Enter the date from the 10-key pad. (Year 4 digit -> Month 2 digit -> date 2 digit)
5. Touch [Entry] to set the date of installation.

5.15.8 Initialization-Clear All Data

(1) Use

- To initialize the setting data.
- For details on items to be cleared, see "I.9. CONTENTS TO BE CLEARED BY RESET FUNCTION."

NOTE

- **When removing or installing the hard disk after registering the data below, be sure to clear the data.**
  Referring data: One-touch registration, user authentication/account track.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [System 1] -> [Initialization] -> [Clear All Data].
3. Press the Start key.
4. When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.
   NOTE
   - **The trouble code "CD272: i-Option activated and additional memory and HDD not installed" is displayed after turned on the main power switch.**
5. Call the Service Mode to the screen.
6. Touch [System 2] -> [HDD] -> [Installed].
7. Exit the Service Mode and then turn off the main power switch and turn it on again more than 10 seconds after.

5.15.9 Initialization-Clear Individual Data

- Clear Individual Data enables you to select and clear multiple items at a time.

(1) Copy Program Data

(a) Use

- To clear data registered as copy program.
- Use this feature to clear all copy program data at a time.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [System 1] -> [Initialization] -> [Copy Program Data].
3. Press the Start key.
4. When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

(2) Address Registration Data

(a) Use

- To clear address registration data.
- Use this feature to initialize address registration data.
- The following are address registration data:
  Group address data, Program key data, One-touch destination data, Mail body data, Subject data, Prefix/suffix data

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [System 1] -> [Initialization] -> [Address Registration Data].
3. Press the Start key.
4. When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

(3) Fax Setting Data

(a) Use

- To clear fax-related settings and parameters.
  However, address-related data is not cleared.
- Use this feature to clear fax-related settings and parameters at a time.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [System 1] -> [Initialization] -> [Fax Setting Data].
3. Press the Start key.
4. When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

(4) All History Data

(a) Use

- To clear history data.
- The following are history data:
  Job history, Journal history, Receive reject history, Destination history, Job secure counter (Internal data for history management)

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [System 1] -> [Initialization] -> [All History Data].
3. Press the Start key.
4. When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

(5) Network Setting Data

(a) Use

- To clear the network-related settings.
- Use this feature to initialize and set network-related settings again when the machine does not work properly upon change of network-related settings.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [System 1] -> [Initialization] -> [Network Setting Data].
3. Press the Start key.
4. When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

(6) Server Cache Data

(a) Use

- To clear user information cached from the external authentication server.
- When [Administrator Settings] -> [User Authentication/Account Track] -> [External Server Settings] -> [Temporarily Save Authentication Info.] is set to "Enable," the corresponding user information is cached each time when authentication by the external server is successful. The information is used when MFP cannot be connected to the external server.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [System 1] -> [Initialization] -> [Server Cache Data].
3. Press the Start key.
4. When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

5.15.10 Initialization-System Error Clear

(1) Use

- To reset the trouble data.
- Use to clear the [Jam], [Trouble], [Error] displays, and other improper displays.
- For details on items to be cleared, see “I.9. CONTENTS TO BE CLEARED BY RESET FUNCTION.”

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [System 1] -> [Initialization] -> [System Error Clear].
3. Press the Start key.
4. When [OK] is displayed, turn off the main power switch and turn it on again more than 10 seconds after.

5.15.11 Problem Unit Isolation Set.

(1) Use

- Individual units and options have a set or unset setting for the problem unit isolation set. function.
- When a problem occurs, this function enables the continuous use of the units that are not affected by separately controlling them and isolating other units that have a problem.
- The machine isolates only units that have a “set” setting.
  NOTE
  - **The malfunction detection mechanism is not applied to units and options that are being isolated.**

- This function can be selected for the following units and options.
  Tray 1, Tray 2, Tray 3, Tray 4, manual, Half-Fold/Tri-Fold Center Stapling, Scanner, ADF, Expansion Function (HDD)
- Though Problem Unit Isolation Set. is not selected, if the specified malfunctions occur on the above listed units or options, an alert screen appears and asks users whether to isolate the units or options where malfunction occurs.
  See the “K.3.4 List of the trouble code” section for the corresponding trouble codes.

(2) Default setting

- Unset

(3) Setting item

- Set
- Unset

NOTE

- **After changing the setting, touch [Apply] and turn the main power switch OFF and ON to make the new setting effective.**

5.15.12 Post card transfer table

(1) Use

- For the use of thick 3 postcards, you can select the transfer table suitable for postcards.
- This setting is used to improve transfer performance to postcards.

Post.	The postcard 2nd image transfer table is used when printing on thick3 postcards.
Thick 3	The normal thick3 2nd image transfer table is used when printing on thick 3 postcards.

(2) Default setting

- Post.

(3) Setting item

- Post.
- Thick 3

5.15.13 Machine State LED Setting

(1) Warning Display

(a) Use

- Configure the display method used when displaying the main unit status with state display LEDs.

NOTE

- **Each of Type1 and Type2 has the following LED display forms.**

Machine State LED Setting		Type1	Type2
Warning Status	Attention • Toner supply door open • Improper toner cartridge placement • Toner Empty	Blinking	Blinking
	Near life Toner Near Empty	Blinking	Unlit
	Malfunction code	Unlit	Unlit
	Problem Unit Isolation	Blinking	Blinking
	Fatal error • Trouble code • Jam • Door opened • Life stop • Toner Empty Stop	Lit	Lit

(b) Default setting

- Type 2

(c) Setting item

- Type 1
- Type 2

(2) Paper Remainder

- Do Not Use

5.15.14 Burn Prevention Settings

(1) Use

- To prompt to prevent a burn injury by displaying a message indicating that the fusing unit is at a high temperature when the right door has to be opened in order to get rid of a paper jam.

(2) Default setting

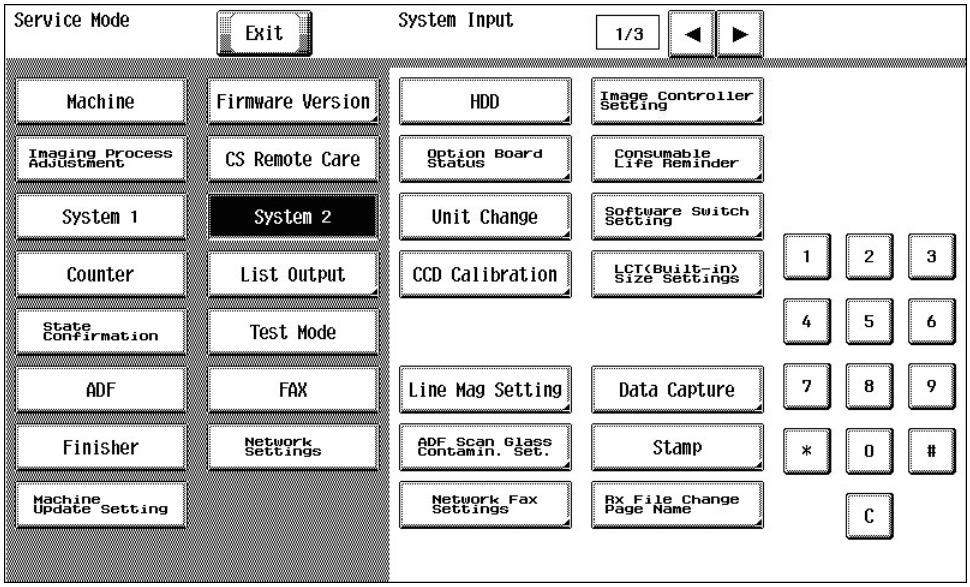
- Enable

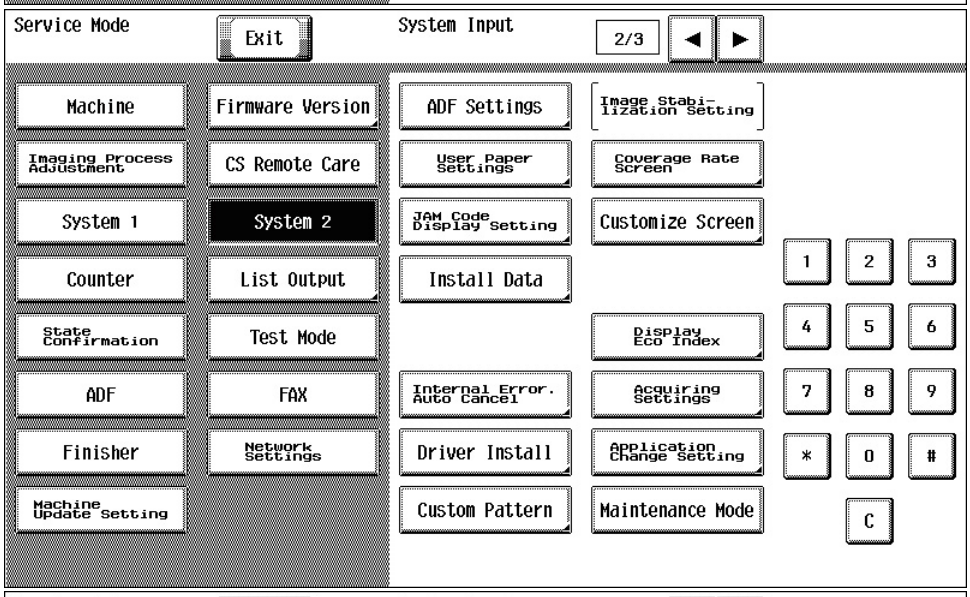
(3) Setting item

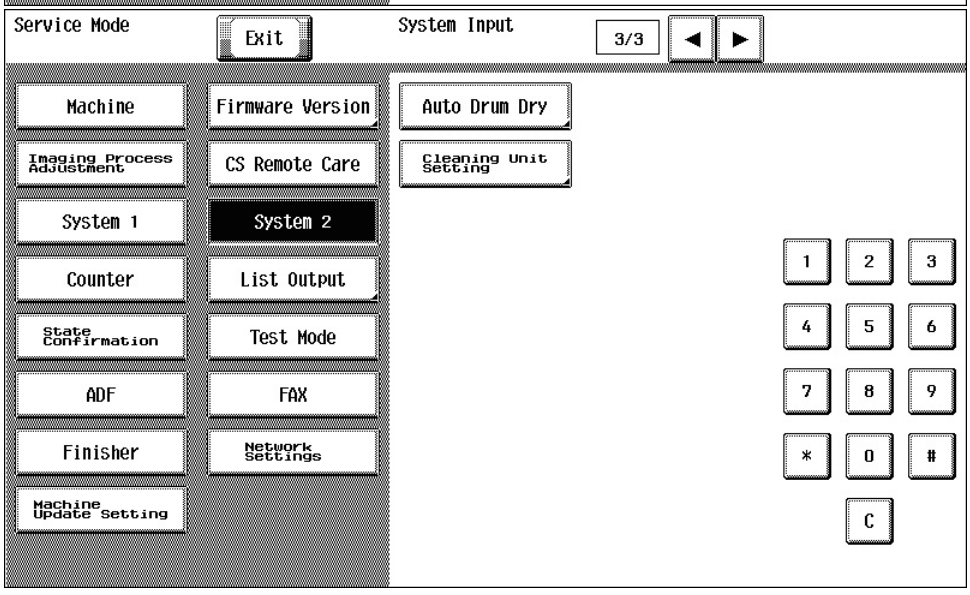
- Enable

- Disable

5.16 System 2







5.16.1 HDD

- Settings do not need to be changed when a hard disk is standard equipment (Always select [Mounted]).
- The default setting is [Unmounted] when hard disks are an optional configuration.
  Select [Mounted] after installing the optional hard disk HD-522.

NOTE
- **For putting the following order [System 1] -> [initialization] into practice, the set becomes [Not Installed], causing an error. Required to set [Installed] again.**

5.16.2 Image Controller Setting

(1) Image Controller Setting

- Setting change is unnecessary. (Select [Controller 0] at any time.)

(2) Peripheral Mode

- Setting change is unnecessary.

5.16.3 Option Board Status

(1) Use

- To use when setting up the optional FAX Kit (FK-513).

(2) Default setting

- Unset

(3) Setting item

FAX (circuit 1)
- Set
- Unset

FAX (circuit 2)
- Not used

FAX (circuit 3)
- Not used

FAX (circuit 4)
- Not used

DSC1
- Not used

DSC2
- Not used

NOTE
- **When the setting has been changed, turn off the main power switch and turn it on again more than 10 seconds after.**

5.16.4 Consumable Life Reminder

(1) Use

- To select whether or not to give the display of PM parts lifetime

PM parts lifetime display	An entire screen warning is given when the service life of a specific unit has been reached, prompting the user to replace the part.

- Applicable units:
  fusing unit, developing unit
- Use to select not to give the display of PM parts lifetime.

Yes	When the service life has been reached, a malfunction code and an entire screen warning appear on the control panel.
No	When the service life has been reached, a malfunction code and a message appear in one line on the upper side of the screen.

(2) Default setting

- No

(3) Setting item

- Yes
- No

5.16.5 Unit Change

(1) Unit Change

(a) Use

- To select who is to replace a unit.
- When the unit life arrives, the warning display is intended for the specific person who is going to replace the unit.
  - When "User" is selected: Printing is inhibited.
  - When "Service" is selected: Life warning.
- Upon setup.

(b) Default setting

Units	Japan	US	Europe
Toner cartridge	User	User	User

Drum unit	Service	User	User
Waste toner box	Service	User	User
Hole-Punch Scrape Box	User	User	User

(c) Setting item

- User
- Service

(2) Warning Display - Toner Near Empty

(a) Use

- To set whether to display a toner near empty warning.
- To be used for setup.

(b) Default setting

- Yes

(c) Setting item

- Yes
- No

(3) Warning Display - Near Empty Display Time

NOTE

- **The Near Empty Display time will be displayed when "Bit Assignment 00000010 / HEX Assignment 02" is set for the Switch No. "151" through the following settings. [SERVICE MODE] -> [System 2] -> [Software Switch Setting].**
- **A mechanism for detecting the residual toner inside the toner bottle is not provided to the toner cartridge. So note that when the toner cartridge is replaced in the midway, the display timing that was set as a reference and the amount of the residual toner inside the toner bottle may get mismatched.**

(a) Use

- To change the timing of toner cartridge near empty detection in order to optimize the timing of the toner cartridge replacement depending on individual use (PV).
- To specify the timing for displaying toner near empty warning at a percentage against 100% of a full toner cartridge state.

(b) Default setting

- 0

(c) Setting range

- 0 to +25 (steps: 1)

(4) Warning Display – Near Life Display Settings

(a) Use

- To set whether or not to display the life warning of individual consumables.
- When [Do Not Display] is selected, a warning is not displayed at the time of life detection.
  However, in CS Remote Care, life warning is always sent to the Center regardless of this setting.
- Applicable consumables are as follows:
  Drum unit, Developing unit, Fusing unit, Ozone filter, Transfer roller unit, Toner filter, Paper dust remover

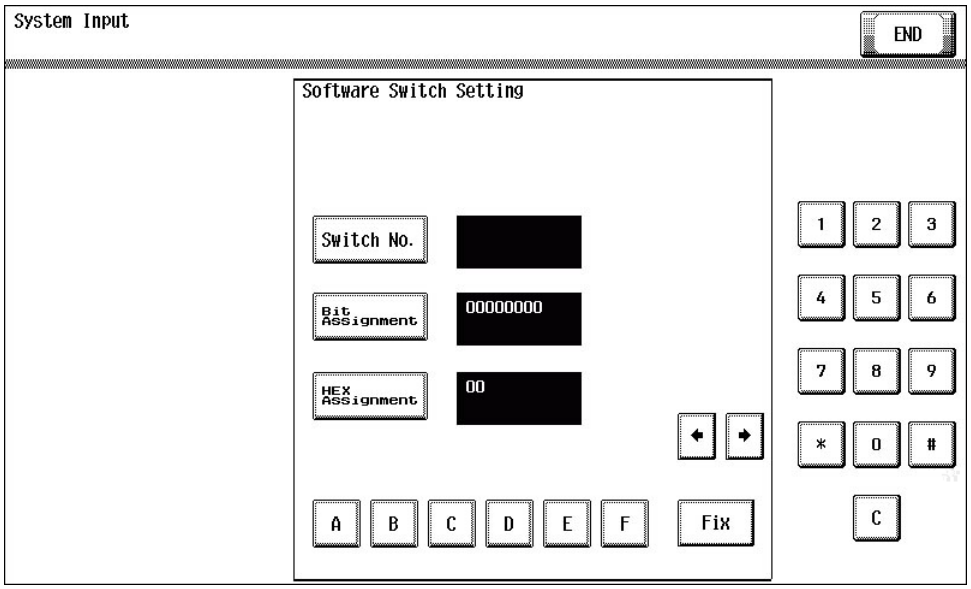
(b) Default setting

- Display

(c) Setting item

- Display
- Do Not Display

5.16.6 Software Switch Setting



(1) Use

- To set the operating characteristic of each function from software switch depending on what types of printing are normally made.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [System 2] > [Software Switch Setting].
3. Touch [Switch No.] and enter the intended switch number with the 10-key pad.
4. Touch [Bit Assignment].
5. Use [<-] or [->] to select a bit. To set the bit, enter 0 or 1 with the 10-key pad.
6. To set the bit in hex, touch [HEX Assignment] and use the 16key pad and [A] to [F] keys to enter numbers and characters.
7. Touch [Fix].

(3) Details of the software switch settings

NOTE

- **For switches not mentioned in the list below, use them in the default value (Bit Assignment: 00000000 / HEX Assignment: 00) unless indicated otherwise.**

Switch No.	Function	Setting value			Default value (Bit/HEX)	Reference
		Bit Assignment	HEX Assignment	Details		
012	Addition of the authentication device	00000000	00	Standard	00000000 / 00	• I.7.3.4 Management Function Choice - Authentication Device 2
		00000010	02	[Card3] choice is added in Service Mode.		
033	Renders some functions, which were available when both administrator authentication and key counter were provided with when using the vendor, available only with administer authentication.	00000000	00	Available with the combination of administer authentication and key counter.	00000000 / 00	-
		00000001	01	Available only with administrator authentication.		
049	The upper limit of copies that can be input through the control panel of this machine is set.	00000000	00	Unlimited	00000000 / 00	-
		00000001	01	1 copy		
		00000010	02	3 copies		
		00000011	03	5 copies		
		00000100	04	9 copies		
		00000101	05	10 copies		
		00000110	06	20 copies		
		00000111	07	30 copies		
		00001000	08	50 copies		
		00001001	09	99 copies		
		00001010	0A	250 copies		

Switch No.	Function	Setting value			Default value (Bit/HEX)	Reference
		Bit Assignment	HEX Assignment	Details		
	Scan setting only when Sort is selected for a copy cycle to be run with originals placed on the original glass.	00000000	00	"Change Setting" and "Finish" keys become available after the document has been scanned.	00000000 / 00	-
		10000000	80	Keys unavailable (copy cycle is started)		
051	Settings for the life warning/ replace display of the units	00000000	00	Normal display	00000000 / 00	• O.5.3.9 Developing unit life detection • O.4.3.8 Drum unit life detection • I.5.17.2.(3) New Release
		00010000	10	Does not show the life warning/replace display of the photo conductor unit.		
		00100000	20	Does not show the life warning/replace display of the developing unit.		
		01000000	40	Does not show the life warning/replace display of the transfer roller unit.		
		10000000	80	Does not show the life warning/replace display of the fusing unit.		
059	Display setting of [Engine FW Dip SW] on the Enhanced Security menu.	00000000	00	Not displayed.	00000000 / 00	• I.6.3.9 Engine FW DipSW
		00000001	01	Displayed		
063	Display setting of [Image Log Transfer Settings] on the control panel.	00000000	00	Not displayed.	00000000 / 00	• I.7.3.8 Setting items that automatically change the setting values
		00000001	01	Displayed (Type 1)		
		00000010	02	Displayed (Type 2: Only applicable to fax communication)		
069	When printing using the manual bypass tray in a custom size, allows for printing only with a printer driver settings.	00000000	00	After setting a paper in the manual bypass tray, touch [complete] key to start printing.	00000000 / 00	-
		00000001	01	Start printing with the paper settings specified by the printer driver as the manual bypass tray paper settings without giving a warning.		
070	Setting for alarm sound and screen display for communication errors occurring due to CSRC causes.	00000000	00	Communication error sound/screen display enabled.	00000000 / 00	-
		00010000	10	Communication error sound/screen display disabled.		
072	Import/export function of the address book through the USB memory	00000000	00	Import/export function is disabled.	00000000 / 00	-
		00000100	04	Import/export function is enabled.		
124	Function to restrict the file type of TX Fax	00000000	00	Restrict the file type.	00000000 / 00	-
		00000001	01	Do not restrict the file type.		
135	Setting for ID length of the HID Prox card	00000000	00	Reports that the 1st byte shows the ID length of the card, the 2nd byte and after shows the card ID.	00000000 / 00	-
		00000001	01	Reports the card ID with the ID length including the 1st byte.		
143	Expansion setting of the touch panel sensitive area when the web browser function is used *1	00000000	00	• 26 dots : 26 dots from the perimeter of the touch panel is a nonsensitive area.	00000000 / 00	• C.1.10 Web browser function

Switch No.	Function	Setting value			Default value (Bit/HEX)	Reference
		Bit Assignment	HEX Assignment	Details		
		00000001	01	• 16 dots : 16 dots from the perimeter of the touch panel is a nonsensitive area.		
		00000010	02	• 9 dots : 9 dots from the perimeter of the touch panel is a nonsensitive area.		
145	Switching to Auto detection for paper size in manual bypass tray	00000000	00	Enable	00000000 / 00	-
		00000001	01	Disable		
	Displaying message when the paper size in manual bypass tray is mismatched with the paper size specified on the control panel	00000000	00	Enable	00000000 / 00	-
		00000100	04	Disable		
	When running a copy cycle with originals placed on the original glass, and [Auto] is displayed in "Group/Sort" of the finishing function, [Auto] will be set as default. ("Sort" and "Offset" will be executed when [Auto] is selected.)	00000000	00	Enable	00000000 / 00	-
		00001000	08	Disable		
	Switch-over settings of Duplex printing and Billing permission Setting for allowing/ prohibiting billing on exited paper when a paper size error occurred at the time of duplex printing	00000000	00	Allow (billing on one side of the paper)	00010000 / 10	-
		00010000	10	Prohibit * Not allowed to change settings		
146	Setting for enabling use of Non-Image Area Erase, Centering, and Original Size when the book original is used in the fax/scanner mode	00000000	00	Prohibits use of Non-Image Area Erase, Centering, and Original Size.	00000000 / 00	-
		00000100	04	Enables use of Non-Image Area Erase, Centering, and Original Size.		
151	Setting for displaying/hiding the Near Empty Display Time	00000000	00	Hide	00000000 / 00	I.5.16.5.(3) Warning Display - Near Empty Display Time
		00000010	02	Display		
152	The E-mail body print settings of E-Mail RX Print	00000000	00	Disables the E-mail body print settings	00000000 / 00	• This function supports the following languages. English, French, Italian, Germany, Spanish
		00000001	01	Allows the E-mail body print settings.		
155	Validation/invalidation of the debug setting of the log.	00000000	00	Debug setting is disabled.	00000000 / 00	• Debug Setting/I.8.2 Starting/ Exiting • Debug Setting/I.8.4.1 Basic mode
		00000001	01	Debug setting is enabled.		
157	Change the upper limit of the time for switching to power save mode.	00000000	00	Do not change the upper limit.	00000000 / 00	-
		00000010	02	Change the upper limit to 240 min.		
192	Set whether to enable the Android and iOS function	00000000	00	Disable	00000001 / 01	-
		00000001	01	Enable		
203	Setting to automatically change log-in authorization to a second user when the second user attempts card authentication after a first	00000000	00	Log-in authorized.	00000000 / 00	-

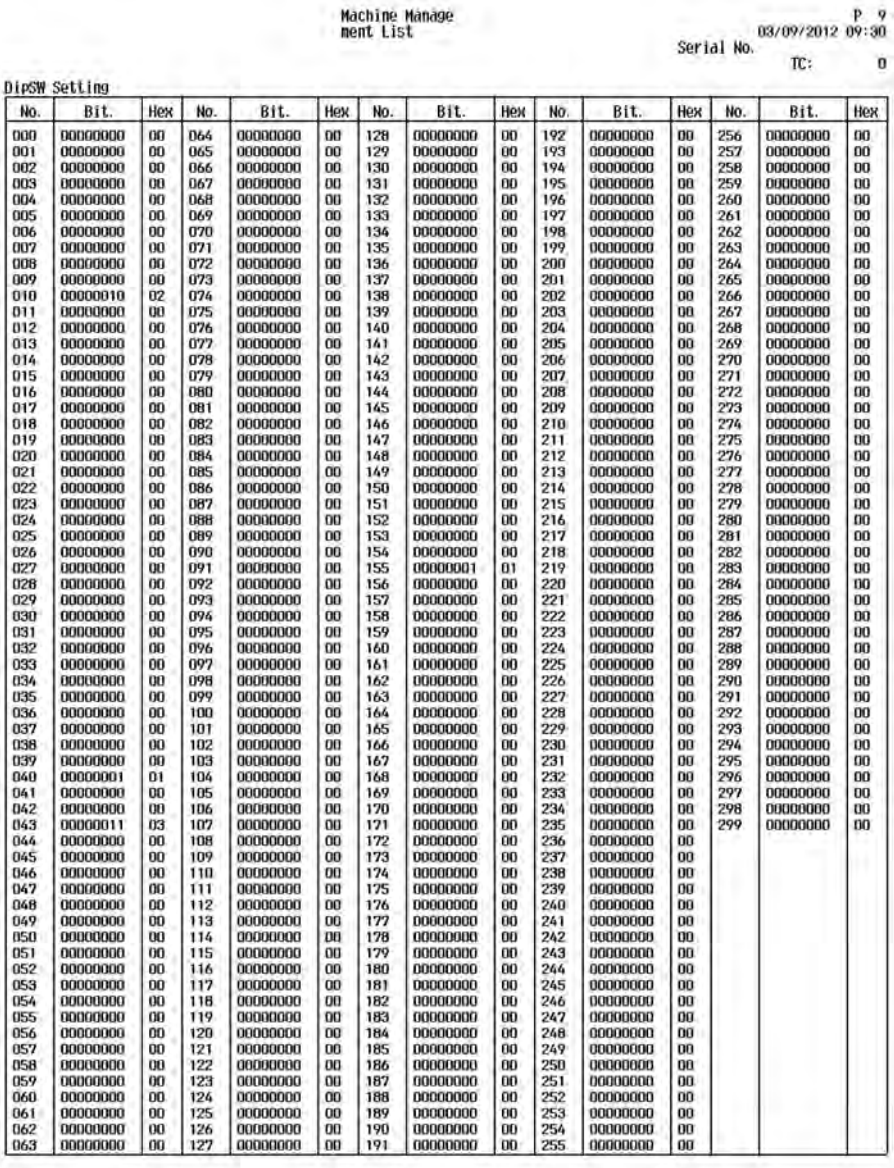
Switch No.	Function	Setting value			Default value (Bit/HEX)	Reference
		Bit Assignment	HEX Assignment	Details		
	user has been authenticated through card authentication.	00000100	04	Log-in not authorized.		
206	Setting whether to enable Coverage Counter	00000000	00	Disable	00000000 / 00	• I.7.3.19 Coverage Counter Setting • I.7.3.20 Print Counter Clear • I.7.3.21 Coverage Counter Detail
		00000001	01	Enable		

- *1: The sensitive area of the control panel can be expanded by selecting “16 dots” or “9 dots” on the software switch No.143. Note that the control panel’s sensitive area expanded in this manner may not detect touches properly.

(4) Software Switch Setting list

- The list of the setting values of Software Switch Setting can be print from [Service Mode] -> [List Output] -> [Machine Management List].

Sample



Machine Manage
ment List

P 9
03/09/2012 09:30
Serial No.
TC: 0

DipSW Setting

No.	Bit.	Hex	No.	Bit.	Hex	No.	Bit.	Hex	No.	Bit.	Hex	No.	Bit.	Hex
000	00000000	00	064	00000000	00	128	00000000	00	192	00000000	00	256	00000000	00
001	00000000	00	065	00000000	00	129	00000000	00	193	00000000	00	257	00000000	00
002	00000000	00	066	00000000	00	130	00000000	00	194	00000000	00	258	00000000	00
003	00000000	00	067	00000000	00	131	00000000	00	195	00000000	00	259	00000000	00
004	00000000	00	068	00000000	00	132	00000000	00	196	00000000	00	260	00000000	00
005	00000000	00	069	00000000	00	133	00000000	00	197	00000000	00	261	00000000	00
006	00000000	00	070	00000000	00	134	00000000	00	198	00000000	00	262	00000000	00
007	00000000	00	071	00000000	00	135	00000000	00	199	00000000	00	263	00000000	00
008	00000000	00	072	00000000	00	136	00000000	00	200	00000000	00	264	00000000	00
009	00000000	00	073	00000000	00	137	00000000	00	201	00000000	00	265	00000000	00
010	00000010	02	074	00000000	00	138	00000000	00	202	00000000	00	266	00000000	00
011	00000000	00	075	00000000	00	139	00000000	00	203	00000000	00	267	00000000	00
012	00000000	00	076	00000000	00	140	00000000	00	204	00000000	00	268	00000000	00
013	00000000	00	077	00000000	00	141	00000000	00	205	00000000	00	269	00000000	00
014	00000000	00	078	00000000	00	142	00000000	00	206	00000000	00	270	00000000	00
015	00000000	00	079	00000000	00	143	00000000	00	207	00000000	00	271	00000000	00
016	00000000	00	080	00000000	00	144	00000000	00	208	00000000	00	272	00000000	00
017	00000000	00	081	00000000	00	145	00000000	00	209	00000000	00	273	00000000	00
018	00000000	00	082	00000000	00	146	00000000	00	210	00000000	00	274	00000000	00
019	00000000	00	083	00000000	00	147	00000000	00	211	00000000	00	275	00000000	00
020	00000000	00	084	00000000	00	148	00000000	00	212	00000000	00	276	00000000	00
021	00000000	00	085	00000000	00	149	00000000	00	213	00000000	00	277	00000000	00
022	00000000	00	086	00000000	00	150	00000000	00	214	00000000	00	278	00000000	00
023	00000000	00	087	00000000	00	151	00000000	00	215	00000000	00	279	00000000	00
024	00000000	00	088	00000000	00	152	00000000	00	216	00000000	00	280	00000000	00
025	00000000	00	089	00000000	00	153	00000000	00	217	00000000	00	281	00000000	00
026	00000000	00	090	00000000	00	154	00000000	00	218	00000000	00	282	00000000	00
027	00000000	00	091	00000000	00	155	00000001	01	219	00000000	00	283	00000000	00
028	00000000	00	092	00000000	00	156	00000000	00	220	00000000	00	284	00000000	00
029	00000000	00	093	00000000	00	157	00000000	00	221	00000000	00	285	00000000	00
030	00000000	00	094	00000000	00	158	00000000	00	222	00000000	00	286	00000000	00
031	00000000	00	095	00000000	00	159	00000000	00	223	00000000	00	287	00000000	00
032	00000000	00	096	00000000	00	160	00000000	00	224	00000000	00	288	00000000	00
033	00000000	00	097	00000000	00	161	00000000	00	225	00000000	00	289	00000000	00
034	00000000	00	098	00000000	00	162	00000000	00	226	00000000	00	290	00000000	00
035	00000000	00	099	00000000	00	163	00000000	00	227	00000000	00	291	00000000	00
036	00000000	00	100	00000000	00	164	00000000	00	228	00000000	00	292	00000000	00
037	00000000	00	101	00000000	00	165	00000000	00	229	00000000	00	293	00000000	00
038	00000000	00	102	00000000	00	166	00000000	00	230	00000000	00	294	00000000	00
039	00000000	00	103	00000000	00	167	00000000	00	231	00000000	00	295	00000000	00
040	00000001	01	104	00000000	00	168	00000000	00	232	00000000	00	296	00000000	00
041	00000000	00	105	00000000	00	169	00000000	00	233	00000000	00	297	00000000	00
042	00000000	00	106	00000000	00	170	00000000	00	234	00000000	00	298	00000000	00
043	00000011	03	107	00000000	00	171	00000000	00	235	00000000	00	299	00000000	00
044	00000000	00	108	00000000	00	172	00000000	00	236	00000000	00			
045	00000000	00	109	00000000	00	173	00000000	00	237	00000000	00			
046	00000000	00	110	00000000	00	174	00000000	00	238	00000000	00			
047	00000000	00	111	00000000	00	175	00000000	00	239	00000000	00			
048	00000000	00	112	00000000	00	176	00000000	00	240	00000000	00			
049	00000000	00	113	00000000	00	177	00000000	00	241	00000000	00			
050	00000000	00	114	00000000	00	178	00000000	00	242	00000000	00			
051	00000000	00	115	00000000	00	179	00000000	00	243	00000000	00			
052	00000000	00	116	00000000	00	180	00000000	00	244	00000000	00			
053	00000000	00	117	00000000	00	181	00000000	00	245	00000000	00			
054	00000000	00	118	00000000	00	182	00000000	00	246	00000000	00			
055	00000000	00	119	00000000	00	183	00000000	00	247	00000000	00			
056	00000000	00	120	00000000	00	184	00000000	00	248	00000000	00			
057	00000000	00	121	00000000	00	185	00000000	00	249	00000000	00			
058	00000000	00	122	00000000	00	186	00000000	00	250	00000000	00			
059	00000000	00	123	00000000	00	187	00000000	00	251	00000000	00			
060	00000000	00	124	00000000	00	188	00000000	00	252	00000000	00			
061	00000000	00	125	00000000	00	189	00000000	00	253	00000000	00			
062	00000000	00	126	00000000	00	190	00000000	00	254	00000000	00			
063	00000000	00	127	00000000	00	191	00000000	00	255	00000000	00			

5.16.7 CCD Calibration

(1) Use

- To set whether to use the calibration adjustment value set prior to the shipping. To display the current calibration adjustment value.
- Turn this setting off after replacing the CCD unit.

After replacing the CCD unit, the default generic value needs to be set since the calibration value set for each unit changes to control the differences in reading performance on each scanner (CCD).
- The original calibration adjustment value can be disabled to address image failure and other problems caused by individual CCD unit performance difference.

(2) Default setting
- ON

(3) Setting item
- ON
- OFF

NOTE
- **When the setting is changed, the function becomes available by turning the main power switch OFF and ON again.**

5.16.8 LCT (Built-in) Size Settings
(1) Use
- To use when the optional paper feed cabinet PC-413 is mounted.

(2) Default setting
- A4

(3) Setting item
- A4
- $8^1/_2$ x 11

5.16.9 Line Mag Setting
(1) Use
- To set whether to use the offset value which has been set prior to the shipping. To display the current magnification offset value.
- Set to "OFF" when the CCD unit has been replaced with a new one.
  After replacing the CCD unit, the default generic value needs to be set since the magnification offset value between the lines set for each unit changes to control the differences in reading performance on each scanner (CCD).
- The original offset value can be disabled to address image failure and other problems caused by individual CCD unit performance difference.

(2) Default setting
- ON

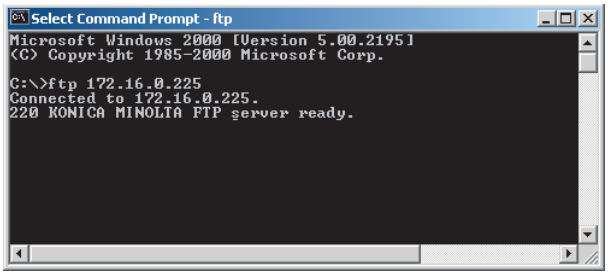
(3) Setting item
- ON
- OFF

NOTE
- **When the setting is changed, the function becomes valid by turning the main power switch OFF and ON again.**

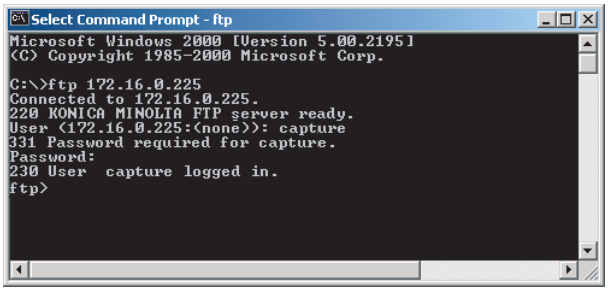
5.16.10 Data Capture
(1) Use
- When an error occurs, it acquires the print job data in order to analyze the cause of the error.
- When an error occurs, this will be used to analyze the cause of the error according to the print job data.

(2) Procedure
NOTE
The following conditions are necessary for this function.
- **[Allow] must be set when selecting [Administrator Settings] [Security Setting] -> [Security Details] -> [Print Data Capture].**
- **The hard disk must be mounted to the machine.**
- **[ON] must be set when selecting [Administrator Settings] -> [Network Settings] -> [FTP Settings] -> [FTP Server Settings].**
- **This function also allows print job data stored in the HDD to be obtained from [Debug Settings] -> [Debug Log Output].**
  For more details, see "I.8.3.1 Debug Log Output".

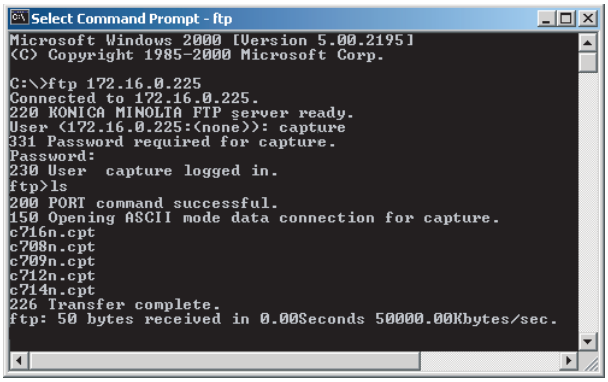
1. Select [Service Mode] -> [System 2], and touch [Data Capture]. Select [ON].
   (While the Data Capture setting is [ON], the print job data from the PC will be stored in the hard disk.)
   NOTE
   - **Maximum 5 print job data can be stored. The data will be overwritten beginning with the chronologically oldest one.**
2. Check the IP address of the machine.
3. Connect the PC (Windows) and the machine with ethernet cable.
4. Start the DOS command prompt of the PC, and specify the IP address of the machine to start FTP.



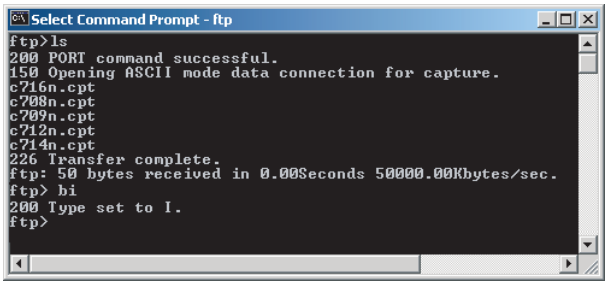
5. Input the user name and the password.
   - User name: capture
   - Password: sysadm



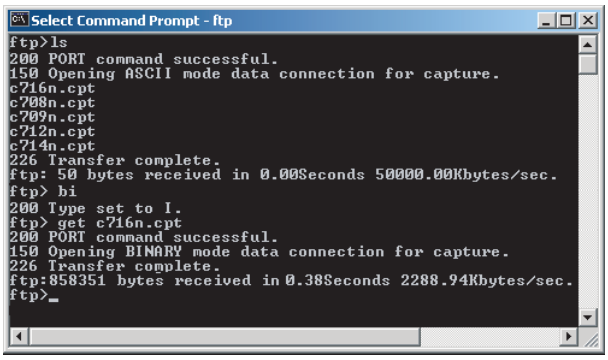
6. Using the “ls” command, display the list of the file available for capture.



7. Using the “binary” command, set the File transfer mode to the binary transfer.



8. Using the “get” command, transfer the data for capture to PC.



9. Finish the command prompt.

NOTE

- **After receiving capture data, select [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Print Data Capture], and select [Restrict] for the print data capture setting in order to delete the job data stored in the hard disk. When HDD Format or Overwrite Temporary Data is performed, job data is deleted.**

5.16.11 ADF Scan Glass Contamin. Set.

(1) ADF Scan Glass Contamin. Sensitivity

- To make each settings for contamination detection.

(a) Use

- To set the pre-detection level of stain on the ADF scan glass.
- Use when changing the setting for whether or not to detect the stain on the DF original glass when opening/closing DF as well as its detection level as the main power switch being ON, recovering from the sleep/low power mode, etc.

Not Set	No detection is made of stain on the ADF scan glass.
Low	Stain on the ADF scan glass will not be readily detected.
Normal	Normal detection level
High	Stain on the ADF scan glass will be readily detected.

NOTE

- **Be aware that selecting "Not Set" and performing the pre-detection with [Service Mode] -> [Machine] -> [ADF Scan Glass Contamination] will display "NG."**
- **When "Not Set" is selected, the original glass cleaning operation after the job ends does not operate.**

(b) Default setting

- Normal

(c) Setting item

- Not Set
- Low
- Normal
- High

(2) ADF Scan Glass Contamin. Warn/Level

(a) Use

- To set the display mode for the warning screen during the detection of stain on the ADF scan glass.
- To change the display mode for the cleaning-prompting warning screen when the line prior detection function detects stain on the ADF scan glass.

0	Warning will not be displayed.
1	Warning will be displayed by the maintenance mark. (Malfunction code: D-1)
2	Warning will be displayed on the message area on the basic screen.
3	Warning will be displayed on all screens.

NOTE

- **This setting is invalid when [ADF Scan Glass Contamin. Sensitivity] is set to "Not Set."**

(b) Default setting

- 1

(c) Setting item

- 0
- 1
- 2

- 3

(3) Feed Cleaning Settings

(a) Use

- To set the ADF scan glass stain cleaning operation during document feeding.
- To change the setting for the ADF scan glass stain cleaning operation during document feeding.

0	The cleaning brush will stop moving when the original is fed, and will not perform cleaning the stain.
1	Perform the ADF scan glass cleaning through cleaning brush rotation effected between two consecutive originals.

(b) Default setting

- 1

(c) Setting item

- 0
- 1

5.16.12 Stamp

(1) Use

- To set the mounting status of the optional stamp unit SP-501.
- To use when setting up the stamp unit SP-501.

(2) Default setting

- Unset

(3) Setting item

- Set
- Unset

5.16.13 Network Fax Settings

(1) Use

- To set whether or not to use network fax function.
- To use network fax function (IP address fax, internet fax).
- Selection will be available when each network fax function is set to "ON" in [Administrator Settings] -> [Network Settings] -> [Network Fax Settings] -> [Network Fax Function Settings].

(2) Default setting

- OFF

(3) Setting item

IP Address Fax
- ON
- OFF

Internet Fax
- ON
- OFF

5.16.14 RX File Change Page Name

(1) Use

- To set whether to change the document file name to forward TX or take out a file from the Memory RX Box.

(2) Default setting

- Do Not Change

(3) Setting item

- Change
- Do Not Change

5.16.15 ADF Settings

(1) Use

- To configure ADF installation settings.

(2) Default setting

- Unset

(3) Setting item

- Unset
- Single-Sided Scan Tx
- Dual Scan Document Feeder (Not used)

5.16.16 User Paper Settings

(1) Use

- To set and register individual user paper that includes a different basic weight, fusing temperature, transfer voltage fine adjustment value.
- User Paper Settings is also available from [Administrator Settings] -> [System Settings] -> [Expert Adjustment] -> [User Paper Settings].
- To register a paper type that is suitable for individual customer's intended use and use environment.
- The following shows user paper registration keys and corresponding paper types.

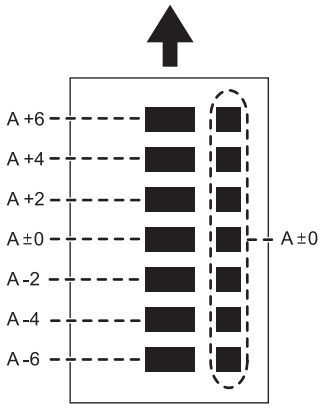
User Paper 1/2	Plain paper
User Paper 3	Thick 1
User Paper 4	Thick paper 1+
User Paper 5	Thick 2
User Paper 6	Thick 3

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [System 2] -> [▶] -> [User Paper Settings].
3. Select the desired key from [User Paper 1] to [User Paper 6] to register user paper.
4. Select [Basic Weight] and enter a value with the [+] / [-] key.
5. Select [600dpi] and enter a fusing temperature with the [+] / [-] key.
   The setting range is -20 °C to +10 °C. (1 step: 5 °C)
6. Select a target item of the [transfer Voltage Fine adj.], and enter a transfer voltage fine adjustment value with the [+] / [-] key.
   The setting rage is -8 to +7. (1 step: 1 increment or decrement)
7. Set paper of A4S/A4 or 8 $^{1}/_{2}$ x 11S/81/2 x 11 on the manual tray.
8. Select [1Side] (only front side) or [Front side] (only back side) and press the Start key.
9. Check the image of the output test pattern.
10. Select the optimal pattern (fine transfer adjustment images) from the seven printed patterns.
11. Use the [+]/[-] keys set the selected image.
    Ex.) If the second pattern from the top is the optimal pattern, set the transfer voltage fine adj. to "+4".

(a) Test Pattern in User Paper Settings

- The printable test pattern for user paper settings is provided to ease determining the most appropriate transfer output value used when customizing user paper.
- This test pattern changes output voltage as shown below based on the standard voltage A (voltage determined by the image auto transfer voltage control) on a sheet of paper.



A:	Target

5.16.17 Coverage Rate Screen

(1) Use

- To set whether or not to display a coverage rate on the sales counter screen and sales counter list.
- Coverage Counter instead of Coverage Rate is displayed when Switch No. 206 is set to [00000001] at Bit assignment/[01] at HEX assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].

(2) Default setting

- Do Not Display

(3) Setting item

- Display
- Do Not Display

5.16.18 JAM Code Display Setting

(1) Use

- To set whether or not to add a jam code to a jam warning display on the control panel when a jam occurs.

(2) Default setting

- Do Not Display

(3) Setting item

- Do Not Display
- Display

5.16.19 Customize Screen

(1) BootUp Screen

(a) Use

- To customize the BootUp Screen displayed upon machine start-up.
- Use this feature when changing the KonicaMinolta logo displayed on the control panel upon start-up to a client company logo or others for client's intended use of the machine.
- Register logo data in the machine's flash ROM via a USB memory device.
  The following are the logo data specifications that should be met.

Image format	PNG format
File extension	*. png
File name	BootupScreen.png
Image size	800 x 480 dots
Color	256 colors (Palette that the machine specifies is used.)

NOTE
- **When making the logo data, use the exclusive image making tool.**
- **If a USB memory is not connected or a nonconforming USB memory is connected, "USB NG" is displayed and logo data cannot be registered.**
- **If the file name of logo data does not conform to the above specifications, "File NG" message is displayed and logo data cannot be registered.**

(b) Procedure

1. Save logo data that conforms to the above specifications in the root directory of a USB memory device.
   NOTE
   - **Be sure to save data in the root directory as the machine cannot detect data saved in other directories.**
2. Connect the USB memory device to the machine USB port.
3. Touch [System 2] -> [▶] -> [Customize Screen] -> [BootUp Screen].
4. Touch [Set].
5. Check result "OK" is displayed and touch [END].
   NOTE
   - **If logo data is already registered, new logo data overwrites the existing logo data.**
   - **The color of logo data may look different between the machine control panel and some PC screens. After registering logo data, restart the machine and check the color of the logo data on the BootUp screen.**

* To delete registered data, touch [Delete] and check result "OK" is displayed.

(2) Machine Image

(a) Use

- To customize the exterior view of the machine displayed on the control panel.
- Use this function to change the exterior view of the machine displayed on the control panel to the exterior view of the customer business office according to the user's need.
- The exterior view data is registered in the SSD by way of a eMMC board.
- Check the version of the installed exterior view data. (When the USB memory is not connected)

(b) Procedure

1. Save the exterior view data in the root directory of the USB memory.
   NOTE
   - **Be careful that the MFP is unable to recognize data saved in any directories other than the root directory.**
2. Connect the USB memory to the USB port of the machine.
3. Touch [System 2] -> [▶] -> [Customize Screen] -> [Machine Image].
4. Touch [Set].
5. Check result "OK" is displayed.
6. Turn OFF and ON the main power switch.
   NOTE
   - **Any exterior view data that has previously been registered will be overwritten by subsequent new data as it is registered.**
   - **To delete registered data, touch [Delete] and make sure that "OK" appears.**

5.16.20 Install Data

(1) Use

- To install voice data, movie data, OCR dictionary data, or PDF/A font into HDD.
- Selection of [OEM] makes customization of driver name, etc. possible by writing the OEM extended character string in the firmware package and downloading it.
- To use when the logical format of the hard disk is performed.

NOTE

- **When there is no HDD mounted, you cannot install movie data, OCR dictionary data, or PDF/A fonts.**
- **When there is no HDD mounted, the still image help data is installed in the eMMC board.**

(2) Procedure

NOTE

- **To use voice guidance, the optional upgrade kit UK-211 and i-Option LK-104 v3 must be activated. The optional local interface kit EK-608 must be mounted.**
- **To use OCR function, the optional upgrade kit UK-211 and i-Option LK-105 v4 must be activated.**
- **To create PDF/A-compliant PDF files where PDF/A font is used, optional upgrade kit UK-211 and i-Option LK-102 v3 must be enabled.**

1. Save data (*.tar) into the root directory of a USB memory device.
2. To install the voice guidance, check if [Administrator Settings] -> [Voice Guidance Settings] -> [Voice Guidance] is set to “Yes”.
3. Connect the USB memory device to the machine USB port.
4. Touch [System 2] -> [▶] -> [Install Data].
5. Touch [Voice Data], [Movie Data], [OCR Dictionary], [PDF/A Font], or [OEM]. (You can select the above five types of data at a time and install them.)
6. Touch [Set].
7. Press the Start key to install the data.
8. Check result “OK” is displayed and touch [END].
   NOTE
   - **If data is already installed, it is necessary to delete old data before installing new one.**

* To delete registered data, select the data to be deleted, and touch [Delete] -> [Fix]. Check result “OK” is displayed.

5.16.21 Display Eco Index

(1) Use

- To set whether or not to display [Power Consumption] and [CO2 Emission] in Menu -> [Counter] -> [Eco Info].
  The amount of power consumption displayed on MFP is an estimated value calculated from the average amount of power consumption and the operating hours of MFP, so that is not an exact power consumption value. Therefore, explain this to users before selecting the option of displaying these items.
- To set an emission coefficient used to calculate the amount of CO2 emission.
  As the CO2 emission coefficient is different depending on the electric power provider with whom the user contracts and the user's MFP use environment, the coefficient needs to be set individually.

(2) Default setting

- Power Savings Display Level: OFF
- Output Coefficient Settings: 0.4166

(3) Procedure

1. Explain to users that [Power Consumption] and [CO2 Emission] displayed on MFP are estimated values, and obtain their consent.
2. Call the Service Mode to the screen.
3. Touch [System 2] -> [▶] -> [Display Eco Index].
4. Select [ON] in [Power Savings Display Level].
5. Depending on the user's MFP use environment, configure [Output Coefficient Settings] using the 10-key pad.
6. Touch [END].

5.16.22 Internal Error. Auto Cancel

(1) Use

- To set whether or not to automatically reset trouble when a trouble code classified as rank B or C occurs.

(2) Default setting

- Rank B: Yes
- Rank C: Yes

(3) Behavior

- When this setting is set to "Yes," MFP operates as follows:

1. When specified trouble occurs, the trouble warning screen displays for about 10 seconds the message that the trouble is automatically reset. Then automatic trouble reset is performed.
2. If the trouble reset is successful, MFP can be used.
   If the trouble reset fails, retry is performed. (The number of retries is up to 2 times.)

5.16.23 Acquiring Settings

(1) Use

- To count frequency of use by each function and collect machine configuration information.

- This setting allows us to understand the trend in the market and the usage of MFP by collecting and counting frequency of use by each function.
- The collected information can be obtained only via CSRC and cannot be displayed on the control panel or printed.
- To send the collected information, [Administrator Settings] -> [System Settings] -> [List/Counter] -> [Fax Activity Summary Information] must be set to “Allow.”

(2) Default setting

- ON

(3) Setting item

- ON
- OFF

5.16.24 Driver Install

(1) Use

- To install/uninstall the loadable device driver.
- Used when the authentication device that needs the loadable device driver (include AU-102 and AU-201S) is attached.

(2) Procedure (Install)

1. Prepare a USB memory where only the loadable device driver is stored in the ROOT directory. (Only one loadable device driver must be stored in the USB memory, and please do not save any other data in the USB memory.)
2. Connect the USB memory to the USB port of the MFP.
3. Call the Service Mode to the screen.
4. Touch [System 2] -> [▶] -> [Driver Install] -> [Install].
5. Touch [Loadable Driver] and touch [Start] to install the data.
6. Check that data is normally installed from the message that appears on the control panel.
7. Turn OFF the main power switch.
8. Remove the USB memory.

(3) Procedure (Uninstall)

1. Call the Service Mode to the screen.
2. Touch [System 2] -> [▶] -> [Driver Install] -> [Uninstall].
3. Select a driver to be uninstalled.
4. Touch [Start] to uninstall the data.
5. Check that data is normally uninstalled from the message that appears on the control panel.
6. Turn OFF and ON the main power switch.

5.16.25 Application Change Setting

(1) Use

- To set whether to allow a change of the settings for the specified application start.

(2) Default setting

- Permit

(3) Setting item

- Permit
- Prohibit
- If “Permit” is set, [Specified Application Start Setting] of the administrator settings can be configured.

5.16.26 Custom Pattern

(1) Use

- To register or delete custom patterns.
- To customize the panel display by allowing MFP to read the setting file (CPD file) that defines whether or not to display the various setting keys that appear on the control panel.
- When making the setting file (CPD file), use the "Panel Customization Tool."

(2) Panel customization tool

(a) System requirement

PC	PC-AT compatible machine
CPU	Conforms to the specifications of the operating system
Memory (RAM)	Conforms to the specifications of the operating system
HDD	100 MB or more free space is required
Display	1280 x 800 pixels or more, 24bit full color
OS	• Windows 7 Professional (SP1 or later)* * 32-bit (x86) and 64-bit (x64) editions of Windows are supported.

(b) Operation procedures

When creating a new display setting file (CPD file):

1. Start up the Panel Customization Tool.
2. Set a name for your customization in [Name]. (1 to 24 characters consisting of one-byte alphanumerics and symbols. Comma cannot be used.)
3. Select a model in [Model].
4. Select a preset pattern or marketing area in [Preset]. (The number of functions displayed in the Function list below decreases in the order of Full > Standard > Basic.)
5. Select whether items should be displayed (ticked) or hidden (unticked) in [Function]. (Make this setting both in the Copy tab and the Scan/Fax tab.)
6. Save the setting file (CPD file) with one-byte alphanumerics and symbols in [Save as…].

When editing an existing setting file (CPD file):

1. Start up the Panel Customization Tool.
2. Select a model in [Model].
3. Select an existing setting file (CPD file) in [File] -> [Open].
4. Select whether items should be displayed (ticked) or hidden (unticked) in [Function].
5. Save the setting file (CPD file) with one-byte alphanumerics and symbols in [Save as…].

(3) Procedure

1. Copy the setting file (CPD file) to the root directory of a USB memory.
2. Connect the USB memory to the USB port of the MFP.
3. Call the Service Mode to the screen.
4. Touch [System 2] -> [▶] -> [Custom Pattern].
5. Select [Custom Pattern 1], [Custom Pattern 2] or [Custom Pattern 3].
6. Touch [Import] and press Start Key to import the data.
7. Select the registered custom pattern in [Administrator Settings] -> [System Settings] -> [Custom Display Settings] -> [Custom Function Pattern Selection].

*To delete registered data, make sure that the custom pattern is not selected in [Administrator Settings] -> [System Settings] -> [Custom Display Settings] -> [Custom Function Pattern Selection], and touch [Delete] -> [Fix] and check that the result "OK" appears.

5.16.27 Maintenance Mode

NOTE

- **To enable the maintenance mode, set [Maintenance Mode Access] in the administrator settings to [Allow]. [Administrator Settings] -> [Security Settings] -> [Maintenance Mode Access]**
- The authentication procedure to log on to Administrator Settings or Service Mode is canceled during setup or setup change to thereby achieve a shorter operating time.
- The following functions are enabled in the Maintenance Mode.
  - A bar appears in the upper row of the control panel.



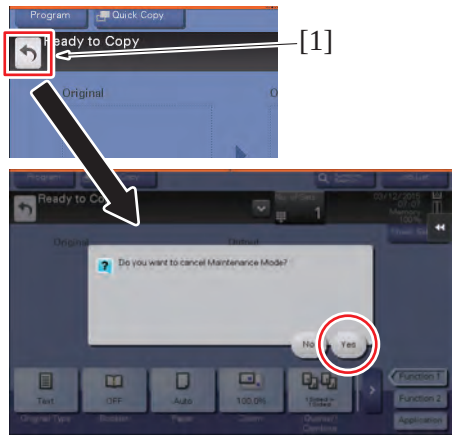
- The Administrator password is skipped (there is no need to enter the password)
- The CE password is skipped. (there is no need to enter the CE password)
- Even if the software switch setting switch number is not set to [72], Import/Export the setting can be displayed.

(1) Setting items

Maintenance Mode	Set whether to enable or disable the Maintenance Mode. The default setting is "Disabled".
Display language	Select the language to be displayed in the Maintenance Mode. When [Not Set] is selected, the displayed language is that valid before the machine enter the Maintenance Mode. The default setting is "Not Set".
Clearing job history upon exit	Set whether to erase the past job history and the job history during the Maintenance Mode. The default setting is "Set".

(2) Exiting the Maintenance Mode

- To exit the Maintenance Mode, select [Service Mode] -> [System 2] -> [Maintenance Mode] and touch [Invalid], or touch the arrow key on the control panel and select [Yes].



[1]	Arrow key	-	-

5.16.28 Auto Drum Dry

(1) Use

- Configures whether or not to use auto drum dry control that rotates the main motor a predetermined amount of time while the MFP main unit starts up after a long period of no activity.
- Use when unevenness in concentration levels occur due to printing after long periods of no activity.

Yes	The drum dry control runs as the initial operation after awaking from a low-power recover or a sleep recovery assuming the main power switch has been on and at least 6 hours have passed since the main motor stopped last.
No	The auto drum dry control does not run.

(2) Default setting

- No

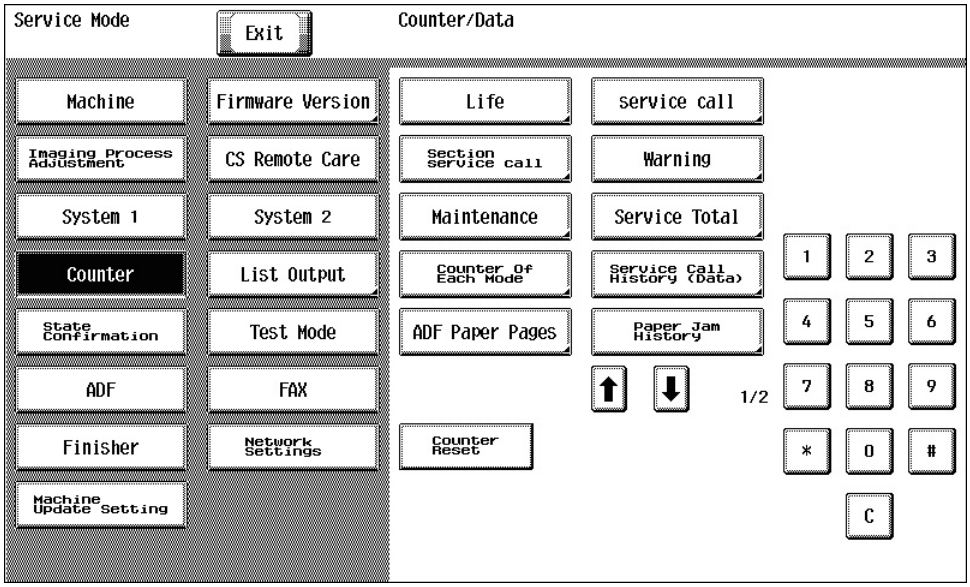
(3) Setting item

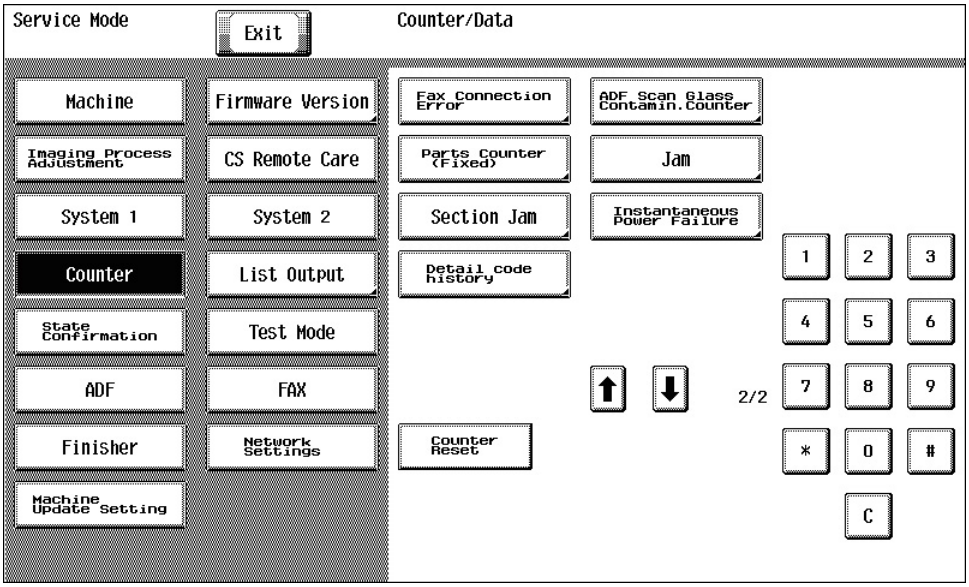
- Yes
- No

5.16.29 Cleaning Unit Setting

- Not used

5.17 Counter





- The counter displays the counts of various counters to allow the technical representative to check or set as necessary.

5.17.1 Common procedure

1. Call the Service Mode to the screen.
2. Touch [Counter] to show the counter menu.
3. Select the specific counter to be displayed.
4. To clear the counts of two or more counters within a group or across different groups at once, touch [Counter Reset], select the specific counters to be cleared, and touch [END]. Two or more counters can be selected. (However, the [Service Call], [Service Total], and [JAM] counters cannot be selected.)

5.17.2 Life

(1) Use

- To check the number of hours or times each of the different maintenance parts has been used.
- To clear the count of each counter.
- To perform New Release in fusing unit and transfer roller unit.
- To check how many times maintenance parts have been used.
- When each of the maintenance parts is replaced.

(2) Procedure

(a) Counter clear

- To clear the count of a counter, select the specific part and touch Clear.
- If a counter is cleared mistakenly, touch Interrupt, which will undo the clearing operation.
- It is not possible to clear the count of the counters for the fusing unit, drum unit, imaging unit and TCR new article detection.
- For the count method of each counter, see the table “Count method of each life counter.”

<Count method of each life counter>

Counter item	Counting method
Fusing Unit Page Count	• Counts how many hours the fusing roller unit has turned. Counts how many hours the fusing roller unit has rotated in 1-minute increments. When the rotation time is less than one minute, the internal counter keeps count, and then this is added once the time reaches one minute.
Transfer Roller Unit	• Counts how many sheets have been ejected. The counter increases by 1 per every 216 mm in the paper feed direction. For paper length less than 216 mm in the paper feed direction, the counter uses 216 mm as the paper length.
Toner Filter	• Counts how many sheets have been ejected. The counter increases by 1 per every 216 mm in the paper feed direction. For paper length less than 216 mm in the paper feed direction, the counter uses 216 mm as the paper length.
Ozone Filter	• Counts how many sheets have been ejected. Paper less than 216 mm in length in the paper feed direction is counted as one, and paper 216 mm or more in length in the paper feed direction is counted as two.
Paper Dust Remover	• Counts how many sheets have been ejected. The counter increases by 1 per every 216 mm in the paper feed direction. For paper length less than 216 mm in the paper feed direction, the counter uses 216 mm as the paper length.
1st.	• Number of sheets of paper fed from tray 1
2nd.	• Number of sheets of paper fed from tray 2
3rd.	• Number of sheets of paper fed from tray 3 (PC-113/PC-213)
4th.	• Number of sheets of paper fed from tray 4 (PC-213)
Manual Tray	• Number of sheets of paper fed from the bypass
Drum Unit (C) Rotation Time	• Not used
Drum Unit (M) Rotation Time	

Counter item	Counting method
Drum Unit (Y) Rotation Time	
Drum Unit (K) Rotation Time	• Counts how many hours PC drum has turned.
Developing Unit (C) Print Count	• Not used
Developing Unit (Y) Print Count	
Developing Unit (M) Print Count	
Developing Unit (K) Print Count	• Counts how many sheets have been printed. The counter increases by 1 per every 216 mm in the paper feed direction and shows the total count. For paper length less than 216 mm in the paper feed direction, the counter uses 216 mm as the paper length.
LCT (Built-in) Parts	• Number of sheets of paper fed from the optional LCT (PC-413).
ADF Feed	• Number of sheets of original fed through the take-up section of the DF
ADF Reverse	• Number of sheets of original fed through the turnover unit of the DF
TCR new article detection (C)	• Not used
TCR new article detection (M)	
TCR new article detection (Y)	
TCR new article detection (K)	• Count the number of the replacement of the developing unit.

(3) New Release

- After replacing a fusing unit or transfer roller unit, perform New Release to clear its life counter.

NOTE

- **When performing a new release of the transfer roller unit, the paper dust remover counter is also reset.**

1. Touch [Counter] -> [Life] -> [New Release].
2. Open the front door.
3. Select a unit where New Release is made.
4. Press the Start key and perform New Release.

(4) New Release Disable mode

- To enable a unit that is used temporarily for troubleshooting to be used again as a new unit in another machine, the New Release Disable mode is provided.
- Applicable units are the following units that have the new unit detection feature.
  drum unit, developing unit
- See the "I.6.3.9 Engine FW DipSW" for the method of enabling the New Release Disable mode.

5.17.3 Service Call

(1) Use

- To count and display how many times trouble has been detected on a trouble type basis.
- Use this feature to check how many times trouble has occurred.

NOTE

- **In the service call counter list, "Reboot" shows how many times abort code (C-FXXX) has occurred.**

5.17.4 Section Service Call

(1) Use

- To count and display how many times trouble has been detected during a certain period, i.e. an interval between service visits, on a trouble type basis.
- Use this feature to check how many times trouble has occurred in a certain period, i.e. an interval between service visits.
- By clearing the counter at the time of visit to your customer, i.e. service visit, you can check how many times trouble has occurred since the previous visit.
  To reset the counter, use [Counter Reset].

NOTE

- **In the zone service call list, "Reboot" shows how many times abort code (C-FXXX) has occurred.**

5.17.5 Warning

(1) Use

- To count and display how many times malfunction code has been detected on a malfunction code type basis.
- To clear of count value.
- To check the number of warning conditions detected according to the warming type.

(2) Procedure

- To clear the count of a counter, select the specific part and touch Clear.
- If a counter is cleared mistakenly, touch Interrupt which will undo the clearing operation.
- When a warning condition occurs, an oil mark appears at the upper right area of the basic screen.
  Touching the oil mark will display the malfunction code screen.

5.17.6 Maintenance

(1) Use

- To set a count value for maintenance of any given part.

- When any given part is replaced.

(2) Procedure

Maint.-Set
- Enter the maintenance counter value from the 10-key pad.

Maint.-Count
- The number of sheets that have been ejected is counted up. (1 sided: 1 count, 2 sided: 2 count)
- Touch Clear will clear the count.
- If a count is cleared mistakenly, touch Interrupt, which will undo the clearing operation.

5.17.7 Service Total

(1) Total

(a) Use

- To display the count value for the service total counter.
- Use to check the total No. of printed pages including the ones printed by the Service Mode.

(b) Procedure

- Service Total: No. of pages printed by user mode and Service Mode.
- Service Total (Duplex): No. of pages printed by user mode and Service Mode in duplex.

(2) Paper Size 1/Paper Size 2

(a) Use

- To display the count value for service total counter of each paper size.
- To check the total number of printed pages including the one at Service Mode according to each paper size.
- The count of Paper Size 1 and Paper Size 2 that contain the following paper sizes is provided respectively.

Paper Size 1	A3, A4, A4S, A5, A6, B4, B5, B5S, B6, Post., 11 x 17, 8 $^1/_2$ x 14, 8 $^1/_2$ x 11, 8$^1/_2$x11S, 7 $^1/_4$ x 10 $^1/_2$, 5 $^1/_2$ x 8 $^1/_2$, 4 x 6, Foolscap, 8K, 16K
Paper Size 2	Banner Paper, Others

5.17.8 Counter of Each Mode

(1) Use

- To display the printed pages in the following specified modes; copy, printer, scanner, and fax. It also displays the count value of using the specified mode.

Copy/Print/Scanner counter	Displays individual counts in copy, printer, and scan mode.
Fax-related counter	Displays individual counts in fax mode.
Counter by finishing option	Displays individual counts on a finishing option basis.
Stabilization counter	Displays individual counts on a basis of the factors that cause image stabilization. The counter helps to understand what causes image stabilization and how to improve image stabilization control.
PJ counter	Job modes of jobs processed by the main unit are classified and labeled using count values 1P/J, 2P/J, ..., 10P/J, 11P/J, and so on. The counter is used to understand how the machine has been used in the field.

5.17.9 Service Call History (Data)

(1) Use

- To display the trouble history in chronological order.

5.17.10 ADF Paper Pages

(1) Use

- To display the No. of sheets and mixed originals fed to the automatic document feeder.

5.17.11 Paper Jam History

(1) Use

- To display the jam history in chronological order.

NOTE
- **[Code] displayed on the screen of JAM history indicates JAM code.**
  For details of JAM code, see "K.1.1 List of the JAM code."

5.17.12 Fax Connection Error

(1) Use

- To display the No. of fax transmission errors occurred.

5.17.13 ADF Scan Glass Contamin. Counter

(1) Use

- To display the average number of detected stain on the ADF scan glass at the pre-detection.

Pre-detection Small Size	Small-sized detected stain divided by the number of times pre-detection is practiced (average number of detected lines) will be displayed.
Cleaning Brush Rotation Count	Total rotation count is displayed by counting 1 per one rotation of cleaning brush.

(2) Procedure

- To clear each counter value, select the items to be cleared, and touch Clear.
- If a count is cleared mistakenly, touch Interrupt, which will undo the clearing operation.

5.17.14 Parts Counter (Fixed)

- It will be displayed only when the optional finisher is mounted.

(1) Use

- When the optional finisher FS-533, FS-534 or FS-534SD is mounted, the parts counter screen displays the relevant parts and their counts.
- When the relevant parts are replaced, their counters need to be reset to update the service history.
- Service history can be maintained from this menu.

NOTE

- **See the table below for the relevant parts and count method.**

(2) Procedure

1. Touch in the order of [Service Mode] -> [Counter] -> [↑] -> [Parts Counter (Fixed)].
2. Check the parts counter or display the relevant part of which counter will be reset.
3. Check the part count.
   To reset the count value, touch the key of the part where the counter is reset. Touch the Clear key.

(3) Fixed parts to be counted

No.	CSRC parameter	Parts name	Parts number	Limit value	Count condition	FS-534 / FS-534SD	FS-533
001	23	FNS Center Staple & Fold Stapler	A10D9293	200,000	1 count for each sheet ejection in both 1 staple and 2 staple mode.	○	-
002	26	FNS 1st Mid Fold Knife Motor	A3ERPP4S	2,000,000	1 count for each sheet ejection in half-fold, saddle stitch, and tri-fold mode	○	-
003	56	FNS 2nd Mid Fold Knife Motor	A3ERPP5R	2,000,000	1 count for each sheet ejection in tri-fold mode	○	-
004	57	FNS FD Alignment Roller	A2YUPPG0/4	1,000,000	1 count for each 1 stack	-	○

5.17.15 Jam

(1) Use

- To count and display how many times jam has been detected on a jam location basis.

5.17.16 Section JAM

- To count and display how many times jam has been detected in a certain period, i.e. an interval between service visits, on a jam location basis.
- Use this feature to check how many times jam has occurred in a certain period, i.e. an interval between service visits.
- By clearing the jam counter at the time of visit to your customer site, i.e. service visit, you can check how many times jam has occurred since the previous visit.
  To reset the counter, use [Counter Reset].

5.17.17 Instantaneous Power Failure

(1) Use

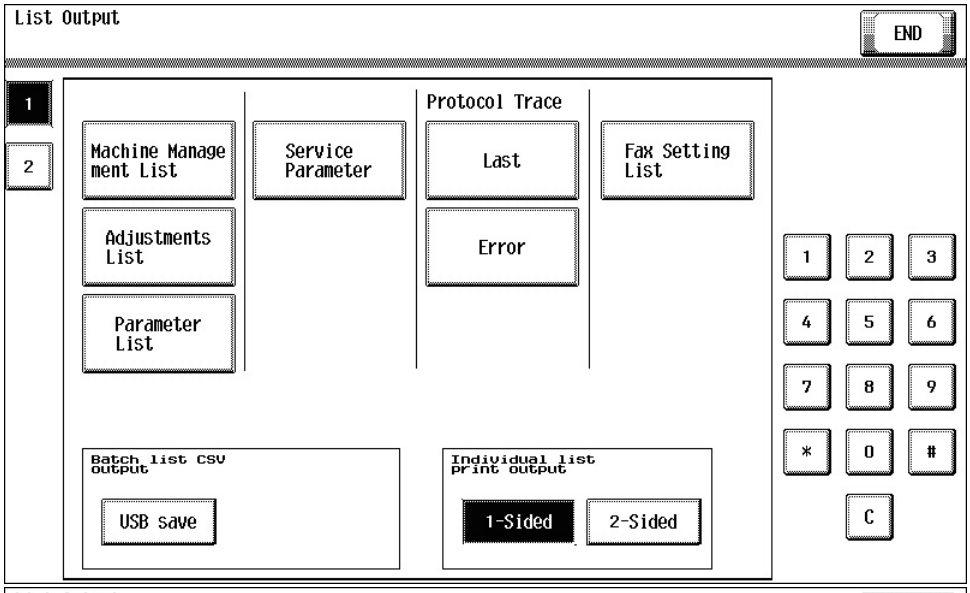
- To display the latest 10 power shutdown events during operation of this machine in time axis.
- To reset the counter, use [Counter Reset].

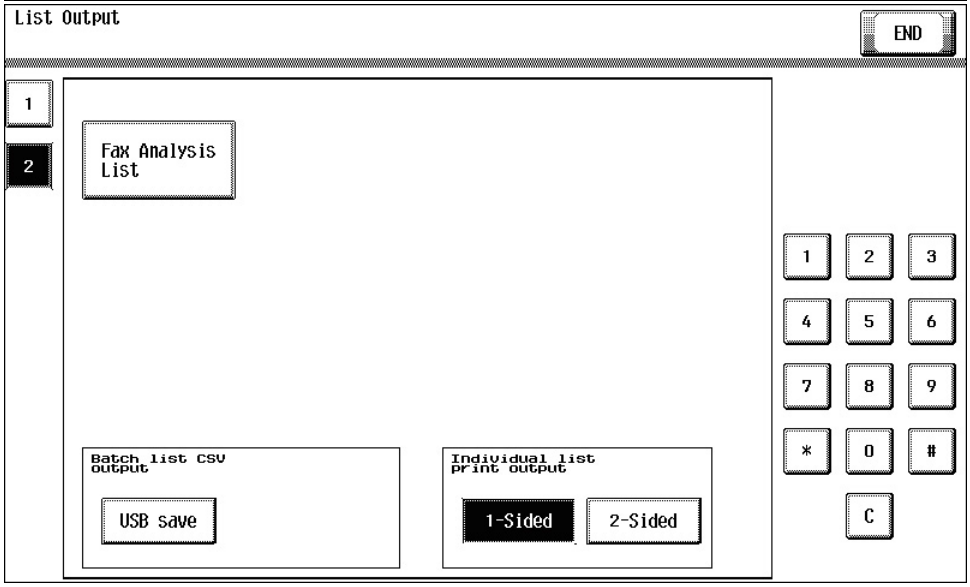
5.17.18 Detail code history

(1) Use

- To display up to 100 detailed codes of the trouble code FA14 (thread soft error) by “Time series order”, “Monthly occurrence” or “Detailed Code Differentiator”.

5.18 List Output





5.18.1 Batch list CSV output

(1) Use

- To save various lists data into a USB memory device all together with the CSV format.
- Compared to output to paper, outputting various lists data to the USB memory device can save time, paper, and toner. With the output data, analyzing the machine statistically becomes easier.
- Lists data to be output are as follows:

Target list	Data symbol
Machine Management List	S1
Adjustments List	S2
Parameter List	S3
Service Parameter	S4
Protocol Trace List	S5
Fax Setting List	S6
Management List	A1
Paper Size/Type Counter	A2
Network Settings List	A3
Configuration Page	U1
PCL Font List	U2
PS Font List	U3
Meter Count	C1

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [List Output].

3. Insert the USB memory device to the USB port (for user).
4. Touch [USB save] displayed in the Batch List CSV Output.
5. Press the Start key.
   Then, List data are transferred to the USB memory device.
6. Confirm that “OK” is displayed as the result of data saving.

<File names of lists data>

- Each list data has its file name in accordance with the following file name rule.
  [2-digit data symbol that corresponds to each list (see the above table)] + [_(underscore)] + [13-digit serial number] + [6-digit date (year, month, and day)] + [2-digit hour] + [2-digit minute].csv

5.18.2 Machine Management List

(1) Use

- To produce an output of a list of setting values, adjustment values, total counter values, and others.
- At the end of setup.
- At occurrence of a malfunction.
- To produce an output of a list of Software Switch Setting.

(2) Procedure

- Load the A4S/A4 or 8 1/2 x 11S/8 1/2 x 11 plain paper to a paper source.
- Press the Start key, which will let the machine produce the list.
- The time-of-day and date will also be printed.

NOTICE

- When performing list output, a detail code history list will be output.
- This [Detail code] is set to analyse the cause of the C-FA14 error or the C-E301 error.
- The refer, to send inquiries to KM, also send the “detail code history list”.

5.18.3 Adjustments List

(1) Use

- To output the adjustment list for machine adjustment, process adjustment, etc. in Service Mode.
- At the end of setup.
- At occurrence of a malfunction.

(2) Procedure

- Load the A4S/A4 or 8 1/2 x 11S/8 1/2 x 11 plain paper to a paper source.
- Press the Start key, which will let the machine produce the list.
- The time-of-day and date will also be printed.

5.18.4 Parameter List

(1) Use

- Output a nonvolatile parameter list.

(2) Procedure

- Load the A4S/A4 or 8 1/2 x 11S/8 1/2 x 11 plain paper to a paper source.
- Press the Start key, which will let the machine produce the list.
- The time-of-day and date will also be printed.

5.18.5 Service Parameter

(1) Use

- Output a FAX Service Mode set value list.

(2) Procedure

- Load the A4S/A4 or 8 1/2 x 11S/8 1/2 x 11 plain paper to a paper source.
- Press the Start key, which will let the machine produce the list.
- The time-of-day and date will also be printed.

5.18.6 Protocol Trace

(1) Use

- Protocol Trace List (Last): The facsimile protocol of the communication which was executed previously is output.
- Protocol Trace List (Error): Output the facsimile procedure for the last error communication.

(2) Procedure

- Load the A4S/A4 or 8 1/2 x 11S/8 1/2 x 11 plain paper to a paper source.
- Press the Start key, which will let the machine produce the list.
- The time-of-day and date will also be printed.

5.18.7 Fax Setting List

(1) Use

- Output a FAX user set value list. (Items vary depending on models.)

(2) Procedure

- Load the A4S/A4 or 8 1/2 x 11S/8 1/2 x 11 plain paper to a paper source.
- Press the Start key, which will let the machine produce the list.
- The time-of-day and date will also be printed.

5.18.8 Fax Analysis List

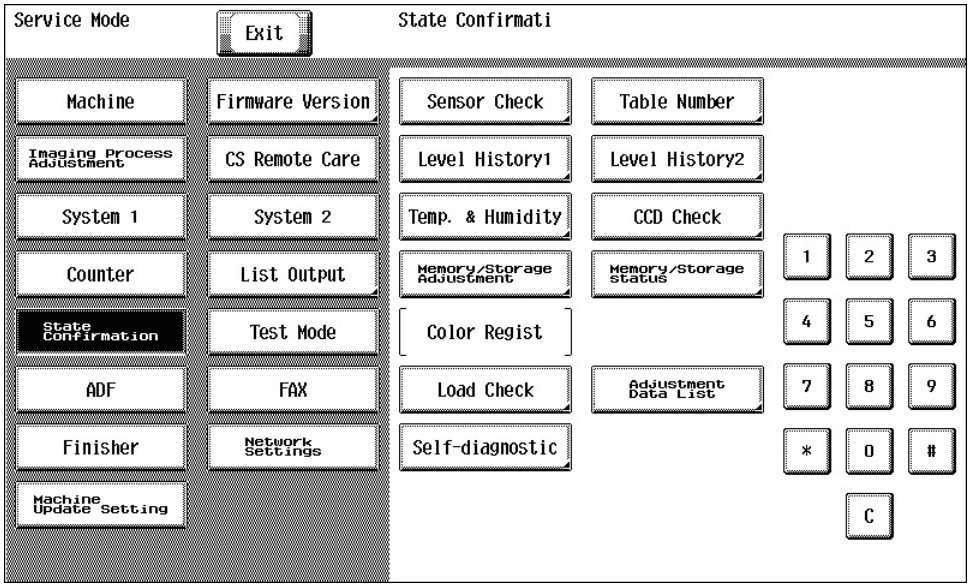
(1) Use

- Following list is output in the Fax Analysis List.
  - Parameter List
  - Machine Management List
  - Protocol Trace List (Error)
  - Fax Setting List
  - Communication Management List
  - Service Parameter List

(2) Procedure

- Load the A4S/A4 or 8 1/2 x 11S/8 1/2 x 11 plain paper to a paper source.
- Press the Start key, which will let the machine produce the list.
- The time-of-day and date will also be printed.

5.19 State Confirmation



5.19.1 Sensor Check

(1) Use

- To display the states of the input ports of sensors and switches when the machine remains stationary.
- Used for troubleshooting when a malfunction or a misfeed occurs.

(2) Procedure

- The operation of each of the switches and sensors can be checked on a real-time basis.
- It can be checked as long as the 5-V power line remains intact even when a door is open.

(a) Electrical components check procedure through input data check

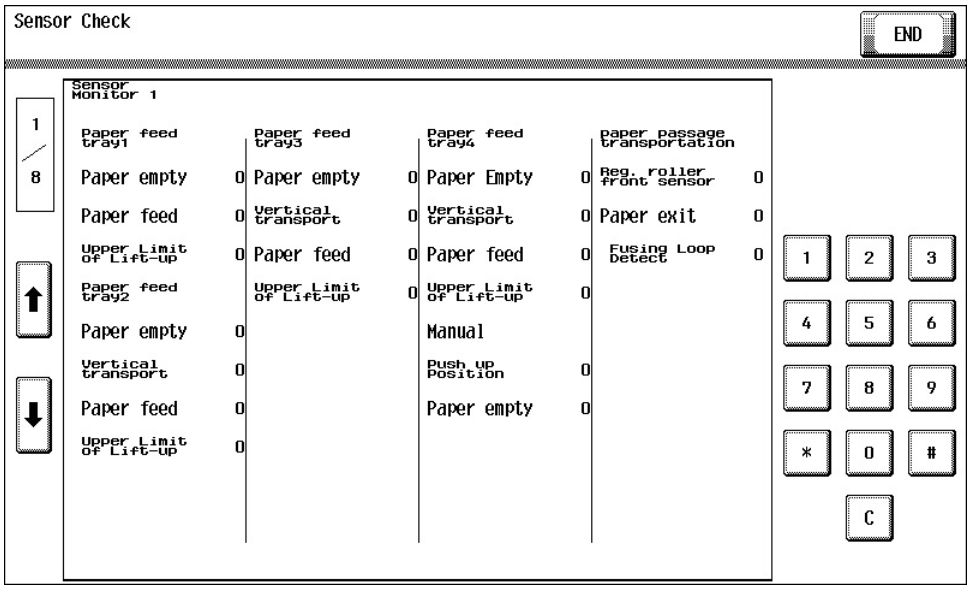
- When a paper misfeed occurs in the paper feed section of the machine, the tray 2 paper feed sensor is considered to be responsible for it.

1. Remove the sheet of paper misfed.
2. From the sensor check list that follows, check the panel display of the tray 2 paper feed sensor.
   For the tray 2 paper feed sensor, you check the data of “Paper feed” of “Tray 2.”
3. Call the Service Mode to the screen.
4. Select [State Confirmation] -> [Sensor Check] and then select the screen that contains “Paper feed” under “Tray 2.”
   For “Paper feed” under “Tray 2,” select “1” on the left-hand side of the screen.
5. Check that the data for “Paper feed” under “Tray 2” is “0” (sensor blocked).
6. Move the actuator to unblock the tray 2 paper feed sensor.
7. Check that the data for “Paper feed” under “Tray 2” changes from “0” to “1” on the screen.
8. If the input data is “0,” change the sensor.

(3) Sensor check screens

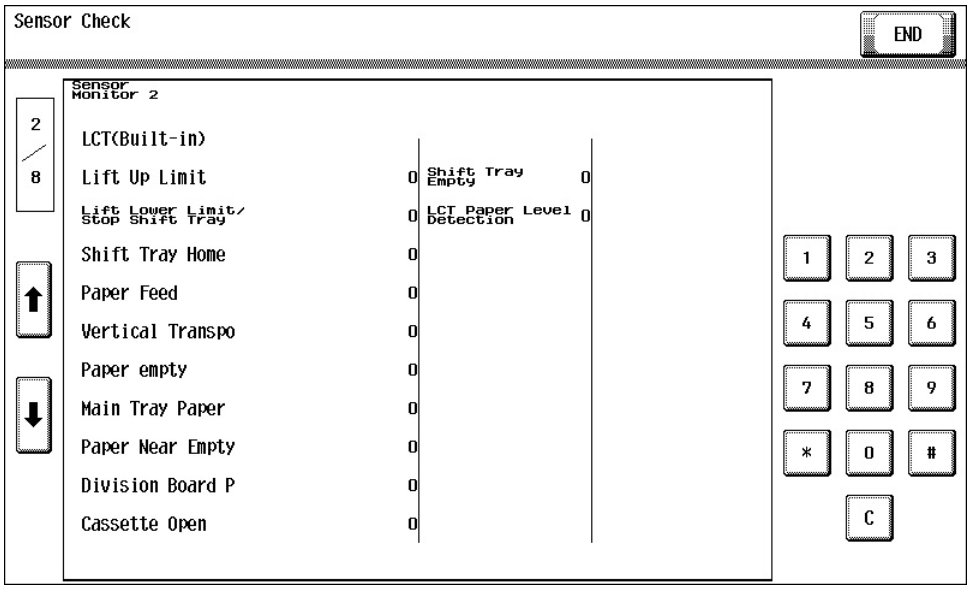
- These are only typical screens which may be different from what are shown on each individual machine.

(a) Sensor monitor 1 (Main body, PC-113/213)



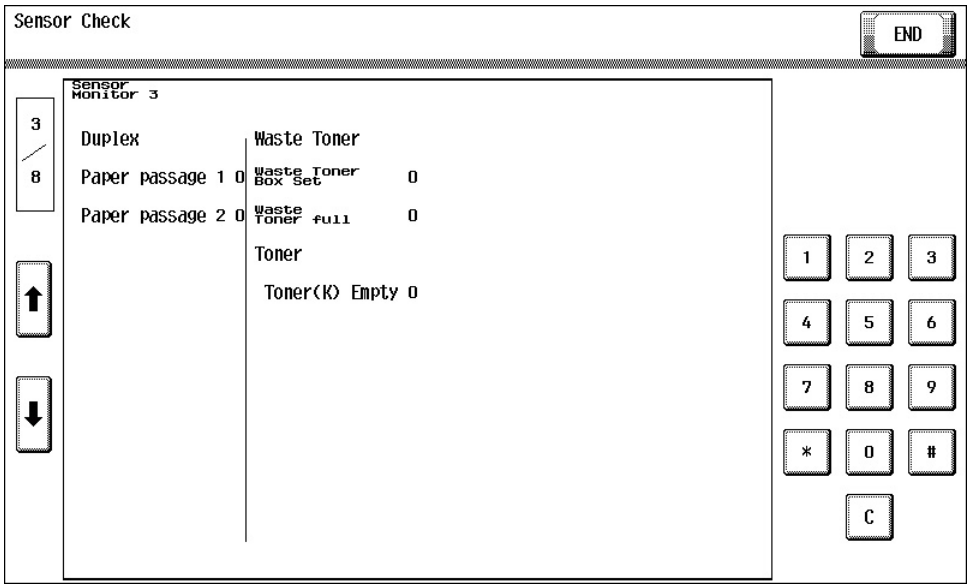
Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
	Paper feed tray 1			
PS23	Paper empty	Tray 1 paper empty sensor	Paper not present	Paper present
PS21	Paper feed	Tray 1 paper feed sensor	Paper present	Paper not present
PS22	Upper Limit of Lift-up	Tray 1 upper limit sensor	At raised position	Not at raised position
	Paper feed tray 2			
PS26	Paper empty	Tray 2 paper empty sensor	Paper not present	Paper present
PS19	Vertical transport	Tray 2 vertical transport sensor	Paper present	Paper not present
PS24	Paper feed	Tray 2 paper feed sensor	Paper present	Paper not present
PS25	Upper Limit of Lift-up	Tray 2 upper limit sensor	At raised position	Not at raised position
	Paper feed tray 3			
PS114	Paper empty	Tray 3 paper empty sensor	Paper not present	Paper present
PS113	Vertical transport	Tray 3 vertical transport sensor	Paper present	Paper not present
PS112	Paper feed	Tray 3 paper feed sensor	Paper present	Paper not present
PS116	Upper Limit of Lift-up	Tray 3 upper limit sensor	At raised position	Not at raised position
	Paper feed tray 4			
PS124	Paper empty	Tray 4 paper empty sensor	Paper not present	Paper present
PS123	Vertical transport	Tray 4 vertical transport sensor	Paper present	Paper not present
PS122	Paper feed	Tray 4 paper feed sensor	Paper present	Paper not present
PS126	Upper Limit of Lift-up	Tray 4 upper limit sensor	At raised position	Not at raised position
	Manual			
PS28	Push up position	Bypass tray position sensor	Paper feed position	Standby position
PS27	Paper empty	Bypass paper empty sensor	Paper not present	Paper present
	Paper passage transportation			
PS1	Reg. roller front sensor	Registration sensor	Paper present	Paper not present
PS3	Paper exit	Paper exit sensor	Paper present	Paper not present
-	Fusing Loop Detect	Not used	-	-

(b) Sensor monitor 2 (PC-413)



Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
	LCT (Built-in)			
PS136	Lift Up Limit	Main tray upper limit sensor	At raised position	Not at raised position
PS138	Lift Lower Limit/Stop Shift Tray	Shifter stop / lower limit position sensor	At lower position	Not at lower position
PS139	Shift Tray Home	Shifter home sensor	At home	Not at home
PS132	Paper Feed	Paper feed sensor	Paper present	Paper not present
PS133	Vertical Transport	Vertical transport sensor	Paper present	Paper not present
PS137	Paper empty	Main tray upper paper empty sensor	Empty	Paper present
PS134	Main Tray Paper Empty	Main tray paper empty sensor	Empty	Paper present
-	Paper Near Empty	Not used	-	-
PS142	Division Board Position	Division board sensor	Set	Unset
PS143	Cassette Open	Cassette set sensor	Open	Close
PS140	Shift Tray Empty	Sub tray paper empty sensor	Empty	Paper present
-	LCT Paper Level Detection	Not used	-	-

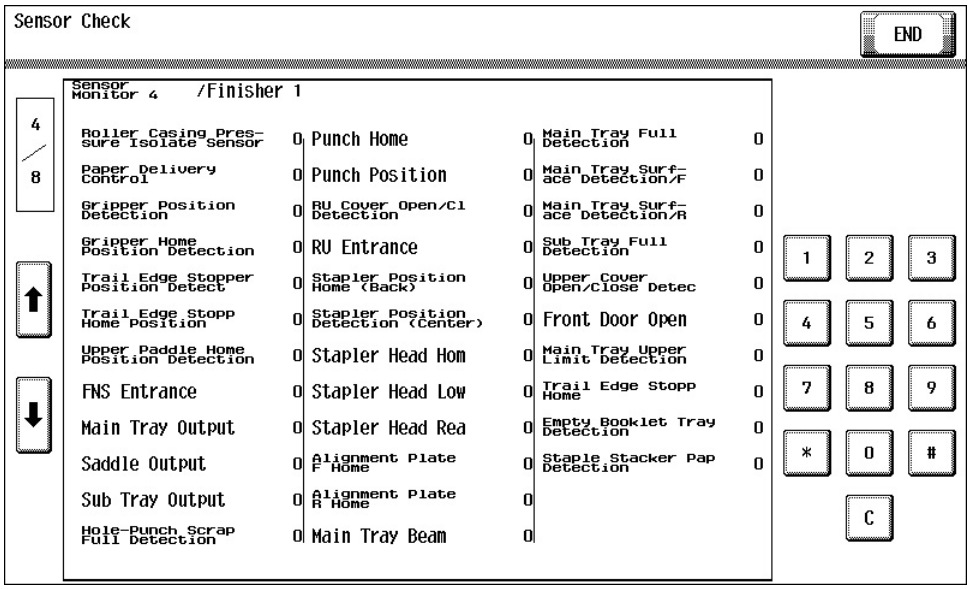
(c) Sensor monitor 3 (Main body)



Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
	Duplex			
PS40	Paper passage 1	ADU paper passage sensor/1	Paper present	Paper not present

Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
PS41	Paper passage 2	ADU paper passage sensor/2	Paper present	Paper not present
	Waste Toner			
PS50	Dispose Toner Box Set	Waste toner box set sensor	Set	Out of position
PS51	Waste Toner full	Waste toner full sensor	Blocked	Unblocked
	Toner			
PS31	Toner (K) Empty	Toner empty sensor/K	Toner not available	Toner available

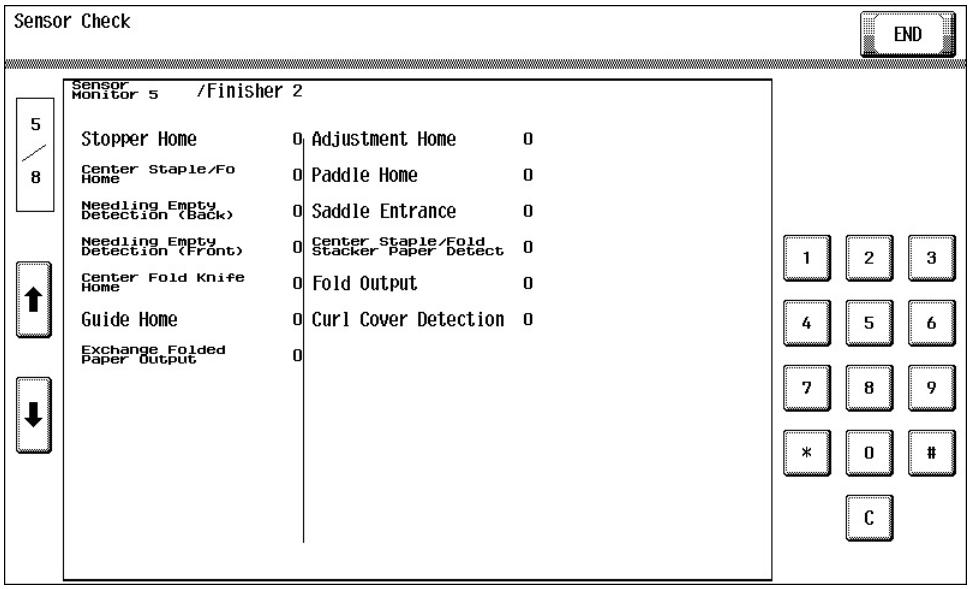
(d) Sensor monitor 4 (FS-534/FS-534SD)



Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
	Finisher 1			
PS11	Roller Casing Pressure Isolate Sensor	Receiving roller retraction sensor	Not released	Released
-	Paper Delivery Control	-	At home	Not at home
PS19	Gripper Position Detection	Gripper position detection sensor	Not at home	At home
PS18	Gripper Home Position Detection	Gripper home position sensor	At home	Not at home
PS22	Trail Edge Stopper Position Detect	Pre-eject away sensor	Not at home	At home
PS20	Trail Edge Stopper Home Position	Trailing edge stopper home position detection sensor	At home	Not at home
PS14	Upper Paddle Home Position Detection	Upper paddle home position detection sensor	At home	Not at home
PS4	FNS Entrance	FNS entrance sensor	Paper present	Paper not present
PS6/PS7	Main Tray Output	Main tray upper sensor	Paper present	Paper not present
PS12	Saddle Output	Fold exit sensor	Paper present	Paper not present
PS8	Sub Tray Output	Sub tray exit sensor	Paper present	Paper not present
PS4/PS5	Hole-Punch Scrap Full Detection	Punch dust full sensor	Full	Other than full
PS1	Punch Home	Punch home sensor	At home	Not at home
PS2	Punch Position	Punch position sensor	At home	Not at home
PS3	RU Cover Open/Close Detection	RU cover open/close detection sensor	Open	Closed
PS2	RU Entrance	RU entrance sensor	Paper present	Paper not present
PS23	Stapler Position Home (Back)	Stapler home position sensor (Rear)	At home	Not at home
PS24	Stapler Position Detection (Center)	Stapler position sensor (Center)	Detected	Not detected
PS9	Stapler Head Home	Center stapler /fold home sensor	At home	Not at home
-	Stapler Head Low	Staple empty detect sensor	Staple present	Staple not present
-	Stapler Head Ready	-	Staple available	Staple unavailable

Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
PS12	Alignment Plate F Home	Alignment plate/F home sensor	At home	Not at home
PS13	Alignment Plate R Home	Alignment plate/R home sensor	At home	Not at home
-	Main Tray Beam	-	Blocked	Unblocked
PS29	Main Tray Full Detection	Main tray full detection sensor	Full	Other than full
PS27	Main Tray Surface Detection/F	Main tray upper position sensor/F	Upper position	Other than upper position
PS26	Main Tray Surface Detection/R	Main tray upper position sensor/R	Upper position	Other than upper position
PS9/PS10	Sub Tray Full Detection	Sub tray full detection sensor	Full	Other than full
PS32	Upper Cover Open/ Close Detection	Upper cover open/close detection sensor	Open	Closed
SW1	Front Door Open	Front door open detect switch	Open	Closed
SW2	Main Tray Upper Limit Detection	Main tray upper position detect switch	At upper limit position	Not at upper limit position
PS6	Trail Edge Stopper Home	Stopper home sensor	At home	Not at home
PS13/PS14	Empty Booklet Tray Detection	Booklet tray empty detection sensor	Paper present	Paper not present
PS31	Staple Stacker Paper Detection	Staple stacker paper detection sensor	Paper present	Paper not present

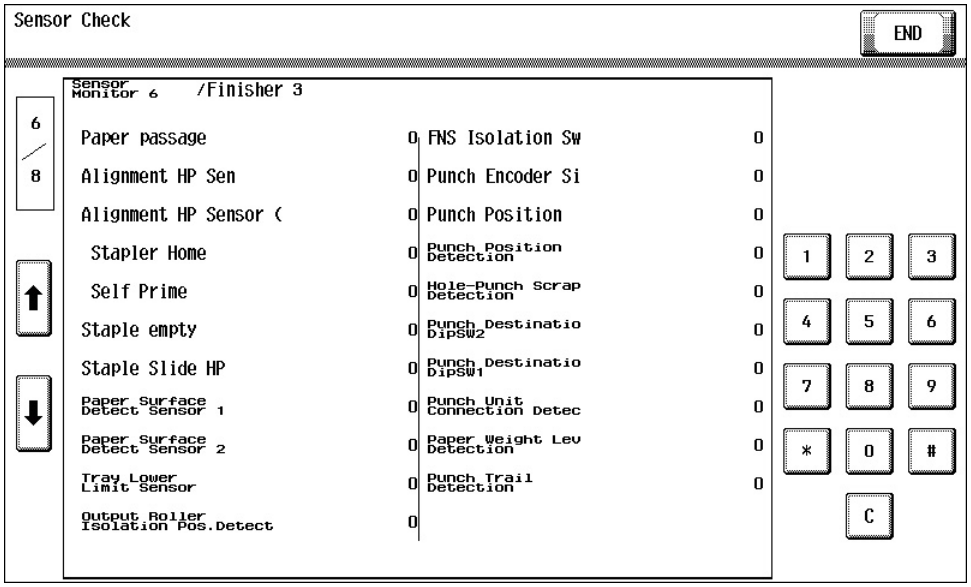
(e) Sensor monitor 5 (FS-534/FS-534SD)



Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
	Finisher 2			
PS20	Stopper Home	Trailing edge stopper home position detection sensor	At home	Not at home
PS9	Center Staple/Fold Home	Center stapler /fold home sensor	At home	Not at home
PS15	Needling Empty Detection (Back)	Staple empty detection sensor (Rear)	Staple not present	Staple present
PS16	Needling Empty Detection (Front)	Staple empty detection sensor (Front)	Staple not present	Staple present
PS8	Center Fold Knife Home	Center fold knife home sensor	At home	Not at home
PS7	Guide Home	Guide home sensor	At home	Not at home
PS30	Exchange Folded Paper Output	Exchange folded paper output sensor	At home	Not at home
PS4	Adjustment Home	Alignment home sensor	At home	Not at home
PS5	Paddle Home	Paddle home sensor	At home	Not at home
PS1	Saddle Entrance	SD entrance sensor	Paper present	Paper not present

Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
PS3	Center Staple/Fold Stacker Paper Detect	Center staple/fold stacker paper detect sensor	Paper present	Paper not present
PS12	Fold Output	Fold exit sensor	Paper present	Paper not present
PS2	Curl Cover Detection	Curl cover detection sensor	Not at home	At home

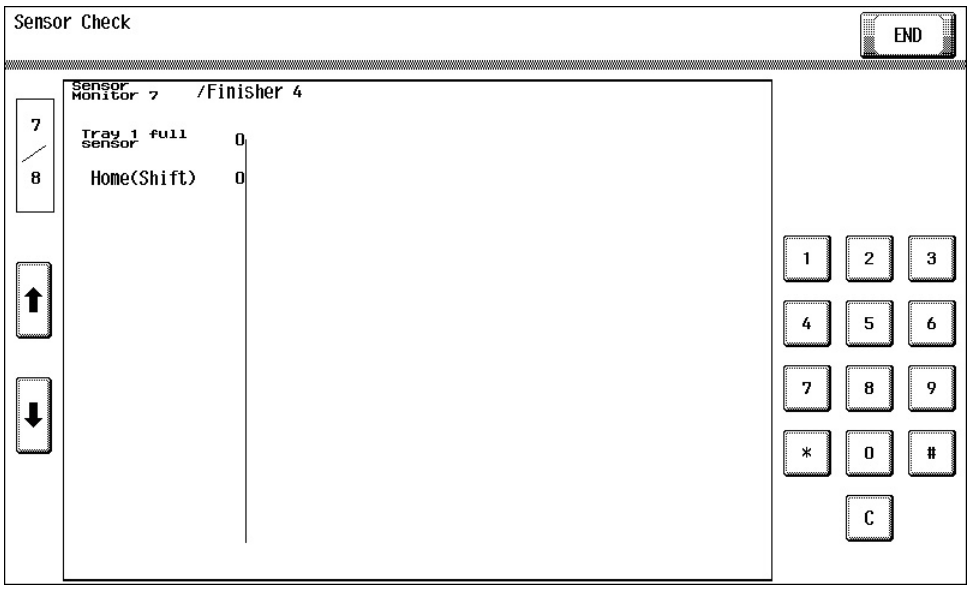
(f) Sensor monitor 6 (FS-533)



Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
	Finisher 3			
PS101	Paper Passage	Paper feed sensor	Paper present	Paper not present
PS108	Alignment HP Sensor (Front)	Alignment plate home sensor/F	At home	Not at home
PS109	Alignment HP Sensor (Rear)	Alignment plate home sensor/R	At home	Not at home
PS110	Stapler Home	Stapler home sensor	At home	Not at home
PS112	Self Prime	Self prime sensor	Staple present	Staple not present
PS113	Staple empty	Staple empty sensor	Staple not present	Staple present
PS111	Staple Slide HP	Stapler home sensor	At home	Not at home
PS102	Paper Surface Detect Sensor 1	Paper surface detect sensor/1	Paper present	Paper not present
PS104	Paper Surface Detect Sensor 2	Paper surface detect sensor/2	Blocked	Unblocked
PS107	Tray Lower Limit Sensor	Paper exit tray home sensor	At lower position	Not at lower position
PS105	Output Roller Isolation Pos. Detect	Pick up roller position sensor	At home	Not at home
SW1	FNS Isolation Switch	Finisher lock switch	Open	Closed
PS202	Punch Encoder Signal	Punch motor sensor	Blocked	Unblocked
PS204	Punch Position	Puncher home sensor	At home	Not at home
PS203	Punch Position Detection	Puncher drive cam sensor	At home	Not at home
PS205	Hole-Punch Scrap Detection	Punch dust full sensor	ON	OFF
-	Punch Destination DipSW2	-	ON	OFF
-	Punch Destination DipSW1	-	ON	OFF
-	Punch Unit Connection Detection	-	Connected	Not connected
PS103	Paper Weight Lever Detection	Paper weight lever sensor	Blocked	Unblocked

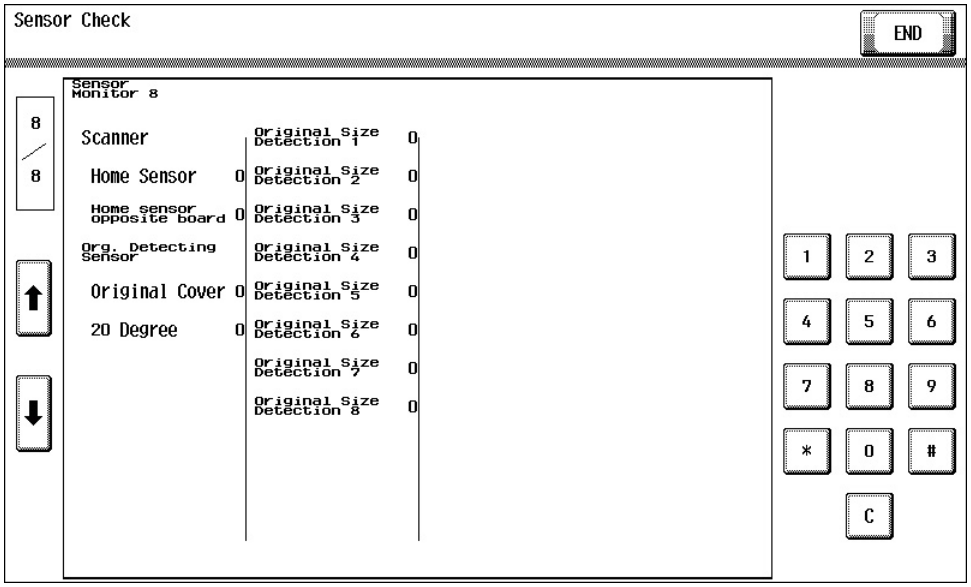
Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
PS201	Punch Trail Detection	Paper feed sensor	Paper present	Paper not present

(g) Sensor monitor 7 (JS-506)



Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
	Finisher 4			
PS2	Tray 1 full sensor	Tray 1 paper feed full sensor	Full	Other than full
PS1	Home (Shift)	Tray shift home sensor	At home	Not at home

(h) Sensor monitor 8 (Main unit)



Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
	Scanner			
PS105	Home Sensor	Scanner home sensor	At home	Out of home
-	Home sensor opposite board	Not used	At home	Out of home
	Org. Detecting Sensor			
RS104	Original Cover	Original cover sensor	Lowered	Raised
PS103	20 Degree	Angle sensor	Less than 13.5 degrees *1	13.5 or more degrees *1
PS101	Original Size Detection 1	Original size sensor/1	Original loaded Not mounted	Original not loaded

Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
PS102	Original Size Detection 2	Original size sensor/2	Original loaded Not mounted	Original not loaded
-	Original Size Detection 3	Not used	-	-
-	Original Size Detection 4	Not used	-	-
-	Original Size Detection 5	Not used	-	-
-	Original Size Detection 6	Not used	-	-
-	Original Size Detection 7	Not used	-	-
-	Original Size Detection 8	Not used	-	-

- *1 When DF-628 is mounted, the machine detects the angle at 13.5 degrees.

5.19.2 Table Number

(1) Use

- Displays the Vg/Vdc output value.
- Reference values: Vdc: around 420 V; Vg: around 490 V
- Used for troubleshooting of image problems.

(2) Procedure

- If the value is high, correct so that the image density becomes low.
- If the value is low, correct so that the image density becomes high.

5.19.3 Level History 1

(1) Use

- Displays the TCR (T/C ratio)/Fusing Temperature/Drum Temperature data.
- Used for troubleshooting of image problems.

(2) Procedure

TCR-K	Shows the T/C output reading taken last.
Fusing roller center temperature	Displays the latest detected temperature of the heating roller thermistor/1.
Fusing roller edge temperature	Displays the latest detected temperature of the heating roller thermistor/2.
Drum temperature	Displays the latest detected temperature of the drum unit PC thermistor.

“Reading taken last” means

- Density of toner of the latest image.
- When a test pattern is produced by pressing the Start key while level history 1 is being displayed.

5.19.4 Level History 2

(1) Use

- Displays the transfer output (ATVC) value.
- Used for troubleshooting of image problems.

(2) Procedure

ATVC	Displays the last transfer ATVC adjustment value. (300 to 4,100 V)

5.19.5 Temp. & Humidity

(1) Use

- Displays the temperature and humidity in the machine.
- Used as reference information when a malfunction occurs.

(2) Procedure

Temp-Inside	0 to 100 °C in 1 °C increments
Humidity	0 to 100 % in 1 % increments
Absolute Humidity	0 to 255 g/m^3 in 1g/m^3 increments

5.19.6 CCD Check

(1) Use

- To display the D/A value of CCD clamp/gain for R, G, and B.

- Used for troubleshooting for the CCD sensor.

(2) Procedure

- Use the following guidelines on the correct range of values.

(a) CCD

- The maximum value and the minimum value of the output value should be within the range shown below.

Acceptable clamping rage	Minimum value	Maximum value
R	600	1500
G	600	1700
B	600	1600

- The maximum value and the minimum value of the output value should be within the range shown below.

Acceptable gain range	Minimum value	Maximum value
R	22	71
G	2	32
B	27	86

5.19.7 Memory/Storage Adjustment

(1) Memory Check

(a) Use

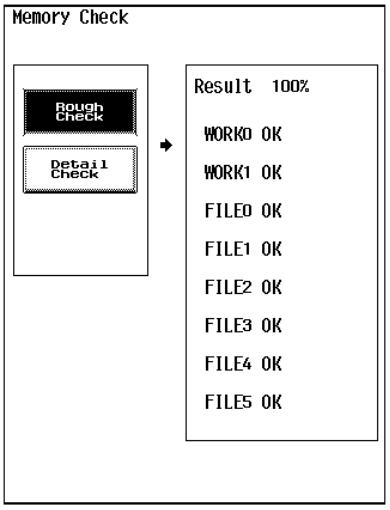
- If the copy image is faulty.
- To check correspondence of data written to and that read from memory through write/read check.
- The following shows the memory names that correspond to each memory where check is made.

WORK0	Standard memory (onboard)
WORK1	Standard memory (DIMM)
FILE0, 1	ASIC777 memory installed in the MFP board
FILE2, 3	Not used
FILE4, 5	Not used

<Rough Check>

- A check is made for each memory to see if the image data reading and writing are correctly made in a very limited area.
- The progress of the check sequence is displayed in percentage. (calculated based on all checks from WORK0 to FILE1 constituting 100%)
- When the rough checks of all memories are completed, results are displayed beside the memory display. (OK/NG)
  Rough check time: approx. 10 sec.

Typical rough check result display: Exemplary display when all memories have been checked okay



<Detail Check>

- A write check and a read check are repeated in all areas for each memory.
  NOTE
  - **For a write check, a specific write value is set and the specific value is written in all areas of the memory and the written data is thereafter read. This sequence is performed for all memories (from WORK0 to FILE1). (which forms one cycle of the check sequence)**
  - **When one cycle of the check sequence is completed, the write value is changed automatically and a new check cycle is performed. This sequence is repeated with the write value changed for each sequence.**
  - **Unlike the rough check, the detail check is not automatically terminated. The check cycle is repeated until the Stop key is pressed.**

- The progress of the check sequence is displayed in percentage. (calculated based on all checks from WORK0 to FILE5 constituting 100%)
  NOTE
  - **The check progress status display is 100% when one cycle of the check sequence is completed.**

- **The check progress status display is automatically reset to 0% and restarted as soon as a new check sequence is started.**

- The detail check of all memories (one cycle) is completed in about 3 min.
- The press of the Stop key will terminate the detail check.
- If a write/read error is detected, NG appears beside the memory display and the check sequence is automatically terminated.

(b) Rough check procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Memory/Storage Adjustment] -> [Memory Check].
3. Touch [Rough Check].
4. Press the Start key to start the check procedure.
   NOTE
   - **The rough check procedure can be interrupted by pressing the Stop key.**
5. The procedure is automatically completed (in about 10 sec.) and the results are shown on the screen.
6. If the check results for WORK0 to 1 are NG, check the memory for connection or replace the memory with a new one.
   If the check results for FILE0 to 1 are NG, replace the MFP board with a new one.

(c) Detail check procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Memory/Storage Adjustment] -> [Memory Bus Check].
3. Touch [Detail Check].
4. Press the Start key to start the detail check procedure.
   The check sequence is started and the current check progress status is displayed in percentage.
5. When the check progress status display is 100% after the start of the check sequence, the first check cycle is completed. (which takes about 3 min.)
   The results are displayed on the screen. (The sequence has been checked okay, if NG does not appear.)
   The current check progress status display is associated with the latest check sequence.
   NOTE
   - **If a write/read error is detected, NG appears beside the memory display and the check cycle is automatically terminated.**
6. Press the Stop key at any timing to terminate the detail check procedure.
7. If the check results for WORK0 to 1 are NG, check the memory for connection or replace the memory with a new one.
   If the check results for FILE0 to 1 are NG, replace the MFP board with a new one.

(2) Compress / Decompression Check

(a) Use

- To check whether compression and decompression are carried out properly.
- If the copy image is faulty.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Memory/Storage Adjustment] -> [Compress/Decompression Check].
3. Press the Start key to start the check procedure.
4. The check result will be displayed.

(3) Memory Bus Check

(a) Use

- To check to see if image data is correctly transferred from scanner to memory, and from memory to printer.
- Bus check between scanner and memory has two steps; the scanner internal check step as internal processing and the check step between scanner and memory. If either of the two steps is NG, NG1 or NG2 is displayed respectively.
- If the copy image is faulty.

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Memory/Storage Adjustment] -> [Memory Bus Check].
3. Select either [Scanner -> Memory], [Memory -> PRT], or both.
4. Pressing the Start key will start the memory bus check and be terminated automatically.
5. The check result will be displayed, [OK] or [NG].

(4) DSC Bus Check

- Not used

(5) Storage R/W Check

(a) Use

- To check to see if the storage is connected properly, and if read/write operation of the storage is correctly performed.
- Used when storage is installed.

NOTE

- **Storage refers to the hard disk when one is mounted or refers to the eMMC board when a hard disk is not mounted.**

(b) Procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Memory/Storage Adjustment] -> [Storage R/W Check].
3. Press the Start key to start the check procedure.
4. When the check procedure is completed, the results are shown on the screen.

(6) Format

(a) Use

<Hard disk is mounted>

- To format the hard disk.
- The function proceeds in the order of physical format to logical format.
- If the hard disk is yet to be formatted, the malfunction code “C-D010” will appear. Ignore this code and continue with the formatting procedure.
- When the hard disk is mounted. (Logical format)
- When the hard disk is to be initialized. (Physical format to logical format)

<Hard disk is not mounted>

NOTE

- **Formatting the eMMC board erases the firmware data, counter, and settings data in the eMMC board.**
- Deletes the data in the eMMC board.

NOTE

- **As formatting deletes movie data, still image data, voice data, OCR dictionary data, PDF/A fonts, OCR fonts, and Unicode fonts you need to reinstall this data as necessary after using this function.**

(b) Procedure (Physical Format)

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Memory/Storage Adjustment] -> [Format].
3. Touch [Physical Format].
4. Press the Start key to start the formatting sequence.
5. The sequence will be automatically terminated as it is completed.
6. Turn off the main power switch and turn it on again more than 10 seconds after.

NOTE

- **If [HDD Encryption Setting] is not set to “ON,” when the physical format is completed and the main power switch is turned OFF/ON, a message that prompts you to set an encrypting word is displayed.**
  If you perform [HDD Encryption Setting], after setting an encrypting word, perform the logical format.

(c) Procedure (Logical Format (only when set up with HDD replacement))

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Memory/Storage Adjustment] -> [Format].
3. Touch [Logical Format].
4. Press the Start key to start the formatting sequence.
5. The sequence will be automatically terminated as it is completed.
6. Turn off the main power switch and turn it on again more than 10 seconds after.

* Formatting the hard disk will erase all data contained in it.

*Data in the eMMC board is deleted when no hard disk is mounted. The following information is not deleted, however.
Firmware area and NV backup area

(7) eMMC -> HDD Data Copy

- Prohibition of use

NOTE

- **The use of this function is prohibited.**
- **Executing this function automatically formats the HDD, erasing all data recorded on the HDD.**

5.19.8 Memory/Storage Status

(1) Use

- To display the condition and amount of the memory and storage.

5.19.9 Color Regist

- Not used

5.19.10 Load Check

(1) Use

- To check each device (electric component) for proper condition by individually activating the load associated with the device.
- To identify faults at the time of troubleshooting.

NOTE

Take note of the following during the load check mode.

- **No malfunction is detected and no count is taken of consumables life and related items.**
- **Two or more devices (motors, clutches, solenoids, and fans) cannot be checked simultaneously.**
- **Detection of proper installation of various types of units and waste toner box does not function. During the check procedure, therefore, make sure that the unit in question is installed correctly or yet to be installed.**

(2) Procedure

1. Call the Service Mode to the screen.

2. Touch [State Confirmation] -> [Load Check].
3. Open the front door or the right door.
4. Touch [Start Load Check].
5. Close the door opened on step3.
6. Referring to the load check list, enter a check code.
7. Referring to the load check list, enter a multi code.
8. Press the Start key.
   When pressing the Start key, the specified load is activated. The Start key blinks in orange.
9. Check the load operation and output of signals.
10. Press the Stop key to stop the check operation and check the result.
    NOTE
    - **Depending on the type of load being activated, after the lapse of the specified time or after the transition to the specified state, the corresponding device automatically stops working.**
    - **When 'NG' is displayed, check the wiring and connectors.**

11. To check another load or signal output, repeat steps 6 to 10.
12. Turn OFF the main power switch and turn it ON again more than 10 seconds after.

NOTE
- **To exit from the load check mode, be sure to turn off and on the main power switch.**
  At the point when you display [Service Mode] -> [State Confirmation] -> [Load Check], MFP enters into load check mode. Regardless of whether load check is actually performed or not, the main power switch must be turned off and on to exit from load check mode.

(3) Load check list

Check code	Multi code	Symbol	Load name	Operation outline	Note
8	1	-	-	Outputs erase LED. <At the time of start> 1. Turns on erase LED/K low light intensity remote. 2. Turns on erase LED/K. <At the time of stop> 1. Turns off erase LED/K low light intensity remote. 2. Turns off erase LED/K.	-
	2	EL/K	Erase LED /K		-
20	1	CL3	Tray1 paper feed clutch	Drives the specified clutch.	-
	2	CL1	Tray2 paper feed clutch		-
	3	CL7	Bypass paper feed clutch		-
21	1	CL2	Tray2 vertical transport clutch	Drives the specified clutch.	-
	2	CL4	Registration clutch		-
23	1	-	Bypass tray lift-up plate elevator motor /down	Drives the transport motor in the specified direction.	The motor stops when the upper limit sensor or lower limit is detected.
	3	SD1	Bypass pick-up solenoid	Turns ON the solenoid.	The solenoid will stop after a lapse of predetermined time.
	4	M12	Tray1 lift-up motor	Starts the lift-up operation.	The motor stops when the upper limit sensor or lower limit is detected.
	5	M13	Tray2 lift-up motor		The motor stops when the upper limit sensor or lower limit is detected.
	6	M113	Tray3 lift-up motor		Only when PC-113 or PC-213 is mounted. The motor stops when the upper limit sensor or lower limit is detected.
	7	M123	Tray4 lift-up motor		Only when PC-213 is mounted. The motor stops when the upper limit sensor or lower limit is detected.
	9	M134	LCT elevator motor moving up		Only when PC-413 is mounted. The motor stops when the upper limit

Check code	Multi code	Symbol	Load name	Operation outline	Note
	10		LCT elevator motor moving down		sensor or lower limit is detected.
	11	M133	Shifter motor move to home position	Starts the shifter operation.	Only when PC-413 is mounted.
	12		Shifter motor shift operation		Only when PC-413 is mounted.
28	7	M131	LCT paper feed motor high speed	Drives the motor at the specified speed.	Only when PC-413 is mounted. The paper lifting plate must not be at upper limit position.
	8		LCT paper feed motor low speed		
	10	M132	LCT vertical transport motor high speed		Only when PC-413 is mounted.
	11		LCT vertical transport motor low speed		
	13	M111	Tray3 paper feed motor high speed		Only when PC-113 or PC-213 is mounted. The paper lifting plate must not be at upper limit position.
	14		Tray3 paper feed motor low speed		
	16	M121	Tray4 paper feed motor high speed		Only when PC-213 is mounted. The paper lifting plate must not be at upper limit position.
	17		Tray4 paper feed motor low speed		
	19	M112	Tray3 vertical transport motor high speed		Only when PC-113 or PC-213 is mounted.
	20		Tray3 vertical transport motor low speed		
	22	M122	Tray4 vertical transport motor high speed		Only when PC-213 is mounted.
	23		Tray4 vertical transport motor low speed		
32	1	M5	Polygon motor high speed	Drives the motor at the specified speed. Drives the power supply cooling fan at the same timing.	-
	2		Polygon motor middle speed		-
40	1	M1	Transport motor high speed	Drives the motor at the specified speed.	-
	2		Transport motor low speed		
41	1	M3	PC motor high speed	Drives the motor at the specified speed.	-
	2		PC motor low speed		
42	2	FM2	Main cooling fan full-speed	Drives the specified fan.	-
	3	FM2	Main cooling fan half-speed		-
	8	FM4	Toner suction fan		-
	9	FM3	Exit cooling fan		-
	11	FM5	Reverse cooling fan		-
43	1	M6	Sub hopper motor	Drives the motor.	-
	2	M10	Toner bottle motor		
60	1	M2	Original feed motor: Speed 1/ normal rotation	Drives the motor at the specified speed. Stop rotating when pressing the Stop key.	Only when DF-628 is mounted.
	2		Original feed motor: Speed 2/ normal rotation		
	3		Original feed motor: Speed 3/ normal rotation		
	4		Original feed motor: Speed 4/ normal rotation		
	5		Original feed motor: Speed 1/ reverse rotation		
	17	M3	Registration motor: Speed 1/ normal rotation	Drives the motor at the specified speed. Stop rotating when pressing the Stop key.	Only when DF-628 is mounted.
	18		Registration motor: Speed 2/ normal rotation		
	19		Registration motor: Speed 3/ normal rotation		

Check code	Multi code	Symbol	Load name	Operation outline	Note
	20		Registration motor: Speed 4/ normal rotation		
	33	M1	Original reading motor: Speed 1/normal rotation	Drives the motor at the specified speed. Stop rotating when pressing the Stop key.	Only when DF-628 is mounted.
	34		Original reading motor: Speed 2/normal rotation		
	35		Original reading motor: Speed 3/normal rotation		
	38		Original reading motor: Speed 1/ reverse rotation		
	39		Original reading motor: Speed 2/ reverse rotation		
	65	M4	Normal rotation	Drives the glass cleaning motor.	Only when DF-628 is mounted.
	66		Reverse rotation		
	67		High-speed sweeping		
	81	M5	Pressure	Pressure/release the reading roll.	Only when DF-628 is mounted.
	82		Release		
	129	SD2	Stamp solenoid	Turns ON the solenoid.	Only when DF-628 is mounted.
	130	SD1	Original exit roller release solenoid	Turns ON the solenoid.	Only when DF-628 is mounted.
83	0	SD3	Gate switch solenoid	Turns ON the solenoid.	The solenoid will stop after a lapse of predetermined time.
84	1	M4	Reverse motor high speed (Normal rotation)	Drives the motor at the specified speed and direction.	-
	2		Reverse motor low speed (Normal rotation)		-
	4		Reverse motor high speed (Reverse rotation)		-
	5		Reverse motor low speed (Reverse rotation)		-
85	1	M5	ADU transport motor high speed	Drives the motor at the specified speed.	-
	2		ADU transport motor low speed		-

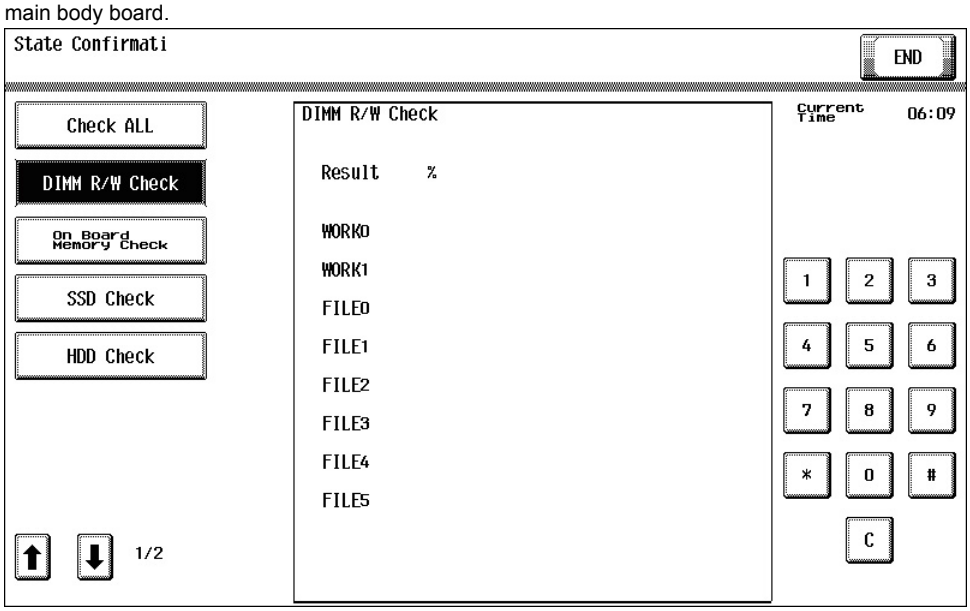
5.19.11 Adjustment Data List

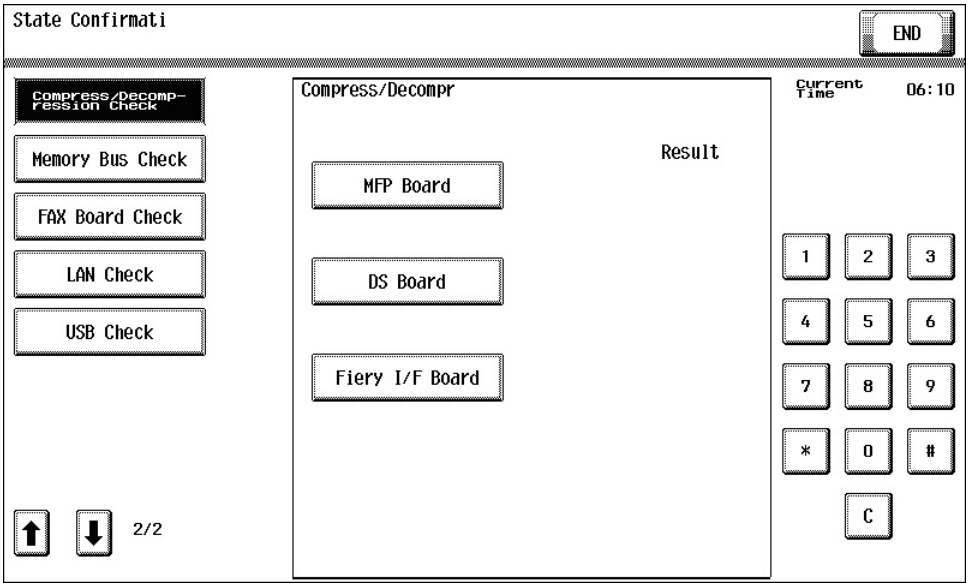
(1) Use

- To display the adjustment and setting value set in the main body.

5.19.12 Self-diagnostic

- Conducts diagnosis for the defective and replaced areas of memory and various boards in main body when a trouble code is output or a trouble such as main body activation failure occurs, and displays a suspected defective part or connection between the specific board and main body board.





(1) Check All

- Diagnoses DIMM R/W, On Board Memory, eMMC board, and HDD collectively, and specifies the cause of trouble.
- The following table shows the check method and countermeasures.

Check mode	Check details	Corruption details	Next Action
DIMM R/W Check	• Execute Read/Write Check for DIMM on the MFP board. • Execute the same check as [Rough Check] under [Memory/Storage Adjustment] -> [Memory Check].	• MFP board DIMM (WORK0: standard memory, WORK1: additional memory) • Corruption of CPU	• Reseat DIMM. • Replace MFP board
On Board Memory Check			
R/W Check	Execute Read/Write Check for On Board Memory on the MFP board.	• Corruption of MFP board non-volatile (SPI-Flash) memory • Corruption of battery	• MFP board
Pattern Check	Execute Read Check for the pattern ready written in the area secured in On Board Memory on the MFP board for Read.	• The pattern data for test cannot be read because the pattern data for test has been rewritten, or a contact failure of the electrical parts occurred. • The correct information cannot be read because the data in the area for Read has been modified due to software failure, or a failure of the electrical parts occurred.	• MFP board
SSD Check Note: The main unit is equipped with the eMMC board, not an SSD board.			
R/W Check	Execute Read/Write for the eMMC board	• Connection failure of the SATAI/F connector of the eMMC board • Corruption of the eMMC device • Corruption of MFP board	• Replace eMMC board • Replace MFP board
Pattern Check*1	Execute Read Check for the pattern ready written in the area secured in the eMMC.	• The pattern data for test cannot be read because the pattern data for test has been rewritten, or a contact failure of the electrical parts occurred. • The correct information cannot be read because the data in the area for Read has been modified due to software failure, or a failure of the electrical parts occurred.	• Replace eMMC board
HDD Check			
R/W Check	Execute Read/Write for HDD.	• HDD cable failure • HDD failure • MFP board failure	• Replace the HDD cable. • Replace HDD. • Replace MFP board
Self-diagnostic (I/F Check)	Check whether the communications between HDD and MFP are normal.	Evaluate OK if there is any response returned from HDD, and NG if there is no response.	Check the HDD cable connection.

Check mode	Check details	Corruption details	Next Action
Self-diagnostic (Memory Check)	Execute the buffer test and the media test. • Buffer test Execute Read/Write Test for the buffer memory of HDD. Transfer the data by DMA to check whether the buffer memory works normally. • Media test Execute Read/Write Test for the disks of HDD. Check whether the disks, motor, and head works normally. Use the reserved area for the test.	Retrieve the test log, and display existence of error.	Replace HDD.
Compress/Decompression Check			
MFP Board	Execute the compression/extension test for the MFP board.	Corruption of the compressed/ extended circuits or memory of MFP.	Replace MFP board
DS Board	Not used	-	-
Fiery I/F Board	Not used	-	-
Memory Bus Check			
Output Image Bus Check	Execute the input image bus test for the MFP board.	Corruption of the input image circuit or image bus of MFP board.	Replace MFP board

NOTE

- **It takes approx. two minutes for check if all items are OK.**
- **When NG is detected, check operation may stop in the item detected NG. (Not allow moving to the following item)**
  When the check operation is stopped five minutes or more in a specific item, certain trouble may occur in the item stopped. In this case, turn the main power switch OFF for stopping the self diagnosis. After that, investigate the items on which the check function is disabled and take countermeasures.
- ***1 When the eMMC board is replaced even once, and the device conducts a self diagnosis, the pattern check may result in error, but this may be ignored.**

(a) Procedure (from SERVICE MODE menu)

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Self-diagnostic] -> [Check All].
3. Press the Start key to start the check procedure.
4. When the check procedure is completed, the results are shown on the screen.
   If the check results are NG, take measures upon confirmation of the corruption details mentioned above and Next action.

* Press the Stop key to interrupt the check sequence.

(b) Procedure (from main power switch ON)

1. Open the front door.
2. Turn the main power switch on while pressing the power key.
   After a short beep sound is made once, release the power key and close the front door.
   Wait to display the self diagnosis (full check) screen.
3. After displaying the self diagnosis screen, press the start key.
   The self diagnosis (full check) is started.
   The result of the diagnosis is displayed for every item. (OK/NG)
4. After finished the diagnosis for all items, turn the main power switch off.
5. If there is an item displayed NG, investigate the NG item and take countermeasures.

(2) DIMM R/W Check

- Execute the following procedure for individual diagnosis. For details, see “I.12.18.12.(1) Check All”.

(a) Procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Self-diagnostic] -> [DIMM R/W Check].
3. Press the Start key to start the check procedure.
4. When the check procedure is completed, the results are shown on the screen.

(3) On Board Memory Check

- Execute the following procedure for individual diagnosis. For details, see “I.12.18.12.(1) Check All”.

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Self-diagnostic] -> [On Board Memory Check].
3. Select the item you would like to check.
4. Press the Start key to start the check procedure.
5. When the check procedure is completed, the results are shown on the screen.

(4) SSD Check

- Execute the following procedure for individual diagnosis. For details, see “I.12.18.12.(1) Check All”.

(a) Procedure

1. Call the Service Mode to the screen.

2. Touch [State Confirmation] -> [Self-diagnostic] -> [SSD Check].
3. Select the item you would like to check.
4. Press the Start key to start the check procedure.
5. When the check procedure is completed, the results are shown on the screen.

(5) HDD Check

- Execute the following procedure for individual diagnosis. For details, see "I.12.18.12.(1) Check All".

(a) Procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Self-diagnostic] -> [HDD Check].
3. Select the item you would like to check.
4. Press the Start key to start the check procedure.
5. When the check procedure is completed, the results are shown on the screen.

(6) Compress/Decompression Check

- Execute the following procedure for individual diagnosis. For details, see "I.12.18.12.(1) Check All".

(a) Procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Self-diagnostic] -> [Compress/Decompression Check].
3. Select the item you would like to check.
4. Press the Start key to start the check procedure.
5. When the check procedure is completed, the results are shown on the screen.

(7) Memory Bus Check

- Execute the following procedure for individual diagnosis. For details, see "I.12.18.12.(1) Check All".

(a) Procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Self-diagnostic] -> [Memory Bus Check].
3. Select the item you would like to check.
4. Press the Start key to start the check procedure.
5. When the check procedure is completed, the results are shown on the screen.

(8) FAX Board Check

- If the FAX board is installed, execute the FAX board test and the data transmission sound test.
- The following table shows the check method and countermeasures.

Check details	Corruption details	Next Action
• Execute the FAX board test. • Execute the data transmission sound test.	• Connection failure of the cables connected to the FAX board • Failure of the FAX board	• Replace the FAX signal cable. • Replace the FAX power supply cable. • Replace the FAX board. • Replace the MFP board.

(a) Procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Self-diagnostic] -> [FAX Board Check].
3. Touch [Line1] and then select [Signal Send Test], [Signal Receive Test], or [NCU Test]. For the details of each item, refer to "Fax Test".
4. Select a test item.
5. Select the parameter you would like to test.
6. Press the Start key to start the check procedure.

(9) LAN check

- Execute the Ping test.

(a) Procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Self-diagnostic] -> [LAN Check].
3. Input IP address of destination with the numeric keypad.
4. Press the Start key to start the check procedure.
5. When the check procedure is completed, the results are shown on the screen.
6. In case of NG result
   - The network set defect -> Make sure the network of the unit.
   - Corruption of the LAN connector of the MFP board -> Replace the MFP board
   - Connection failure of the LAN cable due to breakage of the claw -> Replace the LAN cable.

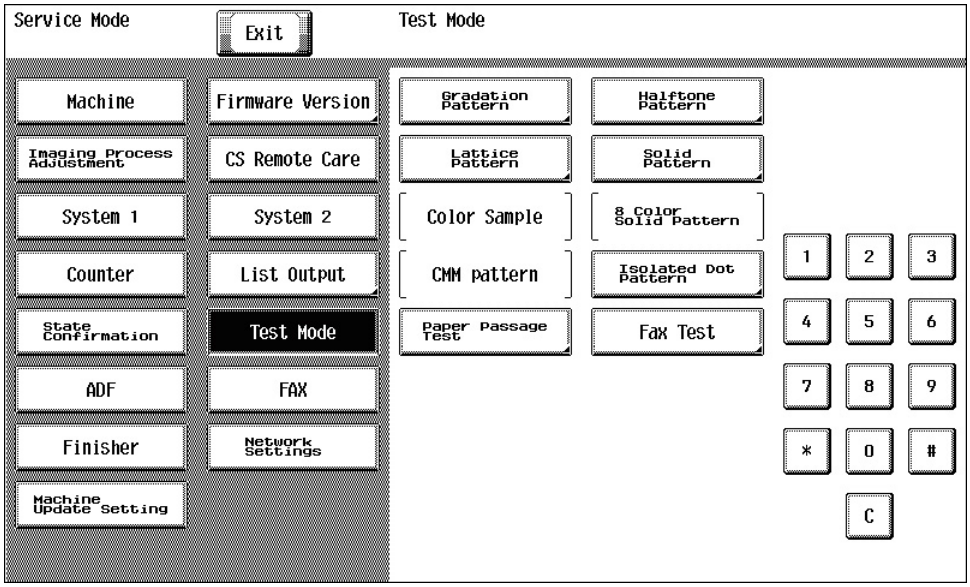
(10) USB check

- Execute the test to check whether the USB board operates normally.

(a) Procedure

1. Call the Service Mode to the screen.
2. Touch [State Confirmation] -> [Self-diagnostic] -> [USB Check].
3. Press the Start key to start the check procedure.
4. When the check procedure is completed, the results are shown on the screen (NG is displayed if no USB device is installed).
5. In case of NG result
   - Connection failure of the USB connector of the MFP board -> Replace the MFP board.
   - Replace each USB device (authentication device, etc.).

5.20 Test Mode



- To check the image on the printer side by letting the machine produce various types of test pattern. It also tests the printing operation in paper passage test, as well as the fax transmission.
- The machine searches through the paper sources in the order of tray 2, tray 3, tray 4, and tray 1 for paper of the maximum size for printing.

5.20.1 Procedure for test pattern output

1. Touch [Test Mode] to display the test mode menu.
2. Touch the desired test pattern key.
3. Set up the desired functions and press the Start key.

5.20.2 Gradation Pattern

(1) Use

- To produce a gradation pattern.
- Used for checking gradation reproducibility.

(a) Test pattern



e.g.
- SINGLE
- HYPER
- Gradation
- Black(1PC)

(2) Procedure

- Copies (“1” to 999)
- Select “SINGLE” (single copy) or MULTI (multi copy).
- Select FEET or “HYPER.”
- Select “1-Sided”, 2-Side1 or 2-Side2.
  - 2-Side1: The same pattern is printed on both front and back sides.
  - 2-Side2: The front side is blank and the pattern is printed on the back side.
- Select “Gradation”, Resolution or Error diffusion if HYPER has been selected.
- Select “12 Gradations”, 24 Gradations or 256 Gradations.

5.20.3 Halftone Pattern

(1) Use

- To produce a solid halftone pattern.
- Used for checking uneven density and pitch noise.

(a) Test pattern



e.g.
- SINGLE
- HYPER
- Gradation
- Black(1PC)
- Density: 255

(2) Procedure

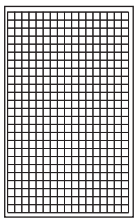
- Copies (“1” to 999)
- Select “SINGLE” (single copy) or MULTI (multi copy).
- Select FEET or “HYPER.”
- Select “Gradation”, Resolution or Error diffusion if HYPER has been selected.
- Select “1-Sided”, 2-Side1 or 2-Side2.
  - 2-Side1: The same pattern is printed on both front and back sides.
  - 2-Side2: The front side is blank and the pattern is printed on the back side.
- Type the density level. (0 to “255”)

5.20.4 Lattice Pattern

(1) Use

- To produce a lattice pattern.
- Used for checking fine line reproducibility and uneven density.
- A reverse pattern is also used to check for fine line reproducibility of white letters on a solid background.

(a) Test pattern



e.g.
- SINGLE
- FEET
- Black(1PC)
- CD Width: 5
- FD Width: 5
- Density: 255
- Normal

(2) Procedure

- Copies (“1” to 999)
- Select “SINGLE” (single copy) or MULTI (multi copy).
- Select “FEET” or HYPER.
- Select “Gradation”, Resolution or Error diffusion if HYPER has been selected.
- Select “1-Sided”, 2-Side1 or 2-Side2.
  - 2-Side1: The same pattern is printed on both front and back sides.
  - 2-Side2: The front side is blank and the pattern is printed on the back side.
- Enter CD width and FD width. (0 to 191 dots)
- Type the density level. (0 to “255”)
- Select “Normal” or Reverse.

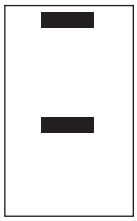
5.20.5 Solid Pattern

(1) Use

- To produce a solid pattern.

- Used for checking reproducibility of image density.

(a) Test pattern



e.g.
- SINGLE
- HYPER
- Gradation
- Density: 255

(2) Procedure

- Copies (“1” to 999)
- Select “SINGLE” (single copy) or MULTI (multi copy).
- Select FEET or “HYPER.”
- Select “Gradation”, Resolution or Error diffusion if HYPER has been selected.
- Type the density level. (0 to “255”)

5.20.6 Color Sample

- Not used

5.20.7 8 Color Solid Pattern

- Not used

5.20.8 CMM pattern

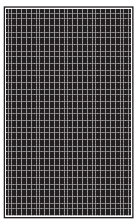
- Not used

5.20.9 Isolated Dot Pattern

(1) Use

- Outputs the isolated dot test pattern.

(a) Test pattern



e.g.
- SINGLE
- HYPER
- Gradation
- Pattern 1
- Dot: 10
- Density: 255

(2) Procedure

- Copies (“1” to 999)
- Select “SINGLE” (single copy) or MULTI (multi copy).
- Select “FEET” or HYPER.
- Select “Gradation”, Resolution or Error diffusion if HYPER has been selected.
- Select “1-Sided”, 2-Side1 or 2-Side2.
  - 2-Side1: The same pattern is printed on both front and back sides.
  - 2-Side2: The front side is blank and the pattern is printed on the back side.
- Select “Pattern 1”, Pattern 2.
  - Pattern 1: Outputs isolated dots over the entire surface
  - Pattern 2: Isolate dot pattern at predetermined intervals
- Inputs dots. (“1” to 10)
- Type the density level. (0 to “255”)

5.20.10 Paper Passage Test

(1) Use

- To test the printing operation in paper passage test.
- Use to check the printing operation in paper passage test from each paper source.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [Test Mode] -> [Paper Passage Test].
3. Select either [Yes] or [No] for the pattern print option.
4. Touch [Select Tray] and select the paper feed tray to be tested.
5. Touch [Paper Type] and select a paper type.
6. Press the Start key to start the paper passage test.
7. Pressing the Stop key will stop operation.

5.20.11 Fax Test-Signal Send Test

- It will be displayed only when the optional FAX kit FK-513 is mounted.

(1) Use

- Image information signals, control signals and DTMF can be individually output.
- Signal sounds are monitored by the monitor speaker.

(2) Procedure

1. Select [Service Mode] -> [Test Mode] -> [FAX Test] -> [Fax Line Test] -> [Line 1] -> [Signal Receive Test].
2. Select a test item.
3. Select the parameter you would like to test.
4. Press the [Start] key. (In order to move to another test, select the next test item after pressing the [Stop] key.)

NOTICE

- Signal is output from pressing [Start] to pressing [Stop].
- For making a check, make sure that "ON" is set for [Administrator Settings] -> [Fax Settings] -> [Line Parameter Setting] -> [Line Monitor Sound].

(a) V34 Main CH: Default setting

- 33600

(b) V34 Main CH: Setting range

- 2400 to 33600 (step: 2400)

(c) V8

- CM

(d) V17: Default setting

- 14400bps

(e) V17: Setting item

- 14400bps
- 12000bps
- 9600bps
- 7200bps

(f) V29: Default setting

- 9600bps

(g) V29: Setting item

- 9600bps
- 7200bps

(h) V27ter: Default setting

- 4800bps

(i) V27ter: Setting item

- 4800bps
- 2400bps

(j) V21

- No parameters

(k) PB: Default setting
- 0

(l) PB: Setting item
- 0 to 9, *, #, A, B, C, D

(m) DP: Default setting
- 0

(n) DP: Setting range
- 0 to 9

(o) Special Tone: Default setting
- 1100Hz

(p) Special Tone: Setting item
- 1100Hz
- 1300Hz
- 1650Hz
- 2100Hz

(q) Optional Tone: Default setting
- 200Hz

(r) Optional Tone: Setting range
- 200 to 4000Hz (step: 100Hz)

(s) PB Tone (High): Default setting
- 1209Hz

(t) PB Tone (High): Setting item
- 1209Hz
- 1336Hz
- 1477Hz
- 1633Hz

(u) PB Tone (Low): Default setting
- 697Hz

(v) PB Tone (Low): Setting item
- 697Hz
- 770Hz
- 852Hz
- 941Hz

(w) Pseudo Ring
- No parameters

5.20.12 Fax Test-Signal Receive Test
- It will be displayed only when the optional FAX kit FK-513 is mounted.

(1) Use
- Check a signaling tone by connecting the machine to the line to output a test signal of the fax board.
- Signal sounds are monitored by the monitor speaker.

(2) Procedure
1. Select [Service Mode] -> [Test Mode] -> [FAX Test] -> [Fax Line Test] -> [Line 1] -> [Signal Receive Test].
2. Select a test item.
3. Select the parameter you would like to test.
4. Press the [Start] key. (In order to move to another test, select the next test item after pressing the [Stop] key.)

NOTICE
- Signal is output from pressing [Start] to pressing [Stop].
- For making a check, make sure that "ON" is set for [Administrator Settings] -> [Fax Settings] -> [Line Parameter Setting] -> [Line Monitor Sound].
- The status of testing or results of tests are shown in the title line as follows

RCV	Waiting signals
OK/NG	Results of signal reception

- The V.34 signal does not appear at the signal receive test.

(a) V17: Default setting

- 14400bps

(b) V17: Setting item

- 14400bps
- 12000bps
- 9600bps
- 7200bps

(c) V29: Default setting

- 9600bps

(d) V29: Setting item

- 9600bps
- 7200bps

(e) V27ter: Default setting

- 4800 bps

(f) V27ter: Setting item

- 4800bps
- 2400bps

(g) V21

- No parameters

(h) PB: Default setting

- 0

(i) PB: Default setting

- 0 to 9, *, #, A, B, C, D

(j) Special Tone: Default setting

- 1100Hz

(k) Special Tone: Setting item

- 1100Hz
- 1300Hz
- 2100Hz

5.20.13 Fax Test-NCU TEST

- It will be displayed only when the optional FAX kit FK-513 is mounted.

(1) Use

- To check the operation of NCU.

(2) Procedure

1. Select [Service Mode] -> [Test Mode] -> [FAX Test] -> [Fax Line Test] -> [Line 1] -> [NCU TEST].
2. Select a test item.
3. Press the [Start] key. (In order to move to another test, select the next test item after pressing the [Stop] key.)

NOTE

- **When CML / CTL / TEL relay test is selected and the Start key is pressed, ON is displayed in the parameter and relay is turned to ON. When [Stop] is pressed, relay is turned OFF.**
- **When the DC-LOOP detection test is selected and Start key is pressed, DT=0001 is shown in the title row in case of detecting the DC-LOOP. If not detected, DT=0000 is displayed.**

Contents of test	Device to be tested
CML Relay	**IC201, IC202**
CTL Relay	**RL201**
TEL Relay	**RL501 ***
DC-LOOP Detect	
Speaker	
Outside Ring Send	
Audio Response Send	

- *** RL501 mounts only the Japanese.**

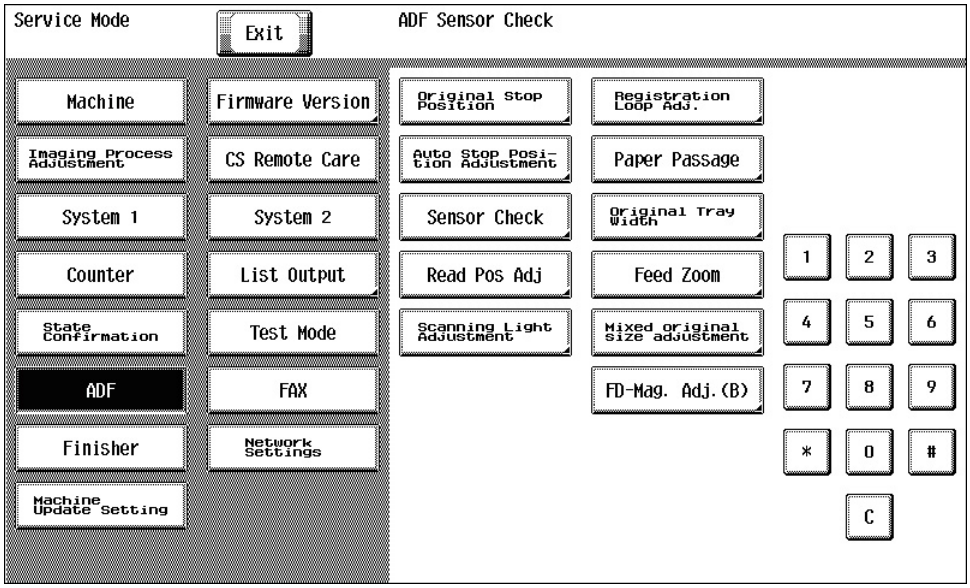
5.20.14 Fax Test-Dial Test

- Not used

5.20.15 Fax Test - Off-hook Test

- Not used

5.21 ADF



5.21.1 Original Stop Position

(1) Use

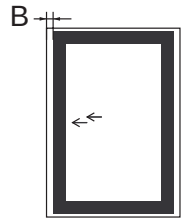
- To manually adjust the original stop position and the read position in each of the DF modes.
- When the result is Unable in the automatic adjustment of the original stop position.

(2) Procedure

(a) Sub Scanning Direction 1-Side

NOTE

- **Before performing this adjustment, the feed zoom adjustment needs to be complete.**
  I.5.21.8 Feed Zoom



- The difference in the widths of B between the chart and the copy sample should fall within the following target.

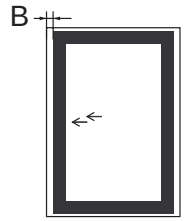
Target	0 ± 2.0 mm
Setting range	-4.0 mm to +4.0 mm (1 step: 0.1 mm)

1. Place the chart in the document feed tray (with the side having an arrow facing up).
2. Make a full size copy of the chart.
3. Check that the difference in the widths of B between the chart and the copy sample falls within the target.
4. Call the Service Mode to the screen.
5. Touch [ADF] -> [Original Stop Position].
6. Touch [Sub Scanning Direction 1-Side].
7. Enter the value from the 10-key pad. (Press the [+/-] key to change the +/- code.)
   - If the difference in the widths of B is greater than the target, enter the [+] value.
   - If the difference in the widths of B is smaller than the target, enter the [-] value.
8. Touch [Test Copy].
9. Select the tray loading paper for the test copy.
10. Place the chart in the document feed tray.
11. Press the start key, and check the difference in the width B between the chart and the discharged copy sample.
12. Touch [END] twice.
13. Touch [Exit] on the Service Mode screen.
14. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

(b) Sub Scanning Direction 2-Side

NOTE

- **Before performing this adjustment, the "feed zoom" adjustment and the "FD-Mag. Adj. (B)" adjustment need to be complete.**
  I.5.21.8 Feed Zoom
  I.5.21.11 FD-Mag. Adj. (B)

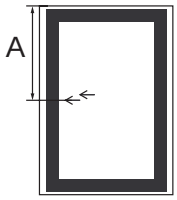


- The difference in the widths of B between the chart and the copy sample should fall within the following target.

Target	0 ± 2.0 mm
Setting range	-4.0 mm to +4.0 mm (1 step: 0.1 mm)

1. Place the chart in the document feed tray (Set the chart with its blank side facing upward).
2. Make a full size copy of the chart.
3. Check that the difference in the widths of B between the chart and the copy sample falls within the target.
4. Call the Service Mode to the screen.
5. Touch [ADF] -> [Original Stop Position].
6. Touch [Sub Scanning Direction 2-Side].
7. Enter the value from the 10-key pad. (Press the [+/-] key to change the +/- code.)
   - If the difference in the widths of B is greater than the target, enter the [+] value.
   - If the difference in the widths of B is smaller than the target, enter the [-] value.
8. Touch [Test Copy].
9. Select the tray loading paper for the test copy.
10. Touch [2].
11. Touch [2-sided -> 2-sided].
12. Place the chart in the document feeding tray.
13. Press the start key, and check the difference in the width B between the chart and the discharged copy sample.
14. Touch [END] twice.
15. Touch [Exit] on the Service Mode screen.
16. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

(c) Main Scanning (Front)

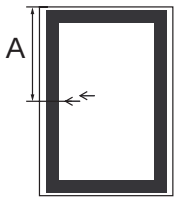


- The difference in the widths of A between the chart and the copy sample should fall within the following target.

Target	0 ± 2.0 mm
Setting range	-4.4 mm to +4.4 mm (1 step: 0.1 mm)

1. Place the chart in the document feed tray (with the side having an arrow facing up).
2. Make a full size copy of the chart.
3. Check that the difference in the widths of A between the chart and the copy sample falls within the target.
4. Call the Service Mode to the screen.
5. Touch [ADF] -> [Original Stop Position].
6. Touch [Main Scanning (Front)].
7. Enter the value from the 10-key pad. (Press the [+/-] key to change the +/- code.)
   - If the difference in the widths of A is greater than the target, enter the [+] value.
   - If the difference in the widths of A is smaller than the target, enter the [-] value.
8. Touch [Test Copy].
9. Select the tray loading paper for the test copy.
10. Place the chart in the document feeding tray.
11. Press the start key, and check the difference in the width A between the chart and the discharged copy sample.
12. Touch [END] twice.
13. Touch [Exit] on the Service Mode screen.
14. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

(d) Main Scanning (Back)



- The difference in the widths of A between the chart and the copy sample should fall within the following target.

Target	0 ± 2.0 mm
Setting range	-4.4 mm to +4.4 mm (1 step: 0.1 mm)

1. Place the chart in the document feed tray (Set the chart with its blank side facing upward).
2. Make a full size copy of the chart.
3. Check that the difference in the widths of A between the chart and the copy sample falls within the target.
4. Call the Service Mode to the screen.
5. Touch [ADF] -> [Original Stop Position].
6. Touch [Main Scanning (Back)].
7. Enter the value from the 10-key pad. (Press the [+/-] key to change the +/- code.)
   - If the difference in the widths of A is greater than the target, enter the [+] value.
   - If the difference in the widths of A is smaller than the target, enter the [-] value.
8. Touch [Test Copy].
9. Select the tray loading paper for the test copy.
10. Touch [2].
11. Touch [2-sided -> 2-sided].
12. Place the chart in the document feeding tray.
13. Press the start key, and check the difference in the width A between the chart and the discharged copy sample.
14. Touch [END] twice.
15. Touch [Exit] on the Service Mode screen.
16. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

5.21.2 Registration Loop Adj.

(1) Use

- To adjust the length of the loop to be formed in paper before the registration rollers.
- When an original misfeed or skew occurs.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Registration Loop Adj].
3. Select either [1-Side] or [Second Side] for the adjustment.
4. Touch clear and change the setting value using the 10-key pad. (Press the [+/-] key to change the +/- code.)
   The amount of loop increases by the amount of positive (+) value and decreases by the amount of negative (-) value.
5. Touch [END].
6. Touch [Exit] on the Service Mode screen.
7. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

(3) Default setting

- 0

(4) Setting range

- -5 mm to +5 mm (in 1 mm increments)

5.21.3 Auto Stop Position Adjustment

(1) Use

- To automatically adjust the read position for the Sub Scanning Direction.
- To check skew feed.
- When DF has been replaced.

NOTE

- **Before performing this adjustment, the "feed zoom" adjustment and the "FD-Mag. Adj. (B)" adjustment need to be complete.**
  I.5.21.8 Feed Zoom
  I.5.21.11 FD-Mag. Adj. (B)

(2) Procedure

(a) Sub Scanning Direction 1-Side

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Auto Stop Position Adjustment].
3. Touch [Sub Scanning Direction 1-Side].
4. Place the chart in the document feed tray (with the side having an arrow facing up).
5. Press the Start key.
6. Make sure that result is OK. Then, touch [SET].
7. Touch [END].

8. Touch [Exit] on the Service Mode screen.
9. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

NOTE
If the result is [Unable]:
- **Check and correct the skew of the document.**
- **Manually correct the value of [Original Stop Position].**
  I.5.21.1 Original Stop Position

(b) Sub Scanning Direction 2-Side

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Auto Stop Position Adjustment].
3. Touch [Sub Scanning Direction 2-Side].
4. Place the chart in the document feed tray (Set the chart with its blank side facing upward).
5. Press the Start key.
6. Make sure that result is OK. Then, touch [SET].
7. Touch [END].
8. Touch [Exit] on the Service Mode screen.
9. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

NOTE
If the result is [Unable]:
- **Check and correct the skew of the document.**
- **Manually correct the value of [Original Stop Position].**
  I.5.21.1 Original Stop Position

(c) Main Scanning (Front)

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Auto Stop Position Adjustment].
3. Touch [Main Scanning (Front)].
4. Place the chart in the document feed tray (with the side having an arrow facing up).
5. Press the Start key.
6. Make sure that result is OK. Then, touch [SET].
7. Touch [END].
8. Touch [Exit] on the Service Mode screen.
9. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

NOTE
If the result is [Unable]:
- **Check and correct the skew of the document.**
- **Manually correct the value of [Original Stop Position].**
  I.5.21.1 Original Stop Position

(d) Main Scanning (Back)

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Auto Stop Position Adjustment].
3. Touch [Main Scanning (Back)].
4. Place the chart in the document feed tray (Set the chart with its blank side facing upward).
5. Press the Start key.
6. Make sure that result is OK. Then, touch [SET].
7. Touch [END].
8. Touch [Exit] on the Service Mode screen.
9. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

NOTE
If the result is [Unable]:
- **Check and correct the skew of the document.**
- **Manually correct the value of [Original Stop Position].**
  I.5.21.1 Original Stop Position

5.21.4 Paper Passage

(1) Use

- To check for paper passage through the DF in each of the DF modes.
- Used for checking the document path for any abnormal condition when a document misfeed occurs.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Paper Passage].
3. Select a paper passage mode to be tested from [1-Sided No Detect], [1-Sided Mixed Org.] or [2-Sided].
4. Set the original in the feed tray.
5. The Start key changes from orange to blue.
6. Press the Start key. The operation starts.

NOTE
- **After starting the operation by pressing the Start key, if the Start key is pressed during the operation, the operation will be suspended.**
  Then, if the Start key is pressed again during the suspension, the operation will be resumed.
- **If the Stop key is pressed during the test operation, the test will be forced to end.**
- **If there is no Original set in the feed tray, the Start key will not work.**

- **All Originals set in the feed tray are passed through. Upon the completion of all Originals passed through, the paper through test ends.**

5.21.5 Sensor Check

(1) Use

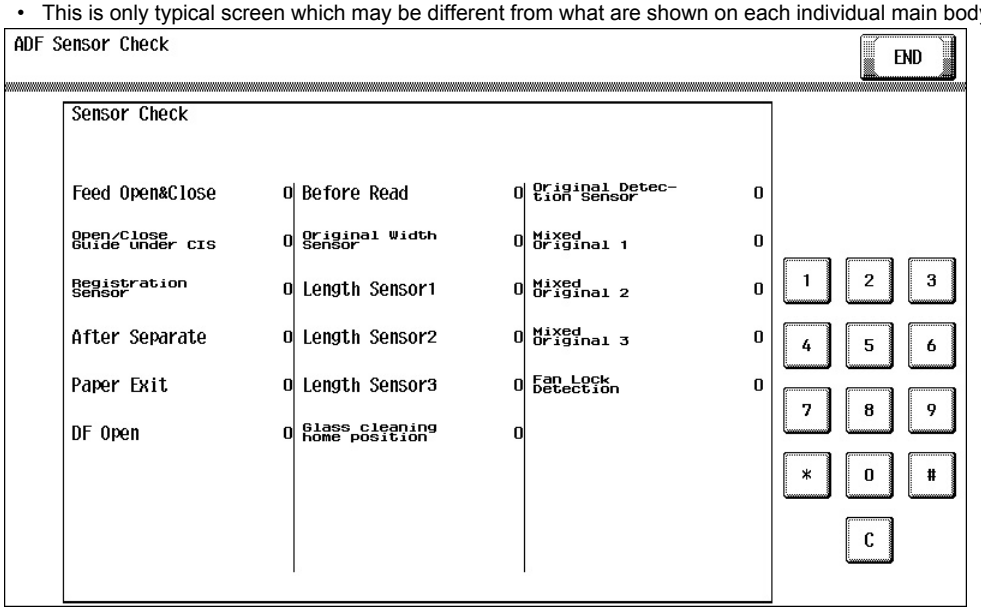
- To check sensors on the paper path.
- When a document misfeed occurs.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Sensor Check].
3. Operate the sensor to check by using paper or the like, and check the screen display.
   (Paper detected: 1, No paper detected: 0)

(3) Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



(4) Sensor check list

Symbol (DF-628)	Panel display	Part/signal name	Operation characteristics/panel display	
			1	0
PS13	Feed Open&Close	Upper door sensor	Open	Close
-	Open/Close Guide under CIS	-	-	-
PS3	Registration Sensor	Registration sensor	Paper present	Paper not present
PS2	After Separate	After separate sensor	Paper present	Paper not present
PS5	Exit Sensor	Document exit sensor	Paper present	Paper not present
PS104	DF Open	Original cover sensor	Open	Close
PS4	Before Read	Document reading sensor	Paper present	Paper not present
VR1	Original Width Sensor	Document width sensor	Analog value	
PS6	Length Sensor1	Document length sensor/1	Paper present	Paper not present
PS7	Length Sensor2	Document length sensor/2	Blocked	Unblocked
-	Length Sensor3	-	-	-
PS12	Glass cleaning home position	Document reading glass cleaning sensor	At home	Not at home
PS1	Original Detection Sensor	Document empty sensor	Paper present	Paper not present
PS8	Mixed Original 1	Mixed Original sensor/1	Paper present	Paper not present
PS9	Mixed Original 2	Mixed Original sensor/2	Paper present	Paper not present
PS10	Mixed Original 3	Mixed Original sensor/3	Paper present	Paper not present
-	Fan Lock Detection	-	-	-

5.21.6 Original Tray Width

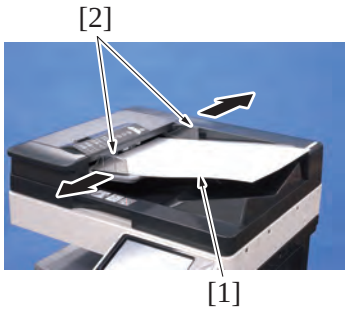
(1) Use

- To set the values of maximum (A3 position) and minimum (B6 position) widths on the restriction plate positional volume.
- When an original misfeed occurs.
- When an original size detection error occurs.

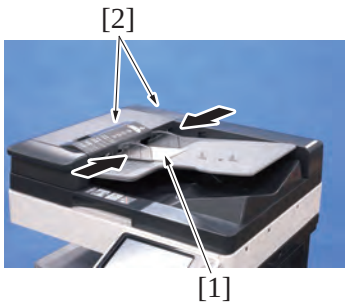
- When the DF control board has been replaced.
- When the document width sensor has been replaced.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Original Tray Width].
3. Set the A3 paper [1] on the original feed tray, and widen the width across the edge guides [2] by sliding them to the “A3” position.



4. Touch [Max. Width].
5. Press the Start key.
6. OK is displayed when the adjustment has been completed.
7. Set the B6 paper [1] on the original feed tray, and narrow the width across the edge guides [1] by sliding them to the “B6” position.



8. Touch [Min. Width].
9. Press the Start key.
10. OK is displayed when the adjustment has been completed.
11. Touch [END].
12. Touch [Exit] on the Service Mode screen.
13. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

NOTE

If the result is NG:

- **Possible causes includes failure or wrong wiring of the document width sensor and failure of the DFCB.**

5.21.7 Read Pos Adj

(1) Use

- To adjust the original read position.
- When the scanner home sensor have been replaced.
- Used when the CCD unit has been replaced.
- Used when the original glass assy has been replaced.

(2) Read Pos Adj

(a) Procedure

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Read Pos Adj].
3. Touch [Read Pos Adj].
4. Touch [C].
5. Enter the value using the [+] / [-] keys.
   - Set the value to a positive number to move the stop position of the scan-IR unit to the right when viewed from the front.
   - Set the value to a negative number to move the stop position of the scan-IR unit to the left when viewed from the front.
6. Touch [END].
7. Touch [Exit] on the Service Mode screen.
8. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

(b) Default setting

- Intrinsic values (adjusted at the factory)

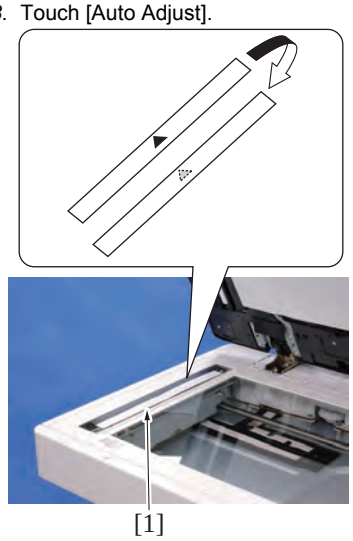
(c) Setting range

- -73 through +73

(3) Auto Adjust

(a) Procedure

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Read Pos Adj].
3. Touch [Auto Adjust].



4. Open the DF.
5. Place the DF reading chart [1] so that a triangular mark may become the original glass side (downward) and the pointed tip of the triangle points toward the black sheet on the left side.
6. Press the Start key.

NOTE

- **Be sure that the DF reading chart is in position.**
- **Keep the automatic document feeder open while making the adjustment.**
- **When the edge deviation at DF reading after carrying out this adjustment becomes larger, conduct the "I.5.21.1 Original Stop Position".**

7. Make sure that the result is OK.
8. Touch [END].
9. Touch [Exit] on the Service Mode screen.
10. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

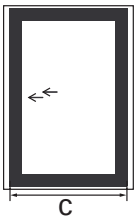
5.21.8 Feed Zoom

(1) Use

- To adjust the feed zoom in the front side feeding direction on the DF.
- When DF has been replaced.

(2) Procedure

(a) Orig. Feed Zoom Ad



- The difference in the widths of C between the chart and the copy sample should fall within the following target.

Target	0 ± 1.0 mm
Setting range	-2.00% to +2.00% (1 step: 0.1%)

1. Place the chart in the document feed tray (with the side having an arrow facing up).
2. Make a full size copy of the chart.
3. C width on the chart and one on the copy sample are measured and adjusted so that the difference of C width satisfies the target shown below.
4. Call the Service Mode to the screen.
5. Touch [ADF] -> [Feed Zoom].
6. Touch [Orig. Feed Zoom Ad].
7. Enter the value using the [+] / [-] keys.
   - If the difference in the widths of C is greater than the target, enter the - value.
   - If the difference in the widths of C is smaller than the target, enter the + value.
8. Touch [Test Copy].
9. Select the tray loading paper for the test copy.
10. Press the start key, and check the difference in the width C between the chart and the discharged copy sample.
11. Touch [END] twice.
12. Touch [Exit] on the Service Mode screen.
13. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

(b) Auto Adjust

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Feed Zoom].
3. Touch [Auto Adjust].
4. Place the chart in the document feed tray (with the side having an arrow facing up).
5. Press the Start key.

6. Make sure that result is OK.
7. Touch [SET] and then [END].
8. Touch [Exit] on the Service Mode screen.
9. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

5.21.9 Scanning Light Adjustment

(1) Use

- To adjust the scanning light of DF.
- Used for adjusting the difference in the scanning lights between scanning from the original glass and scanning from the DF original glass.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Scanning Light Adjustment].
3. Select a color by pressing [Red], [Green], or [Blue].
4. Press the value using the [+] / [-] key.
   NOTE
   - **It is recommended that the scanning light adjustment should be made by the same steps for all the three colors of red, green, and blue.**
5. Touch [END].
6. Touch [Exit] on the Service Mode screen.
7. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

(3) Setting range

- -4 to +4 (Step: 1)

5.21.10 Mixed original size adjustment

(1) Use

- To adjust paper length detection accuracy used during paper feed in DF mixed original mode.
- To set the threshold for each size detection based on the length detected when feeding standard sizes (A4S).
- When the DF control board has been replaced.

(2) Procedure

NOTE

- **Before performing this adjustment, the feed zoom adjustment needs to be complete.**
  I.5.21.8 Feed Zoom

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [Mixed original Size adjustment].
3. Place the chart in the document feed tray.
4. Press the Start key.
5. Make sure that result is OK. Then, touch [SET].
6. Touch [END].
7. Touch [Exit] on the Service Mode screen.
8. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

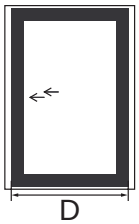
5.21.11 FD-Mag. Adj. (B)

(1) Use

- To adjust the feed zoom in the back side feeding direction on the DF.
- When DF has been replaced.

(2) Procedure

(a) Orig. Feed Zoom Ad



- The difference in the widths of D between the chart and the copy sample should fall within the following target.

Target	0 ± 1.0 mm
Setting range	-2.00% to +2.00% (1 step: 0.1%)

1. Place the chart in the document feed tray (Set the chart with its blank side facing upward).
2. Make a full size copy of the chart.
3. D width on the chart and one on the copy sample are measured and adjusted so that the difference of D width satisfies the target shown below.
4. Call the Service Mode to the screen.
5. Touch [ADF] -> [FD-Mag. Adj. (B)].
6. Touch [Orig. Feed Zoom Ad].

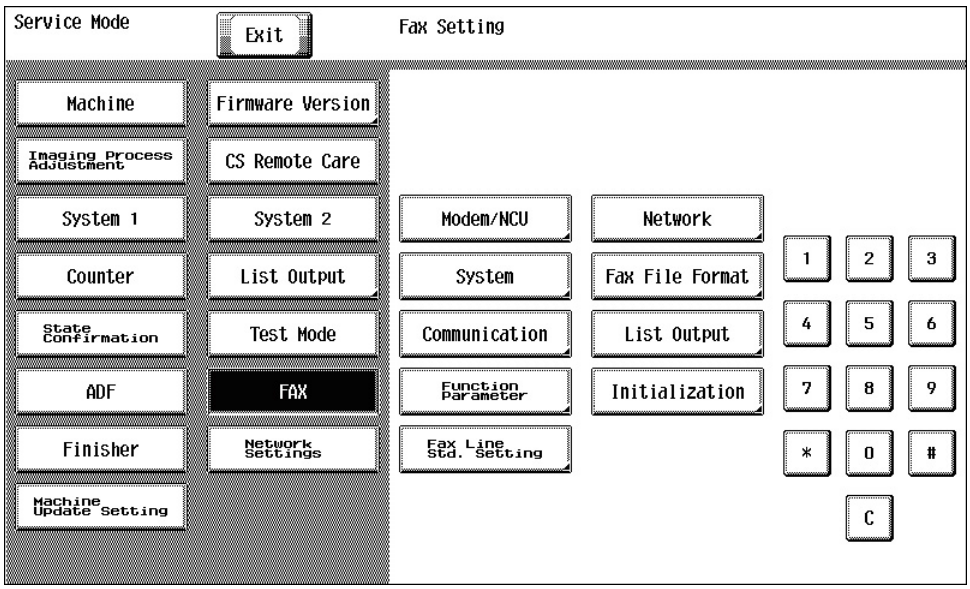
7. Enter the value using the [+] / [-] keys.
   - If the difference in the widths of D is greater than the target, enter the - value.
   - If the difference in the widths of D is smaller than the target, enter the + value.
8. Touch [Test Copy].
9. Select the tray loading paper for the test copy.
10. Touch [2].
11. Touch [2-sided -> 2-sided].
12. Press the start key, and check the difference in the width D between the chart and the discharged copy sample.
13. Touch [END] twice.
14. Touch [Exit] on the Service Mode screen.
15. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

(b) Auto Adjust

1. Call the Service Mode to the screen.
2. Touch [ADF] -> [FD-Mag. Adj. (B)].
3. Touch [Auto Adjust].
4. Place the chart in the document feed tray (Set the chart with its blank side facing upward).
5. Press the Start key.
6. Make sure that result is OK.
7. Touch [SET] and then [END].
8. Touch [Exit] on the Service Mode screen.
9. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

5.22 FAX

Fax Settings



- It will be displayed only when [Service Mode] -> [System 2] -> [Option Board Status] shows that FAX (circuit 1) is set to “Set”.

5.22.1 Modem/NCU

(1) V34:1/2 : RX Max. Bit Speed

(a) Use

- To set the max. bit speed for reception in V.34.

(b) Default setting

- 33600 bps

(c) Setting range

- 2400 to 33600 bps (steps: 2400 bps)

(2) V34:1/2 : TX Max. Bit Speed

(a) Use

- To set the max. bit speed for transmission in V.34.

(b) Default setting

- 33600 bps

(c) Setting range

- 2,400 to 33,600 bps (steps: 2,400 bps)

(3) V34:1/2 : Control CH Speed

(a) Use

- A bit speed of the control channel.
- The negotiation of 2400/1200 is performed in the V.34 start-up procedure.

(b) Default setting

- 1200 bps

(c) Setting item

- 1200 bps
- 2400 bps

(4) V34:1/2 : Max. SYMB Speed

(a) Use

- Maximum modulation speed (baud rate) of V.34
  - 3429 SYMB: 3429 33.6 k to 4.8 k
  - 3200 SYMB: 3200 31.2 k to 2.4 k
  - 3000 SYMB: 3000 28.8 k to 2.4 k
  - 2800 SYMB: 2800
  - 2400 SYMB: 2400
- The modulation speed of both sending and receiving change by change of setting.
- The upper limit value of V.34 maximum bit speed is determined.
- Normally you do not need to change the value. In case that a V.34 error frequently occurs, you can attempt to set up 3000 SYMB and decrease the symbol rate, for instance.

(b) Default setting

- 3429 SYMB

(c) Setting item

- 2400 SYMB
- 2800 SYMB
- 3000 SYMB
- 3200 SYMB
- 3429 SYMB

(5) V34:2/2: V34 Points

(a) Use

- Select the optimal Eye Pattern in accordance with the line state obtained from V.34 transmission training.

(b) Default setting

- Auto

(c) Setting item

- 16-Point
- 4-Point

(6) V17 Send Max Speed: TX Max. Speed

(a) Use

- To set the max. speed for transmission.

(b) Default setting

- V17-14400bps

(c) Setting item

- V17-14400 bps
- V17-12000bps
- V17-9600bps
- V17-7200bps
- V29-9600bps
- V29-7200bps
- V27-4800bps
- V27-2400bps

(7) V17 Send Max Speed: RX Max. Speed

(a) Use

- To set the max. speed for reception.

(b) Default setting

- V17-14400bps

(c) Setting item

- V17-14400 bps
- V29-9600bps
- V27-4800bps

(8) TxATT: PIX TxATT

(a) Use

- To set the output level of PIX TxATT.
- Directly sets modem. There are no external attenuator.

(b) Procedure

- The setting value are different depending on the country.

(9) TxATT: TONE/Procedure Signal TxATT

(a) Use

- To set the output level of TONE/Procedure Signal TxATT.
- Directly sets modem. There are no external attenuator.

(b) Procedure

- The setting value are different depending on the country.

(10) TxATT: CED/ANSam TxATT

(a) Use

- To set the output level of CED/ANSam TxATT.
- Directly sets modem. There are no external attenuator.

(b) Procedure

- The setting value are different depending on the country.

(11) TxATT: DTMF TxATT

(a) Use

- To set the output level of DTMF TxATT.
- Directly sets modem. There are no external attenuator.

(b) Procedure

- The setting value are different depending on the country.

(12) Level: CD/SED ON Level

(a) Use

- To set reception signal sensitivity level.
- SED is not used.

(b) Default setting

- -48 dBm

(c) Setting range

- -48 to -33 dBm (steps: 5 dBm)

(13) Level: DTMF H-L Level Difference

(a) Use

- To set DTMF H-L level difference.

(b) Default setting

- 2.0 dB

(c) Setting range

- 1.0 to 4.0 dB (step: 0.5 dB)

(14) Cable EQL

(a) Use

- To correct the delay characteristics of the communication line.

(b) Default setting

- 0 Km

(c) Setting item

- 0 Km
- 1.8 Km
- 3.6 Km
- 7.2 Km

5.22.2 Network

(1) Network Setting 1: Receive Signal Detection Mode

(a) Use

- To set whether to detect the receive signal by the number of times or by time.
- Sets to “Time” when ringer can not be detected by the number.

(b) Default setting

- No. of Times

(c) Setting item

- No. of Times
- Time

(2) Network Setting 1: BUSY TONE Detection

(a) Use

- To set whether to use the Busy Tone detection or not.

(b) Default setting

- ON

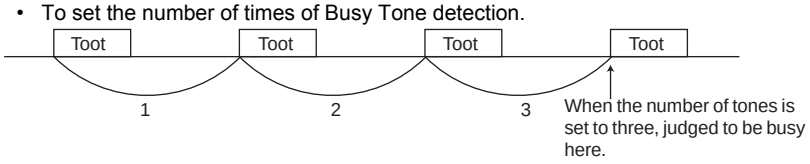
(c) Setting item

- ON
- OFF

(3) Network Setting 1: No. of Times of Busy Tone Detection

(a) Use

- To set the number of times of Busy Tone detection.



(b) Default setting

- 0

(c) Setting range

- 0 to 15 count (step: 1 count)

NOTE

- **0 time shows no detection is done.**

(4) Network Setting 2: 1300 Hz Detection

(a) Use

- To set whether to use the 1300 Hz detection or not.
- Set this function to “ON” if the facsimile network (F-net) is to be used.

(b) Default setting

- OFF

(c) Setting item

- ON
- OFF

(5) Network Setting 2: Dial Tone Detection

(a) Use

- To set whether to use the Dial Tone detection or not.

(b) Default setting

- ON

(c) Setting item

- ON
- OFF

(6) Network Setting 2: DC-LOOP Check

(a) Use

- Checks the DC loop current before dialing.
- When the current is zero, an error occurs. (T.80)
- You can change the setting to be compliant to standards in other countries. In Japan, set this parameter to OFF.

(b) Default setting

- OFF

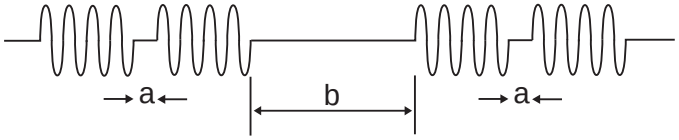
(c) Setting item

- ON
- OFF

(7) Network Setting 2: min. RING OFF Time

(a) Use

- Minimum time to recognize ringer interval.



a	To avoid judging “a” as a ring-off time.	b	Ring-off time

(b) Default setting

- 0 ms

(c) Setting range

- 0 to 1000 ms (step: 100 ms)

(8) Network Setting 2: Response Waiting Time

(a) Use

- To set the response waiting time.

Response waiting timer (55sec)	Calling	Starts after dialing. Until CED is received.

(b) Default setting

- 55 s

(c) Setting range

- 35 to 115 s (steps: 1 s)

(9) Network Setting 2: Pause Time

(a) Use

- The pause time for one pause key (pause between digits)

(b) Default setting

- 1 s

(c) Setting range

- 1 to 7 s (steps: 1 s)

5.22.3 System

(1) Display Setting: Closed area Rx

(a) Use

- To set whether or not to use the menu display for closed reception by using F-code for junk fax messages.

(b) Default setting

- ON

(c) Setting item

- ON
- OFF

(2) Display Setting: Re-Transmission

(a) Use

- To set whether to use the re-transmission function or not.

(b) Default setting

- ON

(c) Setting item

- ON
- OFF

NOTE

- **This setting is "OFF" when [Service Mode] -> [Billing Setting] -> [Management Function Choice] shows that key counter or vendor 2 is mounted.**

(3) Display Setting: Compulsory Memory RX

(a) Use

- To set whether to use the compulsory memory reception function or not.

(b) Default setting

- ON

(c) Setting item

- ON
- OFF

NOTE

- **When turned “ON”, the function permits selection of ON or OFF setting for the compulsory memory reception function that allows a document when received not to be printed automatically and, instead, to be printed through manual operation.**

(4) Display Setting: Reject Calls

(a) Use

- To set whether to use the reject calls function or not.

(b) Default setting

- OFF

(c) Setting item

- ON
- OFF

NOTE

- **When turned “ON”, the function displays the function that allows the user to set a remote machine to be rejected as a reject call number.**

(5) Display Setting: Relay

(a) Use

- To set whether to use the relay function or not.

(b) Default setting

- ON

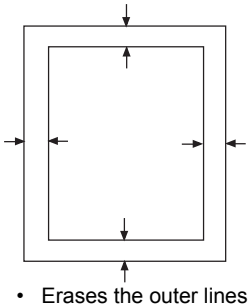
(c) Setting item

- ON
- OFF

(6) Scan Setting: Frame Erasure HP

(a) Use

- To set the frame erasure size during reading.
- The four edges of the original are erased by the same width.



- Erases the outer lines to prevent black lines from appearing. Effective in the book transmission.

(b) Default setting

- 10 mm

(c) Setting item

- 5 mm
- 10 mm
- 15 mm

(7) System Function: Fax Board Watchdog

(a) Use

- To set whether to enable watchdog by the fax board CPU or not.

ON	Reset when hung up.
OFF	Keeps being hung up.

(b) Default setting

- ON

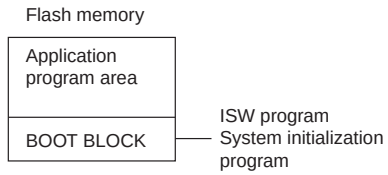
(c) Setting item

- ON
- OFF

(8) System Function: Fax BOOT Rewrite on ISW

(a) Use

- Required when a BOOT BLOCK program is upgraded or a hardware is changed.



(b) Default setting

- OFF

(c) Setting item

- ON
- OFF

(9) System Function: Error Code Display Time

(a) Use

- To set the communication error code display time.

(b) Default setting

- 20 s

(c) Setting item

- 10 to 250 s (step: 10 s)
- HOLD

(10) Communication Setting: Auto Rotation Send (LT)

(a) Use

- To set whether to rotate the Letter size original automatically or not for transmission.

ON	Transmits in the A4 width.
OFF	Transmits in the A3 width.

(b) Default setting

- ON

(c) Setting item

- ON
- OFF

(11) Communication Setting: Auto Rotation Send (A4T)

(a) Use

- To set whether to rotate the A4 size original automatically or not for transmission.

ON	Transmits in the A4 width.
OFF	Transmits in the A3 width.

(b) Default setting

- ON

(c) Setting item

- ON
- OFF

(12) Communication Setting: Error Page Resending

(a) Use

- To set whether to retransmit, after a communication error occurs, the document starting with the error page or all pages.

Error Page	Retransmit the document starting with the error page
All Page	Retransmit the document all pages

(b) Default setting

- Error Page

(c) Setting item

- Error Page
- All Page

(13) Communication Setting: Number of Redials (Error Page)

(a) Use

- To set the number of redials for the error page.
- Counted as a busy redial when the error page redial is busy.

(b) Default setting

- The default setting is different depending on the country.

(c) Setting range

- 0 to 7 (step: 1)

5.22.4 Fax File Format

(1) Use

The following data can be initialized.

- All of the scan/fax documents stored in the box are erased.
- All of the boxes produced automatically by the F code are erased.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [FAX].
3. Touch [Fax File Format].
4. Press the Start key.
5. The Fax File Format is executed.

5.22.5 Communication

(1) Protocol: V8 / V34 Protocol

(a) Use

- To set whether to use the V.8/V.34 protocol or not.

(b) Default setting

- ON

(c) Setting item

- ON
- OFF

(2) Protocol: V17 EP TONE

(a) Use

- Whether the EP tone (Echo Protect: 2100Hz) is added to the top of the training signal.

(b) Default setting

- ON

(c) Setting item

- ON
- OFF

(3) Protocol: V29 EP TONE

(a) Use

- Whether the EP tone (Echo Protect: 2100Hz) is added to the top of the training signal.

(b) Default setting

- OFF

(c) Setting item

- ON
- OFF

(4) Protocol: V17 Selection Mode "-"

(a) Use

- V.34 is not used when a dash (-) is added at the top of dial number.

(b) Default setting

- OFF

(c) Setting item

- ON
- OFF

(5) Protocol: ANSam Send Time

(a) Use

- To set the transmission time for the V.8 protocol signal ANSam.
- Usually not need to be changed.

(b) Default setting

- 4.0 s

(c) Setting range

- 1.0 to 5.5 s (step: 0.5 s)

(6) Int'l Comm. Function: Foreign Communication Function

(a) Use

- To set whether or not to use the mode that employs the number of DIS waiting times.

(b) Default setting

- ON

(c) Setting item

- ON
- OFF

(7) Int'l Comm. Function: No. of DIS Waiting Times at Foreign Communication

(a) Use

- To set the number of DIS waiting times.

(b) Default setting

- 1

(c) Setting item

- 1
- 2

(8) Int'l Comm. Function: V34 Speed

(a) Use

- To set the V.34 international communication mode speed.

(b) Default setting

- 28800 bps

(c) Setting range

- 16800 to 33600 bps (step: 2400 bps)

(9) Int'l Comm. Function: V17 Speed

(a) Use

- To set the V.17 international communication mode speed.

(b) Default setting

- 7200 bps

(c) Setting range

- 7200 to 14400 bps (step: 2400 bps)

(10) Int'l Comm. Function: V29 Speed

(a) Use

- To set the V.29 international communication mode speed.

(b) Default setting

- 4800 bps

(c) Setting range

- 2400 to 9600 bps (step: 2400 bps)

(11) TIMER 1: T1

(a) Use

T1 timer (T.30 standard)	Calling	Designate by the response waiting timer
	Called	Starts after DIS is output. The waiting time until DCS is received.
Response waiting timer (55sec)	Calling	Starts after dialing. Until CED is received.

(b) Default setting

- 35 s

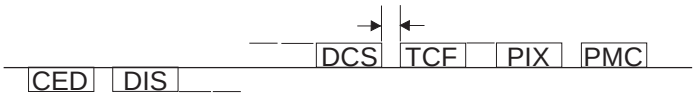
(c) Setting range

- 30 to 90 s (step: 5 s)

(12) TIMER 1: DCS-TCF DELAY

(a) Use

- To set the delay time between DCS and TCF.



PMC: Post Message Command

(b) Default setting

- 80 ms

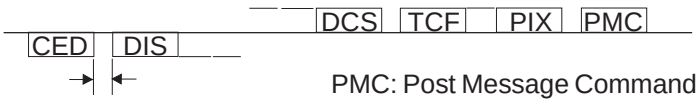
(c) Setting range

- 50 to 150 ms (step: 10 ms)

(13) TIMER 1: CED-DIS DELAY

(a) Use

- To set the delay time between CED and DIS.



PMC: Post Message Command

(b) Default setting

- 80 ms

(c) Setting range

- 50 to 150 ms (step: 10 ms)

(14) TIMER 1: PIX-PMC DELAY

(a) Use

- To set the delay time between PIX and PMC.



PMC: Post Message Command

(b) Default setting

- 80 ms

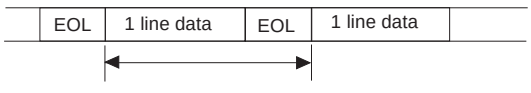
(c) Setting range

- 50 to 150 ms (step: 10 ms)

(15) TIMER 2: EOL-EOL

(a) Use

- To set the transmission time between EOLs.



(b) Default setting

- 13.0 s

(c) Setting range

- 4.0 to 25.5 s (step: 0.5 s)

(16) TIMER 2: CFR-PIXWAIT

(a) Use

- Sets the waiting time from CFR is sent to the image signals are received.
- Radio fax on boats occasionally requires more than 6 sec.

(b) Default setting

- 6.0 s

(c) Setting range

- 6.0 to 25.5 s (step: 0.5 s)

(17) TIMER 2: EOM-PIXWAIT

(a) Use

- Waiting time to receive PIX before sending DIS when EOM is used.
- Some fax machines sends PIX without returning to Phase B in spite of EDM.

(b) Default setting

- 5.5 s

(c) Setting range

- 5.5 to 25.5 s (step: 0.5 s)

(18) TIMER 2: JM WAIT

(a) Use

- Time to continue outputting CM until receiving JM.

(b) Default setting

- 9.0 s

(c) Setting range

- 6.0 to 25.5 s (step: 0.5 s)

(19) Others: ECM Function

(a) Use

- Set whether or not to cancel reception ECM (error correction mode).

(b) Default setting

- ON

(c) Setting item

- ON
- OFF

(20) Others: Frame Size at ECM TX

(a) Use

- To set the frame size at ECM transmission.

(b) Default setting

- 256

(c) Setting item

- 64
- 256

(21) Others: Coding Ability

(a) Use

- To set the coding ability.
- Effective to both sending and reception.

(b) Default setting

- MH/MR/MMR/JBIG

(c) Setting item

- MH
- MH/MR

- MH/MR/MMR
- MH/MR/MMR/JBIG

5.22.6 List Output

(1) Report Addition Information

(a) Use

- To set whether or not to add the diagnosis code or dial number to the communication journal.

Diagnosis Code	The diagnosis code is printed on the communication journal.
Dial Number	The dial number is printed on the communication journal.

(b) Default setting

- OFF

(c) Setting item

- Diagnosis Code
- Dial Number
- OFF

(2) TX Result Report

(a) Use

- To set whether or not to add image to the transmission result report.
- Even if set to "With image" images are not attached at the time of the quick memory transmission and the manual transmission.

(b) Default setting

- With image

(c) Setting item

- With image
- Without image

(3) Protocol Trace Auto Output

(a) Use

- To set the timing for the protocol trace auto output.

(b) Default setting

- OFF

(c) Setting item

- Always
- Error
- OFF

5.22.7 Function Parameter

(1) Use

- Function parameters can be set through addressing.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [FAX].
3. Touch [Function Parameter].
4. Select the [Address] and then, enter the address using [A] to [F] or keypad.
   - A Cursor is movable if ◀ or ▶ is pushed.
5. Next, select [Data] and enter a value using binary numbers with keypad.
6. When the address and the value are correct, touch [Apply].
7. After the settings have been completed, touch [END].

(3) Address parameter list

NOTE

- **When changing a value in this address parameter list, be sure to comply with the phone line standards of other countries.**
- **Depending on values that have been changed, compliance with the phone line standards of other countries may not be obtained.**
  - **FAX setting (Address parameter list: for line 1)**

5.22.8 Initialization

(1) Use

- The following data can be initialized.

Fax Function Parameter	The function set condition is initialized into the Factory Default condition.
Communication Journal Data	All of the Communication Journal is erased.

NOTICE
- For the formats of the Abbreviated Registration Data, the Program Registration Data, The Group Registration Data, and the F-code Box Data, see "I.5.22.4 Fax File Format".

(2) Procedure
1. Call the Service Mode to the screen.
2. Touch [FAX].
3. Touch [Initialization].
4. Select data you want to initialize.
   - Supplement: Two or more selections are possible for data.
5. Touch [Yes].
6. When a verification message is displayed, touch [Yes].
7. The data selected is initialized.

5.22.9 FAX Line Std. Setting
(1) Use
- Used to confirm fax settings.

NOTE
- **If the following settings are changed, the settings from [Service Mode] -> [Fax Settings] -> [Network] and [System] are also changed.**
  FAX Line Std. Setting 1: Receive Signal Detection Mode, BUSY TONE Detection, No. of Times of Busy Tone Detection
  FAX Line Std. Setting 2: Dial Tone Detection, Pause Time, Response Waiting Time
  FAX Line Std. Setting 3: Error Page Resending, Number of Redial
- **If the following settings are changed, the settings from [Administrator Settings] -> [Fax Settings] -> [Line Parameter Setting] is also changed.**
  FAX Line Std. Setting 1:Number of RX Call Rings, Receive Time Interval Setting
  FAX Line Std. Setting 4: Number of Redials, Redial Interval, Line Monitor Sound Volume (Send), Line Monitor Sound Volume (Receive)

(2) FAX Line Std. Setting-V17 RX Error
(a) Use
- This configures whether or not to lower the reception speed when reattempting to receive data after a receive error occurs.

(b) Procedure
1. Call the Service Mode to the screen.
2. Touch [FAX] -> [FAX Line Std. Setting] -> [FAX Line Std. Setting 3].
3. Select either [ON] or [OFF] for [V17 RX Error].

NOTE
- **When this is set to [ON], the device will use V17 to receive data the next time after a receive error occurs.**

(c) Default setting
- ON

(d) Setting item
- ON
- OFF

5.23 FAX setting (Address parameter list)
5.23.1 0b000#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0b0000	Redial interval	7		Utility Mode (0-3)	0x03	0x03	0x03	X0	00
		6							
		5							
		4							
		3	Redial interval (min, HEX, 0 - 15)						
		2							
		1							
		0							
0b0001	No. of busy redials	7		Utility Mode (0-2)	0x03	0x01	0x03	X0	01
		6							
		5							
		4							
		3	No. of busy redials (No, HEX, 0 - 15)						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		2							
		1							
		0							
0b0002	No. of error redials	7		Utility Mode Special Setting (0-2)	0x03	0x01	0x03	X0	02
		6							
		5							
		4							
		3	No. of error redials (No, HEX, 0 - 15)						
		2							
		1							
		0							
0b0003	Setting related to FAX memory	7		Utility Mode (0-2) Utility Mode Special Setting (0-2, 4)	0x08	0x08	0x08	X0	03
		6	V34 mode at the time of error page redial 0: Inhibited 1: Enabled						
		5							
		4	Resend from the first page at the time of error page redial 0: Retransmitted from error page 1: Retransmitted from initial page						
		3	Call acceptance operation with toner empty 0: Refused 1: Permitted						
		2							
		1							
		0							
0b0004	FAX communication HP	7		Utility Mode (3-5) Utility Mode Special Setting (2, 6, 7)	0x05	0x05	0x05	X0	04
		6							
		5	Quick memory transmission 0: OFF 1: ON						
		4	File deleted after polled transmission 0: Yes 1: No						
		3	Reception mode 0: Auto 1: Manual						
		2	V.34 0: OFF 1: ON						
		1	International transmission 0: OFF 1: ON						
		0	ECM transmission 0: OFF 1: ON						
0b0005	Forward TX Setting	7		Utility Mode (0, 1, 6)	0x00	0x00	0x00	X0	05
		6	Two-sided recording of FAX 0: Possible 1: Impossible						
		5							
		4							
		3	Default transfer FAX setting 00: Not specified 01: Line 1 10: Line 2						
		2							
		1	Forward TX Setting 00: No forwarding 01: Forwarding + Always (print) 10: Forwarding + Only when not delivered (print)						
		0							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0b0006	FAX reception automatic output setting	7	Two-sided recording	Utility Mode (0, 1, 2, 4, 6, 7)	0x01	0x01	0x01	X0	06
		6							
		5	Inched recording paper selection						
		4	Fax Output Setting (only for color MFP) 0: Batch Print 1: Page Print NOTE In the case of B&W MFP, only “Batch Print” can be supported. Therefore, always set the value to “0”.						
		3	Face-up output						
		2	Page division recording						
		1	Output tray HP 00:Tray 1 01:Tray 2 10:Tray 3 11:Tray 4						
		0							
0b0007	FAX reception automatic output setting 2	7	STOP is effected for printing during reception	Utility Mode (2-5) Utility Mode Special Setting (6, 7)	0xd4	0xf4	0xd4	X0	07
		6	STOP is effected for printing after reception						
		5	Inched paper priority						
		4	Paper tray fixing 000:Tray 1 001:Tray 2 010:Tray 3 011:Tray 4 100: LCT 101: Auto						
		3							
		2							
		1	LG is used.						
		0	LT is used.						
0b0008	Setting of recording paper for reception	7	Selection without A5R 0: A4->B5 1: B5->A4 Only when all of the following conditions are met: A. Destination is “Japan” or “Europe”. B. Fax reception print is set as follows: [“Split print ON” or “Split print OFF”] and [Paper tray/paper size is auto] C. “Letter/Ledger over A4/A3 OFF”	Utility Mode (0, 1)	0x00	0x00	0x00	X0	08
		6							
		5							
		4							
		3							
		2							
		1	Paper select mode 00: APS 01: Recording paper designation mode 1 10: Recording paper designation mode 2						
		0							
0b0009	Setting of recording paper size for reception	7		Utility Mode	0x0f	0x1f	0x0f	X0	09
		6							
		5							
		4	01000: A3 01001: B4 01111: A4 10001: 8.5 x 14 11000: 11 x 17 11111: 8.5 x 11						
		3							
		2							
		1							
		0							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0b000a	Target reduction rate when A4/LTR is used	7	Target reduction rate when A4/LTR is used (HEX, %)	-	0x5a	0x5a	0x5a	X0	0A
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b000b	Other target reduction rate	7	Other target reduction rate (HEX, %)	-	0x5d	0x5d	0x5d	X0	0B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b000c	BOOT rewrite on FAX ISW	7		Utility Mode Special Setting (0)	0x00	0x00	0x00	X0	0C
		6							
		5							
		4							
		3							
		2							
		1							
		0	Boot area rewrite 0: No 1: Yes						
0b000d	Reduction rate used in APS	7	Received image reduction rate at APS (HEX, %)	-	0x5d	0x5d	0x5d	X0	0D
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b000e	Minimum reduction rate	7	Received image reduction rate at APS (A3/B4 width) (HEX, %)	Utility Mode	0x60	0x60	0x60	X0	0E
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b000f	Incomplete TX hold	7	Debug mode 0: OFF 1: ON (3min)	Utility Mode (0-3)	0x00	0x00	0x00	X0	0F
		6							
		5							
		4							
		3	File holding time 0000: 12 hours 0001: 24 hours 0010: 48 hours 0011: 72 hours						
		2							
		1							
		0							

5.23.2 0b001#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0b0010	Inter-station timer	7	HEX (unit: second)(00 - ffh)(00 means 03)	-	0x03	0x03	0x03	X0	10
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b0012 - 0b0015	Reserved area	7		-	0xff	0xff	0xff	X0	12 - 15
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b0016	PC-FAX RX	7	TSI routing function 0: OFF 1: ON	Utility Mode (0-5)	0x10	0x10	0x10	X0	16
		6	At operation with PC-FAX Rx code unspecified 0: PC Reception 1: Print						
		5	PC-FAX Rx print 0: No 1: Yes						
		4							
		3	PC-FAX reception mode 000: OFF 001: ON + Received at fixed box 010: Dialin + Received at fixed box 011: ON + Received at specified box 100: Dialin + Reception at specified box						
		2							
		1							
		0	Password check 0: OFF 1: ON						
0b0017 - 0b001f	PC-FAX reception password	7	ASCII 20 digits	Utility Mode	ALL 0x20	ALL 0x20	ALL 0x20	X0	17 – 1F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.3 0b002#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0b0020 - 0b002a	PC-FAX reception password	7	ASCII 20 digits	Utility Mode	ALL 0x20	ALL 0x20	ALL 0x20	X0	20 - 2A
		6							
		5							
		4							
		3							
		2							
		1							
		0							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0b002b	FAX reception automatic output setting 3	7		Utility Mode (0-3)	0x01	0x01	0x01	X0	2B
		6							
		5							
		4							
		3	Output No. of copies Setting range:0 - (15)						
		2							
		1							
		0							
0b002c	Setting for 2 lines	7	Line 2 transmission setting 00: Transmission/Reception 01: Reception only 10: Transmission only	Utility Mode (0)	0x00	0x00	0x00	X0	2C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b002d	PC-FAX Setting	7		Utility Mode (0-1)	0x00	0x00	0x00	X0	2D
		6							
		5							
		4							
		3							
		2							
		1	PC-FAX transmission line specification 00: Not specified 01: Line 1 10: Line 2 11: Reserved						
		0							

5.23.4 0b003#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0b0032	I-Fax encoding system capability (default for auto transmission capability)	7		Utility Mode (0)	0x04	0x04	0x04	X0	32
		6							
		5							
		4							
		3							
		2	000: (Setting prohibited) 001: MH 010: MR/MH 100: MMR/MR/MH						
		1							
		0							
0b0039	Communication function	7	Interception of 1-address transmission in broadcasting transmission 0: Permitted 1: Prohibited	Utility Mode (0-3)	0x44	0x44	0x44	X0	39
		6	ITI printing, unit ID preference function 0: Not preferred 1: Preferred						
		5	Dial number duplication check during broadcasting transmission 0: Checked 1: Not checked						
		4	F code transmission function 0: No 1: Yes						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3	Abandoning error pages during transmission 0: Not abandoned 1: Abandoned						
		2	Incomplete TX hold function 0: Yes 1: No						
		1	Relay reception function 0: Yes 1: No						
		0	Confidential reception function 0: Yes 1: No						
0b003a - 0b003f	Character ID [46]	7	ASCII [46] When ID is less than 46 digits, justify to the left and insert space at the top. (With NULL terminators)	Utility Mode Service Mode	ALL 0x00	ALL 0x00	ALL 0x00	X0	3A - 3F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.5 0b004#, 0b005#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0b0040 - 0b005f	Character ID [46]	7	ASCII [46] When ID is less than 46 digits, justify to the left and insert space at the top. (With NULL terminators)	Utility Mode Service Mode	ALL 0x00	ALL 0x00	ALL 0x00	X0	40 - 5F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.6 0b006#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0b0060 - 0b0067	Character ID [46]	7	ASCII [46] When ID is less than 46 digits, justify to the left and insert space at the top. (With NULL terminators)	Utility Mode Service Mode	ALL 0x00	ALL 0x00	ALL 0x00	X0	60 - 67
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b0068	Reception refuse	7		Utility Mode (0)	0x00	0x00	0x00	X0	68
		6							
		5							
		4							
		3							
		2							
		1							
		0	Call acceptance rejected - Number display 0: Disconnected line 1: No response						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0b0069	Recording paper priority selection	7		Utility Mode				X0	69
		6							
		5							
		4							
		3							
		2							
		1	00: Automatic selection 01: Fixed size 10: Priority						
		0							
0b006a	Box number error operation	7		Utility Mode	0x00	0x00	0x00	X0	6A
		6							
		5							
		4	Print or not print the images received when the TSI transfer terminates normally. 0:OFF 1:ON						
		3	Operation with no routing registration or no registered BOX upon the TSI routing turned ON 0: Print output 1: Saved in forced memory reception BOX						
		2	Reception of unregistered box sub No. 00: Print 01: Main line 10: Sub line						
		1							
		0							
0b006c	Reserved area	7		Utility Mode	0x00	0x00	0x00	X0	6C
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.7 0e000#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0000	Error line processing/ judgment	7	RTP transmission	-	0x01	0x01	0x82	X1	00
		6							
		5	Error line recirculation						
		4	Addition of error sign						
		3							
		2	Judgment of No. of sequential error lines						
		1	Error line rate judgment						
		0	Judgment of No. of error lines						
0e0001	No. of error lines-very good	7	No. of very good judgment lines (HEX) No. of error linesVeryGoodErrorNum, MCF is transmitted.	-	0x10	0x10	0x10	X1	01
		6							
		5							
		4							
		3							
		2							
		1							
		0							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0002	No. of error lines-good	7 6 5 4 3 2 1 0	No. of good judgment error lines (HEX) VeryGoodErrorNum<No. of error linesGoodErrorNum, RTP is transmitted	-	0x40	0x40	0x80	X1	02
0e0003	No. of error lines-bad	7 6 5 4 3 2 1 0	No. of bad judgment error lines (HEX) GoodErrorNum<No. of error lines BadErrorNum, RTN is transmitted. No. of error lines>BadErrorNum, it is considered to be error line over.	-	0x80	0x80	0xff	X1	03
0e0004	Rate of error lines-very good	7 6 5 4 3 2 1 0	Rate of very good judgment error lines (HEX, %) Rate of error linesVeryGoodErrorPercent, MCF is transmitted.	-	0x05	0x05	0x05	X1	04
0e0005	Rate of error lines-good	7 6 5 4 3 2 1 0	Rate of good judgment error lines (HEX, %) VeryGoodErrorPercent<Rate of error linesGoodErrorPercent, RTP is transmitted. Rate of error lines>GoodErrorPercent, RTN is transmitted.	-	0x0a	0x0a	0x0a	X1	05
0e0006	No. of continuous error lines-bad	7 6 5 4 3 2 1 0	No. of bad judgment sequential error lines (HEX) Normal No. of sequential error linesErrorContNormal, MCF is transmitted. No. of sequential error lines>ErrorContNormal, RTN is transmitted.	-	0x03	0x03	0x03	X1	06
0e0007	No. of continuous error lines-bad	7 6 5 4 3 2 1 0	No. of bad judgment sequential error lines (HEX) Fine No. of sequential error linesErrorContNormal, MCF is transmitted. No. of sequential error lines>ErrorContNormal, RTN is transmitted.	-	0x06	0x06	0x06	X1	07
0e0008	No. of continuous error lines-bad	7 6 5 4 3 2 1 0	No. of bad judgment sequential error lines (HEX) 300dpi No. of sequential error linesErrorContNormal, MCF is transmitted. No. of sequential error lines>ErrorContNormal, RTN is transmitted.	-	0x09	0x09	0x09	X1	08

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0009	No. of continuous error lines-bad	7	No. of bad judgment sequential error lines (HEX) Super fine No. of sequential error linesErrorContNormal, MCF is transmitted. No. of sequential error lines>ErrorContNormal, RTN is transmitted.	-	0x0c	0x0c	0x0c	X1	09
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e000a	EP tone addition	7		Utility Mode Special Setting (0,2)	0x06	0x06	0x06	X1	0A
		6							
		5							
		4							
		3							
		2	V.17						
		1							
		0	V.29						
0e000b	CED detection transmission frequency	7		-	0x00	0x00	0x00	X1	0B
		6							
		5							
		4							
		3							
		2							
		1	CED detection 0: Detect 1: Not detect						
		0	CED transmission frequency 0: 2100Hz						
0e000c	TSI/CSI/CIG parameter	7	TSI transmission 0: No 1: Always	-	0xe0	0xe0	0xe0	X1	0C
		6	CSI transmission 0: No 1: Always						
		5	CIG transmission 0: No 1: Always						
		4							
		3							
		2							
		1							
		0	Character ID is put on CSI.						
0e000d	G3 Mode Error	7	Ph-C8 min. limit timer at Non-ECM 0: No 1: Yes	Utility Mode Special Setting (6)	0x00	0x00	0x44	X1	0D
		6	Selection of “-”at dial top 0: OFF 1: ON						
		5	RTN reception 0: step down 1: Line disconnect						
		4	Remote reception 0: ID received 1: No limit						
		3	DIS retransmission interval in manual reception 0: 4.5 sec. 1: 3.0 sec.						
		2	DCN transmission at T200						
		1	DIS length at reception limited to 4byte 0: No limit 1: Limit						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0	DCN transmitted at stop of ph.C						
0e000e	Step up/down	7	Strict TCF check 0: Normal 1: Strict check	-	0x00	0x00	0x00	X1	0E
		6							
		5							
		4							
		3							
		2							
		1							
		0	The PC/BC of the PostMsg is checked while in the ECM reception. 0: Yes 1: No						
0e000f	Delay timer between DCS-TCF	7	DCS - TCF delay timer Unit: (10 ms, HEX)	Utility Mode Special Setting	0x08	0x08	0x08	X1	0F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.8 0e001#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0010	Delay timer between PIXPMC	7	PIX - PMC delay timer (Unit: 10 ms, HEX)	Utility Mode Special Setting	0x08	0x08	0x08	X1	10
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0011	Delay timer between CED-DIS	7	CED - DIS delay timer Unit: (10 ms, HEX)	Utility Mode Special Setting	0x08	0x08	0x08	X1	11
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0012	T1 timer for calling	7	T1 timer for transmission (Unit: 1 sec, HEX)	Utility Mode Special Setting	0x23	0x23	0x23	X1	12
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0013	T1 timer for called	7	T1 timer for reception (Unit: 1 sec, HEX)	Utility Mode Special Setting	0x23	0x23	0x23	X1	13
		6							
		5							
		4							
		3							
		2							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		1							
		0							
0e0014	ph.C reception limited time	7	Max. reception time per page (Unit: min, HEX) 1 to 255 min.	-	0x0f	0x0f	0x0f	X1	14
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0015	Timer between EOLs	7	EOL - EOL timer (Unit: 100 ms, HEX)	Utility Mode Special Setting	0x82	0x82	0x82	X1	15
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0016	Timer between frames	7	Timer between frames (Unit: 1 sec, HEX)	-	0x23	0x23	0x23	X1	16
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0017	ANSam signal transmission time	7	ANSam signal transmission time (Unit: 100 ms, HEX)	Utility Mode Special Setting	0x28	0x28	0x28	X1	17
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0018	Ci signal transmission time	7	Ci signal transmission time (Unit: 100 ms, HEX)	-	0x05	0x05	0x05	X1	18
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0019	High-speed signal transmission waiting delay timer	7	High-speed signal transmission waiting delay timer (Unit: 10 ms, HEX) (Between CFRPIX/MPS-PIX/ CTR-PIX)	-	0x37	0x37	0x37	X1	19
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e001a	ph.C top dummy data transmitting time	7	ph.C top dummy data transmission time (Unit: 100 ms, HEX) (Dummy data for non-ECM /Preamble at ECM)	-	0x04	0x04	0x04	X1	1A
		6							
		5							
		4							
		3							
		2							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		1							
		0							
0e001b	RTC Counter	7		-	0x01	0x01	0x01	X1	1B
		6							
		5							
		4							
		3							
		2	The EOL counter judged to be RTC 000: EOL*2 001: EOL*3 010: EOL*4 011: EOL*5 100: EOL*6						
		1							
		0							
0e001c	Closed area communication	7		-	0x00	0x00	0x00	X1	1C
		6							
		5							
		4							
		3							
		2	Polling TX						
		1	Polling RX						
		0							
0e001d - 0e001f	Machine password [20]	7	ASCII [20] When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminator)	Utility Mode	ALL 0x20	ALL 0x20	ALL 0x20	X1	1D - 1F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.9 0e002#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0020 - 0e002f	Machine password [20]	7	ASCII [20] When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminator)	Utility Mode	ALL 0x20	ALL 0x20	ALL 0x20	X1	20 - 2F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.10 0e003#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0030	Machine password [20]	7	ASCII [20] When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminator)	Utility Mode	0x20	0x20	0x20	X1	30
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0031 - 0e003f	CSRC password [20]	7	ASCII [20]	-	ALL 0x20	ALL 0x20	ALL 0x20	X1	31 - 3F
		6							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		5	When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminators)						
		4							
		3							
		2							
		1							
		0							

5.23.11 0e004#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0040 - 0e0044	CSRC password [20]	7	ASCII [20] When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminators)	-	ALL 0x20	ALL 0x20	ALL 0x20	X1	40 - 44
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0045	Watch dog	7		Utility Mode Special Setting (0)	0x01	0x01	0x01	X1	45
		6							
		5							
		4							
		3							
		2							
		1							
		0	Watch dog 0: OFF 1: ON						
0e0046	T2 timer after CFR	7	T2 timer value after CFR x100 ms (HEX)	Utility Mode Special Setting	0x3c	0x3c	0x3c	X1	46
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0047	T2 timer after EOM	7	T2 timer after EOM x100ms (HEX)	Utility Mode Special Setting	0x37	0x37	0x37	X1	47
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0048	JIM waiting timer	7	JM waiting timer value x100ms (HEX)	Utility Mode Special Setting	0x5a	0x5a	0x5a	X1	48
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0049	Destination	7	0: US 1: Canada 2: Japan 3: Australia 4: New Zealand	Service Mode	0x02	0x00	0x05	X1	49
		6							
		5							
		4							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3 2 1 0	5: Europe 6: Germany 7: UK 8: France 9: Switzerland 0A: Netherlands 0B: Belgium 0C: Australia 0D: Norway 0E: Sweden 0F: Finland 10: Ireland 11: Denmark 12: Italy 13: Spain 14: Portugal 15: Poland 16: South Africa 17: Taiwan 18: Saudi Arabia 19: China 1A: Malaysia 1B: Singapore 1C: Korea 1D: Hong Kong 1E: Generic (OT) 1F: Argentina 20: Brazil 21: Vietnam 22: Philippines 23: Russia						
0e004a	Function when DIS signal is created	7 6 5 4 3 2		-	0x01	0x01	0x01	X1	4A
		1	Change-over of the silent interval between ANSam and DIS (For revision T.30) 0: Silent interval of 450 ms 1: 75 ms						
		0	V8 capability, if available, of DIS to transmit with V.21 0: V.8 bit ON 1: V.8 bit OFF						
0e004b	Signal check at the time of F code communication	7 6 5 4 3 2 1		-	0x00	0x00	0x00	X1	4B
		0	Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished						
0e004c	No. of CI signal transmission in manual transmission	7 6 5 4 3 2 1 0	CI signal repetitive transmission frequency when no ANSam received after CI transmission (times, HEX)	-	0x03	0x03	0x03	X1	4C

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e004d	Tone detection time (PB)	7	PB OFF time integration 0 to 15 (x10ms) (50ms if 0)	-	0x55	0x55	0x55	X1	4D
		6							
		5							
		4							
		3	PB ON time integration 0 to 15 (x10ms) (50ms if 0)						
		2							
		1							
		0							
0e004e	Time for modem response waiting timeout	7	Waiting event from modem/ Response waiting timeout time (x10sec, HEX) (0 counted as 90 sec.)	-	0x00	0x00	0x00	X1	4E
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e004f	Continuous CRP reception frequency resulting in an error	7	Sequential CRP reception frequency resulting in error (x1 time, HEX) (0 counted as 3 times)	-	0x00	0x00	0x00	X1	4F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.12 0e005#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0050	1300Hz line seizure parameter detection time	7	1300Hz tone detection time for no-ringing reception (x100ms, HEX)	-	0x17	0x17	0x17	X1	50
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0051	1300 Hz tone detection frequency pattern	7		-	0x00	0x00	0x00	X1	51
		6							
		5							
		4							
		3							
		2							
		1							
		0	1300 Hz tone detection frequency pattern 00: 1300 Hz ±30 Hz 01: 1300 Hz ±10Hz						
0e0052	German specifications	7	Custom Mode (clears the FP overwrite of the error line relationship for EU destinations)	-	0x00	0x00	0x0f	X1	52
		6							
		5							
		4							
		3	ERR transmission (DTS sequence)						
		2	DCN reception error ignored						
		1	Line disconnected within 6 sec. after CD OFF in ph.C						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0	Line disconnected upon reception of DIS to DTC						
0e0053	Retransmission intervals of DIS (Auto reception)	7	DIS re-transmission interval in automatic reception (x0.1 sec.)	-	0x1e	0x1e	0x1e	X1	53
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0054	TTI for transmission	7		-	0x03	0x03	0x03	X1	54
		6							
		5							
		4							
		3							
		2							
		1	TTI in transmission TTI added 00: OFF 01: (OFF) 10: INSIDE 11: OUTSIDE						
		0							
0e0055	Image reduction parameter	7		-	0x00	0x00	0x00	X1	55
		6							
		5							
		4							
		3							
		2							
		1							
		0	Reduction parameter in main scanning direction 0: Thick line kept 1: Thick line not kept						
0e0056	Main body polling transmission command wait timer	7	Timer for waiting a transmission command (+FDT) from the main body during turnaround of polling transmission (x100ms, HEX) (0 is defaulted to 8 sec.)	-	0x08	0x08	0x08	X1	56
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0057	Guaranteed time to switch post message command receive modes	7	Guaranteed time to switch post message command receive modes (1-ms increments, HEX) *Translated to 50 ms when the value is "0".	-	0x00	0x00	0x00	X1	57
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0058 -	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	X1	58 -
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.13 12000#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
120000	TTI/RTI setting	7		Utility Mode (0, 1, 4)	0x03	0x03	0x03	X2	80
		6	SW for prohibiting the printing of the TTI address 0: Printing of the address allowed 1: Printing of the address not allowed						
		5	RTI addition 00:OFF 01: (OFF) 10: INSIDE 11: OUTSIDE						
		4							
		3	TTI denominator display 0: Total 1: Individual						
		2	Inhibition of TTI setting menu INSIDE display 0: No 1: Yes						
		1							
		0							
120001	Report setting 1	7		Utility Mode (2-5) Utility Mode Special Setting (6)	6c	6c	6c	X2	81
		6	Addition of image 0: No 1: Yes						
		5	Automatic output of reserved report 0: No 1: Yes						
		4	TX result report 00: Not output 01: Output only at errors 10: Always output 11: (Normal output)						
		3							
		2	Automatic output of sequential communication report 0: No 1: ON						
		1							
		0							
120002	Report setting 2	7	The FAX CSRC communication log is printed on the Activity Report 0: No 1: Yes	Utility Mode (0-2) Utility Mode Special Setting (0,1)	0x04	0x04	0x04	X2	82
		6							
		5							
		4							
		3	Automatic daily output of journal 0: No 1: Yes						
		2	Automatic output of journal 100 communication 0: No 1: Yes						
		1	Automatic output or error trace list 0: No 1: Yes						
		0	Automatic output of trace list 0: No 1: Yes						
120003	Output time of daily automatic output of journal (hour: grade of 10)	7	Designation of 24 hours ASCII four digit	-	0x30	0x30	0x30	X2	83
		6							
		5							
		4							
		3							
		2							
		1							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0							
120004	Output time of daily automatic output of journal (hour: grade of 1)	7	Designation of 24 hours ASCII four digit	-	0x39	0x39	0x39	X2	84
		6							
		5							
		4							
		3							
		2							
		1							
		0							
120005	Output time of daily automatic output of journal (minute: grade of 10)	7	Designation of 24 hours ASCII four digit	-	0x30	0x30	0x30	X2	85
		6							
		5							
		4							
		3							
		2							
		1							
		0							
120006	Output time of daily automatic output of journal (minute: grade of 1)	7	Designation of 24 hours ASCII four digit	-	0x30	0x30	0x30	X2	86
		6							
		5							
		4							
		3							
		2							
		1							
		0							
120007	Output settings	7	Setting of daily difference for daily mode set for automatic output 0: Daily difference not limited 1: Daily difference limited	Utility Mode (3-5) Utility Mode Special Setting (0)	0x00	0x00	0x00	X2	87
		6							
		5	Transmission result report selection screen 0: Not displayed 1: Displayed						
		4	Broadcast result report output method 0: All destinations 1: 1Each destination						
		3							
		2	Output order of journal transmission result reservation report 0: From old one 1: From new one						
		1							
		0							
120008	Invisible mode	7		-	0x00	0x00	0x00	X2	88
		6							
		5							
		4							
		3							
		2	Display of PCFAX TX [PC] in Note of report 0: No 1: Yes						
		1							
		0	Details of remote station display during program direct registered calls and abbreviated dialing 0: Display of registered name 1: Display of number						
120009	Reserved area	7		-	0x00	0x00	0x00	X2	89

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		6							
		5							
		4							
		3							
		2							
		1							
		0							
12000b	F code report setting	7		Utility Mode (0-3)	0x0f	0x0f	0x0f	X2	8B
		6							
		5							
		4							
		3	Relay request report output 0: No 1: Yes						
		2	Relay TX result report output 0: No 1: Yes						
		1	Bulletin polling transmission report output 0: No 1: Yes						
		0	Confidential reception report output 0: No 1: Yes						
12000c	Internet Fax report Setting	7		Utility Mode	0x61	0x61	0x61	X2	8C
		6	Network Fax RX Error Report 0: OFF 1: ON						
		5	Internet Broadcast Fax Result Report 0: OFF 1: ON						
		4							
		3	E-Mail Message Body printing 0: ON 1: OFF						
		2	TX Error Report printing 0: ON 1: OFF						
		1	MDN Message printing 0: ON 1: OFF						
		0	DSN Message printing 0: ON 1: OFF						
12000d	FAX report setting	7		Utility Mode	0x00	0x00	0x00	X2	8D
		6							
		5							
		4							
		3							
		2							
		1	PC-Fax Error report output 0: No 1: Yes						
		0	Relay print 0: No 1: Yes						
12000e - 12000f	Reserved area	7		-	0x00	0x00	0x00	X2	8E - 8F
		6							
		5							
		4							
		3							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		2							
		1							
		0							

5.23.14 13000#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
130000	Reserved area	7		-	-	-	-	XE	00
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130001	FAX scan HP2	7	Frame erasure HP 01: 5 mm 10: 10 mm 11: 15 mm	-	0x41	0x41	0x41	XE	01
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130002	FAX scan HP3	7		-	0x04	0x04	0x04	XE	02
		6							
		5							
		4							
		3							
		2	Original reading mode 00: Normal 01: Mixed size 10: DF irregular						
		1							
		0	Page transfer read mode 0: Scans from the left 1: Scans from the right						
130003	Reserved area	7		-	-	-	-	XE	03
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130004	Reserved area	7		-	-	-	-	XE	04
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130005	Reserved area	7		-	-	-	-	XE	05
		6							
		5							
		4							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3							
		2							
		1							
		0							
130006	Reserved area	7		-	-	-	-	XE	06
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130007	HP for FAX main screen	7	FAX main screen selection 0000: Program 0001: Group 0010: Abbreviation 0011: Keypad 0100: i-Fax	-	0x09	0x09	0x09	XE	07
		6							
		5							
		4							
		3	Automatic screen switching at the time of reception 0: ON 1:OFF						
		2							
		1							
		0							
130008	Rotation setting HP	7		-	0x03	0x03	0x03	XE	08
		6							
		5							
		4							
		3							
		2							
		1	Letter 0: No 1: Yes						
		0	A4 0: No 1: Yes						
130009	Reserved area	7		-	-	-	-	XE	09
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13000a	Not used	7		-	-	-	-	XE	0A
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13000b	Error display time	7	10 - 250 seconds 0: Error display HOLD	-	0x14	0x14	0x14	XE	0B
		6							
		5							
		4							
		3							
		2							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		1							
		0							
13000c	Reserved area	7		-	-	-	-	XE	0C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13000d	Reserved area	7		-	-	-	-	XE	0D
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13000e - 13000f	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	XE	0E - 0F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.15 13001#, 13002#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
130010 - 13002f	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	XE	10 - 2F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.16 13003#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
130030 - 130034	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	XE	30 - 34
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130035	Utility Mode display setting	7	Relay display 0: Yes 1: No	Utility Mode Special Setting	0x00	0x0b	0x0b	XE	35
		6							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		5	Incomplete TX hold display 0: Yes 1: No						
		4	Compulsory memory reception display 0: Yes 1: No						
		3	Caller No./Name display 0: Yes 1: No						
		2	Closed communication display 0: Yes 1: No						
		1	Remote reception display 0: Yes 1: No						
		0	DialIn display 0: Yes 1: No						
130036	Utility Mode display setting 2	7		-	0x05	0x0f	0x07	XE	36
		6							
		5							
		4							
		3	OFF display of Header Position 0: Yes 1: No						
		2							
		1	Receive reject display 0: Yes 1: No						
		0							
130037	Not used	7		-	-	-	-	XE	37
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130038	Destination default screen setting	7	0x00: Group 0x01: FAX 0x02: E-mail 0x03: BOX 0x04: I-Fax 0x05: IP address FAX 0x06: SMB 0x07: FTP 0x08: WebDAV	-	0x00	0x00	0x00	XE	38
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130039 - 13003f	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	XE	39 - 3F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.17 13004#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
130040 - 130044	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	XE	40 - 44
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130045 - 13004f	DialIn additional No. (FAX)	7	ASCII 11 digits + NULL	-	ALL 0x00	ALL 0x00	ALL 0x00	XE	45 - 4F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.18 13005#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
130050	DialIn additional No. (FAX)	7	ASCII 11 digits + NULL	-	0x00	0x00	0x00	XE	50
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130051 - 13005c	DialIn additional No. (PC-FAX)	7	ASCII 11 digits + NULL	-	ALL 0x00	ALL 0x00	ALL 0x00	XE	51 - 5C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13005d - 13005f	DialIn additional No. (telephone)	7	ASCII 11 digits + NULL	-	ALL 0x00	ALL 0x00	ALL 0x00	XE	5D - 5F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.19 13006#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
130060 - 130068	DialIn additional No. (telephone)	7	ASCII 11 digits + NULL	-	ALL 0x00	ALL 0x00	ALL 0x00	XE	60 - 68
		6							
		5							
		4							
		3							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		2							
		1							
		0							
130069	Upper limit for signal transmission level setting	7	(-dBm) Switched according to destination of FAX	-	0x0a	0x0a	0x08	XE	69
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13006a	Lower limit for call termination frequency setting range	7	(No. of times) Switched according to destination of FAX	-	0x00	0x00	0x00	XE	6A
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13006b	Upper limit for call termination frequency setting range	7	(No. of times) Switched according to destination of FAX	-	0x0f	0x0f	0x0f	XE	6B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13006c	Dial method setting	7		-	0x00	0x22	0x11	XE	6C
		6							
		5							
		4							
		3							
		2							
		1	Dial method setting (Switched according to destination of FAX) 00: PB, 10pps, 20pps 01: PB 10: PB, 10pps 11: PB, 10pps, 16pps						
		0							
13006d	Upper limit for redial frequency setting range	7	(No. of times) Switched according to destination of FAX	-	0x07	0x01	0x07	XE	6D
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13006e	Upper limit for redial interval setting range	7	(Minutes) Switched according to destination of FAX	-	0x01	0x01	0x01	XE	6E
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13006f	Lower limit for redial interval setting range	7	(Minutes) Switched according to destination of FAX	-	0x0f	0x0f	0x0f	XE	6F
		6							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		5							
		4							
		3							
		2							
		1							
		0							

5.23.20 13007#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
130070	Telephone-related function setting menu display (1)	7		-	0x7f	0x00	0x00	XE	70
		6	Remote reception 0: OFF 1: ON						
		5	Dial-in 0: OFF 1: ON						
		4	Number display 0: OFF 1: ON						
		3	Pseudo RBT form 0: OFF 1: ON						
		2	Pseudo RBT transmission level 0: OFF 1: ON						
		1	Connection to answering machine 0: OFF 1: ON						
		0	TEL/FAX switching 0: OFF 1: ON						
130071	Number display related function setting	7		-	0x00	0x00	0x00	XE	71
		6							
		5							
		4							
		3							
		2							
		1	Name displayed Type of display at fax reception 00: No display 01: Display of number 10: Display of name						
		0							
130072	Setting of lower limit for DTMF transmission level setting range	7	(-dBm) Switched according to destination of FAX	-	0x0e	0x0f	0x09	XE	72
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130073	Setting of upper limit for DTMF transmission level setting range	7	(-dBm) Switched according to destination of FAX	-	0x0a	0x0a	0x05	XE	73
		6							
		5							
		4							
		3							
		2							
		1							
		0							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
130074	Setting of lower limit for DTMF H-L level difference setting range	7	(dB) Switched according to destination of FAX	-	0x01	0x01	0x01	XE	74
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130075	Setting of upper limit for DTMF H-L level difference setting range	7	(dB) Switched according to destination of FAX	-	0x04	0x04	0x04	XE	75
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130076	For transmission	7		-	0x00	0x00	0x00	XE	76
		6							
		5							
		4							
		3							
		2	Restrict Plural Fax Destination 0: OFF 1: ON						
		1	Destination Check Display Function 0: OFF 1: ON						
		0	Screen display during transmission 0 :OFF 1: ON						
130077	Lower limit setting of the signal send-out level setting range	7	(-dBm) Switched according to destination of FAX	-	0x0f	0x0f	0x0f	XE	77
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130078 - 13007b	Character-to-search default for FAX main screen	7	bit0 :[Main] 0: OFF, 1: ON bit10 :[ABC] 0: OFF, 1: ON bit11 :[DEF] 0: OFF, 1: ON bit12 :[GHI] 0: OFF, 1: ON bit13 :[JKL] 0: OFF, 1: ON bit14 :[MNO] 0: OFF, 1: ON bit15 :[PQRS] 0: OFF, 1: ON bit16 :[TUV] 0: OFF, 1: ON bit17 :[WXYZ] 0: OFF, 1: ON bit18 :[etc] 0: OFF, 1: ON	-	0x01	0x01	0x01	XE	78 - 7B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13007c	Not used	7		-				XE	7C
		6							
		5							
		4							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3							
		2							
		1							
		0							
13007d	Initial program display page	7	1 - 27 page (HEX: 0x01 - 0x1b), 0: Temporary distribution	-	0x01	0x01	0x01	XE	7D
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.21 13008#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
130080 - 130083	Destination type display setting	7	0: Do not display 1: Display	-	0x00 0x00 0x00 0x01	0x00 0x00 0x00 0x01	0x00 0x00 0x00 0x01	XE	80-83
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130084	No. of destination display characters setting	7	0x0e: 14 characters 0x18: 24 characters	-	0x0e	0x0e	0x0e	XE	84
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.22 98000#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
980000	Lower limit of receive time interval setting	7	(Seconds)	-	0x00	0x00	0x00	XE	-
		6							
		5							
		4							
		3							
		2							
		1							
		0							
980001	Upper limit of receive time interval setting	7	(Seconds)	-	0x2d	0x2d	0x2d	XE	-
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.23 0e009#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0090	Transmission ATT	7	Tone signal/FSK transmission ATT (HEX) every 1 dBm (0 to -15dBm)	Utility Mode Special Setting	0xaa	0xaa	0xaa	XB	00
		6							
		5							
		4							
		3	High-speed signal transmission ATT (HEX) every 1 dBm (0 to -15dBm)						
		2							
		1							
		0							
0e0091	CED transmission ATT	7		Utility Mode Special Setting (0-3)	0x0a	0x0a	0x0a	XB	01
		6							
		5							
		4							
		3	CED/ANS transmission ATT (HEX) every 1 dBm (0 to -15dBm)						
		2							
		1							
		0							
0e0092	CD/SED ON level	7		Utility Mode Special Setting (0,1)	0x03	0x03	0x03	XB	02
		6							
		5							
		4							
		3							
		2							
		1	CD/SED ON level [dBm]						
		0	00: -33 01: -38 10: -43 11: -48						
0e0093	Cable equalizer	7		Utility Mode Special Setting (4,5)	0x00	0x00	0x00	XB	03
		6							
		5	Cable EQL transmission selection						
		4	00: OFF 01: Send only 10: Receive only 11: Send and receive						
		3							
		2							
		1	Cable EQL parameter selection						
		0	00: 1.8 km 01: 3.6km 10: 7.2km 11: NTT4						
0e0094	V34 Points	7		Utility Mode Special Setting (4,5)	0x00	0x00	0x00	XB	04
		6							
		5							
		4							
		3							
		2							
		1	V34 Point						
		0	00: Auto 01: 16-point 10: 4-point						
0e0095	TEL/FAX switching (For Japan models only)	7	Time from vocal response to RBT transmission (CNG detection waiting time 2) 0: 4 sec. 1: 2 sec.	Utility Mode Special Setting (4,5)	0x00	0x00	0x00	XB	05
		6	Time from reception to voice response transmission (CNG detection waiting time 1) 0: 2 sec. 1: 4 sec.						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		5	TEL/FAX switching mode 0: Disabled 1: Enabled						
		4	External telephone no ringing setting 0: Disabled 1: Enabled (disconnected)						
		3	TEL/FAX switching ON response details 0: Voice response + RBT transmission 1: RBT transmission only						
		2							
		1							
		0							
0e0096	Ring Back Tone parameter (For Japan models only)	7 6 5	RBT form 000: No 001: Japan 010: US 011: UK 100: Germany 101 to 111: Others	Utility Mode Special Setting (0-3,5-7)	0x2a	0x4a	0x68	XB	06
		4	CED transmitted upon TEL/FAX switching						
		3 2 1 0	RBT transmission level (HEX) 0 to -15 dBm						
0e0097	International com mode operation	7	DIS waiting frequency 0: Always once 1: Twice in overseas communication	Utility Mode Special Setting (6,7)	0x40	0x40	0x40	XB	07
		6	Overseas communication 0: No 1: Yes						
		5							
		4							
		3							
		2							
		1							
		0							
0e0098	Starting speed in international mode (V29 modem)	7 6 5		Utility Mode Special Setting (0,1,3,4)	0x02	0x02	0x02	XB	08
		4	9600 bps/V.29						
		3	7200 bps/V.29						
		2							
		1	4800 bps/V.27 ter						
		0	2400 bps/V.27 ter						
0e0099	Starting speed in international mode (V17 or V33 modem)	7	14400 bps/V.17	Utility Mode Special Setting (4-7)	0x10	0x10	0x10	XB	09
		6	12000 bps/V.17						
		5	9600 bps/V.17						
		4	7200 bps/V.17						
		3							
		2							
		1							
		0							
0e009a	Starting speed in international mode (V34)	7	33600 bps/V.34	Utility Mode Special Setting	0x20	0x20	0x20	XB	0A
		6	31200 bps/V.34						
		5	28800 bps/V.34						
		4	26400 bps/V.34						
		3	24000 bps/V.34						
		2	21600 bps/V.34						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		1	19200 bps/V.34						
		0	16800 bps/V.34						
0e009b	CD OFF timer	7	CD OFF timer (Unit: 100 ms, HEX)	-	0x14	0x14	0x14	XB	0B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e009c	CD ON integration time	7	CD ON integration time (Unit: 100 ms. HEX)	-	0x06	0x06	0x06	XB	0C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e009d	Max. allowable symbol speed	7	V34 controll ch data rate 0: 1200 1: 2400	Utility Mode Special Setting (0-3,7)	0x05	0x05	0x05	XB	0D
		6							
		5							
		4							
		3	Max. allowable symbol speed 0000: 2400 0001: Reserved 0010: 2800 0011: 3000 0100: 3200 0101: 3429						
		2							
		1							
		0							
0e009e	V34 primary channel fallback	7	No. of frame errors subjected to fallback (HEX)	-	0x03	0x03	0x03	XB	0E
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.24 0e00a#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00a0	V34 off Rx-V34 off time after error	7	Timer value after V34 reception error used to reset V34 off reception (min, HEX) (Valid only when transmission side cannot be specified)	-	0x0a	0x0a	0x0a	XB	10
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00a1	V34 off Rx-V17 OK Rx times to reset V34 off Rx	7	No. of continuous success of V17 receptions used to reset V34 off reception after V34 reception error (times, HEX) (Valid only when transmission side can be specified with Caller ID)	-	0x0a	0x0a	0x0a	XB	11
		6							
		5							
		4							
		3							
		2							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		1							
		0							
0e00a2	(Inhibit of) V34 off Rx-Function ON/OFF	7	V34 off function for manual reception 0: Enable 1: Disable	-	0x00	0x02	0x02	XB	12
		6							
		5							
		4							
		3							
		2							
		1	V.34 OFF reset mode = No. of successful consecutive V.17 reception times (ID specified) 0: Enabled 1: Disabled						
		0	V.34 OFF reset mode = time (ID cannot be specified) 0: Enabled 1: Disabled						
0e00a3	JBIG parameter	7		-	0x01	0x01	0x01	XB	13
		6							
		5							
		4							
		3							
		2							
		1	Use of following FP JBIG option LO size at reduction 0: No 1: Yes						
		0	JBIG optional L0 capacity 0: No 1: Yes						
0e00a4	JBIG LO size	7	JBIG optional LO size used for reduction (HEX) (setting range: 0x01to0xffffffff) [0] = HH, [1] = HL, [2] = LH, [3] = LL	-	0x00 0x00 0x00 0x80	0x00 0x00 0x00 0x80	0x00 0x00 0x00 0x80	XB	14
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00a8	(Inhibit of) JBIG off Rx-Function ON/OFF	7		-	0x00	0x00	0x00	XB	18
		6							
		5							
		4							
		3							
		2							
		1	JBIG off function at A3 high-definition reception (DIS retransmission) 0:OFF 1: ON						
		0	JBIG off function after JBIG reception error 0: Enable 1: Disable						
0e00a9	JBIG off Rx-JBIG off time after error	7	Timer value after JBIG reception error to reset JBIG off reception (min, HEX) (10 min. if 0)	-	0x0a	0x0a	0x0a	XB	19
		6							
		5							
		4							
		3							
		2							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		1							
		0							
0e00aa	PBX dial tone detection frequency pattern	7		-	0x08	0x00	0x00	XB	1A
		6	Tone type 0: Single 1: Dual						
		5							
		4	PBX dial tone detection frequency pattern 1: 155 +-65 Hz 2: 375 +-125 Hz 3: 400 +-90 Hz 4: 400 +-100 Hz 5: 420 +-90 Hz 6: 425 +-75 Hz 7: 425 +-95 Hz 8: 425 +-125 Hz 9: 430 +-90 Hz 10: 435 +-85 Hz 11: 440 +-90 Hz 12: 445 +-125 Hz 13: 450 +-50 Hz 14: 450 +-70 Hz 15: 450 +-100 Hz 16: 450 +-120 Hz 17: 460 +-140 Hz 18: 465 +-205 Hz 19: 475 +-175 Hz 20: 480 +-90 Hz 21: 480+- 190 Hz 22: 1155 +-25 Hz					
		3							
		2							
		1							
		0							
0e00ab	PBX dial tone detection time	7	PBX dial tone detection time or max. ON time value (unit: 20 ms, HEX)	-	0x32	0x00	0x00	XB	1B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00ac	PBX dial tone ON time min. value	7	PBX dial tone ON time min. value (unit: 20ms, HEX)	-	0x00	0x00	0x00	XB	1C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00ad	PBX dial tone OFF time max. value	7	PBX dial tone OFF time max. value (unit: 20 ms, HEX)	-	0x00	0x00	0x00	XB	1D
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00ae	PBX dial tone OFF time min. value	7	PBX dial tone OFF time min. value (unit: 20 ms, HEX)	-	0x00	0x00	0x00	XB	1E
		6							
		5							
		4							
		3							
		2							
		1							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0							
0e00af	PBX dial tone waiting time	7	PBX dial tone waiting time or pre-pause time (unit: 1 sec, HEX)	-	0x03	0x03	0x03	XB	1F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.25 0e00b#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00b0	PBX dial tone instantaneous break detection time	7	Instantaneous shutdown time (unit: 20 ms, HEX) or tone detection frequency (times, HEX)	-	0x00	0x00	0x00	XB	20
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00b1	1st dial tone detection frequency pattern	7		-	0x08	0x35	0x13	XB	21
		6	Tone type 0: Single 1: Dual						
		5							
		4	1st dial tone detection frequency pattern 1: 155 +-65 Hz 2: 375 +-125 Hz 3: 400 +-90 Hz 4: 400 +-100 Hz 5: 420 +-90 Hz 6: 425 +-75 Hz 7: 425 +-95 Hz 8: 425 +-125 Hz 9: 430 +-90 Hz 10: 435 +-85 Hz 11: 440 +-90 Hz 12: 445 +-125 Hz 13: 450 +-50 Hz 14: 450 +-70 Hz 15: 450 +-100 Hz 16: 450 +-120 Hz 17: 460 +-140 Hz 18: 465 +-205 Hz 19: 475 +-175 Hz 20: 480 +-90 Hz 21: 480+- 190 Hz 22: 1155 +-25 Hz					
		3							
		2							
		1							
		0							
0e00b2	1st dial tone detection time	7	1st dial tone detection time or ON time max. value (unit: 20 ms, HEX)	-	0x32	0x32	0x1a	XB	22
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00b3	1st dial tone ON time min. value	7	1st dial tone ON time min. value (unit: 20 ms, HEX)	-	0x00	0x00	0x00	XB	23
		6							
		5							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		4							
		3							
		2							
		1							
		0							
0e00b4	1st dial tone OFF time max. value	7	1st dial tone OFF time max. value (unit: 20 ms, HEX)	-	0x00	0x00	0x00	XB	24
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00b5	1st dial tone OFF time min. value	7	1st dial tone OFF time min. value (unit: 20 ms, HEX)	-	0x00	0x00	0x00	XB	25
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00b6	1st dial tone waiting time	7	1st dial tone waiting time or pre-pause time (unit: 1 sec, HEX)	-	0x03	0x03	0x04	XB	26
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00b7	1st dial tone instantaneous break detection time	7	Instantaneous shutdown time (unit: 20 ms, HEX) or tone detection frequency (times, HEX)	-	0x00	0x00	0x05	XB	27
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00b8	2nd dial tone detection pattern	7		-	0x08	0x00	0x00	XB	28
		6	Tone type 0: Single 1: Dual						
		5							
		4	2nd dial tone detection pattern 1: 155 +-65 Hz 2: 375 +-125 Hz 3: 400 +-90 Hz 4: 400 +-100 Hz 5: 420 +-90 Hz 6: 425 +-75 Hz 7: 425 +-95 Hz 8: 425 +-125 Hz 9: 430 +-90 Hz 10: 435 +-85 Hz 11: 440 +-90 Hz 12: 445 +-125 Hz 13: 450 +-50 Hz 14: 450 +-70 Hz 15: 450 +-100 Hz 16: 450 +-120 Hz 17: 460 +-140 Hz 18: 465 +-205 Hz					
		3							
		2							
		1							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0	19: 475 +-175 Hz 20: 480 +-90 Hz 21: 480+- 190 Hz 22: 1155 +-25 Hz						
0e00b9	2nd dial tone detection time	7	2nd dial tone detection time or ON time max. value (unit: 20 ms, HEX)	-	0x08	0x00	0x00	XB	29
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00ba	2nd dial tone ON time min. value	7	2nd dial tone ON time min. value (unit: 20 ms, HEX)	-	0x02	0x00	0x00	XB	2A
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00bb	2nd dial tone OFF time max. value	7	2nd dial tone OFF time max. value (unit: 20 ms, HEX)	-	0x0a	0x00	0x00	XB	2B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00bc	2nd dial tone OFF time min. value	7	2nd dial tone OFF time min. value (unit: 20 ms, HEX)	-	0x04	0x00	0x00	XB	2C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00bd	2nd dial tone waiting time	7	2nd dial tone waiting time or pre-pause time (unit: 1 sec, HEX)	-	0x03	0x03	0x03	XB	2D
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00be	2nd dial tone instantaneous break detection time	7	Instantaneous shutdown detection time (unit: 20 ms, HEX) or tone detection frequency (times, HEX)	-	0x03	0x00	0x00	XB	2E
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00bf	3rd dial tone detection pattern	7		-	0x00	0x00	0x00	XB	2F
		6	Tone type 0: Single 1: Dual						
		5							
		4	3 RD dial tone detection pattern						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3 2 1 0	1: 155 +-65 Hz 2: 375 +-125 Hz 3: 400 +-90 Hz 4: 400 +-100 Hz 5: 420 +-90 Hz 6: 425 +-75 Hz 7: 425 +-95 Hz 8: 425 +-125 Hz 9: 430 +-90 Hz 10: 435 +-85 Hz 11: 440 +-90 Hz 12: 445 +-125 Hz 13: 450 +-50 Hz 14: 450 +-70 Hz 15: 450 +-100 Hz 16: 450 +-120 Hz 17: 460 +-140 Hz 18: 465 +-205 Hz 19: 475 +-175 Hz 20: 480 +-90 Hz 21: 480+- 190 Hz 22: 1155 +-25 Hz						

5.23.26 0e00c#

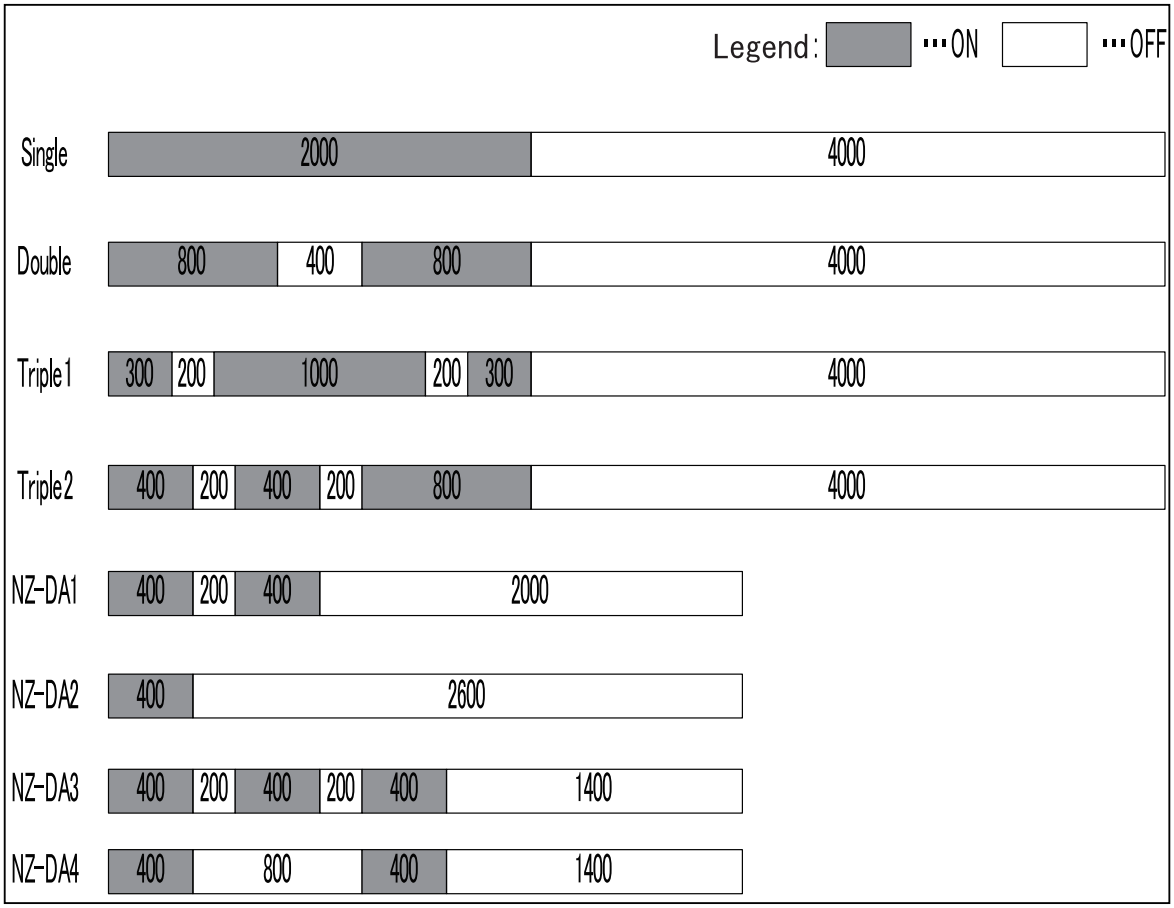
Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00c0	Busy dial tone detection pattern	7		-	0x08	0x55	0x09	XB	30
		6	Tone type 0:Single 1:Dual						
		5							
		4 3 2 1 0	Busy dial tone detection pattern 1: 155 +-65 Hz 2: 375 +-125 Hz 3: 400 +-90 Hz 4: 400 +-100 Hz 5: 420 +-90 Hz 6: 425 +-75 Hz 7: 425 +-95 Hz 8: 425 +-125 Hz 9: 430 +-90 Hz 10: 435 +-85 Hz 11: 440 +-90 Hz 12: 445 +-125 Hz 13: 450 +-50 Hz 14: 450 +-70 Hz 15: 450 +-100 Hz 16: 450 +-120 Hz 17: 460 +-140 Hz 18: 465 +-205 Hz 19: 475 +-175 Hz 20: 480 +-90 Hz 21: 480+- 190 Hz 22: 1155 +-25 Hz						
0e00c1	Busy tone ON time max. value	7 6 5 4 3 2 1 0	Busy tone ON time max. value (unit: 20 ms, HEX)	-	0x1e	0x1e	0x00	XB	31
0e00c2	Busy tone ON time min. value	7 6 5 4	Busy tone ON time min. value (unit: 20 ms, HEX)	-	0x14	0x14	0x00	XB	32

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3							
		2							
		1							
		0							
0e00c3	Busy tone OFF time max. value	7	Busy tone OFF time max. value (unit: 20 ms, HEX)	-	0x1e	0x1e	0x00	XB	33
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00c4	Busy tone OFF time min. value	7	Busy tone OFF time min. value (unit: 20 ms, HEX)	-	0x14	0x14	0x00	XB	34
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00c5	Ringer detection pattern	7	Custom mode 0: OFF (in accordance with bits 3-0) 1: ON (in accordance with bits 5-4)	-	0x00	0x00	0x00	XB	35
		6							
		5	Custom mode ringer detection pattern 00: Single 01: Double 10: Triple *The standard time is configured with DRPD_Custom[]. Configure commonly with DRPD_1st[] through 3rd[] to adjust the detection time.						
		4							
		3	Ringer detection pattern 0000: Nomal 0001: DRPD_Single 0010: DRPD_Double 0011: DRPD_Triple1 0100: DRPD_Triple2 0101: DRPD_NZDA1 0110: DRPD_NZDA2 0111: DRPD_NZDA3 1000: DRPD_NZDA4 1001: DRPD_Duet *Normal conforms to Ringer[2] through [5] as usual. *For DRPD, configure the margin time (min, max) from the standard time*1.						
		2							
		1							
		0							
0e00c6	Ringer detection frequency upper limits	7	Ringer detection frequency upper limit (unit: 1 Hz, HEX)	-	0x46	0x46	0x46	XB	36
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00c7	Ringer detection frequency lower limits	7	Ringer detection frequency lower limit (unit: 1 Hz, HEX)	-	0x0c	0x0c	0x0c	XB	37
		6							
		5							
		4							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3							
		2							
		1							
		0							
0e00c8	Ringer ON time max. value	7	Ringer ON time max. value (unit: 20 ms, HEX)	-	0x00	0x00	0x00	XB	38
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00c9	Ringer ON time min. value	7	Ringer ON time min. value (unit: 20 ms, HEX)	-	0x0a	0x0a	0x08	XB	39
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00ca	Ringer OFF time max. value	7	Ringer OFF time max. value (unit: 100 ms, HEX)	-	0x3c	0x3c	0x46	XB	3A
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00cb	Ringer OFF time min. value	7	Ringer OFF time min. value (unit: 100 ms, HEX)	Utility Mode Special Setting	0x02	0x00	0x00	XB	3B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00cc	DRPD Ringer ON time max. value	7	DRPD Ringer ON time max. value (unit: 20 ms, HEX)	-	0x09	0x09	0x09	XB	3C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00cd	DRPD ringer ON time min. value	7	DRPD ringer ON time min. value (in 20-ms increments, HEX)	-	0x09	0x09	0x09	XB	3D
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00ce	DRPD ringer OFF time max. value	7	DRPD ringer OFF time max. value (in 20-ms increments, HEX)	-	0x09	0x09	0x09	XB	3E
		6							
		5							
		4							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3							
		2							
		1							
		0							
0e00cf	DRPD ringer OFF time min. value	7	DRPD ringer OFF time min. value (in 20-ms increments, HEX)	-	0x09	0x09	0x09	XB	3F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

- *1: DRPD standard time



5.23.27 0e00d#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00d0	DRPD max. adjustment value for max. OFF time	7	DRPD max. adjustment value for max. OFF time (100-ms increments, HEX)	-	0x05	0x05	0x05	XB	40
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d1	DRPD min. adjustment value for max. OFF time	7	DRPD ringer min. adjustment value for max. OFF time (100-ms increments, HEX)	-	0x05	0x05	0x05	XB	41
		6							
		5							
		4							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3							
		2							
		1							
		0							
0e00d2	DRPD single ring stop detection time	7	DRPD single ring stop detection time (100-ms increments, HEX)	-	0x50	0x50	0x50	XB	42
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d3	DRPD double ring stop detection time	7	DRPD double ring stop detection time (100-ms increments, HEX)	-	0x50	0x50	0x50	XB	43
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d4	DRPD Triple1 ring stop detection time	7	DRPD Triple1 ring stop detection time (100-ms increments, HEX)	-	0x50	0x50	0x50	XB	44
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d5	DRPD Triple2 ring stop detection time	7	DRPD Triple2 ring stop detection time (100-ms increments, HEX)	-	0x50	0x50	0x50	XB	45
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d6	DRPD NZ-DA1 ring stop detection time	7	DRPD NZ-DA1 ring stop detection time (100-ms increments, HEX)	-	0x3C	0x3C	0x3C	XB	46
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d7	DRPD NZ-DA2 ring stop detection time	7	DRPD NZ-DA2 ring stop detection time (100-ms increments, HEX)	-	0x3C	0x3C	0x3C	XB	47
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d8	DRPD NZ-DA3 ring stop detection time	7	DRPD NZ-DA3 ring stop detection time (100-ms increments, HEX)	-	0x32	0x32	0x32	XB	48
		6							
		5							
		4							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3							
		2							
		1							
		0							
0e00d9	DRPD NZ-DA4 ring stop detection time	7	DRPD NZ-DA4 ring stop detection time (100-ms increments, HEX)	-	0x32	0x32	0x32	XB	49
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00da	Custom 1s ringer ON time specified value	7	Custom 1st ringer ON time specified value (100-ms increments, HEX)	-	0x00	0x00	0x00	XB	4A
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00db	Custom 1st ringer OFF time specified value	7	Custom 1st ringer OFF time specified value (100-ms increments, HEX)	-	0x00	0x00	0x00	XB	4B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00dc	Custom 2nd ringer ON time specified value	7	Custom 2nd ringer ON time specified value (100-ms increments, HEX)	-	0x00	0x00	0x00	XB	4C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00dd	Custom 2nd ringer OFF time specified value	7	Custom 2nd ringer OFF time specified value (100-ms increments, HEX)	-	0x00	0x00	0x00	XB	4D
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00de	Custom 3rd ringer ON time specified value	7	Custom 3rd ringer ON time specified value (100-ms increments, HEX)	-	0x00	0x00	0x00	XB	4E
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00df	Custom 3rd ringer OFF time specified value	7	Custom 3rd ringer OFF time specified value (100-ms increments, HEX)	-	0x00	0x00	0x00	XB	4F
		6							
		5							
		4							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3							
		2							
		1							
		0							

5.23.28 0e00e#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00e0	Custom Ring OFF detection time	7	Custom Ring OFF detection time (in 100-ms increments, HEX)	-	0x00	0x00	0x00	XB	50
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00e1	PB dial signal transmission time	7	PB dial signal transmission time (unit: 5 ms, HEX)	-	0x15	0x19	0x15	XB	51
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00e2	PB dial inter-digit pause	7	PB dial inter digit pause time (unit: 5 ms, HEX)	-	0x11	0x15	0x11	XB	52
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00e3	10 pps pulse dial time	7	10 pps pulse dial time	-	0x0F	0x12	0x12	XB	53
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00e4	10 pps pulse dial break time	7	10 pps pulse dial break time	-	0x1F	0x1C	0x1C	XB	54
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00e5	10 pps pulse dial inter-digit pause	7	10 pps pulse dial inter digit pause (unit: 10 ms, HEX)	-	0x68	0x68	0x5e	XB	55
		6							
		5							
		4							
		3							
		2							
		1							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0							
0e00e6	20 pps pulse dial time	7	20 pps pulse dial time	-	0x07	0x09	0x09	XB	56
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00e7	20 pps pulse dial break time	7	20 pps pulse dial break time	-	0x10	0x0E	0x0E	XB	57
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00e8	20 pps pulse dial inter-digit pause	7	20 pps pulse dial inter digit pause (unit: 10 ms, HEX)	-	0x59	0x40	0x5c	XB	58
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00e9	PB signal transmission level	7	PB signal transmission level (unit: 1 dBm, HEX)	Utility Mode Special Setting	0x0a	0x0a	0x06	XB	59
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00ea	PB signal level difference (HL)	7	PB signal level difference (HL) (unit: 0.5 dBm, HEX)	Utility Mode Special Setting	0x04	0x04	0x04	XB	5A
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00eb	DCLOOP integration time at CML OFF	7	DCLOOP integration time at CML relay OFF (unit: 5 ms, HEX) (Lower limit 20 ms)	-	0x50	0x50	0x50	XB	5B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00ec	DCLOOP integration time at CML ON	7	DCLOOP integration time at CML relay ON (unit: 5 ms, HEX) (Lower limit 20 ms)	-	0x10	0x10	0x10	XB	5C
		6							
		5							
		4							
		3							
		2							
		1							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0							
0e00ed	Pause time	7		Utility Mode Special Setting (0-2)	0x01	0x01	0x01	XB	5D
		6							
		5							
		4							
		3							
		2	Pause time (unit:sec, HEX)						
		1							
		0							
0e00ee	DC-LOOP check mode	7	DC-LOOP check 0: No 1: Always	Utility Mode Special Setting (6,7)	0x00	0x00	0x00	XB	5E
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00ef	DC-LOOP waiting time	7	DC-LOOP waiting time (unit: 100 ms, HEX)	-	0x00	0x00	0x00	XB	5F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.29 0e00f#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00f0	DC-LOOP instantaneous break allowable time (ph.A)	7	DC-LOOP instantaneous break allowable time (unit: 10 ms, HEX) (at the time of calling, CML ON to end of dialing)	-	0x00	0x00	0x00	XB	60
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00f1	DC-LOOP instantaneous break allowable time (ph.B)	7	DC-LOOP instantaneous break allowable time (unit: 10ms, HEX) (after completion of dialing and after CML ON at the time of reception)	-	0x00	0x00	0x00	XB	61
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00f2	Dial Mode RING DET mode	7		Utility Mode (0,1) Utility Mode Special Setting (4,5)	0x12	0x10	0x10	XB	62
		6							
		5	RING detection mode 01: No. of times 10: Time						
		4							
		3	Pulse format 00: General 01: SW 10: NO						
		2							
		1	Dialing method						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0	00: PB 01: 10pps 10: 20pps 11: 16pps						
0e00f3	1st/2nd DT detection parameter	7		-	0x00	0x00	0x00	XB	63
		6							
		5							
		4							
		3	At 2nd DT detection DP dialing only						
		2							
		1							
		0	1st DT2 type						
0e00f4	Tone detection	7		Utility Mode Special Setting (4,5)	0x11	0x11	0x01	XB	64
		6							
		5	1300 Hz 0: No 1: Yes						
		4	Busy Tone 0: No 1: Yes						
		3	PBX DT 0: No 1: Yes						
		2	3rd DT 0: No 1: Yes						
		1	2nd DT 0: No 1: Yes						
		0	1st DT 0: No 1: Yes						
0e00f5	No. of busy tone detection times	7	No. of busy tone detection times (HEX)	Utility Mode Special Setting	0x02	0x02	0x00	XB	65
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00f6	No. of RING detection times	7	No. of RING detection times (times, HEX)	Utility Mode	0x02	0x02	0x02	XB	66
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00f7	RING detection time	7	Ring detection time (sec, HEX)	Utility Mode Special Setting	0x06	0x06	0x06	XB	67
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00f8	Remote station response waiting time	7	Remote station response waiting time at calling (unit:sec, HEX)	Utility Mode Special Setting	0x37	0x37	0x37	XB	68
		6							
		5							
		4							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		3							
		2							
		1							
		0							
0e00f9	Answering machine function	7	Answering machine CNG detection time (unit: 10 sec, HEX) (1-7)	Utility Mode Special Setting (4)	0x64	0x64	0x64	XB	69
		6							
		5							
		4	Answer mode 0:OFF 1: ON						
		3	Answering machine DC-LOOP detection time (unit: 5 sec, HEX) (1-15)						
		2							
		1							
		0							
0e00fa-0e00fb	Remote reception password	7	ASCII [2]	Utility Mode	0x2a 0x20	0x2a 0x20	0x2a 0x20	XB	6a-6B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00fc	RBT transmission time	7	RingBackTone signal transmission time (unit: 1000 ms, HEX)	-	0x14	0x14	0x14	XB	6C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00fd	CAR signal ON time max. value	7	CAR ON time max. value (unit: 20 ms, HEX)	-	0x28	0x00	0x00	XB	6D
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00fe	CAR signal ON time min. value	7	CAR ON time min. value (unit: 20 ms, HEX)	-	0x0a	0x00	0x00	XB	6E
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00ff	CAR signal OFF time max. value	7	CAR OFF time max. value (unit: 20 ms, HEX)	-	0x28	0x00	0x00	XB	6F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.30 0e010#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0100	CAR signal OFF time min. value	7	CAR OFF time min. value (unit: 20 ms, HEX)	-	0x0a	0x00	0x00	XB	70
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0101	No. of CAR signal detection times	7	CAR (information receiving terminal start signal) detection frequency (times, HEX)	-	0x01	0x00	0x00	XB	71
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0102	Caller ID signal waiting time	7	ID waiting time after Caller ID/DIAL IN primary response (unit 1000 ms, HEX)	-	0x05	0x00	0x00	XB	72
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0103	Remote reception password entry waiting time	7	Password signal (DTMF) detection waiting time (unit: 100 ms, HEX)	-	0x14	0x14	0x14	XB	73
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0104	Normal/number display automatic line distinction function	7	Automatic judgment function 0:OFF 1: ON	-	0x83	0x00	0x00	XB	74
		6							
		5							
		4							
		3	V23 signal detection waiting time when judged (x1 sec, HEX)						
		2							
		1							
		0							
0e0105	Monitor speaker (Transmission signal sound)	7	PB tone monitoring at the time of offhook	Utility Mode (0-6)	0x03	0x03	0x03	XB	75
		6	Monitor speaker in communication 00: OFF 01: Up to DIS 10: Up to DIS + RBT transmissions 11: ON						
		5							
		4	Speaker volume (HEX) (0-8)						
		3							
		2							
		1							
		0							
0e0106-0e010f	Numeric ID [20]	7	ASCII [20] When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminator)	Utility Mode	ALL 0x20	ALL 0x20	ALL 0x20	XB	76
		6							
		5							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		4							
		3							
		2							
		1							
		0							

5.23.31 0e011#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0110-0e0119	Numeric ID [20]	7	ASCII [20] When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminator)	Utility Mode	ALL 0x20	ALL 0x20	ALL 0x20	XB	80-89
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e011a	PBX connection mode	7		Utility Mode (0-3)	0x0f	0x0f	0x0f	XB	8A
		6							
		5							
		4							
		3	PBX call 0000 - 1001: keypad 1011: Reserved 1100: Reserved 1101: Reserved 1110: Reserved 1111: PBX unconnected						
		2							
		1							
		0							
0e011b	Protocol monitor	7		Utility Mode (5)	0x00	0x00	0x00	XB	8B
		6							
		5	TEL/FAX switching RBT monitor sound 0: OFF 1: ON						
		4	Inhibit the speaker to sound when off-hook key is pressed 1: Inhibit 0: Not inhibit						
		3							
		2							
		1							
		0							
0e011c	Reception function (disable)	7		Utility Mode (0-4)	0x3f	0x3f	0x3f	XB	8C
		6	Auto transmission not available 0: Enable 1: Disable Manual RX						
		5	Name display 0: Not inhibit 1: Inhibit						
		4	Compulsory Memory RX 0: Not inhibit 1: Inhibit						
		3	No. of caller / name display (number display / (display of subscribers for trace-back system)) 0: Not inhibit 1: Inhibit						
		2	Closed-area communication 0: Not inhibit 1: Inhibit						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		1	Remote RX 0: Not inhibit 1: Inhibit						
		0	Dialin 0: Not inhibit 1: Inhibit						
0e011d	PBX outside line access code 1 (BCD)	7	1st digit	Utility Mode	0xff	0xff	0xff	XB	8D
		6							
		5							
		4							
		3	2nd digit						
		2							
		1							
		0							
0e011e	PBX outside line access code 2 (BCD)	7	3rd digit	Utility Mode	0xff	0xff	0xff	XB	8E
		6							
		5							
		4							
		3	4th digit						
		2							
		1							
		0							
0e011f	Limit of long size reception	7		-	0x00	0x00	0x00	XB	8F
		6							
		5							
		4							
		3							
		2							
		1							
		0	Limit of long size reception 0: Limit 1: Unlimited						

5.23.32 0e012#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0120	Max. size of long original received (In the case of 400 dpi or less)	7	When the resolution for reception is 400 dpi or less, the size of a long original received that is regarded as an error (The maximum length is a decimal value x 10 mm. 0 is regarded as 1000 mm.)	-	0x64	0x64	0x64	XB	90
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0121	Max. size of long original received (In the case of 600 dpi)	7	When the resolution for reception is 600 dpi, the size of a long original received that is regarded as an error (The maximum length is a decimal value x 10 mm. 0 is regarded as 1000 mm.)	-	0x64	0x64	0x64	XB	91
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0122	Voice response output level adjustment	7		-	0x62	0x62	0x62	XB	92
		6							
		5							
		4							
		3	Voice response volume (HEX)						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		2	0000: min - 1111: max						
		1							
		0							
0e0123	Monitor speaker (Received signal sound)	7		Utility Mode (0-4)	0x04	0x04	0x04	XB	93
		6							
		5							
		4	Speaker volume (HEX) (0-8)						
		3							
		2							
		1							
		0							
0e0124 - 0e0129	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	XB	94 - 99
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.33 0f000#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0f0000	Reception main scan line resolution ability [0]	7	400 dpi	-	0xaa	0xaa	0xaa	X2	00
		6	300 dpi						
		5	200 dpi						
		4							
		3	16 pels/mm						
		2							
		1	8 pels/mm						
		0							
0f0001	Reception main scan line resolution ability [1]	7		-	0x01	0x01	0x01	X2	01
		6							
		5							
		4							
		3							
		2	(1200 dpi)						
		1	800 dpi						
		0	600 dpi						
0f0002	Reception sub scanning resolution ability [0]	7	400 dpi	-	0xbb	0xbb	0xbb	X2	02
		6	300 dpi						
		5	200 dpi						
		4	100 dpi						
		3	15.4 l/mm						
		2							
		1	7.7 l/mm						
		0	3.85 l/mm						
0f0003	Reception sub scanning resolution ability [1]	7		-	0x01	0x01	0x01	X2	03
		6							
		5							
		4							
		3							
		2	(1200 dpi)						
		1	800 dpi						
		0	600 dpi						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0f0004	Reception coding method ability	7		-	0x1f	0x1f	0x1f	X2	04
		6							
		5	(JPEG)						
		4	JBIG						
		3	MMR						
		2	MR						
		1	MH						
		0	THRU						
0f0005	Received document width ability	7		-	0x0e	0x0e	0x0e	X2	05
		6							
		5	(Legal)						
		4	(Letter)						
		3	A3						
		2	B4						
		1	A4						
		0	(A5)						
0f0006	Received document length ability	7		-	0x46	0x46	0x46	X2	06
		6	Unlimited						
		5	(Legal)						
		4	(Letter)						
		3							
		2	B4						
		1	A4						
		0	(A5)						
0f0007	Reception speed ability [0]	7		-	0x1b	0x1b	0x1b	X2	07
		6							
		5							
		4	V.29-96						
		3	V.29-72						
		2							
		1	V.27-48						
		0	V.27-24						
0f0008	Reception speed ability [1]	7	V.17-144	-	0xf0	0xf0	0xf0	X2	08
		6	V.17-120						
		5	V.17-96						
		4	V.17-72						
		3	V.33-144						
		2	V.33-120						
		1	(TCM-96)						
		0	(TCM-72)						
0f0009	Reception speed ability [2]	7	V.34-192	-	0xff	0xff	0xff	X2	09
		6	V.34-168						
		5	V.34-144						
		4	V.34-120						
		3	V.34-96						
		2	V.34-72						
		1	V.34-48						
		0	V.34-24						
0f000a	Reception speed ability [3]	7		-	0x3f	0x3f	0x3f	X2	0A
		6							
		5	V.34-336						
		4	V.34-312						
		3	V.34-288						
		2	V.34-264						
		1	V.34-240						
		0	V.34-216						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0f000b	Reception MSLT ability	7	T3.85 or 200 x 100dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	0B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0f000c	Reception MSLT ability	7	T7.7 or 200 x 200dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	0C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0f000d	Reception MSLT ability	7	T11.55 or 300 x 300dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	0D
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0f000e	Reception MSLT ability	7	T15.4 or 400 x 400dpi or 600 x 600dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	0E
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0f000f	Reception ECM ability	7		-	0x01	0x01	0x01	X2	0F
		6							
		5							
		4							
		3							
		2							
		1							
		0	ECM reception capability 0:OFF 1: ON						

5.23.34 0f001#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0f0010	Reception protocol ability	7		-	0x39	0x39	0x39	X2	10
		6							
		5	FAX-CSRC						
		4	V.8/V.34						
		3	DIAG						
		2							
		1							
		0	G3S						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0f0011	Reception option frame ability	7		-	0x07	0x07	0x07	X2	11
		6							
		5							
		4	(BFT)						
		3	(BTM)						
		2	PWD						
		1	(SEP)						
		0	SUB						
0f0012 - 0f001f	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	X2	12 - 1F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.23.35 10000#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
100000	Transmission main scan line resolution instruction [0]	7	400 dpi	-	0x22	0x22	0x22	X2	40
		6	300 dpi						
		5	200 dpi						
		4							
		3	16 pels/mm						
		2							
		1	8 pels/mm						
		0							
100001	Transmission main scan line resolution instruction [1]	7		-	0x01	0x01	0x01	X2	41
		6							
		5							
		4							
		3							
		2	(1200 dpi)						
		1	800 dpi						
		0	600 dpi						
100002	Transmission sub scanning resolution instruction [0]	7	400 dpi	-	0x11	0x11	0x11	X2	42
		6	300 dpi						
		5	200 dpi						
		4	100 dpi						
		3	15.4 l/mm						
		2							
		1	7.7 l/mm						
		0	3.85 l/mm						
100003	Transmission sub scanning resolution instruction [1]	7		-	0x01	0x01	0x01	X2	43
		6							
		5							
		4							
		3							
		2	(1200 dpi)						
		1	800 dpi						
		0	600 dpi						
100004	Transmission coding method instruction	7		-	0x1f	0x1f	0x1f	X2	44
		6							
		5	(JPEG)						

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		4	JBIG						
		3	MMR						
		2	MR						
		1	MH						
		0	THRU						
100005	Transmission document width instruction	7		-	0x0e	0x0e	0x0e	X2	45
		6							
		5	(Legal)						
		4	(Letter)						
		3	A3						
		2	B4						
		1	A4						
		0	(A5)						
100006	Transmission document length instruction	7		-	0x46	0x46	0x46	X2	46
		6	Unlimited						
		5	(Legal)						
		4	(Letter)						
		3							
		2	B4						
		1	A4						
		0	(A5)						
100007	Transmission speed instruction [0]	7		-	0x1b	0x1b	0x1b	X2	47
		6							
		5							
		4	V.29-96						
		3	V.29-72						
		2							
		1	V.27-48						
		0	V.27-24						
100008	Transmission speed instruction [1]	7	V.17-144	-	0xf0	0xf0	0xf0	X2	48
		6	V.17-120						
		5	V.17-96						
		4	V.17-72						
		3	V.33-144						
		2	V.33-120						
		1	(TCM-96)						
		0	(TCM-72)						
100009	Transmission speed instruction [2]	7	V.34-192	-	0xff	0xff	0xff	X2	49
		6	V.34-168						
		5	V.34-144						
		4	V.34-120						
		3	V.34-96						
		2	V.34-72						
		1	V.34-48						
		0	V.34-24						
10000a	Transmission speed instruction [3]	7		-	0x3f	0x3f	0x3f	X2	4A
		6							
		5	V.34-336						
		4	V.34-312						
		3	V.34-288						
		2	V.34-264						
		1	V.34-240						
		0	V.34-216						
10000b	Transmission MSLT instruction	7	T3.85 or 200 x 100dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	4B
		6							
		5							

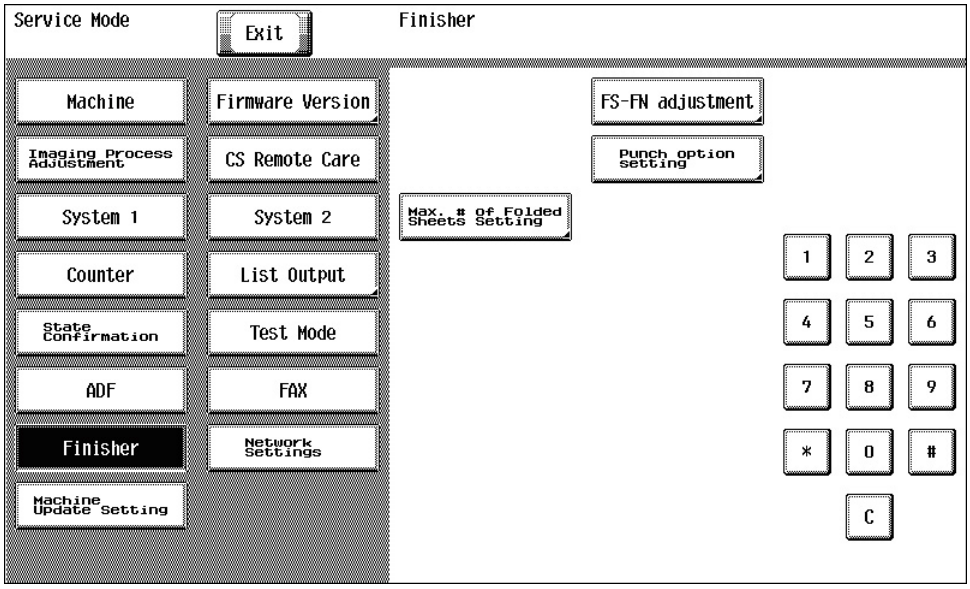
Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		4							
		3							
		2							
		1							
		0							
10000c	Transmission MSLT instruction	7	T7.7 or 200 x 200dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	4C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
10000d	Transmission MSLT instruction	7	T11.55 or 300 x 300dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	4D
		6							
		5							
		4							
		3							
		2							
		1							
		0							
10000e	Transmission MSLT instruction	7	T15.4 or 400 x 400dpi or 600 x 600dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	4E
		6							
		5							
		4							
		3							
		2							
		1							
		0							
10000f	Transmission ECM instruction	7		-	0x01	0x01	0x01	X2	4F
		6							
		5							
		4							
		3							
		2							
		1	ECM transmission frame size 0: 256 1: 64						
		0	ECM transmission instruction 0: OFF 1: ON						

5.23.36 10001#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
100010	Transmission protocol instruction	7		-	0x11	0x11	0x11	X2	50
		6							
		5	FAX-CSRC						
		4	V.8/V.34						
		3	DIAG						
		2							
		1							
		0	G3S						
100011	Transmission option frame instruction	7		-	0x00	0x00	0x00	X2	51
		6							
		5							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		4	(BFT)						
		3	(BTM)						
		2	PWD						
		1	(SEP)						
		0	SUB						
100012 - 10001f	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	X2	52 - 5F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

5.24 Finisher

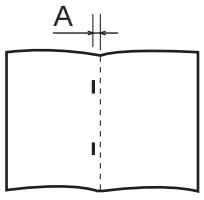


5.24.1 FS-FN adjustment - Center Staple Position

(1) Use

- Adjust the stapling position for each paper size when printing with the center staple function.
- To adjust the center staple position by making the staple position match the folding position.

(2) Setting range



- Width A should fall within the following target.

Target	0 ± 1.0 mm
Setting range	-10.0 mm to +10.0 mm (1 step: 0.1 mm)

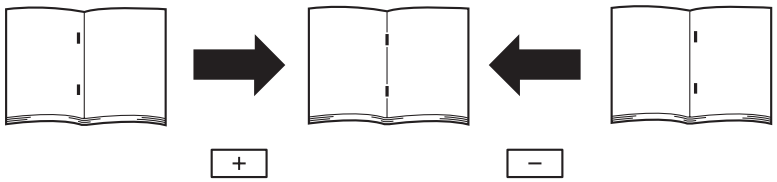
(3) Procedure

NOTE

- **After [Half-Fold Position] adjustment, make this [Center Staple Position] adjustment.**

1. Place five sheets of originals on the DF.
2. Make a set of copy in the saddle stitching mode.
3. Check the amount of horizontal deviation (width A) between the staple and the half fold positions on the set of copy.
4. If width A is out of the target, make the following adjustment.
5. Call the Service Mode to the screen.

6. Touch [Finisher] -> [FS-FN adjustment] -> [Center Staple Position].
7. Touch the paper size where staple position is adjusted.
8. Look at the copy and adjust the staple position with the [+] / [-] key.



NOTE
- **The adjustment setting value used for each paper size is the value set with [ALL] plus the value set for each paper size.**

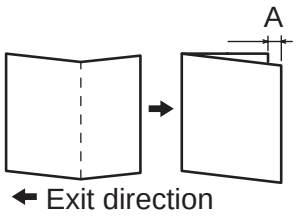
9. Touch [Test Copy].
10. Select the tray loading paper for the test copy.
11. Touch [3].
12. Touch [Fold & Staple], and press the start key.
13. Check the staple positions deviate.
14. Touch [END] to return to the adjustment screen.
15. Touch [OK] twice.
16. Touch [Exit] on the Service Mode screen.

5.24.2 FS-FN adjustment - Half-Fold Position

(1) Use

- Use this adjustment to adjust the half-fold position in half-fold printing.

(2) Setting range

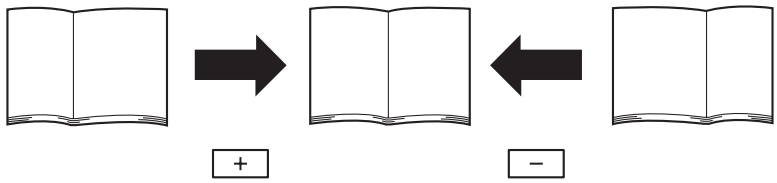


- Width A should fall within the following target.

Target	A = Less than 1.0 mm
Setting range	-10.0 mm to +10.0 mm (1 step: 0.1 mm)

(3) Procedure

1. Place two sheets of originals on the ADF.
2. Make a copy in the folding mode.
3. Fold the copies along the crease.
4. Measure the amount of width A.
5. If width A is out of the target, make the following adjustment.
6. Call the Service Mode to the screen.
7. Touch [Finisher] -> [FS-FN adjustment] -> [Half-Fold Position].
8. Touch the paper size where half-fold position is adjusted.
9. Look at the copy and adjust the half-fold position with the [+] / [-] key.



NOTE
- **The adjustment setting value used for each paper size is the value set with [ALL] plus the value set for each paper size.**

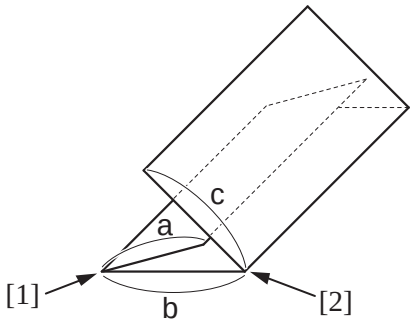
10. Touch [Test Copy].
11. Select the tray loading paper for the test copy.
12. Touch [3].
13. Touch [Half-Fold], and press the start key.
14. Check the crease positions deviate.
15. Touch [END] to return to the adjustment screen.
16. Touch [OK] twice.
17. Touch [Exit] on the Service Mode screen.

5.24.3 FS-FN adjustment - 1st Tri-Fold Adjustment/2nd Tri-Fold Adjustment

(1) Use

- To adjust the positions of the 1st Tri-fold and 2nd Tri-fold for the Tri-fold printing.

(2) Setting range



[1] Position of the first tri-fold	[2] Position of the second tri-fold

- Check whether the tri-fold widths "a" and "b" of the ejected paper are within the target.

Target	A4S	Length a: 95 mm ± 2 mm Length b: 102 mm ± 2 mm
	8.5 x 11S	Length a: 89.4 mm ± 2 mm Length b: 96.0 mm ± 2 mm
	16KS	Length a: 88 mm ± 2 mm Length b: 92 mm ± 2 mm
Setting range		-10.0 mm to +10.0 mm (1 step: 0.1 mm)

(3) Procedure

- Make copies in the tri-fold mode.
- Check whether the tri-fold widths "a" and "b" of ejected copy samples are within the target. Complete the adjustment, if the measured values fall within the target.

(a) If the width "a" is out of the target:

1. Call the Service Mode to the screen.
2. Touch [Finisher] -> [FS-FN adjustment] -> [1st Tri-Fold Adjustment].
3. Select a paper size where the tri-fold position needs adjustment.
4. While checking the copy samples, touch [+] or [-] to adjust the tri-fold position.
   - To increase the width a, enter a positive value with [+].
   - To decrease the width a, enter a negative value with [-].
5. Touch [Test Copy].
6. Select the tray loading paper for the test copy.
7. Touch [3].
8. Touch [Tri-Fold], and press the start key.
9. Check displacement of the fold position on the fed out copies.
10. Touch [END] to return to the adjustment screen.
11. Touch [OK] twice.
12. Touch [Exit] on the Service Mode screen.

(b) If the width "b" is out of the target:

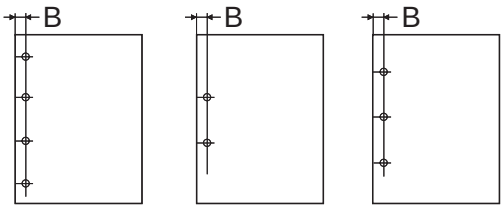
1. Call the Service Mode to the screen.
2. Touch [Finisher] -> [FS-FN adjustment] -> [2nd Tri-Fold Adjustment].
3. Select a paper size where the tri-fold position needs adjustment.
4. While checking the copy samples, touch [+] or [-] to adjust the tri-fold position.
   - To increase the width b, enter a positive value with [+].
   - To decrease the width b, enter a negative value with [-].
5. Touch [Test Copy].
6. Select the tray loading paper for the test copy.
7. Touch [3].
8. Touch [Tri-Fold], and press the start key.
9. Check displacement of the fold position on the fed out copies.
10. Touch [END] to return to the adjustment screen.
11. Touch [OK] twice.
12. Touch [Exit] on the Service Mode screen.

5.24.4 FS-FN adjustment - Punch Edge Adj

(1) Use

- To change the horizontal position of the punch holes.

(2) Setting range

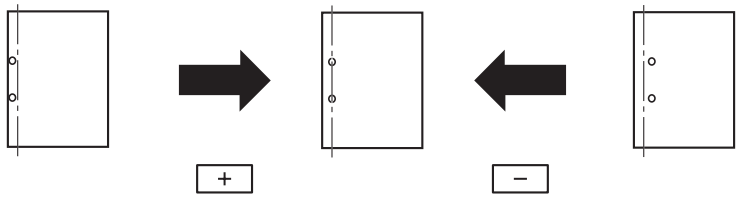


- Width B should fall within the following target.

Target	9.5 mm ± 1.0 mm (2-3 hole), 11.0 mm ± 1.0 mm (2-4 hole), 10.5 mm ± 1.0 mm (SWE4 hole)
Setting range	-5.0 mm to +5.0 mm (1 step: 0.1 mm)

(3) Procedure

1. Make a copy sample in the punch mode.
2. Make an adjustment so that the width B is within the target.
3. Call the Service Mode to the screen.
4. Touch [Finisher] -> [FS-FN adjustment] -> [Punch Edge Adj].
5. Touch the paper type where punch horizontal position is adjusted.
6. Look at the copy and adjust the punch horizontal position with the [+] / [-] key.
   - To make width B greater: Enter the value of [+]
   - To make width B smaller: Enter the value of [-]



7. Touch [Test Copy].
8. Select the tray loading paper for the test copy.
9. Touch [3].
10. Select the number of punch holes in the “Punch” list, and then press the start key.
11. Check the punch hole positions.
12. Touch [END] to return to the adjustment screen.
13. Touch [OK] twice.
14. Touch [Exit] on the Service Mode screen.

5.24.5 FS-FN adjustment - Punch Regist Loop Size

(1) Use

- Adjusts the punch loop size used for paper exited from the main body.
- Used when tilted punched hole position, wrinkled paper, or jam at punch registration section occurs.

(2) Setting range

- -4.0 to +4.0 mm

(3) Procedure

1. Call the Service Mode to the screen.
2. Touch [Finisher] -> [FS-FN adjustment] -> [Punch Regist Loop Size].
3. Select a paper type where the punch hole position needs adjustment.
4. Set the target using the [+] / [-] keys.
   - Misaligned punched holes: Enter the value of [+]
   - Wrinkled paper: Enter the value of [-]
5. Touch [OK].
6. Touch [Exit] on the Service Mode screen.

5.24.6 FS-FN adjustment - Finisher Components Test Mode

(1) Use

- Use this adjustment to check finisher’s operation.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [Finisher] -> [FS-FN adjustment] -> [Finisher Components Test Mode].
3. Select a mode.
4. Press the Start key to start finisher operation.
5. Press the Stop key to stop ongoing finisher operation.

(3) Finisher components list (FS-534/FS-534SD)

Mode	
Finisher Components Test Mode 1	Paper Transport Motor
	Paper Entrance Motor
	Paper Exit Motor
	Paper Alignment Plate Motor/F
	Main Tray Up/Down Motor
	Paper Alignment Plate Motor/R
	Side Stopper Guide Motor
	Paper Exit Belt Motor
	Exit Roller Retraction Motor
	Tail Edge Holding Plate Motor
	Side Stapler Movement Motor
	FD Center Stopper Guide Motor
	Punch Drive Motor
	Paddle Motor
Finisher Components Test Mode 2	Switch Output Tray Motor
	SD Paper Transport Motor
	Folding Roller Motor
	Leading Edge Gripper Solenoid
	Leading Edge Stopper Motor
	CD Alignment Plate Motor
	Folding Knife Motor
	Chip Box Change Motor
	Paper Discharge Control Motor
	SD Paddle Motor
	Tri-folding Knife Motor

(4) Finisher components list (FS-533)

Mode
Stapler Movement
Alignment Plate F/R Movement
Tray up/down Operation
Exit Roller Retraction
Conveyance Drive
Paper Surface Detect Solenoid
Paddle 1 Rotation Solenoid Drive
Punch Drive Motor
Batch Solenoid Driver

5.24.7 FS-FN adjustment - Alignment plate Position

(1) Use

- When FS-533 is installed, use this feature to fine adjust the aligning plate that aligns ejected paper.

(2) Default setting

- 0.0 mm

(3) Setting range

- -10.0 mm to +10.0 mm (1 step: 0.1 mm)

(4) Procedure

1. Call the Service Mode to the screen.
2. Touch [Finisher] -> [FS-FN adjustment] -> [Alignment Plate Position].
3. Select the [Alignment Plate Position (Back)] or [Alignment Plate Position (Side)].
4. Set and adjust a value with the [+] / [-] key.
5. Touch [OK].
6. Touch [Exit] on the Service Mode screen.
7. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

5.24.8 FS-FN adjustment - Paper Alignment Guides W. Adj.

(1) Use

- To fine adjust the horizontal width of the aligning plate.
- Use this feature to fine adjust the aligning plate that aligns ejected paper.

(2) Default setting

- 0.0 mm

(3) Setting range

- -10.0 mm to +10.0 mm (1 step: 0.1 mm)

(4) Procedure

1. Call the Service Mode to the screen.
2. Touch [Finisher] -> [FS-FN adjustment] -> [Paper Alignment Guides W. Adj.].
3. Select a mode you want to adjust.
4. Set and adjust a value with the [+] / [-] key.
5. Touch [OK].
6. Touch [Exit] on the Service Mode screen.

5.24.9 Punch Option Setting

(1) Use

- Specifies punch settings depending on the optional punch kit attached to the finisher.
- An individual punch setting needs to be made according to the type of the punch option.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [Finisher] -> [Punch Option Setting].
3. Select the type of punch kit.
4. Select the number of punch holes in accordance with the punch kit destination type.
5. Touch [decision].
6. Touch [END].
7. Touch [Exit] on the Service Mode screen.

(3) Default setting

- Non-installat.

5.24.10 Max. # of Folded Sheets Setting

(1) Use

- Imposes restriction on the number of sheets to be folded in each of different folding modes.
- To change the maximum number of sheets to be folded in each of different folding modes.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [Finisher] -> [Max. # of Folded Sheets Setting].
3. Select a folding mode where the maximum is restricted and enter a desirable maximum number with the 10-key pad.
4. Touch [END].
5. Touch [Exit] on the Service Mode screen.

(3) Default setting

- Center Fold: 5 Piece
- Center Staple: 20 Piece
- Tri-Fold: 3 Piece

(4) Setting range

Center Fold
- 1 to 5 Piece

Center Staple
- 2 to 20 Piece

Tri-Fold
- 1 to 3 Piece

5.24.11 Job Separator

(1) Use

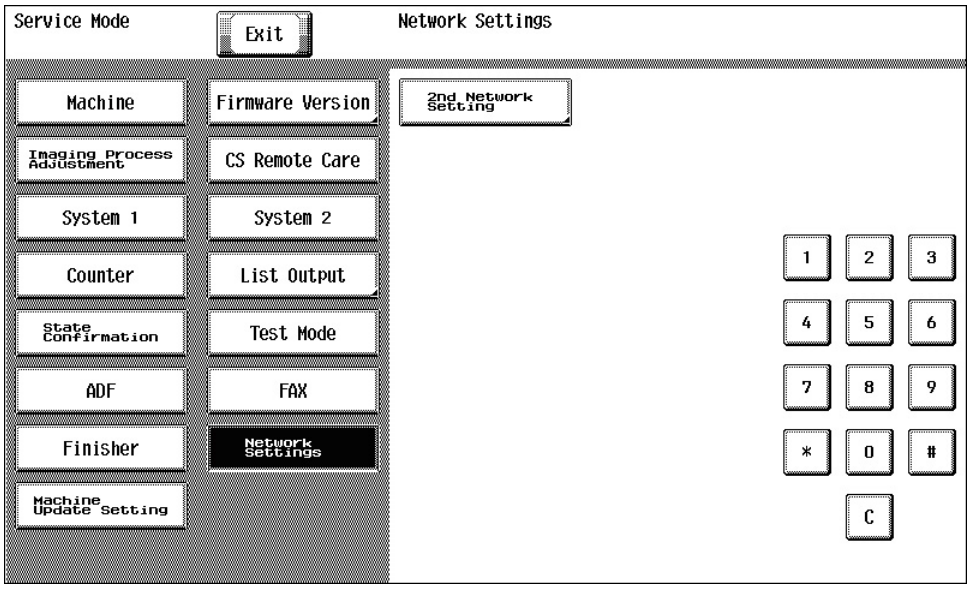
- Checks the job separator’s operation.

(2) Procedure

1. Call the Service Mode to the screen.
2. Touch [Finisher] -> [Job Separator].
3. Select the mode where you wish to check the operation.

4. Press the Start key to start job separator operation.
5. Press the Stop key to stop ongoing job separator operation.

5.25 Network Settings



- It is displayed when this machine is equipped with an optional upgrade kit UK-212.
- To perform a remote control from an Android tablet terminal or iOS terminal, bizhub Remote Access are required.

5.25.1 2nd Network Setting - 2nd network card settings

(1) Use

- To be configured when an optional Upgrade Kit UK-212 has been installed in this machine.

(2) Default setting

- Unset

(3) Setting item

- Set
- Unset
- When [Set] is selected, configure the following settings.

5.25.2 2nd Network Setting - Network Interface Settings

NOTE

- **Before making settings, note the network environment of the customer and make the settings to suit the environment.**

(1) Use

- To connect the MFP main unit as a wireless LAN adapter to a wireless LAN access point connected to the LAN environment. (when Wireless Only or Wired+Wireless (Secondary Mode) is selected)
- To perform direct communication between the MFP main unit and a mobile terminal. (when Wired+Wireless (Primary Mode) or Wired +Wireless (Wi-Fi Direct) is selected)

(2) Setting item

Network Interface Settings	Description
Wired Only	Use when the MFP main unit is connected only to a LAN environment.
Wireless Only	• Use when the MFP main unit is connected only to a wireless LAN environment. • A job is received from the client via the wireless LAN access point and executed.
Wired+Wireless (Secondary Mode)*1	• Use when the MFP main unit is connected to both a LAN environment and a wireless LAN environment. • A job is received from the client via the LAN and executed.
Wired+Wireless (Primary Mode)*1	• The MFP main unit is used as a wireless LAN access point (Primary Mode). • When starting up the MFP main unit, perform wireless LAN communication between the MFP main unit and the mobile terminal (Android terminal, iOS terminal, or devices supporting Wi-Fi) without via wireless LAN access point. • Use when the MFP main unit is connected to both a LAN environment and a wireless LAN environment.
Wired+Wireless (Wi-Fi Direct) *1	• Use when the MFP main unit is connected to both a LAN environment and a wireless LAN environment. • The MFP main unit is used as a wireless LAN access point. • With this mode, a mobile terminal (excluding iOS) can be connected to Wi-Fi Direct authentication devices easily.

- *1 When this setting is enabled, [Administrator Settings] -> [System Connection] -> [Universal Print Settings] -> [Store Print Documents Settings] is set to “Disable”.

NOTICE
- See THEORY OF OPERATION UK-211 for more information.

5.25.3 2nd Network Setting - SSID

(1) Use
- To enter the SSID of the wireless LAN access point connected to the machine (using up to 32 characters).

5.25.4 2nd Network Setting - Authentication/Encryption Algorithm

(1) Use
- To set the algorithm used for authentication or encryption.

(2) Default setting
- No Authentication/Encryption

(3) Setting item
- “No Authentication/Encryption”
- WEP
- WPA-PSK (AES)
- WPA2-PSK (AES)

5.25.5 2nd Network Setting - WEP Key

(1) Use
- To be set when WEP is selected for authentication/encryption Algorithm.

(2) Procedure
1. Select an input method.
2. Touch Edit, then enter a new WEP key.
3. Touch OK.
4. Enter the WEP key again to make a check.
5. Touch OK.

5.25.6 2nd Network Setting - Passphrase

(1) Use
- To be set when a method including WPA is selected for authentication/encryption Algorithm.

(2) Procedure
<Input method>
- Select an input method.

<Security key>
- Enter a value of the security key of passphrase.

<Passphrase Auto Update>
- Set ON/OFF for passphrase auto update. [Yes] is specified by default.

<Update Interval>
- Set the interval for updating passphrase. [60] minutes is specified by default.

<40 to 20 MHz Auto Switch>
- Set [ON] to try a high-speed communication with 40MHz. [OFF] is specified by default.

5.25.7 2nd Network Setting - Wireless Channel

(1) Use
- To set a wireless channel.

(2) Default setting
- Auto

(3) Setting item
- 1 to 13
- Auto

5.25.8 2nd Network Setting - ANY Connection

(1) Use
- To set whether or not to allow the ANY connection.

(2) Default setting
- Permit

(3) Setting item

- Permit
- Prohibit

5.25.9 2nd Network Setting - Connect permission extension address list

(1) Use

- To allow the connection through the only device with specified MAC address.

(2) Procedure

1. Touch [Edit], then enter the MAC address.

5.25.10 2nd Network Setting - DHCP Server Setting

(1) Use

- To set whether or not to enable the DHCP server.

(2) Default setting

- ON

(3) Setting item

- ON
- OFF
- If set to ON, set the IP leasing address, subnet mask and leasing period.

5.25.11 2nd Network Setting - TCP/IP Settings

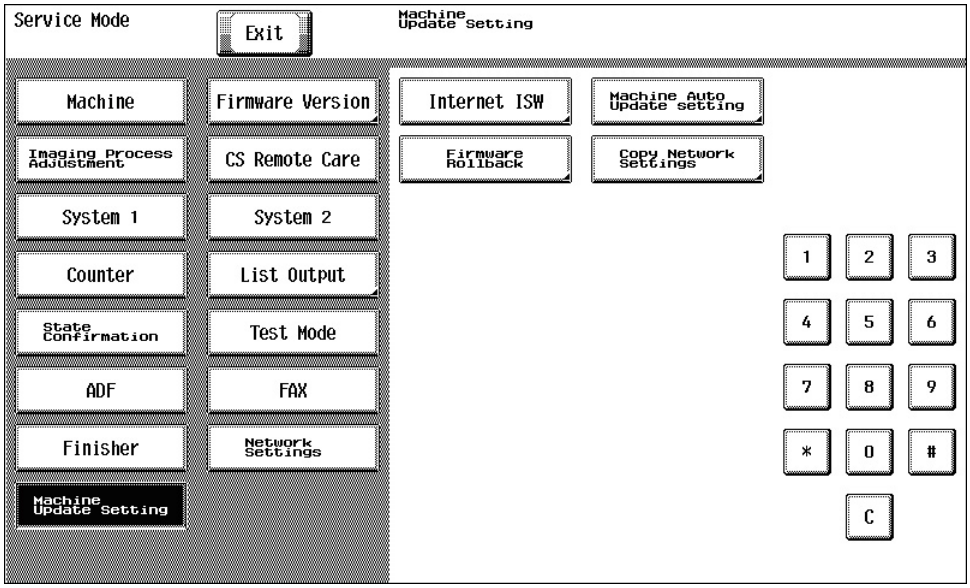
(1) Use

- To set TCP/IP.

(2) Procedure

1. If IPv4 Settings is selected, select [Auto Input] or [Enter New Address].
   - If [Auto Input] is selected, configure DHCP settings.
   - If [Enter New Address] is selected, set [IP Address] and [Subnet Mask].
2. If IPv6 Settings is selected, the link-local address will be displayed as IPv6 type.

5.26 Machine Update Setting



- By using this setting, the firmware or update file stored in the server can be downloaded over internet for upgrading.
- For details for upgrading the firmware, refer to "REWRITING OF FIRMWARE."

5.26.1 Internet ISW - Internet ISW Set

(1) Use

- To set whether or not to enable each setting for Internet ISW.
- To use when upgrading the firmware by Internet ISW.
- Each setting such as Server setting will be valid by setting this to "ON".

NOTE

- **If [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to "ON", this setting will automatically be set to "OFF" and cannot be changed.**

(2) Default setting

- OFF

(3) Setting item

- ON
- OFF
- When this setting is set to "ON," [Open Mode Settings] can be configured. When [Open Mode Settings] is set to "Set," firmware download and update via Internet ISW are available in Administrator Settings.

5.26.2 Internet ISW - HTTP Setting

- It will be displayed only when [Internet ISW Set] is set to “ON”.

(1) HTTP data acquisition setting

(a) Use

- To set whether or not to enable downloading using the HTTP protocol.
- To use when accessing the server using the HTTP protocol.

(b) Default setting

- OFF

(c) Setting item

- ON
- OFF

(2) Connection Time-Out

(a) Use

- To set the time for the timeout for accessing the server.

(b) Default setting

- 60 sec

(c) Setting range

- 30 to 300 sec.

5.26.3 Internet ISW - FTP Setting

- It will be displayed only when [Internet ISW Set] is set to “ON”.

(1) FTP data acquisition setting

(a) Use

- To set whether or not to enable downloading using FTP protocol.
- To use when accessing the server with FTP protocol.

(b) Default setting

- ON

(c) Setting item

- ON
- OFF

(2) Connection Setting

(a) Use

- To set the port No. and the time for timeout when accessing the FTP server, and also to set whether or not to enable PASV mode.
- To use when connecting by the PASV (passive) mode (FTP server side will inform the connection port before connecting).

(b) Procedure (Port Number)

- Enter the port number using the 10-key pad within the range of 1 to 65535.

(c) Default setting (Port Number)

- 21

(d) Procedure (Connection Time Out)

- Enter the value between 1 and 60 (min.) using the 10-key pad.

(e) Default setting (Connection Time Out)

- 1 minute

(f) Default setting (PASV Mode)

- OFF

(g) Setting item (PASV Mode)

- ON
- OFF

5.26.4 Internet ISW - Forwarding Access Setting

(1) User ID

(a) Use

- To register the user ID for accessing the program server where firmware is to be stored.

(b) Procedure

1. Select [User ID].
2. Enter the user ID (up to 64 one-byte characters) on the on-screen keyboard.

(2) Password

(a) Use

- To register the password for accessing the program server where firmware is to be stored.

(b) Procedure

1. Select [Password].
2. Enter the password (up to 64 characters) on the on-screen keyboard.

(3) URL

(a) Use

- To register the address and directory of the program server where the firmware is to be stored in URL.

(b) Procedure

1. Select [URL].
2. Enter the URL (up to 256 one-byte characters) on the on-screen keyboard.
   NOTE
   - **Enter the URL which matches to the protocol to be used.**
     When connecting to http "http:// (Host name or IP address)/ directory name" or "https:// (Host name or IP address)/ directory name".
     When connecting to ftp "ftp:// (Host name or IP address) / directory name".

(4) FileName

(a) Use

- To register the file name of the firmware data to be downloaded.

(b) Procedure

1. Select [FileName].
2. Enter the file name (up to 63 one-byte characters) on the on-screen keyboard.

5.26.5 Internet ISW - Download

NOTE

- **To connect MFP to the Internet via a proxy, the proxy server related settings must be configured in addition to [Forwarding Access Setting].**
  The setting of the proxy used in the Internet ISW communication is configured in [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [Internet ISW Settings] -> [FTP Server Settings] or [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [HTTP Proxy Settings].

(1) Download/Update

(a) Use

- Access the program server according to the Internet ISW setting, and download the firmware.
- To use when updating the firmware via network.
- The firmware is downloaded and updated successively. During the firmware download and update, MFP cannot be used.

(b) Procedure

1. Select [Download/Update].
2. Touch [Start] to start downloading the firmware.
3. The message to show the status will be displayed on the screen while connecting and transferring data.
   NOTE
   - **If connection to the program server or data download fails, an error code and a message are displayed. Identify the cause of the problem with the error code and reconfigure the settings following the message.**
     Refer to "K.5.1 Error code list for the Internet ISW" for the error codes.

4. When the firmware is normally upgraded, the main body will automatically be restarted to complete the Internet ISW.

(2) Download

(a) Use

- To access the program server and download the firmware in accordance with the settings configured in Internet ISW Settings.
- As the firmware is downloaded in the background, MFP can be used during download.
- If firmware data already downloaded exits in the HDD, the data is overwritten and replaced by the new data.

(b) Procedure

1. Select [Download].
2. Touch [Start] to start downloading the firmware.
3. The status message appears on the screen during connection and data transfer.
   In the middle of downloading, the task can be cancelled by touching [Cancel].
   NOTE
   - **If connection to the program server or data download fails, an error code and a message are displayed. Identify the cause of the problem with the error code and reconfigure the settings following the message.**
   - **For details on error codes refer to "K.5.1 Error code list for the Internet ISW".**
4. When the firmware download is successfully completed, the result "OK" appears.

(3) Update

(a) Use

- To update the firmware by using the firmware downloaded and saved in the HDD.
- During the firmware download and update, MFP cannot be used.
- This button is not appeared if there is no firmware in the HDD.

(b) Procedure

1. Touch [Update].
2. Check the firmware file version in HDD.
3. Press Start key to update the firmware.
4. When the firmware is normally upgraded, the main body will automatically be restarted to complete the Internet ISW.

(4) Delete

(a) Use

- To delete the firmware file saved in the HDD.
- This button is not appeared if there is no firmware in the HDD.

(b) Procedure

1. Touch [Delete].
2. Press Start key to delete the firmware.

5.26.6 Internet ISW - Update Start Time Settings

(1) Use

- To set the start time in order to automatically update the downloaded firmware.

(2) Procedure

1. Select [Set] for [Update Firmware at Specified Time].
2. Touch [Hour] and [Min.] and set the firmware update start time.

NOTE

- **If updated firmware has not been downloaded by the specified time, firmware update is not performed.**
- **If the main power switch is turned OFF during a firmware update, the firmware is updated next time when the main power switch is turned ON.**
- **If a job is in process when the specified time comes, the firmware is updated after the completion of the job.**

5.26.7 Machine Auto Update setting - Auto Update setting

- Obtain the update file for the machine from the file storage server, and update the firmware or settings of the machine.
- This function is same as that of the [Administrator Settings] -> [Network Settings], but it will not be used together with the function of the service mode.
- Refer to J-4 for how to create an update file.

(1) Server 1 Settings - Auto update

(a) Use

- To obtain the update file from the specified location, and configure settings to update the machine at the specified time.

(b) Default setting

- OFF

(c) Setting item

- ON

- OFF

(d) Procedure

- If [ON] is selected, configure the following settings.

When configuring the settings for SMB with the download protocol *1
<Host Name>
- Set the host name for the SMB server.

<File Path>
- Set the file path used in the SMB server communication. *2

<User Name>
- Set the user name used to access the SMB server.

<Password>
- Set the password used to access the SMB server.

<Number of retries>
- Set the number of times to retry when failed to obtain.

*1: If the MFP relay server is used as a server on the data providing side, the SMB protocol will not be used.
*2: Specify the folder in which C_UpdateList.ini is stored. Refer to J-4 for details.
When HTTP is set for the download protocol
<URL>
- Set the address of the http server. *1

<User Name>
- Set the user name used to access the relay server by http protocol.

<Password>
- Set a password used to access the http server.

<Proxy>
- Select whether or not to use the proxy server. *2

<Connection Time-out>
- Set the timeout period for connecting to the server.

*1: Specify the folder in which C_UpdateList.ini is stored. Refer to J-4 for details.
*2: If [ON] is selected, set the proxy with [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [HTTP Proxy Settings].

(2) Server 2- Settings - Auto update

(a) Use

- To obtain the update file from the specified location, and configure settings to update the machine at the specified time.

(b) Default setting

- OFF

(c) Setting item

- ON
- OFF

(d) Procedure

- If [ON] is selected, configure the following settings.

<URL>
- Set the address of the http server. *1

<User Name>
- Set the user name used to access the relay server by http protocol.

<Password>
- Set a password used to access the http server.

<Proxy>
- Select whether or not to use the proxy server. *2

<Connection Timeout>
- Set the timeout period for connecting to the server.

*1: Specify the folder in which C_UpdateList.ini is stored. Refer to J-4 for details.
*2: If [ON] is selected, set the proxy with [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [HTTP Proxy Settings].

(3) Common Settings

- Configure the common settings for [Server 1 settings] and [Server 2 settings].

(a) Update Time

- Touch Clear to set the time to update the machine.

(b) Polling Interval

- Set the polling period for obtaining the update list.

(c) Retry Interval

- Set the period for retrying when failed to obtain.

5.26.8 Machine Auto Update setting - Relay server setting

(1) Update File Download

- Configure settings to use the relay server to obtain the update relay data.
- This function is same as that of the [Administrator Settings] > [Network Settings], but it will not be used together with the function of the service mode.
- Refer to J-5 for how to create an update file.

(a) Default setting

- OFF

(b) Setting item

- ON
- OFF

(c) Procedure

- If [ON] is selected, configure the following settings.

<Obtain Setting File-URL>
- Set the address of the file storage server. *1

<Obtain Setting File-User Name>
- Set the user name used to access the file storage server.

<Obtain Setting File-Password>
- Set the password used to access the file storage server.

<Obtain Setting File-Proxy>
- Set whether or not to use the proxy server. *2

<Obtain Setting File-Connection Time-out>
- Set the time out period to connecting to the server.

<Polling Interval>
- Set the polling period for obtaining the update list.

<Repeat Interval>
- Set the period for retrying when failed to obtain.

*1: Specify the folder in which S_UpdateList.csv is stored. Refer to J-5 for details.
*2: If [ON] is selected, set the proxy with [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [HTTP Proxy Settings].
The distribution server (SMB authentication) will not be used.
In case of the distribution server (HTTP)

<User Name>
- Set the user name used to access the relay server by http protocol.

<Password>
- Set the password that is used to access the http server.

NOTE
- **Be sure not to forget the password used to access the http server. It is required for reset.**

5.26.9 Machine Auto Update setting - Transmission log Update

- The log file saves up to 100 records.
- Save the log related to machine auto update, and send it to the specified location.
- Configure settings for the transmission protocol.

(1) Default setting

- OFF

(2) Setting item

- ON
- OFF

(3) Procedure

- If [ON] is selected, configure the following settings.

When SMB is set for the transmission protocol

<Host Name>
- Set the host name for the SMB server.

<File Path>
- Set the file path used for SMB server communication.

<User Name>
- Set the user name used to access the SMB server.

<Password>
- Set the password used to access the SMB server.

When WebDAV is set for the transmission protocol

<URL>
- Set the address of the WebDAV server.

<User Name>
- Set the user name used to access the WebDAV server.

<Password>
- Set the password used to access the WebDAV server.

<Proxy>

- Set whether or not to use the proxy server. *1

*1: If [ON] is selected, set the proxy with [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [HTTP Proxy Settings].

5.26.10 Machine Auto Update setting - Transmission Server Log

- The log file saves up to 100 records.
- Save the log related to the update relay data download at relay server, and send it to the specified location.
- Configure settings for the transmission protocol.

(1) Default setting

- OFF

(2) Setting item

- ON
- OFF

(3) Procedure

- If [ON] is selected, configure the following settings.

When SMB is set for the transmission protocol
<Host Name>
- Set the host name for the SMB server.

<File Path>
- Set the file path used for SMB server communication.

<User Name>
- Set the user name used to access the SMB server.

<Password>
- Set the password used to access the SMB server.

When WebDAV is set for the transmission protocol
<URL>
- Set the address of the WebDAV server.

<User Name>
- Set the user name used to access the WebDAV server.

<Password>
- Set the password used to access the WebDAV server.

<Proxy>
- Set whether or not to use the proxy server. *1

*1: If [ON] is selected, set the proxy with [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [HTTP Proxy Settings].

5.26.11 Machine Auto Update setting - Update Log Display

(1) Use

- To check the log related to the file download of the machine auto update.
- The latest five logs can be checked.

5.26.12 Machine Auto Update setting - Relay Server Log Confirmation

(1) Use

- To check the log related to the file download of the relay server.
- The latest five logs can be checked.

5.26.13 Machine Auto Update setting - Manual Update

- This is displayed when [Auto Update] is set to [ON] in [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Auto Update setting], and the update file has been downloaded in HDD.

(1) Use

- To execute update manually by using the downloaded file.

(2) Procedure

1. Touch [Manual Update] -> [Start] to start update.

NOTE
Do not set the main power switch to OFF under the following state.
- **It takes about 45 seconds from touching [Manual Update] -> [Start] to the next operation of the MFP (Auto Power OFF).**
- **About one minute after the download completed screen being displayed, the MFP will restart.**
- **When rewriting configuration files followed by the firmware, the MFP will restart again.**

5.26.14 Machine Auto Update setting - Machine Export setting

(1) Use

- Output the main unit configuration in XML format to a USB memory device or the SMB folder in the main unit.

<Target items to be exported are as follows>
- Remote Access Setting
- User Settings
- Service Settings (Excluding the setting of Software switch and Engine FW DipSW)
- Address Book*
- Authentication Data*

- Network Settings*
- Administrator Settings*
- Cloud connection*
- Custom Display Settings*

*: It will be displayed when [Service Mode] -> [System 2] -> [▶] -> [Maintenance Mode] is set to “Effective.”

(2) Procedure

1. Select [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update Setting] -> [Machine Export Setting].
2. Select the item to be output.
3. Select either [USB] or [SMB] as the [Export Destination]. *1
   If you select [USB], connect a USB memory device to a USB port.
4. Enter a password. *2
5. Touch [Start].
6. [Result: OK] will be displayed.
7. Complete the data export. *3

*1: [SMB] displays if the following settings are made.
[Administrator Settings] -> [Network Settings] -> [SMB Settings] -> [SMB Server Settings] -> [Share SMB File Setting] -> [ON]
[Service Mode] -> [System 2] -> [HDD] ->[Installed]
*2: If an XML file is to be used on the Auto Update function, register the same password beforehand to the MFP where a data is to be downloaded as [Machine Update Password].
*3: When [SMB] is selected, the data is exported to the SMB folder of this machine.
Check of the SMB folder: \\(IP address)\FWData_out$
If [ON] is selected for [CE Authentication], "User Name" and "CE Password" are required to access the folder.
User Name: CE
Password: CE Password

5.26.15 Machine Auto Update setting - Machine Update Password

(1) Use

- To set a password used to decrypt the update file of the machine.

(2) Procedure

- Enter the decryption password using the on-screen keyboard.

1. Current Password: Enter the currently used decryption password (only when the decryption password has been set).
2. New Password: Enter the new decryption password.
3. Re-enter New Password: Enter the new decryption password.

NOTE

- **Be sure not to forget the decryption password. It is required for reset.**

5.26.16 Firmware Rollback

NOTE

- **This function is available when [Installed] is set for [Service Mode] -> [System 2] -> [HDD].**
- **If there is no backed up firmware, the firmware version will not be displayed.**
  For details, see "Creating back up files when updating firmware".

(1) Firmware Rollback

(a) Use

- To be used when rewriting to the backed up firmware.
- To be used when error occurs at the time of firmware updating.

(b) Procedure

1. Check the version of the firmware to be rewritten.
2. Touch [Start].
3. A reboot is started.
4. Following the reboot, a firmware update screen appears. Then, check the version of each firmware.
5. Turn OFF and ON the main power switch.
6. Make sure that a message notifying the completion of the firmware rollback appears. Then, touch [OK].

(2) Open Mode Settings

(a) Use

- To set whether to display/hide [Firmware Rollback] when selecting [Administrator Settings] -> [Network Settings] -> [Machine Update Settings].
- Even an administrator can rewrite to the backed up firmware.

(b) Default Setting

- Set

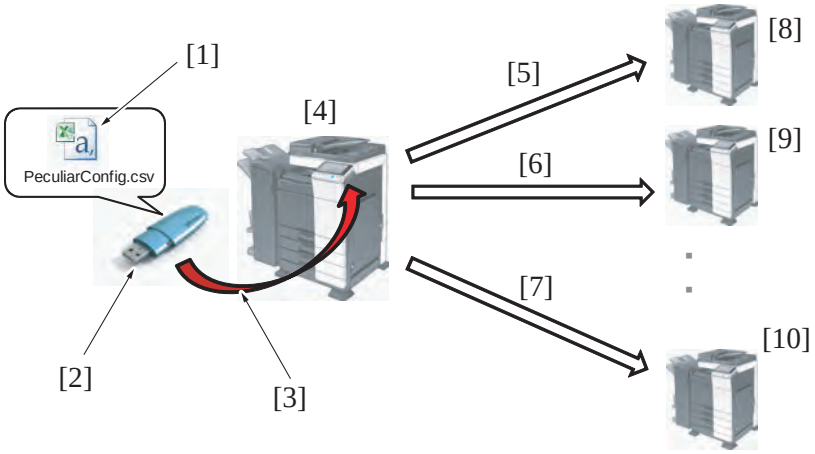
(c) Setting item

- Set
- Unset

5.26.17 Copy Network Settings

(1) Use

- To deliver the network-related information saved in the USB memory to, and set it in, other MFPs.
- One MFP is an originating side that delivers the network connection setting values to other MFPs within the same network.
- Setting values described in the CSV file and associated with the serial number of the recipient MFP are delivered and set.



[1]	CSV file containing setting values for network connection	[2]	USB memory
[3]	Connection	[4]	Recipient MFP
[5]	Delivering and setting values of recipient MFP (serial No.1)	[6]	Delivering and setting values of recipient MFP (serial No.2)
[7]	Delivering and setting values of recipient MFP (serial No.X)	[8]	Recipient MFP (serial No.1)
[9]	Recipient MFP (serial No.2)	[10]	Recipient MFP (serial No.X)

(2) Environmental preparations

- It is necessary to set and prepare in advance the originating MFP, recipient MFPs, USB memory, and the CSV file that describes the network settings.
- Perform the preparation procedure by following the steps given below.

(a) Setting the originating MFP

- Check that the originating MFP and the recipient MFP are connected to the same network (segment).
- Set a fixed IP address in the originating MFP.
- Set [Administrator Settings] -> [System Connection] -> [OpenAPI Settings] -> [Access Setting] to “Allow”.
- Set [Administrator Settings] -> [System Connection] -> [OpenAPI Settings] -> [External Application Connection] to “Yes”.

(b) Setting the recipient MFP

- Check that the originating MFP and the recipient MFPs are connected to the same network (segment).
- Check that the TCP/IP setting of the recipient MFP is enabled to permit network communications.
- Check that a serial number is set in the MFP.
- Set all settings in [Administrator Settings] -> [System Connection] -> [OpenAPI Settings] to the default values.

(c) USB memory

The following shows the requirements for the USB memory to be used for copying in the network settings:

- USB flash memory compatible with the USB (1.1/2.0) interface
- The USB memory is formatted in FAT32 format.
- No security functions such as encryption and password lock have been added (or the USB memory allows its security functions to be turned OFF).
- A USB memory that is recognized by the computer as two or more drives cannot be used.
- Use any write-protected USB memory in the write-enabled condition.

(d) CSV file

- Appropriate the format of the CSV file, and prepare a CSV file where the recipient MFP and network setting value to be delivered and set have been input.
  Setting item: Corresponding to the “Column” of a CSV file format
  Setting value of recipient MFP: Corresponding to the “row” of a CSV file format
  NOTICE
  - CSV file format (PeculiarConfig.xls)

Procedure

1. Enter the serial number and the IP address v4 validation method.
2. Enter the other setting details in accordance with the CSV file format.
   For items that can be delivered and set and the detailed descriptions, see the CSV file format.
3. Enter the setting value of one recipient MFP against one row. And to set multiple MFPs, create setting value for each MFP while adding rows from top in order.

NOTE
- **The serial number and the IP address v4 validation method should invariably be entered.**
- **In any items left blank in the file, the items set in the MFP are automatically set.**
- **The file name should read "PeculiarConfig" with an extension of CSV.**
- **All MFPs having serial numbers contained in the CSV file will be the recipient MFPs. If any MFP that is to be excluded is included in the network, do not include the serial number of such an MFP in the file.**
- **Even when the serial number of the originating MFP is included in the CSV file, the originating MFP is not a recipient MFP.**
- **Up to 255 MFPs are recognized as the recipient MFP. Any serial numbers of the 256th MFP and onward contained in the CSV file will be excluded from the recipient MFPs.**

(3) Procedure

1. Prepare a CSV file (PeculiarConfig.csv) that describes the setting values to be delivered.
2. Store the CSV file immediately under the root directory of the USB memory and connect to the originating MFP.
3. Call the Service Mode to the screen.
4. Touch [Machine Update Setting] -> [Copy Network Settings] -> [Connection Timeout].
5. Set Connection Timeout and touch [OK].
   Default value: 30 Sec
   Setting range: 1 to 300 Sec
6. Touch [Machine Update Setting] -> [Copy Network Settings] -> [Copy Setting] -> [Check Connection] -> [Start].
7. Check the number of MFPs displayed at "Result" against the number of MFPs displayed "OK".
8. Touch [Copy] -> [Start]. This delivers the setting value information to the recipient MFPs one by one.
   NOTE
   - **Screen operations are displayed in the MFP in which the setting values are being rewritten.**
   - **Do not remove the USB memory until the procedure is completed.**

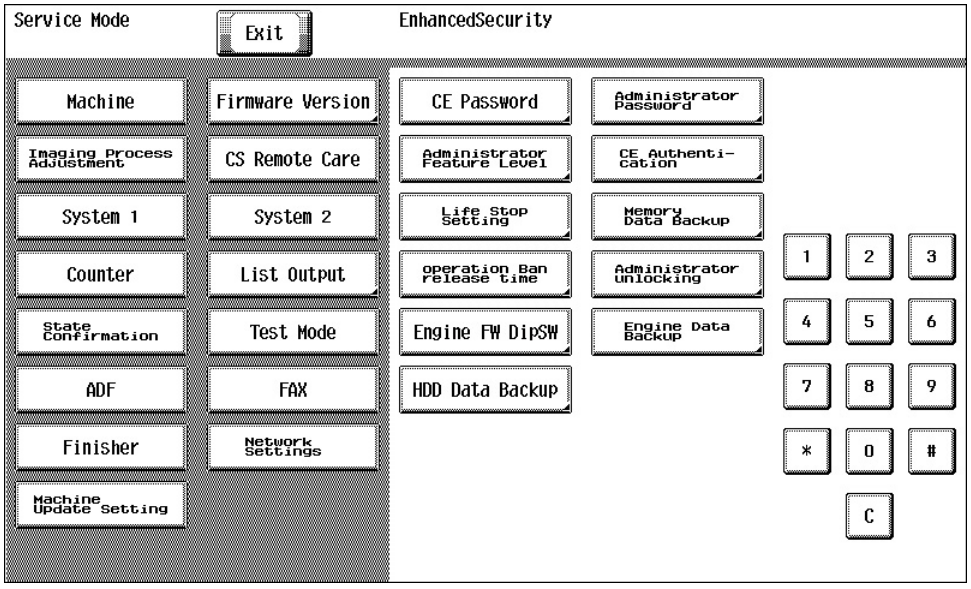
9. When the delivery of the setting values to all recipient MFPs and rewriting of the setting values in all recipient MFPs are completed, the recipient MFPs are restarted.
10. The CSV file (PeculiarConfig_Result.csv) that contains the delivery result is stored in the USB memory inserted in the originating MFP.
11. Check the delivery result file in the USB memory to thereby determine that the procedure has been normally terminated.
    NOTE
    - **When an error that disables continued delivery occurs, a corresponding error code appears on the control panel.**
    - **When a delivery error occurs in any of the recipient MFPs, a message appears that prompts a check of the delivery result file.**
    - **For details of the delivery error, check the specific details of the delivery result file.**

Error code	Description
N***	**Communication error**
E00001	**The USB memory is not connected to the originating MFP.**
E00002	**The CSV file in the USB memory cannot be read.**
E00003	**The delivery result file cannot be created in the USB memory connected to the originating MFP.**
E00004	**The CSV file format is illegal.**
E00005	**Communication is not successful with an MFP having a serial number contained in the CSV file.**
E00006 *	**"Restrict" is set in [OpenAPI Settings] -> [Access Setting].**
E00007 *	**"ON" is set in [OpenAPI Settings] -> [Authentication].**
E00008 *	**"SSL Only" or "SSL/Non-SSL" is set in [OpenAPI Settings] -> [SSL/Port Settings].**
E00009 *	**Any data other than "50001" is set in [OpenAPI Settings] -> [SSL/Port Settings].**
E00010 *	**"No" is set in [OpenAPI Settings] -> [External Application Connection].**
E00011	**No response is received from the recipient MFP even after the lapse of a predetermined period of time after the CSV file has been delivered. (timeout error)**
E00012	**The recipient MFP is not at timing at which it can accept the OpenAPI message.**
E00013	**The recipient MFP fails in updating.**
E00014	**"Cancel" is selected during delivery.**
E00015	**The USB memory is removed from the originating MFP during delivery.**
E00016	**A serial number in the CSV file is illegal.**
E00099	**A network system error. Any of the network settings is not the default value.**

- ***: Check the settings in the originating MFP when the error code appears on the control panel; check the settings in the recipient MFP when the error code is included in the delivery result file.**

6. ENHANCED SECURITY

6.1 List of Enhanced Security

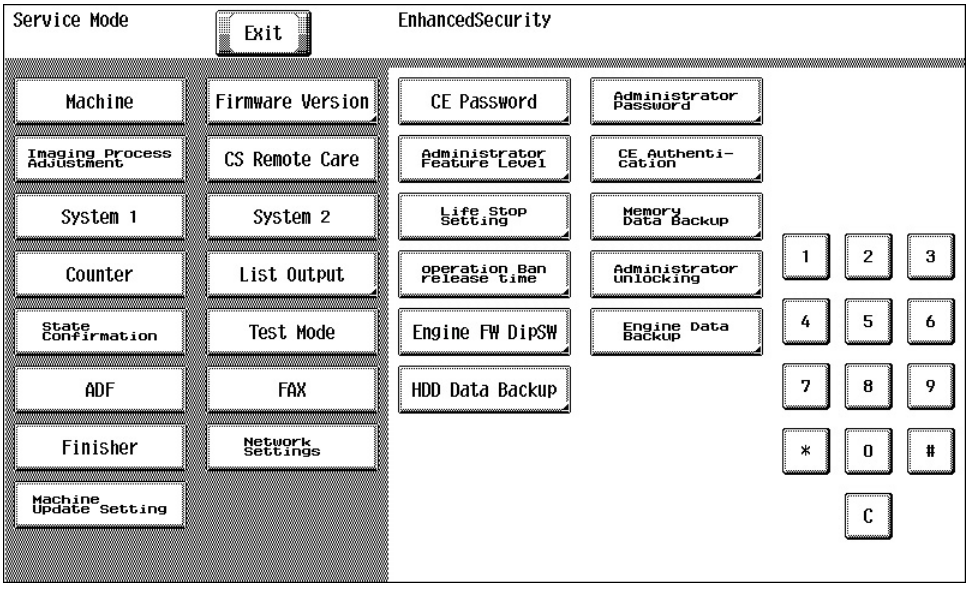


Enhanced Security	Ref. page
CE Password	I.6.3.1 CE Password
Administrator Password	I.6.3.2 Administrator Password
Administrator Feature Level	I.6.3.3 Administrator Feature Level
CE Authentication	I.6.3.4 CE Authentication
Life Stop Setting	I.6.3.5 Life Stop Setting
Memory Data Backup	I.6.3.6 Memory Data Backup
operation Ban release time	I.6.3.7 operation Ban release time
Administrator unlocking	I.6.3.8 Administrator unlocking
Engine FW DipSW	I.6.3.9 Engine FW DipSW
Engine Data Backup	I.6.3.10 Engine Data Backup
HDD Data Backup	I.6.3.11 HDD Data Backup
TPM Setting	I.6.3.12 TPM Setting

6.2 Starting/Exiting

6.2.1 Starting procedure

1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   - Stop -> 0 -> Clear
3. Select a mode.



6.2.2 Exiting procedure

1. Touch [Exit].

2. Turn OFF the main power switch. Wait 10 seconds, then turn ON the main power switch again.

6.3 Enhanced Security

6.3.1 CE Password

(1) Use

- To set and change the CE password.
- The CE password needs to be 8 to 64 one-byte alphameric characters and symbols.

(2) Default setting

- 9272927292729272

(3) Procedure

- Enter the CE password (8 digits) on the on-screen keyboard.
  1. Current Password: Enter the currently using CE password.
  2. New Password: Enter the new CE password.
  3. Re-Input Password: Enter the new CE password again.

NOTE

- **When [Administrator Settings] -> [Security Settings] -> [Security Details] is set to [ON], new passwords cannot contain the same string of characters nor can be previous passwords be used.**
- **A new password is set when starts from the service mode after changing.**
- **NEVER forget the CE password. When forgetting the CE password, call responsible person of KM.**

6.3.2 Administrator Password

(1) Use

- To set and change the administrator password.
- Use this function when the administrator forget the administrator password because a new password can be set without entering the current administrator password with this.
- The administrator password needs to be 8 to 64 one-byte alphameric characters and symbols.

(2) Default setting

- 1234567812345678

(3) Procedure

- Enter the administrator password on the on-screen keyboard.
  1. New Password: Enter the new administrator password.
  2. Re-Input Password: Enter the new administrator password again.

NOTE

- **When [Administrator Settings] -> [Security Settings] -> [Security Details] is set to [ON], new passwords cannot contain the same string of characters nor can be previous passwords be used.**

6.3.3 Administrator Feature Level

(1) Use

- To set which modes to be allowed for the administrator to use in Service Mode.
- Use when allowing the administrator to use some modes in Service Mode.
- The modes allowed for the administrator to use in each setting are as follows.

Administrator settings function				Level 1	Level 2
System Settings	Expert Adjustment	Printer Adjustment	Erase Leading Edge	-	○
			Paper Feed Direction Adj.	-	○
		Scanner Area	Scanner Adjustment: Leading Edge	-	○
			Scanner Adjustment: Centering	-	○
			Horizontal Adjustment	-	○
			Vertical Adjustment	-	○
		ADF Adjustment	Centering	-	○
			Original Stop Position	-	○
			Centering Auto Adjustment	-	○
			Auto Adj. of Stop Position	-	○
		User Paper Settings		-	○
	Standard Size Setting	Original Glass Original Size Detect		-	○
		Foolscap Size Setting		-	○

(2) Default setting

- Prohibit

(3) Setting item

- Level 1
- Level 2

- Prohibit

6.3.4 CE Authentication

- If [Administrator Settings] -> [Security Settings] -> [Security Details] is enabled, this displays as "Disabled".
- It will be displayed when [Administrator Settings] -> [Network Settings] -> [Remote Panel Settings] -> [Client Settings] is set to “ON.”

(1) Use

- To determine whether or not to authenticate CE password as entering Service Mode.

NOTE

- **For setting the [Password Rules] to “ON”, set the CE Authentication to "ON". Change the initial CE password beforehand.**
- **Before setting the [Remote Panel Settings] to “ON”, set the CE Authentication to "ON".**

(2) Default setting

- ON

(3) Setting item

- ON
- OFF

6.3.5 Life Stop Setting

(1) Use

- To select whether or not to stop a print cycle when the drum unit, developing unit, and fusing unit reach its service life.

(2) Default setting

- off

(3) Setting item

- Enable
- off

6.3.6 Memory Data Backup

(1) Use

- To backup the data stored in the memory region on the MFP board to the flash memory.
- To backup current data in order to prevent data in the memory region on the MFP board from being erased unexpectedly.
- To backup data manually. It usually makes backup every hour automatically.
- Backup data can be restored by following the specified procedure when the trouble (CD3XX) occurred.
- Refer to “TROUBLESHOOTING” for details on restoration procedure.

(2) Procedure

1. Touch [Memory Data Backup].
2. Touch [Start] to start making a backup.
3. Check the message [Backup is completed.], and turn main power switch OFF. Wait for ten seconds or more and turn main power switch back ON.

6.3.7 operation Ban release time

(1) Use

- To set the time that elapses before the machine releases an access lock that is activated after the CE password authentication.
- To set the period of time that elapses before the machine releases the access lock, which aims to prevent the unintentional release of the access lock.
- After the CE password authentication, if the access lock is activated, the lock release timer starts to operate the following procedures.
  1. Main power switch is turned OFF and ON.
  2. Menu -> [Counter] -> [Print List]
  3. Touch [Display Keypad], displaying 10-key pad.
  4. The lock release timer starts to operate by input the Stop -> 0 -> 9 -> 3 -> 1 -> 7.
  5. When the timer reaches the time specified in this setting, the access lock is released.

(2) Default setting

- 5 (minutes)

(3) Setting range

- 1 to 60 (minutes)

NOTE

- **When Enhanced Security Mode is set to ON in [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode], the period of time that can be set in this setting is 5 minutes or more.**

6.3.8 Administrator unlocking

(1) Use

- To release an access lock that is activated after an administrator password authentication.

- To release the access lock with service authority when an administrator password authentication fails and the access lock is activated.
- When the main power switch is turned OFF and ON or the period of time set in the Release Time Settings elapses, the machine releases the access lock that is activated after the administrator password authentication. In addition to these operations, this setting provides another way to release the access lock.

(2) Procedure

1. Touch [Administrator unlocking].
2. Touch [unlocking] to release an access lock.
3. When [OK] is displayed, touch [OK].

6.3.9 Engine FW DipSW

- This is displayed only when Switch No. “59” is set to “01” in HEX Assignment in [Service Mode] -> [System 2] -> [Software Switch Setting] .

(1) Use

- To make printer engine settings.
- The following table shows DIP switches that can be set in this machine.

Switch No.	Function	Ref. page
1	Toner bottle capacity setting (5K)	I.6.3.9.(3).(a) Toner bottle capacity setting (5K)
2	Toner bottle capacity setting (10K)	I.6.3.9.(3).(b) Toner bottle capacity setting (10K)
3	New Release Disable mode	I.6.3.9.(3).(c) New Release Disable mode
4	Ventilation option	I.6.3.9.(3).(d) Ventilation option
5	Not used	-
6	Not used	-
7 8	Toner amount option	I.6.3.9.(3).(e) Toner amount option
9	Choice of paper size detection at Bypass tray	I.6.3.9.(3).(f) Choice of paper size detection at Bypass tray
10 : 16	Not used	-
17	FS-534/PK-520 Punching Noise Reduction Choice	I.6.3.9.(3).(g) FS-534/PK-520 Punching Noise Reduction Choice
18	Choice of FS-533 tray home position switching	I.6.3.9.(3).(h) Choice of FS-533 tray home position switching
19 : 26	Not used	-
27	USB log option	I.6.3.9.(3).(i) USB log option
28 : 56	Not used	-

(2) Procedure

1. Touch [Engine FW DipSW].
2. Touch the key that corresponds to the switch No. of the function to be set and check the key is highlighted (ON state) in reverse video.
3. Touch [OK].

(3) Details of Each Function

(a) Toner bottle capacity setting (5K)

- Press this setting key when the current toner bottle has reached 5,000 prints.
- Used to set up the main unit.

Procedure

1. Call the Service Mode to the screen.
2. Call the Enhanced Security to the screen.
3. Touch [Engine FW DipSW].
4. Touch [1] and check the key is highlighted (ON state) in reverse video.
5. Touch [END].

(b) Toner bottle capacity setting (10K)

- Press this setting key when the current toner bottle has reached 10,000 prints.
- Used to set up the main unit.

Procedure

1. Call the Service Mode to the screen.
2. Call the Enhanced Security to the screen.
3. Touch [Engine FW DipSW].
4. Press [2] and check the key is highlighted (ON state) in reverse video.
5. Touch [END].

(c) New Release Disable mode

- To enable a unit that is temporarily used for troubleshooting or other purposes to be used again as a new unit in another machine, New Release Disable mode is provided.
- Applicable units are the following units that have the new unit detection feature.
  Drum unit, developing unit
- When the New Release Disable mode is set, the parameter of the unit before replacement is used without making automatic adjusting control with the TCR sensor and new image stabilization control.

Procedure

1. Open the front door.
2. Call the Service Mode to the screen.
3. Call the Enhanced Security to the screen.
4. Touch [Engine FW DipSW].
5. Touch [3] and check the key is highlighted (ON state) in reverse video.
6. Touch [END].
7. Close the front door.
   By closing the front door, the New Release Disable mode takes effect.

I.6.3.9.(4) Notes when using the New Release Disable mode

(d) Ventilation option

- Changes the operation of the reverse cooling fan during printing.
- When this setting is turned on, the reverse cooling fan is always on during printing regardless of the internal temperature and drive loads.

Procedure

1. Call the Service Mode to the screen.
2. Call the Enhanced Security to the screen.
3. Touch [Engine FW DipSW].
4. Touch [4] and check the key is highlighted (ON state) in reverse video.
5. Touch [END].

(e) Toner amount option

- Changes the amount of toner applied during Dmax corrections.
- The amount of toner can differ depending on differences in system speed. This setting allows you to adjust toner to the optimal amount. (The amount of toner increases as the system speed decreases.)

Procedure

1. Call the Service Mode to the screen.
2. Call the Enhanced Security to the screen.
3. Touch [Engine FW DipSW].
4. Touch [7] and [8] to set the desired toner amount.

[7]	[8]	Desired amount
OFF	OFF	4.3 g (default setting)
ON	OFF	4.2g
OFF	ON	4.0g
ON	ON	3.8g

5. Touch [END].
6. Displays the [Imaging Process Adjustment] screen.
7. Press the Start key to validate the adjustment value.
   NOTE
   - **The adjustment to this setting is updated by outputting the test print to the [Imaging Process Adjustment] screen.**
8. Check the print image for any image problem.

(f) Choice of paper size detection at Bypass tray

- To set the bypass tray automatic paper size detection dedicated to metric or inch sizes depending on the applicable marketing area.
- Set the inch sizes for the US market. Set the metric sizes for any other marketing areas.
  NOTE
  - **The default setting is to disable automatic paper size detection of metric and inch sizes. To enable automatic size detection of mixed originals consisting of originals of both metric and inch sizes, set so as to enable the automatic paper size detection of metric and inch sizes.**

Procedure (to enable automatic size detection of mixed originals)

1. Call the Service Mode to the screen.
2. Call the Enhanced Security to the screen.
3. Touch [Engine FW DipSW].
4. Touch [9] and check the key is highlighted (ON state) in reverse video.
5. Touch [END].

(g) FS-534/PK-520 Punching Noise Reduction Choice

- The operating noise generated from the punch unit when punching holes is reduced.

OFF	• Full punching force (100%) of the punch motor is applied against the basic weight of all types of paper.
ON	• Control the punching force of the punch motor depending on the paper thickness (basic weight). For paper other than the thick paper, 60% force is applied for punching holes. (Default value) • Control the operating noise generated when punching holes on the paper other than the thick paper.

Procedure
1. Call the Service Mode to the screen.
2. Call the Enhanced Security to the screen.
3. Touch [Engine FW DipSW].
4. Touch [17] and check the key is highlighted (ON state) in reverse video.
5. Touch [END].

(h) Choice of FS-533 tray home position switching

- It switches the tray home position for FS-533.

OFF	Tray home position becomes the low limit position. (default)
ON	Tray home position becomes the paper receiving position.

Procedure
1. Call the Service Mode to the screen.
2. Call the Enhanced Security to the screen.
3. Touch [Engine FW DipSW].
4. Touch [18] and check the key is highlighted (ON state) in reverse video.
5. Touch [END].

(i) USB log option

- Enables USB logging.

Procedure
1. Call the Service Mode to the screen.
2. Call the Enhanced Security to the screen.
3. Touch [Engine FW DipSW].
4. Touch [27] and check the key is highlighted (ON state) in reverse video.
5. Touch [END].

(4) Notes when using the New Release Disable mode

(a) Before starting the mode

- Output the list in [Service Mode] -> [List Output] to check the information on the wear-out rate of each unit and keep the Dmax density adjustment value. Replace units that have reached their life or that are near life with new ones, and perform New Release.
- If the toner is empty, start this mode when the toner empty status is resolved by replacing the toner cartridge with a new one or charging the toner.

(b) During the New Release Disable mode

- The New Release Disable mode is subject to the condition that the New Release Disable mode should not be used for a long period, i.e. duration of printing only several tens of sheets. (Units used in the New Release Disable mode for a long time cannot be guaranteed as new ones.)
- In the New Release Disable mode, the drum unit/K life counter is not reset and it continues to count in a normal manner. If the counter reading becomes close to the value at which an accumulated rotation time excess warning is issued or becomes close to the end of life value, the accumulated rotation time excess warning or the end of life warning can be issued in the New Release Disable mode.
  (If the drum unit/K counter should reach the end of life value while temporarily using a new drum unit/K in the New Release Disable mode, turn OFF the New Release Disable mode, open and close the front door (or turn the main power switch OFF and ON), and perform New Release in a normal manner. In this case, the previous drum unit/K, which has been temporarily removed, cannot be used again.)
- After activating the New Release Disable mode in [Engine FW DipSW], do not turn OFF and ON the main power switch or do not let the machine go into the sleep mode until the work in the New Release mode is completed.
  (In case that the main power switch is turned OFF or the machine goes into the sleep mode, be sure to open the front door and turn the main power switch ON or activate the machine from the sleep mode. Then turn ON the New Release Disable mode and close the front door.)

(c) After finishing work in New Release Disable mode

- When continuing to use the new unit used in the New Release Disable mode in the same machine, turn OFF the new Release Disable mode and open and close the front door (or turn OFF and ON the main power switch) to perform New Release.
- To reinstall the previous unit used in the machine, open the front door, turn OFF the New Release Disable mode, replace the new unit with the previous unit, and close the front door (or turn the main power switch OFF and ON).
  In this case, perform Initialize + Image Stabilization, Gradation Adjustment, and input of the previous Dmax density adjustment value in service mode. (If these adjustments are not performed, gradation reproducibility cannot be guaranteed.)
- After temporarily using a new drum unit/K in the New Release Disable mode, before reinstalling the previous drum unit/K, be sure to check the reading of the drum unit/K life counter in [Service Mode] -> [Counter] -> [Life] to learn that New Release is not performed on the new drum unit/K, i.e. the counter value have not decreased.
  (There is no way to determine whether New Release is performed on the new drum unit/K or not from the appearance of the unit. Checking the counter reading is necessary to avoid bringing back the drum unit/K on which New Release is performed, assuming that the drum unit/K remains new.)

6.3.10 Engine Data Backup

- Not used

6.3.11 HDD Data Backup

(1) Use

- To back up or restore the settings of the machine and the image data stored in the box.

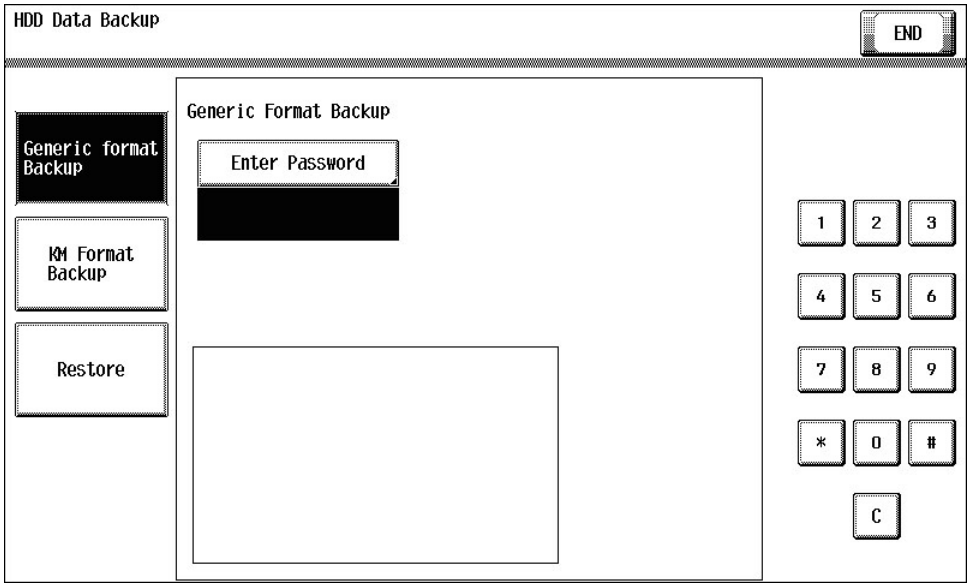
Generic format Backup	• Store the setting data for this machine as an XML data and store the data saved in the box as a TIFF-C image to the HDD connected with a USB. However, a data that is saved at 1200dpi in the box cannot be backed up. • Since the free space in the HDD for backup cannot be checked beforehand, after starting the backup, it will be terminated as an error at the time that no space remained in the HDD.
KM Format Backup	• Save the settings of the machine as a XML data, and save the image data in the box in internal format (RAW data) to the HDD connected with a USB. • A backup starts after making a confirmation of if the storage is enough.

- Settings an image data in the box to be backed up and restored are as follows.
  - Setting data for MFP (User Settings, Administrator Settings, part of each settings in Service Mode)
  - User authentication, Account track settings information
  - One-touch Registration Address Information
  - Images saved in the box (User box (Public, Personal, Group, and Encrypted PDF box)) *
  - Information that configures boxes (setting data exclusive for boxes) *

  *: Not applicable when no hard disk is mounted
- Conditions required to backup/restore are as follows.
  - To use a self-power external HDD (a type to supply power from outside)
    A bus-power external HDD shall not be used.
  - After connecting an external HDD to the machine via a USB, the data is converted with ext3 format automatically.
  - The backup will be executed after the backup data which has already existed in the external HDD is deleted automatically.
  - Data of only one model can be saved in the external HDD.
  - Cancellation during a backup is allowed. However cancellation during formatting an external HDD is not allowed.
  - Operation of backup/restore is not allowed when a trouble or warning occurred.
  - Operation of backup/restore is not allowed when a timer job has been reserved.

(2) Setting item

- Generic format Backup
- KM Format Backup
- Restore
- Enter Password



(3) Procedure

NOTE

- **Set [Administrator Settings] [Security Setting] -> [Security Details] -> [Storage Data Backup (5/5)] to [Allow]. If [Restrict] is set, the machine cannot be used.**
- **Be sure to turn the main power switch of the machine off and on after performing a backup/restore.**

(a) Backup

1. Connect the USB of an external HDD to the USB port of an MFP. (USB NG will be displayed when the USB is not recognized correctly.)
2. Call the Service Mode to the screen.
3. Call the Enhanced Security to the screen.
4. Touch [HDD Data Backup].
5. Select [Generic format Backup] or [KM Format Backup].
6. Touch [Enter Password], enter an encryption password using 1 to 32 characters, then touch [END].
7. Touch [Start]. (“Processing” will be displayed.)
   Touch [Cancel] if you want to stop the backup.
8. After completing the backup, [Result OK] will be displayed.
9. Turn OFF and ON the main power switch.

(b) Restore

1. Connect the USB of an external HDD to the USB port of an MFP.
2. Call the Service Mode to the screen.

3. Call the Enhanced Security to the screen.
4. Touch [HDD Data Backup].
5. Select [Restore].
6. Touch [Enter Password], enter a decryption password using 1 to 32 characters, then touch [END].
7. Touch [Start]. (“Processing” will be displayed.)
   Touch [Cancel] if you want to stop the restore.
8. After completing the restore, [Result OK] will be displayed.
9. Turn OFF and ON the main power switch.

6.3.12 TPM Setting

- It is displayed when the optional i-Option LK-115 is enabled.

(1) Initialization

(a) Use

- To initialize the memory area installed on the TPM chip.

NOTE

- **Be sure to perform it if the i-Option LK-115 is enabled.**

(b) Procedure

1. Touch [Initialization].
2. Press the Start key.

(2) Status report

(a) Use

- To notify an error which is detected by the TPM chip self diagnosis, and output the diagnosis result, or output a report file to a USB memory.
- The TPM chip self diagnosis is conducted when the machine starts to run.

(b) Procedure (List Output)

1. Touch [Status report].
2. Touch [List Output].
3. Press the Start key.
4. The status report is output.

(c) Procedure (USB save)

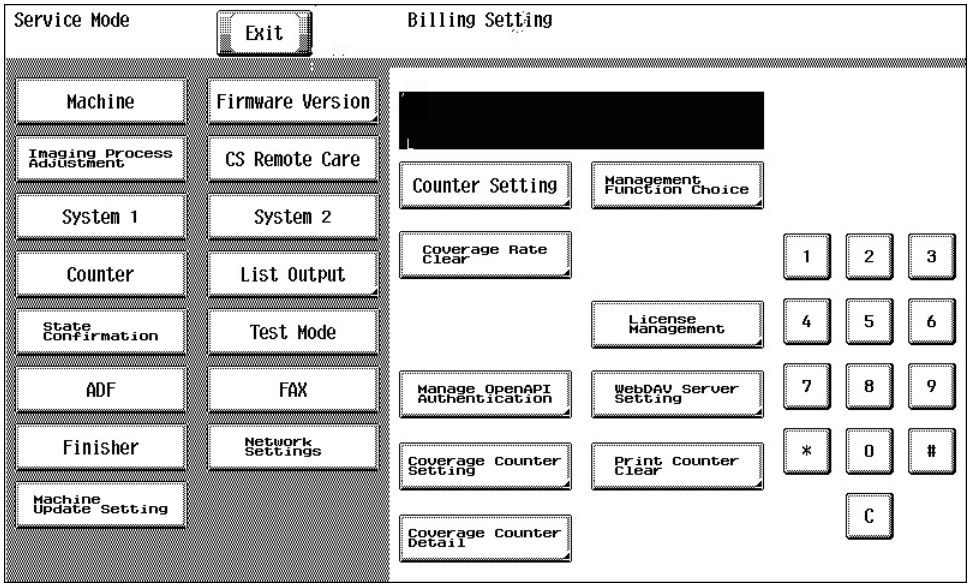
1. Connect a USB memory to the USB port.
2. Touch [Status report].
3. Touch [USB save].
4. Press the Start key.
5. The status report file is saved to the USB memory.

7. BILLING SETTING

Billing Setting

- When using the optional upgrade kit UK-211 and license kit LK-102 v3, LK-104 v3, LK-105 v4, LK-106, LK-107, LK-108, LK-110 v2, LK-111 , LK-114 or LK-115 v2, license management is done with [Service Mode] -> [Billing Setting] -> [License Management].
- [License Management] can set Activation/Deactivation of each i-Option functions, Repair/Initialize of functions for troubleshooting, or etc.

7.1 List of billing setting



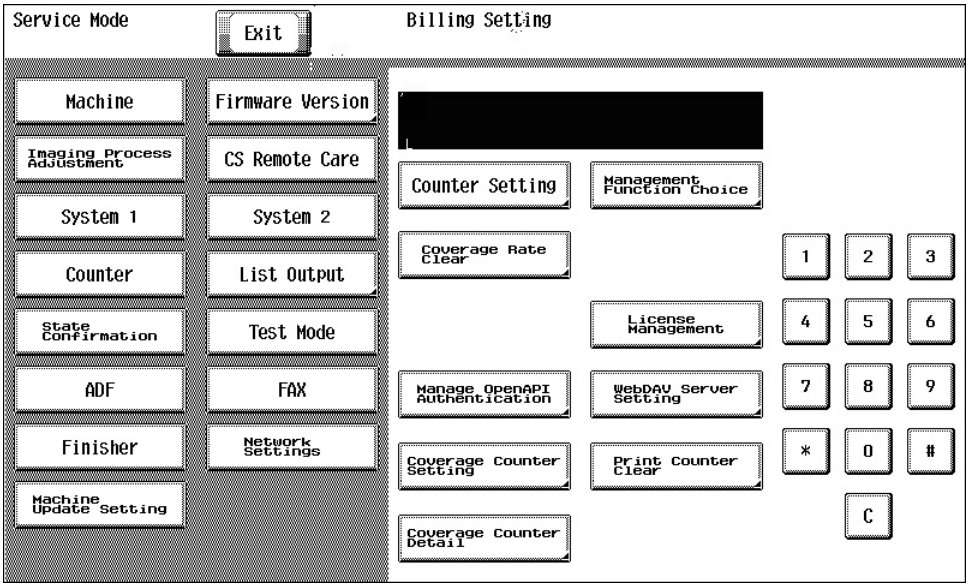
Billing Setting		Ref. page
Counter Setting		I.7.3.1 Counter Setting
Management Function Choice		I.7.3.2 Management Function Choice
Coverage Rate Clear		I.7.3.9 Coverage Rate Clear
License Management	Activation	I.7.3.10 License management - Activation
	Deactivation	I.7.3.11 License management - Deactivation
	Repair *1	I.7.3.12 License management - Repair
	Initialize	I.7.3.13 License management - Initialize
	Request Code	I.7.3.14 License management - Request Code
	List	I.7.3.15 License management - List
	Function List	I.7.3.16 License management - Function List
Manage OpenAPI Authentication	Restriction Code	I.7.3.17.(1) Restriction Code
	Region Code	I.7.3.17.(2) Region Code
WebDAV Server Setting		I.7.3.18 WebDAV Server Setting
Coverage Counter Setting		I.7.3.19 Coverage Counter Setting
Print Counter Clear		I.7.3.20 Print Counter Clear
Coverage Counter Detail		I.7.3.21 Coverage Counter Detail

*1: It is displayed only when “License management error” occurs.

7.2 Starting/Exiting

7.2.1 Starting procedure

1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   - Stop -> 9
3. Select a mode.



7.2.2 Exiting procedure

1. Touch [Exit].
2. Turn OFF the main power switch. Wait 10 seconds, then turn ON the main power switch again.

7.3 Billing Setting

7.3.1 Counter Setting

(1) Use

- To set the counting method for the total counter, size counter and banner paper counter.
- To set the size regarded as the large size (2 counts.)
- Use to change the counting method for the counters.

(2) Default setting (Total Counter)

- Japan: Mode 1
- US, Europe, Others 1, Others 2, Others 3, Others 4, Others 5: Mode 2

(3) Setting item (Total Counter)

- Mode 1: 1 count per copy cycle
- Mode 2: Large size is double counts

NOTE

- **The content of this setting is reflected in the count method with the key counter.**
- **"Others 1" to "Others 4" are setting items in [Marketing Area] available from Service Mode.**

(4) Default setting (Large Size Counter)

- US: A3 and 11 x 17
- Europe, Others 1, Others 2, Others 3, Others 4, Others 5: A3, B4, 11 x 17, and 8 1/2 x 14
- Japan: Not counted

(5) Setting item (Large Size Counter)

A3/11 x 17	When it exceeds 279 mm in the main scan direction and 420 mm in the sub scan direction (exceeds 399 mm at fax scan), it is regarded as the large size.
A3/B4/11 x 17/8 $^{1}/_{2}$ x 14	When it exceeds 215 mm in the main scan direction and 355 mm in the sub scan direction (exceeds 337 mm at fax scan), it is regarded as the large size.
A3/11 x 17/B4/8 $^{1}/_{2}$ x 14/Foolscap	When it exceeds 203 mm in the main scan direction and 330 mm in the sub scan direction (exceeds 313 mm at fax scan), it is regarded as the large size. (However the size in the main scan direction changes according to the foolscap size setting.)

- Not counted
- A3/11 × 17
- A3/B4/11 × 17/8 $^{1}/_{2}$ × 14
- A3/11 × 17/B4/8 $^{1}/_{2}$ × 14/Foolscap

NOTE

- **When the large-size counter count mode is set to "Not counted", the total counter mode operates at "Mode 1" regardless of the setting value.**

(6) Count-up table

Print mode	1-Sided				2-Sided			
Size	Sizes other than those specified		Specified sizes		Sizes other than those specified		Specified sizes	
Type \ Mode	Mode		Mode		Mode		Mode	
	1	2	1	2	1	2	1	2
Total	1	1	1	2	2	2	2	4
Size	0	0	1	1	0	0	2	2
2-sided Total	0	0	0	0	1	1	1	1

- 0: No count
- 1: 1 count
- 2: 2 counts
- 3: 3 counts
- 4: 4 counts

7.3.2 Management Function Choice

- To set whether or not the Key Counter, Management Device (Data controller), Authentication Device, or Vendor are to be mounted.

NOTE

- **This is not displayed when [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to "ON".**
- **When the setting shows that [Management Device 2] or [Vendor 2] is mounted, the following applications will be invalid.**
  PC FAX transmission / HDD TWAIN/PS Box Operator / PS Scan Direct / PS Job Spooler / Fiery: Scan to Box
  Also, [Administrator Settings] -> [Security Settings] -> [Function Management Settings] -> [Network Function Usage Settings] will be set to "OFF".

7.3.3 Management Function Choice - Key Counter IF Vendor

- Not used

7.3.4 Management Function Choice - Authentication Device 2

(1) Use

- To set whether or not the authentication device 2 is installed.
- Set when the authentication unit (biometric type or card type) is mounted.

  NOTE

  - **When using the authentication device including AU-102 and AU-201S the loadable device driver needs to be installed.**
    I.5.16.24 Driver Install
    E.1.3.1 IC card information setting tool of AU-201S/AU-202H/OMNIKEY 5427CK (AU-205H)/SCL-010/YSoft card reader

Card	Uses IC card authentication system (AU-201S/SCL-010/AU-201H/AU-202H/YSoft card reader/ OMNIKEY 5427CK (AU-205H)).
Body	Uses biometrics (finger vein) authentication system (AU-102)
Card 3	Uses IC card authentication device for PKI card system

- When selecting [Body], set a film timeout interval, capture trial time and authentication trial time.
- When selecting [Card], a response timeout interval is displayed. (The interval is unchangeable.)
- [Card 3] will be displayed only when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No. 12 is set to [00000010]/[02] (bit value/HEX value).

(2) Setting item

Authentication Mode

- Card
- Body

(3) Installation procedures of authentication unit

(a) AU-102

1. Install the AU-102 loadable driver (BIO_LDR.tar) to the main unit. *1
2. Install the AU-102 to the main unit.
3. Select [Body] in [Service Mode] -> [Billing Settings] -> [Management Function Choice] -> [Authentication Device 2].
4. Turn off the main power switch and turn it on again more than 10 seconds after.
5. Register the authentication user data.

Note *1

Authentication units	Compatible IC cards	Loadable driver versions
AU-102	Biometric	A7AH0Y0-A900-G00-01

(b) AU-201 S

1. Install the loadable driver (ICC_LDR.tar) to the main unit. *1,*2,*3
2. Install the AU-201S to the main unit.
3. Select [Card] in [Service Mode] -> [Billing Settings] -> [Management Function Choice] -> [Authentication Device 2].
4. Turn off the main power switch and turn it on again more than 10 seconds after.
5. Register the authentication card data.

Note *1
- A combination of the loadable driver and the IC card information setting file will be supplied as a loadable driver by KM.

Note *2
- The loadable driver to be installed varied according to the type of the card. Identify the type of the card requiring authentication and install the correct loadable driver.

Authentication units	Loadable driver name (KM standard setting)	Compatible IC cards	Loadable driver versions
AU-201S	AU-201S loadable driver	FeliCa IDm, FeliCa SSFC, FeliCa FCF, FeliCa FCF(Campus), Type, FeliCaPrivate	A7AH0Y0-A022-G00-01

Note *3
- If FeliCa IDm, FeliCa SSFC, FeliCa Private, or related card requiring detailed settings is to be used, make the detailed settings by using either one of the following methods:
  1. Using the Auth Device Tool Advanced for AU-201S, prepare a combination of the loadable driver and the IC card information setting file and export it as a loadable driver.
     E.1.3.1.(3) IC card information setting procedures
  2. Using the Auth Device Tool Advanced for AU-201S, prepare the IC card information setting file only and install the loadable driver in the MFP. Then, using the PageScope Data Administrator, write the IC card information setting file in the MFP.
     E.1.3.1.(3) IC card information setting procedures

E.g.: Information setting sample when the FeliCa SSFC card is used

Information to be obtained from the administrator		
Items of Felica SSFC detail setting	Sample-data (decimal number)	Setting value (hexadecimal number)
Room number	37	00 25
Floor number	15	00 0F
Building number	50	00 32
Area number	85	00 55
Security level	2	00 02
Company identification code (CL code) *1	06BGLQVX17 (ASCII code)	30 36 42 47 4C 51 56 58 31 37
Company code *2	CompanyA (ASCII code)	CompanyA

*1: The character length of the company code is 10 bytes.
*2: Use alphabetical upper case/lower case characters and numeric characters for Company code. When the company code is not set, this space will be left blank.

(c) Miscellaneous card readers

- The same setting method as that for AU-201S applies for other card readers.
- The following loadable drivers are necessary.

Authentication units	Loadable driver name (KM standard setting)	Compatible IC cards	Loadable driver versions
SCL-010	SCL-010 loadable driver (Default: TypeA) *1, *2	TypeA, FeliCa IDm, Mifare	A7AH0Y0-A511-G00-01
AU-201H	AU-201H loadable driver	HID Prox *4	A7AH0Y0-A001-G00-01
AU-202H	AU-202H loadable driver *2	HID iClass	A7AH0Y0-A300-G00-01
OMNIKEY 5427CK (AU-205H)	5427CK (AU-205H) loadable driver*2	HID Prox, HID iCLASS, TypeA, FeliCa IDm *5	A7AH0Y0-A010-G00-01
KM USB Reader v2 MultiReader HF	Loadable driver for YSoft card reader (Default: HID Prox) *3	Mifare	A7AH0Y0-A521-G00-01
KM USB Reader v2 Legic Advant		LEGIC	
KM USB Reader v2 ASK FSK 125kHz		EM4100, EM4102, RFID 125kHz	
KM USB Reader v2 Mot/Ind W26		Indala	
KM USB Reader v2 HID Prox		HID Prox	
KM USB Reader v2 HID iCLASS		HID iCLASS	

Note *1
- A combination of the loadable driver and the IC card information setting file will be supplied as a loadable driver by KM.

Note *2
- If cards of FeliCa IDm of SCL-010, HID iClass of AU-202H or HID iClass of OMNIKEY 5427CK (AU-205H) that require detailed settings are to be used, make the detailed settings by using either one of the following methods:
  1. Using the Auth Device Tool Advanced for SCL-010, Auth Device Tool Advanced for AU-202H or Auth Device Tool Advanced for 5427CK (AU-205H), prepare a combination of the loadable driver and the IC card information setting file and export it as a loadable driver.
     E.1.3.1.(3) IC card information setting procedures

2. Using the Auth Device Tool Advanced for SCL-010, Auth Device Tool Advanced for AU-202H or Auth Device Tool Advanced for 5427CK (AU-205H), prepare the IC card information setting file only and install the loadable driver in the MFP. Then, using the PageScope Data Administrator, write the IC card information setting file in the MFP.
E.1.3.1.(3) IC card information setting procedures

Note *3
- If a YSoft card reader is used, all types of card will be reported as HID Prox card to the authentication program (Default).
- To report the card type other than HID Prox to the authentication program, choose the corresponding card type shown in the following list.

Card Reader Name	Readable Card Type	Card type to be reported to the authentication program (Default) *3-5, *3-7	IC Card Information Setting (card type to be reported) *3-6 E.1.3.1 IC card information setting tool of AU-201S/AU-202H/OMNIKEY 5427CK (AU-205H)/SCL-010/YSoft card reader
KM USB Reader v2 MultiReader HF	Mifare	HID Prox	TypeA (1) *3-1,*3-4
KM USB Reader v2 Legic Advant	LEGIC	HID Prox	TypeA (1) *3-1,*3-4
KM USB Reader v2 ASK FSK 125kHz	EM4100, EM4102, RFID 125kHz	HID Prox	EM4100/ EM4102/ RFID 125kHz
KM USB Reader v2 Mot/Ind W26	Indala	HID Prox	Indala
KM USB Reader v2 HID Prox	HID Prox	HID Prox	HID Prox (1) *3-2,*3-4
KM USB Reader v2 HID iCLASS	HID iCLASS	HID Prox	HID iCLASS (1) *3-3,*3-4

- *3-1 The content (ID) to be read from the type A card setting differs from which to be read by using AU-201S.
- *3-2 The content (ID) to be read from the HID Prox card setting differs from which to be read by using AU-201H.
- *3-3 The content (ID) to be read from the HID iCLASS card setting differs from which to be read by using AU-202H.
- *3-4 When add the YSoft card reader to the authentication network composed of the present AU-201S 201H and 202H, the ID may vary depending on the card reader. Therefore, it is required to set the card type to TypeA (1), HID Prox (1) or HID iCLASS (1) and register the card again.
- *3-5 For the content to be read from the HID Prox card, since the ID length is fixed to 16 bytes, the unused part will be bridged with 0xFF.
- *3-6 If a card type other than HID Prox is selected, the card ID type will be set to up to 512 bytes, the card ID length will be reported together with the card ID.
- *3-7 If the card type is set to HID Prox by using the LDAP-IC card authentication, specify the card ID type to be sent to the LDAP server as shown below.
  1. Software switch No.135 Hex: 00 Reports that the 1st byte shows the ID length of the card, the 2nd byte and after shows the card ID. (Default)
  2. Software switch No.135 Hex: 01 Reports the card ID with the ID length including the 1st byte.

Note *4
- If the card type is set to HID Prox by using the LDAP-IC card authentication, specify the card ID type to be sent to the LDAP server as shown below.
  1. Software switch No.135 Hex: 00 Reports that the 1st byte shows the ID length of the card, the 2nd byte and after shows the card ID. (Default)
  2. Software switch No.135 Hex: 01 Reports the card ID with the ID length including the 1st byte.

Note *5
- To use FeliCa, make either of the following settings.
  - Select [Felica] at [Administrator Settings] -> [User Authentication/Account Track] -> [Authentication Device Settings] -> [General Settings] -> [Card Authentication] -> [IC Card type setting].
  - Although [Use Card Reader Settings] is also selectable at [Administrator Settings] -> [User Authentication/Account Track] -> [Authentication Device Settings] -> [General Settings] -> [Card Authentication] -> [IC Card type setting], "FeliCa" is dedicated for the card reader (OMNIKEY5427CK) settings.
  - Make card reader (OMNIKEY5427CK) settings with the tool that is exclusively used for PC settings and downloaded from the HID web page.

7.3.5 Management Function Choice - Key Counter Only

(1) Use

- To set whether or not the key counter is installed.
- Set when the key counter is mounted.
- Select [Color Mode] and [Message] when the key counter is mounted.

(2) Color Mode

- When [Mode 1] is set on [Total Counter Mode] after selecting [Billing Setting] -> [Counter setting].

Mode 1	1 count per 1 print cycle
Mode 2	2 counts per 1 print cycle
Mode 3	3 counts per 1 print cycle
Mode 4	4 counts per 1 print cycle
Mode 5	5 counts per 1 print cycle

- When [Mode 2] is set on [Total Counter Mode] after selecting [Billing Setting] -> [Counter setting] and large size is selected on [Large Size Counter Mode]

Mode 1	2 counts per 1 print cycle
Mode 2	4 counts per 1 print cycle
Mode 3	6 counts per 1 print cycle
Mode 4	8 counts per 1 print cycle
Mode 5	10 counts per 1 print cycle

- When [Mode 2] is set on [Total Counter Mode] after selecting [Billing Setting] -> [Counter setting] and sizes other than large size are selected on [Large Size Counter Mode] Mode 1

Mode 1	1 count per 1 print cycle
Mode 2	2 counts per 1 print cycle
Mode 3	3 counts per 1 print cycle
Mode 4	4 counts per 1 print cycle
Mode 5	5 counts per 1 print cycle

(3) Message

(a) Procedure

- Select the message type when the administrative unit is mounted.

Type 1	Message for key counter
Type 2	Message for card scanning
Type 3	Message for ID management
Type 4	Message for remote SW

(b) Setting item

- Type 1
- Type 2
- Type 3
- Type 4

(4) Confirmation copy

(a) Procedure

- Set whether to allow a confirmation copy when a key counter is installed.

(b) Default setting

- Ban

(c) Setting item

- License
- Ban

(5) The next job reservation

(a) Use

- Set whether to allow the reservation of the next job when a key counter is installed.

(b) Default setting

- Ban

(c) Setting item

- License
- Ban

NOTE

- **The setting is available only when user authentication and account track are set “OFF” with [Administrator Settings] -> [User Authentication/Account Track] -> [General Settings].**

(6) Count Setting

(a) Use

- To set the count timing used when the key counter is installed.

(b) Default setting

- Paper feed

(c) Setting item

- Paper feed

- Paper out

7.3.6 Management Function Choice - Management Device 2

(1) Use

- To set whether or not the management device 2 is installed.

Mode 1	Use contact type device. (Logout with ID key is not allowed)
Mode 2	Use non-contact type device. (Logout with ID key is allowed.)

(2) Setting item (Management Setting)

- Mode 1
- Mode 2
- When selecting [Mode 2], select whether to use "User Authentication" concurrently.

NOTE

- **The setting is not available when either "External Server Authentication" of user authentication, "Password Only" of account track, "Do Not Synchronize" of user authentication and account track or "ON" of public user access has been set with [Administrator Settings] -> [User Authentication/Account Track] -> [General Settings].**

7.3.7 Management Function Choice - Vendor 2

(1) Use

- To set whether or not the vendor 2 is installed.

  NOTE

  - **When using the vendor along with the key counter, inserting the key counter will set it to the "Key Counter Mode" and removing it will set it to the "Vendor Mode".**

(2) Procedure

- Select color mode and message of key counter. (Only for key counter, the type of the color mode and message are same after mounting.)

(3) Procedure (Confirmation copy)

(a) Use

- Set whether to allow a confirmation copy when a key counter is installed.

(b) Default setting

- Ban

(c) Setting item

- License
- Ban

(4) Procedure (The next job reservation)

(a) Use

- Set whether to allow the reservation of the next job when a key counter is installed.

(b) Default setting

- Ban

(c) Setting item

- License
- Ban

(5) Procedure (Count Setting)

(a) Use

- To set the count timing used when the key counter is installed.

(b) Default setting

- Paper feed

(c) Setting item

- Paper feed
- Paper out

(6) Procedure (Message)

(a) Use

- Select message of vendor.

Type 1	Message for key counter
Type 2	Message for card scanning

Type 3	Message for ID management

(b) Setting item

- Type 1
- Type 2
- Type 3

7.3.8 Setting items that automatically change the setting values

NOTE

- **Performing the setup for each unit to be mounted will internally change the setting values below. It needs resetting when cancelling the setting in order to set back to "not mounted" because the setting value will remain.**

(1) When the vendor2 or authentication device 2 is mounted

Setting Item		Vendor 2	Authentication Device 2
Utility	Default Copy Settings	Factory Default	-
	Default Scan/Fax Settings	Factory Default	-
	Copy Operating Screen	[Yes]	-
	Fax Active Screen	Tx/Rx Display [Yes]	-
	Scan/Fax Settings -> Default Tab	Direct Input	-
Administrator Settings	Usage Settings for Each Function	Copy, PC print, and Send Data will be set to "ON". Others Prints will be set to "OFF".	
	Administrator Security Levels	Prohibit	-
	Restrict Access to Job Settings	Changing Job Priority, Delete Other User Jobs, Registering and Changing Addresses, Changing Zoom Ratio will be set to "Restrict".	-
	Job Priority Operation Settings	Skip Job (Fax) and Skip job (Copy, Print) will be set to "Yes".	-
	Forward TX Setting	No	-
	Fax Settings -> Memory RX Setting	Password for Memory RX Setting is set to the default value of the administrator password	-
	OpenAPI Settings	Access Setting will be set to "Restrict" and Authentication will be changed to "OFF" setting.	-
	DPWS Settings -> Printer Settings/ Scanner Settings	OFF	-
	Image Log Transfer Settings	OFF	-
Service Mode	Software Switch Setting	SW No. 63 will be set to [00000000] at Bit assignment/[00] at HEX assignment.	-
	FAX	[System] -> [Display Setting] -> [Re-Transmission] will be set to "OFF".	-

(2) When the key counter IF vendor or management device 2 is mounted

Setting Item		Key counter IF Vendor	Management Device 2
Utility	Default Copy Settings	Factory Default	-
	Default Scan/Fax Settings	Factory Default	-
	Copy Operating Screen	[Yes]	-
	Fax Active Screen	Tx/Rx Display [Yes]	-
	Scan/Fax Settings -> Default Tab	Direct Input	-
Administrator Settings	Usage Settings for Each Function	Copy, PC print will be set to "ON". Send Data, Others Prints will be set to "OFF".	Copy, PC print, Send Data, and Others Prints will be set to "ON".
	Administrator Security Levels	Prohibit	-
	Weekly Timer ON/OFF Settings	OFF	-
	Restrict Access to Job Settings	Changing Job Priority, Delete Other User Jobs, Registering and Changing Addresses, Changing Zoom Ratio will be set to "Restrict".	-
	External Memory Function Settings	External Memory Document Scan will be set to "OFF". Save Document and Print Document will be set to "OFF".	-

Setting Item		Key counter IF Vendor	Management Device 2
	Fax Settings -> Memory RX Setting	Password for Memory RX Setting is set to the default value of the administrator password	-
	Forward TX Setting	No	-
	Line Parameter Setting	-	Receive Mode will be changed to “Auto RX”.
	OpenAPI Settings	Access Setting will be set to “Restrict” and Authentication will be changed to “OFF” setting.	-
	Apply Stamps/Stamp	No	-
	Apply Stamps/Copy Protect	No	-
	Apply Stamps/Stamp Repeat	No	-
	Apply Stamps/Registered Overlay	No	-
	Apply Stamps/Header/Footer	No	-
	Apply Stamps/Page Number/Text Color	Black	-
	Apply Stamps/Date/Time/Text Color	Black	-
	DPWS Settings -> Printer Settings/ Scanner Settings	OFF	
	Image Log Transfer Settings	OFF	-
Service Mode	Software Switch Setting	SW No. 63 will be set to [00000000] at Bit assignment/[00] at HEX assignment.	-
	FAX	[System] -> [Display Setting] -> [Re-Transmission] will be set to “OFF”.	-

7.3.9 Coverage Rate Clear

(1) Use

- To clear the coverage rate.

(2) Procedure

- Touching [END] key will clear the coverage rate.

(3) Default setting

- Unset

(4) Setting item

- Set
- Unset

7.3.10 License management - Activation

(1) Functions

- To activate i-Option functions.

(2) Use

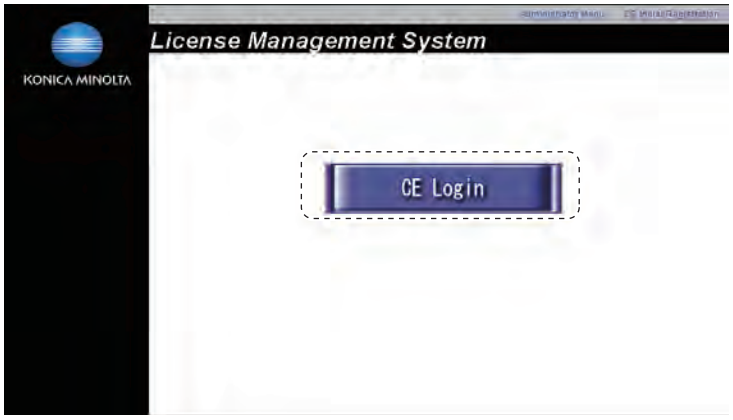
- To activate i-Option functions with CE.
- The functions can be activated by selecting the desired function and enter the appropriate license code and function code.
- Administrators also can carry out the procedure No.14 or later step to activate i-Option functions through Administrator Settings.

(3) Procedure

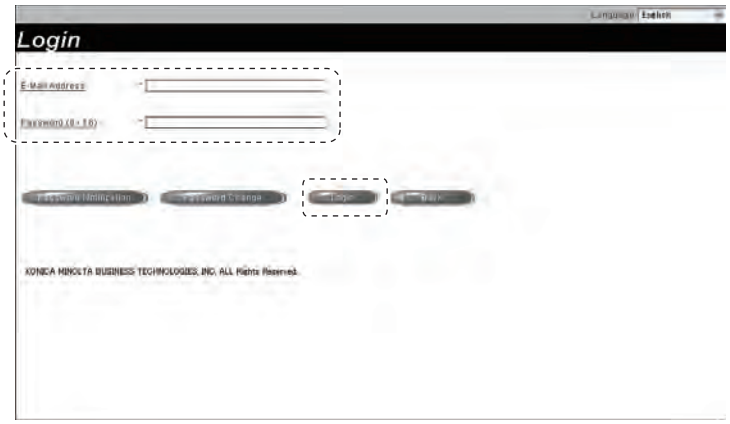
NOTE

- **You need to access License Management System (LMS) to implement each function setting.**
- **Before accessing the LMS, CE are required to register the E-mail address and the password in the LMS. To register, click [CE Initial Registration] that is located in the upper right of CE Login screen.**

1. Prepare “token certification.”
2. Access the following URL using the PC connected to the Internet.
   https://lms.konicaminolta.com/license/KM/support.aspx
3. Click [CE Login].



4. Enter [E-Mail Address] and [Password], and click [Login].



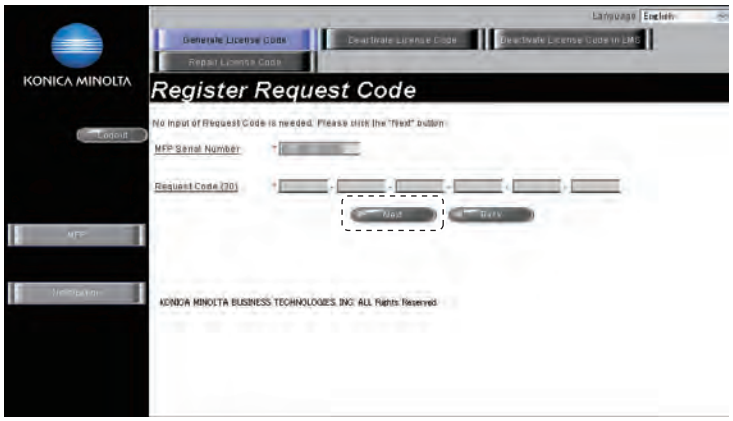
5. Click [Generate License Code].



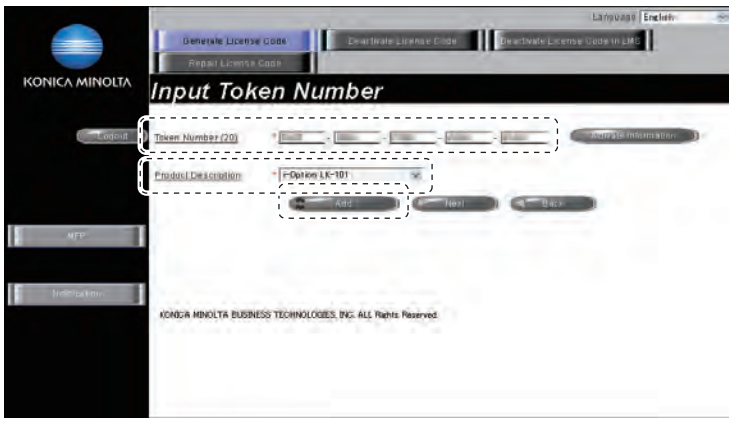
6. Enter the serial number of the target MFP, and click [Next].
NOTE
- **Make sure to enter alphabet letters of the serial number in all capital letters.**



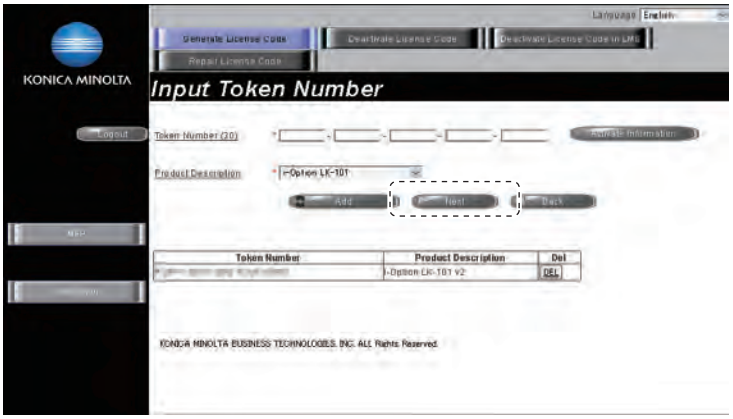
7. Click [Next].



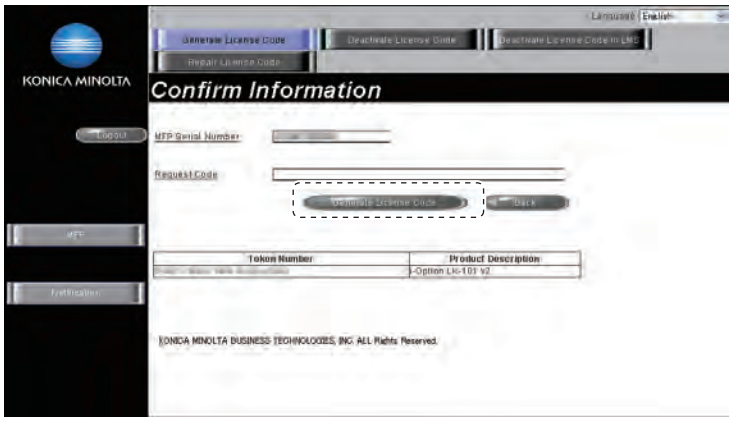
8. Enter the token number written in the token certification, and select the product description.
9. Click [Add].



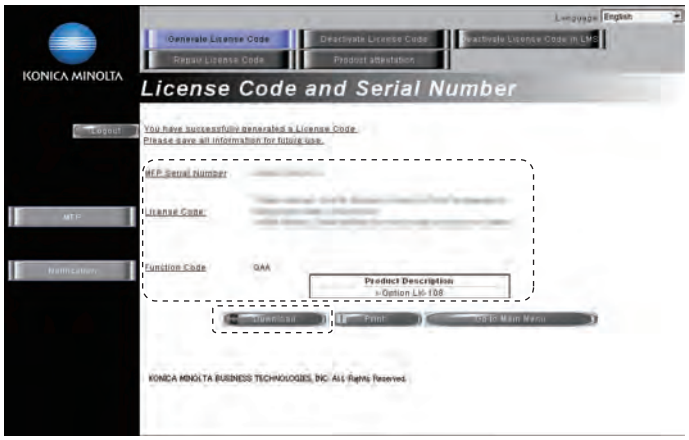
10. Confirm the registered items, and click [Next].



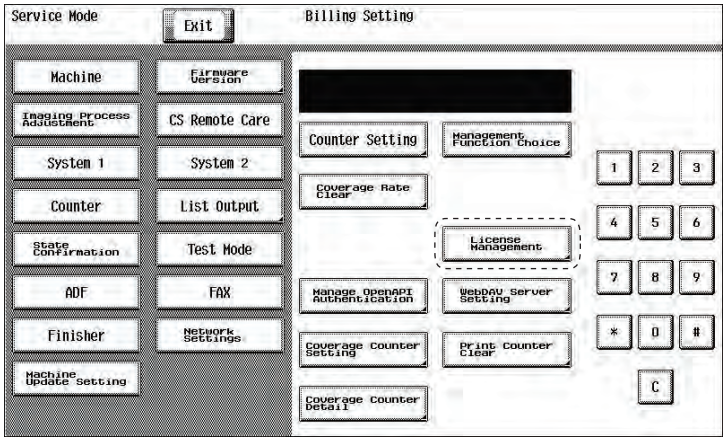
11. Click [Generate License Code].



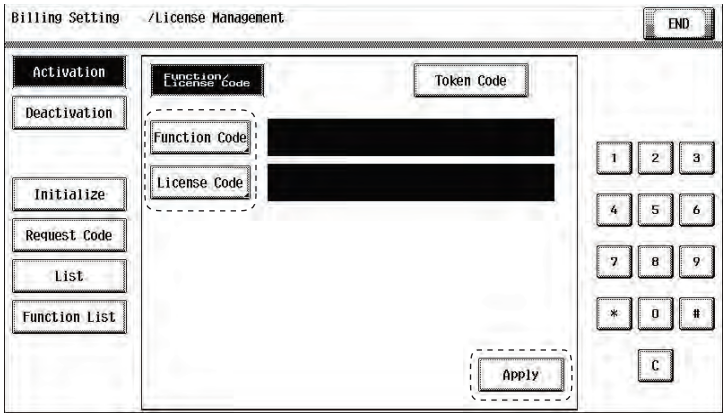
12. LMS issues license code and function code.
13. Write down the serial number, license code and function code.
<When activating with an USB memory>
Click [Download], and save a "***.fek" file to the root directory of the USB memory.



14. Select [Service Mode] -> [Billing Setting] -> [License Management].



15. Select [Activation] -> [Function Code] or [License Code], and enter the function code and the license code confirmed at Step13.
<When activating with an USB memory>
Connect the USB memory to the USB port on the side of the control panel, and select [Activation] -> [USB].
16. Touch [Apply].



17. Follow the massage appearing on the screen and turn OFF and ON the main power switch.
<When activating with an USB memory>
This step is unnecessary. Proceed to the next step.
18. Select [Service Mode] -> [Billing Setting] -> [License Management] -> [Function List], and confirm that the activated function is displayed at the list.

7.3.11 License management - Deactivation

(1) Functions

- To deactivate i-Option functions.

(2) Use

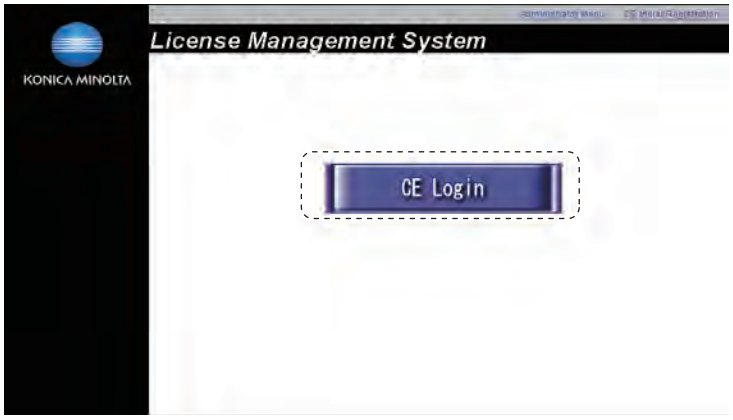
- To deactivate i-Option functions due to registration error, expiration of lease term, change to other MFP or etc.
- The functions can be deactivated by selecting the desired function and enter the appropriate deactivation code.

(3) Procedure

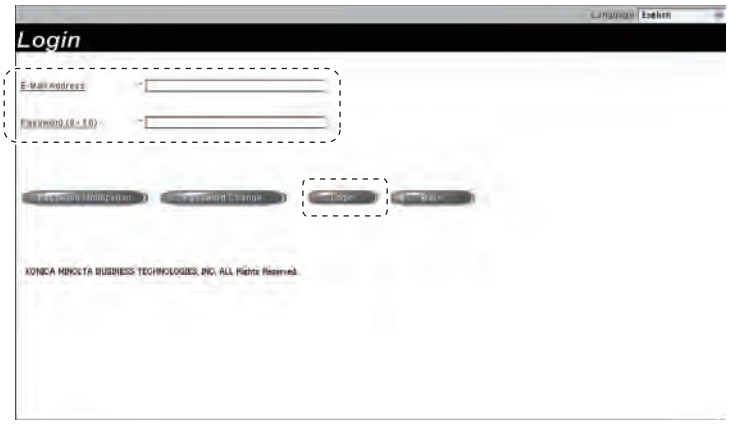
NOTE

- **You need to access License Management System (LMS) to implement each function setting.**
- **Before accessing the LMS, CE are required to register the E-mail address and the password in the LMS. To register, click [CE Initial Registration] that is located in the upper right of CE Login screen.**

1. Check the serial number of the target MFP.
2. Access the following URL using the PC connected to the Internet.
https://lms.konicaminolta.com/license/KM/support.aspx
3. Click [CE Login].



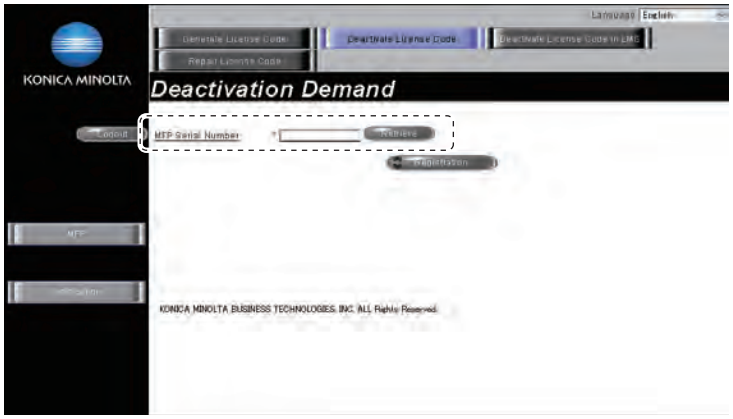
4. Enter [E-Mail Address] and [Password], and click [Login].



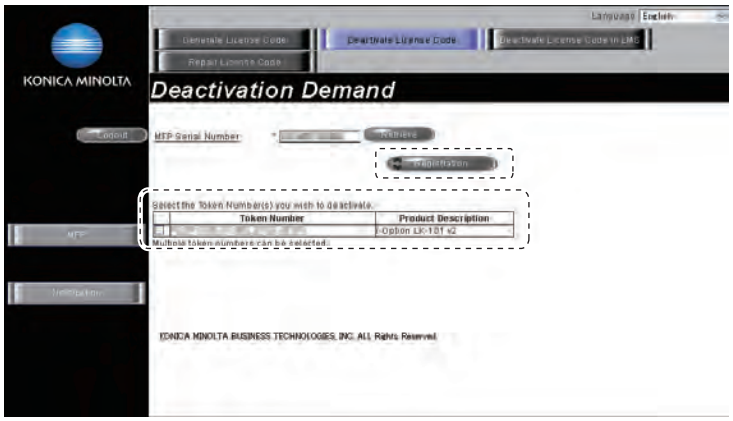
5. Click [Deactivate License Code].



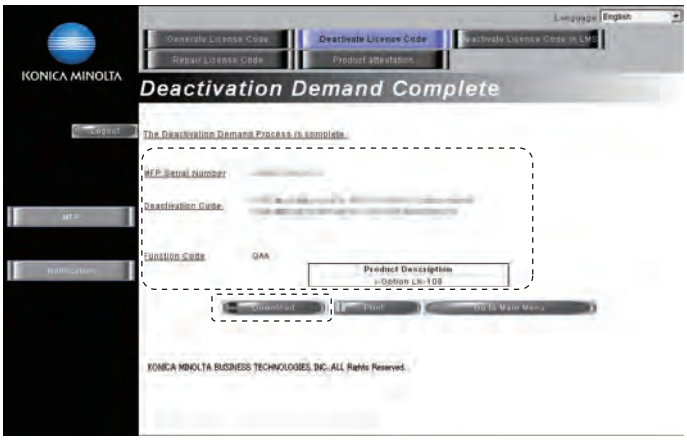
6. Enter the serial number of the target MFP, and click [Retrieve].
NOTE
- **Make sure to enter alphabet letters of the serial number in all capital letters.**



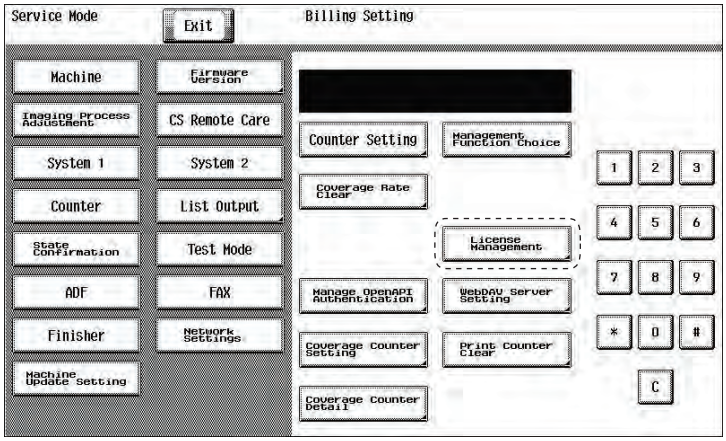
7. Select the token to be deactivated, and click [Registration].



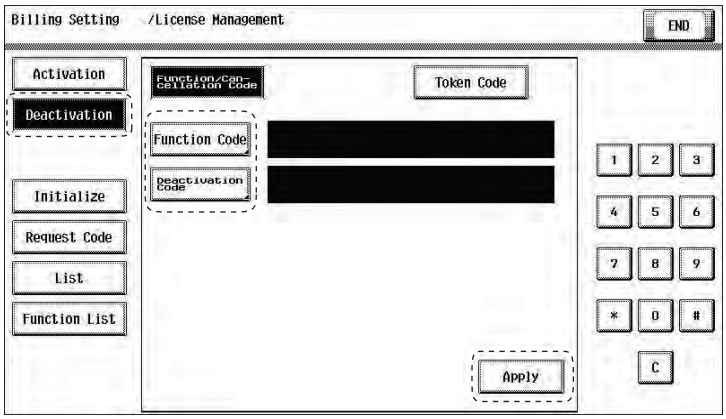
8. LMS issues deactivation code and function code.
9. Write down the serial number, deactivation code and function code.
   <When deactivating with an USB memory>
   Click [Download], and save a "***.fek" file to the root directory of the USB memory.



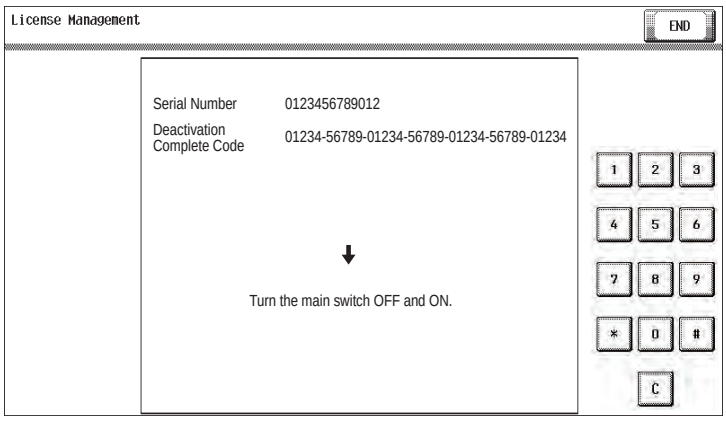
10. Select [Service Mode] -> [Billing Setting] -> [License Management].



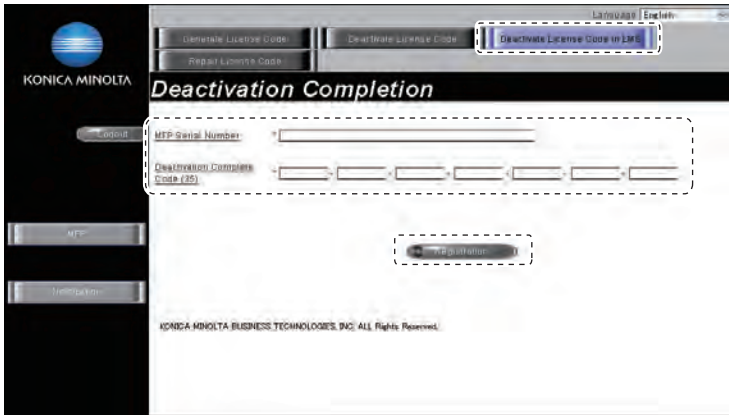
11. Select [Deactivation] -> [Function Code] or [Deactivation Code], and enter the function code and the deactivation code confirmed at Step9.
<When deactivating with an USB memory>
Connect the USB memory to the USB port on the side of the control panel, and select [Deactivation] -> [USB].
12. Touch [Apply].



13. Write down or print out the serial number and deactivation complete code.
<When deactivating with an USB memory>
MFP will restart automatically. After MFP restarts, write down or print out the serial number and deactivation complete code.
NOTE
- **When A4S or 8 1/2 x 11S is set to the paper feed tray, the above-mentioned serial number and deactivation complete code can be printed out by pressing the start key.**
- **Serial number and deactivation complete code can be confirmed in [List] available from [License Management].**



14. Follow the massage appearing on the screen and turn OFF and ON the main power switch.
<When deactivating with an USB memory>
This step is unnecessary. Proceed to the next step.
15. Access to the LMS and login again.
For detail of the login method, refer to step 2 to step 4.
16. Click [Deactivate License Code in LMS].
17. Enter the serial number and the deactivation complete code confirmed at step13.
NOTE
- **Make sure to enter alphabet letters of the serial number in all capital letters.**



18. "Deactivation Complete" message will be displayed.
The license become invalid at both MFP and LMS, and deactivated token number can be used for another MFP.



7.3.12 License management - Repair

(1) Functions

- To repair license management information.

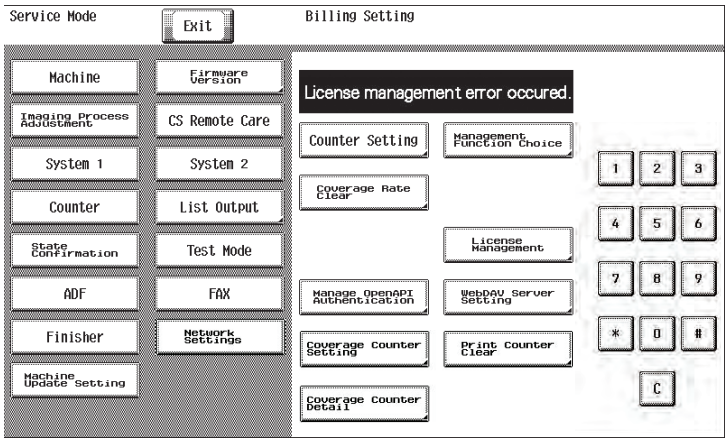
(2) Use

- To be used when license management information is lost due to replacement of MFP board or the eMMC board, or some other trouble.
- License management information can be repaired by acquiring repair code with repair request code, and entering the repair code.

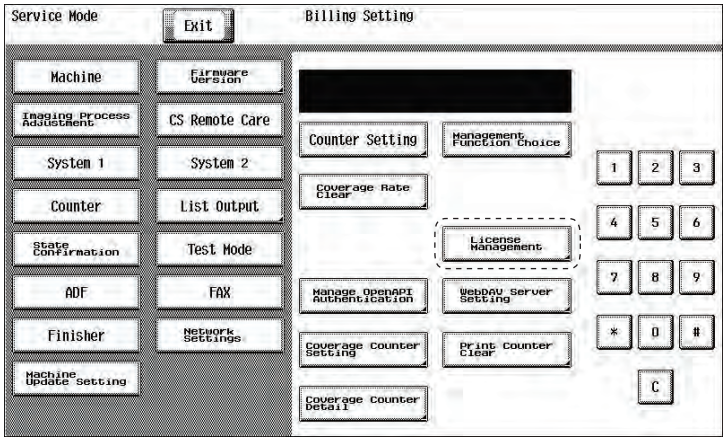
(3) Procedure

NOTE

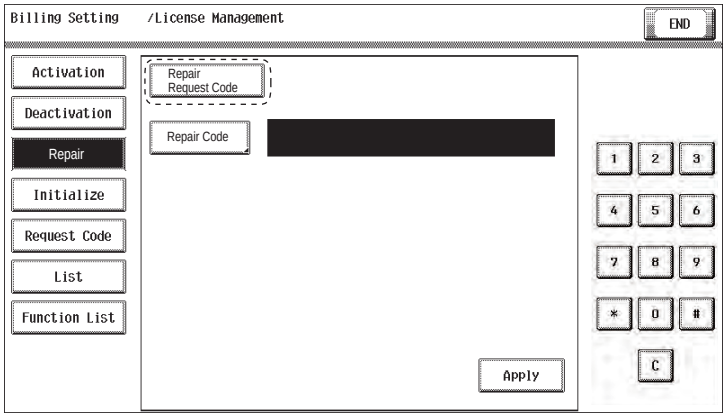
- **You need to access License Management System (LMS) to implement each function setting.**
- **Before accessing the LMS, CE are required to register the E-mail address and the password in the LMS. To register, click [CE Initial Registration] that is located in the upper right of CE Login screen.**
- When the message "License management error occurred." is displayed, carry out the repair operation with the following steps.



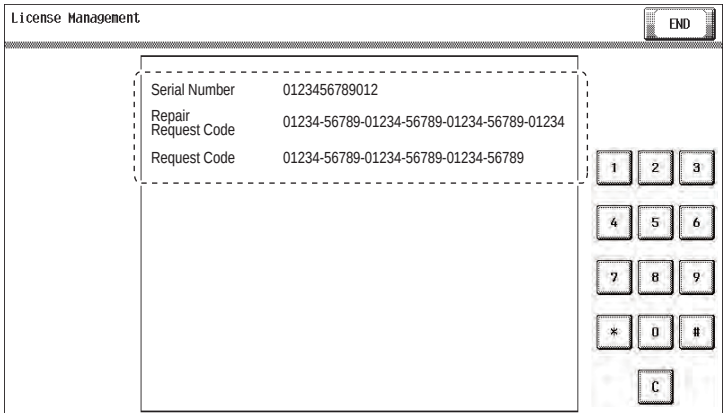
1. Select [Service Mode] -> [Billing Setting] -> [License Management].



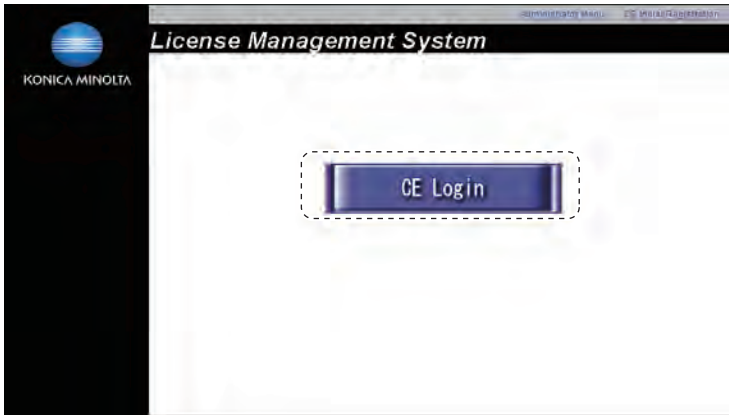
2. Select [Repair] -> [Repair Request Code].



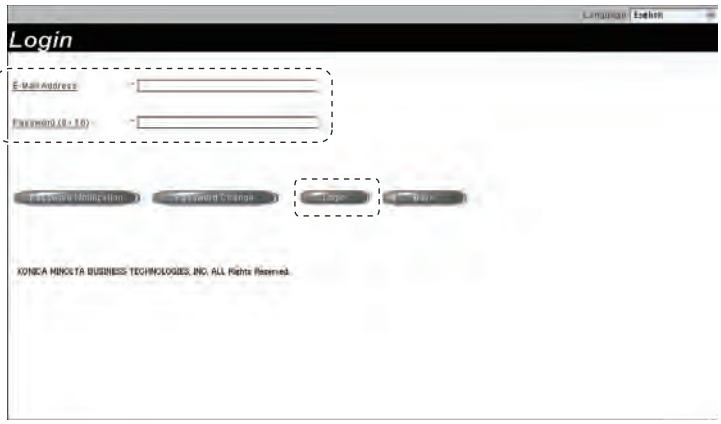
3. Write down or print out the serial number, repair request code and request code.
NOTE
- **When A4S or 8 1/2 x 11S is set to the paper feed tray, the above-mentioned serial number and repair request code can be printed out by pressing the start key.**



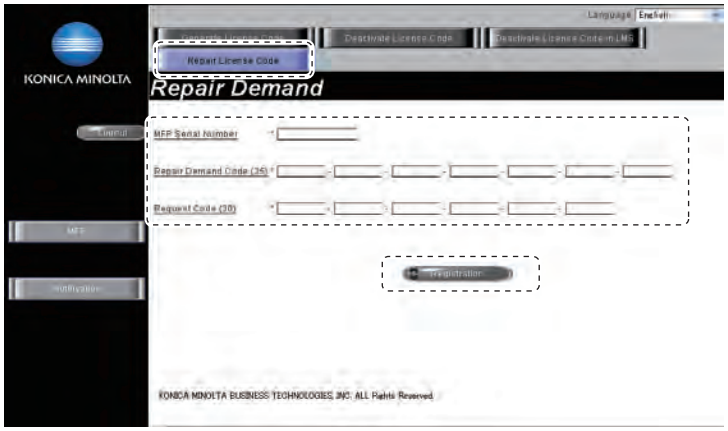
4. Access the following URL using the PC connected to the Internet.
https://lms.konicaminolta.com/license/KM/support.aspx
5. Click [CE Login].



6. Enter [E-Mail Address] and [Password], and click [Login].



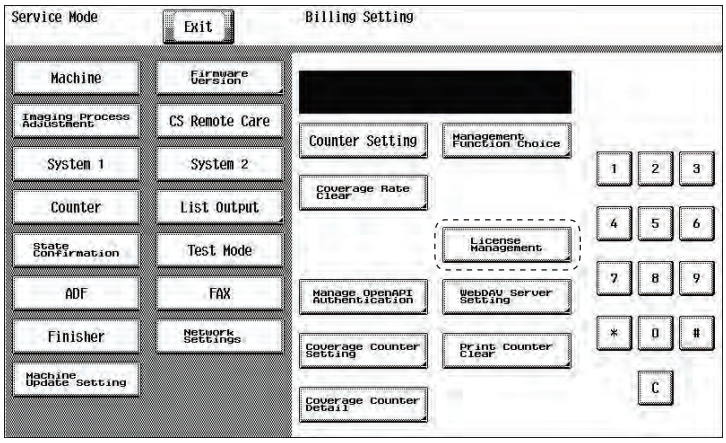
7. Click [Repair License Code].
8. Enter the serial number, repair request code and request code confirmed at step3, and click [Registration].
   NOTE
   - **Make sure to enter alphabet letters of the serial number in all capital letters.**



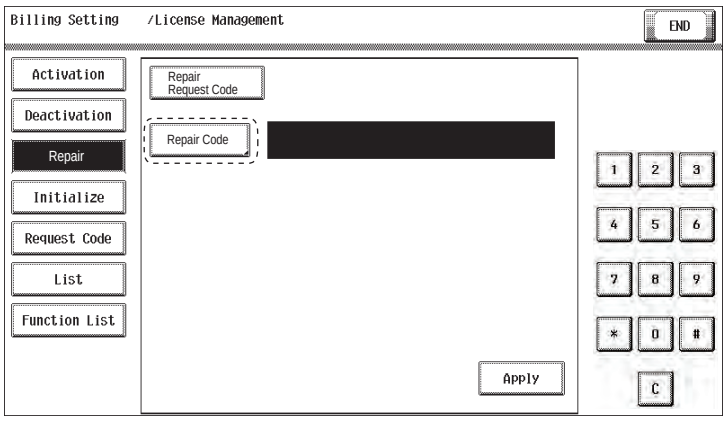
9. LMS issues repair permission code.
10. Write down the serial number and repair permission code.



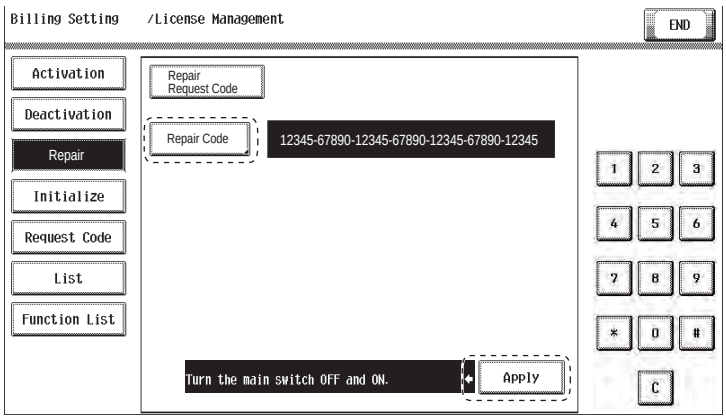
11. Select [Service Mode] -> [Billing Setting] -> [License Management].



12. Select [Repair] -> [Repair Code], and enter the repair code confirmed at step10.



13. Touch [Apply].



14. Follow the massage appearing on the screen and turn OFF and ON the main power switch.

7.3.13 License management - Initialize

(1) Functions

- To initialize license management information.

(2) Use

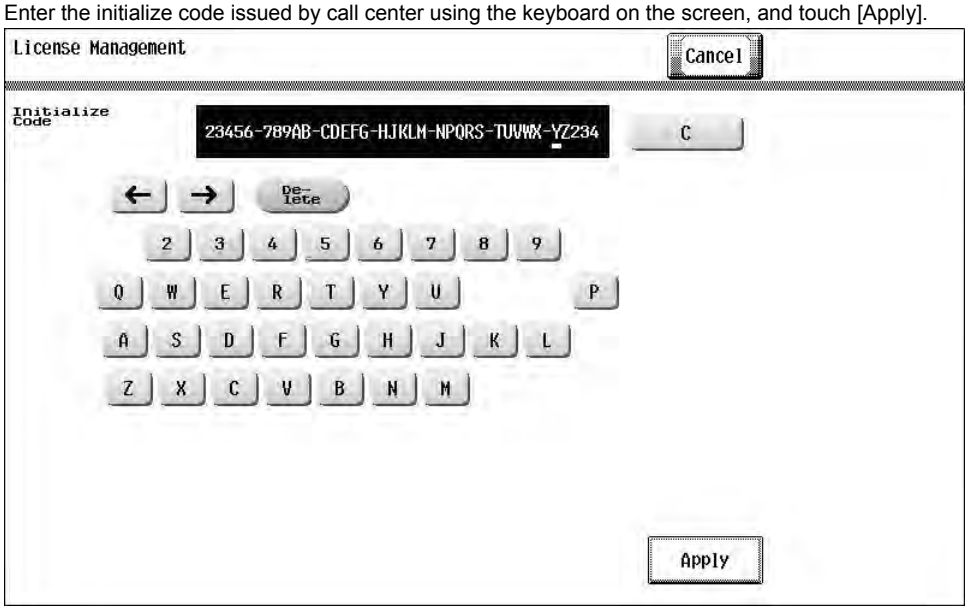
- To be used when license management information cannot be repaired.
- License management information should be initialized when the machine fails to generate request code or repair request code due to any trouble and the information cannot be repaired.

(3) Procedure

NOTE

- **You need to access License Management System (LMS) to implement each function setting.**
- When license management information cannot be repaired, initialize the information with the following procedure.

1. Contact the license management section of sales company to report the information necessary to issue the initialize code.
2. The license management section of sales company supplies the initialize code.
3. Call the Billing Setting to the screen.
4. Touch [License Management] -> [Initialize].
5. Enter the initialize code issued by call center using the keyboard on the screen, and touch [Apply].



6. After completing the initialization, follow the message appearing on the screen and turn OFF and ON the main power switch.

7.3.14 License management - Request Code

- When the license management error is occurred, it will not be displayed until the repair code is input.

(1) Functions

- To display and print request code and serial number.

(2) Use

- To check the request code and serial number.

(3) Procedure

- Set A4S or 8 1/2 x 11S paper to the tray, and press start key at request code screen to print.

7.3.15 License management - List

(1) Functions

- To display and print deactivation complete code and serial number.

(2) Use

- To display and print deactivation complete code and serial number.

(3) Procedure

- Set A4S or 8 1/2 x 11S paper to the tray, and press start key at deactivation complete code screen to print.

7.3.16 License management - Function List

(1) Functions

- To display currently activated functions.

(2) Use

- To display activated functions.

7.3.17 Manage OpenAPI Authentication

(1) Restriction Code

(a) Use

- These are communication settings for the application which is developed by the third vendor. Do not set or change these settings without vendor's instructions.

(2) Region Code

(a) Use

- These are communication settings for the application which is developed by the third vendor. Do not set or change these settings without vendor's instructions.

7.3.18 WebDAV Server Setting

(1) Select Address

(a) Use

- To select the address of the LMS server used to manage the license of i-Option.
- Used to change the LMS server address set at the time of shipment.

Fixed Address	Uses the LMS server address set at the time of shipment. The specified address cannot be changed.
Specify Address	Specifies a desired LMS server address. When selecting [Specify Address], [Server Setting] is displayed.

(b) Default setting

- Fixed Address

(c) Setting item

- Fixed Address
- Specify Address

(2) Server Setting

(a) Use

- To configure the settings on the WebDAV server that communicates with MFP when selecting [Specify Address] in [Select Address].

(b) Procedure

<Host Name>
- Set the host name of the WebDAV server. (Up to 253 one-byte alphameric characters and symbols)

<File Path>
- Set the file path used in the WebDAV server communication. (Up to 47 one-byte alphameric characters and symbols)

<User name>
- Set the user name used to access the WebDAV server. (Up to 64 one-byte alphameric characters and symbols)

<Password>
- Set the password that is used to access the WebDAV server. (Up to 64 one-byte alphameric characters and symbols)

<Port Number>
- Set the port number that is used to access the WebDAV server. (Default: 80)

(3) Polling

(a) Use

- To set the number of times and interval at which MFP polls the WebDAV server.

(b) Procedure

<Polling Count>
- Set the number of times that MFP polls the WebDAV server. (Default: 30 times.)

<Polling Interval>
- Set the interval at which MFP polls the WebDAV server. (Default: 20 seconds.)

NOTE
- **When MFP accesses to WebDAV server via proxy server, set the proxy setting in [Administrator Settings] -> [Network Settings] -> [WebDAV Settings] -> [Proxy Setting for Remote Access].**

7.3.19 Coverage Counter Setting

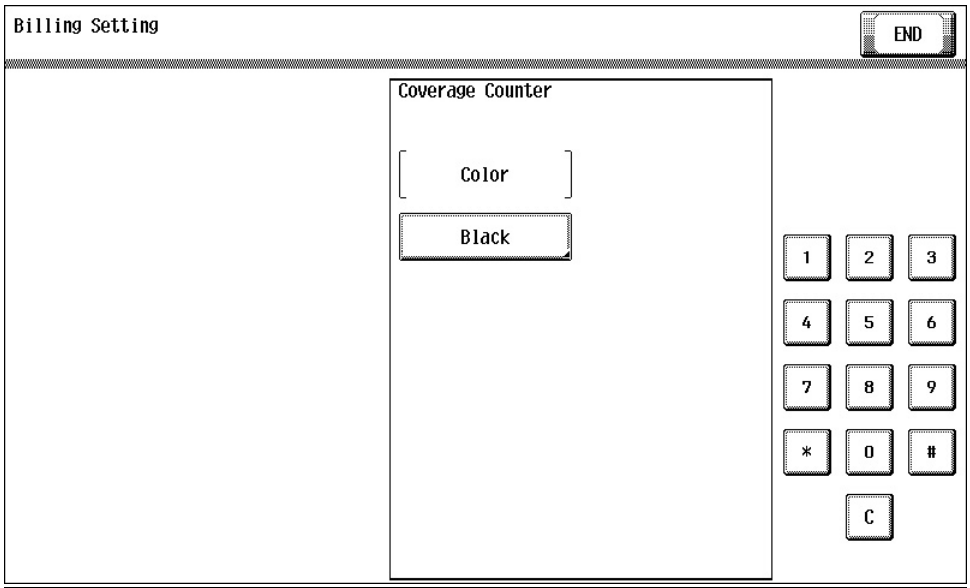
- It will be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.206 is set to [00000001] at Bit assignment/[01] at HEX assignment.

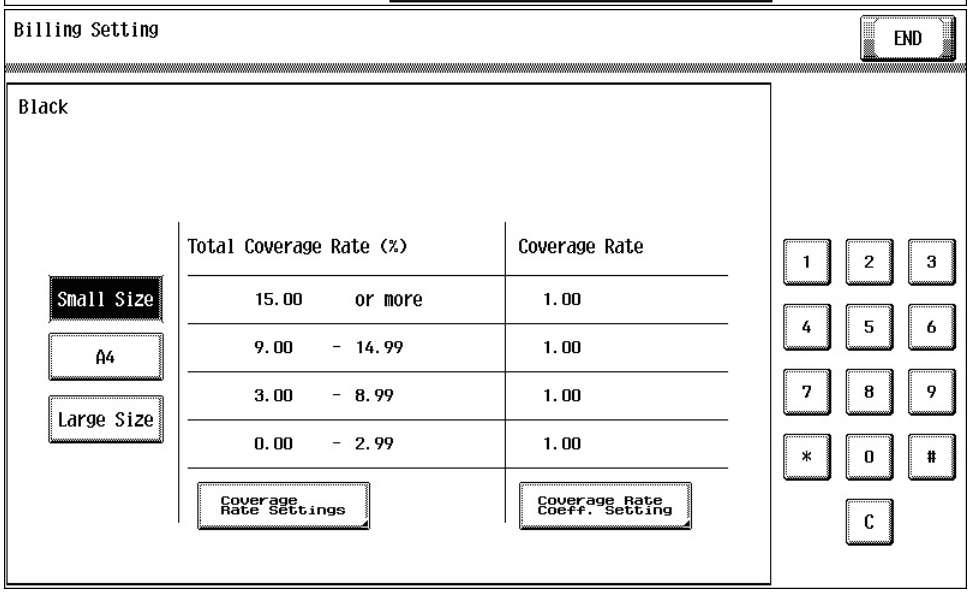
(1) Use

- To set the counting method according to the print paper size, the total coverage rate of each color, and the count-up coefficient.
  NOTE
  - **The coverage rate refers to a ratio of the print area of each color relative to the print paper size.**

- The coverage rate and the coefficient can be set for each of the print modes and paper sizes listed in the following table.

Print mode	Paper size	Description
Black	Small Size	Set the counting method for data printed on paper having a size smaller than A4/Letter.
	A4	Set the counting method for data printed on paper having a size of A4/Letter.
	Large Size	Set the counting method for data printed on paper having a size larger than A4/Letter and equal to or smaller than A3.



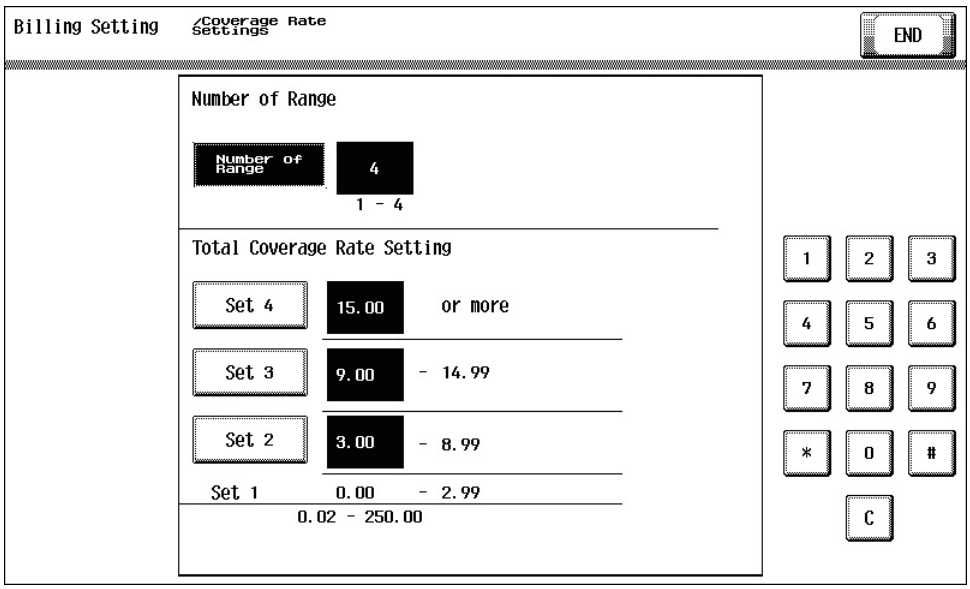


(2) Setting item (Coverage Rate Settings)

- Make settings relating to the total coverage rate.

Setting item	Description
Number of Range Settings	Set the usable range used for the total coverage rate setting. Default number of ranges: 4 Setting range: 1 to 4
Total Coverage Rate Setting	Set the threshold values of each of the sets of the total coverage rate. Default value: “Set 4” - 15.00 or more “Set 3” - 9.00 to 14.99 “Set 2” - 3.00 to 8.99 “Set 1” - 0.00 to 2.99 Setting range: 0.02 to 250.00

	The setting values should satisfy the following relation: 0.02 ≦ setting values of set 2 < setting values of set 3 < setting values of set 4 ≦ 250.00



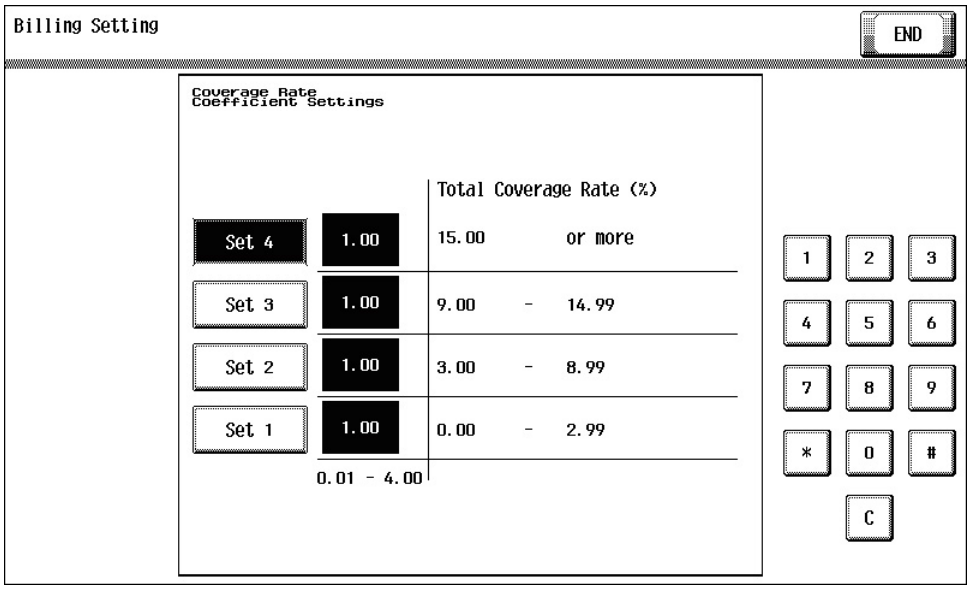
(3) Procedure (Coverage Rate Settings)

1. Touch the [Coverage Counter Setting].
2. Touch [Black].
3. Select the paper size.
4. Touch the [Coverage Rate Settings].
5. Enter [Number of Range] from the 10-key pad.
6. When [Number of Range] is entered, the corresponding number of sets are displayed.
7. Select a [Set] and enter the threshold values of the coverage to be set from the 10-key pad.
8. After the values are entered, touch [END].

(4) Setting item (Coverage Rate Settings)

- Set the coverage rate coefficient relative to the set made in Coverage Rate Settings.

Setting item	Description
Coverage Rate Coeff. Settings	Set the coefficient relative to the set total coverage rate set. Default value: 1.00 Setting range: 0.01 to 4.00



(5) Procedure (Coverage Rate Coeff. Settings)

1. Select the paper size.
2. Touch the [Coverage Rate Procedure Coeff. Settings].
3. Touch the [Set] set by [Coverage Rate Settings] and enter the coefficient from the 10-key pad.
4. After the coefficient has been entered, touch [END].

7.3.20 Print Counter Clear

- It will be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.206 is set to [00000001] at Bit assignment/[01] at HEX assignment.

(1) Use

- To clear Print Counter and Subtotal values of Coverage Counter Detail.
- Clear Subtotal value in [Meter Count] -> [Coverage Counter].

(2) Procedure

- Select “Set” and touch [END].

(3) Default setting

- Unset

(4) Setting item

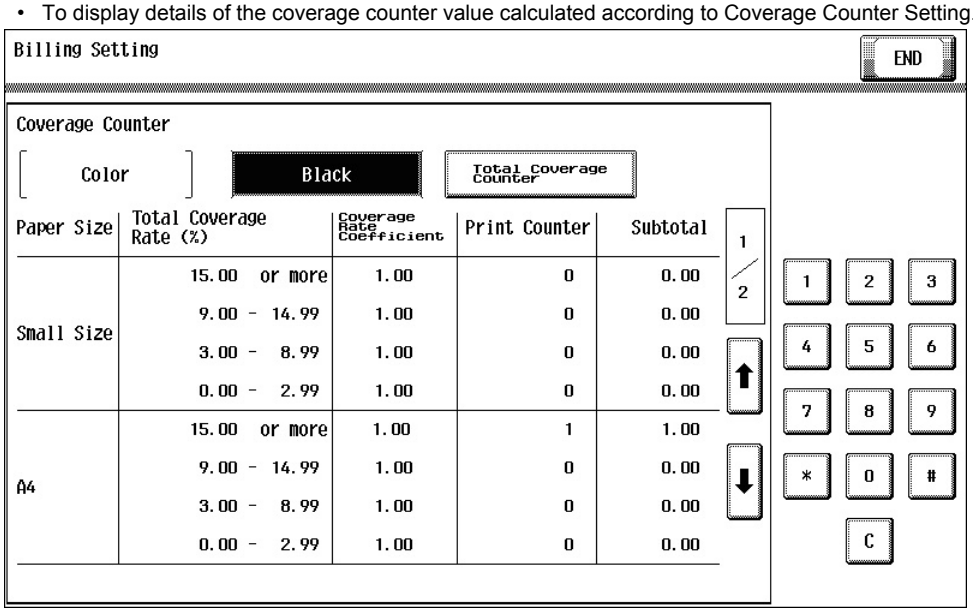
- Set
- Unset

7.3.21 Coverage Counter Detail

- It will be displayed when [Service Mode] -> [System 2] -> [Software Switch Setting] shows that switch No.206 is set to [00000001] at Bit assignment/[01] at HEX assignment.

(1) Use

- To display details of the coverage counter value calculated according to Coverage Counter Setting.



Indication	Description
Black	Displays the count values of monochrome printing.
Total Coverage Counter	Displays the total count. Displays the cumulative value of the coverage counter since the installation of the machine.
Total Coverage Rate (%) *1	Displays the set of the total coverage rate that serves as a basis for counting.
Coverage Rate Coefficient *1	Displays the coverage rate coefficient set for each set that serves as the basis for countering.
Print Counter	Displays the count value of the number of printed pages on which the print paper size satisfies the counting base.
Subtotal	Displays the counter value obtained through the following calculation involving the print counter and the coverage rate coefficient: Subtotal = print counter × coverage rate coefficient

- *1: What is displayed complies with the setting made in [Service Mode] -> [Billing Setting] -> [Coverage Counter Setting].

NOTE

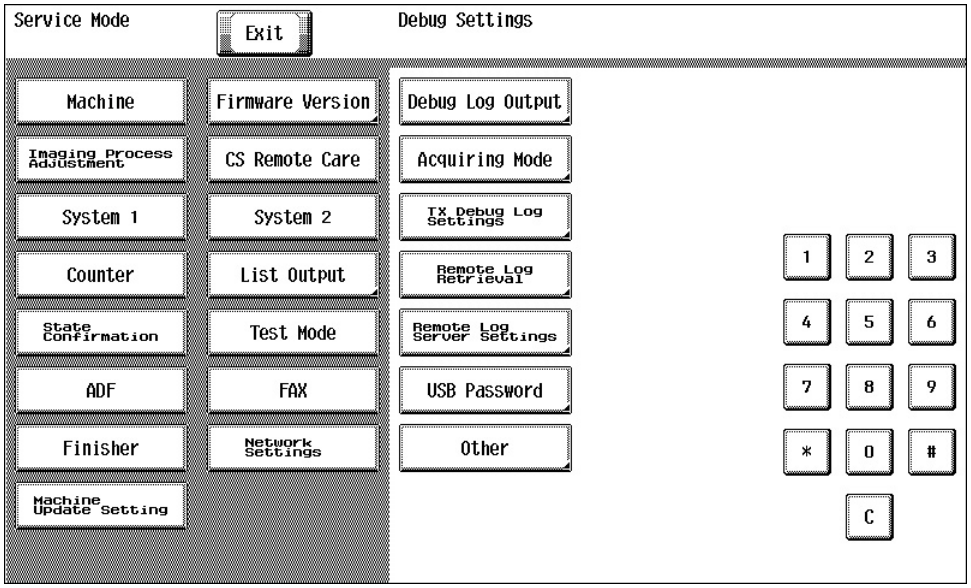
- **The total coverage counter has been activated upon the installation of the machine regardless of whether it is displayed on the screen. Thus, the counter default value during screen display setting is not necessarily “0”.**
- **The total coverage counter value is the cumulative value since the installation of the machine, while the print counter value is the cumulative value since the last performance of print counter clear. Thus, the sum of the subtotal values does not necessarily coincide with the total coverage counter value.**

8. DEBUG SETTINGS

Debug Settings

- To configure the settings on log information acquisition performed to analyze the MFP controller's internal operation.

8.1 List of debug settings



Debug Settings		Ref. page
Debug Log Output		I.8.3.1 Debug Log Output
Acquiring Mode		I.8.3.2 Acquiring Mode
TX Debug Log Settings		I.8.3.3 TX Debug Log Settings
Remote Log Retrival*	Remote Log settings	I.8.3.4.(1) Remote Log settings
	Time Setting	I.8.3.4.(2) Time Setting
	polling	I.8.3.4.(3) Polling
	Retrieve Log Information	I.8.3.4.(3) Polling
Remote Log Server Settings		I.8.3.5 Remote Log Server Settings
USB Password		I.8.3.6 USB Password
Other		I.8.3.7 Other

This is displayed only when [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Export Debug Log] is set to “Allow.”

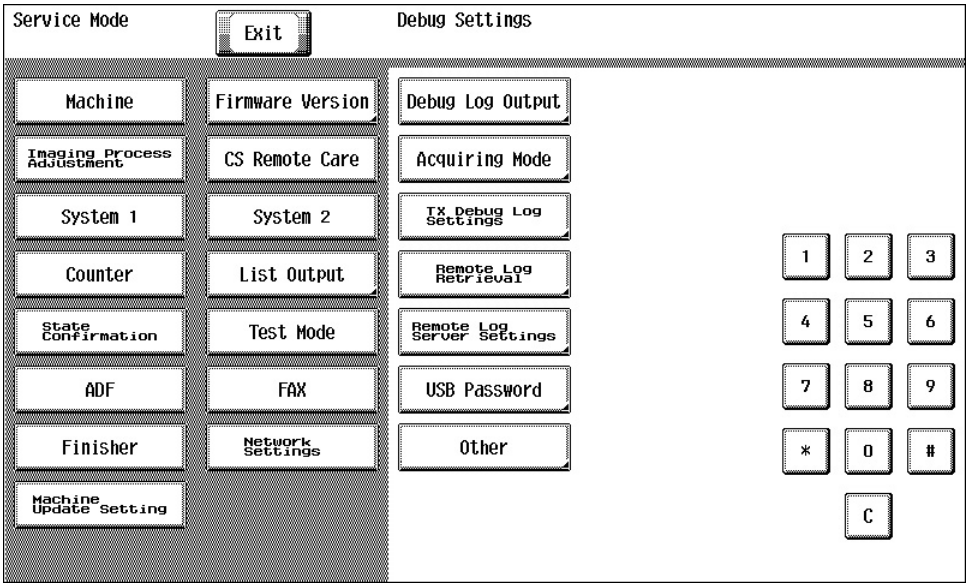
8.2 Starting/Exiting

8.2.1 Starting procedure

NOTE

- **Before the procedure, set the switch No. 155 to [00000001] at Bit assignment/[01] at HEX assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].**

1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   - Stop -> 6 -> 1 -> 8
3. Select a mode.



8.2.2 Exiting procedure

1. Touch [Exit] on the Service Mode screen.
2. Turn OFF the main power switch. Wait 10 seconds, then turn ON the main power switch again.

8.3 Debug Settings

8.3.1 Debug Log Output

(1) Use

- To select debug log data to be output and save it in a USB memory.

All	Outputs available all logs.
Select File	Specifies a desired file and outputs it. Capable of narrowing file types from [Normal], [Trouble], or [Print Data].
Select Time	Specifies a desired period and outputs corresponding data.
Shared Memory -> HDD	• Manually stores debug information written in the memory into the HDD. • After selecting [Save], saving is started by pressing the Start key.
HDD -> USB Memory	• Outputs debug information stored in the HDD into a USB flash drive. • After selecting [Output], saving is started by pressing the Start key.

Logs obtained under normal operation and logs obtained upon occurrence of trouble are separated and stored in different areas. Up to 20 logs can be stored.

- Logs obtained under normal operation: 10 logs
- Logs obtained upon occurrence of trouble: 10 logs

When the number of saved logs reaches the upper limit, files are overwritten starting from the oldest file.

(2) Setting item

- All
- Select File
- Select Time
- Shared Memory -> HDD
- HDD -> USB Memory

NOTE

- **If a USB memory is not connected to the USB port of MFP or [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Export Debug Log] is set to [Restrict], output is unavailable.**

8.3.2 Acquiring Mode

(1) Use

- To select mode used to acquire debug logs.
- If the cause of a problem cannot be identified by the debug logs acquired in basic mode, obtain more detailed debug logs in Enhance mode and analyze them.

Basic	Normal mode Stores debug information saved in the memory into the HDD.
Enhance	Mode that enables you to obtain more detailed debug information than Basic mode. When a large amount of detailed information must be output, the CPU or other devices is heavily loaded and the performance of MFP is affected.

(2) Default setting

- Basic

(3) Setting item

- Basic
- Enhance

(4) Enhance mode

- When "Enhance" is selected, configure the following items.

(a) Network Packet

- If network packet information is necessary, select "ON."

(b) Acquisition function

- Select the functions to be covered when obtaining debug logs.
  Select All, Copy, Printer, Box, Net/Scan, PSWC, FAX, Net Fax, and Authentication
- This item will not be displayed when [Network Packet] is set to ”ON.”

(c) Network Packet

- If [Network Packet] is set to "ON," configure [Capture Filter Settings] and [Capture Settings].
- This item will not be displayed when [Network Packet] is set to "OFF."

(d) By Job

- Set the number of jobs handled as a unit (the number of jobs by which debug information is acquired).

(e) Individual Command

- Register and execute individual debug commands.

(f) Command Set

- Install a command set and execute it.

(5) Timing of Saving Debug Information in Each Mode

(a) Basic mode

Debug information is stored in the HDD at the timings described below.

- When trouble occurs
- When there is no job
- During transition to energy save mode (sleep mode or low power mode)
- When authentication fails
- When [Debug Log Output] -> [Shared Memory -> HDD] is performed manually

(b) Enhance mode

- Save debug information to the USB memory or HDD as needed.

8.3.3 TX Debug Log Settings

- To configure settings used to send debug information via the network.
- To send the information via the network, SMB, FTP, or WebDAV transmission is selectable.
- This item will be displayed only when [Acquiring Mode] is set to “Basic.”

(1) Select TX Method

(a) Use

- To select a method used to send via the network.

(b) Default setting

- OFF

(c) Setting item

- OFF
- SMB
- FTP

(2) SMB Setting

(a) Use

- To configure settings used in SMB transmission.

(b) Procedure

<Host Name>

- Set the host name for the SMB server.

<File Path>

- Set the file path used for SMB server communication.

<User Name>
- Set the user name used to access the SMB server.

<Password>
- Set the password used to access the SMB server.

(3) FTP Settings

(a) Use

- To configure settings used in FTP transmission.

(b) Procedure

<Host Name>
- Set the host name of the FTP server.

<File Path>
- Set the file path used in the FTP server communication.

<User Name>
- Set the user name used to access the FTP server.

<Password>
- Set the password used to access the FTP server.

<Port Number>
- Set the port number that is used to access the FTP server.

<PASV>
- Set PASV mode to ON or OFF

<Proxy>
- Set whether or not to connect to a proxy server.

(4) WebDAV Setting

(a) Use

- To configure settings used in WebDAV transmission.

(b) Procedure

<Host Name>
- Set the host name of the WebDAV server.

<File Path>
- Set the file path used in the WebDAV server communication.

<User Name>
- Set the user name used to access the WebDAV server.

<Password>
- Set the password that is used to access the WebDAV server.

<Port Number>
- Set the port number that is used to access the WebDAV server.

<Proxy>
- Set whether or not to connect to a proxy server.

<SSL Settings>
- Select to use SSL communication.

8.3.4 Remote Log Retrival

(1) Remote Log settings

(a) Use

- Use the WebDAV server to retrieve remote access logs.
- Downloads the command set from the server configured from [Remote Log Server Settings] -> [Command Set Acquisition pt.] at the timing configured from [Time Setting] and [Polling].
- If the command set successfully downloads, logs and settings data is retrieved in accordance with the command set, and the log files and settings data files are saved on the server configured from [Remote Log Server Settings] -> [Log Save Destination].

(b) Default Setting

- ON

(c) Setting item

- ON
- OFF

(2) Time Setting

(a) Use

- Downloads the command set at the specified time and retrieves/saves the logs and settings data.

(b) Default Setting

- ON

(c) Setting item

- ON

- OFF

(3) Polling

(a) Use

- Downloads the command set at each specified time and retrieves/saves the logs and settings data.

(b) Default Setting

- ON

(c) Setting item

- ON
- OFF

(4) Retrieve Log Information

(a) Use

- Immediately downloads the command set and retrieves/saves the logs and settings data.

8.3.5 Remote Log Server Settings

(1) Command Set Acquisition pt.

(a) Use

- Configures the server from which command sets as used for [Remote Log Retrieval] are retrieved.
- Touch [Copy Setting] after settings parameters are selected to copy the settings to the destination as configured from [Log Save Destination].

(2) Log Save Destination

(a) Use

- Configures the server for storing files used for [Remote Log Retrieval].
- Touch [Copy Setting] after settings parameters are selected to copy the settings to the destination as configured from [Command Set Acquisition pt.].

8.3.6 USB Password

(1) Use

- To set a password used to store debug information into a USB flash drive.
- CE informs the KM contact person of this password and the debug information data separately.

NOTE

- **NEVER forget the USB password.**

(2) Default setting

- 01234567890123456789

(3) Procedure

- Enter an USB password from the keyboard on the screen.
  1. Current Password: Enter the USB password currently in use.
  2. New Password: Enter a new USB password.
  3. Re-input Password: Re-enter the new USB password.

8.3.7 Other

(1) Screen Capture

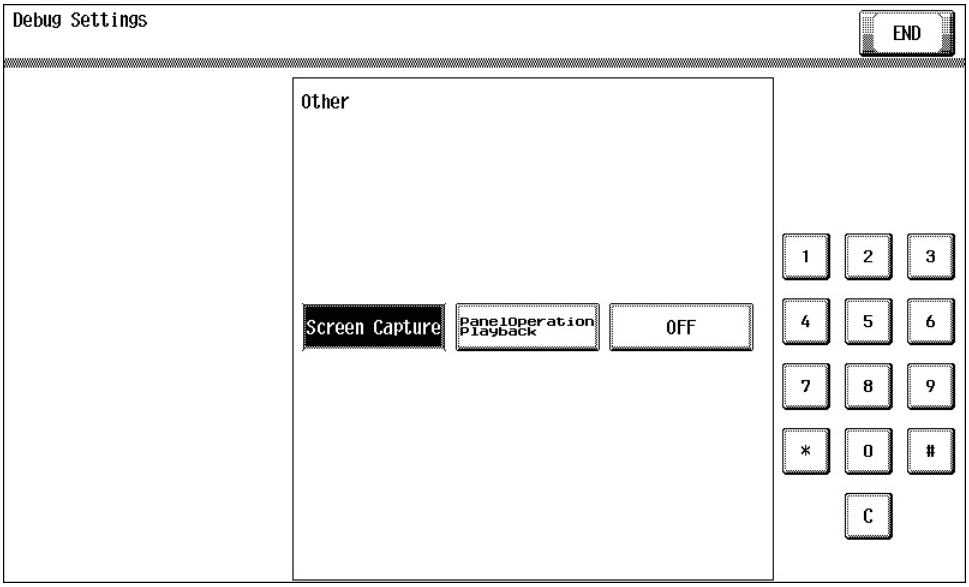
- The screen displayed on the control panel can be captured and saved in a USB memory as a file.

(a) Preparations

NOTE

- **Use a USB memory having no security functions.**

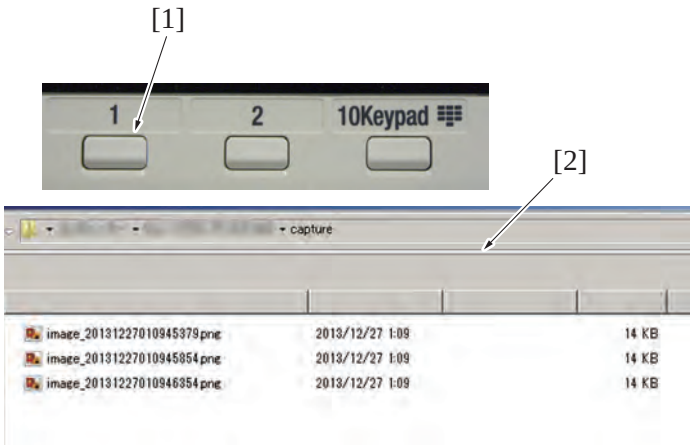
1. Touch [Other].
2. Touch [Screen Capture] and then [OK].



3. Insert the USB memory.

(b) Procedure

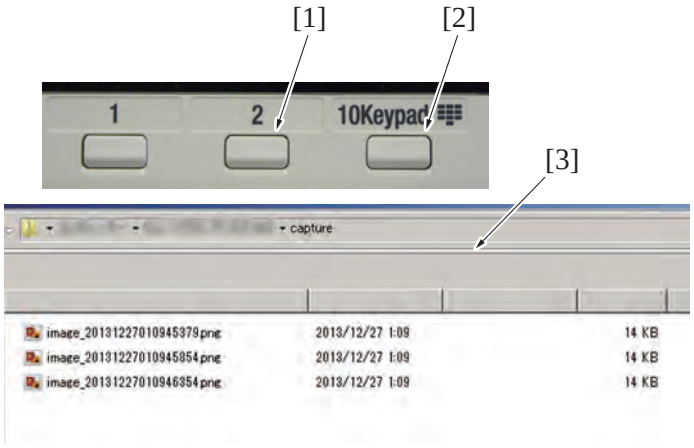
1. Call the screen to be captured to the control panel.
2. Touch [1] on the control panel. This saves the screen in memory.
   A "Capture" folder is automatically created and a file in the PNG format is saved in the folder.



[1]	[1] key	[2]	In USB memory

(c) Continuous capturing procedure

1. Call the screen to be captured to the control panel.
2. Touch [2] on the control panel.
3. Start the screen operations.
4. When the operations are completed, touch [10 keypad].
5. A "Capture" folder is automatically created and a file in the PNG format is saved in the folder.



[1]	[2] key	[2]	[10 keypad] key

[3]	In USB memory	-	-

(2) Panel Operation Playback

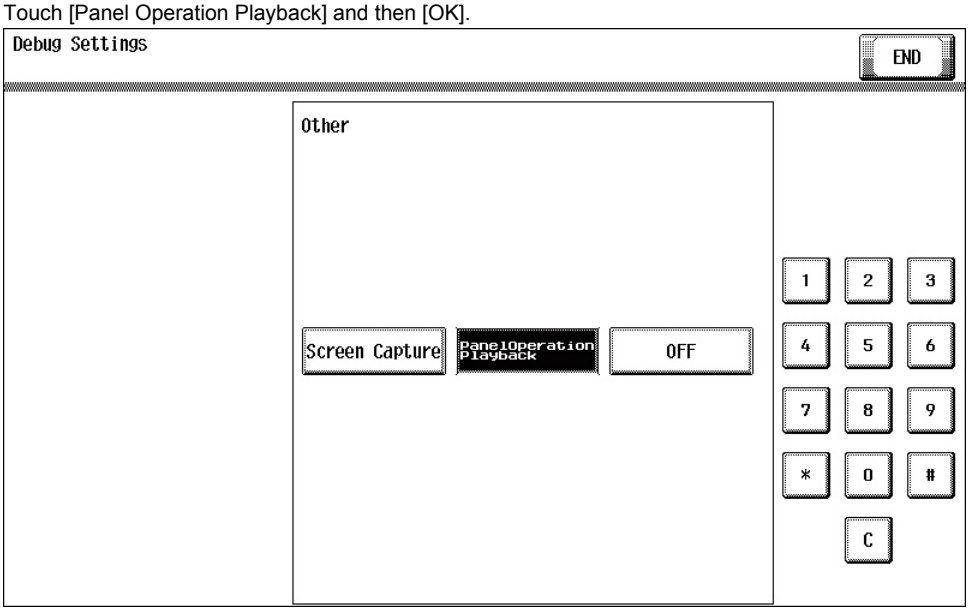
- A series of operations is stored in memory and automatically played back on the control panel.

NOTE

- **To perform the playback, be sure to go back to the first screen with which the capturing was started. A playback operation starting with any screen not stored in memory results in faulty playback.**

(a) Preparations

1. Touch [Other].
2. Touch [Panel Operation Playback] and then [OK].



(b) Procedure

1. Call the auto playback starting screen to the control panel.
2. Touch [1].
3. Start the screen operations to store a series of screens.
4. When the operations are completed, touch [2].
5. Go back to the first screen and touch [10 keypad].

8.4 Operation of the debug log function

8.4.1 Basic mode

(1) Intended purpose

- To retrieve the program sequence logs from the MFP; for analyzing field problems caused by MFP controller program malfunction which could be difficult to reproduce in KM.

NOTE

- **CE should get permission from CUSTOMER before retrieving the program sequence logs from the customer's MFP.**
- **A Key generate utility is required for creation of a key file.**
- **For how to obtain or how to use the Key generate utility, please conduct the KM support department.**

(2) Outline

1. Save the key file in the USB memory by using the Key generate utility on the PC.
2. Set the Debug Settings to “ON” in the Service Mode.
3. Sets an encryption word.
4. Try to reproduce the problem/malfunction on the MFP.
5. The problem/malfunction is reproduced.
6. Set the debug log acquisition to "Allow" in Administrator Settings.
7. Select the debug log(s) that corresponds to the problem. Select "USB Memory" as the output destination and acquire the log(s).
8. Send the log(s) and the USB password to the department of KM from which you receive instructions.

NOTE

- **Up to a total of 20 log files can be saved, including ten during normal operations and another ten when errors occur.**
- **When the number of log files saved exceeds the upper limit, the log files are overwritten in chronological order.**
- **Each log file is concerned with a single job.**
- **Priority is given to job processing. A log file may not therefore be saved if jobs are performed continuously or if power is turned OFF immediately after processing of a job has been completed.**

(3) Details of the procedure

(a) Advance preparation

- Save a key file into a USB memory.
  1. Set the USB Password on the Key generation utility.
  2. Generate the Key file by typing in the Serial number (capital letter) of the target MFP.

3. Copy the created "Debug Log" folder into the root directory of the USB memory.

- Make sure that [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to OFF.

(b) Settings for acquiring logs

1. Get permission from the CUSTOMER to retrieve the program sequence logs from the MFP at the customer's site.
   NOTE
   - **Logs include the MFP control program sequences only. They do not include the copy/scan/print/fax image data.**
2. Set the switch No.155 to [00000001] at Bit assignment/[01] at HEX assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].
3. Call the Debug Settings to the screen.
4. Select [Basic] in [Debug Settings] -> [Acquiring Mode].
5. Ask the administrator of the MFP to set a debug log encryption pass phrase in [Administrator Settings] -> [Security Settings] -> [HDD Settings] -> [Debug Log Encryption Settings]. (Default: 01234567890123456789)
   NOTE
   - **This setting is used to encrypt debug logs to be stored in the HDD.**
   - **Be sure to set the encryption password. Failure to set the encryption password may hamper correct analysis of the log.**
6. Try to reproduce the problem/malfunction on the MFP.
7. The problem/malfunction is reproduced.
8. Ask the administrator of the MFP to set [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Export Debug Log] to [Allow].
9. Call the Debug Settings in Service Mode.
10. Set the USB password in [Debug Settings] -> [USB Password].
    NOTE
    - **The USB password set here must be same as the password set in the USB memory in advance preparation procedure.**
11. Display [Debug Settings] -> [Debug Log Output] on the screen.
12. Connect the USB memory prepared in advance preparation to the USB port located on the right-side of the MFP control panel.
13. Touch [Select File]. Select the intended file and touch [Output] in [HDD -> USB Memory].
14. Check that the Start key lights up in blue, and press the Start key.
    NOTE
    - **If the Start key lights up orange, the USB password and/or MFP serial number on for the MFP do not match the key file.**
15. [OK] will be displayed.
16. Touch [OK], and exit the Debug Settings.
17. Return the switch No. 155 to [00000000] at Bit assignment/[00] at HEX assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].
18. Exit the Service Mode.
19. Remove the USB memory from the MFP and check that the USB memory contains the file of which name is "LOGSYS_xxxxxxxxxxx.log".
20. Send KM your request of analyzing the problem with the log file.
    NOTE
    - **Send the USB password and log file(s) to the recipient of your request SEPARATELY.**

8.4.2 Enhance mode

(1) Intended purpose

- To retrieve the program sequence logs from the MFP; for analyzing field problems caused by MFP controller program malfunction which could be difficult to reproduce in KM.

NOTE
- **CE should get permission from CUSTOMER before retrieving the program sequence logs from the customer's MFP.**
- **Please explain to the CUSTOMER that the MFP performance will be down during the procedure. The top priority of the MFP is to save the logs completely before starting the next job process; so the CUSTOMER will see a pause between jobs.**

(2) Outline

1. Save the key file in the USB memory by using the Key generate utility on the PC.
2. Set the Debug Settings to “ON” in the Service Mode.
3. Sets an encryption word.
4. Select the target device (USB memory or HDD) to save the log files.
   - When selecting USB memory as target, ask the administrator of the MFP to set [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Export Debug Log] to [Allow].
   - Connect the USB memory into the USB port on the right-rear side of the MFP.
5. Try to reproduce the problem/malfunction on the MFP.
6. The problem/malfunction is reproduced.
7. Remove the USB memory if you select USB memory as a target device.
8. When selecting HDD as target, ask the administrator of the MFP to set [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Export Debug Log] to [Allow].
   - Select the debug log(s) that corresponds to the problem, and select "USB Memory" as the output destination and acquire the log(s).
9. Send the log(s) and the USB password to the department of KM from which you receive instructions SEPARATELY.

(3) Details of the procedure

(a) Advance preparation

- Save a key file into a USB memory.
  1. Set the USB Password on the Key generation utility.
  2. Generate the Key file by typing in the Serial number (capital letter) of the target MFP.

3. Copy the created "Debug Log" folder into the root directory of the USB memory.

- Make sure that [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to OFF.

(b) Settings for acquiring logs (When selecting USB memory as a target device)

1. Get permission from the CUSTOMER to retrieve the program sequence logs from the MFP at the customer's site.
   NOTE
   - **They do not include the copy/scan/print/fax image data unless selecting printer. Logs include the MFP control program sequences only.**
   - **The top priority of the MFP is to save the logs completely before starting the next job process; so the CUSTOMER will see a pause between jobs. Please explain to the CUSTOMER that the MFP performance will be down during the procedure.**
2. Set the switch number "155" to "01" in HEX Assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].
3. Call the Debug Settings to the screen.
4. Select [Enhance] in [Debug Settings] -> [Acquiring Mode].
5. Select the target logs.
   NOTE
   - **DO NOT TOUCH the command settings (Individual Command and Command Set) without KM instructions.**
6. Set the USB password in [Debug Settings] -> [USB Password].
   NOTE
   - **The USB password set here must be same as the password set in the USB memory in advance preparation procedure.**
7. Exit the Service Mode.
8. Ask the administrator of the MFP to set [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Export Debug Log] to [Allow].
9. Connect the USB memory into the USB port on the right-rear side of the MFP.
10. Try to reproduce the problem/malfunction on MFP.
    Cautions when saving log files each time the problem/malfunction is reproduced
    - **Saved Logs will not be overwritten. USB memory should have enough capacity to save the all logs.**
    - **Debug log function will stop if USB memory is FULL.**
    - **While saving the log data, a specific ICON will appear on the control panel. DO NOT REMOVE the USB memory when the ICON is displayed.**
11. The problem/malfunction is reproduced.
12. Return the switch number "155" in HEX Assignment to "00" in [Service Mode] -> [System 2] -> [Software Switch Setting].
13. Exit the Service Mode.
14. Remove the USB memory from the MFP and check that the USB memory contains the file of which name is "LOGSYS_xxxxxxxxxxx.log".
15. Send KM your request of analyzing the problem with the log file.
    NOTE
    - **Send the USB password and log file(s) to the recipient of your request SEPARATELY.**

(c) Settings for acquiring logs (When selecting HDD as a target device)

1. Get permission from the CUSTOMER to retrieve the program sequence logs from the MFP at the customer's site.
   NOTE
   - **They do not include the copy/scan/print/fax image data unless selecting printer. Logs include the MFP control program sequences only.**
   - **The top priority of the MFP is to save the logs completely before starting the next job process; so the CUSTOMER will see a pause between jobs. Please explain to the CUSTOMER that the MFP performance will be down during the procedure.**
2. Set the switch number "155" to "01" in HEX Assignment in [Service Mode] -> [System 2] -> [Software Switch Setting].
3. Call the Debug Settings to the screen.
4. Select [Enhance] in [Debug Settings] -> [Acquiring Mode].
5. Select the target logs.
   NOTE
   - **DO NOT TOUCH the command settings (Individual Command and Command Set) without KM instructions.**
6. Set the USB password in [Debug Settings] -> [USB Password].
   NOTE
   - **The USB password set here must be same as the password set in the USB memory in advance preparation procedure.**
7. Exit the Service Mode.
8. Ask the administrator of the MFP to set a debug log encryption pass phrase in [Administrator Settings] -> [Security Settings] -> [HDD Settings] -> [Debug Log Encryption Settings]. (Default: 01234567890123456789)
   NOTE
   - **This setting is used to encrypt debug logs to be stored in the HDD.**
   - **Be sure to set the encryption password. Failure to set the encryption password may hamper correct analysis of the log.**
9. Try to reproduce the problem/malfunction on the MFP.
10. The problem/malfunction is reproduced.
11. Ask the administrator of the MFP to set [Administrator Settings] -> [Security Settings] -> [Security Details] -> [Export Debug Log] to [Allow].
12. Call [Debug Settings] -> [Debug Log Output] to the screen.
13. Connect the USB memory prepared in advance preparation to the USB port located on the right-side of the MFP control panel.
14. Touch [Select File]. Select the intended file and touch [Output] in [HDD -> USB Memory].
15. Check that the Start key lights up in blue, and press the Start key.

NOTE
- **If the Start key lights up orange, the USB password and/or MFP serial number on for the MFP do not match the key file.**

16. [OK] will be displayed.
17. Touch [OK], and exit the Debug Settings.
18. Return the switch number "155" in HEX Assignment to "00" in [Service Mode] -> [System 2] -> [Software Switch Setting].
19. Exit the Service Mode.
20. Remove the USB memory from the MFP and check that the USB memory contains the file of which name is "LOGSYS_xxxxxxxxxx.log".
21. Send KM your request of analyzing the problem with the log file.

NOTE
- **Send the USB password and log file(s) to the recipient of your request SEPARATELY.**

9. CONTENTS TO BE CLEARED BY RESET FUNCTION

Function for clearing / Contents to be cleared		Front door open/ close	Main power switch OFF/ON	Trouble reset	Initialize							
							Clear Individual Data					
					System Error Clear	Clear All Data	Copy Program Data	Address Registration Data	Fax Setting Data	All History Data	Network Setting Data	Server Cache Data
Jam display		○	-	-	○	○	-	-	-	-	-	-
Malfunction display	Rank A	-	-	○	○	○	-	-	-	-	-	-
	Rank B	○	-	○	○	○	-	-	-	-	-	-
	Rank C	-	○	○	○	○	-	-	-	-	-	-
Erratic operation / display		-	○	-	○	○	-	-	-	-	-	-
Utility Mode (Except items on engine adjustment)		-	-	-	-	○	-	-	-	-	-	-
Job memory setting data		-	-	-	-	○	○	-	-	-	-	-
Address registration data		-	-	-	-	○	-	○	-	-	-	-
Fax setting data (Excluding destination related data)		-	-	-	-	○	-	-	○	-	-	-
History data (Job history, Journal history, Receive reject history, Destination history, Job secure counter)		-	-	-	-	○	-	-	-	○	-	-
Network setting data (Excluding destination related data)		-	-	-	-	○	-	-	-	-	○	-
Cache data of external authentication server		-	-	-	-	○	-	-	-	-	-	○
Service Mode (System 1/2)		-	-	-	-	△*1	-	-	-	-	-	-
Billing Setting	Management Function Choice	-	-	-	-	○	-	-	-	-	-	-
Adjustment of the touch panel position		-	-	-	-	○	-	-	-	-	-	-
Trouble auto release retry count		-	-	-	○	○	-	-	-	-	-	-

○: Will be cleared (initialized)
- : Will not be cleared

△ *1: Items to be cleared	
System 1	Marketing Area (Fax Target only)
System 2	HDD

10. MECHANICAL ADJUSTMENT bizhub 367/287/227

10.1 Paper feed section

10.1.1 Centering adjustment of the tray 1/2

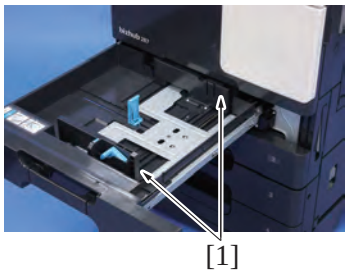
(1) Purpose

This adjustment must be made in the following case:

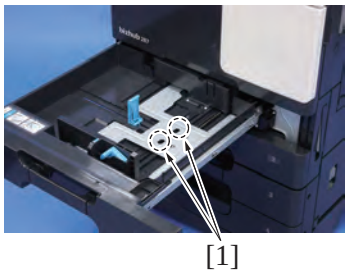
- When an image printed on a copy is displaced from the correct position with the use of the tray1/2.

(2) Procedure

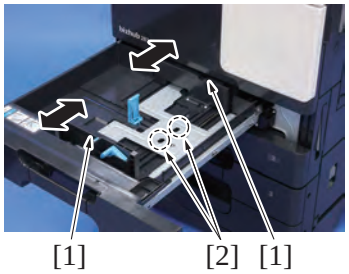
1. Make a test print and check the amount of misalignment.
2. Pull out the tray where this adjustment is made.
3. Stretch the paper guides [1] to the maximum size position.



4. Loosen two screws [1].



5. Move the paper guides [1] complete according to the amount of the mis-centering you checked in step 1 and adjust the center position of it.
6. Tighten two screws [2].



7. Make another test print and check the amount of misalignment.

10.1.2 Adjustment of the bypass CD paper size VR

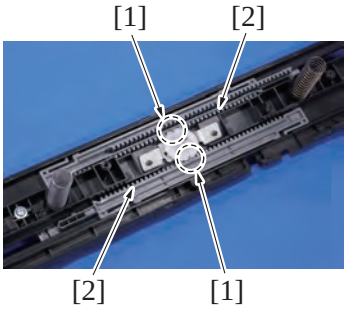
(1) Purpose

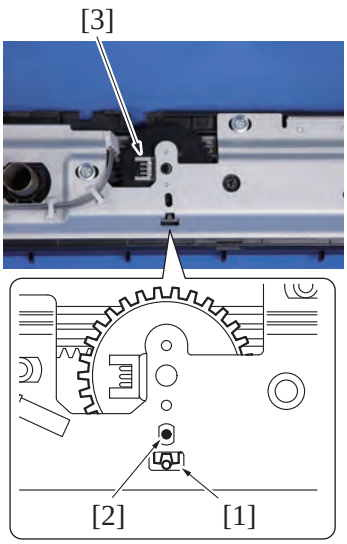
This adjustment must be made in the following case:

- The bypass CD paper size VR has been removed.

(2) Procedure

1. Align the match mark [1] on the bypass guide rack gear with the groove on the gear rim at two places and install two bypass guide rack gears [2].





2. When installing the bypass CD paper size VR assy [3], make sure that the part [1] (pointed by the arrow) on the bypass guide rack gear and the gear's hole [2] on the bypass CD paper size VR assy are placed in a straight line.
3. Secure the bypass CD paper size VR assy with two screws.
4. After the bypass CD paper size VR base has been mounted, check that the lever of the bypass CD paper size VR moves smoothly in a manner operatively connected to the bypass guide.
5. Call the Service Mode to the screen and select [Machine] -> [Manual Bypass Tray Width Adj]. Then, carry out manual bypass tray width adjustment.

11. MECHANICAL ADJUSTMENT DF-628

11.1 Original document feed section

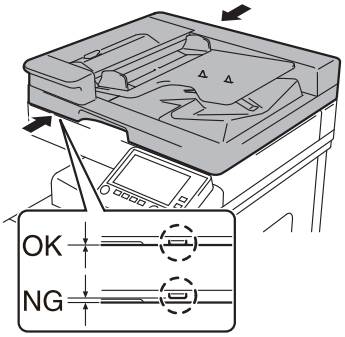
11.1.1 Adjusting the height

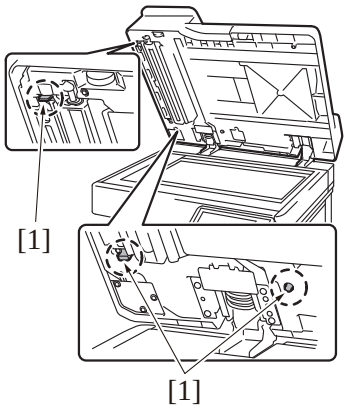
(1) Purpose

This adjustment must be made in the following case:

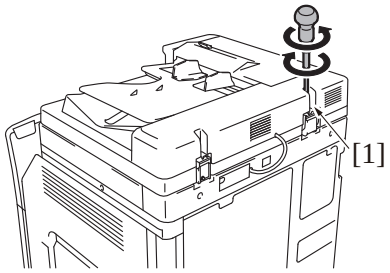
- When the reverse automatic document feeder has been reinstalled.

(2) Procedure





1. Check the clearance between the upper face of scanner and the protrusion [1] on the reverse automatic document feeder side (3 spots).
   NOTE
   - **There must be no clearance between the protrusion [1] on the reverse automatic document feeder and the upper face of scanner.**



2. If there is any clearance, the following adjustment is needed.
3. Remove the clearance by turning the adjusting screw [1].
   - Clockwise rotation: Lifting up the rear side
   - Counterclockwise rotation: Lowering the rear side

11.1.2 Adjusting front side skew feed on ADF

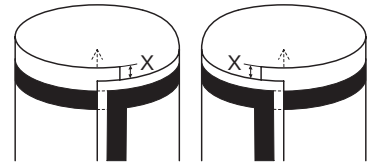
(1) Purpose

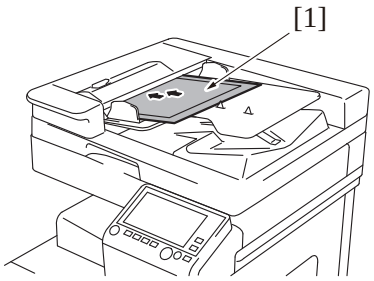
This adjustment must be made in the following case:

- When the reverse automatic document feeder has been reinstalled.

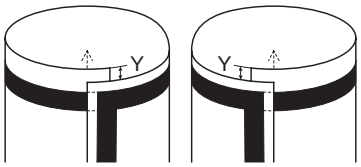
(2) Procedure

1. Check how the edges of the chart are misaligned.
   The amount of the deviation of the chart will be X.



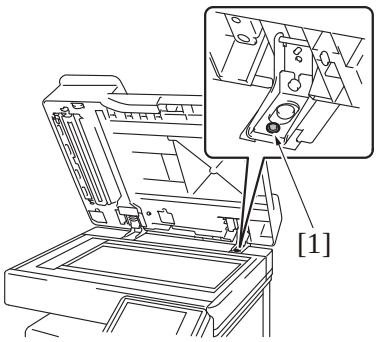


2. Place the chart [1] in the document feed tray. (with the side having an arrow facing up)

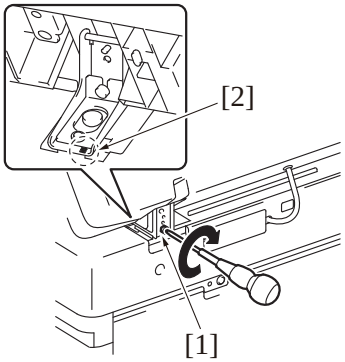


Deviation in + (plus) Deviation in - (minus)

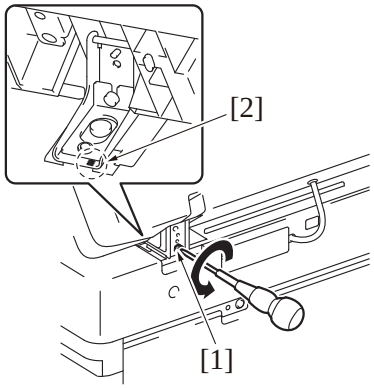
3. Make copies 5 times repeatedly in single side mode.
4. Fold all 5 sample copies as illustrated and check for any deviation. Deviation on the sample will be Y.
5. Obtain the difference between the deviation of the chart and the deviation of the sample.
   Difference of the deviation = Y - X
   Target: 0 ± 2 mm
6. If the difference of the deviation does not fall within the target, perform the following adjustment.



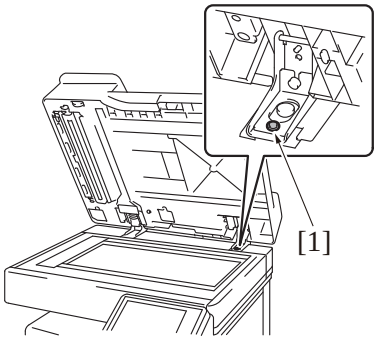
7. Loosen the mounting screw [1] on the right hinge viewed from the front.



8. When the difference of the deviation is + (plus), turn the adjustment screw [1] located at the back of the dual scan document feeder clockwise to adjust.
   NOTE
   - **Look at the guide lines [2] when making the adjustment.**
   - **Be sure not to turn the adjustment screw [1] when the reverse automatic document feeder is opened at 90 degrees to prevent the screw from being broken.**



9. When the difference of the deviation is - (minus), turn the adjustment screw [1] located at the back of the reverse automatic document feeder counterclockwise to adjust.
   NOTE
   - **Look at the guide lines [2] when making the adjustment.**
   - **Be sure not to turn the adjustment screw [1] when the reverse automatic document feeder is opened at 90 degrees to prevent the screw from being broken.**



10. After the adjustment is completed, tighten the mounting screw [1] on right side hinge securely with screwdriver.

11.1.3 Adjusting the pressure of the separation roller

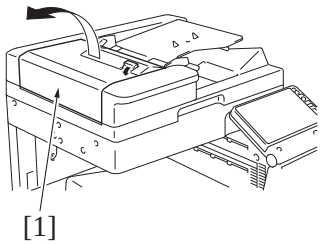
(1) Purpose

This adjustment must be made in the following case: The adjustment is available in two different levels.

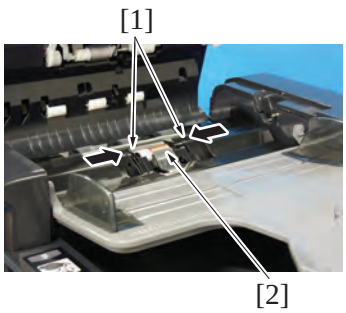
- Original misfeed often occurs.

(2) Procedure

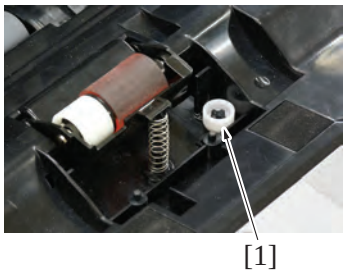
1. Open the left cover [1].



2. Grip both sides [1] of the holder and remove the cover [2].



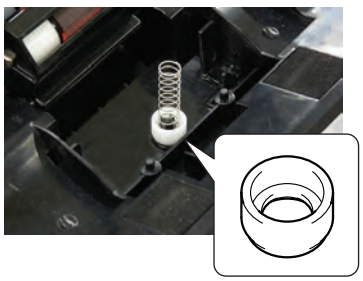
3. Remove the spacer [1] shown on the illustration.

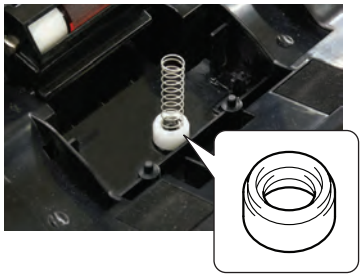


4. Set the spacer to the lower part of the spring in the direction shown on the illustration (with deeper groove facing upper side).

NOTE

- **When this procedure does not improve the situation, carry out the adjustment below for the stronger spring force.**





5. Set the spacer to the lower part of the spring in the direction shown on the illustration (with shallow groove facing upper side).

12. MECHANICAL ADJUSTMENT PC-113/PC-213

12.1 Paper reference position

12.1.1 Purpose

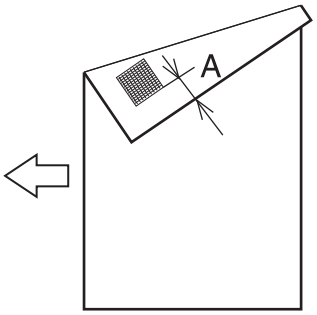
This adjustment must be made in the following case:

- 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.

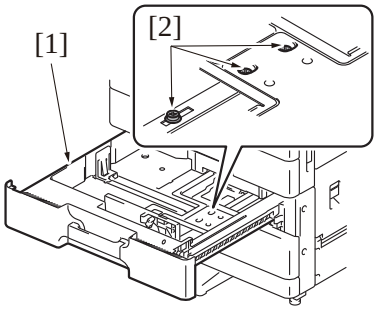
NOTE

- **When the optional finisher FS-534 is installed, mechanical adjustment is necessary before adjustment [Printer Image Centering Side 1].**

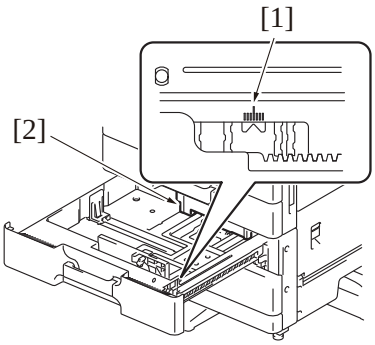
12.1.2 Procedure



1. Measure the width of printed reference line A.
Target: 3.0 mm ± 1.0 mm



2. Slide out the tray [1] and unload paper from it.
3. Loosen three screws [2] at the center of the paper lifting plate.



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.

13. MECHANICAL ADJUSTMENT PC-413

13.1 Paper reference position

13.1.1 Purpose

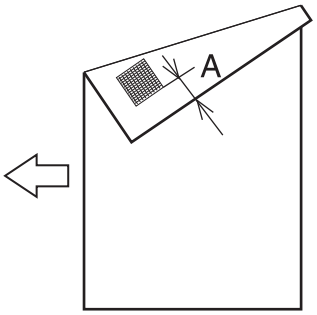
This adjustment must be made in the following case:

- 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.

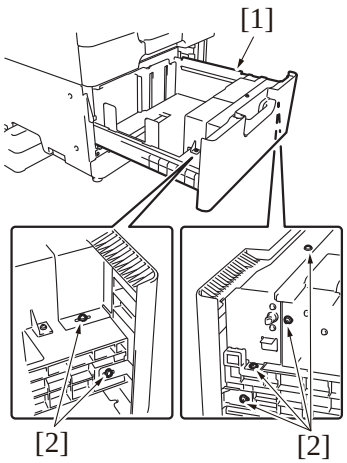
NOTE

- **When the optional finisher FS-534 is installed, mechanical adjustment is necessary before adjustment [Printer Image Centering Side 1].**

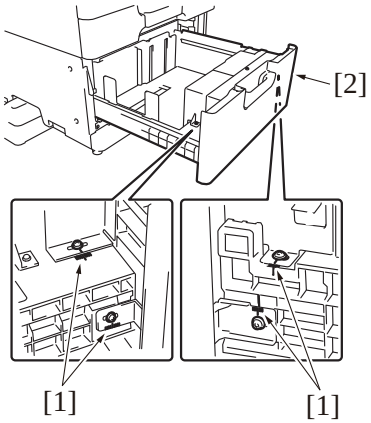
13.1.2 Procedure



1. Measure the width of printed reference line A.
   Target: 3.0 mm ± 1.0 mm



2. Slide out the paper feed tray [1] and unload paper from it.
3. Loosen six 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 six screws which have been loosened.
6. Perform another test print and check the reference deviation.

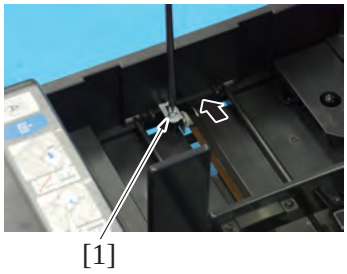
13.2 Shifter movement timing belt adjustment

13.2.1 Procedure

1. Remove the paper feed tray.
   G.6.4.3 Paper feed tray (PC-413)



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].

14. MECHANICAL ADJUSTMENT PK-519

14.1 Punch section

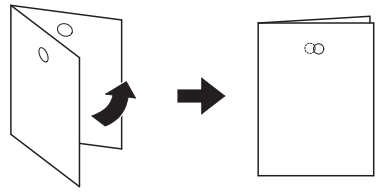
14.1.1 Punch hole deviation correction

(1) Purpose

This adjustment must be made in the following case:

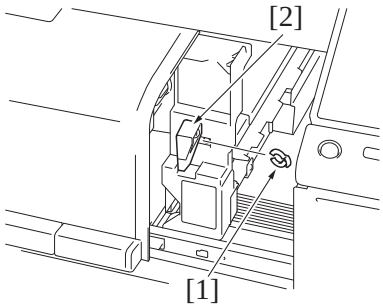
- The punch holes are on a slanted line.

(2) Procedure

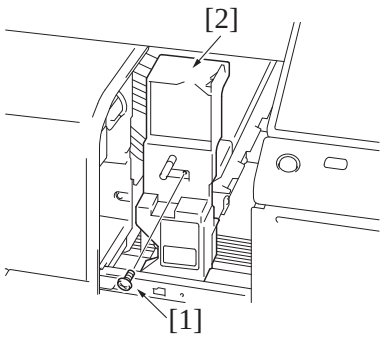


1. Set the mode to Punch mode for printing.
2. Hold the output paper half and check the displacement of the punch hole.
   Target: 0 ± 2.0 mm

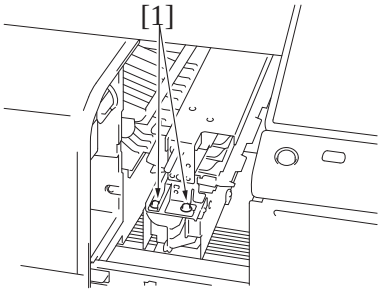
3. If the positional deviation of the punch holes is not within the target range, take the following steps.
4. Slide the finisher by pulling its lever.



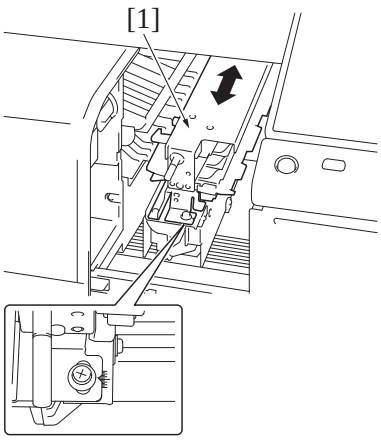
5. Remove the C-clip [1], and remove the lever [2].



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



7. Loosen two screws [1].



8. Move the punch unit [1] back and forth to adjust its position, referring to the guide lines.

9. To reinstall, reverse the order of removal.
10. Make a copy and check the punch hole positions again.

15. MECHANICAL ADJUSTMENT PK-520

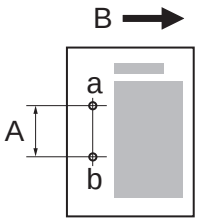
15.1 Punch section

15.1.1 Punch hole deviation correction

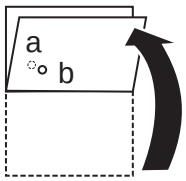
(1) Purpose

This adjustment must be made in the following case:
- The punch holes are on a slanted line.

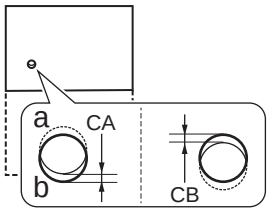
(2) Procedure



1. Make a 1sided copy sample in the punch mode. Face the printed surface upward.
   - [A]: The distance between holes
   - [B]: Paper feeding direction
   - [a]: Upper punch hole
   - [b]: Lower punch hole

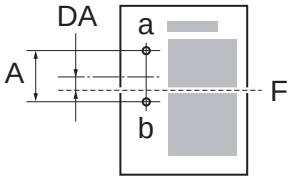


2. Fold the paper in half along the center in the paper feeding direction.



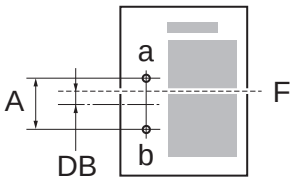
3. Measure the deviation amount [C] between punch holes [a] and [b].
   Target: D = 0 ± 1.0 mm

Ex.1



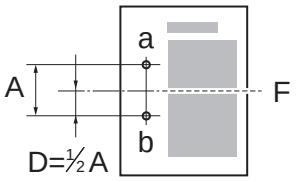
4. If the deviation between the punch holes [a] and [b] is [CA], the punch holes deviate upward in the figure relative to the paper folding line [F] (center in the paper feeding direction).
   Ex.1: Punch hole deviation amount [DA] = Measured value [CA] 3 mm ÷ 2 = -1.5 mm (hole positions deviate upward)

Ex.2

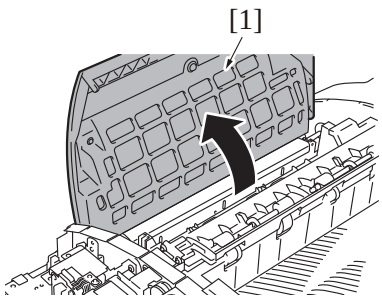


5. If the deviation between the punch holes [a] and [b] is [CB], the punch holes deviate downward in the figure relative to the paper folding line [F] (center in the paper feeding direction).
   Ex.2: Punch hole deviation amount [DB] = Measured value [CB] 3 mm ÷ 2 = +1.5 mm (hole positions deviate downward)

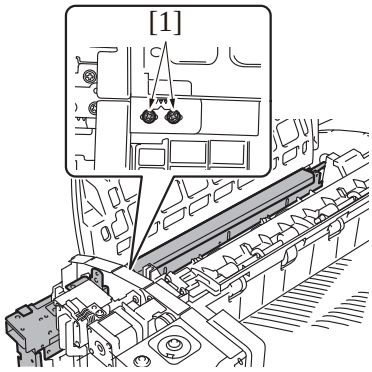
Ex.3



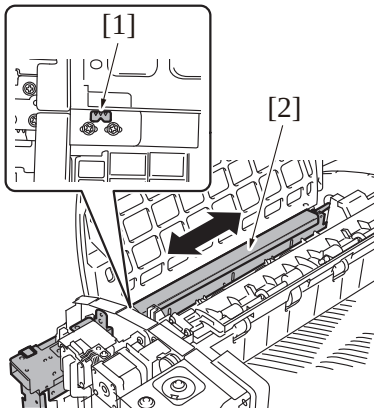
6. Complete the adjustment, if the deviation amount [D] between punch holes [a] and [b] falls within the target (±1.0 mm or less).
   Ex.3: Punch hole deviation amount [D] = Measured value [C] 0mm÷2 = 0 (punch hole deviation amount falls within the target)



7. In case the figure exceeds the above mentioned target, follow the procedures shown below.
8. Open the upper cover [1].



9. Loosen two screws [1].



10. Using the triangle marks [1] on the plate as a guide, move the punch unit [2] back and forth to adjust its position.

16. MECHANICAL ADJUSTMENT SD-511

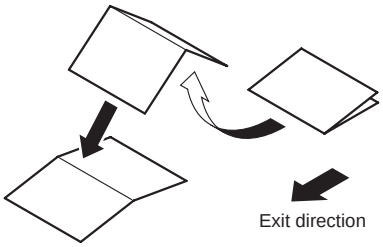
16.1 Paper exit section

16.1.1 Half-fold skew adjustment

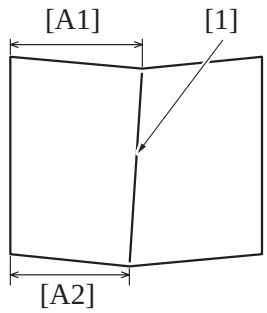
(1) Purpose

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.

(2) Procedure

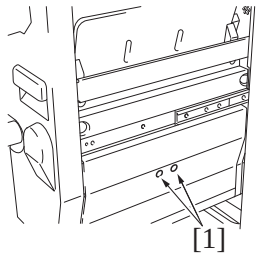


1. Make a copy in the half-fold mode.
2. Unfold the paper that exits the machine and lay the paper with the ridge facing up.

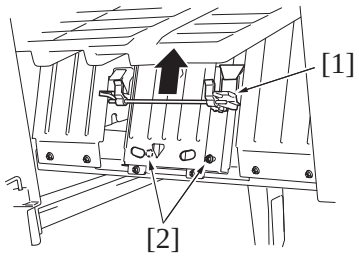


3. Confirm the skew of the fold line [1] of the output copy sample (Widths of A1 and A2)
   Target: A1-A2=±1.0 mm
4. In case the figure exceeds the above mentioned target, follow the adjustment procedures below.

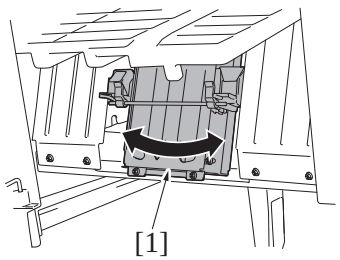
5. Open the front door of the finisher.
6. Pull the saddle unit.



7. Loosen two screws [1].

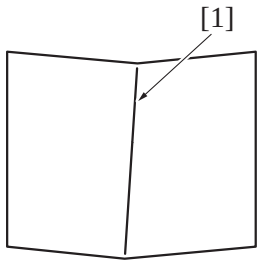


8. Slide the lever unit [1] upward.
9. Loosen two screws [2].



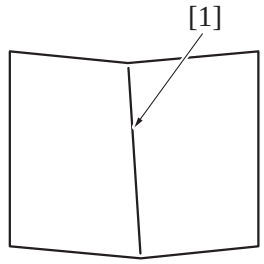
10. Incline the guide plate assy [1] forward or backward according to the deviation of the crease.

In case the cease [1] skews as the right side:



- In case the cease [1] skews as the right side:
  Incline the guide plate assy backward.
- In case the cease [1] skews as the left side:
  Incline the guide plate assy forward.

In case the cease [1] skews as the left side:



11. Make the copy sample again to confirm the cease skew.
12. Reinstall the above parts following the removal steps in reverse.

J REWRITING OF FIRMWARE

- There are two ways to update the firmware: One is by directly connecting with the main body using the USB memory device, and the other is by downloading over a network using the Internet ISW.

NOTE 1

- **The settings in the "Utility" mode and the "Service Mode" will not be changed, when the firmware is updated.**
- **Activate the loadable device driver and voice data as required in accordance with the rewriting firmware or user's environment.**

1. **[Service Mode] -> [System 2] -> [Install Data]**
2. **Turn OFF and ON the main power switch and sub-power switch.**
3. **Upgrade the printer driver version.**

1. Confirming the firmware version

1.1 Procedure

1. Call the Service Mode to the screen.
2. Select the [Firmware Version].
3. Check the current firmware version.

NOTE

- **After conducting firmware updating, check the firmware version No. and confirm that the firmware has been normally updated.**

2. USB memory

NOTE

- **USB memory must be connected with the main power switch off.**

2.1 Preparation

2.1.1 System preparation

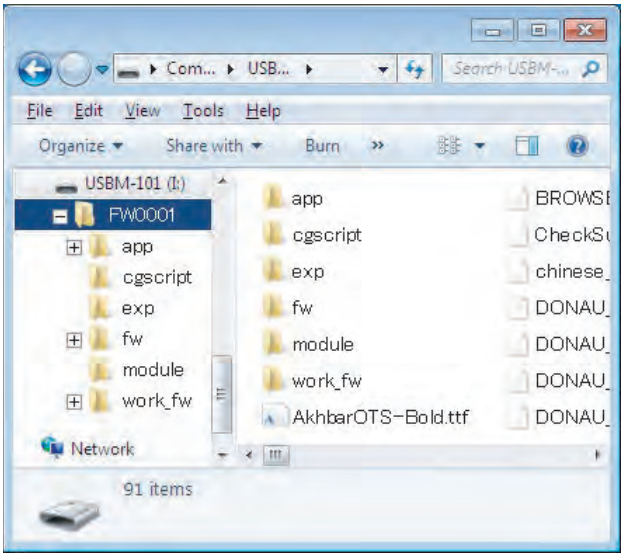
- PC with USB ports
- USB memory

  NOTE

  - **Possible to be non-operational products.**
  - USB flash memory compatible with the USB (1.1/2.0/3.0) interface
    The speed is limited to USB2.0 specifications even if using a device that supports USB3.0.
  - The USB memory is formatted in FAT32 format.
  - No security functions such as encryption and password lock have been added (or the USB memory allows its security functions to be turned OFF).
  - A USB memory that is recognized by the computer as two or more drives cannot be used.
  - We recommend that you use a memory device with no more than 32 GB of capacity.

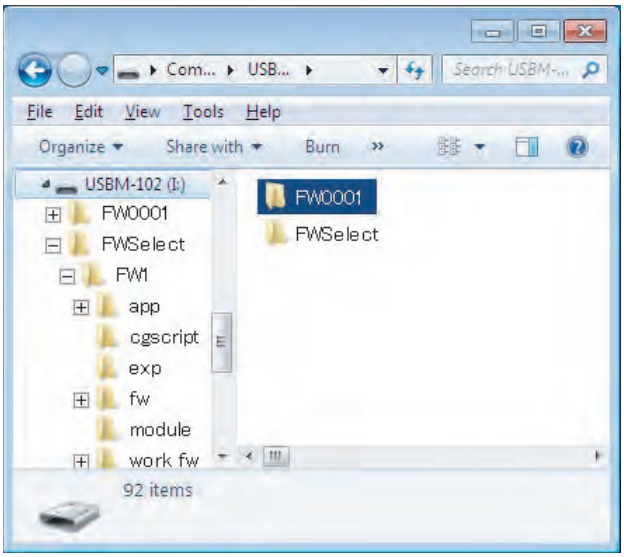
2.1.2 USB memory used to update firmware

1. Uncompress the firmware file.
2. Connect the USB to the PC, and copy the extracted data [FW0001] to the root directory of the USB memory.



NOTE

- **More than one firmware data with a single model can be stored in the USB memory.**
- **In this case, copy the firmware data to the USB memory according to the following procedures.**
  1. **Make the folder named "FWSelect" (case-sensitive) to the root directory of the USB memory.**
  2. **Make a folder with any folder name (one byte alphameric characters, maximum 40 characters) under "FWSelect" folder, and store the firmware data to the folder.**



2.2 Procedure

1. Turn OFF the main power switch.

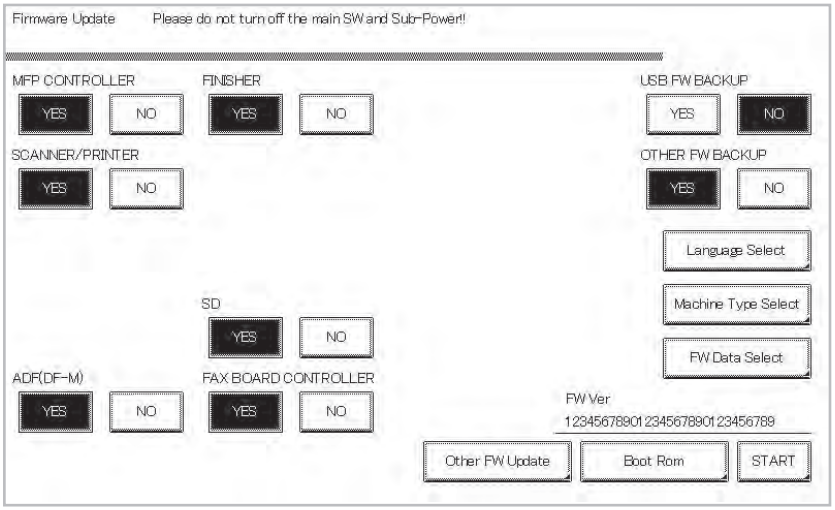
2. Connect the USB memory containing the firmware into the USB port on the right side of the operation panel.



NOTE

- **USB memory must be connected with the main power switch off.**

3. Turn the main power switch ON while pressing the Stop key.
4. Control panel shows F/W items to be updated, and select the particular type of F/W to be updated. (Select [YES].)

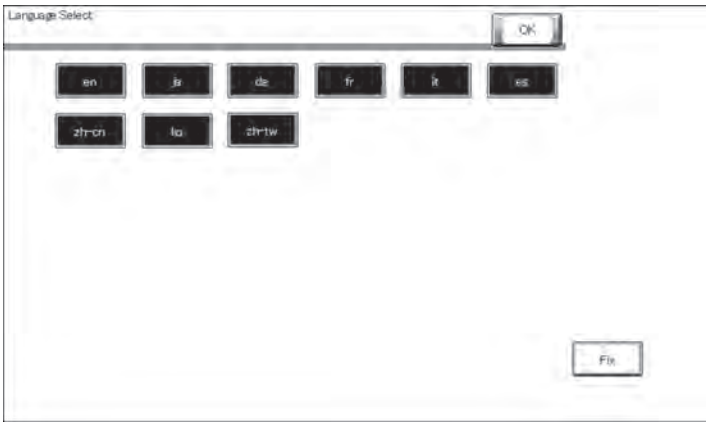


F/W to be updated	Appropriate board	Remark
MFP CONTROLLER	eMMC board (eMMC)	-
SCANNER/PRINTER	MFP board (MFPB)	-
ADF (DF-M)	DF control board (DFCB)	Only when DF-628 is mounted
FAX BOARD CONTROLLER1	Fax board/1 (FAXB/1)	Only when FK-513 is mounted
FINISHER	FS control board (FSCB)	Only when FS-533/FS-534 is mounted
SD	SD drive board (SDDB)	Only when FS-534SD is mounted

NOTE

- **Unless one of the keys on the control panel is pressed, firmware is automatically updated after 30 seconds when the main power switch is turned on.**
- **When the BootRom file is in the firmware data, [BootRom] key is displayed. Pressing the key updates data.**
- **If either or both of the SCB file and power sub CPU file are contained within the firmware data, the [Other FW Update] key displays. Press the key to update.**
- **When more than one firmware are stored in step 1, pressing [FW Data Select] enables selection. (Data of other models cannot be selected.)**
  (At this time, the data marked with an asterisk on the upper-left side of the data selection screen is the firmware data in the "FW0001" folder in the USB memory device.)

5. Press the [Language Select].
6. On the Language Select screen, select a language to be displayed on the LCD area of the control panel, then touch [Fix].



NOTE

- **The language selected on this screen is displayed on the Language Selection screen of Utility.**
- **Up to 9 languages are selectable. However, Japanese and English are essential options.**

7. Touch [OK] to go back to the firmware update selection screen.
8. Press the [START]. (At this time, the Start key starts blinking red.)
9. Check that the control panel shows the message indicating that the data has been rewritten correctly ([Downloading Completed]). (The Start key lights blue.)
10. Turn OFF the main power switch.
11. Remove the USB memory.
12. Turn ON the main power switch.
13. Call the Service Mode to the screen.
14. Select the [Firmware Version].
15. Make sure if the version of firmware is updated.

2.3 Action when data transfer fails

- If “NG” appears on the control panel, indicating that rewriting has been unsuccessful (in which case the Start key lights up red), take the following steps.
  1. Perform the data rewriting procedure again.
  2. If the procedure is abnormally terminated, change the USB memory for a new one and try another rewriting sequence.
  3. If the procedure is still abnormally terminated, change the board that has caused “NG” and carry out data rewriting procedure.

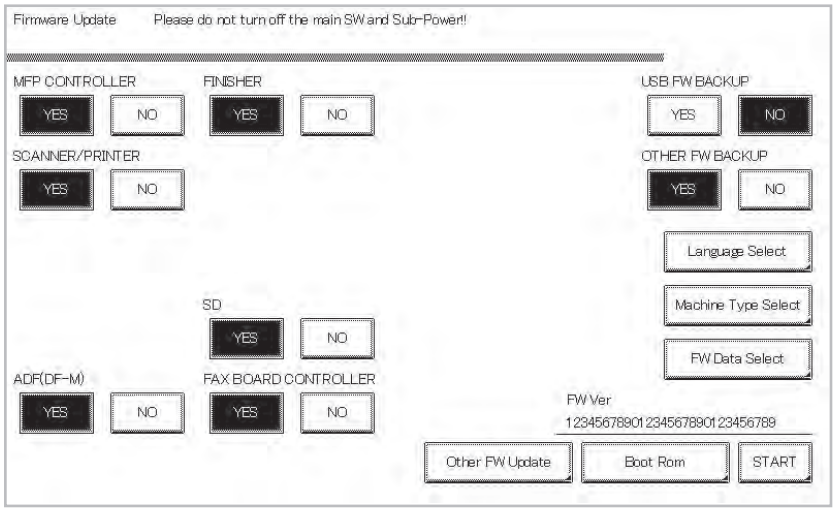
F/W to be updated	Appropriate board	Remark
MFP CONTROLLER	eMMC board (eMMC)	-
SCANNER/PRINTER	MFP board (MFPB)	-
ADF (DF-M)	DF control board (DFCB)	Only when DF-628 is mounted
FAX BOARD CONTROLLER1	Fax board/1 (FAXB/1)	Only when FK-513 is mounted
FINISHER	FS control board (FSCB)	Only when FS-533/FS-534 is mounted
SD	SD drive board (SDDB)	Only when FS-534SD is mounted

2.4 Entering the machine type information

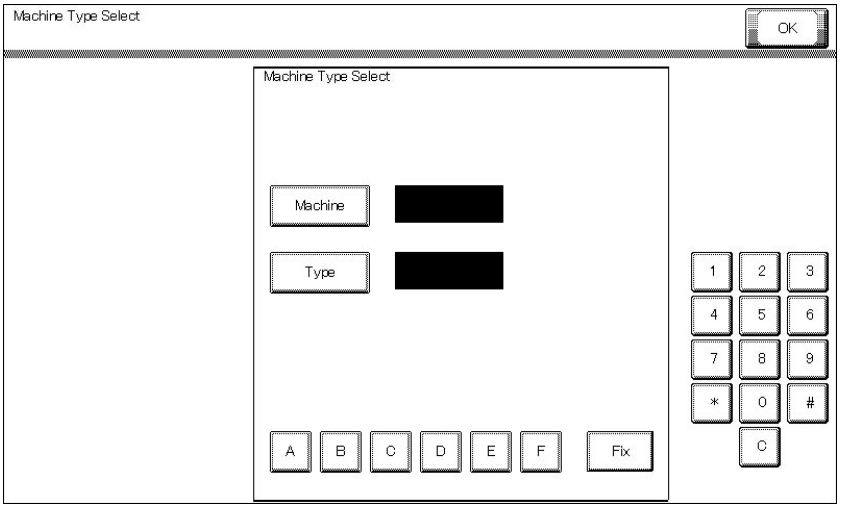
- When MFP board is replaced, it is necessary to enter the machine type information.
- Refer to the following procedures to enter the machine type information.

Procedure

1. Insert the USB memory to the USB port.
2. Turn ON the main power switch.
3. Touch [Machine Type Select].



4. Enter [Machine] and [Type] information according to the following table. Then touch [Fix].



First four digits of the serial number	A789 *	A7AH	A7AK
[Machine]	5	5	5
[Type]	1	2	3

- *: Excluding Japan models

5. Touch [OK], and turn OFF the main power switch.

3. Internet ISW

3.1 Preparations for firmware rewriting

3.1.1 Outline

- The "Internet ISW" is a system used by the main unit to retrieve firmware from a program server on the Internet and update the firmware.
- This executes when the command is received from the operation panel or CS Remote Care, or at a previously specified timing.

3.1.2 Service environment

The following conditions are necessary for using the Internet ISW function.

- The main body is connected to such a network environment that the firmware can be downloaded on the internet using the ftp or http protocol.

The “Internet ISW” will not operate under the following conditions.

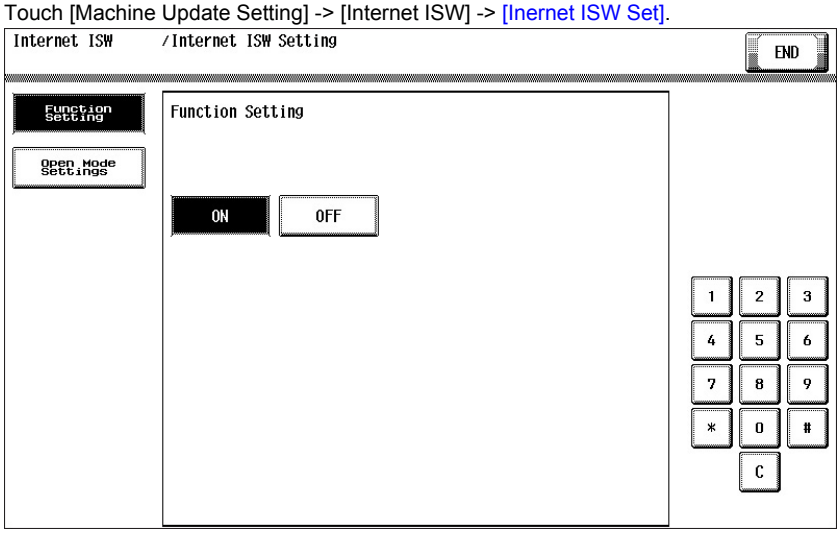
- Main power switch is set to OFF.
- Sub power auto power off mode enabled
- When [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”.
- Machine is operating, or there are jobs present (including appointed jobs).
- Machine is in idle with suspended job.
- Paper jam has occurred.
- Image file is in the memory.
- Model or the circuit board of the program does not match.

3.1.3 Preparations for firmware rewriting

- For using the Internet ISW, the network parameter, program server address as well as firewall address need to be set to the main body.
  I.5.26.1 Internet ISW - Internet ISW Set

(1) Internet ISW Set

1. Call the Service Mode to the screen.
2. Touch [Machine Update Setting] -> [Internet ISW] -> [Inernet ISW Set].



3. Select [ON] in [Function Setting], and touch [END].

NOTE

- **Settings such as server setting, etc. will be available by selecting “ON” on this setting.**
- **When [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”, “ON” cannot be selected on this setting.**
- **To allow the administrator to rewrite firmware, press [Open Mode Settings] and select [Set].**

(2) Protocol setting

- It performs the setting concerning the protocol (ftp or http) for connecting to the Internet ISW.

(a) Connecting by http

1. Select [Service Mode] -> [Machine Update Setting] -> [Internet ISW].
2. Data input setting
   - Touch [HTTP Setting], and select [ON].
3. Connection Time-Out
   - Select [Connection Time-Out], and set the time for the connection time out between 30 and 300 seconds.

NOTE

- **To connect MFP to the Internet via a proxy, the proxy server related settings must be configured in addition to [Forwarding Access Setting].**
  The settings of the proxy used in Internet ISW communications is configured in [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [HTTP Proxy Settings].

(b) Connecting by ftp

1. Select [Service Mode] -> [Machine Update Setting] -> [Internet ISW].
2. Data input setting

- Touch [FTP Setting], and select [ON].

3. Connection Setting
   - Perform the setting for accessing FTP server.
     1. Select [Port Number], and set the port number for FTP server from 1 through 65535.
     2. Select [Connection Time Out], and set the time for the connection time out from 1 through 60.
     3. When connecting in PASV mode, select [PASV Mode], and select [ON].

        NOTE
        - **PASV Mode:**
          This mode is for transferring the file with FTP under the condition where communication is restricted such as inside the firewall. Since with PASV mode, the client with restriction sets the port number, data transmission port can be secured to enable the file transmission.

NOTE
- **To connect MFP to the Internet via a proxy, the proxy server related settings must be configured in addition to [Forwarding Access Setting].**
  The settings of the proxy used in Internet ISW communications is configured in [Administrator Settings] -> [Network Settings] -> [Machine Update Settings] -> [Internet ISW Settings] -> [FTP Server Settings].

(3) Forwarding Access Setting

- To make the access setting for the program server which stores the firmware data.
  1. Select [Service Mode] -> [Machine Update Setting] -> [Internet ISW].
  2. Touch [Forwarding Access Setting].



  3. Select [User ID], and enter the user ID which is necessary for connecting to the program server on the on-screen keyboard, and touch [END].
  4. Select [Password], and enter the password which is necessary for connecting to the program server on the on-screen keyboard, and touch [END].
  5. Select [URL], and enter the directory which stores the program server address and the firmware on the on-screen keyboard by URL method, and touch [END].

     NOTE
     - **Enter the URL which matches to the protocol to be used.**

When connecting to http	**http://(host name or IP address)/directory name or https://(host name or IP address)/directory name**
When connecting to ftp	**ftp://(host name or IP address)/directory name**

  6. Select [File Name], and enter the file name of the firmware data to be downloaded on the on-screen keyboard, and touch [END].
  7. Touch [OK] to finish setting.

(4) Update Start Time Settings

Configure settings on the timing to update firmware.
1. Select [Service Mode] -> [Machine Update Setting] -> [Internet ISW].
2. Press [Update Time Settings].
3. Select either [Do] or [Cancel].
4. If [Do] is selected, enter the time to update firmware on the ten-key.
5. Touch [OK].

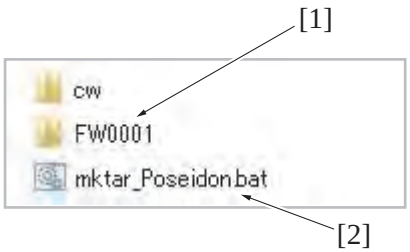
3.2 Making the firmware data

3.2.1 Outline

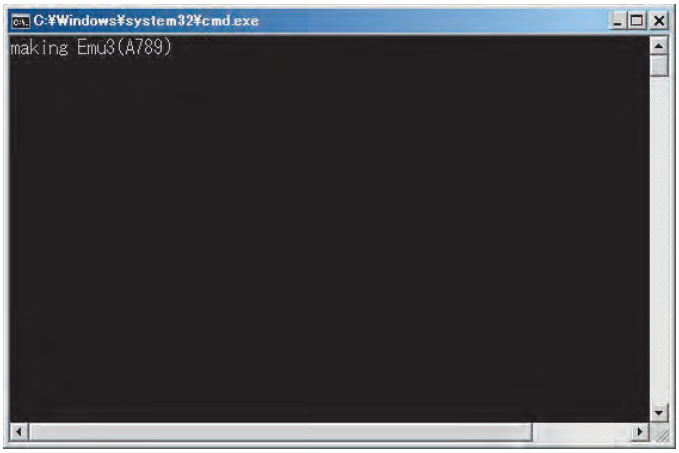
- It is necessary to convert the firmware data and save it in the target directory of the Internet ISW server for upgrading the firmware via Internet ISW.

3.2.2 Procedure

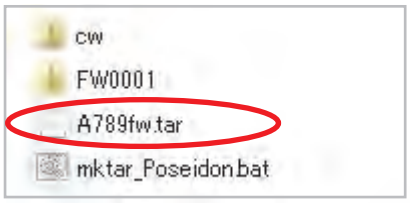
1. Uncompress the firmware file.
2. Drag and Drop the firmware folder [1] which is in the uncompressed folder to the batch file [2] (mktar_Poseidon.bat).



3. "making Emu3(A789)" message in the command prompt window appears.



4. The command prompt window closed automatically.
5. "A789fw.tar" is created in the same directory.



6. Copy the "A789fw.tar" in the firmware data directory of Internet ISW server.

3.3 Firmware rewriting from the control panel

3.3.1 Firmware rewriting from the control panel

NOTE

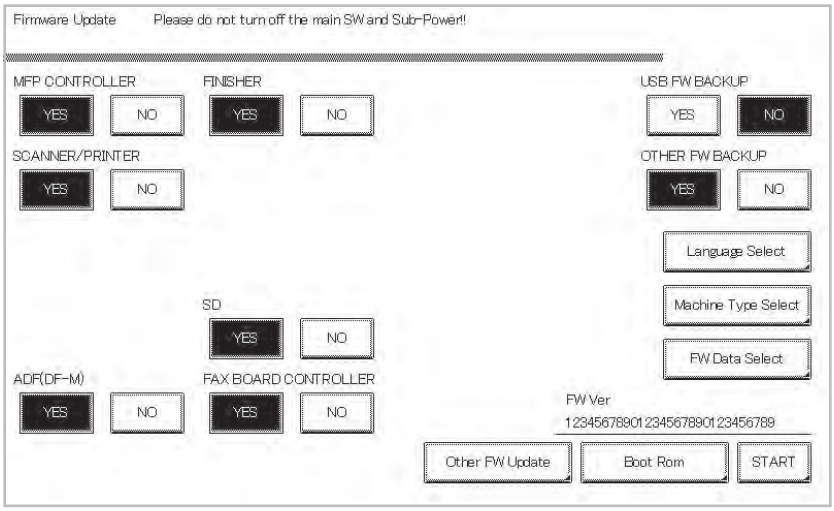
- **When performing the Internet ISW, ask the administrator for permission beforehand.**
- **DO NOT turn OFF the main power switch while downloading.**
- **When IP address of MFP is assigned by DHCP, the firmware rewriting will be failed by using [Download/Update] button. Use [Download] button in such case.**
- **The Static IP address of MFP is necessary to execute the firmware rewriting by CS Remote Care or PageScope Enterprise Suite remotely.**
- **Updates cannot be performed via the [Download/Update] button when connected over Wi-Fi. Use the [Download] button in such cases.**

(1) Conducting commands from the control panel

1. Touch [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Download].
2. To download and update firmware data, select [Download/Update].
   To only download firmware data and update it later, select [Download].
3. Touch [Start].



4. Main body accesses the server and starts downloading the firmware data.
5. To download and update firmware data, select the types of firmware data to be written and replaced with a newer version in the Firmware Update screen and press [START].



F/W to be updated	Appropriate board	Remark
MFP CONTROLLER	eMMC board (eMMC)	-
SCANNER/PRINTER	MFP board (MFPB)	-
ADF (DF-M)	DF control board (DFCB)	Only when DF-628 is mounted
FAX BOARD CONTROLLER1	Fax board/1 (FAXB/1)	Only when FK-513 is mounted
FINISHER	FS control board (FSCB)	Only when FS-533/FS-534 is mounted
SD	SD drive board (SDDB)	Only when FS-534SD is mounted

NOTE

- **Unless one of the keys on the control panel is pressed, firmware is updated after 30 seconds after the screen displays.**

(2) During firmware updating

1. After pressing [Start], the main unit connects to the server and starts the download.
2. The message to indicate the status will be displayed on the screen while connecting or transferring data.

(3) Completed or failed

(a) Firmware updated normally

1. When the Firmware is normally updated, restart the main body in auto or manual mode to display the outcome, and touch [OK] to return to the main screen.

(b) Failing to update the firmware due to the network trouble

1. When updating failed to complete due to the trouble on connecting to the network, an error code and the message will be displayed.
2. Restart the main body in auto or manual mode, and touch [OK]. It can be used with the firmware version before conducting updating.
3. Check the settings for the network by error codes, and try updating again.
K.5.1 Error code list for the Internet ISW

(c) Failure to update firmware after starting the update process

1. Once firmware updating has started, the ROM in the main body will be deleted.

When it failed right after updating has started, restart the main body, and shift to the standby screen to retry downloading.

2. When updating on the control panel, touch [settings] on the standby screen, and check the Network settings again. Touch [Download], and restart the Internet ISW.

NOTE

- **Return to the standby screen without fail after turning the main power switch OFF/ON if the firmware is not updated.**
- **Firmware can be updated with the USB memory.**

4. CS Remote Care

4.1 Firmware rewriting from the CS Remote Care

- For detailed error information relating to CS Remote Care, refer to "I.5.7 CS Remote Care (Outlines)"
- For the firmware update procedure using CS Remote Care, refer to CS Remote Care Center Manual.

5. Auto Update setting

5.1 Outline

- "Auto Update" is the function, which makes the main body access the program server periodically through the network to obtain a new firmware, then rewrites it automatically.

5.2 Service environment

- The following conditions are necessary for using the Auto Update function.
- The main body is connected to such a network environment that the firmware can be downloaded on the network using the SMB or http protocol.
- The Auto Update function will not operate when the main body is under the following conditions.
  - Main power switch is set to OFF.
  - Sub power OFF mode (power key is orange) or ErP auto power OFF mode (power key flashes orange) enabled
  - When [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”.
  - MFP is operating, or there are jobs present (including appointed jobs).
  - MFP is in idle with suspended job.
  - Trouble has occurred.
  - Image file is in the memory.
  - Model or the circuit board of the program does not match.

5.3 Procedures for rewriting the firmware by using the Auto Update function

5.3.1 Preparations

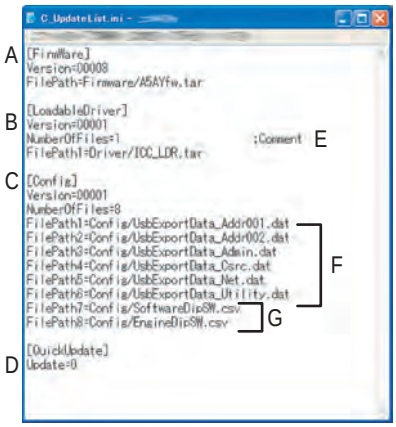
- For using this function effectively, before executing the following procedures contact with the administrator to obtain an agreement.
- For using the Auto Update function, the network parameter, program server address as well as firewall address need to be set to the main body.
- Create a firmware file used to the "Internet ISW" and store it in the program server.
- Create a program update information file (C_UpdateList.ini) and store a set of data (folder including the firmware file) for updating in the program server.

(1) Method for creating the program update information file (C_UpdateList.ini)

- Specify the firmware, loadable driver, configuration files, firmware rewriting method as shown below.

  NOTE
  - **[FirmWare], Version, FilePath, [LoadableDriver], NumberOfFiles, [Config], [QuickUpdate] and Update must be specified by using the capital letters and small letters properly.**
  - **The file path configured in FilePath describes the relative path from the program update information files.**

A sample of C_UpdateList.ini



(a) A: Firmware updating information

- [FirmWare], Version, and FilePath are the necessary information.
- Change of version numbers (5-digit number) is to be recognized as that the file has been updated, and the file will be downloaded.
- Enter the path and file name in FilePath to access the firmware file.

(b) B: Loadable driver updating information

- [LoadableDriver], Version, and NumberOfFiles are the necessary information.
- Change of version numbers (5-digit number) is to be recognized as that the file has been updated, and the file will be downloaded.
- Specify the number of files at NumberOfFiles. (If not to download, set "0")
- Enter the path and file name in FilePath to access the Loadable Driver file.

(c) C: Configuration files updating information

- [Config], Version, and NumberOfFiles are the necessary information.
- Change of version numbers (5-digit number) is to be recognized as that the file has been updated, and the file will be downloaded.
- Specify the number of files at NumberOfFiles. (If not to download, set "0")
- Enter the path and file name in FilePath to access the Configuration file(s).
- If multiple files exist, give a number to each of them as FilePath1, FilePath2 as shown in above illustration.

(d) D: Timing for updating data

- [QuickUpdate] and Update are the necessary information.
- If Update is set to "0", the downloaded firmware and each setting will be rewritten in accordance with the update time settings.
- If Update is set to "1", the firmware and each setting will be rewritten soon after downloading.

(e) E: Comment

- A comment can be inserted between "#" or ";" and the line break code.

(f) F: Create a configuration file

1. Select [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Machine Export setting].
2. Insert a USB memory into the USB port.
3. Enter a password.
4. Select [START].
5. "Result OK" will be displayed.
6. Complete the data export.

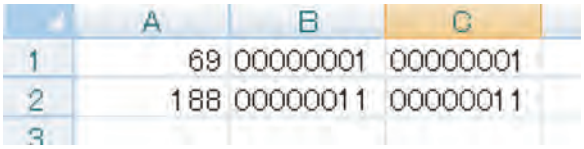
NOTE

- **On the MFP where a file is to be downloaded, the password specified at above step 3 must be set beforehand by selecting [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Machine Update Password].**

(g) G: Copy of Software switch setting and Engine FW DipSW setting

- Create CSV files for the data with the required switch number as SoftwareDipSW.csv and EngineDipSW.csv.

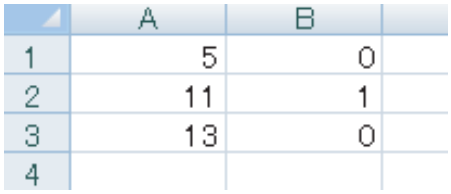
A sample of SoftwareDipSW.csv



	A	B	C
1	69	00000001	00000001
2	188	00000011	00000011
3			

A row	Software switch number
B row	Set 1 on the bit to be overwritten (bit7 to bit0 from left side)
C row	Set 1 or 0 for new setting at selected bit(s) on B row. (bit7 to bit0 from left side)

A sample of EngineDipSW.csv

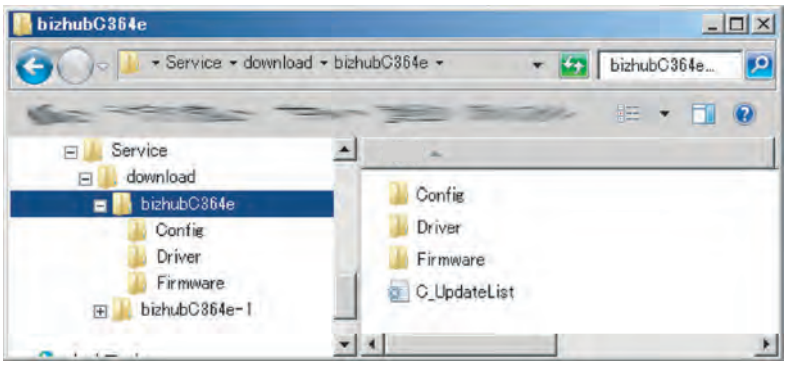


	A	B
1	5	0
2	11	1
3	13	0
4		

A row	Engine FW DipSW number
B row	0 (not select) or 1 (select)

(2) Configuration of files and folders

- The folder configuration of the sample of C_UpdateList.ini in above (1) is as shown below.



5.3.2 Download the firmware data automatically from the program server

1. Select [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Auto Update setting].
2. Select either [Server 1 settings] or [Server 2 settings] as the connection to configure.

3. Touch [Auto Update], then select [ON].
4. Select [Download Protocol], then select [SMB] or [HTTP]. The HTTP protocol is the only available option for [Server 2 settings].
5. Enter the information for accessing the program server on the setting screen of the selected protocol. At this time, specify the folder in which C_UpdateList.ini is stored at where to be accessed.
6. Touch [OK].
7. Touch [Common Settings].
8. Set [Update Time].
9. Set [Polling Interval].
10. Set [Repeat Interval].

- See items in I.11.28.7 Machine Auto Update setting - Auto Update setting for details of each setting.
- The MFP confirms the program update information file in the program server with an interval set at [Polling Interval].
- The MFP compares the program update information file in the program server with that in the MFP, and starts downloading the firmware with a changed Version number.
- The downloaded firmware is to be stored in a HDD.
- To use the relay server function of the MFP, select [HTTP].

(1) Firmware Update

- Methods for updating the firmware are shown below.

NOTE

- **The host name is specified with its IP address.**
- **When the SMB protocol is used, the MFP uses static IP addresses.**

(a) To update the downloaded firmware automatically.

- If the MFP power is turned on from [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Auto Update setting] -> [Common Settings] -> [Update time] , the firmware will be rewritten automatically. If the power is set to OFF at that time, no rewriting will be executed.

(b) Update the downloaded firmware using the control panel.

- Select [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Manually Update] -> [Start], then execute rewriting.

NOTE

Do not set the power to OFF under the following state.

- **It takes about 45 seconds from touching [Manually Update] -> [Start] to the next operation of the MFP (Auto Power OFF).**
- **About one minute after the download completed screen being displayed, the MFP will restart.**
- **When rewriting configuration files followed by the firmware, the MFP will restart again.**

(2) Error code

- The error code can be displayed using [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Update Log Display], or viewed on the PC where the log which saves up to 100 records sent by using [Transmission log Update] is received.

When using the SMB protocol:

Error code	Cause of error	Countermeasure
N00107	• Cannot access the SMB server	• Set the IP address of the server or the server name correctly. • Confirm that if the server runs normally.
N04096		
N04097	• Authentication error	• Set the ID and the password correctly.
N04098		
N04105	• SMB connection error	• Check the SMB connection setting again.
N04106	• Cannot obtain C_UpdateList.ini • Cannot find the data described in C_UpdateList.ini	• Confirm that if C_UpdateList.ini is stored in the server, and set the file path for accessing C_UpdateList.ini correctly. • Set the folder name and the file path correctly.

When using the HTTP protocol:

Error code	Cause of error	Countermeasure
N00107	• Cannot access the HTTp server	• Set the IP address of the server or the server name correctly. • Confirm that if the server runs normally.
N00401	• Authentication error	• Set the ID and the password correctly.
N00404	• Cannot obtain C_UpdateList.ini • Cannot find the data described in C_UpdateList.ini	• Confirm that if C_UpdateList.ini is stored in the server, and set the file path for accessing C_UpdateList.ini correctly. • Set the folder name and the file path correctly.

Common in all cases

Error code	Cause of error	Countermeasure
C00000	• XML setting error	• Make sure that the settings in each configuration file are correct.
C00001	• Decryption error	• Set the decryption password for the configuration files correctly.
D00001	• Format related error (software SW)	• Check for errors in the SoftwareDipSW.csv file.
D00010	• DipSW number not defined (software SW)	
D10001	• Format related error (Engine DipSW)	• Check for errors in the EngineDipSW.csv file.
D10010	• DipSW number not defined (Engine DipSW)	
F00000	• Firmware update error	• Check to see if the file on the server is correct.
F10107	• The file is not the firmware file	• Check to see if the file on the server is correct.

F10109		
N00100	• Network communication error	• Check the connection to the network cable and communications settings.
N00110		
T10001	• The C_UpdateList. data has not been properly downloaded • The C_UpdateList. data is corrupted	• Download the file again. • Check to see if the file on the server is correct.
T10010	• Descriptions in C_UpdateList.ini are not correct	• Set the descriptions in C_UpdateList.ini correctly.
T10020		

6. Distribution Server Function (Relay server)

6.1 Outline

- “Relay Server” is the function, which shares the firmware files (relay data) obtained from the network with the other MFP, and works as the program server of the firmware “Auto Update” function.

NOTE

- **This function is disabled when the Marketing Area of the service mode is set to US or Others5.**

6.2 Service environment

- The following conditions are necessary for using the relay server function.
- The main body is connected to such a network environment that the firmware can be downloaded on the network using the http protocol.
- The relay server function will not operate under the following conditions.
  - Main power switch is set to OFF.
  - Sub power auto OFF mode (power key is orange) or ErP auto power OFF mode (power key flashes orange) enabled
  - When [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode] is set to “ON”.

6.3 Firmware relay procedures by using “relay server function”

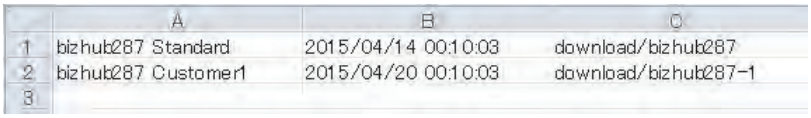
6.3.1 Preparations

- When using this function effectively, ask the administrator for permission beforehand.
- For using the Relay Server function, the network parameter, program server address as well as firewall address need to be set to the main body.
- Create a firmware file used to the "Internet ISW" and store it in the program server.
- Create one set of data used to the auto update function as the relay data, and store it in the program server. (Refer to J.5. Auto Update setting for more information.)
- Create a data update information file (S_UpdateList.csv) and store up to four folders (four types) of data set in the program server for managing the relay data saved on one relay server machine.

(1) Methods for creating the data update information file (S_UpdateList.csv)

- To create a CSV file by specifying the model name, data update date and time, and path for accessing the firmware folder used to the Auto Update function as shown below.
  The data with changed date and time will be downloaded.
  Specify up to four (four types) folders of relay data set.

A sample of S_UpdateList.csv

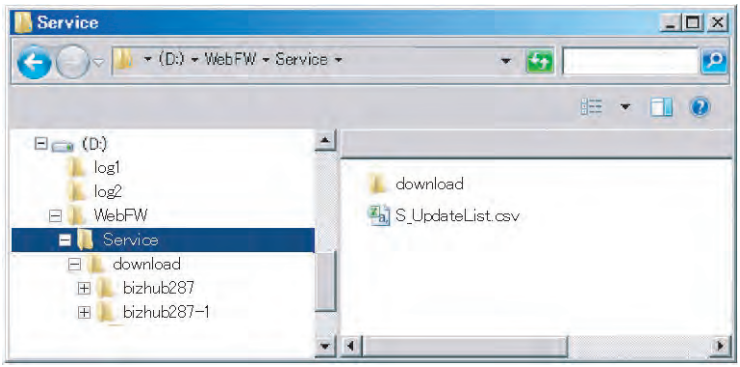


	A	B	C
1	bizhub287 Standard	2015/04/14 00:10:03	download/bizhub287
2	bizhub287 Customer1	2015/04/20 00:10:03	download/bizhub287-1
3			

A row	Model name (any character string)
B row	Data update date and time
C row	Path for accessing the firmware folder used to the Auto Update function

(2) Configuration of files and folders

- The folder configuration of the sample of S_UpdateList.csv in above (1) is as shown below.



6.3.2 Download and open the relay data automatically from the program server

1. Select [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Relay server setting].

2. Touch [Update File Download], then select [ON].
3. Select [Obtain Setting File].
4. Enter the information to access the program server on the setting screen.
   At this time, specify the folder on URL, in which S_UpdateList.csv is stored.
5. Set [Polling Interval].
6. Set [Repeat Interval].
7. Select [Distribution Server (HTTP)], then select [ON].
8. Set the information for accessing the distribution server.

NOTE

- **Do not use [SMB Authentication].**
- **The MFP confirms the data update information file in the program server with an interval set at [Polling Interval].**
- **The MFP compares the data update information file in the program server with that in the MFP, and starts downloading the relay data with a changed update date and time.**
- **The downloaded relay data is to be stored in a HDD.**

(1) Error code

- The error code can be displayed using [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Relay Server Log Confirmation], or viewed on the PC where the log which saves up to 100 records sent by using [Transmission Server Log] is received.

Error code	Cause of error	Countermeasure
N00107	• Cannot access the HTTp server	• Set the IP address of the server or the server name correctly. • Confirm that if the server runs normally.
N00401	• Authentication error	• Set the ID and the password correctly.
N00404	• Cannot obtain S_UpdateList.csv • Cannot find the data described in S_UpdateList.csv	• Confirm that if S_UpdateList.csv is stored in the server, and set the file path for accessing S_UpdateList.csv correctly. • Set the folder name and the file path correctly.

6.3.3 Download the firmware opened from the relay server by using the Auto Update function on the other MFP

- The following settings is to be configured on the MFPs other than the relay server, and the models corresponding to the relayed data.

1. Select [Service Mode] -> [Machine Update Setting] -> [Machine Auto Update setting] -> [Auto Update setting].
2. Select either [Server 1 settings] or [Server 2 settings] as the connection to configure.
3. Touch [Auto Update], then select [ON].
4. Select [Download Protocol], then select [HTTP] according to the settings of [Distribution Server] for the relay server.
5. Enter the information for accessing the relay server on the setting screen of the HTTP setting.
   At this time, specify the folder*1 in which C_UpdateList.ini is stored at where to be accessed.
6. Touch [OK].
7. Touch [Common Settings].
8. Set [Update Time].
9. Set [Polling Interval].
10. Set [Repeat Interval].

*1: The file path in which a file is stored shall be set as shown below.
[URL]: http://IP address or host name of MFP to become the relay server/DAV/Service/download/bizhub287 (in the case of sample 6.3.1 (1))
File paths are case sensitive, so enter the portion after "DAV/Service/" exactly is it appears in the C column in S_UpdateList.csv.
If activate the relay server function in Administrator settings, the file path will be changed as "/DAV/Admin/".

7. How to install the i-Option data

7.1 Available function for i-Option

i-Option	Functions	Data location	How to recover when replacing or formatting HDD
LK-102 v3	PDF processing	In the Standard firmware	I.5.16.20 Install Data
LK-104 v3	Voice guidance	In the Standard firmware	
LK-105 v4	Searchable PDF	In the Standard firmware	
LK-106	Barcode font	In the Standard firmware	n/a
LK-107	Unicode font	In the Standard firmware	J.7.2 LK-107/LK-108 font data installation procedure
LK-108	OCR font	In the Standard firmware	
LK-110 v2	High functional Image Processing	In the Standard firmware	I.5.16.20 Install Data
LK-111	Enhancing external linkage (supported by ThinPrint)	In the Standard firmware	n/a
LK-114	Ubiquitous Printing	In the Standard firmware	
LK-115 v2	TPM (Trusted Platform Module)	In the Standard firmware	

7.2 LK-107/LK-108 font data installation procedure

1. Prepare an USB memory.
2. Copy the font data to the root directory of the USB memory.
   - OCR font: download_OCRA-0.pdf
   - Unicode font: download_Andale_J-0.pdf, download_Andale_K-0.pdf, download_Andale_S-0.pdf, download_Andale_T-0.pdf
3. Turn ON the main power switch, and connect the USB memory to the USB port on the side of the control panel.
4. The message “Print a document from External Memory” will be displayed on the control panel, and select it.
5. The font data in the USB memory will be displayed, and select these data to print out.
6. The message “Document Printing Failed” will be displayed, and touch [OK].
7. Print out a PCL font list, and confirm that the font data are registered as following names.
   - LK-107: Andale Mono WT J, Andale Mono WT K, Andale Mono WT S, Andale Mono WT T
   - LK-108: OCR-A

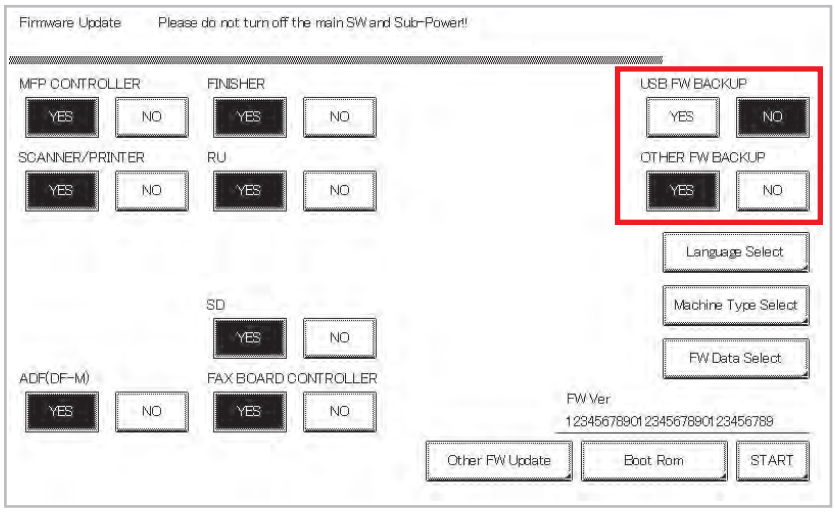
8. Creating back up files when updating firmware

NOTE

- **A hard disk must be installed to use this function.**
- You can create a backup of the firmware before updating the firmware.
- This enables you to restore the backed up firmware (rollback) if an error occurs when updating the firmware.
- You can create up to two firmware backups.
- To roll back the firmware, select [Service Mode] -> [Machine Update Settings] -> [Firmware Rollback].

8.1 Procedure

1. The firmware update selection screen displays when updating the firmware.
2. Select the firmware data to back up at the select firmware update selection screen.
   - [USB FW BACKUP]: Creates a backup when updating the firmware from a USB memory device.
   - [OTHER FW BACKUP]: Creates a backup when updating the firmware using the Internet ISW or Auto Update.



3. Update the firmware.

NOTE

- **The update process takes a few more minutes when creating a backup than when not creating a backup.**

K TROUBLESHOOTING

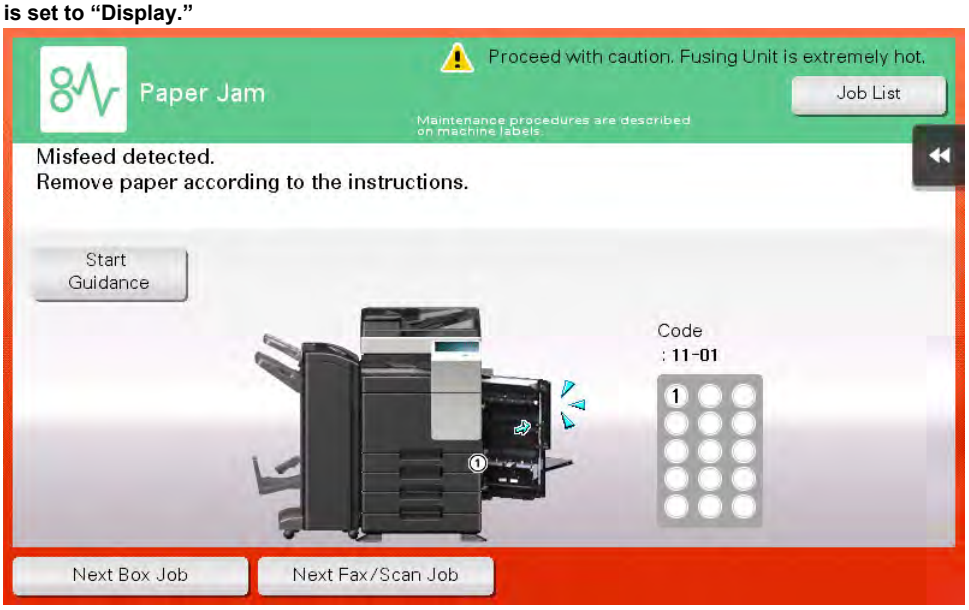
1. JAM CODE

(1) JAM DISPLAY

- When the paper jam occurred, the message, the position jam occurred (number blinks), position of the remaining paper (number lights up), and the JAM code are displayed.

NOTE

- **JAM code is displayed on the jam warning screen only when [Service Mode] -> [System 2] -> [JAM Code Display Setting] is set to "Display."**



(2) Misfeed display resetting procedure

1. Open the corresponding door, clear the sheet of paper misfed, and close the door.
2. Touch "OK" displayed on the touch panel.

1.1 List of the JAM code

JAM code	JAM type
10-01	Misfeed at manual bypass feed section
10-02	
10-40	
11-01	Misfeed at tray 1 feed section
11-02	
11-40	
12-01	Misfeed at tray 2 feed section
12-40	
13-01	Misfeed at tray 3 feed section <When PC-113 or PC-213 is installed>
13-40	
14-01	Misfeed at tray 4 feed section <When PC-213 is installed>
14-40	
16-01	Misfeed at LCT feed/vertical transport section <When PC-413 is installed>
16-40	
20-01	Misfeed at vertical transport section
20-02	
20-21	Misfeed at vertical transport section <When PC-113 or PC-213 is installed>
20-22	Misfeed at vertical transport section <When PC-213 is installed>
30-03	Misfeed at transfer section
32-01	Misfeed at exit section
32-05	
66-01	Misfeed at DF turnover section <When DF-628 is installed>
66-11	
66-21	
66-02	Misfeed at DF paper feed section <When DF-628 is installed>
66-12	
66-03	Misfeed at DF transport section <When DF-628 is installed>

JAM code	JAM type
66-13	
66-23	
66-33	
66-04	Misfeed at DF paper exit section <When DF-628 is installed>
66-14	
66-24	
66-34	
66-05	Misfeed at DF image reading section <When DF-628 is installed>
66-06	
66-15	
66-07	Misfeed at DF paper feed/transport/image reading/turnover/paper exit section <When DF-628 is installed>
72-14	Misfeed at FS transport section <When FS-534 or FS-534SD is installed>
72-15	Misfeed at FS transport section <When FS-534 or FS-534SD is installed>
72-16	Misfeed at FS transport section <When FS-534, FS-534SD, FS-533 or FS-533+PK-519 is installed>
72-17	Misfeed at FS transport section <When FS-534, FS-534SD or FS-533 is installed>
72-18	Misfeed at FS transport section <When FS-534 or FS-534SD is installed>
72-19	Misfeed at FS transport section <When FS-534 or FS-534SD is installed>
72-21	Misfeed at FS transport section <When FS-534, FS-534SD or FS-533 is installed>
72-22	Misfeed at FS transport section <When FS-534 or FS-534SD is installed>
72-23	Misfeed at FS transport section <When FS-534 or FS-534SD is installed>
72-25	Misfeed at SD paper exit section <When FS-534SD is installed>
72-26	Misfeed at SD paper exit section <When FS-534SD is installed>
72-43	Misfeed at PK JAM <When FS-534+PK-520, FS-534SD+PK-520 or FS-533+PK-519 is installed>
72-70	Misfeed at PK JAM <When FS-533+PK-519 is installed>
72-81	Misfeed at FS staple section <When FS-533 is installed>
72-85	Misfeed at SD transport section <When FS-534SD is installed>
72-86	Misfeed at SD transport section <When FS-534SD is installed>
72-87	Misfeed at SD transport section <When FS-534SD is installed>
75-42	Misfeed at RU section <When FS-534 or FS-534SD is installed>
75-43	Misfeed at RU section <When FS-534 or FS-534SD is installed>
92-01	Misfeed at duplex pre-registration section
92-02	
92-40	
93-10	Misfeed at duplex transport section
99-01	Controller JAM (paper size error)
99-02	Controller JAM (controller forced stop command)
99-03	Controller JAM (image processing)
99-04	Controller JAM (finisher pre-drive is not completed)
99-05	Controller JAM (main body not starting a job)
99-06	Controller JAM (finisher internal processing error)
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)

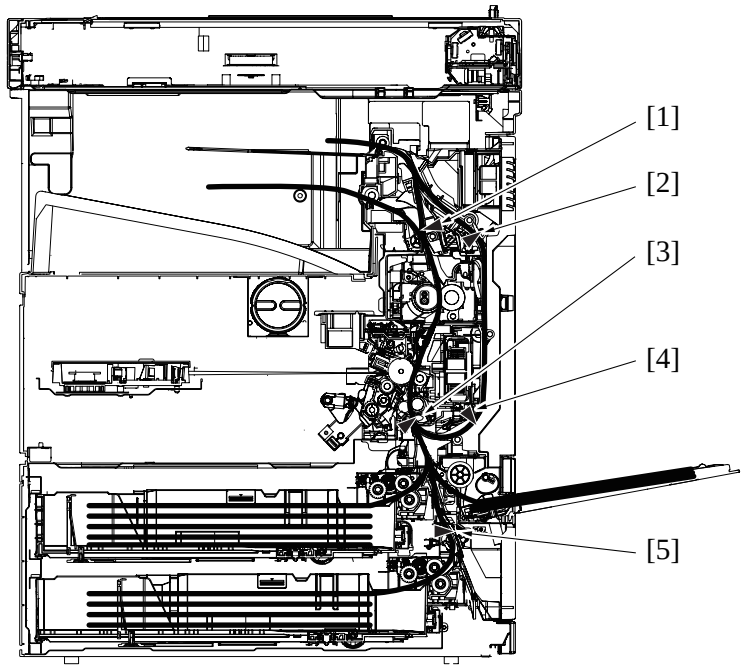
1.2 JAM that do not display the JAM code

JAM type	JAM detection timing	Ref. page
Misfeed at tray 2 feed section	Paper jam of a sheet of paper left at the tray 2 feed section results, if the tray 2 vertical transport sensor (PS19) 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.	K.1.5.3 12-01, 12-40
	Paper jam of a sheet of paper left at the tray 2 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 feed section	Paper jam of a sheet of paper left at the tray 3 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.	K.1.5.4 13-01, 13-40

JAM type	JAM detection timing	Ref. page
	Paper jam of a sheet of paper left at the tray 3 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 feed section	Paper jam of a sheet of paper left at the tray 4 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.	K.1.5.5 14-01, 14-40
	Paper jam of a sheet of paper left at the tray 4 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 LCT feed/ vertical transport section	Paper jam of a sheet of paper left at the 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.	K.1.5.6 16-01, 16-40
	Paper jam of a sheet of paper left at the 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 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.	K.1.6.2 20-21 K.1.6.3 20-22
Misfeed at transfer section	Paper jam of a sheet of paper left at the transfer section results, if the registration sensor (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.	K.1.7.1 30-03
	Paper jam of a sheet of paper left at the 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 exit section	Paper jam of a sheet of paper left at the exit section results, if the paper exit sensor (PS3) 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.	K.1.7.2 32-01, 32-05
	Paper jam of a sheet of paper left at the 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 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.	K.1.10.1 92-01, 92-02, 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 (unblocked) when the main power switch is turned ON, a door is opened and closed, or a misfeed or malfunction is reset.	K.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.	

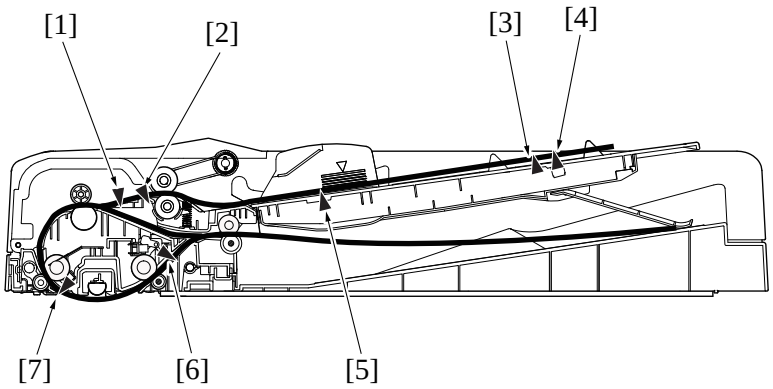
1.3 Sensor layout

1.3.1 bizhub 367/287/227



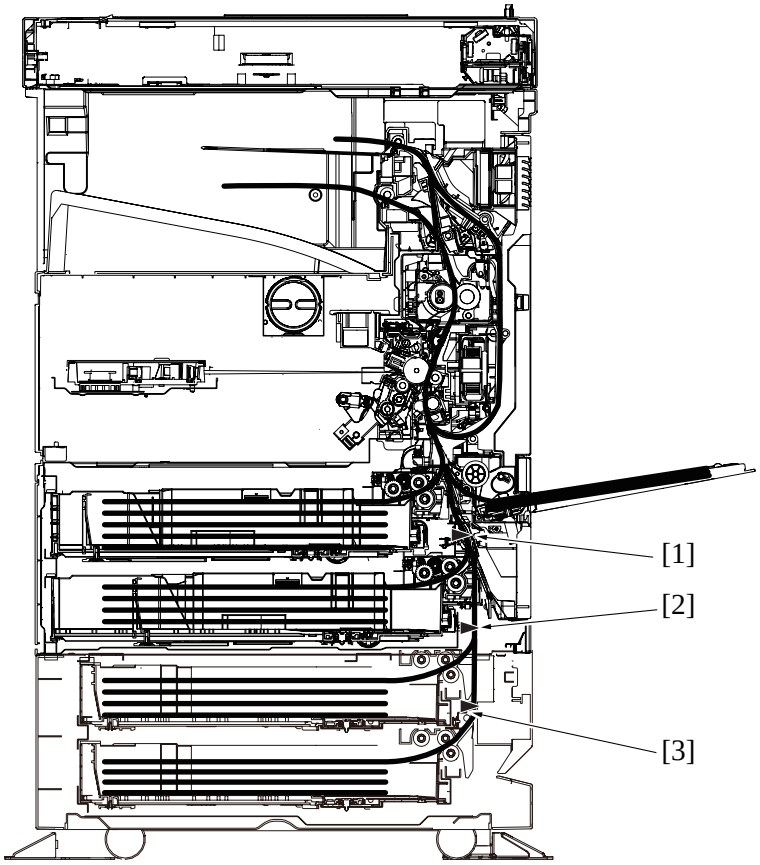
[1]	Paper exit sensor (PS3)	[2]	ADU paper passage sensor/1 (PS40)
[3]	Registration sensor (PS1)	[4]	ADU paper passage sensor/2 (PS41)
[5]	Tray 2 vertical transport sensor (PS19)	-	-

1.3.2 DF-628



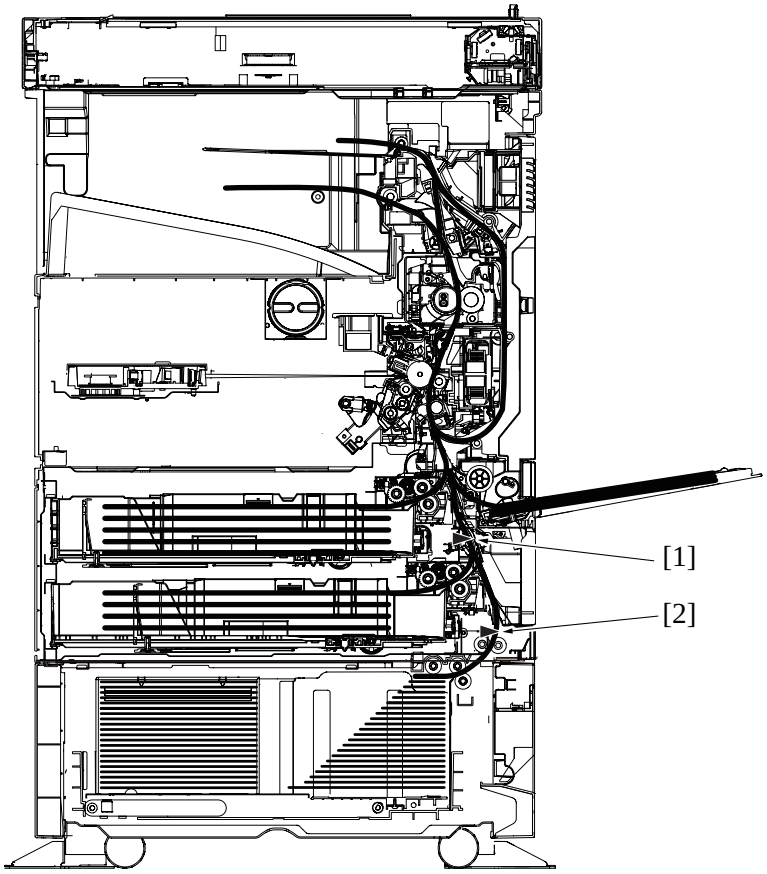
[1]	Registration sensor (PS3)	[2]	After separate sensor (PS2)
[3]	Original length size sensor/1 (PS6)	[4]	Original length size sensor/2 (PS7)
[5]	Original width sensor (VR1)	[6]	Original exit sensor (PS5)
[7]	Original reading sensor (PS4)	-	-

1.3.3 PC-113/PC-213



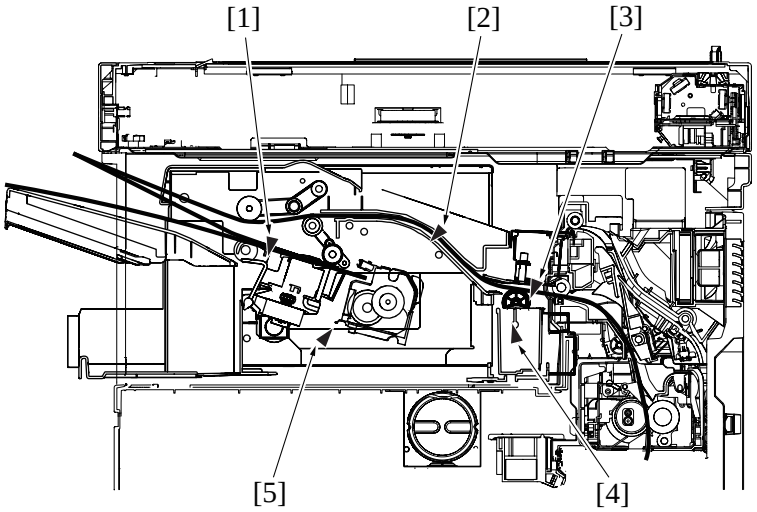
[1]	Tray 2 vertical transport sensor (PS19): Main body	[2]	Tray 3 vertical transport sensor (PS113)
[3]	Tray 4 vertical transport sensor (PS123)	-	-

1.3.4 PC-413



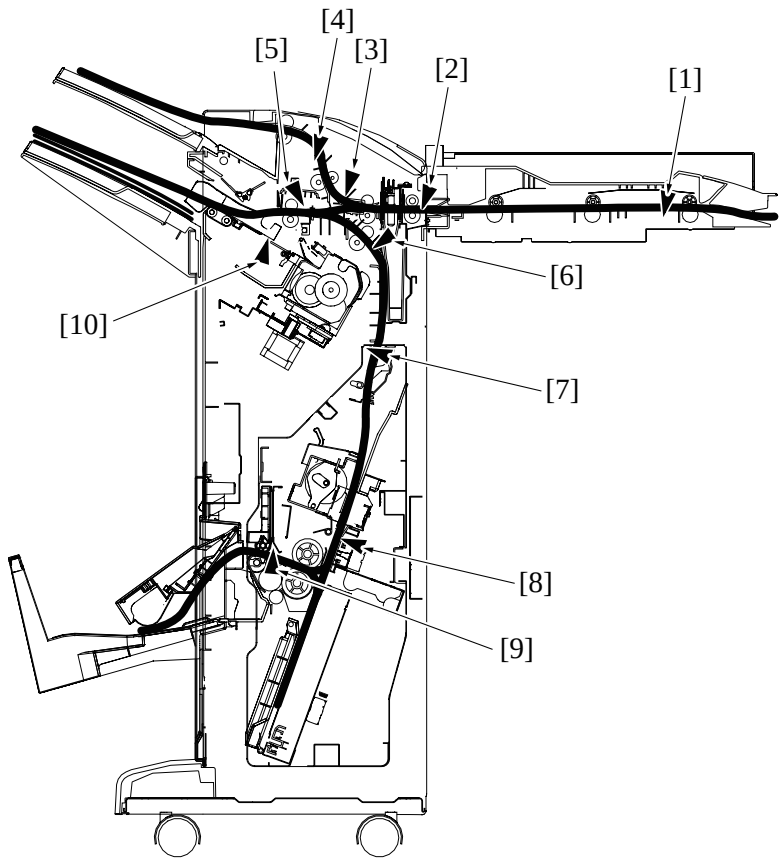
[1]	Tray 2 vertical transport sensor (PS19): Main body	[2]	Vertical transport sensor (PS133)

1.3.5 FS-533/PK-519



[1]	Paper surface detect sensor/1 (PS102)	[2]	Paper feed sensor (PS101)
[3]	Paper feed sensor (PS201)	[4]	Punch motor sensor (PS202)
[5]	Stapler home sensor (PS110)	-	-

1.3.6 FS-534/PK-520/SD-511



[1]	RU entrance sensor (PS2)	[2]	FNS entrance sensor (PS4)
[3]	Punch position sensor (PS2)	[4]	Sub tray exit sensor (PS8)
[5]	Saddle exit sensor (PS5)	[6]	Staple stacker paper detection sensor (PS31)
[7]	SD entrance sensor (PS1)	[8]	Center staple/fold stacker paper detect sensor (PS3)
[9]	Fold exit sensor (PS12)	[10]	Main tray exit sensor (PS16)

1.4 Initial check items

- When a paper jam 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/rollers dirty, deformed, or worn?	Clean the defective roll/roller. Replace the defective roll/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.
Are the actuators operating correctly?	Correct the defective actuator. Replace the defective actuator.

1.5 1#-##

1.5.1 10-01, 10-02, 10-40

(1) Contents

JAM type	Misfeed at manual bypass feed section	
JAM code	10-01, 10-02, 10-40	
JAM detection timing	10-01	The leading edge of the paper is not turned ON (unblocked) the registration sensor (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.
	10-40	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) • Registration clutch (CL4) • Bypass paper feed clutch (CL7) • Registration sensor (PS1) • MFP board (MFPB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS1 I/O check, sensor check	MFPB CN14E-3 (ON)	28-C
3	CL4 operation check	MFPB CN14E-5 (ON)	28-C
4	CL7 operation check	MFPB CN9E-11 (ON)	4-J
5	M1 operation check	MFPB CN19E-3 to 7	26-C
6	MFPB F5E conduction check	-	-
7	Replace MFPB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)

1.5.2 11-01, 11-02, 11-40

(1) Contents

JAM type	Misfeed at tray 1 feed section	
JAM code	11-01, 11-02, 11-40	
JAM detection timing	11-01	The leading edge of the paper is not turned ON (unblocked) the registration sensor (PS1) even after the lapse of a given period of time after the tray 1 starts to feed paper.
	11-02	For paper fed from the tray 1, due to a delay in paper arrival, loop forming in front of the registration roller is not complete before the rise timing of the transport motor (M1).
	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.
Misfeed processing location	• Right door • Tray 1	
Relevant parts	• Transport motor (M1) • Tray 1 paper feed clutch (CL3) • Registration clutch (CL4) • Registration sensor (PS1) • MFP board (MFPB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS1 I/O check, sensor check	MFPB CN14E-3 (ON)	28-C
3	CL3 operation check	MFPB CN10E-2 (ON)	3-C
4	CL4 operation check	MFPB CN14E-5 (ON)	28-C
5	M1 operation check	MFPB CN19E-3 to 7	26-C
6	MFPB F6E conduction check	-	-
7	Replace MFPB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)

1.5.3 12-01, 12-40

(1) Contents

JAM type	Misfeed at tray 2 feed section	
JAM code	12-01, 12-40	
JAM detection timing	12-01	The leading edge of the paper is not turned ON (unblocked) the tray 2 vertical transport sensor (PS19) 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 feed section results, if the tray 2 vertical transport sensor (PS19) 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 tray 2 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	• Transport motor (M1) • Tray 2 paper feed clutch (CL1) • Tray 2 vertical transport clutch (CL2) • Tray 2 vertical transport sensor (PS19) • MFP board (MFPB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS19 I/O check, sensor check	MFPB CN11E-7 (ON)	6-C
3	CL1 operation check	MFPB CN11E-4 (ON)	6-C
4	CL2 operation check	MFPB CN11E-2 (ON)	5-C
5	M1 operation check	MFPB CN19E-3 to 7	26-C
6	MFPB F6E conduction check	-	-
7	Replace MFPB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)

1.5.4 13-01, 13-40

(1) Contents

JAM type	Misfeed at tray 3 feed section	
JAM code	13-01, 13-40	
JAM detection timing	13-01	The leading edge of the paper is not turned ON the tray 3 vertical transport sensor (PS113) 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 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 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 vertical transport sensor (PS113) • PC control board (PCCB)	

(2) 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-113/PC-213 5-C
3	M111 operation check	PCCB CN5-1 to 8	PC-113/PC-213 4-C
4	M112 operation check	PCCB CN5-9 to 16	PC-113/PC-213 3 to 4-C
5	Replace PCCB.	-	-

- Link to the wiring diagram (N.2.2 PC-113)
- Link to the wiring diagram (N.2.3 PC-213)

1.5.5 14-01, 14-40

(1) Contents

JAM type	Misfeed at tray 4 feed section	
JAM code	14-01, 14-40	
JAM detection timing	14-01	The leading edge of the paper is not turned ON the tray 4 vertical transport sensor (PS123) 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 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 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 vertical transport sensor (PS123) • PC control board (PCCB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS123 I/O check, sensor check	PCCB CN18-5 (ON)	PC-213 7-K
3	M121 operation check	PCCB CN9-1 to 8	PC-213 6-K
4	M122 operation check	PCCB CN9-9 to 16	PC-213 6-K
5	Replace PCCB.	-	-

- Link to the wiring diagram (N.2.3 PC-213)

1.5.6 16-01, 16-40

(1) Contents

JAM type	Misfeed at LCT feed/vertical transport section	
JAM code	16-01, 16-40	
JAM detection timing	16-01	The leading edge of the paper is not turned ON the vertical transport sensor (PS133) even after the lapse of a given period of time after the LCT starts to feed paper.
	16-40	For paper fed from the 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 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 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) • Vertical transport sensor (PS133) • PC control board (PCCB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS133 I/O check, sensor check	PCCB CN4-14 (ON)	PC-413 7-J
3	M131 operation check	PCCB CN5-1 to 8	PC-413 5-J
4	M132 operation check	PCCB CN5-9 to 16	PC-413 4-J
5	Replace PCCB.	-	-

- Link to the wiring diagram (N.2.4 PC-413)

1.6 2#-##

1.6.1 20-01, 20-02

(1) Contents

JAM type	Misfeed at vertical transport section	
JAM code	20-01, 20-02	
JAM detection timing	20-01	The registration sensor (PS1) is not turned ON (unblocked) even after the lapse of a given period of time after the paper has turned ON (unblocked) 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.
Misfeed processing location	Right door	

Relevant parts	• Transport motor (M1) • Tray 2 vertical transport clutch (CL2) • Registration clutch (CL4) • Registration sensor (PS1) • Tray 2 vertical transport sensor (PS19) • MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS1 I/O check, sensor check	MFPB CN14E-3 (ON)	28-C
3	PS19 I/O check, sensor check	MFPB CN11E-7 (ON)	6-C
4	CL2 operation check	MFPB CN11E-2 (ON)	5-C
5	CL4 operation check	MFPB CN14E-5 (ON)	28-C
6	M1 operation check	MFPB CN19E-3 to 7	26-C
7	MFPB F6E conduction check	-	-
8	Replace MFPB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)

1.6.2 20-21

(1) Contents

JAM type	Misfeed at vertical transport section (tray 3)		
JAM code	20-21		
JAM detection timing	20-21	<When PC-113 or PC-213 is installed>	The tray 2 vertical transport sensor (PS19) is not turned ON (unblocked) even after the lapse of a given period of time after the tray 3 vertical transport sensor (PS113) is turned ON by a paper.
		<When PC-413 is installed>	The tray 2 vertical transport sensor (PS19) is not turned ON (unblocked) even after the lapse of a given period of time after the vertical transport sensor (PS133) is turned ON by a paper.
	-	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	<When PC-113 or PC-213 is installed>	• Transport motor (M1) • Tray 3 vertical transport motor (M112) • Tray 2 vertical transport clutch (CL2) • Tray 2 vertical transport sensor (PS19) • Tray 3 vertical transport sensor (PS113) • MFP board (MFPB) • PC control board (PCCB)	
	<When PC-413 is installed>	• Transport motor (M1) • Vertical transport motor (M132) • Tray 2 vertical transport clutch (CL2) • Tray 2 vertical transport sensor (PS19) • Vertical transport sensor (PS133) • MFP board (MFPB) • PC control board (PCCB)	

(2) Procedure

When PC-113 or PC-213 is installed

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS113 I/O check, sensor check	PCCB CN4-14 (ON)	PC-113/PC-213 5-C
3	PS19 I/O check, sensor check	MFPB CN11E-7 (ON)	6-C
4	CL2 operation check	MFPB CN11E-2 (ON)	5-C
5	M112 operation check	PCCB CN5-9 to 16	PC-113/PC-213 3 to 4-C
6	M1 operation check	MFPB CN19E-3 to 7	26-C
7	Replace MFPB.	-	-
8	Replace PCCB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)
- Link to the wiring diagram (N.2.2 PC-113)
- Link to the wiring diagram (N.2.3 PC-213)

When PC-413 is installed

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS133 I/O check, sensor check	PCCB CN4-14 (ON)	PC-413 7-J
3	PS19 I/O check, sensor check	MFPB CN11E-7 (ON)	6-C
4	CL2 operation check	MFPB CN11E-2 (ON)	5-C
5	M132 operation check	PCCB CN5-9 to 16	PC-413 4-J
6	M1 operation check	MFPB CN19E-3 to 7	26-C
7	Replace MFPB.	-	-
8	Replace PCCB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)
- Link to the wiring diagram (N.2.4 PC-413)

1.6.3 20-22

(1) Contents

JAM type	Misfeed at vertical transport section (tray 4)	
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 tray 4 vertical transport sensor (PS123) has been blocked by a paper.
	-	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)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS123 I/O check, sensor check	PCCB CN18-5 (ON)	PC-213 7-K
3	PS113 I/O check, sensor check	PCCB CN4-14 (ON)	PC-213 5-C
4	M122 operation check	PCCB CN9-9 to 16	PC-213 6-K
5	M112 operation check	PCCB CN5-9 to 16	PC-213 3 to 4-C
6	Replace PCCB.	-	-

- Link to the wiring diagram (N.2.3 PC-213)

1.7 3#-##

1.7.1 30-03

(1) Contents

JAM type	Misfeed at transfer section	
JAM code	30-03	
JAM detection timing	30-03	The leading edge of paper is not turned ON (unblocked) the paper exit sensor (PS3) even after the lapse of a given period of time after the paper feeding is started.
	-	Paper jam of a sheet of paper left at the transfer section results, if the registration sensor (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 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) • Registration clutch (CL4) • Registration sensor (PS1) • Paper exit sensor (PS3) • MFP board (MFPB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS1 I/O check, sensor check	MFPB CN14E-3 (ON)	28-C
3	PS3 I/O check, sensor check	MFPB CN25E-7 (ON)	18-C
4	CL4 operation check	MFPB CN14E-5 (ON)	28-C
5	M1 operation check	MFPB CN19E-3 to 7	26-C
6	MFPB F7E, F12E conduction check	-	-
7	Replace MFPB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)

1.7.2 32-01, 32-05

(1) Contents

JAM type	Misfeed at exit section	
JAM code	32-01, 32-05	
JAM detection timing	32-01	The ADU paper passage sensor/1 (PS40) is not turned ON (unblocked) 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 (unblocked) even after the lapse of a given period of time after the paper has turned ON (blocked) PS3.
	-	Paper jam of a sheet of paper left at the exit section results, if the paper exit sensor (PS3) 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 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	• Transport motor (M1) • Reverse motor (M4) • ADU transport motor (M5) • Paper exit sensor (PS3) • ADU paper passage sensor/1 (PS40) • MFP board (MFPB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS3 I/O check, sensor check	MFPB CN25E-7 (ON)	18-C
3	PS40 I/O check, sensor check	MFPB CN25E-10 (ON)	18-C
4	M1 operation check	MFPB CN19E-3 to 7	26-C
5	M4 operation check	MFPB CN21E-1 to 4	21 to 22-C
6	M5 operation check	MFPB CN25E-1 to 4	17 to 18-C
7	MFPB F14E conduction check	-	-
8	Replace MFPB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)

1.8 6#-##

1.8.1 66-01, 66-11, 66-21

(1) Contents

JAM type	Misfeed at DF turnover section	
JAM code	66-01, 66-11, 66-21	
JAM detection timing	66-01	The original registration sensor (PS3) is not turned ON (unblocked) after the lapse of a given time after the switchback registration operation started.
	66-11	The original registration (PS3) is not turned OFF (blocked) after the lapse of a given time after PS3 is turned ON (unblocked) after the switchback registration operation started.
	66-21	The original reading sensor (PS4) is not turned ON after the lapse of a given time after the original registration sensor (PS3) is turned ON (unblocked) after the switchback registration operation started.
Misfeed processing location	• Left cover • Re-feeding opening	
Relevant parts	• Original reading motor (M1) • Registration motor (M3) • Original registration sensor (PS3) • Original reading sensor (PS4)	

	• Original exit roller release solenoid (SD1) • DF control board (DFCB)

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS4 I/O check, sensor check	DFCB J10-3 (ON)	DF-628 2-G
3	PS3 I/O check, sensor check	DFCB J14-12 (ON)	DF-628 5-G
4	M1 operation check	DFCB J7-1 to 4	DF-628 2-B
5	M3 operation check	DFCB J6-1 to 4	DF-628 3-B
6	SD1 operation check	DFCB J24-1 (ON)	DF-628 4-B
7	DFCB F6 conduction check	-	-
8	Replace DFCB.	-	-

- Link to the wiring diagram (N.2.1 DF-628)

1.8.2 66-02, 66-12

(1) Contents

JAM type	Misfeed at DF paper feed section	
JAM code	66-02, 66-12	
JAM detection timing	66-02	The after separate sensor (PS2) is not turned ON (blocked) after a lapse of a given time after the original feed motor (M2) is turned ON.
	66-12	The size of the original on the tray detected by DF does not match the size of the original detected by the main body.
Misfeed processing location	Left cover	
Relevant parts	• Original feed motor (M2) • After separate sensor (PS2) • Original length size sensor/1 (PS6) • Original length size sensor/2 (PS7) • Original width size sensor (VR1) • DF control board (DFCB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS2 I/O check, sensor check	DFCB J14-8 (ON)	DF-628 6-G
3	PS6 I/O check, sensor check	DFCB J12-6 (ON)	DF-628 4-G
4	PS7 I/O check, sensor check	DFCB J12-5 (ON)	DF-628 4-G
5	VR1 I/O check, sensor check	DFCB J12-8 (ON)	DF-628 4-G
6	M2 operation check	DFCB J5-1 to 4	DF-628 2-B
7	DFCB F3 conduction check	-	-
8	Replace DFCB.	-	-

- Link to the wiring diagram (N.2.1 DF-628)

1.8.3 66-03, 66-13, 66-23, 66-33

(1) 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 (PS2) is not turned OFF (unblocked) after a lapse of a given time after PS2 is turned ON (blocked).
	66-13	The original registration sensor (PS3) is not turned ON (unblocked) after a lapse of a given time after the after separate sensor (PS2) is turned ON (blocked).
	66-23	The original registration sensor (PS3) is not turned OFF (blocked) after a lapse of given time after PS3 is turned ON (unblocked).
	66-33	The original reading sensor (PS4) is not turned ON after a lapse of a given time after the original registration sensor (PS3) is turned ON (unblocked).
Misfeed processing location	Left cover	
Relevant parts	• Original reading motor (M1) • Original feed motor (M2) • Registration motor (M3) • After separate sensor (PS2) • Original registration sensor (PS3)	

	• Original reading sensor (PS4) • DF control board (DFCB)

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS2 I/O check, sensor check	DFCB J14-8 (ON)	DF-628 6-G
3	PS3 I/O check, sensor check	DFCB J14-12 (ON)	DF-628 5-G
4	PS4 I/O check, sensor check	DFCB J10-3 (ON)	DF-628 2-G
5	M1 operation check	DFCB J7-1 to 4	DF-628 2-B
6	M2 operation check	DFCB J5-1 to 4	DF-628 2-B
7	M3 operation check	DFCB J6-1 to 4	DF-628 3-B
8	DFCB F4, F5 conduction check	-	-
9	Replace DFCB	-	-

- Link to the wiring diagram (N.2.1 DF-628)

1.8.4 66-04, 66-14, 66-24, 66-34

(1) Contents

JAM type	Misfeed at DF paper exit section	
JAM code	66-04, 66-14, 66-24, 66-34	
JAM detection timing	66-04	The original exit sensor (PS5) is not turned ON (blocked) after a lapse of a given time after the original reading sensor (PS4) is turned ON.
	66-14	The original exit sensor (PS5) is not turned OFF (unblocked) after a lapse of a given time after the original reading sensor (PS4) is turned OFF.
	66-24	The original exit sensor (PS5) is not turned ON (blocked) after the laps of give time after the original reading sensor (PS4) turned ON after the switchback exit operation started.
	66-34	The original exit sensor (PS5) is not turned OFF (unblocked) after the laps of give time after the original reading sensor (PS4) turned OFF after the switchback exit operation started.
Misfeed processing location	• Left cover • Opening and closing guide	
Relevant parts	• Original reading motor (M1) • Original reading sensor (PS4) • Original exit sensor (PS5) • DF control board (DFCB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS4 I/O check, sensor check	DFCB J10-3 (ON)	DF-628 2-G
3	PS5 I/O check, sensor check	DFCB J15-6 (ON)	DF-628 3-G
4	M1 operation check	DFCB J7-1 to 4	DF-628 2-B
5	Replace DFCB.	-	-

- Link to the wiring diagram (N.2.1 DF-628)

1.8.5 66-05, 66-06, 66-15

(1) Contents

JAM type	Misfeed at DF image reading section	
JAM code	66-05, 66-06, 66-15	
JAM detection timing	66-05	The original reading sensor (PS4) is not turned OFF after a lapse of a given time after the original registration sensor (PS3) is turned OFF (blocked).
	66-06	The original reading sensor (PS4) is turned ON earlier than a given time after PS4 is turned OFF during original transportation.
	66-15	The original reading sensor (PS4) is not turned OFF after the laps of given time after the original registration sensor (PS3) is turned OFF (blocked) after the switchback read operation started.
Misfeed processing location	Left cover	
Relevant parts	• Original reading motor (M1) • Reading roll release motor (M5) • Original registration sensor (PS3) • Original reading sensor (PS4) • DF control board (DFCB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Make the adjustment of original stop position.	-	-
3	PS3 I/O check, sensor check	DFCB J14-12 (ON)	DF-628 5-G
4	PS4 I/O check, sensor check	DFCB J10-3 (ON)	DF-628 2-G
5	M1 operation check	DFCB J7-1 to 4	DF-628 2-B
6	M5 operation check	DFCB J18-4 to 5	DF-628 2-G
7	Replace DFCB.	-	-

- Link to the wiring diagram (N.2.1 DF-628)

1.8.6 66-07

(1) 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	• Original registration sensor (PS3) • Original reading sensor (PS4) • Original exit sensor (PS5) • DF control board (DFCB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Make the adjustment of original stop position.	-	-
3	PS3 I/O check, sensor check	DFCB J14-12 (ON)	DF-628 5-G
4	PS4 I/O check, sensor check	DFCB J10-3 (ON)	DF-628 2-G
5	PS5 I/O check, sensor check	DFCB J15-6 (ON)	DF-628 3-G
6	DFCB F3, F4, F5, F6 conduction check	-	-
7	Replace DFCB.	-	-

- Link to the wiring diagram (N.2.1 DF-628)

1.9 7#-##

1.9.1 72-14

(1) Contents

JAM type	Misfeed at FS transport section		
JAM code	72-14		
JAM detection timing	72-14	<When FS-534 or FS-534SD is installed>	The staple stacker paper detection sensor (PS31) is not turned ON even after the set period of time has elapsed after the saddle exit sensor (PS5) is turned ON by the paper.
Misfeed processing location	Front door		
Relevant parts	• Saddle exit sensor (PS5) • Staple stacker paper detection sensor (PS31) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS5 I/O check, sensor check	FSCB J5-2 (ON)	FS-534 10-K
3	PS31 I/O check, sensor check	FSCB J12-11 (ON)	FS-534 6-C
4	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.6 FS-534)

1.9.2 72-15

(1) Contents

JAM type	Misfeed at FS transport section
JAM code	72-15

JAM detection timing	72-15	<When FS-534 or FS-534SD is installed>	The staple stacker paper detection sensor (PS31) is not turned OFF even after the set period of time has elapsed after it is turned ON.
Misfeed processing location	Front door		
Relevant parts	• Staple stacker paper detection sensor (PS31) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS31 I/O check, sensor check	FSCB J12-11 (ON)	FS-534 6-C
3	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.6 FS-534)

1.9.3 72-16

(1) Contents

JAM type	Misfeed at FS transport section		
JAM code	72-16		
JAM detection timing	72-16	<When FS-533 is installed>	The paper feed sensor (PS101) is not turned ON even after the set period of time has elapsed after the main body's paper exit sensor (PS3) is turned OFF (unblocked) by the paper.
		<When FS-533+PK-519 is installed>	The paper feed sensor (PS101) is not turned ON even after the set period of time has elapsed after the paper feed sensor (PS201) is turned ON by the paper.
		<When FS-534 or FS-534SD is installed>	The FNS entrance sensor (PS4) is not turned ON even after the set period of time has elapsed after the RU entrance sensor (PS2) is turned ON (blocked) by the paper.
Misfeed processing location	• Finisher paper feed section (When FS-533 is installed) • Horizontal transport cover (When FS-534 or FS-534SD is installed)		
Relevant parts	<When FS-533 is installed>		• Paper conveyance motor (M101) • Paper exit sensor (PS3) • Paper feed sensor (PS101) • FS control board (FSCB) • MFP board (MFPB)
	<When FS-533+PK-519 is installed>		• Paper conveyance motor (M101) • Paper feed sensor (PS101) • Paper feed sensor (PS201) • FS control board (FSCB) • MFP board (MFPB)
	<When FS-534 is installed>		• RU entrance sensor (PS2) • FNS entrance sensor (PS4) • FS control board (FSCB)

(2) Procedure

When FS-533 or FS-533+PK-519 is installed

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS3 I/O check, sensor check	MFPB CN25E-7 (ON)	18-C
3	PS101 I/O check, sensor check	FSCB CN111	FS-533 7-D to E
4	PS201 I/O check, sensor check	PKCB CN204	FS-533 (PK-519) 5-C
5	M101 operation check	FSCB CN101	FS-533 6-J
6	FSCB CP101 conduction check	-	-
7	Replace FSCB	-	-
8	Replace MFPB	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)
- Link to the wiring diagram (N.2.5 FS-533)

When FS-534 or FS-534SD is installed

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS2 I/O check, sensor check	FSCB J6-7 (ON)	FS-534 6-K
3	PS4 I/O check, sensor check	FSCB J7-13 (ON)	FS-534 8-K
4	Replace FSCB	-	-

- Link to the wiring diagram (N.2.6 FS-534)

1.9.4 72-17

(1) Contents

JAM type	Misfeed at FS transport section		
JAM code	72-17		
JAM detection timing	72-17	<When FS-533 is installed>	The paper feed sensor (PS101) is not turn OFF even after the set period of time has elapsed after it turns ON.
		<When FS-534 or FS-534SD is installed>	The FNS entrance sensor (PS4) is not turned OFF even after the set period of time has elapsed after it is turned ON by the paper.
Misfeed processing location	• Finisher paper feed section (When FS-533 is installed) • Front door (When FS-534 or FS-534SD is installed)		
Relevant parts	<When FS-533 is installed>		• Paper conveyance motor (M101) • Paper feed sensor (PS101) • FS control board (FSCB)
	<When FS-534 or FS-534SD is installed>		• FNS entrance sensor (PS4) • FS control board (FSCB)

(2) Procedure

When FS-533 is installed

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS101 I/O check, sensor check	FSCB CN111	FS-533 7-D to E
3	M101 operation check	FSCB CN101	FS-533 6-J
4	FSCB CP101 conduction check	-	-
5	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.5 FS-533)

When FS-534 or FS-534SD is installed

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS4 I/O check, sensor check	FSCB J7-13 (ON)	FS-534 8-K
3	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.6 FS-534)

1.9.5 72-18

(1) Contents

JAM type	Misfeed at FS transport section		
JAM code	72-18		
JAM detection timing	72-18	<When FS-534 or FS-534SD is installed>	• The saddle exit sensor (PS5) is not turned ON even after the set period of time has elapsed after the FNS entrance sensor (PS4) is turned ON by the paper. • While the buffer is controlled, the saddle exit sensor (PS5) is not tuned ON even after the set period of time has elapsed after the reverse rotation drive is started.
Misfeed processing location	Front door		
Relevant parts	• FNS entrance sensor (PS4) • Saddle exit sensor (PS5) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS4 I/O check, sensor check	FSCB J7-13 (ON)	FS-534 8-K
3	PS5 I/O check, sensor check	FSCB J5-2 (ON)	FS-534 10-K
4	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.6 FS-534)

1.9.6 72-19

(1) Contents

JAM type	Misfeed at FS transport section		
JAM code	72-19		
JAM detection timing	72-19	<When FS-534 or FS-534SD is installed>	The saddle exit sensor (PS5) is not turned OFF even after the set period of time has elapsed after it is turned ON.

Misfeed processing location	Front door
Relevant parts	• Saddle exit sensor (PS5) • FS control board (FSCB)

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS5 I/O check, sensor check	FSCB J5-2 (ON)	FS-534 10-K
3	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.6 FS-534)

1.9.7 72-21

(1) Contents

JAM type	Misfeed at FS transport section		
JAM code	72-21		
JAM detection timing	72-21	<When FS-533 is installed>	The paper surface detect sensor/1 (PS102) is not turned OFF (unblocked) after the paper exit.
		<When FS-534 or FS-534SD is installed>	The main tray exit sensor (PS16) is not turn OFF even after the set period of time has elapsed after the start of exiting paper.
Misfeed processing location	• Finisher paper exit section (When FS-533 is installed) • Front door (When FS-534 or FS-534SD is installed)		
Relevant parts	<When FS-533 is installed>		• Paper exit motor (M102) • Paper surface detect sensor/1 (PS102) • FS control board (FSCB)
	<When FS-534 or FS-534SD is installed>		• Main tray exit sensor (PS16) • FS control board (FSCB)

(2) Procedure

When FS-533 is installed

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS102 I/O check, sensor check	FSCB CN102	FS-533 6-J
3	M102 operation check	FSCB CN109	FS-533 8 to 9-D to E
4	FSCB CP102 conduction check	-	-
5	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.5 FS-533)

When FS-534 or FS-534SD is installed

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS16 I/O check, sensor check	FSCB J9<B>-2 (ON)	FS-534 9-C
3	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.6 FS-534)

1.9.8 72-22

(1) Contents

JAM type	Misfeed at FS transport section		
JAM code	72-22		
JAM detection timing	72-22	<When FS-534 or FS-534SD is installed>	The sub tray exit sensor (PS8) is not turned ON (blocked) even after the set period of time has elapsed after the paper reaches the paper transport acceleration point.
Misfeed processing location	Front door		
Relevant parts	• Sub tray exit sensor (PS8) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS8 I/O check, sensor check	FSCB J9<B>-6 (ON)	FS-534 9-C
3	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.6 FS-534)

1.9.9 72-23

(1) Contents

JAM type	Misfeed at FS transport section		
JAM code	72-23		
JAM detection timing	72-23	<When FS-534 or FS-534SD is installed>	The sub tray exit sensor (PS8) is not turned OFF (unblocked) even after the set period of time has elapsed after it is turned ON (blocked).
Misfeed processing location	Front door		
Relevant parts	• Sub tray exit sensor (PS8) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS8 I/O check, sensor check	FSCB J9<B>-6 (ON)	FS-534 9-C
3	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.6 FS-534)

1.9.10 72-25

(1) Contents

JAM type	Misfeed at SD paper exit section		
JAM code	72-25		
JAM detection timing	72-25	<When FS-534SD is installed>	The fold exit sensor (PS12) is not turned ON by the paper even after the set period of time has elapsed after the half-fold exit operation started.
Misfeed processing location	• Front door • Stacker unit		
Relevant parts	• Fold exit sensor (PS12) • SD drive board (SDDB) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS12 I/O check, sensor check	SDDB J9-2 (ON)	SD-511 5-G
3	Replace SDDB.	-	-
4	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.7 SD-511)

1.9.11 72-26

(1) Contents

JAM type	Misfeed at SD paper exit section		
JAM code	72-26		
JAM detection timing	72-26	<When FS-534SD is installed>	The fold exit sensor (PS12) is not turned OFF even after the set period of time has elapsed after it is turned ON by the paper.
Misfeed processing location	• Front door • Stacker unit		
Relevant parts	• Fold exit sensor (PS12) • SD drive board (SDDB) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS12 I/O check, sensor check	SDDB J9-2 (ON)	SD-511 5-G
3	Replace SDDB.	-	-
4	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.7 SD-511)

1.9.12 72-43

(1) Contents

JAM type	Misfeed at PK JAM		
JAM code	72-43		
JAM detection timing	72-43	<When FS-533+PK-519 is installed>	The punch motor sensor (PS202) does not detect rotation of the punch motor after the laps of given time after the punch motor (M201) started operating.
		<When FS-534+PK-520 or FS-534SD+PK-520 is installed>	The punch position sensor (PS2) is not turned OFF (unblocked) after a lapse of a given time after the punch drive motor (M1) starts rotating.
Misfeed processing location	• Finisher punch section (When FS-533+PK-519 is installed) • Front door (WhenFS-534+PK-520 or FS-534SD+PK-520 is installed)		
Relevant parts	<When FS-533+PK-519 is installed>		• Punch motor (M201) • Punch motor sensor (PS202) • PK control board (PKCB) • FS control board (FSCB)
	<When FS-534+PK-520 or FS-534SD +PK-520 is installed>		• Punch drive motor (M1) • Punch position sensor (PS2) • FS control board (FSCB)

(2) Procedure

When FS-533+PK-519 is installed

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS202 I/O check, sensor check	PKCB CN204	FS-533 (PK-519) 5-C
3	M201 operation check	PKCB CN203-1 to 2	FS-533 (PK-519) 4-C
4	Replace PKCB.	-	-
5	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.5 FS-533)

When FS-534+PK-520 or FS-534SD+PK-520 is installed

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS2 I/O check, sensor check	FSCB J7-2 (ON)	FS-534 (PK-520) 6-K
3	M1 operation check	FSCB J7-7 to 8	FS-534 (PK-520) 7-K
4	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.6 FS-534)

1.9.13 72-70

(1) Contents

JAM type	Misfeed at PK JAM		
JAM code	72-70		
JAM detection timing	72-70	<When FS-533+PK-519 is installed>	The paper feed sensor (PS201) is not turned OFF even after the set period of time has elapsed after it is turned ON.
Misfeed processing location	Finisher punch section		
Relevant parts	• Transport motor (M1) • Paper conveyance motor (M101) • Paper feed sensor (PS201) • FS control board (FSCB)		

(2) 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	M1 operation check	MFPB CN19E-3 to 7	26-C
4	M101 operation check	FSCB CN101	FS-533 6-J
5	Replace FSCB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)
- Link to the wiring diagram (N.2.5 FS-533)

1.9.14 72-81

(1) Contents

JAM type	Misfeed at FS staple section

JAM code	72-81		
JAM detection timing	72-81	<When FS-533 is installed>	The stapler home sensor (PS110) is not turned ON (blocked) after the stapler motor is energized.
Misfeed processing location	Finisher staple section		
Relevant parts	• Stapler home sensor (PS110) • Stapler unit • Stapler relay board (STREYB) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS110 I/O check, sensor check	FSCB CN110	FS-533 8-D to E
3	Replace the stapler unit.	-	-
4	Replace STREYB.	-	-
5	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.5 FS-533)

1.9.15 72-85

(1) Contents

JAM type	Misfeed at SD transport section		
JAM code	72-85		
JAM detection timing	72-85	<When FS-534SD is installed>	The SD entrance sensor (PS1) is not turned ON (blocked) even after the set period of time has elapsed after the staple stacker paper detection sensor (PS31) is turned ON by the paper.
Misfeed processing location	• Front door • Stacker unit		
Relevant parts	• SD entrance sensor (PS1) • Staple stacker paper detection sensor (PS31) • SD drive board (SDDB) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS31 I/O check, sensor check	FSCB J12-11 (ON)	FS-534 6-C
3	PS1 I/O check, sensor check	SDDB J4-8 (ON)	SD-511 4-B
4	Replace SDDB.	-	-
5	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.6 FS-534)
- Link to the wiring diagram (N.2.7 SD-511)

1.9.16 72-86

(1) Contents

JAM type	Misfeed at SD transport section		
JAM code	72-86		
JAM detection timing	72-86	<When FS-534SD is installed>	• The SD entrance sensor (PS1) is not turned OFF (unblocked) even after the set period of time has elapsed after it is turned ON (blocked). • When paper discharge control motor abnormality occurs during paper trailing edge control movement.
Misfeed processing location	Front door		
Relevant parts	• SD entrance sensor (PS1) • Paper discharge control motor (M2) • SD drive board (SDDB) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS1 I/O check, sensor check	SDDB J4-8 (ON)	SD-511 4-B

Step	Action	Control signal	Location of electrical component
3	M2 operation check	SDDB J5-4 to 7	SD-511 3-B
4	Replace SDDB.	-	-
5	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.7 SD-511)

1.9.17 72-87

(1) Contents

JAM type	Misfeed at SD transport section		
JAM code	72-87		
JAM detection timing	72-87	<When FS-534SD is installed>	The center staple/fold stacker paper detect sensor (PS3) is not turned ON even after the set period of time has elapsed after the SD entrance sensor (PS1) is turned ON (blocked) by the paper.
Misfeed processing location	• Front door • Stacker unit		
Relevant parts	• SD entrance sensor (PS1) • Center staple/fold stacker paper detect sensor (PS3) • SD drive board (SDDB) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS1 I/O check, sensor check	SDDB J4-8 (ON)	SD-511 4-B
3	PS3 I/O check, sensor check	SDDB J7-12 (ON)	SD-511 5-F
4	Replace SDDB.	-	-
5	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.7 SD-511)

1.9.18 75-42

(1) Contents

JAM type	Misfeed at RU section		
JAM code	75-42		
JAM detection timing	75-42	<When FS-534 or FS-534SD is installed>	The RU entrance sensor (PS2) is not turned ON (blocked) even after the set period of time has elapsed after the main body's paper exit sensor (PS3) is turned OFF (unblocked) by the paper.
Misfeed processing location	Horizontal transport cover		
Relevant parts	• Paper exit sensor (PS3) • RU entrance sensor (PS2) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS3 I/O check, sensor check	MFPB CN25E-7 (ON)	18-C
3	PS2 I/O check, sensor check	FSCB J6-7 (ON)	FS-534 6-K
4	Replace FSCB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)
- Link to the wiring diagram (N.2.6 FS-534)

1.9.19 75-43

(1) Contents

JAM type	Misfeed at RU section		
JAM code	75-43		
JAM detection timing	75-43	<When FS-534 or FS-534SD is installed>	The RU entrance sensor (PS2) is not turned OFF (unlocked) even after the set period of time has elapsed after it is turned ON (blocked).
Misfeed processing location	Horizontal transport cover		
Relevant parts	• RU entrance sensor (PS2) • FS control board (FSCB)		

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS2 I/O check, sensor check	FSCB J6-7 (ON)	FS-534 6-K
3	Replace FSCB.	-	-

- Link to the wiring diagram (N.2.6 FS-534)

1.10 9#-##

1.10.1 92-01, 92-02, 92-40

(1) Contents

JAM type	Misfeed at duplex pre-registration section	
JAM code	92-01, 92-02, 92-40	
JAM detection timing	92-01	The registration sensor (PS1) is not turned ON (unblocked) 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.
	92-40	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	• ADU transport motor (M5) • Registration sensor (PS1) • MFP board (MFPB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS1 I/O check, sensor check	MFPB CN14E-3 (ON)	28-C
3	M5 operation check	MFPB CN25E-1 to 4	17 to 18-C
4	Replace MFPB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)

1.10.2 93-10

(1) 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 (unblocked) even after the set period of time has elapsed after the ADU paper passage sensor/1 (PS40) is turned ON (unblocked) by the paper.
	-	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 (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 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 (M5) • ADU paper passage sensor/1 (PS40) • ADU paper passage sensor/2 (PS41) • MFP board (MFPB)	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	PS40 I/O check, sensor check	MFPB CN25E-10 (ON)	18-C
3	PS41 I/O check, sensor check	MFPB CN29E-3 (ON)	19-C

Step	Action	Control signal	Location of electrical component
4	M5 operation check	MFPB CN25E-1 to 4	17 to 18-C
5	MFPB F13E conduction check	-	-
6	Replace MFPB.	-	-

- Link to the wiring diagram (N.1. bizhub 367/287/227)

1.10.3 99-01

(1) Contents

JAM type	Controller JAM (paper size error)	
JAM code	99-01	
JAM detection timing	99-01	• As a result of a paper size error, 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, 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	-	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.10.4 99-02

(1) Contents

JAM type	Controller JAM (controller forced stop command)	
JAM code	99-02	
JAM detection timing	99-02	The controller detects a fault in print sequence.
Misfeed processing location	-	
Relevant parts	-	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.10.5 99-03

(1) 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	-	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.10.6 99-04

(1) Contents

JAM type	Controller JAM (finisher pre-drive is not completed)	
JAM code	99-04	
JAM detection timing	99-04	The finisher pre-drive is not completed even with a print start command received.
Misfeed processing location	-	

Relevant parts	-

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body. Or, open and close the front door of the finisher.	-	-

1.10.7 99-05

(1) Contents

JAM type	Controller JAM (main body not starting a job)	
JAM code	99-05	
JAM detection timing	99-05	Paper is not taken up and fed in even with a print start command received. The job is not started even with a print start command received.
Misfeed processing location	-	
Relevant parts	-	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body.	-	-

1.10.8 99-06

(1) Contents

JAM type	Controller JAM (finisher internal processing error)	
JAM code	99-06	
JAM detection timing	99-06	Finisher internal control processing is not completed even with the job completed.
Misfeed processing location	-	
Relevant parts	-	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the finisher.	-	-

1.10.9 99-07

(1) Contents

JAM type	Controller JAM (main body not completing a job)	
JAM code	99-07	
JAM detection timing	99-07	The main body does not complete its paper exit operation. Finisher does not complete its paper exit operation.
Misfeed processing location	-	
Relevant parts	-	

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body. Or, open and close the front door of the finisher.	-	-

1.10.10 99-08

(1) 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	-

(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body. Or, open and close the front door of the finisher.	-	-

1.10.11 99-09

(1) 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	-	

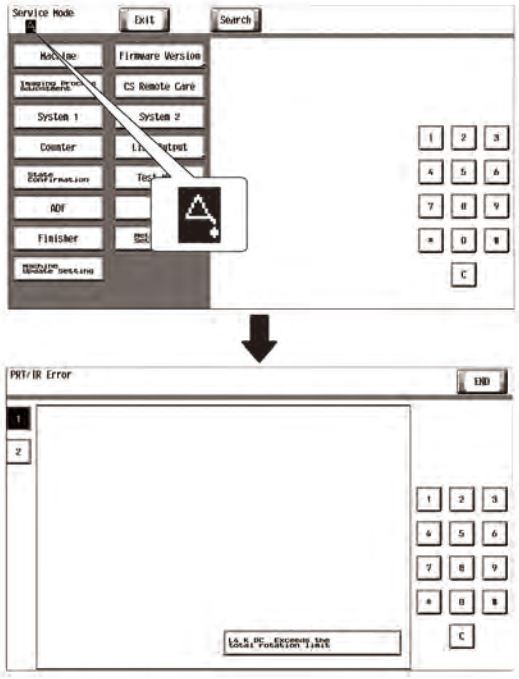
(2) Procedure

Step	Action	Control signal	Location of electrical component
1	Initial check items	-	-
2	Open and close the front door of the main body. Or, open and close the front door of the finisher.	-	-

2. MALFUNCTION CODE

2.1 Display procedure

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding warning code and maintenance call mark on the control panel.
- Touching the maintenance call mark will display the corresponding warning code on the state confirm screen.



2.2 List of the malfunction code

- If an image stabilization or scanner fault occurs, the corresponding warning code appears.

Code	Item
S-1	CCD gain adjustment failure
D-1	Split line detect (front side)
L-4	Drum unit/K accumulated rotation time excess warning
L-11	Fusing unit accumulated rotation time excess warning

2.3 S-1

2.3.1 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 • CCD board (CCDB) • MFP board (MFPB)

2.3.2 Procedure

1. Correct the harness connection between CCDB PJ1-MFPB CN7 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.
5. Replace the CCD unit.
6. Replace MFPB.

2.4 D-1

2.4.1 Contents

Malfunction type	Split line detect (front side) (When DF-628 is installed)
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 original reading glass when the DF is closed. This warning will be displayed if the original is set to DF when stain exist. • The thin line detection level and the warning display can be changed by [Service Mode] -> [System 2] -> [ADF Scan Glass Contamin. Set.].

Relevant parts	• Glass cleaning motor (M4) • Original reading glass cleaning sensor (PS12) • DF control board (DFCB)

2.4.2 Procedure

1. Wipe clean the glass surface of the original reading glass.
2. Check the glass cleaning roller unit for proper installation and correct if necessary.
   Clean the glass cleaning roller unit if dirty.
3. Select [Service Mode] -> [System 2] -> [ADF Scan Glass Contamin. Set.], and change the setting.
4. Check the DFCB connector for proper connection and correct as necessary.
5. M4 operation check.
6. Replace the glass cleaning roller unit.
7. Replace DFCB

2.5 L-4

Malfunction type	Drum unit/K accumulated rotation time excess warning
Malfunction code	L-4
Malfunction detection timing	• Photo conductor rotation time count value used for the life judgment of drum unit/K (the value for photo conductor rotation distance calculated into the rotation time) is above the threshold value for the excess warning. • Printing with this warning being displayed is not included in the image warranty.

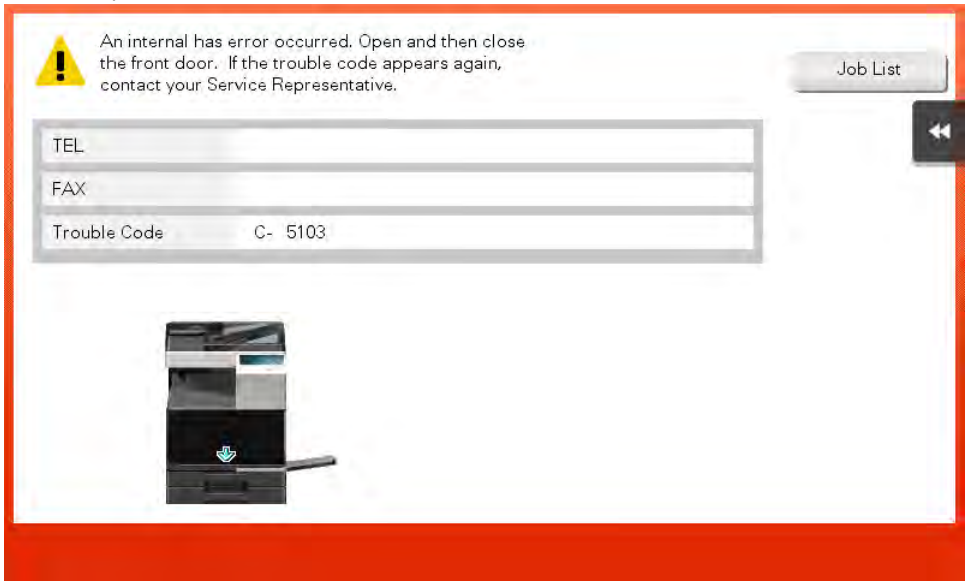
2.6 L-11

Malfunction type	Fusing unit accumulated rotation time excess warning
Malfunction code	L-11
Malfunction detection timing	• Count value for the transfer belt rotation time used for judging the fusing unit life is above the threshold value for excess warning. • Printing with this warning being displayed is not included in the image warranty.

3. TROUBLE CODE

3.1 Display procedure

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the control panel.



3.2 Trouble resetting procedure

- Different malfunction resetting procedures apply depending on the rank of the trouble code.

* List of malfunction resetting procedures

Trouble code rank	Resetting procedures
Rank A	Trouble reset: Refer to the Trouble resetting procedure by Trouble Reset key.
Rank B	Opening/closing the front door Trouble reset: When the [internal error. auto cancel] for rank B is set to "Yes", after the set period of time, trouble is automatically cleared.
Rank C	Turning main power switch OFF/ON Trouble reset: When the [internal error. auto cancel] for rank C is set to "Yes", after the set period of time, trouble is restarted and cleared.

3.2.1 Trouble resetting procedure by Trouble Reset key

(1) Use

- If the all troubles occur and the status would not be cleared by turning main power switch OFF and ON again, or opening and closing the front door, clear the status of the machine.
- To be used when the status would not be cleared by turning main power switch OFF and ON again, or opening and closing the front door in case of a trouble.

(2) Procedure

1. Turn OFF the main power switch.
2. Turn main power switch ON while pressing the Reset key.
3. Touch [Trouble Reset].
4. Check to make sure that [OK] is displayed and it has been reset.
5. After turning off the main power switch, turn it on again more than 10 seconds after and check if the machine starts correctly.

3.2.2 Trouble resetting procedure by the auto cancel function

(1) Use

- When rank B or C trouble occurs, main body automatically clears trouble and makes the main body ready for use.
  When the trouble auto cancel function is enabled, upon the occurrence of trouble to be automatically cleared, the trouble detection message is displayed on the screen and the trouble is automatically cleared. If the trouble remains after performing the auto cancel operation 3 times, the normal trouble code display screen appears.

(2) Procedure

1. Select [Yes] for the trouble rank to which the trouble auto cancel operation is applied in [Service Mode] -> [System 2] -> [▶] -> [Internal Error. Auto Cancel]. (The default setting for rank B and rank C are set to [Yes].)
2. Touch [OK], and turning main power switch OFF and ON again.

3.2.3 Trouble resetting procedure by remote operation

(1) Use

- Trouble can be cleared by remote operation using the applications or CS Remote Care system.
- The combinations of the applications to be used and the ranks of trouble to be cleared are shown below.

Trouble code rank / Application	Rank A	Rank B	Rank C
PageScope Web Connection	Cannot be cleared	Can be cleared	Can be cleared
OpenAPI (PageScope Enterprise Suite)	Cannot be cleared	Can be cleared	Can be cleared
CS Remote Care (Excluding communications by fax modem)	Can be cleared	Can be cleared	Can be cleared

(2) Procedure

(a) PageScope Web Connection

1. Access the PageScope Web Connection of the MFP where trouble occurs.
2. The screen for logging into Administrator Mode appears.
3. Check the following message appears; “An error has occurred. Do you want to clear the error?” Click [Trouble Reset].
4. Click [Trouble Reset] again in the confirmation screen.
5. Check that the MFP starts normally.

(b) OpenAPI (PageScope Enterprise Suite)

1. Access PageScope Enterprise Suite.
2. Select [Device List] -> [Device Management] -> [Device List] -> [Device List] -> [Device].
3. For rank B trouble, click [Trouble Reset]. For rank C trouble, click [Reset].
4. For rank B trouble, click the [Execute] button.
   For rank C trouble, click the [Execute] button in [Device Reset].
5. Check that the MFP starts normally.

(c) CS Remote Care

- Refer to the CS Remote Care Center manual.

3.3 Trouble isolation function

- The trouble isolation function enables you to control MFP temporarily isolating faulty units and options where the trouble isolation function can be applied when trouble occurs. This allows you to continue using the other units that are not affected and reduce down time that continues until CE resolves the problem.
- This function can be selected for the following units and options.
  - Tray 1
  - Tray 2
  - Tray 3
  - Tray 4
  - Manual
  - Center Stapling
  - Half-Fold
  - Tri-Fold
  - Stapling
  - Scanner
  - DF
  - Expansion Function (HDD)
- If a problem occurs with the units where the trouble isolation function can be applied, the control panel displays a trouble code and a key with which you decide whether to continue using the MFP. When you press down the key, the control panel displays the units that will be isolated as well as the next confirmation key with which you decide to continue.
- When you press down the confirmation key, the message on the control panel asks you to turn OFF and ON the main power switch. After turning OFF and ON the main power switch, the MFP starts operating, isolating the faulty units. The message on the control panel also tells that the MFP is working, isolating the faulty units.
- To temporarily isolate faulty units and continue using the MFP with the trouble isolation function, be sure to make the above mentioned control panel operation. The faulty units cannot be automatically isolated.

NOTE

- **The malfunction detection mechanism is not applied to units and options that are being isolated.**

3.4 List of the trouble code

Code	Item	Rank
C0002	Paper feed communication error	C
C0106	Tray 3/LCT paper feed motor turning at abnormal timing (When PC-113, PC-213 or PC-413 is installed)	B
C0107	Tray 3/LCT vertical transport motor turning at abnormal timing (When PC-113, PC-213 or PC-413 is installed)	B
C0108	Tray 4 paper feed motor turning at abnormal timing (When PC-213 is installed)	B
C0109	Tray 4 vertical transport motor turning at abnormal timing (When PC-213 is installed)	B
C0202	Tray 1 feeder up/down abnormality	B

Code	Item	Rank
C0204	Tray 2 feeder up/down abnormality	B
C0206	Tray 3 lift-up failure (When PC-113 or PC-213 is installed)	B
C0208	Tray 4 lift-up failure (When PC-213 is installed)	B
C0210	LCT lift failure (When PC-413 is installed)	B
C0211	Manual feed up/down abnormality	B
C0214	LCT shift failure (When PC-413 is installed)	B
C1004	FNS communication error (When FS-533, FS-534, FS-534SD or JS-506 is installed)	C
C1081	SD communication error (When FS-534SD is installed)	C
C1102	Main tray up/down motor drive malfunction (When FS-533, FS-534 or FS-534SD is installed)	B
C1103	Alignment plate motor/Fr malfunction (When FS-533, FS-534 or FS-534SD is installed)	B
C1105	Bundle eject motor drive malfunction (When FS-534 or FS-534SD is installed)	B
C1106	Stapler movement motor malfunction (When FS-533, FS-534 or FS-534SD is installed)	B
C1109	Stapler motor drive malfunction (When FS-533, FS-534 or FS-534SD is installed)	B
C1112	Stapler motor malfunction (When FS-534SD is installed)	B
C1113	Center-staple lead edge stopper motor malfunction (When FS-534SD is installed)	B
C1114	Center-staple front adjust drive motor malfunction (When FS-534SD is installed)	B
C1115	Center-staple knife drive motor malfunction (When FS-534SD is installed)	B
C1132	Punch drive motor malfunction (When FS-533+PK-519, FS-534+PK-520 or FS-534SD+PK-520 is installed)	B
C1140	Alignment plate motor/Rr malfunction (When FS-533, FS-534 or FS-534SD is installed)	B
C1141	Paddle motor drive malfunction (When FS-534 or FS-534SD is installed)	B
C1144	Pre-eject drive motor malfunction (When FS-534 or FS-534SD is installed)	B
C1145	Trailing edge stopper motor malfunction (When FS-534 or FS-534SD is installed)	B
C1156	Center-staple paddle roller motor malfunction (trailing edge) (When FS-534SD is installed)	B
C1182	Shift motor drive malfunction (When JS-506 is installed)	B
C1184	Paper discharge control motor malfunction (When FS-534 or FS-534SD is installed)	B
C1195	Paper discharge control motor malfunction (When FS-534SD is installed)	B
C1196	Center fold roller motor malfunction (When FS-534SD is installed)	B
C1197	Tri-folding guide motor malfunction (When FS-534SD is installed)	B
C11A1	Exit roller pressure/ retraction malfunction (When FS-533 is installed)	B
C11A2	Accommodation roller pressure/ retraction malfunction (When FS-534 or FS-534SD is installed)	B
C11E1	Paper exit switching drive malfunction (When FS-534 or FS-534SD is installed)	B
C1402	FS nonvolatile memory error <When FS-533 is installed>	C
C2253	Main motor failure to turn	B
C2254	Main motor turning at abnormal timing	B
C2350	Toner suction fan failure to turn	B
C2414	Developing unit/K new article release	B
C2557	Abnormally low toner density detected black TCR sensor	B
C2558	Abnormally high toner density detected black TCR sensor	B
C255C	Black TCR sensor adjustment failure	B
C2564	Black TCR sensor failure	B
C2650	Main backup media access error	C
C2A14	Drum unit/K new release failure	B
C3421	Fusing warm-up trouble (Middle of the heating roller)	A
C3721	Fusing abnormally high temperature detection (Middle of the heating roller)	A
C3722	Fusing abnormally high temperature detection (Edge of the heating roller)	A
C3731	Fusing abnormally high temperature detection (Hard protector)	A
C3821	Fusing abnormally low temperature detection (Middle of the heating roller)	A
C3822	Fusing abnormally low temperature detection (Edge of the heating roller)	A
C3921	Fusing sensor wire breaks detection (Middle of the heating roller)	A
C3922	Fusing sensor wire breaks detection (Edge of the heating roller)	A
C40A1	Mechanical controller sub-CPU communication error	C
C40A2	Mechanical controller PF communication data error	C
C40A3	Mechanical controller PF transmission timeout	C

Code	Item	Rank
C40A4	Mechanical controller PF communication pulse error	C
C4101	Polygon motor rotation trouble	B
C4501	Laser malfunction	B
C5102	Transport motor failure to turn	B
C5103	Transport motor turning at abnormal timing	B
C5354	Paper exit cooling fan failure to turn	B
C5356	Main cooling fan failure to turn	B
C5359	Reverse cooling fan failure to turn	B
C5370	Power supply cooling fan motor's failure to turn	C
C5372	MFP control board CPU temperature failure	C
C5501	AC signal abnormality	C
C5601	Engine control malfunction	C
C5605	Engine communication data error	C
C5606	Engine transmission timeout	C
C6102	Drive system home sensor malfunction	B
C6103	Slider over running	B
C6704	Image input time out	C
C6751	CCD clamp/gain adjustment failure	B
C6752	ASIC clock input error (front side)	C
C6756	CCD power-supply voltage malfunction	C
C6F01	Scanner sequence trouble 1	C
C8101	Before reading pressure welding alienation mechanism (When DF-628 is installed)	B
C8107	Glass cleaning mechanism trouble (When DF-628 is installed)	B
C8401	Data flash failure (When DF-628 is installed)	C
C9401	Exposure LED lighting failure	A
C9402	Exposure LED lighting abnormally	A
CA051	Standard controller configuration failure	C
CA052	Controller hardware error	C
CA053	Controller start failure	C
CB001	FAX board error 1	C
CB002	FAX board error 2	C
CB003	FAX board error 3	C
CB051	FAX board mount failure line 1	C
CB110	Instance generation error or observer registration error	C
CB111	Configuration space initialization NG	C
CB112	Semaphore acquisition, release error	C
CB113	Sequence error among main body tasks	C
CB114	Message queue control error	C
CB115	Main body - sequence error among FAX boards	C
CB116	FAX board nonresponse (Nonresponse after initialization)	C
CB117	ACK waiting timeout error	C
CB118	Receiving undefined frame	C
CB119	DMA transfer error	C
CB120	JC soft error	C
CB122	Device error (GA LOCAL SRAM)	C
CB123	Device error (DRAM)	C
CB125	Device error (GA)	C
CB126	Timeout error due to nonresponse from DC during suspension process	C
CB127	Timeout error due to nonresponse from CC during suspension process	C
CB128	Timeout error due to nonresponse from LINE during suspension process	C
CB130	Driver soft error	C
CB131	Reception frame length error from main	C
CB132	Reception frame header error from main	C
CB133	232C i/f sequence error	C
CB134	DPRAM i/f sequence error	C
CB135	DPRAM CTL/STL register error	C
CB136	ACK waiting timeout	C
CB137	DPRAM RESET reception	C

Code	Item	Rank
CB138	Timeout error due to nonresponse from SPI tasks during suspension process	C
CB139	ISW failure of SubCPU	C
CB140	MSG I/F Error with JC	C
CB141	I/F error with driver	C
CB142	Undefined command reception	C
CB143	Command frame length error	C
CB144	Command parameter length error	C
CB145	Undefined parameter	C
CB146	Command/response sequence error	C
CB150	External class instance acquisition error	C
CB151	Job start error (Starting job parameter error/child job generation error)	C
CB152	Doc access error (Report buf access error)	C
CB153	Response wait timeout from external task	C
CB154	Internal que table control error (create/enque/deque)	C
CB160	Instance generation error	C
CB161	Timeout error	C
CB162	Interface error	C
CB163	Message que control error	C
CB164	Semaphore acquisition release error	C
CB165	Observer registration error	C
CB166	Reception resource check error	C
CB167	Deployment error of sending image information	C
CB168	Serialization error of receiving image	C
CB169	Access error to quick memory data	C
CB170	Internal que table control error (create/enque/deque)	C
CB171	Instance generation error	C
CB172	Timeout error	C
CB173	Interface error	C
CB174	Semaphore acquisition release error	C
CB175	Observer registration error	C
CB176	Unable to check TTI domain	C
CB177	Error return from TTI rasterizer	C
CB178	Receiving job generation error	C
CB179	Sequence control error	C
CB180	Access error to quick sending memory data	C
CB181	BlockBuff acquisition error	C
CB182	Sending block image error (Req, restore)	C
CB183	Receiving block image error (Req, store)	C
CB184	Storage error of receiving image information	C
CB185	Receiving data size logic error (Receiving data are not multiples of dotline)	C
CB186	Image buf acquisition (alloc) error	C
CB187	Error return from compressor	C
CB188	BandBuf control error (newInstance/get/free)	C
CB190	USB IF error (OS notifies an error during configuration setting after recovery from the sleep or attach.)	C
CB191	USB IF error (EndPoint1: Bulk Out (command, transmitted image data)) (error retry 1 min. timeout)	C
CB192	USB IF error (EndPoint2: Bulk In (response, received image data)) (error retry 5 sec. timeout)	C
CB193	USB IF error (EndPoint3: Interrupt In (fax board status)) (error retry 1 min. timeout)	C
CB194	USB IF error (EndPoint4: Bulk Out (main body status)) (error retry 3 sec. timeout)	C
CB195	USB IF error (Attach not detected for 1 min. after recovery from sleep)	C
CB196	USB IF error (Detach not detected for 1 min. after recovery from sleep)	C
CC140	Trouble related to security	C
CC151	ROM contents error upon startup (MSC)	C
CC152	ROM contents error upon startup (IR)	C
CC155	Finisher ROM error (When FS-533, FS-534, FS-534SD or JS-506 is installed)	C
CC156	DF ROM error (When DF-628 is installed)	C
CC15B	Flash ROM error (saddle) (When FS-534SD is installed)	C

Code	Item	Rank
CC163	ROM contents error (PRT)	C
CC164	ROM contents error (MSC)	C
CC170	Dynamic link error during starting (AP0)	C
CC171	Dynamic link error during starting (AP1)	C
CC172	Dynamic link error during starting (AP2)	C
CC173	Dynamic link error during starting (AP3)	C
CC174	Dynamic link error during starting (AP4)	C
CC180	Dynamic link error during starting (LDR)	C
CC181	Dynamic link error during starting (IBR)	C
CC182	Dynamic link error during starting (IID)	C
CC183	Dynamic link error during starting (IPF)	C
CC184	Dynamic link error during starting (IMY)	C
CC185	Dynamic link error during starting (SPF)	C
CC186	Dynamic link error during starting (OAP)	C
CC190	Outline font load error	C
CC191	Setting parameter load error (LDR)	C
CC211	Authentication device general error	C
CC212	User validation error	C
CC213	User registration error/Card information setting error	C
CC214	User information deletion error	C
CC216	Acquisition failure of the number of trials/Initialize error of number of authentication	C
CD002	JOB RAM save error	C
CD004	Hard disk access error (connection failure)	C
CD00F	Hard disk data transfer error	C
CD010	Hard disk unformat	C
CD011	Hard disk out of specifications mounted	C
CD012	Mount error due to hard disk being unformatted	C
CD020	Hard disk verify error	C
CD030	Hard disk management information reading error	C
CD041	HDD command execution error	C
CD042		C
CD043		C
CD044		C
CD045		C
CD046		C
CD047	HDD SCSI library error	C
CD048		C
CD049		C
CD04A		C
CD04B		C
CD050	Hard disk recovery timeout	C
CD110	Wireless LAN destination initialization error	C
CD201	File memory mounting error	C
CD202	Memory capacity discrepancy	C
CD203	Memory capacity discrepancy 2	C
CD211	PCI-SDRAM DMA operation failure	C
CD212	Compression/extraction timeout detection	C
CD241	Encryption ASIC setting error	C
CD242	Encryption ASIC mounting error	C
CD261	USB host board failure	C
CD262	Extension network adapter installation error	C
CD271	i-Option activated and additional memory not installed	C
CD272	i-Option activated and additional memory and HDD not installed	C
CD3##	Nonvolatile data error	-
CD370	Nonvolatile data multiple errors	-
CD390	Nonvolatile data checksum error	C
CD3A0	Counter error	C
CD401	NACK command incorrect	C

Code	Item	Rank
CD402	ACK command incorrect	C
CD403	Checksum error	C
CD404	Receiving packet incorrect	C
CD405	Receiving packet analysis error	C
CD406	ACK receiving timeout	C
CD407	Retransmission timeout	C
CD411	Touch panel board error	C
CD412	Touch panel type mismatch	C
CD413	Electrostatic touch panel operation mode error	C
CD601	Trouble related to security	-
CD602		
CD603		
CD701	Mechanical controller flash ROM writing error	C
CD702	Mechanical controller flash ROM device error	C
CD703	FW download communication fault	C
CD704	Finisher Flash ROM device error (When FS-533, FS-534, FS-534SD or JS-506 is installed)	C
CD705	Mechanical controller sub-CPU flash ROM device error	C
CD706	Mechanical controller sub-CPU flash ROM error	C
CDC##	Trouble related to security	-
CDF50	ASIC image version failure	C
CDF70	ASIC image access failure	C
CDFA0	ASIC image error	C
CE001	Abnormal message queue	C
CE002	Message and method parameter failure	C
CE003	Task error	C
CE004	Event error	C
CE005	Memory access error	C
CE006	Header access error	C
CE007	DIMM initialize error	C
CE101	Browser finish detected	C
CE201	Transmission operation log storage fault	C
CE301	Referring incorrect memory	C
CE302	Incorrect command	C
CE303	Finished due to error inside Qt library	C
CE304	Finished due to error outside Qt library	C
CE305	Program forced to stop	C
CED01	The authentication application information does not exist in the hard disk/eMMC board in the enhanced server authentication state.	C
CEEE1	MFP board (MSC) malfunction	C
CEEE2	Scanner section malfunction	A
CEEE3	MFP board (EMG) malfunction	A
CF###	Trouble code (CF###) is referred to as abort code. For details of abort code, refer to “K.4. ABORT CODE”.	C

3.5 C0###

3.5.1 C0002

(1) Contents

Trouble type	C0002: Paper feed communication error
Rank	C
Trouble detection condition	When the MFP board (MFPB) is receiving data, a communication error is detected.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.

3. Replace MFPB.

3.5.2 C0106

(1) Contents

Trouble type	C0106: Tray 3/LCT paper feed motor turning at abnormal timing (When PC-113, PC-213 or PC-413 is installed)
Rank	B
Trouble detection condition	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning. • The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	<When PC-113 or PC-213 is installed> • Tray 3 paper feed motor (M111) • PC control board (PCCB)
	<When PC-413 is installed> • Paper feed motor (M131) • PC control board (PCCB)

(2) Procedure

(a) When PC-113 or PC-213 is installed

1. Check the connector between M111-PCCB CN5 for proper connection and correct as necessary.
2. Check the connector of M111 for proper drive coupling and correct as necessary.
3. M111 operation check
   - Control signal: PCCB CN5-5 (CW/CCW)
   - Location of electrical component: PC-113/PC-213 4-C
4. Replace M111.
5. Replace PCCB.

NOTICE
- Link to the wiring diagram (N.2.2 PC-113)
- Link to the wiring diagram (N.2.3 PC-213)

(b) When PC-413 is installed

1. Check the connector between M131-PCCB CN5 for proper connection and correct as necessary.
2. Check the connector of M131 for proper drive coupling and correct as necessary.
3. M131 operation check
   - Control signal: PCCB CN5-5 (CW/CCW)
   - Location of electrical component: PC-413 5-J
4. Replace M131.
5. Replace PCCB.

NOTICE
- Link to the wiring diagram (N.2.4 PC-413)

3.5.3 C0107

(1) Contents

Trouble type	C0107: Tray 3/LCT vertical transport motor turning at abnormal timing (When PC-113, PC-213 or PC-413 is installed)
Rank	B
Trouble detection condition	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning. • The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	<When PC-113 or PC-213 is installed> • Tray 3 vertical transport motor (M112) • PC control board (PCCB)
	<When PC-413 is installed> • Vertical transport motor (M132) • PC control board (PCCB)

(2) Procedure

(a) When PC-113 or PC-213 is installed

1. Check the connector between M112-PCCB CN5 for proper connection and correct as necessary.
2. Check the connector of M112 for proper drive coupling and correct as necessary.
3. M112 operation check
   - Control signal: PCCB CN5-13 (CW/CCW)
   - Location of electrical component: PC-113/PC-213 3 to 4-C
4. Replace M112.
5. Replace PCCB.

NOTICE
- Link to the wiring diagram (N.2.2 PC-113)

- Link to the wiring diagram (N.2.3 PC-213)

(b) When PC-413 is installed

1. Check the connector between M132-PCCB CN5 for proper connection and correct as necessary.
2. Check the connector of M132 for proper drive coupling and correct as necessary.
3. M132 operation check
   - Control signal: PCCB CN5-13 (CW/CCW)
   - Location of electrical component: PC-413 4 to 5-J
4. Replace M132.
5. Replace PCCB.

NOTICE
- Link to the wiring diagram (N.2.4 PC-413)

3.5.4 C0108

(1) Contents

Trouble type	C0108: Tray 4 paper feed motor turning at abnormal timing (When PC-213 is installed)
Rank	B
Trouble detection condition	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning. • The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Tray 4 paper feed motor (M121) • PC control board (PCCB)

(2) Procedure

1. Check the connector between M121-PCCB CN9 for proper connection and correct as necessary.
2. Check the connector of M121 for proper drive coupling and correct as necessary.
3. M121 operation check
   - Control signal: PCCB CN9-5 (CW/CCW)
   - Location of electrical component: PC-213 6-K
4. Replace M121.
5. Replace PCCB.

NOTICE
- Link to the wiring diagram (N.2.3 PC-213)

3.5.5 C0109

(1) Contents

Trouble type	C0109: Tray 4 vertical transport motor turning at abnormal timing (When PC-213 is installed)
Rank	B
Trouble detection condition	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning. • The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Tray 4 vertical transport motor (M122) • PC control board (PCCB)

(2) Procedure

1. Check the connector between M122-PCCB CN9 for proper connection and correct as necessary.
2. Check the connector of M122 for proper drive coupling and correct as necessary.
3. M122 operation check
   - Control signal: PCCB CN9-13 (CW/CCW)
   - Location of electrical component: PC-213 6-K
4. Replace M122.
5. Replace PCCB.

NOTICE
- Link to the wiring diagram (N.2.3 PC-213)

3.5.6 C0202

(1) Contents

Trouble type	C0202: Tray 1 feeder up/down abnormality
Rank	B
Trouble detection condition	The tray 1 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 1
Relevant electrical parts	• Tray 1 lift-up motor (M12) • Tray 1 upper limit sensor (PS22) • MFP board (MFPB)

(2) Procedure

1. Check the connector between M12-MFPB CN7E 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 PS22-relay CN48-MFPB CN10E for proper connection and correct as necessary.
4. PS22 I/O check, sensor check
   - Control signal: MFPB CN10E-8 (ON)
   - Location of electrical component: 4-C
5. M12 operation check
   - Control signal:MFPB CN7E-1 to 2
   - Location of electrical component: 7-C
6. Replace M12.
7. MFPB F5E conduction check
8. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.5.7 C0204

(1) Contents

Trouble type	C0204: Tray 2 feeder up/down abnormality
Rank	B
Trouble detection condition	The tray 2 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 2
Relevant electrical parts	• Tray 2 lift-up motor (M13) • Tray 2 upper limit sensor (PS25) • MFP board (MFPB)

(2) Procedure

1. Check the connector between M13-MFPB CN8E 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 PS25-relay CN49-MFPB CN11 for proper connection and correct as necessary.
4. PS25 I/O check, sensor check
   - Control signal: MFPB CN11E-13 (ON)
   - Location of electrical component: 6-C
5. M13 operation check
   - Control signal: MFPB MFPB CN8E-1 to 2
   - Location of electrical component: 10-C
6. Replace M13.
7. MFPB F5E conduction check
8. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.5.8 C0206

(1) Contents

Trouble type	C0206: Tray 3 lift-up failure (When PC-113 or PC-213 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) • MFP board (MFPB)

(2) Procedure

1. Check the connector between M113-PCCB CN6 for proper connection and correct as necessary.
2. Check the connector of M113 for proper drive coupling and correct as necessary.
3. Check the connector between PS116-relay CN24-PCCB CN4 for proper connection and correct as necessary.
4. PS116 I/O check, sensor check
   - Control signal: PCCB CN4-3 (ON)
   - Location of electrical component: PC-113/PC-213 7-C
5. M113 operation check
   - Control signal: PCCB CN6-8 to 9
   - Location of electrical component: PC-113/PC-213 2-C
6. Replace M113.
7. Replace PCCB.
8. MFPB F4E conduction check
9. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.2.2 PC-113)

- Link to the wiring diagram (N.2.3 PC-213)

3.5.9 C0208

(1) Contents

Trouble type	C0208: Tray 4 lift-up failure (When PC-213 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) • MFP board (MFPB)

(2) Procedure

1. Check the connector between M123-PCCB CN8 for proper connection and correct as necessary.
2. Check the connector of M123 for proper drive coupling and correct as necessary.
3. Check the connector between PS126-relay CN47-PCCB CN7 for proper connection and correct as necessary.
4. PS126 I/O check, sensor check
   - Control signal: PCCB CN7-3 (ON)
   - Location of electrical component: PC-213 8-K
5. M123 operation check
   - Control signal: PCCB CN8-8 to 9
   - Location of electrical component: PC-213 5-K
6. Replace M123.
7. Replace PCCB.
8. MFPB F4E conduction check
9. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.2.3 PC-213)

3.5.10 C0210

(1) Contents

Trouble type	C0210: LCT lift failure (When PC-413 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 drawer 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 drawer 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	Tray 3
Relevant electrical parts	• Elevator motor (M134) • Main tray upper limit sensor (PS136) • Shifter stop / lower limit position sensor (PS138) • PC control board (PCCB) • MFP board (MFPB)

(2) Procedure

1. Check the connector between M134-PCCB CN10 for proper connection and correct as necessary.
2. Check the connector of M134 for proper drive coupling and correct as necessary.
3. Check the connector between PS136-relay CN1-PCCB CN4 for proper connection and correct as necessary.
4. Check the connector between PS138-relay CN16-PCCB CN14 for proper connection and correct as necessary.
5. PS136 I/O check, sensor check
   - Control signal: PCCB CN4-3 (ON)
   - Location of electrical component: PC-413 8-J
6. PS138 I/O check, sensor check
   - Control signal: PCCB CN14-6 (ON)
   - Location of electrical component: PC-413 4-J
7. M134 operation check
   - Control signal: PCCB CN10-1 to 2
   - Location of electrical component: PC-413 6-J
8. Replace M134.
9. Replace PCCB.
10. MFPB F4E conduction check
11. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.2.4 PC-413)

3.5.11 C0211

(1) Contents

Trouble type	C0211: Manual feed up/down abnormality
Rank	B
Trouble detection condition	• Paper is not turned OFF (unblock) the bypass tray position sensor (PS28) even after the transport motor (M1) rotates for a given period of time after the position is switched from stand by position at lift-up plate to the feed position. • The bypass tray position sensor (PS28) is not turned ON (blocked) even after the transport motor (M1) rotates for a given period of time after the position is switched from stand by position at lift-up plate to the feed position.
Trouble isolation	Manual
Relevant electrical parts	• Transport motor (M1) • Bypass pick-up solenoid (SD1) • Bypass tray position sensor (PS28) • MFP board (MFPB)

(2) Procedure

1. Check the connector between M1-MFPB CN19E 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 PS28-relay CN91 (bizhub 367), CN34 (bizhub 287), CN90 (bizhub 227)-MFPB CN9 for proper connection and correct as necessary.
4. SD1-relay CN41- relay CN91 (bizhub 367), CN34 (bizhub 287), CN90 (bizhub 227)-MFPB CN9E for proper connection and correct as necessary.
5. PS28 I/O check, sensor check
   - Control signal: MFPB CN9E-3 (ON)
   - Location of electrical component: 3-J
6. SD1 operation check
   - Control signal: MFPB CN9E-12 (ON)
   - Location of electrical component: 4-J
7. M1 operation check
   - Control signal: MFPB CN19E-3 to 7
   - Location of electrical component: 26-C
8. Replace M1.
9. MFPB F5E conduction check
10. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.5.12 C0214

(1) Contents

Trouble type	C0214: LCT shift failure (When PC-413 is installed)
Rank	B
Trouble detection condition	• The shifter stop / lower limit position sensor (PS138) is not turned ON (blocked) 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 OFF (unblocked) 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	Tray 3
Relevant electrical parts	• Shifter motor (M133) • Shifter stop / lower limit position sensor (PS138) • Shifter home sensor (PS139) • PC control board (PCCB)

(2) Procedure

1. Check the connector between M133-PCCB CN10 for proper connection and correct as necessary.
2. Check the connector of M133 for proper drive coupling and correct as necessary.
3. Check the connector between PS138-relay CN16-PCCB CN14 for proper connection and correct as necessary.
4. Check the connector between PS139-relay CN16-PCCB CN14 for proper connection and correct as necessary.
5. PS138 I/O check, sensor check
   - Control signal: PCCB CN14-6 (ON)
   - Location of electrical component: PC-413 4-J
6. PS139 I/O check, sensor check
   - Control signal: PCCB CN14-3 (ON)
   - Location of electrical component: PC-413 4-J
7. M133 operation check

- Control signal: PCCB CN10-3 to 4
- Location of electrical component: PC-413 6-J

8. Replace M133.
9. Replace PCCB.

NOTICE
- Link to the wiring diagram (N.2.4 PC-413)

3.6 C1###

3.6.1 C1004

(1) Contents

Trouble type	C1004: FNS communication error (When FS-533, FS-534, FS-534SD or JS-506 is installed)
Rank	C
Trouble detection condition	<When FS-533, FS-534 or FS-534SD is installed> • When the FS control board (FSCB) is receiving data, a communication error is detected.
	<When JS-506 is installed> • When the JS control board (JSCB) is receiving data, a communication error is detected.
Trouble isolation	-
Relevant electrical parts	<When FS-533, FS-534 or FS-534SD is installed> • FS control board (FSCB)
	<When JS-506 is installed> • JS control board (JSCB)

(2) Procedure

(a) When FS-533, FS-534 or FS-534SD is installed

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace FSCB. (FS-533/FS-534/FS-534SD)

(b) When JS-506 is installed

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace JSCB.

3.6.2 C1081

(1) Contents

Trouble type	C1081: SD communication error (When FS-534SD is installed)
Rank	C
Trouble detection condition	When a communication error is detected between the FS control board (FSCB) and the SD control board (SDDB).
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• SD drive board (SDDB) • FS control board (FSCB)

(2) Procedure

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace SDDB.
4. Replace FSCB.

3.6.3 C1102

(1) Contents

Trouble type	C1102: Main tray up/down motor drive malfunction (When FS-533, FS-534 or FS-534SD is installed)
Rank	B
Trouble detection condition	<When FS-533 is installed> • While the exit tray is being lifted, the paper exit tray home sensor (PS107) is not turned OFF (unblocked) after the set period of time has elapsed after the tray lift up motor (M109) is turned ON. • While the exit tray is being lowered, the paper exit tray home sensor (PS107) is not turned ON (blocked) after the set period of time has elapsed after the tray lift up motor (M109) is turned ON.
	<When FS-534 or FS-534SD is installed> • While the exit tray is being lifted, the main tray upper position sensor (PS26/PS27) is not turned ON (blocked) and the main tray upper position detect switch (SW2) is not turned ON, even after the main tray up/down motor (M11) turns by the set number of times. • While the exit tray is being lowered, the main tray full detection sensor (PS29) is not turned ON (blocked) after the set period of time has elapsed after the main tray up/down motor (M11) is turned ON.

Trouble isolation	-
Relevant electrical parts	<When FS-533 is installed> • Tray lift up motor (M109) • Paper exit tray home sensor (PS107) • FS control board (FSCB)
	<When FS-534 or FS-534SD is installed> • Main tray up/down motor (M11) • Main tray upper position sensor/R (PS26) • Main tray upper position sensor/F (PS27) • Main tray full detection sensor (PS29) • Main tray upper position detect switch (SW2) • FS control board (FSCB)

(2) Procedure

(a) When FS-533 is installed

1. Check the connector between M109-FSCB CN108 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 PS107-FSCB CN110 for proper connection and correct as necessary.
4. PS107 I/O check, sensor check
   - Control signal: FSCB CN110
   - Location of electrical component: FS-533 7-D to E
5. M109 operation check
   - Control signal: FSCB CN108
   - Location of electrical component: FS-533 10-E
6. Replace M109.
7. FSCB CP109 conduction check
8. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.5 FS-533)

(b) When FS-534 or FS-534SD is installed

1. Check the motor, sensor and switch connectors for proper connection, and correct as necessary.
2. Check the connector of M11 for proper drive coupling, and correct as necessary.
3. PS26 I/O check, sensor check
   - Control signal: FSCB J14<A>-5 (ON)
   - Location of electrical component: FS-534 2-C
4. PS27 I/O check, sensor check
   - Control signal: FSCB J14<B>-8 (ON)
   - Location of electrical component: FS-534 3-C
5. PS29 I/O check, sensor check
   - Control signal: FSCB J14<A>-8 (ON)
   - Location of electrical component: FS-534 4-C
6. SW2 operation check
   - Control signal: FSCB J10-1 to 2
   - Location of electrical component: FS-534 8-K
7. M11 operation check
   - Control signal: FSCB J9<A>-9 to 10
   - Location of electrical component: FS-534 10-C to D
8. Replace M11.
9. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.4 C1103

(1) Contents

Trouble type	C1103: Alignment plate motor/Fr malfunction (When FS-533, FS-534 or FS-534SD is installed)
Rank	B
Trouble detection condition	<When FS-533 is installed> • The alignment plate home sensor/F (PS108) 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/F (PS108) is not turned ON (blocked) after the set period of time has elapsed after the alignment motor/F (M105) is turned ON to return the plate to the home position.
	<When FS-534 or FS-534SD is installed> • The alignment plate/F home sensor (PS12) 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/F home sensor (PS12) is not turned ON (blocked) after the set period of time has elapsed after the alignment motor/Front (M7) is turned ON to return the plate to the home position. • The alignment plate/F does not reach the specified position within the set period of time.
Trouble isolation	-
Relevant electrical parts	<When FS-533 is installed> • Alignment motor/F (M105) • Alignment plate home sensor/F (PS108)

	• FS control board (FSCB)
	<When FS-534 or FS-534SD is installed> • Alignment motor/Front (M7) • Alignment plate/F home sensor (PS12) • FS control board (FSCB)

(2) Procedure

(a) When FS-533 is installed

1. Check the connector between M105-FSCB CN102 for proper connection and correct as necessary.
2. Check the connector of M105 for proper drive coupling, and correct as necessary.
3. Check the connector between PS108-FSCB CN102 for proper connection and correct as necessary.
4. PS108 I/O check, sensor check
   - Control signal: FSCB CN102
   - Location of electrical component: FS-533 7-J
5. M105 operation check
   - Control signal: FSCB CN102
   - Location of electrical component: FS-533 7-J
6. Replace M105.
7. FSCB CP105 conduction check
8. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.5 FS-533)

(b) When FS-534 or FS-534SD is installed

1. Check the connector between M7-FSCB J4 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 PS12-FSCB J4 for proper connection and correct as necessary.
4. PS12 I/O check, sensor check
   - Control signal: FSCB J4<B>-4 (ON)
   - Location of electrical component: FS-534 13-C
5. M7 operation check
   - Control signal: FSCB J4<A>-5 to 8
   - Location of electrical component: FS-534 11-C to D
6. Replace M7.
7. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.5 C1105

(1) Contents

Trouble type	C1105: Bundle eject motor drive malfunction (When FS-534 or FS-534SD is installed)
Rank	B
Trouble detection condition	• The gripper home position sensor (PS18) is not turned ON (blocked) even after the set period of time has elapsed after the gripper position detection sensor (PS19) is turned OFF (unblocked). • The gripper position detection sensor (PS19) is not turned OFF (unblocked) even after the set period of time has elapsed after it is turned ON (blocked). • The gripper position detection sensor (PS19) is not turned ON (blocked) even after the set period of time has elapsed after the gripper home position sensor (PS18) is turned OFF (unblocked). • The gripper home position sensor (PS18) is not turned OFF (unblocked) even after the set period of time has elapsed after the bundle eject motor (M10) is energized. • The gripper home position sensor (PS18) and the gripper position detection sensor (PS19) is turned ON (blocked) at the same time.
Trouble isolation	-
Relevant electrical parts	• Bundle eject motor (M10) • Gripper home position sensor (PS18) • Gripper position detection sensor (PS19) • FS control board (FSCB)

(2) Procedure

1. Check the motor and sensor connectors for proper connection, and correct as necessary.
2. Check the connector of M10 for proper drive coupling, and correct as necessary.
3. PS18 I/O check, sensor check
   - Control signal: FSCB J13-13 (ON)
   - Location of electrical component: FS-534 7-C
4. PS19 I/O check, sensor check
   - Control signal: FSCB J12-3 (ON)
   - Location of electrical component: FS-534 7-C
5. M10 operation check
   - Control signal: FSCB J13-1 to 2
   - Location of electrical component: FS-534 8-C to D
6. Replace M10.
7. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.6 C1106

(1) Contents

Trouble type	C1106: Stapler movement motor malfunction (When FS-533, FS-534 or FS-534SD is installed)
Rank	B
Trouble detection condition	<When FS-533 is installed> • The stapler home sensor (PS110) is not turned OFF (unblocked) after the laps of given time after it started operating from the home position. • The stapler home sensor (PS110) is not turned ON (blocked) after the laps of give time after the stapler movement motor (M107) turned ON when it returned to the home position.
	<When FS-534 or FS-534SD is installed> • The stapler home position sensor (Rear) (PS23) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the side stapler movement motor (M13) turned ON. • The stapler does not reach the specified position within the set period of time.
Trouble isolation	Staple
Relevant electrical parts	<When FS-533 is installed> • Stapler movement motor (M107) • Stapler home sensor (PS110) • Stapler relay board (STREYB) • FS control board (FSCB)
	<When FS-534 or FS-534SD is installed> • Side stapler movement motor (M13) • Stapler home position sensor (Rear) (PS23) • FS control board (FSCB)

(2) Procedure

(a) When FS-533 is installed

1. Check the connector between M107-STREYB CN123 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 PS110-FSCB CN110 for proper connection, and correct as necessary.
4. PS110 I/O check, sensor check
   - Control signal: FSCB CN110
   - Location of electrical component: FS-533 8-D to E
5. M107 operation check
   - Control signal: STREYB CN123-5 to 8
   - Location of electrical component: FS-533 5-L
6. Replace M107.
7. Replace STREYB.
8. FSCB CP107 conduction check
9. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.5 FS-533)

(b) When FS-534 or FS-534SD is installed

1. Check the connector between M13-relay CN3-FSCB J11 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 PS23-relay CN3-FSCB J11 for proper connection, and correct as necessary.
4. PS23 I/O check, sensor check
   - Control signal: FSCB J11<B>-3 (ON)
   - Location of electrical component: FS-534 4-C
5. M13 operation check
   - Control signal: FSCB J11<A>-1 to 4
   - Location of electrical component: FS-534 4-C to D
6. Replace M13.
7. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.7 C1109

(1) Contents

Trouble type	C1109: Stapler motor drive malfunction (When FS-533, FS-534 or FS-534SD is installed)
Rank	B
Trouble detection condition	<When FS-533 is installed> • The stapler home sensor (PS110) is not turned ON (blocked) even after the set period of time has elapsed after the stapler motor turned ON.
	<When FS-534 or FS-534SD is installed> • The stapler home position sensor (Rear) (PS23) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the stapler motor (M14) turned ON. • The stapler position sensor (Center) (PS24) is turned ON (blocked), when the stapler motor (M14) is running.

Trouble isolation	Staple
Relevant electrical parts	<When FS-533 is installed> • Stapler home sensor (PS110) • Stapler unit • Stapler relay board (STREYB) • FS control board (FSCB)
	<When FS-534 or FS-534SD is installed> • Stapler home position sensor (Rear) (PS23) • Stapler unit • Stapler position sensor (Center) (PS24) • FS control board (FSCB)

(2) Procedure

(a) When FS-533 is installed

1. Check the connector between the stapler unit-STREYB CN122 and CN123 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 PS110-FSCB CN110 for proper connection and correct as necessary.
4. PS110 I/O check, sensor check
   - Control signal: FSCB CN110
   - Location of electrical component: FS-533 8-D to E
5. Replace the stapler unit.
6. Replace STREYB.
7. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.5 FS-533)

(b) When FS-534 or FS-534SD is installed

1. Check the connector between the stapler unit-relay CN4-FSCB J11 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 PS23-relay CN3-FSCB J11 for proper connection, and correct as necessary.
4. Check the connector between PS24-relay CN3-FSCB J11 for proper connection and correct as necessary.
5. PS23 I/O check, sensor check
   - Control signal: FSCB J11<B>-3 (ON)
   - Location of electrical component: FS-534 4-C
6. PS24 I/O check, sensor check
   - Control signal: FSCB J11<B>-6 (ON)
   - Location of electrical component: FS-534 4 to 5-C
7. Replace the stapler unit.
8. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.8 C1112

(1) Contents

Trouble type	C1112: Stapler motor malfunction (When FS-534SD 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	• Staple unit • SD drive board (SDDB) • FS control board (FSCB)

(2) Procedure

1. Check the connector between the staple unit-SDDB J4 for proper connection and correct as necessary.
2. Check the connector of the staple unit for proper drive coupling and correct as necessary.
3. Replace the staple unit.
4. Replace SDDB.
5. Replace FSCB.

3.6.9 C1113

(1) Contents

Trouble type	C1113: Center-staple lead edge stopper motor malfunction (When FS-534SD is installed)
Rank	B
Trouble detection condition	The stopper home sensor (PS6) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the stopper drive motor (M4) is turned ON.

Trouble isolation	• Staple • Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Stopper drive motor (M4) • Stopper home sensor (PS6) • SD drive board (SDDB) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M4-SDDB J10 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 PS6-SDDB J10 for proper connection and correct as necessary.
4. PS6 I/O check, sensor check
   - Control signal: SDDB J10-5 (ON)
   - Location of electrical component: SD-511 2-G
5. M4 operation check
   - Control signal: SDDB J10-6 to 9
   - Location of electrical component: SD-511 1 to 2-F to G
6. Replace M4.
7. Replace SDDB.
8. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.7 SD-511)

3.6.10 C1114

(1) Contents

Trouble type	C1114: Center-staple front adjust drive motor malfunction (When FS-534SD is installed)
Rank	B
Trouble detection condition	The alignment home sensor (PS4) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the alignment motor (M3) is turned ON.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Alignment motor (M3) • Alignment home sensor (PS4) • SD drive board (SDDB) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M3-relay CN10-SDDB J7 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 PS4-relay CN10-SDDB J7 for proper connection and correct as necessary.
4. PS4 I/O check, sensor check
   - Control signal: SDDB J7-6 (ON)
   - Location of electrical component: SD-511 6-F
5. M3 operation check
   - Control signal: SDDB J7-7 to 10
   - Location of electrical component: SD-511 5-F to G
6. Replace M3.
7. Replace SDDB.
8. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.7 SD-511)

3.6.11 C1115

(1) Contents

Trouble type	C1115: Center-staple knife drive motor malfunction (When FS-534SD is installed)
Rank	B
Trouble detection condition	The center fold knife home sensor (PS8) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the center fold knife motor (M9) is turned ON.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Center fold knife motor (M9) • Center fold knife home sensor (PS8) • SD drive board (SDDB) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M9-SDDB J11 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 PS8-relay CN10-SDDB J7 for proper connection and correct as necessary.
4. PS8 I/O check, sensor check
   - Control signal: SDDB J7-3 (ON)

- Location of electrical component: SD-511 6-G

5. M9 operation check
   - Control signal: SDDB J11-11 to 20
   - Location of electrical component: SD-511 1 to 2-B
6. Replace M9.
7. Replace SDDB.
8. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.7 SD-511)

3.6.12 C1132

(1) Contents

Trouble type	C1132: Punch drive motor malfunction (When FS-533+PK-519, FS-534+PK-520 or FS-534SD+PK-520 is installed)
Rank	B
Trouble detection condition	<When FS-533+PK-519 is installed> • The puncher drive cam sensor (PS203) or puncher home sensor (PS204) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed while the punch motor (M201) is energized. • The punch motor sensor (PS202) is not turned ON when the punch motor (M201) driven. • The holes with other marketing area is set in [Service Mode] -> [Finisher] -> [Punch Option Setting].
	<When FS-534+PK-520 or FS-534SD+PK-520 is installed> • The punch home sensor (PS1) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed while the punch drive motor (M1) is energized. • Thick paper is loaded and a punch operation is performed with [Plain Paper] left set for the paper type.
Trouble isolation	-
Relevant electrical parts	<When FS-533+PK-519 is installed> • Punch motor (M201) • Punch motor sensor (PS202) • Puncher drive cam sensor (PS203) • Puncher home sensor (PS204) • PK control board (PKCB) • FS control board (FSCB)
	<When FS-534+PK-520 or FS-534SD+PK-520 is installed> • Punch drive motor (M1) • Punch home sensor (PS1) • FS control board (FSCB)

(2) Procedure

(a) When FS-533+PK-519 is installed

1. Check the number of the holes in [Service Mode] -> [Finisher] -> [Punch Option Setting].
2. Check the connector between M201-PKCB CN203 for proper connection and correct as necessary.
3. Check the connector of M201 for proper drive coupling and correct as necessary.
4. Check the connector between PS202-PKCB CN204 for proper connection and correct as necessary.
5. Check the connector between PS203-PKCB CN204 for proper connection and correct as necessary.
6. Check the connector between PS204-PKCB CN204 for proper connection and correct as necessary.
7. PS202 I/O check, sensor check
   - Control signal: PKCB CN204
   - Location of electrical component: FS-533 (PK-519) 5-C
8. PS203 I/O check, sensor check
   - Control signal: PKCB CN204
   - Location of electrical component: FS-533 (PK-519) 6-C
9. PS204 I/O check, sensor check
   - Control signal: PKCB CN204
   - Location of electrical component: FS-533 (PK-519) 6-C
10. M201 operation check
    - Control signal: PKCB CN203-1 to 2
    - Location of electrical component: FS-533 (PK-519) 4-C
11. Replace M201.
12. PKCB F201 conduction check
13. Replace PKCB.
14. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.5 FS-533)

(b) When FS-534+PK-520 or FS-534SD+PK-520 is installed

1. Check that the correct paper type is set.
   To print on thick paper, change the paper type to [Thick].
2. If the trouble occurs even when [Paper Type] is set to the correct paper type, select [Service Mode] -> [Security Settings] -> [Engine FW DipSW] and flip SW No. 17 to the ON.
   NOTE
   - **Changing the setting of Engine FW DipSW results in a longer perforating time and greater punch perforating noise regardless of the paper type.**

3. Check the connector between M1-relay CN351-FSCB J7 for proper connection and correct as necessary.
4. Check the connector of M1 for proper drive coupling and correct as necessary.
5. Check the connector between PS1-FSCB J7 for proper connection and correct as necessary.
   - Control signal: FSCB J7-5 (ON)
   - Location of electrical component: FS-534 (PK-520) 7-K
6. PS1 I/O check, sensor check
   - Control signal: FSCB J7-7 to 8
   - Location of electrical component: FS-534 (PK-520) 7-K
7. M1 operation check
8. Replace M1.
9. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.13 C1140

(1) Contents

Trouble type	C1140: Alignment plate motor/Rr malfunction (When FS-533, FS-534 or FS-534SD is installed)
Rank	B
Trouble detection condition	<When FS-533 is installed> • The alignment plate home sensor/R (PS109) 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/R (PS109) is not turned ON (blocked) after the set period of time has elapsed while the alignment motor/R (M106) is energized when the plate returns to the home position.
	<When FS-534 or FS-534SD is installed> • The alignment plate/R home sensor (PS13) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed while the alignment motor/Rear (M8) is energized.
Trouble isolation	-
Relevant electrical parts	<When FS-533 is installed> • Alignment motor/R (M106) • Alignment plate home sensor/R (PS109) • FS control board (FSCB)
	<When FS-534 or FS-534SD is installed> • Alignment motor/Rear (M8) • Alignment plate/R home sensor (PS13) • FS control board (FSCB)

(2) Procedure

(a) When FS-533 is installed

1. Check the connector between M106-FSCB CN102 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 PS109-FSCB CN102 for proper connection and correct as necessary.
4. PS109 I/O check, sensor check
   - Control signal: FSCB CN102
   - Location of electrical component: FS-533 7-J
5. M106 operation check
   - Control signal: FSCB CN102
   - Location of electrical component: FS-533 8-J
6. Replace M106
7. FSCB CP105 conduction check
8. Replace FSCB

NOTICE
- Link to the wiring diagram (N.2.5 FS-533)

(b) When FS-534 or FS-534SD is installed

1. Check the connector between M8-FSCB J12 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 PS13-FSCB J9 for proper connection and correct as necessary.
4. PS13 I/O check, sensor check
   - Control signal: FSCB J9<B>-9 (ON)
   - Location of electrical component: FS-534 9-C
5. M8 operation check
   - Control signal: FSCB J12-13 to 16
   - Location of electrical component: FS-534 5 to 6-C to D
6. Replace M8.
7. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.14 C1141

(1) Contents

Trouble type	C1141: Paddle motor drive malfunction (When FS-534 or FS-534SD is installed)

Rank	B
Trouble detection condition	The upper paddle home position detection sensor (PS14) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed while the FNS paddle motor (M5) is turning.
Trouble isolation	Staple
Relevant electrical parts	• FNS paddle motor (M5) • Upper paddle home position detection sensor (PS14) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M5-FSCB J4 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 PS14-FSCB J4 for proper connection and correct as necessary.
4. PS14 I/O check, sensor check
   - Control signal: FSCB J4<B>-7 (ON)
   - Location of electrical component: FS-534 13-C
5. M5 operation check
   - Control signal: FSCB J4<A>-5 to 8
   - Location of electrical component: FS-534 12-C to D
6. Replace M5.
7. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.15 C1144

(1) Contents

Trouble type	C1144: Pre-eject drive motor malfunction (When FS-534 or FS-534SD is installed)
Rank	B
Trouble detection condition	• The pre-eject home sensor (PS21) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the pre-eject drive motor (M9) is turned ON. • The pre-eject away sensor (PS22) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the pre-eject drive motor (M9) is turned ON.
Trouble isolation	-
Relevant electrical parts	• Pre-eject drive motor (M9) • Pre-eject home sensor (PS21) • Pre-eject away sensor (PS22) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M9-relay CN7<A>-FSCB J13 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 PS21-relay CN8-relay CN7<B>-FSCB J12 for proper connection, and correct as necessary.
4. Check the connector between PS22-relay CN8-relay CN7<B>-FSCB J12 for proper connection, and correct as necessary.
5. PS21 I/O check, sensor check
   - Control signal: FSCB J12-6 (ON)
   - Location of electrical component: FS-534 6-C
6. PS22 I/O check, sensor check
   - Control signal: FSCB J12-9 (ON)
   - Location of electrical component: FS-534 6-C
7. M9 operation check
   - Control signal: FSCB J13-3 to 4
   - Location of electrical component: FS-534 8-C to D
8. Replace M9.
9. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.16 C1145

(1) Contents

Trouble type	C1145: Trailing edge stopper motor malfunction (When FS-534 or FS-534SD is installed)
Rank	B
Trouble detection condition	The trailing edge stopper home position detection sensor (PS20) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the trailing edge stopper motor (M6) is turned ON.
Trouble isolation	-
Relevant electrical parts	• Trailing edge stopper motor (M6) • Trailing edge stopper home position detection sensor (PS20) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M6-FSCB J5 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 PS20-relay CN22-FSCB J5 for proper connection and correct as necessary.
4. PS20 I/O check, sensor check
   - Control signal: FSCB J5-9 (ON)
   - Location of electrical component: FS-534 9-K
5. M6 operation check
   - Control signal: FSCB J5-13 to 16
   - Location of electrical component: FS-534 9-K
6. Replace M6.
7. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.17 C1156

(1) Contents

Trouble type	C1156: SD paddle motor malfunction (When FS-534SD is installed)
Rank	B
Trouble detection condition	The paddle home sensor (PS5) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed while the SD paddle motor (M7) is energized.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• SD paddle motor (M7) • Paddle home sensor (PS5) • SD drive board (SDDB) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M7-SDDB J8 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 PS5-SDDB J8 for proper connection and correct as necessary.
4. PS5 I/O check, sensor check
   - Control signal: SDDB J8-3 (ON)
   - Location of electrical component: SD-511 3 to 4-G
5. M7 operation check
   - Control signal: SDDB J8-4 to 7
   - Location of electrical component: SD-511 3-F to G
6. Replace M7.
7. Replace SDDB.
8. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.7 SD-511)

3.6.18 C1182

(1) Contents

Trouble type	C1182: Shift motor drive malfunction (When JS-506 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 turned ON (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 turned ON (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)

(2) 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-506 5-C
5. M1 operation check
   - Control signal: JSCB CN208-1 (DRV)
   - Location of electrical component: JS-506 4 to 5-C
6. Replace M1.
7. JSCB ICP3 conduction check
8. Replace JSCB.

NOTICE
- Link to the wiring diagram (N.2.8 JS-506)

3.6.19 C1184

(1) Contents

Trouble type	C1184: Paper discharge control motor malfunction (When FS-534 or FS-534SD is installed)
Rank	B
Trouble detection condition	The paper delivery control sensor (PS28) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed while the paper receiving control motor (M12) is energized.
Trouble isolation	-
Relevant electrical parts	• Paper receiving control motor (M12) • Paper delivery control sensor (PS28) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M12-relay CN1-FRCB J14 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 PS28-relay CN1-FRCB J14 for proper connection and correct as necessary.
4. PS28 I/O check, sensor check
   - Control signal: FSCB J14<B>-3 (ON)
   - Location of electrical component: FS-534 2 to 3-C
5. M12 operation check
   - Control signal: FSCB J14<A>-9 to 12
   - Location of electrical component: FS-534 2-C to D
6. Replace M12.
7. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.20 C1195

(1) Contents

Trouble type	C1195: Paper discharge control motor malfunction (When FS-534SD is installed)
Rank	B
Trouble detection condition	The curl cover detection sensor (PS2) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the paper discharge control motor (M2) is turned ON.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Paper discharge control motor (M2) • Curl cover detection sensor (PS2) • SD drive board (SDDB) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M2-relay CN3-relay CN2-SDDB J5 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 PS2-relay CN3-relay CN2-SDDB J5 for proper connection and correct as necessary.
4. PS2 I/O check, sensor check
   - Control signal: SDDB J5-3 (ON)
   - Location of electrical component: SD-511 3-B
5. M2 operation check
   - Control signal: SDDB J5-4 to 7
   - Location of electrical component: SD-511 3-B
6. Replace M2.
7. Replace SDDB.
8. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.7 SD-511)

3.6.21 C1196

(1) Contents

Trouble type	C1196: Center fold roller motor malfunction (When FS-534SD is installed)
Rank	B
Trouble detection condition	The guide home sensor (PS7) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the center fold roller motor (M8) is turned ON.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Center fold roller motor (M8) • Guide home sensor (PS7) • SD drive board (SDDB) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M8-SDDB J8 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 PS7-SDDB J9 for proper connection and correct as necessary.
4. PS7 I/O check, sensor check
   - Control signal: SDDB J9-6 (ON)
   - Location of electrical component: SD-511 4-G
5. M8 operation check
   - Control signal: SDDB J8-11 to 14
   - Location of electrical component: SD-511 2 to 3-F to G
6. Replace M8.
7. Replace SDDB.
8. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.7 SD-511)

3.6.22 C1197

(1) Contents

Trouble type	C1197: Tri-folding guide motor malfunction (When FS-534SD is installed)
Rank	B
Trouble detection condition	The tri-folding gate home sensor (PS11) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed while the tri-folding guide motor (M6) is energized.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Tri-folding guide motor (M6) • Tri-folding gate home sensor (PS11) • SD drive board (SDDB) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M6-SDDB J9 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 PS11-SDDB J8 for proper connection and correct as necessary.
4. PS11 I/O check, sensor check
   - Control signal: SDDB J8-10 (ON)
   - Location of electrical component: SD-511 3-G
5. M6 operation check
   - Control signal: SDDB J9-7 to 10
   - Location of electrical component: SD-511 4-F to G
6. Replace M6.
7. Replace SDDB.
8. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.7 SD-511)

3.6.23 C11A1

(1) Contents

Trouble type	C11A1: Exit roller pressure/ retraction 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 turned ON.
Trouble isolation	-
Relevant electrical parts	• Exit roller lift up motor (M104) • Pick up roller position sensor (PS105) • FS control board (FSCB)

(2) 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.

NOTICE
- Link to the wiring diagram (N.2.5 FS-533)

3.6.24 C11A2

(1) Contents

Trouble type	C11A2: Accommodation roller pressure/ retraction malfunction (When FS-534 or FS-534SD is installed)
Rank	B
Trouble detection condition	The receiving roller retraction sensor (PS11) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the receiving roller retraction motor (M4) is turned ON.
Trouble isolation	Center Stapling/Half-Fold/Tri-Fold
Relevant electrical parts	• Receiving roller retraction motor (M4) • Receiving roller retraction sensor (PS11) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M4-FSCB J4 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 PS11-FSCB J4 for proper connection and correct as necessary.
4. PS11 I/O check, sensor check
   - Control signal: FSCB J4<B>-16 (ON)
   - Location of electrical component: FS-534 13-C
5. M4 operation check
   - Control signal: FSCB J4<A>-1 to 4
   - Location of electrical component: FS-534 11-C to D
6. Replace M4.
7. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.25 C11E1

(1) Contents

Trouble type	C11E1: Paper exit switching drive malfunction (When FS-534 or FS-534SD is installed)
Rank	B
Trouble detection condition	The exchange folded knife home position sensor (PS30) is not turned ON (blocked) or OFF (unblocked) even after the set period of time has elapsed after the FNS entry transport motor (M2) is turned ON.
Trouble isolation	-
Relevant electrical parts	• FNS entry transport motor (M2) • Exchange folded knife home position sensor (PS30) • FS control board (FSCB)

(2) Procedure

1. Check the connector between M2-FSCB J9 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 PS30-FSCB J4 for proper connection and correct as necessary.
4. PS30 I/O check, sensor check
   - Control signal: FSCB J4<A>-15 (ON)
   - Location of electrical component: FS-534 12-C
5. M2 operation check
   - Control signal: FSCB J9<A>-1 to 4
   - Location of electrical component: FS-534 10 to 11-B to C
6. Replace M2.
7. Replace FSCB.

NOTICE
- Link to the wiring diagram (N.2.6 FS-534)

3.6.26 C1402

(1) 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)

(2) Procedure

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace FSCB.

3.7 C2###

3.7.1 C2253, C2254

(1) Contents

Trouble type	• C2253: Main motor failure to turn • C2254: Main motor turning at abnormal timing
Rank	B
Trouble detection condition	• C2253: The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning. • C2254: The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Main motor (M3) • MFP board (MFPB)

(2) Procedure

1. Check the connector between M3-MFPB CN19E for proper connection and correct as necessary.
2. Check the connector of M3 for proper drive coupling and correct as necessary.
3. M3 operation check
   - Control signal: MFPB CN19E-10 to 14
   - Location of electrical component: 26-C
4. Replace M3.
5. MFPB F11E conduction check
6. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.7.2 C2350

(1) Contents

Trouble type	C2350: Toner suction fan failure to turn
Rank	B
Trouble detection condition	The fan lock signal remains HIGH for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Toner suction fan (FM4) • MFP board (MFPB)

(2) Procedure

1. Check the connector between FM4-relay CN46-MFPB CN15E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. FM4 operation check
   - Control signal: MFPB CN15E-1 (REM), MFPB CN15E-3 (LOCK)
   - Location of electrical component: 16 to 17-C
4. Replace FM4.
5. MFPB F7E conduction check
6. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.7.3 C2414

(1) Contents

Trouble type	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/K • MFP board (MFPB)

(2) Procedure

1. Reinstall developing unit/K.
2. Check the connector between the developing unit-relay CN15-MFPB CN17E for proper connection and correct as necessary.
3. Replace the developing unit/K.
4. Replace MFPB.

3.7.4 C2557

(1) 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 toner hopper.
Trouble isolation	-
Relevant electrical parts	• Developing unit/K • Toner cartridge/K • Toner empty sensor/K (PS31) • Toner cartridge motor (M10) • Toner supply motor/K (M6) • MFP board (MFPB)

(2) Procedure

1. Perform image troubleshooting procedure if image density is low.
2. Reinstall developing unit/K.
3. Reinstall toner cartridge/K.
4. Check the connector between the developing unit-relay CN15-MFPB CN17E for proper connection and correct as necessary.
5. M10 operation check
   - Control signal: MFPB CN22E-5 to 8
   - Location of electrical component: 20-J
6. M6 operation check
   - Control signal: MFPB CN22E-1 to 4
   - Location of electrical component: 20-J
7. If the toner empty sensor and its surroundings inside the toner hopper are dirtied with toner, clean them.
8. Replace the developing unit/K.
9. MFPB F13E, F14E conduction check
10. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.7.5 C2558

(1) Contents

Trouble type	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/K • Toner cartridge/K • MFP board (MFPB)

(2) Procedure

1. Reinstall developing unit/K.
2. Reinstall toner cartridge/K.
3. Check the connector between the developing unit-relay CN15-MFPB CN17E for proper connection and correct as necessary.
4. Replace the developing unit/K.
5. Replace MFPB.

3.7.6 C255C

(1) 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 (M10) • Toner supply motor/K (M6) • MFP board (MFPB)

(2) Procedure

1. Reinstall developing unit/K.
2. Check the connector between the developing unit-relay CN15-MFPB CN17E for proper connection and correct as necessary.
3. M10 operation check
   - Control signal: MFPB CN22E-5 to 8

- Location of electrical component: 20-J

4. M6 operation check
   - Control signal: MFPB CN22E-1 to 4
   - Location of electrical component: 20-J
5. Replace the developing unit/K.
6. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.7.7 C2564

(1) Contents

Trouble type	C2564: Black TCR sensor failure
Rank	B
Trouble detection condition	The TCR sensor input is 0. This detection is used for detecting disconnection of TCR sensor connector.
Trouble isolation	-
Relevant electrical parts	• Developing unit/K • MFP board (MFPB)

(2) Procedure

1. Reinstall developing unit/K.
2. Check the connector between the developing unit-relay CN15-MFPB CN17E for proper connection and correct as necessary.
3. Replace the developing unit/K.
4. Replace MFPB.

3.7.8 C2650

(1) 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 (ERB) is not mounted.
Trouble isolation	-
Relevant electrical parts	• Backup board (ERB) • MFP board (MFPB)

(2) Procedure

1. Check the connector from ERB CN1-MFPB CN20E for proper connection and correct as necessary.
2. Replace ERB.
3. Replace MFPB.
4. If the above actions do not solve the problem, contact KM.

3.7.9 C2A14

(1) Contents

Trouble type	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/K • MFP board (MFPB)

(2) Procedure

1. Clean the connection between the drum unit and the machine if dirty.
2. Reinstall the drum unit/K.
3. Check the connector between the drum unit-relay CN13-MFPB CN17E for proper connection and correct as necessary.
4. Replace the drum unit/K.
5. Replace MFPB.

3.8 C3###

3.8.1 C3421

(1) Contents

Trouble type	C3421: Fusing warm-up trouble (Middle of the heating roller)
Rank	A

Trouble detection condition	Detected temperature of the thermistor/1 (TH1) or thermistor/2 (TH2) does not go up a given range of temperature even after a lapse of given period of time at warm up.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • Thermistor/1 (TH1) • Thermistor/2 (TH2) • DC power supply (DCPU) • MFP board (MFPB)

(2) 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 CN19-MFPB CN18E for proper connection and correct as necessary.
4. Check the connector between the fusing unit-relay CN7AC-DCPU CN2 for proper connection and correct as necessary.
5. Check the connector between MFPB CN2E-DCPU CN7 for proper connection and correct as necessary.
6. Replace the fusing unit.
7. Replace MFPB.
8. Replace DCPU.

3.8.2 C3721, C3722

(1) Contents

Trouble type	• C3721: Fusing abnormally high temperature detection (Middle of the heating roller) • C3722: Fusing abnormally high temperature detection (Edge of the heating roller)
Rank	A
Trouble detection condition	• C3721: Detected temperature of the thermistor/1 (TH1) goes beyond a given temperature for a given period of time consecutively. • C3722: Detected temperature of the thermistor/2 (TH2) goes beyond a given temperature for a given period of time consecutively.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • C3721: Thermistor/1 (TH1) • C3722: Thermistor/2 (TH2) • MFP board (MFPB)

(2) 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 CN19-MFPB CN18E for proper connection and correct as necessary.
4. Replace the fusing unit.
5. Replace MFPB.

3.8.3 C3731

(1) Contents

Trouble type	C3731: Fusing abnormally high temperature detection (Hard protector)
Rank	A
Trouble detection condition	The hard protector signal error is detected for a given period of time consecutively.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • Thermistor/1 (TH1) • Thermistor/2 (TH2) • MFP board (MFPB)

(2) 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 CN19-MFPB CN18E for proper connection and correct as necessary.
4. Replace the fusing unit.
5. MFPB F3E conduction check
6. Replace MFPB.

3.8.4 C3821, C3822

(1) Contents

Trouble type	• C3821: Fusing abnormally low temperature detection (Middle of the heating roller) • C3822: Fusing abnormally low temperature detection (Edge of the heating roller)
Rank	A

Trouble detection condition	• C3821: Detected temperature of the thermistor/1 (TH1) goes below a given temperature for a given period of time consecutively after warm up is completed. • C3822: Detected temperature of the thermistor/2 (TH2) goes below a given temperature for a given period of time consecutively after warm up is completed.
Trouble isolation	-
Relevant electrical parts	• Fusing unit • C3821: Thermistor/1 (TH1) • C3822: Thermistor/2 (TH2) • MFP board (MFPB)

(2) 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 CN19-MFPB CN18E for proper connection and correct as necessary.
4. Replace the fusing unit.
5. Replace MFPB.

3.8.5 C3921, C3922

(1) Contents

Trouble type	• C3921: Fusing sensor wire breaks detection (Middle of the heating roller) • C3922: Fusing sensor wire breaks detection (Edge of the heating roller)
Rank	A
Trouble detection condition	• C3921: The maximum value and minimum value of detected temperature of the thermistor/1 (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. • C3922: The maximum value and minimum value of detected temperature of the thermistor/2 (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 • C3921: Thermistor/1 (TH1) • C3922: Thermistor/2 (TH2) • MFP board (MFPB)

(2) 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 CN19-MFPB CN18E for proper connection and correct as necessary.
4. Replace the fusing unit.
5. Replace MFPB.

3.9 C4###

3.9.1 C40A1, C40A2, C40A3, C40A4

(1) Contents

Trouble type	• C40A1: Mechanical controller sub-CPU communication error • C40A2: Mechanical controller PF communication data error • C40A3: Mechanical controller PF transmission timeout • C40A4: Mechanical controller PF communication pulse error
Rank	C
Trouble detection condition	A CPU communication error is detected.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace MFPB.

3.9.2 C4101

(1) 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 • MFP board (MFPB)

(2) Procedure

1. Check the connector between the PH unit-MFPB CN18 for proper connection and correct as necessary.
2. Replace the PH unit.
3. MFPB F15E conduction check
4. Replace MFPB.

3.9.3 C4501

(1) 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.
Trouble isolation	-
Relevant electrical parts	• PH unit • MFP board (MFPB)

(2) Procedure

1. Check the connector between the PH unit-MFPB CN18 for proper connection and correct as necessary.
2. Replace the PH unit.
3. Replace MFPB.

3.10 C5###

3.10.1 C5102, C5103

(1) Contents

Trouble type	• C5102: Transport motor failure to turn • C5103: Transport motor turning at abnormal timing
Rank	B
Trouble detection condition	• C5102: The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning. • C5103: The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.
Trouble isolation	-
Relevant electrical parts	• Transport motor (M1) • MFP board (MFPB)

(2) Procedure

1. Check the connector between M1-MFPB CN19E for proper connection and correct as necessary.
2. Check the loading status of the transfer roller drive, and correct the error as necessary.
3. M1 operation check
   - Control signal: MFPB CN19E-3 to 7
   - Location of electrical component: 26-C
4. Replace M1.
5. MFPB F10E conduction check
6. Replace MFPB.

NOTICE

- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.10.2 C5354

(1) Contents

Trouble type	C5354: Paper exit cooling fan failure to turn
Rank	B
Trouble detection condition	The fan lock signal remains HIGH for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Paper exit cooling fan (FM3) • MFP board (MFPB)

(2) Procedure

1. Check the connector between FM3-MFPB CN41E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. FM3 operation check

- Control signal: MFPB CN41E-1 (REM), MFPB CN41E-3 (LOCK)
- Location of electrical component: 12-I

4. Replace FM3.
5. MFPB F7E conduction check
6. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.10.3 C5356

(1) Contents

Trouble type	C5356: Main cooling fan failure to turn
Rank	B
Trouble detection condition	The fan lock signal remains HIGH for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Main cooling fan (FM2) • MFP board (MFPB)

(2) Procedure

1. Check the connector between FM2-relay CN21-relay CN27-MFPB CN29E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. FM2 operation check
   - Control signal: MFPB CN29E-6 (REM), MFPB CN29E-8 (LOCK)
   - Location of electrical component: 20-C
4. Replace FM2.
5. MFPB F12E conduction check
6. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.10.4 C5359

(1) Contents

Trouble type	C5359: Reverse cooling fan failure to turn
Rank	B
Trouble detection condition	The fan lock signal remains HIGH for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Reverse cooling fan (FM5) • MFP board (MFPB)

(2) Procedure

1. Check the connector between FM5-relay CN88-relay CN20-MFPB CN25E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. FM5 operation check.
   - Control signal: MFPB CN25E-11 (REM), MFPB CN25E-13 (LOCK)
   - Location of electrical component: 18-C
4. Replace FM5.
5. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.10.5 C5370

(1) Contents

Trouble type	C5370: Power supply cooling fan failure to turn
Rank	C
Trouble detection condition	The fan lock signal remains HIGH for a predetermined continuous period of time while the fan is turning.
Trouble isolation	-
Relevant electrical parts	• Power supply cooling fan (FM1) • MFP board (MFPB)

(2) Procedure

1. Check the connector betweenFM1-relay CN45-MFPB CN15E for proper connection and correct as necessary.
2. Check the fan for possible overload and correct as necessary.
3. FM1 operation check
   - Control signal: MFPB CN15E-4 (REM), MFPB CN15E-6 (LOCK)
   - Location of electrical component: 17-C
4. Replace FM1.

5. MFPB F7E conduction check
6. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.10.6 C5372

(1) Contents

Trouble type	C5372: MFP control board CPU temperature failure
Rank	C
Trouble detection condition	Temperature failure of CPU on the MFP board was detected.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

1. Reboot the machine.
2. Check for clogging in the ventilation path between the MFPB and the power supply cooling fan, and correct as necessary.
3. Replace MFPB.

3.10.7 C5501

(1) Contents

Trouble type	C5501: AC signal abnormality
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) • MFP board (MFPB)

(2) Procedure

1. Check the fusing unit for correct installation (whether it is secured in position).
2. Check the fusing unit-DCPU CN2 for proper connection and correct or change as necessary.
3. Check the connector between DCPU CN7-MFPB CN2E for proper connection and correct as necessary.
4. Replace the fusing unit.
5. MFPB F1E conduction check
6. Replace MFPB.
7. Replace DCPU.

3.10.8 C5601

(1) 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	MFP board (MFPB)

(2) Procedure

1. Check the connectors on MFPB for proper connection and correct as necessary.
2. Rewrite the firmware.
3. Replace MFPB.

3.10.9 C5605, C5606

(1) 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	MFP board (MFPB)

(2) Procedure

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace MFPB.

3.11 C6###

3.11.1 C6102, C6103

(1) Contents

Trouble type	C6102: Drive system home sensor malfunction C6103: Slider over running
Rank	B
Trouble detection condition	C6102: • The scanner home sensor (PS105) is unable to detect the scanner located at its home position. • The scanner home sensor (PS105) is unable to detect a scanner even when the scanner motor (M101) has been driven to move the scanner over the maximum travelling distance. • The scanner home sensor (PS105) detects the scanner when the scanner has moved the maximum travelling distance from the position, at which it blocks the scanner home sensor (PS105).
	C6103: The scanner home sensor (PS105) 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 (PS105) • Scanner motor (M101) • MFP board (MFPB)

(2) 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 M101-relay CN6IR-MFPB CN26E for proper connection and correct as necessary.
5. Check the connector between PS105-MFPB CN27E for proper connection and correct as necessary.
6. PS105 I/O check, sensor check
   - Control signal: MFPB CN27E-15 (ON)
   - Location of electrical component: 5-V
7. M101 operation check
   - Control signal: MFPB CN26E-1 to 4
   - Location of electrical component: 6-W
8. Replace MFPB.

NOTICE
- Link to the wiring diagram (N.1. bizhub 367/287/227)

3.11.2 C6704

(1) Contents

Trouble type	C6704: Image input time out
Rank	C
Trouble detection condition	Image data is not input from the scanner to the MFP board (MFPB).
Trouble isolation	Scanner
Relevant electrical parts	• CCD unit • CCD board (CCDB) • MFP board (MFPB)

(2) 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 PJ1-MFPB CN7 for proper connection and correct as necessary.
3. Replace MFPB.
4. Replace the CCD unit.

3.11.3 C6751

(1) Contents

Trouble type	C6751: CCD 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 • CCD board (CCDB) • MFP board (MFPB)

(2) Procedure

1. Check the connector between CCDB PJ1-MFPB CN7 for proper connection and correct as necessary.
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.
5. Replace the CCD unit.
6. MFPB F8E conduction check
7. Replace MFPB.

3.11.4 C6752

(1) 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 • CCD board (CCDB) • MFP board (MFPB)

(2) Procedure

1. Correct the harness connection of CCDB if faulty.
2. Replace the CCD unit.
3. MFPB F8E conduction check
4. Replace MFPB.

3.11.5 C6756

(1) 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	Scanner
Relevant electrical parts	• CCD unit • CCD board (CCDB) • DC power supply (DCPU)

(2) Procedure

1. Correct the harness connection between CCDB and DCPU if faulty.
2. Replace the CCD unit.
3. Replace DCPU.

3.11.6 C6F01

(1) Contents

Trouble type	C6F01: Scanner sequence trouble 1
Rank	C
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	• MFP board (MFPB) • DF control board (DFCB)

(2) Procedure

1. Correct the harness connection between MFPB CN31E-DFCB J21 if faulty.
2. Replace DFCB.
3. Replace MFPB.

3.12 C8###

3.12.1 C8101

(1) Contents

Trouble type	C8101: Before reading pressure welding alienation mechanism (When DF-628 is installed)
Rank	B
Trouble detection condition	• During a pressure motion being performed, the original reading sensor (PS4) output does not change from H to L. • During a retraction motion being performed, the original reading sensor (PS4) output does not change from L to H.
Trouble isolation	DF
Relevant electrical parts	• Reading roll release motor (M5) • Original reading sensor (PS4) • DF control board (DFCB)

(2) Procedure

1. Check the connector between M5-DFCB J18 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 PS4-DFCB J10 for proper connection and correct as necessary.
4. PS4 I/O check, sensor check
   - Control signal: DFCB J10-3 (ON)
   - Location of electrical component: DF-628 2-G
5. M5 operation check
   - Control signal: DFCB J18-4 to 5
   - Location of electrical component: DF-628 2-G
6. Replace M5.
7. DFCB F9 conduction check.
8. Replace DFCB.

NOTICE
- Link to the wiring diagram (N.2.1 DF-628)

3.12.2 C8107

(1) Contents

Trouble type	C8107: Glass cleaning mechanism trouble (When DF-628 is installed)
Rank	B
Trouble detection condition	The original reading glass cleaning sensor (PS12) is not turned OFF (unblocked) after the set period of time has elapsed after the glass cleaning motor (M4) is turned ON.
Trouble isolation	DF
Relevant electrical parts	• Glass cleaning motor (M4) • Original reading glass cleaning sensor (PS12) • DF control board (DFCB)

(2) Procedure

1. Check the connector between M4-DFCB J8 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 PS12-DFCB J15 for proper connection and correct as necessary.
4. PS12 I/O check, sensor check
   - Control signal: DFCB J15-5 (ON)
   - Location of electrical component: DF-628 3-G
5. M4 operation check
   - Control signal: DFCB J8-1 to 4
   - Location of electrical component: DF-628 1 to 2-B
6. Replace M4.
7. Replace DFCB.

NOTICE
- Link to the wiring diagram (N.2.1 DF-628)

3.12.3 C8401

(1) Contents

Trouble type	C8401: Data flash failure (When DF-628 is installed)
Rank	C
Trouble detection condition	Data flash does not access normally.
Trouble isolation	DF
Relevant electrical parts	DF control board (DFCB)

(2) Procedure

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Check the DFCB connector for proper connection and correct as necessary.
3. Rewrite the firmware.
4. Replace DFCB.

3.13 C9###

3.13.1 C9401, C9402

(1) Contents

Trouble type	• C9401: Exposure LED lighting failure • C9402: Exposure LED lighting abnormally
Rank	A
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 • CCD unit • Flat cable (CCD unit) • CCD board (CCDB) • MFP board (MFPB)

(2) Procedure

1. Check the connector between LEDB CN1-CCDB PJ7 for proper connection and correct as necessary.
2. Check the connector between CCDB PJ1-MFPB CN7 for proper connection and correct as necessary.
3. Replace the LED exposure unit.
4. Replace the CCD unit.
5. MFPB F8E conduction check
6. Replace MFPB.

3.14 CA###

3.14.1 CA051, CA052, CA053

(1) 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 MFP board (MFPB) 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	MFP board (MFPB)

(2) Procedure

1. Check to see if [Service Mode] -> [System 2] -> [Image Controller Setting] has been set to “Controller 0.” If changing the setting, turn OFF the main power switch and turn it ON again after 10 seconds or more.
2. Check the connectors of the MFPB for proper connection and correct as necessary.
3. Replace MFPB.

3.15 CC###

3.15.1 CC140

(1) Contents

Trouble type	CC140: Trouble related to security
Rank	C
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	-

(2) Procedure

NOTE

- **Contact the responsible people of KM before taking some countermeasures.**

3.15.2 CC151, CC152

(1) 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 MFPB during starting.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

1. Check the ROM version.
2. Rewrite the firmware.
3. Replace MFPB.

3.15.3 CC155

(1) Contents

Trouble type	CC155: Finisher ROM error (When FS-533, FS-534, FS-534SD or JS-506 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	<When FS-533, FS-534 or FS-534SD is installed> • FS control board (FSCB)
	<When JS-506 is installed> • JS control board (JSCB)

(2) Procedure

(a) When FS-533, FS-534 or FS-534SD is installed

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace FSCB (FS-533/FS-534/FS-534SD)

(b) When JS-506 is installed

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace JSCB.

3.15.4 CC156

(1) Contents

Trouble type	CC156: DF ROM error (When DF-628 is installed)
Rank	C
Trouble detection condition	Upgrade of the firmware has not been successful.
Trouble isolation	-
Relevant electrical parts	DF control board (DFCB)

(2) Procedure

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace DFCB.

3.15.5 CC15B

(1) Contents

Trouble type	CC15B: Flash ROM error (saddle) (When FS-534SD 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 drive board (SDDB)

(2) Procedure

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace SDDB.

3.15.6 CC163

(1) 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) • MFP board (MFPB)

(2) Procedure

1. Rewrite the firmware.
2. Replace MFPB

   NOTE
   - **When taking the above steps, check whether MFPB is defective or not without replacing the ERB.**

   1. Turn OFF the main power switch and replace the current MFPB 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 MFPB to the original board.
3. Replace ERB.
4. If the above actions do not solve the problem, contact KM.

3.15.7 CC164

(1) Contents

Trouble type	CC164: ROM contents error (MSC)
Rank	C
Trouble detection condition	• The wrong model of firmware is detected in the MFP 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	• MFP board (MFPB) • eMMC board (eMMC)

(2) Procedure

1. Check the ROM version.
2. Check the machine type information registered and reenter as necessary.
   For details the machine information, see "J.2.4 Entering the machine type information".
3. Rewrite the firmware.
4. Replace MFPB.
5. Replace eMMC.
6. If the above actions do not solve the problem, contact KM.

3.15.8 CC170, CC171, CC172, CC173, CC174, CC180, CC181, CC182, CC183, CC184, CC185, CC186

(1) 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 MFP 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	MFP board (MFPB)

(2) Procedure

1. If the malfunction code “C-C172” has occurred, access [Service Mode] -> [System 2] -> [Image Controller Setting] and check to see if “Controller 1,” or “Others” is set for [Image Controller Setting].
   If any of these is set, select “Controller 0”.
2. If the malfunction 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.
3. Replace MFPB.
4. If the above actions do not solve the problem, contact KM.

3.15.9 CC190

(1) 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	• MFP board (MFPB) • SATA board (SATAB) • Hard disk (HDD)

(2) Procedure

1. Check the connector between hard disk-SATAB PJ2 for proper connection and correct as necessary.
2. Check the connector between SATAB PJ1-MFPB CN1 for proper connection and correct as necessary.
3. Format the hard disk.
4. Replace the hard disk.
5. Replace SATAB.
6. Replace MFPB.

3.15.10 CC191

(1) 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	MFP board (MFPB)

(2) Procedure

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Reinstall the loadable device driver.
3. Rewrite the firmware.
4. Replace MFPB.

3.15.11 CC211

(1) 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	• MFP board (MFPB) • Authentication device

(2) Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.

3.15.12 CC212

(1) 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	• MFP board (MFPB) • Authentication device

(2) 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. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.
4. Re-register the user authentication information.
5. Replace authentication device.

3.15.13 CC213

(1) 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	• MFP board (MFPB) • Authentication device

(2) Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.
3. Reset the authentication settings. (card type, IC card advanced settings, and etc.)
4. Re-register the user authentication information.

3.15.14 CC214

(1) 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	• MFP board (MFPB) • Authentication device

(2) Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.

3.15.15 CC216

(1) 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	• MFP board (MFPB) • Authentication device

(2) Procedure

1. Check the USB cable for proper connection. Reconnect the USB cable as necessary.
2. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.
3. Reset the number of authentication trials.

3.16 CD###

3.16.1 CD002

(1) Contents

Trouble type	CD002: JOB RAM save error
Rank	C
Trouble detection condition	The error in save of job data to the memory/ hard disk and its read error are detected.
Trouble isolation	-
Relevant electrical parts	• MFP board (MFPB) • SATA board (SATAB) • Hard disk (HDD)

(2) Procedure

1. Check the connector between hard disk-SATAB PJ2 for proper connection and correct as necessary.
2. Check the connector between SATAB PJ1-MFPB CN1 for proper connection and correct as necessary.
3. Format the hard disk.
4. Replace the hard disk.
5. Replace MFPB.

3.16.2 CD004, CD00F, CD020

(1) Contents

Trouble type	• CD004: Hard disk access error (connection failure) • CD00F: Hard disk data transfer error • CD020: Hard disk verify error
Rank	C
Trouble detection condition	• CD004: Unable to communicate between the hard disk and MFP board (MFPB). • CD00F: Data transfer from the hard disk is faulty. • CD020: The data abnormality is detected by the hard disk verify check.
Trouble isolation	-
Relevant electrical parts	• MFP board (MFPB) • SATA board (SATAB) • Hard disk (HDD)

(2) Procedure

1. Check the connector between hard disk-SATAB PJ2 for proper connection and correct as necessary.
2. Check the connector between SATAB PJ1-MFPB CN1 for proper connection and correct as necessary.
3. Reinstall the hard disk.
4. Replace the hard disk.
5. Replace MFPB.

3.16.3 CD010

(1) Contents

Trouble type	CD010: Hard disk unformat
Rank	C
Trouble detection condition	Unformatted hard disk is connected.
Trouble isolation	-
Relevant electrical parts	• MFP board (MFPB) • Hard disk (HDD)

(2) Procedure

1. Select [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Format], and conduct the HDD format function.
2. Replace the hard disk.
3. Replace MFPB.

3.16.4 CD011

(1) Contents

Trouble type	CD011: Hard disk out of specifications mounted
Rank	C
Trouble detection condition	A hard disk that falls outside the specifications is connected.
Trouble isolation	-
Relevant electrical parts	Hard disk (HDD)

(2) Procedure

1. Check the hard disk specifications.
2. Replace the hard disk.

3.16.5 CD012

(1) Contents

Trouble type	CD012: Mount error due to hard disk being unformatted
Rank	C
Trouble detection condition	• The hard disk is not logically formatted after the whole data in the hard disk has been deleted by overwriting. • The hard disk that has replaced an old one is not logically formatted.
Trouble isolation	-
Relevant electrical parts	Hard disk (HDD)

(2) Procedure

1. Logically format the hard disk and then upgrade the firmware.
2. Replace the hard disk.

3.16.6 CD030

(1) Contents

Trouble type	CD030: Hard disk management information reading error
Rank	C
Trouble detection condition	The machine fails to read administrative information data saved in the hard disk.
Trouble isolation	-
Relevant electrical parts	Hard disk (HDD)

3.16.7 CD041, CD042, CD043, CD044, CD045, CD046

(1) Contents

Trouble type	CD041, CD042, CD043, CD044, CD045, CD046: HDD command execution error
Rank	C
Trouble detection condition	The error occurred inside the hard disk.
Trouble isolation	-
Relevant electrical parts	Hard disk (HDD)

(2) Procedure

1. Check the hard disk specifications.
2. Format the hard disk.
3. Replace the hard disk.

3.16.8 CD047, CD048, CD049, CD04A, CD04B

(1) Contents

Trouble type	CD047, CD048, CD049, CD04A, CD04B: HDD SCSI library error
Rank	C
Trouble detection condition	The error occurred inside the hard disk.
Trouble isolation	-
Relevant electrical parts	Hard disk (HDD)

(2) Procedure

1. Check the hard disk specifications.
2. Format the hard disk.
3. Replace the hard disk.

3.16.9 CD050

(1) Contents

Trouble type	CD050: Hard disk recovery timeout
Rank	C
Trouble detection condition	The hard disk fails to recover from the power save mode within the predetermined period of time.
Trouble isolation	-
Relevant electrical parts	• MFP board (MFPB)

	• SATA board (SATAB) • Hard disk (HDD)

(2) Procedure

1. Check the connector between hard disk-SATAB PJ2 for proper connection and correct as necessary.
2. Check the connector between SATAB PJ1-MFPB CN1 for proper connection and correct as necessary.
3. Reinstall the hard disk.
4. Format the hard disk.
5. Replace the hard disk.

3.16.10 CD110

(1) 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-212).
Trouble isolation	-
Relevant electrical parts	-

(2) Procedure

1. Check the UK-212 connector for proper connection and correct as necessary.
2. Rewrite the firmware.
3. Reinstall the UK-212.

3.16.11 CD201, CD202, CD203

(1) 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 MFP board (MFPB) is not enough. • File memory capacity necessary for duplex printing is not enough.
	CD203: • File memory capacity on the MFP board (MFPB) is not enough.
Trouble isolation	-
Relevant electrical parts	• MFP board (MFPB) • DIMM (DIMM: UK-211)

(2) Procedure

1. Check DIMM for proper connection and correct as necessary.
2. Replace the DIMM.
3. Replace MFPB.

3.16.12 CD211, CD212

(1) 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 MFP board (MFPB) fails to respond. • CD212: Hardware related to the BTC compression function of the MFP board (MFPB) fails to respond.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

1. Replace MFPB.

3.16.13 CD241, CD242

(1) 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	MFP board (MFPB)

(2) Procedure

1. Check the MFP board connector for proper connection and correct as necessary.
2. Replace MFPB

3.16.14 CD261

(1) Contents

Trouble type	CD261: USB host board failure
Rank	C
Trouble detection condition	• When a failure is detected in USB board included in the local interface kit. • Non-standard USB device is connected.
Trouble isolation	-
Relevant electrical parts	• MFP board (MFPB) • USB board (EK-608)

(2) Procedure

1. Check the operation with another USB device.
2. Check the USB board connector for proper connection and correct as necessary.
3. Replace the USB board.
4. Replace MFPB.

3.16.15 CD262

(1) 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-212) is not installed. • Upgrade Kit (UK-212) is faulty.
Trouble isolation	-
Relevant electrical parts	-

(2) Procedure

1. Check the settings of [Service Mode] -> [Network Settings] -> [2nd Network Setting] -> [2nd network card settings].
2. Check the UK-212 connector for proper connection and correct as necessary.
3. Rewrite the firmware.
4. Reinstall the UK-212.

3.16.16 CD271

(1) Contents

Trouble type	CD271: i-Option activated and additional memory not installed
Rank	C
Trouble detection condition	While the i-Option is activated, the additional memory (DIMM) included in UK-211 is not installed.
Trouble isolation	-
Relevant electrical parts	• MFP board (MFPB) • DIMM (DIMM: UK-211)

(2) Procedure

1. Check DIMM for proper connection and correct as necessary.
2. Replace the DIMM.
3. Replace MFPB.

3.16.17 CD272

(1) Contents

Trouble type	CD272: i-Option activated and additional memory and HDD not installed
Rank	C
Trouble detection condition	While the i-Option is activated, the additional memory (DIMM) included in UK-211 and the HDD are not installed.
Trouble isolation	-

Relevant electrical parts	• MFP board (MFPB) • Hard disk (HDD) • DIMM (DIMM: UK-211)

(2) Procedure

1. Check DIMM for proper connection and correct as necessary.
2. Access [Service Mode] -> [System 2] -> [HDD] and check to see if “Installed” is selected.
3. Replace the DIMM.
4. Replace the hard disk.
5. Replace MFPB.

3.16.18 CD3##, CD370

(1) Contents

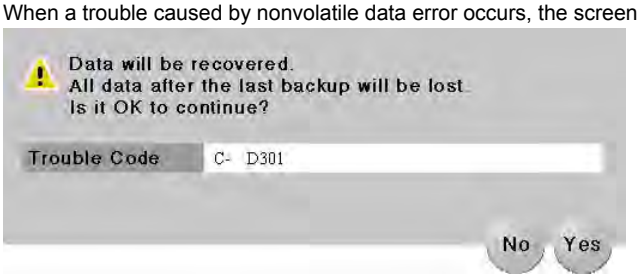
Trouble type	CD3##: Nonvolatile data error CD370: Nonvolatile data multiple errors
Rank	-
Trouble detection condition	CD3##: Abnormality is detected by the abnormal check of each nonvolatile data. CD370: Multiple errors (over 5) are detected by the abnormal check of each nonvolatile data.
Trouble isolation	-

(2) Procedure

NOTE

- **Trouble code [C-D370] will be displayed when multiple errors (over 5) of nonvolatile data are detected, which can be restored with one restoration command.**
- **Data backup will be automatically performed every hour. Backup can also be performed manually with the following setting. [Service Mode] -> [Enhanced Security] -> [Memory Data Backup]**

1. When a trouble caused by nonvolatile data error occurs, the screen below appears.



2. Select [Yes].
3. 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.**
4. 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.**

3.16.19 CD390

(1) Contents

Trouble type	CD390: Nonvolatile data checksum error
Rank	C
Trouble detection condition	C-D390 code is normally shown when the MFP board (MFPB) is replaced with a new one.
Trouble isolation	-
Relevant electrical parts	-

(2) Procedure

1. Wait until “Recover Data” appears. (MFP will reboot maximum 2 times by itself, it may take 5 minutes.) Touch the “Recover Data” button and follow the instructions that appear on the control panel to restore (backup) data.

3.16.20 CD3A0

(1) Contents

Trouble type	CD3A0: Counter error
Rank	C
Trouble detection condition	The total counter values provided by the MFP board (MFPB) and the eMMC board (eMMC) are different.
Trouble isolation	-

Relevant electrical parts	• MFP board (MFPB) • eMMC board (eMMC)

(2) Procedure

1. If this error occurs temporarily due to the use of the board removed from another machine, reinstall the original board.
2. Replace the current MFPB with a new one.
3. Replace the current eMMC with a new one.

3.16.21 CD401, CD402, CD403, CD404, CD405, CD406, CD407, CD411, CD412, CD413

(1) 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	MFP board (MFPB)

(2) Procedure

1. Check whether there is a strong electromagnetic noise source near the main body.
2. Check the connectors on MFPB for proper connection and correct as necessary.
3. Replace MFPB.

3.16.22 CD601, CD602, CD603

(1) Contents

Trouble type	CD601, CD602, CD603: Trouble related to security
Rank	-
Trouble detection condition	-
Trouble isolation	-

(2) 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 KM.

3.16.23 CD701, CD702, CD703

(1) 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	MFP board (MFPB)

(2) Procedure

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.

3. Replace MFPB.

3.16.24 CD704

(1) Contents

Trouble type	CD704: Finisher Flash ROM device error (When FS-533, FS-534, FS-534SD or JS-506 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	<When FS-533, FS-534 or FS-534SD is installed> • FS control board (FSCB)
	<When JS-506 is installed> • JS control board (JSCB)

(2) Procedure

(a) When FS-533, FS-534 or FS-534SD is installed

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace FSCB. (FS-533/FS-534/FS-534SD)

(b) When JS-506 is installed

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace JSCB.

3.16.25 CD705, CD706

(1) Contents

Trouble type	• CD705: Mechanical controller sub-CPU flash ROM device error • CD706: Mechanical controller sub-CPU flash ROM error
Rank	C
Trouble detection condition	• CD705: An erase error or other device fault occurs during mechanical controller sub-CPU flash ROM writing. • CD706: A data error is determined to exist in the mechanical controller sub-CPU flash ROM during starting.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

1. Turn OFF the main power switch, disconnect and then connect the power cord. Wait for 10 sec. or more after connect the power cord, and turn ON the main power switch.
2. Rewrite the firmware.
3. Replace MFPB.

3.16.26 CDC##

(1) Contents

Trouble type	CDC##: Trouble related to security
Rank	-
Trouble detection condition	-
Trouble isolation	-

(2) Procedure

NOTE

- **Contact the responsible people of KM before taking some countermeasures.**

3.16.27 CDF50, CDF70, CDFA0

(1) 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 MFP board (MFPB) and the CCD board (CCDB).
Trouble isolation	-

Relevant electrical parts	• CCD unit • CCD board (CCDB) • MFP board (MFPB)

(2) Procedure

1. Check the connector between MFPB CN7-CCDB PJ1 for proper connection and correct as necessary.
2. Rewrite the firmware.
3. Replace the CCD unit.
4. Replace MFPB.

3.17 CE###

3.17.1 CE001, CE003, CE004, CE005, CE006, CE007

(1) 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
Rank	C
Trouble detection condition	MFP board (MFPB) is faulty.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

1. Check the connectors on MFPB for proper connection and correct as necessary.
2. Replace MFPB.

3.17.2 CE002

(1) Contents

Trouble type	CE002: Message and method parameter failure
Rank	C
Trouble detection condition	MFP board (MFPB) is faulty.
Trouble isolation	-
Relevant electrical parts	• MFP board (MFPB) • Hard disk (HDD)

(2) Procedure

1. Turn OFF the main power switch and turn it ON again, and conduct the following setting. [Service Mode] -> [System 1] -> [Initialization] -> [Clear All Data].
2. Format the hard disk.
3. Replace the hard disk.
4. Replace MFPB.

3.17.3 CE101

(1) 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	MFP board (MFPB)

(2) Procedure

1. Check the connectors on MFPB for proper connection and correct as necessary.
2. Replace MFPB.

3.17.4 CE201

(1) 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	MFP board (MFPB)

(2) Procedure

1. Check the connectors on MFPB for proper connection and correct as necessary.
2. Replace MFPB.

3.17.5 CE301, CE302, CE303, CE304, CE305

(1) 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	Error occurred with the process inside the MFP controller.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

1. Check the connectors on MFPB for proper connection and correct as necessary.
2. Replace MFPB.
3. Acquire the debug logs in [Service Mode] -> [Debug Settings] and analyze them.

3.17.6 CED01

(1) Contents

Trouble type	CED01: The authentication application information does not exist in the hard disk/eMMC board 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 hard disk (HDD) or the eMMC board (eMMC).
Trouble isolation	-
Relevant electrical parts	• eMMC board (eMMC) • Hard disk (HDD)

(2) Procedure

1. Turn OFF and ON the main power switch.
2. Check the connector from MFPB CN1-SATAB PJ1 for proper connection and correct as necessary.
3. Check the connector between SATAB PJ2-hard disk for proper connection and correct as necessary.
4. Check eMMC for proper connection and correct as necessary.
5. Logically format the hard disk.
6. Replace the hard disk.
7. If the above actions do not solve the problem, contact KM.

3.17.7 CEEE1, CEEE3

(1) Contents

Trouble type	• CEEE1: MFP board (MSC) malfunction • CEEE3: MFP board (EMG) malfunction
Rank	C
Trouble detection condition	MFP board (MFPB) is faulty.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

1. Check the connectors on MFPB for proper connection and correct as necessary.
2. Replace MFPB.

3.17.8 CEEE2

(1) 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 • CCD board (CCDB)

(2) Procedure

1. Check the connectors on CCDB for proper connection and correct as necessary.
2. Replace the LED exposure unit.
3. Replace the CCD unit.

4. ABORT CODE

4.1 Troubleshooting of the abort code

- The machine displays an abort code (CF###) on the control panel as it becomes unable to process tasks properly through its software control.
- When the system program is aborted, check the electrical component, unit, option, and connection relating to the specific type of the abort condition.

4.1.1 Contents

Trouble type	Abort code
Trouble code	CFB00 to CFFBD
Rank	C
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	• MFP board (MFPB) • Hard disk (HDD) • DIMM (UK-211)

4.1.2 Procedure

- When an abort code occurs, take a check and action in the following procedure.

Step	Section	Check Item	Result	Action
1	Main power switch	Turn OFF and ON the main power switch, and check if the Abort code appears again.	NO	When not reappearing, continuous use is carried out, and it is checked whether an abort code occurs.
2	Connector connection	Make sure that no faulty conditions are noted in connector connection and board connection on the part. • MFP board (MFPB) • Hard disk (HDD) • DIMM (UK-211, Expansion memory)	NO	It will correct, if connector connection has abnormalities.
3	Firmware	Update the firmware to the latest version, and check if the Abort code appears again.	NO	Select [Service Mode] -> [Firmware Version] and make sure that the firmware has been updated to the correct version.
4	Memory Check	Execute [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Memory Check] -> [Rough Check], and check that no abnormalities.	NO	When "NG" is displayed, replace the appropriate memory or PWB. • WORK0: Memory (onboard) • WORK1: DIMM (UK-211) • FILE0,1: MFP board (MFPB) • FILE2,3: Not used • FILE4,5: Not used
5	Storage R/W Check	Execute [Service Mode] -> [State Confirmation] -> [Memory/Storage Adjustment] -> [Storage R/W Check], and check that no abnormalities.	NO	When "NG" is displayed, replace the hard disk (HDD).
6	MFP board	Replace the MFP board (MFPB), and then check the MFPB.	NO	Other electric parts indicated to Component of abort code list are replaced.

4.2 CF0##

Error code	Item		Component	Rank
CF001	CT_singleList table abnormal	An exceptional instance occurred due to the unexpected parameter in the system F/W.	MFP board (MFPB)	C
CF004	CT_queue full abnormal			
CF011	Array link abnormal			
CF012	FAT link abnormal			
CF013	File size abnormal			
CF021	setDelayMessage Table OverFlow			
CF023	MsgQue OverFlow			
CF033	setDivTbl() limitation over			
CF061	IdeCommand_Set() status Abnormal			
CF062	IdeCommand_Set() parameter Abnormal			

4.3 CF1##

Error code	Item		Component	Rank
CF112	Compress table OverFlow	Compression malfunctions	MFP board (MFPB)	C

Error code	Item		Component	Rank
CF113	Compress table check			
CF122	Expand Table OverFlow			

4.4 CF2##

Error code	Item		Component	Rank
CF211	setParameterBandColorPlane() Table OverFlow	An exceptional instance occurred due to the unexpected parameter in the system F/W.	MFP board (MFPB)	C

4.5 CF3##

Error code	Item		Component	Rank
CF300	IR Bus Check Timeout	Image transfer error on IR input bus	MFP board (MFPB)	C

4.6 CF4##

Error code	Item		Component	Rank
CF411	Parity error	Communication error (between IR-systems)	MFP board (MFPB)	C
CF412	Parity error			
CF421	Overrun error			
CF422	Overrun error			
CF431	Parity error + Overrun error			
CF432	Parity error + Overrun error			
CF441	Framing error			
CF442	Framing error			
CF451	Parity error + Framing error			
CF452	Parity error + Framing error			
CF461	Overrun error + Framing error			
CF462	Overrun error + Framing error			
CF471	Parity error + Overrun error + Framing error			
CF472	Parity error + Overrun error + Framing error			

4.7 CF5##

Error code	Item		Component	Rank
CF510	Parity error	Communication error (IR detected)	MFP board (MFPB)	C
CF520	Framing error			
CF530	Parity error + Framing error			
CF540	Overrun error			
CF550	Parity error + Overrun error			
CF560	Overrun error + Framing error			
CF570	Parity error + Overrun error + Framing error			
CF580	Frame distortion of DF			

4.8 CF6##

Error code	Item		Component	Rank
CF600	Report receiving of print start that is out of sequence	An exceptional instance occurred due to the unexpected parameter in the system F/W.	• MFP board (MFPB) • Engine	C
CF601	Report receiving of paper feeding that is out of sequence			
CF604	Outside IF/Command queue		MFP board (MFPB)	
CF614	“Output sequence” queue			
CF624	Panel LCD date queue			

4.9 CF7##

Error code	Item		Component	Rank
CF704	Common data “Delete-waiting HDD accumulated job ID” queue	An exceptional instance occurred due to the unexpected parameter in the system F/W.	MFP board (MFPB)	C
CF714	IRC/Command queue			
CF724	Engine/Command queue		• MFP board (MFPB) • Engine	
CF734	Panel/Command queue		• MFP board (MFPB) • Control panel	
CF744	File memory transfer start-waiting command queue		MFP board (MFPB)	
CF754	File memory compression requesting command queue			
CF764	Panel instruction delete job queue			
CF774	Warning delete job queue			
CF784	Application instruction delete job queue			
CF794	Output page information for duplex back side queue			
CF7A4	Paper feed completion output pate information queue			
CF7B4	Exposure compaction output page information queue			
CF7C4	Pre-discharge completion output page information queue			
CF7D4	Touch panel coordinate data queue			
CF7E4	Direct key data queue			
CF7F4	Scan sequence queue			

4.10 CF8##

Error code	Item	Component	Rank
CF802	SIO sending port...ENG	• MFP board (MFPB) • Engine	C
CF806	SIO sending port...IRC	MFP board (MFPB)	
CF807	SIO sending port...DF		
CF808	Unsupported option trouble	-	-
CF809	Unsupported option trouble		
CF812	Unsupported option trouble		
CF815	SIO sending port...PIC/PIC terminal	MFP board (MFPB)	C
CF8ED	SIO sending port...EPNet		

4.11 CF9##

Error code	Item	Component	Rank
CF902	SIO receiving port...ENG	• MFP board (MFPB) • Engine	C
CF906	SIO receiving port...IRC	MFP board (MFPB)	
CF907	SIO receiving port...DF		
CF908	Unsupported option trouble	-	-
CF909	Unsupported option trouble		
CF912	Unsupported option trouble		
CF915	SIO receiving port...PIC/PIC terminal	MFP board (MFPB)	C
CF9ED	SIO receiving port...EPNet		

4.12 CFA##

Error code	Item		Component	Rank
CFA01	getOneImgTransInfoFromTh ( ) (Thread ID and thread common parameters used) No applied thread	An exceptional instance occurred due to the unexpected parameter in the system F/W.	MFP board (MFPB)	C
CFA03	setTransBandAndRepeatNum() error			

Error code	Item		Component	Rank
CFA06	getOneImgIndexNumFromTh ( ) No applied thread			
CFA11	cancelTransExec ( ) No applied thread			
CFA12	ImgTransInfo No space			
CFA13	Clear Buffer Sequence error			
CFA14	Application error inside the MFP board		• MFP board (MFPB) • DIMM (UK-211) • Hard disk (HDD)	
CFA15	Global semaphore time out (ten seconds)		• MFP board (MFPB) • Hard disk (HDD)	
CFA16	Thread software error (upper parameter error)			
CFA17	Thread error caused by buffer sequence error			
CFA18	Thread error detected in the VD state at DMA00 startup.			
CFA50	IGC control error	DB error		
CFA51		IGC internal error		

4.13 CFB##

4.13.1 CFB0#

Error code	Item	Component	Rank
CFB00	ASIC777 DMA00	MFP board (MFPB)	C
CFB01	ASIC777 DMA01		
CFB02	ASIC777 DMA02		
CFB03	ASIC777 DMA03		
CFB04	ASIC777 DMA04		
CFB05	ASIC777 DMA05		
CFB06	ASIC777 DMA06		
CFB07	ASIC777 DMA07		
CFB08	ASIC777 DMA08		
CFB09	ASIC777 DMA09		
CFB0A	ASIC777 DMA10		
CFB0B	ASIC777 DMA11		
CFB0C	ASIC777 DMA12		
CFB0D	ASIC777 DMA13		
CFB0E	ASIC777 DMA14		
CFB0F	ASIC777 DMA15		

4.13.2 CFB1#

Error code	Item	Component	Rank
CFB10	ASIC777 DMA16	MFP board (MFPB)	C
CFB11	ASIC777 DMA17		
CFB12	ASIC777 DMA18		
CFB13	ASIC777 DMA19		
CFB14	ASIC777 DMA20		
CFB15	ASIC777 DMA21		
CFB16	ASIC777 DMA22		
CFB17	ASIC777 DMA23		
CFB18	ASIC777 DMA24		
CFB19	ASIC777 DMA25		
CFB1A	ASIC777 DMA26		
CFB1B	ASIC777 DMA27		
CFB1C	ASIC777 DMA28		
CFB1D	ASIC777 DMA29		
CFB1E	ASIC777 DMA30		
CFB1F	ASIC777 DMA31		

4.13.3 CFB2#

Error code	Item	Component	Rank
CFB20	ASIC777 DMA32	MFP board (MFPB)	C

Error code	Item	Component	Rank
CFB21	ASIC777 DMA33		
CFB22	ASIC777 DMA34		
CFB23	ASIC777 DMA35		
CFB24	ASIC777 DMA36		
CFB25	ASIC777 DMA37		
CFB26	ASIC777 DMA38		
CFB27	ASIC777 DMA39		
CFB28	ASIC777 DMA40		
CFB29	ASIC777 DMA41		
CFB2A	ASIC777 DMA42		
CFB2B	ASIC777 DMA43		
CFB2C	ASIC777 DMA44		
CFB2D	ASIC777 DMA45		
CFB2E	ASIC777 DMA46		
CFB2F	ASIC777 DMA47		

4.13.4 CFB3#

Error code	Item	Component	Rank
CFB30	ASIC777 DMA48	MFP board (MFPB)	C
CFB31	ASIC777 DMA49		
CFB32	ASIC777 DMA50		
CFB33	ASIC777 DMA51		
CFB34	ASIC777 DMA52		
CFB35	ASIC777 DMA53		
CFB36	ASIC777 DMA54		
CFB37	ASIC777 DMA55		

4.13.5 CFB9#

Error code	Item	Component	Rank
CFB93	Asic (PMS) DMA03	MFP board (MFPB)	C
CFB97	Asic (PMS) DMA07		

4.13.6 CFBA#

Error code	Item	Component	Rank
CFBA2	Asic (PMS) DMA18	MFP board (MFPB)	C
CFBA3	Asic (PMS) DMA19		
CFBA4	Asic (PMS) DMA32		
CFBA5	Asic (PMS) DMA33		
CFBA6	Asic (PMS) DMA34		
CFBA7	Asic (PMS) DMA35		
CFBA8	Asic (PMS) DMA36		
CFBA9	Asic (PMS) DMA37		
CFBAA	Asic (PMS) DMA38		
CFBAB	Asic (PMS) DMA39		
CFBAC	Asic (PMS) DMA40		
CFBAD	Asic (PMS) DMA41		
CFBAE	Asic (PMS) DMA42		
CFBAF	Asic (PMS) DMA43		

4.13.7 CFBD#

Error code	Item	Component	Rank
CFBD3	ASIC777 interruption	MFP board (MFPB)	C
CFBD6	Asic (PMS) interruption		
CFBD9	ASIC777 common register setting		
CFBDC	Asic (PMS) common register setting		
CFBDF	ASIC777 BTC compression/extension unit		

4.13.8 CFBE#

Error code	Item	Component	Rank
CFBE2	Asic (PMS) BTC compression/extension unit	MFP board (MFPB)	C
CFBE5	ASIC777 DMA00 error interruption		
CFBE6	ASIC777 DMA01 error interruption		
CFBE7	ASIC777 DMA02 error interruption		
CFBE8	ASIC777 DMA03 error interruption		
CFBE9	ASIC777 DMA04 error interruption		
CFBEA	ASIC777 DMA05 error interruption		
CFBEB	ASIC777 DMA06 error interruption		
CFBEC	ASIC777 DMA07 error interruption		
CFBED	ASIC777 DMA08 error interruption		
CFBEE	ASIC777 DMA09 error interruption		
CFBEF	ASIC777 DMA10 error interruption		

4.13.9 CFBF#

Error code	Item	Component	Rank
CFBF0	ASIC777 DMA11 error interruption	MFP board (MFPB)	C
CFBF1	ASIC777 DMA12 error interruption		
CFBF2	ASIC777 DMA13 error interruption		
CFBF3	ASIC777 DMA14 error interruption		
CFBF4	ASIC777 DMA15 error interruption		
CFBF5	ASIC777 DMA16 error interruption		
CFBF6	ASIC777 DMA17 error interruption		
CFBF7	ASIC777 DMA18 error interruption		
CFBF8	ASIC777 DMA19 error interruption		
CFBF9	ASIC777 DMA20 error interruption		
CFBFA	ASIC777 DMA21 error interruption		
CFBFB	ASIC777 DMA22 error interruption		
CFBFC	ASIC777 DMA23 error interruption		
CFBFD	ASIC777 DMA24 error interruption		
CFBFE	ASIC777 DMA25 error interruption		
CFBFF	ASIC777 DMA26 error interruption		

4.14 CFC##

4.14.1 CFC0#

Error code	Item	Component	Rank
CFC00	ASIC777 DMA27 error interruption	MFP board (MFPB)	C
CFC01	ASIC777 DMA28 error interruption		
CFC02	ASIC777 DMA29 error interruption		
CFC03	ASIC777 DMA30 error interruption		
CFC04	ASIC777 DMA31 error interruption		
CFC05	ASIC777 DMA32 error interruption		
CFC06	ASIC777 DMA33 error interruption		
CFC07	ASIC777 DMA34 error interruption		
CFC08	ASIC777 DMA35 error interruption		
CFC09	ASIC777 DMA36 error interruption		
CFC0A	ASIC777 DMA37 error interruption		
CFC0B	ASIC777 DMA38 error interruption		
CFC0C	ASIC777 DMA39 error interruption		
CFC0D	ASIC777 DMA40 error interruption		
CFC0E	ASIC777 DMA41 error interruption		
CFC0F	ASIC777 DMA42 error interruption		

4.14.2 CFC1#

Error code	Item	Component	Rank
CFC10	ASIC777 DMA43 error interruption	MFP board (MFPB)	C
CFC11	ASIC777 DMA44 error interruption		

Error code	Item	Component	Rank
CFC12	ASIC777 DMA45 error interruption		
CFC13	ASIC777 DMA46 error interruption		
CFC14	ASIC777 DMA47 error interruption		
CFC15	ASIC777 DMA48 error interruption		
CFC16	ASIC777 DMA49 error interruption		
CFC17	ASIC777 DMA50 error interruption		
CFC18	ASIC777 DMA51 error interruption		
CFC19	ASIC777 DMA52 error interruption		
CFC1A	ASIC777 DMA53 error interruption		
CFC1B	ASIC777 DMA54 error interruption		
CFC1C	ASIC777 DMA55 error interruption		
CFC1D	ASIC777 watchdog timer error interruption		
CFC1E	ASIC777 image output interface had underrun		
CFC1F	ASIC777 image input interface had overflow		

4.14.3 CFC2#

Error code	Item	Component	Rank
CFC20	ASIC777 LCC output interface had underrun	MFP board (MFPB)	C
CFC21	ASIC777 JBIG core detected unknown marker		
CFC22	ASIC777 JBIG core detected SC count overflow		
CFC23	SDTMDT is accessed during ASIC777 soft reset active		
CFC24	DMA04 (table) is accessed during ASIC777 soft reset active		
CFC25	DMA06 (FAX debug) is accessed during ASIC777 soft reset active		
CFC26	ASIC777 SDTMDT had a timeout error		
CFC27	ASIC777 SDTAAA had a timeout error		
CFC28	ASIC777 SDTAAA had an access lock error		
CFC29	An error to access to the invalid area of sub-CPU via ASIC777 SDTAAA		
CFC2A	An overflow detected in ASIC777 DMA14 mdt_ctr_14o		
CFC2B	Compression data size over detected during ASIC777 DMA14 JPEG compression		
CFC2C	ASIC777 DMA14 EOI yet to be detected		
CFC2D	A "1" is set when access is made to the CMM table of DMA14 while the ASIC777 soft reset is being active		
CFC2E	A "1" is set when access is made to the JPEG core slave space of DMA14 while the ASIC777 soft reset is being active		
CFC2F	A "1" is set when access is made to the comment table of DMA14 while the ASIC777 soft reset is being active		

4.14.4 CFC3#

Error code	Item	Component	Rank
CFC30	An overflow detected in ASIC777 DMA15 mdt_ctr_15o	MFP board (MFPB)	C
CFC31	Compression data size over detected during ASIC777 DMA15 JPEG compression		
CFC32	ASIC777 DMA15 EOI yet to be detected		
CFC33	A "1" is set when access is made to the CMM table of DMA15 while the ASIC777 soft reset is being active		
CFC34	A "1" is set when access is made to the JPEG core slave space of DMA15 while the ASIC777 soft reset is being active		
CFC35	A "1" is set when access is made to the comment table of DMA15 while the ASIC777 soft reset is being active		
CFC36	Completer Abort exists in ASIC777 memory master access		
CFC37	Unsupported Request exists in ASIC777 memory master access		
CFC38	Completion Timeout exists in ASIC777 memory master access		
CFC39	Poisoned TLP exists in ASIC777 memory master access		
CFC3A	Unsupported Request exists in ASIC777 memory target access		
CFC3B	Poisoned TLP exists in ASIC777 memory target access		
CFC3C	Unsupported Request TLP exists in ASIC777 config target access		
CFC3D	Poisoned TLP exists in ASIC777 config target access		

Error code	Item	Component	Rank
CFC3E	A "1" is set when a rising edge is detected of VD output from the ASIC777 CPS		
CFC3F	A "1" is set when a falling edge is detected of VD output from the ASIC777 CPS		

4.14.5 CFC4#

Error code	Item	Component	Rank
CFC40	A "1" is set when a rising edge is detected of VD output from the ASIC777 DMA03	MFP board (MFPB)	C
CFC41	A "1" is set when a falling edge is detected of VD output from the ASIC777 DMA03		
CFC42	A "1" is set when a falling edge is detected of VSYNC input to the ASIC777 DMA03		
CFC43	ASIC777 Emepror-IP error		
CFC44	ASIC777 external bus error		
CFC45	ASIC777 PC delay interrupt (INT_PCD0)		
CFC46	ASIC777 PC delay interrupt (INT_PCD1)		
CFC47	ASIC777 PC delay interrupt (INT_PCD2)		

4.14.6 CFCE#

Error code	Item	Component	Rank
CFCEC	Asic (PMS) DMA03 error interruption	MFP board (MFPB)	C

4.14.7 CFCF#

Error code	Item	Component	Rank
CFCF0	Asic (PMS) DMA07 error interruption	MFP board (MFPB)	C
CFCFB	Asic (PMS) DMA18 error interruption		
CFCFC	Asic (PMS) DMA19 error interruption		
CFCFD	Asic (PMS) DMA32 error interruption		
CFCFE	Asic (PMS) DMA33 error interruption		
CFCFF	Asic (PMS) DMA34 error interruption		

4.15 CFD##

4.15.1 CFD0#

Error code	Item	Component	Rank
CFD00	Asic (PMS) DMA35 error interruption	MFP board (MFPB)	C
CFD01	Asic (PMS) DMA36 error interruption		
CFD02	Asic (PMS) DMA37 error interruption		
CFD03	Asic (PMS) DMA38 error interruption		
CFD04	Asic (PMS) DMA39 error interruption		
CFD05	Asic (PMS) DMA40 error interruption		
CFD06	Asic (PMS) DMA41 error interruption		
CFD07	Asic (PMS) DMA42 error interruption		
CFD08	Asic (PMS) DMA43 error interruption		
CFD09	Asic (PMS) watchdog timer error interruption		
CFD0A	Asic (PMS) image output interface had underrun		
CFD0B	Asic (PMS) JBIG core detected unknown marker		
CFD0C	Asic (PMS) JBIG core detected SC count overflow		
CFD0D	SDTMDT is accessed during Asic (PMS) soft reset active		
CFD0E	Asic (PMS) SDTMDT had a timeout error		
CFD0F	Completer Abort exists in Asic (PMS) memory master access		

4.15.2 CFD1#

Error code	Item	Component	Rank
CFD10	Unsupported Request exists in Asic (PMS) memory master access	MFP board (MFPB)	C
CFD11	Completion Timeout exists in Asic (PMS) memory master access		
CFD12	Poisoned TLP exists in Asic (PMS) memory master access		
CFD13	Unsupported Request exists in Asic (PMS) memory target access		

Error code	Item	Component	Rank
CFD14	Poisoned TLP exists in Asic (PMS) memory target access		
CFD15	Unsupported Request TLP exists in Asic (PMS) config target access		
CFD16	Unsupported Poisoned TLP exists in Asic (PMS) config target access		
CFD17	Asic (PMS) external bus error		

4.15.3 CFD6#

Error code	Item	Component	Rank
CFD68	ASIC777 DMA00 time out	MFP board (MFPB)	C
CFD69	ASIC777 DMA01 time out		
CFD6A	ASIC777 DMA02 time out		
CFD6B	ASIC777 DMA03 time out		
CFD6C	ASIC777 DMA04 time out		
CFD6D	ASIC777 DMA05 time out		
CFD6E	ASIC777 DMA06 time out		
CFD6F	ASIC777 DMA07 time out		

4.15.4 CFD7#

Error code	Item	Component	Rank
CFD70	ASIC777 DMA08 time out	MFP board (MFPB)	C
CFD71	ASIC777 DMA09 time out		
CFD72	ASIC777 DMA10 time out		
CFD73	ASIC777 DMA11 time out		
CFD74	ASIC777 DMA12 time out		
CFD75	ASIC777 DMA13 time out		
CFD76	ASIC777 DMA14 time out		
CFD77	ASIC777 DMA15 time out		
CFD78	ASIC777 DMA16 time out		
CFD79	ASIC777 DMA17 time out		
CFD7A	ASIC777 DMA18 time out		
CFD7B	ASIC777 DMA19 time out		
CFD7C	ASIC777 DMA20 time out		
CFD7D	ASIC777 DMA21 time out		
CFD7E	ASIC777 DMA22 time out		
CFD7F	ASIC777 DMA23 time out		

4.15.5 CFD8#

Error code	Item	Component	Rank
CFD80	ASIC777 DMA24 time out	MFP board (MFPB)	C
CFD81	ASIC777 DMA25 time out		
CFD82	ASIC777 DMA26 time out		
CFD83	ASIC777 DMA27 time out		
CFD84	ASIC777 DMA28 time out		
CFD85	ASIC777 DMA29 time out		
CFD86	ASIC777 DMA30 time out		
CFD87	ASIC777 DMA31 time out		
CFD88	ASIC777 DMA32 time out		
CFD89	ASIC777 DMA33 time out		
CFD8A	ASIC777 DMA34 time out		
CFD8B	ASIC777 DMA35 time out		
CFD8C	ASIC777 DMA36 time out		
CFD8D	ASIC777 DMA37 time out		
CFD8E	ASIC777 DMA38 time out		
CFD8F	ASIC777 DMA39 time out		

4.15.6 CFD9#

Error code	Item	Component	Rank
CFD90	ASIC777 DMA40 time out	MFP board (MFPB)	C

Error code	Item	Component	Rank
CFD91	ASIC777 DMA41 time out		
CFD92	ASIC777 DMA42 time out		
CFD93	ASIC777 DMA43 time out		
CFD94	ASIC777 DMA44 time out		
CFD95	ASIC777 DMA45 time out		
CFD96	ASIC777 DMA46 time out		
CFD97	ASIC777 DMA47 time out		
CFD98	ASIC777 DMA48 time out		
CFD99	ASIC777 DMA49 time out		
CFD9A	ASIC777 DMA50 time out		
CFD9B	ASIC777 DMA51 time out		
CFD9C	ASIC777 DMA52 time out		
CFD9D	ASIC777 DMA53 time out		
CFD9E	ASIC777 DMA54 time out		
CFD9F	ASIC777 DMA55 time out		

4.15.7 CFDF#

Error code	Item	Component	Rank
CFDFB	Asic (PMS) DMA03 time out	MFP board (MFPB)	C
CFDFF	Asic (PMS) DMA07 time out		

4.16 CFE##

4.16.1 CFE0#

Error code	Item	Component	Rank
CFE0A	Asic (PMS) DMA18 time out	MFP board (MFPB)	C
CFE0B	Asic (PMS) DMA19 time out		
CFE0C	Asic (PMS) DMA32 time out		
CFE0D	Asic (PMS) DMA33 time out		
CFE0E	Asic (PMS) DMA34 time out		
CFE0F	Asic (PMS) DMA35 time out		

4.16.2 CFE1#

Error code	Item	Component	Rank
CFE10	Asic (PMS) DMA36 time out	MFP board (MFPB)	C
CFE11	Asic (PMS) DMA37 time out		
CFE12	Asic (PMS) DMA38 time out		
CFE13	Asic (PMS) DMA39 time out		
CFE14	Asic (PMS) DMA40 time out		
CFE15	Asic (PMS) DMA41 time out		
CFE16	Asic (PMS) DMA42 time out		
CFE17	Asic (PMS) DMA43 time out		

4.16.3 CFE3#

Error code	Item	Component	Rank
CFE3B	ASIC777 DMA00 time out	MFP board (MFPB)	C
CFE3C	ASIC777 DMA01 time out		
CFE3D	ASIC777 DMA02 time out		
CFE3E	ASIC777 DMA03 time out		
CFE3F	ASIC777 DMA04 time out		

4.16.4 CFE4#

Error code	Item	Component	Rank
CFE40	ASIC777 DMA05 time out	MFP board (MFPB)	C
CFE41	ASIC777 DMA06 time out		
CFE42	ASIC777 DMA07 time out		
CFE43	ASIC777 DMA08 time out		
CFE44	ASIC777 DMA09 time out		

Error code	Item	Component	Rank
CFE45	ASIC777 DMA10 time out		
CFE46	ASIC777 DMA11 time out		
CFE47	ASIC777 DMA12 time out		
CFE48	ASIC777 DMA13 time out		
CFE49	ASIC777 DMA14 time out		
CFE4A	ASIC777 DMA15 time out		
CFE4B	ASIC777 DMA16 time out		
CFE4C	ASIC777 DMA17 time out		
CFE4D	ASIC777 DMA18 time out		
CFE4E	ASIC777 DMA19 time out		
CFE4F	ASIC777 DMA20 time out		

4.16.5 CFE5#

Error code	Item	Component	Rank
CFE50	ASIC777 DMA21 time out	MFP board (MFPB)	C
CFE51	ASIC777 DMA22 time out		
CFE52	ASIC777 DMA23 time out		
CFE53	ASIC777 DMA24 time out		
CFE54	ASIC777 DMA25 time out		
CFE55	ASIC777 DMA26 time out		
CFE56	ASIC777 DMA27 time out		
CFE57	ASIC777 DMA28 time out		
CFE58	ASIC777 DMA29 time out		
CFE59	ASIC777 DMA30 time out		
CFE5A	ASIC777 DMA31 time out		
CFE5B	ASIC777 DMA32 time out		
CFE5C	ASIC777 DMA33 time out		
CFE5D	ASIC777 DMA34 time out		
CFE5E	ASIC777 DMA35 time out		
CFE5F	ASIC777 DMA36 time out		

4.16.6 CFE6#

Error code	Item	Component	Rank
CFE60	ASIC777 DMA37 time out	MFP board (MFPB)	C
CFE61	ASIC777 DMA38 time out		
CFE62	ASIC777 DMA39 time out		
CFE63	ASIC777 DMA40 time out		
CFE64	ASIC777 DMA41 time out		
CFE65	ASIC777 DMA42 time out		
CFE66	ASIC777 DMA43 time out		
CFE67	ASIC777 DMA44 time out		
CFE68	ASIC777 DMA45 time out		
CFE69	ASIC777 DMA46 time out		
CFE6A	ASIC777 DMA47 time out		
CFE6B	ASIC777 DMA48 time out		
CFE6C	ASIC777 DMA49 time out		
CFE6D	ASIC777 DMA50 time out		
CFE6E	ASIC777 DMA51 time out		
CFE6F	ASIC777 DMA52 time out		

4.16.7 CFE7#

Error code	Item	Component	Rank
CFE70	ASIC777 DMA53 time out	MFP board (MFPB)	C
CFE71	ASIC777 DMA54 time out		
CFE72	ASIC777 DMA55 time out		

4.16.8 CFEC#

Error code	Item	Component	Rank
CFECE	Asic (PMS) DMA03 time out	MFP board (MFPB)	C

4.16.9 CFED#

Error code	Item	Component	Rank
CFED2	Asic (PMS) DMA07 time out	MFP board (MFPB)	C
CFEDD	Asic (PMS) DMA18 time out		
CFEDE	Asic (PMS) DMA19 time out		
CFEDF	Asic (PMS) DMA32 time out		

4.16.10 CFEE#

Error code	Item	Component	Rank
CFEE0	Asic (PMS) DMA33 time out	MFP board (MFPB)	C
CFEE1	Asic (PMS) DMA34 time out		
CFEE2	Asic (PMS) DMA35 time out		
CFEE3	Asic (PMS) DMA36 time out		
CFEE4	Asic (PMS) DMA37 time out		
CFEE5	Asic (PMS) DMA38 time out		
CFEE6	Asic (PMS) DMA39 time out		
CFEE7	Asic (PMS) DMA40 time out		
CFEE8	Asic (PMS) DMA41 time out		
CFEE9	Asic (PMS) DMA42 time out		
CFEEA	Asic (PMS) DMA43 time out		

4.17 CFF##

4.17.1 CFF0#

Error code	Item	Component	Rank
CFF0E	ASIC777 DMA00 time out	MFP board (MFPB)	C
CFF0F	ASIC777 DMA01 time out		

4.17.2 CFF1#

Error code	Item	Component	Rank
CFF10	ASIC777 DMA02 time out	MFP board (MFPB)	C
CFF11	ASIC777 DMA03 time out		
CFF12	ASIC777 DMA04 time out		
CFF13	ASIC777 DMA05 time out		
CFF14	ASIC777 DMA06 time out		
CFF15	ASIC777 DMA07 time out		
CFF16	ASIC777 DMA08 time out		
CFF17	ASIC777 DMA09 time out		
CFF18	ASIC777 DMA10 time out		
CFF19	ASIC777 DMA11 time out		
CFF1A	ASIC777 DMA12 time out		
CFF1B	ASIC777 DMA13 time out		
CFF1C	ASIC777 DMA14 time out		
CFF1D	ASIC777 DMA15 time out		
CFF1E	ASIC777 DMA16 time out		
CFF1F	ASIC777 DMA17 time out		

4.17.3 CFF2#

Error code	Item	Component	Rank
CFF20	ASIC777 DMA18 time out	MFP board (MFPB)	C
CFF21	ASIC777 DMA19 time out		
CFF22	ASIC777 DMA20 time out		
CFF23	ASIC777 DMA21 time out		
CFF24	ASIC777 DMA22 time out		
CFF25	ASIC777 DMA23 time out		

Error code	Item	Component	Rank
CFF26	ASIC777 DMA24 time out		
CFF27	ASIC777 DMA25 time out		
CFF28	ASIC777 DMA26 time out		
CFF29	ASIC777 DMA27 time out		
CFF2A	ASIC777 DMA28 time out		
CFF2B	ASIC777 DMA29 time out		
CFF2C	ASIC777 DMA30 time out		
CFF2D	ASIC777 DMA31 time out		
CFF2E	ASIC777 DMA32 time out		
CFF2F	ASIC777 DMA33 time out		

4.17.4 CFF3#

Error code	Item	Component	Rank
CFF30	ASIC777 DMA34 time out	MFP board (MFPB)	C
CFF31	ASIC777 DMA35 time out		
CFF32	ASIC777 DMA36 time out		
CFF33	ASIC777 DMA37 time out		
CFF34	ASIC777 DMA38 time out		
CFF35	ASIC777 DMA39 time out		
CFF36	ASIC777 DMA40 time out		
CFF37	ASIC777 DMA41 time out		
CFF38	ASIC777 DMA42 time out		
CFF39	ASIC777 DMA43 time out		
CFF3A	ASIC777 DMA44 time out		
CFF3B	ASIC777 DMA45 time out		
CFF3C	ASIC777 DMA46 time out		
CFF3D	ASIC777 DMA47 time out		
CFF3E	ASIC777 DMA48 time out		
CFF3F	ASIC777 DMA49 time out		

4.17.5 CFF4#

Error code	Item	Component	Rank
CFF40	ASIC777 DMA50 time out	MFP board (MFPB)	C
CFF41	ASIC777 DMA51 time out		
CFF42	ASIC777 DMA52 time out		
CFF43	ASIC777 DMA53 time out		
CFF44	ASIC777 DMA54 time out		
CFF45	ASIC777 DMA55 time out		

4.17.6 CFFA#

Error code	Item	Component	Rank
CFFA1	Asic (PMS) DMA03 time out	MFP board (MFPB)	C
CFFA5	Asic (PMS) DMA07 time out		

4.17.7 CFFB#

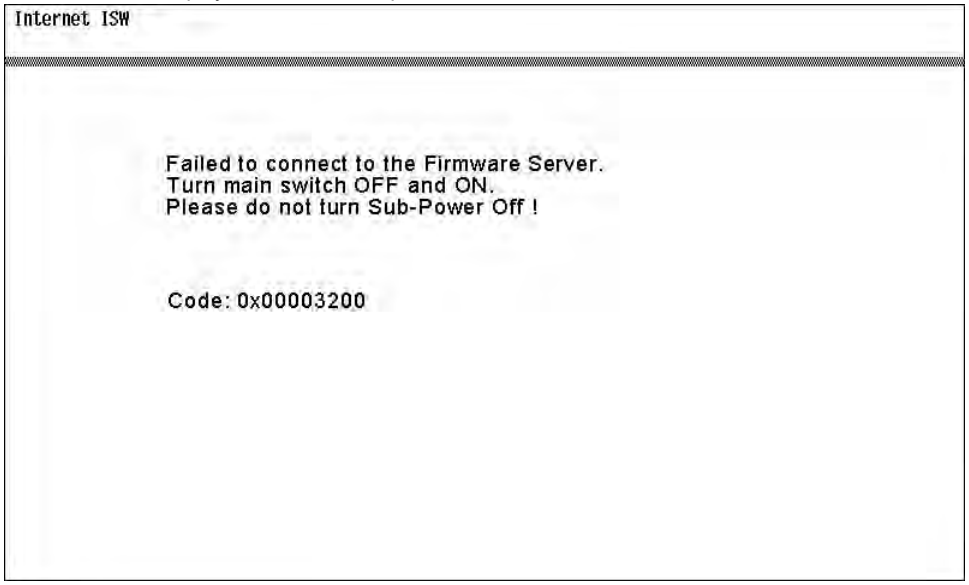
Error code	Item	Component	Rank
CFFB0	Asic (PMS) DMA18 time out	MFP board (MFPB)	C
CFFB1	Asic (PMS) DMA19 time out		
CFFB2	Asic (PMS) DMA32 time out		
CFFB3	Asic (PMS) DMA33 time out		
CFFB4	Asic (PMS) DMA34 time out		
CFFB5	Asic (PMS) DMA35 time out		
CFFB6	Asic (PMS) DMA36 time out		
CFFB7	Asic (PMS) DMA37 time out		
CFFB8	Asic (PMS) DMA38 time out		
CFFB9	Asic (PMS) DMA39 time out		
CFFBA	Asic (PMS) DMA40 time out		

Error code	Item	Component	Rank
CFFBB	Asic (PMS) DMA41 time out		
CFFBC	Asic (PMS) DMA42 time out		
CFFBD	Asic (PMS) DMA43 time out		

5. ERROR CODE FOR THE INTERNET ISW

5.1 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.**

5.2 0x0#

Error code	Description	Countermeasure
0x00000001	Illegal error on the control	• Check if [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set] is set to “ON”. • Check the status of [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Forwarding Access Setting]. • If the above process does not solve the problem, inform the corresponding error code to the KONICA MINOLTA.
0x00000010	Parameter error	• Check if [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set] is set to “ON”. • If the above process does not solve the problem, inform the corresponding error code to the KONICA MINOLTA.
0x00111000	Error concerning the network • Connection has been completed.	• Check the User’s network environment. (LAN cable’s connection) • Check the status of [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Forwarding Access Setting]. • Check to see if the FTP server operates normally.
0x00111001	Error concerning the network • It cannot be connected to the server.	• Check the User’s network environment. • Check to see if the FTP server operates normally. • Check whether the URL of the data transfer server includes http://, ftp://, or the like to specify a protocol in [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Forwarding Access Setting].
0x00111100	Error concerning the network • Communication timeout.	
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.	

Error code	Description	Countermeasure
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.

5.3 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.
0x10000103	It failed to prohibit the job. (It failed to lock the operation.) -> It failed to lock the job because the operation is already locked with PSWC, etc.	• Check if [Service Mode] -> [Machine Update Setting] -> [Internet ISW] -> [Internet ISW Set] is set to “ON”. • If the above process does not solve the problem, inform the corresponding error code to the KONICA MINOLTA.
0x10000104	There is no space for firmware data to be downloaded.	
0x10000106	Check sum error	
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.

5.4 0x2#

Error code	Description	Countermeasure
0x20000000	The temporary error when running the subset • When starting the Internet ISW in a normal program, the rebooting 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.

6. CS Remote Care ERROR CODE

6.1 Troubleshooting for CS Remote Care

If communication is not done properly, check the condition by following the procedures shown below.

1. Shift the screen in the order of [Service Mode] -> [CS Remote Care] -> [Detail Setting].
   At this time, in the cases of initial transmitting / administrator transmitting / maintenance start transmitting / maintenance finish transmitting, the communication result will be displayed at the top of the screen.

NOTE

- **For the communication result, the following message will be displayed based on its success or failure.**

Display of communication result	Cause	Solution
Communicating	-	-
Communication trouble with the center	Although the machine tries to communicate with the center, there is any trouble and the communication completes unsuccessfully.	See the list of error message and confirm the corresponding point.
Complete successfully	-	-
Modem trouble	Although the machine tries to communicate with the center, there is any trouble in the modem.	• Check if the power of modem in ON. • Check if there is any problem in connection between the modem and the main body.
Busy line	Although the machine tries to communicate with the center, the line to the center is busy.	Communicate with the center again.
No response	Although the machine tries to communicate with the center, there is no response from the center.	• Communicate with the center again. • Check the communication environment of the center side.

6.2 CS Remote Care Operation under Enhanced Security Mode

CS Remote Care can be used even when “ON” is selected in [Administrator Settings] -> [Security Settings] -> [Enhanced Security Mode].
However, to keep the enhanced security level, the following restrictions are accompanied.

- Only SSL communication is available.
- Error occurs if the Center tries to send the following commands.
  - Firmware update command
  - Command of reading and updating account track information
  - Machine settings update command
  - Command of reading and updating Internet ISW setting information

6.3 List of the CS Remote Care error code

6.3.1 When connecting by modem

NOTE

- **When a code other than the ones listed below is displayed, contact KM and inform the error code.**

Error code	Contents	Solution
0001	The line is busy • Busy detection	Transmit again manually.
0002	Failure of the Modem default setting at transmitting • When the transmission completes with modem initial setting failed	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0003	Timeout of CONNECT at transmitting • No response to ATD	• Transmit again manually. • Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0005	Timeout of CONNECT at receiving • No response to ATA	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0006	Shut down of the data modem line (Host) • Carrier OFF is detected	No solution, because the line is shut down at the host side.
0008	Timeout of start request telegram delivery • Start request telegram is not delivered after line connection	Transmit again manually.
0009	Timeout of finish request telegram delivery • Finish request telegram is not delivered (Start of shut down)	Transmit again manually.
000A	Receiving rejection • Receiving is made when the main body is set to reject receiving.	• Check the setting condition of the host side. • Check the setting condition of the main body side.
000B	RS232C driver over run • When the modem detects over run.	If the same error is detected several times, turn the modem power OFF and ON.
000C	Framing error • When the modem detects framing error.	If the same error is detected several times, turn the modem power OFF and ON.
000D	Break Interrupt (BI) indicator • When the modem detects Break Interrupt (BI) indicator.	If the same error is detected several times, turn the modem power OFF and ON.
0011	Baud rate ERROR • When selected baud rate is out of the specification (9600 bps to 38400 bps).	Check the baud rate of the software DipSW.

Error code	Contents	Solution
0016	Status error (upon data arrival)	Transmit again manually.
0018	Machine ID has already been registered • Request telegram 2 (SET-UP) comes from the main body that has already registered machine ID.	Set the initial registrations again for all including the host side.
0019	Center ID error • Center ID of the host is not identical with the one of start request telegram.	• Check center ID setting of the main body side. • Check the setting condition of the host side.
001A	Device ID inconsistency • Device ID of the host is not identical with the one of start request telegram.	• Check device ID setting of the main body side. • Check the setting condition of the host side.
001B	Device ID unregistered • Request telegram 2 (Constant data transmitting, emergency call) comes from the main body that has not registered device ID yet.	• Check device ID setting of the main body side. • Check the setting condition of the host side.
001C	Grammar error • The specified format is not used in the received reply telegram.	Check the settings for CSRC application.
001D	Change unavailable (Item where change is prohibited) • Host inquires change of the setting of the item not allowed to be changed.	Check the settings for CSRC application.
001E	Impossible to change (during printing) • Setting cannot be changed because the setting change is made during the machine is printing or starts printing.	Try again when the machine is not printing.
001F	Change unavailable (Item where change is prohibited) • Host attempts to write data to the item of which current value has not been read.	Check the settings for CSRC application.
0020	Timeout of telegram delivery • At waiting mode of telegram delivery the machine fails to receive the telegram in a given time.	Try communication again.
0021	Telegram longer than the specified length. • A telegram longer than the specified length is received.	Check the settings for CSRC application.
0027	Transmission / receiving collision • Receiving is detecting during transmitting processing	Try communication again.

6.3.2 When connecting by e-mails

NOTE

- **When a code other than the ones listed below is displayed, contact KM and inform the error code.**

(1) 0###

Error code	Contents	Solution
0###	Transmission error ###: SMTP responding code (hexadecimal) For SMTP responding code, see RFC issued by IETF after converting hexadecimal number into decimal one.	Check the SMTP server on User side.

(2) 1###

Error code	Contents	Solution
1030	Machine ID mismatching • Received an e-mail which tells that machine ID mismatches.	• Check the machine ID setting. • Check the machine ID setting on host side.
1050	Grammar error • Received mail did not define the CS Remote Care command (2 digits). • The Type of Subject and the command of attached file are not consistent.	Check mail content.
1061	Modifying not allowed • The host sent a command mail that asked modifying data of item where setting change is not allowed.	Ask the host to send another instruction mail for modifying.
1062	Modifying not available due to the copy job currently performing • When informing the host that it cannot be modified due to the copy job currently performing.	Ask the host to send another instruction mail for modifying.
1080	Data length problem • LEN value of TEXT data and actual data length are not consistent.	Ask the host to send another instruction mail for modifying.
1081	Frame No. error • The last frame has not been received. • There are missing frame No.	Check the status of the machine registration on host side.
1082	Subject Type problem • Received code did not define the Type of Subject.	Ask the host to send another instruction mail for modifying.
1084	Date expired • Expiration date for data modification command has passed.	Ask the host to send another instruction mail for modifying.

Error code	Contents	Solution
1091	Oversized command • Received attached file exceeds the machine's receive buffer size.	Ask the host to send another instruction mail for modifying.
1092	Received an error mail when center setup is not complete	Check the status of the machine registration on host side.
1199	Illegal request • Status not predicted in design is detected.	Contact KM and inform the error code.

(3) 2###

Error code	Contents	Solution
2039	Socket is not connected • LAN cable on the copier side is detached.	Check the SMTP server and POP3 server on user side.
203C	Connection timeout	Check timeout setting.
203E	Network is down • LAN cable on main body side is detached.	• Check the connection between main body on the user's side and the network connector. • Check the network environment on the user's side.

(4) 3###

Error code	Contents	Solution
3001	POP3_AUTHORIZATION_ERR	Check the POP3 server environment on user's side.
3002	POP3_TRANSACTION_ERR	Check the POP3 server environment on user's side.
3003	POP3_CONNECT_ERR	Check the POP3 server environment on user's side.
3004	POP3_TIMEOUT_ERR	Check the POP3 server environment on user's side.
3005	POP3_FORMAT_ERR	Check the POP3 server environment on user's side.
3006	POP3_MEMORY_ERR	Check the POP3 server environment on user's side.
3007	POP3_JOBID_ERR	Check the POP3 server environment on user's side.
3008	POP3_NO_DATA_ERR	Check the POP3 server environment on user's side.
3009	POP3_DELETE_FAIL_ERR	Check the POP3 server environment on user's side.
3010	POP3_MAILBOX_FULL	Check the POP3 server environment on user's side.

(5) 4###

Error code	Contents	Solution
4103	During polling from main body, MIO is not active and MFP cannot start communication.	Wait for a while and try transmitting again.
4104	During e-mail transmission from main body to the center, the SMTP channel is not in the "Ready" status and main body cannot send e-mail.	Wait for a while and try transmitting again.
4105	During polling from main body, the POP3 channel is not in the "Ready" status and main body cannot receive e-mail.	Wait for a while and try transmitting again.
4106	During e-mail transmission from main body to the center, MIO is not active and MFP cannot start communication.	Wait for a while and try transmitting again.
41F9	Control error • In the CS Remote Care's internal sequence, message transfer failed.	Turn the main power switch OFF and then ON.
41FA	Control error • MIO response timed out.	Turn the main power switch OFF and then ON.
41FB	Control error • As the file descriptor of the e-mail that MFP receives from MIO is invalid, MFP cannot receive the e-mail.	Turn the main power switch OFF and then ON.
41FC	Control error • During the creation of data to be sent by e-mail, the CS Remote Care's internal status error occurs or the data that need to be sent has not been created.	Turn the main power switch OFF and then ON.
41FD	Control error • During e-mail reception, the parameter sent from MIO to the CS Remote Care is invalid and MFP cannot receive the e-mail.	Turn the main power switch OFF and then ON.
41FE	Control error • After the completion of e-mail transmission, MFP received the transmission completion message from MIO. However, the CS Remote Care's internal status was not the status of transmission completion.	Turn the main power switch OFF and then ON.
41FF	Control error • During e-mail reception, MIO became inactive.	Turn the main power switch OFF and then ON.
4210	Control error	Turn the main power switch OFF and then ON.

Error code	Contents	Solution
	• E-mail sent from MIO could not be properly handled in the CS Remote Care.	

(6) 5###

Error code	Contents	Solution
5###	MIO detects error when sending an attached file.	Check the SMTP server and POP3 server on user side.

(7) 6###

Error code	Contents	Solution
6###	MIO detects error during a sending sequence.	Check the SMTP server and POP3 server on user side.

6.3.3 When connecting by http

NOTE

- **When a code other than the ones listed below is displayed, contact KM and inform the error code.**

(1) 0###

Error code	Contents	Solution
0###	Transmission error ###: http responding code (hexadecimal) For http responding code, see RFC issued by IETF after converting hexadecimal number into decimal one.	Check the http server.

(2) 1###

Error code	Contents	Solution
1030	Machine ID mismatching • Received file which tells that machine ID mismatches.	• Check the machine ID setting. • Check the machine ID setting on host side.
1050	Grammar error • Received file did not define the CS Remote Care command (2 digits). • The Type of Subject and the command of file are not consistent.	Check file content.
1061	Modifying not allowed • The host sent a command file that asked modifying data of item where setting change is not allowed.	Ask the host to send another instruction file for modifying.
1062	Modifying not available due to the copy job currently performing • When informing the host that it cannot be modified due to the copy job currently performing.	Ask the host to send another instruction file for modifying.
1080	Data length problem • LEN value of TEXT data and actual data length are not consistent.	Ask the host to send another instruction file for modifying.
1081	Frame No. error • The last frame has not been received. • There are missing frame No.	Check the status of the machine registration on host side.
1082	Subject Type problem • Received code did not define the Type of Subject.	Ask the host to send another instruction file for modifying.
1084	Date expired • Expiration date for data modification command has passed.	Ask the host to send another instruction file for modifying.
1091	Oversized command • Received file exceeds the machine's receive buffer size.	Ask the host to send another instruction file for modifying.
1099	Illegal request • Status not predicted in design is detected.	Contact KM and inform the error code.

(3) 2###

Error code	Contents	Solution
2001	http request result problem • Internal status error	• Check the network environment on the user's side. • Check http server environment.
2002	http request result problem • File list acquisition result problem	
2003	http request result problem • Request header transmission failure	
2004	http request result problem • Request body transmission failure	
2005	http request result problem • Response header receive response failure	

Error code	Contents	Solution
2006	http request result problem • Response body receive response failure	
2007	http request result problem • Session ID inconsistent	

(4) 3###

Error code	Contents	Solution
3002	http request result problem • Unopened client ID was specified	• Check the network environment on the user's side. • Check http server environment.
3003	http request result problem • Receive time out occurred	
3004	http request result problem • Receive error occurred. Or wrong request URL was specified.	
3005	http request result problem • Content-Length or receive size exceeded the specified max. transfer size. Message body size was too large.	
3006	http request result problem • Due to reset, process was stopped. Or message body size exceeded the specified max. transfer size.	
3007	http request result problem • Internal error occurred. Or due to internal reset, process was stopped.	
3008	http request result problem • Connection to WebDAV server failed.	
3009	http request result problem • Error occurred during transmission to the WebDAV server.	
3010	http request result problem • Time out occurred during transmission to the WebDav server.	
3011	http request result problem • Connection to the proxy server failed.	
3012	http request result problem • The proxy server refused CONNECT request.	
3013	http request result problem • The proxy server was set to enabled, but the proxy server host was not set.	
3014	http request result problem • Proxy server authentication failed.	
3015	http request result problem • Other errors were sent from the proxy server.	
3016	http request result problem • Internal error occurred.	
3017	http request result problem • As the device application specified MIO_REQBODY_ERROR, process was stopped.	

(5) 4###

Error code	Contents	Solution
4103	After the main power switch is switched ON, HTTP communication is attempted under the condition where HTTP communication is not ready.	Wait for a while and try transmitting again.
4106	When data is uploaded from main body to the web server, the network connection is not enabled and main body cannot start communication.	Wait for a while and try transmitting again.
41FA	Control error • MIO response timed out.	Turn the main power switch OFF and then ON.

(6) 5###

Error code	Contents	Solution
5###	MIO detects error at file sending.	Check the http server environment.

(7) 6###

Error code	Contents	Solution
6###	MIO detects error during a sending sequence.	Check the http server environment.

(8) 7###

Error code	Contents	Solution
7000	Failure occurs when a certificate for product authentication is acquired from a USB flash drive.	Acquire a new certificate (within 6 days after the issue).

6.3.4 When connecting by Fax modem

Error code	Contents	Solution
T50	Host terminal ID not correct	Check the telephone number set for host.
R80	Serial number received from the host not correct.	Check the status of the machine registration on host side.
R81	Disconnection of writing instruction from host during machine is running.	Wait for a while and try transmitting again.
R82	Disconnection of FAX-CSRC instruction when FAX-CSRC is not allowed.	Check the status of the machine registration on host side.
R83	Host command error.	Contact KM and inform the error code.
R84	NVRAM writing error.	Contact KM and inform the error code.

7. NETWORK ERROR CODE

7.1 Display procedure

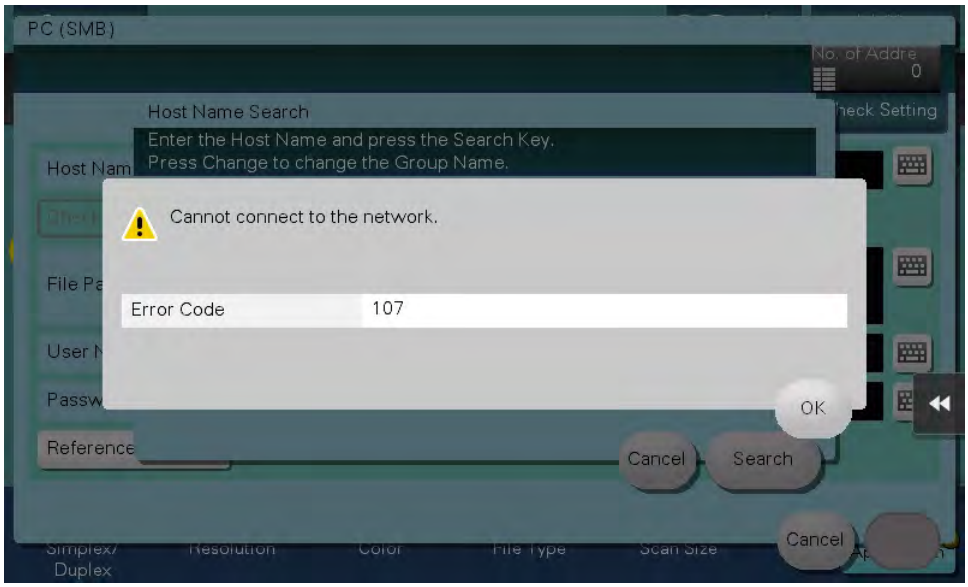
- It displays the error code on the control panel when any network error occurred.
- Network error code is displayed only when [Administrator Settings] -> [Network Settings] -> [Detail Settings] -> [Error Code Display Setting] is in “ON.”

7.1.1 IEEE802.1X, E-Mail/Internet Fax, WebDAV client

- When a network error occurred on IEEE802.1X, E-Mail/Internet Fax, WebDAV client, the attention mark will be displayed on the control panel.
- Touching the attention mark will display the corresponding network error code.



7.1.2 Other network error



7.2 IEEE802.1X

Error code	Contents of error
1	Connection has already been established.
2	Setting error.
3	Unable to find the destination AP (SSID).
5	Negotiation of the EAP method failed.
6	The EAP authentication failed (user ID, password, certificate, etc.)
10	Verification error of the server certificate (EAP-TLS/EAP-TTLS/PEAP).
14	Negotiation of the phase 2 method failed (PEAP).
15	Response from the server has timed out.
17	Failed to start the supplicant task.
19	The server certificate has expired (EAP-TLS/EAP-TTLS/PEAP).
20	CA verification error of the server certificate (EAP-TLS/EAP-TTLS/PEAP).
21	Server ID verification error of the server certificate (EAP-TLS/EAP-TTLS/PEAP).
24	The setting combination is correct.
25	Connection and authentication are complete.
31	Incorrect format of the server certificate (EAP-TLS/EAP-TTLS/PEAP).
33	The hard disk path is not specified for the certificate verification (PKI) function (EAP-TLS/EAP-TTLS/PEAP).
34	The certificate verification (PKI) function is in the excessive multiplex processing status (EAP-TLS/EAP-TTLS/PEAP).
35	Parameter error of the certificate (EAP-TLS/EAP-TTLS/PEAP).
36	Internal error of the certificate verification (PKI) function (EAP-TLS/EAP-TTLS/PEAP).

7.3 LDAP

Error code	Contents of error
1	An invalid operation occurred.
2	A protocol error occurred.
3	The time limit is exceeded.
4	The number of search results has exceeded the maximum number of items allowed.
5	The comparison result is FALSE.
6	The comparison result is TRUE.
7	The LDAP server does not support SASL.
8	Strong authentication is required.
10	Unable to trace the link although Referral is specified.
11	Administration limit on the server has exceeded.
12	Critical extension is unavailable.
13	Confidentiality is required.
14	Intermediary bind result for multi-stage binds.
15	Requested attribute does not exist.
16	The type is not defined.

Error code	Contents of error
17	An inappropriate matching occurred.
18	A constraint violation occurred.
19	The attribute exists or the value has been assigned.
20	The syntax is invalid.
32	Cannot find the search route.
33	The alias is invalid.
34	The syntax of DN is invalid.
35	This object is a terminal (leaf).
36	Cannot de-reference the alias.
48	Authentication is inappropriate.
49	Failed to log in to the LDAP server.
50	The user has insufficient access rights.
51	The server is busy.
52	The server is unavailable.
53	The server does not handle directory requests.
54	The chain of referrals has looped back to a referring server.
64	There was a naming violation.
65	There was an object class violation.
66	Operation is not allowed on a non-leaf object.
67	Operation is not allowed on RDN.
68	The object already exists.
69	Cannot modify object class.
70	Results returned are too large.
71	Multiple directory service agents (DSA) are affected.
80	An unexpected error occurred.
81	Unable to connect to the LDAP server.
82	Internal error occurred.
83	An encode error occurred.
84	A decode error occurred.
85	The connection has timed out.
86	The supported SASL does not match the LDAP server side.
87	The searching filter is invalid.
88	Cancelled by the user.
89	An internal parameter error occurred.
90	Failed to allocate memory.
91	Unable to connect to the LDAP server.
92	The supported LDAP version does not match the LDAP server side.
93	The LDAP function did not find the specified control.
94	The result is not included in the message.
95	Additional results are to be returned.
96	Client loop was detected.
97	The referral limit was exceeded.
128	Failed to resolve the LDAP server name using the DNS server.
129	The certificate of the LDAP server has expired.
130	Mutual authentication using GSS-SPNEGO (Kerberos v5) failed.
131	The search result remains.
132	The process is cancelled by a device reset.
2238	The CN field of the LDAP server certificate does not match the server address.
2239	The LDAP server certificate does not have the expected usage for a server.
2240	• The LDAP server certificate is not trusted. • To trust the certificate, the certificate must be registered to the system.
2241	The LDAP server certificate has expired.
2242	The CA server rejected the connection.
2243	The connection to the server that checks for expiration of the certificate has timed out.
2244	Unable to check for expiration because the CRL size exceeds the maximum capacity that can be retained (1MB).
2261	The format of the LDAP server certificate is invalid.
2263	The hard disk has not been set.

Error code	Contents of error
2264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
2266	Internal error of the certificate verification/management module.
2267	The device certificate does not exist.
2268	No certificate is sent from the communications peer.
10000	Failed in authentication using a PKI card (PKI token).
12236	The ticket certificate has expired.
12239	The ticket certificate does not have the expected usage for a server.
12240	• The ticket certificate is not trusted. • To trust the certificate, the certificate must be registered to the system.
12241	The ticket certificate has expired.
12242	The CA server rejected the connection.
12243	The connection to the server that checks for expiration of the certificate has timed out.
12244	Unable to check for expiration because the CRL size exceeds the maximum capacity that can be retained (1MB).
12261	The format of the ticket certificate is invalid.
12263	The hard disk has not been set.
12264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
12266	Internal error of the certificate verification/management module.

7.4 E-Mail/Internet Fax

Error code	Contents of error
1	Failed to log in to the E-mail server.
2	An internal error occurred.
3	Failed to connect to the server.
4	The connection has timed out.
5	Decoding failed due to invalid MIME format or S/MIME format.
6	Failed to allocate memory.
7	Job ID is invalid.
9	Failed to delete an E-mail message.
10	The mail box is full.
11	Failed to search the certificate.
12	Failed to retrieve the device certificate or private key.
13	• An I/O error occurred. • A hard disk operation error has occurred, or memory capacity of the computer may be insufficient.
14	The S/MIME function is disabled.
15	The hard disk is invalid.
16	The format of the certificate from the E-mail sender is invalid.
2236	The certificate has expired, or the validity period has not yet started.
2238	The CN field of the certificate does not match the server address.
2239	The certificate does not have the expected usage.
2240	• The certificate is not trusted. • To trust the certificate, the certificate must be registered to the system.
2241	The certificate has expired.
2242	The CA server rejected the connection.
2243	The connection to the server that checks for expiration of the certificate has timed out.
2244	Unable to check for expiration because the CRL size exceeds the maximum capacity that can be retained (1MB).
2261	The format of the certificate is invalid.
2263	Failed to initialize the certificate verification.
2264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
2266	Internal error of the certificate verification.
2267	The device certificate does not exist.
2268	No certificate is sent from the server.

7.5 FTP transmission

Error code	Contents of error
11	The network connection is busy.
22	Parameter error (e.g. the file name is NULL).

Error code	Contents of error
27	Parameter is invalid.
92	The specified protocol is unavailable.
100	The device is not connected to the network.
102	The process is cancelled by a device reset.
105	Failed to allocate memory.
106	The FTP connection is already open.
107	Failed to connect to the server.
110	The connection has timed out.
111	The connection has been interrupted.
450	The file has not been deleted.
451	The file transfer failed (e.g. due to insufficient server capacity).
452	The file transfer failed (e.g. due to insufficient server capacity).
530	Incorrect login name or password.
550	The specified folder does not exist.
552	The file operation failed (e.g. due to insufficient server capacity).
1001	Failed to create a folder.

7.6 SMB transmission

Error code	Contents of error
11	The network connection is busy.
92	The protocol is not initialized.
100	• The device is not connected to the network. • The connection has been interrupted.
102	The network is reset during forwarding.
105	An I/O buffer capacity shortage occurred.
107	Failed to connect to the server.
4096	• The host name is not specified. • The specified host name does not exist on the network.
4097	• The user name is not specified. • Unable to log in with the specified user name and password. • The user does not have write permission to the folder. • Failed to log in due to an SMB protocol error.
4098	• The folder name is not specified. • The specified folder does not exist.
4099	• The user name is not specified. • Unable to log in with the specified user name and password. • The user does not have write permission to the folder. • Failed to log in due to an SMB protocol error.
4100	The specified file name is invalid.
4101	• The specified file already exists and is write-protected. • The folder and the disk are write-protected.
4102	• The specified media to be written is not formatted. • The file system of the specified media to be written is faulty.
4103	The server capacity is full.
4104	The server capacity has become full while writing data.
4105	Other errors to which an error code is not assigned.
4106	The specified file does not exist.
4107	The specified directory is not found.
4108	Failed to create the specified directory.
10000	Failed in authentication using a PKI card (PKI token).
12236	The certificate has expired, or the validity period has not yet started.
12239	The purpose of the certificate is not right.
12240	CA that cannot be trusted or is not registered.
12241	The certificate has expired.
12242	The CA server rejected the connection.
12243	The connection to the server that checks for expiration of the certificate has timed out.
12244	The size of the expiration list is too large.
12263	Failed in initialization of the certificate verification.
12264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
12266	Internal error of the certificate verification.

Error code	Contents of error
12267	The device certificate does not exist.
12268	No certificate is sent from the server.

7.7 SMTP transmission

Error code	Contents of error
11	The network connection is busy.
22	Invalid argument.
27	The file size is too large.
28	Insufficient memory of the device.
32	The pipe is broken.
92	The specified protocol is unavailable.
100	The device is not connected to the network.
101	Unable to reach the destination network.
102	The connection aborted by the network.
105	A buffer shortage occurred.
107	No connection exists with the client.
108	The connection has been interrupted.
110	The operation has timed out.
111	The connection is rejected.
112	The host is shut down.
421	SMTP server error. Since the service is unavailable, the transfer channel is closed.
432	SMTP server error. The password must be changed.
450	SMTP server error. Unable to access to the mail box.
451	SMTP server error. The requested action has been cancelled because an error occurred while processing a job.
452	SMTP server error. Shortage of the system storage capacity.
453	SMTP server error. No E-mail massage.
454	SMTP server error. Temporary authentication failure.
458	SMTP server error. Unable to queue a message to the node.
459	SMTP server error. The node is not permitted.
499	SMTP server error. An unsupported SMTP error code of 400s is received from the SMTP server.
500	SMTP server error. Syntax error (command unrecognized).
501	SMTP server error. Syntax error in parameters or arguments.
502	SMTP server error. The command is not implemented.
503	SMTP server error. Bad sequence of commands.
504	SMTP server error. The command parameter is not implemented.
521	SMTP server error. The server does not receive E-mail.
530	SMTP server error. The access is rejected.
534	SMTP server error. The authentication mechanism is too weak.
535	SMTP server error. Authentication error.
538	SMTP server error. The requested authentication mechanism requires encryption.
550	SMTP server error. The requested action is not executed.
551	SMTP server error. The user is not connected locally.
552	SMTP server error. The requested E-mail action is cancelled.
553	SMTP server error. The requested action is not accepted.
554	An SMTP server error, or an internal error when sending data. The transaction failed.
555	SMTP server error. MAIL/RCPT parameter error.
599	SMTP server error. An unsupported SMTP error code of 500s is received from the SMTP server.
2236	The certificate has expired, or the validity period has not yet started.
2238	The CN field of the certificate does not match the server address.
2239	The certificate does not have the expected usage.
2240	• The certificate is not trusted. • To trust the certificate, the certificate must be registered to the system.
2241	The certificate has expired.
2242	The CA server rejected the connection.
2243	The connection to the server that checks for expiration of the certificate has timed out.
2244	Unable to check for expiration because the CRL size exceeds the maximum capacity that can be retained (1MB).
2261	The format of the certificate is invalid.
2263	Failed to initialize the certificate verification.

Error code	Contents of error
2264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
2266	Internal error of the certificate verification.
2267	The device certificate does not exist.
2268	No certificate is sent from the server.
3000	An unexpected error occurred.
3001	An unexpected error occurred within the library being used.
3002	An invalid channel is specified.
3003	SMTP server address is invalid.
3004	Parameter error (MIMEBodyHeader).
3005	Parameter error (DisplayName).
3006	Parameter error (character set).
3007	Parameter error (From address).
3008	Parameter error (To address).
3009	Parameter error (CC address).
3010	Parameter error (BCC address).
3011	Parameter error (pEmailSet is NULL).
3012	Parameter error (destination certificate is NULL).
3013	Parameter error (E-mail body).
3014	The hard disk is invalid.
3015	The S/MIME function is disabled.
3016	• Self-certificate error. The device certificate cannot be used in the S/MIME function. • One possibility, among others, is that the type of encryption key is not RSA.
3018	An invalid encryption algorithm is specified.
3019	An invalid signature algorithm is specified.
3020	The E-mail address included in the destination certificate does not match the destination address (To/Cc/Bcc).
3021	The E-mail address included in the certificate does not match the sender (From) address.
3022	Format error of the certificate.
3023	Parameter error (Disposition-Notification-To).
3024	Message syntax error of the receiver side.
3025	The SMTP server does not support the STARTTLS command.
3026	PKI card access error.
3027	Parameter error (SMTP authentication method)
3028	Parameter error (PIN code)
3029	Failed to retrieve a ticket.
10000	Failed in authentication using a PKI card (PKI token).
12236	The validity period of the server certificate is invalid.
12239	The certificate does not have the usage expected as a server.
12240	• The certificate is not trusted. • To trust the certificate, the certificate must be registered to the system.
12241	The certificate has expired.
12242	The CA server rejected the connection.
12243	The connection to the server that checks for expiration of the certificate has timed out.
12244	Unable to check for expiration because the CRL size exceeds the maximum capacity that can be retained (1MB).
12261	The format of the certificate is invalid.
12263	Although the environment is configured to use the hard disk, it is unable to perform verification because the hard disk path has not been specified.
12264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
12266	Internal error of the certificate verification/management module.

7.8 WebDAV transmission

Error code	Contents of error
11	The network connection is busy.
22	• The format of the URL of the target resource is invalid. • Parameter error.
27	Attempted to send data that exceeds the maximum transferrable size for transfer coding.
92	WebDAV transmission is disabled.
100	The device is not connected to the network.

Error code	Contents of error
102	The process is cancelled by a device reset.
105	A buffer shortage occurred.
106	The connection has already been established.
107	The connection to the WebDAV server failed (including connection time out).
125	The connection has been interrupted with the condition that is insufficient to the specified size.
401	Authentication error.
407	Proxy authentication error.
1001	• The server does not support WebDAV. • Unable to upload data to the server.
1002	The intermediate resource is not a collection (directory) (e.g. the specified folder does not exist).
1003	The target resource is a collection (directory).
1012	Although “https” is specified for the resource URL, the connection is interrupted because the WebDAV server certificate has expired.
1013	The CONNECT method is issued to the proxy server to establish an SSL connection via a proxy, but it is rejected.
1017	A communication error occurred while sending a request.
1018	A communication error occurred while receiving a response.
1027	The transfer size exceeds the maximum allowance.
1030	Although use of a proxy has been specified, the proxy setting information is unavailable.
1031	The connection to the proxy server failed (including connection time out).
1040	Failed to retrieve a ticket.
1098	Failed in chunk TX to SharePoint Server.
1099	Other internal error occurred (e.g. memory shortage).
2236	The certificate has expired, or the validity period has not yet started.
2238	The CN field of the certificate does not match the server address.
2239	The certificate does not have the expected usage.
2240	• The certificate is not trusted. • To trust the certificate, the certificate must be registered to the system.
2241	The certificate has expired.
2242	The CA server rejected the connection.
2243	The connection to the server that checks for expiration of the certificate has timed out.
2244	Unable to check for expiration because the CRL size exceeds the maximum capacity that can be retained (1MB).
2261	The format of the certificate is invalid.
2263	Failed to initialize the certificate verification.
2264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
2265	Parameter error.
2266	Internal error of the certificate verification.
2267	The device certificate does not exist.
2268	No certificate is sent from the server.
10000	Failed in authentication using a PKI card (PKI token).
12236	The validity period of the server certificate is invalid.
12239	The certificate does not have the usage expected as a server.
12240	• The certificate is not trusted. • To trust the certificate, the certificate must be registered to the system.
12241	The certificate has expired.
12242	The CA server rejected the connection.
12243	The connection to the server that checks for expiration of the certificate has timed out.
12244	Unable to check for expiration because the CRL size exceeds the maximum capacity that can be retained (1MB).
12261	The format of the certificate is invalid.
12263	Although the environment is configured to use the hard disk, it is unable to perform verification because the hard disk path has not been specified.
12264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
12266	Internal error of the certificate verification/management module.

7.9 SMB browsing

Error code	Contents of error
32	The connection has been interrupted.
92	The protocol is not initialized.

Error code	Contents of error
100	• The device is not connected to the network. • The internal channel detected an error immediately before establishing communication.
107	Failed to connect to the server.
4096	• The group name/host name is not specified. • The specified group name/host name does not exist on the network.
4097	• The user name is not specified. • Unable to log in with the specified user name and password. • Failed to log in due to an SMB protocol error.
4098	• Administrative shares do not exist. • The shared resource name is not specified. • The shared resource does not exist.
4099	• The user name is not specified. • Unable to log in with the specified user name and password. • Failed to log in due to an SMB protocol error.
4102	• The specified media to be written is not formatted. • The file system of the specified media to be written is faulty.
4105	Other errors to which an error code is not assigned.
4352	The browser machine (master browser/backup browser) is not found.
4353	Unable to log in to the browser machine (master browser/backup browser).
4354	The sub folder does not exist.
4355	The request is not accepted due to an invalid call sequence etc.
4368	The number of groups is too large.
4369	The number of host PCs is too large.
4370	The number of shared resources is too large.
10000	Failed in authentication using a PKI card (PKI token).
12236	The certificate has expired, or the validity period has not yet started.
12239	The purpose of the certificate is not right.
12240	CA that cannot be trusted or is not registered.
12241	The certificate has expired.
12242	The CA server rejected the connection.
12243	The connection to the server that checks for expiration of the certificate has timed out.
12244	The size of the expiration list is too large.
12263	Failed in initialization of the certificate verification (The path of the hard disk for saving certificates is not specified).
12264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
12266	Internal error of the certificate verification.
12267	The device certificate does not exist.
12268	No certificate is sent from the server.

7.10 User authentication

Error code	Contents of error
1	• Invalid parameter (e.g. the number of characters exceeds the limit, blank). • The authentication function setting is disabled.
2	Failed to resolve the name using the DNS server.
3	Unable to find the authentication server.
4	Failed to authenticate.
5	• Failed to allocate memory. • An unexpected error occurred.
6	An authentication request is received while an internal task of the user authentication client is being performed.
7	The network was reset during user authentication.
8	Failed to allocate memory.
9	Time out occurred.
10000	Failed in authentication using a PKI card (PKI token).
12236	The SSL certificate has expired.
12239	The certificate does not have the expected usage.
12240	• The certificate is not trusted. • To trust the certificate, the certificate must be registered to the system.
12241	The certificate has expired.
12242	The CA server rejected the connection.
12243	The connection to the server that checks for expiration of the certificate has timed out.
12244	Unable to check for expiration because the CRL size exceeds the maximum capacity that can be retained (1MB).

Error code	Contents of error
12261	The format of the certificate is invalid.
12263	The hard disk has not been set.
12264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
12266	Internal error of the certificate verification/management module.

7.11 WebDAV client/Remote panel (Response reception)

Error code	Contents of error
3	Reception time out occurred.
4	• Reception error occurred. • An invalid request URL is specified.
5	• The size of the content length or the receive size exceeds the maximum transferable size. • The size of the message body is too large.
6	• The process is cancelled by a device reset. • The size of the message body exceeds the maximum transferable size.
7	• Internal error occurred. • The process is cancelled by an internal reset.

7.12 WebDAV client/Remote panel (Request sending)

Error code	Contents of error
2	The ID of a client that is not active is specified.
3	The request method that is not supported has been specified.
4	An invalid request URL is specified.
5	The size of the message body is too large.
6	The size of the message body exceeds the maximum transferable size.
7	The process is cancelled by an internal reset.
8	Failed to connect to the WebDAV server.
9	An error occurred while sending data to the WebDAV server.
10	A timeout occurred while sending data to the WebDAV server.
11	Failed to connect to the proxy server.
12	The proxy server rejected the connection request.
13	While the proxy server specification is valid, the host of the proxy server is not specified.
14	Failed to authenticate the proxy server.
15	Other error was returned from the proxy server.
16	An internal error occurred.
17	The process is cancelled because MIO_REQBODY_ERROR is specified by the device application.
18	An invalid PIN code is specified.
19	Failed to retrieve a ticket.
20	The internally specified parameter is invalid.
2236	The certificate has expired, or the validity period has not yet started.
2238	The CN field of the certificate does not match the server address.
2239	The certificate does not have the expected usage.
2240	• The certificate is not trusted. • To trust the certificate, the certificate must be registered to the system.
2241	The certificate has expired.
2242	The CA server rejected the connection.
2243	The connection to the server that checks for expiration of the certificate has timed out.
2244	Unable to check for expiration because the CRL size exceeds the maximum capacity that can be retained (1MB).
2261	The format of the certificate is invalid.
2263	Failed to initialize the certificate verification.
2264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
2266	Internal error of the certificate verification.
2267	The device certificate does not exist.
2268	No certificate is sent from the server.
10000	Failed in authentication using a PKI card (PKI token).
12236	The validity period of the server certificate is invalid.
12239	The certificate does not have the usage expected as a server.
12240	• The certificate is not trusted.

Error code	Contents of error
	• To trust the certificate, the certificate must be registered to the system.
12241	The certificate has expired.
12242	The CA server rejected the connection.
12243	The connection to the server that checks for expiration of the certificate has timed out.
12244	Unable to check for expiration because the CRL size exceeds the maximum capacity that can be retained (1MB).
12261	The format of the certificate is invalid.
12263	Although the environment is configured to use the hard disk, it is unable to perform verification because the hard disk path has not been specified.
12264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
12266	Internal error of the certificate verification/management module.

7.13 WSD scan

Error code	Contents of error
1	The specified client is not registered.
2	Parameter is invalid.
3	The Web service or WS scan function is disabled.
4	The device is not connected to the network.
5	Waiting for connection from CP.
6	The SSL certificate of the destination computer is not valid when the validity period of an SSL certificate is checked.
11	The network connection is busy.
22	Invalid argument.
92	The Web service or WS scan function is disabled.
102	The network connection is cancelled by a device reset.
103	The connection has been interrupted.
105	Failed to allocate memory.
107	No connection exists with the client.
110	The operation has timed out.
125	The RetrieveImage waiting period has timed out.

7.14 GSS-API

Error code	Contents of error
4099	The specified Key tab does not exist.
10000	Failed in authentication using a PKI card (PKI token).
12236	The validity period of the server certificate is invalid.
12239	The certificate does not have the usage expected as a server.
12240	• The certificate is not trusted. • To trust the certificate, the certificate must be registered to the system.
12241	The certificate has expired.
12242	The CA server rejected the connection.
12243	The connection to the server that checks for expiration of the certificate has timed out.
12244	Unable to check for expiration because the CRL size exceeds the maximum capacity that can be retained (1MB).
12261	The format of the certificate is invalid.
12263	Although the environment is configured to use the hard disk, it is unable to perform verification because the hard disk path has not been specified.
12264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
12266	Internal error of the certificate verification/management module.

7.15 Scan server transmission

Error code	Contents of error
1	The action is not supported.
2	The specified parameter is invalid.
3	The operation failed.
4	A temporary error occurred on the scan server.
5	An internal error occurred on the scan server.
6	The scan server returned an error due to operation by an unauthorized user.
7	The scan server returned an error due to invalid request.

Error code	Contents of error
8	Addresses for secondary distribution are not supported.
9	The destination address is not included in the scan process.
10	The scan server returned an error due to access by an unauthorized user.
11	The scan server returned an error due to a request for invalid action.
12	The scan server returned an error due to transmission of unregistered scan process to the scan server.
13	The scan server returned an error due to a request for invalid action.
14	The scan server returned an error due to use of a format that is not supported.
2236	The SSL certificate has expired.
2238	The CN field of the certificate does not match the server address.
2239	The certificate does not have the expected usage.
2240	• The certificate is not trusted. • To trust the certificate, the certificate must be registered to the system.
2241	The certificate has expired.
2242	Cannot connect to the CA server upon certificate verification.
2243	Time out occurred at the time of the certificate verification.
2244	The size of the expiration list is too large.
2261	The format of the certificate is invalid.
2263	No verification can be performed as he hard disk path has not been specified yet.
2264	Unable to perform verification because there are too many certificates to be verified (the maximum number of certificates that can be verified at a time is 20).
2265	Parameter of the certificate verification is invalid.
2266	Internal error of the certificate verification/management module.
2267	The device certificate does not exist.
2268	No certificate is sent from the communications peer.

7.16 Wireless LAN (WPS)

Error code	Contents of error
1	Time out occurred.
3	Other errors occurred.

7.17 Cloud connection

Error code	Contents of error
1	Cloud connection app being started
2	Cloud connection error

8. FAX TROUBLE CODE

The error in the transmission/reception system

- The error in the Txx/Rxx system may be caused under the effect of line noise, etc. even in usual operating condition.
- If the error arises often, output the activity report, fax setting list, protocol trace list, parameter list, address book list, group address list and program list and obtain detailed information on the error status, conditions which may cause the error, etc. from the user and contact KM.

8.1 B0##

Error code	Category	Contents of error	How to correct
B001	FAX board error	FAX board error 1 (FAX ROM check sum error)	• Pull out and insert the connector of FAX board to check its installation. • If the trouble is not yet corrected, hardware of the FAX board may be defective. Replace the FAX board in such a case.
B002		FAX board error 2 (DPRAM check error)	
B003		FAX board error 3 (FAX initialization NG)	
B051		FAX board installation error (Line 1).	• Pull out and insert the connector of FAX board to check its installation. • If the trouble is not yet corrected, check if the fax (circuit 1) is set to [Unset] on the [Service Mode] -> [System 2] -> [Option board Status]. • If it is set to [Unset], set to [Set].

8.2 B11#

Error code	Category	Contents of error	How to correct
B110	FAX driver error	Instance generation error or observer registration error	Turn OFF and ON the main power switch.
B111		Configuration space initialization NG	
B112		Semaphore acquisition, release error	
B113		Sequence error among main body tasks	
B114		Message queue control error	
B115		Main body - sequence error among FAX boards	Pull out and insert the connector of FAX board to check its installation.
B116		FAX board nonresponse (Nonresponse after initialization)	
B117		ACK waiting timeout error	
B118		Receiving undefined frame	
B119		DMA transfer error	

8.3 B12#

Error code	Category	Contents of error	How to correct
B120	JC	Soft error (FAX board side)	Turn OFF and ON the main power switch.
B122		Device error (GA LOCAL SRAM)	• Turn OFF and ON the main power switch. • If the trouble is not yet corrected, hardware of the FAX board may be defective. Replace the FAX board in such a case.
B123		Device error (DRAM)	
B125		Device error (GA)	
B126		Timeout error due to nonresponse from codec control during suspension process	Turn OFF and ON the main power switch.
B127		Timeout error due to nonresponse from communication control during suspension process	
B128		Timeout error due to nonresponse from LINE control during suspension process	
B129		Timeout error due to non-response from file system/file driver during suspension process	

8.4 B13#

Error code	Category	Contents of error	How to correct
B130	Driver error (FAX board side)	Driver soft error	Turn OFF and ON the main power switch.
B131		Reception frame length error from main	
B132		Reception frame header error from main	
B133		232C I/F sequence error	
B134		DPRAM I/F sequence error	
B135		DPRAM CTL/STS register error	
B136		ACK waiting timeout	

Error code	Category	Contents of error	How to correct
B137		DPRAM RESET reception	
B138	JC	Timeout error due to nonresponse from SPI tasks during suspension process	
B139		ISW failure of SubCPU	

8.5 B14#

Error code	Category	Contents of error	How to correct
B140	Soft error (FAX board side)	MSG I/F error with job control	Turn OFF and ON the main power switch.
B141	Soft error	I/F error with driver	
B142	I/F error with main	Undefined command reception	
B143		Command frame length error	
B144		Command parameter length error	
B145		Undefined parameter	
B146		Command/response sequence error	

8.6 B15#

Error code	Category	Contents of error	How to correct
B150	Line control	External class instance acquisition error	Turn OFF and ON the main power switch.
B151		Job start error (starting job parameter error/child job generation error)	
B152		Doc access error (report buf access error)	
B153		Response wait timeout from external task	
B154		Internal que table control error (create/ enque/deque)	

8.7 B16#

Error code	Category	Contents of error	How to correct
B160	1 destination control	Instance generation error	Turn OFF and ON the main power switch.
B161		Timeout error	
B162		Interface error	
B163		Message que control error	
B164		Semaphore acquisition release error	
B165		Observer registration error	
B166		Reception resource check error	
B167		Deployment error of sending image information	
B168		Serialization error of receiving image	
B169		Access error to quick memory data	

8.8 B17#

Error code	Category	Contents of error	How to correct
B170	Page control	Internal que table control error (create/ enque/deque)	Turn OFF and ON the main power switch.
B171		Instance generation error	
B172		Timeout error	
B173		Interface error	
B174		Semaphore acquisition release error	
B175		Observer registration error	
B176		Unable to secure TTI domain	
B177		Error return from TTI rasterizer	
B178		Receiving job generation error	
B179		Sequence control error (line specification fault, status mismatch, event mismatch)	

8.9 B18#

Error code	Category	Contents of error	How to correct
B180	Page control	Access error to quick sending memory data	Turn OFF and ON the main power switch.
B181		BlockBuff acquisition error	
B182		Sending block image error (Req, restore)	
B183		Receiving block image error (Req, store)	
B184		Storage error of receiving image information	
B185		Receiving data size logic error (Receiving data are not multiples of dotline)	
B186		Image buf acquisition (alloc) error	
B187		Error return from compressor	
B188		BandBuf control error (newInstance/get/free)	

8.10 B19#

Error code	Category	Contents of error	How to correct
B190	USB	USB IF error (OS notifies an error during configuration setting after recovery from the sleep or attach.)	Turn OFF the main power switch, then check the connection of USB, turn ON the main power switch.
B191		USB IF error (EndPoint1: Bulk Out (command, transmitted image data)) (error retry 1 min. timeout)	
B192		USB IF error (EndPoint2: Bulk In (response, received image data)) (error retry 5 sec. timeout)	
B193		USB IF error (EndPoint3: Interrupt In (fax board status)) (error retry 1 min. timeout)	
B194		USB IF error (EndPoint4: Bulk Out (main body status)) (error retry 3 sec. timeout)	
B195		USB IF error (Attach not detected for 1 min. after recovery from sleep)	
B196		USB IF error (Detach not detected for 1 min. after recovery from sleep)	

8.11 T0#

Error code	Category	Contents of error	How to correct
T00	Sending	T1 timeout. No response obtained from the machine on the other end of the line. (35 second)	Check that the address number is correct.
T01		T1 over after the mode has been changed (35 seconds)	-
T02		DCN reception in DIS waiting	The remote station may not receive the data due to paper shortage, full memory, etc.
T03		Unexpected command reception in DIS waiting	-
T04	Not used		
T05	Sending	FIF not matching with the remote station (remote station without the function).	-
T06		DCN reception in CFR/FTT waiting	-
T07	Not used		
T08	Sending	Training failure at 2400 bps	The line may be in trouble. Check the line noise.
T09		No response to DCS	The line may be disabled because the user on the remote station disconnected it.

8.12 T1#

Error code	Category	Contents of error	How to correct
T10	Not used		
T11	Sending	DCN reception while waiting for post message responses	The remote station may not receive the data due to paper shortage, full memory, etc.
T12		Unexpected command reception while waiting for post message responses	-

Error code	Category	Contents of error	How to correct
T13		No response while waiting for post message responses	The remote station may not receive the data due to paper shortage, full memory, etc.
T14	Not used		
T15	Not used		
T16	Not used		
T17	Not used		
T18	Sending	No reception ability in a remote station	The remote station may not receive the data due to paper shortage, full memory, etc.
T19	Not used		

8.13 T2#

Error code	Category	Contents of error	How to correct
T20	Not used		
T21	Not used		
T22	Not used		
T23	Not used		
T24	Not used		
T25	Not used		
T26	Not used		
T27	Not used		
T28	ECM sending	Timeout by RR/RNR (60 seconds)	-
T29	Not used		

8.14 T3#

Error code	Category	Contents of error	How to correct
T30	Not used		
T31	Not used		
T32	ECM sending	Fall back over by CTC	The line may be in trouble. Check the line noise.
T33	Not used		
T34	Not used		
T35	ECM transmission	No responses to RR	-
T36		DCN reception to RR	-
T37	Not used		
T38	F code polling TX	SID is received when SEP is received	-
T39	Not used		

8.15 T4#

Error code	Category	Contents of error	How to correct
T40	Calling	Software error at calling	-
T41	Not used		
T42	Sending	RTN/PIN reception	-
T43		Three continuous CRP signal reception	-
T44		Time error between frames at transmission	-
T45	Not used		
T46	Not used		
T47	Not used		
T48	Check destination	Line disconnected due to no match as a result of CSI check.	Telephone number may not be set on the remote station. Check the CSI signal of the remote station in the protocol trace list.
T49	Not used		

8.16 T5#

Error code	Category	Contents of error	How to correct
T50	FAX-CSRC	Host terminal ID inconsistency	-
T51	Sending	The FAX board does not respond during transmission	The line may be in trouble. Check the line noise.

Error code	Category	Contents of error	How to correct
T52	Not used		
T53	Not used		
T54	Not used		
T55	Not used		
T56	Not used		
T57	Not used		
T58	Polling reception	Calling by polling reception, but a remote station does not have polling transmission documents	Polling original may not be set on the remote station.
T59	Not used		

8.17 T6#

Error code	Category	Contents of error	How to correct
T60	Polling transmission	Received the polling transmission request (DTC), but there are no polling transmission documents	Polling original may not be set on your machine. Polling TX is enabled only when the polling transmission original is registered.
T61	F-code polling transmission	Unsatisfactory conditions for receive polling TX request.	Bulletin board original may not be set. Bulletin board TX is enabled only when the bulletin board transmission original is registered.
T62	F-code polling transmission	Box number specified by SEP is not valid.	Bulletin board box number from the remote station may be incorrect.
T63	Not used		
T64	Not used		
T65	Not used		
T66	Not used		
T67	Not used		
T68	Not used		
T69	Not used		

8.18 T7#

Error code	Category	Contents of error	How to correct
T70	Not used		
T71	Not used		
T72	Not used		
T73	Transmission	Modem response waiting T.0 (60 seconds)	-
T74	V34	No changes in the V34 modem status	-
T75		V34 signal sending error	-
T76		CS2 is not turned to ON.	-
T77	Not used		
T78	Transmission	Codec control soft ware error	-
T79		Job control soft error at transmission	-

8.19 T8#

Error code	Category	Contents of error	How to correct
T80	Call control	LOOP current detection NG when CML is turned ON at calling	• The line may not be connected. • Check the line connection status.
			• The line may be connected to where other than analog line (Group 4 line/key telephone system). • Check the line connection to analog line (Group 3 line).
T81		Dial Tone detection NG when CML is turned ON at calling	• The line may not be connected. • Check the line connection status.
T82		Answer tone (CED/DIS) waiting timeout after dialing at calling	-
T83		Busy tone detection at calling	-
T84		Line control dial error	-
T85		Short disconnection was detected after LOOP current detection at calling	-
T86	Not used		
T87	Not used		

Error code	Category	Contents of error	How to correct
T88	Not used		
T89	Control unit	When the control unit is connected, a communication error is caused due to capacity shortage and communication is finished.	-

8.20 T9#

Error code	Category	Contents of error	How to correct
T90	Not used		
T91	Not used		
T92	Not used		
T93	Not used		
T94	Not used		
T95	Call control	When called, short disconnection of LOOP current was detected during a call	-
T96	Not used		
T97	Transfer	Transmission request was received with no FAX board installed. *	-
T98		Transmission request of images that cannot be transmitted were received. (Color images) *	-
T99	Call control	Remote stations number is deleted while waiting for abbreviated or one-touch redialing (redial / transmission / polling reception) *	-

*: The corresponding error code is not displayed on the control panel even if the error occurs.

8.21 R0#

Error code	Category	Contents of error	How to correct
R00	Reception	DCS was not received within 35 seconds (T1 over)	The dialed telephone number may be incorrect.
R01		T1 timeout after EOM sending	-
R02		DCN reception in DCS waiting	The line may be disabled because the user on the remote station disconnected it.
R03		Unexpected command reception in DCS waiting	-
R04		FIF error of DCS	-
R05	Not used		
R06	Not used		
R07	Reception	Image information does not come in image information waiting	The line may be disabled because the user on the remote station disconnected it.
R08		CD OFF while receiving image information	
R09		DCN reception in post message waiting	

8.22 R1#

Error code	Category	Contents of error	How to correct
R10	Reception	Unexpected command reception in post message waiting	-
R11		Command was not received which waiting for post message	The line may be disabled because the user on the remote station disconnected it.
R12		Timeout during EOL-EOL	-
R13	Not used		
R14	Not used		
R15	Not used		
R16	Not used		
R17	Not used		
R18	Reception	Resource check error (line disconnected due to ongoing communication)	Space in the hard disk may become short. Unnecessary data should be deleted to secure the space in the hard disk.
R19	Not used		

8.23 R2#

Error code	Category	Contents of error	How to correct
R20	Reception	Line disconnection by receive reject function	Call was received from a user who is in the register of addresses to be rejected.
R21	CUG reception	No match of password in the closed network RX setting	Check the password.
R22		No password received in the closed network RX setting	Check the setting of closed network RX.
R23	Not used		
R24	ECM reception	RR-RNR repeats for 2 minutes	-
R25		Command was not received while waiting for responses to RNR	-
R26		Unexpected command was received while waiting for responses to RNR	-
R27		DCN reception while waiting for responses to RNR	-
R28		The counter is abnormal of the post messages received (PC/BC).	-
R29		Timeout (35 seconds) between frames occurred	-

8.24 R3#

Error code	Category	Contents of error	How to correct
R30	Not used		
R31	Not used		
R32	Reception	Line disconnected because there is no appropriate confidential user box while automatic user box generation is inhibited.	Confidential box No. received from the remote station may be incorrect.
R33		DIS reception to DTC (German specifications only)	-
R34	F code confidential reception	PWD was received when SUB was received.	-
R35	Not used		
R36	Not used		
R37	V34	CS2 is not turned to ON.	-
R38		No change in V34 modem and status	-
R39	Not used		

8.25 R4#

Error code	Category	Contents of error	How to correct
R40	When called	Soft error when called	-
R41	Not used		
R42	Not used		
R43	Not used		
R44	Not used		
R45	Reception	Phase C timeout (NonECM reception only)	-
R46	Not used		
R47	Not used		
R48	Not used		
R49	Reception	DCN reception while waiting for image information	The line may be disabled because the user on the remote station disconnected it.

8.26 R5#

Error code	Category	Contents of error	How to correct
R50	Reception	No. of error lines exceeds.	The line may be in trouble. Check the line noise.
R51	Reception	The FAX board does not respond during reception	The line may be in trouble. Check the line noise.
R52	Not used		
R53	Not used		

Error code	Category	Contents of error	How to correct
R54	Not used		
R55	Not used		
R56	Not used		
R57	Not used		
R58	Not used		
R59	Not used		

8.27 R6#

Error code	Category	Contents of error	How to correct
R60	Reception	Reception image error (RTN/PIN sending)	The line may be in trouble. Check the line noise.
R61	Not used		
R62	Not used		
R63	Reception	Three continuous CRP signal reception	-
R64	Not used		
R65	Not used		
R66	SEP polling	SEP polling transmission request was received without SEP polling transmission ability	-
R67	SUB reception	SUB was directed without SUB reception ability	-
R68	Not used		
R69	ECM reception	Communications are cut when EOR is received.	The line may be in trouble. Check the line noise.

8.28 R7#

Error code	Category	Contents of error	How to correct
R70	ECM reception	Decode error occurred in ECM	-
R71	Reception	RTC detection error (No. of EOL is smaller than FP.)	-
R72		Long original larger than the allowable value is received.	Longer original than specified is received from the remote station.
R73		Modem response waiting T.0 (60 seconds)	-
R74		Reception byte size error	-
R75	V34	V34 signal sending error	-
R76		Unexpected command was received in V34 mode phase C reception	-
R77	Reception	Codec control middle ware error	-
R78		Codec control software error	-
R79		Job control soft error during reception	-

8.29 R8#

Error code	Category	Contents of error	How to correct
R80	Not used		
R81	Not used		
R82	Not used		
R83	Not used		
R84	Not used		
R85	-	R-ISW request received when a machine is running in case of either reserved job exists, image exists in memory, or jam happened.	-
R86	Not used		
R87	Not used		
R88	Not used		
R89	Not used		

8.30 R9#

Error code	Category	Contents of error	How to correct
R90	Not used		
R91	Not used		
R92	Turnaround	When the turnaround function is not provided, the line is disconnected if a turnaround order (DTC) is received.	-
R93	F-code reception	Unsatisfactory conditions for confidential RX request	Check the Confidential password.
R94		Unsatisfactory conditions for relay request	Check the Relay password.
R95		Unsatisfactory conditions for forwarding request	-
R96		Confidential box number specified by SUB is not valid.	Confidential box No. received from the remote station may be incorrect.
R97		Unsatisfactory conditions for PC-FAX RX request (Function, PW unmatching)	-
R98	Not used		
R99	Others	Reception command was received from the whole control side before reception signals were detected.	-

8.31 Other

Error code	Category	Contents of error	How to correct
-	Others	When the main body recovers from the sleep mode while receiving a fax, the ring tone is generated more than the set number of times. (2 to 3 times)	This error is avoidable with any one of the following settings. • Set [Administrator Settings] -> [System Settings] -> [Power Supply/Power Save Settings] -> [Power Consumption in Sleep Mode] to “Disabled”. • Set [Administrator Settings] -> [Fax Settings] -> [Line Parameter Setting] -> [Number of RX Call Rings] to “0 x”.

9. DIAGNOSTIC CODES

9.1 Outline

- The diagnostic code is a 22-digit hexadecimal code indicating a communication conditions and status.
- The diagnostic code is printed on the activity report.
- The purpose of the diagnostic code is to obtain detailed information of communication results and conditions so as to analyze communication troubles.

9.2 Explanation

9.2.1 The diagnostic code

XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX	XX
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)

9.2.2 Information of communication results and conditions

Items	Description							
	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
(1) Types of call out / called	F network (Japan)	PSTN	Dial-in (Japan)	Telephone	Group	One-touch dialing	Abbreviated dialing	Key pad dialing
(2) Communication mode	Sending	Error page resending	Forwarding transmission	Polled transmission	Receiving	Recovery transmission	Called turnaround	Polling RX
(3) Applied function specification	Mixed size transmission All pages/ cover	Frame erasure transmission	Book mode transmission	2in1 transmission	Original size appointing TX	Upside down	Special scanning non standard/ Zfold/Long	(Not used)
(4) One-time communication parameter specification	Timer TX	(Not used)	CSRC	PC-Fax transmission (RX/V2)	V.34 appoint transmission	F-code transmission	ECM specification TX	International mode transmission
(5) Communication type	Relay	Confidential	Manual transmission	Bulletin	Line used (line 1 to 4)			
(6) H_RES specification 1 (HR)	400 dpi	300 dpi	200 dpi	(Not used)	16 pels/mm	(Not used)	8 pels/mm	(Not used)
(7) H_RES specification 2 (HR)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	600 dpi
(8) V_RES specification 1	400 dpi	300 dpi	200 dpi	100 dpi	15.4 l/mm	(Not used)	7.7 l/mm	3.85 l/mm
(9) V_RES specification 2	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	600 dpi
(10) Coding specification	(Not used)	(Not used)	(JPEG)	(JBIG)	MMR	MR	MH	THRU
(11) Original length specification	(Not used)	(Not used)	(Legal)	(Letter)	A3	B4	A4	(Not used)
(12) Original length specification	(Not used)	No limits	(Legal)	(Letter)	(Not used)	B4	A4	(Not used)
(13) Speed specification 0	(Not used)	(Not used)	(Not used)	V.29-96	V.29-72	(Not used)	V.27-48	V.27-24
(14) Speed specification 1	V.17-144	V.17-120	V.17-96	V.17-72	(V.33-144)	(V.33-120)	(V.33-96)	(V.33-72)
(15) Speed specification 2	V.34-192	V.34-168	V.34-144	V.34-120	V.34-96	V.34-72	V.34-48	V.34-24
(16) Speed specification 3	(Not used)	(Not used)	V.34-336	V.34-312	V.34-288	V.34-264	V.34-240	V.34-216
(17) MSLT specification	(Not used)	(Not used)	(Not used)	(Not used)	(Not used)	MSLT of resolution shown as vertical RES		
(18) Communication parameter specification	ECM frame size 0: 256 / 1: 64	ECM	DIAG (CSRC)	(BFT)	(BTM)	PWD	SEP	SUB
(19) Remote station coding specification	(Not used)	(Not used)	(JPEG)	(JBIG)	MMR	MR	MH	THRU
(20) Remote station length specification	(Not used)	(Not used)	(Legal)	(Letter)	A3	B4	A4	(Not used)
(21) Remote station length specification	(Not used)	No limits	(Legal)	(Letter)	(Not used)	B4	A4	(Not used)
(22) Remote station communication	(Not used)	ECM	DIAG (CSRC)	(BFT)	(BTM)	PWD	SEP	SUB

- (Not used): bit is set to 0.

10. NETWORK FAX ERROR CODE

- When there occurs any trouble with this machine, the error screen is displayed. And on this error screen, the following error message is shown. Take a necessary step referring to the table given below.

10.1 Error code list of the transmission system

Error code	Category	Contents of error	Redial	Corrective action
N10	Connection error	Server connection error	No	• Check the condition of the other party machine. • Check the network setting of local machine. • Ask the network administrator if the network is operating normally.
N11	Connection error	Connection declined by the other party machine	No	Reception is declined. Check the condition of the other party machine.
N12	Connection error	Disconnection of the line	Yes	Check to see if there occurs any abnormal condition with the network, such as the disconnection of a cable.
N13	Connection error	No response received from the network	No	• Check the condition of the other party machine. • Check the network setting of local machine. • Ask the network administrator if the network is operating normally.
N14	Connection error	Mail delivery error	No	Check the condition of the other party machine. Send it again after waiting for a while.
N15	Remote reset	Connection reset by the other party machine	Yes	Check the condition of the other party machine. Send it again after waiting for a while.
N16	Remote busy	Remote machine is busy	Yes	Check the condition of the other party machine. Send it again after waiting for a while.
N17	LAN access	Communication time out	Yes	Check the condition of the other party machine. Send it again after waiting for a while.
N18	Network error	Network error	No	• Check the each settings. • Check to see if there occurs any abnormal condition with the network, such as the disconnection of a cable. • After turning off and on the main power switch, send it again.
N20	Memory error	Memory overflow	No	• The memory is full. • Check to see if there is any other job being handled. • With the number of transmission sheets reduced or the resolution for read reduced, send it again.
N21	HDD error	HDD error	No	• HDD is full. • Delete unnecessary files. • With the number of transmission sheets reduced or the resolution for read reduced, send it again.
N22	Conversion error	Conversion error	No	After turning off and on the main power switch, send it again.
N25	Memory overflow	Memory overflow	No	• The memory is full. • Check to see if there is any other job being handled. • With the number of transmission sheets reduced or the resolution for read reduced, send it again.
N35	Forward TX	A request for transmission has been received with the NetFAX with the Function Settings OFF. (A request for transfer of the IP address FAX while the IP Address FAX function is being OFF in the service mode.)	No	-
N36		A request has been received for transmission of images that cannot be sent.	No	-

10.2 Error code list of the reception system

Error code	Category	Contents of error	Corrective action
N50	SMTP reception	SMTP reception error	When the SMTP reception does not start in 60 minutes after connection for an incoming call, this error may be resulted. Ask the sender to send it again.
N51	Decode	In excess of the length specified for reception	Ask the sender to send it again after the length of the text being reduced.
N52	Decode	In excess of the number of pages specified for reception	Ask the sender to send it again after the number of text sheets being reduced.

Error code	Category	Contents of error	Corrective action
N53	Decode	File error	Ask the sender to send it again in a correct file format as shown below. • Internet Fax: TIFF • IP Address Fax: PDF or TIFF
N54	Decode	Decode error	The data has been received in an incorrect format. Ask the sender to send it again in a correct format.

11. Open API RELATED TROUBLE

11.1 Outline

- Through the Certification Management System provided by OpenAPI, if error is found in communication between the machine and interacting applications developed by company other than KM, an error message is displayed.

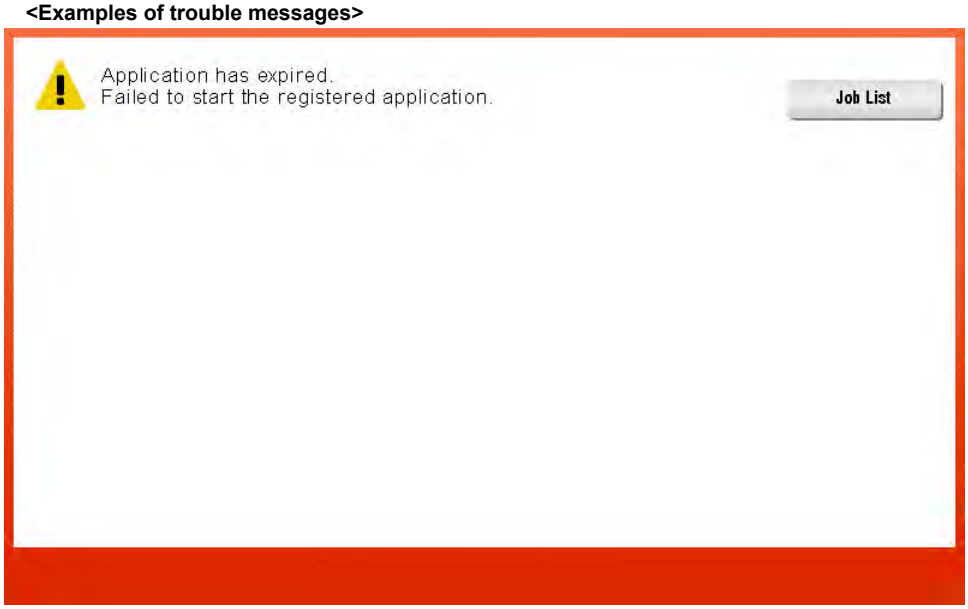
11.2 Types of Trouble

- The Certification Management System provided by OpenAPI certificates and manages communication between main body and non-KM applications that run on the computer connected to the machine. If trouble is detected, the trouble message is displayed on the control panel of the machine or the screen of the computer on which the applications run.
  Trouble messages displayed on the control panel of the main body and actions are described below.

NOTE

- **A message that appears on the computer screen may be different depending on the appliacation being used for communication. The corresponding action may be different, so contact the application vendor for an appropriate action.**

<Examples of trouble messages>



11.3 Solution

- The below describes the OpenAPI certification related trouble messages displayed on the control panel of the main body and actions, dividing them by possible situation.

11.3.1 When using an application

No.	Symptom and message	Action
1	When starting an application, the following message is displayed: Application has expired. Failed to start the registered application.	1. In [Administrator Settings] -> [System Settings] -> [Date/ Time Settings], check that the date and time that is set is same as the actual date and time. If a wrong date and time is set, correct it. 2. Contact the application vendor and obtain a new Solution Key (or the application software itself). Using it, perform the steps below. 1) Delete the application. 2) Using the Solution Key (or the application software itself), register the application again.
	When starting the machine, the following message is displayed: The Enhanced Server Authentication application has expired. Change the User Authentication method to one other than Enhanced Server Authentication.	
2	When starting an application, the following message is displayed: Failed to start the registered application. Please contact your service representative.	In [Service Mode] -> [System1] -> [Marketing Area], change the marketing area of the machine to the one that was selected when the application was registered.
	When starting the machine, the following message is displayed: The enhanced server authentication application cannot be used. Please contact your service representative.	

No.	Symptom and message	Action
3	In the screen saver application, after a time set, the screen saver does not work.	1. In [Administrator Settings] -> [System Settings] -> [Date/ Time Settings], check that the date and time that is set is same as the actual date and time. If a wrong date and time is set, correct it. 2. Contact the application vendor and obtain a new Solution Key (or the application software itself). Using it, perform the steps below. 1) Delete the application. 2) Using the Solution Key (or the application software itself), register the application again. 3. In [Service Mode] -> [System1] -> [Marketing Area], change the marketing area of the machine to the one that was selected when the application was registered.

11.3.2 After rewriting the firmware of the machine

No.	Symptom and message	Action
1	When starting an application, the following message is displayed: Failed to start the registered application. Please contact your service representative.	After deleting the application in question, register the application again.
	When starting the machine, the following message is displayed: The enhanced server authentication application cannot be used. Please contact your service representative. .	
	In the screen saver application, after a time set, the screen saver does not work.	

12. TROUBLES THAT DO NOT DISPLAY THE TROUBLE CODE

12.1 Machine is not energized at all (DCPU operation check)

12.1.1 Contents

Trouble type	Machine is not energized at all
Rank	-
Trouble detection condition	-
Trouble isolation	-
Relevant electrical parts	• Main power switch (SW1) • MFP board (MFPB) • DC power supply (DCPU)

12.1.2 Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is a power voltage supplied across CN1-1 and 2 on DCPU?	20-T	NO	Check the WIRING from the wall outlet to SW1 to CN1.
2	Are the fuses on DCPU conducting?	-	NO	Replace DCPU
3	Is DC5 V being output to CN5-7 and 8 on DCPU?	18-R	NO	Replace DCPU
4	Is DC24 V being output to CN5-1 on DCPU?	18-R	NO	• Check the WIRING from the wall MFPB to DCPU. • Replace DCPU • Replace MFPB
5	The LED on MFPB is blinking?	-	NO	Replace MFPB
6	Is DC24 V being output to CN5-2 on DCPU?	18-R	NO	Replace DCPU

• N.1. bizhub 367/287/227

12.2 Fusing heaters do not operate

12.2.1 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) • MFP board (MFPB) • Fusing unit

12.2.2 Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is a power voltage supplied across CN7-8 and 12 on DCPU? During this time, the right door should be closed.	19-R	NO	Check wiring from power outlet to SW1 to CN7 to SW3.
2	Is the power source voltage applied across MFPB CN18E-1, 6?	15-E	YES	Replace the fusing unit.
			NO	Replace DCPU. Replace MFPB.

• N.1. bizhub 367/287/227

12.3 Power is not supplied to option

12.3.1 DF-628

(1) Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is DC24 V being output from J21-1 on DF?	19-I	YES	Malfunction in DF-628.
2	Is DC24 V being output to CN6-1 on DCPU?	23-R	NO	Check wiring from DCPU to MFPB to DF-628.
3	Is the fuse on DCPU conducting?	-	YES	Replace DCPU.
			NO	Malfunction in DF-628.

• N.1. bizhub 367/287/227

- N.2.1 DF-628

12.3.2 PC-113/PC-213/PC-413

(1) Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is DC24 V being applied to CN2-1?	13-C to D	NO	Malfunction in cabinet.
2	Is DC24 V being output to CN5-1 on DCPU?	18-R	NO	Check wiring from DCPU to MFPB to CN3E to cabinet.
3	Is the fuse on DCPU conducting?	-	YES	Replace DCPU.
			NO	Malfunction in cabinet.

- N.1. bizhub 367/287/227
- N.2.2 PC-113
- N.2.3 PC-213
- N.2.4 PC-413

12.3.3 FS-533/FS-534/FS-534SD

(1) Procedure

Step	Check item	Location of electrical component	Result	Action
1	Is DC24 V being applied to CN1FN-1?	18-I	NO	Malfunction in finisher.
2	Is DC24 V being output to CN6-3 on DCPU?	23-R	NO	Check wiring from DCPU to finisher.
3	Is the fuse on DCPU conducting?	-	YES	Replace DCPU.
			NO	Malfunction in finisher.

- N.1. bizhub 367/287/227
- N.2.5 FS-533
- N.2.6 FS-534

13. OTHER TROUBLE

13.1 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, selftesting is performed internally. If the self-testing detects firmware error, this warning appears.

13.1.1 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.

13.2 HDD lock password error warning

13.2.1 Detection timing

- Warning message: Reset HDD Lock Password.
- There is a mismatch between the password registered in the HDD and that registered in the main body.
- Wrong machine type information is input.

13.2.2 Action

(1) Checking the machine type information

NOTE

- **Perform the following steps, if this malfunction occurs when the MFP board is replaced with a new one.**
- **Prepare a USB flash drive in which firmware data is recorded.**

1. Call the firmware update selection screen to the display.
   NOTICE
   - J.2. 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 “J.2. USB memory”.
4. Turn OFF and ON the main power switch. If a USB flash drive has been used, first remove the USB flash drive and then turn ON the main power switch.

(2) Re-registering the correct HDD Lock Password

1. Touch Menu.
2. Touch [Utility].
3. Touch [Administrator Settings].
4. Enter the administrator password and touch [OK].
5. Enter the currently set HDD Lock Password twice.
6. Touch [OK].
7. When the screen that indicates the completion of setting of the HDD Lock Password appears, turn OFF and ON the main power switch.

(3) Performing HDD 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. Press the Start key.
5. When Physical Format is completed, turn OFF and ON the main power switch.

14. TROUBLESHOOTING OF i-Option

14.1 Structure of license management

- The functions available with i-Option can be activated by entering “License code” to the main body.
- License code is issued and controlled by License Management System (LMS).
  To prevent unauthorized use of the license code, each main body is identified individually so that the license code cannot be activated unless it matches with the authorized the main body.

14.2 License management information

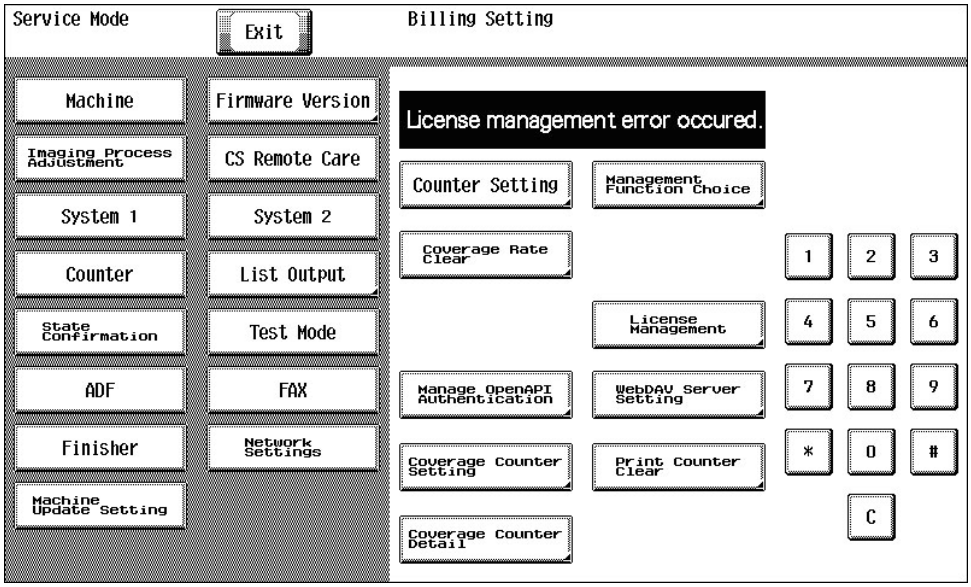
- Since license code needs to identify each main body, it is issued using the serial number of main body and “unique value” that is generated inside the main body.
- The “unique value” is stored to the memory region on the MFP board and at the same time some parts of it are memorized by eMMC board. The activated function cannot be used unless the both figures conform.
  Since these figures are out of target of [Memory Data Backup], when any trouble occurs at either nonvolatile memory, “License Management Error” is generated due to discordance of the figures.

14.3 Error message

14.3.1 License management error

- When abnormal value is detected in the license management information that is stored to the MFP board or eMMC board, or some values are detected cleared, warning is issued to let the user know the abnormality.
- The abnormality is detected at the timing of start-up or restart due to any condition.
- When the abnormality is detected, the corresponding i-Option function cannot be used, other ordinal functions, however, such as copy, scanning, print or etc, can be used without interruption. (Error message is displayed on the Service Mode screen.)

(1) Example of error message



(2) Main reasons of trouble

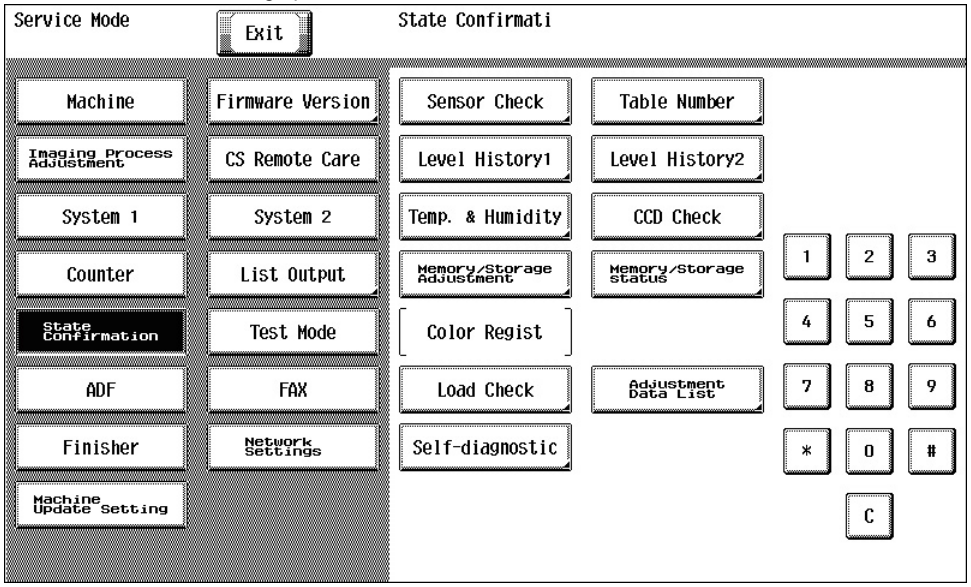
- The following shows the possible trouble factors and their countermeasure.

Board replacement	Countermeasure
When MFP board and eMMC board are replaced with the new ones at the same time.	Install firmware, follow the setup procedure.
When mounting the MFP board of the machine whose function(s) have already been activated and a new eMMC board.	Install firmware, then restore the data using restore procedure.

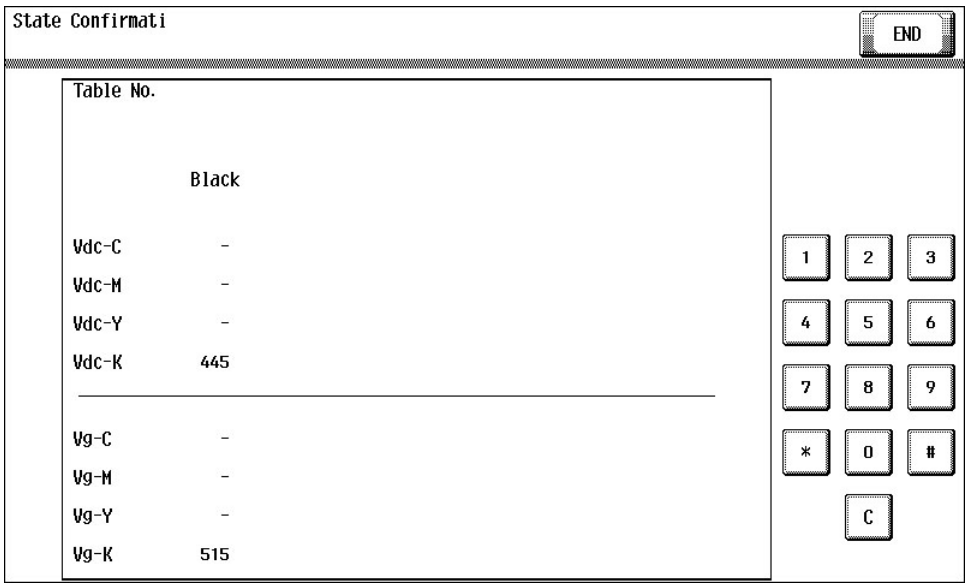
15. IMAGE QUALITY PROBLEM

15.1 How to read element data

- As part of troubleshooting procedures, the numeric values set for “State Confirmation” available from “Service Mode” can be used to isolate the cause of the image problem.

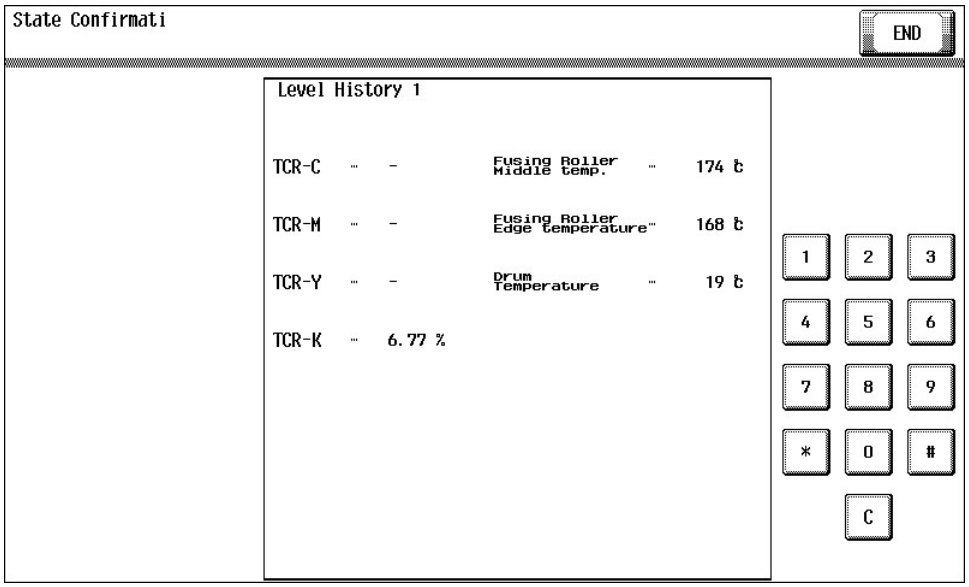


15.1.1 Table Number



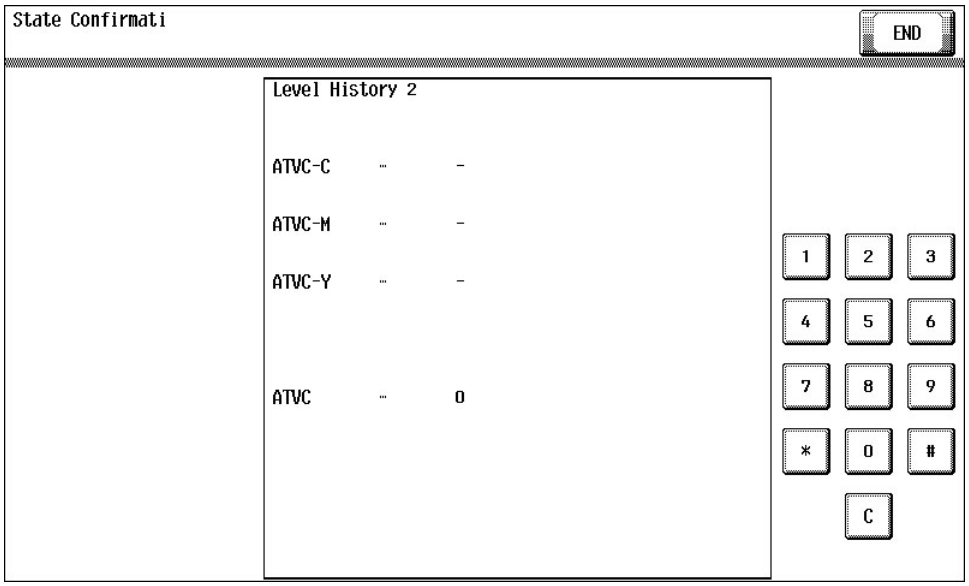
Vdc-C (not used) Vdc-M (not used) Vdc-Y (not used) Vdc-K	• Shows the developing bias value of toner when an image is produced. • Standard values: around 420 V (100 V to 750 V) • The specific numeric values vary with different developing units. (The values incorporate corrections to match the proper density after image stabilization.) * As a guide, the image density tends to be lower with large numeric values and higher with small numeric values. • Relevant components: Developing unit, drum unit, high voltage unit (HV)
Vg-C (not used) Vg-M (not used) Vg-Y (not used) Vg-K	• Shows the grid voltage value of toner when an image is produced. • Standard values: around 490 V (200 V to 900 V) • The specific numeric values vary with different developing units. (The values incorporate corrections to match the proper density after image stabilization.) * As a guide, the image density tends to be lower with large numeric values and higher with small numeric values. • Relevant components: Developing unit, drum unit, high voltage unit (HV)

15.1.2 Level History 1



TCR-C (not used) TCR-M (not used) TCR-Y (not used) TCR-K	• Shows the T/C ratio. (in 0.01 % increments) • Standard value: around 6.5 % (5 to 8 %) • Relevant components: TCR sensor
Fusing Roller Middle temp. Fusing Edge temprature	• Shows the temperature of the fusing unit. (in 1 °C increments) • Relevant components: Fusing unit
Drum Temperture	• Shows the temperature of the photo conductor (in 1 °C increments) • Relevant components: Drum unit

15.1.3 Level History 2



ATVC -C (not used) ATVC -M (not used) ATVC -Y (not used) ATVC	• Shows the latest ATVC level (which varies according to the paper type). • 300 V to 4100 V (ATVC) • Relevant components: Transfer roller unit, high voltage unit (HV)

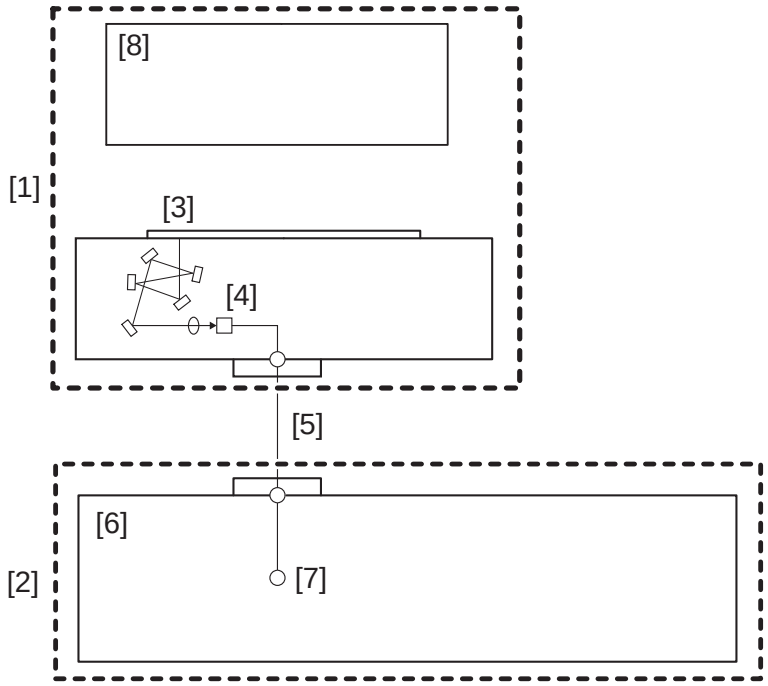
15.2 Troubleshooting procedure overview

15.2.1 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 the image trouble is isolated by printing a test pattern to determine whether an image trouble is evident 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.

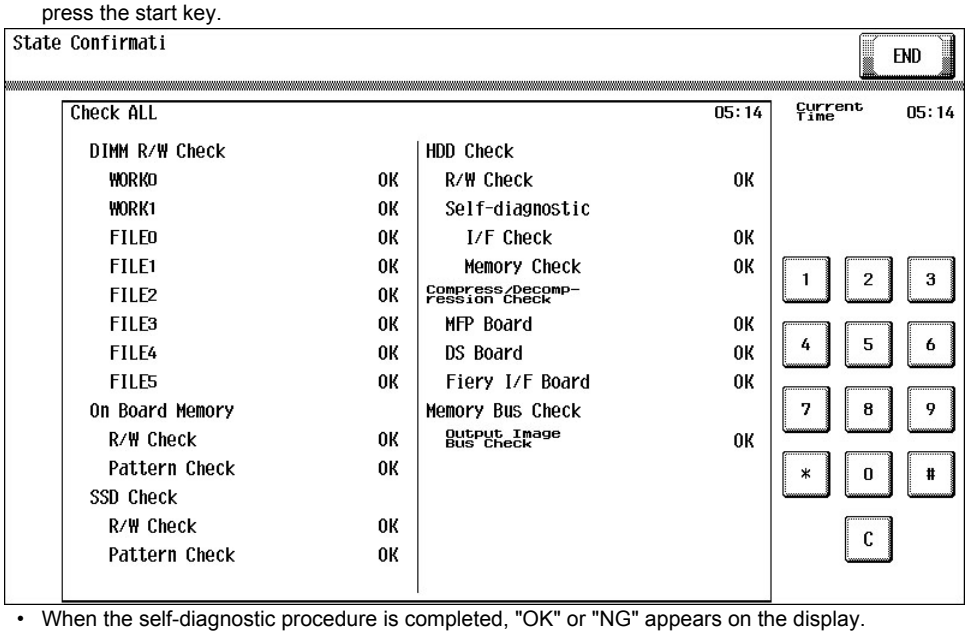


[1]	Scanner system	[2]	Printer system
[3]	Document scan	[4]	CCD board (CCDB)
[5]	I/F cable	[6]	MFP board (MFPB)
[7]	Print output	[8]	DF

15.2.2 Self-diagnostic function

Following give an overview of the self-diagnostic function.

- The self-diagnostic function makes a self-diagnosis of printed-wiring boards and electrical parts to determine whether they are fully operational.
- The self-diagnostic procedure is started as follows: select [Service Mode] -> [State Confirmation] -> [Self-diagnostic] -> [Check All]; then, press the start key.



- When the self-diagnostic procedure is completed, "OK" or "NG" appears on the display.
- If "NG" appears, check the corresponding printed-wiring board for proper connector connection or replace a faulty board with a good one.

Check name	Cause of "NG" display	Corrective action
DIMM R/W Check	DIMM improperly installed, faulty DIMM, faulty CPU of MFP board	Reinstall the DIMM, replace the DIMM, replace the MFP board
On Board Memory Check	Faulty MFP board, run-down battery	Replace the MFP board
SSD Check	eMMC board improperly installed, faulty eMMC board, faulty MFP board	Reinstall the eMMC board, replace the eMMC board, replace the MFP board
HDD Check	Broken HDD cable, damaged HDD, faulty MFP board	Replace the HDD cable, replace the HDD, replace the MFP board

Compress/Decompression Check	MFP board failure	Replace MFP board
Memory Bus Check: Output image	Improperly connected MFP board, faulty MFP board	Replace the MFP board

15.3 Corrective action procedure

15.3.1 Image trouble sample illustrations

NOTE

- **Sample illustrations schematically show exemplary image troubles that occur when the images are printed on A3-size paper.**
- **The arrow in the exemplary image troubles indicates the paper feeding direction.**

White line 1, White band 1



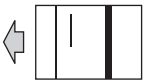
Black line 1, Black band 1



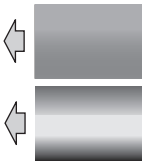
White line 2, White band 2



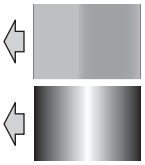
Black line 2, Black band 2



Uneven density 1



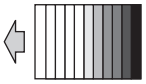
Uneven density 2



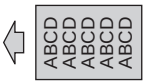
Faint image, Low image density



Gradation reproduction failure



Foggy background



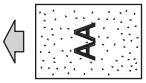
Void area



White spot



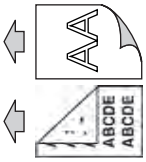
Black spots



Blurred image



Back marking



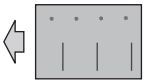
Blank copy



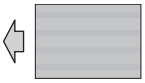
Black copy



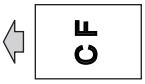
Uneven pitch



Uneven gloss, Rough gloss



Poor fusing performance



Offset



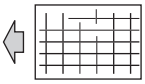
Brush effect



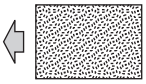
Image bleeding



Blurred fine lines



Moire



Skewed image



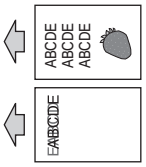
Distorted image



ACS malfunction



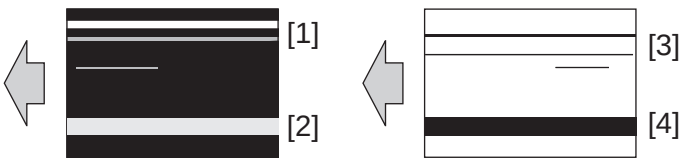
Abnormal image



15.3.2 White line 1, White band 1, Black line 1, Black band 1

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	White line	[2]	White band
[3]	Black line	[4]	Black band

(2) 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 setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
3	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black (1PC)", and "Full Bleed", enter "64" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Service Mode -> Table Number	Select [Service Mode] -> [State Confirmation] -> [Table Number]. The measured value is close to the standard value. • Developing bias: Vdc-K: close to the standard value of 420 V (100 V to 750 V) • Grid voltage: Vg-K: close to the standard value of 490 V (200 V to 900 V)	NO	• Check the high voltage unit, developing unit, and the drum unit for wiring and connection. • Replace the high voltage unit.
2	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
3	Photo conductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (C, F, G).	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 (B).	NO	Clean or correct the terminal.
5	Photo conductor section	Scratches on photo conductor.	YES	• Clean. • Replace the drum unit.
6	Photo conductor section	Toner line or dirt on photo conductor. (improper cleaning)	YES	Replace the drum unit.
7	Transfer section	There is a positive contact between the transfer application terminals and the high voltage unit connection terminals (T, D).	NO	Clean or correct the terminal.
8	Transfer section	Dirt, scratches, or foreign matter on the transfer roller.	YES	Replace the transfer roller unit.
9	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace developing unit.
			NO	Replace the PH unit.
10	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
11	Fusing unit	Scratches on roller in fusing unit.	YES	Replace the fusing unit.
			NO	• Replace the high voltage unit. • Replace the MFP board.

(4) Scanner troubleshooting procedure

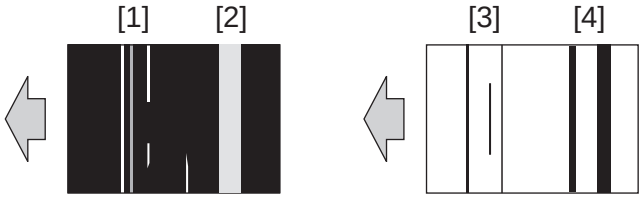
Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	When original glass is being used	A fault occurs in the image read through the original glass.	YES	Go to step 5.
3	When DF is being used: 1st side	A fault occurs in the image read from the 1st side 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 11.
Main body side_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	End face of original is reproduced as a line	Select [Service Mode] -> [Machine] -> [Scan Area] -> [Scanner Image Side Edge] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.

Step	Section	Check item	Result	Action
9	Line occurring due to faulty shading	Select [Service Mode] -> [Machine] -> [Scan Area] -> [Image Position: Leading Edge] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
10	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 body side_DF original reading section				
11	Main body side_reading section	Original reading glass of main body is dirty.	YES	Clean.
12	DF side_ original reading glass cleaning brush	Original reading glass cleaning brush of DF is dirty.	YES	Clean.
13	Main body side_shading sheet	Shading sheet of main body is dirty.	YES	Clean.
14	When DF is being used: 2nd side: End face of original is reproduced as a line	Select [Service Mode] -> [ADF] -> [Original Stop Position] -> [Sub Scanning Direction 1-Side] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
15	When DF is being used: 2nd side: End face of original is reproduced as a line	Select [Service Mode] -> [ADF] -> [Original Stop Position] -> [Sub Scanning Direction 2-Side] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
16	Service Mode -> Read Pos Adj	Select [Service Mode] -> [ADF] -> [Read Pos Adj] -> [Auto Adjust] and the image trouble is eliminated.	NO	Go to the next step.
17	Line occurring due to faulty shading	Select [Service Mode] -> [Machine] -> [Scan Area] -> [Image Position: Leading Edge] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
18	Parts along scanning path	Mirror, lens, light guide or reflectors is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.

15.3.3 White line 2, White band 2, Black line 2, Black band 2

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	White line	[2]	White band
[3]	Black line	[4]	Black band

(2) 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 setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
3	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black (1PC)", and "Full Bleed", enter "64" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Service Mode -> Table Number	Select [Service Mode] -> [State Confirmation] -> [Table Number]. The measured value is close to the standard value. • Developing bias: Vdc-K: close to the standard value of 420 V (100 V to 750 V) • Grid voltage: Vg-K: close to the standard value of 490 V (200 V to 900 V)	NO	• Check the high voltage unit, developing unit, and the drum unit for wiring and connection. • Replace the high voltage unit.
2	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
3	Photo conductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (C, F, G).	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 (B).	NO	Clean or correct the terminal.
5	Photo conductor section	Scratches on photo conductor.	YES	• Clean. • Replace the drum unit.
6	Photo conductor section	Toner line or dirt on photo conductor. (improper cleaning)	YES	Replace the drum unit.
7	Transfer section	There is a positive contact between the transfer application terminals and the high voltage unit connection terminals (T, D).	NO	Clean or correct the terminal.
8	Transfer section	Dirt, scratches, or foreign matter on the transfer roller.	YES	Replace the transfer roller unit.
9	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace developing unit.
			NO	Replace the PH unit.
10	Fusing unit	Dirt or foreign matter on paper path or separation claw of the fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
11	Fusing unit	Scratches on roller in fusing unit.	YES	Replace the fusing unit.
			NO	• Replace the high voltage unit. • Replace the MFP board.

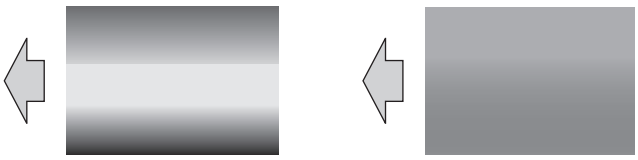
(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	Original Type	Select [Copy setting] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	When original glass is being used Service Mode -> Image Position	Select [Service Mode] -> [Machine] -> [Scan Area] -> [Image Position: Leading Edge] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
4	When original glass is being used	Original glass or original pad is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.
5	When DF is being used: 2nd side: End face of original is reproduced as a line	Select [Service Mode] -> [ADF] -> [Auto Stop Position Adjustment] -> [Main Scanning (Front)] and the image trouble is eliminated.	NO	Go to the next step.
6	When DF is being used: 2nd side: End face of original is reproduced as a line	Select [Service Mode] -> [ADF] -> [Auto Stop Position Adjustment] -> [Main Scanning (Back)] and the image trouble is eliminated.	NO	Go to the next step.
7	DF installation	Original reading glass or original reading glass cleaning brush is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.

15.3.4 Uneven density 1

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



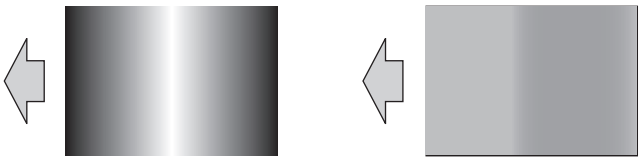
(2) Troubleshooting procedure

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 setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
3	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black (1PC)", and "Full Bleed", enter "64" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to the next step.
4	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.
5	Service Mode -> TCR Level Setting	Select [Service Mode] -> [Imaging Process Adjustment] - > [TCR Level Setting] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
6	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
7	Photo conductor section	Dirt, scratches, or foreign matter on the photo conductor.	YES	• Clean. • Replace the drum unit.
8	Transfer section	There is a positive contact between the transfer application terminals and the high voltage unit connection terminals (T, D).	NO	Clean or correct the terminal.
9	Transfer section	Dirt, scratches, or foreign matter on the transfer roller.	YES	Replace the transfer roller unit.
10	Transfer section	Faulty pressure/retraction operation of the transfer roller.	YES	• Correct or replace the drive system. • Replace the transfer roller unit.
11	Transfer section	Transfer roller rotates faultily.	YES	Replace the transfer roller unit.
12	Developing section	Toper hopper operates improperly or contains foreign matter.	YES	• Correct or remove. • Replace the toner hopper drive unit.
13	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace developing unit.
14	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
15	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the PH unit. • Replace the fusing unit. • Replace the high voltage unit. • Replace the MFP board.

15.3.5 Uneven density 2

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



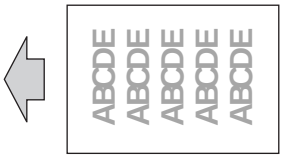
(2) Initial troubleshooting procedure

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 setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
3	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black (1PC)", and "Full Bleed", enter "64" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to the next step.
4	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
5	Photo conductor section	Dirt, scratches, or foreign matter on the photo conductor.	YES	• Clean. • Replace the drum unit.
6	Photo conductor section	Photo conductor drives faultily.	YES	• Correct. • Replace the drum unit.
7	Transfer section	There is a positive contact between the transfer application terminals and the high voltage unit connection terminals (T, D).	NO	Clean or correct the terminal.
8	Transfer section	Dirt, scratches, or foreign matter on the transfer roller.	YES	Replace the transfer roller unit.
9	Transfer section	Transfer roller rotates faultily.	YES	• Correct. • Replace the transfer roller unit.
10	Transfer section	Faulty pressure/retraction operation of the transfer roller.	YES	• Correct. • Replace the transfer roller unit.
11	Developing section	Toner bristles not even on the developing roller, resulting in a line or band.	YES	Replace developing unit.
12	Fusing unit	Dirt or foreign matter on paper path or separation claw of the fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
13	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the PH unit. • Replace the fusing unit. • Replace the high voltage unit. • Replace the MFP board.

15.3.6 Faint image, low image density (ID lowering)

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) 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.

Step	Section	Check item	Result	Action
2	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected 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	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
5	Image check	• Select [Service Mode] -> [Test Mode] -> [Gradation Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black(1PC)", "Full Bleed", and "12 gradations", and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Service Mode -> Table Number	Select [Service Mode] -> [State Confirmation] -> [Table Number]. The measured value is close to the standard value. • Developing bias: Vdc-K: close to the standard value of 420 V (100 V to 750 V) • Grid voltage: Vg-K: close to the standard value of 490 V (200 V to 900 V)	NO	• Check the high voltage unit, developing unit, and the drum unit for wiring and connection. • Replace the high voltage unit.
2	Photo conductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (C, F, G).	NO	Clean or correct the terminal.
3	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (B).	NO	Clean or correct the terminal.
4	Transfer section	There is a positive contact between the transfer application terminals and the high voltage unit connection terminals (T, D).	NO	Clean or correct the terminal.
5	Toner hopper drive unit section	Faulty connector connection between the toner supply motor (M6) and MFP board (CN22E).	YES	Reconnect the connector.
6	Toner hopper drive unit section	Faulty in the drive of toner hopper.	YES	• Correct. • Replace the toner hopper drive unit.
7	Service Mode -> TCR data	Select [Service Mode] -> [State Confirmation] -> [Level History 1] and the measured value is correct. TCR-K: close to the normal value of 6.5 % (5 to 8 %)	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.
9	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the drum unit. • Replace the developing unit. • Replace the PH unit. • Replace the transfer roller unit. • Replace the high voltage unit. • Replace the MFP board.

(4) Scanner troubleshooting procedure

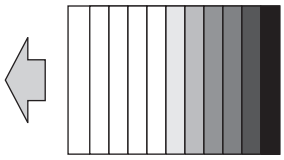
Step	Section	Check item	Result	Action
1	Original Type	Select [Copy setting] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
2	When original glass is being used	Original glass or original pad is dirty.	YES	Clean.
3	Parts along scanning path	Mirror, lens, light guide or reflectors is dirty.	YES	Clean.
4	Main body side_shading sheet	Shading sheet of main body is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.

Step	Section	Check item	Result	Action
5	When DF is being used	Original reading glass or original reading glass cleaning brush is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.

15.3.7 Gradation reproduction failure

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



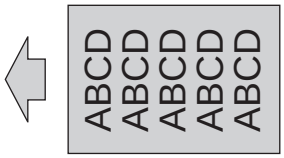
(2) Troubleshooting procedure

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 setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Image check	• Select [Service Mode] -> [Test Mode] -> [Gradation Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black(1PC)", "Full Bleed", and "12 gradations", and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	-	Go to the next step.
4	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
5	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.	YES	Readjust.
			NO	• Replace the drum unit. • Replace the developing unit. • Replace the PH unit. • Replace the high voltage unit. • Replace the MFP board.

15.3.8 Foggy background

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) 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 setting selected 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.

Step	Section	Check item	Result	Action
4	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
5	Service Mode -> Image Background Adj	Select [Service Mode] -> [Imaging Process Adjustment] -> [Image Background Adj] and the image trouble is eliminated.	NO	Go to the next step.
6	Image check	• Select [Service Mode] -> [Test Mode] -> [Lattice Pattern]. Select "SINGLE", "HYPER", "1-Sided", "Black(1PC)", "600dpi", and "Normal", enter "20" for CD width, "20" for FD width, and "255" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Photo conductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (C, F, G).	NO	Clean or correct the terminal.
2	Developing section	There is a positive contact between the developing bias application terminals and the high voltage unit connection terminals (B).	NO	Clean or correct the terminal.
3	Transfer section	There is a positive contact between the transfer application terminals and the high voltage unit connection terminals (T, D).	NO	Clean or correct the terminal.
4	Service Mode -> TCR data	Select [Service Mode] -> [State Confirmation] -> [Level History 1] and the measured value is correct. TCR-K: close to the normal value of 6.5 % (5 to 8 %)	NO	Select [Service Mode] -> [Imaging Process Adjustment] -> [Manual Toner Add] and perform the function.
5	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.
6	Connector connection	Faulty connector connection the high voltage unit (CN1) and MFP board (CN6E, CN18, CN24E).	YES	Reconnect the connector.
7	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the drum unit. • Replace the PH unit. • Replace the high voltage unit. • Replace the transfer roller unit. • Replace the MFP board.

(4) Scanner troubleshooting procedure

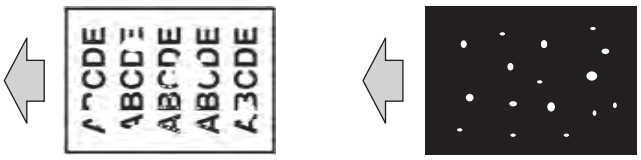
Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change the original.
2	Original Type	Select [Copy setting] -> [Original Type] and change the setting, and the image trouble is eliminated.	NO	Go to the next step.
3	Basic -> Density	Change the density setting, and the 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.
6	Parts along scanning path	Mirror, lens, light guide or reflectors is dirty.	YES	Clean.
7	Main body side_shading sheet	Shading sheet of main body is dirty.	YES	Clean.
8	DF installation	Original reading glass or original reading glass cleaning brush is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.

15.3.9 Void areas, White spots

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

[1] [2]



[1]	Void areas	[2]	White spots

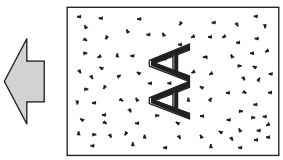
(2) Action

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 setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
3	Service Mode -> Primary transfer adj.	Select [Service Mode] -> [Imaging Process Adjustment] -> [Transfer Voltage Fine Adj] and the image trouble is eliminated. * Decrease the setting value for white dots. * 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.
4	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black (1PC)", and "Full Bleed", enter "64" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • If the abnormal image does not recur, change Density to "255" and make a print check. • Check the image after printing and the abnormal image is evident.	YES	Go to the next step.
5	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
6	Photo conductor section	Dirt, scratches, or foreign matter on the photo conductor.	YES	• Clean. • Replace the drum unit.
7	Photo conductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (C, F, G).	NO	Clean or correct the terminal.
8	Developing section	Toner bristles not even on the developing roller, resulting in a void area.	YES	Replace developing unit.
9	Transfer section	There is a positive contact between the transfer application terminals and the high voltage unit connection terminals (T, D).	NO	Clean or correct the terminal.
10	Transfer section	Dirt, scratches, or foreign matter on the transfer roller.	YES	Replace the transfer roller unit.
11	Connector connection	Faulty connector connection the high voltage unit (CN1) and MFP board (CN6E, CN18, CN24E).	YES	Reconnect the connector.
12	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the drum unit. • Replace the PH unit. • Replace the high voltage unit.

15.3.10 Black spots

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) 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 setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
3	Service Mode -> Primary transfer adj.	Select [Service Mode] -> [Imaging Process Adjustment] -> [Transfer Voltage Fine Adj] and the image trouble is eliminated. * Decrease the setting value for black spots.	NO	Return the setting value to the original one and go to the next step.
4	Image check	• Select [Service Mode] -> [Test Mode] -> [Solid Pattern]. Select "SINGLE", "HYPER", "Gradation", and "1-Sided", enter "64" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) Engine 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	Photo conductor section	Dirt, scratches, or foreign matter on the photo conductor.	YES	• Clean. • Replace the drum unit.
3	Photo conductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (C, F, G).	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 (B).	NO	Clean or correct the terminal.
5	Transfer section	Dirt, scratches, or foreign matter on the transfer roller.	YES	Replace the transfer roller unit.
6	Connector connection	Faulty connector connection the high voltage unit (CN1) and MFP board (CN6E, CN18, CN24E).	YES	Reconnect the connector.
7	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [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) 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 setting] -> [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 LED exposure unit. • Replace the CCD unit.
4	When DF is being used	Original reading glass or original reading glass cleaning brush is dirty.	YES	Clean.
			NO	• Replace the LED exposure unit. • Replace the CCD unit.

15.3.11 Blurred image

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) 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 setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	• Select [Service Mode] -> [Test Mode] -> [Lattice Pattern]. Select "SINGLE", "HYPER", "1-Sided", "Black(1PC)", "600dpi", and "Normal", enter "10" for CD width, "10" for FD width, and "255" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Photo conductor section	Dirt, scratches, or foreign matter on the photo conductor.	YES	• Clean. • Replace the drum unit.
			NO	Replace the PH unit.

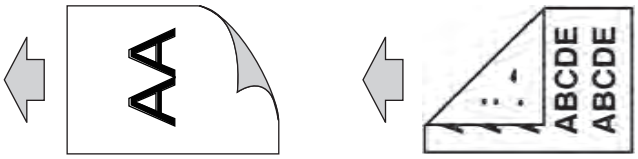
(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is folded, bent, or raised.	YES	Change the original.
2	Original Type	Select [Copy setting] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	Parts along scanning path	Mirror, lens, light guide or reflectors is dirty.	YES	Clean.
4	Parts along scanning path	Mirror, lens, light guide or reflectors is tilted.	YES	• Replace the LED exposure unit. • Replace the CCD unit.
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.

15.3.12 Back marking

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



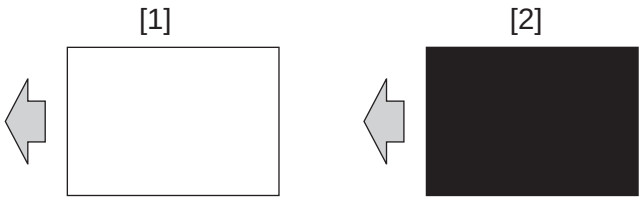
(2) Troubleshooting procedure

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 setting selected 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	Image transfer section	Dirt, scratches, or foreign matter on the transfer roller.	YES	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 roller in fusing unit.	YES	Replace the fusing unit.
			NO	Replace the high voltage unit.

15.3.13 Blank copy, Black copy

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Blank copy	[2]	Black copy

(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	• Select [Service Mode] -> [Test Mode] -> [Solid Pattern]. Select "SINGLE", "HYPER", "Gradation", and "1-Sided", enter "120" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer section	There is a positive contact between the transfer application terminals and the high voltage unit connection terminals (T, D).	NO	Clean or correct the terminal.
2	Photo conductor section	The drum unit is installed properly.	NO	Reinstall.
3	Photo conductor section	There is a positive contact between the electrostatic charger application terminals and the high voltage unit connection terminals (C, F, G).	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 (B).	NO	Clean or correct the terminal.
5	Connector connection	Faulty connector connection the high voltage unit (CN1) and MFP board (CN6E, CN18, CN24E).	YES	Reconnect the connector.
6	Service Mode -> Selfdiagnostic	Select [Service Mode] -> [State Confirmation] -> [Selfdiagnostic] -> [Check All] and perform the function. Then, "NG" appears.	YES	Take relevant action corresponding to the check item in which "NG" has appeared.
			NO	• Replace the high voltage unit. • Replace the PH unit. • Replace the MFP board.

(4) Scanner troubleshooting procedure

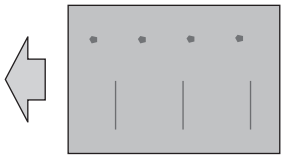
Step	Section	Check item	Result	Action
1	Black copy: Scanner section	Foreign matter on scanner guide rails. Faulty the drive shaft and pulley shaft.	YES	Clean and apply lubricant. *
2		Scanner drive belt kinks or is damaged.	YES	Correct or change.
3		Scanner moves smoothly.	NO	• Replace the belt of scanner motor. • Replace the scanner motor.
4	• 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 (PJ1) and the MFP board (CN7) is bent and a positive connection is made.	NO	Reconnect the connector.
5	• When original glass is being used • DF installation	Replace the connection cable between the machine and the DF. This eliminates the trouble.	YES	Replace the connection cable.
6	Parts along scanning path	Mirror, lens, light guide or reflectors is tilted.	YES	• Replace the LED exposure unit. • Replace the CCD unit.
7	• When original glass is being used • DF installation	Select [Service Mode] -> [State Confirmation] -> [Selfdiagnostic] -> [Check All] and perform the function. Then, "NG" appears.	YES	Take relevant action corresponding to the check item in which "NG" has appeared.
			NO	Replace the MFP board.

*: Apply FLOIL No. 947P to the scanner rails. FLOIL is a product manufactured by KANTO KASEI LTD. (http://www.kanto-kasei.co.jp/).

15.3.14 Uneven pitch

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



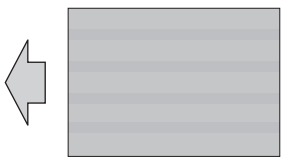
(2) Troubleshooting procedure

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 setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
3	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black (1PC)", and "Full Bleed", enter "64" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to the next step.
4	Uneven pitch at 94 mm interval	Dirt, scratches, or foreign matter on the photo conductor.	YES	• Clean. • Replace the drum unit.
5	Uneven pitch at 50 mm interval	Dirt, scratches, or foreign matter on the developing roller.	YES	• Clean. • Replace the developing unit.
6	Connector connection	Faulty connector connection the high voltage unit (CN1) and MFP board (CN24E).	YES	Reconnect the connector.
7	Uneven pitch	Dirt, scratches, or foreign matter on the transfer roller.	YES	Replace the transfer roller unit.
8	Uneven pitch at 50 mm interval	Dirt, scratches, or foreign matter on the transfer roller.	YES	Replace the transfer roller unit.
9	Uneven pitch at 94 mm interval	Dirt, scratches, or foreign matter on the roller in fusing unit.	YES	• Clean. • Replace the fusing unit.
10	Paper path	There is dirty or foreign matter on paper path.	YES	Check and clean the paper path including the duplex section.
			NO	• Replace the transfer roller unit. • Replace the high voltage unit. • Replace the MFP board.

15.3.15 Uneven gloss, Rough gloss

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Troubleshooting procedure

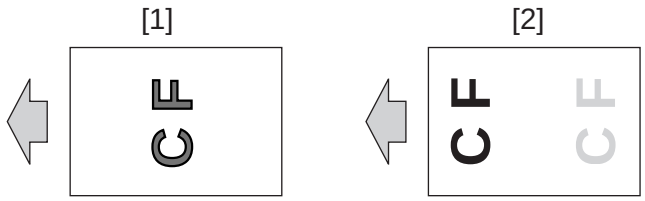
Step	Section	Check item	Result	Action
1	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black (1PC)", and "Full Bleed", enter "255" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle.	YES	Go to the next step.

Step	Section	Check item	Result	Action
		• Check the image after printing and the abnormal image is evident. (rough gloss)		
3	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.
4	Exit tray front roller, Exit roller	Faulty pressure operation of the exit tray front roller or exit roller.	YES	Correct.
5	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
6	Fusing unit	Scratches on roller in fusing unit.	YES	Replace the fusing unit.
			NO	• Replace the high voltage unit. • Replace the MFP board.

15.3.16 Poor fusing performance, Offset

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Poor fusing performance	[2]	Offset

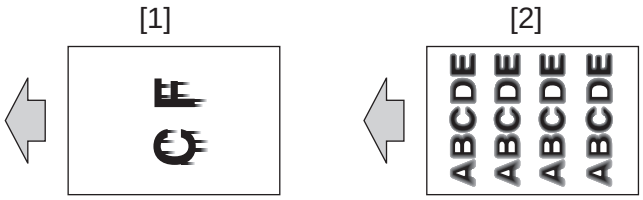
(2) Troubleshooting procedure

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 setting selected on the machine.	YES	Make the paper setting again on the machine.
2	Image check: Poor fusing performance	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black (1PC)", and "Full Bleed", enter "64" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to the next step.
3	Image check: Offset	• Select [Service Mode] -> [Test Mode] -> [Gradation Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black(1PC)", "Full Bleed", and "12 gradations", and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to the next step.
4	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 the setting value	NO	Return the setting value to the original one and go to the next step.
5	Fusing unit	There is dirty or foreign matter on paper path of fusing unit.	YES	Clean. (Disassembling the fusing unit is prohibited.)
6	Fusing unit	Scratches on roller in fusing unit.	YES	Replace the fusing unit.
			NO	• Replace the high voltage unit. • Replace the MFP board.

15.3.17 Brush effect, Image bleeding

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Brush effect	[2]	Image bleeding

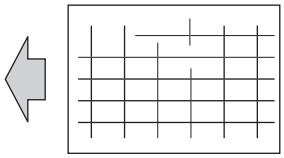
(2) Initial troubleshooting procedure

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 setting selected 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 -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	• Select [Service Mode] -> [Test Mode] -> [Lattice Pattern]. Select "SINGLE", "HYPER", "1-Sided", "Black(1PC)", "600dpi", and "Normal", enter "10" for CD width, "10" for FD width, and "255" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to the next step.
5	Transfer section	Dirt, scratches, or foreign matter on the transfer roller.	YES	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	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 roller in fusing unit.	YES	Replace the fusing unit.
			NO	• Replace the high voltage unit. • Replace the MFP board.

15.3.18 Blurred fine lines

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) 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 setting selected on the machine.	YES	Make the paper setting again on the machine.
3	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	• Select [Service Mode] -> [Test Mode] -> [Lattice Pattern]. Select "SINGLE", "FEET", "1-Sided", "Black(1PC)", "600dpi", and "Normal", enter "3" for CD width, "3" for FD width, and "255" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle.	YES	Go to engine troubleshooting procedure.

Step	Section	Check item	Result	Action
		• Check the image after printing and the abnormal image is evident.	NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Photo conductor section	Dirt, scratches, or foreign matter on the photo conductor.	YES	• Clean. • Replace the drum unit.
2	Image transfer section	Dirt, scratches, or foreign matter on the transfer roller.	YES	Replace the transfer roller unit.
			NO	Replace the PH unit.

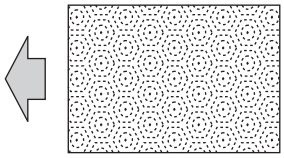
(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is folded, bent, or raised.	YES	Change the original.
2	Original Type	Select [Copy setting] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	Parts along scanning path	Mirror, lens, light guide or reflectors is tilted.	YES	• Replace the LED exposure unit. • Replace the CCD unit.
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.

15.3.19 Moire

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) 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 setting] -> [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 -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
5	Image check	• Select [Service Mode] -> [Test Mode] -> [Halftone Pattern]. Select "SINGLE", "HYPER", "Gradation", "1-Sided", "Black (1PC)", and "Full Bleed", enter "64" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) 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 -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	YES	Readjust.
			NO	• Replace the PH unit. • Replace the MFP board.

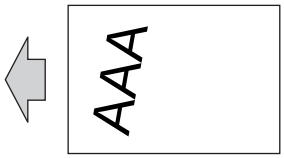
(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	When original glass is being used: Sub Scan Zoom Adj.	Select [Service Mode] -> [Machine] -> [Scan Area] -> [Sub Scan Zoom Adj.] and make the necessary adjustment, and the image trouble is eliminated.	YES	Readjust.
			NO	Replace the CCD unit.
2	When DF is being used: 1st side: Feed Zoom	Select [Service Mode] -> [ADF] -> [Feed Zoom] and make the necessary adjustment, and the image trouble is eliminated.	YES	Readjust.
			NO	Replace the CCD unit.

15.3.20 Skewed image

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is skew.	YES	• Reposition original. • Use an original that is not skew.
2	Original direction	Change the direction in which the original is placed. This eliminates the trouble.	YES	Change the original direction.
3	Paper Setting	The paper to be used for printing does not match the paper type and size of paper setting selected on the machine.	YES	Make the paper setting again on the machine.
4	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	NO	Go to the next step.
5	Image check	• Select [Service Mode] -> [Test Mode] -> [Lattice Pattern]. Select "SINGLE", "FEET", "1-Sided", "Black(1PC)", "600dpi", and "Normal", enter "5" for CD width, "5" for FD width, and "255" for Density, and load tray 2 with A3 paper. Press the start key. This runs a print cycle. • Check the image after printing and the abnormal image is evident.	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper path	There is dirty or foreign matter on registration roller or paper path.	YES	Clean paper path.
2	Service Mode -> Printer Reg. Loop Adj.	Select [Service Mode] -> [Machine] -> [Printer Reg. Loop Adj.] and make the necessary adjustment, and the image trouble is eliminated.	NO	Go to the next step.
3	Service Mode -> Gradation Adjust	Select [Service Mode] -> [Imaging Process Adjustment] -> [Gradation Adjust] and the image trouble is eliminated.	YES	Readjust.
			NO	Check the registration roller.

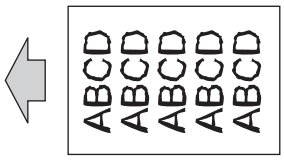
(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Parts along scanning path	Mirror, lens, light guide or reflectors is tilted.	YES	• Replace the LED exposure unit. • Replace the CCD unit.
2	When DF is being used: skew image on both sides	Select [Service Mode] -> [ADF] -> [Registration Loop Adj.] and make the adjustment. This eliminates the problem of skew image.	YES	Readjust.
3	While DF is being used: skew image on front side only	Perform [Adjusting front side skew feed on ADF] of mechanical adjustment. This eliminates the problem of skew image.	YES	Readjust.
			NO	Replace the CCD unit.

15.3.21 Distorted image

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



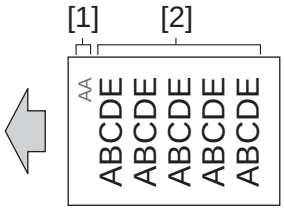
(2) Troubleshooting procedure

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 setting] -> [Original Type] and change the setting, and the image trouble is eliminated.	YES	Correct the setting.
3	Parts along scanning path	Mirror, lens, light guide, or reflectors are not installed properly.	YES	• Replace the LED exposure unit. • Replace the CCD unit.
4	When DF is being used: Distortion	CCD unit not installed properly.	YES	Replace the CCD unit.

15.3.22 ACS malfunction

(1) 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

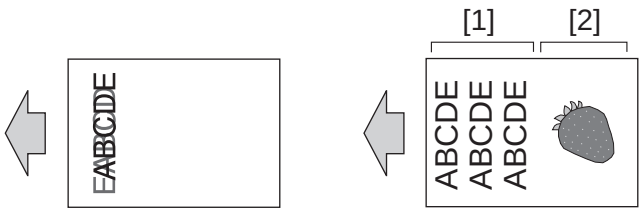
(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original Type	Select [Copy setting] -> [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.
3	User Settings -> Auto Color Level Adjust.	Select [User Settings] -> [System Settings] -> [Auto Color Level Adjust.] and the image trouble is eliminated.	YES	Readjust.
			NO	• Change the original direction. • Make the setting according to the type of original. (If the original contains a colored area at its corner, colored area detection NG may result.)

15.3.23 Abnormal image

(1) 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

(2) 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 (PJ1) and the MFP board (CN7) 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 unit and the MFP board. This eliminates the trouble.	YES	Replace the connection cable.
			NO	• Replace the CCD unit. • Replace the MFP board.
3	Service Mode -> Selfdiagnostic	Select [Service Mode] -> [State Confirmation] -> [Selfdiagnostic] -> [Check All] and perform the function. Then, "NG" appears.	YES	Take relevant action corresponding to the check item in which "NG" has appeared.
			NO	Replace the MFP board.

16. IC PROTECTOR

16.1 Outline

- To increase product safety, this MFP has an IC protector (ICP) 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 following list contains ICP installed in each board, related devices, and symptoms that occur when ICP trips.

16.2 IC protector list

16.2.1 bizhub 367/287/227

(1) MFP board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1E	-	USB	Unable to be detected the USB	-
	-	DF	Unable to be detected the original set	-
	PS104	Original cover sensor	Unable to detect a close of DF	-
	SW2	Front door switch	Front door remains open "There is an open component." display	-
	SW3	Right door switch	Right door remains open "There is an open component." display	-
	DCPU	DC power supply	AC signal abnormality	C5501
F3E	-	DC to DC converter for 5V power supply	Fusing abnormally high temperature detection	C3731
F4E	-	LCC, cabinet	No operation	C0206 / C0208 / C0210, etc.
			Misfeed at feed section	-
F5E	M12	Tray 1 lift-up motor	Tray 1 feeder up/down abnormality	C0202
	M13	Tray 2 lift-up motor	Tray 2 feeder up/down abnormality	C0204
	CL7	Bypass paper feed clutch	Misfeed at manual bypass feed section	-
	SD1	Bypass pick-up solenoid	Manual feed up/down abnormality	C0211
F6E	CL3	Tray 1 paper feed clutch	Misfeed at tray 1 feed section	-
	CL1	Tray 2 paper feed clutch	Misfeed at tray 2 feed section	-
	CL2	Tray2 vertical transport clutch	Misfeed at vertical transport section	-
	SD3	Gate switch solenoid	Misfeed at duplex transport section	-
	-	Key counter	Unable to detect the key counter	-
	TCT *	Total counter	No operation	-
F7E	FM1	Power supply cooling fan	Power supply cooling fan failure to turn	C5370
	FM3	Paper exit cooling fan	Paper exit cooling fan failure to turn	C5354
	FM4	Toner suction fan	Toner suction fan failure to turn	C2350
	EL/K	Erase lamp/K	Faulty image (uneven density)	-
	CL4	Registration clutch	Misfeed at registration section	-
F8E	M101	Scanner motor	Drive system home sensor malfunction	C6102
	CCDB	CCD board	Unable read image	C6751 / C6752 / C9401, etc.
F9E	-	DF	Unable to be detected	C8401 / C8101 / C8107, etc.
F10E	M1	Paper conveyance motor	Transport motor failure to turn	C5102
F11E	M3	Main motor	Main motor failure to turn	C2253
F12E	FM2	Main cooling fan	Main cooling fan failure to turn	C5356
	HV	High voltage unit	Faulty image (No images are printed on a paper, faint image)	-
			Misfeed at transfer section	-
F13E	M5	ADU transport motor	Misfeed at duplex transport section	-
	M6	Toner supply motor/K	Abnormally low toner density detected black TCR sensor	C2557
F14E	M10	Toner cartridge motor	Abnormally low toner density detected black TCR sensor	C2557
	M4	Reverse motor	Misfeed at exit section	-
F15E	-	Polygon motor	Polygon motor rotation trouble	C4101

- *: Japan models only

16.2.2 DF-628

(1) DF control board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1	-	DC to DC converter input section 24V line	Unable to produce DC24V in DF and MFP unable to detect DF	-
F2	-	DC to DC converter input section 5V line	Unable to produce DC5V in DF and MFP unable to detect DF	-
F3	M2	Original feed motor	Misfeed at feed section	-
F4	M3	Registration motor	Misfeed at transport section	-
F5	M1	Original reading motor	Misfeed at transport section	-
F6	SD1	Original exit roll release solenoid	Misfeed at switchback section	-
F8	M5	Reading roller release motor	Before reading pressure welding alienation mechanism trouble	C8101
F9	-	Stamp solenoid	Unable to place a stamp	-

16.2.3 JS-506

(1) JS control board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
ICP1	-	CPU power supply	No operation (Due to no power supply to CPU, FS connection not detected)	-
ICP2	-	DC to DC converter input section 24V line	Unable to produce DC24V in FS and MFP unable to detect FS	-
ICP3	M1	Tray shift motor	Shift motor drive malfunction	C1182

16.2.4 FS-534

(1) FS control board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1	-	Between connection with MFP and 24V power line	No operation (Due to no power supply to CPU, FS connection not detected)	-

16.2.5 SD-511

(1) 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	No operation (Due to no power supply to CPU, SD connection not detected)	-

16.2.6 FS-533

(1) FS control board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1	-	All ICs and actuators	No operation (Due to no power supply to CPU, FS connection not detected)	-
CP1	-	DC to DC converter input section 5V line	No operation (Due to no power supply to CPU, FS connection not detected)	-
CP2	-	Regulator	No operation (Due to no power supply to CPU, FS connection not detected)	-
CP3	-	DC to DC converter input section 24V line	No operation (Due to no power supply to CPU, FS connection not detected)	-
CP21	SD101	Paper surface detect solenoid	No operation	-
CP22	SD102	Batch solenoid	No operation	-
CP23	SD103	Paper exit roller solenoid	No operation	-
CP101	M101	Paper conveyance motor	Misfeed at transport section	-
CP102	M102	Paper exit motor	Misfeed at transport section	-

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
CP103	M103	Alignment roller motor	Misfeed at transport section	-
CP104	M104	Exit roller lift up motor	Exit roller pressure/ retraction malfunction	C11A1
CP105	M105	Alignment motor/F	Alignment plate motor/F malfunction	C1103
	M106	Alignment motor/R	Alignment plate motor/R malfunction	C1140
CP107	M107	Stapler movement motor	Stapler movement motor malfunction	C1106
CP109	M109	Tray lift up motor	Main tray up/down motor drive malfunction	C1102

16.2.7 PK-519

(1) PK control board

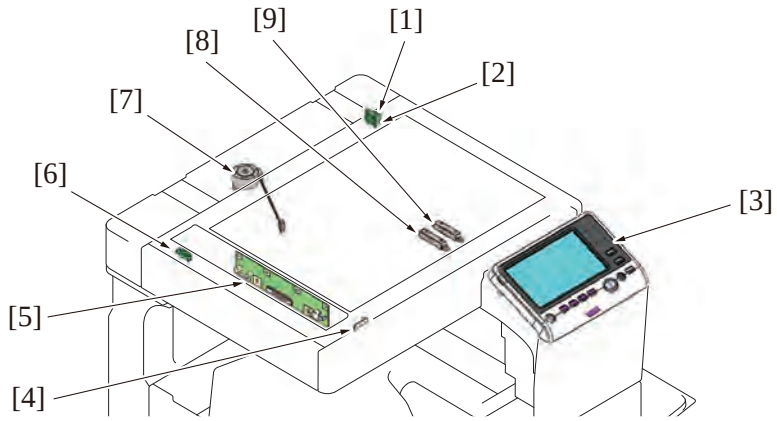
ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F201	M201	Punch motor	Punch drive motor’s malfunction	C1132

L PARTS/CONNECTOR LAYOUT DRAWING

1. PARTS LAYOUT DRAWING

1.1 bizhub 367/287/227

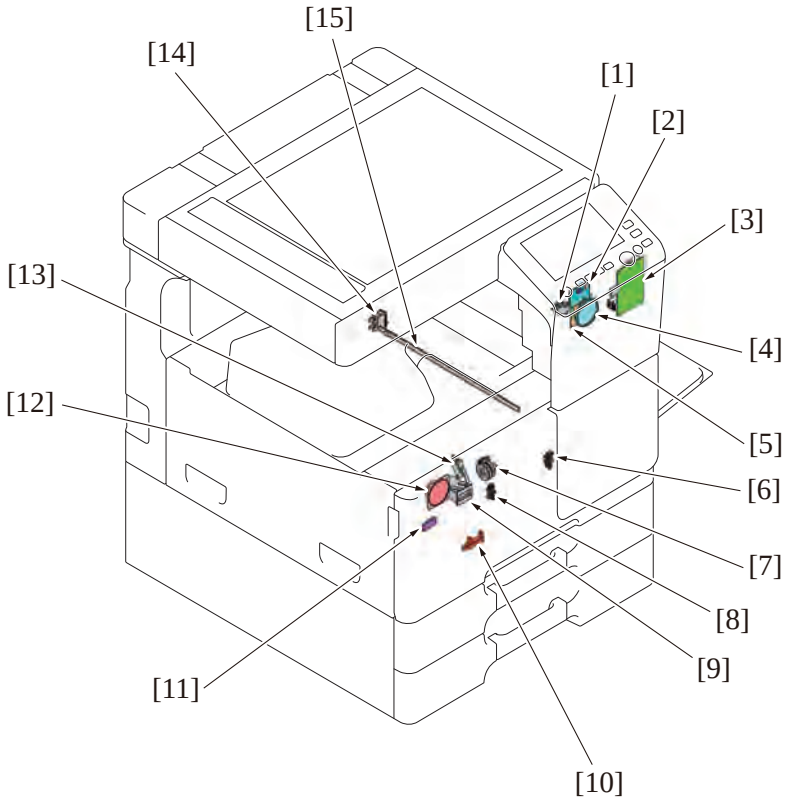
1.1.1 Scanner section



[1]	Angle sensor (PS103)	[2]	Original cover sensor (PS104)
[3]	Control panel unit	[4]	LED board (LEDB)
[5]	CCD board (CCDB)	[6]	Scanner home sensor (PS105)
[7]	Scanner motor (M101)	[8]	Original size sensor/1 (PS101)
[9]	Original size sensor/2 (PS102)*	-	-

*: Excluding Japan models

1.1.2 Front side



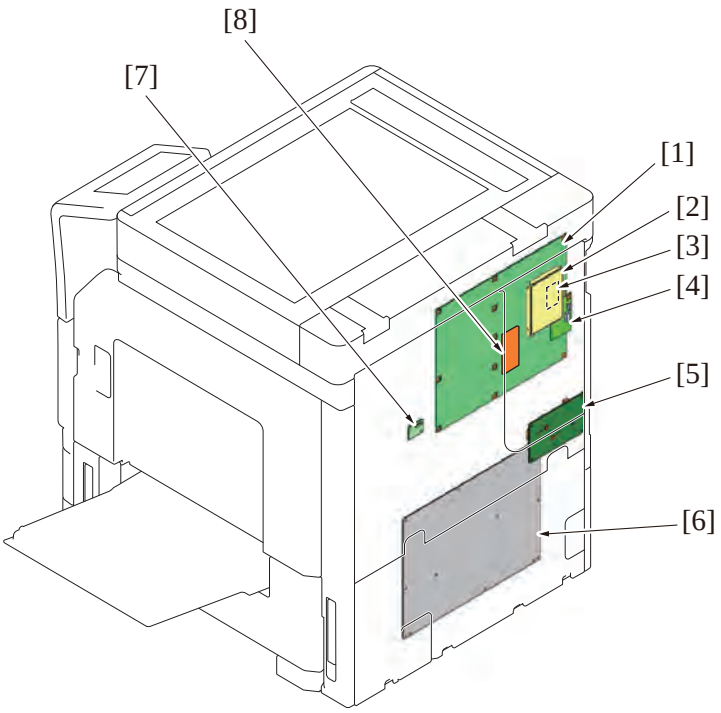
[1]	Right door switch (SW3)	[2]	Wireless LAN board (PWB-WLAN) *1
[3]	USB board (USBB) *1	[4]	Speaker/2 (SP2) *1
[5]	Wireless LAN module (WLAN) *1	[6]	Toner empty sensor/K (PS31)
[7]	Toner supply motor/K (M6)	[8]	Waste toner box set sensor (PS50)
[9]	Total counter (TCT) *2	[10]	Waste toner full sensor (PS51)

[11]	Temperature/humidity sensor (TEM/HUMS)	[12]	Speaker/1 (SP1)
[13]	Front door switch (SW2)	[14]	Main power switch (SW1)
[15]	Erase lamp/K (EL/K)	-	-

*1: Option
*2: Japan only

1.1.3 Back side

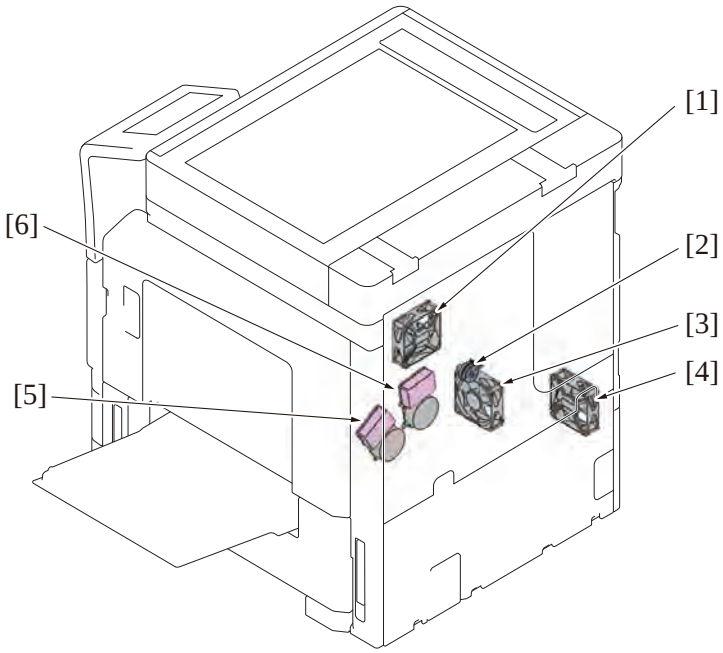
(1) Board



[1]	MFP board (MFPB)	[2]	Hard disk (HDD) *2
[3]	eMMC board (eMMC)	[4]	SATA board (SATAB) *2
[5]	FAX board (FAXB) *1	[6]	DC power supply (DCPU)
[7]	Backup board (ERB)	[8]	DIMM (DIMM) *1

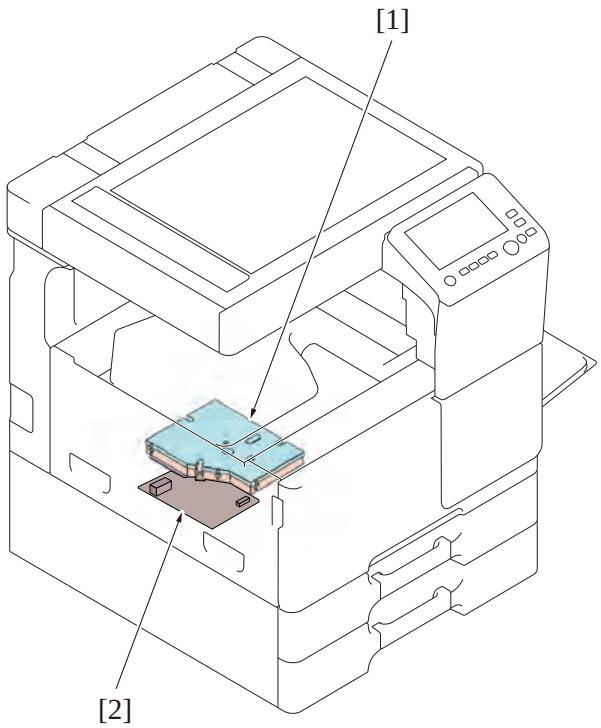
*1: Option
*2: Standard equipment in Japan, Europe, and North America. Optional for all other regions.

(2) Load



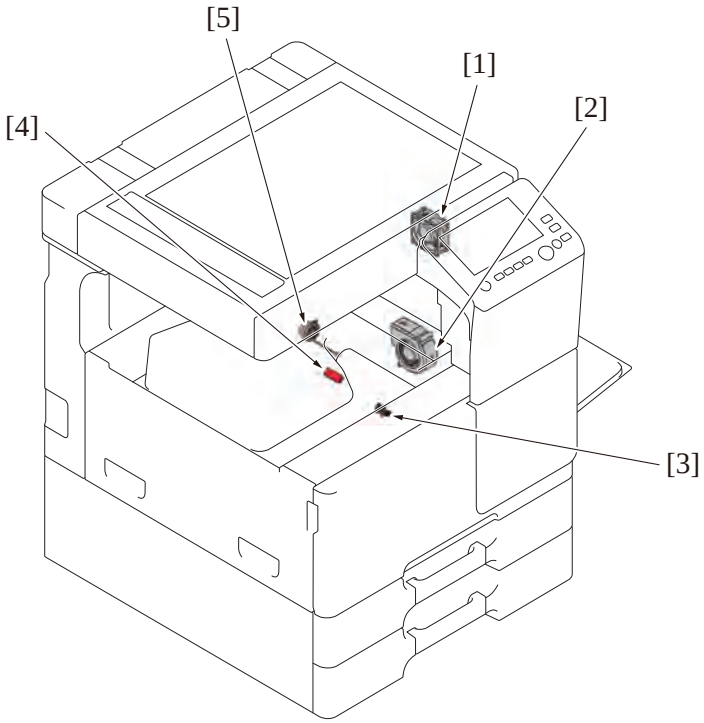
[1]	Paper exit cooling fan (FM3)	[2]	Toner cartridge motor (M10)
[3]	Toner suction fan (FM4)	[4]	Power supply cooling fan (FM1)
[5]	Transport motor (M1)	[6]	Main motor (M3)

1.1.4 Left side



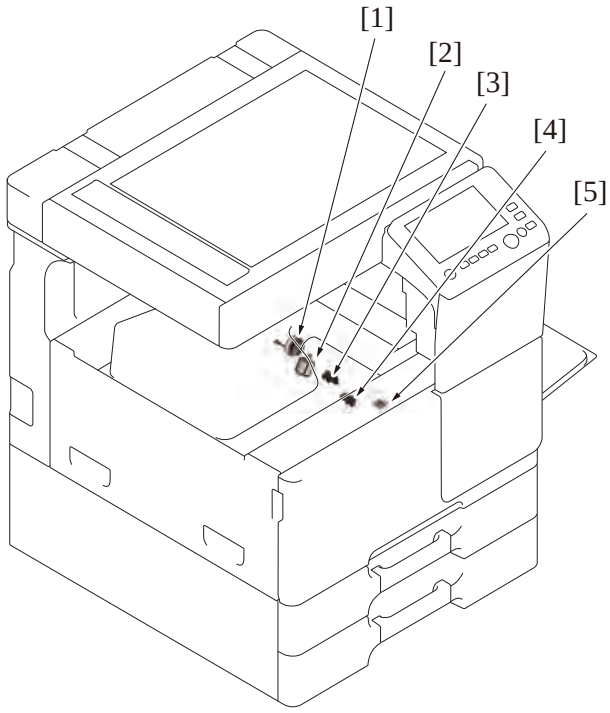
[1]	PH unit	[2]	High voltage unit (HV)

1.1.5 Right side



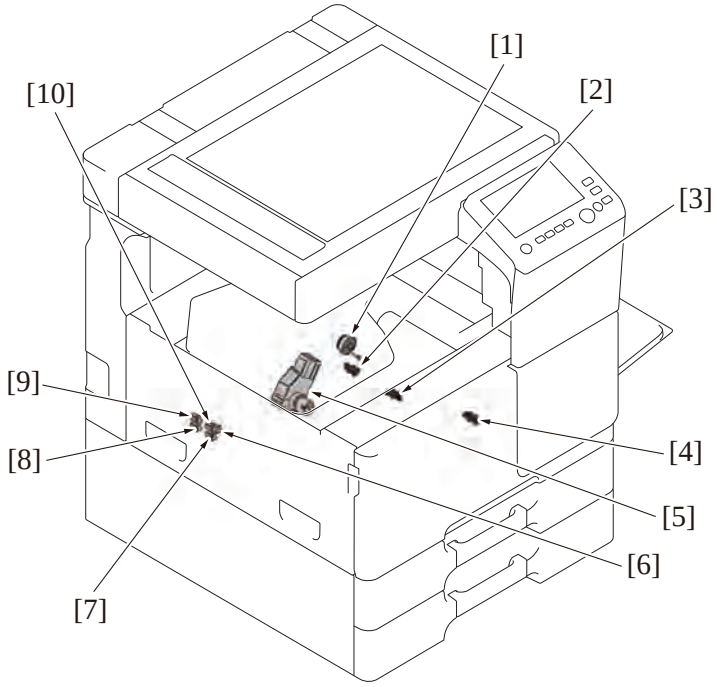
[1]	Reverse cooling fan (FM5)	[2]	Main cooling fan (FM2)
[3]	Registration sensor (PS1)	[4]	TCR sensor board (TCRSB)
[5]	Registration clutch (CL4)	-	-

1.1.6 Manual bypass tray



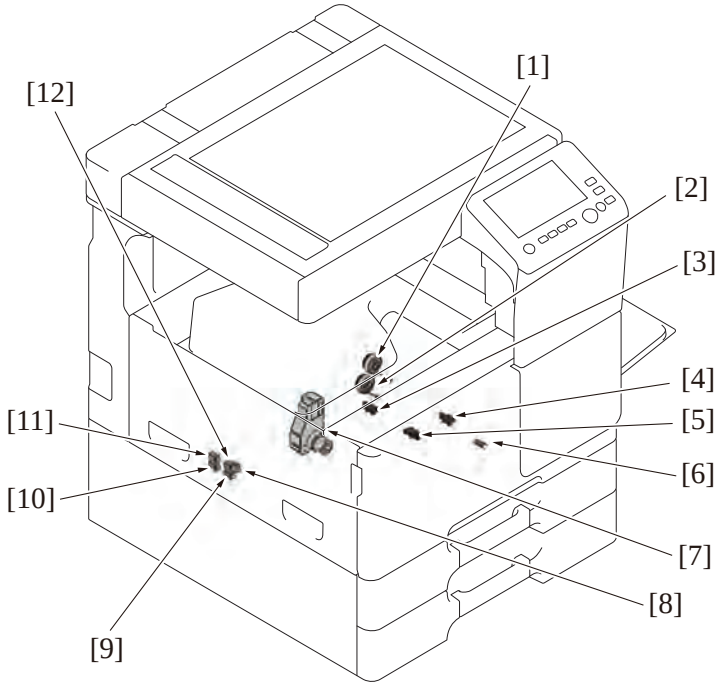
[1]	Bypass paper feed clutch (CL7)	[2]	Bypass pick-up solenoid (SD1)
[3]	Bypass tray position sensor (PS28)	[4]	Bypass paper empty sensor (PS27)
[5]	Bypass CD paper size sensor (VR1)	-	-

1.1.7 Tray 1



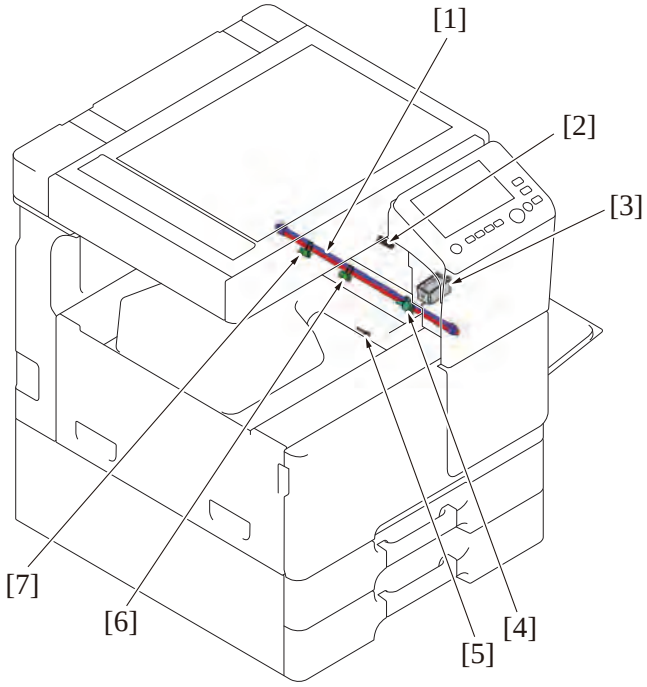
[1]	Tray 1 paper feed clutch (CL3)	[2]	Tray 1 upper limit sensor (PS22)
[3]	Tray 1 paper empty sensor (PS23)	[4]	Tray 1 paper feed sensor (PS21)
[5]	Tray 1 lift-up motor (M12)	[6]	Tray 1 FD paper size switch/3 (SW9)
[7]	Tray 1 FD paper size switch/2 (SW8)	[8]	Tray 1 CD paper size switch/2 (SW6)
[9]	Tray 1 CD paper size switch/1 (SW5)	[10]	Tray 1 FD paper size switch/1 (SW7)

1.1.8 Tray 2



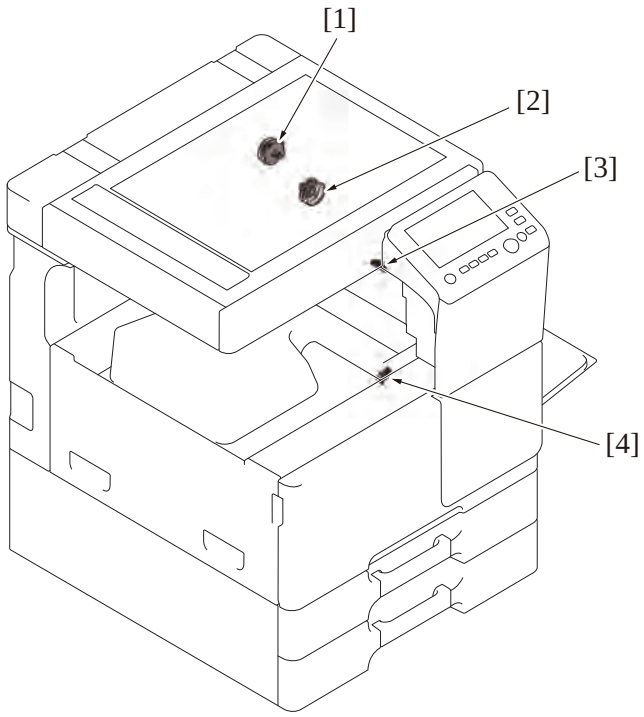
[1]	Tray 2 vertical transport clutch (CL2)	[2]	Tray 2 paper feed clutch (CL1)
[3]	Tray 2 paper empty sensor (PS26)	[4]	Tray 2 vertical transport sensor (PS19)
[5]	Tray 2 upper limit sensor (PS25)	[6]	Tray 2 paper feed sensor (PS24)
[7]	Tray 2 lift-up motor (M13)	[8]	Tray 2 FD paper size switch/3 (SW14)
[9]	Tray 2 FD paper size switch/2 (SW13)	[10]	Tray 2 CD paper size switch/2 (SW11)
[11]	Tray 2 CD paper size switch/1 (SW10)	[12]	Tray 2 FD paper size switch/1 (SW12)

1.1.9 Fusing/paper exit section



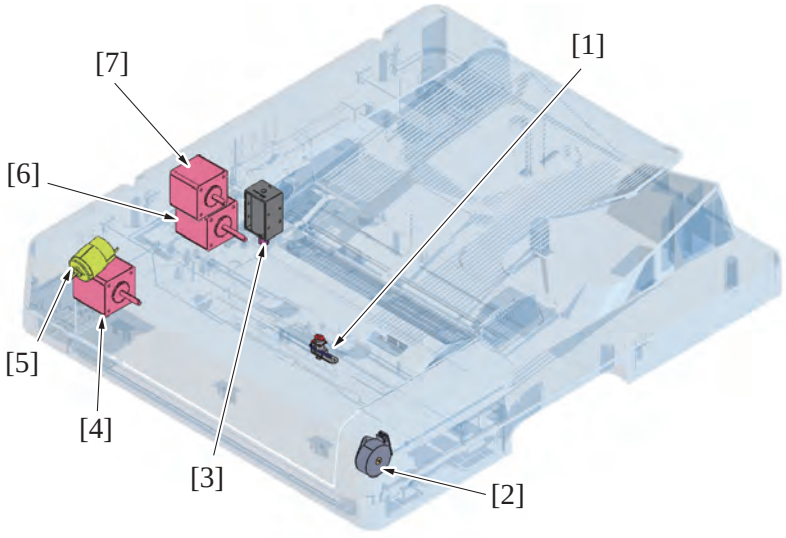
[1]	Heater lamp (H1)	[2]	Paper exit sensor (PS3)
[3]	Gate switch solenoid (SD3)	[4]	Thermostat (TS1)
[5]	Thermistor/3 (TH3)	[6]	Thermistor/1 (TH1)
[7]	Thermistor/2 (TH2)	-	-

1.1.10 Duplex section



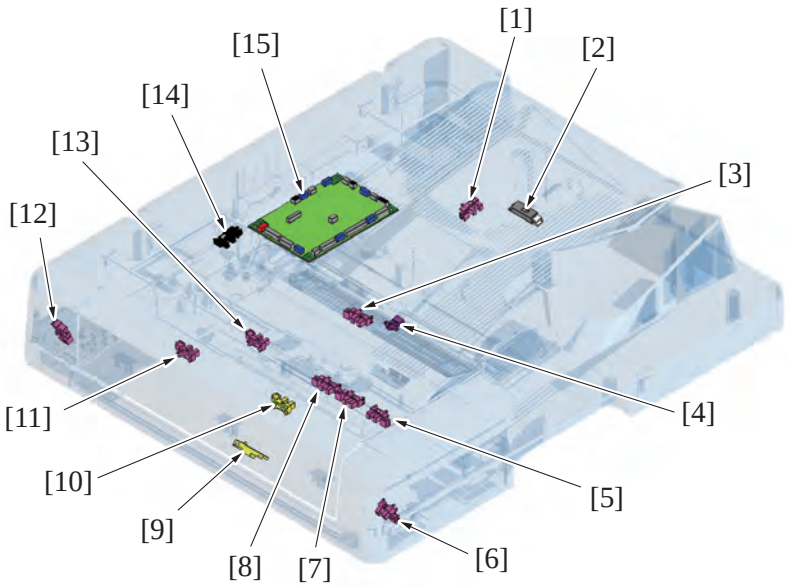
[1]	Reverse motor (M4)	[2]	ADU transport motor (M5)
[3]	ADU paper passage sensor/1 (PS40)	[4]	ADU paper passage sensor/2 (PS41)

1.2 DF-628 (Option)



[1]	Stamp solenoid (SD2) *	[2]	Glass cleaning motor (M4)
[3]	Original exit roller release solenoid (SD1)	[4]	Original reading motor (M1)
[5]	Reading roll release motor (M5)	[6]	Registration motor (M3)
[7]	Original feed motor (M2)	-	-

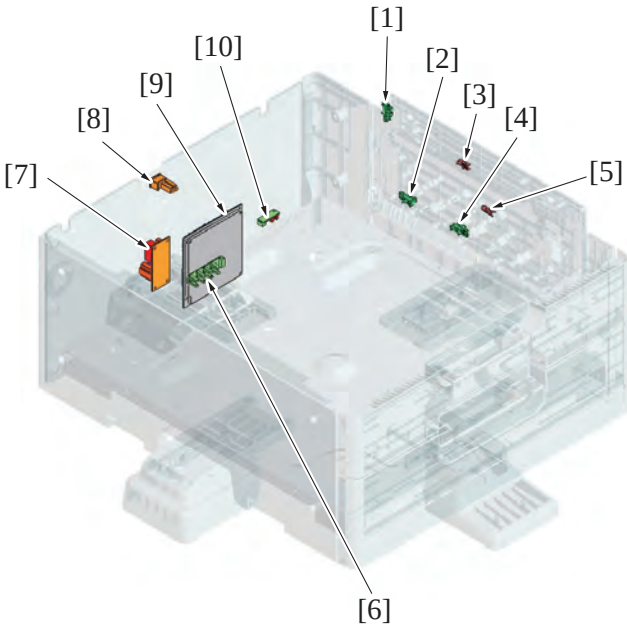
- * : Option



[1]	Original length size sensor/1 (PS6)	[2]	Original length size sensor/2 (PS7)
[3]	Original empty sensor (PS1)	[4]	Original width sensor (VR1)
[5]	Mixed original sensor/3 (PS10)	[6]	Original reading glass cleaning sensor (PS12)
[7]	Mixed original sensor/2 (PS9)	[8]	Mixed original sensor/1 (PS8)
[9]	Original reading sensor (PS4)	[10]	Original exit sensor (PS5)
[11]	Original registration sensor (PS3)	[12]	Reading roll position sensor (PS11)
[13]	After Separate sensor (PS2)	[14]	Upper door sensor (PS13)
[15]	DF control board (DFCB)	-	-

1.3 PC-113 (Option)

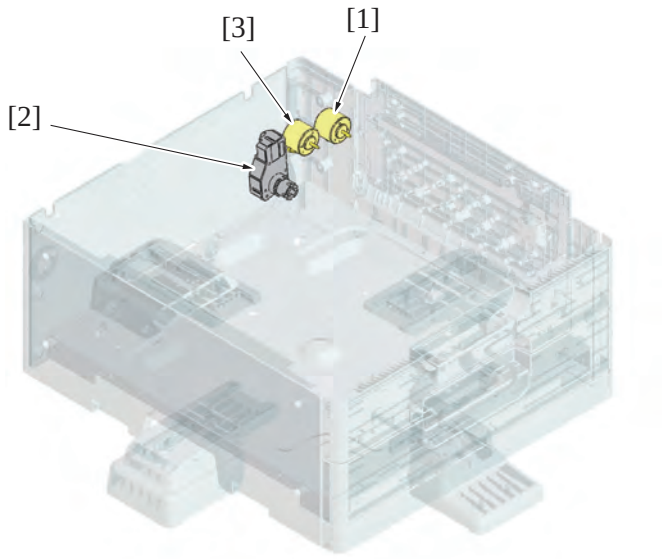
1.3.1 Board/switch/sensor/others



[1]	Right bottom door sensor (PS111)	[2]	Tray 3 upper limit sensor (PS116)
[3]	Tray 3 vertical transport sensor (PS113)	[4]	Tray 3 paper empty sensor (PS114)
[5]	Tray 3 paper feed sensor (PS112)	[6]	Tray 3 FD paper size board (FDPSB/3)
[7]	Dehumidifier relay board (PCRYB)*	[8]	Dehumidification heater switch (SW4) *
[9]	PC control board (PCCB)	[10]	Tray 3 CD paper size board (CDPSB/3)

*: Japan only

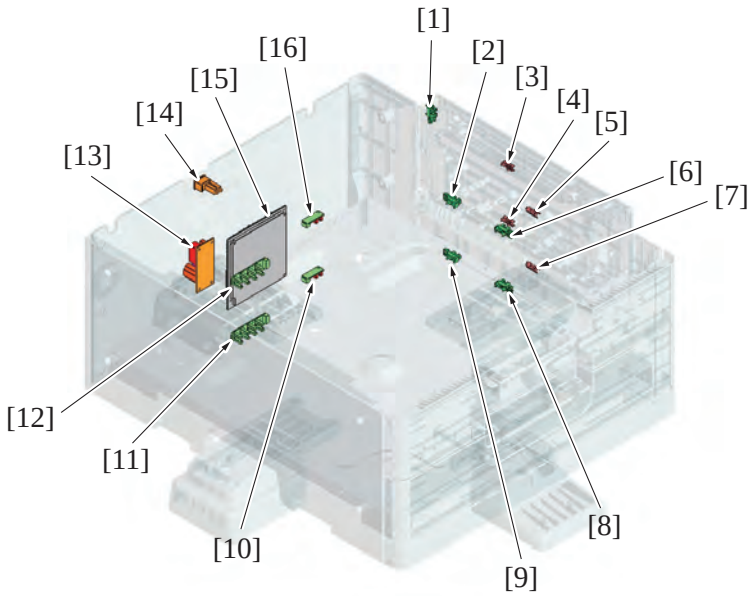
1.3.2 Load



[1]	Tray 3 vertical transport motor (M112)	[2]	Tray 3 lift-up motor (M113)
[3]	Tray 3 paper feed motor (M111)	-	-

1.4 PC-213 (Option)

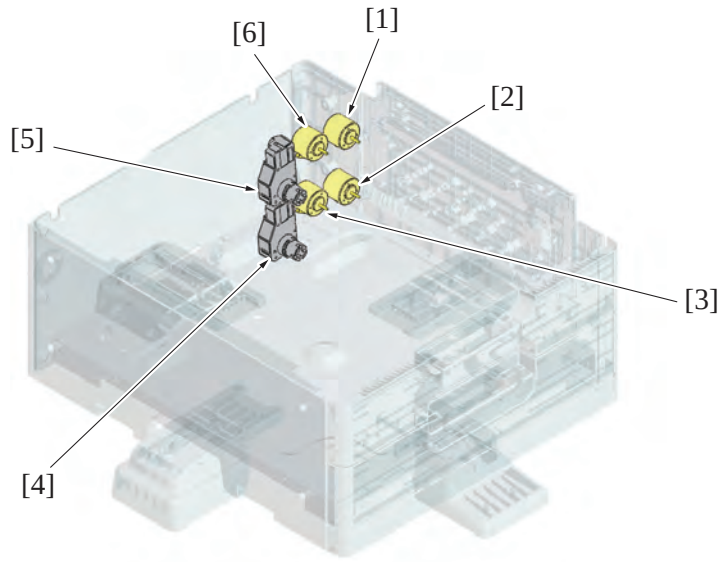
1.4.1 Board/switch/sensor/others



[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 4 upper limit sensor (PS126)
[9]	Tray 4 paper empty sensor (PS124)	[10]	Tray 4 CD paper size board (CDPSB/4)
[11]	Tray 4 FD paper size board (FDPSB/4)	[12]	Tray 3 FD paper size board (FDPSB/3)
[13]	Dehumidifier relay board (PCRYB)*	[14]	Dehumidification heater switch (SW4) *
[15]	PC control board (PCCB)	[16]	Tray 3 CD paper size board (CDPSB/3)

*: Japan only

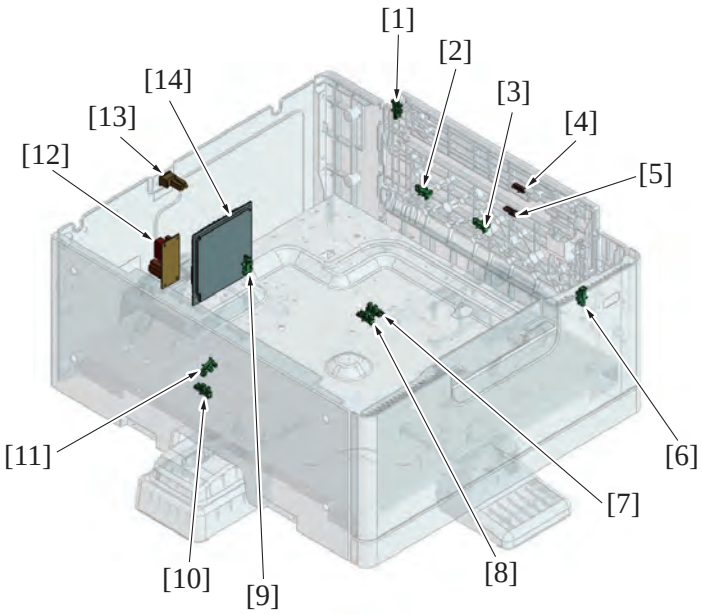
1.4.2 Load



[1]	Tray 3 vertical transport motor (M112)	[2]	Tray 4 vertical transport motor (M122)
[3]	Tray 4 paper feed motor (M121)	[4]	Tray 4 lift-up motor (M123)
[5]	Tray 3 lift-up motor (M113)	[6]	Tray 3 paper feed motor (M111)

1.5 PC-413 (Option)

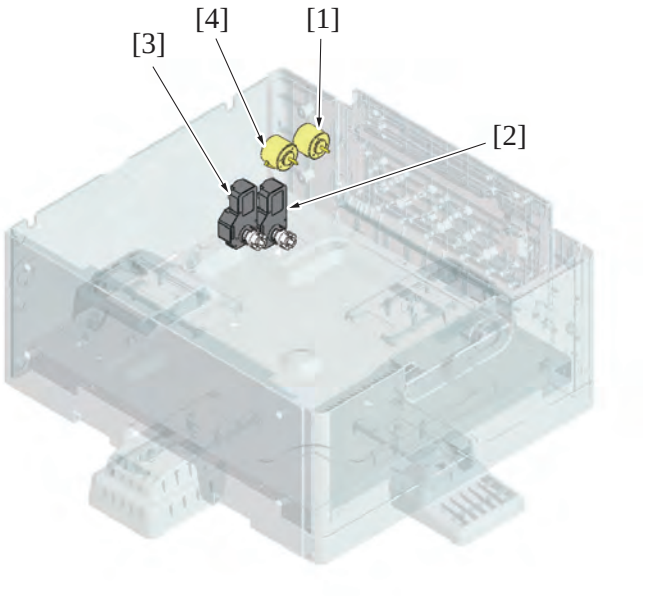
1.5.1 Board/switch/sensor/others



[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]	Cassette set sensor (PS143)
[7]	Main tray paper empty sensor (PS134)	[8]	Shifter stop/lower limit position sensor (PS138)
[9]	Division board sensor (PS142)	[10]	Shifter home sensor (PS139)
[11]	Sub tray paper empty sensor (PS140)	[12]	Dehumidifier relay board (PCRYB)*
[13]	Dehumidification heater switch (SW4) *	[14]	PC control board (PCCB)

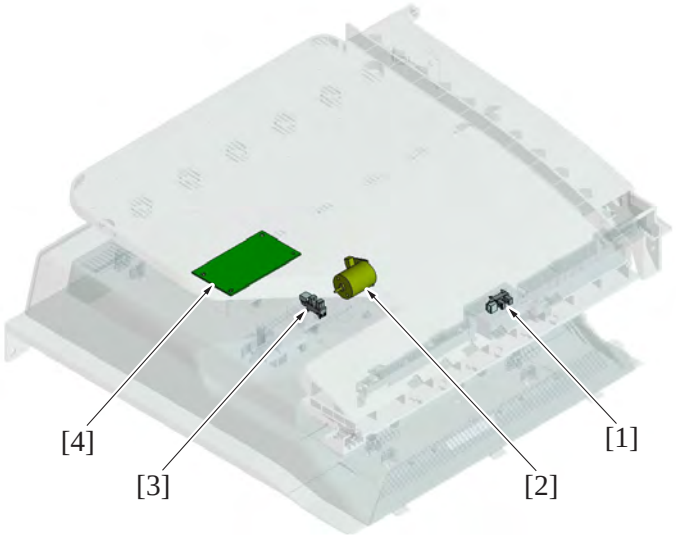
*: Japan only

1.5.2 Load



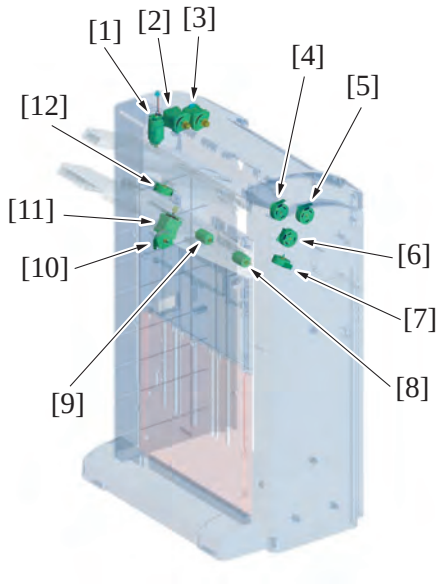
[1]	Vertical transport motor (M132)	[2]	Elevator motor (M134)
[3]	Shifter motor (M133)	[4]	Paper feed motor (M131)

1.6 JS-506 (Option)

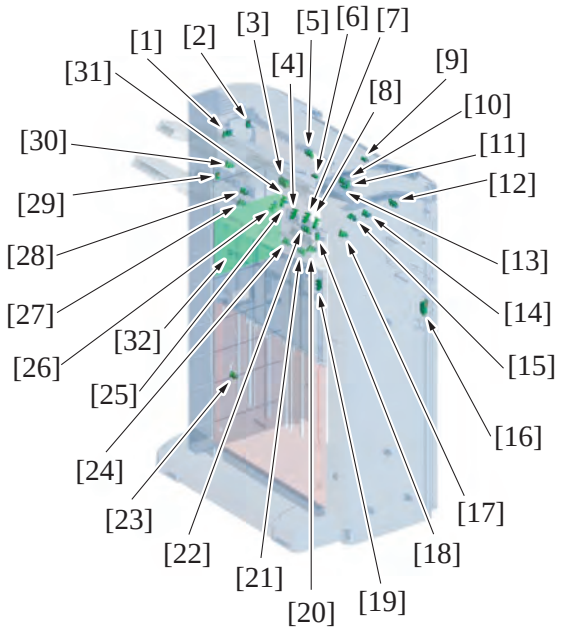


[1]	Exit tray1 full sensor (PS2)	[2]	Tray shift motor (M1)
[3]	Tray shift home sensor (PS1)	[4]	JS control board (JSCB)

1.7 FS-534 (Option)

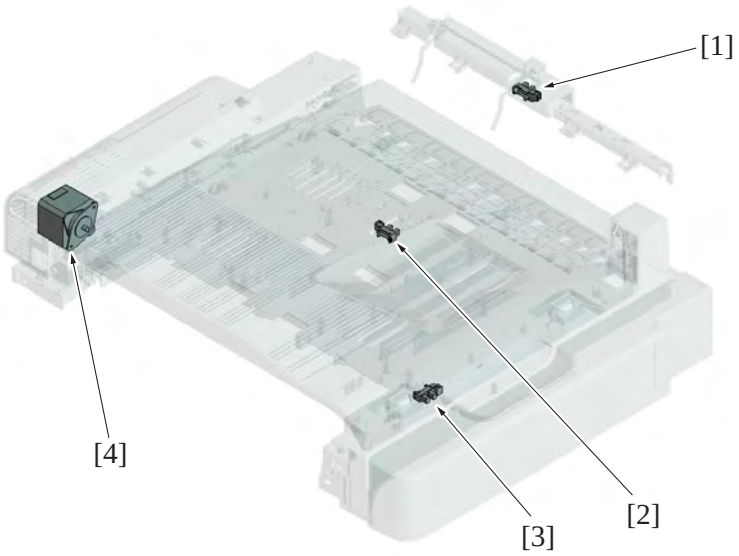


[1]	Main tray up/down motor (M11)	[2]	FNS discharge motor (M3)
[3]	FNS entry transport motor (M2)	[4]	FNS paddle motor (M5)
[5]	Receiving roller retraction motor (M4)	[6]	Trailing edge stopper motor (M6)
[7]	Alignment motor/Front (M7)	[8]	Bundle eject motor (M10)
[9]	Pre-eject drive motor (M9)	[10]	Paper receiving control motor (M12)
[11]	Side stapler movement motor (M13)	[12]	Alignment motor/Rear (M8)



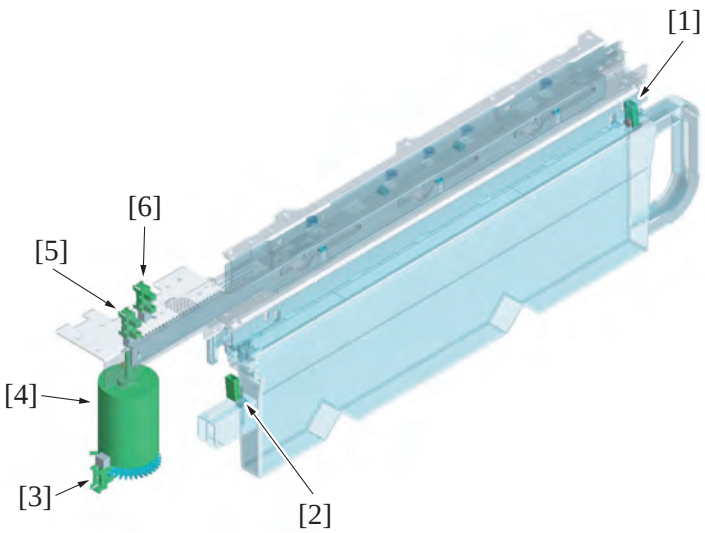
[1]	Stacker motor sensor (PS25)	[2]	Sub tray full detection sensor/out (PS9)
[3]	Main tray upper position detect switch (SW2)	[4]	Pre-eject away sensor (PS22)
[5]	Sub tray exit sensor (PS8)	[6]	Staple stacker paper detection sensor (PS31)
[7]	Pre-eject home sensor (PS21)	[8]	Trailing edge stopper home position detection sensor (PS20)
[9]	FNS entrance sensor (PS4)	[10]	Upper cover open/close detection sensor (PS32)
[11]	Sub tray full detection sensor/in (PS10)	[12]	Exchange folded paper output sensor (PS30)
[13]	Saddle exit sensor (PS5)	[14]	Receiving roller retraction sensor (PS11)
[15]	Upper paddle home position detection sensor (PS14)	[16]	Front door open detect switch (SW1)
[17]	Alignment plate/F home sensor (PS12)	[18]	Main tray upper sensor/in (PS7)
[19]	Paper delivery control sensor (PS28)	[20]	Stapler position sensor (Center) (PS24)
[21]	Gripper motor sensor (PS17)	[22]	Main tray upper position sensor/F (PS27)
[23]	Main tray full detection sensor (PS29)	[24]	Pre-eject encorder sensor (PS15)

[25]	Main tray exit sensor (PS16)	[26]	Gripper position detection sensor (PS19)
[27]	Stapler home position sensor (Rear) (PS23)	[28]	Main tray upper position sensor/R (PS26)
[29]	Main tray upper sensor/out (PS6)	[30]	Alignment plate/R home sensor (PS13)
[31]	Gripper home position sensor (PS18)	[32]	FS control board (FSCB)



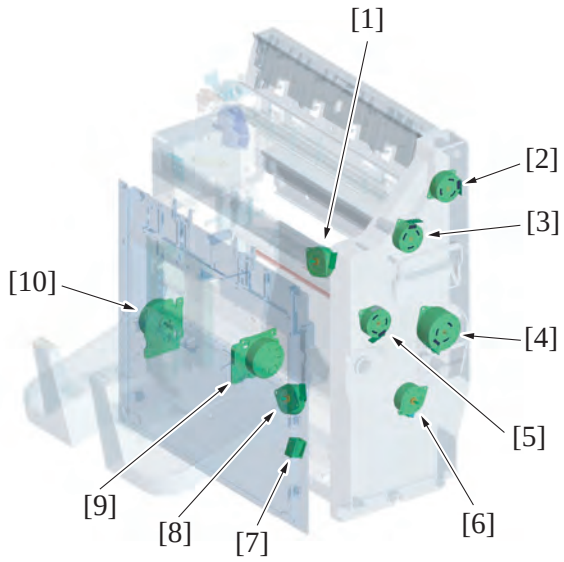
[1]	3rd exit tray full sensor (PS1)	[2]	RU entrance sensor (PS2)
[3]	RU cover open/close detection sensor (PS3)	[4]	RU transport motor (M1)

1.8 PK-520 (Option)

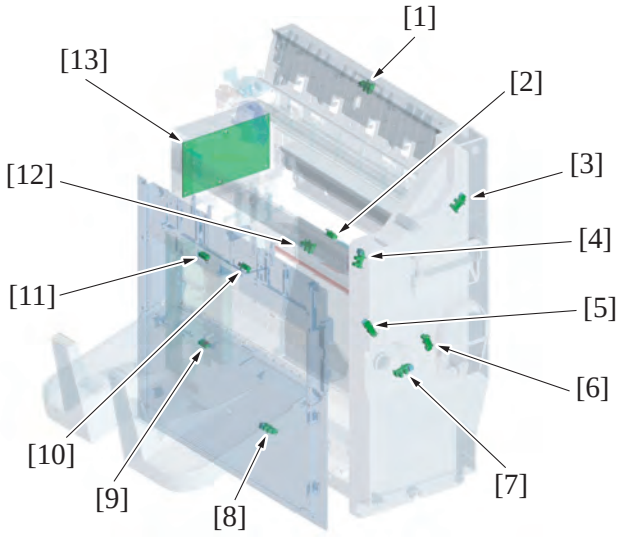


[1]	Punch dust full sensor/out (PS4)	[2]	Punch dust full sensor/in (PS5)
[3]	Punch motor sensor (PS3)	[4]	Punch drive motor (M1)
[5]	Punch position sensor (PS2)	[6]	Punch home sensor (PS1)

1.9 SD-511 (Option)

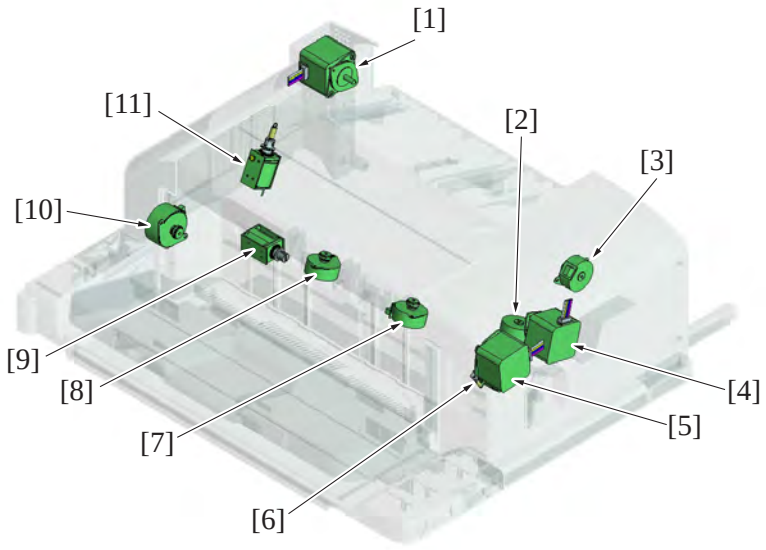


[1]	Alignment motor (M3)	[2]	SD transport motor (M1)
[3]	Paper discharge control motor (M2)	[4]	Center fold guide motor (M8)
[5]	Tri-folding guide motor (M6)	[6]	SD paddle motor (M7)
[7]	Stopper solenoid (SD1)	[8]	Stopper drive motor (M4)
[9]	Center fold knife motor (M9)	[10]	Center fold roller motor (M5)

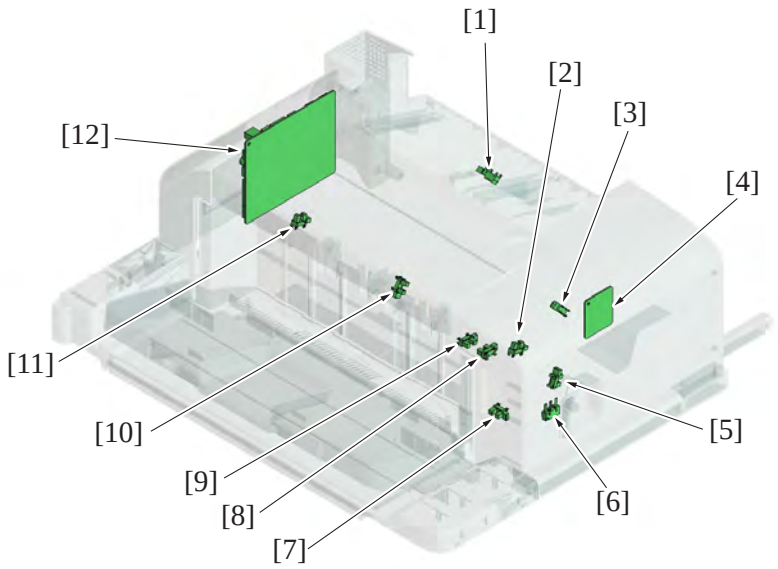


[1]	SD entrance sensor (PS1)	[2]	Center staple/fold stacker paper detect sensor (PS3)
[3]	Curl cover detection sensor (PS2)	[4]	Alignment home sensor (PS4)
[5]	Tri-folding gate home sensor (PS11)	[6]	Guide home sensor (PS7)
[7]	Paddle home sensor (PS5)	[8]	Stopper home sensor (PS6)
[9]	Booklet tray empty detection sensor/out (PS14)	[10]	Fold exit sensor (PS12)
[11]	Booklet tray empty detection sensor/in (PS13)	[12]	Center fold knife home sensor (PS8)
[13]	SD drive board (SDDB)	-	-

1.10 FS-533 (Option)

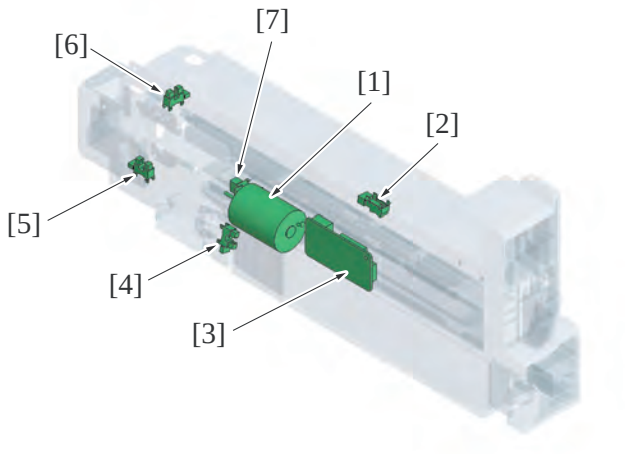


[1]	Paper conveyance motor (M101)	[2]	Stapler movement motor (M107)
[3]	Alignment roller motor (M103)	[4]	Paper exit motor (M102)
[5]	Exit roller lift up motor (M104)	[6]	Paper exit roller solenoid (SD103)
[7]	Alignment motor/F (M105)	[8]	Alignment motor/R (M106)
[9]	Paper surface detect solenoid (SD101)	[10]	Tray lift up motor (M109)
[11]	Batch solenoid (SD102)	-	-



[1]	Paper feed sensor (PS101)	[2]	Alignment plate home sensor/F (PS108)
[3]	Pick up roller position sensor (PS105)	[4]	Stapler relay board (STREYB)
[5]	Stapler home sensor (PS110)	[6]	Finisher lock switch (SW1)
[7]	Paper exit tray home sensor (PS107)	[8]	Paper surface detect sensor/2 (PS104)
[9]	Paper weight lever sensor (PS103)	[10]	Paper surface detect sensor/1 (PS102)
[11]	Alignment plate home sensor/R (PS109)	[12]	FS control board (FSCB)

1.11 PK-519 (Option)



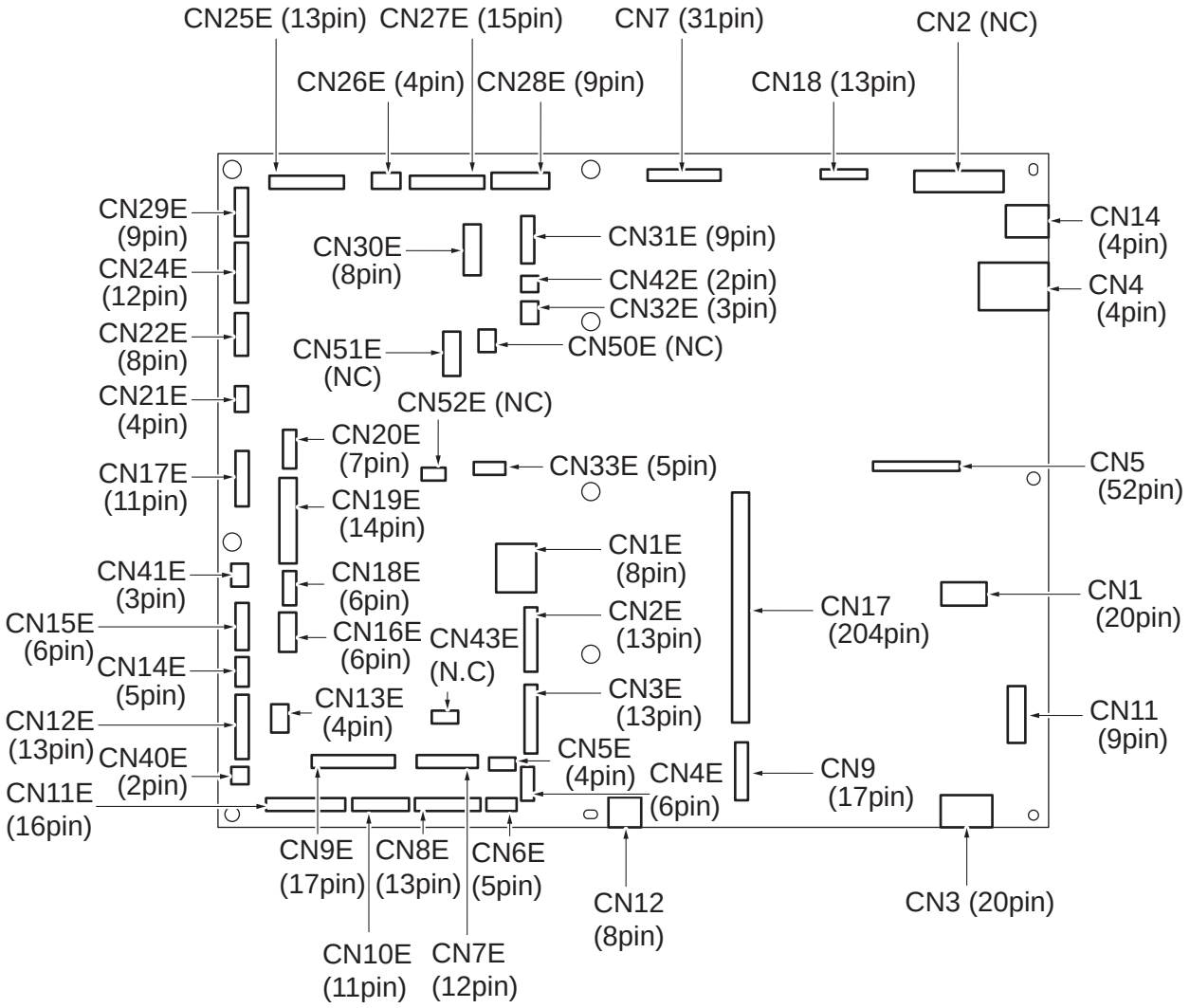
[1]	Punch motor (M201)	[2]	Paper feed sensor (PS201)
[3]	PK control board (PKCB)	[4]	Punch dust full sensor (PS205)
[5]	Puncher drive cam sensor (PS203)	[6]	Puncher home sensor (PS204)
[7]	Punch motor sensor (PS202)	-	-

2. CONNECTOR LAYOUT DRAWING

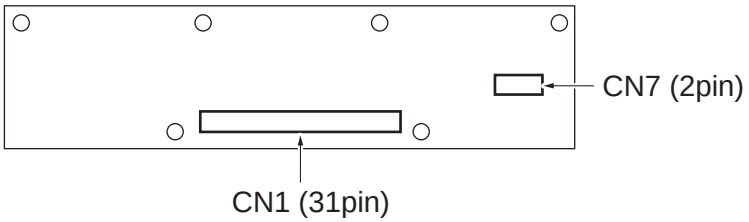
2.1 BOARD CONNECTOR LAYOUT DRAWING

2.1.1 bizhub 367/287/227

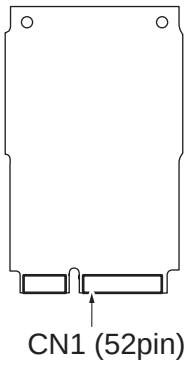
(1) MFP board (MFPB)



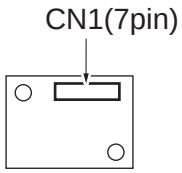
(2) CCD board (CCDB)



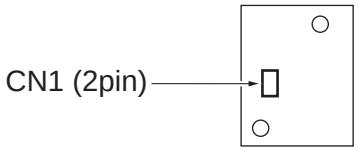
(3) eMMC board (eMMC)



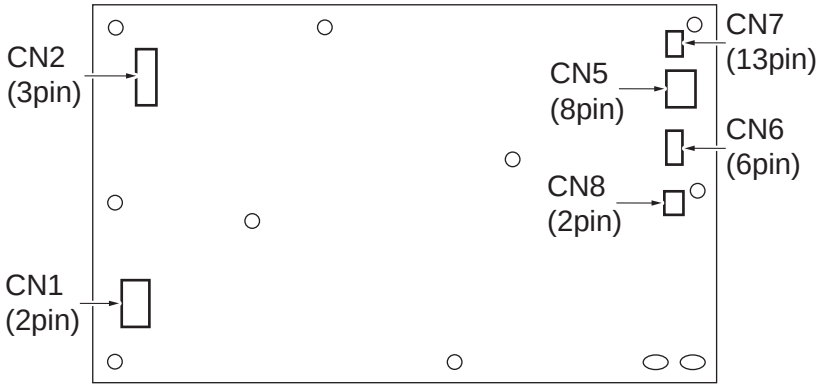
(4) Backup board (ERB)



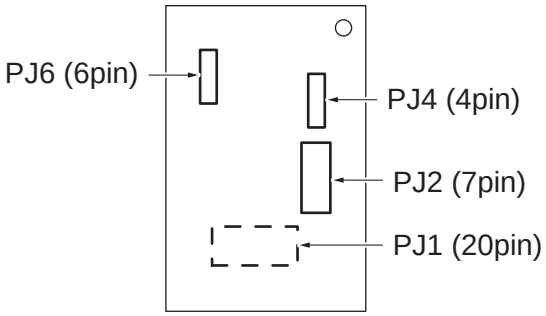
(5) LED board (LEDB)



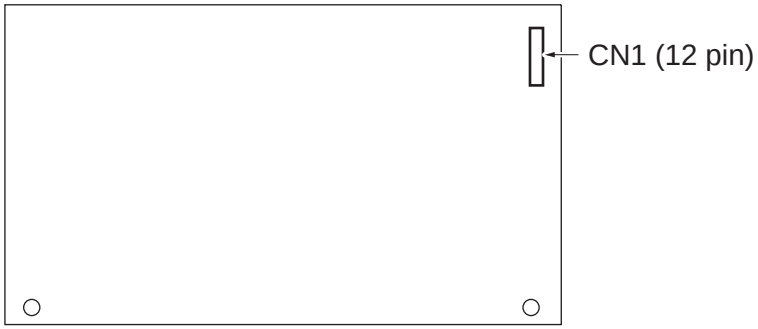
(6) DC power supply (DCPU)



(7) SATA board (SATAB)



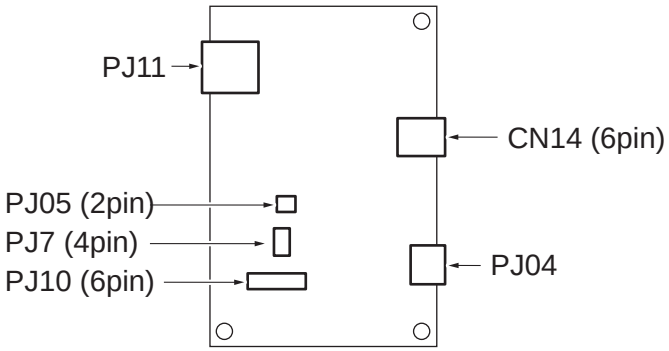
(8) High voltage unit (HV)



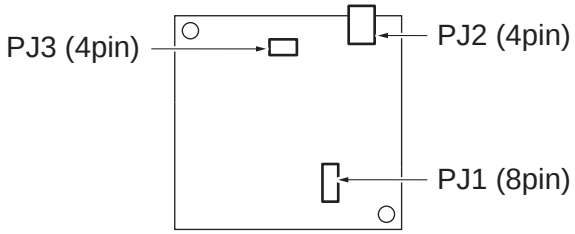
(9) FAX board (FAXB) (Option)



(10) USB board (USBB) (Option)

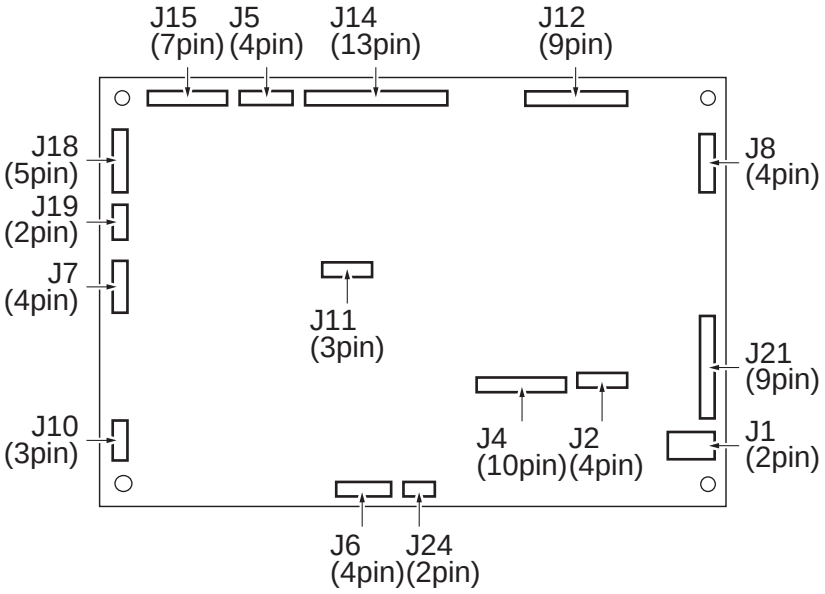


(11) Wireless LAN board (PWB-WLAN) (Option)



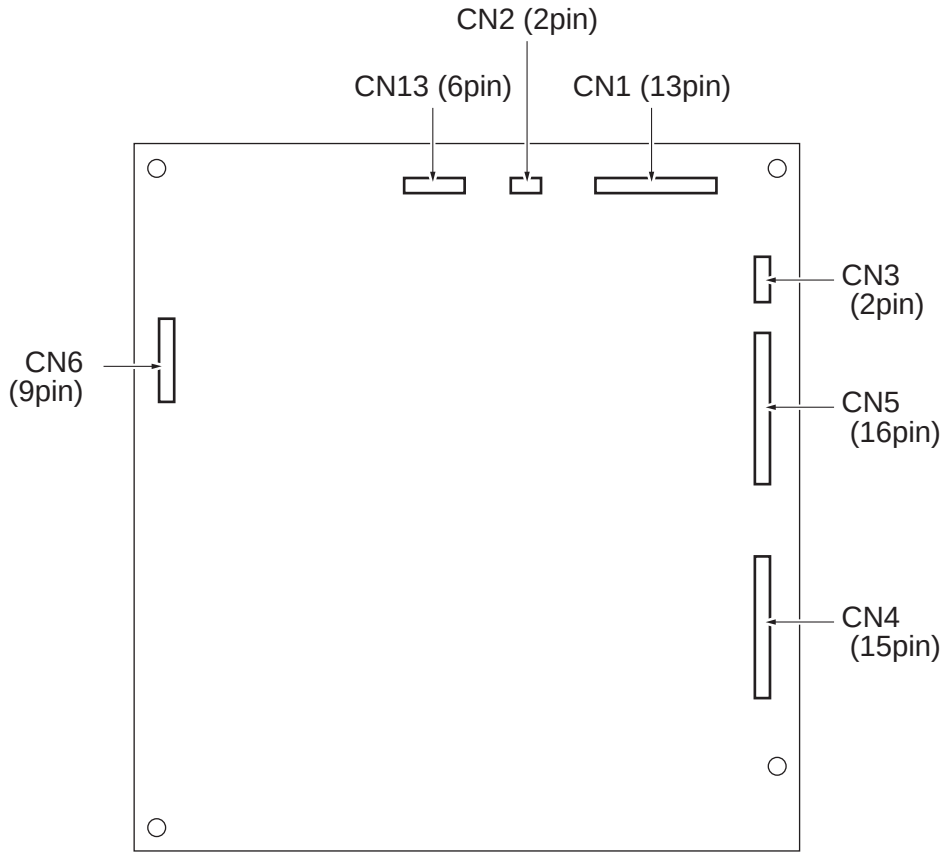
2.1.2 DF control board (DFCB)

(1) DF-628

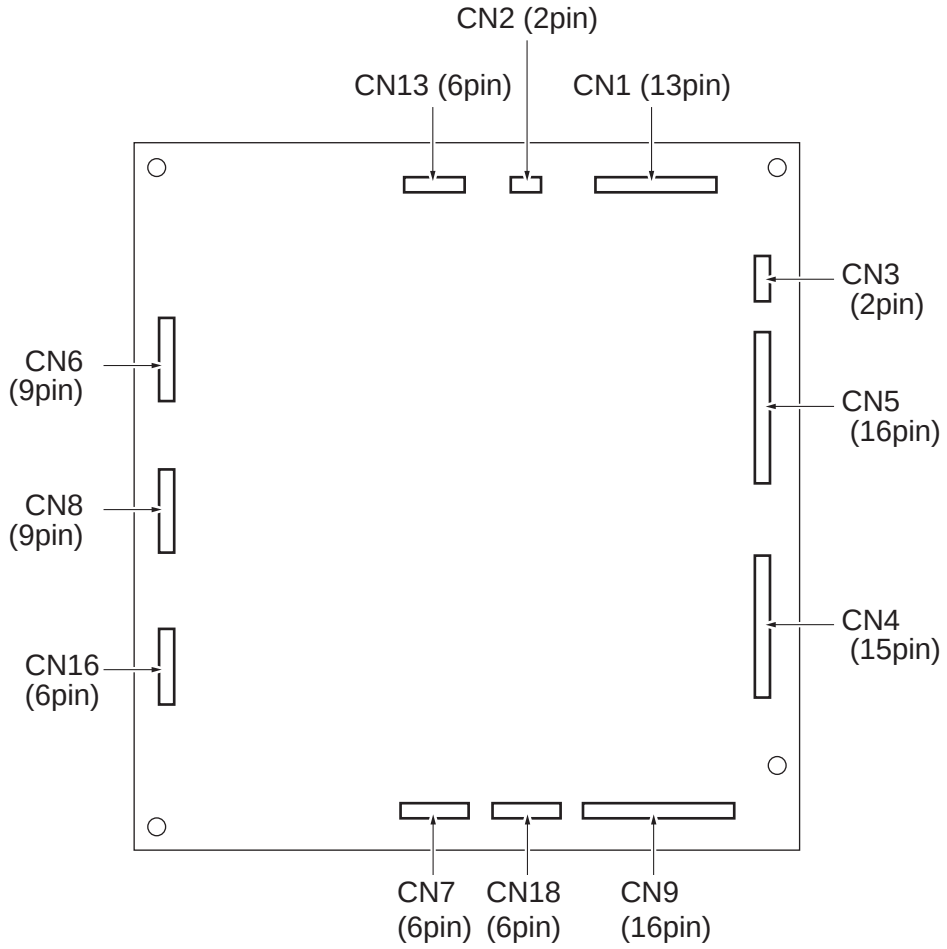


2.1.3 PC control board (PCCB)

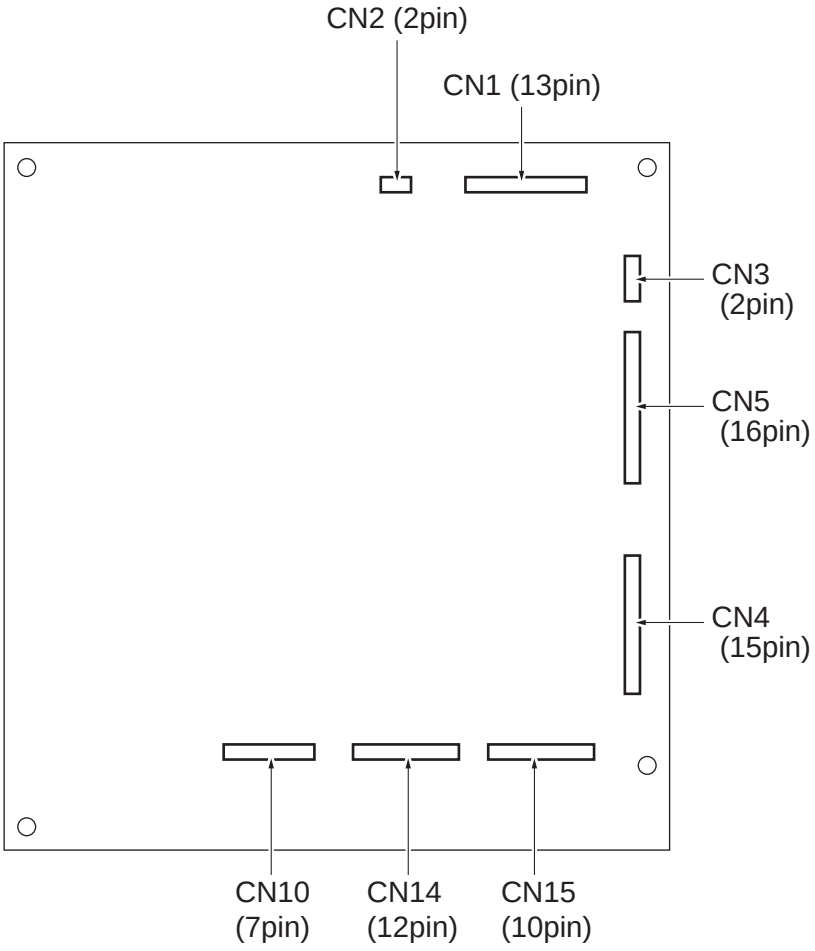
(1) PC-113



(2) PC-213

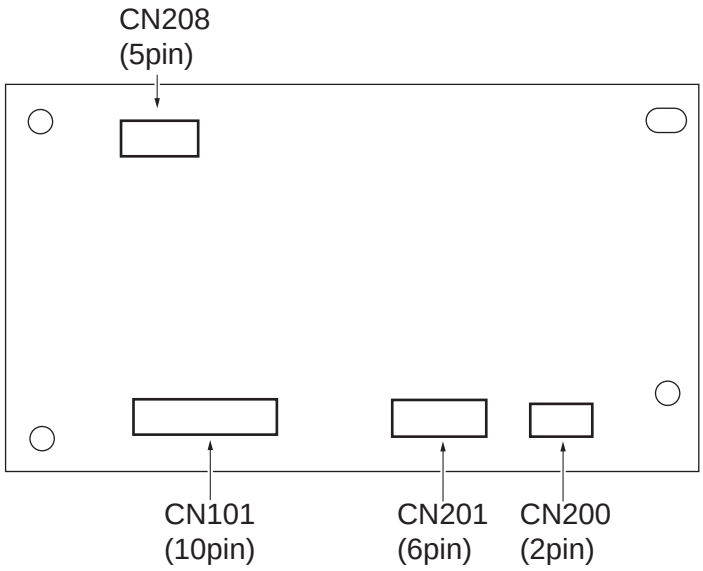

CN2 (2pin)
CN13 (6pin)
CN1 (13pin)
CN3 (2pin)
CN6 (9pin)
CN5 (16pin)
CN8 (9pin)
CN4 (15pin)
CN16 (6pin)
CN7 (6pin)
CN18 (6pin)
CN9 (16pin)

(3) PC-413



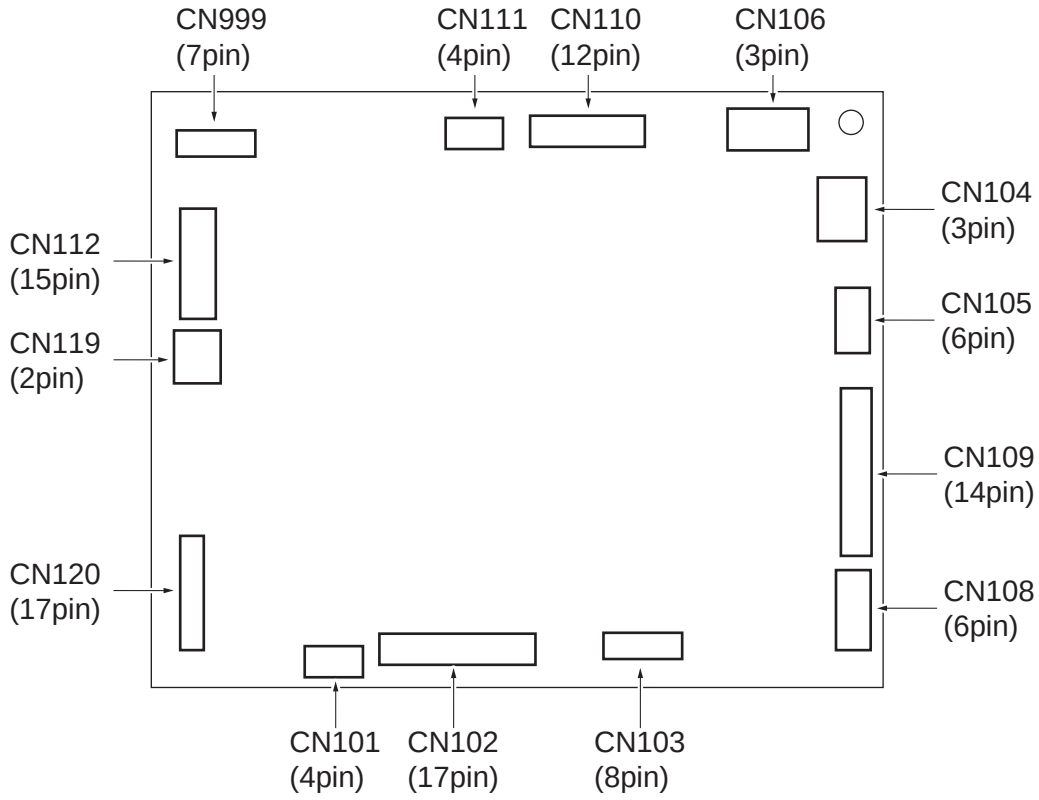
2.1.4 JS control board (JSCB)

(1) JS-506

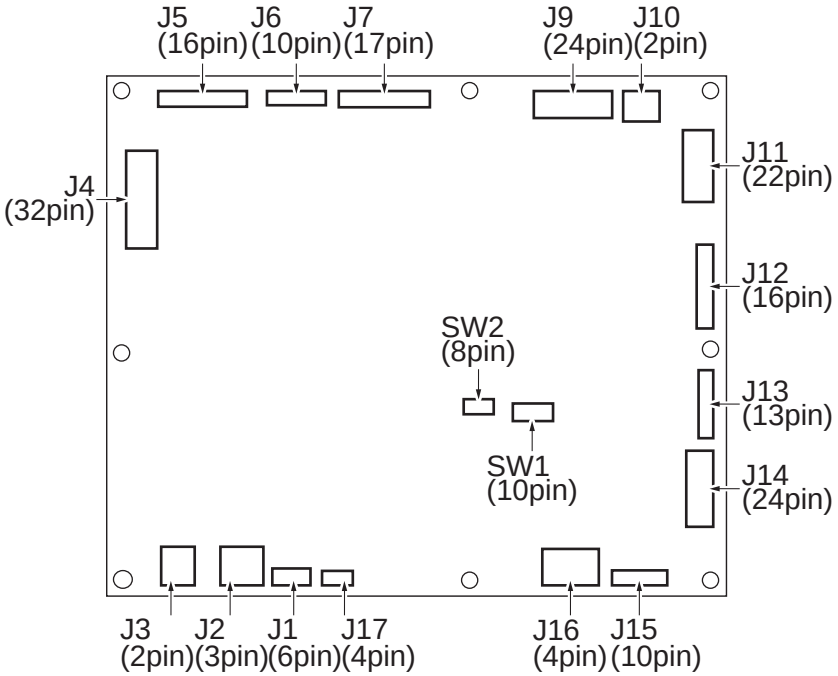


2.1.5 FS control board (FSCB)

(1) FS-533

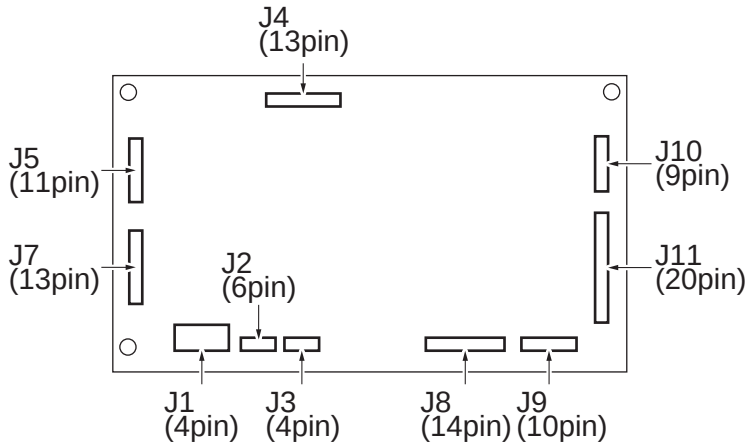


(2) FS-534



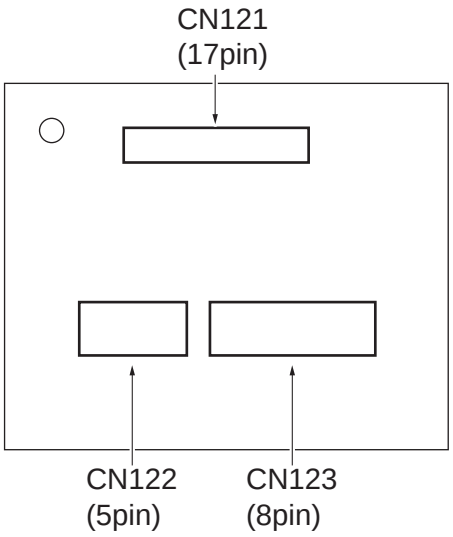
2.1.6 SD drive board (SDDB)

(1) SD-511



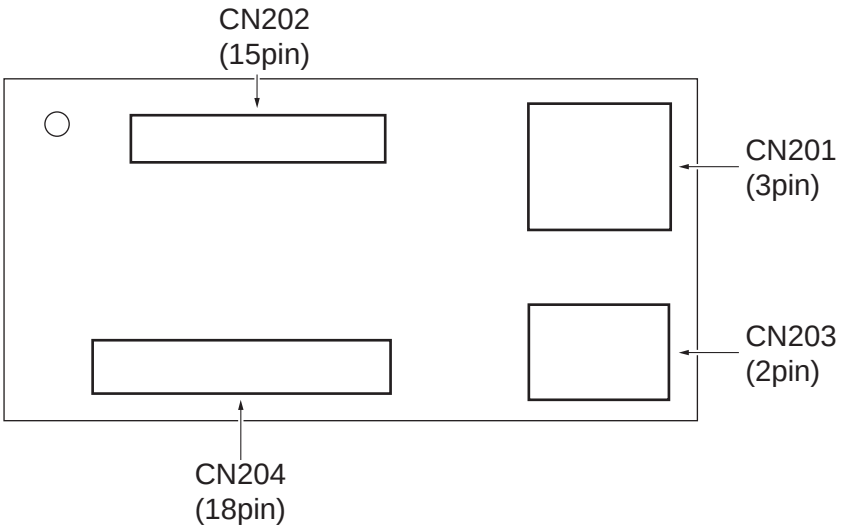
2.1.7 Stapler relay board (STREYB)

(1) FS-533



2.1.8 PK control board (PKCB)

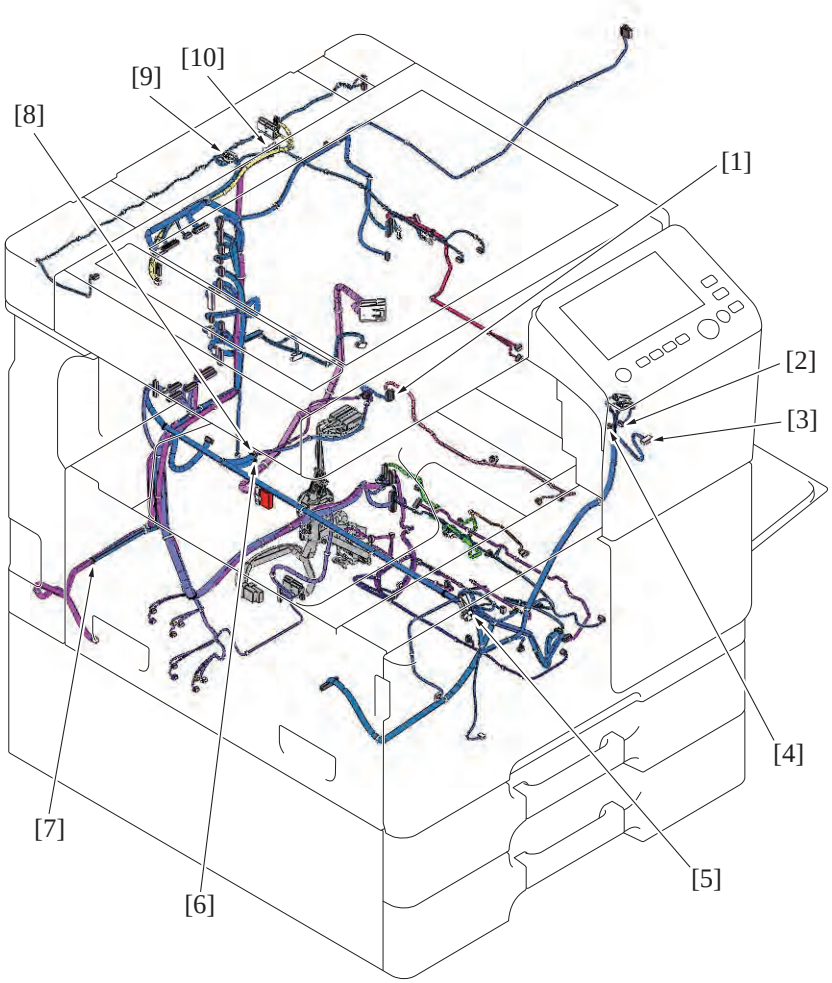
(1) PK-519



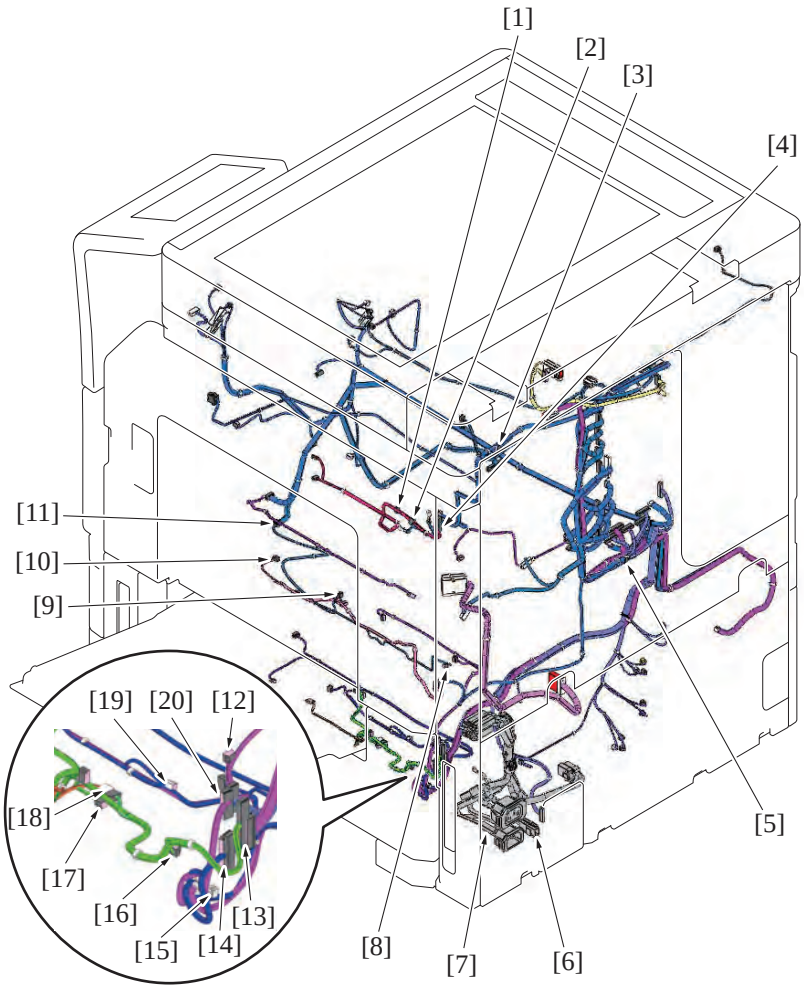
2.2 RELAY CONNECTOR LAYOUT DRAWING

2.2.1 bizhub 367/287/227

(1) Main body



No.	CN No.	Pin	Location	No.	CN No.	Pin	Location
[1]	CN27	8 Pin	19-D	[2]	CN89	3 Pin	23-I
[3]	CN15	5 Pin	22-I	[4]	CN10	2 Pin	22-I
[5]	CN17	2 Pin	9-W	[6]	CN08	2 Pin	21-I
[7]	CN45	3 Pin	17-C	[8]	CN13	3 Pin	22-I
[9]	CN6IR	4 Pin	8-V	[10]	CN2DH	2 Pin	21-Q

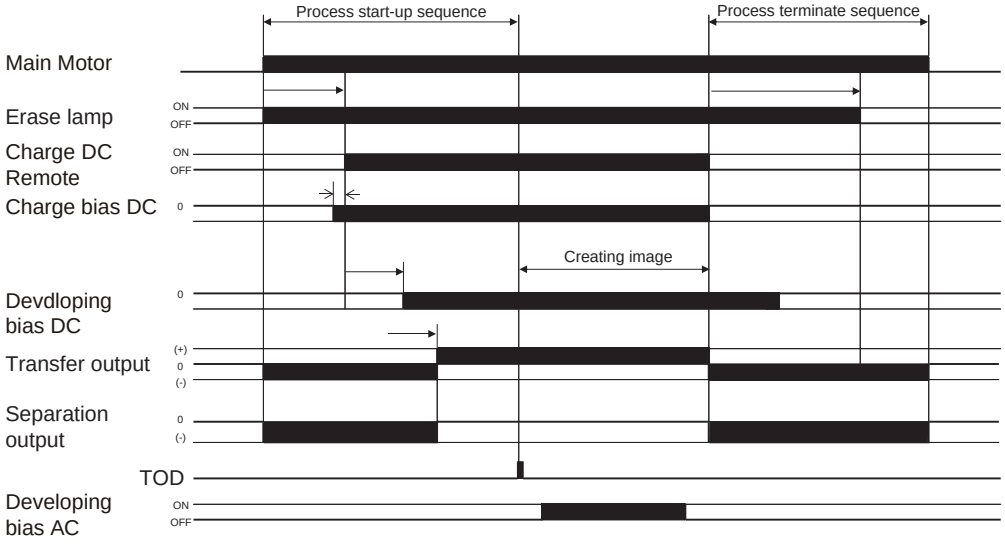


No.	CN No.	Pin	Location	No.	CN No.	Pin	Location
[1]	CN88	3 Pin	18-C	[2]	CN22	4 Pin	17-C
[3]	CN31	4 Pin	21-C	[4]	CN20	13 Pin	17-D
[5]	CN46	3 Pin	16-C	[6]	CN7AC	3 Pin	15-C
[7]	CN1AC	2 Pin	18-X, 19-X	[8]	CN33	2 Pin	28-C
[9]	CN26	2 Pin	19-C	[10]	CN21	3 Pin	20-C
[11]	CN73	5 Pin	28-D	[12]	CN51	2 Pin	3-C
[13]	CN34 (bizhub287) CN91 (bizhub367) CN90 (bizhub227)	13 Pin 13 pin 13 pin	3-I 5-I 6-I	[14]	CN49	16 Pin	6-D
[15]	CN56	2 Pin	5-C	[16]	CN40	2 Pin	4-J
[17]	CN41	2 Pin	CN41	[18]	CN35	3 Pin	4-J
[19]	CN55	2 Pin	5-C	[20]	CN48	11 Pin	8-C

M TIMING CHART

1. bizhub 367/287/227

1.1 Time chart when printing



2. FS-534/SD-511

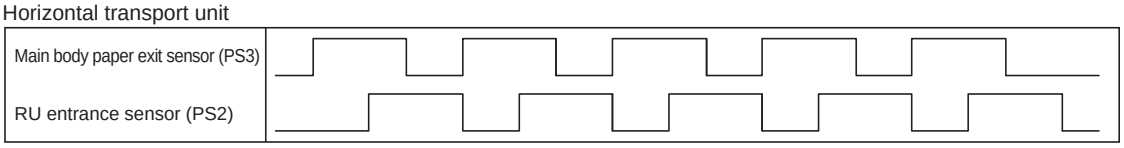
2.1 Shift mode

2.1.1 Operating conditions

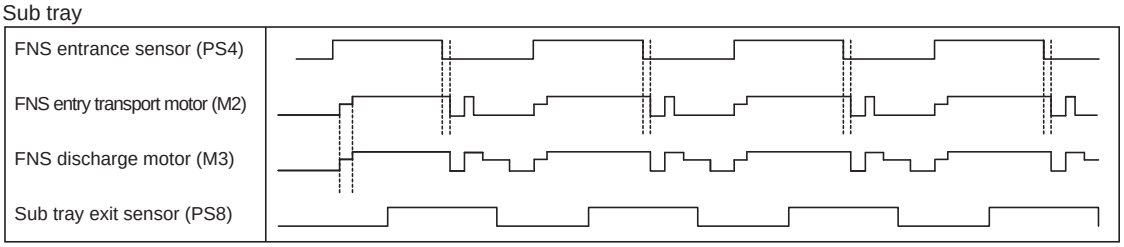
Paper size	A4 or 8 1/2 x 11
Sheet of original	2 originals
Type of original	1-side
Number of copies	2 copies

2.1.2 Timing chart

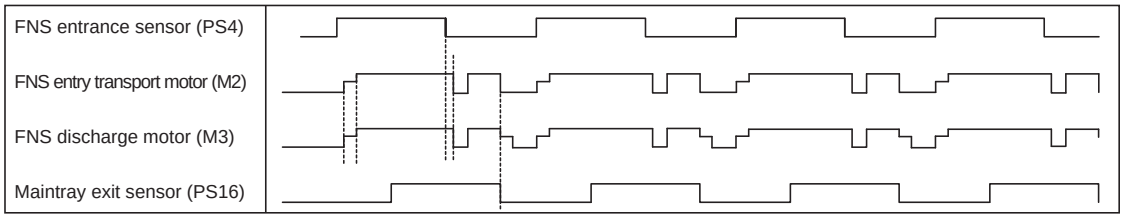
Horizontal transport unit



Sub tray



Main tray/Saddle tray

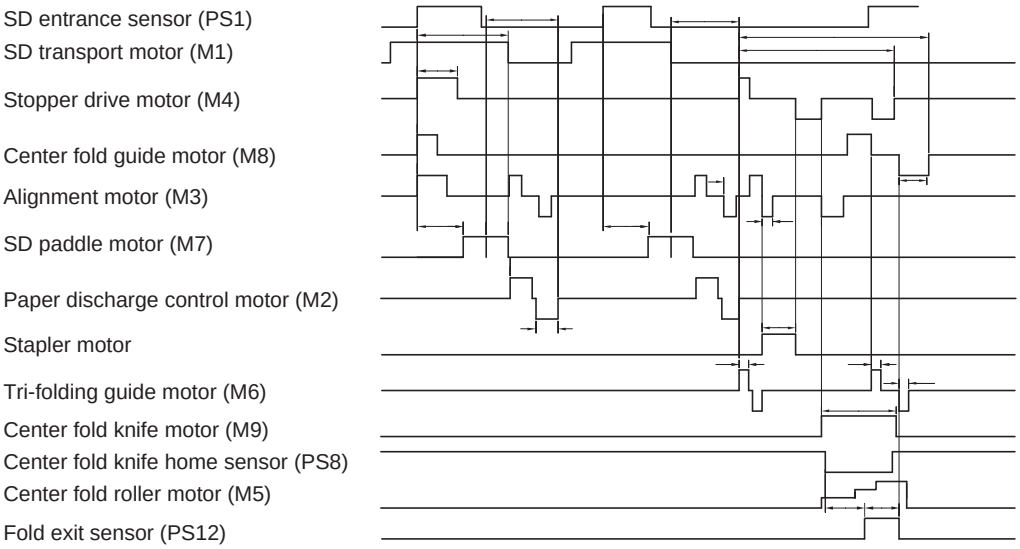


2.2 Center staples mode

2.2.1 Operating conditions

Paper size	A4S or 8 1/2 x 11S
Sheet of original	2 originals
Type of original	1-side
Number of copies	1 copies

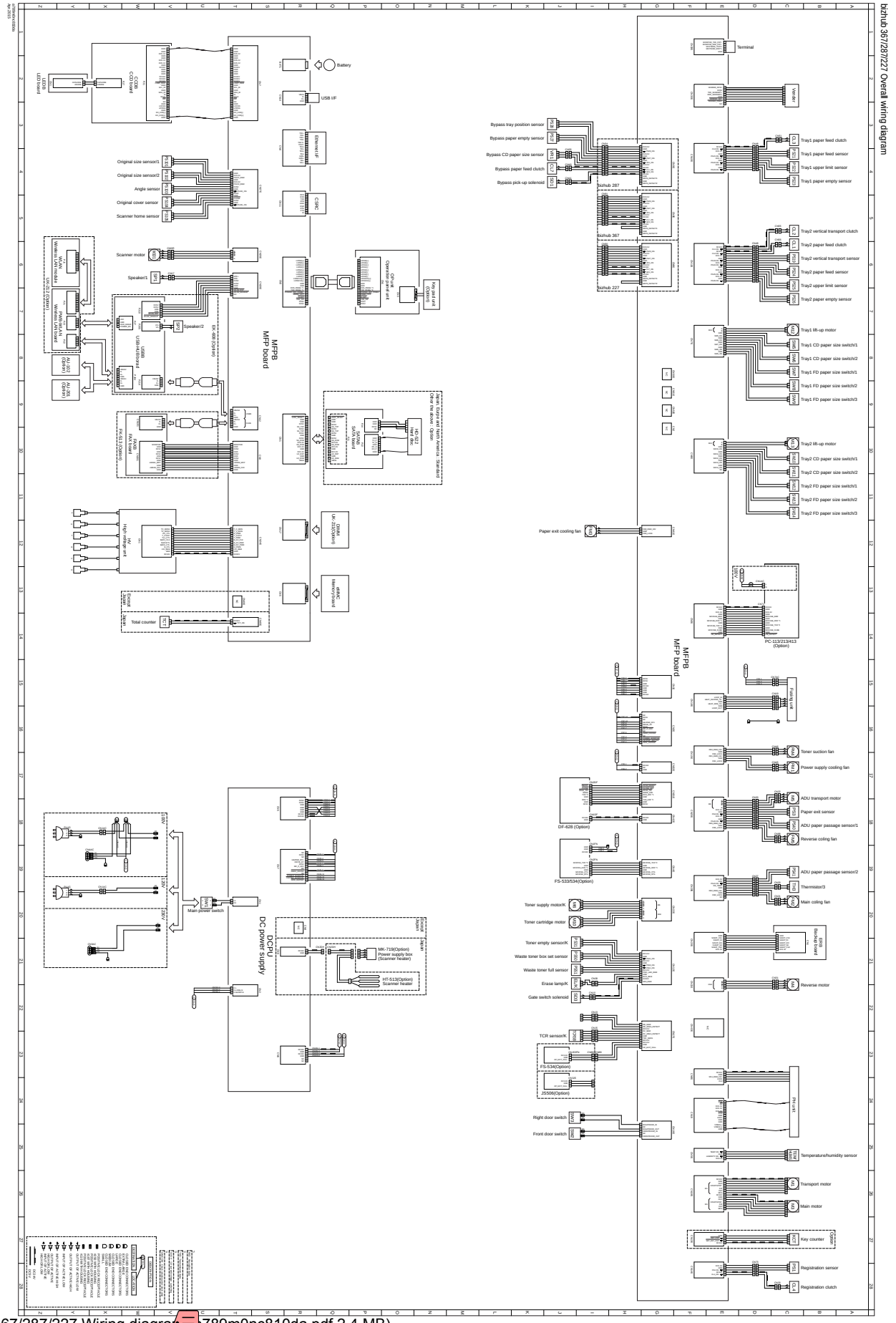
2.2.2 Timing chart



N WIRING DIAGRAM

1. bizhub 367/287/227

1.1 Main body



- bizhub 367/287/227 Wiring diagram (789m0nc810da.pdf 2.4 MB)

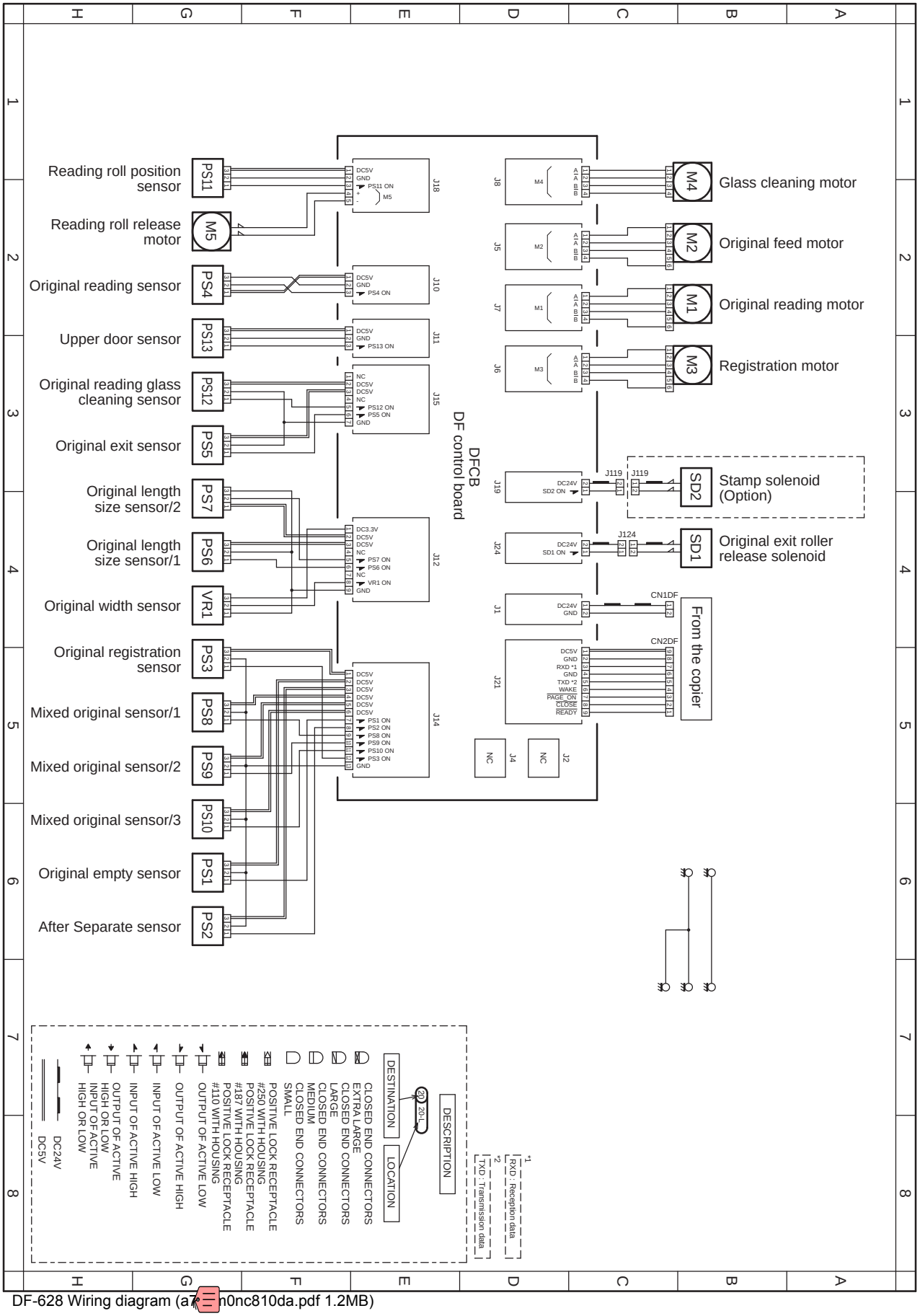
- bizhub 367/287/227 Wiring diagram A3 size (1/4) (a789m0nc811da.pdf 1.1 MB)
- bizhub 367/287/227 Wiring diagram A3 size (2/4) (a789m0nc812da.pdf 1.2 MB)
- bizhub 367/287/227 Wiring diagram A3 size (3/4) (a789m0nc813da.pdf 1.2 MB)
- bizhub 367/287/227 Wiring diagram A3 size (4/4) (a789m0nc814da.pdf 0.9 MB)

2. Option

2.1 DF-628

2.1.1 DF-628

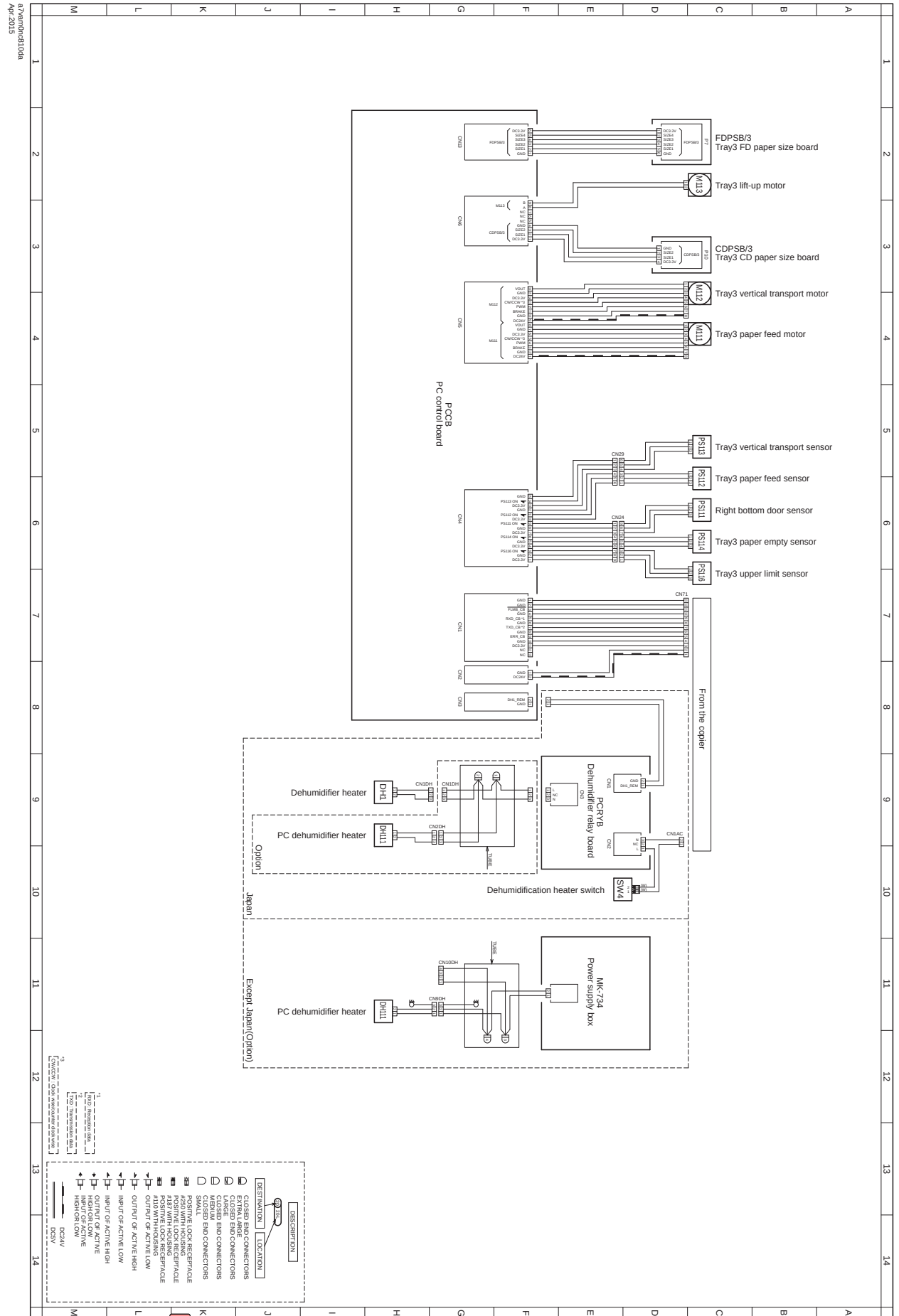
a7v7m0nc810da
Apr.2015



- DF-628 Wiring diagram (a7v7m0nc810da.pdf 1.2MB)

2.2 PC-113

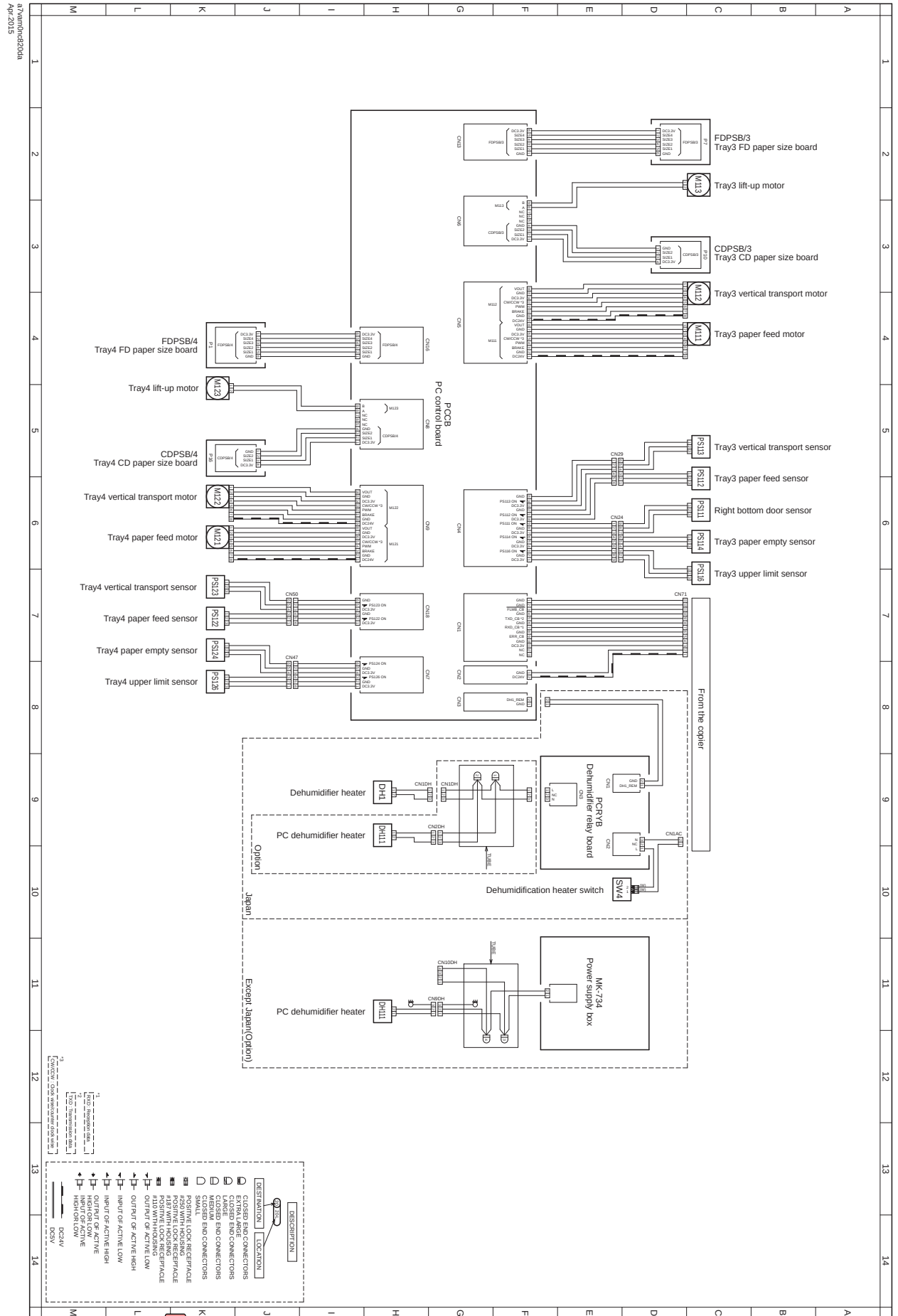
2.2.1 PC-113



- PC-113 Wiring diagram (a7[illegible]0nc810da.pdf 1.2 MB)

2.3 PC-213

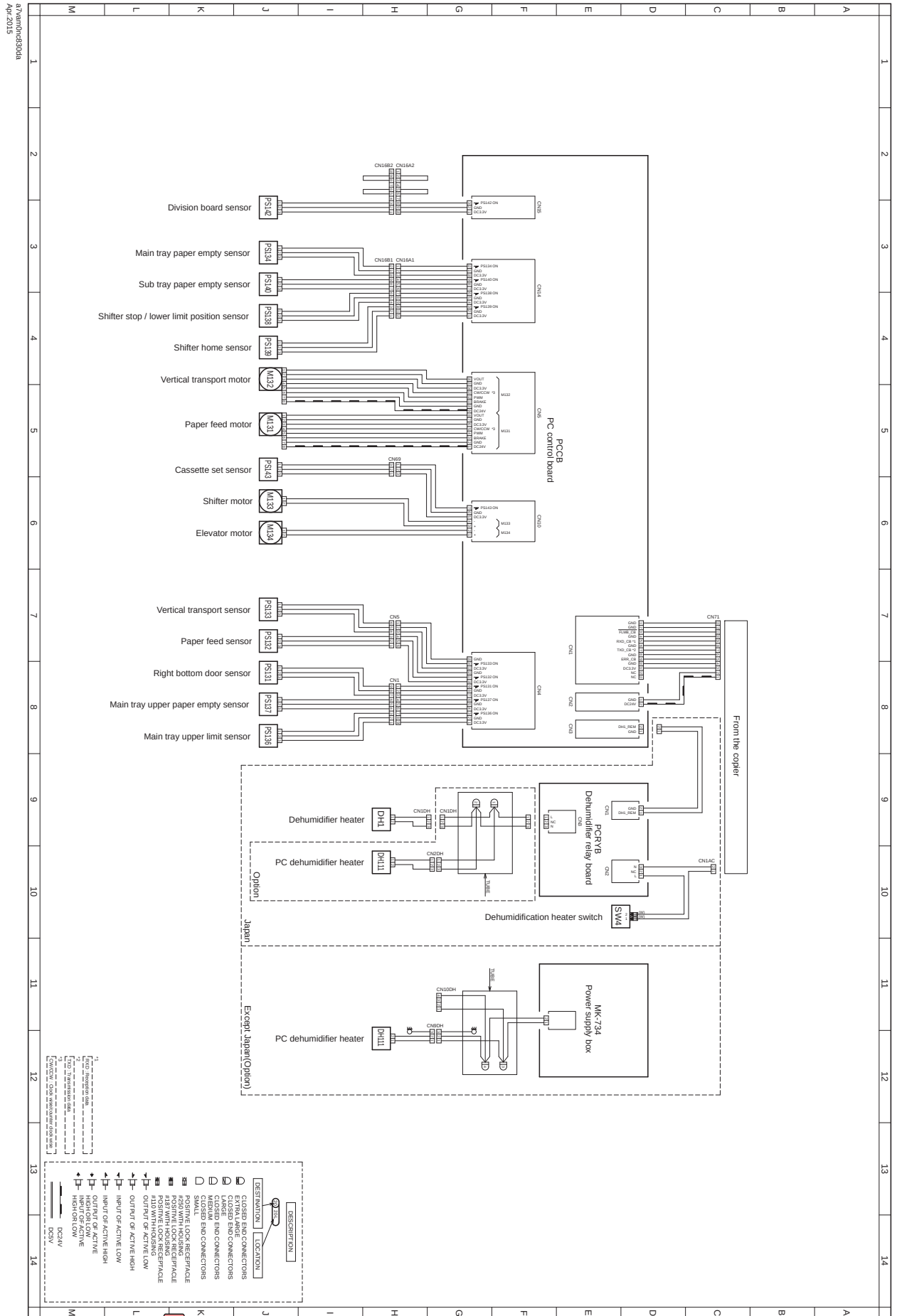
2.3.1 PC-213



- PC-213 Wiring diagram (a7[illegible]m0nc820da.pdf 1.3MB)

2.4 PC-413

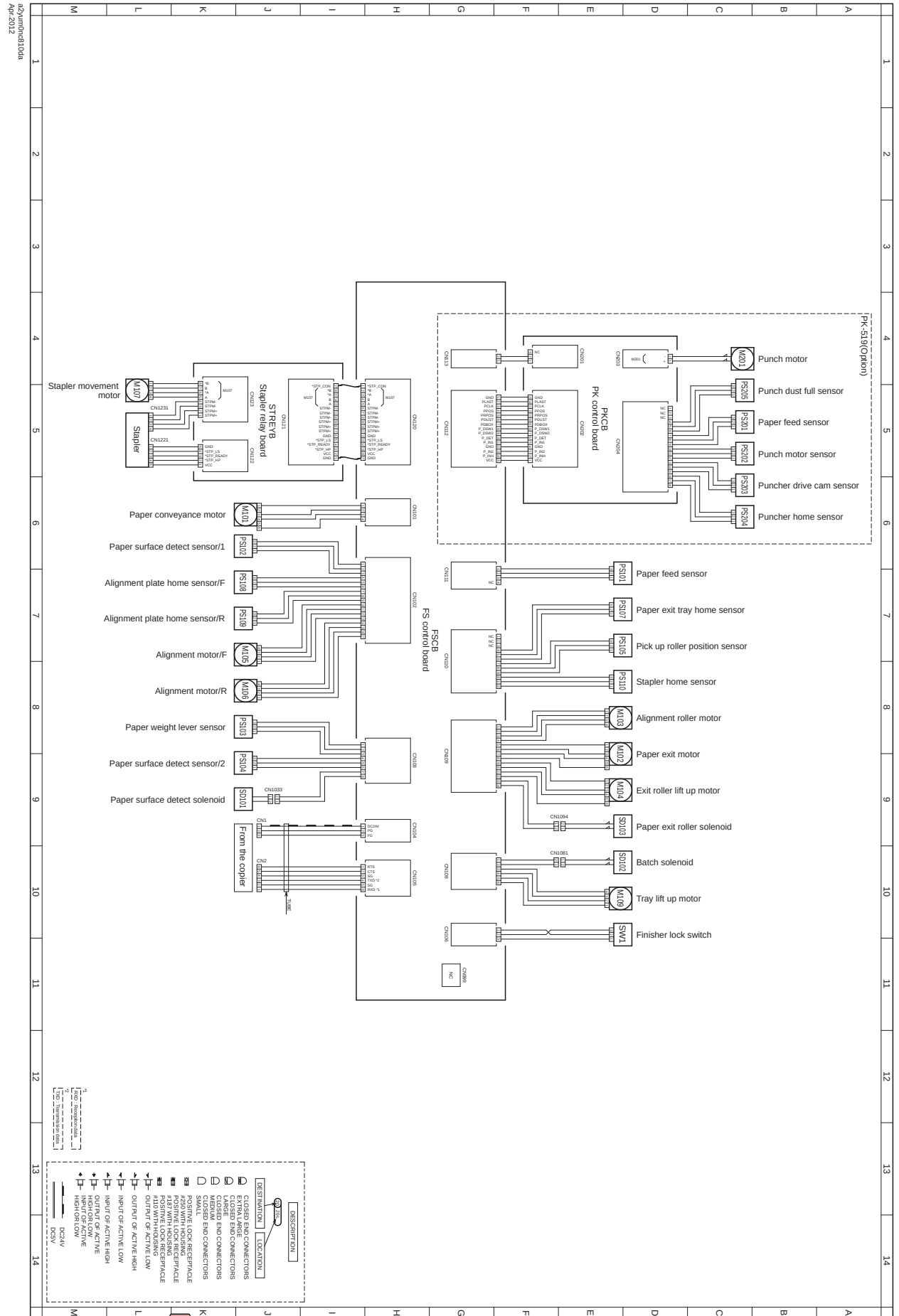
2.4.1 PC-413



- PC-413 Wiring diagram (a7vem0nc830da.pdf 1.2MB)

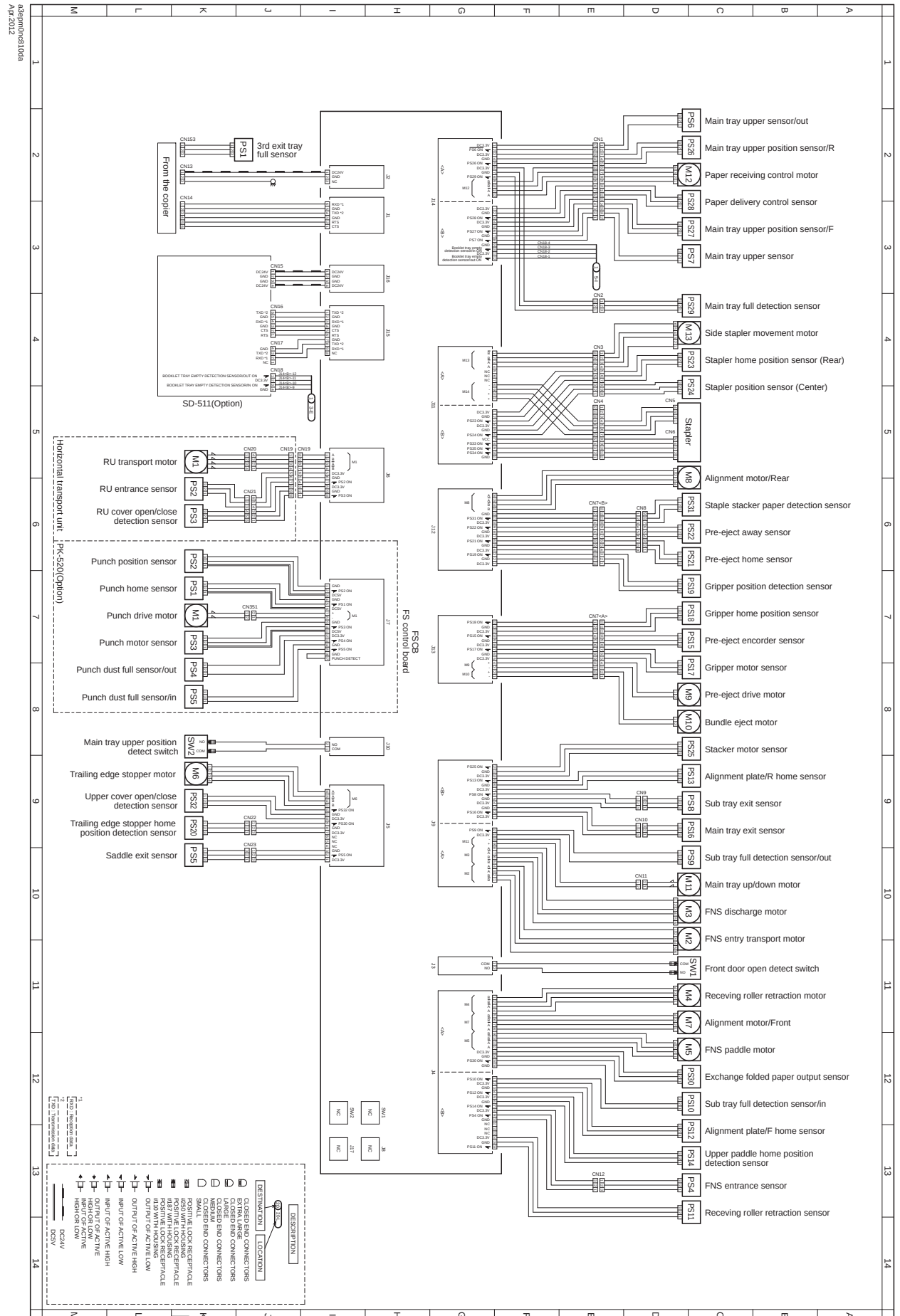
2.5 FS-533

2.5.1 FS-533



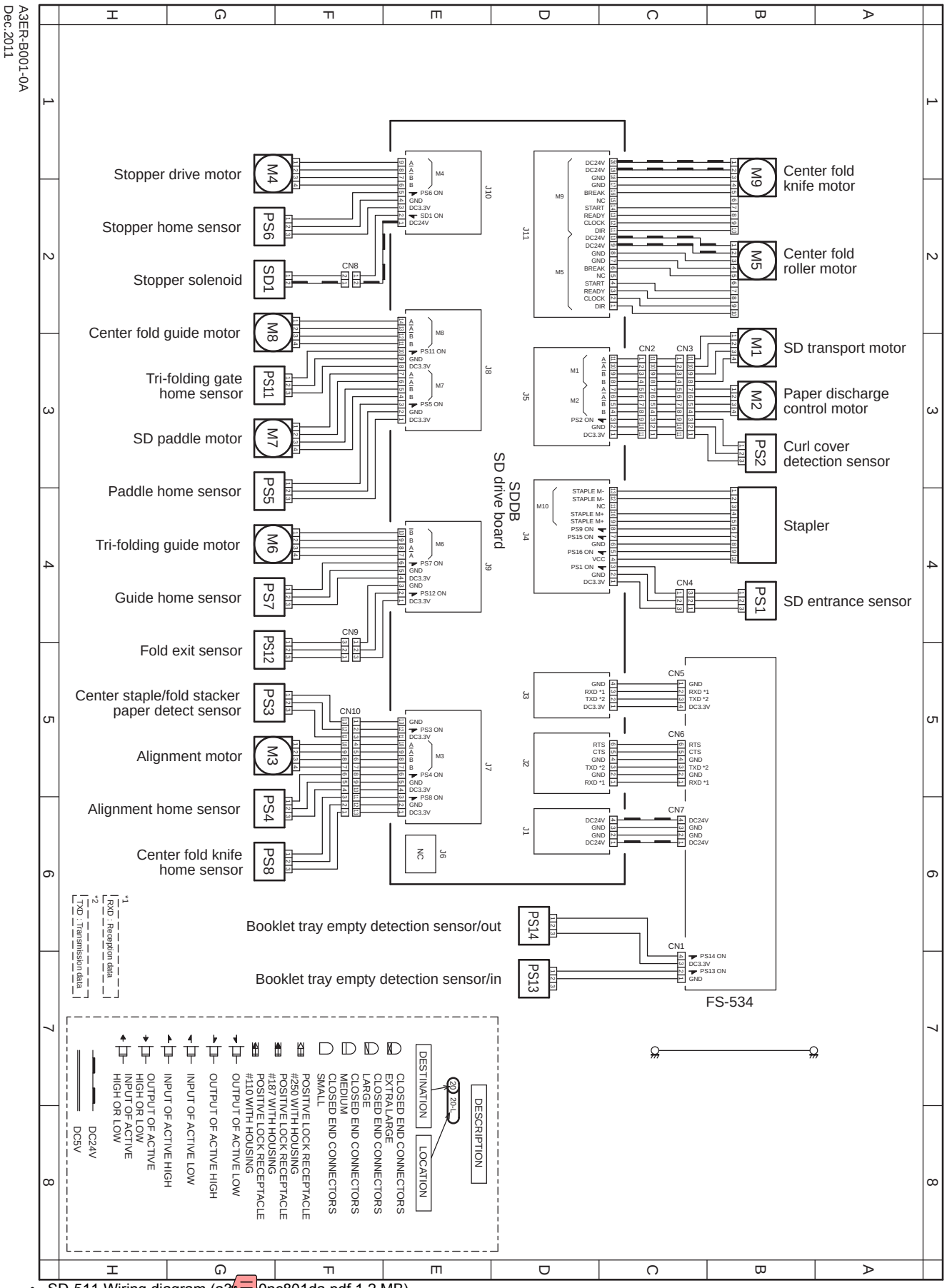
- FS-533 Wiring diagram (a2[redacted]0nc810da.pdf 1.3 MB)

2.6 FS-534



- FS-534 Wiring diagram (a3epmhnc810da.pdf 2.0 MB)

2.7 SD-511



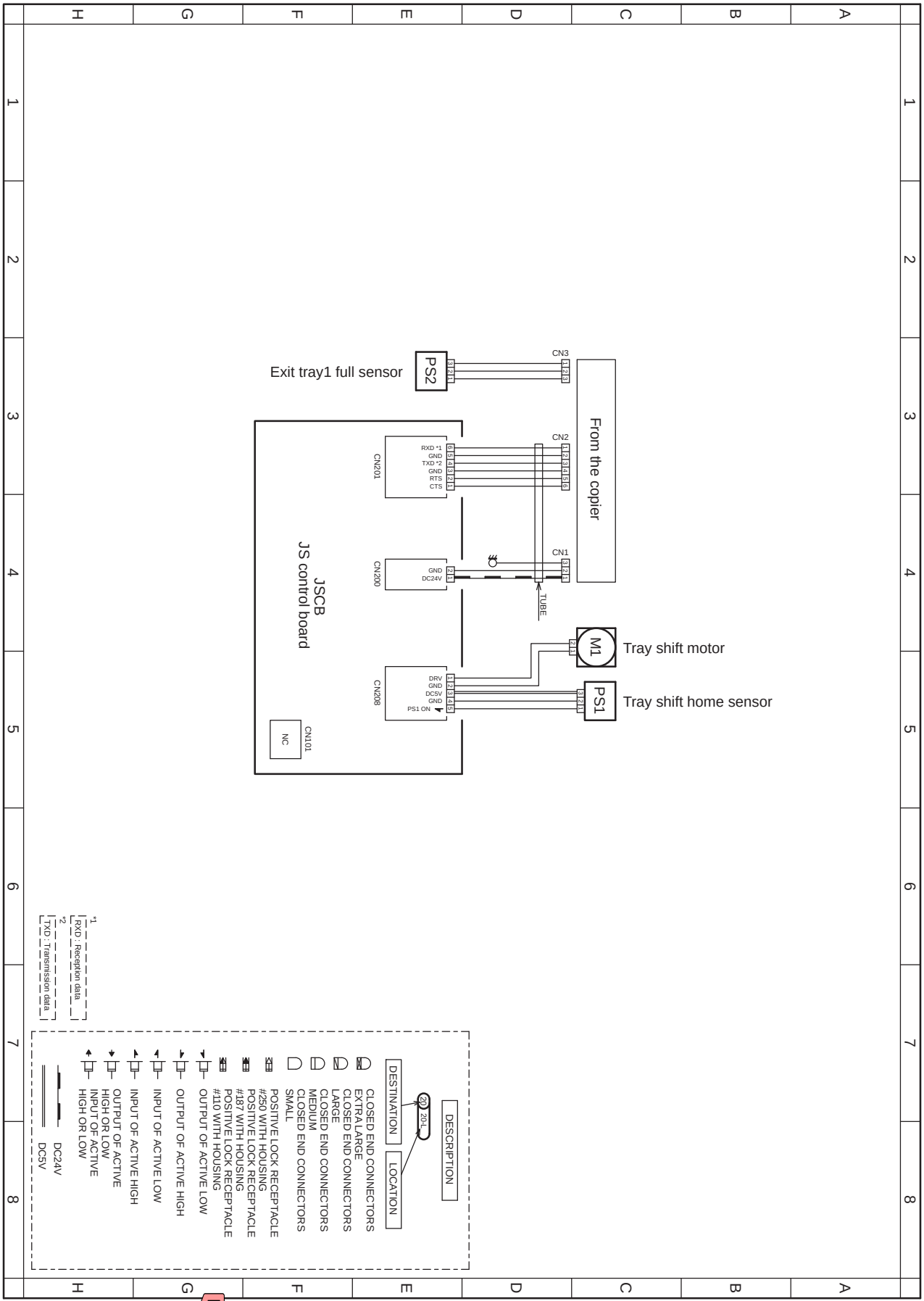
- SD-511 Wiring diagram (a3[illegible]0nc801da.pdf 1.2 MB)

2.8 JS-506

2.8.1 JS-506

a2yvm0nc810da
Apr.2012

JS-506 Overall wiring diagram

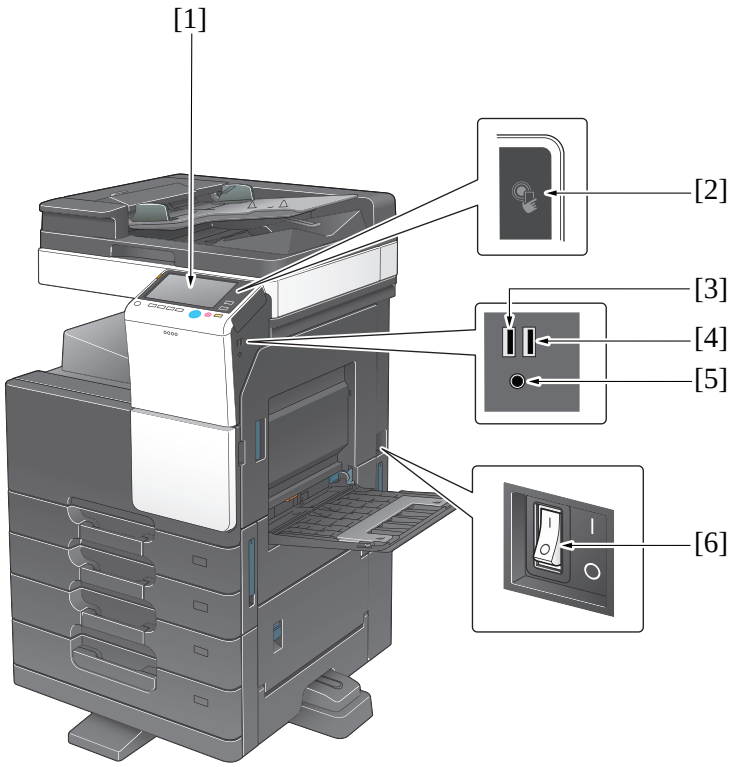


- JS-506 Wiring diagram (a2yvm0nc810da.pdf 0.7 MB)

O THEORY OF OPERATION bizhub 367/287/227

1. INTERFACE SECTION

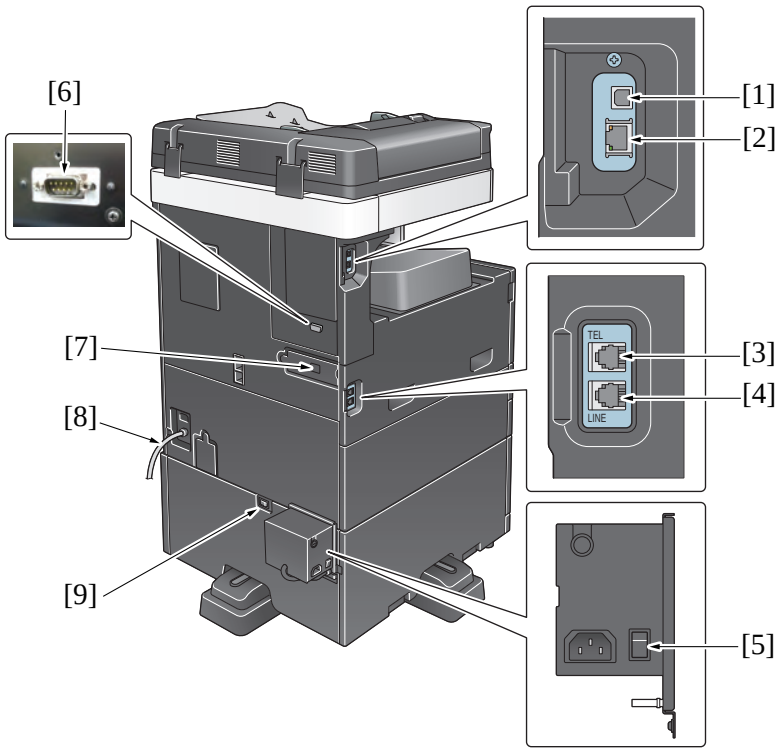
1.1 Front side / Right side



[1]	Control Panel (7-inch TFT color LCD WVGA: resistive touch panel)	[2]	NFC (Near Field Communication) area
[3]	USB port (Type A) USB2.0/1.1	[4]	USB port (Type A) USB2.0/1.1 *1
[5]	Voice guidance speaker terminal *1	[6]	Main power switch

- *: When the local interface kit EK-608 is mounted.

1.2 Rear side / left side

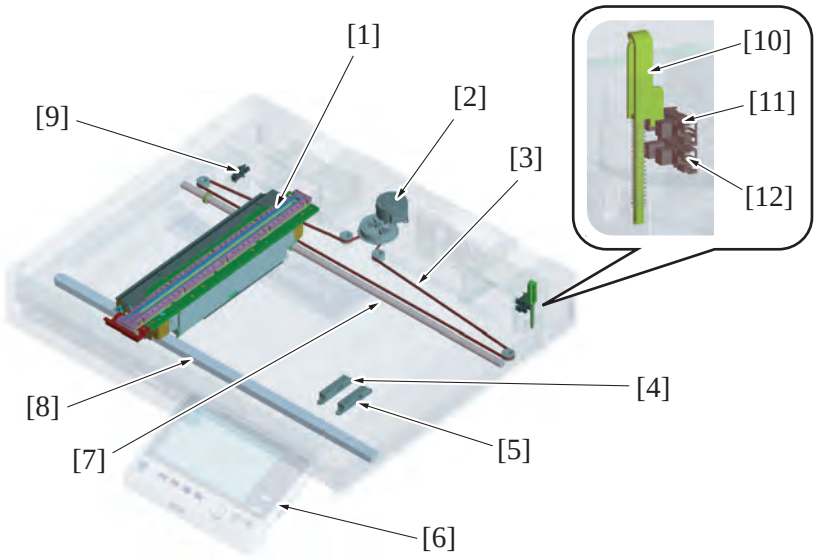


[1]	USB port (Type B) USB2.0/1.1	[2]	Network port (10 Base-T/100 Base-TX/1000 Base-T)
[3]	External telephone connector (TEL PORT1) *1	[4]	Port 1 line connector (LINE PORT) *1
[5]	Condensation prevention heater power supply switch *2	[6]	CS Remote Care connector (modem connection) *3
[7]	Exit option connections	[8]	Power cable
[9]	Dehumidification heater switch *4	-	-

- *1: Installed with the fax kit (FK-513).
- *2: Installed with the power supply BOX (MK-734). (Excluding Japan models)
- *3: Standard equipment for Asia-Pacific and Europe.
- *4: Standard equipment for Japan of the paper feed cabinet.

2. SCANNER SECTION

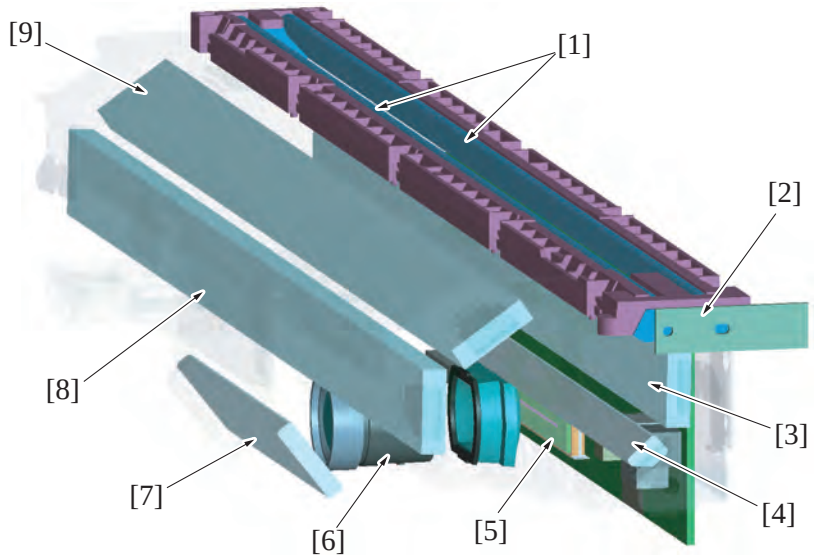
2.1 Configuration



[1]	Scan-IR unit	[2]	Scanner motor (M101)
[3]	Scanner drive belt	[4]	Original size sensor/1 (PS101)
[5]	Original size sensor/2 (PS102) *	[6]	Control panel unit (resistive touch panel)
[7]	Guide shaft	[8]	Guide rail
[9]	Scanner home sensor (PS105)	[10]	Detection lever
[11]	Angle sensor (PS103)	[12]	Original cover sensor (PS104)

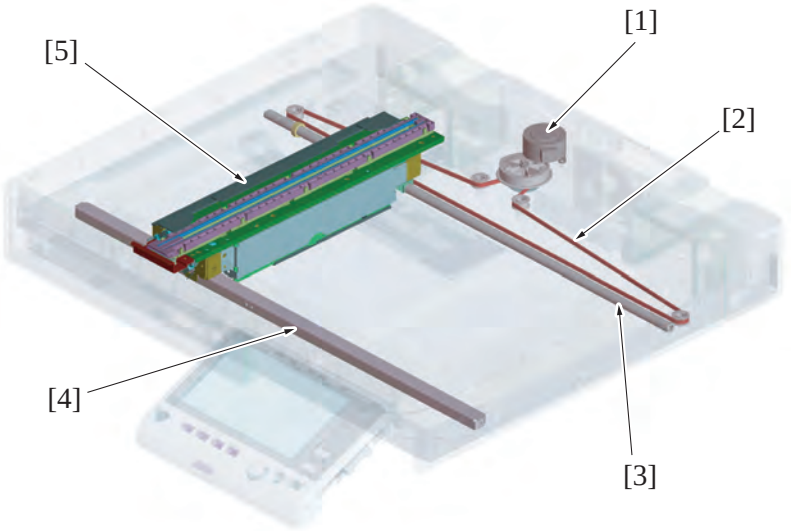
- *: Option (Except Japan models)

2.1.1 Scan-IR unit



[1]	Light guide	[2]	LED board (LEDB)
[3]	Third mirror	[4]	First mirror
[5]	CCD board (CCDB)	[6]	Lens
[7]	Fifth mirror	[8]	Second mirror
[9]	Fourth mirror	-	-

2.2 Drive

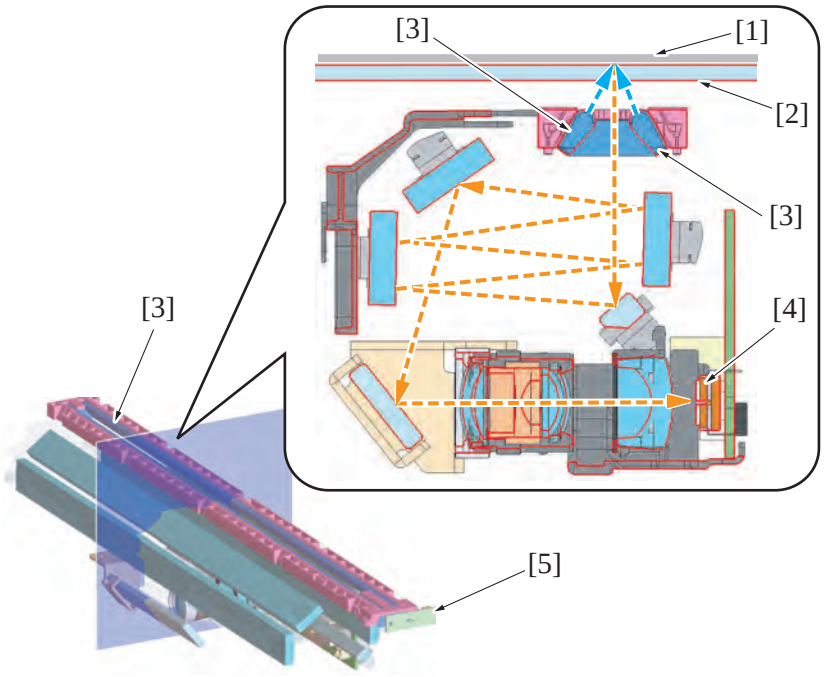


[1]	Scanner motor (M101)	[2]	Scanner drive belt
[3]	Guide shaft	[4]	Guide rail
[5]	Scan-IR unit	-	-

2.3 Operation

2.3.1 Scan-IR unit

- The LED exposure unit, mirror unit, and lens/CCD unit are all integrated into the scan-IR unit. A original is read through the operation of the scan-IR unit.
- LEDs (Light Emitting Diodes) are used as the light source of the scan-IR unit to save power.
- An LED board is located in front of the LED exposure unit, and one LED is installed on the LED board.
- Light that is emitted from the LED travels along the light guide in two paths.
- Two direct lights from the light guide irradiate the original and provide a stable and uniform light emission.

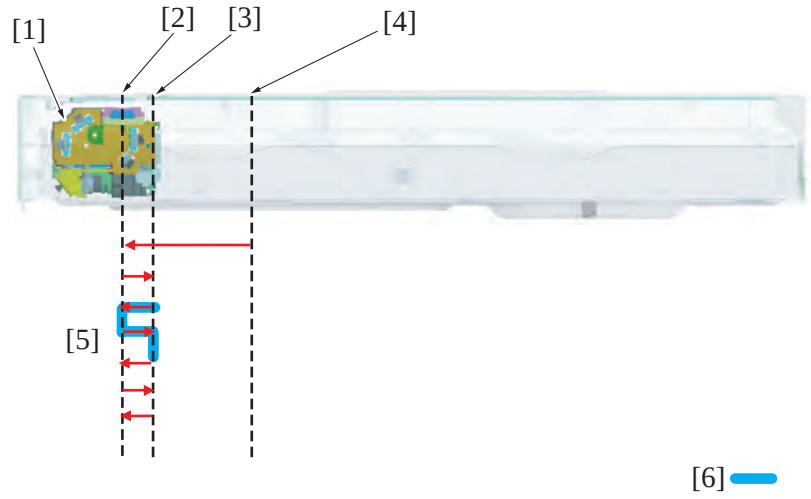


[1]	Original	[2]	Original glass
[3]	Light guide	[4]	CCD board (CCDB)
[5]	LED board (LEDB)	-	-

2.3.2 When the power turns ON

1. When the power turns ON, the scan-IR unit moves to the home position.
2. The scan-IR unit moves from the home position to the shading position (under the shading correction sheet).
3. The scan-IR unit LED turns on.
4. The gain value of the CCD sensor output voltage to R, G, and B is adjusted.
5. After adjusting the gain value, a shading correction is performed.
6. The scan-IR unit moves from the shading position to the home position.

7. After moved from the home position to the shading position, it will move back to the home position and stop.



[1]	Scan-IR unit	[2]	Home position
[3]	Shading position	[4]	Original size detection position
[5]	Shading correction	[6]	The LED turns ON

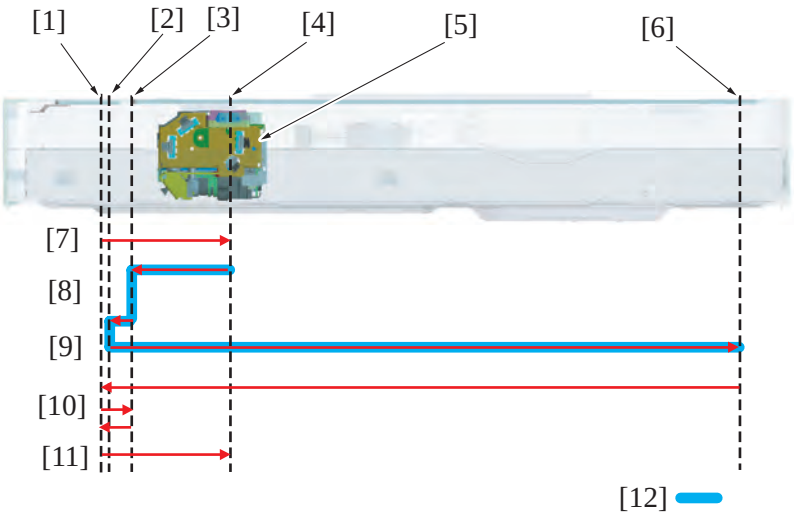
2.3.3 Control when the Start key is pressed

(1) Original scanning mode

- Original scanning mode has two types: Original cover mode (when OC-514 is mounted) and DF mode (when DF-628 is mounted).

(a) Original cover mode

1. When the original cover (with OC-514) or DF (with DF-628) is raised to place an original, the scan-IR unit moves to the original size detection position.
2. Turning the Start key ON will turn the LED ON.
3. The scan-IR unit moves from the original size detection position to the shading position.
   At the shading position, the gain adjustment is made.
4. The scan-IR unit moves from the shading position to the scan start position.
5. The scan-IR unit moves from the scan start position to the leading edge of an original at the time that shading is being performed.
   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.
6. The LED will turn OFF when the reading is complete.
7. The scan-IR unit moves from the position of the trailing edge of the image to the home position.
   It returns to the home position after moving from the shading position to the home position.
   It moves from the home position 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.

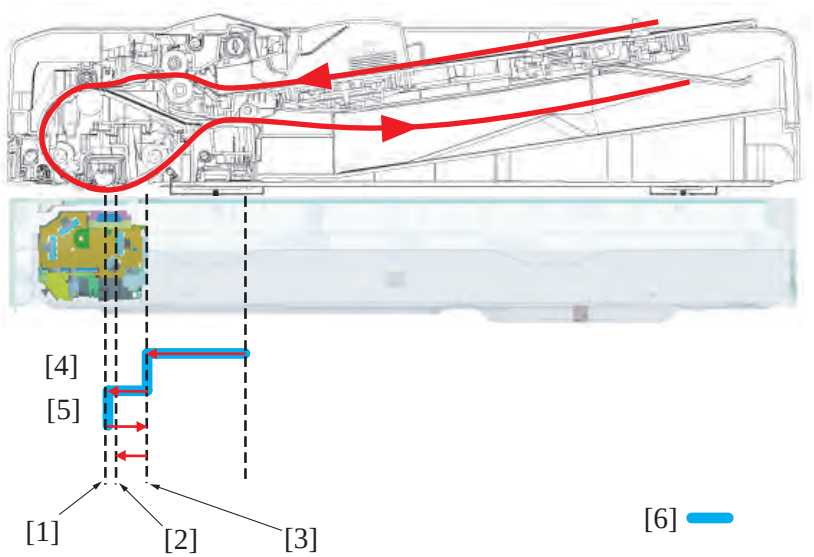


[1]	Home position	[2]	Scan start position
[3]	Shading position	[4]	Original size detection position
[5]	Scan-IR unit	[6]	Trailing edge of the image
[7]	Moves to the original size detection position	[8]	Gain adjustment

[9]	Read original	[10]	Returns to the home position
[11]	Moves to the original size detection position	[12]	The LED turns ON

(b) DF mode (When DF-628 is installed)

- The original fed by the document feeder will be read at the DF original glass for.
  The scan-IR unit will move to the reading position and stop.
  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 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 CCD board (CCDB), becoming individual digital signals.
- Analog-to-digital conversion is made according to an instruction given by the MFP board (MFPB).

(3) 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. For details, see "O.17.1 Scanner section image processing block diagram".

- Gain adjustment
- Shading correction

2.3.4 Original scanning area

- Original scanning areas vary depending on a scanning mode.

(1) Original cover mode

- Main scanning direction: Max. 297.0 mm (11 11/16 inches)
- Sub scanning direction: Max. 431.8 mm (17 inches)

(2) DF mode

(a) Scanning at 400 dpi or less

- Main scanning direction: Max. 297.0 mm (11 11/16 inches)
- Sub scanning direction: Max. 1,000.0 mm (39 3/8 inches)

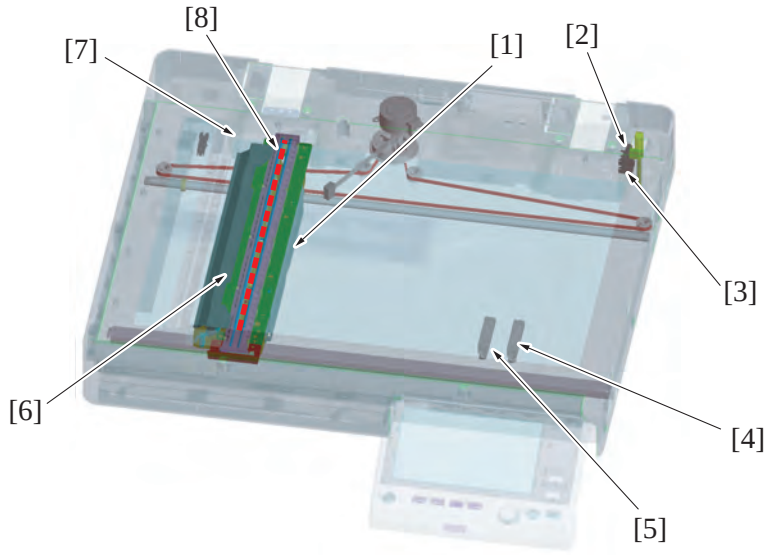
(b) Scanning at 600 dpi

- Main scanning direction: Max. 297.0 mm (11 11/16 inches)
- Sub scanning direction: Max. 431.8 mm (17 inches)

2.3.5 Original size detection control

(1) Detection method

- CCD reads the original width direction, so that the width size can be detected.
- For the original length direction, detection is performed with the original size sensor.
- A standard original size is determined by the state of the original size sensor, either the activated or deactivated state, and the width detected by the CCD.
- 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.

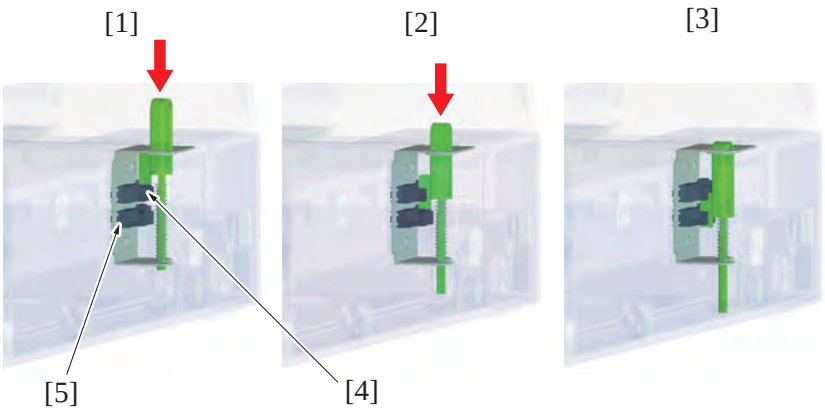


[1]	CCD board (CCDB)	[2]	Angle sensor (PS103)
[3]	Original cover sensor (PS104)	[4]	Original size sensor/2 (PS102) *
[5]	Original size sensor/1 (PS101)	[6]	Scan-IR unit
[7]	Original standard position	[8]	Original size detection position

- *: Option (Except Japan models)

(2) Detection timing

- The LED is turned ON when the angle sensor is activated from the deactivated state. At that time, the status of the original size sensor is determined to detect the size in original length direction.
- Detection is made twice for the original width direction: when the angle sensor is activated, and when the original cover sensor is activated.
- The original size is reset when the original cover sensor is deactivated from activated state as the original cover / DF (with DF-628) is opened.



[1]	Angle sensor OFF / Original cover sensor OFF	[2]	Angle sensor ON / Original cover sensor OFF
[3]	Angle sensor ON / Original cover sensor ON	[4]	Angle sensor (PS103)
[5]	Original cover sensor (PS104)	-	-

(3) Original size judgment

NOTE

- **Table 1 or 2 can be selected in the service mode.**

(a) Criterion (for Japan)

Table1

Original size sensor/1 (PS101)	Main scanning width (mm)					
	0 to 130.0	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

Table2

Original size sensor/1 (PS101)	Main scanning width (mm)								
	0 to 130.0	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	B4	11×17	A3

(b) Criterion (for China and countries using the metric)

Table1

Original size sensor		Main scanning width (mm)								
/1 (PS101)	/2 (PS102)	0 to 130.0	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	A5S	B5S	16K S	A4S	B5	B5	16K	A4
ON	-	A3	FLS	FLS	FLS	FLS	FLS	B4	8K	A3

Table2

Original size sensor		Main scanning width (mm)											
/1 (PS101)	/2 (PS102)	0 to 130.0	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	A5S	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)

Table1

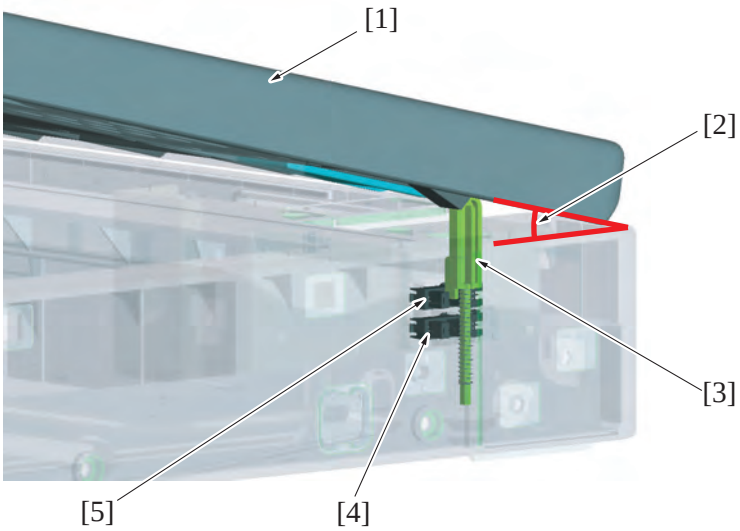
Original size sensor		Main scanning width (mm)			
/1 (PS101)	/2 (PS102)	0 to 130.0	Up to 144.7	Up to 220.9	Up to 221.0
OFF	-	No original	$5^1/_2$×$8^1/_2$S	$8^1/_2$×11S	$8^1/_2$×11
ON	-	11×17	$8^1/_2$×14	$8^1/_2$×14	11×17

Table2

Original size sensor		Main scanning width (mm)								
/1 (PS101)	/2 (PS102)	0 to 130.0	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	A5S	B5S	A4S	$8^1/_2$×11S	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

2.3.6 Original exchange detection control

- An angle detection mechanism is included to detect the original exchange operation when the original read mode is configured to the "original cover mode".
- Raise the original cover (document feeder when DF-628 is attached), a spring that presses the detection lever up will be activated.
- Raise the original cover to an angle of at least 13.5 degrees, the angle sensor that is blocked with the detection lever will be unblocked. It results in a detection that the original cover has been "opened at least 13.5 degrees".
- Lower the original cover, the detection lever will be pressed down.
- Lower the original cover to an angle of less than 13.5 degrees, the angle sensor that is unblocked with the detection lever will be blocked. It results in a detection that the original cover has been "closed to a position less than 13.5 degrees".
- The original size detection control starts with judgment as "original has been placed on the original glass manually" depending on the following changes. The original cover that has been closed "gets opened at 13.5 degrees or above", and next "gets closed at 13.5 degrees or less".



[1]	Original cover (OC-514) or reverse automatic document feeder (DF-628)	[2]	Approximately 13.5 degrees
[3]	Detection lever	[4]	Original cover sensor (PS104)
[5]	Angle sensor (PS103)	-	-

2.3.7 Image processing

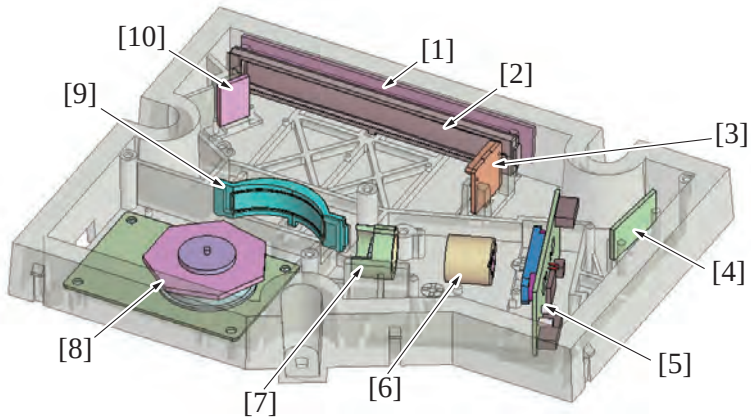
The image processing has following items. For details, see "O.17.1 Scanner section image processing block diagram".

Scanner section image processing block diagram

- Photoelectric conversion
- Analog-to-digital conversion

3. WRITE SECTION (PH SECTION)

3.1 Configuration

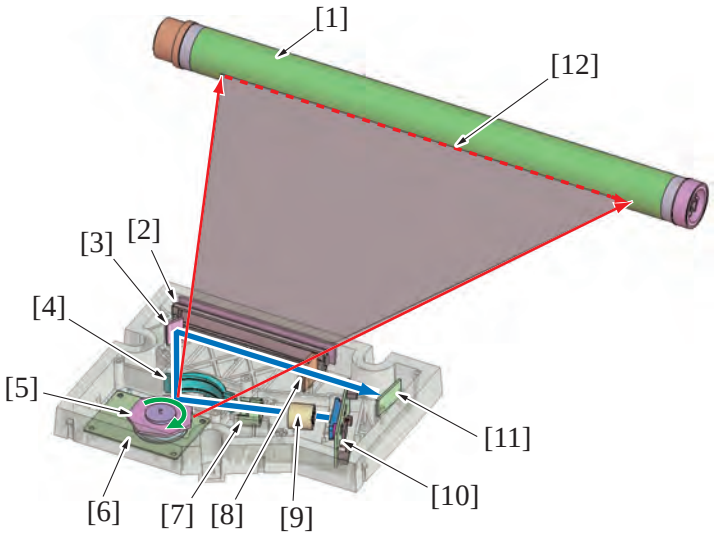


[1]	Laser aperture of the PH unit	[2]	G2 lens
[3]	Index lens	[4]	Index board
[5]	Laser drive board	[6]	Collimator lens
[7]	Cylindrical lens	[8]	Polygon motor
[9]	G1 lens	[10]	Index mirror

3.2 Operation

3.2.1 Laser exposure process

1. Laser light that is emitted from semiconductor laser on the laser drive board is irradiated onto the polygon mirror via the collimator lens and cylindrical lens.
2. The polygon motor rotates the polygon mirror with seven sides.
3. The light that is reflected from the polygon mirror is irradiated toward the photo conductor via the G1 lens and G2 lens.
4. The reflected light scans the photo conductor by rotation of the polygon mirror.



[1]	Photo conductor	[2]	G2 lens
[3]	Index mirror	[4]	G1 lens
[5]	Polygon mirror	[6]	Polygon motor
[7]	Cylindrical lens	[8]	Index lens
[9]	Collimator lens	[10]	Laser drive board
[11]	Index board	[12]	Laser light scans the photo conductor (main scanning)

3.2.2 Laser emission timing

- The index sensor maintains a constant laser light emission timing per every one line in the main scanning direction.
- The MFP board outputs a laser ON signal when the ready signal is detected when a specific period of time elapses after the printing starts.
- The laser ON signal causes laser light emits via the polygon mirror, G1 lens and index mirror before arrival onto the index board, which generates the index signal.
- This index signal controls laser light emission timing per every one line in the main scanning direction.
- 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”.

3.2.3 Polygon motor pre-operation

- The machine starts operation of the polygon motor before print instructions are received to reduce the time to print the first page.
- The timing of this operation occurs when original is placed in the tray or when control panel keys are pressed.
- Operation of the motor in this pre-operation state stops after a predetermined period of time elapses without print instructions.

3.2.4 Laser emission stop

Emission of the laser beam is stopped if any of the following conditions is encountered during printing:

- The print job has finished or was interrupted due to the paper empty or other error.
- The front door or any other door is opened.
- A misfeed occurs.
- A malfunction occurs.

3.2.5 Laser emission area

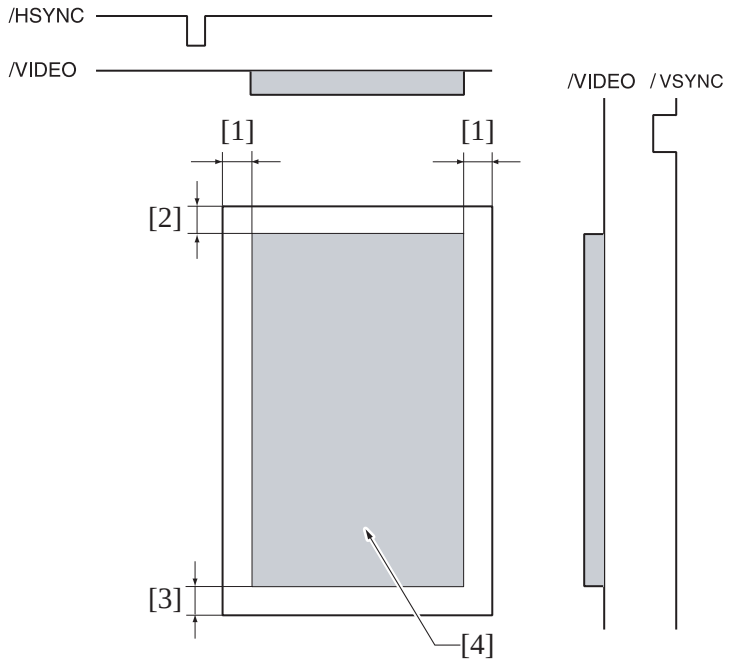
(1) Main scanning direction

- The print start position in the main scanning direction is determined with the main scanning print start signal (HSYNC) that is output from the printer control board, and with the width of the paper.
- The laser emission area is determined by the paper size. However, the void image area is defined as both edges of the paper.

(2) Sub scanning direction

- The print start position in the sub scanning direction is determined with the image write signal (VSYNC) that is output from the MFP board. Also, it is determined with the system speed.
- The laser emission area is determined by the paper size. However, the void image area is defined as both edges of the paper.

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

3.2.6 Image processing

The following image processing procedures relating to the write section are available. For details, see “O.17.1 Scanner section image processing block diagram”.

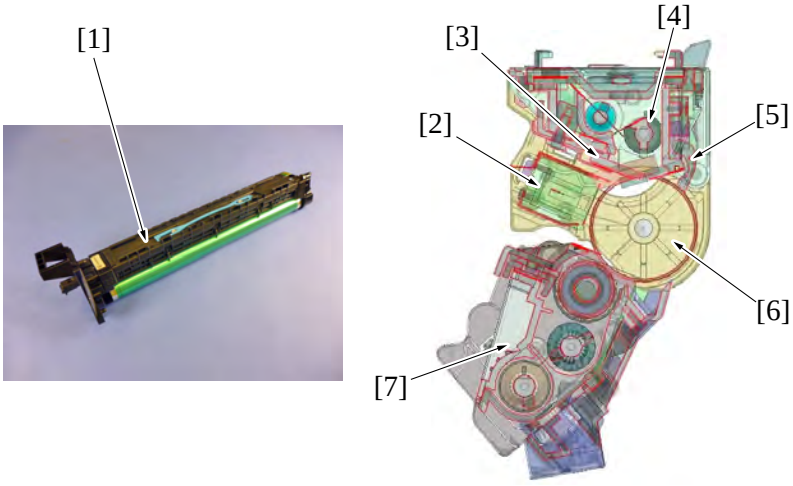
(1) Write section image processing block diagram

- Resolution conversion processing in the main scanning direction/movement processing
- Resolution conversion processing in the sub scanning direction

- Main scanning position correction
  Speed conversion
  Modulation

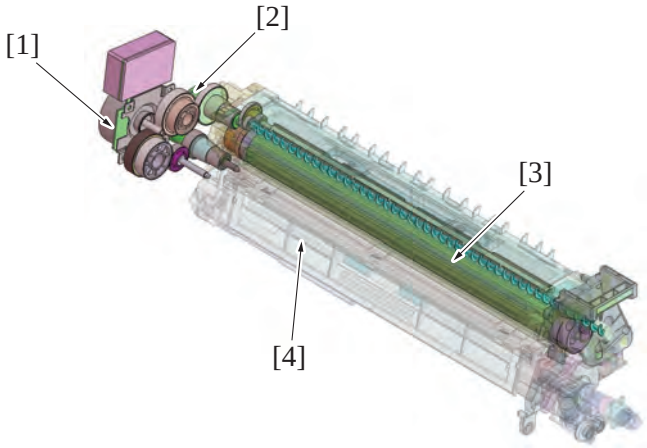
4. PHOTO CONDUCTOR SECTION

4.1 Configuration



[1]	Drum unit	[2]	Electrostatic charger
[3]	Cleaning blade	[4]	Toner collecting screw
[5]	Separation claw	[6]	Photo conductor
[7]	Developing unit	-	-

4.2 Drive

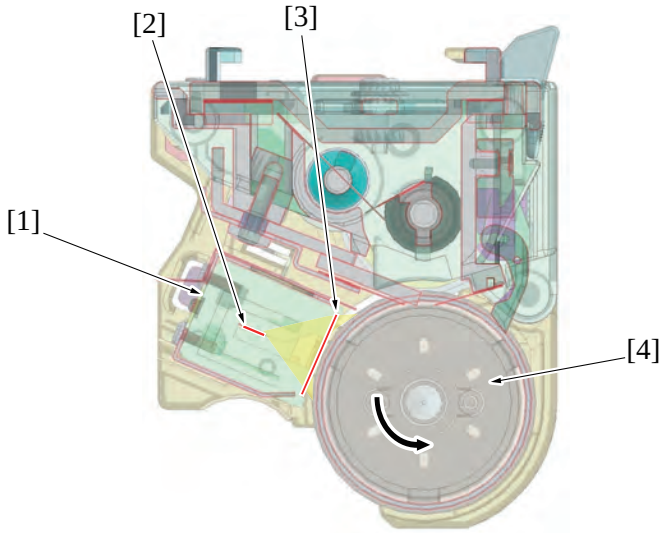


[1]	Main motor (M3)	[2]	Photo conductor drive gear
[3]	Photo conductor	[4]	Developing section

4.3 Operation

4.3.1 Electrostatic charger control

- A high voltage DC negative charge is applied to the comb electrode and charging control plate (grid mesh) inside the electrostatic charger. Charge discharged from the comb electrode causes the surface of the photo conductor to become uniformly charged via the charging control plate.
- The charge that is applied to the charging control plate is called grid voltage (Vg). The charge is adjusted to the optimal valve depending on the operating environment, photo conductor durability, developing unit durability and the stabilization control.
- The comb electrode is used for the electrode. The electrode of the comb electrode type can discharge in one direction only, which helps reduce the amount of ozone produced as compared with the wire electrode.
- The charged voltage that is supplied from the high voltage unit is applied to the comb electrode and charging control plate.



[1]	Electrostatic charger	[2]	Comb electrode
[3]	Charging control plate (grid mesh)	[4]	Photo conductor

(1) Charge application start timing

- Charge is applied to the comb electrode and the charging control plate when the drive motor (main motor) of the photo conductor starts rotating stably.

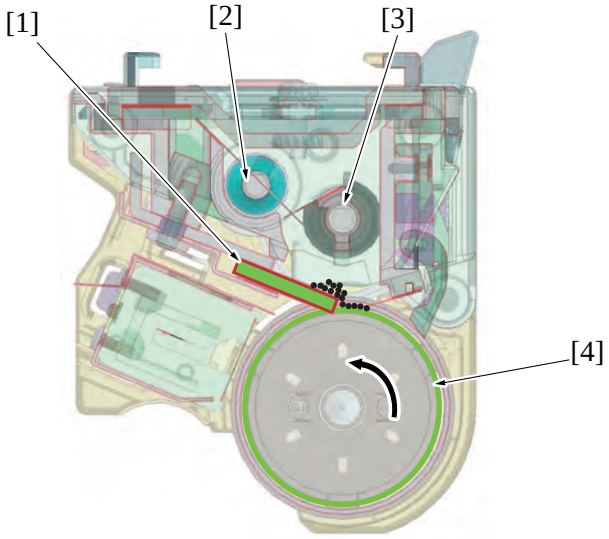
(2) Charge application end timing

- The surface of the photo conductor facing the transfer roller moves past the charging control plate as the transfer output is turned OFF. At that time, charge to the comb electrode and charging control plate is terminated.

4.3.2 Photo conductor cleaning

(1) Cleaning blade

- Part of the toner image that is not transferred is left on the surface of the photo conductor. The residual toner is scraped off by the cleaning blade.
- The toner is scraped off the surface of the photo conductor. The toner collecting blade and the toner collecting screw transfer the toner towards the front of the machine and discard it into the waste toner box.
- The cleaning blade does not have a pressure release mechanism and constantly applies pressure to the photo conductor.

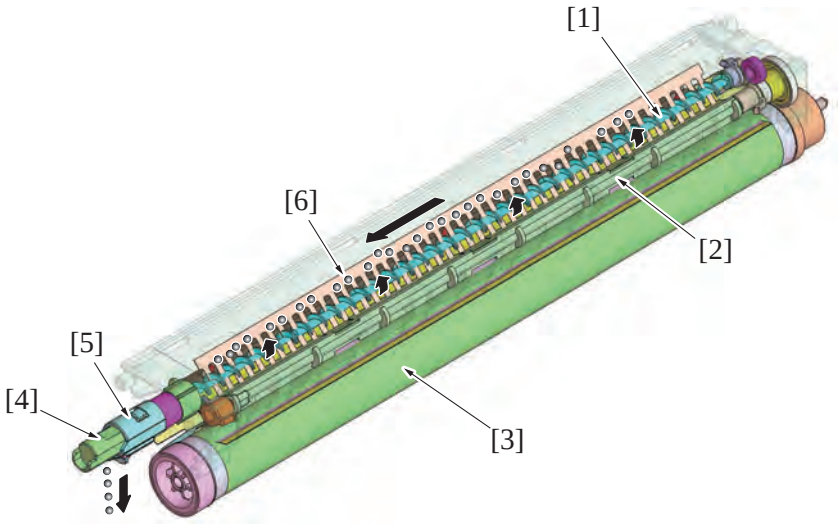


[1]	Cleaning blade	[2]	Toner collecting screw
[3]	Toner collecting blade	[4]	Photo conductor

(2) Toner conveyance/collection mechanism

- Drive force to rotate the toner collecting blade and toner collecting screw is transmitted from the photo conductor. (The toner collecting blade and toner collecting screw both rotate in synchronization with the photo conductor.)
- The cleaning blade scraps off the toner. The rotation of the toner collecting blade and the toner collecting screw transfers the toner towards 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 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.



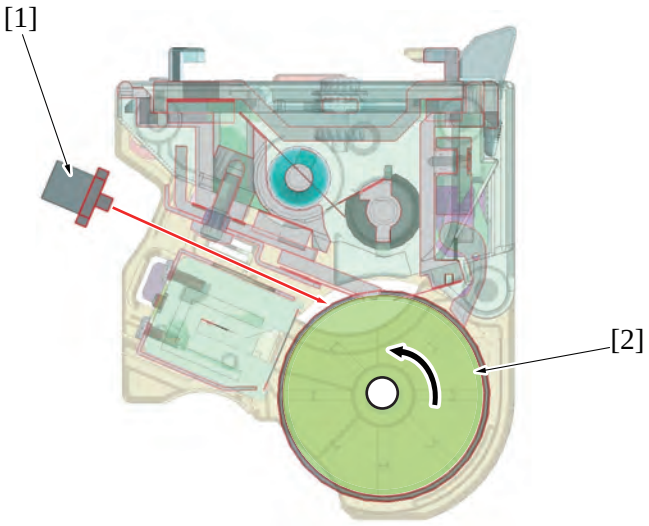
[1]	Toner collecting screw	[2]	Toner collecting blade
[3]	Photo conductor	[4]	Toner collecting port
[5]	Shutter	[6]	Waste toner

(3) Photo conductor reverse control

- The foreign matter (paper dust, toner, and so on) may get caught between the photo conductor and the cleaning blade. Thus the cleaning blade will not be able to properly clean the surface of the photo conductor resulting in images with errors. (The cleaning blade cannot remove the residual toner completely.)
- To prevent the residual toner being left from the cleaning blade, rotate the photo conductor reversely at the specified intervals. Reverse rotation of the photo conductor allows the jammed foreign matter to attach to the photo conductor. Rotate the photo conductor forwardly again allows the cleaning blade to remove this foreign matter.
- Rotate the main motor reversely at every time that the accumulated rotation time of the photo conductor exceeds the specified time (100 sheets of A4 paper). It removes the foreign matter that is caught between the cleaning blade and the surface of the photo conductor (paper dust, toner, and so on).

4.3.3 Erase control

- The potential remaining in the photo conductor after transfer is removed when the erase lamp/K (LED) turns on.
- The neutralization of any residual potential on the photo conductor helps improve cleaning performance of toner left on the surface of the photo conductor.



[1]	Erase lamp/K (EL/K)	[2]	Photo conductor

(1) Erase lamp ON timing

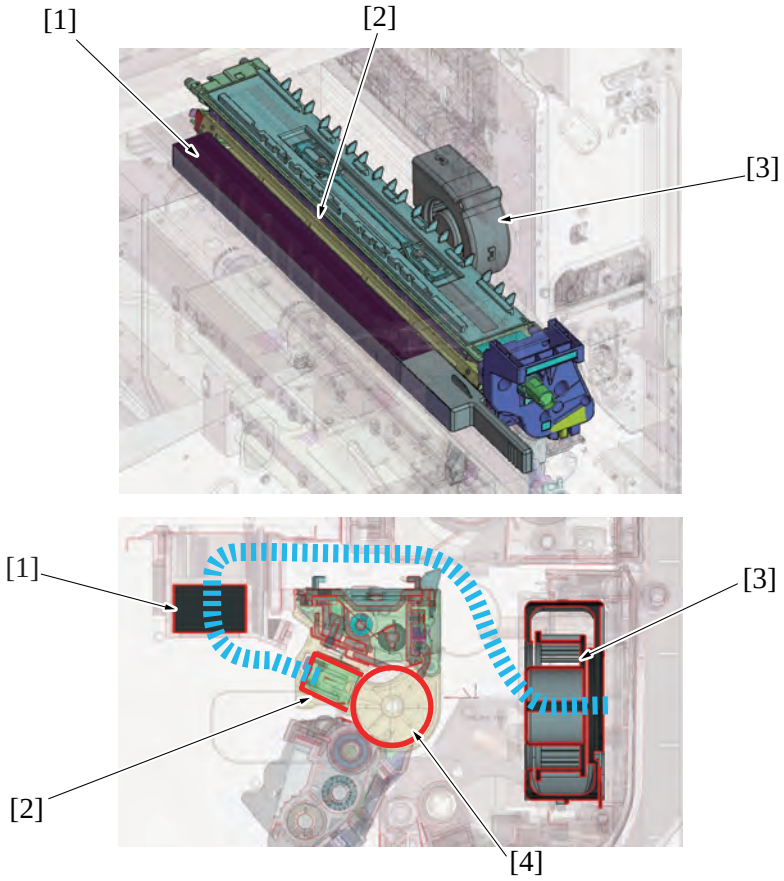
- The erase lamp is turned on when the photo conductor starts rotating.

(2) Erase lamp OFF timing

- The erase lamp is turned off when the photo conductor stops rotating. (That is, the erase lamp is turned off after all charge left on the surface of the photo conductor is neutralized.)

4.3.4 Ozone suction function

- The comb electrode generates ozone as it discharges.
- When the photo conductor is exposed to a certain amount of ozone and for a certain time, the sensitivity of the photo conductor surface becomes uneven. It will result in uneven sensitivity. Uneven sensitivity on the surface of the photo conductor results in white bands or other print image defects.
- To prevent uneven sensitivity from occurring on the photo conductor, an ozone filter is installed on the machine frame to remove ozone around the photo conductor.



[1]	Ozone filter	[2]	Electrostatic charger
[3]	Main cooling fan (FM2)	[4]	Photo conductor

4.3.5 Drum dry control

- Rotates the drum without an image forming processing (electrostatic charger, exposure, erase, and so on).
- Drum dry automatically executes is predetermined conditions are satisfied during initial operation after the power turns on or when the machine awakes from sleep mode. (approximately 1 minute)

(1) Manual drum dry control

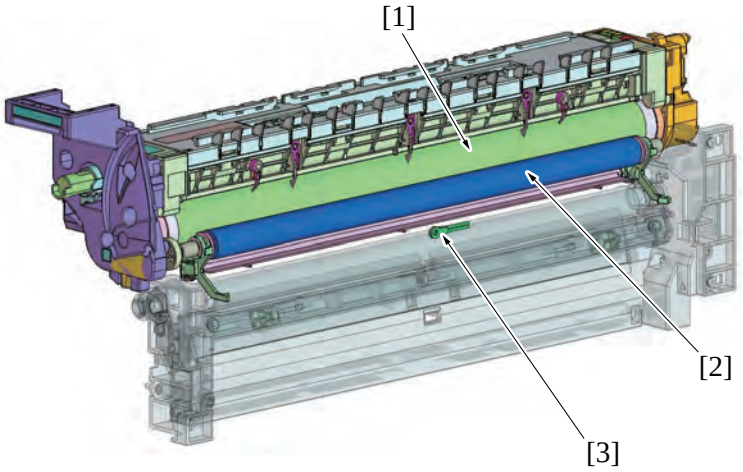
- From "Utility/Administrator Settings/System Settings/Expert Adjustment/Drum Dry", press the Start key to execute. The drum rotates for approximately 1 minute from starting the operation.
- Printing cannot be performed during the drum dry process. Print jobs can be queued, however. "Drum Dry is on going" displays on the operation panel.
- Press the Stop key to manually stop the drum dry process.

(2) Auto drum dry control

- Ozone that has collected in the charging section may cause a change in characteristics of the photo conductor. It will lead to a lowering of initial surface potential or an increase of the post-exposure potential. As a result, unevenness in density may occur between the portions in contact and not in contact with the electrostatic charger.
- To resolve this issue, the drum dry process automatically executes when the power is turned on or when the machine awakes from sleep mode after the main motor has been stopped for time longer than the specified value (6 hours).
- Auto drum dry settings can be changed from "Service Mode / System 2 / Auto Drum Dry". (Default is No.)

4.3.6 Photo conductor ambient temperature measuring mechanism

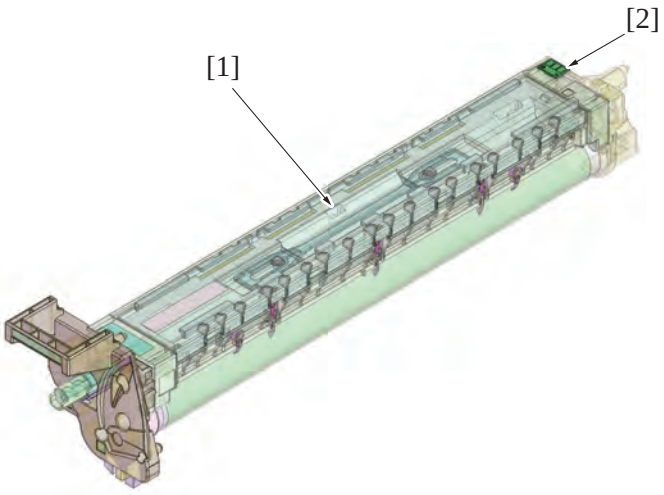
- A thermistor/3 is equipped beneath the transfer roller to measure the internal temperature around the photo conductor.
- The measured data is used for various controls.



[1]	Photo conductor	[2]	Transfer roller
[3]	Thermistor/3 (TH3)	-	-

4.3.7 Drum unit detection

The drum unit is equipped with a detection board which detects drum unit mounting status.



[1]	Drum unit	[2]	Detection board

(1) Unit mounting detection

(a) 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”

(b) 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.

(2) New article detection

(a) 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.

(b) Operation when the drum unit is determined not to be new

- The new article detection control is terminated.

(c) Operation when the drum 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 backup board of the main body.
- The counter value of the drum unit is recorded in the backup board of the main body.

(3) New article detection-disabled mode

- No new article detection control is performed for the drum unit when the new article detection-disabled mode is used.
- The new article detection-disabled mode should be used only for troubleshooting purposes.

NOTE

- **See "I.6.3.9.(3).(c) New Release Disable mode" for more detailed operating precautions.**

4.3.8 Drum unit life detection

NOTE

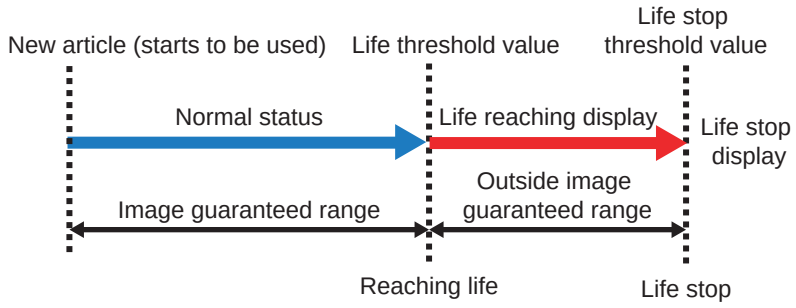
- **On this machine, since the life stop is specified to [Off] by default, a warning display does not appear and the print job does not stop even when the life stop is reached.**
  The unit life can be checked with the life value of consumables and parts, also at settings of [Service Mode] -> [Counter] -> [Life].
- **Life related display default setting**
  Life Reaching Display (Near Life Display Settings): Display
  Life Stop screen: Off
  Life Stop: Off
- The life counter of the drum unit controls the life detection of the drum unit.
- The counter value is recorded in the backup board of the machine.

Controlled item	Counting unit
Drum unit rotation time	M *

*: M represents the drum unit rotation time.

(1) Counter life determination

- The drum unit is determined that it has reached its life when the counter value for the drum unit rotation time reaches a threshold.



(2) Life determination timing

- The life determination 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 machine exits the sleep mode"
  "The front door or right door is opened and closed with the power switch in ON position"
  "During a print cycle"

(3) Life display/settings

(a) Life reaching display

- The life reaching warning displays when the counter value for the drum unit rotation time reaches the life threshold. (Printing is enabled but image quality is not guaranteed)

(b) Life reaching display settings

- On this machine, a display appears when the life has been reached as the default setting of the life reaching display is configured to "Display".
  Configure the life reaching display settings as necessary. [Service Mode] -> [System 2] -> [Unit Change] -> [Near Life Display Settings]

(c) Life stop display

- The life stop screen displays when the counter value for the drum unit rotation time reaches the life stop threshold. (print prohibited)

(d) Life stop setting

- On this machine, the life stop setting is specified to "Off" by default. So that the life stop setting screen does not appear and printing does not stop.
- Configure the life stop settings as necessary. [Service Mode] -> [Enhanced Security] -> [Life Stop Setting]

4.3.9 Ozone filter new article detection

- This model is not provided with the new part detection function. Thus, after replaced of the ozone filter, it requires to reset the "Ozone filter usage counter" from settings of "Service Mode/Counter/Life".

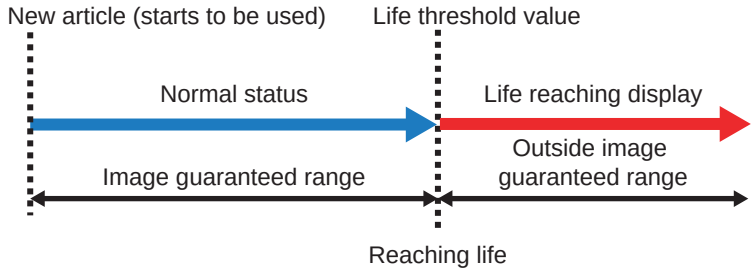
4.3.10 Ozone filter life detection

- The life counter of the ozone filter controls the life detection of the ozone filter.
- The counter value is recorded in the backup board of the machine.

Controlled item	Counting unit
Ozone filter print number	Count

(1) Ozone filter counter life determination

- The ozone filter is determined that it has reached its life when the counter value for the ozone filter print number reaches a threshold.



(2) Life display/settings

(a) Life reaching display

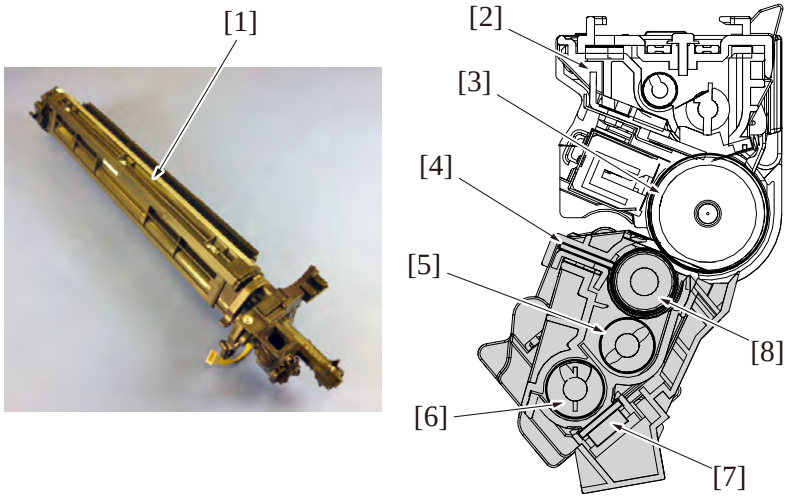
- The life reaching warning screen displays on the control panel when the counter value for the ozone filter print number reaches the life threshold. (Printing is enabled but image quality is not guaranteed)

(b) Life reaching display settings

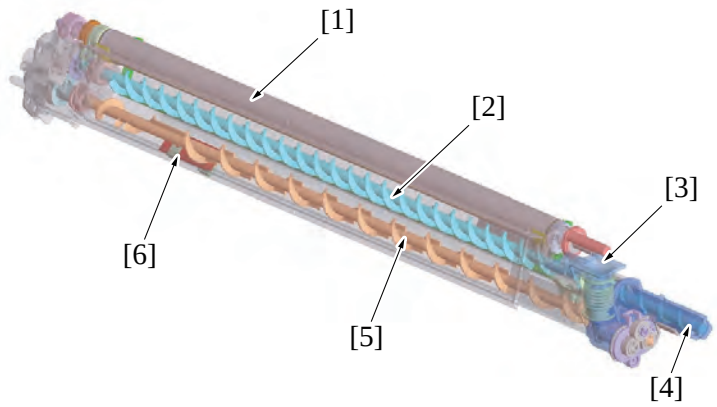
- On this machine, a display appears when the life has been reached as the default setting of the life reaching display is configured to "Display".
  Configure the life reaching display settings as necessary. [Service Mode] -> [System 2] -> [Unit Change] -> [Near Life Display Settings]

5. DEVELOPING SECTION

5.1 Configuration



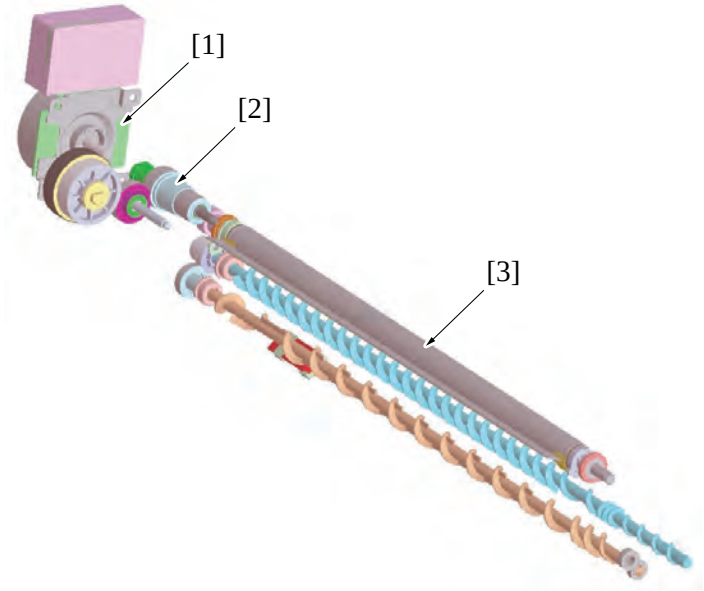
[1]	Developing unit	[2]	Drum unit
[3]	Photo conductor	[4]	Doctor blade
[5]	Toner supply screw 2	[6]	Toner supply screw 1
[7]	TCR sensor	[8]	Developing roller



[1]	Developing roller	[2]	Toner supply screw 2
[3]	Toner replenishing port	[4]	Waste toner discarding port
[5]	Toner supply screw 1	[6]	TCR sensor

5.2 Drive

- Through the rotation of the main motor, drive is transmitted to the developing drive gear to drive the developing roller/K.

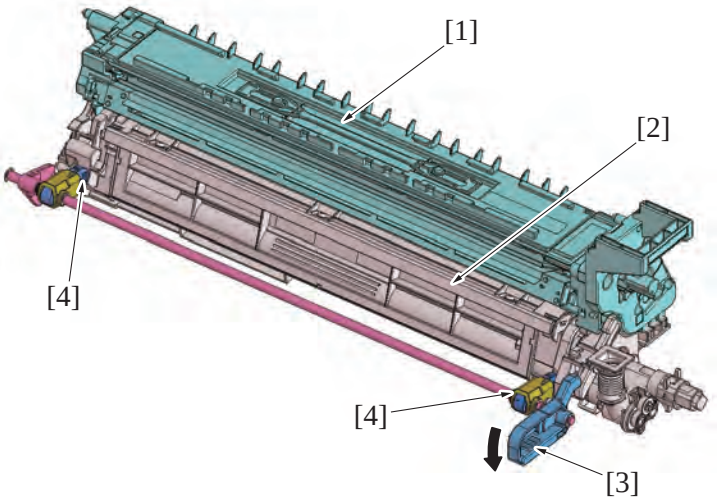


[1]	Main motor (M3)	[2]	Developing drive gear
[3]	Developing roller/K	-	-

5.3 Operation

5.3.1 Developing unit pressure/releases mechanism

- To remove the drum unit without damaging the photo conductor, a mechanism is provided to release the developing unit that is pressed against the photo conductor.
- Rotate the release lever counterclockwise, the ribs that are fixed to the front and back of the lever will leave the developing unit groove. So that the developing unit is released against the drum unit.
- Rotate the release lever clockwise, the ribs that are fixed to the front and back of the lever will fit into the developing unit groove. So that the developing unit is pressed against the drum unit.



[1]	Drum unit	[2]	Developing unit
[3]	Release lever	[4]	Rib

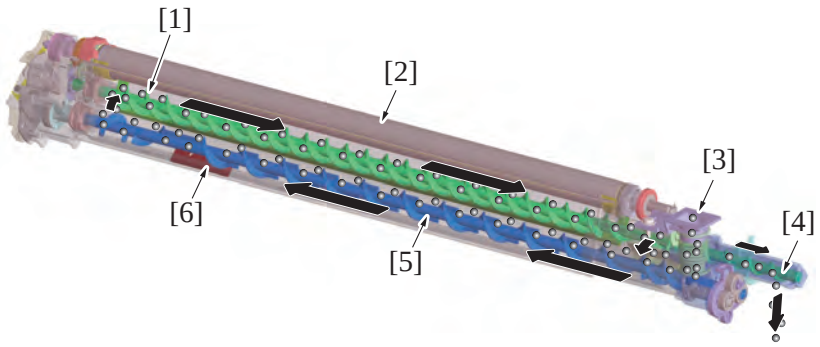
5.3.2 Developer flow

1. Toner replenished via the toner replenishing port located at the front side of the machine is fed to the toner supply screw 1.
2. The developer is conveyed toward the rear of the unit, while being agitated and electrically charged, by the toner supply screw 1.
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 supply screw 2.
5. The developer fed to the toner supply screw 2 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 photo conductor. The developer that is left on the developing roller is returned to the toner supply screw 2 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 supply screw 2. 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

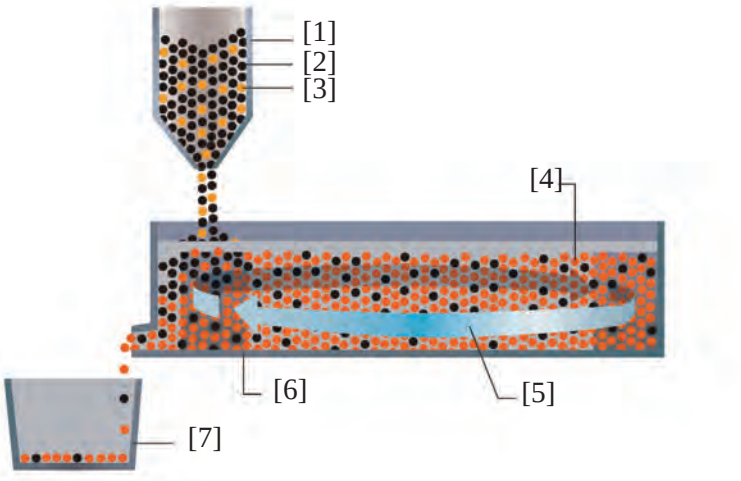
- **The toner replenishing port of the developing unit is not provided with a shutter mechanism. (The toner hopper section is equipped with a shutter.)**
- **When removing the developing unit, the developing unit must be held in a horizontal position with care not to allow toner to spill from the toner replenishing port.**



[1]	Toner supply screw 2	[2]	Developing roller
[3]	Toner replenishing port	[4]	Toner collecting port
[5]	Toner supply screw 1	[6]	TCR sensor

5.3.3 Auto refining developing system

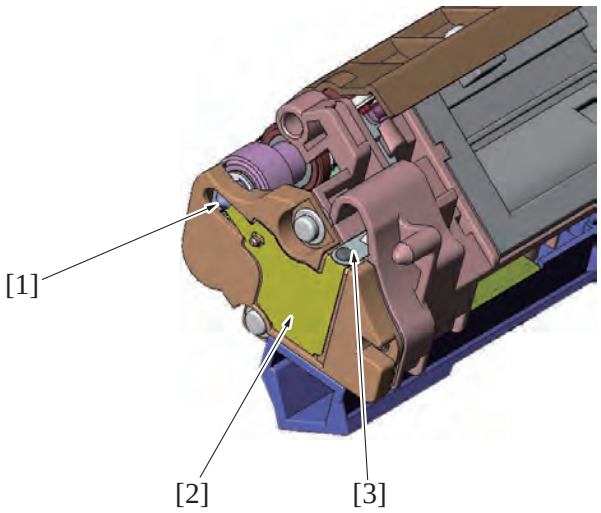
- The developing unit (K) of main body incorporates the auto refining developing system.
- The bottle of toner cartridge is packed with both toner and carrier and the developing unit is replenished with fresh carrier at the same time that it is replenished with toner.
- Excess carrier in the developing 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	-	-

5.3.4 Developing bias

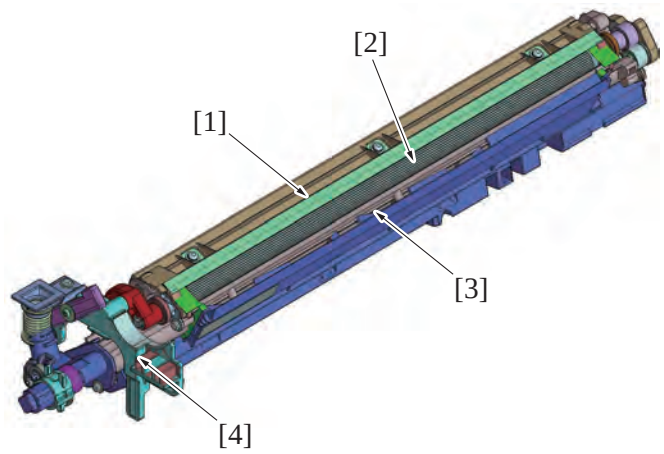
- The developing bias voltage (Vdc) is applied to the developing roller so that an adequate amount of toner is attracted onto the surface of the photo conductor.
- In addition to the negative DC component, AC voltage is applied during development to help toner to be attracted more easily to the surface of the photo conductor. 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 that is supplied from the high voltage unit is applied to the developing roller and the doctor blade.



[1]	Developing roller/K	[2]	Developing bias voltage application terminal/K
[3]	Doctor blade contact	-	-

5.3.5 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.



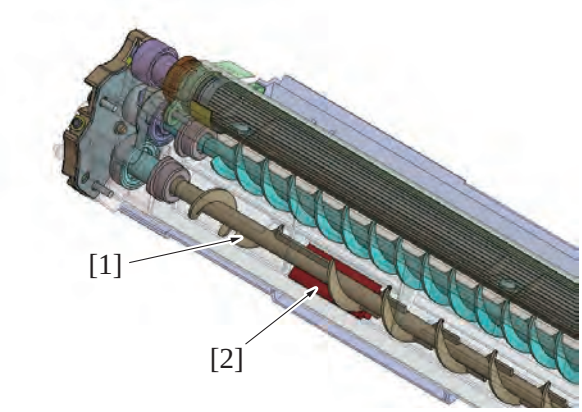
[1]	Toner scattering prevention sheet	[2]	Developing roller
[3]	Toner scattering prevention plate	[4]	Developing unit

5.3.6 Developing cooling

- A main cooling fan circulating air in and out of the machine is equipped to cool the developing unit, drum unit, toner hopper and transfer section.

5.3.7 Toner density control

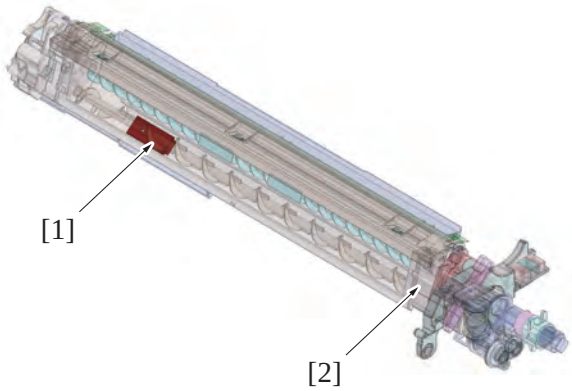
- A non-contact magnetic TCR sensor is equipped to the bottom of the developing unit which detects the mixing ratio of the toner-to-carrier (T/C ratio). The reading is used for determining the amount of toner supplied.
- TCR sensor automatic adjustment (calibration) is performed only when a new developing unit is installed in the machine. The automatic adjustment of TCR sensors cannot be done at your own discretion.
- The target T/C ratio is 6.5 ± 1.5%.
- The magnetic permeability (powder density) of the carrier in the developer is measured to determine the T/C.
- 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 “O.6.3.4 Auxiliary toner replenishing control for toner hopper”.



[1]	Toner supply screw 1	[2]	TCR sensor

5.3.8 Developing unit detection

- The developing unit is equipped with a TCR sensor which detects developing unit mounting status.



[1]	TCR sensor	[2]	Developing unit

(1) Unit mounting detection

- The TCR sensor detects the mounting condition of the developing unit.
- When developing unit is detected in the mounted condition, control now proceeds to the “new article detection control”.

(a) 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”

(b) 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.

(2) New article detection

- The TCR sensor detects whether the developing unit is new or not.

(a) 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.

(b) Operation when the developing unit is determined not to be new

- The new article detection control is terminated.

(c) Operation when the developing unit is determined to be new

- The TCR sensor automatic adjustment control (calibration) 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 backup board of the main body.
- The counter value of the developing unit is recorded in the backup board of the main body.

(3) New article detection-disabled mode

- The new article detection-disabled 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 article detection-disabled mode is used.
- The new article detection-disabled mode should be used only for troubleshooting purposes.

NOTE

- **See "I.6.3.9.(3).(c) New Release Disable mode" for more detailed operating precautions.**

5.3.9 Developing unit life detection

NOTE

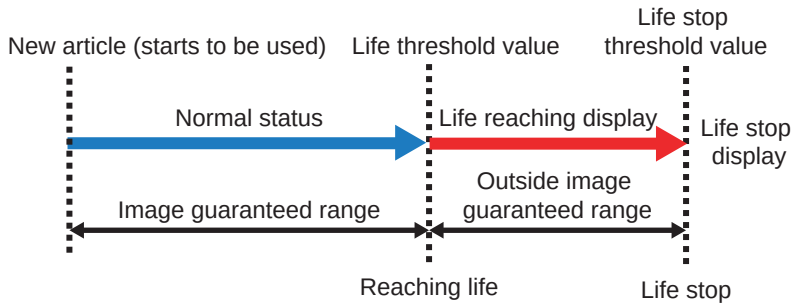
- **The default value of the life stop setting is specified to [Off] in this machine. So that it does not stop the printing and the life stop screen is not displayed even when life stop reached.**
  The unit life can be checked with the life value of consumables and parts, also at settings of [Service Mode] -> [Counter] -> [Life].
- **Life related display default setting**
  Life Reaching Display (Near Life Display Settings): Display
  Life Stop screen: Off
  Life Stop: Off
- The life counter of the developing unit controls the life detection of the developing unit.
- The counter value is recorded in the backup board of the machine.

Controlled item	Counting unit
Developing unit rotation time	M *

* : M represents the developing unit rotation time.

(1) Counter life determination

- The developing unit is determined that it has reached its life when the counter value for the developing unit print number reaches a threshold.



(2) Life determination timing

- The life determination 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 machine exits the sleep mode"
  "The front door or right door is opened and closed with the power switch in ON position"

(3) Life display/settings

(a) Life reaching display

- The life reaching warning screen displays on the control panel when the counter value for the developing unit print number reaches the life threshold. (Printing is enabled but image quality is not guaranteed)

(b) Life reaching display settings

- On this machine, a display appears when the life has been reached as the default setting of the life reaching display is configured to "Display".
  Configure the life reaching display settings as necessary. [Service Mode] -> [System 2] -> [Unit Change] -> [Near Life Display Settings]

(c) Life stop display

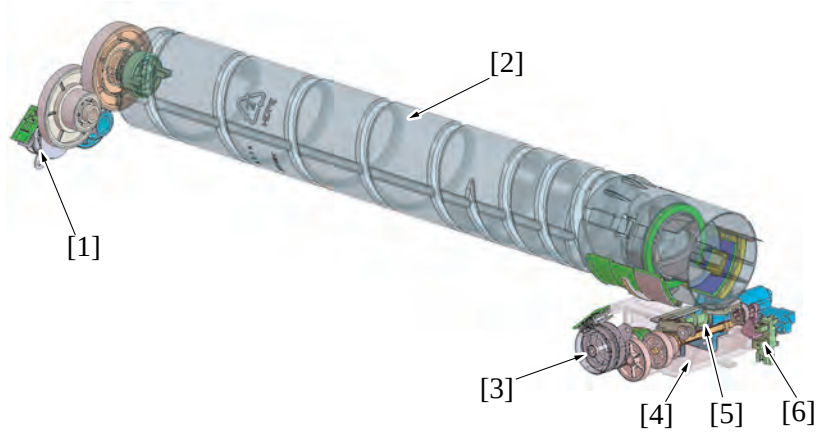
- The life stop screen displays when the counter value for the developing unit print number reaches the life stop threshold. (print prohibited)

(d) Life stop setting

- On this machine, the life stop setting is specified to "Off" by default. So that the life stop setting screen does not appear when life stop reached and printing does not stop.
- Configure the life stop settings as necessary. [Service Mode] -> [Enhanced Security] -> [Life Stop Setting]

6. TONER SUPPLY SECTION

6.1 Configuration

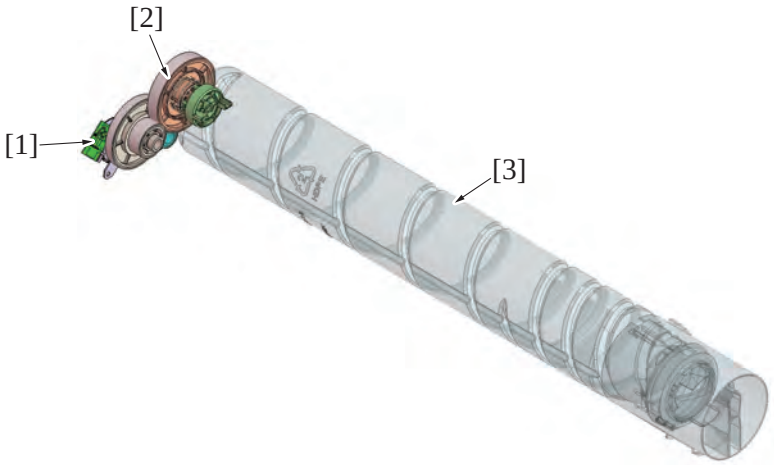


[1]	Toner cartridge motor (M10)	[2]	Toner cartridge
[3]	Toner supply motor/K (M6)	[4]	Toner hopper
[5]	Toner conveying screw	[6]	Toner empty sensor/K (PS31)

6.2 Drive

6.2.1 Toner cartridge drive

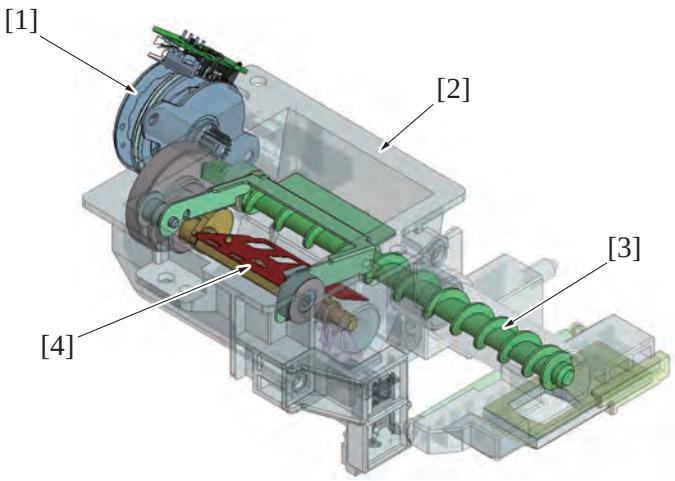
- The toner cartridge motor rotates to drive the toner cartridge. The interior of the toner cartridge is in spiral form. As the toner cartridge rotates, toner inside the toner cartridge is conveyed toward the toner replenishing port that is located at the front side. So that the toner hopper is replenished with the toner from the toner cartridge.



[1]	Toner cartridge motor (M10)	[2]	Toner cartridge drive gear
[3]	Toner cartridge	-	-

6.2.2 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.

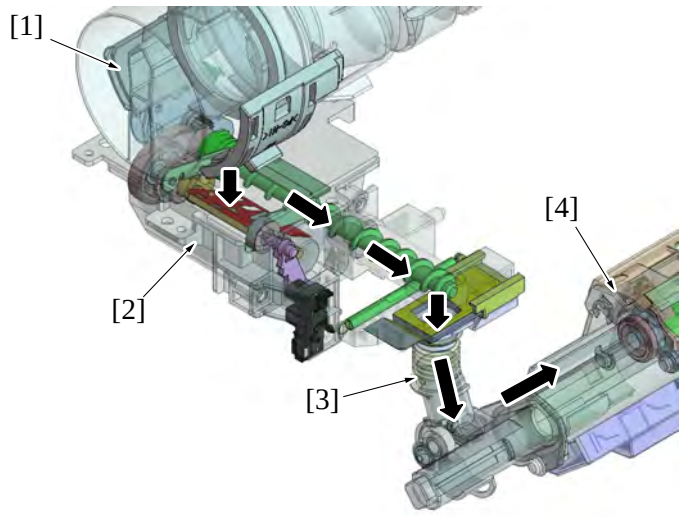


[1]	Toner supply motor/K (M6)	[2]	Toner hopper
[3]	Toner conveying screw	[4]	Toner agitating blade

6.3 Operation

6.3.1 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.
- 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 "O.5.3.3 Auto refining developing system".

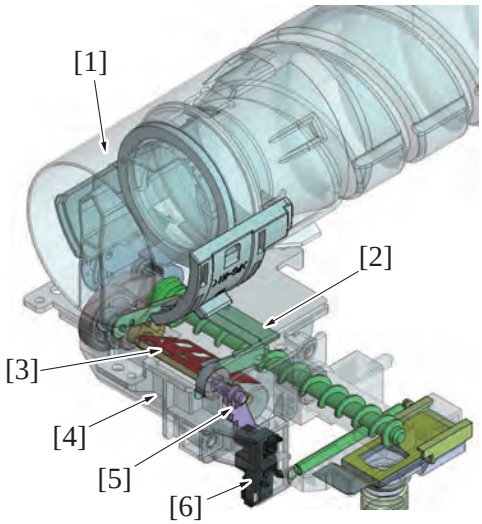


[1]	Toner cartridge	[2]	Toner hopper
[3]	Toner replenishing pipe	[4]	Developing unit

6.3.2 Replenishing the toner in the toner hopper from the toner cartridge

(1) Toner replenishing mechanism

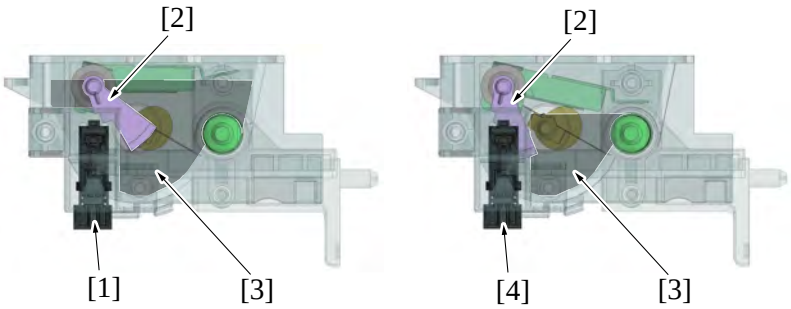
- The toner replenishing from the toner cartridge to the toner hopper is determined by unblocking and blocking the toner empty sensor.
- If the toner empty sensor is blocked a predetermined number of times, the machine determines that it is in a near empty condition. So that, the toner cartridge motor is energized and a toner replenishing sequence is started.
- The toner hopper is equipped with a toner empty sensor.
- Each toner empty sensor is blocked or unblocked by an actuator dedicated to it. The actuator is moved up or down by a cam disposed coaxially on the toner agitating blade and the vertical movement of the cam is transmitted to the detection plate. The actuator mounted on the detection plate is operatively associated with the vertical movement of the detection plate, which blocks or unblocks the toner empty sensor.



[1]	Toner cartridge	[2]	Detection plate
[3]	Toner agitating blade	[4]	Toner hopper
[5]	Actuator	[6]	Toner empty sensor (PS31)

(2) Toner replenishing control

- The toner replenishing control is started when the drive of the toner cartridge 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 near 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.
- If the toner empty sensor remains OFF, the machine determines that "toner is still available for use in the toner hopper", resetting the near empty counter to zero.
- These operations are repeated and, when the near empty counter reaches 3 or more, the machine determines that the toner hopper is in the near empty condition.



[1]	Toner empty sensor: OFF	[2]	Actuator
[3]	Toner	[4]	Toner empty sensor: ON

NOTE

- **The toner cartridge motor drives the toner cartridge. The toner cartridge will rotate when near empty status is reached. The toner will drop from the toner cartridge to the toner hopper when the toner cartridge rotates.**
  Furthermore, the toner in the toner hopper may reach the upper limit. In that case, the toner will not drop from the toner cartridge even if the toner cartridge rotates. It will not be supplied to exceed the toner hopper capacity.

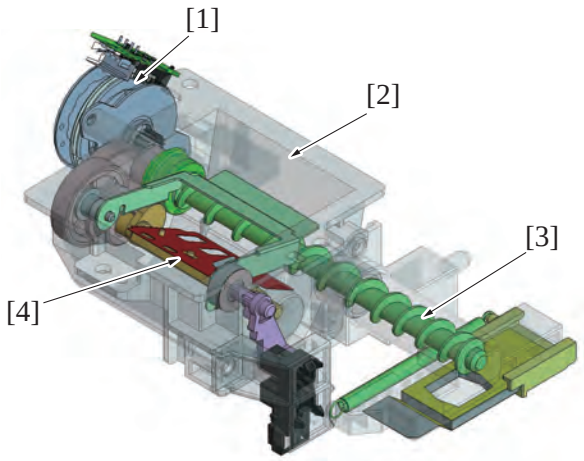
6.3.3 Toner replenishing from toner hopper to developing unit

(1) 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 non-contact magnetic type TCR sensor on the developing unit detects the T/C ratio and the consumed (estimated) toner amount for the printing image. This information is used at the toner replenishing control to determine the toner replenishing time and amount.
- 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 "O.5.3.7 Toner density control".

(2) Toner replenishing mechanism

- The toner supply motor/K drives the toner conveying screw and toner agitating blade that are equipped within the toner hopper.
- The toner agitating blade rotates to agitate toner in the toner hopper.
- The toner conveying screw rotates to replenish the developing unit with toner.

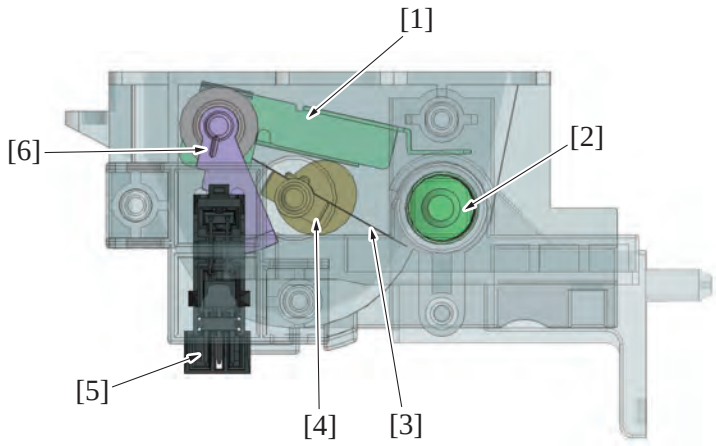


[1]	Toner supply motor/K (M6)	[2]	Toner hopper
[3]	Toner conveying screw	[4]	Toner agitating blade

(3) Toner agitating blade drive

1. The toner supply motor/K drives to rotate the toner conveying screw.
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.

*: For details of the toner empty sensor , see “O.6.3.7 Life control”.



[1]	Detection plate	[2]	Toner conveying screw
[3]	Toner agitating blade	[4]	Cam (operatively connected to toner agitating blade shaft)
[5]	Toner empty sensor	[6]	Actuator

6.3.4 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) Toner hopper auxiliary toner replenishing control execution 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:
  “The toner replenishing menu is performed from the Service Mode”
  “After toner empty detection, the toner cartridge is replaced with a new one (toner empty release control is performed)"
  “The developing unit is replaced with a new one (developing unit new article detection control is performed)”
  “The toner replenishing menu is manually performed from the Service Mode”

(2) Toner hopper auxiliary toner replenishing control end timing

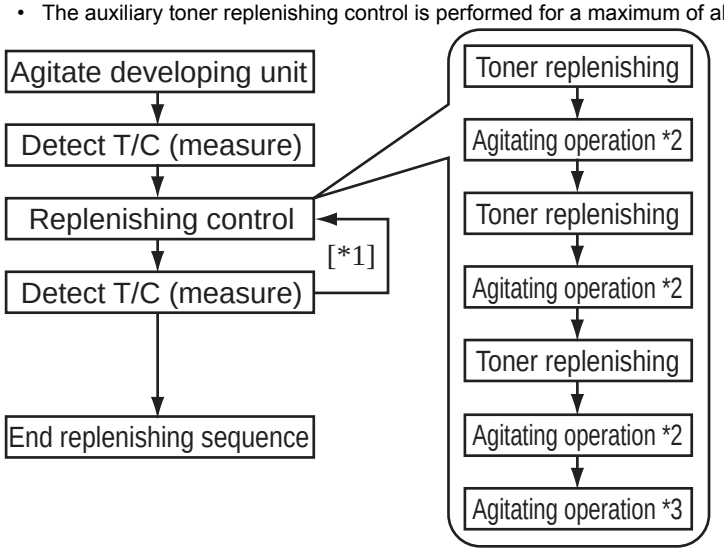
- The auxiliary toner replenishing control is terminated under any of the following conditions:
  "A predetermined period of time elapses after the toner cartridge motor starts rotating"
  "The front door is opened and closed"
  "An error or malfunction occurs"
  "The machine enters the power save or sleep mode"

6.3.5 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.

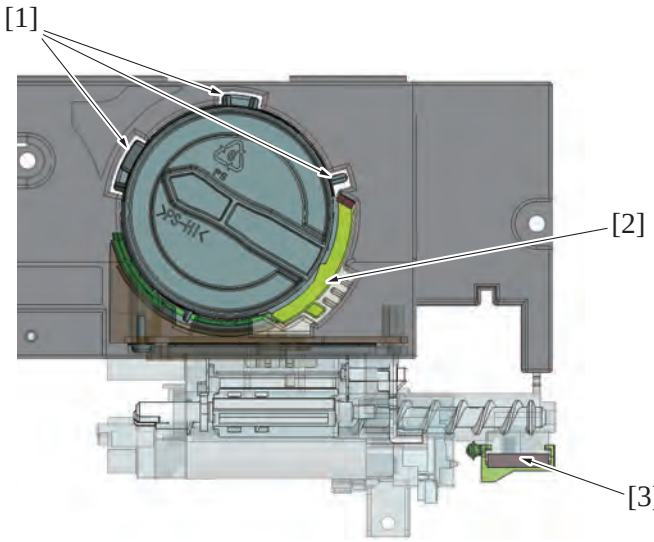
(1) Operation flow

- When the auxiliary toner replenishing control is performed, the following operations will also be performed. Agitate the toner hoper, calculate the T/C ration with the TCR sensor, and replenish toner from toner cartridge to the toner hoper are performed.
- The auxiliary toner replenishing control is performed for a maximum of about 4 minutes.



- *1: If a predetermined T/C is not reached, return to replenishing control. (a maximum of 10 times)
- *2: Agitate developing unit during replenishing
- *3: Agitate developing unit after replenishing

6.3.6 Toner spillage prevention shutter

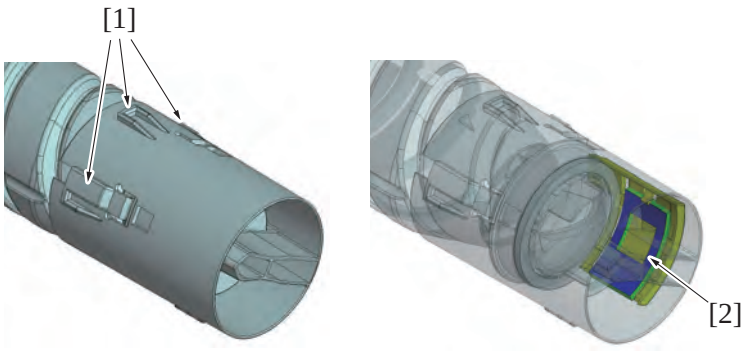


[1]	Toner cartridge positioning protrusion	[2]	Toner cartridge toner spillage prevention shutter
[3]	Toner hopper toner spillage prevention shutter	-	-

(1) Toner cartridge

- The shutter of the toner replenishing port is opened when the handle of the toner cartridge is rotated clockwise to the toner replenishing position after the toner cartridge has been inserted into the toner cartridge mounting portion.
- The shutter at the toner replenishing port must be closed when the toner cartridge is to be removed.

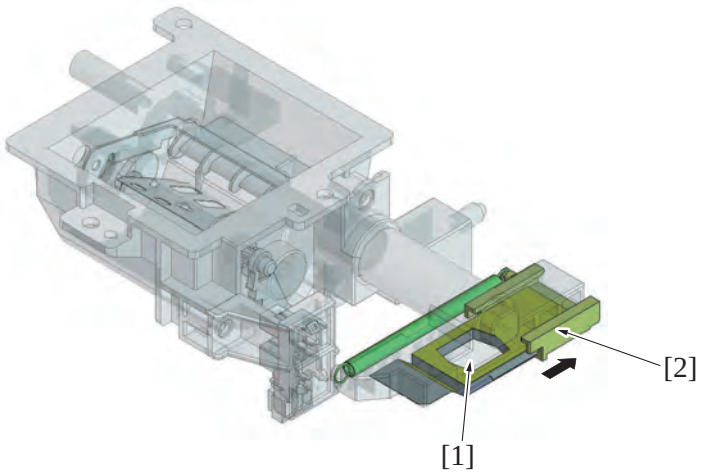
- Rotating the handle of the toner cartridge counterclockwise to the cartridge removal position closes the shutter of the toner replenishing port. The toner cartridge can be removed when the toner replenishing port of the toner cartridge is closed.



[1]	Toner cartridge positioning protrusion	[2]	Toner cartridge toner spillage prevention shutter

(2) Toner hopper

- A toner spillage prevention shutter is equipped to the toner replenishing port of the toner hopper. It prevents toner from spilling at the time of removing or installing 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.

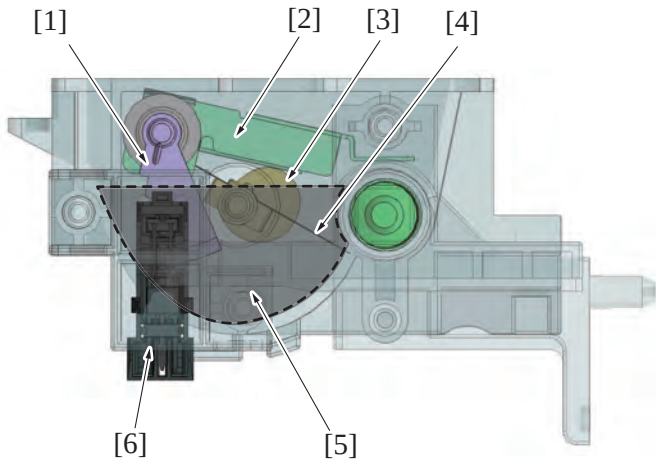


[1]	Toner replenishing port	[2]	Toner hopper toner spillage prevention shutter

6.3.7 Life control

(1) Toner near empty detection

- The toner empty sensor that is equipped in the toner hopper is used to determine the amount of residual toner in the toner hopper.
- The actuator of the toner empty sensor is moved up and down by the cam mounted coaxially with the toner agitating blade. A detection plate is fixed to the actuator. The toner empty sensor detects the vertical movement of the detection plate.
- If the near empty counter exceeds 3 during control of replenishing the toner hopper with toner, a toner near empty condition is considered. As a result, it prompts to perform the toner empty control.



[1]	Actuator	[2]	Detection plate
[3]	Cam (operatively connected to toner agitating blade shaft)	[4]	Toner agitating blade
[5]	Toner	[6]	Toner empty sensor

(a) Toner near 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 near 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 near empty counter to zero.
- If the operations above are repeatedly performed and the near empty counter exceeds 3, a toner near empty condition is considered. It will also give a message "Toner is near empty" on the control panel.

(b) Toner near empty display

- The warning screen to be displayed when a toner near-empty is detected can be enabled or disabled in the "System 2/ Unit Change" in the Service Mode.
- When the warning screen display is set to "Yes", the message notifying the user that the toner cartridge needs replacing soon is displayed. (Toner is low. Replace when indicated)
  Printing can be continued even after the message appears.
- When the warning screen display is set to "No", the message notifying the user that the toner cartridge needs replacing soon is not displayed. Printing can be continued without having the message displayed.

(c) Toner near empty display timing

- Change the timing for displaying the toner cartridge near empty condition to optimize the timing of the toner cartridge replacement depending on individual use (PV).
- Configure the toner near empty display timing with settings of "System 2/ Unit Change" in the Service Mode.

(2) Toner empty detection

- The machine determines a toner empty condition by use of the following parts. It includes the toner empty sensor and the toner supply motor in the toner hopper, and the TCR sensor in the developing unit.

(a) Toner empty detection timing

- The machine determines a toner empty condition when one of the following conditions is detected after a toner near empty condition has been detected. It displays the message "Toner is near empty" on the control panel.
  1. The rotation time of the toner supply motor (amount of toner replenished) exceeds the predetermined value.
     Note, however, that the cumulative rotation time of the toner supply motor is reset to zero, if the event that "the toner hopper runs out of toner (or there is only a small amount of toner left in the toner hopper)" is not detected by the toner empty sensor within a predetermined period of time after the toner near empty condition has been detected.
  2. The TCR sensor detects a T/C ratio that is lower than a predetermined value.

(b) Toner empty display

- The screen mode to be displayed when a toner empty is detected can be selected by specifying the person who replaces the unit in the "System 2/ Unit Change" in the Service Mode.
- When User is selected as the person, the message requesting toner cartridge replacement by user is displayed when a toner empty condition is detected. (Toner has been depleted. Replace the toner cartridge.)

- When Service is selected as the person, the message prompting service engineer to replace the toner cartridge is displayed. (Out of toner. Contact your service representative.)

(3) 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		Control to be executed	Printing after the end of the control
	Developing unit	Toner hopper		
Near empty	Available	Decreasing	Auxiliary toner replenishing control for toner hopper	Empty display is reset if the amount of toner in the toner hopper is recovered.
Empty	Available	Not available		Empty display stays put if the amount of toner in the toner hopper is not recovered.
	Not available	Not available	Auxiliary toner replenishing control for toner hopper + auxiliary toner replenishing control for developing unit	Empty display is reset if the T/C ratio is recovered.
				Empty display stays put if the T/C ratio is not recovered.

(a) Toner empty condition resetting timing

- After a toner near empty/toner empty condition have been detected, and under either of the following conditions, the two controls will be performed. “Auxiliary toner replenishing control for toner hopper” and “auxiliary toner replenishing control for developing unit”
  “The main power switch is turned ON”
  “Release in sub power off mode”
  “The front door or the like is opened and closed”

(b) Precaution when replacing toner cartridge

- The toner cartridge is not provided with a mechanism that detects the amount of residual toner in the cartridge. Therefore, make sure that the toner near empty or toner empty message is displayed before replacing the new toner cartridge. Do not replace with the new toner cartridge until the toner near empty or toner empty message is displayed.
- The toner amount data (level gauge) of the control panel determines that “Toner cartridge is replaced with new one” after toner empty status changes to the normal status, and the “Toner amount data” is reset to zero. Therefore, in cases where the toner cartridge is replaced with a new one before the toner near empty or toner empty message is displayed, the “Toner amount data” fails to be cleared, which creates the conflicting indicators of “Toner amount data displayed” on the control panel and the “Toner current level” in the toner cartridge.
- Toner amount data displayed on the control panel may highlight the phenomenon of toner still remaining in the toner cartridge even though the toner empty indicator is activated.

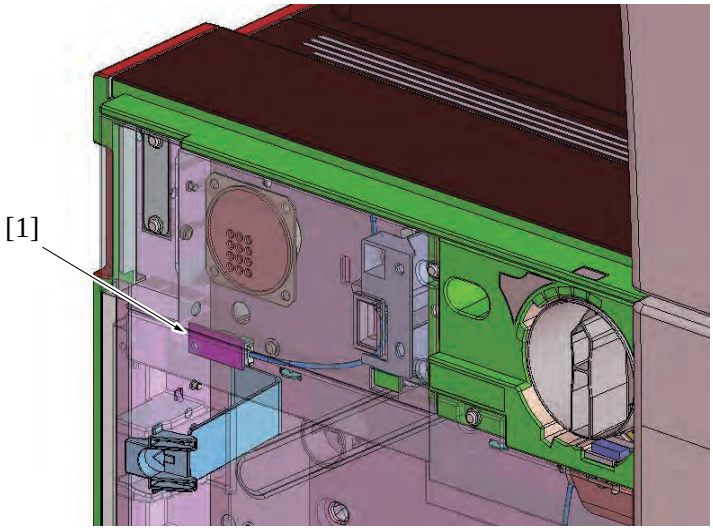


[1]	Toner amount data (level gauge)	-	-

6.3.8 Internal temperature measuring mechanism

- A temperature/humidity sensor is equipped inside the machine front door to measure the internal temperature and humidity.

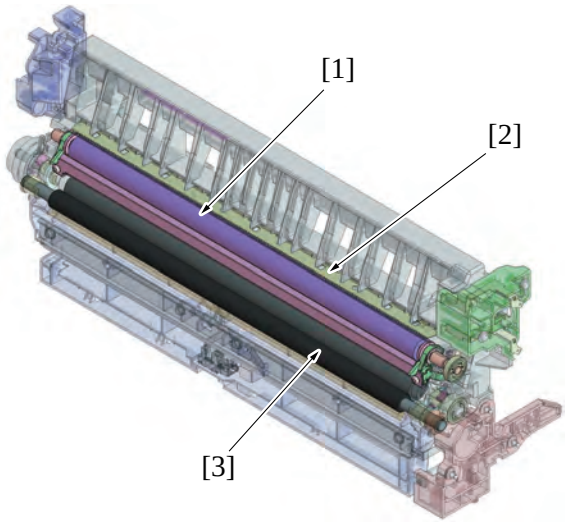
- The measured data is used as "environment information" for various controls.



[1]	Temperature/humidity sensor (TEM/HUM)	

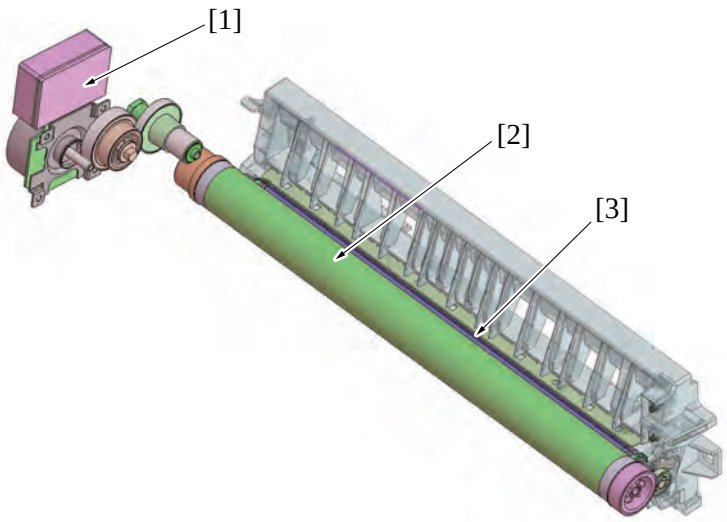
7. TRANSFER/SEPARATION SECTION

7.1 Configuration



[1]	Transfer roller	[2]	Charge neutralizing needle
[3]	Registration roller	-	-

7.2 Drive



[1]	Main motor (M3)	[2]	Photo conductor
[3]	Transfer roller	-	-

7.3 Operation

7.3.1 Transfer roller control

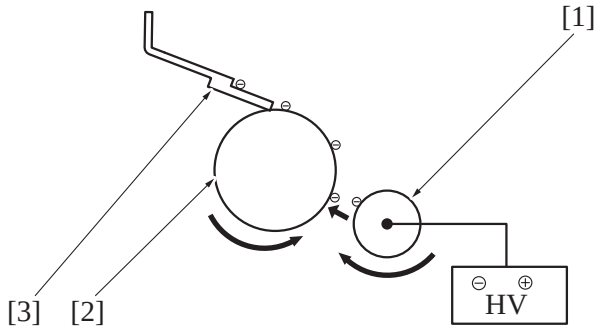
- To transfer the toner image that is formed on the photo conductor onto the paper, apply the transfer voltage from the high voltage unit to the transfer roller.
- Resistance of the transfer roller changes with an environmental change, durability, and other factors. To maintain an optimum output voltage, fixed current is passed through the transfer roller and the voltage being outputted at that time is detected. Select the appropriate transfer voltage from this measured value and the information from "Paper type", "Paper width", "Temperature and humidity", and "First side/ Second side".

(1) Execution timing

- The transfer roller control is executed when a print job is received under either of the following conditions:
  “Main power switch is turned ON”
  “Power key is pushed”
  “Existing from sleep”
  "System speed changes"
  "The thermistor/3 detected a predetermined temperature change"

7.3.2 Transfer roller cleaning

- In order to remove the remaining toner on the transfer roller, -/+ DC charge is applied alternately to transfer the remaining toner to the photo conductor.
- The cleaning blade scrapes off the toner on the surface of the photo conductor.



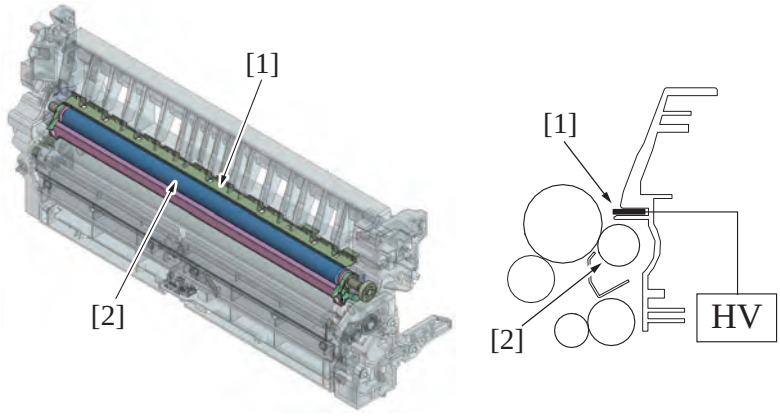
[1]	Transfer roller	[2]	Photo conductor
[3]	Cleaning blade	-	-

7.3.3 Transfer current upper/Lower limit control

- The transfer voltage is determined through the transfer roller control in accordance with the environment. You can also make fine adjustments to find the optimal transfer voltage for each type of paper. However, to use two types of paper with same material but different resistance, one of them will be optimized. But the other one cannot achieve an optimal transfer quality.
- With this control, the current flowing onto the transfer unit during the printing is measured. The output voltage is controlled automatically with settings of "Service Mode/Imaging Process Adjustment/Transfer Voltage Fine Adj/Auto" to achieve a current within the optimal range. It supports many different types of paper even if no fine adjustments are made on the transfer voltage.
- Fine adjustments that are made manually are ignored when this control is running.
- Besides, settings of [User Paper Settings] allows you to achieve better image quality for a specific type of paper. Since the automatic control is not available to paper that is specified at [User Paper Settings], manual fine adjustments are applied to specified paper.

7.3.4 Paper separation control

- To neutralize residual potential from the paper after transfer process, a charge neutralizing needle is mounted on the guide plate where the transfer roller passed.
- Apply the optimal separation bias output voltage to the charge neutralizing needle with the information in "Paper type", "Environment data", and "Paper information (First side/Second side)". It enables the photo conductor to separate paper.



[1]	Charge neutralizing needle	[2]	Transfer roller

7.3.5 Transfer roller new article detection

- This machine is not equipped with the transfer roller new article detection function.
- After replacement of the transfer roller, the new release of transfer roller unit must be performed in “Counter/Life/New Release/Transfer Roller Unit” of the Service Mode.

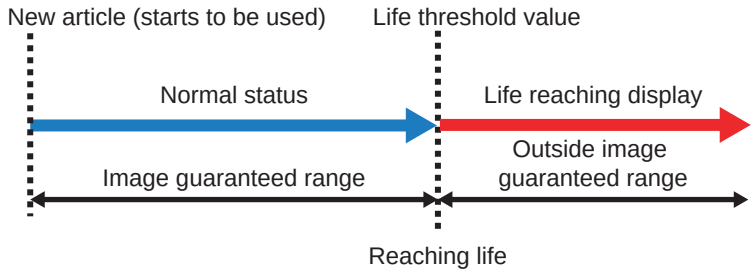
7.3.6 Transfer roller life detection

- The life counter of the transfer roller controls the life detection of the transfer roller life detection.
- The counter value is recorded in the backup board of the machine.

Controlled item	Counting unit
Transfer roller print counter	Sheet

(1) Transfer roller counter life determination

- The transfer roller is determined that it reached its life when the counter value for the transfer roller reaches a threshold.



(2) Life display/settings

(a) Life reaching display

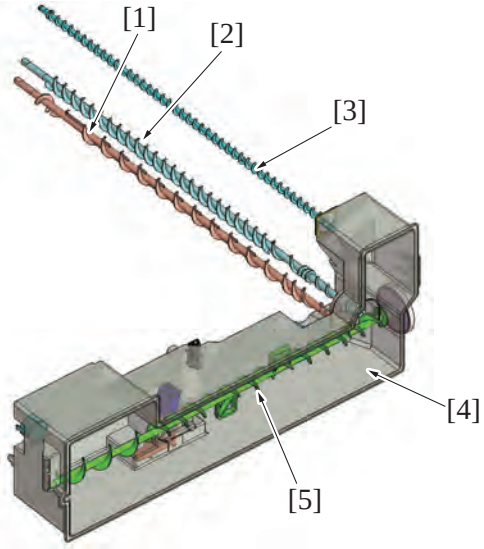
- The life reaching warning screen displays on the control panel when the counter value for the transfer roller reaches the life threshold. (Printing is enabled but image quality is not guaranteed)

(b) Life reaching display settings

- On this machine, a display appears when the life has been reached as the default setting of the life reaching display is configured to "Display".
  Configure the life reaching display settings as necessary. [Service Mode] -> [System 2] -> [Unit Change] -> [Near Life Display Settings]

8. TONER COLLECTING SECTION

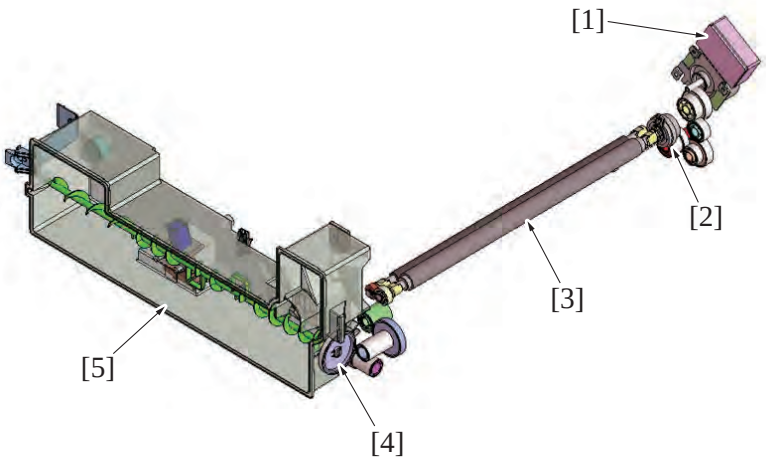
8.1 Configuration



[1]	Toner supply screw (Developing unit)	[2]	Toner collecting screw (Developing unit)
[3]	Toner collecting screw (Drum unit)	[4]	Waste toner box
[5]	Toner collecting screw (Waste toner box)	-	-

8.2 Drive

- The waste toner box is driven by the transport motor.
- The driving force of the transport motor is transmitted to the registration roller via the registration clutch. The drive coupling gear mounted coaxially with the registration roller drives the waste toner box.

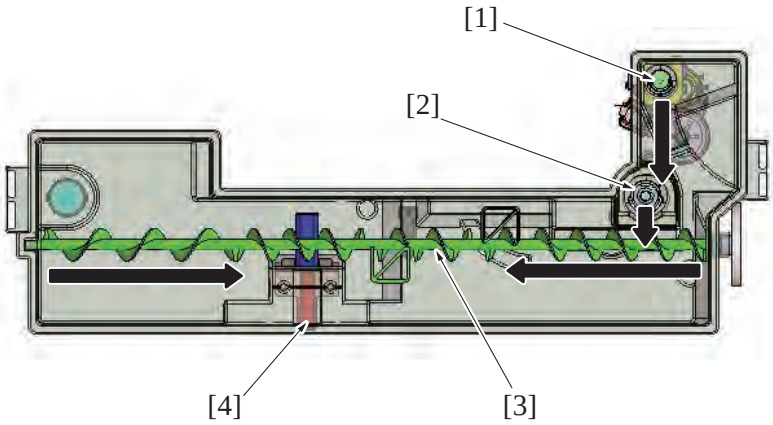


[1]	Transport motor (M1)	[2]	Registration clutch (CL4)
[3]	Registration roller	[4]	Waste toner box drive gear
[5]	Waste toner box	-	-

8.3 Operation

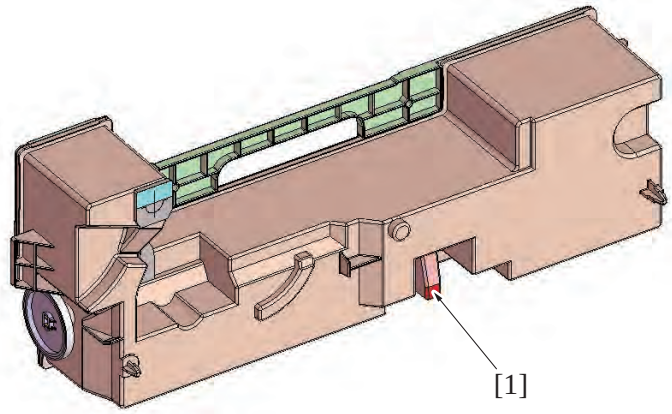
8.3.1 Control of waste toner conveyance through waste toner box

- Waste toner in the drum units and waste developer in the developing unit are conveyed into the waste toner box by the toner collecting screws.
- Waste toner and waste developer (waste carrier + waste toner) are collected through the toner collecting ports for the each units.
- Toner conveying screws are equipped inside the waste toner box.
- The toner conveying screws convey waste toner that has accumulated in the box uniformly onto the central portion of the box.



[1]	Toner collecting port (Drum unit)	[2]	Toner collecting port (Developing unit)
[3]	Toner conveying screw	[4]	Waste toner full condition detection window

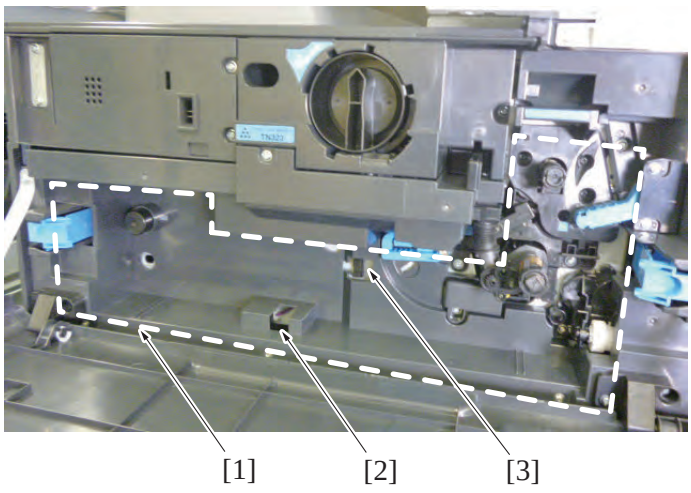
- There is a detection window for detecting a waste toner full condition provided at the central portion of the box. When the waste toner conveyed onto the central portion of the box exceeds a predetermined height, waste toner spills over the waste toner full condition detection section.



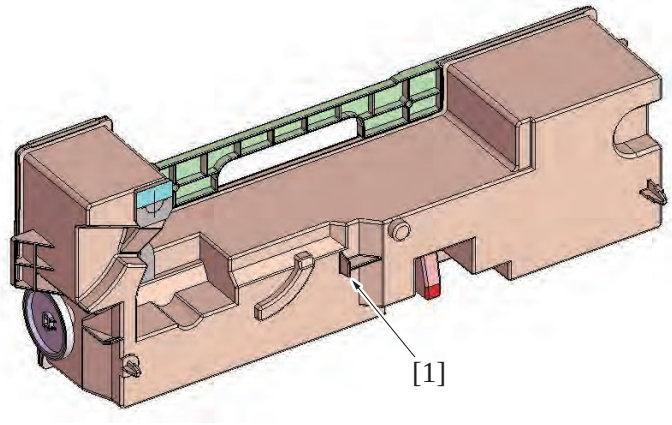
[1]	Waste toner full condition detection window	-	-

8.3.2 Waste toner box-in-position detection

- The waste toner box set sensor inside the front door detects the 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.
- When the waste toner box is removed, the waste toner box set sensor is unblocked, which causes the machine to determine that the waste toner box is yet to be mounted.
- The machine, on determining that the waste toner box is yet to be mounted in place, prohibits initiation of a new print cycle.
- When the waste toner box is mounted, the waste toner box set sensor is blocked, which causes the machine to determine that the waste toner box is mounted in place.
- The machine, on determining that the waste toner box is mounted in place, resets the waste toner box yet-to-be-mounted display, enabling initiation of a new print cycle.



[1]	Waste toner box set position	[2]	Waste toner full sensor (PS51)
[3]	Waste toner box set sensor (PS50)	-	-



[1]	Waste toner full box detection plate	-	-

(1) Execution timing

- The waste toner box full detection control is performed under any of the following conditions:
  “The power switch is turned ON”
  “The front door or right door is closed”

8.3.3 Waste toner box full detection

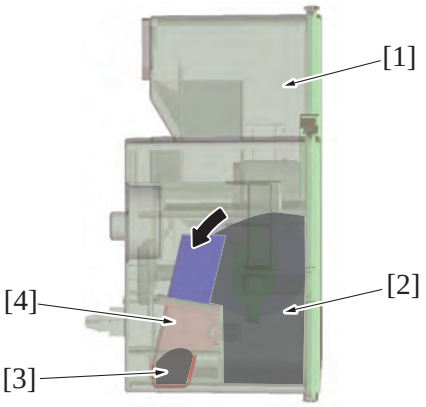
- The waste toner full sensor inside the front door is used to determine the amount of waste toner that is accumulated in the waste toner box.

(1) Waste toner near-full

- The toner conveying screw that is equipped in the waste toner box conveys waste toner into the central portion of the box.
- A detection window for detecting a waste toner full condition is equipped at the central portion of the waste toner box. When the waste toner conveyed onto the central portion of the box exceeds a predetermined height, waste toner spills over the waste toner full condition detection section.
- The machine determines that there is a waste toner near-full condition, if the waste toner full sensor is blocked by the waste toner stagnant over the waste toner full condition detection section for a predetermined period of time or longer.

(a) 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”



[1]	Waste toner box	[2]	Waste toner
[3]	Waste toner	[4]	Waste toner full condition detection window

(2) Waste toner full condition

- When a waste toner near-full condition is detected, 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 full condition.

(a) 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"

(3) Waste toner box life detection

Life detection	bizhub 367	bizhub 287	bizhub 227
Waste toner near-full	107,000 sheets	108,000 sheets	109,000 sheets
Waste toner full	110,000 sheets	110,000 sheets	110,000 sheets

NOTE
- **The number of printed pages represents a value calculated from the toner consumption recorded when the machine is used in the standard job mode. It varies depending on how the user uses the machine.**

(4) Waste toner near-full and full displays

- The waste toner near-full display is given if the waste toner full sensor is blocked by the waste toner stagnant over the waste toner full condition detection section for a predetermined period of time or longer (though initiation of a new print cycle is enabled).
- When the waste toner full detection counter reaches the threshold value, the waste toner full display appears (and initiation of a new print cycle is prohibited).

NOTE
- **The contents of the waste toner near-full and waste toner full displays vary depending on the settings made in Consumable Life Reminder of the Service Mode.**

8.3.4 Waste toner box new article detection

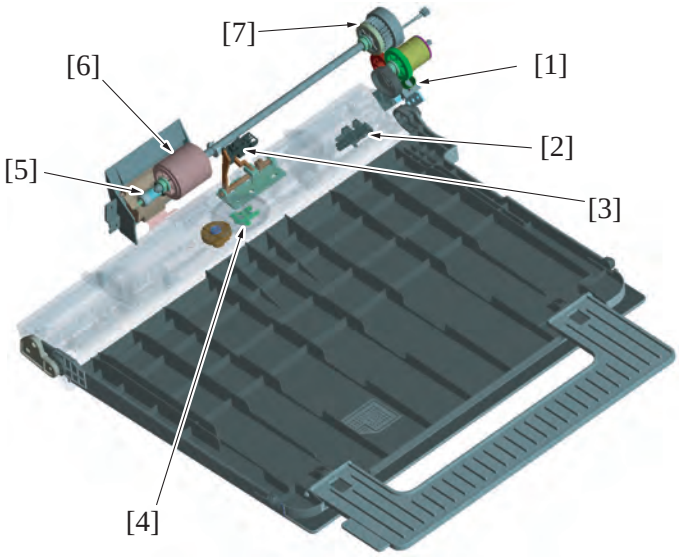
- The waste toner box is not provided with any new article detection mechanism. Detection made by the waste toner full sensor is used for detecting a new waste toner box.
- When the waste toner full display appears, the existing waste toner box is replaced with a new one. When the waste toner full sensor 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.

(1) 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"

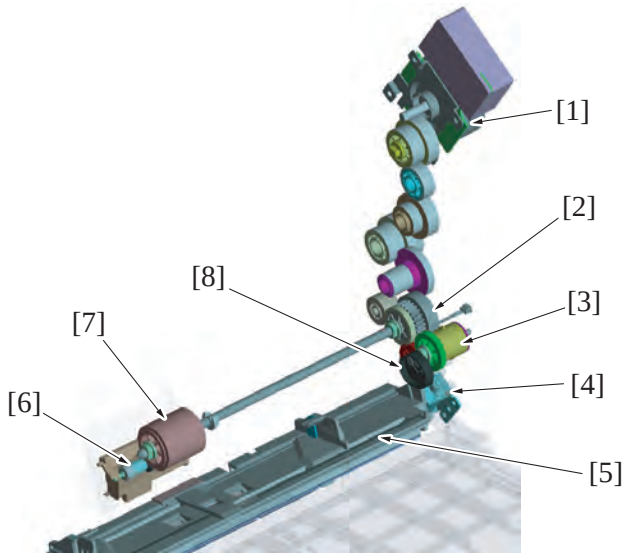
9. PAPER FEED SECTION (MANUAL BYPASS TRAY)

9.1 Configuration



[1]	Bypass pick-up solenoid (SD1)	[2]	Bypass tray position sensor (PS28)
[3]	Bypass paper empty sensor (PS27)	[4]	Bypass CD paper size sensor (VR1)
[5]	Manual bypass tray separation roller	[6]	Manual bypass tray feed roller
[7]	Bypass paper feed clutch (CL7)	-	

9.2 Drive

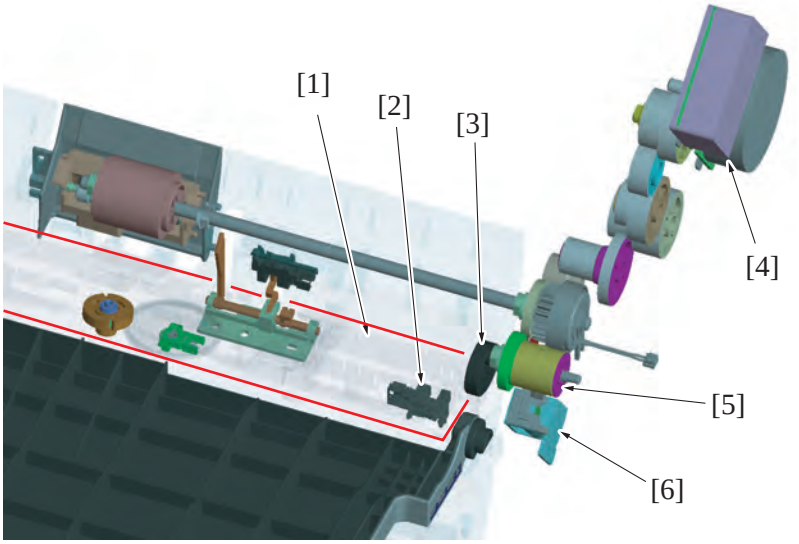


[1]	Transport motor (M1)	[2]	Bypass paper feed clutch (CL7)
[3]	Paper lift-up plate clutch (mechanical)	[4]	Bypass pick-up solenoid (SD1)
[5]	Paper lift-up plate	[6]	Manual bypass tray separation roller
[7]	Manual bypass tray feed roller	[8]	Paper lift-up cam

9.3 Operation

9.3.1 Up/down control

- The paper lift-up plate is moved up and down by the transport motor.



[1]	Paper lift-up plate	[2]	Bypass tray position sensor (PS28)
[3]	Paper lift-up cam	[4]	Transport motor (M1)
[5]	Paper lift-up plate clutch (mechanical)	[6]	Bypass pick-up solenoid (SD1)

(1) Move to paper feed position (up)

(a) Up operation

- When the bypass pick-up solenoid is energized at a predetermined time as the transport motor rotates, the paper lift-up plate clutch lock is released. Thus the driving force of the transport 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.

(b) Up operation timing

- At the start of a manual bypass paper feed sequence, the paper lift-up plate is raised to the paper feed position.
- The bypass pick-up solenoid stops when the predetermined time has elapsed and the paper lift-up plate stops at the feed position.
- A bypass tray position sensor actuator is equipped in the paper lift-up plate.
- If the paper lift-up plate rises and bypass tray position sensor becomes unblocked, the paper lift-up plate is detected to rise to the paper feed position.
- If the bypass tray position sensor remains unblocked even after the bypass pick-up solenoid stopped, the paper lift-up plate is detected to be 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.

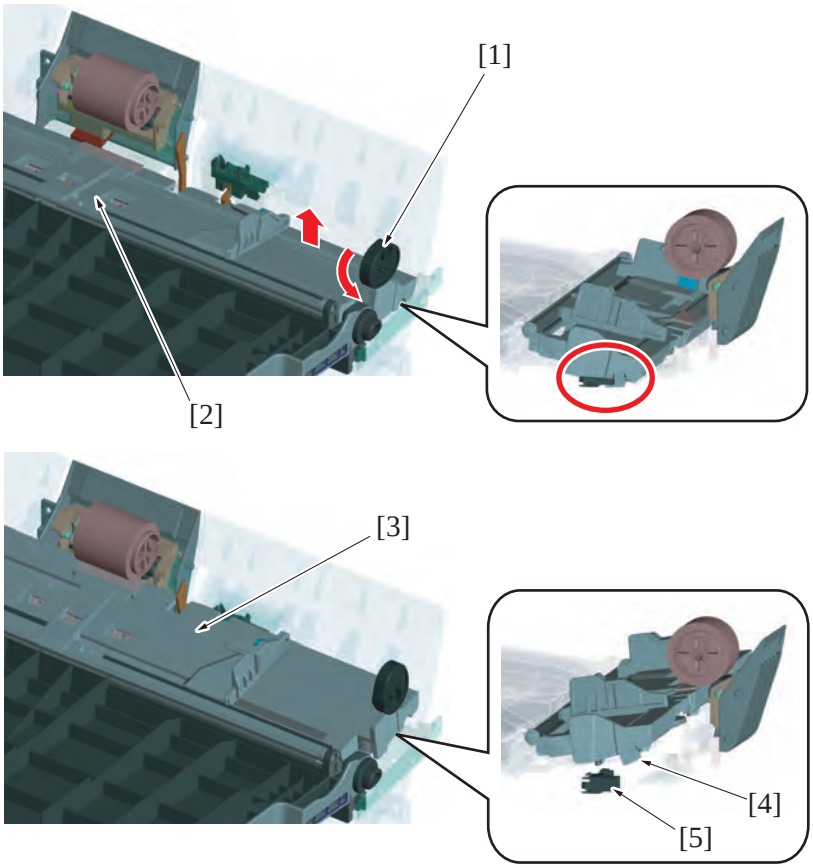
(2) Move to standby position (down)

(a) Down operation

- When the bypass pick-up solenoid is energized at a predetermined time as the transport motor rotates, the paper lift-up cam rotates. The cam pushes up the paper lift-up plate to the standby position.

(b) Down operation timing

- 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 transport motor rotates stably after the misfeed is cleared, the paper lift-up plate is lowered to the standby position.
- The bypass pick-up solenoid stops when the predetermined time has elapsed and the paper lift-up plate stops at the standby position.
- When the paper lift-up plate is lowered down, the actuator that is equipped in the paper lift-up plate blocks the bypass tray position sensor.
- If the bypass tray position sensor remains blocked even after the bypass pick-up solenoid stopped, the paper lift-up plate is detected to be at the standby position.

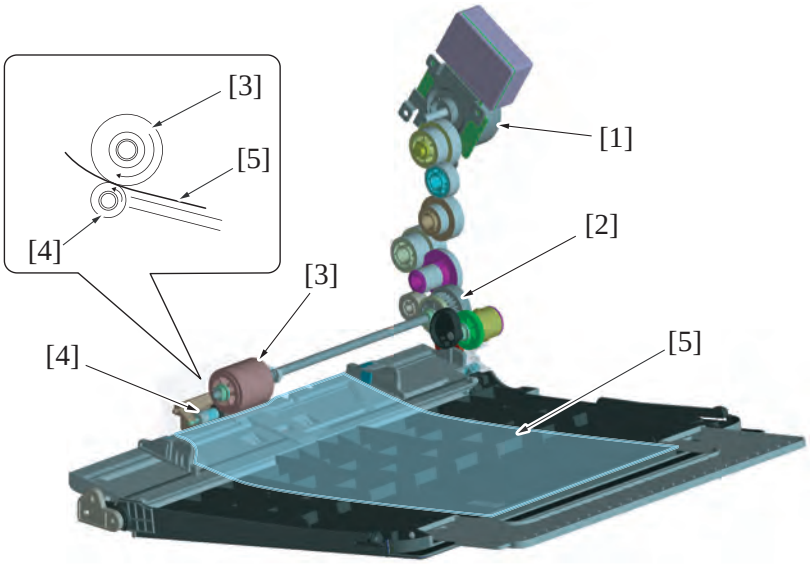


[1]	Paper lift-up cam	[2]	Paper lift-up plate (standby position)
[3]	Paper lift-up plate (paper feed position)	[4]	Actuator
[5]	Bypass tray position sensor (PS28)	-	-

9.3.2 Paper feed control

(1) Pick-up control

- Paper feed operations of the manual bypass tray are driven by the transport motor.
- The bypass pick-up solenoid is energized by a print start signal and the paper is raised to the paper feed position.
- After the paper is raised to the paper feed position, the bypass paper feed clutch is energized.
- When the bypass paper feed clutch is energized, the drive from the transport motor is transmitted to the 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 paper feed clutch is deenergized to stop the manual bypass tray paper feed roller from rotating.
- The bypass pick-up solenoid is energized and the paper is lowered to the standby position.



[1]	Transport motor (M1)	[2]	Bypass paper feed clutch (CL7)
[3]	Manual bypass tray feed roller	[4]	Manual bypass tray separation roller

[5]	Paper	-	-

(2) Separation control

- The manual bypass tray separation roller is pressed up against, and driven by, the manual bypass tray feed roller. A torque limited is 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.

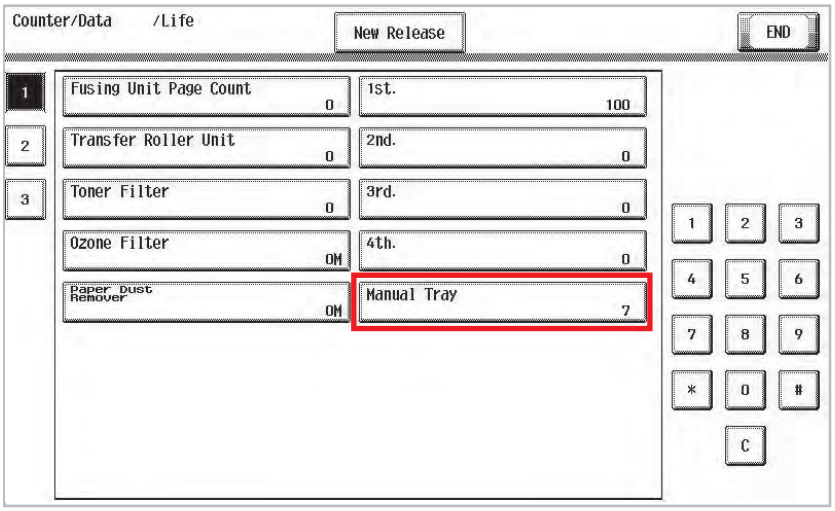
(3) Paper feed retry control

- A paper misfeed is considered if the sensor cannot detect the paper at the paper feed port, even after a predetermined time from starting paper feed.
- If a paper misfeed is detected, the feed roller is again rotated after being temporarily stopped and the paper feed is repeated (retry).
- If the corresponding sensor is still unable to detect the paper, it will be considered as a paper misfeed at paper feed section.
- The paper feed retry is only performed once.

Paper port	Corresponding sensor name	Paper feed retry control
Manual bypass tray	Registration sensor	Execute
Tray 1		Execute
Tray 2	Tray 2 vertical transport sensor	Execute
Tray 3 (Option: PC-113/213)	Tray 3 vertical transport sensor	Execute
Tray 4 (Option: PC-413)	Tray 4 vertical transport sensor	Execute
LCT (Option: PC-413)	Vertical transport sensor	Execute

(4) Periodical replacement parts

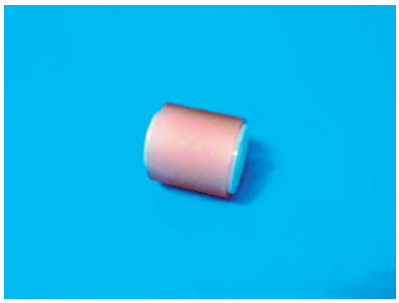
- The manual bypass tray feed roller and manual bypass tray separation roller are periodical replacement parts. These two rollers must be replaced with new ones at the same time.
- Neither the manual bypass tray feed roller nor manual bypass tray separation roller is provided with a new article detection mechanism. When the two rollers are replaced with new ones, the “Manual Tray” counter must be reset to zero using “Counter/Life” of the Service Mode.
- The number of times the manual bypass tray has been subjected to paper feed operations can be checked with the “Manual Tray” counter of the Service Mode.



Periodical replacement cycle	Paper feed operations 200,000 times

- For details of the applicable replacement procedures for the manual bypass tray feed roller and manual bypass tray separation roller and the Service Mode, see “F.6.7.3 Replacing the manual bypass tray feed roller, manual bypass tray separation roller assy”.

Manual bypass tray feed roller

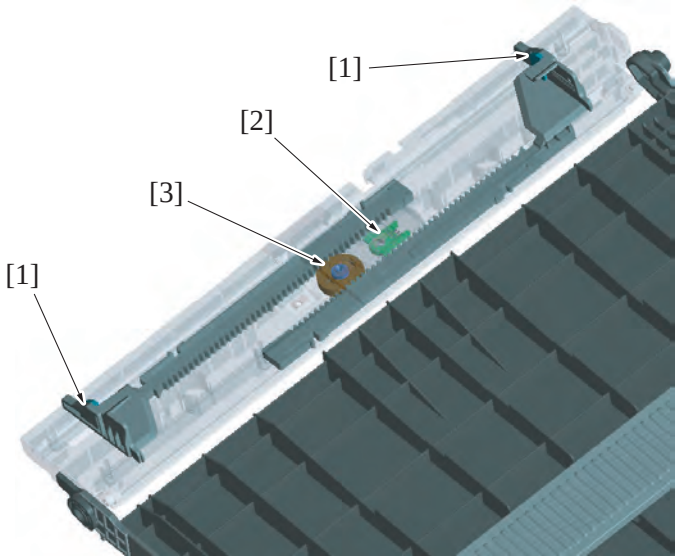


Manual bypass tray separation roller assy



9.3.3 Paper size detection control

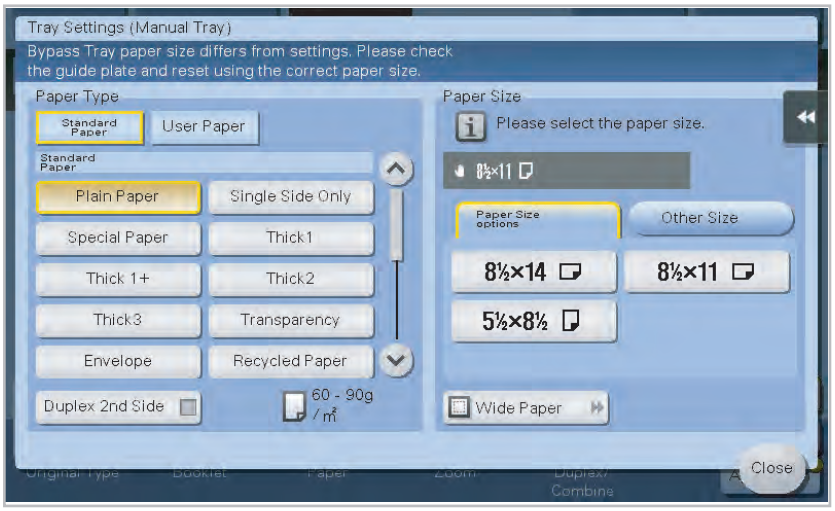
- The length of the paper feeding direction is not detected.
- The bypass CD paper size sensor detects the standard size paper in the paper width direction.
- Through the movement of the paper guide, the size detection gear rotates and the bypass CD paper size sensor rotates together with the gear.
- The paper width is calculated depending on the value that is obtained from the rotation of the bypass CD paper size sensor.



[1]	Paper guide	[2]	Bypass CD paper size sensor (VR1)
[3]	Size detection gear		-

(1) Paper size setting

- The candidate paper size which corresponds to the detected paper width by the bypass CD paper size sensor is displayed on the control panel.
  The candidate paper size is displayed when the paper is placed and the bypass paper empty sensor becomes unblocked.
- Select and determine the size of paper that you have loaded, from the paper sizes that are displayed on the control panel.
- Select the paper size from the control panel to reduce paper misfeed due to misfitting of the paper guide or mismatched paper sizes.
- Irregular paper sizes and postcard can be used by entering the size.



(2) Paper size candidate

For Japan/Europe models

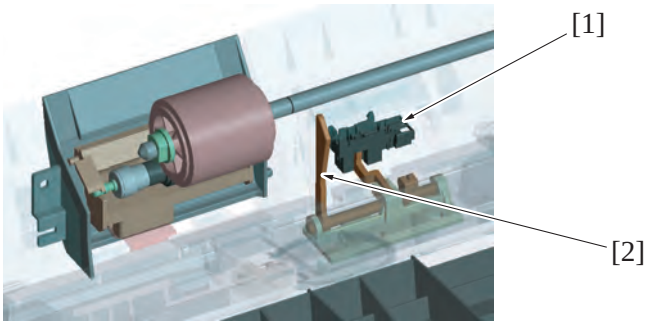
Bypass CD paper size sensor detection width Unit: mm	Paper size options
Less than 95.0	No size candidate
95.0 to 115.0	A6S
Above 115.0 and under 118.0	No size candidate
118.0 or above and under 138.0	B6S
138.0	B6S, A5S
Above 138.0 and 158.0 or below	A5S
Above 158.0 and under 172.0	No size candidate
172.0 to 192.0	B5S
Above 192.0 and under 200.0	No size candidate
200.0 to 220.0	A5, A4S
Above 220.0 and under 247.0	No size candidate
247.0 to 267.0	B5, B4S
Above 267.0 and under 287.0	No size candidate
287.0 to 307.0	A4, A3S
Over 307.0	No size candidate

For North America models

Bypass CD paper size sensor detection width Unit: mm	Paper size options
Under 129.7	No size candidate
129.7 to 149.7	5 $^{1}/_{2}$×8 $^{1}/_{2}$ S (Invoice S)
Above 149.7 and under 174.2	No size candidate
174.2 to 194.2	7 $^{1}/_{4}$×10 $^{1}/_{2}$ S (Executive S)
Above 194.2 and under 205.9	No size candidate
205.9 to 225.9	5 $^{1}/_{2}$×8 $^{1}/_{2}$ (Invoice), 8 $^{1}/_{2}$×11 S (Letter S), 8 $^{1}/_{2}$×14 S (Legal S)
Above 225.9 and under 256.7	No size candidate
256.7 or above and under 269.4	7 $^{1}/_{4}$×10 $^{1}/_{2}$ (Executive)
269.4 to 276.7	7 $^{1}/_{4}$×10 $^{1}/_{2}$ (Executive), 8 $^{1}/_{2}$×11 (Letter), 11×17 S (Ledger S)
Above 276.7 and 289.4 or below	8 $^{1}/_{2}$×11 (Letter), 11×17 S (Ledger S)
Over 284.9	No size candidate

9.3.4 Paper empty detection control

- When the paper is loaded in the manual bypass tray, the leading edge of the paper presses the paper empty detection actuator.
- The paper empty detection actuator is pressed to unblock the bypass paper empty sensor.
- When there is no paper on the manual bypass 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.

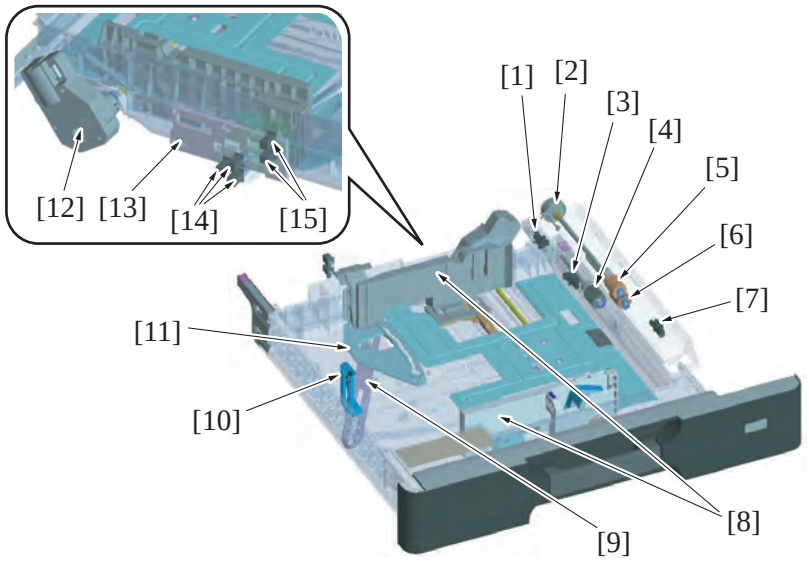


[1]	Bypass paper empty sensor (PS27)	[2]	Actuator

10. PAPER FEED SECTION

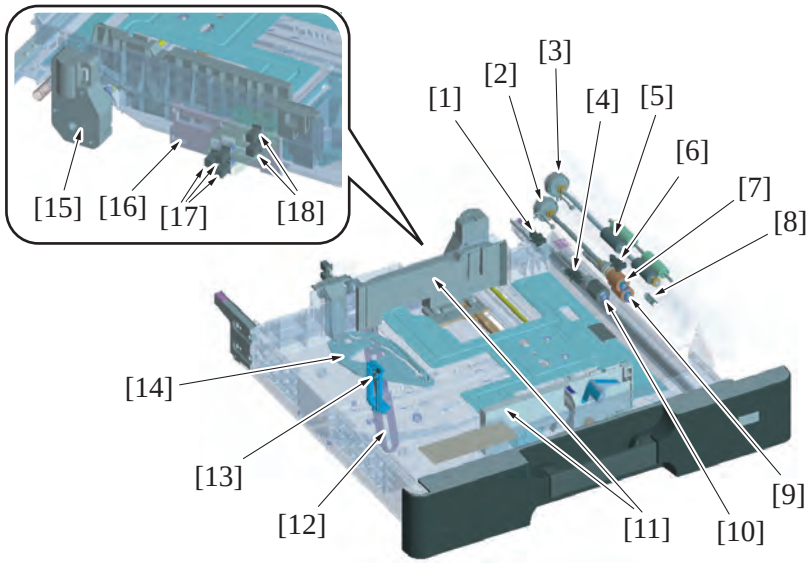
10.1 Configuration

10.1.1 Tray 1



[1]	Tray 1 paper empty sensor (PS23)	[2]	Tray 1 paper feed clutch (CL3)
[3]	Tray 1 upper limit sensor (PS22)	[4]	Tray 1 pick-up roller
[5]	Tray 1 feed roller	[6]	Tray 1 separation roller
[7]	Tray 1 paper feed sensor (PS21)	[8]	Paper width guide
[9]	FD size detection lever/1	[10]	Paper length guide
[11]	CD size detection lever	[12]	Tray 1 lift-up motor (M12)
[13]	FD size detection lever/2	[14]	Tray 1 FD paper size switch
[15]	Tray 1 CD paper size switch	-	-

10.1.2 Tray 2

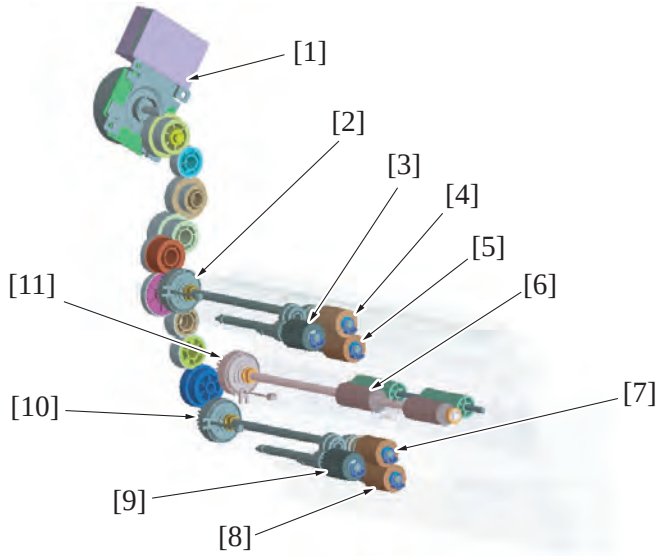


[1]	Tray 2 paper empty sensor (PS26)	[2]	Tray 2 paper feed clutch (CL1)
[3]	Tray 2 vertical transport clutch (CL2)	[4]	Tray 2 upper limit sensor (PS25)
[5]	Vertical transport roller	[6]	Tray 2 vertical transport sensor (PS19)
[7]	Tray 2 feed roller	[8]	Tray 2 paper feed sensor (PS24)
[9]	Tray 2 separation roller	[10]	Tray 2 pick-up roller
[11]	Paper width guide	[12]	FD size detection lever/1
[13]	Paper length guide	[14]	CD size detection lever
[15]	Tray 2 lift-up motor (M13)	[16]	FD size detection lever/2
[17]	Tray 2 FD paper size switch	[18]	Tray 2 CD paper size switch

10.2 Drive

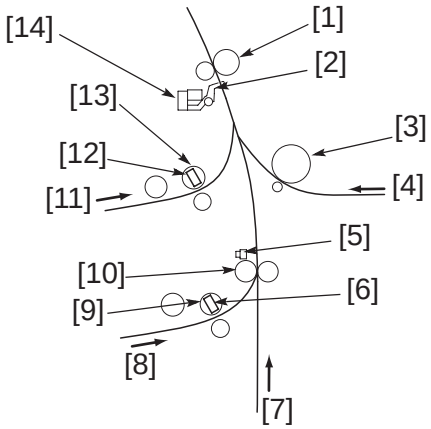
10.2.1 Drive

- Drive parts are arranged in the same way in tray 1 and tray 2. If the description that follows is not identified with tray 1 or tray 2, it is applicable to both tray 1 and tray 2 in terms of mechanism and control.
- Transport motor drives the tray1 and 2 paper feed roller section.
- The drive section of each tray has a clutch that controls rotation of the paper feed roller section.



[1]	Transport motor (M1)	[2]	Tray 1 paper feed clutch (CL3)
[3]	Tray 1 pick-up roller	[4]	Tray 1 feed roller
[5]	Tray 1 separation roller	[6]	Vertical transport roller
[7]	Tray 2 feed roller	[8]	Tray 2 separation roller
[9]	Tray 2 pick-up roller	[10]	Tray 2 paper feed clutch (CL1)
[11]	Tray 2 vertical transport clutch (CL2)	-	-

10.2.2 Layout of sensors and rollers



[1]	Registration roller	[2]	Actuator of registration roller
[3]	Manual bypass tray feed roller	[4]	Paper feeding from manual bypass tray
[5]	Tray 2 vertical transport sensor (PS19)	[6]	Tray 2 paper feed sensor (PS24)
[7]	Paper feeding from optional paper feed unit	[8]	Paper feeding from tray 2
[9]	Tray 2 feed roller	[10]	Tray 2 vertical transport roller
[11]	Paper feeding from tray 1	[12]	Tray 1 paper feed sensor (PS21)
[13]	Tray 1 paper feed roller	[14]	Registration sensor (PS1)

10.3 Operation

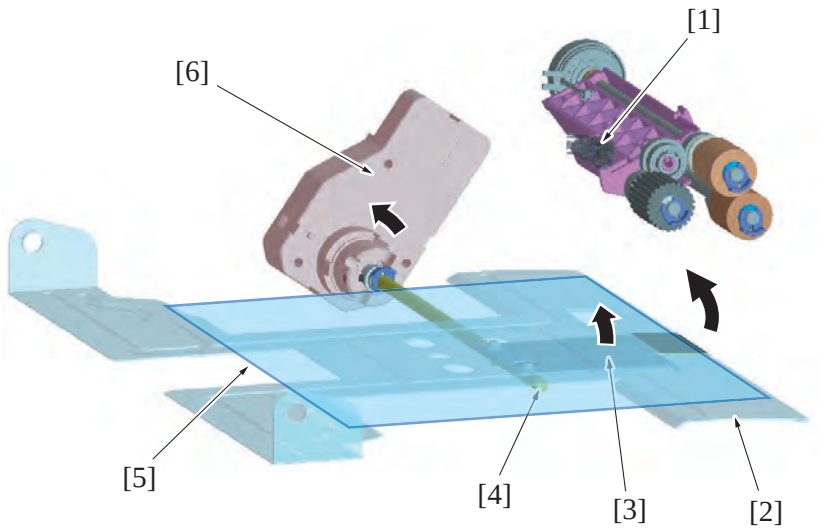
10.3.1 Up/down control

- 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 drive shaft of the tray 1/2 lift-up motor is connected to paper lift-up plate B.

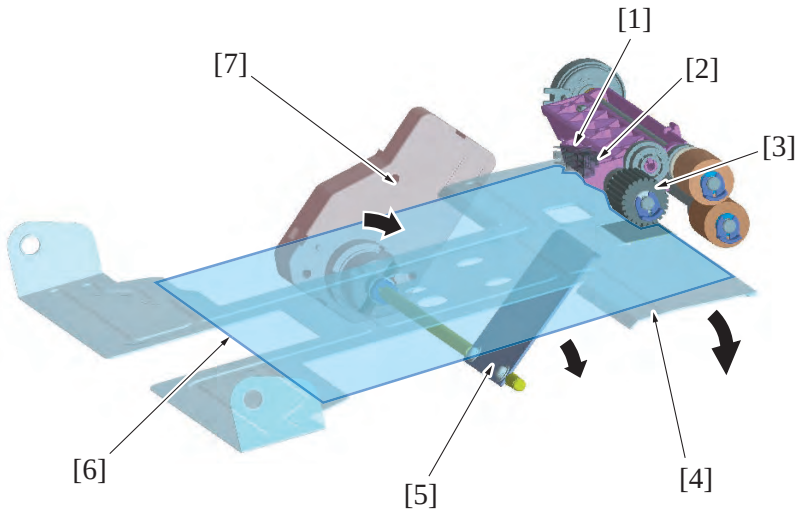
- When the drive shaft of the tray 1/2 lift-up motor rotates, paper lift-up plate B raises paper lift-up plate A.



[1]	Tray 1 upper limit sensor (PS22) Tray 2 upper limit sensor (PS25)	[2]	Paper lift-up plate A
[3]	Paper lift-up plate B	[4]	Lift-up plate drive shaft
[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 drive shaft are disconnected from each other.
- When the driving force of tray 1/2 lift-up motor is released from the lift-up plate drive shaft, the paper lift-up plate starts lowering by its own weight.



[1]	Tray 1 upper limit sensor (PS22) Tray 2 upper limit sensor (PS25)	[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, either of the tray 1/2 FD/CD paper size switches turns ON. 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 paper lift-up plate up operation starts, 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, all the tray 1/2 FD/CD paper size switches will turn OFF. As a result, the up operation 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.

10.3.2 Paper feed control

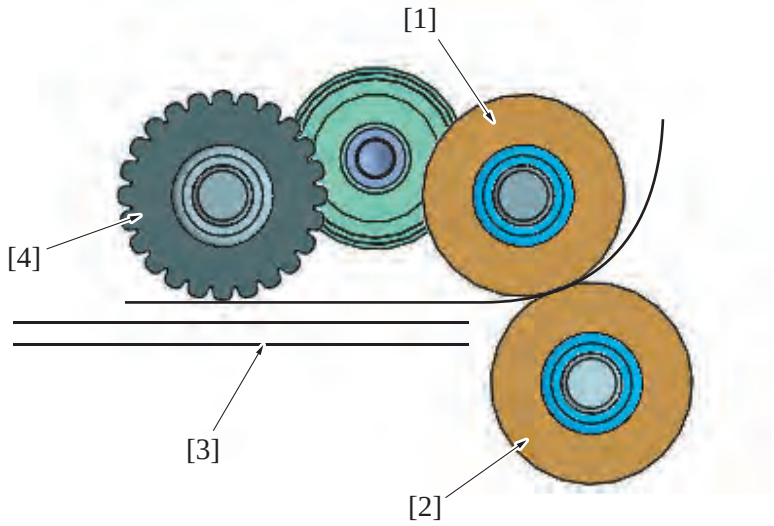
- Tray 1 and tray 2 are controlled in the same control procedure.

(1) 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.

(2) 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

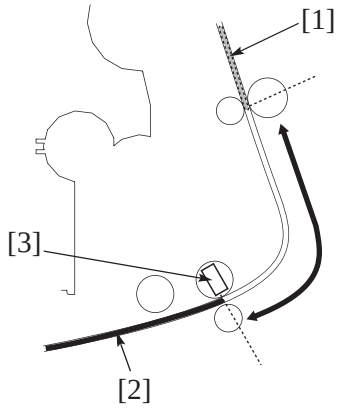
(3) Paper feed retry control

- A paper misfeed is considered if the sensor cannot detect the paper at the paper feed port, even after a predetermined time from starting paper feed.
- If a paper misfeed is detected, the feed roller is again rotated after being temporarily stopped and the paper feed is repeated (retry).
- If the corresponding sensor is still unable to detect the paper, it will be considered as a paper misfeed at paper feed section.
- The paper feed retry is only performed once.

Paper feed retry control	Paper port	Sensor name
○	Manual bypass tray	Registration sensor
○	Tray 1	
○	Tray 2	Tray 2 vertical transport sensor
○	Tray 3 (Option: PC-113/213)	Tray 3 vertical transport sensor
○	Tray 4 (Option: PC-413)	Tray 4 vertical transport sensor
○	LCT (Option: PC-413)	Vertical transport sensor

(4) 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.
- The feed roller speed reduction control is performed during paper feed from tray 1 and tray 2.
- 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.



[1]	Preceding sheet	[2]	Sheet of paper being controlled
[3]	Paper feed sensor	-	-

(5) 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.
- The vertical transport roller speed reduction control is performed during paper feed from tray 3, tray 4, or LCT.
- 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.

(6) Paper feed control

(a) 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 fed from the feed roller.
- The paper is fed from the feed roller, moves past the registration roller and reaches a predetermined position, the tray 1 paper feed clutch turns off. It disconnects the driving force of the transport motor. The pick-up roller and feed roller follow the movement of the paper, continuing rotating. The pick-up roller and feed roller stop rotating as soon as the paper moves past them.
- If the registration sensor cannot detect paper even after the lapse of a predetermined time, it will be considered as a paper misfeed in tray 1.

(b) 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 that is located downstream of the tray 2 vertical transport roller along the paper path turns ON and reaches a predetermined position. The tray 2 paper feed clutch will turn off and it disconnects the driving force of the transport motor. The pick-up roller and feed roller follow the movement of the paper, continuing rotating. The pick-up roller and feed roller stop rotating as soon as the paper moves past them.
- If the tray 2 vertical transport sensor cannot detect the leading edge of paper even after a predetermined time, it will be considered as a paper misfeed in tray 2.

(7) Paper misfeed display

- When a paper misfeed occurs, a warning screen informing the occurrence of a paper misfeed is displayed on the control panel.



NOTE

- **The settings to display or not to display the JAM code in paper misfeed display can be changed in the "System 2 / JAM Code Display Setting" in the Service Mode.**

(8) Downstream exit control during multi-print cycle

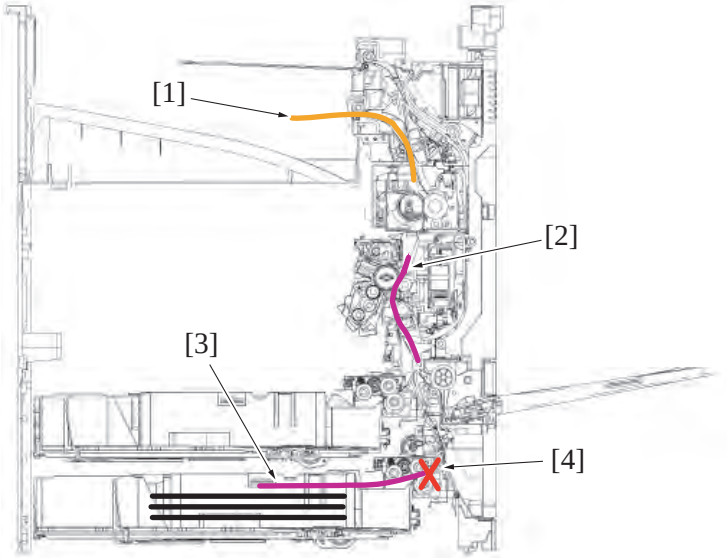
- The following terms are used for convenience' sake throughout this chapter.
  Upstream: Refers to the source side of paper supply relative to the paper feeding direction
  Downstream: Refers to the destination side of paper transport relative to the paper feeding direction
- If a paper misfeed occurs at the paper feed section which is upstream in paper transport, the print cycle is not brought to an immediate stop; rather, the machine allows a sheet of paper, for which the print cycle is to be completed at a downstream side, to continue undergoing the current print cycle and feeds the printed page out after completion of the current print cycle.

(a) Types of paper misfeed governed by downstream exit control

Misfeed at tray 1 paper feed section	Misfeed at manual bypass tray paper feed section
Misfeed at tray 2 paper feed section	Misfeed at LCT paper feed section
Misfeed at tray 3 paper feed section	Misfeed at vertical transport section
Misfeed at tray 4 paper feed section	-

(b) 1-sided printing

- In consecutive 1-sided printing, the paper causes a jamming at the paper feed tray section.
- 1st sheet after an image transfer is remained at the paper exit section.
- 2nd sheet before an image transfer is remained at the transfer section and the vertical transport section.

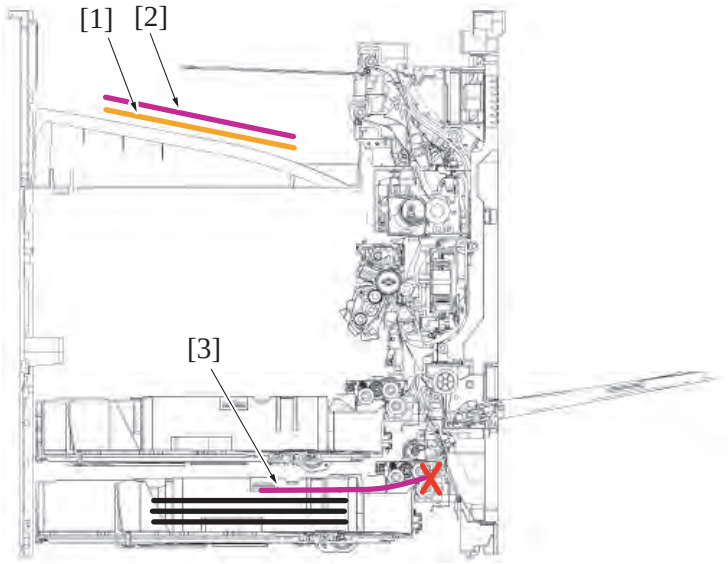


[1]	Sheet after a 1-sided image transfer	[2]	Sheet before a 1-sided image transfer
[3]	Jamming paper	[4]	Jamming

Operation

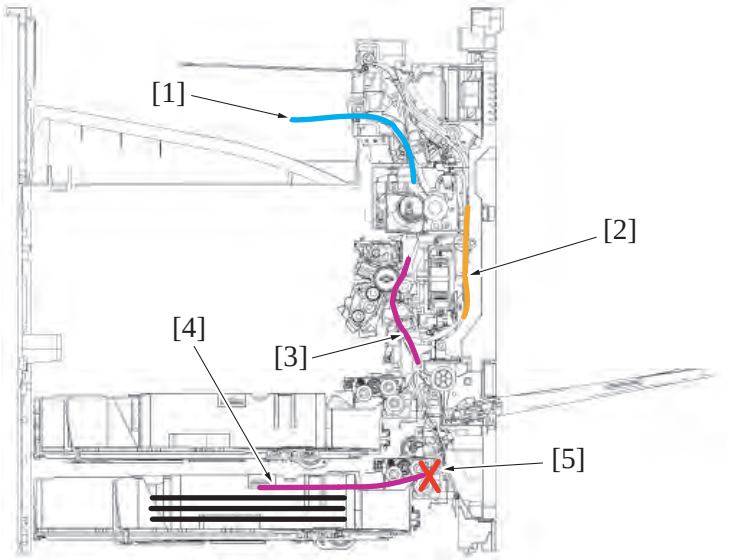
1. Stop feed/transport operation for jamming paper [3].
2. Exit paper [1].

3. Transfer and fuse image onto, and exit, sheet [2].



(c) 2-sided printing

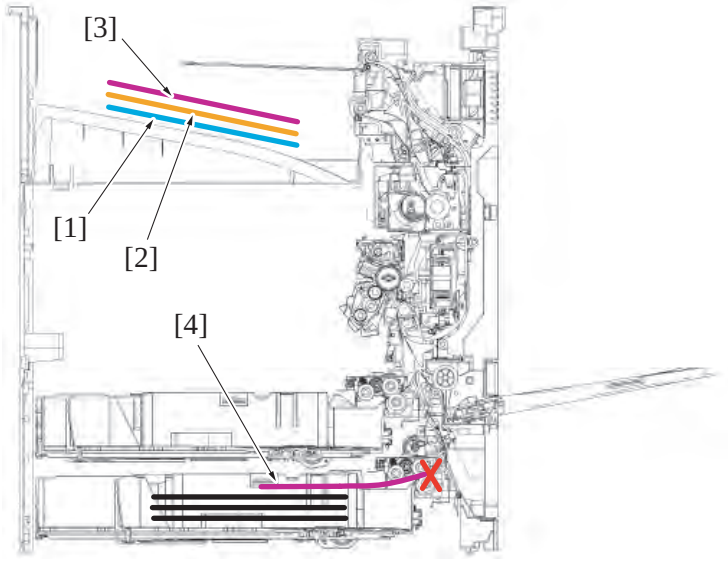
- In consecutive 2-sided printing, the paper causes a jamming at the paper feed tray section.
- One sheet after a 2-sided image transfer is remained at the paper exit section.
- One sheets before a 1-sided image fusing is remained at the duplex section.
- One sheet before an image transfer is remained at the vertical transport section and the registration section.



[1]	Sheet after a 2-sided image transfer	[2]	Sheet after a 1-sided image transfer
[3]	Sheet before a 1-sided image transfer	[4]	Jamming paper
[5]	Jamming	-	-

Operation

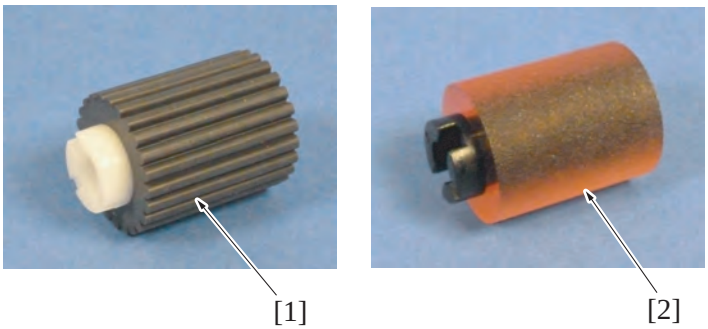
1. Stop feed/transport operation for jamming paper [4].
2. Exit paper [1].
3. Transfer and fuse 2-side image onto, and exit, sheet [2] located at the duplex section.
4. Print 2-side image onto, and exit, sheet [3] located before image transfer.



(9) Periodical replacement parts

- The pick-up roller, feed roller, and separation roller are periodical replacement parts. These three rollers must be replaced with new ones at the same time.
- None of the pick-up roller, feed roller, and separation roller is provided with a new article detection mechanism. When the three rollers are replaced with new ones, the “1st.” or “2nd.” counter must be reset to zero using “Counter/ Life” of the Service Mode.
- The number of times tray 1/tray 2 has been subjected to paper feed operations can be checked with the “1st./2nd.” counter of the Service Mode.

Periodical replacement cycle	Paper feed operations 300,000 times

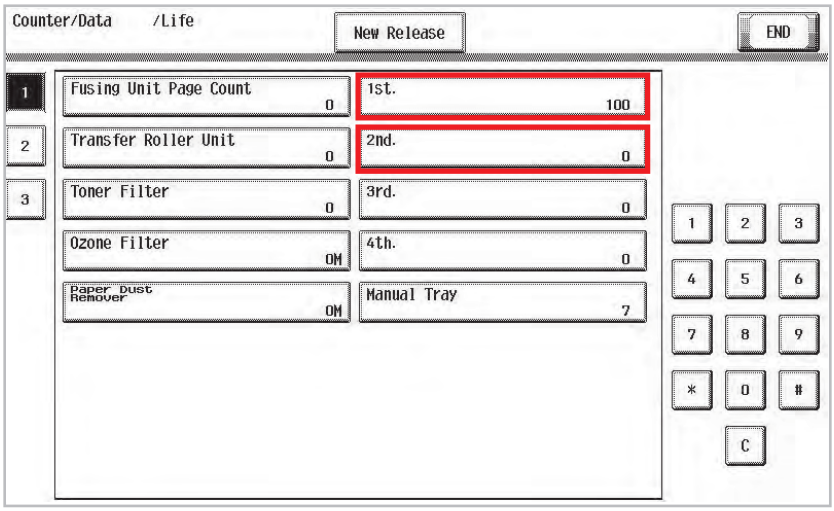


[1] Pick-up roller	[2] Feed roller/Separation roller

- To improve exchangeability, the pick-up roller, feed roller, and separation roller are held in position on one side. At the time of replacement, remove the tray and remove the C-clip on one side. It allows each of the three rollers to be removed.
- For details of the applicable replacement procedures for the pick-up roller, feed roller, and separation roller and the Service Mode, see “F.6.7.1 Replacing the tray 1 feed roller, tray 1 pick-up roller, tray 1 separation roller” and “F.6.7.2 Replacing the tray 2 feed roller, tray 2 pick-up roller, tray 2 separation roller.”

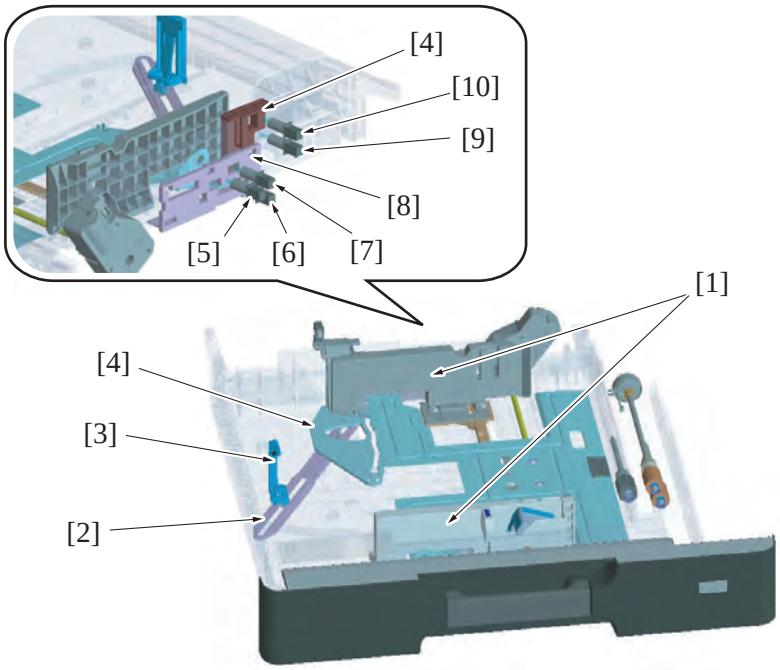
(a) Tray paper feed counter

- The number of time that the paper feed operation is performed in each tray can be confirmed from "1st." of "Service Mode / Counter / Life". It can also be confirmed from the counter of "2nd.".



10.3.3 Paper size detection control

- Tray 1 and tray 2 are controlled in the same control procedure.
- Paper size is determined based on the combination of the paper width that is detected by the 2 CD paper size switches and the paper length that is detected by the 3 FD paper size switches.

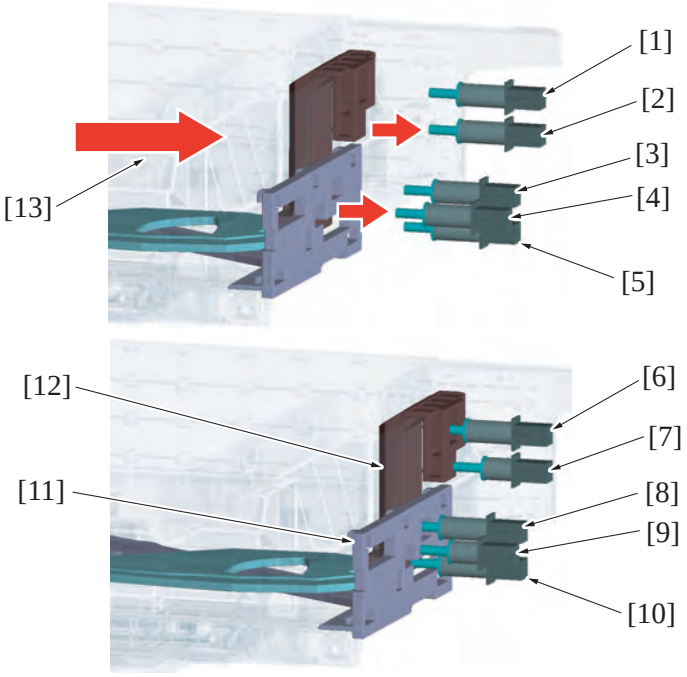


[1]	Paper width guide	[2]	FD size detection lever/1
[3]	Paper length guide	[4]	CD size detection lever
[5]	Tray 1 FD paper size switch/3 (SW9) Tray 2 FD paper size switch/3 (SW14)	[6]	Tray 1 FD paper size switch/2 (SW8) Tray 2 FD paper size switch/2 (SW13)
[7]	Tray 1 FD paper size switch/1 (SW7) Tray 2 FD paper size switch/1 (SW12)	[8]	FD size detection lever/2
[9]	Tray 1 CD paper size switch/2 (SW6) Tray 2 CD paper size switch/2 (SW11)	[10]	Tray 1 CD paper size switch/1 (SW5) Tray 2 CD paper size switch/1 (SW10)

(1) Detection method

1. Open the tray and load the paper.
2. Adjust the paper width guide and paper length guide according to the loaded paper.
3. The position of the CD size detection lever will change with the paper width guide. The position of the FD size detection lever/2 will change with the paper length guide.
4. When the tray is slid into the machine, the CD size detection lever pushes the CD paper size switches. The FD size detection lever/2 pushes the FD paper size switches to turn them ON.
5. A slit is equipped to each size detection lever. If the position of the slits and the paper size switches overlapped, the switches are turned OFF without pressing the paper size switch.

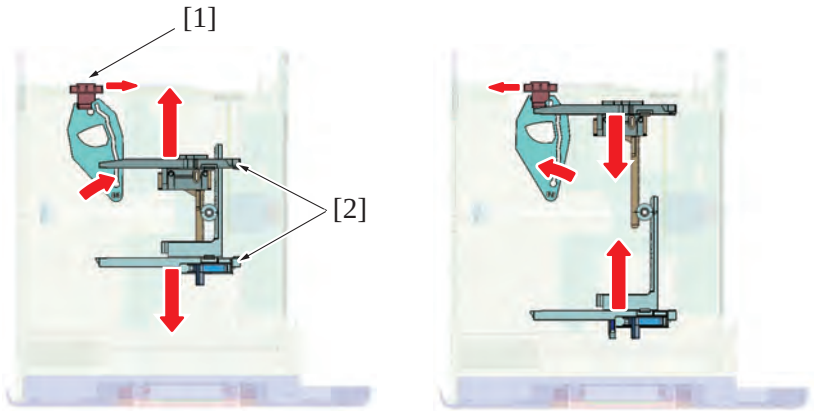
6. The status of the CD paper size switch changes and the size in paper width direction is detected with the CD size detection lever position. The status of the FD paper size switch changes and the size in paper feeding direction is detected with the FD size detection lever/2 position.
7. The size of the loaded paper is determined based on the detected size in paper width direction and the length in paper feeding direction.



[1]	CD paper size switch/1 (OFF)	[2]	CD paper size switch/2 (OFF)
[3]	FD paper size switch/1 (OFF)	[4]	FD paper size switch/3 (OFF)
[5]	FD paper size switch/2 (OFF)	[6]	CD paper size switch/1 (OFF)
[7]	CD paper size switch/2 (ON)	[8]	FD paper size switch/1 (OFF)
[9]	FD paper size switch/3 (ON)	[10]	FD paper size switch/2 (OFF)
[11]	FD size detection lever/2	[12]	CD size detection lever
[13]	Sliding the paper feed tray into the machine	-	-

(2) Paper width direction

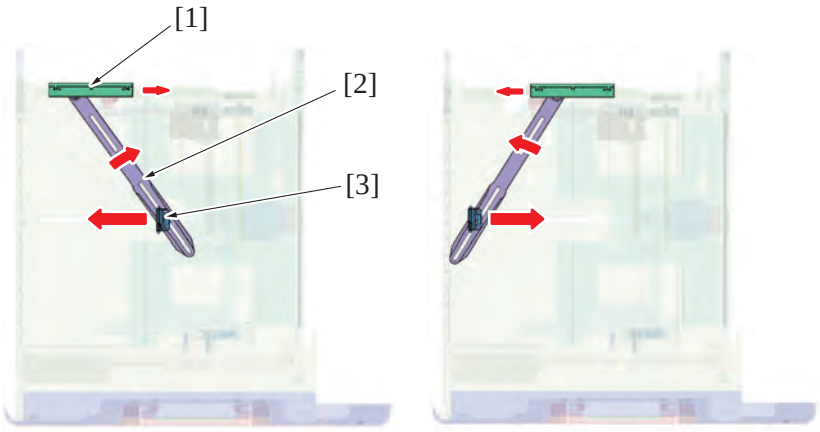
- The size in paper width direction is detected with the ON/OFF combination of push switch 1 and 2 that are equipped behind the tray.
- The status of the CD paper size switch is changed through the CD size detection lever that is linked with the paper width guide.
- The CD paper size switch also detects whether the tray is mounted or not.



[1]	CD size detection lever	[2]	Paper width guide

(3) Paper feeding direction

- The length of the paper is detected with the ON/OFF combination of push switch 1 to 3 that are equipped behind the tray.
- The status of FD paper size switch 1 to 3 is changed through the FD size detection lever that is linked with the paper length guide.
- The FD paper size switch also detects whether the tray is mounted or not.



[1]	FD size detection lever/2	[2]	FD size detection lever/1
[3]	Paper length guide	-	-

(4) Paper size determination

Detected sizes list

Paper size	FD paper size switch			CD paper size switch	
	Switch/3	Switch/2	Switch/1	Switch/2	Switch/1
A3 (*1)	H	H	H	L	H
B4	H	L	L	H	L
A4S	H	H	H	H	H
A4	H	H	L	L	H
B5S	H	H	L	H	H
B5	L	H	H	H	L
A5S, 5 1/2×8 1/2 S (Invoice S) (*2)	H	H	L	L	L
Ledger (11×17) (*1)	H	H	H	H	L
Legal (8 1/2x14)	H	L	L	H	H
8 1/2×11 S (Letter S)	H	L	H	H	H
Letter (8 1/2x11)	H	H	L	H	L
FLS S (*3)	L	L	H	H	H
8K S (*1) (270 mm × 390 mm)	H	L	H	H	L
16K (270 mm × 195 mm)	L	H	L	H	L

*1: 11x17, A3, 8KS are only available for tray 2.
*2: For regions using inches, Invoice S size is detected. For other regions, A5S size is detected.
*3: One of the following paper sizes can be selected to be set for FLS. 8 1/2×13 1/2, 8×13, 8 1/4×13, 8 1/2×13

Sensor states

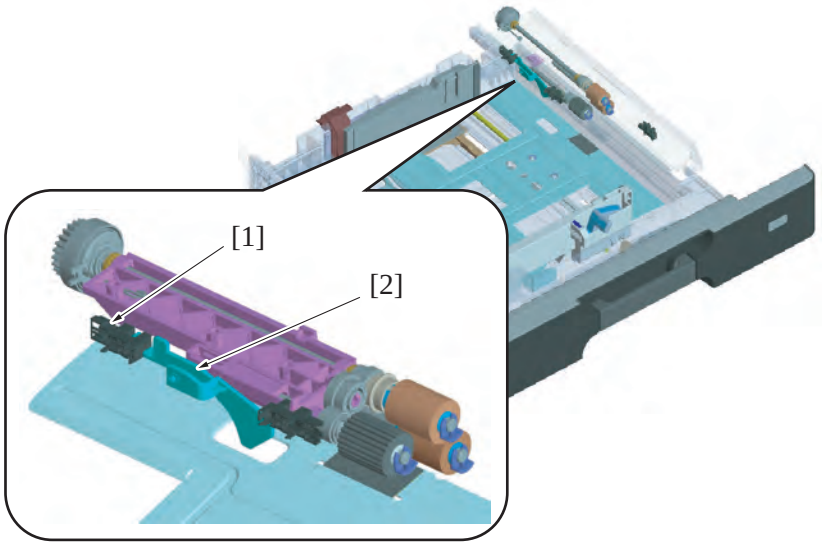
Sensor	Physical state	
	HIGH signal	LOW signal
FD paper size switch/1 to 3	Pressed	Released
CD paper size switch/1 or 2		

10.3.4 Remaining paper detection control

- There is no built-in mechanism to detect the remaining paper.

10.3.5 Paper empty detection control

- Tray 1 and tray 2 work with the same paper empty detection control.
- The empty paper detection control is performed under either of the following conditions:
  - Trays are closed correctly.
  - The up/down control of the paper lift-up plate is complete.
- The actuator blocks the paper empty sensor when paper runs out.



[1]	Tray 1 paper empty sensor (PS23) Tray 2 paper empty sensor (PS26)	[2]	Actuator

10.3.6 Paper feed tray locking mechanism

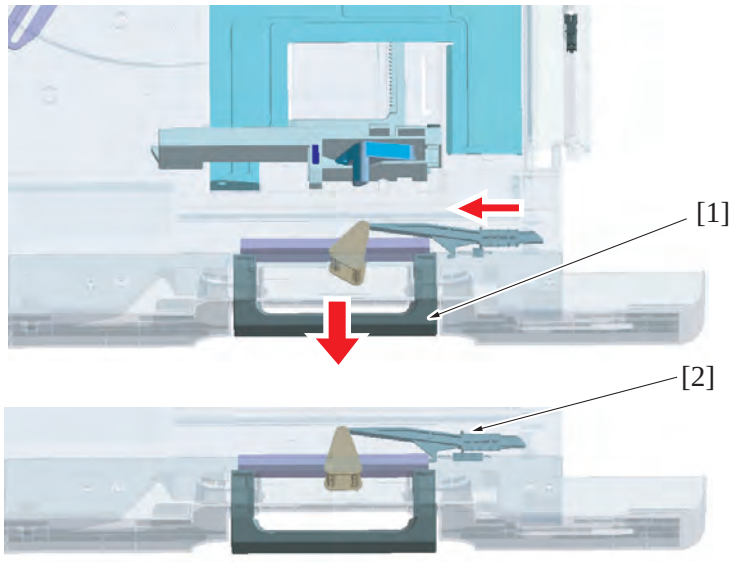
- The paper feed tray is provided with a locking mechanism.

(1) Unlocking the paper feed tray

- With drawing the lever of the paper feed tray to the front will disengage the tray lock lever equipped on the right side of the paper feed tray.
- The paper feed tray can be pulled out of the machine by continuing pulling the lever with the tray lock lever disengaged.
- Rollers are equipped 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

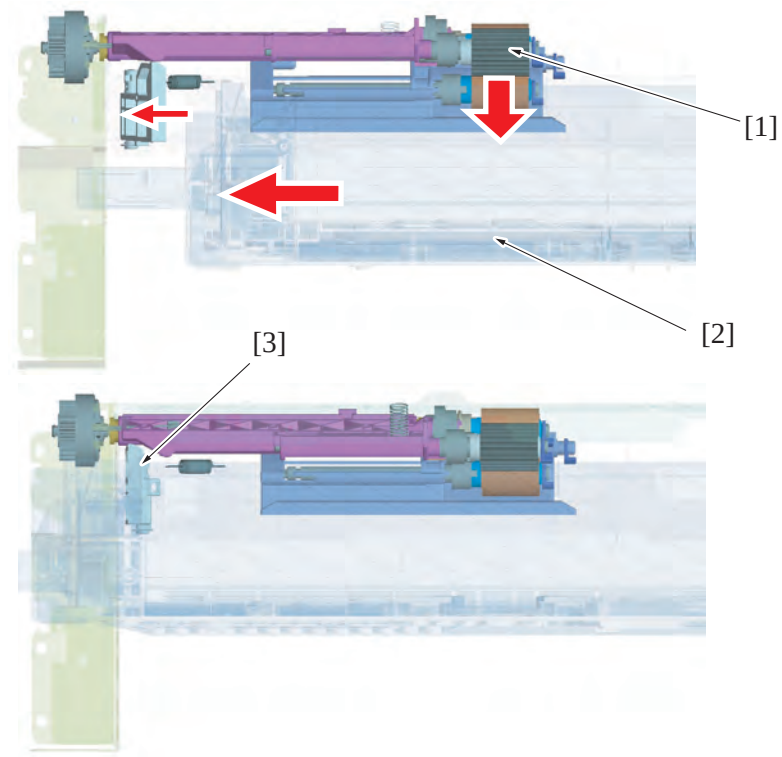
- Pushing the lever of the paper feed tray all the way toward the rear will allow the paper feed tray to be slid into the machine.
- When the paper feed tray is inserted all the way in place, the tray lock lever equipped on the right side of the paper feed tray locks the tray in place.
- To prevent false 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

10.3.7 Pick-up roller retract mechanism

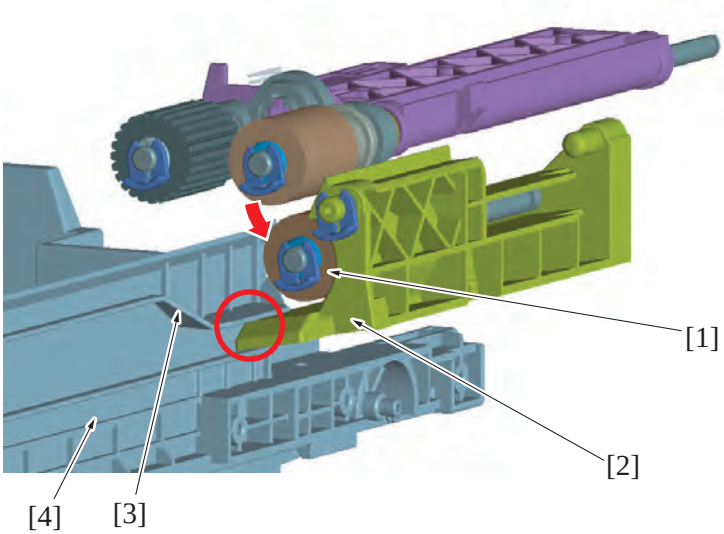
- A mechanism to retract the pick-up roller is provided, in order to avoid damaging stacked paper when the paper feed tray is inserted.
- When the paper feed tray is open, the retraction lever in the back of the machine presses the pick-up roller up to the retract position.
- When the pick-up roller 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 feed tray
[3]	Retraction lever	-	-

10.3.8 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 the 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 feed tray

10.3.9 Tray detachment mechanism

- A mechanism is provided to easily detach the paper feed tray if paper falls to the back of the paper feed tray so that it can be removed.

(1) Removing the paper feed tray

- Stoppers are equipped on the main body and paper feed tray rails to prevent the tray from being removed during normal opening and closing operations.
- Pull out the paper feed tray until it contacts with the stoppers, and lift the front of the trap to release the stoppers and remove the tray.

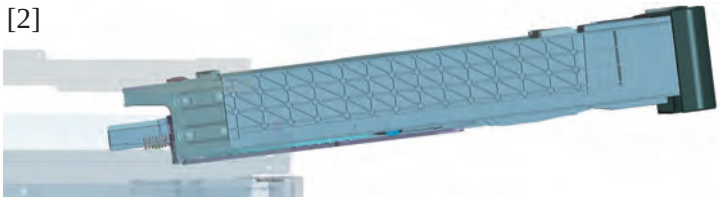
(2) Reinstalling the paper feed tray

- Lift up the front of the paper feed tray and insert it.
- After inserted the paper feed tray until the position of the stoppers on the main body rails, lower the front of the tray and push the tray straightly.

[1]



[2]

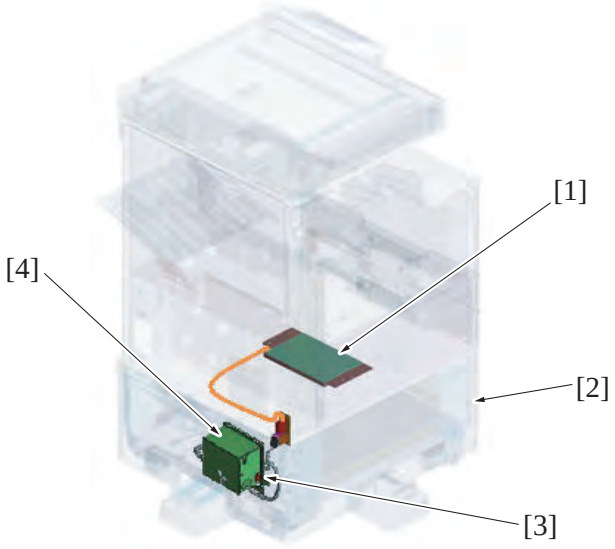


[1]	Normal opening and closing of the tray	[2]	Detaching the tray

10.3.10 Heater HT-509

- Paper curl, paper feed errors, paper misfeeds, and abnormal images may occur when paper in the tray absorbs the damp. To prevent the above troubles from occurring, the optional heater (HT-509) is required.
- The following configuration is required to install the heater.
  - Dehumidifier heater power supply box (MK-734)
  - The optional paper feed cabinet (PC-113/PC-213/PC-413) or the desk (DK-513)

  NOTE
  - **The heater is standard equipment on the DK-513.**

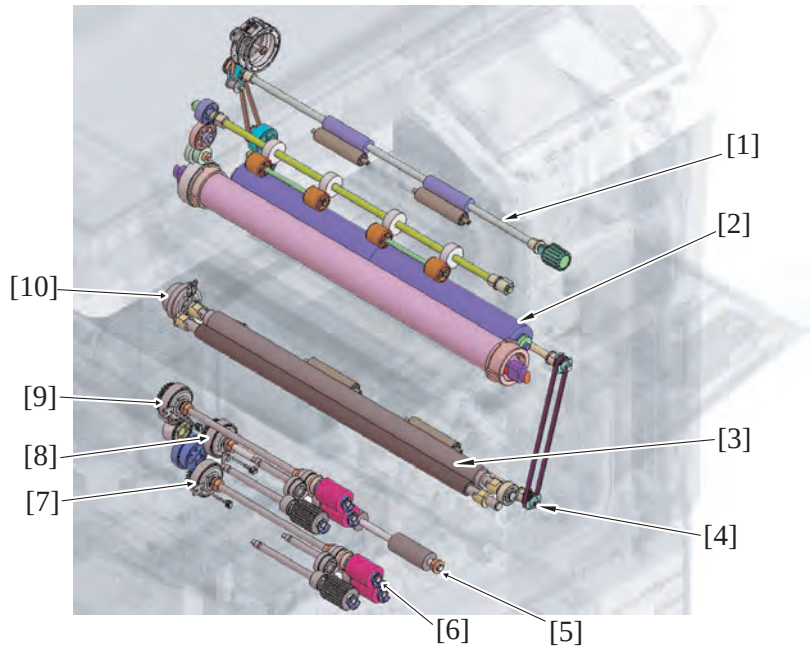


[1]	Heater (HT-509) *1	[2]	Paper feed cabinet (PC-113/PC-213/PC-413) or the desk (DK-513)
[3]	PC dehumidifier heater switch	[4]	Dehumidifier heater power supply box (MK-734)

- *1: The heater (HT-509) is standard equipment on the DK-513.

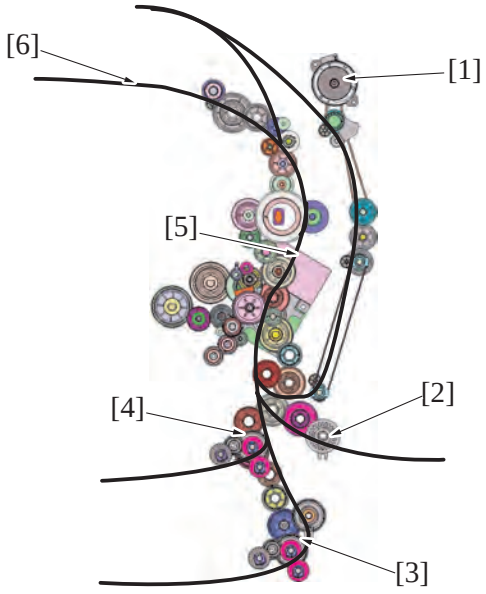
11. VERTICAL TRANSPORT SECTION

11.1 Configuration



[1]	ADU transport roller/1	[2]	Pressure roller
[3]	Registration roller	[4]	ADU transport roller/3
[5]	Vertical transport roller	[6]	Feed roller
[7]	Tray 2 paper feed clutch (CL1)	[8]	Tray 2 vertical transport clutch (CL2)
[9]	Tray 1 paper feed clutch (CL3)	[10]	Registration clutch (CL4)

11.2 Drive



[1]	Reverse motor (M4)	[2]	Bypass paper feed clutch (CL7)
[3]	Tray 2 vertical transport clutch (CL2)	[4]	Tray 1 paper feed clutch (CL3)
[5]	Transport motor (M1)	[6]	Paper path

11.3 Operation

11.3.1 Vertical transport control

- The vertical transport section transports paper fed from tray 1, 2, or optional paper feed unit onto the registration section.
- The paper fed from tray 1 is transported onto the registration section by the tray 1 feed roller.

- The paper fed from the manual bypass tray is transported onto the registration section by the manual bypass tray feed roller.
- The paper fed from tray 2 is transported onto the registration section by the tray 2 vertical transport roller.

11.3.2 Transport clutch control

(1) Tray 2 vertical transport clutch

- The tray 2 vertical transport clutch is connected to the tray 2 vertical transport roller. When the tray 2 vertical transport clutch is energized, the driving force of the transport motor is transmitted, so that the tray 2 vertical transport roller is rotated.

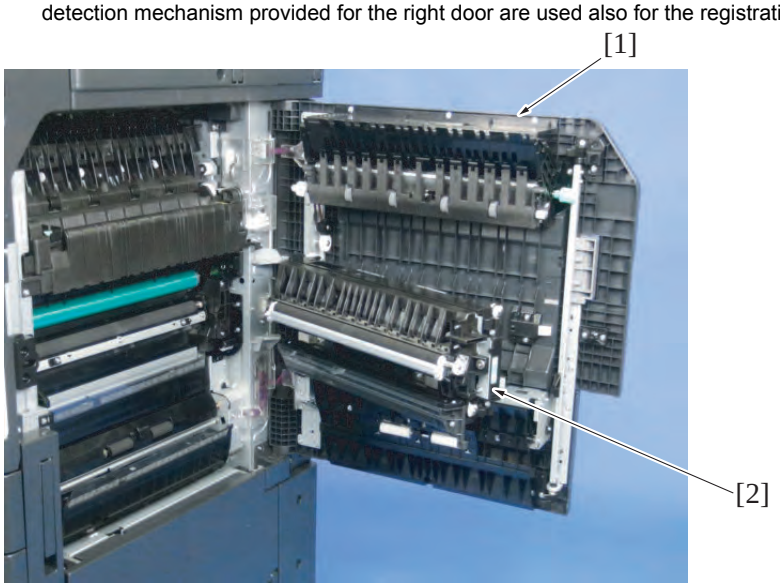
11.3.3 Operation timing

(1) 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.
- When the tray 2 vertical transport sensor located downstream of the tray 2 vertical transport roller along the paper path detects the leading edge of the paper fed from the feed roller, the tray 2 paper feed clutch is deenergized to disconnect the driving force of the transport motor. The pick-up roller and feed roller follow the movement of the paper, continuing rotating. The pick-up roller and feed roller stop rotating as soon as the paper moves past them.
- If the tray 2 vertical transport sensor is unable to detect the leading edge of paper even after the lapse of a predetermined period of time, the machine determines that there is a paper misfeed at tray 2.

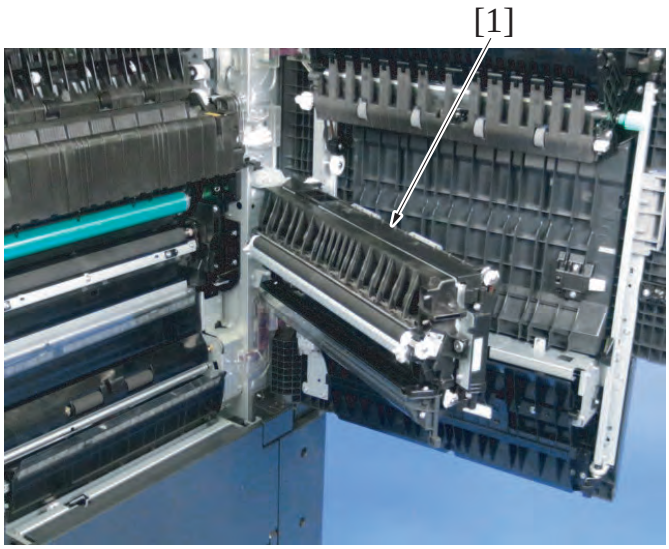
11.3.4 Right door mechanism

- The machine has the right door to enable easy access into the inside of the machine for clearing a paper misfeed or performing other service jobs.
- The right door is mounted with the mechanisms of the vertical transport section, paper feed section (manual bypass tray), and the duplex section.
- Open the right door, the registration unit (transfer section, registration section, and duplex section) is found behind the door.
- The registration unit is not provided with a locking mechanism or open/close detection mechanism. The locking mechanism and open/close detection mechanism provided for the right door are used also for the registration unit.



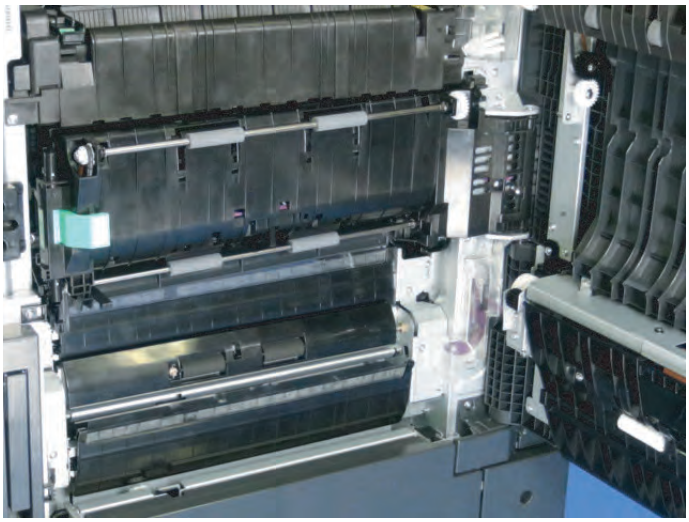
[1]	Right door section	[2]	Registration unit

Registration unit (registration section/transfer section)



[1]	Registration unit	-	-

Registration unit (duplex section)



(1) Right door locking mechanism

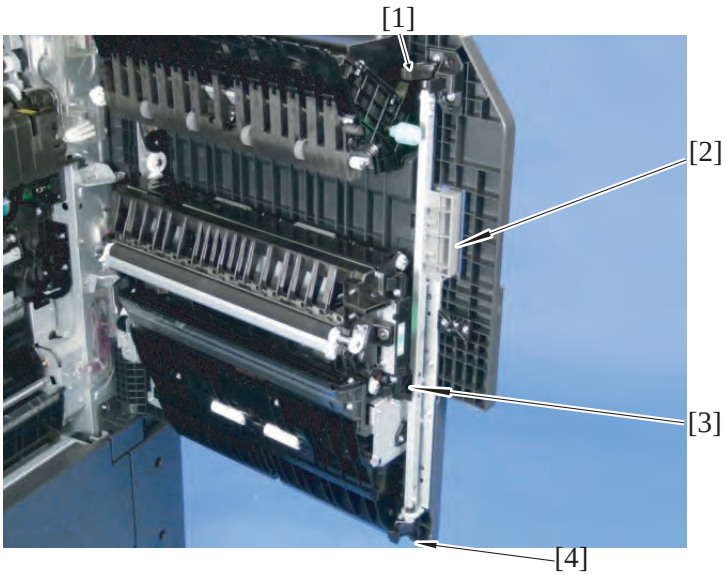
- The right door is provided with a locking mechanism.

(a) Unlocking the right door

- With drawing the lever of the right door to the front will disengage the door lock pawls (three) equipped at the front side of the right door.

(b) Locking the right door

- Close the registration unit and then close the right door. When the right door is closed in its correct position, the door lock pawls (three) equipped at the front side of the right door lock the right door in place.

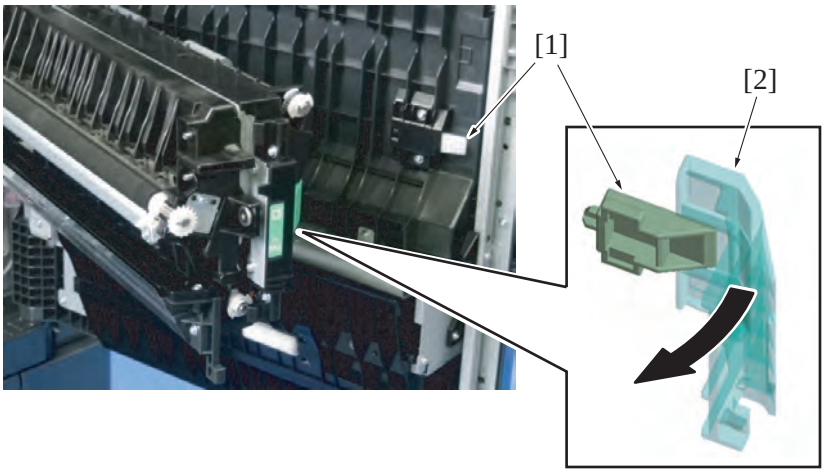


[1]	Door lock pawl (upper)	[2]	Right door lever
[3]	Door lock pawl (center)	[4]	Door lock pawl (lower)

(2) Registration unit lock mechanism

1. When the right door is opened, the registration unit that is left locked to the right door is also opened.

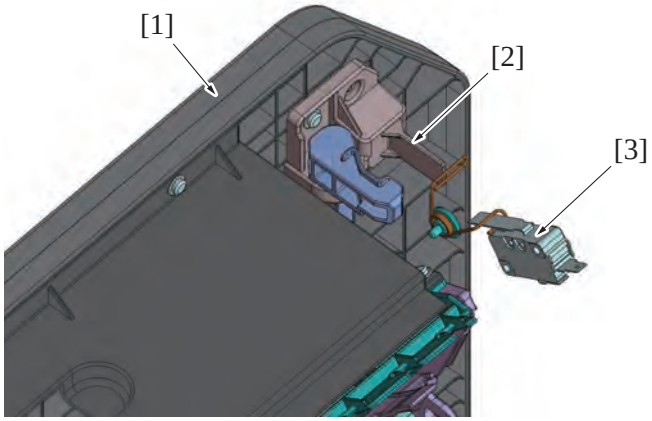
- The registration unit can be separated from the right door when the registration unit lever is disengaged from the door lock pawl equipped on the right door side.



[1]	Door lock pawl	[2]	Lever

(3) Right door open/close detection mechanism

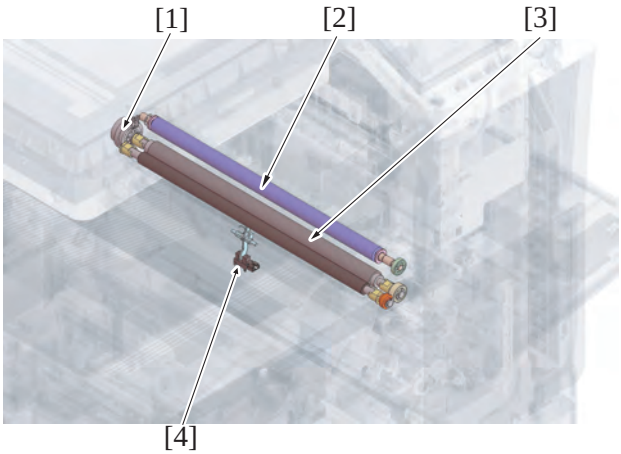
- The right door switch detects that the right door is opened or closed.
- When the right door is closed, the open/close detection plate equipped at an upper portion at the front of the right door presses the actuator of the right door switch. This turns ON the right door switch and the machine determines that the right door is closed.
- When the right door is opened, the actuator of the right door switch is released. This turns OFF the right door switch and the machine determines that the right door is opened, giving a message that prompts the operator to close the right door.
- On determining that the right door is open, the machine prohibits the use of all jobs but the fax reception job. A paper misfeed results if the right door is opened during a print cycle.



[1]	Right door	[2]	Open/Close detection plate
[3]	Right door switch (SW3)	-	-

12. REGISTRATION SECTION

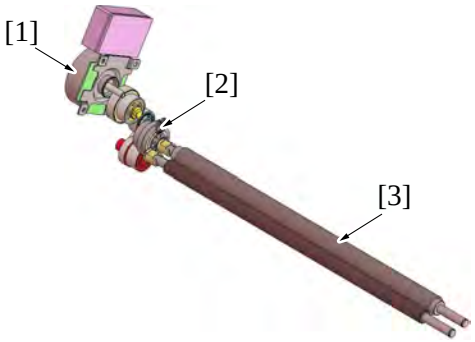
12.1 Configuration



[1]	Transfer roller	[2]	Registration sensor (PS1)
[3]	Registration roller	[4]	Registration clutch (CL1)

12.2 Drive

- The transport motor provides the drive for the registration roller.
- The registration clutch is connected to the registration roller. When the registration clutch energized, driving force from the transport motor is transferred to and rotates the registration roller.



[1]	Transport motor (M1)	[2]	Registration clutch (CL1)
[3]	Registration roller	-	-

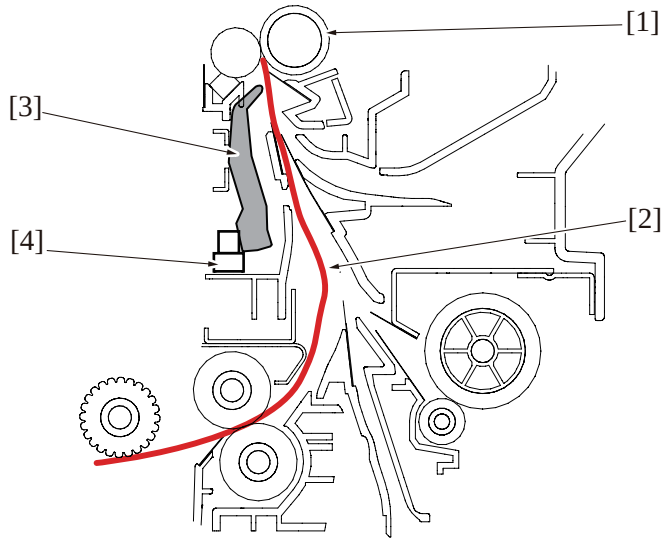
12.3 Operation

12.3.1 Registration control

- When paper is transported, a loop is formed in the paper between the tray 1 feed roller (or tray 2 vertical transport roller or bypass paper feed clutch) and the registration roller, which corrects skew in paper.
- The registration roller is controlled to synchronize the timing of the image start and paper transport.

(1) Control

1. When the paper reaches the registration sensor actuator, the registration sensor output changes and the registration roller stops.
2. Because the registration roller stops, a loop is formed in the paper, which minimizes skew in the paper.
3. The registration roller starts rotating again at timing at which to synchronize the image start position with paper position.



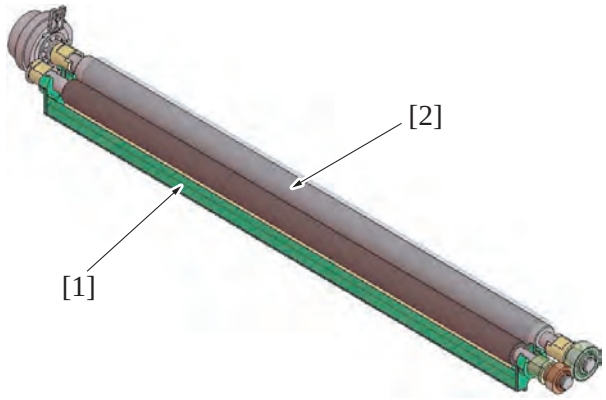
[1]	Registration roller	[2]	Loop
[3]	Registration sensor (PS1)	[4]	Actuator

(2) Adjustment

- The amount of the loop of the paper can be adjusted at settings of "Service Mode/Machine/Printer Reg. Loop Adj.". Change the off timing of the tray 1 paper feed clutch (or tray 2 vertical transport clutch) by change of the adjustment value.

12.3.2 Registration roller paper dust removing mechanism

- A paper dust remover is equipped near the registration roller (drive side) to clean paper dust that is produced in registration section.
- The paper dust remover constantly applies pressure to the registration roller (drive side), and so there is no release mechanism.



[1]	Paper dust remover	[2]	Registration roller

12.3.3 Paper dust remover new article detection

- The replacement transfer roller is shipped with the paper dust remover. Replace both parts at the same time.
- This model is not provided with the new article detection function. After replacement of the paper dust remover, reset the "Paper dust remover rotation time counter" at settings of "Service Mode/Counter/Life".

12.3.4 Paper dust remover life detection

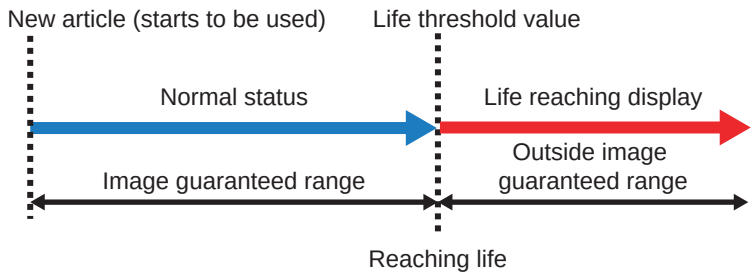
- The life counter of the paper dust remover controls the life detection of the paper dust remover.
- The counter value is recorded in the MFP board of the machine.

Controlled item	Counting unit
Paper dust remover rotation time	M *

*: M represents the paper dust remover rotation time.

(1) Paper dust remover rotation time counter life determination

- The paper dust remover is determined that it reached its life when the counter value for the paper dust remover rotation time reaches a threshold.



(2) Life display/settings

(a) Life reaching display

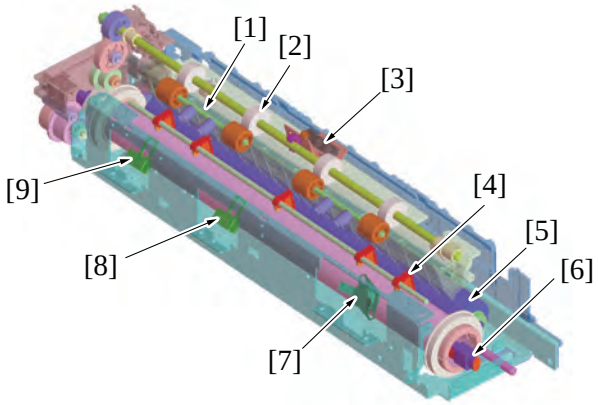
- The life reaching warning screen displays on the control panel when the counter value for the paper dust remover rotation time reaches the life threshold. (Printing is enabled but image quality is not guaranteed)

(b) Life reaching display settings

- On this machine, a display appears when the life has been reached as the default setting of the life reaching display is configured to "Display".
  Configure the life reaching display settings as necessary. [Service Mode] -> [System 2] -> [Unit Change] -> [Near Life Display Settings]

13. FUSING SECTION

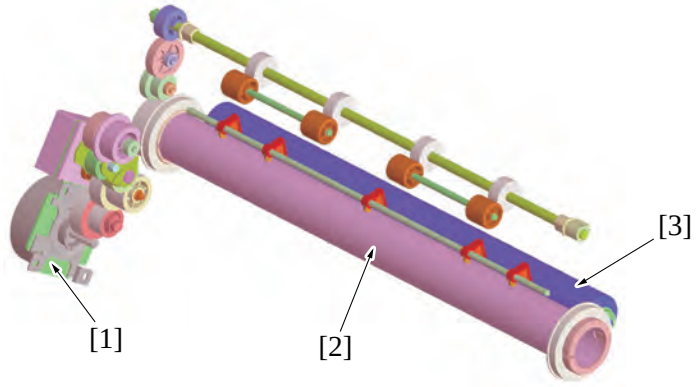
13.1 Configuration



[1]	Paper transport roll	[2]	Paper transport roller
[3]	Paper exit sensor (PS3)	[4]	Fusing separation claw
[5]	Pressure roller	[6]	Fusing heater lamp
[7]	Thermostat (TS1)	[8]	Thermistor/1 (TH1)
[9]	Thermistor/2 (TH2)	-	-

13.2 Drive

- The fusing unit is driven by controlling of the transport motor.
- The transport motor drives the heating roller, and the pressure roller is driven with the heating roller to rotate.



[1]	Transport motor (M1)	[2]	Heating roller
[3]	Pressure roller	-	-

13.3 Operation

13.3.1 Paper transport control

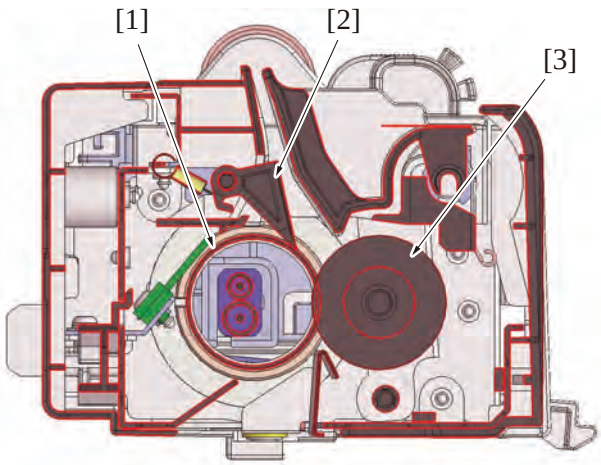
- The transfer roller transports paper onto the fusing unit.
- The fusing unit uses the transport motor to drive the heating roller, thereby transporting paper onto the paper exit/reverse section.
- The paper fed into the paper exit/reverse section is detected by the paper exit sensor before being transported by the paper exit roller.
- The fusing motor is deenergized after the last sheet of paper is fed into the finisher or out into the exit tray.



[1]	Paper exit sensor (PS3)	[2]	Pressure roller
[3]	Transfer roller	[4]	Heating roller
[5]	Paper transport roll	[6]	Paper exit roller

13.3.2 Paper separation mechanism

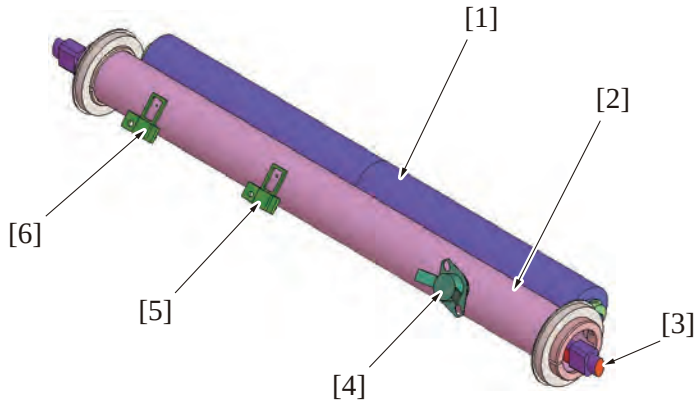
- Five contact-type paper separator claws are equipped in the heating roller, in order to reliably separate the paper after the fusing process.



[1]	Heating roller	[2]	Paper separator claws (contact type)
[3]	Pressure roller	-	-

13.3.3 Fusing temperature control

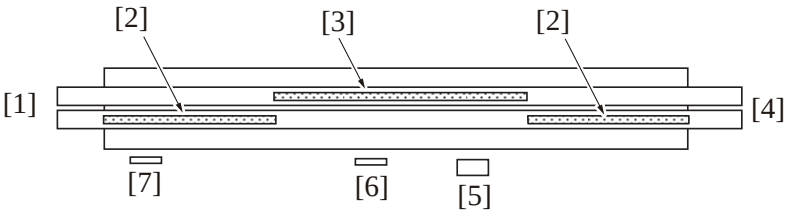
- The fusing temperature control detects the surface temperature of the heating roller using a thermistor and turns the fixing heater lamp ON/OFF.
  The ambient temperature of the central part and edges of the heating roller is detected with the non-contact thermistor.
  When the fusing heater lamp is turned ON, the heating roller is heated at the specified temperature.



[1]	Pressure roller	[2]	Heating roller
[3]	Fusing heater lamp assy	[4]	Thermostat (TS1)
[5]	Thermistor/1 (TH1)	[6]	Thermistor/2 (TH2)

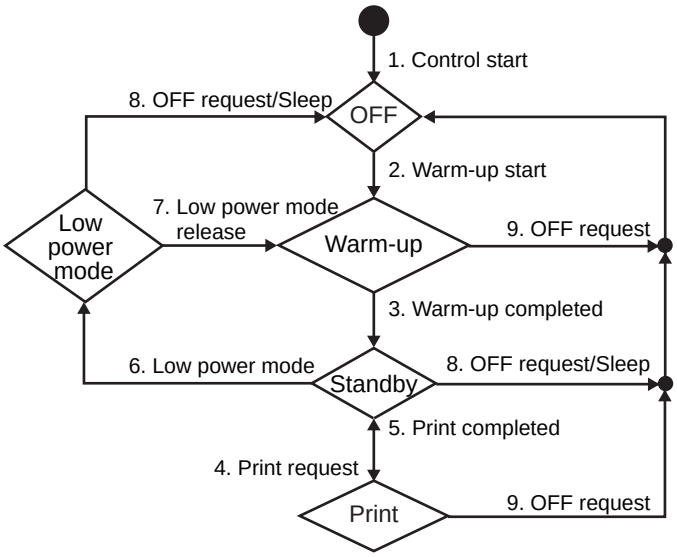
(1) Fusing heater lamp

- A fusing heater lamp assy is equipped inside the heating roller. The heater lamp turns ON to generate heat, which heats the heating roller.
- 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 operation is controlled according to the specified temperature depending on the print paper type, paper width and temperature control mode.



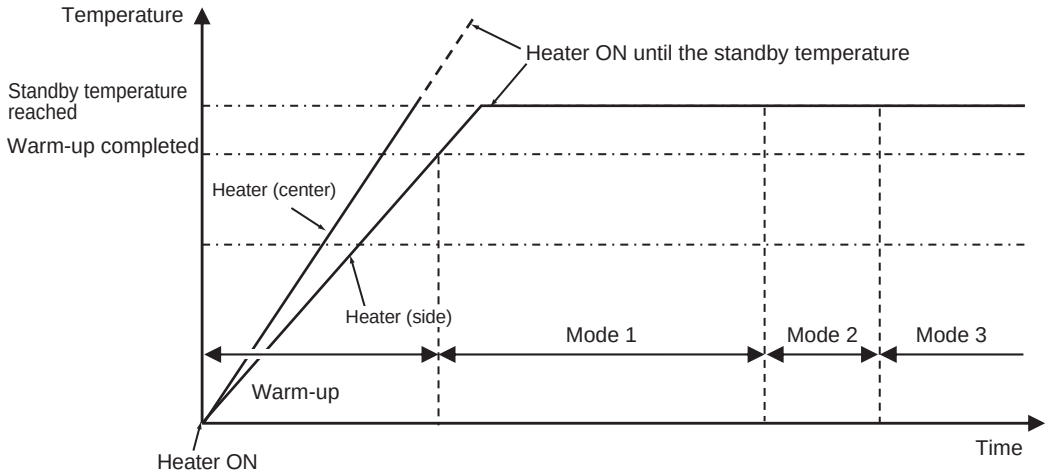
[1]	Rear of machine	[2]	Fusing heater lamp/2 (Side)
[3]	Fusing heater lamp/1 (Center)	[4]	Front of machine
[5]	Thermostat (TS1)	[6]	Thermistor/1 (TH1)
[7]	Thermistor/2 (TH2)	-	-

(2) Basic operation of the fusing temperature control



1. When the power is turned ON, the mechanical control starts. When it does, the machine switches over to the OFF status and initialization is performed.
2. The heater relay turns ON and warmup starts.
3. When the thermistor detects that the temperature has exceeded the warmup completion temperature, the machine is now permitted to print and goes to the standby status.
4. When the machine receives a print command from a print request, printing is executed.
5. When the trailing edge of the last print paper passes through the paper exit sensor, the machine will go to standby.
6. The machine enters a low power mode when it receives low power mode transition instruction from the panel operation and main control section during standby.
7. When the low power mode is turned off through panel operation, the machine starts a warmup.
8. The machine turns OFF when the door is opened during standby or low power mode, or when a trouble occurs.
   The machine turns OFF when a sleep instruction has been sent from the main body control section during standby or low power mode.
9. The machine turns OFF when the door is opened during printing or warmup, or when a trouble occurs.

(3) Mode control with elapsed time



- The temperature control mode is determined with the fusing temperature and the mode before temperature control was interrupted during the start of warmup.
- The determined temperature control mode transitions to the next mode under the conditions that are described below.
  Mode transition only occurs during printing or when temperature control is on standby.
  - Transition from mode 1 to mode 2: Mode 1 will transition to mode 2 after 5 minutes of continuously staying in mode 1.
  - Transition from mode 2 to mode 3: Mode 2 will transition to mode 3 after 1 minute of continuously staying in mode 2.

Status before temperature control interruption	Fusing temperature during the start of warmup	
	Under 100 degrees	100 degrees and above*1
Power ON	Mode 1	Mode 2
Existing from sleep	Mode 1	Mode 2
Warm-up	Mode 1	Mode 1
Mode 1	Mode 1	Mode 1
Mode 2	Mode 1	Mode 3

Mode 3	Mode 1	Mode 3

- *1: The machine recognizes a temperature of 100 degrees and above only when temperatures of both the central portion and the end portion of the heating roller has reached 100 degrees and above.

(4) Temperature control

(a) At warm-up

- After the warmup completion temperature is reached, control transitions to the standby temperature control.
- The temperature control during standby controls the fusing heater lamp in order to maintain the heating roller temperature at a level in which printing is possible.
- When a print job is received during standby, it can be started without waiting.

(b) During stand-by

- If no fixed time print request is received after print completion, control transitions to the standby temperature control.
- The standby temperature control maintains the heating roller temperature at a level in which printing is possible.

(c) Printing

- Control transitions to print control when the machine receives a print request during standby. The print job is carried out at a fusing temperature according to the paper type specified by the job.
- The fusing temperature is measured during the print cycle and temperature control suitable for the print condition is performed accordingly.

(d) In low power mode

- To reduce power consumption during low power mode, power to the heater lamp is shut down for it to stop heating the heating roller.

(e) In sleep mode

- To reduce power consumption during sleep mode, power to the heater lamp is shut down for it to stop heating on the heating roller.
- If the heating roller temperature is decreased to room temperature, the printable temperature can be recovered within the same period of time as that of warmup.

(5) Fusing-related control

- The following types of control are available as they relate to fusing temperature:
  - Service Mode: [Machine / Fusing Temperature]
  - Service Mode: [Machine / Heater Control Level]
  - Service Mode: [Machine / Printer Interval Extension]

(a) Fusing Temperature

- The machine has a fusing temperature adjustment function in order to prevent image fixability from being degraded depending on the type of paper and reduce such phenomena as paper curl, uneven wax, and offset.
- The fusing temperature can be varied using the setting made in “Machine/ Fusing Temperature” of the Service Mode.

Paper type	Setting range
Plain paper, Recycled paper, OHP film, Thick 1, Thick 1+, Thick 2, Thick 3, Postcard, Envelope	- 20 °C to + 10 °C (step: 5 °C)

(b) Heater Control Level

The supplied power is controlled so as to limit flickering of a fluorescent lamp connected to the power source from which the machine derives its power, the flickering otherwise occurring when the fusing heater lamp is turned ON and OFF.

- When the fluorescent lamp flickers, reduce the level to a smaller number. E.g.: Level 2 -> 1
- If the DC power source produces noise, increase the level to a larger number. E.g.: Level 2 -> 3

NOTE

- **Reducing the level can cause the DC power source to produce noise, and increasing the level can cause the fluorescent lamp to flicker.**
  Whenever changing the level, make sure that the newly set level does not result in the fluorescent lamp flickering or DC power source producing a lot of noise.

(c) Printer Interval Extension

If curling occurs in the output paper, perform control that extends the printer interval to reduce curling occurrence.

- Specify a printer interval extension in Service Mode if it is low or high humidity/temperature inside the machine, or when always perform control regardless of the environment inside the machine.

13.3.4 Protection from abnormal temperatures

(1) First approach: software protection

- If the heating roller thermistor/1 detects a predetermined temperature or above continuously, the temperature is determined to be abnormally high and a “trouble code C3721: Fusing abnormally high temperature detection (Middle of the heating roller)” will be displayed.
- If the heating roller thermistor/2 detects a predetermined temperature or above continuously, the temperature is determined to be abnormally high and a “trouble code C3722: Fusing abnormally high temperature detection (Edge of the heating roller)” 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 MFP board. Power supply to the fusing heater lamp is shut down.
- When the hardware circuit in the DC power unit detects the heater relay being OFF, the temperature is judged to be abnormally high. Trouble code C3731: Fusing abnormally high temperature detection (Hard protector) will be displayed.
- Through these control procedures, the power supply to the heater lamps can be shut down 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 shut down the power supply to the heater lamp.

13.3.5 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
Paper curl suppression mode	When the paper type is one of the following: • Plain paper, recycled paper (including user-specified paper) • When "Printer Interval Extension" of the Service Mode is specified to "1" or "2":	When 1-sided printing is performed on plain paper and recycled paper, the occurrence of paper curling is suppressed.	Paper interval is expanded and the appropriate fusing temperature is ensured to prevent the occurrence of paper curling.	60%
Envelope mode	When the paper type is envelope	The fusing temperature is reduced continuous printing of envelopes to prevent degradation of the fusibility of the toner.	Paper interval is expanded so that the fusing temperature does not go down due to continuous printing.	• 50 % (bizhub 367) • 60 % (bizhub 287) • 60 % (bizhub 227)

- *1: Print speed calculation example: If 36 ppm can be achieved at a print productivity of 100% on A4 plain paper, a change in print productivity of 50% results in 18 ppm.

13.3.6 Fusing unit new article detection

- The fusing unit is not provided with any new article detection mechanism. If the fusing unit is replaced with a new one, therefore, the new release of fusing unit must be performed in “Counter/Life/New Release/Fusing Unit” of the Service Mode.

13.3.7 Fusing unit life detection

NOTE

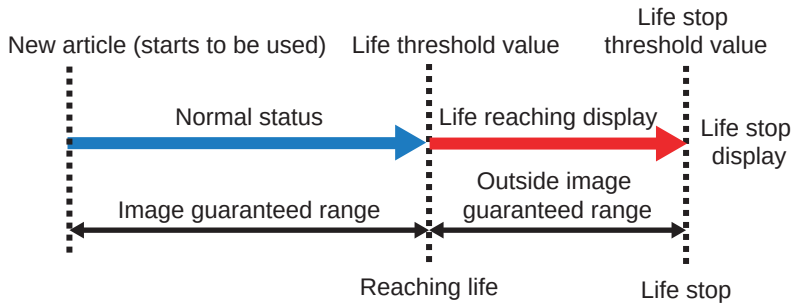
- **On this machine, since the life stop and the life warning display are specified to [Off] by default, a warning display does not appear and the print job does not stop even when the life stop is reached.**
  Check the life value of consumables and parts, and check the number of pages printed on this machine with setting [Service Mode] -> [Counter] -> [Life].
- **Life related display default setting**
  Life Reaching Display (Near Life Display Settings): Display
  Life Stop screen: Off
  Life Stop: Off
- The life counter of the fusing unit controls the life of the fusing unit.
- The counter value is recorded in the backup board of the machine.

Controlled item	Counting unit
Fusing unit rotation time	M *

* : M represents the fusing unit rotation time.

(1) Fusing unit life determination

- The fusing unit is determined that it has reached its life when the counter value for the fusing unit rotation time reaches a life threshold.



(2) Life determination timing

- The life determination control is performed under any of the following conditions:
  - “Power is turned ON (with the front door or right door closed)”
  - “The machine exits the sleep mode”
  - “The front door or right door is opened and closed with the power switch in ON position”
  - During a print cycle

(3) Life display/settings

(a) Life reaching display

- The life reaching screen displays on the control panel when the counter value for the fusing unit rotation time reaches a life threshold. (Printing is enabled but image quality is not guaranteed)

(b) Life reaching display settings

- On this machine, a display appears when the life has been reached as the default setting of the life reaching display is configured to "Display".
  Configure the life reaching display settings as necessary. [Service Mode] -> [System 2] -> [Unit Change] -> [Near Life Display Settings]

(c) Life stop display

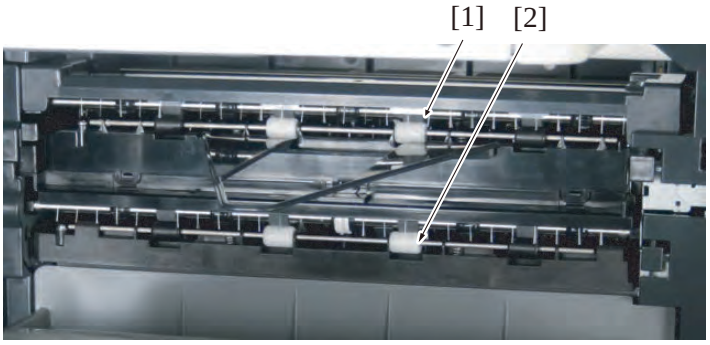
- The life stop screen displays when the counter value for the fusing unit rotation time reaches the life stop threshold. (print prohibited)

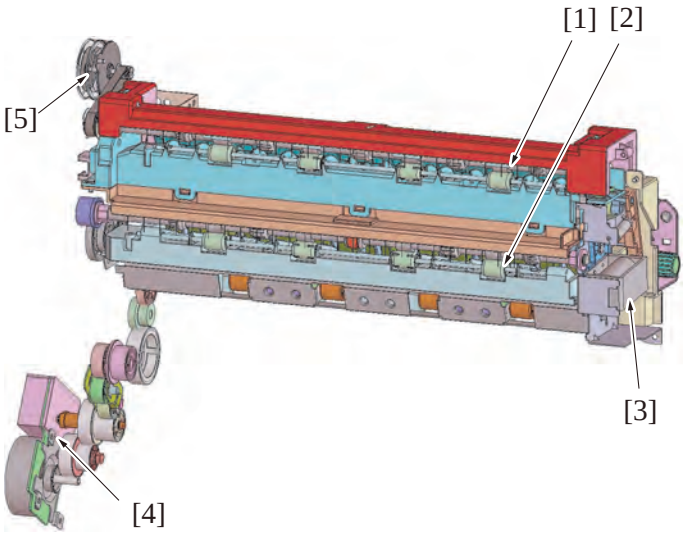
(d) Life stop setting

- On this machine, the life stop setting is specified to "Off" by default. So that the life stop setting screen does not appear when it reaches its life and printing does not stop.
- Configure the life stop settings as necessary. [Service Mode] -> [Enhanced Security] -> [Life Stop Setting]

14. PAPER EXIT/REVERSE SECTION

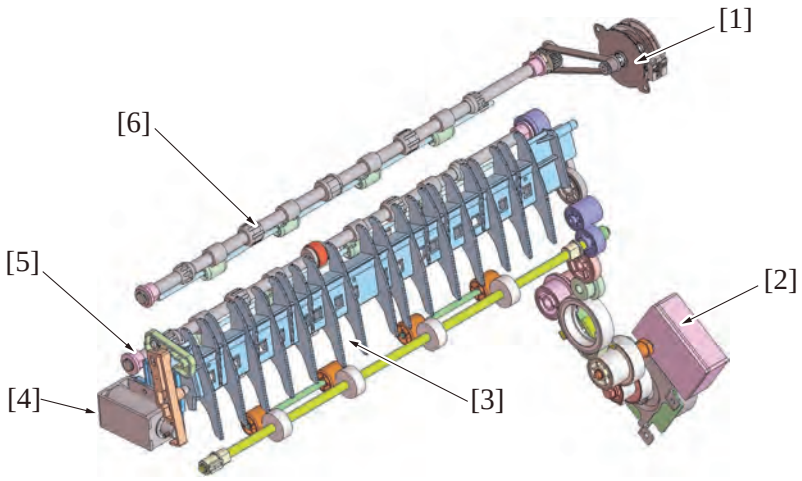
14.1 Configuration





[1]	Reverse roller	[2]	Paper exit roller
[3]	Gate switch solenoid (SD3)	[4]	Fusing motor (M3)
[5]	Reverse motor (M4)	-	-

14.2 Drive



[1]	Reverse motor (M4)	[2]	Fusing motor (M3)
[3]	Paper exit/reverse switch gate	[4]	Gate switch solenoid (SD3)
[5]	Paper exit roller	[6]	Reverse roller

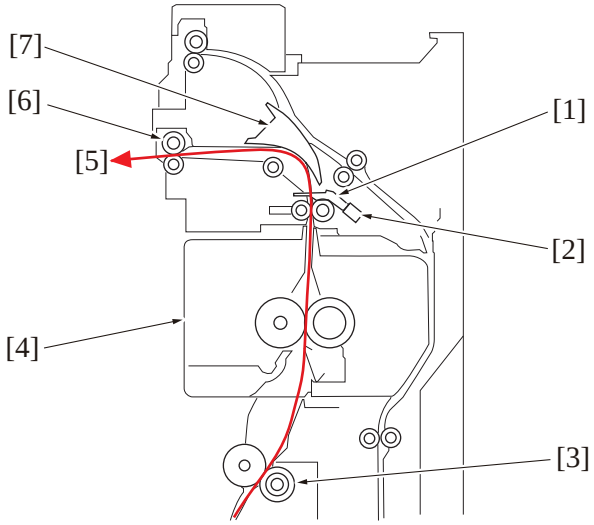
14.3 Operation

14.3.1 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.

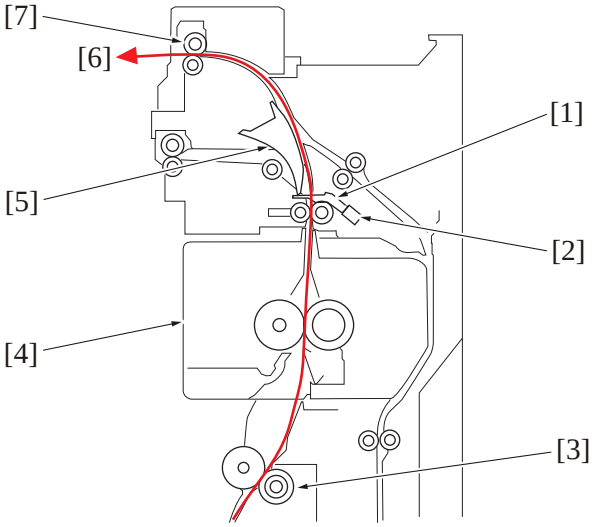
- The initial position of the paper exit/reverse switch gate establishes a paper path through the paper exit roller, so that its position is not changed.
- The paper exit roller rotates with the drive of the fusing motor.



[1]	Actuator	[2]	Paper exit sensor (PS3)
[3]	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

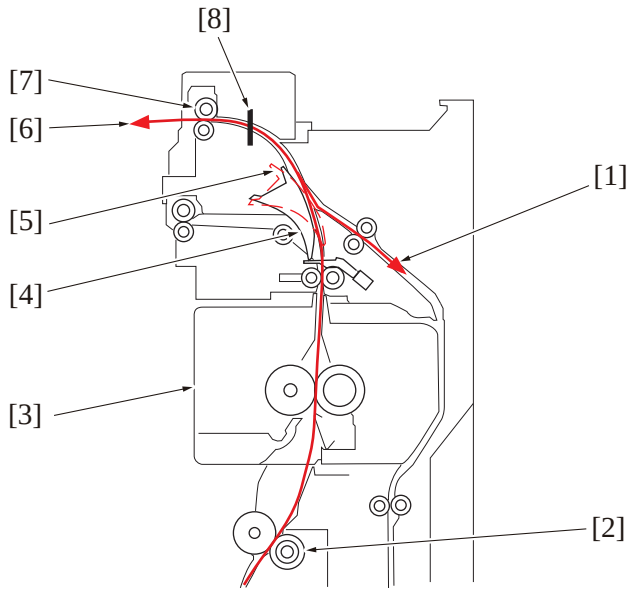
- The paper is fed from the reverse roller to the paper exit tray, only if FS-534/JS-506 capable of feeding paper out through the reverse roller is mounted.
- When the paper is to be fed out via the reverse roller, the reverse motor is rotated forward to thereby transport the paper.
- The gate switch 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]	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 gate 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.

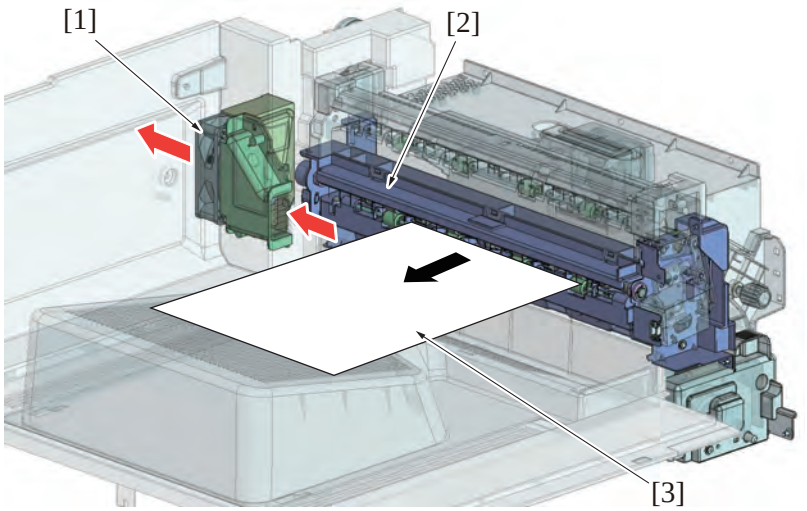


[1]	Transporting to duplex section	[2]	Transfer roller
[3]	Fusing unit	[4]	Paper exit/reverse switch gate: solenoid ON position
[5]	Paper exit/reverse switch gate: solenoid OFF position	[6]	Transporting to reverse stop position
[7]	Reverse roller	[8]	Reverse stop position

14.3.2 Paper cooling mechanism

(1) Paper cooling of the paper exit section

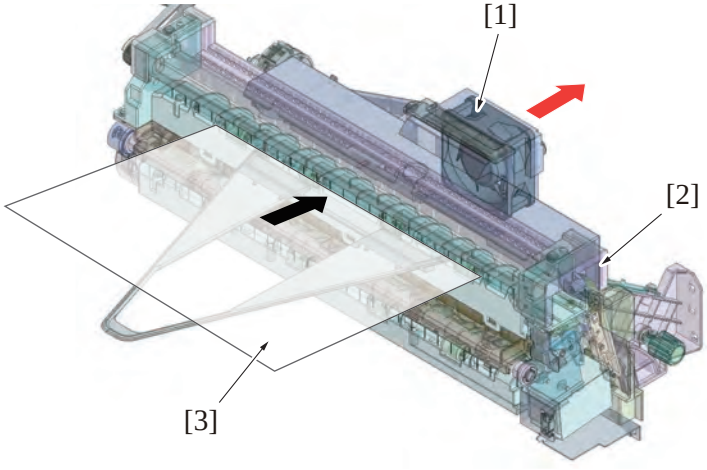
- The machine is provided with a paper exit cooling fan to cool down paper passing through the paper exit section after fusing.
- The paper exit cooling fan cools down paper passing through the paper exit section, thus preventing toner from sticking to the paper.



[1]	Paper exit cooling fan (FM3)	[2]	Paper exit section
[3]	Paper	-	-

(a) Paper cooling of the reverse section

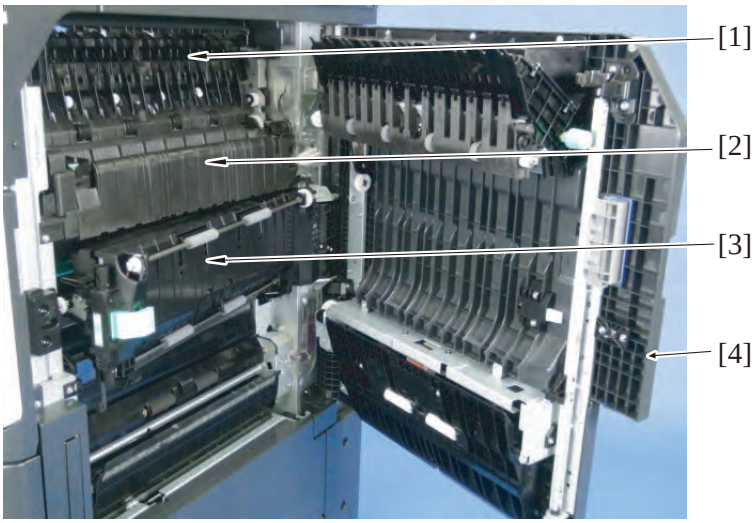
- The machine is equipped with a reverse cooling fan to cool down paper passing through the reverse section after fusing.
- The reverse cooling fan cools down the second side of paper passing through the reverse path. It prevents the temperature of the drum unit and developing unit from rising during 2-sided printing.



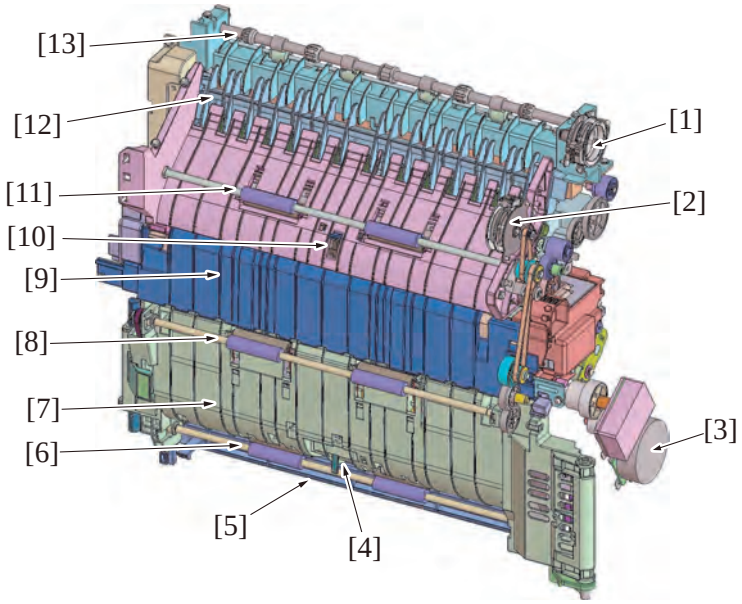
[1]	Reverse cooling fan (FM5)	[2]	Reverse section
[3]	Paper	-	-

15. DUPLEX SECTION

15.1 Configuration

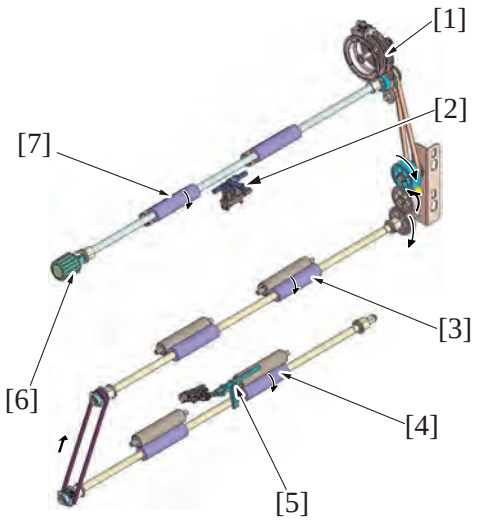


[1]	Paper exit/reverse switch gate	[2]	Fusing unit
[3]	Registration unit (Duplex section)	[4]	Right door



[1]	Reverse motor (M4)	[2]	ADU transport motor (M5)
[3]	Transport motor (M1)	[4]	ADU paper passage sensor/2 (PS41)
[5]	Duplex pre-registration section	[6]	ADU transport roller/3
[7]	Registration unit (Duplex section)	[8]	ADU transport roller/2
[9]	Fusing unit	[10]	ADU paper passage sensor/1 (PS40)
[11]	ADU transport roller/1	[12]	Paper exit/reverse switch gate
[13]	Reverse roller	-	-

15.2 Drive

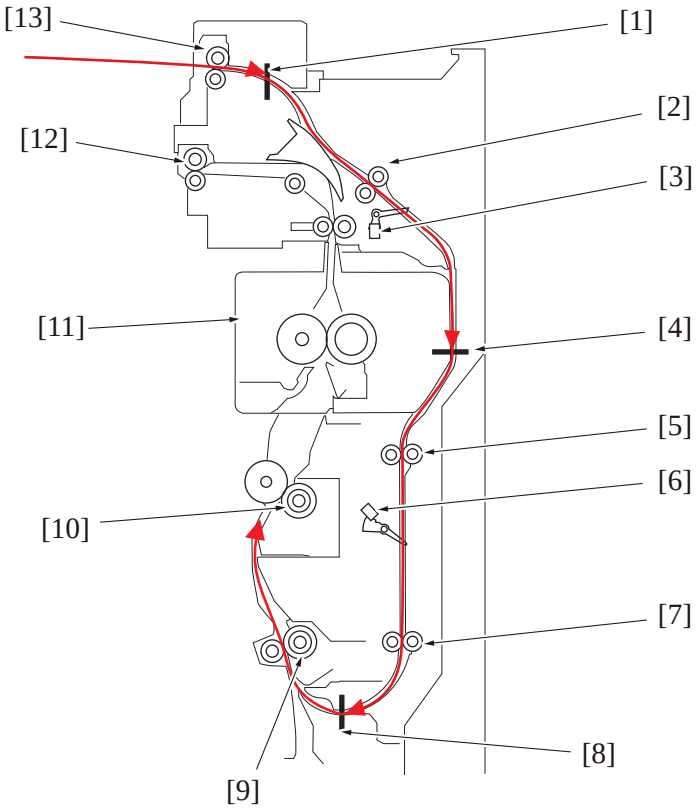


[1]	ADU transport motor (M5)	[2]	ADU paper passage sensor/1 (PS40)
[3]	ADU transport roller/2	[4]	ADU transport roller/3
[5]	ADU paper passage sensor/2 (PS41)	[6]	Jam removal dial
[7]	ADU transport roller/1	-	-

15.3 Operation

15.3.1 Paper transport control

- In the duplex transportation, the paper that is transported from the reverse roller is transported to the internal duplex section by the ADU transport roller/1.
- In the duplex pre-registration, the ADU transport roller/2 and ADU transport roller/3 transport the paper to the registration roller at the vertical transport section.



[1]	Stop position 1	[2]	ADU transport roller/1
[3]	ADU paper passage sensor/1 (PS40)	[4]	Stop position 2
[5]	ADU transport roller/2	[6]	ADU paper passage sensor/2 (PS41)
[7]	ADU transport roller/3	[8]	Stop position 3
[9]	Registration roller	[10]	Transfer roller
[11]	Fusing unit	[12]	Exit roller

[13]	Reverse roller	-	-

(1) Transport roller control

- The ADU transport motor drives the ADU transport roller/1, ADU transport roller/2, and ADU transport roller/3.

(2) Paper entrance control

- The reverse motor at the paper exit/reverse section is deenergized to stop transport of the paper temporarily. (stop position 1)
  When the condition for starting reverse into the duplex section is met, the reverse motor rotates backward to transport the paper into the duplex section.
- Simultaneous to the backward rotation of the reverse motor, the ADU transport motor is energized and the ADU transport roller/1, ADU transport roller/2 and ADU transport roller/3 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 ADU transport motor is deenergized to stop transport of the paper temporarily. (stop position 2)
- When the advanced sheet of paper moves past the specified position, the ADU transport motor is energized to resume the transport of paper.
- 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.

(3) Duplex paper feed control

- The ADU paper passage sensor/2 detects the leading edge of the paper transported from the ADU transport roller/3.
- When the paper moves past the ADU transport roller/3 and reaches the specified position, the ADU transport motor turns OFF to stop transporting the paper temporarily. (stop position 3)
- At the specified timing for paper feed, the ADU transport motor is turns ON to resume the transport of paper.
  The ADU transport motor is also energized if it has been deenergized.
- The paper is fed from the ADU transport roller/3 onto the registration roller at the vertical transport part.

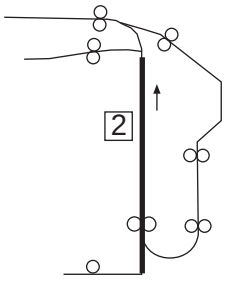
15.3.2 Duplex circulation control

- The duplex circulation control is performed differently according to the sub scanning direction length of the paper.

Sub scanning direction paper length	One-sheet circulation operation	Two-sheet circulation operation
158 mm to 216 mm	Allow	Allow
217 mm to 297 mm	Allow	Allow
298 mm to 381 mm	Allow	Restrict
382 mm to 432 mm	Allow	Restrict
Less than 158 mm More than 431 mm	Can not print 2-sided	

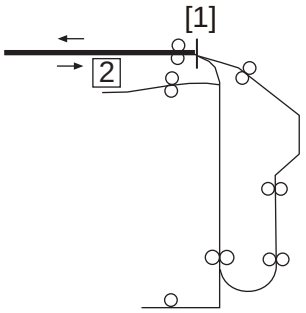
(1) One-sheet circulation operation

Operation 1



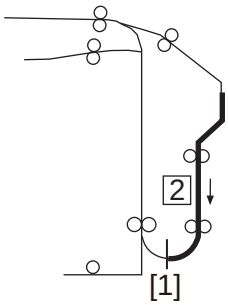
- One sheet of paper is supplied and the image of the second page is printed.

Operation 2



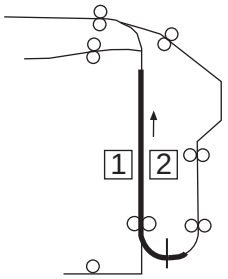
- After the paper transported to the paper exit/reverse section stops at the stop position 1 [1] (reverse roller), the reverse roller turns around to send the sheet to the duplex section. (paper reversed)

Operation 3



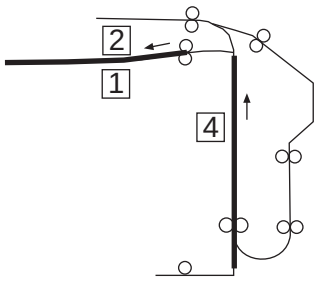
- The paper that is transported to the duplex section is transported onto, and stopped at the stop position 3 [1] (ADU transport roller/ 3).

Operation 4



- The image of the first page is printed on the paper re-supplied from the duplex section.

Operation 5

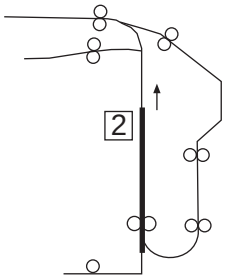


- The first sheet of the paper is fed out.
- The image of fourth page is printed on the second sheet.

- Steps 2 through 5 are repeated.

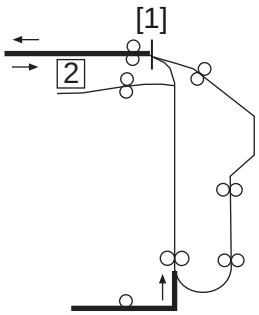
(2) Two-sheet circulation operation

Operation 1



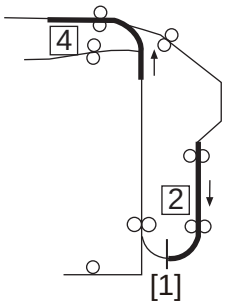
- The first sheet of paper is supplied and the image of the second page is printed.

Operation 2



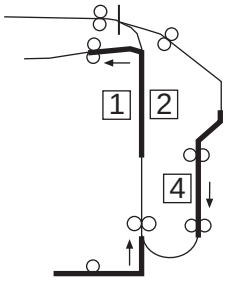
- After the first sheet of paper stops at the stop position 1 [1], the reverse roller turns around to send the sheet to the duplex section. (paper reversed)
- The second sheet of paper is supplied.

Operation 3



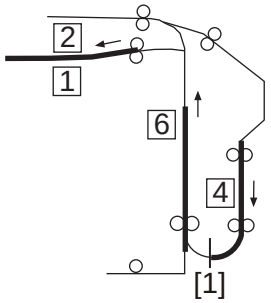
- The first sheet of the paper is sent trough the duplex section and stops at the stop position 3 [1] (ADU transport roller/3).
- The image of the fourth page is printed on the second sheet of paper.

Operation 4



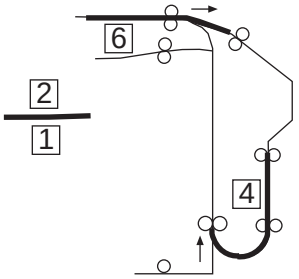
- The first sheet of the paper is re-supplied and an image of the first page is printed on.
- The second sheet of paper is reversed at the paper exit/reverse section and transported onto the duplex section.
- The third sheet of paper is supplied.

Operation 5



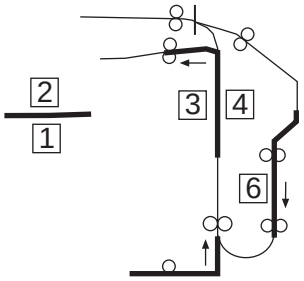
- The first sheet of the paper is fed out.
- The second sheet of paper is transported onto, and stopped at stop position 3 [1].
- The image of the sixth page is printed on the third sheet of paper.

Operation 6



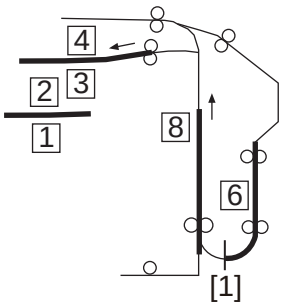
- The second sheet of the paper is re-supplied.
- The third sheet of paper is reversed at the paper exit/reverse section and transported onto the duplex section.

Operation 7



- The image of the third page is printed on the second sheet of paper.
- The third sheet of paper is transported in the duplex section.
- The fourth sheet of paper is supplied.

Operation 8



- The second sheet of the paper is fed out.
- The third sheet of the paper is stopped and waited at stop position 3 [1].
- The image of eighth page is printed on the fourth sheet of the paper.

- Steps 6 through 8 are repeated.

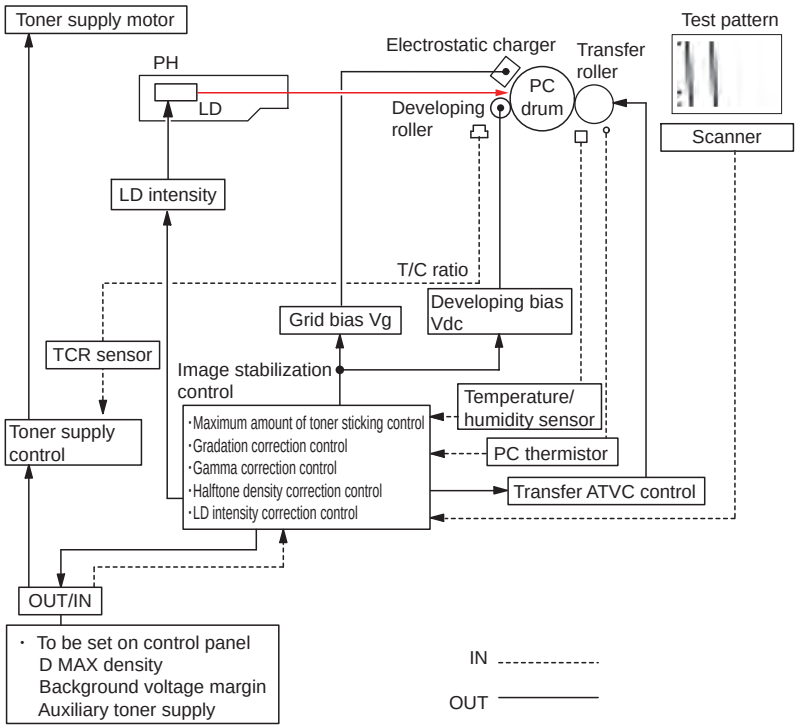
16. IMAGE STABILIZATION CONTROL

16.1 Outline

- The machine provides the following image stabilization control to ensure stabilized copy image.

Purpose	Control	Control means
To stabilize gradation To stabilize image density	• Maximum amount of toner sticking control • Gradation correction control • Halftone density correction control • Gamma correction control • LD intensity adjustment control	• Test pattern reading by the scanner • Temperature/humidity sensor • PC thermistor
To stabilize toner density	* TCR control	TCR sensor
To stabilize image transfer	* Transfer output control (ATVC)	Temperature/humidity sensor

- * Refer to the control descriptions in each section.

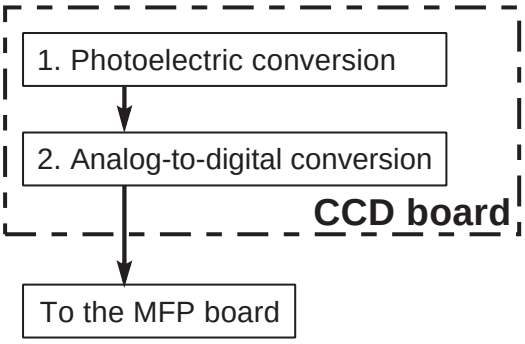


16.2 Control

Control	Description
Maximum amount of toner sticking control	• Adjust the developing bias (Vdc) to control solid density changes due to the following items. Developing characteristics, variations in exposure intensity, variations in sensitivity of the photo conductor, changes in the environment, durability, and the amount of charge in toner. • Since no IDC sensor is equipped in this machine, scan paper that is printed with a test pattern and calculate the amount of toner adherence from this data. • The optimal developing bias value (Vdc) is calculated from the calculated amount of toner adherence and environment data that is obtained from the temperature/humidity sensor and PC thermistor. • After that, the grid bias (Vg) is calculated which includes a background margin adjustment value.
Gradation correction control	• The gradation data is corrected when the paper that is printed with the test pattern is scanned to improve the linearity of gradation density.
Halftone density correction control	• Optimal gradation adjustment is performed in accordance with changes in development characteristics and photo conductor sensitivity to improve decreases in halftone density occurring throughout the day.
Gamma correction control	• To correct linear gradations, creates gamma correction data for changes in gradation characteristics due to variations in photo conductor sensitivity, developing characteristics, durability, environment, and manufacturing.
LD intensity correction control	• Corrects the variations of thin line reproducibility and density, which occur due to the following variations, to the target level. Variations in electrostatic characteristics of the photo conductor, developing characteristics, transfer characteristics including individual difference, environment and durability. • The intensity of laser light that is emitted from the PH is corrected using environment data from the temperature/humidity sensor and the photo conductor rotating distance (durability value).

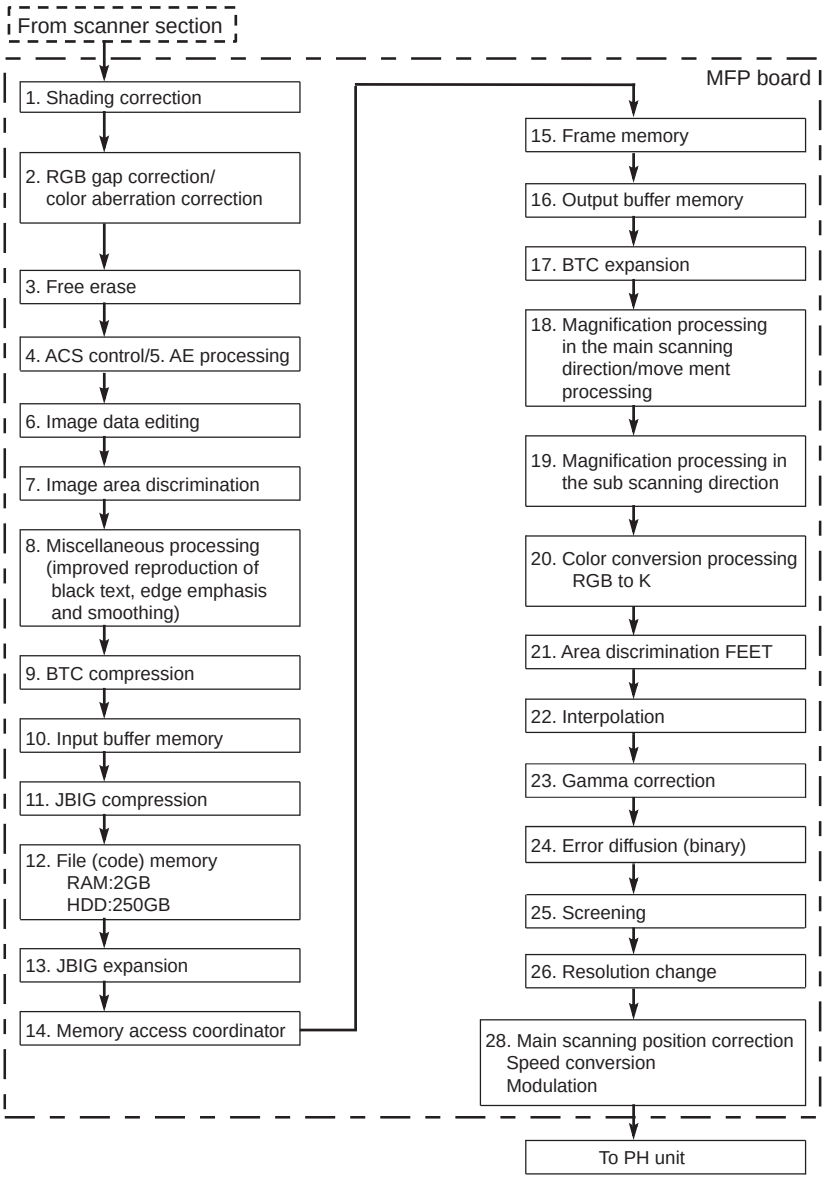
17. IMAGE PROCESSING

17.1 Scanner section image processing block diagram



- 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).
- The image data is transmitted to MFP board on the write section through the interface cable.

17.2 Write section image processing block diagram

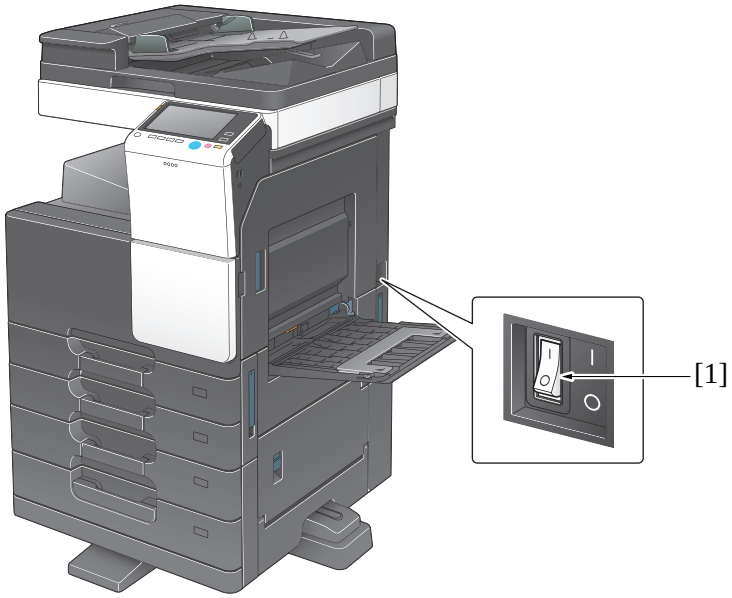


- The following detail the image processing operations performed by MFP board on the Write section.

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. 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.
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. R, G, and B data are then converted to value and color component data for adjustments of saturation, lightness, and hue.
7. Each image area, whether it is a color edge area, black edge area, dot area, or a continuous gradation area, is discriminated.
8. Other types of processing performed are the improved reproduction of black text, edge emphasis, smoothing and color balance.
9. Each image data of R, G, and B is compressed to reduce the consumption of data capacity.
10. Temporarily stores the BTC-compressed image data.
11. The stored image data is compressed in the JBIG (Joint bi-level image experts group) format.
12. 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.
13. 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.
14. JBIG image data are expanded in the frame memory.
15. Each image data of R, G, and B is stored in frame memory.
16. Temporarily stores the image data output from the frame memory.
17. The image data is expanded through a method opposite to that used in the BTC compression.
18. 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.
19. 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.
20. The R, G, and B data is converted to the density data.
21. Edge of letter and lineal drawing gets area discrimination and FEET processing is conducted according to the discrimination result.
22. When FEET processing is conducted, interpolation is done so that no influence is given to continuous gradation portion.
23. 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 photo conductor characteristics.
24. In photo mode during copying and PC print, the image is processed as multi-valued data (8-bit data) through screening. In any mode other than photo, the error diffusion method is employed to process the image as binary (1-bit) data.
25. Creates the density distribution of a predetermined pattern to enable outstanding gradation reproduction.
26. For 1,800 dpi writing, the 600 dpi image data is converted to corresponding 1,800 dpi image data.
27. Correct the shear in printing start position in the main scanning direction, which occurs when PH unit is exposed on the photo conductor. Adjust the processing speed in the board (main scanning) to conform to the input processing speed.

18. POWER SUPPLY SECTION

18.1 Main power switch



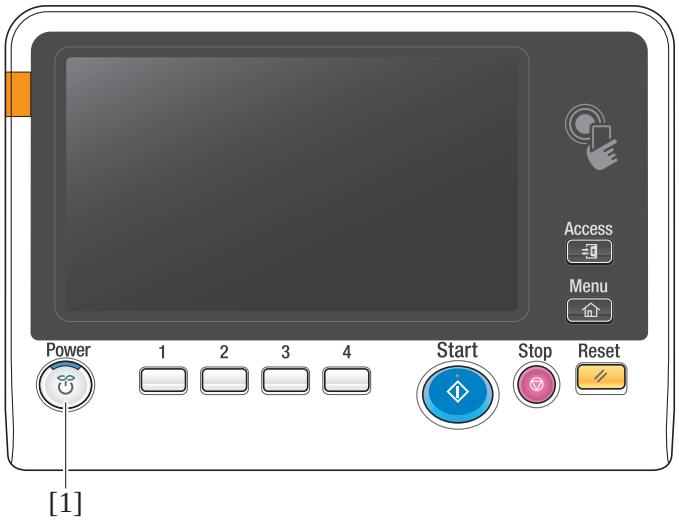
[1]	Main power switch	-	-

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.**

18.2 Power key

18.2.1 Configuration



[1]	Power key	-	-

18.2.2 Operation

(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 sub power OFF mode and holding it down for a long time sets the machine into the ErP auto power off mode.
- From the [Utility] - [Administrator Settings] - [System Settings] - [Power Supply/Power Save Settings], you can perform the following operations. Slightly press the power key to enter power save mode (low power mode or sleep mode) or hold it down to enter sub power OFF mode.

How long the power key is held down	Default setting	Settings changed by Administrator Settings	
Short time	Sub power OFF mode	Power save mode	Low power mode
			Sleep mode
Long time	ErP auto power off mode	Sub power OFF mode	

(2) Status in each mode

Mode		Power key indicator	Status	Power consumption
Standby		Lit up blue	All functions are ready to accept and ready to perform jobs.	Max. 1500 W
Power save mode	Low power mode	Blinking in blue	• 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.	Typ 18 W
	Sleep mode	Blinking in blue	• Power is supplied only to a portion of the MFP board required for receiving a job. • Reset when a job is received or the machine is operated.	Typ 0.5 W
Sub power OFF mode		Lit up orange	• Power is supplied only to the MFP board. • A job can be received, but printing is performed when power is turned ON. • Reset only by the power key.	Typ 0.5 W
ErP auto power OFF mode		Blinking in orange	• Power consumption to the lowest level. • Rset only by the power key or the weekly timer setting. • No jobs can be received. *	0.5 W or less

- *: In ErP auto power OFF mode, this machine cannot receive data 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 • HDD • USB board
	• Angle sensor • The cover is opened or closed • Control panel key

18.3 Power cables

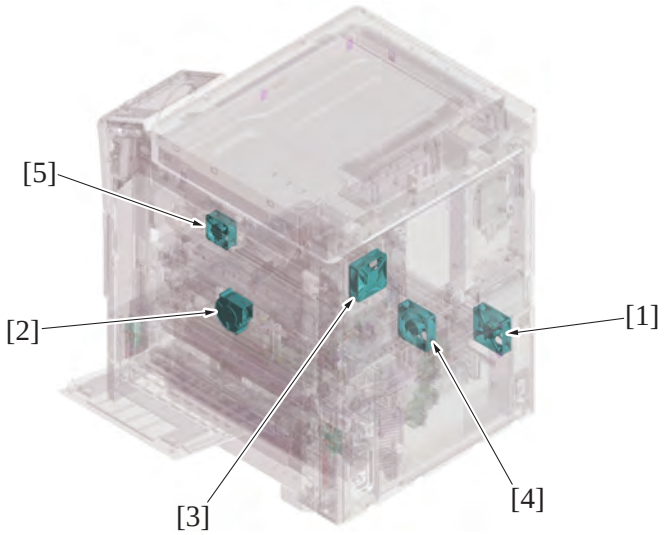


[1] Power cables	- -

Rated power	Rated current
100 V	15 A
110 V	15 A
120 V	12 A
230 V	7 A

19. FAN CONTROL

19.1 Configuration



[1]	Power supply cooling fan (FM1)	[2]	Main cooling fan (FM2)
[3]	Paper exit cooling fan (FM3)	[4]	Toner suction fan (FM4)
[5]	Reverse cooling fan (FM5)	-	-

19.2 Function

Fan motor name	Function
Power supply cooling fan (FM1)	• Blows outside air against around the MFP board and the DC power supply to prevent the temperature of the board from rising.
Main cooling fan (FM2)	• Discharges heat outside the machine to prevent the temperature the PH, drum unit, and developing unit from rising. • Ozone accumulated around electrostatic charger will be absorbed by ozone filter and be removed. • Collects UFP that is discharged from around the suction section to absorb with the UFP filter.
Paper exit cooling fan (FM3)	• When the paper with toner heated at fusing section exit while still at high temperature, toner may be transferred to other paper on the exit tray. Cools the ejected paper to prevent toner from sticking to it.
Toner suction fan (FM4)	• Sucks toner that is scattered inside the developing unit to absorb with the toner filter.
Reverse cooling fan (FM5)	• Discharges heat from paper which is passing through the reverse section during 2-sided printing to prevent the temperature of the drum unit and developing unit from rising.

19.3 Control

Status	Power supply cooling fan (FM1)	Main cooling fan (FM2)	Paper exit cooling fan (FM3)	Toner suction fan (FM4)	Reverse cooling fan (FM5)
Initial operation	Full speed rotation	Half speed rotation	Stop	Stop	Stop
At warm-up	Full speed rotation	Stop	Stop	Stop	Stop
In standby	Half speed rotation	Stop *1	Stop *1	Stop	Stop
When printing	Full speed rotation	Full speed rotation	Full speed rotation	Full speed rotation	Full speed rotation *2
In sleep mode	Half speed rotation	Stop	Stop	Stop	Stop
In low power mode	Half speed rotation	Stop	Stop	Stop	Stop
In a trouble	Stop	Stop	Stop	Stop	Stop
Checking machine status	Full speed rotation	Full speed rotation	Full speed rotation	Full speed rotation	Full speed rotation
Statuses other than the above	Stop	Stop	Stop	Stop	Stop

- *1: If the machine enters the “standby” state from the print status, the fan motor turns at full speed for a predetermined time, and stops.
- *2: The temperature inside the machine exceeds 29 degrees. 10 minutes or longer time elapse after the print started. The main motor drive ratio exceeds 70 %.

20. COUNTER CONTROL

20.1 Operation

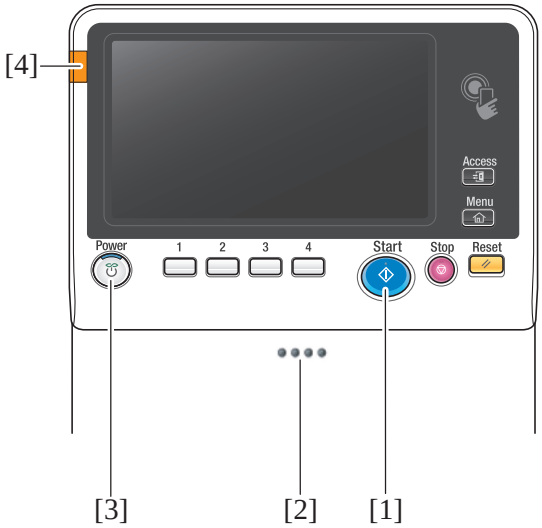
Name	Function/system
Electronic counter	• Number of total in copy/print/fax/scan mode will be displayed on the screen as described below. • Total counter, large size counter, total (copy + printer), scan counter, fax TX counter, fax RX counter, No. of originals counter, No. of paper counter, total duplex 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 with out 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 "I.7.3.1 Counter Setting".**

21. INDICATOR FUNCTION

21.1 Configuration



[1]	Start key indicator section	[2]	Operation status indicator section
[3]	Power key indicator section	[4]	Warning Status indicator section

21.2 Control

- The lighting control for the LED on each indicator section is described below.

21.2.1 Power key and Start key indicator section

Status	Power key indicator section	Start key indicator section
During warm-up	Lit up blue	Lit up orange
During stand-by	Lit up blue	Lit up blue
During copying or printing	Lit up blue	Lit up blue or orange
Paper misfeed or trouble	Lit up blue	Lit up orange
Low power mode, sleep mode	Blinking in blue	Unlit
ErP auto power off mode	Blinking in orange	Unlit
Sub power off mode	Lit up orange	Unlit

21.2.2 Warning status indicator section

Status	Warning status indicator section
When machine stops	Lit up orange
When warning occurs	Blinking in orange
Other status	Unlit

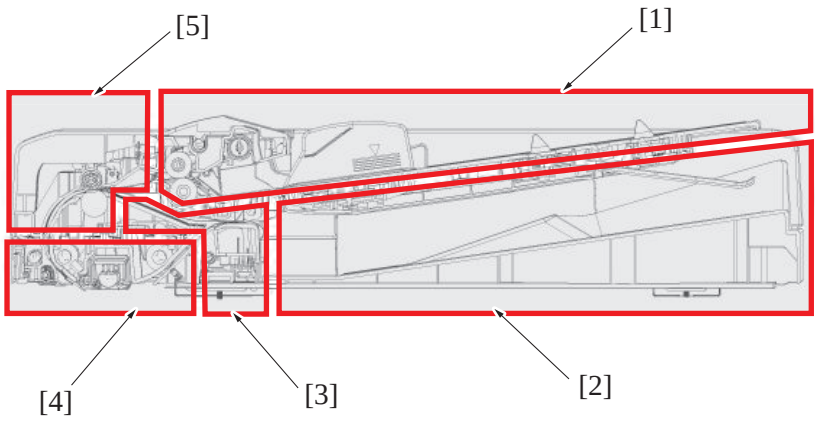
21.2.3 Operation status indicator section

Status	Operation status indicator section
Job is currently	Lit up blue
Receiving a job	Blinking in blue
Other status	Unlit

PA THEORY OF OPERATION DF-628/SP-501

1. CONFIGURATION

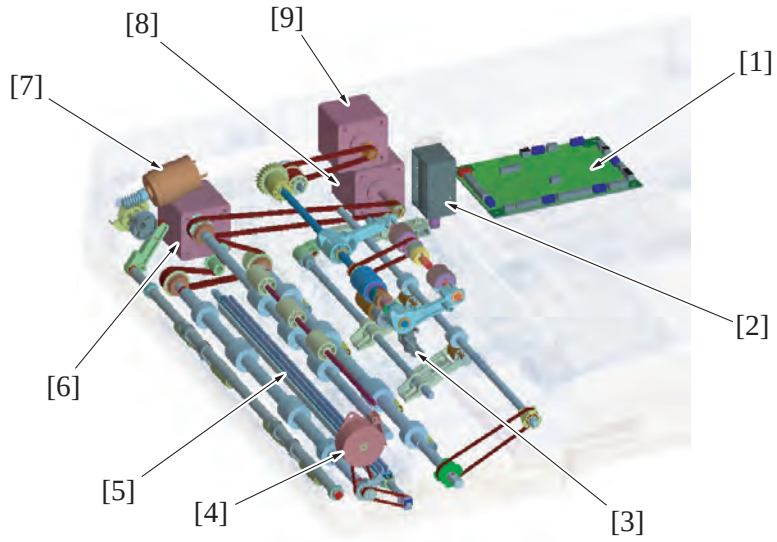
1.1 Section configuration



[1]	Original feed section	[2]	Original exit section
[3]	Original switchback section	[4]	Original reading section
[5]	Original registration section	-	-

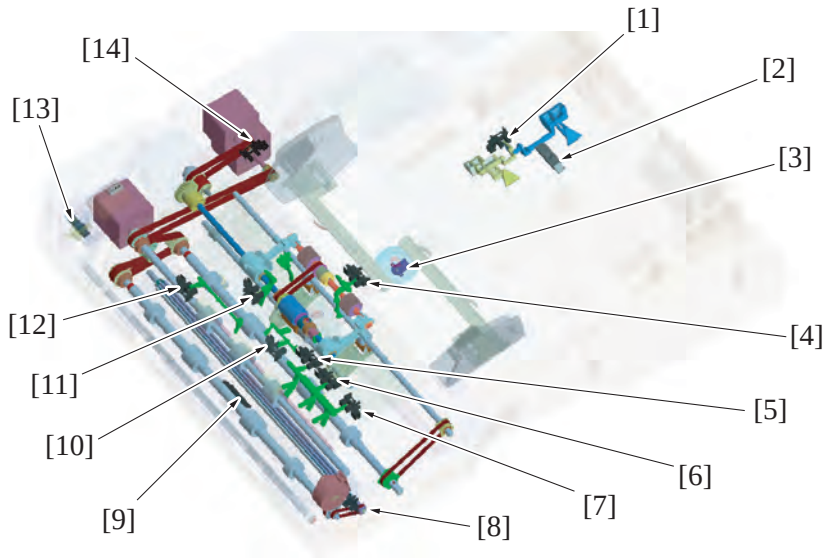
1.2 Main electrical part configuration

1.2.1 Control board, motor



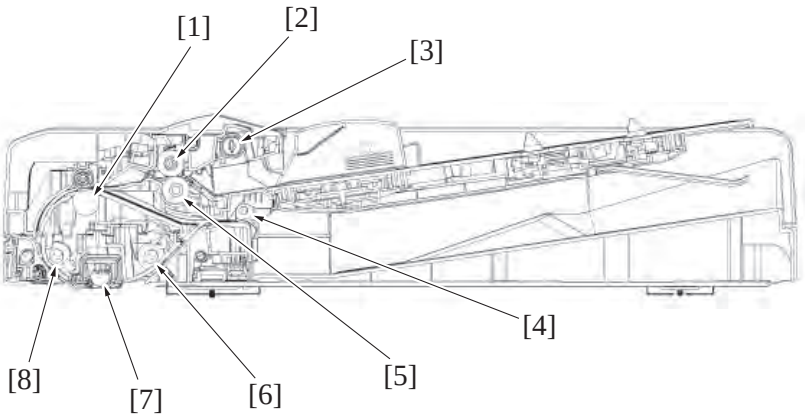
[1]	DF control board (DFCB)	[2]	Original exit roller release solenoid (SD1)
[3]	Stamp unit (SP-501) * option	[4]	Glass cleaning motor (M4)
[5]	Original reading glass cleaning brush	[6]	Original reading motor (M1)
[7]	Reading roll release motor (M5)	[8]	Registration motor (M3)
[9]	Original feed motor (M2)	-	-

1.2.2 Sensor



[1]	Original length size sensor/1 (PS6)	[2]	Original length size sensor/2 (PS7)
[3]	Original width sensor (VR1)	[4]	Original empty sensor (PS1)
[5]	Mixed original sensor/1 (PS8)	[6]	Mixed original sensor/2 (PS9)
[7]	Mixed original sensor/3 (PS10)	[8]	Original reading glass cleaning sensor (PS12)
[9]	Original reading sensor (PS4)	[10]	Original exit sensor (PS5)
[11]	After separate sensor (PS2)	[12]	Original registration sensor (PS3)
[13]	Reading roll position sensor (PS11)	[14]	Upper door sensor (PS13)

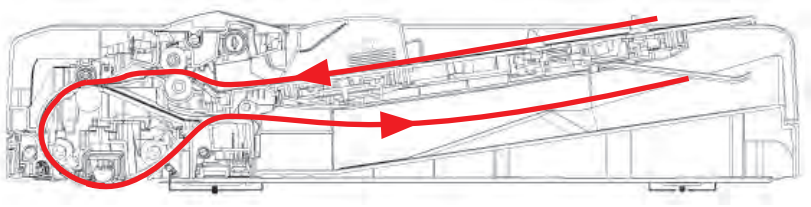
1.2.3 Roller



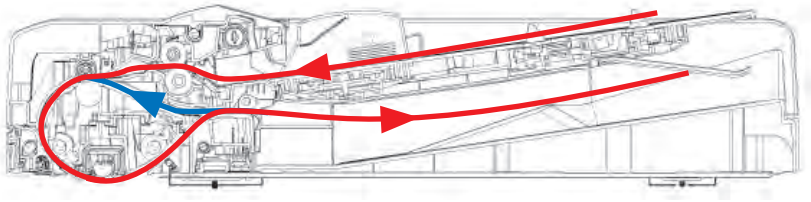
[1]	Registration roller	[2]	Original feed roller
[3]	Original pick-up roller	[4]	Original switchback exit roller
[5]	Original separation roller	[6]	Original reading roller/2
[7]	Original reading glass cleaning roller	[8]	Original reading roller/1

2. PAPER PATH

2.1 1-sided paper path



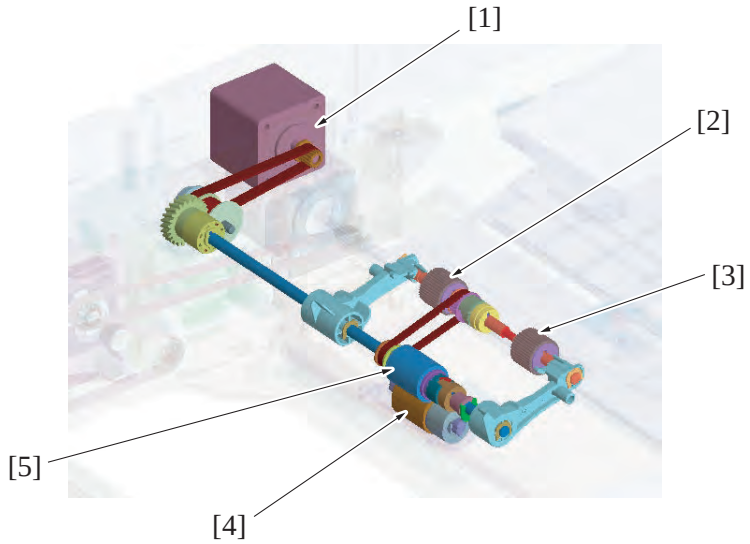
2.2 2-sided paper path



3. DRIVE

3.1 Paper feed drive

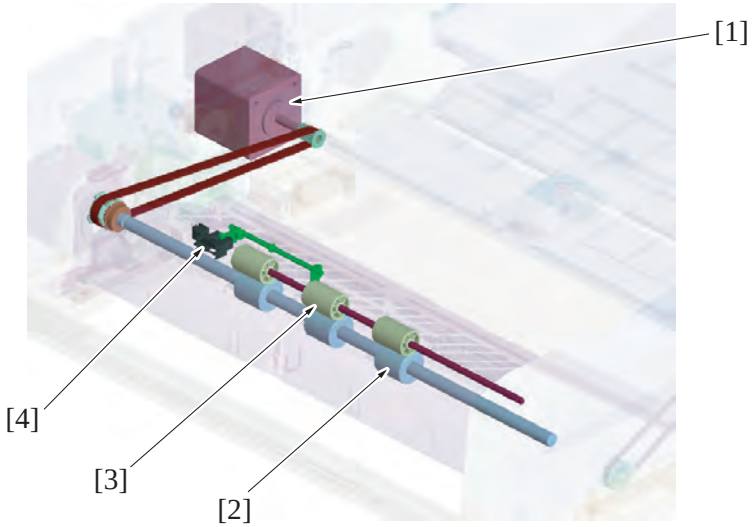
- The original feed section consists of the original pick-up roller, original feed roller, as well as the original separation roller, and is directly driven by the original feed motor.
- When the start key is pressed, the original pick-up roller lowers to press the original, and the original is taken up and fed in. The original is transported to the registration roller by the original pick-up roller and original feed roller.
- After the take-up and feeding sequence, the original feed motor is rotated backward, which raises the original pick-up roller.



[1]	Original feed motor (M2)	[2]	Original pick-up roller
[3]	Original pick-up roller	[4]	Original separation roller
[5]	Original feed roller	-	-

3.2 Registration drive

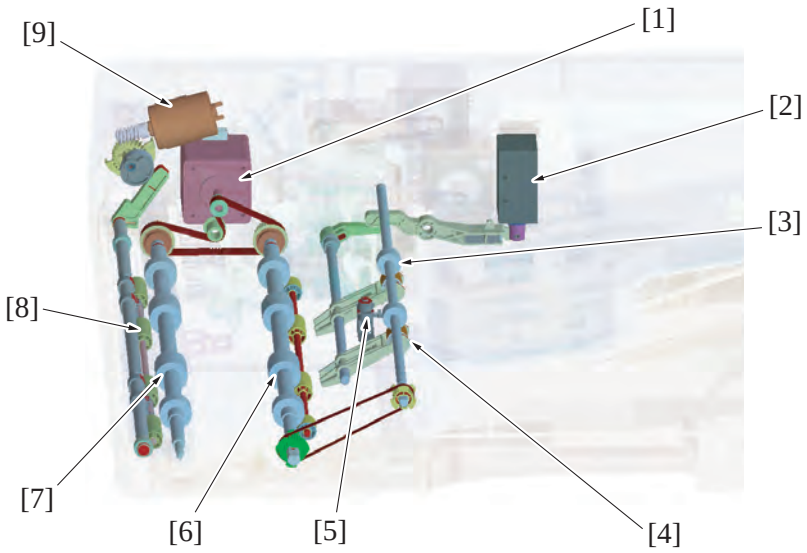
- Timing at which to start transporting the original is controlled using the registration motor.
- The original is pressed against the registration roller and registration roll. This forms a loop in the original to thereby correct any skew in the original.



[1]	Registration motor (M3)	[2]	Registration roller
[3]	Registration roll	[4]	Original registration sensor (PS3)

3.3 Original reading drive

- The original reading motor drives the original reading section and original exit section.
- The original reading roll is equipped with a pressure/release mechanism. The pressure is released when the trailing edge of the original moves past the roller.
- The original reading motor rotates backward to allow the second feed of the original to be performed during switchback in the 2-sided mode.
- The original exit roll is equipped with a pressure/release mechanism. The pressure is released when the original is fed in a second time so that its second side can be read.

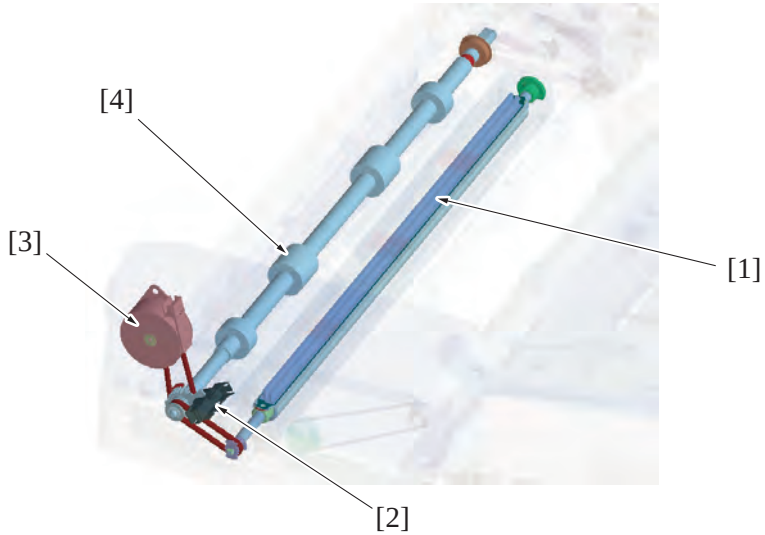


[1]	Original reading motor (M1)	[2]	Original exit roller release solenoid (SD1)
[3]	Original exit roller	[4]	Original exit roll
[5]	Stamp unit (SP-501) *1	[6]	Original reading roller/2
[7]	Original reading roller/1	[8]	Original reading roll
[9]	Reading roll release motor (M5)	-	-

- *1: Option

3.4 Original reading glass cleaning drive

- The glass cleaning motor drives the original reading glass cleaning brush.
- The position of the cleaning brush is controlled by the original reading glass cleaning sensor.



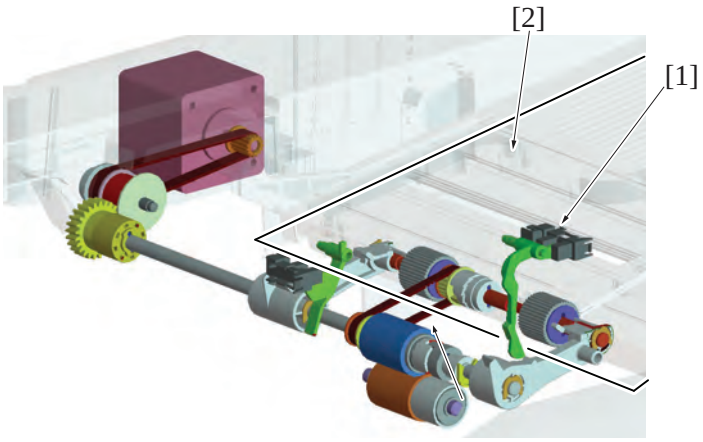
[1]	Original reading glass cleaning brush	[2]	Original reading glass cleaning sensor (PS12)
[3]	Glass cleaning motor (M4)	[4]	Original reading roller/1

4. OPERATION

4.1 Original feed section

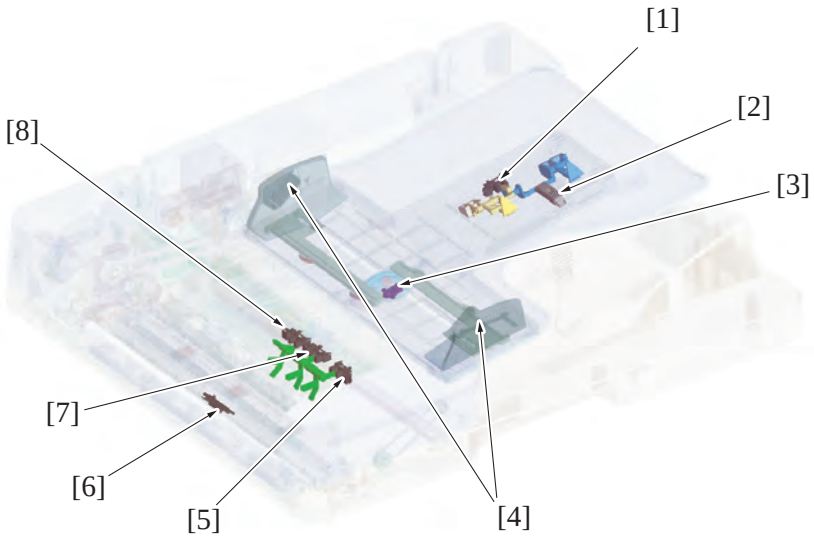
4.1.1 Original set/empty detection

- When an original is loaded on the original feed tray, the original empty sensor detects that there is original.
- If no original is loaded when the original pick-up roller is in the standby position, the actuator blocks the original empty sensor and it is detected that no original is loaded.
- When an original is loaded on the original feed tray, the leading edge of the original pushes the actuator so that the original empty sensor is unblocked. It is detected that an original is loaded.
- When all originals are fed in, the actuator blocks the original empty sensor, so that the machine detects no original remained on the original feed tray.



[1]	Original empty sensor (PS1)	[2]	Original

4.1.2 Original size detection mechanism

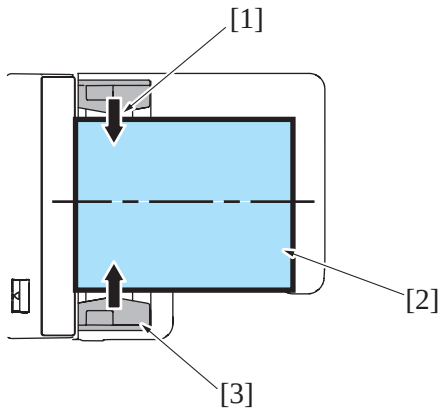


[1]	Original length size sensor/1 (PS6)	[2]	Original length size sensor/2 (PS7)
[3]	Original width sensor (VR1)	[4]	Original width guide
[5]	Mixed original sensor/3 (PS10)	[6]	Original reading sensor (PS4)
[7]	Mixed original sensor/2 (PS9)	[8]	Mixed original sensor/1 (PS8)

(1) Size detection in standard mode

(a) Detecting the width of the original

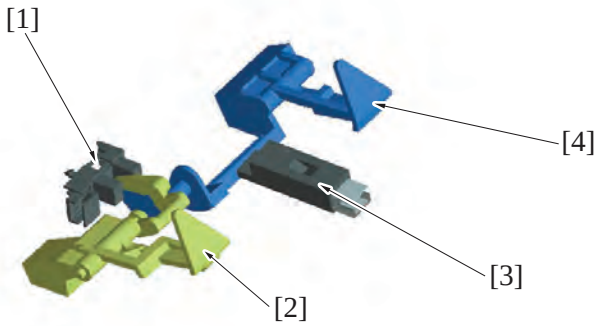
- The original is to be loaded in the original feed tray by aligning it with reference to the center of the original feed tray in the standard mode.
- The width of the original is loaded on the original feed tray will be detected with the original width size sensor.
- A variable resistor is incorporated in the original width size sensor. Its resistance value varies in association with the movement of the original width guide.



[1]	Adjust the original width guides (center alignment)	[2]	Original (standard mode)
[3]	Original width guide	-	-

(b) Detecting the length of the original

- The length of the original is set on the original feed tray will be detected by the original length size sensors/1 and /2.
- The original length size sensor/1 is a transmission type, while original length size sensor/2 is a reflection type. The original length size sensor/1 is detected by two actuators, that is, actuator/1 and actuator/2.
- When the original feed tray is not loaded with any originals, original length size sensor/1 is blocked. When an original is loaded and only actuator/1 is pressed, original length size sensor/1 is unblocked. When both actuator/1 and actuator/2 are pressed, a blocked original length size sensor/1 is detected by actuator/2.

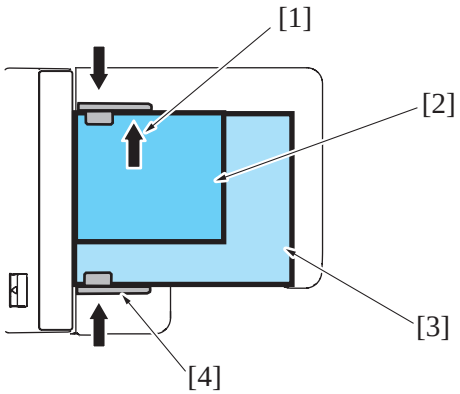


[1]	Original length size sensor/1 (PS6)	[2]	Actuator/1
[3]	Original length size sensor/2 (PS7)	[4]	Actuator/2

(2) Size detection in mixed original / AMS mode

(a) Detecting the width of the original

- In the mixed original mode, the original is aligned to the rear side.
- In the mixed original / AMS mode, no width is determined on the original feed tray; rather, the width is detected while the originals are being fed.
- Three mixed original sensors are disposed at positions immediately after the original feed section, functioning to detect the width of the original.



[1]	Align the original with narrow width with the rear side of the original width guides (rear alignment)	[2]	Original with narrow width (mixed original mode)
[3]	Original with wide width (mixed original mode)	[4]	Original width guide

(b) Detecting the length of the original

- In the mixed original/AMS mode, the length of the original is not determined on the original feed tray. But the length is calculated and determined based on the period of time during which the original reading sensor remains activated.

(3) Original feed tray size detection

- Original size is determined with the combination of the detected original width and length.

For Japan models

Original length size sensor/2 (PS7)		OFF	OFF	Reflector	Reflector
Original length size sensor/1 (PS6)		Blocked	Unblocked	Unblocked	Blocked
Original width size sensor (VR1)	114.5	Postcard	B5S	A4S	A3
	136	B6S	B5S	A4S	A3
	163	A5S	B5S	A4S	A3
	190.6	B5S	B5S	A4S	A3
	236.5	A5	$8\frac{1}{2}$×11S	A4S	FLS S
	266.2	B5	B4	B4	B4
	286.2	$8\frac{1}{2}$×11	11×17	11×17	11×17
	(307)	A4	A3	A3	A3

For Europe models

Original length size sensor/2 (PS7)		OFF	OFF	Reflector	Reflector
Original length size sensor/1 (PS6)		Blocked	Unblocked	Unblocked	Blocked
Original width size sensor (VR1)	114.5	A6S	B5S	A4S	A3
	136	B6S	B5S	A4S	A3
	163	A5S	B5S	A4S	A3
	190.6	B5S	B5S	A4S	A3
	236.5	A5	$8\frac{1}{2}$×11S	A4S	FLS S
	266.2	B5	B4	B4	B4
	286.2	$8\frac{1}{2}$×11	11×17	11×17	11×17
	(307)	A4	A3	A3	A3

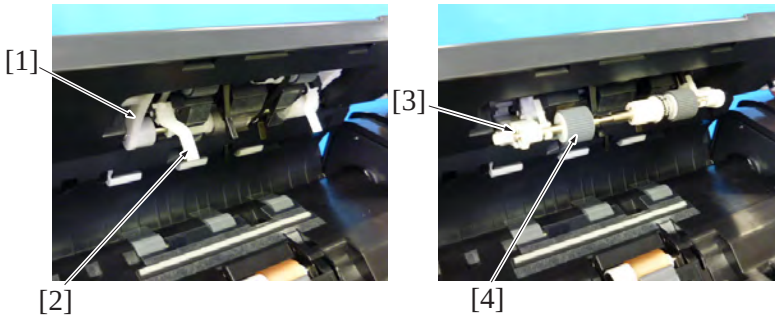
For North America models

Original length size sensor/2 (PS7)		OFF	OFF	Reflector	Reflector
Original length size sensor/1 (PS6)		Blocked	Unblocked	Unblocked	Blocked
Original width size sensor (VR1)	158.7	$5\frac{1}{2}$×$8\frac{1}{2}$S	$8\frac{1}{2}$×11S	$8\frac{1}{2}$×14	11×17
	194	B5S	B5S	$8\frac{1}{2}$×14	11×17
	236.5	$5\frac{1}{2}$×$8\frac{1}{2}$	$8\frac{1}{2}$×11S	A4S	$8\frac{1}{2}$×14
	266.2	B5	B4	B4	B4
	286.2	$8\frac{1}{2}$×11	11×17	11×17	11×17
	(307)	A4	A3	A3	A3

4.1.3 Pick-up roller up/down control

(1) Up control

- When a job is completed, the original feed motor starts rotating backward. Then, the swing arm mounted on the same shaft as the original feed roller is rotated backward to thereby raise the original pick-up roller to the standby position.
- The original pick-up roller is fixed at the raised position by a torque limiter of the paper drive section.
- When the swing arm is raised to the standby position, the original stopper is lowered by its own weight and fixed by the lock pawl of the swing arm. The original stopper is unlocked when the swing arm lowers.
- The original stopper has two functions: one, to align the leading edges of the originals loaded in the standby state; and, two, to prevent the leading edge of the original from advancing over the pick-up position into the feed section.



[1]	Swing arm (standby position)	[2]	Original stopper
[3]	Swing arm (feed position)	[4]	Original pick-up roller

(2) Down control

- When the start key is pressed, the original feed motor starts rotating forward. The rotation shaft of the swing arm mounted on the same shaft as the original feed roller is rotated forward, so that the original pick-up roller is lowered to the feed position.
- The original stopper is unlocked when the swing arm lowers.

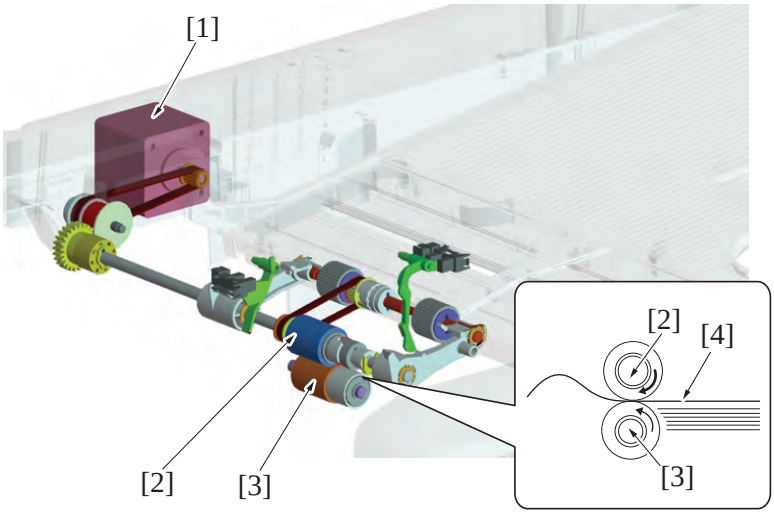
4.1.4 Original feed/separation control

(1) Pick-up control

- When the start key is pressed, the original feed motor starts rotating forward, so that the original feed roller rotates forward.
- The rotation shaft of the swing arm mounted on the same shaft as the original feed roller is rotated forward, so that the original pick-up roller is lowered to the feed position.
- The original pick-up roller is rotated by a drive belt to thereby feed the original onto the original feed roller.

(2) Separation control

1. The original separation roller is pressed up against, and driven by, the original feed roller. A torque limiter is mounted on the shaft of the original separation roller.
2. The acting pressure of the original feed roller/original separation roller/torque limiter serves as the limit torque for preventing double feed.
3. When there is no original or only one sheet of original between the original separation roller and the original feed roller, the limit torque is exceeded and the original separation roller follows the rotation of the original feed roller.
4. If there are two or more sheets of original between the original separation roller and the original feed roller, the limit torque is greater than the friction force of the original, so that the original separation roller stops rotating.
5. Because of the stationary original separation roller, the lower sheet of original in contact with the original separation roller is not fed in, so that the first sheet of original is original separated from the second sheet of original.

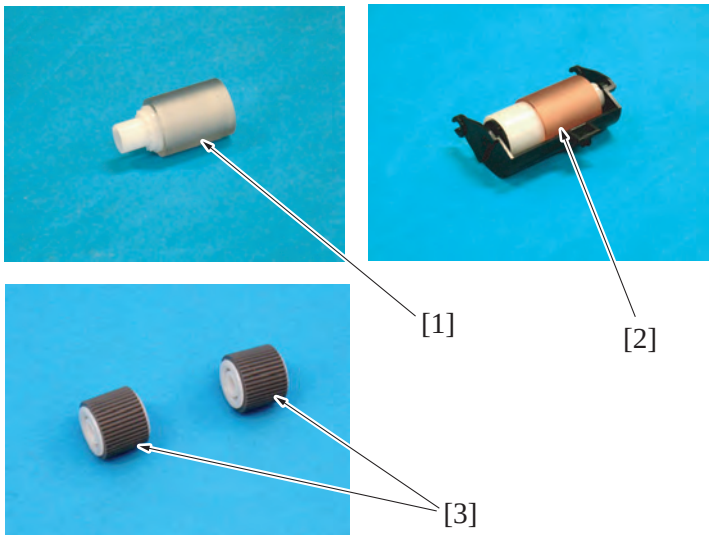


[1]	Original feed motor (M2)	[2]	Original feed roller
[3]	Original separation roller	[4]	Original

(3) Periodically replaced parts

- The original pick-up roller, original feed roller, and original separation roller are periodically replaced parts. These three rollers must be replaced with new ones at the same time.
- None of the original pick-up rollers, original feed rollers, and original separation roller are provided with a new article detection mechanism. When the three rollers are replaced with new ones, the “ADF Feed” counter must be reset to zero using “Counter/ Life” of the Service Mode.
- The number of times the DF has been subjected to paper feed operations can be checked with the “ADF Feed” counter of the Service Mode.

Periodical replacement cycle	Paper feed operations 200,000 times

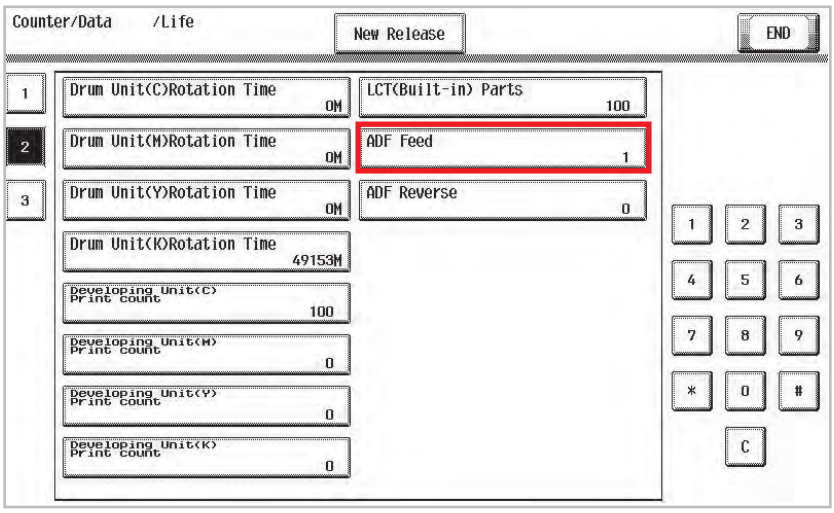


[1]	Original feed roller	[2]	Original separation roller assy
[3]	Original pick-up roller	-	-

- For details of the applicable replacement procedures for the original pick-up roller, original feed roller, and original separation roller and the Service Mode, see "F.7.1.3 Replacing the pick-up roller/feed roller" and "F.7.1.4 Replacing the separation roller assy."

(a) ADF paper feed counter

- The number of time that the document feeder performs paper feed can be confirmed with the counter of "ADF Feed" of "Service Mode / Counter / Life".



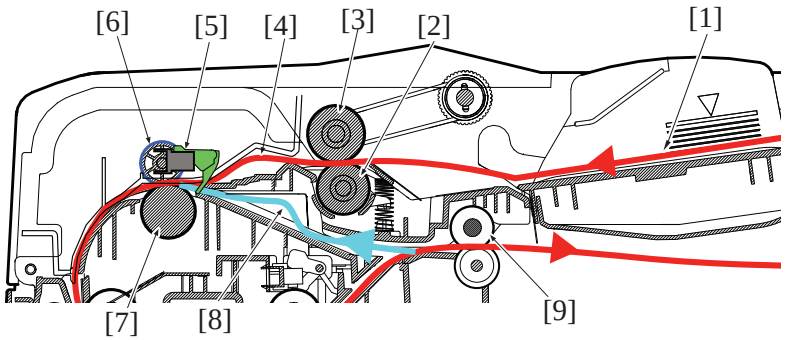
4.2 Original registration section

4.2.1 Original registration outline

- The registration motor provides the drive for the registration roller.
- The original will create a loop between the original feed roller and the registration roller when the original is being conveyed in order to correct the skew.

4.2.2 Original registration loop formation process

1. The registration sensor detects the leading edge of the original.
2. The registration roller remains stationary.
3. Because the original feed roller (original switchback exit roller for the 2nd side of the original) continues rotating to feed the original, a loop is formed at the leading edge of the original.
4. The loop corrects skew in the original.
5. The registration roller is started to rotate to transport the original.

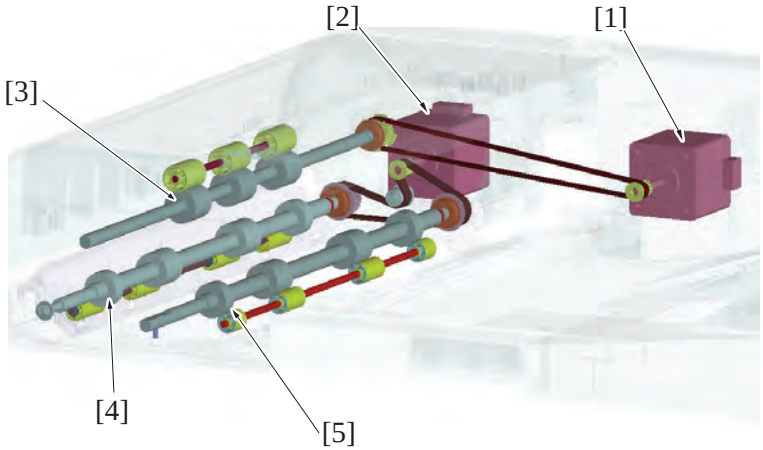


[1]	Original	[2]	Original separation roller
[3]	Original feed roller	[4]	Loop formation (1st side)
[5]	Registration sensor (PS3)	[6]	Registration roll
[7]	Registration roller	[8]	Loop formation (2nd side)
[9]	Original switchback exit roller	-	-

4.3 Original reading section

4.3.1 Transport mechanism

- The original transported from the original feed section will be transported to the original reading section by the registration roller, the original reading roller/1 and /2, and the original switchback exit roller.
- The registration roller is driven by the registration motor.
- The original reading roller/1 and /2 are driven by the original reading motor.

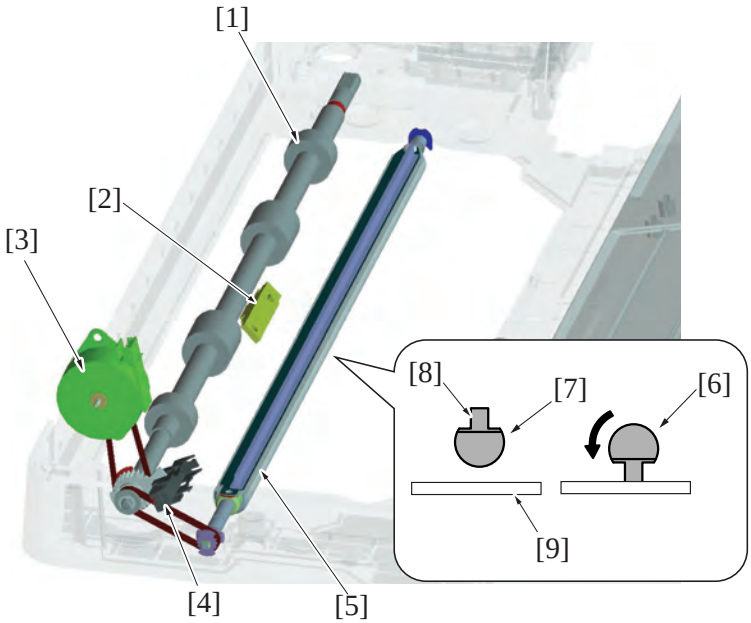


[1]	Registration motor (M3)	[2]	Original reading motor (M1)
[3]	Registration roller	[4]	Original reading roller/1
[5]	Original reading roller/2	-	-

4.3.2 Original reading glass cleaning mechanism

(1) Original reading glass cleaning

- A reading line can occur if the original reading glass is contaminated with dust or dirt. The original reading glass cleaning mechanism prevents this fault from occurring.
- A half face of the original reading glass cleaning roller is provided with the original reading glass cleaning brush. While the original is being read, the original reading glass cleaning brush faces up. When the original reading glass is to be cleaned, the document reading glass cleaning roller rotates, so that the original reading glass cleaning brush faces the DF original glass.
- The glass cleaning motor drives the original reading glass cleaning brush.
- The position of the cleaning brush is controlled by the original reading glass cleaning sensor.

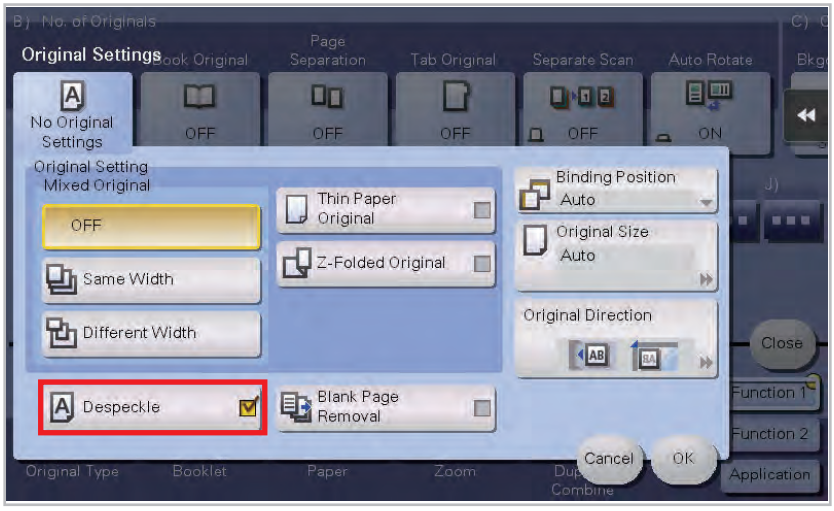


[1]	Original reading roller	[2]	Original reading sensor (PS4)
[3]	Glass cleaning motor (M4)	[4]	Original reading glass cleaning sensor (PS12)
[5]	Original reading glass cleaning roller	[6]	Original reading glass cleaning roller (cleaning position)
[7]	Original reading glass cleaning roller (waiting position)	[8]	Cleaning brush section
[9]	Original reading glass	-	-

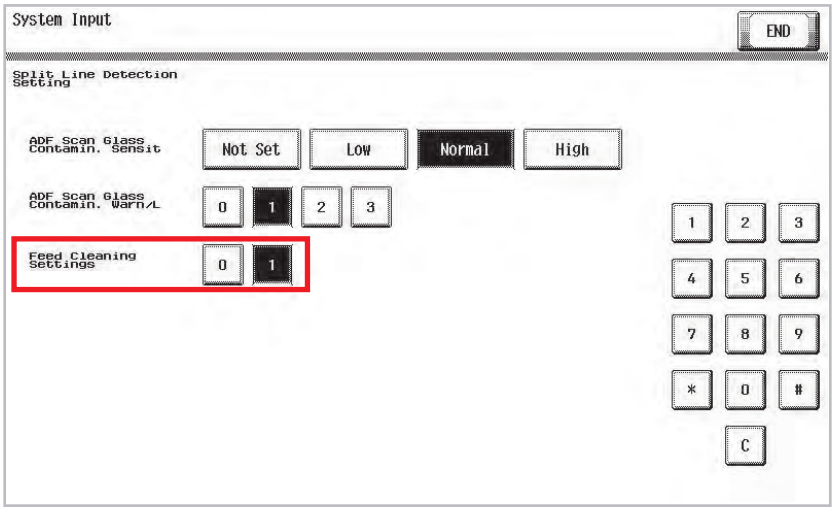
(2) Details of original reading glass cleaning

Condition		Cleaning operation
Predrive	Power ON	Rotates the original reading glass cleaning brush one complete turn to check for its correct operation. (forward rotation)
	Existing from sleep	
Start key ON	Before starting reading	Rotates the original reading glass cleaning brush one complete turn to perform cleaning. (forward rotation: default setting)
	During reading	Rotates the original reading glass cleaning brush one complete turn to perform cleaning for every two originals during continuous reading of originals. (forward rotation)
		Rotates the original reading glass cleaning brush three complete turns to perform cleaning for each original during continuous reading of originals, if [Original Settings] -> [Despeckle] *1 is selected. (forward rotation) Because the original reading glass cleaning brush is rotated three complete turns to perform the cleaning, however, the original-to-original distance is widened than at normal timing. This results in reduced productivity in reading the originals.
		No original glass cleaning sequence is performed between originals during continuous reading of originals, if [System2] -> [ADF Scan Glass Contamin. Set.] -> [Feed Cleaning Settings] -> [0] *2 is selected in the Service Mode.
	After completing reading last original	The original reading glass 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. (backward rotation)

(a) *1: Despeckle mode setting screen

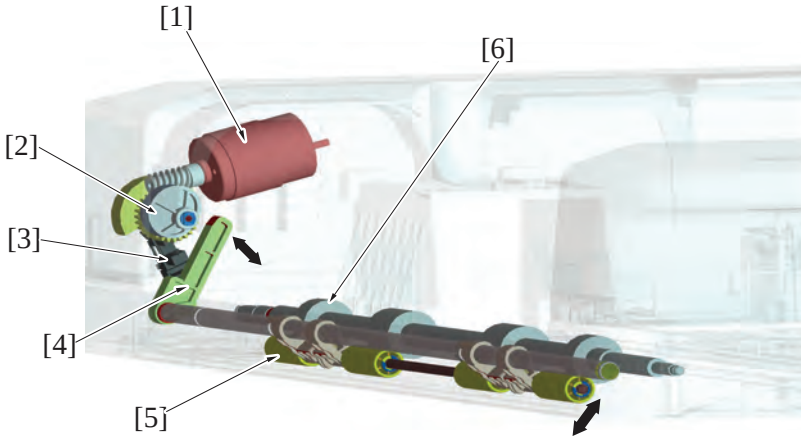


(b) *2: Feed cleaning settings screen



4.3.3 Original reading roll pressure/release control

- Rotation of the reading roll release motor drives the cam, which pushes the lever, so that the original reading roll is spaced apart from the original reading roller.
  Pressure and release positions are detected by the reading roll position sensor.

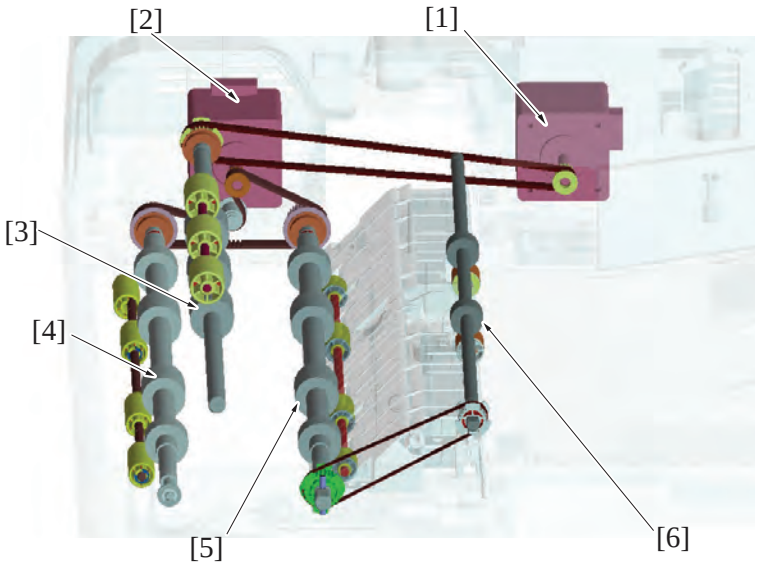


[1]	Reading roll release motor (M5)	[2]	Cam
[3]	Reading roll position sensor (PS11)	[4]	Lever
[5]	Reading roll	[6]	Original reading roller

4.4 Original switchback/exit section

4.4.1 Original switchback exit mechanism

- The original transported from the transport section will exit by the original reading roller/1, /2 and original switchback exit roller.
- In the 2-sided mode, the original switchback exit roller is rotated backward and the original is fed to the registration roller again.
- The original switchback exit roller is driven by the original reading motor.

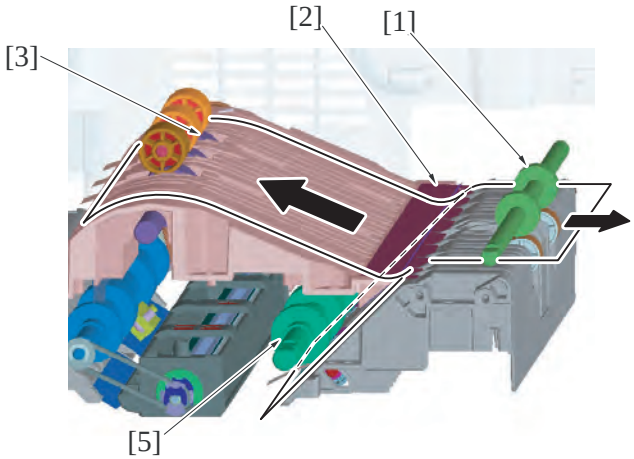


[1]	Registration motor (M3)	[2]	Original reading motor (M1)
[3]	Registration roller	[4]	Original reading roller/1
[5]	Original reading roller/2	[6]	Original switchback/exit roller

4.4.2 Switching mechanism for original switchback/exit

(1) Original switchback section

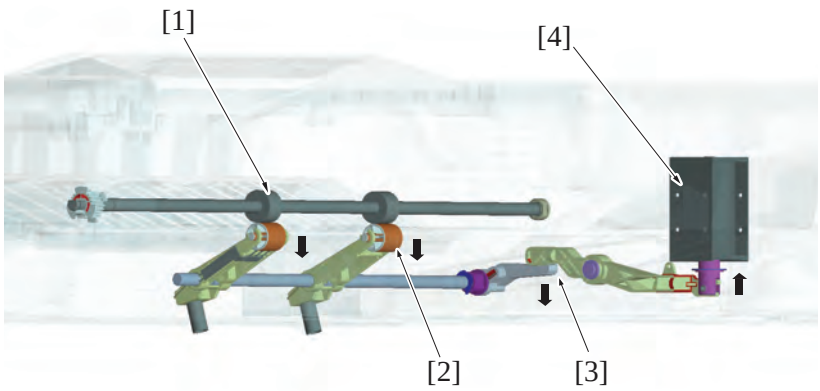
- The switchback path switching guide film provides a route toward the switchback path.
- In the 2-sided mode, the original switchback exit roller is rotated backward. This allows the trailing edge of the original to move along the upper side of the switchback path switching guide film to be fed to the switchback path, so that the original is fed to the registration roller.
- The switchback path switching guide film is fixed at all times.



[1]	Original switchback exit roller	[2]	Switchback path switching guide film
[3]	Registration roller	-	-

4.4.3 Switchback exit roll pressure/retraction control

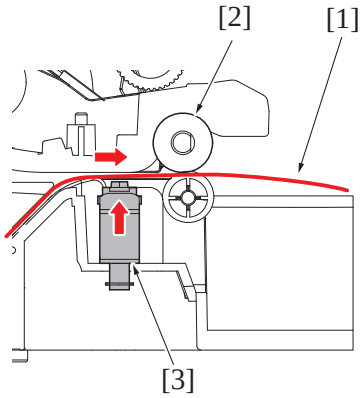
- Operation of the original exit roller release solenoid causes the lever to be pushed down and the original exit roll to be lowered, so that the original exit roll is spaced away from the original exit roller.
- This spacing operation is performed during switchback for reading of the back side of the originals and for putting pages in numerical order in the 2-sided mode.



[1]	Original switchback exit roller	[2]	Original exit roll
[3]	Lever	[4]	Original exit roller release solenoid (SD1)

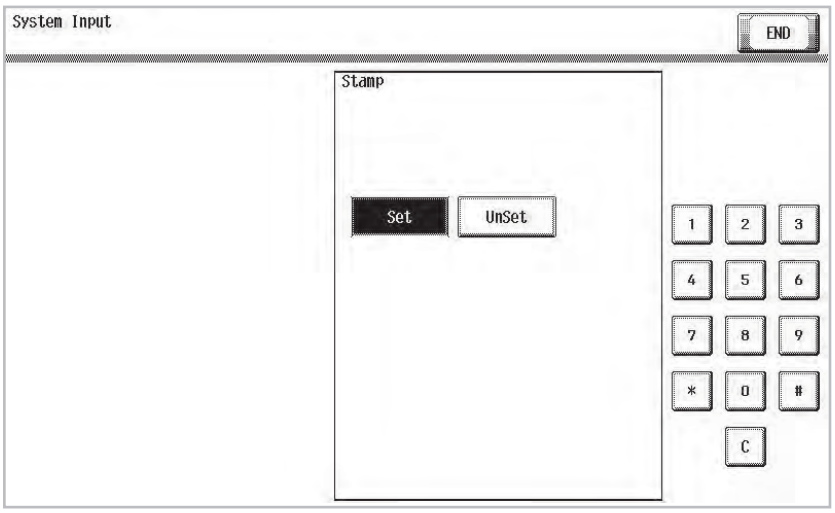
4.4.4 Faxed original stamp function SP-501

- Mounting the optional “Stamp unit SP-501” allows a stamp to be placed on a faxed original.
- The stamp solenoid located upstream of the original 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 enabled when “System 2/Stamp/Set*1 (default setting: Unset)” is turned ON using the Service Mode and the user selects “Application/TX Stamp*2 (default setting: OFF)” on the “Scan/Fax” screen.
- This function is not used for “Copy” or “Scan”.

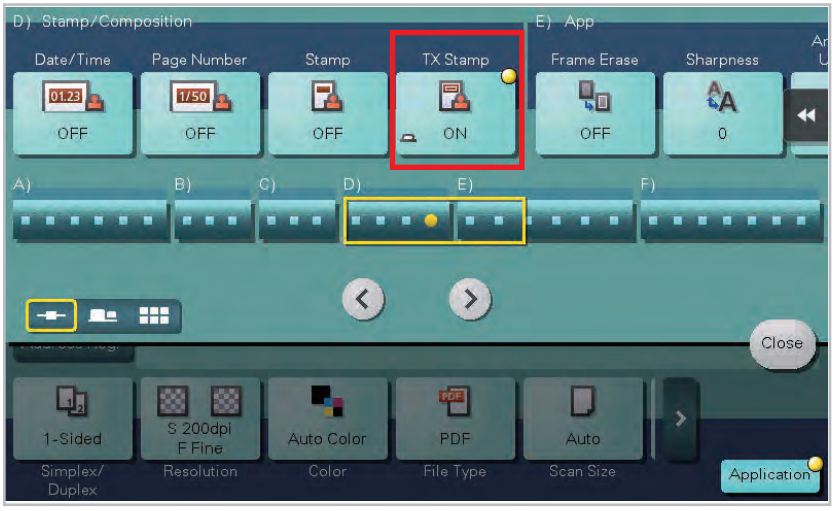


[1]	Original	[2]	Original switchback exit roller
[3]	Stamp unit (SP-501)	-	-

***1: Stamp mounting setting screen**



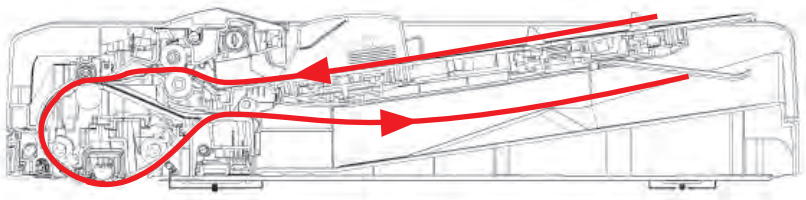
***2: TX Stamp setting screen**



4.5 Paper path operation

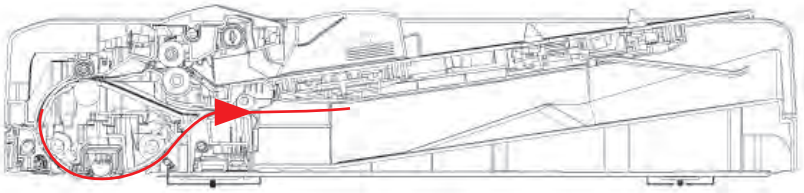
4.5.1 1-sided mode

1. Press the start key to lower the original pick-up roller down to the paper feed position and press the original.
2. The original pick-up roller, original feed roller and original separation roller rotate with the driving force from the original feed motor to feed the first original.
3. When the original reaches the registration roller, the machine will make a loop in the paper to correct the tilt of the original.
4. After a loop is created, the registration motor starts the drive and the registration roller transport the original.
5. The original feed motor stops running when a predetermined time elapses after the registration motor has been activated. The original reading motor will start running.
6. The machine starts reading the original image after the leading edge of the original turns ON the original reading sensor and the predetermined time has elapsed.
7. The original reading roll will be retracted immediately before the back edge of the original passes through the original reading roller/1. After the predetermined time has elapsed, the machine will again crimp the original reading roller in preparation for transporting the next original.
8. The driving force from the original reading roller/2 and the original switchback roller ejects originals.
9. All motors will turn OFF after the trailing edge of the last original turns OFF the original exit sensor and the predetermined time has elapsed.

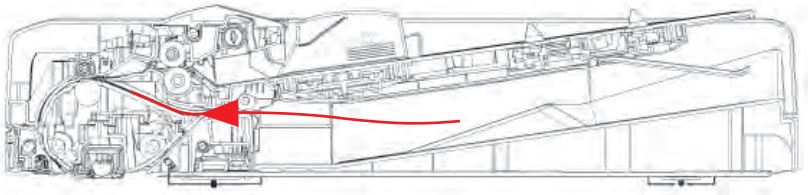


4.5.2 2-sided mode

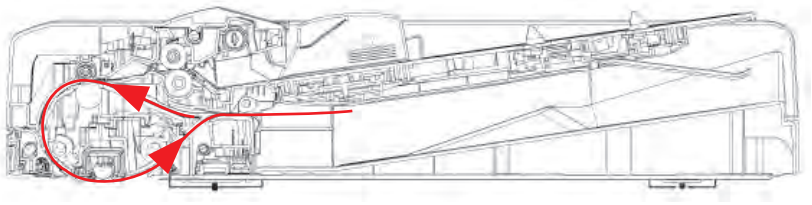
1. In the same manner as in the 1-side mode, the first side of the original is read.



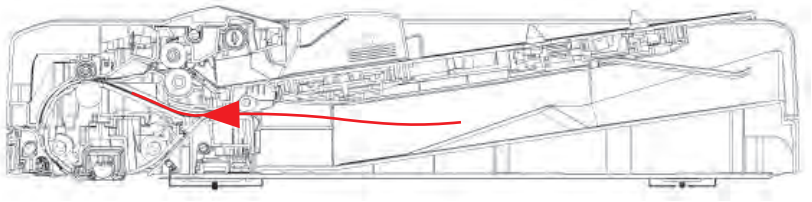
2. After original passes through original reading roller/2, the original reading motor rotates reversely and the original switchback exit roller transports original to the switchback section.



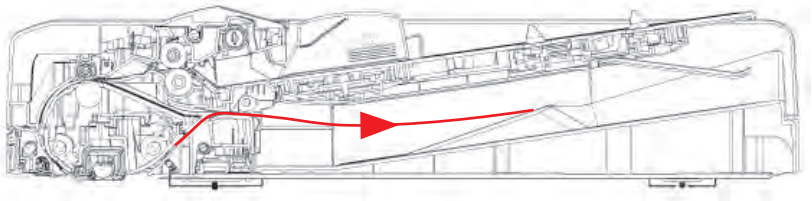
3. The machine starts reading the second side after the leading edge of the original turns ON the original reading sensor and the predetermined time has elapsed.



4. The same switching operation is performed again to correct the front and back side of the original.

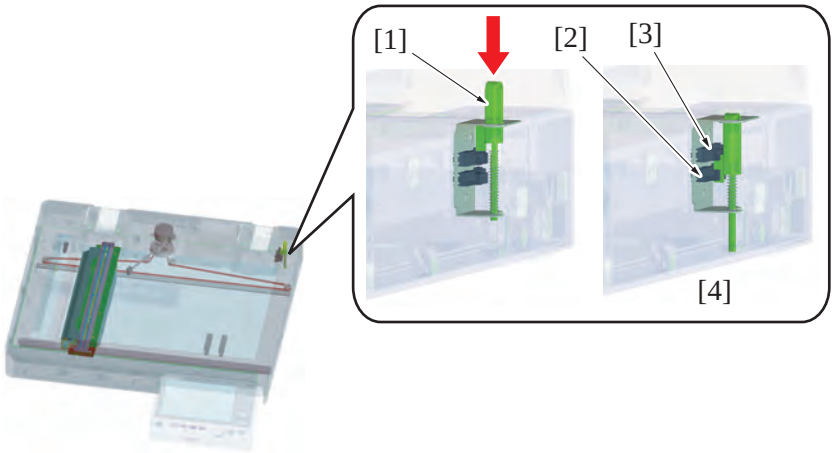


5. The original is ejected to the exit tray.



4.6 DF open/close detection

- A sensor is installed on the rear right side of the machine to detect the opening/closing of the document feeder (DF) through the MFP.
- DF opening/closing detection is performed through the rising/lowering of detect lever and changing of the sensor status depending on the opening/closing operation of the DF.
- Close the DF and push down the detect lever, the angle sensor and original cover sensor are blocked, the machine determines that the DF is closed.



[1]	Detect lever	[2]	Original cover sensor (PS104)
[3]	Angle sensor (PS103)	[4]	Detects the closed status of the DF.

4.7 Original separation roller pressure switching mechanism

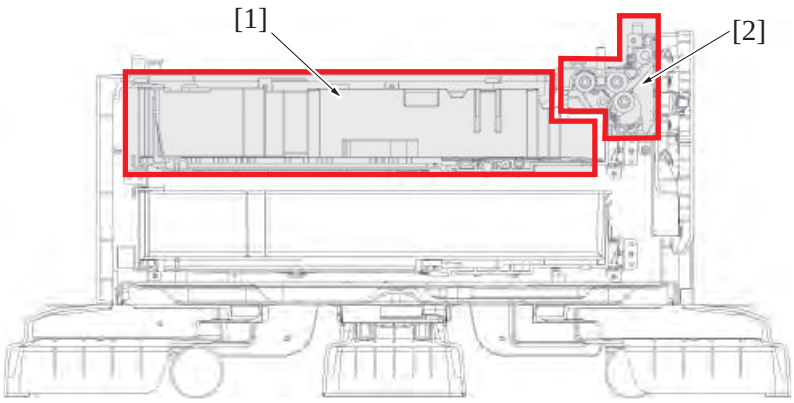
- As a solution to misfeed problems when they occur, the pressure of the original separation roller can be changed as necessary.
- Inserting a spacer into a space below the spring that applies pressure to the original separation roller will increase the pressure.
- The pressure may be set in two steps selectable according to the direction in which the spacer is inserted.
- The spacer is disposed beside the original separation roller.
- For details, see “I.11.1.3 Adjusting the pressure of the separation roller”.

PB THEORY OF OPERATION PC-113/PC-213/HT-509

1. CONFIGURATION

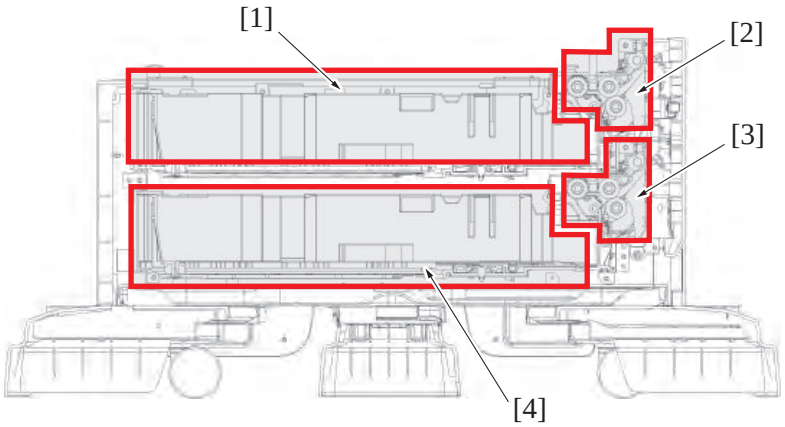
1.1 Section configuration

1.1.1 PC-113



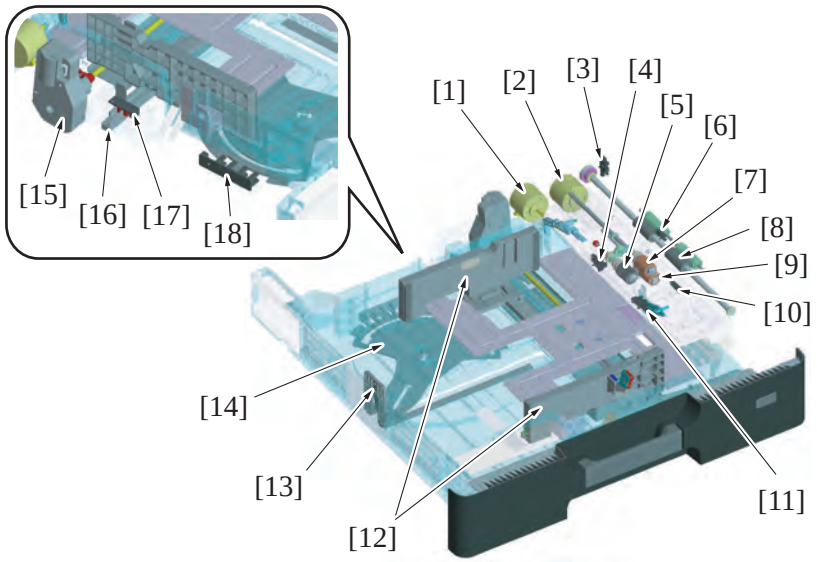
[1]	Tray 3 cassette section	[2]	Tray 3 feed roller section

1.1.2 PC-213



[1]	Tray 3 cassette section	[2]	Tray 3 feed roller section
[3]	Tray 4 feed roller section	[4]	Tray 4 cassette section

1.2 Main electrical part configuration

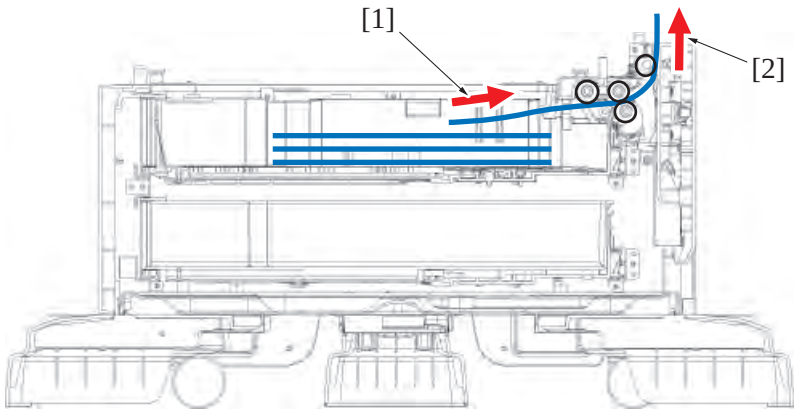


[1]	Tray 3 paper feed motor (M111) Tray 4 paper feed motor (M121)	[2]	Tray 3 vertical transport motor (M112) Tray 4 vertical transport motor (M122)

[3]	Right bottom door sensor (PS111)	[4]	Tray 3 upper limit sensor (PS116) Tray 4 upper limit sensor (PS126)
[5]	Tray 3/4 pick-up roller	[6]	Tray 3 vertical transport sensor (PS113) Tray 4 vertical transport sensor (PS123)
[7]	Tray 3/4 feed roller	[8]	Tray 3/4 vertical transport roller
[9]	Tray 3/4 separation roller	[10]	Tray 3 paper feed sensor (PS112) Tray 4 paper feed sensor (PS122)
[11]	Tray 3 paper empty sensor (PS114) Tray 4 paper empty sensor (PS124)	[12]	Tray 3/4 paper width guide
[13]	Tray 3/4 paper length guide	[14]	Paper length detection plate
[15]	Tray 3 lift-up motor (M113) Tray 4 lift-up motor (M123)	[16]	Paper width detection plate
[17]	Tray 3 CD paper size board (CDPSB/3) Tray 4 CD paper size board (CDPSB/4)	[18]	Tray 3 FD paper size board (FDPSB/3) Tray 4 FD paper size board (FDPSB/4)

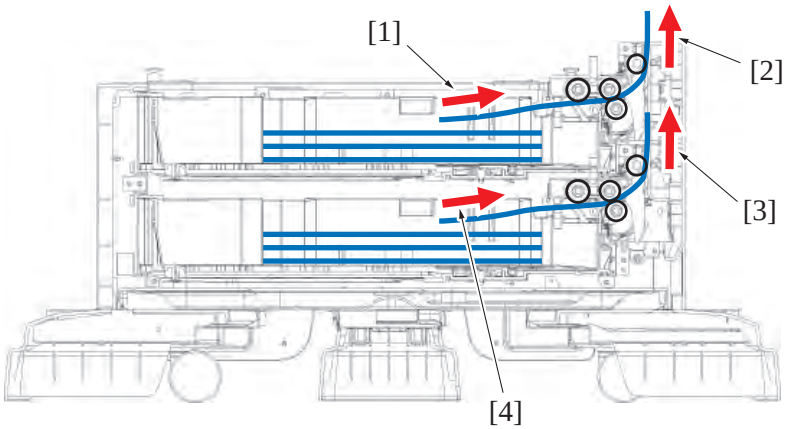
2. PAPER PATH

2.1 PC-113



[1]	Paper feeding from tray 3	[2]	Transportation to main body

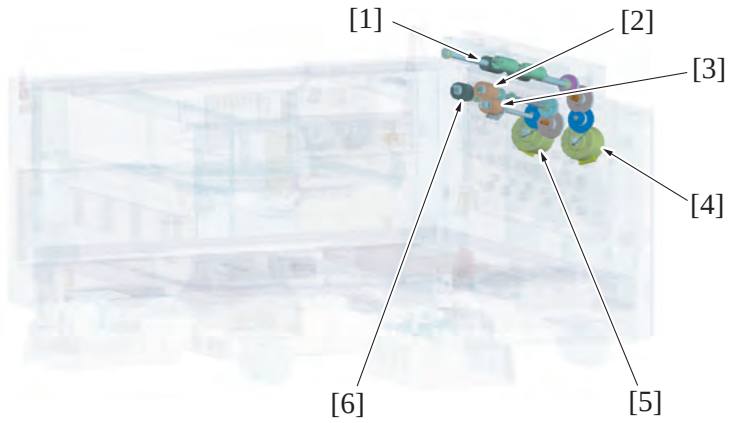
2.2 PC-213



[1]	Paper feeding from tray 3	[2]	Transportation to main body
[3]	Vertical transportion	[4]	Paper feeding from tray 4

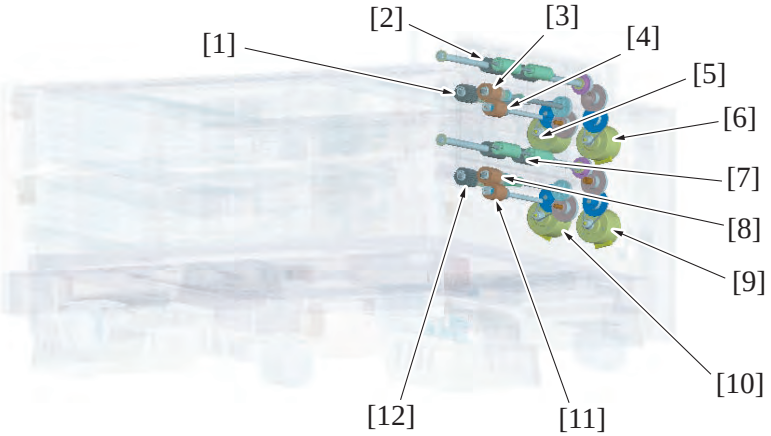
3. DRIVE

3.1 PC-113



[1]	Tray 3 vertical transport roller	[2]	Tray 3 feed roller
[3]	Tray 3 separation roller	[4]	Tray 3 vertical transport motor (M112)
[5]	Tray 3 paper feed motor (M111)	[6]	Tray 3 pick-up roller

3.2 PC-213



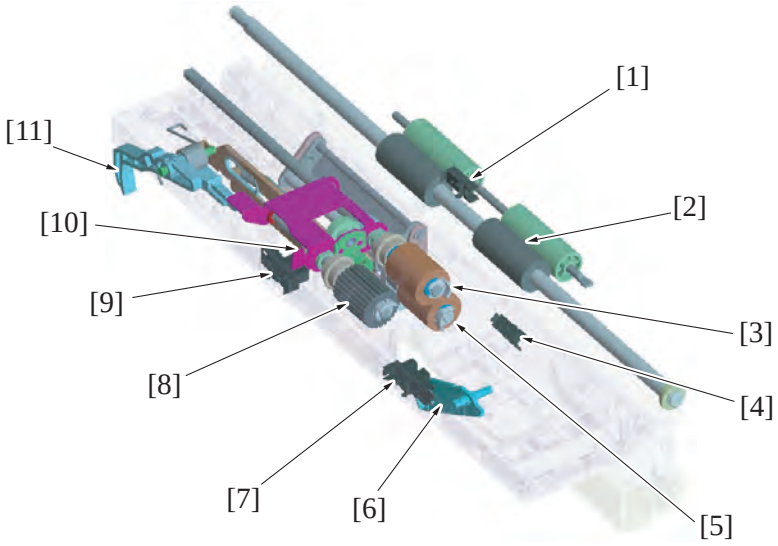
[1]	Tray 3 pick-up roller	[2]	Tray 3 vertical transport roller
[3]	Tray 3 feed roller	[4]	Tray 3 separation roller
[5]	Tray 3 paper feed motor (M111)	[6]	Tray 3 vertical transport motor (M112)
[7]	Tray 4 vertical transport roller	[8]	Tray 4 feed roller
[9]	Tray 4 vertical transport motor (M122)	[10]	Tray 4 paper feed motor (M121)
[11]	Tray 4 separation roller	[12]	Tray 4 pick-up roller

4. OPERATION

4.1 Paper feed section

4.1.1 Paper feed drive mechanism

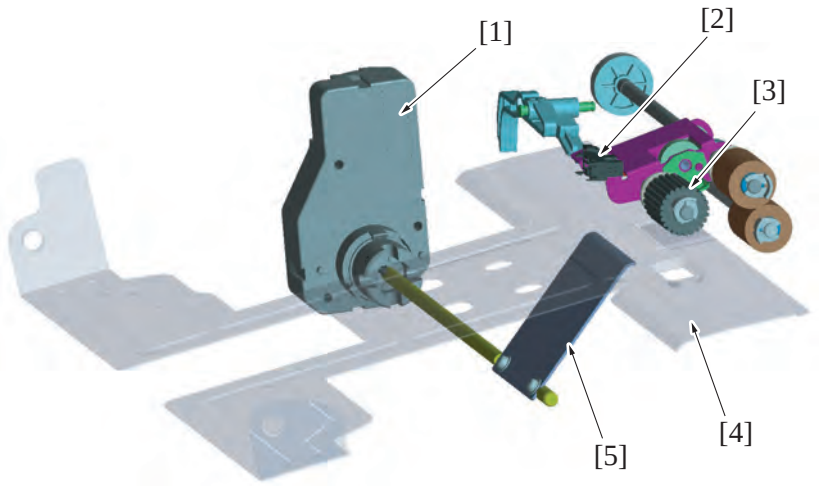
- Tray 3 and tray 4 is equipped with the same paper feed mechanism.
- The paper feed motor drives the pick-up roller and feed roller to feed paper from tray 3 and tray 4.
- Then, the vertical transport motor transports the paper through the vertical transport section.
- The pick-up roller takes up sheets 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 tray is raised to cause the paper to push the feed 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]	Tray 3 vertical transport sensor (PS113) Tray 4 vertical transport sensor (PS123)	[2]	Vertical transport roller
[3]	Feed roller	[4]	Tray 3 paper feed sensor (PS112) Tray 4 paper feed sensor (PS122)
[5]	Separation roller	[6]	Empty detection actuator
[7]	Tray 3 paper empty sensor (PS114) Tray 4 paper empty sensor (PS124)	[8]	Pick-up roller
[9]	Tray 3 upper limit sensor (PS116) Tray 4 upper limit sensor (PS126)	[10]	Upper limit detection actuator
[11]	Lever	-	-

4.1.2 Paper lifting motion

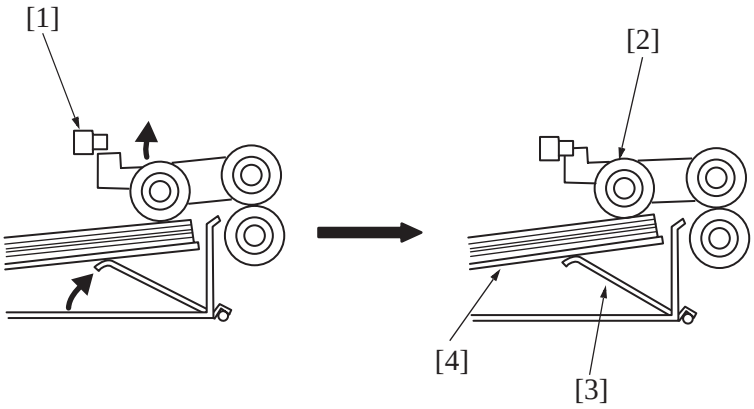
- The FD paper size board of each tray detects whether the drawer is slid in or out.
- When the FD paper size board is activated, the lift-up motor is energized to thereby raise the paper lifting plate.
- The paper stack of the tray pushes up the pick-up roller.
- When the upper limit position is detected by the upper limit sensor, it stops raising the paper lifting plate.
- As paper is consumed during the print cycle and the pick-up roller is lowered, the lift-up motor is energized until the upper limit sensor is blocked again.



[1]	Lift-up motor	[2]	Tray 3 upper limit sensor (PS116) Tray 4 upper limit sensor (PS126)
[3]	Pick-up roller	[4]	Paper lifting plate A
[5]	Paper lift-up plate B	-	-

(1) When the drawer is slid in

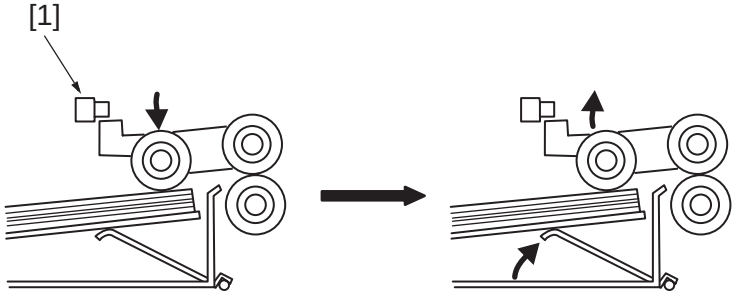
1. The paper lifting plate goes up and the top surface of the paper stack pushes up the pick-up roller.
2. The lifting motion stops as soon as the upper limit sensor detects the upper limit position.



[1]	Tray 3 upper limit sensor (PS116) Tray 4 upper limit sensor (PS126)	[2]	Pick-up roller
[3]	Paper lifting plate B	[4]	Paper lifting plate A

(2) During a print cycle

1. As the paper is consumed, the upper limit sensor is unblocked. Then the paper lifting plate goes up.



[1]	Tray 3 upper limit sensor (PS116) Tray 4 upper limit sensor (PS126)	-	-

4.2 Cassette section

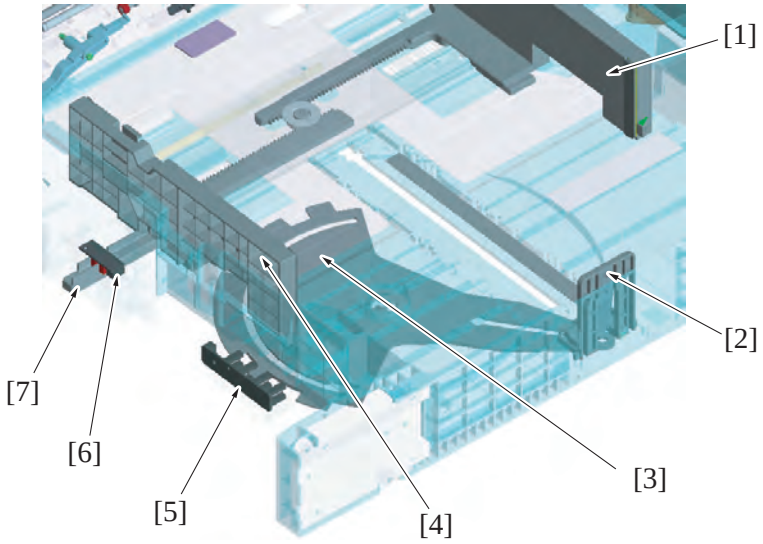
4.2.1 Paper size detection

(1) Paper width direction

- The size in paper width direction is detected with the combination of ON/OFF the transmission type photosensors 1, 2 on the CD paper size board.
- The CD paper size detection sensor is unblocked/blocked with the position of the paper width detection plate that is connected to the paper width guide.

(2) Paper feeding direction

- The size in paper feeding direction is detected with the combination of ON/OFF transmission type photosensors 1 to 4 on the FD paper size board.
- The FD paper size detection sensor is unblocked/blocked with the position of the paper length detection plate that is connected to the paper length guide.
- The sensor on the FD paper size board also functions to detect whether the cassette is mounted.



[1]	Paper width guide (front)	[2]	Paper length guide
[3]	Paper length detection plate	[4]	Paper width guide (rear)
[5]	Tray 3 FD paper size board (FDPSB/3) Tray 4 FD paper size board (FDPSB/4)	[6]	Tray 3 CD paper size board (CDPSB/3) Tray 4 CD paper size board (CDPSB/4)
[7]	Paper width detection plate	-	-

(3) Sheet size determination

- The 2 CD paper size detection sensors detect the paper width, and the 4 FD paper size detection 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
A3	L	L	H	L	L	H
B4	L	H	H	H	L	H
A4S	H	H	L	L	L	L
A4	H	L	H	L	L	H
B5S	L	H	H	L	L	L
B5	L	H	L	L	L	H
A5 S, 5 1/2×8 1/2 S (Invoice S) (*1)	H	L	H	L	L	L
Ledger (11×17)	L	L	H	L	H	H
Legal (8 1/2x14)	L	H	H	H	L	L
Letter S (8 1/2×11 S)	L	L	L	H	L	L
Letter (81/2x11)	H	L	H	L	H	H
FLS S (*2)	H	H	H	H	L	L
8K S (270 mm × 390 mm)	L	H	L	H	H	H
16K (270 mm × 195 mm)	L	H	H	L	H	H

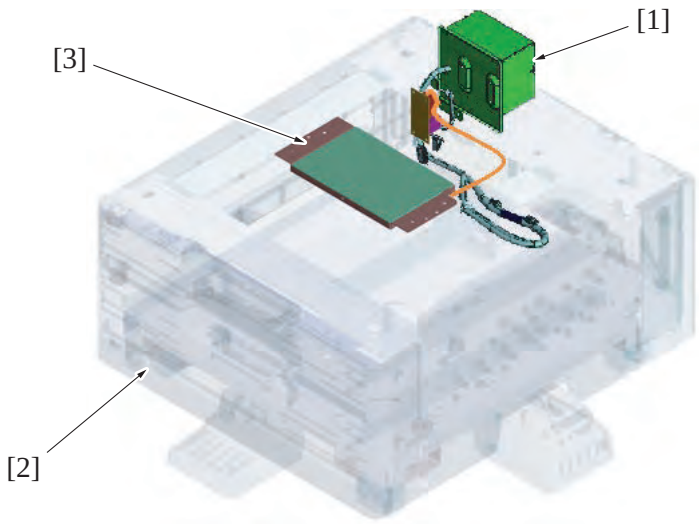
- (*1): For regions using inches, Invoice S paper size is detected. For other regions, A5S paper size is detected.
- (*2): In Service Mode, FLS can be configured with one of the following paper sizes. 8 $^{1}/_{2}$×13 $^{1}/_{2}$, 8×13, 8 $^{1}/_{4}$×13, 8 $^{1}/_{2}$×13

Sensor states

Sensor	Physical state	
	HIGH signal	LOW signal
FD paper size board: sensor/1 to sensor/4	Blocked	Unblocked
CD paper size board: sensor/1, sensor/2		

4.3 Heater HT-509

- An optional heater (HT-509) can be attached to the paper feed cabinet.
- The following configuration is required to attach the heater.
  - Dehumidifier heater power supply box (MK-734)
- The heater absorbs the damp from the paper that is loaded in the feed section of the main body, or the paper feed cabinet. Thus, it prevents trouble from occurring.



[1]	Dehumidifier heater power supply box (MK-734)	[2]	Paper feed cabinet (PC-113/PC-213)
[3]	Heater (HT-509)	-	-

4.3.1 Function

- The heater generates heat when it is energized, which prevents the paper in the tray from absorbing the damp.
- This heater prevents paper curl, paper feed errors, paper misfeeds, and abnormal images that occur when paper in the tray absorbs the damp.
- Add the heater HT-509 to increase the damp prevention capability.
  The heater can be added to the top of the cabinet.

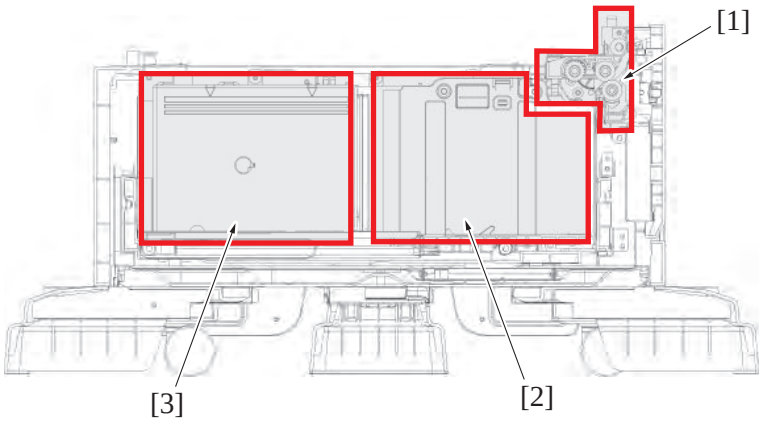
4.3.2 Control

- Turn on the PC dehumidification heater switch to start the dehumidification control.
- The heater is energized to produce heat when the main body is in one of the following states.
  - During stand-by
  - Energy save mode
  - Cover is open
  - Paper misfeed occurred
  - Troubles occurred
- For all other main body states, the heater is not energized.
- Turn off the PC dehumidification heater switch to stop the dehumidification control.

PC THEORY OF OPERATION PC-413/HT-509

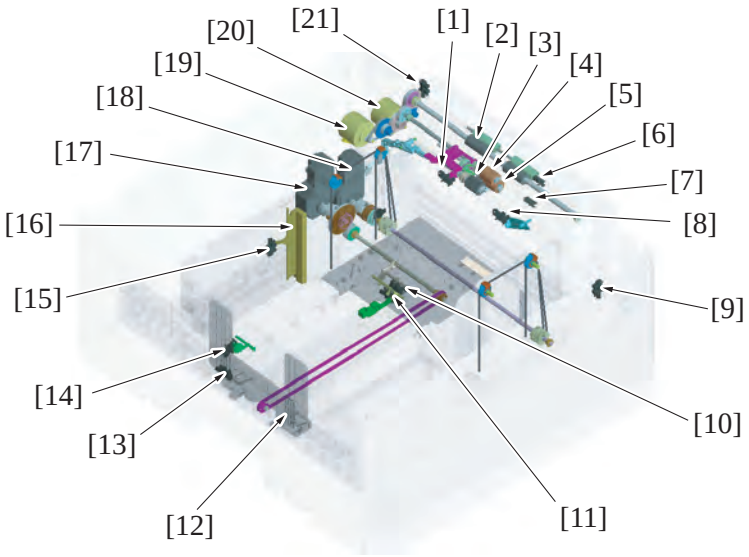
1. CONFIGURATION

1.1 Section configuration



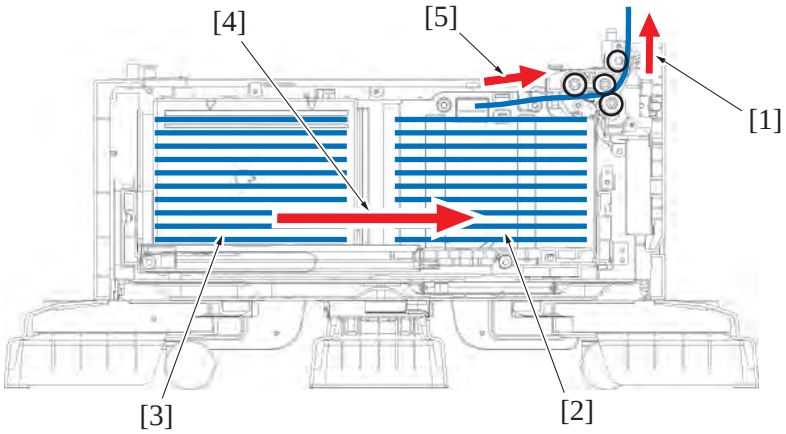
[1]	Paper feed section	[2]	Main tray
[3]	Sub tray	-	-

1.2 Main electrical part configuration



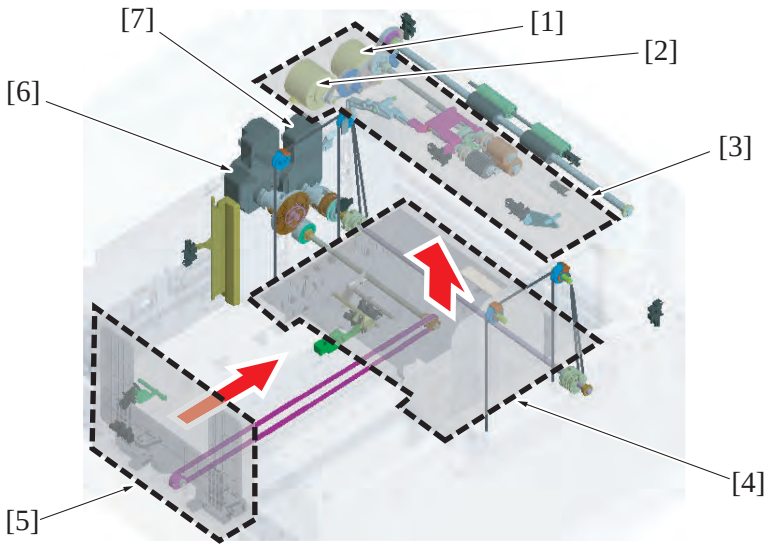
[1]	Main tray upper limit sensor (PS136)	[2]	Vertical transport roller
[3]	Pick-up roller	[4]	Feed roller
[5]	Separation roller	[6]	Vertical transport sensor (PS133)
[7]	Paper feed sensor (PS132)	[8]	Main tray upper paper empty sensor (PS137)
[9]	Cassette set sensor (PS143)	[10]	Main tray paper empty sensor (PS134)
[11]	Shifter stop / lower limit position sensor (PS138)	[12]	Shifter
[13]	Shifter home sensor (PS139)	[14]	Sub tray paper empty sensor (PS140)
[15]	Division board sensor (PS142)	[16]	Division board
[17]	Shifter motor (M133)	[18]	Elevator motor (M134)
[19]	Paper feed motor (M131)	[20]	Vertical transport motor (M132)
[21]	Right bottom door sensor (PS131)	-	-

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	-	-

3. DRIVE



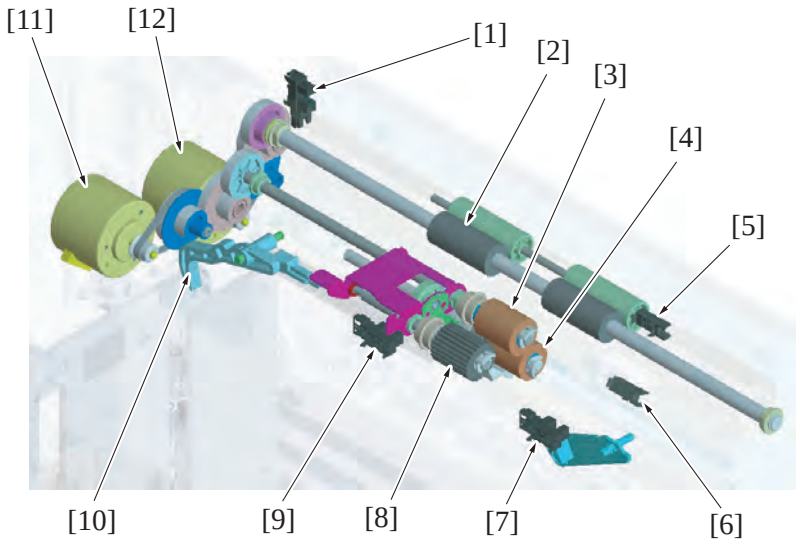
[1]	Vertical transport motor (M132)	[2]	Paper feed motor (M131)
[3]	Paper feed section	[4]	Elevator tray
[5]	Shifter	[6]	Shifter motor (M133)
[7]	Elevator motor (M134)	-	-

4. OPERATION

4.1 Paper feed section

4.1.1 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 tray is raised to cause the paper to push the feed 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.

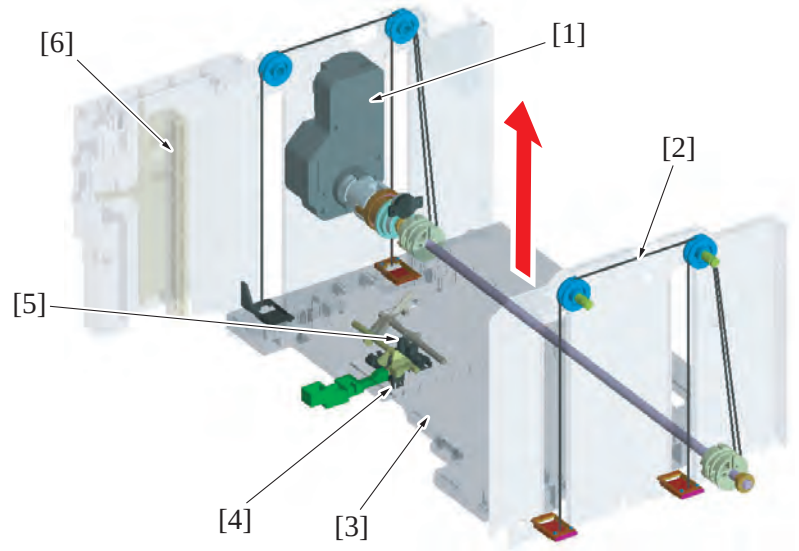


[1]	Right bottom door sensor (PS131)	[2]	Vertical transport roller
[3]	Feed roller	[4]	Separation roller
[5]	Vertical transport sensor (PS133)	[6]	Paper feed sensor (PS132)
[7]	Main tray upper paper empty sensor (PS137)	[8]	Pick-up roller
[9]	Main tray upper limit sensor (PS136)	[10]	Lever
[11]	Paper feed motor (M131)	[12]	Vertical transport motor (M132)

4.2 Main tray section

4.2.1 Elevator 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/released to raise or lower the tray.
- The amount of remaining paper in the main tray is calculated from the time it takes the elevator tray to rise.
- The main tray paper empty sensor detects if the elevator tray has no paper and starts the lowering of the elevator tray.
- The shifter stop/lower limit position sensor detects the main tray at its lower limit position.



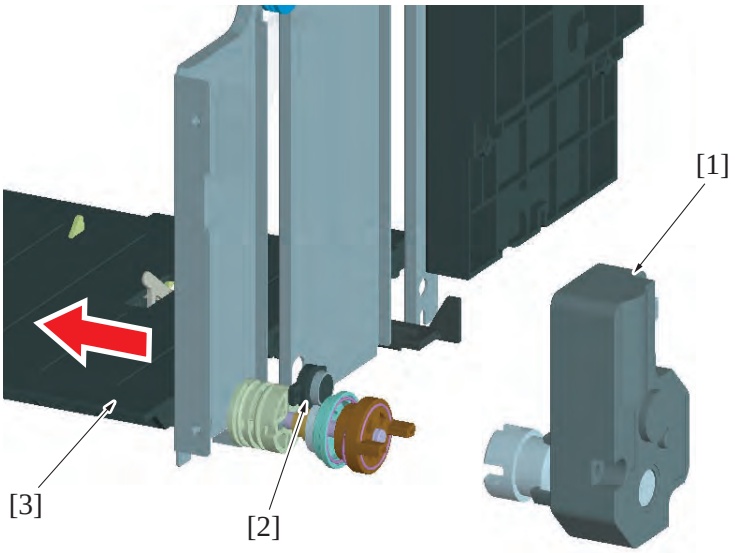
[1]	Elevator motor (M134)	[2]	Wire
[3]	Elevator tray	[4]	Shifter stop/lower limit position sensor (PS138)

[5]	Main tray paper empty sensor (PS134)	[6]	Division board

4.2.2 Elevator tray lower limit detection

(1) Elevator tray lower limit opration

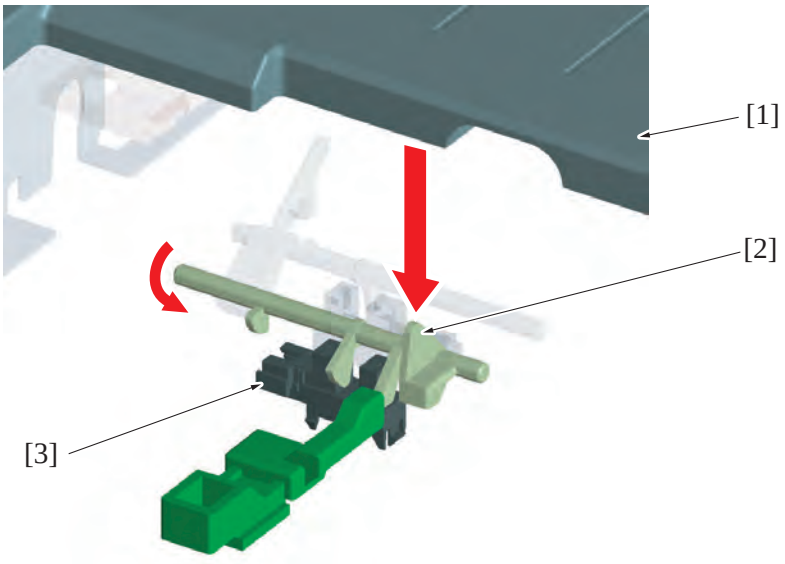
- When the machine detects the paper in the sub tray when the main tray became empty, the machine rotates the elevator motor reversely. It starts the lowering operation of the elevator tray.
- If the sub tray is detected to be not loaded with paper when paper on the main tray runs out, the descent motion of the main tray is not performed. The main tray is lowered when the drawer is slid out.
- When the tray is slid out, the elevator motor is disengaged from the gear, so that the elevator tray lowers by its own weight.
- At this time, an effect of the damper that is connected to the gear prevents it from lowering swiftly and ensures a slow descent motion.



[1]	Elevator motor (M134)	[2]	Damper
[3]	Elevator tray	-	-

(2) Elevator tray lower limit detection

- The shifter stop/lower limit position sensor detects the lower limit position of the elevator tray.
- The lower limit is detected when the elevator tray goes down, presses the lower limit detection actuator, and blocks the sensor.
- This sensor has two functions and detects also the stop position of the shifter.

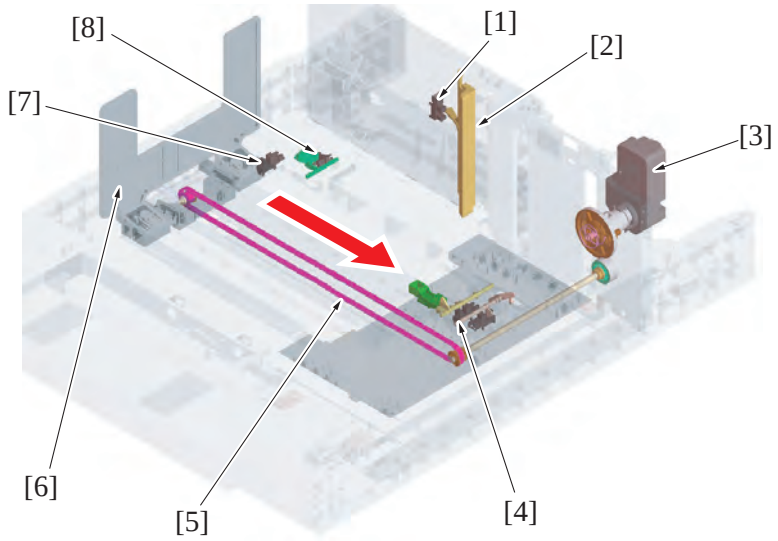


[1]	Elevator tray	[2]	Lower limit detection actuator portion
[3]	Shifter stop/lower limit position sensor (PS138)	-	-

4.3 Sub tray section

4.3.1 Shifter drive mechanism

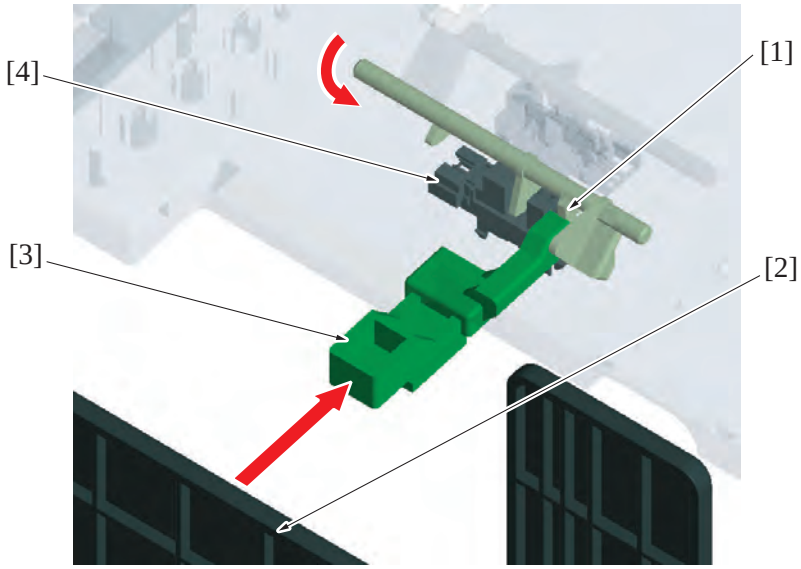
- If the main tray runs out of paper, while the sub tray is loaded with paper, the paper stack on the sub tray is moved to the main tray.
- The shifter motor drives the belt, which moves the shifter to thereby move the paper stack.
- The shifter moves to the position of the shifter stop/lower limit position 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]	Division board sensor (PS142)	[2]	Division board
[3]	Shifter motor (M133)	[4]	Shifter stop/lower limit position sensor (PS138)
[5]	Belt	[6]	Shifter
[7]	Shifter home sensor (PS139)	[8]	Sub tray paper empty sensor (PS140)

4.3.2 Shifter stop position detection

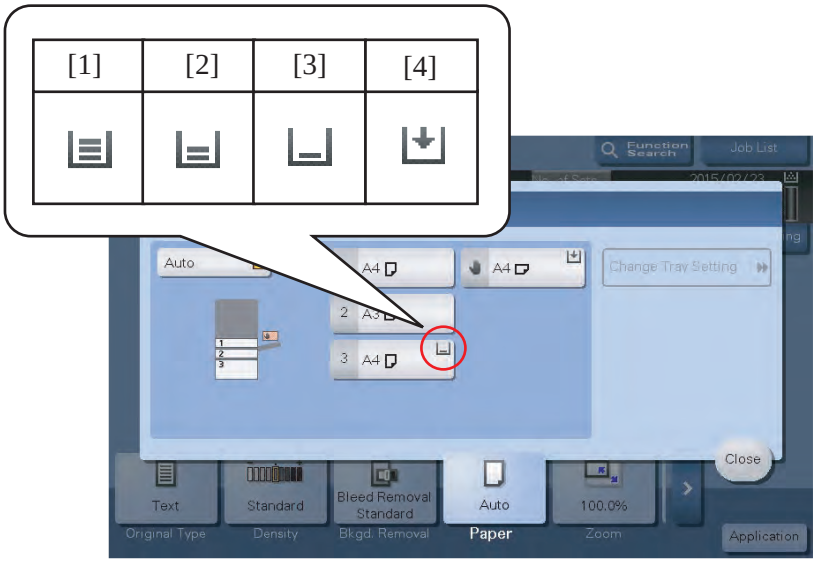
- The shifter stop/lower limit position sensor is blocked when the main tray is at the lower limit position.
- The shifter stop/lower limit position sensor detects the shifter stop position.
- The shifter pushes the lever, which pushes the shifter stop position detection actuator.
- When the shifter has moved to the stop position, the shifter stop/lower limit position sensor becomes unblocked.



[1]	Shifter stop position detection actuator portion	[2]	Shifter
[3]	Lever	[4]	Shifter stop/lower limit position sensor (PS138)

4.4 Remaining paper level display

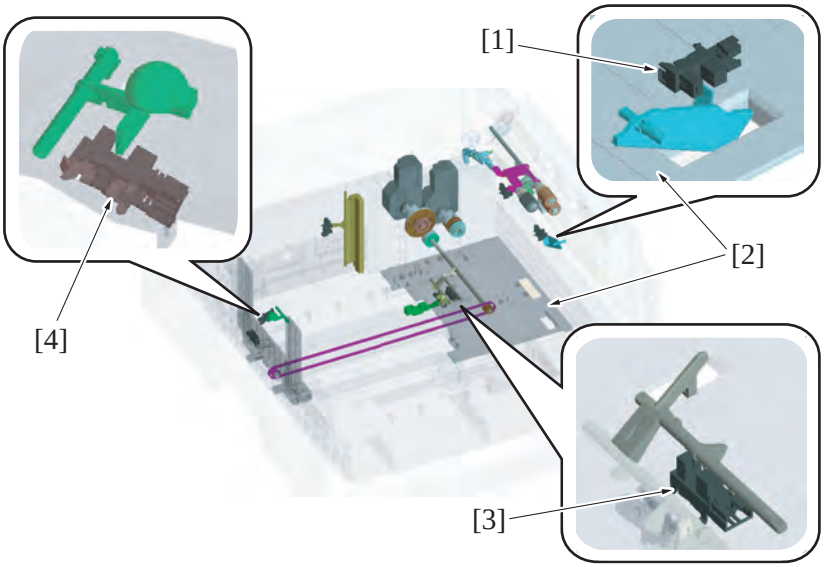
- The amount of paper remaining in trays is displayed on the control panel.
- The display on the control panel is a composite value of the amount of paper remaining in both the main tray and sub tray.
- The amount of paper remaining in the main tray is calculated from the rise time of the elevator tray.
- If the empty state has not been detected, the amount of paper remaining in the sub tray is considered as the maximum loadable paper amount.



[1]	Amount of paper remaining: 2,500 to 1,600 sheets	[2]	Amount of paper remaining: 1,600 to 800 sheets
[3]	Amount of paper remaining: 800 to 1 sheets	[4]	Paper empty

4.5 Paper empty detection control

- The paper empty detection control runs when the tray is in the closed position.
- A tray empty paper detection is made when both the main tray and sub tray are detected to be empty.



[1]	Main tray upper paper empty sensor (PS137)	[2]	Elevator tray
[3]	Main tray paper empty sensor (PS134)	[4]	Sub tray paper empty sensor (PS140)

4.5.1 Main tray empty detection

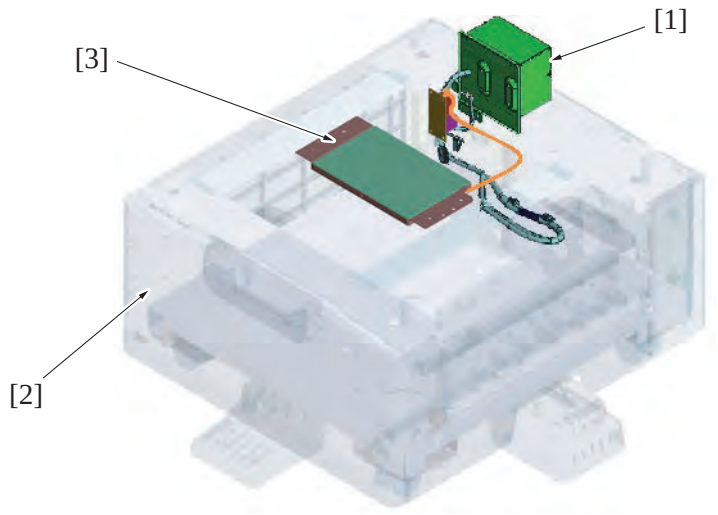
- The main tray paper empty sensor becomes unblocked when the elevator tray is in the lower limit position. It triggers the main tray paper empty detection.
- The main tray upper paper empty sensor becomes unblocked when the elevator tray is in the upper limit position. It detects the main tray paper empty detection.

4.5.2 Sub tray empty detection

- The main tray paper empty detection triggers when the sub tray paper empty sensor installed in the sub tray becomes unblocked.

4.6 Heater HT-509

- An optional heater (HT-509) can be attached to the paper feed cabinet.
- The following configuration is required to attach the heater.
  - Dehumidifier heater power supply box (MK-734)
- The heater absorbs the damp from the paper that is loaded in the feed section of the main body, or the paper feed cabinet. Thus, it prevents trouble from occurring.



[1]	Dehumidifier heater power supply box (MK-734)	[2]	Paper feed cabinet (PC-413)
[3]	Heater (HT-509)	-	-

4.6.1 Function

- The heater generates heat when it is energized, which prevents the paper in the tray from absorbing the damp.
- This heater prevents paper curl, paper feed errors, paper misfeeds, and abnormal images that occur when paper in the tray absorbs the damp.
- Add the heater HT-509 to increase the damp prevention capability.
  The heater can be added to the top of the cabinet.

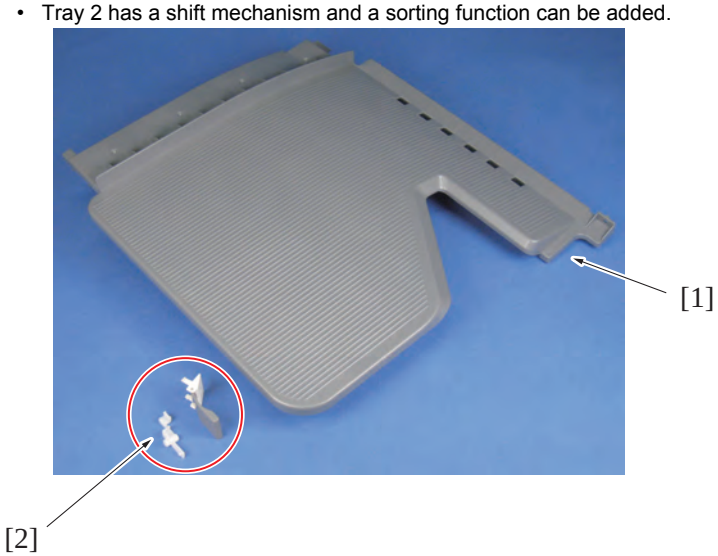
4.6.2 Control

- Turn on the PC dehumidification heater switch to start the dehumidification control.
- The heater is energized to produce heat when the main body is in one of the following states.
  - During stand-by
  - Energy save mode
  - Cover is open
  - Paper misfeed occurred
  - Troubles occurred
- For all other main body states, the heater is not energized.
- Turn off the PC dehumidification heater switch to stop the dehumidification control.

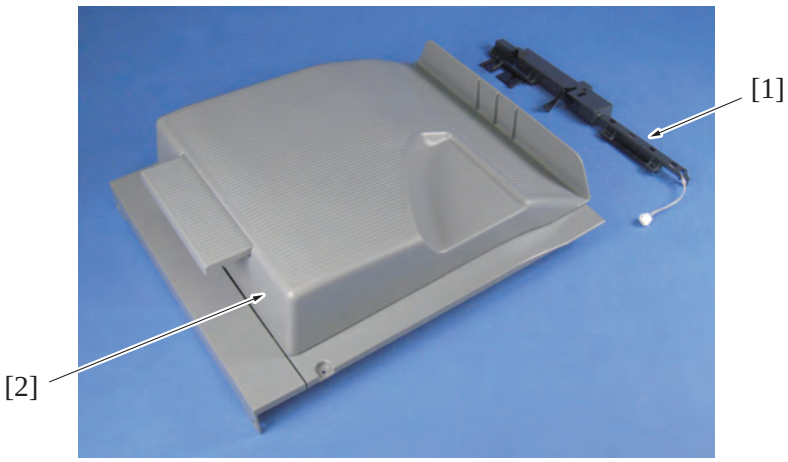
PD THEORY OF OPERATION JS-506

1. OVERVIEW OF THE SEPARATOR

- The separator JS-506 is installed to the MFP to enable both "exit tray 1" and "exit tray 2" to use. So you can exchange the paper exit port.
- Tray 2 has a shift mechanism and a sorting function can be added.



[1]	Exit tray 1	[2]	Exit tray 1 paper stopper



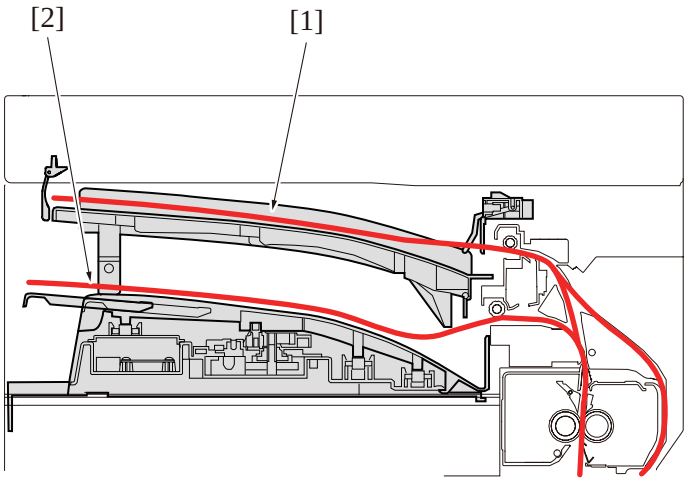
[1]	Sensor assy	[2]	Exit tray 2

NOTICE

- D.1.1 System configuration
- C.5. JS-506

2. PAPER PATH

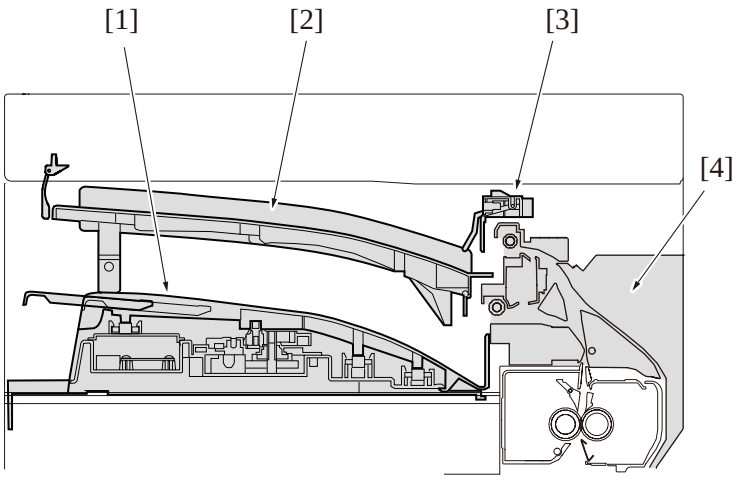
2.1 Paper feed to the exit tray



[1]	Paper feed to the exit tray 1	[2]	Paper feed to the exit tray 2

3. CONFIGURATION

3.1 Section configuration

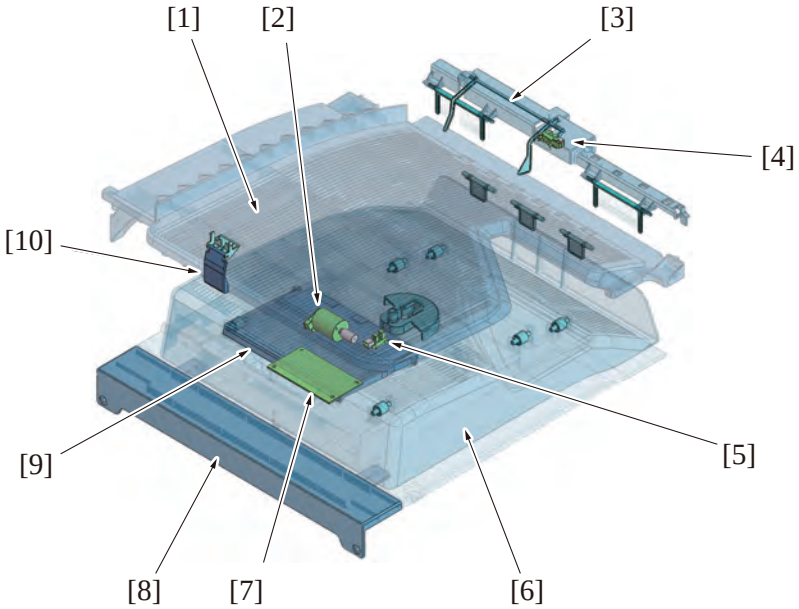


[1]	Exit tray 2	[2]	Exit tray 1
[3]	Sensor assy (exit tray 1)	[4]	Paper exit/reverse section at the main body *

- *: The unit shape and part configuration are changed when the JS-506 is installed to the MFP.

3.2 Main electrical part configuration

- JS-506 has the exit tray 1 (upper) and the exit tray 2 (lower).
- JS-506 does not have the paper transport function and only has the shift function.



[1]	Exit tray 1 (upper)	[2]	Tray shift motor (M1)
[3]	Exit tray 1 full detection lever	[4]	Exit tray1 full sensor (PS2)
[5]	Tray shift home sensor (PS1)	[6]	Exit tray 2 (lower)
[7]	JS control board (JSCB)	[8]	Separator cover *1
[9]	Extension tray	[10]	Exit tray 1 paper stopper *2

- *1: Unavailable on bizhub 367/287/227
- *2: Exclusive use for bizhub 367/287/227

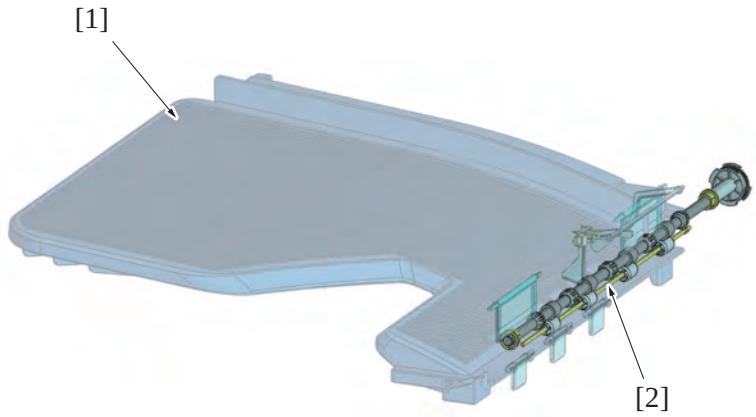
4. DRIVE

4.1 Paper transport drive mechanism for exit tray 1

- A reverse roller on the MFP main unit side transports paper to the exit tray 1.

NOTE

- **Refer to MFP paper exit/reverse unit for details on the drive mechanism for the reverse roller.**



[1]	Exit tray 1	[2]	Switchback roller (MFP main body; paper exit/reverse section) *

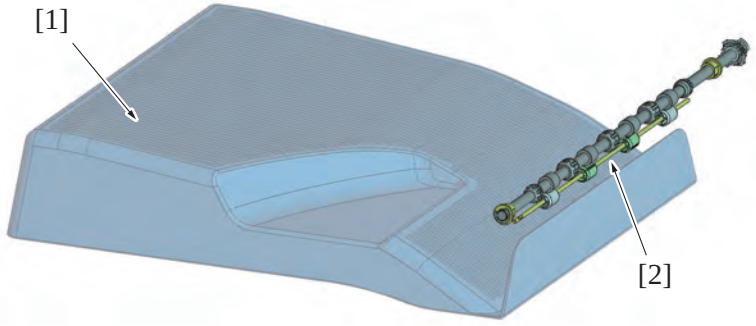
- *: The roller shape, roller configuration, and drive method is changed when the JS-506 is installed to the MFP.

4.2 Paper transport drive mechanism for exit tray 2

- A reverse roller on the MFP side transports paper to the exit tray 2.

NOTE

- **Refer to MFP paper exit/reverse unit for details on the drive mechanism for the exit roller.**

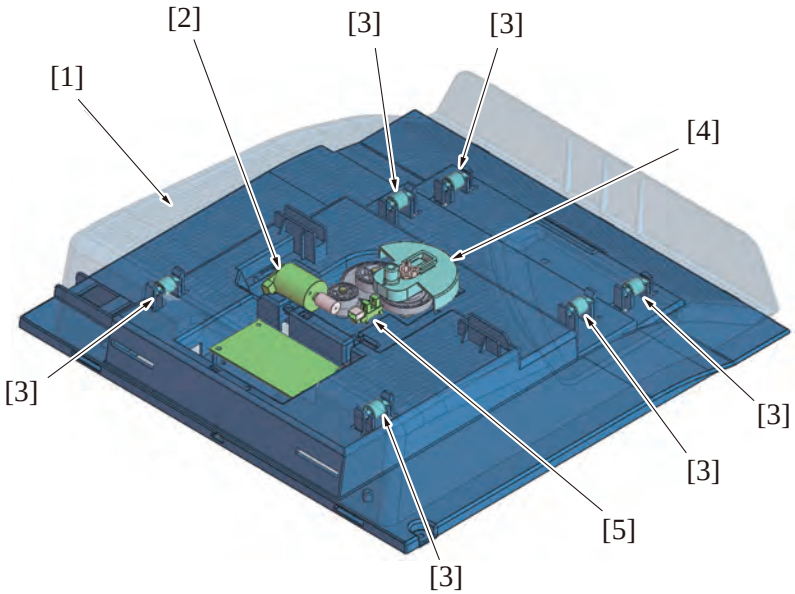


[1]	Exit tray 2	[2]	Exit roller (MFP main body; paper exit/reverse section) *

- *: The roller shape, roller configuration, and drive method is changed when the JS-506 is installed to the MFP.

4.3 Exit tray 2 shift drive mechanism

- A shift tray motor conducts shift drive of the exit tray 2.



[1]	Exit tray 2	[2]	Tray shift motor (M1)
[3]	Exit tray support rolls (6 points)	[4]	Shift control actuator

[5]	Tray shift home sensor (PS1)	-	-

5. OPERATION

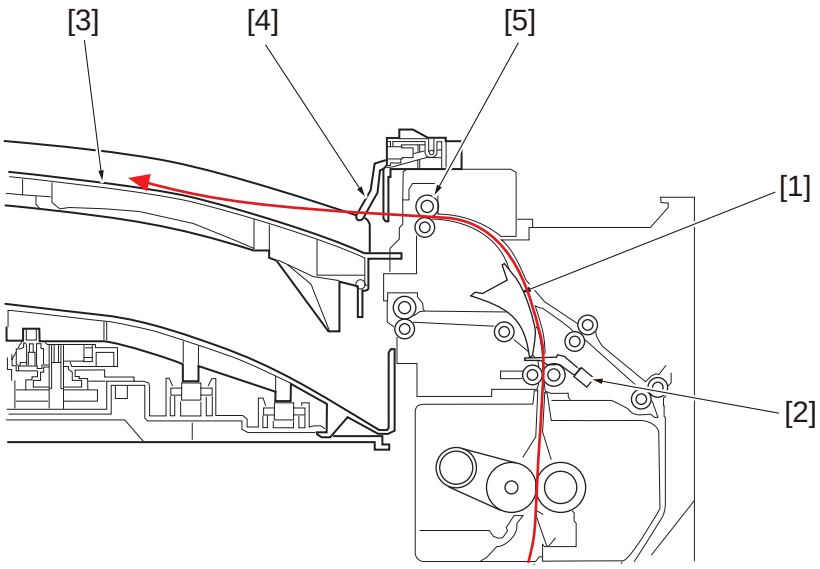
5.1 Exit tray 1

5.1.1 Paper transport

- The JS-506 exit tray 1 does not have a paper transport mechanism. Paper transport is performed by a reverse roller in the MFP.
- The paper exit/reverse switch gate is switched to the reverse roller side when the paper is transported to the reverse roller.
- The reverse roller stops after the predetermined period of time when the exit sensor on the main body detects the trailing edge of the last paper.

NOTE

- **The paper exit/reverse unit mechanism and control details are changed when the JS-506 is installed to the MFP.**



[1]	Paper exit/reverse switch gate (reverse roller side)	[2]	Paper exit sensor (main body: PS3)
[3]	Exit tray 1	[4]	Exit tray 1 full detection lever
[5]	Reverse roller (main body)	-	-

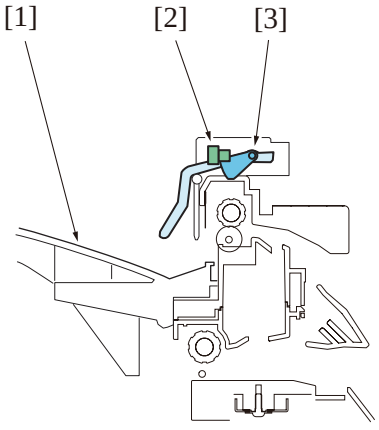
5.1.2 Paper full detection

- The exit tray 1 has the exit tray 1 full sensor which detects paper full.
  The sensor detects paper full with either 100 sheets of plain paper or stack height of 22.5 mm or less.
  C.5.3 Capacity

NOTE

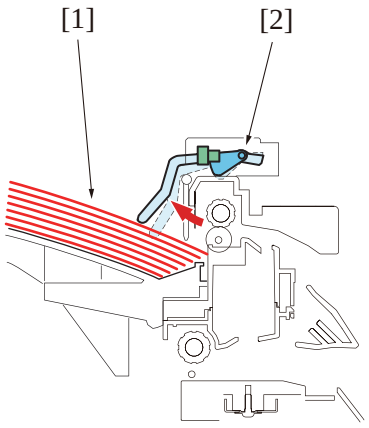
- **Paper may curl depending on the type of paper and the temperature and humidity of the room where the device is installed. The stacked sheets may be reduced depending on the amount of paper curl.**

(1) Paper not present



[1]	Exit tray 1	[2]	Exit tray1 full sensor (PS2)
[3]	Exit tray 1 full detection lever: unblocked	-	-

(2) Paper full

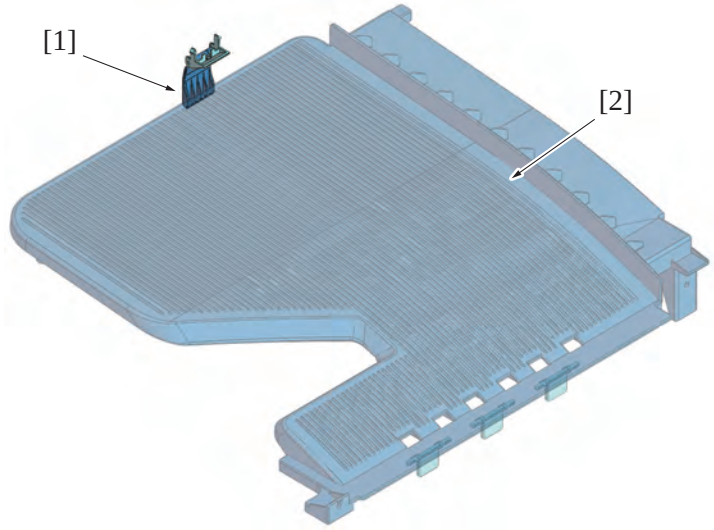


[1]	Paper	[2]	Exit tray 1 full detection lever: blocked

5.1.3 Paper stopper mechanism

NOTE

- **The paper stopper for the exit tray 1 is exclusively used on bizhub 367/287/227.**
- The paper stopper is installed on the rear end of the exit tray 1. It prevents the paper that exits onto the exit tray 1 from spilling out of the tray. (The stopper is installed to the bottom of the scanner.)
- When a terrible curl occurs on the paper, the paper exited earlier pushes the paper exits later, so that the paper may spill out.



[1]	Paper stopper	[2]	Exit tray 1

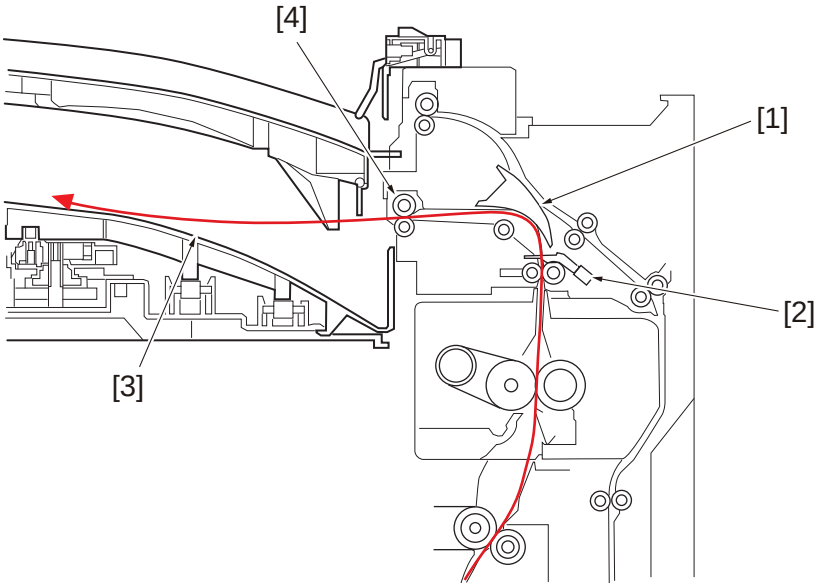
5.2 Exit tray 2

5.2.1 Paper transport

- The JS-506 exit tray 2 does not have a paper transport mechanism. Paper transport is performed by a paper exit roller in the MFP.
- The paper exit/reverse switching gate does not move, since it is in the default position (paper exit roller side).
- The paper exit roller stops after the predetermined period of time when the paper exit sensor on the main body detects the trailing edge of the last paper.

NOTE

- **The paper exit/reverse unit mechanism and control details are changed when the JS-506 is installed to the MFP.**

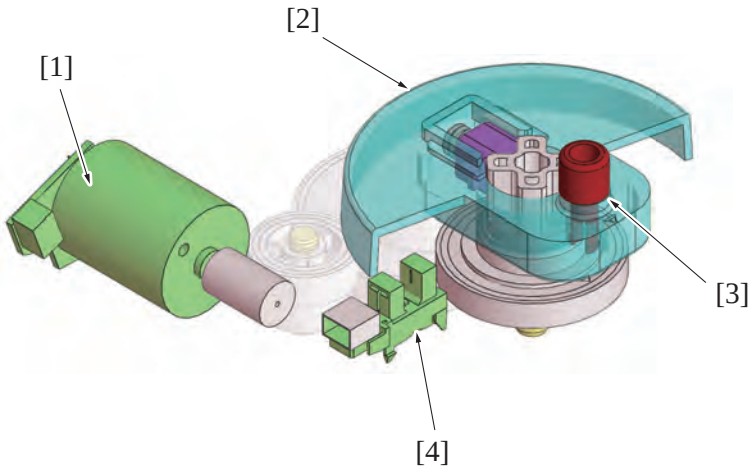


[1]	Paper exit/reverse switch gate (exit roller side)	[2]	Paper exit sensor (main body: PS3)
[3]	Exit tray 2	[4]	Exit roller

5.2.2 Paper shift mechanism

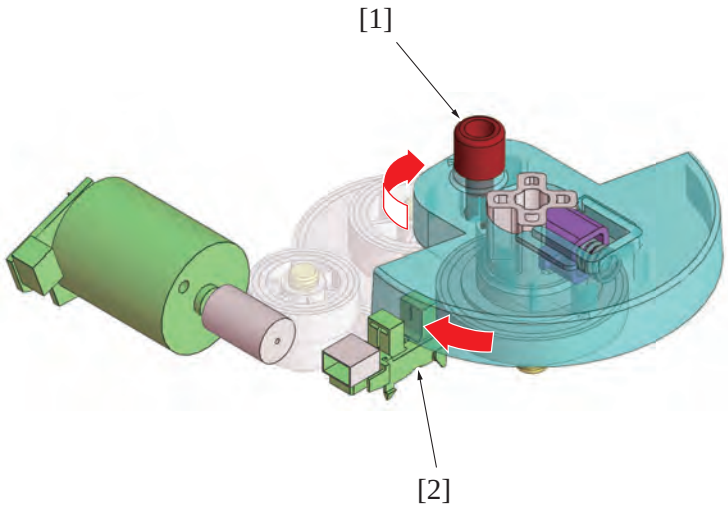
- Move paper alternately between the front side and the rear side of the exit tray 2 to sort paper.
- The shift mechanism operates when the "Shift output each job" is selected in default setting or when the offset function is selected on the control panel.
- The tray shift home sensor detects the home position for the exit tray 2.
- The exit tray 2 shifts to the home position when the power is on and the printing starts for the 1st job.
- Repeatedly move the paper between the rear side and front side of the exit tray 2 to sort paper in the exit tray 2.

(1) Exit tray 2: Home position



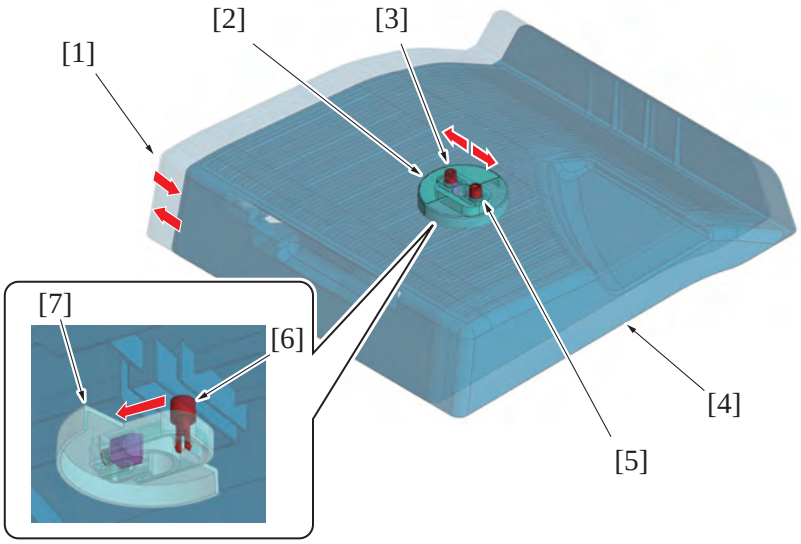
[1]	Tray shift motor (M1)	[2]	Shift control actuator
[3]	Tray shift projection: Home position (front side of the exit tray 2)	[4]	Tray shift home sensor (PS1): unblocked

(2) Exit tray 2: shift position



[1]	Tray shift projection: Shift position (rear side of the exit tray 2)	[2]	Tray shift home sensor (PS1): blocked

(3) Outline of exit tray 2 shift operation



[1]	Exit tray 2: shift position (rear side)	[2]	Shift control actuator
[3]	Tray shift projection: shift position	[4]	Exit tray 2: home position (front side)
[5]	Tray shift projection: Home position	[6]	Tray shift projection: Home position (exit tray 2, bottom view)
[7]	Shift control actuator (exit tray 2, bottom view)	-	-

5.2.3 Paper full detection

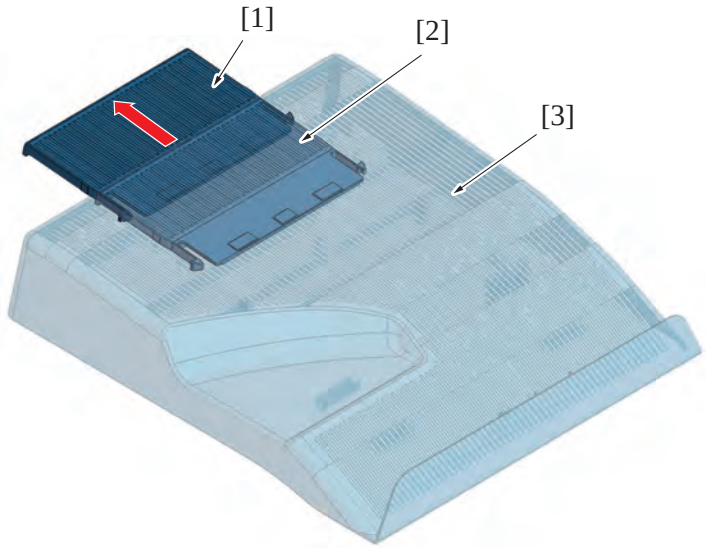
- The exit tray 2 does not have a paper full detection mechanism. If the exited paper exceeds the maximum number of stacked sheets, it may cause paper to spill out from the exit tray or jam.
  The maximum number of sheets stacked for the exit tray 2 is 150 sheets for plain paper.
  C.5.3 Capacity

NOTE

- **Pay attention not to make paper in the exit tray exceed the maximum number of stacked sheets when large number of sheets is printed continuously.**
- **Paper may curl depending on the type of paper and the temperature and humidity of the room where the device is installed. The stacked sheets may be reduced depending on the amount of paper curl.**

(1) Extension tray

- An extension tray is installed to the rear end of the exit tray 2 to accommodate large-sized paper (A3, ledger paper, and so on).
- Make sure to pull out the extension tray before the printing of large-sized paper.



[1]	Extension tray: Used for printing large-sized paper	[2]	Extension tray: Used for printing small-sized paper
[3]	Exit tray 2	-	-

PE THEORY OF OPERATION FS-533/PK-519

1. FINISHER OUTLINE

- Install the staple finisher FS-533 to the MFP to enable the following functions. "Sort function, Sort offset function", "Group function, Group offset function", "Staple function" and "Sort staple function" can be added.
- The "Punch function" can be added by installing the optional function (Punch Kit PK-519).

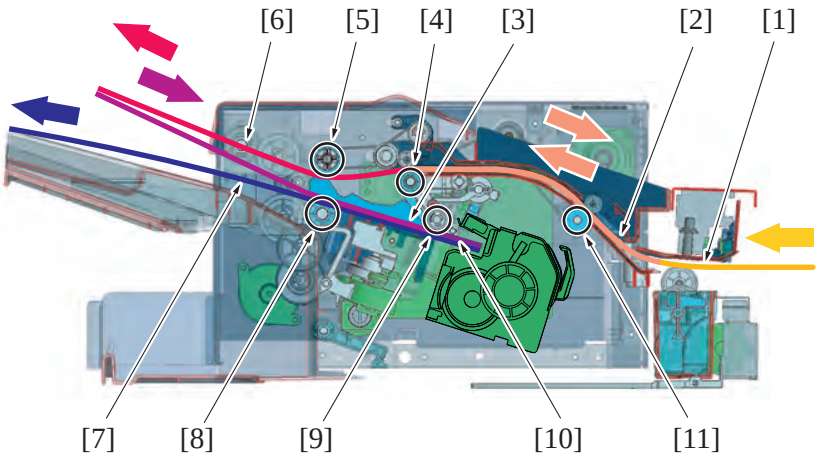
Option	Summary of the additional functions
PK-519	Punch function

NOTICE

- D.1.1 System configuration
- C.6. FS-533
- C.7. PK-519

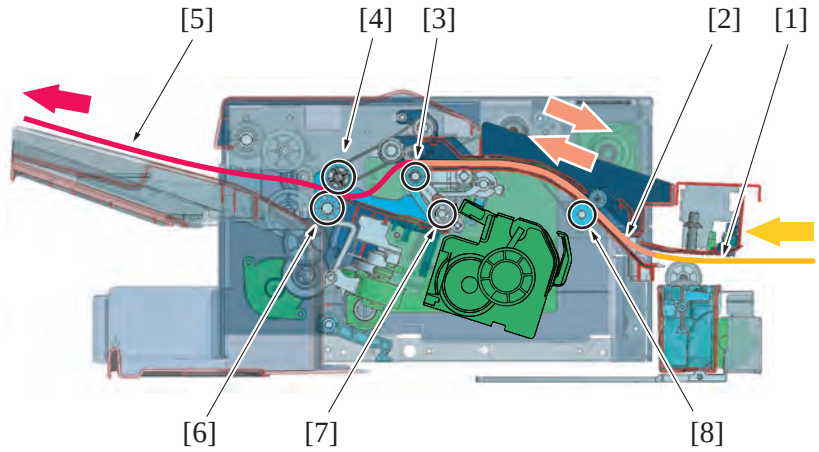
2. PAPER PATH

2.1 Sort offset mode/Group offset mode/Staple mode/Punch mode



[1]	Paper transport/Paper punching (punch mode)	[2]	Paper transport/Skew correction (punch mode)
[3]	Paper alignment (Sort/Sort offset mode, Group/Group offset mode, Staple mode)	[4]	Receiving roller
[5]	Paper exit roller/upper	[6]	Paper transport
[7]	Paper batch exit (Sort/Sort offset mode, Group/Group offset mode, Staple mode)	[8]	Paper exit roller/lower
[9]	Alignment roller	[10]	Staple (staple mode)
[11]	Paper conveyance roller	-	-

2.2 Non sort mode/Non group mode/Non staple mode/Sort mode/Group mode/Punch mode



[1]	Paper transport/Paper punching (punch mode)	[2]	Paper transport/Skew correction (punch mode)
[3]	Receiving roller	[4]	Paper exit roller/upper
[5]	Paper exit	[6]	Paper exit roller/lower
[7]	Alignment roller	[8]	Paper conveyance roller

3. CONFIGURATION

3.1 Section configuration

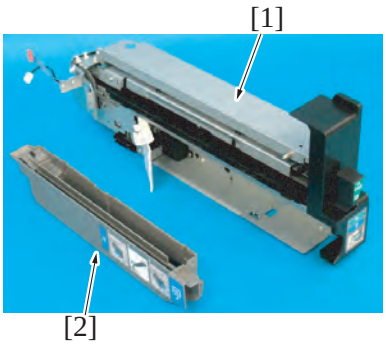
- The staple finisher FS-533 has the finisher main unit that is installed on the paper exit section of the MFP.
- Slide out the finisher from the MFP for maintenance and other operations. Slide out the finisher main unit to access the finisher operation section and the punch kit. (only when the optional punch kit kit is installed)
- The staple finisher has the sort/group mechanism and the staple mechanism as standard. The optional punch kit PK-519 can be installed between the right face of the finisher and the paper exit section of the main body.

3.1.1 Exterior view

Finisher FS-533



Punch kit PK-519

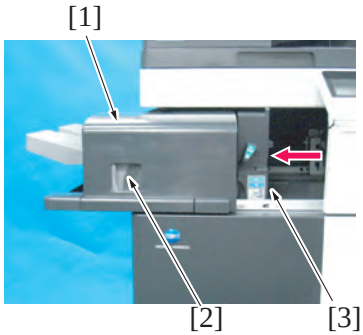


[1]	Punch kit PK-519	[2]	Punch dust box

FS-533 + PK-519 installation diagram (installation example)

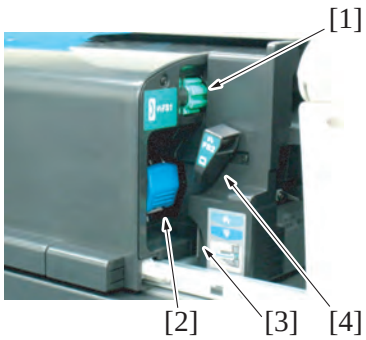


FS-533 + PK-519 sliding state (installation example)



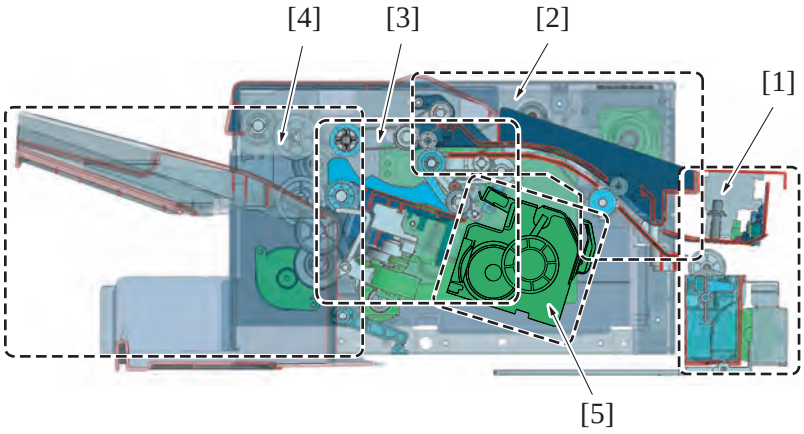
[1]	Finisher FS-533	[2]	Finisher release lever
[3]	Punch kit PK-519	-	-

FS 533 + PK-519 operation section



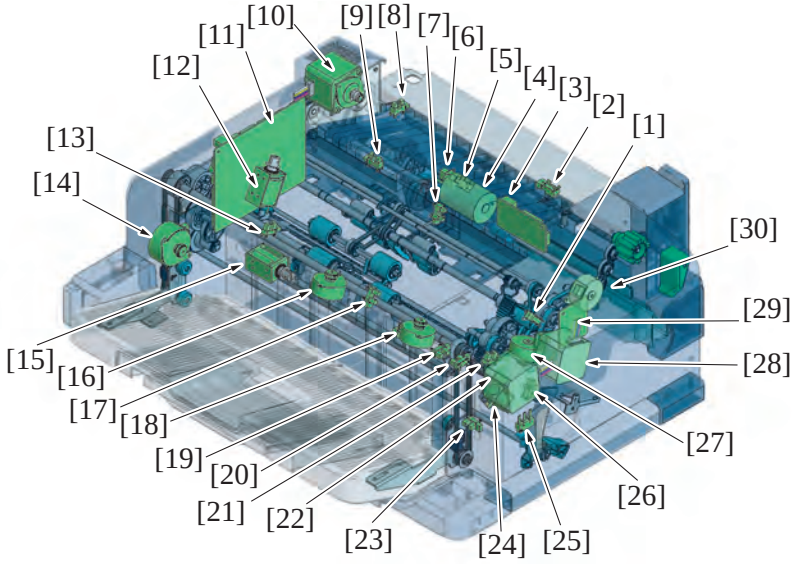
[1]	Jam removal dial	[2]	Staple cartridge
[3]	Punch dust box	[4]	Punch unit release lever

3.1.2 Section configuration



[1]	Punch section (only when punch kit PK-519 is installed)	[2]	Transport section
[3]	Alignment section	[4]	Receiving section
[5]	Staple section	-	-

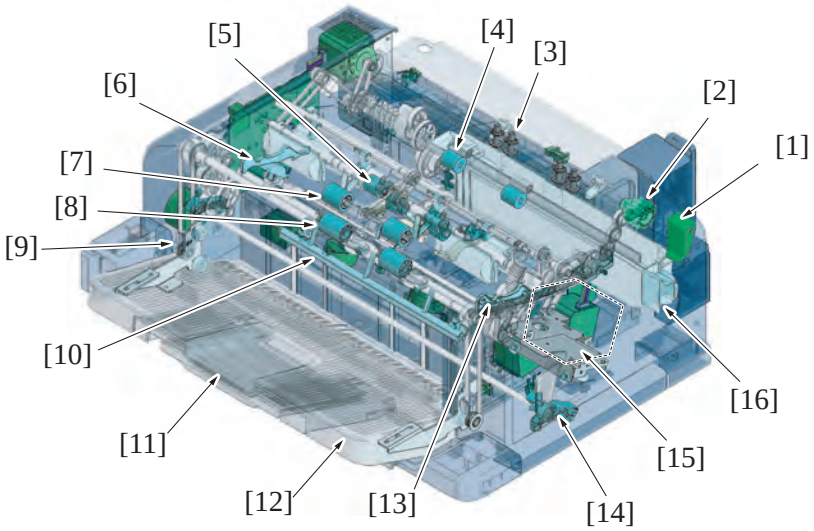
3.2 Electrical part configuration



[1]	Pick up roller position sensor (PS105)	[2]	Paper feed sensor (PS201): Punch kit
[3]	PK control board (PKCB): Punch kit	[4]	Punch motor (M201): Punch kit
[5]	Punch dust full sensor (PS205): Punch kit	[6]	Punch motor sensor (PS202): Punch kit
[7]	Paper feed sensor (PS101)	[8]	Puncher home sensor (PS204): Punch kit
[9]	Puncher drive cam sensor (PS203): Punch kit	[10]	Paper conveyance motor (M101)
[11]	FS control board (FSCB)	[12]	Batch solenoid (SD102)
[13]	Alignment plate home sensor/R (PS109)	[14]	Tray lift up motor (M109)

[15]	Paper surface detect solenoid (SD101)	[16]	Alignment motor/R (M106)
[17]	Paper surface detect sensor/1 (PS102)	[18]	Alignment motor/F (M105)
[19]	Paper weight lever sensor (PS103)	[20]	Paper surface detect sensor/2 (PS104)
[21]	Alignment plate home sensor/F (PS108)	[22]	Exit roller lift up motor (M104)
[23]	Paper exit tray home sensor (PS107)	[24]	Paper exit roller solenoid (SD103)
[25]	Finisher lock switch (SW1)	[26]	Stapler home sensor (PS110)
[27]	Stapler movement motor (M107)	[28]	Paper exit motor (M102)
[29]	Stapler relay board (STREYB)	[30]	Alignment roller motor (M103)

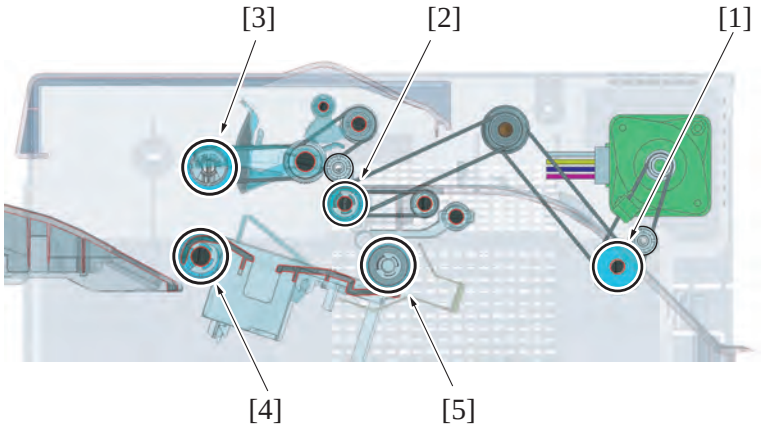
3.3 Main mechanical part configuration



[1]	Punch kit release lever: Punch kit	[2]	Jam removal dial
[3]	Puncher *: Punch kit	[4]	Paper conveyance roller
[5]	Receiving roller	[6]	Alignment plate/Rr
[7]	Paper exit roller/upper	[8]	Paper exit roller/lower
[9]	Tray lifter	[10]	Paper surface detect lever
[11]	Sub tray	[12]	Paper exit tray
[13]	Alignment plate/Fr	[14]	Finisher release lever
[15]	Stapler	[16]	Punch dust box

- *: The number of punchers differs depending on the type of the punch kit. For details, see “PE.5.1.1 Punch kit type”.

3.4 Main roller configuration



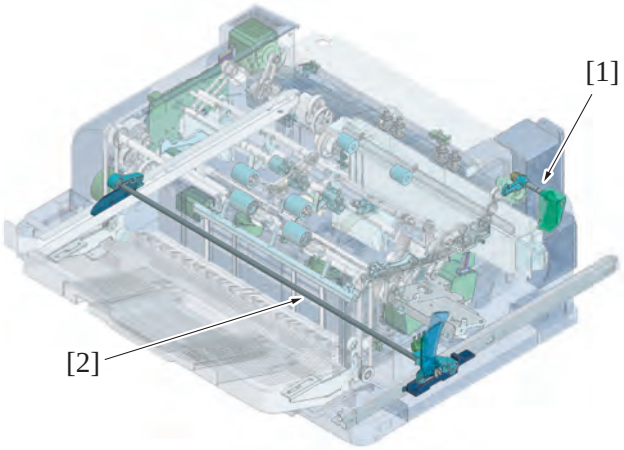
[1]	Paper conveyance roller	[2]	Receiving roller
[3]	Paper exit roller/upper	[4]	Paper exit roller/lower
[5]	Alignment roller	-	-

4. UNIT OPEN/CLOSE SECTION

4.1 Unit lock mechanism

- The finisher (FS-533) and punch kit (PK-519) are provided in the each unit lock mechanism.

Overall view

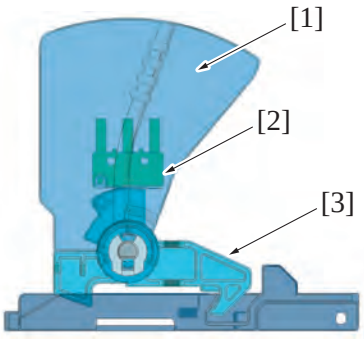


[1]	Punch unit lock mechanism	[2]	Finisher unit lock mechanism

4.1.1 Finisher unit lock mechanism

- Releasing the finisher release lever at the front side of the finisher releases the locking claws at the front and rear sides of the finisher from the finisher slide rail. The finisher and the MFP will be disconnected to enable the finisher to slide to the left.
- When the finisher is slid, the finisher lock switch turns off to detect that the finisher is opened.
- When the finisher is detected to be opened, the warning message will be displayed on the screen to inform that the unit is open. Following jobs will then be prohibited.
- Closing the finisher releases the warning screen to releases the job prohibition.

Front view



[1]	Finisher release lever	[2]	Finisher lock switch (SW1)
[3]	Lock claw	-	-

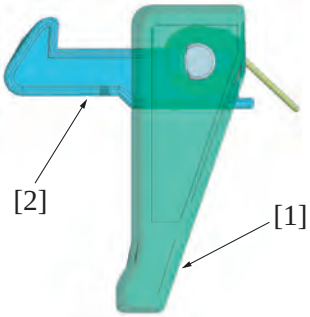
4.1.2 Punch unit lock mechanism (PK-519)

- When the finisher is opened, the release lever for the punch unit will be exposed. (only when the optional punch kit PK-519 is installed)
- The punch unit does not have a mechanism to detect open/close of the unit.

NOTE

- **The function to detect open/close of the punch unit is not installed since the finisher needs to be opened to open the punch unit.**

Front view



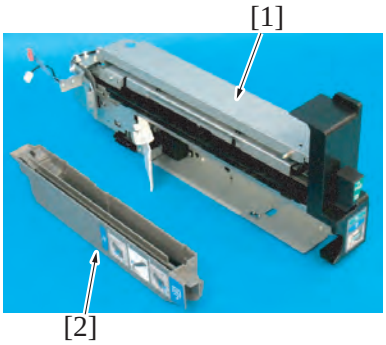
[1]	Punch unit release lever	[2]	Lock claw

5. PUNCH SECTION (PK-519)

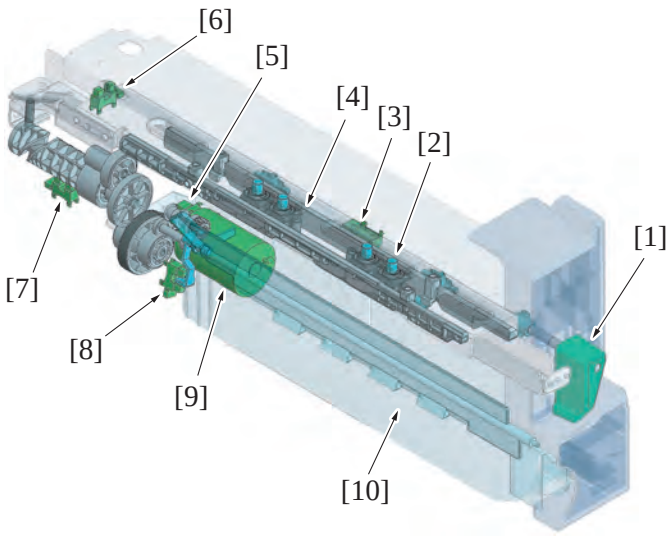
5.1 Configuration

- The punch function can be added to the finishing mode by installing the optional punch kit PK-519 to the finisher FS-533.
- At the punch section, the paper that is transported from the MFP paper exit section is punched when it is fed into the finisher.
- When punching the holes on the paper, the paper transported to the transport section will be switchbacked to the punch section to correct the paper skew before punching the holes. Punching is conducted paper by paper. The punched paper will be transported from the punch section to the transport section.
- When the number of punch holes is not commanded at "Finishing", the paper will be transported to inside the finisher without switchback of the paper and punching.
- 2 hole/3 hole punch kits as well as 2 hole/4 hole punch kits have mechanisms to switch the number of punch holes.
  NOTE
  - **2 holes punch kit and 4 holes punch kit do not have the function to switch the number of punch holes.**
  - **"Finishing" cannot be selected using a different punch kit. (Example: Three holes punch mode cannot be selected when the 4 holes punch kit is installed.)**

- Punch dust generated by punching is received in the punch dust box.



[1]	Punch unit	[2]	Punch dust box

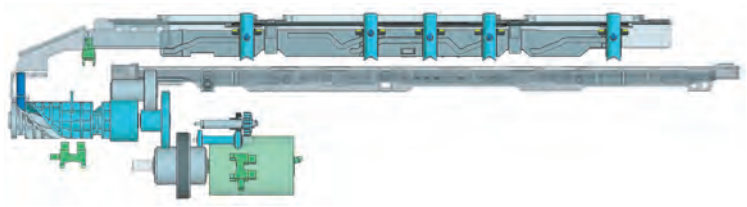


[1]	Punch unit release lever	[2]	Puncher *1
[3]	Paper feed sensor (PS201)	[4]	Puncher frame *2
[5]	Punch motor sensor (PS202)	[6]	Puncher home sensor (PS204)
[7]	Puncher drive cam sensor (PS203)	[8]	Punch dust full sensor (PS205)
[9]	Punch motor (M201)	[10]	Punch dust box

- *1: The number of the puncher is varied depending on the type of punch kit.
- *2: The shape of the puncher frame is varied depending on the type of punch kit.

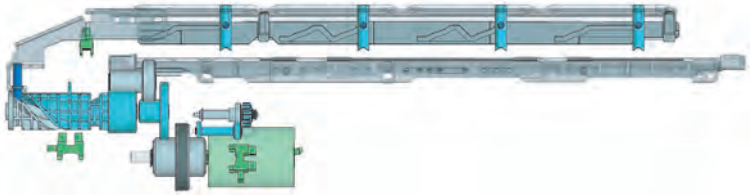
5.1.1 Punch kit type

2 holes/3 holes kit (Selectable the hole number)



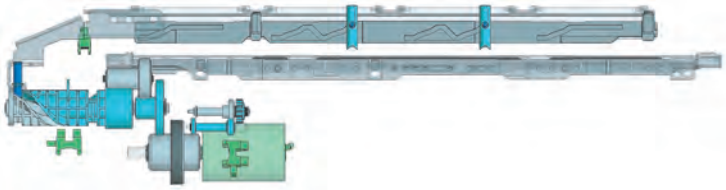
- Attachable marketing area: Europe, US, Others 1-5

2 holes/4 holes kit (Selectable the hole number)



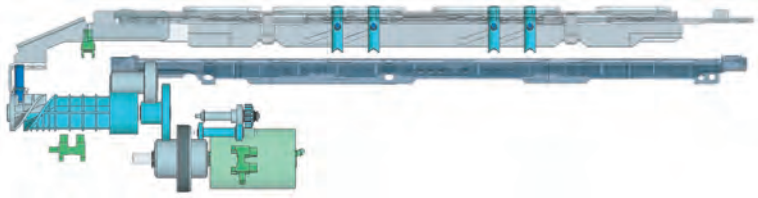
- Attachable marketing area: Europe, US, Others 1-5

2 holes punch kit



- Attachable marketing area: Japan

4 holes punch kit

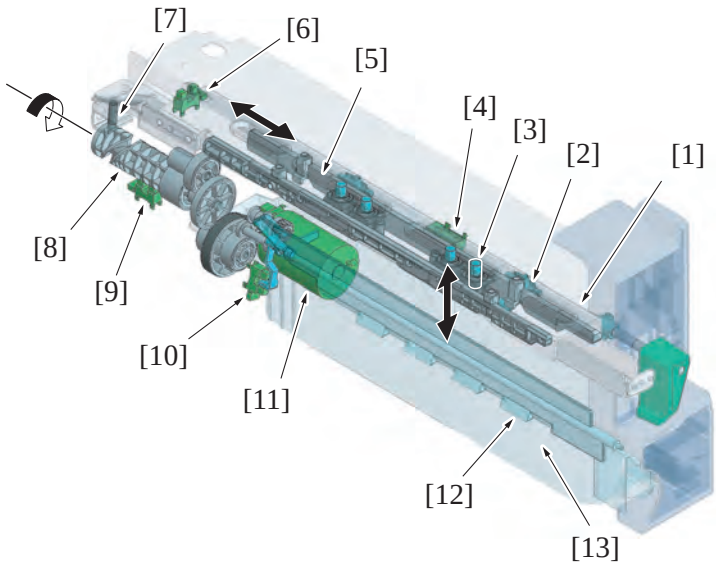


- Attachable marketing area: Europe

5.2 Drive

- The drive source for the punch section is a punch motor. It drives the puncher and the punch dust agitating blade.
- The puncher is driven via the puncher drive cam.
- The punch dust agitating blade is driven via the agitating blade drive connecting lever. The agitating blade drive connecting lever has the function to detect punch dust full.

Overall view



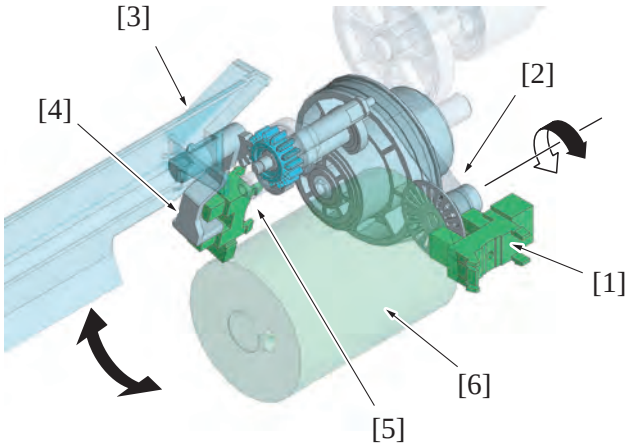
[1]	Puncher frame *1	[2]	Registration guide
[3]	Puncher *2	[4]	Paper feed sensor (PS201)
[5]	Slide came	[6]	Puncher home sensor (PS204)
[7]	Cam slide shaft	[8]	Puncher drive cam
[9]	Puncher drive cam sensor (PS203)	[10]	Punch dust full sensor (PS205)
[11]	Punch motor (M201)	[12]	Punch dust agitating blade
[13]	Punch dust box	-	-

- *1: The shape of the puncher frame is varied depending on the type of punch kit.
- *2: The number of the puncher is varied depending on the type of punch kit.

NOTE

- **The illustration explains with an example for "2 holes/4 holes kit".**
- **The slide cam has a guide. With the shape of the guide and the difference shift value of the puncher frame, only the specified puncher can be moved down.**
- **The "2 holes kit" and the "4 holes kit" do not have the punch hole switching function.**

Enlarged view of the punch dust agitating blade drive section



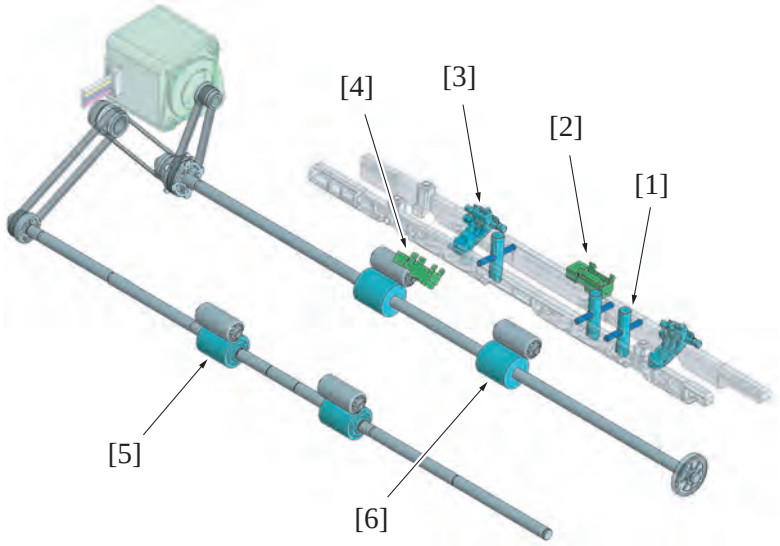
[1]	Punch motor sensor (PS202)	[2]	Encoder
[3]	Punch dust agitating blade	[4]	Punch dust agitating blade drive connecting lever
[5]	Punch dust full sensor (PS205)	[6]	Punch motor (M201)

5.3 Operation

5.3.1 Skew correction mechanism

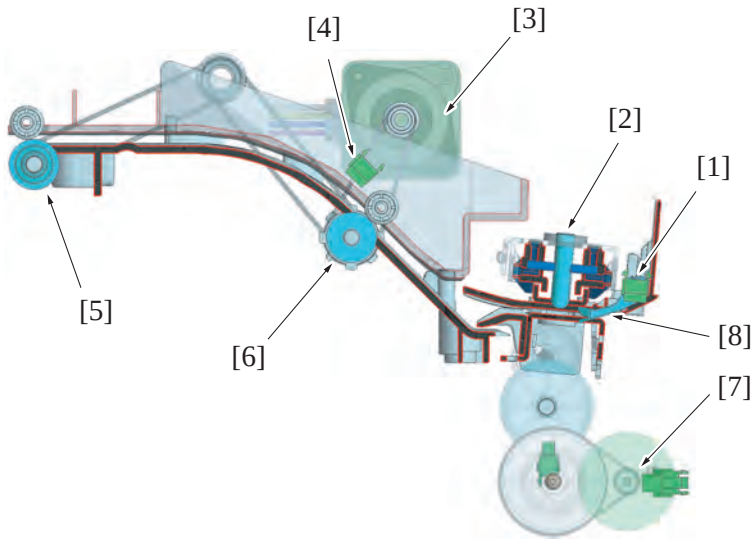
- When in punch mode, the paper is transported to the paper transport section of the finisher once and switchbacked to make the paper contact the registration guide. This process will correct the skew at the rear edge of the paper (tilt) to enable punching at the proper position.

Overall view



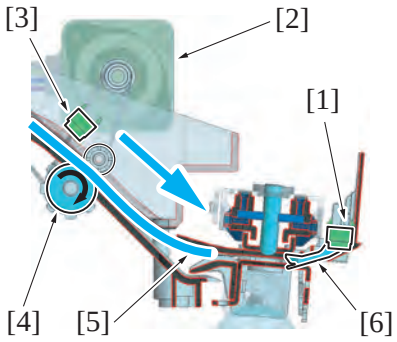
[1]	Puncher	[2]	Paper feed sensor (PS201)
[3]	Registration guide	[4]	Paper feed sensor (PS101)
[5]	Receiving roller	[6]	Paper conveyance roller

Front view

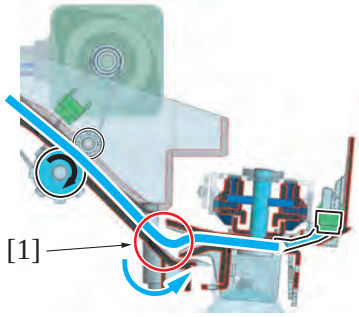


[1]	Paper feed sensor (PS201)	[2]	Puncher
[3]	Paper conveyance motor (M101)	[4]	Paper feed sensor (PS101)
[5]	Receiving roller	[6]	Paper conveyance roller
[7]	Punch motor (M201)	[8]	Registration guide

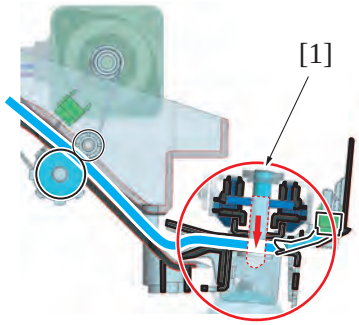
(1) Skew correction process



1. The paper conveyance motor [2] of the finisher will rotate forward, and the paper conveyance roller [4] will rotate forward. The paper will be transported for the punch section to the transport section.
2. The paper feed sensor [3] (PS101) will detect the front edge of the paper, and the paper feed sensor [1] (PS201) will detect the rear edge of the paper.
3. When the paper feed sensor [1] (PS201) detects the rear edge of the paper and the specified period of time has passed, the transportation motor will rotate in reverse direction.
4. The paper will be switchbacked [5] once, and the rear edge of the paper contacts the registration guide [6].



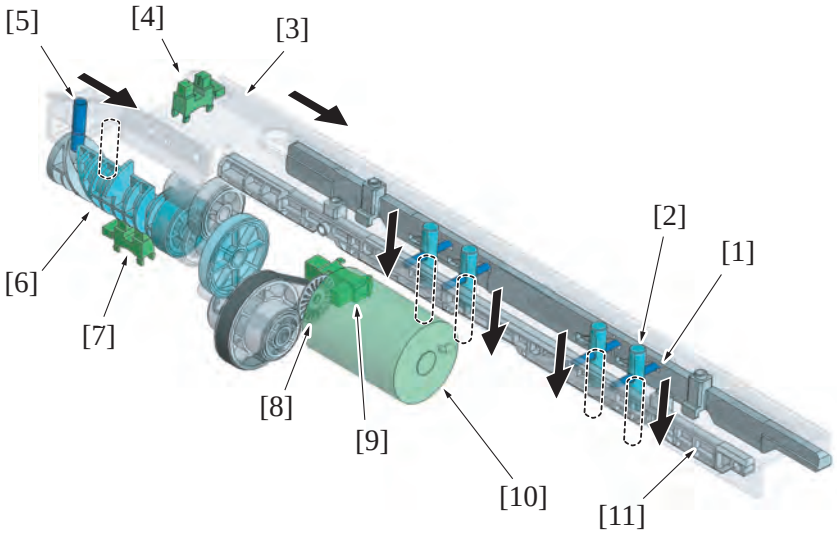
5. When the paper is switchbacked, the paper forms a loop [1] between the paper conveyance roller and the registration guide, and corrects the paper skew (tilt).
6. The paper feed sensor at the punch section detects the rear edge of the paper, and the paper conveyance motor stops after the specified period of time to stop the switchback of the paper.



7. The switchback of the paper stops, and the puncher [1] moves down to punch the hole on the paper.
8. After punching the hole, the conveyor motor rotates forward to transport the paper into the finisher.

5.3.2 Punch control

- The holes are punched on the paper by switchback of the paper into the punch unit and by moving the puncher up/down by the punch motor.

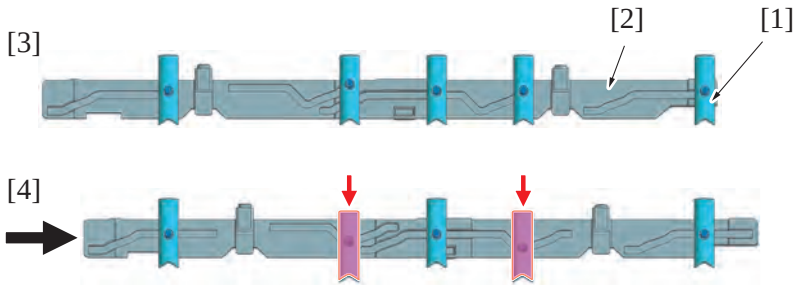


[1]	Puncher slide pin	[2]	Puncher
[3]	Puncher frame	[4]	Puncher home sensor (PS204)
[5]	Puncher frame slide pin	[6]	Puncher drive cam
[7]	Puncher drive cam sensor (PS203)	[8]	Encoder
[9]	Punch motor sensor (PS202)	[10]	Punch motor (M201)
[11]	Slide cam	-	-

(1) Paper punching process

1. The puncher frame waits at the home position to make the puncher waits at the upper position.
   Position of the puncher frame is detected by the puncher home sensor.
2. Paper feed sensor at the punch section detects the rear edge of the paper, and stops switchback of the paper after a specified period of time.
3. The punch motor rotates forward to rotate the puncher drive cam forward. The punch frame then will move towards the front side. When the puncher frame moves towards the front side, the slide cam moves the puncher down by its cam shape.
   The rotation value of the punch motor is detected by the number of times light shielding plate blocks the punch encoder sensor. The value the slide cam moves back and forth differs depending on the value the punch motor rotates. When the value the slide cam moves changes, the value of the puncher moves in vertical direction also changes. The position of the puncher is judged in process. The rotating position of the puncher driven cam is detected by the puncher drive cam sensor.

Example: Figure for 2 holes punching operation for 2 hoes/3 holes kit



[1]	Puncher	[2]	Slide cam
[3]	Puncher frame (home position)	[4]	Puncher frame (Punching position)

- The left side of the cross section shows the rear side of the punch unit. The right side shows the front side.

4. When the puncher frame moves to the front side, the slide cam pushes the puncher down to punch the holes at the rear edge of the paper. (The holes are punched paper by paper.) The holes are judged to be punched according to the rotation value of the punch motor.
   NOTE
   - **The number of the punchers (number of the holes) differs depending on the type of the punch kit.**
   - **The number of the punch holes is switched according to the shift value of the puncher frame for the 2 holes/3 holes kit as well as 2 holes/4 holes kit.**
     For details, see "PE.5.3.3 Punch holes switch control".
5. When the holes are punched, the punch motor rotates in reverse direction, and the puncher drive cam rotates in reverse direction. This process leads the puncher frame to return to the home position to move the puncher up.

5.3.3 Punch holes switch control

- 2 holes/3 holes punch kit as well as 2 holes/4 holes punch kit have mechanisms to switch the number of punch holes.

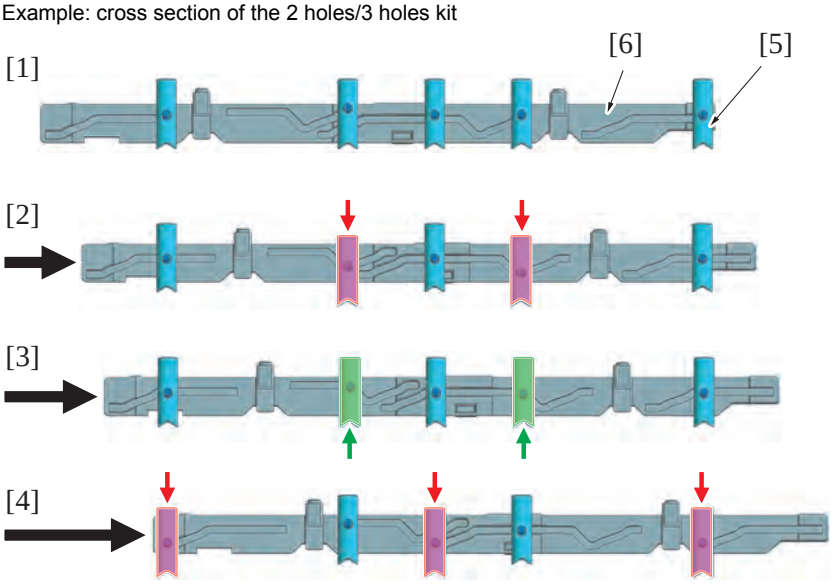
(1) Number of punch holes switch mechanism

- The slide cam has a guide. With the shape of the guide and the difference shift value of the puncher frame, only the specified puncher can be moved down.
- The shift value of the puncher frame is judged by the rotation value of the punch motor. The rotation value of the punch motor is detected by the punch motor sensor.

- The number of the punch holes can be selected when selecting the punch mode.
  NOTE
  - **When the second type of punch hole (3 holes on the illustration) is selected, the puncher frame shifts to the waiting position 2 from the waiting position 1 (home position) and waits prior to the job.**

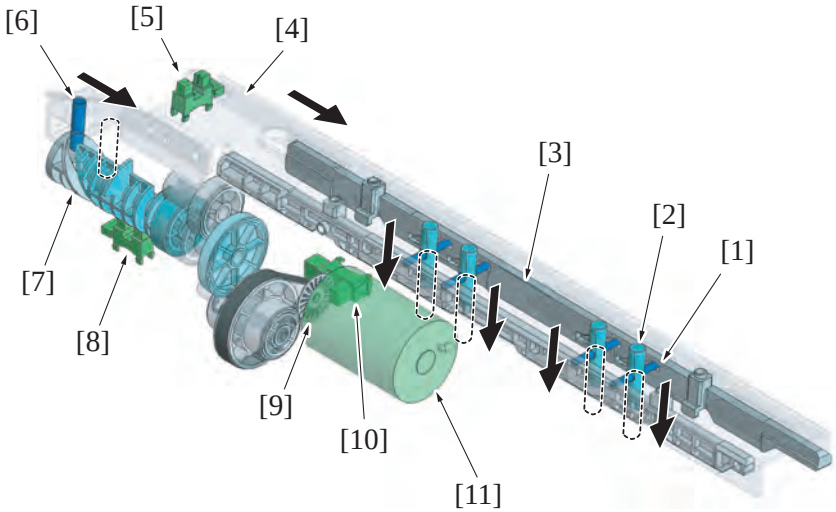
- The number of the puncher and the guide shape of the slide cam differ depending on the type of the punch kit.

Example: cross section of the 2 holes/3 holes kit



[1]	Waiting position 1 (home position)	[2]	Puncher frame shift value: Small (Example: 2 holes punching position)
[3]	Waiting position 2 (puncher frame shift value: medium)	[4]	Puncher frame shift value: Large (Example: 3 holes punching position)
[5]	Puncher	[6]	Slide cam

(2) Puncher frame position detect mechanism



[1]	Puncher slide pin	[2]	Puncher
[3]	Slide cam	[4]	Puncher frame
[5]	Puncher home sensor (PS204)	[6]	Puncher frame slide pin
[7]	Puncher drive cam	[8]	Puncher drive cam sensor (PS203)
[9]	Encoder	[10]	Punch motor sensor (PS202)
[11]	Punch motor (M201)	-	-

(a) Puncher position detect control

- The waiting position 1 (home position) and the waiting position 2 are judged by the assembly of the detecting result of the punch home sensor and the puncher drive cam sensor.

Puncher retract position	Puncher home sensor	Puncher drive cam sensor
Waiting position 1 (puncher retract position)	Blocked	1st light block

Puncher retract position	Puncher home sensor	Puncher drive cam sensor
Punching position 1 (Example: 2 holes punching)	Unblocked	1st light unblock
Waiting position 2 (puncher retract position)		2nd light block
Punching position 2 (Example: 3 holes punching)		2nd light unblock

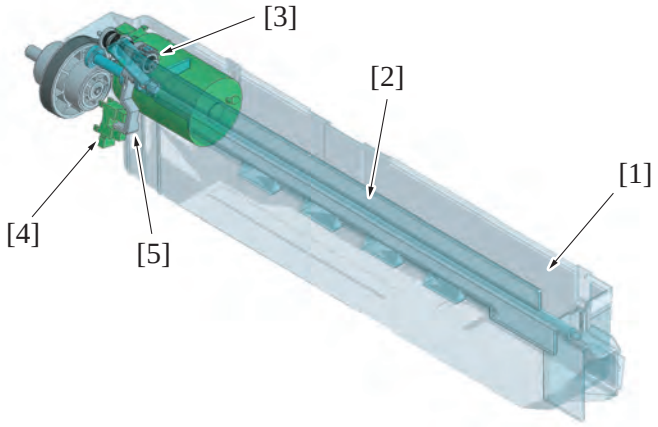
(b) Puncher shift value detect mechanism

- The shift value of the puncher frame is judged by the number of times the encoder blocks the punch motor sensor.

5.3.4 Punch dust full detection control

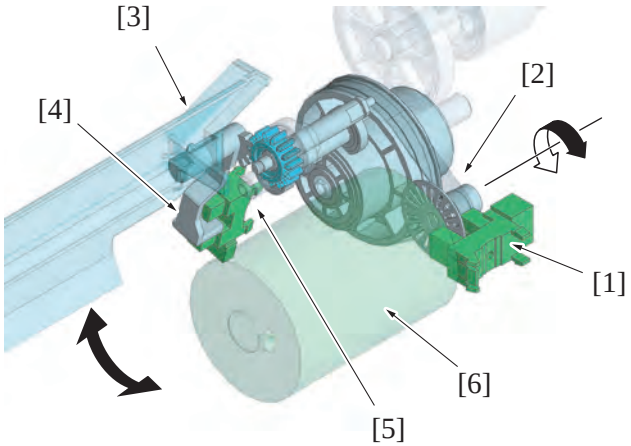
- The punch dust box section has the punch dust full sensor. When the job is commanded with the punch dust exceeding the specified value, a warning message for the punch dust full is displayed on the control panel.
- The punch dust full sensor detects the volume of the punch dust with the position of the agitating blade drive connecting lever.
- The punch dust full sensor also detects if the punch dust box is installed.
  If the punch dust box is not installed when the punch job is commanded, the warning message for the punch dust full will be displayed on the control panel.
- Even when the "punch dust full" is detected, printing is not prohibited. All the jobs except punch holes will be conducted until finished.

Punch dust box over view



[1]	Punch dust box	[2]	Punch dust agitating blade
[3]	Drive transmission gear	[4]	Punch dust full sensor (PS205)
[5]	Agitating blade drive connecting lever	-	-

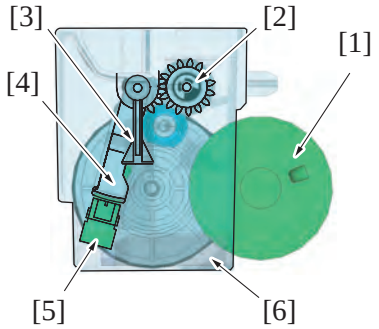
Enlarged view of the punch dust full sensor section



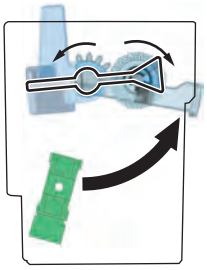
[1]	Punch motor sensor (PS202)	[2]	Encoder
[3]	Punch dust agitating blade	[4]	Agitating blade drive connecting lever
[5]	Punch dust full sensor (PS205)	[6]	Punch motor (M201)

(1) Punch dust full detect operation

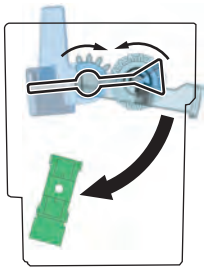
Punch dust agitating blade home position view



1. The drive transmission gear [2] stops while the punch motor [1] is in halt. The punch dust agitating blade [3] in the punch dust box [6] waits at the home position.
The agitating blade drive connecting lever [4] blocks the punch dust full sensor [5] during that time.

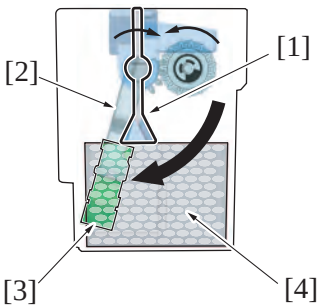


2. When the punch motor rotates forward, the drive transmission gear rotates forward.
3. When the drive transmission gear rotates forward, the agitating blade drive connecting lever rotates forward to rotate the punch dust agitating blade forward.
When the agitating blade drive connecting lever rotates, the punch dust full sensor is unblocked.
The punch dust agitating blade rotates to level the punch dust in the punch dust box.



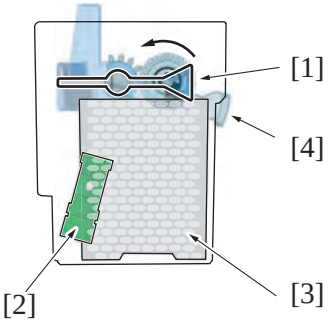
4. When punch holes is complete, the punch motor starts rotating in reverse direction.
When the punch motor rotates in reverse direction, the punch dust agitating blade rotates in reverse direction and tries to return to the home position.

In normal operation



NOTE
In normal operation:
- **The agitating blade drive connecting lever [2] and the punch dust agitating blade [1] return to their home positions by the punch motor's drive force.**
- **By the agitating blade drive connecting lever [2] returning to the home position, the punch dust full sensor [3] will block the light. The punch dust [4] then is judged not to be full.**

When the punch dust is full



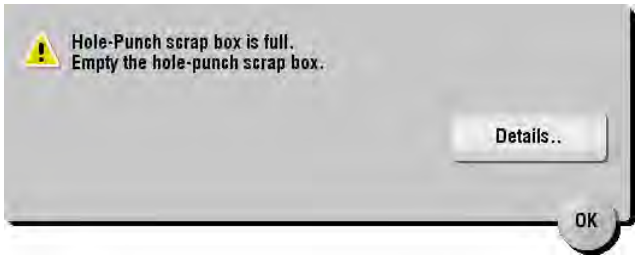
NOTE
When the punch dust is full:
- **The agitating blade drive connecting lever [4] and the punch dust agitating blade [1] cannot return to their home positions due to the punch dust [3].**
- **The torque limiter function is installed to the drive transmission gear to prohibit transmission of the drive force more than specified.**
- **With the agitating blade drive connecting lever [4] not returning to the home position, the punch dust full sensor [2] keeps being unblocked. When the transmission status is detected for 10 consecutive times during punching operation, the punch dust [3] is detected to be full to display the message warning that the punch dust is at full level.**

(a) Punch dust full message

Example of display



Example of display



NOTE

- **The display details and message text are changed when the JS-506 is installed to the MFP.**

(2) Punch dust box not installed detect control

1. When the punch dust box is installed, the agitating blade drive connecting lever waits at the home position. (blocks the punch dust full sensor)
2. When the punch dust box is removed, the punch dust full sensor is unblocked.
3. When the finisher is closed and the punch job is commanded with the above status, the punch dust box is detected as uninstalled. So that the message appears on the control panel to warn that the punch dust box is full.

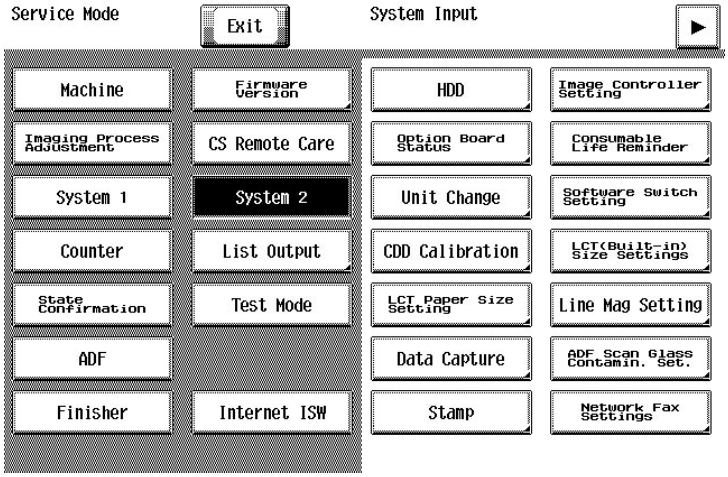
   NOTE

   - **Even when the "punch dust box not installed" is detected, printing is not prohibited. All other jobs except punching holes will be conducted and continued until finished.**
   - **Punching the holes to the paper will be conducted only when the punch dust box is installed.**

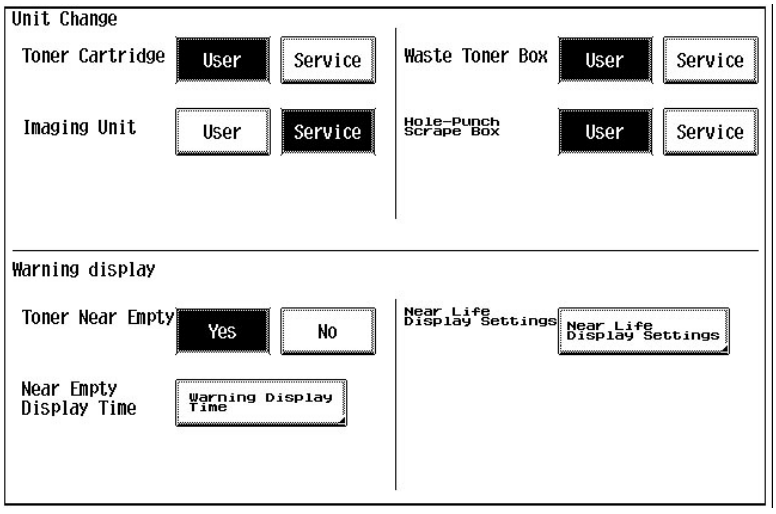
(3) Unit change function

- The screen to be displayed when a punch dust full is detected can be enabled or disabled in the “Unit Change” in the Service Mode.

Service Mode/System screen: typical



System 2/Unit Change screen: typical



NOTE

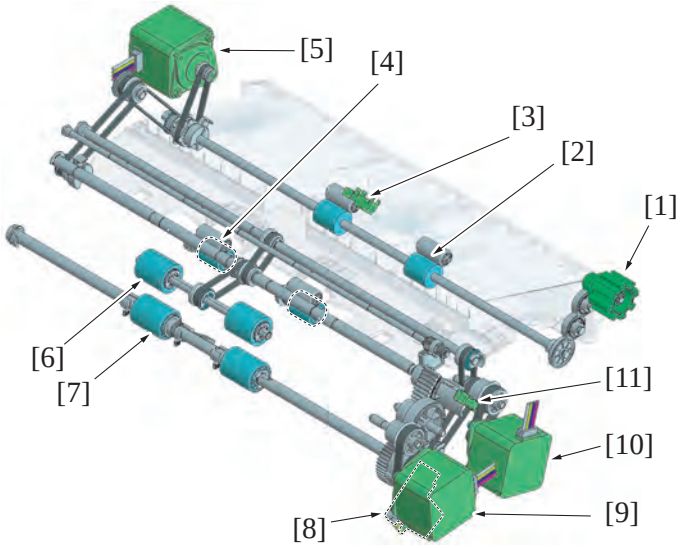
- **The Service Mode screen display, details, menus, and default settings are changed when the JS-506 is installed to the MFP.**

- **For details of the Service Mode, see "I.5.16.5 Unit Change."**

6. TRANSPORT SECTION

6.1 Configuration

- At the transport section, paper that is transported from the MFP paper exit section (punch section when a punch kit is installed) is transported into the finisher and alignment section.



[1]	Jam removal dial	[2]	Paper conveyance roller
[3]	Paper feed sensor (PS101)	[4]	Receiving roller
[5]	Paper conveyance motor (M101)	[6]	Paper exit roller/upper
[7]	Paper exit roller/lower	[8]	Paper exit roller solenoid (SD103)
[9]	Exit roller lift up motor (M104)	[10]	Paper exit motor (M102)
[11]	Pick up roller position sensor (PS105)	-	-

6.2 Drive

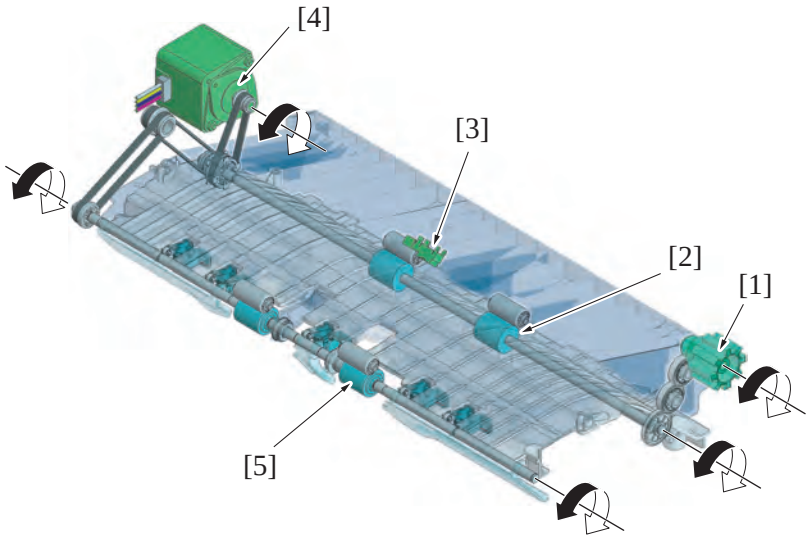
6.2.1 Drive outline

The driving source of the transport section is the paper conveyance motor, paper exit motor, and exit roller lift up motor, and the following parts are driven.

Section	Driving source	Driving parts	Function
Transport/ receiving roller section	Paper conveyance motor	• Paper conveyance roller • Receiving roller	• Transports the paper to inside the finisher • Transports the paper to the alignment section • Switchbacks the paper to the punching section (when in punch mode)
Paper exit roller section	Paper exit motor	• Paper exit roller/upper • Paper exit roller/lower • Paper exit paddle	• Rotates the paper exit roller/upper in reverse direction to transport the paper to the alignment tray (when in sort/group mode) • Rotates the paper exit roller/upper and the paper exit roller/lower in forward direction to exit the paper to the paper exit tray
	Exit roller lift up motor	• Paper exit roller/upper • Paper guide	• Moves the paper exit roller/upper and the paper guide up/down • Moves the paper exit roller/upper down to transport the paper to the alignment tray (when in sort/group mode) • Moves the paper exit roller/upper down to exit the paper to the paper exit tray

6.2.2 Paper conveyance/receiving roller section drive

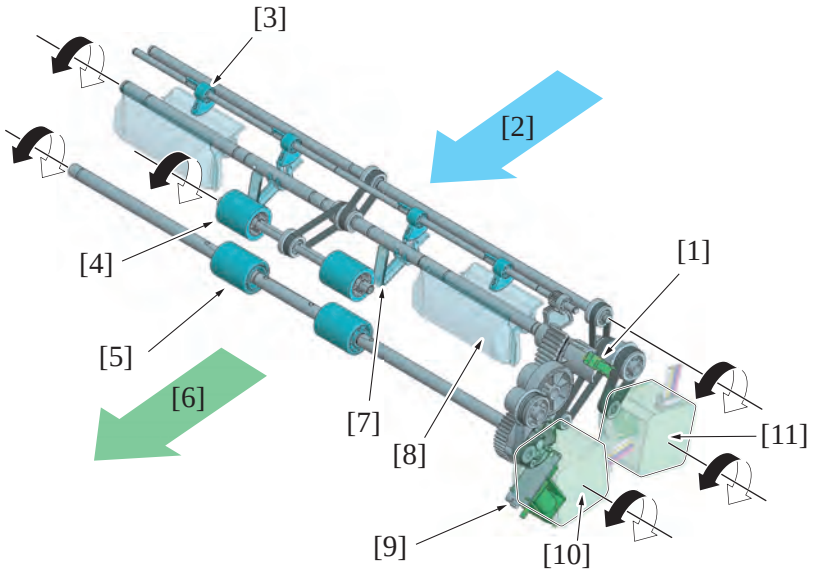
- The drive source for the paper conveyance and the receiving roller section is the paper conveyance motor which drives paper conveyance roller and the receiving roller.
- The paper conveyance roller and the receiving roller can be manually rotated (forward/reverse) by manually rotate the jam removal dial. This dial is to be used when the paper is clogged inside the finisher.



[1]	Jam removal dial	[2]	Paper conveyance roller
[3]	Paper feed sensor (PS101)	[4]	Paper conveyance motor (M101)
[5]	Receiving roller	-	-

6.2.3 Paper exit roller section drive

- The paper exit roller section has 2 types of drive mechanisms.



[1]	Pick up roller position sensor (PS105)	[2]	Direction of the transport (transport section)
[3]	Paper lift up cam	[4]	Paper exit roller/upper
[5]	Paper exit roller/lower	[6]	Direction of the paper exit (receive section)
[7]	Paper guide	[8]	Paper guide
[9]	Paper exit roller solenoid (SD103)	[10]	Exit roller lift up motor (M104)
[11]	Paper exit motor (M102)	-	-

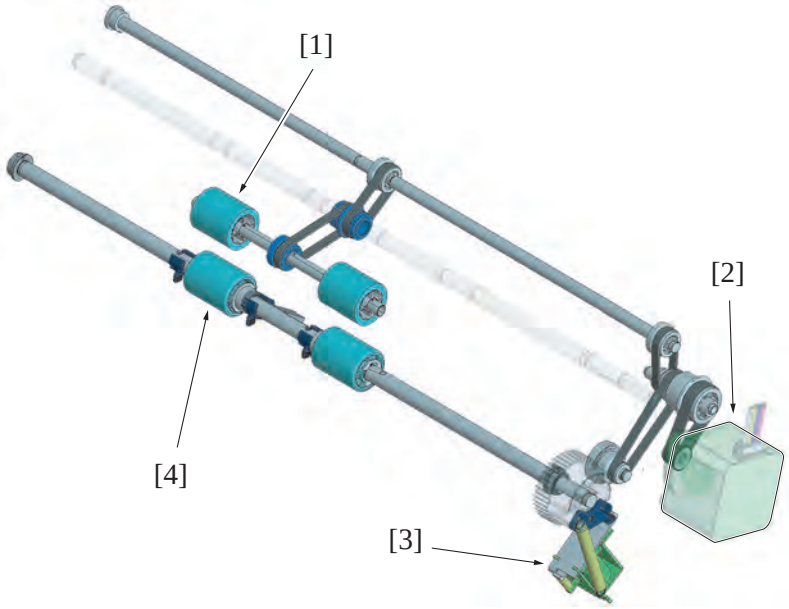
(1) Paper exit motor

- The paper exit motor drives the paper exit roller/upper and the paper exit roller/lower.
- The paper exit roller/upper is connected to the paper exit motor. Rotation of the paper exit motor rotates the paper exit roller/upper.
- The connection of the paper exit roller/lower and the paper exit motor is released while waiting. Turn on/off of the paper exit roller solenoid to connect the paper exit roller/lower drive gear and rotate (forward direction*) the paper exit roller/lower.

NOTE

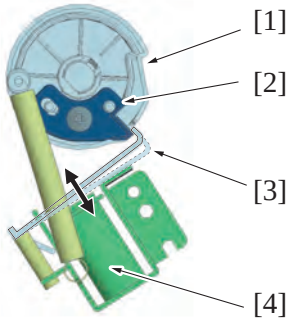
- ***: A torque limiter is installed to the paper exit roller/lower. Therefore, when the reverse rotation force of over the predetermined value is applied from the paper exit roller/upper which is pressed at the time of FD alignment, the paper exit roller/lower rotates in reverse direction as the paper exit roller/upper rotates.**

Paper exit motor drive view



[1]	Paper exit roller/upper	[2]	Paper exit motor (M102)
[3]	Paper exit roller solenoid (SD103)	[4]	Paper exit roller/lower

Paper exit roller/lower drive front view

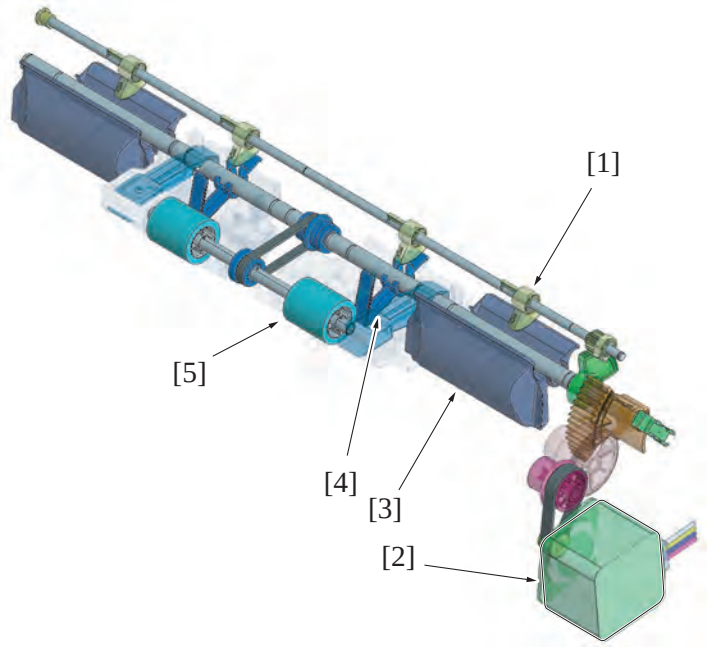


[1]	Paper exit roller/lower drive gear	[2]	Paper exit roller/lower drive gear lock plate
[3]	Rotation lock claw	[4]	Paper exit roller solenoid (SD103)

(2) Exit roller lift up motor

- The exit roller lift up motor drives the up/down operation of the paper exit roller/upper. It also drives the paper guide (2 points) and the paper guide (2 points). The paper exit roller/upper waits at the upper position. Rotation of the exit roller lift up motor moves the paper exit roller/lower down. (Drive source for rotating the paper exit roller/upper is the paper exit motor.)
- The exit roller lift up motor rotates the cam (4 points). When the cam rotates, the paper guide pushed up by the cam will be unlocked to move the paper guide down by its own weight.

Exit roller lift up motor drive view

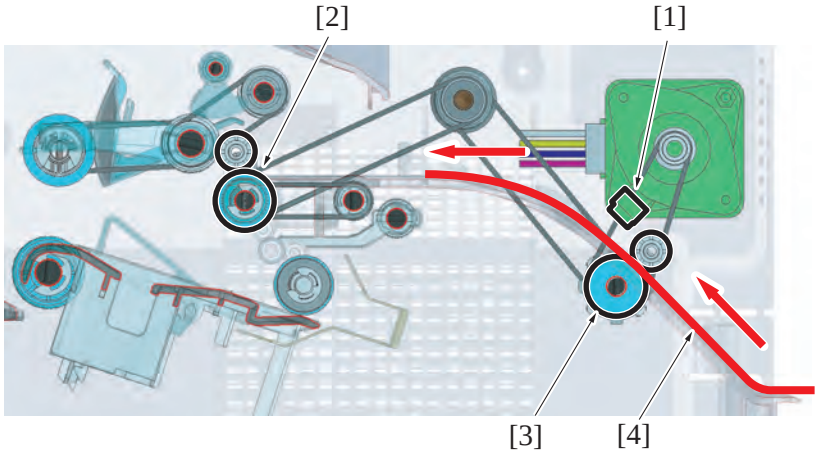


[1]	Cam	[2]	Exit roller lift up motor (M104)
[3]	Paper guide	[4]	Paper guide
[5]	Paper exit roller/upper	-	-

6.3 Operation

6.3.1 Paper conveyance/receiving roller section paper transport control

- The paper conveyance roller sends the paper that is transported from the MFP paper exit section (or from the punch section) to the receiving roller.
- The receiving roller sends the paper transported from the paper conveyance roller to the receiving section or the alignment section.
- The paper feed sensor detects the front edge and the rear edge of the paper. This will make the unit to detect the transportation and path of the paper.
- When in punch mode, the paper conveyance roller and the receiving roller rotate in reverse direction to switchback the paper and punch the holes at the punch section.
  When the holes are punched, the paper conveyance roller and the receiving roller rotate in forward direction to send the paper to the receiving section or to the alignment section.
  For details on punching operation, see “PE.5.3.2 Punch controll”.

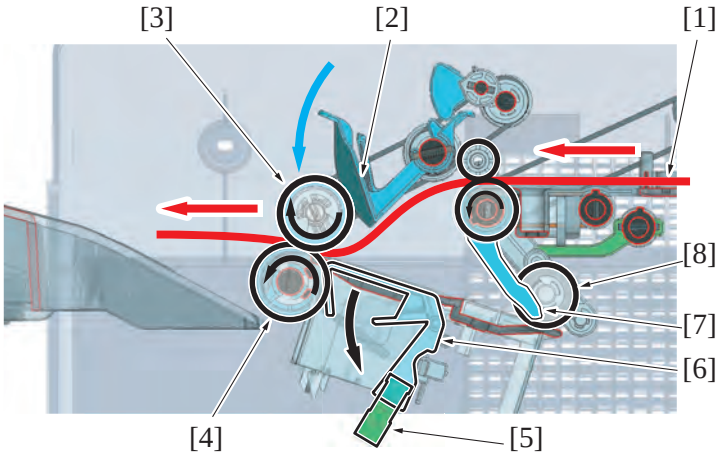


[1]	Paper feed sensor (PS101)	[2]	Receiving roller
[3]	Paper conveyance roller	[4]	Paper

6.3.2 Paper exit roller section paper transport control

(1) Non sort mode, Non group mode, Non staple mode, Sort mode, Group mode

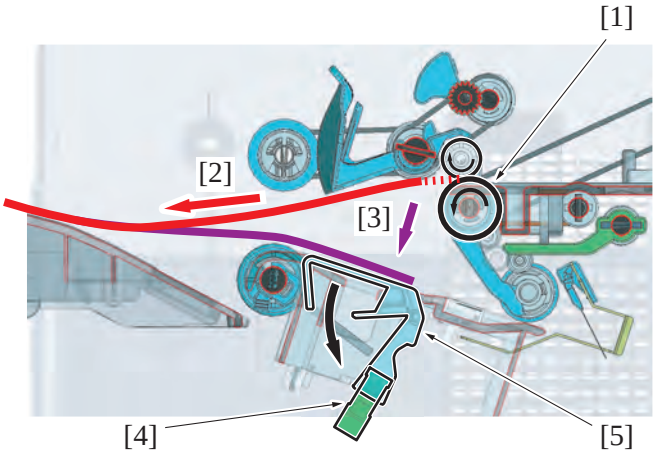
- The paper guide waits at the upper position by the cam. When the cam rotates by the exit roller lift up motor, the paper guide will be unlocked and moves down to the lower position. The paper sent from the transport section will be led to the exit roller by the paper guide.
- The paper exit roller/upper moves down to hold the paper from the transport section with the paper exit roller/lower to discharge it to the exit tray.
- The paper surface detect sensor/1 detects that the paper is discharged to the paper exit tray by the actuator being pushed down while the paper passes through and then returned to the original position.



[1]	Paper	[2]	Paper guide
[3]	Paper exit roller/upper	[4]	Paper exit roller/lower
[5]	Paper surface detect sensor/1 (PS102)	[6]	Paper surface detect sensor/1 actuator
[7]	Batch weight guide	[8]	Alignment roller

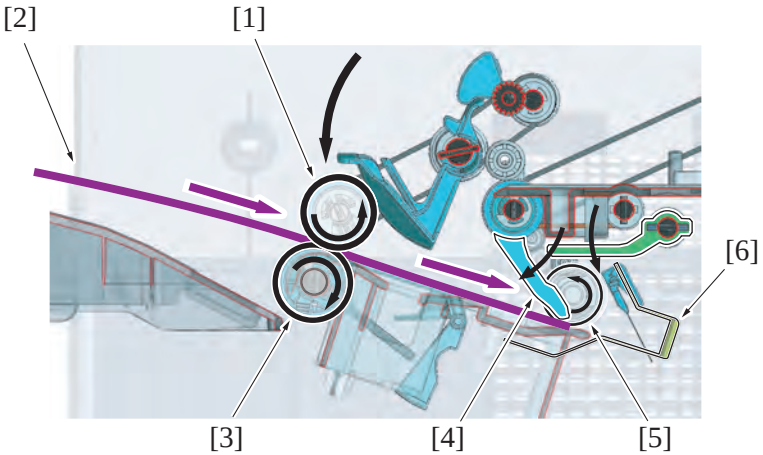
(2) Sort offset function mode, Group offset function mode, Staple mode

1. The paper exit roller/upper stops rotating at the upper position and waits.
   The paper exit roller/lower waits at the halt status.
2. The first paper is discharged [2] by the receiving roller [1], and moves down to the alignment tray by its own weight. [3]



NOTE
- **The paper surface detect sensor/1 [4] detects that the paper is discharged to the alignment tray when the actuator [5] is pressed down by the paper.**

3. The paper exit roller/upper [1] moves down to hold the first paper on the alignment tray [2] with the paper exit roller/lower [3] to rotate rollers* in reverse direction and transport the paper to the alignment roller [5].



NOTE
- ***: The paper exit roller/lower [3] rotates in reverse direction driven by the paper exit roller/upper [1].**

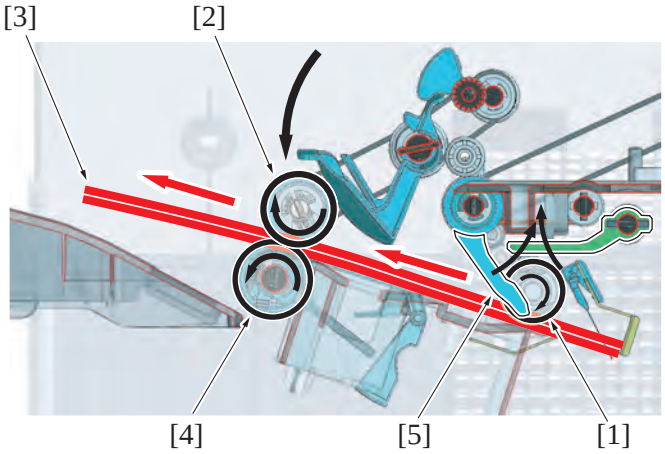
4. The paper exit roller/upper [1] moves up and stops rotating.
5. The alignment roller [5] contacts the rear edge of the paper to the alignment plate [6] to align the paper. (paper FD alignment)
6. The alignment plate moves back and forth to align right and left of the paper. (paper CD alignment)
7. The batch weight guide [4] moves down to hold the rear end [2] of the aligned paper.
   For drive of the batch weight guide, see "PE.7.2.2.(3) Batch solenoid".

NOTE
- **The batch weight guide [4] prevent the second paper and after to misalign the aligned paper [2]. For details, see "PE.7.3.2 Paper alignment control (paper FD alignment)".**

8. The second paper will be discharged over the first paper on the alignment tray.
9. The batch weight guide [4] moves up to release the rear end of the paper.
10. The paper exit roller/upper [1] moves down to hold the first and the second paper on the alignment tray with the paper exit roller/lower to rotate the paper exit roller/upper [1] in reverse direction, and transport it to the alignment roller [5] to align the rear edge of the paper.
11. The alignment plate moves back and forth to align the paper.

NOTE
- **The second paper and after will be transported in the same way.**
- **For details of the paper alignment control, see "PE.7.3.1 Paper alignment overview".**

12. When the last paper is aligned, the paper exit roller/upper [2] will move down to hold all the paper on the alignment tray [3] with the paper exit roller/lower [4].

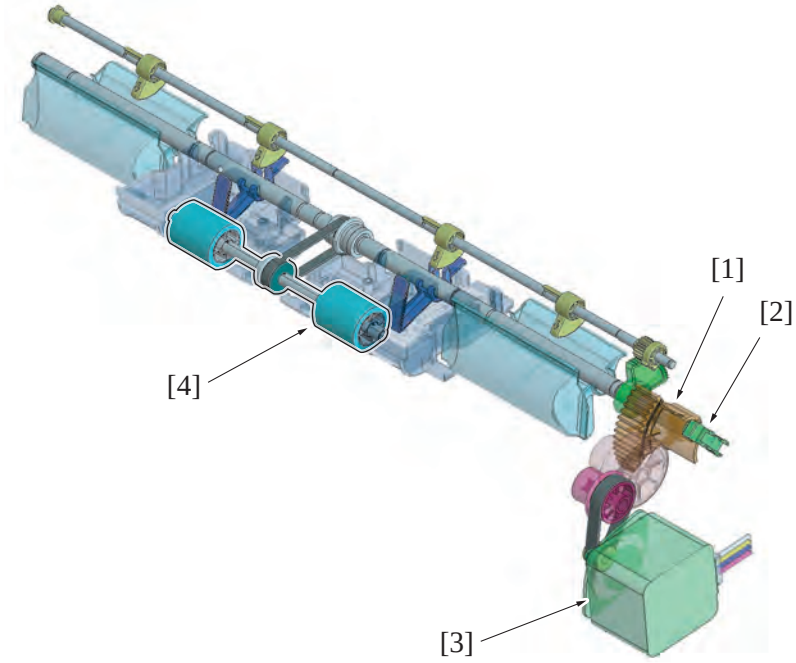


NOTE
- **When in staple mode, stapling is conducted after paper alignment is finished. For details on stapling control, see "PE.8.2.2 Stapling control".**
- **For control after the paper is discharged to the paper exit tray, refer to the receiving section.**

13. The batch weight guide [5] moves up to release the rear edge of the paper [2].
14. The paper exit roller/upper [2], paper exit roller/lower [4], and the alignment roller [1] rotate to discharge the paper [3] to the paper exit tray. (The paper exit roller/upper [2] and paper exit roller/lower [4] rotate in forward direction, and the alignment roller [1] rotates in reverse direction.)

6.3.3 Paper exit roller up/down control

The paper exit roller moves up/down when transporting the paper from the paper conveyance or receiving roller section to the receiving section or to the alignment section.



[1]	Exit roller lift up gear	[2]	Pick up roller position sensor (PS105)
[3]	Exit roller lift up motor (M104)	[4]	Paper exit roller/upper

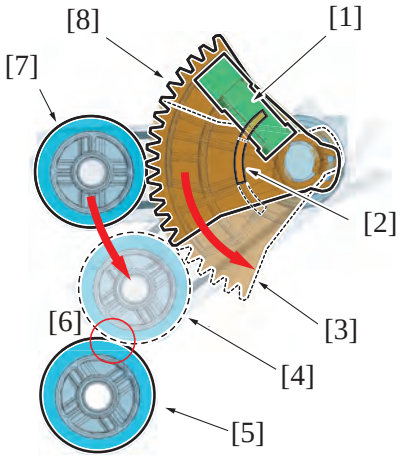
(1) Lift up control in non-sort mode, non-group mode, non-staple mode, sort mode, and group mode

1. The paper exit roller/upper is moved down from the upper position (home position) to the lower position (press position) to hold the paper with the paper exit roller/upper and the paper exit roller/lower to rotate the roller forward and to discharge the paper to the paper exit tray.
2. The paper exit roller/upper moves up when the paper transportation is complete. (returns to the home position)

(2) Lift up control in sort offset mode, group offset mode, and staple mode

1. The paper exit roller/upper waits at the upper position (home position) and discharges the paper to the alignment tray.
2. The paper exit roller/upper moves down from the upper position to the lower position (press position).
3. The paper exit roller/upper rotates in reverse direction and sends the paper to the alignment section.
   NOTE
   - **When transporting the paper to the alignment section, only the paper exit roller/upper rotates in reverse direction.**
4. The paper is aligned in the alignment section. When the paper is being aligned, the paper exit roller/upper waits at the upper position.
5. When aligning and stapling are finished, the paper exit roller/upper moves down to hold the paper with the paper exit roller/upper and the paper exit roller/lower, and rotates the roller in forward direction to discharge the paper to the paper exit tray.
6. The paper exit roller/upper moves up when the paper transportation is complete. (returns to the home position)

(3) Paper exit roller position detect control

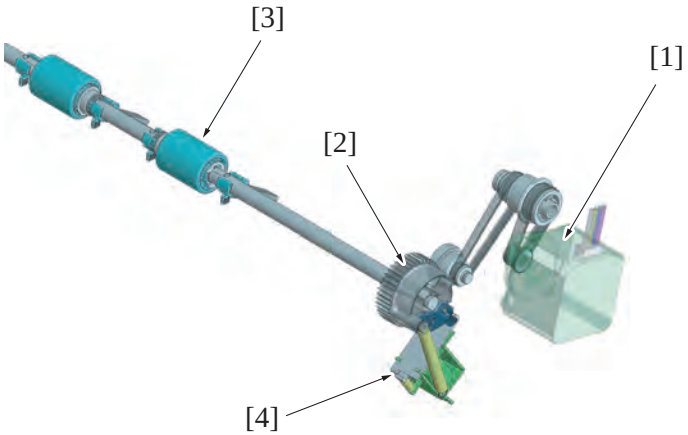


1. The paper exit roller/upper waits at the upper position [7]. (home position)
   The light shield plate [2] of the gear [8] installed on the lift up shaft for the paper exit roller/upper blocks the pick up roller position sensor [1] and detects that the paper exit roller/upper is at the home position [7].
2. When the exit roller lift up motor rotates, the gear on the exit roller lift up shaft rotates [3] to move the paper exit roller/upper [4] down to be pressed [6] to the paper exit roller/lower [5]. (Paper exit roller/upper at press position)
   When the gear [3] rotates, the light shield plate [2] also rotates to unblock the pick up roller position sensor [1]. This process detects that the paper exit roller/upper [4] position is at the press position.

Paper exit roller/upper position	Pick up roller position sensor
Upper position (home position)	Blocked
Lower position (pressure position)	Unblocked

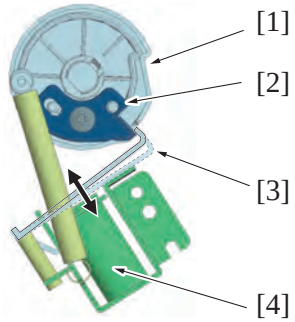
6.3.4 Paper exit roller/lower drive connecting control

- It rotates the paper exit roller/lower when transporting the paper from the transport section to the receiving section or to the alignment section.
- The connection of the paper exit roller/lower and the paper exit motor is released by the paper exit roller solenoid when waiting. On/off of the paper exit roller solenoid connects the paper exit roller/lower to the paper exit motor, and rotates as the paper exit motor rotates. When the paper exit roller/lower and the paper paddle rotate one revolution clockwise (forward direction), the connection with the paper exit motor will be released and stop.
  NOTE
  - **For details of the paper weight paddle control, see "PE.9.3.1 Paper exit paddle control".**

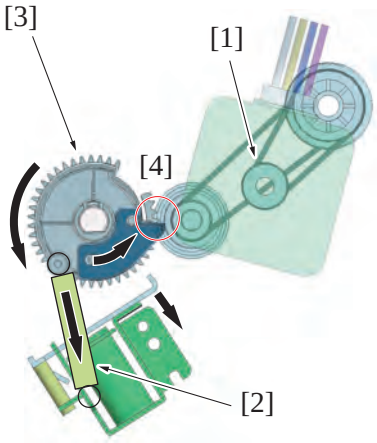


[1]	Paper exit motor (M102)	[2]	Paper exit roller/lower drive gear
[3]	Paper exit roller/lower	[4]	Paper exit roller solenoid (SD103)

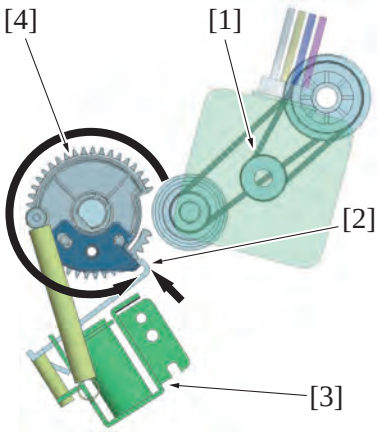
(1) Paper exit roller/lower drive connecting process



1. Connection of the paper exit roller/lower with the paper exit motor is released while waiting. On/off of the paper exit roller solenoid [4] operates the rotation lock claw [3] for the paper exit roller solenoid to release the lock plate [2] installed on the paper exit roller/lower drive gear [1].



2. By the paper exit roller/lower drive gear [3] being rotated by the spring force [2], it will be connected to the drive mechanism [4] of the paper exit motor [1]. This process transfers drive force to the paper exit roller/lower drive gear to rotate the paper exit roller/lower.

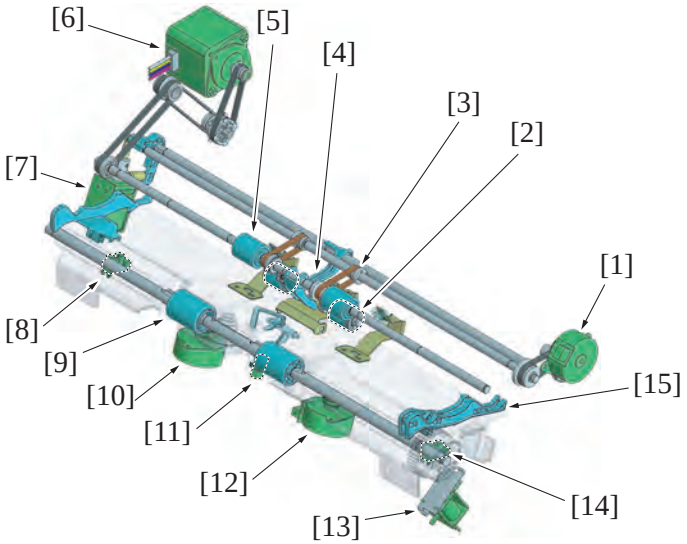


3. The paper exit roller/lower will be released from the paper exit motor [1] drive mechanism by the shape of the paper exit roller/lower drive gear [4] after rotating about one revolution. (Connection between the paper exit roller/lower and the paper exit motor [1] will be released.)
4. The paper exit roller/lower drive gear [4] will be locked to prohibit rotation by the rotation lock claw [2] of the paper exit roller solenoid [3]. (The paper exit roller/lower stops rotating.)

7. ALIGNMENT SECTION

7.1 Configuration

- In the alignment section, paper transported from the transport section is aligned and delivered to the paper exit tray.



[1]	Alignment roller motor (M103)	[2]	Alignment roller
[3]	Drive connecting belt	[4]	Batch weight guide
[5]	Receiving roller	[6]	Paper conveyance motor (M101)
[7]	Batch solenoid (SD102)	[8]	Alignment plate home sensor/R (PS109)
[9]	Paper exit roller/lower	[10]	Alignment motor/R (M106)
[11]	Paper surface detect sensor/1 (PS102)	[12]	Alignment motor/F (M105)
[13]	Paper exit roller solenoid (SD103)	[14]	Alignment plate home sensor/F (PS108)
[15]	Alignment plate/Fr	-	-

7.2 Drive

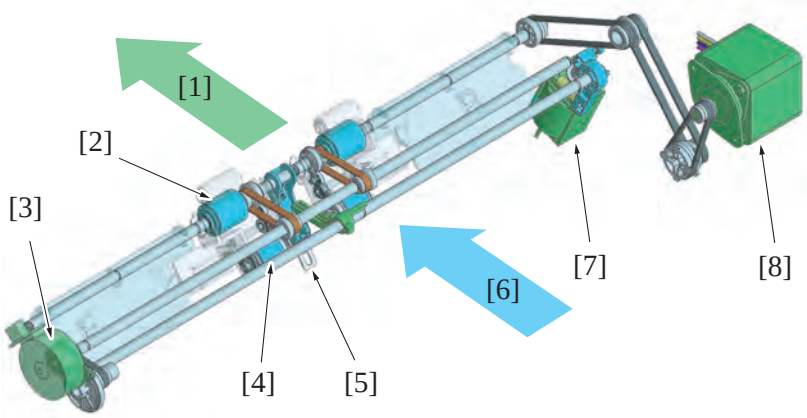
7.2.1 Drive outline

The driving source of the alignment section is the paper conveyance motor, alignment roller motor, batch solenoid, alignment motor, and paper exit motor, and the following parts are driven.

Section	Driving source	Driving parts	Function
Alignment roller section	Paper conveyance motor	Receiving roller	Transports paper to the alignment tray.
	Alignment roller motor	Alignment roller	• Switchbacks the paper to align the rear edge of the paper. (FD alignment operation) • The aligned paper will be discharged to the paper exit tray.
	Batch solenoid	Batch lever	It holds the rear edge of the paper on the alignment tray. It prevents the aligned paper to be misaligned by the paper that follows.
Alignment tray section	Alignment motor	Alignment plate/Fr	It moves the alignment plate/Fr forward and backward to align the paper. (CD alignment operation)
		Alignment plate/Rr	It moves the alignment/Rr forward and backward to align the paper. (CD alignment operation)
	Paper exit motor	Paper exit roller/upper	• It transports the paper to the alignment tray. (switchback) • Exits paper to the paper exit tray.
		Paper exit roller/lower	The paper is discharged to the paper exit tray.
		Paper exit paddle	

7.2.2 Alignment roller section

There are 3 types of drive mechanisms for the alignment roller section.



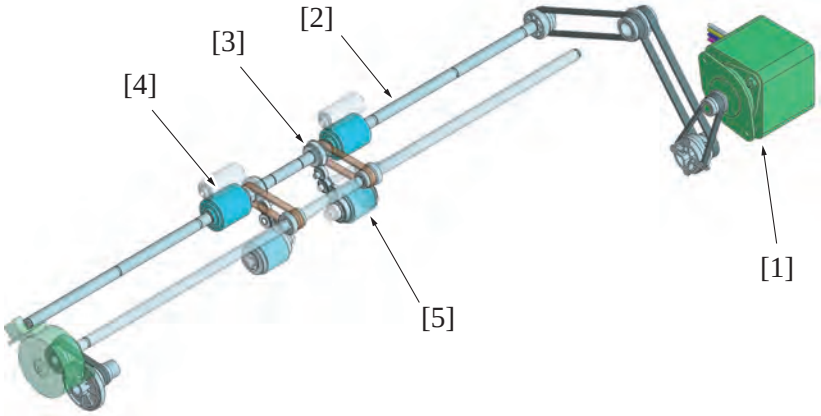
[1]	Direction of the paper exit (receive section)	[2]	Receiving roller
[3]	Alignment roller motor (M103)	[4]	Alignment roller
[5]	Paper weight guide	[6]	Direction of the paper transport (transport section)
[7]	Batch solenoid (SD102)	[8]	Paper conveyance motor (M101)

(1) Paper conveyance motor

- The receiving roller is driven by the paper conveyance motor.
- For details of the receiving roller drive, see "Paper conveyance/receiving roller section drive".
- The receiving roller is installed on the drive shaft for the receiving roller. It rotates by the drive force of the transport motor.

NOTE

- **The drive transmission pulley is not fixed to the receiving roller's drive shaft. Therefore, the alignment roller does not rotate even when the paper conveyance motor rotates.**



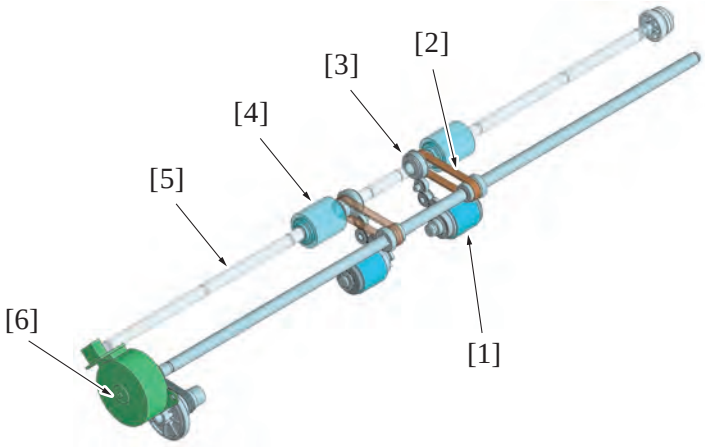
[1]	Paper conveyance motor (M101)	[2]	Receiving roller drive shaft
[3]	Drive connecting pulley	[4]	Receiving roller
[5]	Alignment roller	-	-

(2) Alignment roller motor

- The alignment roller is driven by the alignment roller motor.
- The alignment roller rotates by the drive force of the alignment roller motor through the drive transmission pulley on the drive shaft for the receiving roller.

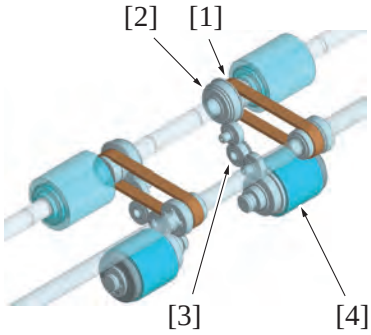
NOTE

- **The drive transmission pulley is not fixed to the receiving roller's drive shaft. Therefore, the receiving roller does not rotate even when the alignment roller motor rotates.**



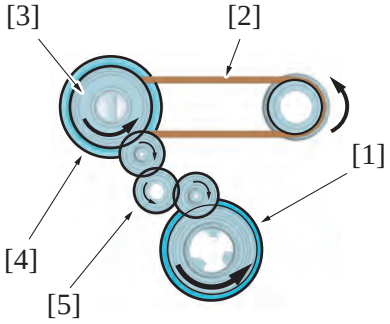
[1]	Alignment roller	[2]	Drive connecting belt
[3]	Drive connecting pulley	[4]	Receiving roller
[5]	Receiving roller drive shaft	[6]	Alignment roller motor (M103)

(a) Enlarged view of the alignment roller drive section



[1]	Drive connecting belt	[2]	Drive connecting pulley
[3]	Drive connecting gear	[4]	Alignment roller

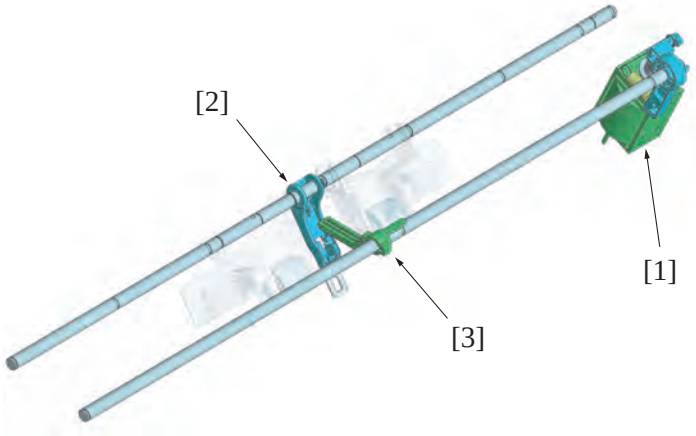
(b) Alignment roller drive section front view



[1]	Alignment roller	[2]	Drive connecting belt
[3]	Drive connecting pulley	[4]	Receiving roller
[5]	Drive connecting gear	-	-

(3) Batch solenoid

- The batch lever is driven by the batch solenoid.
- The batch lever and the batch guide wait at the upper position by the spring force. (home positions)
- When the batch solenoid turns on, the drive shaft for the batch lever rotates to rotate the batch lever downward.
- The batch guide is pressed down by the batch lever moving downward.
- When the batch solenoid turns off, the drive shaft for the batch lever rotates by the spring force to return the batch lever and the batch guide to the upper position.



[1]	Batch solenoid (SD102)	[2]	Batch guide
[3]	Batch lever	-	-

(a) Batch guide drive section front view



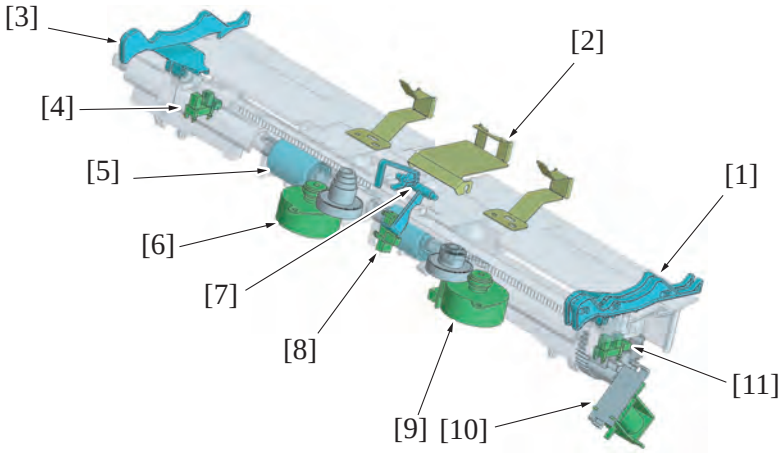
[1]	Batch lever	[2]	Batch guide
[3]	Batch solenoid (SD102)	-	-

7.2.3 Alignment tray section

- The alignment tray section has 2 types of drive mechanisms.

(1) Alignment motor

- The alignment motor drives the alignment plate back and forth.
- The alignment plate/Fr, and the alignment plate/Rr have individual alignment motors. This enables each alignment plate to independently move back and forth.



[1]	Alignment plate/Fr	[2]	Paper stopper
[3]	Alignment plate/Rr	[4]	Alignment plate home sensor/R (PS109)
[5]	Paper exit roller/lower	[6]	Alignment motor/R (M106)
[7]	Paper surface detect sensor/1 actuator	[8]	Paper surface detect sensor/1 (PS102)
[9]	Alignment motor/F (M105)	[10]	Paper exit roller solenoid (SD103)
[11]	Alignment plate home sensor/F (PS108)	-	-

(2) Paper exit motor

- The paper exit roller/lower is driven by the paper exit motor.
  For details of the paper exit roller/lower, see “Paper conveyance/receiving roller section drive” and “Paper exit roller/lower drive connecting process”.

7.3 Operation

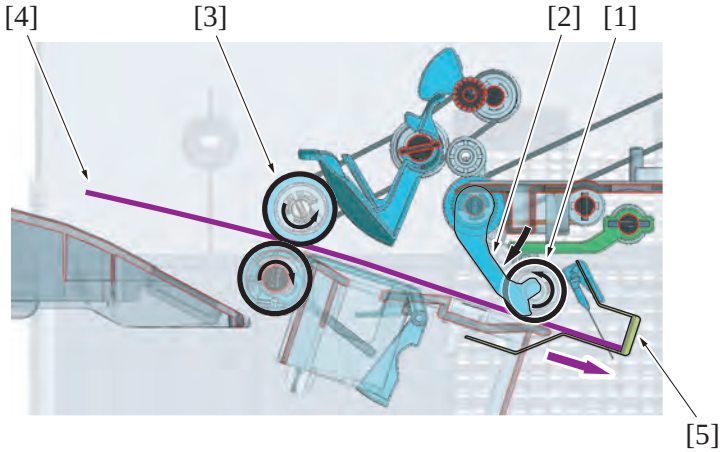
7.3.1 Paper alignment overview

- At the alignment section, the paper is aligned for the jobs in sort offset mode, group offset mode, and staple mode.
- The paper is discharged to the exit tray without being in alignment for non-sort mode, non-group mode, non-staple mode, sort mode, and group mode.
- When the paper is aligned, it is switchbacked to the alignment section individually. When alignment is finished, the paper or the batch is discharged to the paper exit tray.
- There are two types for paper alignment as described below.
  - Paper FD Alignment: The operation to align rear edge of the paper in transportation direction.
  - Paper CD Alignment: The operation to align both sides of the paper in the width direction.

7.3.2 Paper alignment control (paper FD alignment)

- The operation to align rear edge of the paper in transportation direction is called "paper FD alignment".
- The paper from the transport section will be transported to the alignment tray by the alignment roller. The rear edge of the paper then is aligned by contacting the rear edge of the paper to the paper stopper.
- The batch guide moves down to hold the rear edge of the aligned paper.

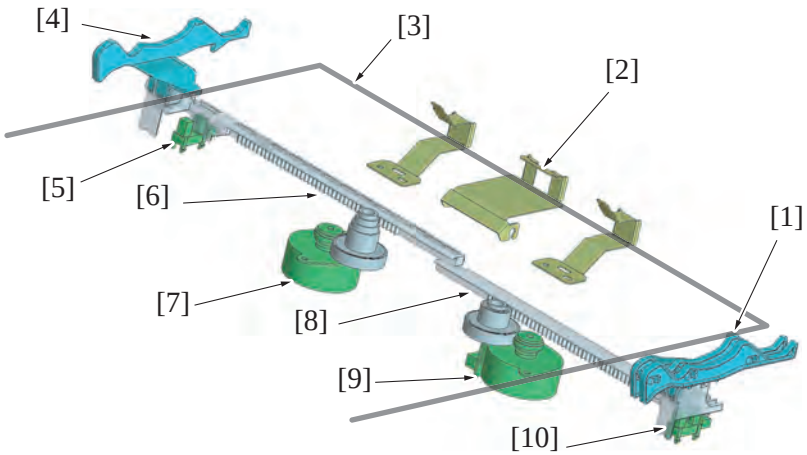
NOTE
- **It prevents the aligned paper from being jumbled from when the 2nd sheet of paper is discharged in the alignment tray.**
- **The batch guide moves up when the next sheet of paper is transported to the alignment tray, as well as when the paper is discharged from the alignment tray to release the paper.**



[1]	Alignment roller	[2]	Batch guide
[3]	Paper exit roller/upper	[4]	Paper
[5]	Paper stopper	-	-

7.3.3 Paper alignment control (paper CD alignment)

- The operation to align both sides of the paper in the width direction is called "paper CD alignment".
- The paper from the transport section is transported to the alignment tray by the alignment roller. The paper is aligned by contacting the alignment plate/Fr and Rr to both sides (forward-backward direction) of the paper.
- The home position of the alignment plate is detected by the alignment plate home sensor. (alignment plate home sensor/F, R)

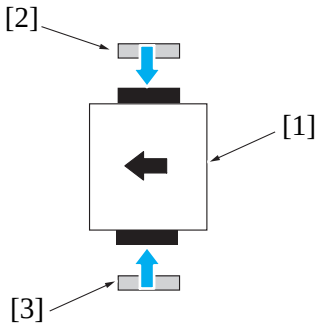


[1]	Alignment plate/Fr	[2]	Paper stopper
[3]	Paper	[4]	Alignment plate/Rr
[5]	Alignment plate home sensor/R (PS109)	[6]	Slide gear/Rr
[7]	Alignment motor/R (M106)	[8]	Slide gear/Fr
[9]	Alignment motor/F (M105)	[10]	Alignment plate home sensor/F (PS108)

(1) Alignment plate control when in staple mode

- When the staple mode is commended, the alignment plate/Fr and the alignment plate/Rr shift according to the paper width. The paper is aligned by the alignment plates contacting from both front and rear sides.
- The above alignment operation will be conducted for the paper for every job to align the edges of the paper batch. When the alignment is finished, stapling process will be conducted.

NOTE
- **When printed in staple mode, paper batch will be stapled and be discharged to the paper exit tray without being shifted.**



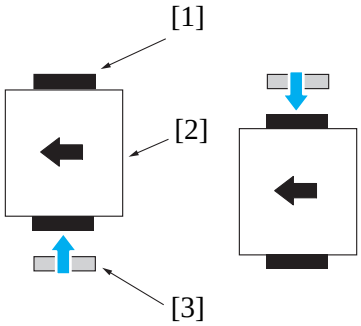
[1]	Paper	[2]	Alignment plate/Rr (shifting to the front side)
[3]	Alignment plate/Fr (shifting to the rear side)	-	-

(2) Alignment plate control for sort offset mode and group offset mode

- When commanding offset in sort mode or group mode, the alignment plate/Fr or the alignment plate/Rr presses the paper from one side to the far side (or front side) depending on the paper width. This process shifts the paper position.
- The paper batches will be sorted out by repeating the process above.

NOTE

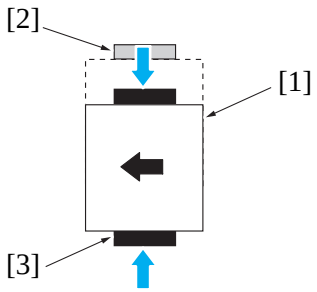
- **The offset value (shift value) of the paper is 30 mm.**
- **When "Offset" is not commanded in the sort mode or the group mode, only the sort print/group print will be conducted, and the paper will be discharged to the paper exit tray without being shifted.**



[1]	Alignment plate/Rr	[2]	Paper
[3]	Alignment plate/Fr	-	-

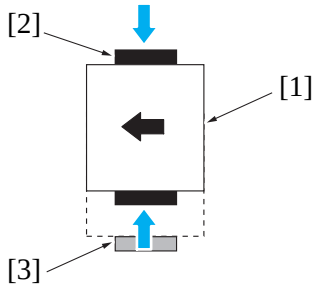
(a) Operation when shifting the paper to the front side

1. The alignment plate/Fr [3] will shift to the reference position at the front side. (The reference position differs depending on the paper size.)
2. The alignment plate/Rr [2] shifts according to the paper width. The paper [1] is pressed by the alignment plate/Rr [2] to be shifted to the front side.



(b) Operation when shifting the paper to the rear side

1. The alignment plate/Rr [2] will shift to the reference position at the rear side. (The reference position differs depending on the paper size.)
2. The alignment plate/Fr [3] shifts according to the paper width. The paper [1] is pressed by the alignment plate/Fr [3] to be shifted to the rear side.



(c) Paper receiving quantity

- When the quantity of the paper that is received into the alignment tray in sort offset mode or in group offset mode reaches the specified value, the paper batch in the alignment tray will be discharged to the paper exit tray.

NOTE
Sample process for sort out:

1. **When the job requires making of two copies with 10 sheets A4 size document in sort offset mode, the paper batch is discharged when the sheet quantity reached 5 for the first copy.**
2. **The remaining 5 sheets will be aligned to be discharged with the same shift position. This will make 10 aligned and discharged sheets on the paper exit tray.**
3. **Then the shift position will be changed from the 1st copy to sort out the 2nd copy.**
4. **The process for the second copy leaves 2 copies with 10 sheets each on the exit tray.**

Maximum batch discharge quantity for sort out

Paper size	Paper type	
	• Thin paper (52 g/m2 to 59 g/m2) • Plan paper (60 g/m2 to 90 g/m2) • Recycled paper (52 g/m2 to 90 g/m2)	Thick paper (91 g/ m2 to 300 g/ m2)
216 mm or less	5 sheets	3 sheets
More than 216 mm	4 sheets	

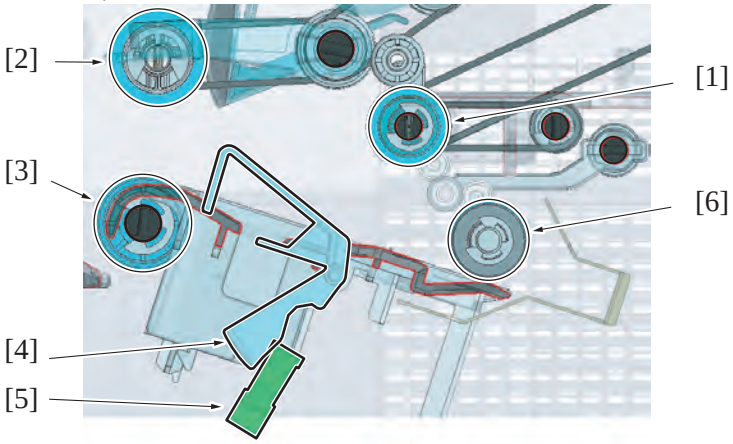
- When the "Paper load quantity" or "Paper load height" of the paper in the exit tray reaches to the specified value during sort offset mode or group offset mode, the exit tray is judged to be full.
  Amount of paper stacking

NOTE

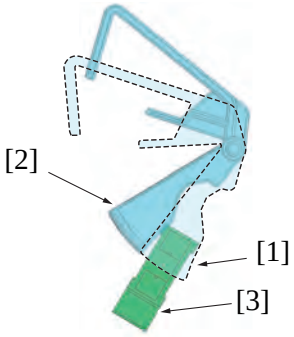
- **The paper load height is detected by the paper level detection function.**
  For details, see "PE.9.3.3 Paper level detect control".

7.3.4 Alignment tray paper detect control

- The alignment tray has paper surface detect sensor/1, which detects the paper path and the paper receiving in the alignment tray.
- Paper surface detect sensor/1, detects that the paper is transported to the alignment tray by the actuator being pressed down by the paper which passes it.



[1]	Receiving roller	[2]	Paper exit roller/upper
[3]	Paper exit roller/lower	[4]	Paper surface detect sensor/1 actuator
[5]	Paper surface detect sensor/1 (PS102)	[6]	Alignment roller



[1]	Paper surface detect sensor/1 actuator: The paper is stored (blocked)	[2]	Paper surface detect sensor/1 actuator: Paper is not stored (unblocked)
[3]	Paper surface detect sensor/1 (PS102)	-	-

(1) When in non-sort mode, non-group mode, non-staple mode, sort mode, and group mode

- The paper surface detect sensor/1 detects that the paper is transported to the paper exit roller /lower by the actuator being pressed down by the paper which passes it.
- When the paper alignment is finished, the sensor detects that the paper is discharged to the exit tray by the actuator returned to the original position with the paper discharged from the alignment tray.

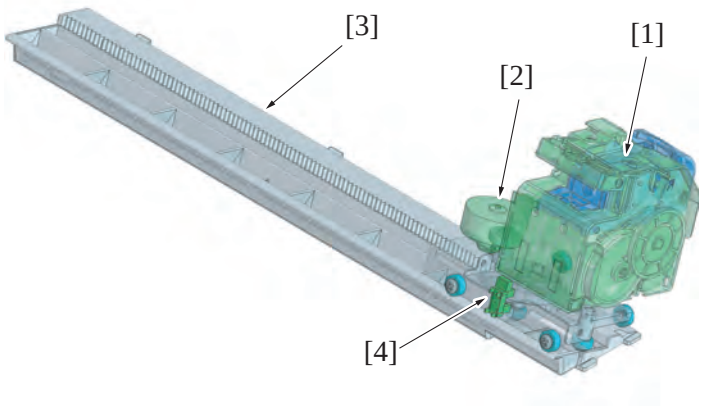
(2) When in sort offset mode, group offset mode, and staple mode

- The paper surface detect sensor/1 detects that the paper is stored to the alignment tray by the actuator being pressed down by the switchbacked paper.
- When the alignment is finished, the sensor detects that the paper is discharged to the exit tray by the actuator returned to the original position.

8. STAPLER SECTION

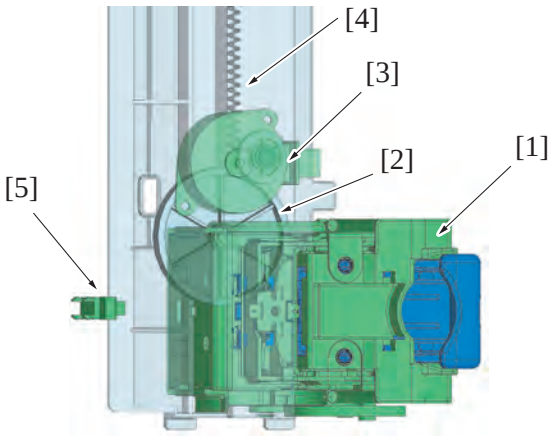
8.1 Configuration/Drive

- The stapler waits at the home position at the front side.
- The stapler movement motor moves the stapler.
- When the stapler movement motor installed on the stapler mounting table rotates, the drive connecting gear rotates.
  When the drive connecting gear rotates, the stapler mounting plate and the stapler, shifts back and forth along the slide gear.



[1]	Stapler	[2]	Stapler movement motor (M107)
[3]	Slide gear	[4]	Stapler home sensor (PS110)

8.1.1 Stapler drive section top view



[1]	Stapler unit	[2]	Stapler drive connecting gear
[3]	Stapler movement motor (M107)	[4]	Slide gear
[5]	Stapler home sensor (PS110)	-	

8.2 Operation

8.2.1 Stapler positioning control

- The home position of the stapler is detected by the stapler home sensor.
- When in corner staple mode, the stapler waits at the home position and staples when the paper alignment is finished.
- When in 2 points staple mode, the stapler shifts to the first stapling position to conduct stapling. Then the stapler shifts to the second stapling position to conduct stapling. When the stapling is finished, the stapler returns to the home position.
- The stapling position is controlled besed on the number of pulses generated by the stapler movement motor. No position sensors are provided for the corner staple and two-point staple functions.

8.2.2 Stapling control

(1) Stapling operation

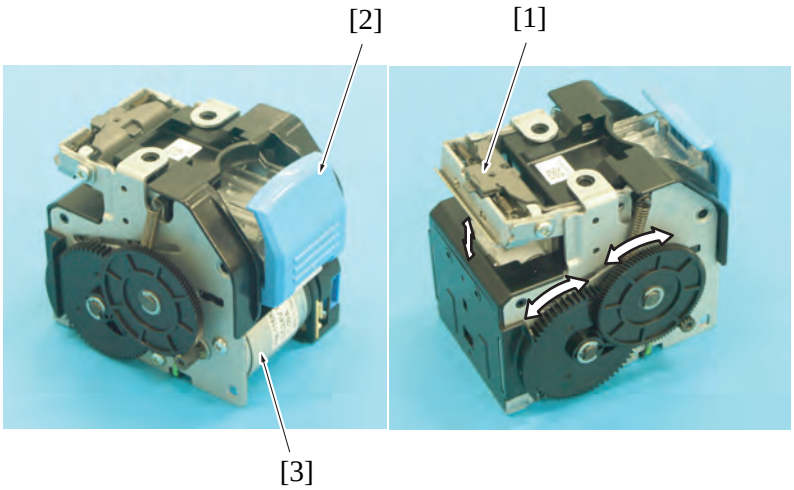
- The Stapling operation is driven by the stapler motor.
- In the stapling operation, the clincher staple arm is lowered by the stapler motor. The clincher staple arm presses the sheets. (This is called clamp operation.) Then a staple is pushed up by the staple arm from the stapler side. The staple is pressed through the sheets and bent from the clincher staple arm side, so that the sheets are fastened together.
- The stapler motor then lifts the clincher staple arm and lowers the staple arm to complete the stapling operation.
- The number of sheets that user wishes to staple are placed into the alignment tray and the stapling operation is performed. However, if the number exceeds the upper limit, the set of sheets is delivered to the exit tray without being stapled.

Maximum stapling quantity

Paper size	Maximum stapling quantity
A4S or less (small size)	50 sheets *
Foolscap or more (large size)	30 sheets

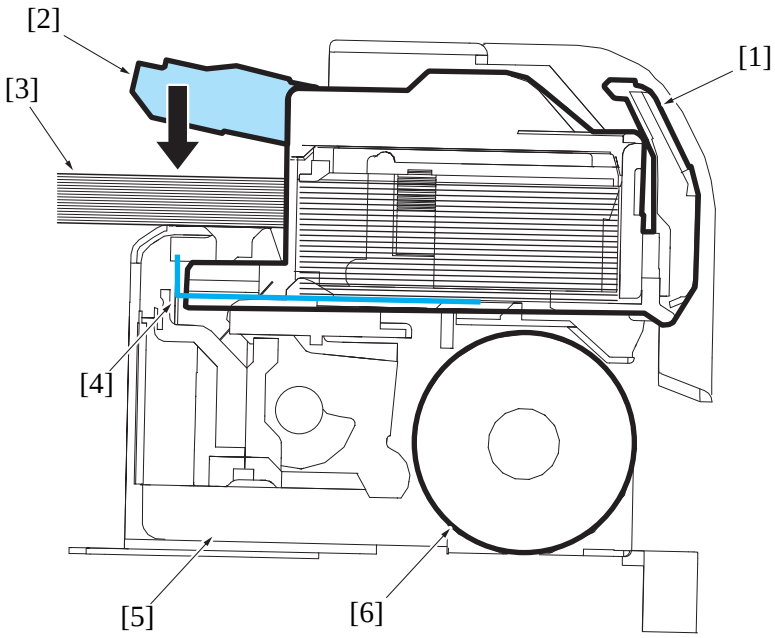
- *: When there are small size sheets and large size sheets with same width at the same time, they are judged as large size sheets, and the maximum staple quantity becomes 30.
  Example: When there are A4 LEF and A3 SEF, the maximum stapling quantity is 30.

Overall view



[1]	Clincher staple arm	[2]	Staple cartridge
[3]	Stapler motor	-	-

Front view

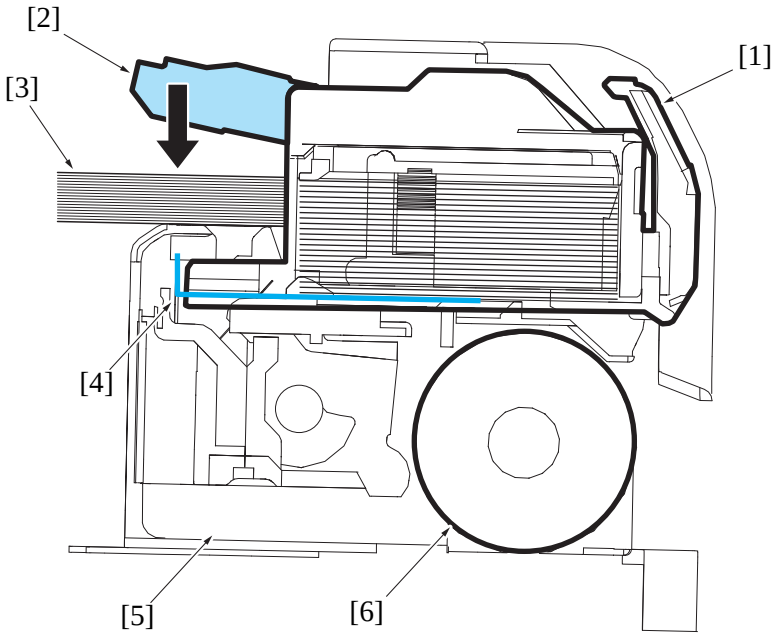


[1]	Staple cartridge	[2]	Clincher staple arm
[3]	Paper bunch	[4]	Staple sheet (staple)
[5]	Stapler	[6]	Stapler motor (M14)

8.2.3 Staple empty detection control

(1) Staple cartridge

- The stapler is provided with a staple cartridge used only for the stapler.
- To reload the stapler with staples, the staple cartridge is first loaded with staples (staple sheet type: 5000 staples) and then the cartridge is attached to the stapler.
  For information on how to load staplers, refer to the user's guide.

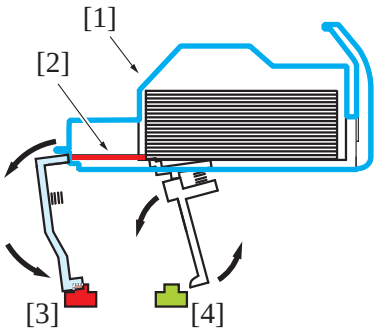


[1]	Staple cartridge	[2]	Clincher staple arm
[3]	Paper bunch	[4]	Staple sheet (staple)
[5]	Stapler	[6]	Stapler motor

(2) Staple empty detection mechanism

- The stapler includes the self-priming sensor and staple empty sensor to detect the status of the staple cartridge and staples.
- The staple cartridge is loaded with staple sheets, and a staple sheet is conveyed to the clinch position (staple position) from the lowest one.

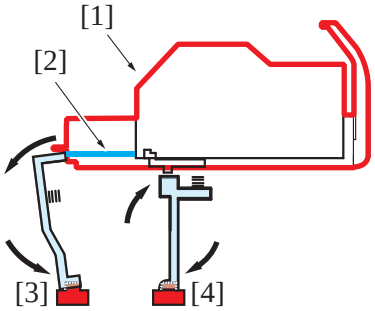
State where staple sheets are loaded



[1]	Staple cartridge (loaded with staple sheets)	[2]	Staple sheet fed from the cartridge
[3]	Self-priming sensor (blocked)	[4]	Staple empty sensor (unblocked)

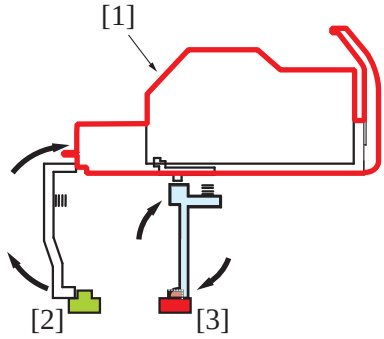
- While the staple cartridge is loaded, if the trailing edge of the last staple sheet in the cartridge passes the actuator of the staple empty sensor, the actuator is raised by the spring force.
- When the actuator is raised, the staple empty sensor is blocked and machine determines that the cartridge is empty. The control panel displays to warn of the staple empty message.

State where the last staple sheet is fed



[1]	Staple cartridge (staple empty)	[2]	Staple sheet (remainder)
[3]	Self-priming sensor (blocked)	[4]	Staple empty sensor (blocked)

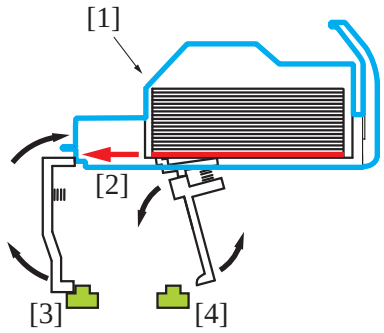
State where staple sheet runs out



[1]	Staple cartridge (empty)	[2]	Self-priming sensor (unblocked)
[3]	Staple empty sensor (blocked)	-	-

- Even when the staple empty sensor detects the trailing edge of the last staple sheet, the staple sheet (staples: about 20) fed from the cartridge remains at the cartridge's front section. In this case, the actuator of the self prime sensor is pressed down by the leading edge of the staple sheet.
- If the actuator is pressed down, the self prime sensor is blocked and machine determines that the staple sheet is fed to the clinch position (staple position).
- Even when staple empty is detected, printing is not disabled. Paper is delivered without being stapled.
- After staple empty is detected, when the staple cartridge is loaded with staple sheets and the stapler is loaded with the cartridge, the actuator of the staple empty sensor is pressed down by the staple sheets.
- When the actuator is pressed down, the staple empty sensor is unblocked and staple empty condition is cleared. At this point, the staple empty sensor detects the staple sheets (unblocked). However, if the leading edge of the staple sheet cannot be detected by the self-priming sensor (unblocked), the clinch operation is repeated up to 20 times to feed the leading edge of the staple sheet to the position (clinch position) where it can be detected by the self-priming sensor.

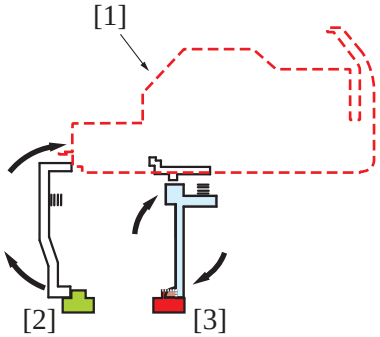
State where staple sheet runs out



[1]	Staple cartridge (loaded with staple sheets)	[2]	Staple sheet is fed by clinch operation
[3]	Self-priming sensor (unblocked)	[4]	Staple empty sensor (unblocked)

- If the self prime sensor cannot detect the leading edge of the staple sheet after clinch operations, machine determines that the staple sheet is not properly fed (staple sheet is not properly set) and the control panel displays to warn of the staple empty message.
- If the staple empty message appears even after staple sheets are loaded, check whether the staple sheets is properly set in the staple cartridge. If the cartridge is clogged with a staple sheet, clear the sheet.
- If staple empty occurs, the stapler stays at the stapler home position. (Position where staples can be supplied only by opening the front door)

(a) When the staple cartridge is not loaded



[1]	Staple cartridge (not mounted)	[2]	Self-priming sensor (unblocked)
[3]	Staple empty sensor (blocked)	-	-

- The actuator of the staple empty sensor is raised by the spring force. The staple empty sensor is blocked.
- If the staple empty message appears even after staple sheets are loaded, check whether the staple sheets is properly set in the staple cartridge. If the cartridge is clogged with a staple sheet, clear the sheet.

- The control panel displays to warn of the staple empty message.

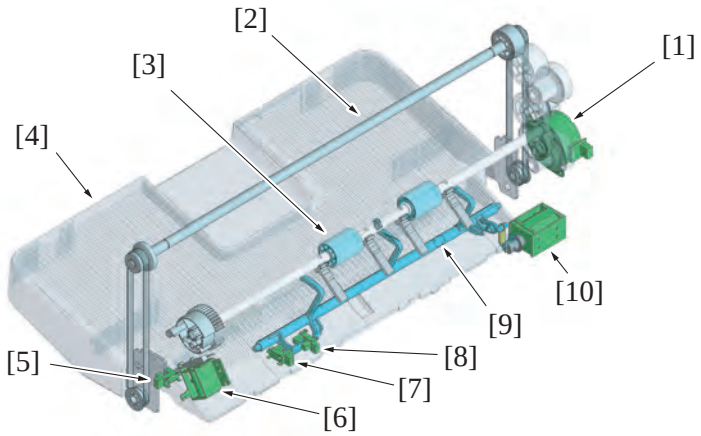
8.2.4 Clogged staple detection control

- Stapling operation is performed by lowering of the clincher staple arm and lifting of the staple arm.
- The staple arm position is detected by the stapler home sensor located in the stapler.
- The stapler determines that the stapling operation is completed if the staple arm returns to the home position within the specified time after the stapling operation. If the staple arm does not return to the home position after the specified time has passed, the machine determines that staple trouble has occurred and trouble code C1109 appears on the control panel.

9. RECEIVING SECTION

9.1 Configuration

- In the receiving section, paper transported into the finisher is placed into paper exit tray. The tray up/down mechanism moves the tray down depending on the amount of discharged paper, so that a maximum of 500 sheets can be stored. The tray also includes the mechanism for detecting the number of stacked sheets.



[1]	Tray lift up motor (M109)	[2]	Shaft
[3]	Paper exit roller/lower	[4]	Paper exit tray
[5]	Paper exit tray home sensor (PS107)	[6]	Paper exit roller solenoid (SD103)
[7]	Paper surface detect sensor/2 (PS104)	[8]	Paper weight lever sensor (PS103)
[9]	Paper surface detect lever	[10]	Paper surface detect solenoid (SD101)

9.2 Drive

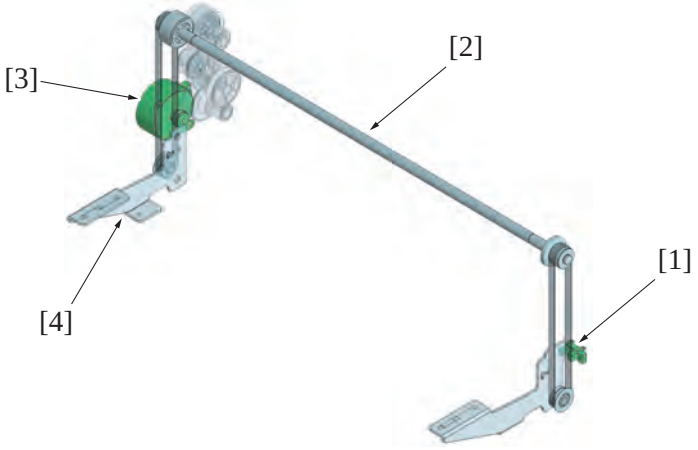
9.2.1 Drive outline

- The driving source of the receiving section is the tray lift up motor, paper surface detect solenoid, and paper exit motor. The following parts are driven.

Section	Driving source	Driving parts	Function
Tray lift up section	Tray lift up motor	Paper exit tray	The paper exit tray will be moved up/down according to the discharged paper load.
Paper level detect section	Paper surface detect solenoid	Paper surface detect lever	• The paper surface level detect lever is moved up/down to detect the paper load discharged to the paper exit tray. • For consecutive printing, the rear edge of the paper discharged to the paper exit tray will be held by the paper surface level detect lever. It prevents the discharged paper from being misaligned by the paper that follows.
Paper exit roller section	Paper exit motor	Paper exit roller/lower	The paper is discharged to the paper exit tray.
		Paper exit paddle	It rotates so that the rear edge of the paper which passed through the paper exit roller/lower will be held to be discharged to the paper exit tray/upper without fail.

9.2.2 Tray lift up section

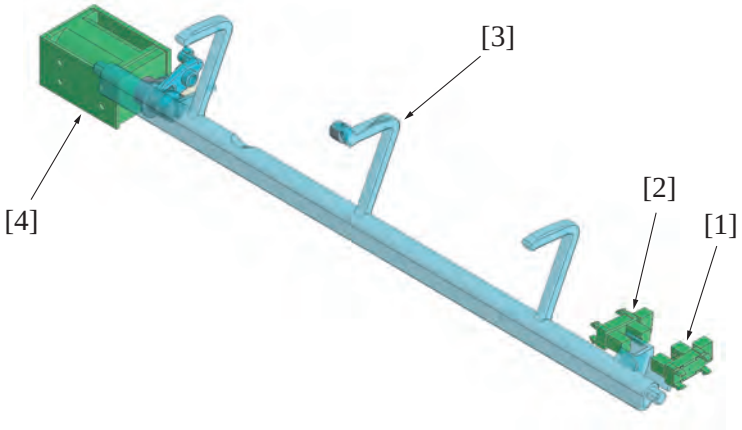
- The drive source is the tray lift up motor which moves the exit tray up/down.



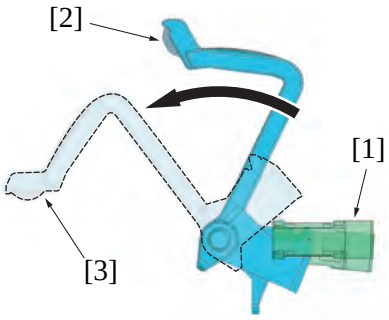
[1]	Paper exit tray home sensor (PS107)	[2]	Shaft
[3]	Tray lift up motor (M109)	[4]	Tray lifter

9.2.3 Paper level detect section

- The paper surface detect solenoid drives the paper surface level detect lever.
- The paper surface detect solenoid turns on to rotate the paper surface level detect lever downward.
- The paper surface detect solenoid turns off to allow the paper surface level detect lever to return to the upward position via spring force.



[1]	Paper surface detect sensor/2 (PS104)	[2]	Paper weight lever sensor (PS103)
[3]	Paper surface detect lever	[4]	Paper surface detect solenoid (SD101)

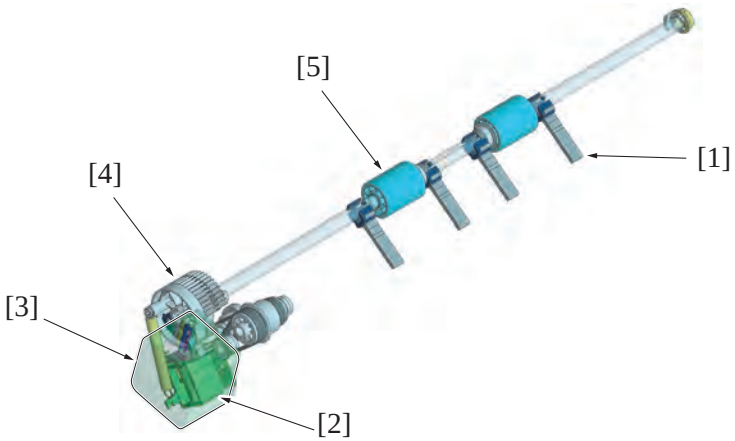


[1]	Paper surface detect sensor	[2]	Paper surface detect lever (upper position: when solenoid is turned OFF)
[3]	Paper surface detect lever (lower position: when solenoid is turned ON)	-	-

9.2.4 Paper exit roller section

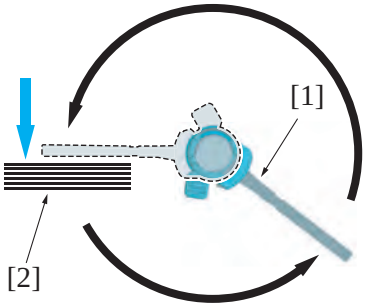
- The paper exit motor drives the paper exit roller/lower.
  For details of the paper exit roller/lower, see “Paper conveyance/receiving roller section drive” and “Paper exit roller/lower drive connecting process”.
- The paper exit paddle (4 points) on the drive shaft at the paper exit roller/lower, also rotates with the paper exit roller/lower.

(1) Overall view



[1]	Paper exit paddle	[2]	Paper exit roller solenoid (SD103)
[3]	Paper exit motor (M102)	[4]	Paper exit roller/lower drive gear
[5]	Paper exit roller/lower	-	-

(2) Paper press down paddle front view



[1]	Paper paddle (home position)	[2]	Paper on the paper exit tray

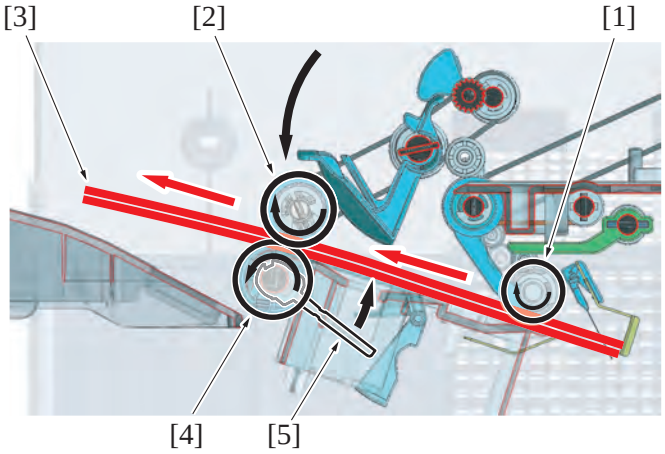
9.3 Operation

9.3.1 Paper exit paddle control

- There are paper exit paddles (4 points) installed on the paper exit roller/lower shaft. It rotates so that the paper exit paddle holds the rear edge of the paper when the paper passes through the paper exit roller/lower, and to discharge the paper to the paper exit tray without fail.

(1) Paper discharge process

1. When the last paper is aligned, the paper exit roller/upper moves down to hold all the paper on the alignment tray with the paper exit roller/lower and to discharge the paper to the paper exit tray with paper exit roller/upper, paper exit roller/lower and the alignment roller.



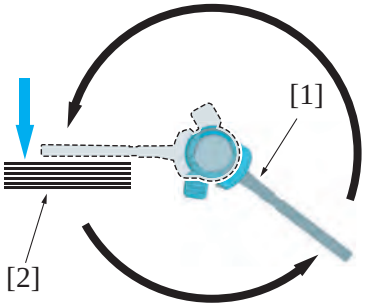
[1]	Alignment roller	[2]	Paper exit roller/upper
[3]	Paper	[4]	Paper exit roller/lower
[5]	Paper exit paddle	-	-

2. The paper exit paddle pushes out the rear edge of the paper which passed through the paper exit roller/lower to press the paper over the paper exit tray.

NOTE

- **The paper exit paddle is installed on the paper exit roller/lower shaft. It rotates one revolution and stops as the exit roller/lower does.**
  For details of the paper exit roller/lower operation mechanism, see "PE.6.3.4.(1) Paper exit roller/lower drive connecting process".

3. The paper exit paddle presses the paper and returns to the home position.



[1]	Paper exit paddle (home position)	[2]	Paper on the paper exit tray

NOTE

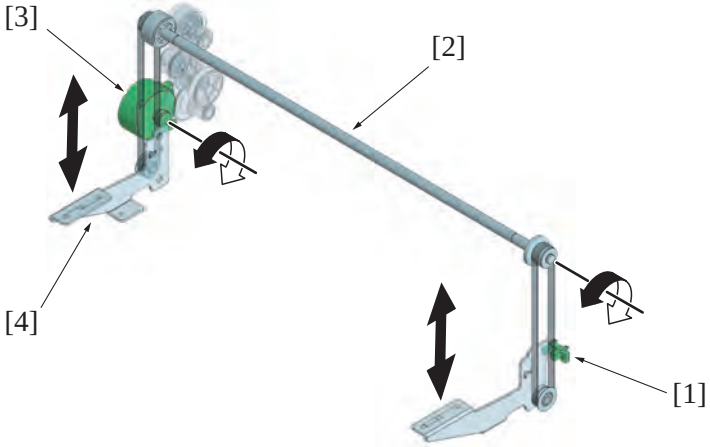
- **The paper exit paddle is made from soft rubber. It curves after discharging the paper to the paper exit tray to return to the home position inside the machine.**

4. After the paper exit paddle is retracted, the paper surface detect lever rotates to press the rear edge of the discharged paper.

For details of the paper surface detect lever operation mechanism, see “PE.9.3.3 Paper level detect control”.

9.3.2 Paper exit tray lift up control

- The up/down motion of the paper exit tray is conducted by the tray lift up motor.
- When the tray lift up motor rotates forward, the tray drive belt rotates forward through the gear to lift up the paper exit tray.
- When the tray lift up motor rotates in a reverse direction, the tray drive belt rotates in a reverse direction through the gear to lower the paper exit tray.
- The paper exit tray home sensor detects the home position of the paper exit tray.
- The height of the paper exit tray is detected by the paper level detect mechanism. When a job is commanded, the paper surface detect lever operates to move the paper exit tray up/down according to the detected result.
  For details of the control, see “PE.9.3.3 Paper level detect control”.



[1]	Paper exit tray home sensor (PS107)	[2]	Shaft
[3]	Tray lift up motor (M109)	[4]	Tray lifter

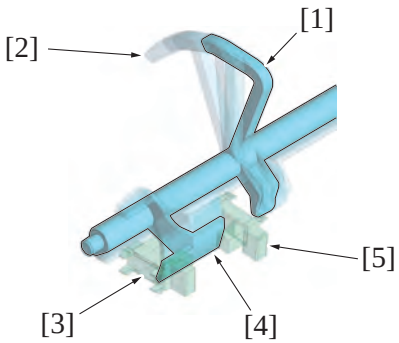
9.3.3 Paper level detect control

- The paper level is detected by the paper weight lever sensor and paper surface detect sensor/2. The height of the paper exit tray is controlled according to the detected result.
- The paper surface detect actuator rotates when the paper surface detect solenoid turns on, to hold the rear top face of the paper on the paper exit tray. The rotation value of the paper surface detect lever changes at this point, according to the paper load and the height of the paper exit tray.
- The paper weight lever sensor and paper surface detect sensor/2 are installed at different heights. (Paper weight lever sensor: high, paper surface detect sensor/2: low) The paper surface detect lever has two light shield plates with different lengths, which provides different detection result for each sensor with the rotation value found by the paper surface detect lever. The current paper level is judged according to the result so that the paper exit tray will be controlled to move up/down to the suitable height.
- The paper level is detected every time the paper is discharged to monitor the paper height. For consecutive printing, it also prevents discharged paper from being misaligned by the following paper being discharged.
- When the paper exit tray home sensor detects the exit tray while the paper exit tray is moving down, the paper exit tray is judged to be full and the warning message will be displayed on the control panel, informing that the paper exit tray is full.
- The paper surface detect lever moves down when the paper is removed from the paper exit tray. When the lever moves down, the paper is detected to be removed, and the paper exit tray full display will be released.

Paper level detect table

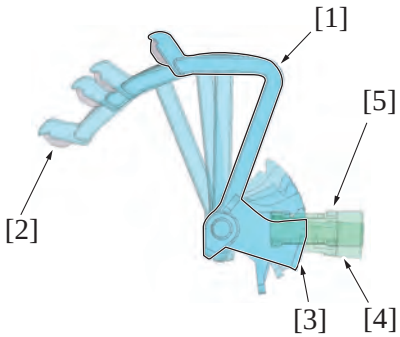
Paper surface detect sensor/2	Paper weight lever sensor	Paper level	Exit tray lift up control
Unblocked	Blocked	High	• The paper exit tray is at the higher position than the reference position. The tray lift up motor will be rotated in reverse direction and move the paper exit tray down to the reference position. • When the paper exit tray home sensor detects the paper exit tray while the paper exit tray is moving down, the exit tray is judged to be full, and the following printing job will be prohibited.
Blocked	Blocked		
Blocked	Unblocked	Reference position	• Reference position. The paper exit tray will not move up/down.
Unblocked	Unblocked	Low	• The paper exit tray is at the lower position than the reference position. The tray lift up motor will rotate to move the exit tray up to the reference position.

(1) Perspective view



[1]	Paper surface detect lever (Paper level: home position)	[2]	Paper surface detect lever (Paper level: low)
[3]	Paper surface detect sensor/2 (PS104) (Unblocked)	[4]	Light shield plate
[5]	Paper weight lever sensor (PS103) (Blocked)	-	-

(2) Front view



[1]	Paper surface detect lever (Paper level: home position)	[2]	Paper surface detect lever (Paper level: low)
[3]	Light shield plate	[4]	Paper surface detect sensor/2 (PS104) (Blocked)
[5]	Paper weight lever sensor (PS103) (Unblocked)	-	-

(3) Amount of paper stacking at the exit tray

- For details of the amount of paper stacking at the paper exit tray, see “C PRODUCT SPECIFICATIONS/FS-533”.
  C.6.3 Paper process ability

PF THEORY OF OPERATION FS-534/FS-534SD/RU-514/PK-520

1. FINISHER OUTLINE

- Install the staple finisher FS-534 to the MFP enables the following functions. "Sort function, Sort offset function", "Group function, Group offset function", "Staple function", "Sort staple function", and "Large capacity receiving function".
- The "Punch function" can be added by installing the optional function (Punch Kit PK-520).
- On the staple finisher FS-534SD, "Saddle stitching function and Tri-folding function" is provided in addition to all functions that are provided on the staple finisher FS-534.

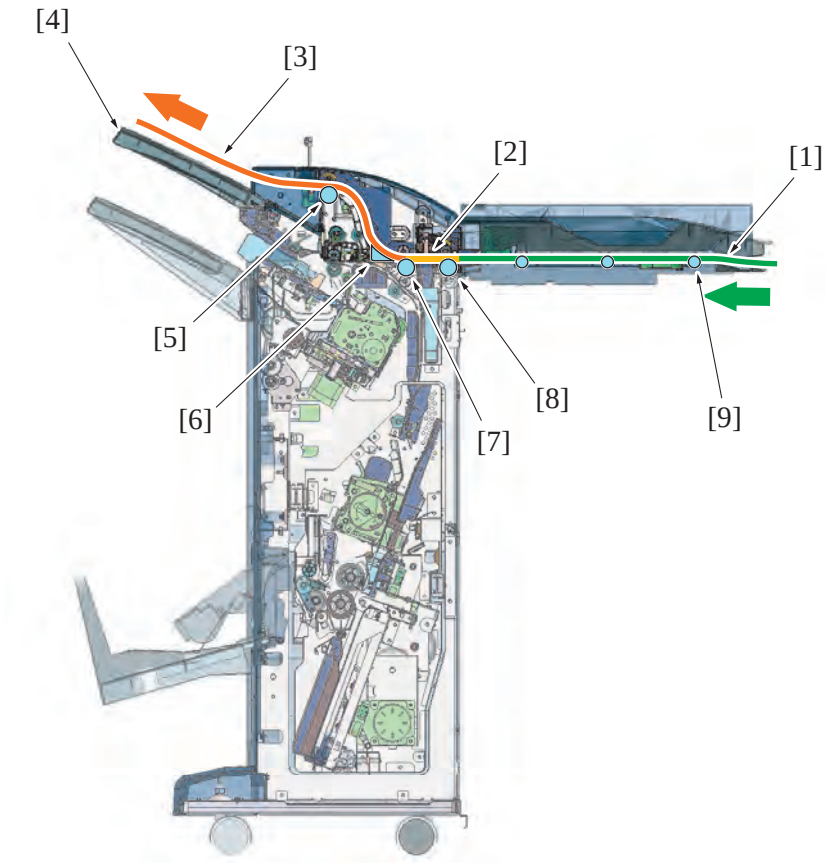
Option	Summary of the additional functions
RU-514	Connecting the MFP with the FS-534
PK-520	Punch function
FS-534SD	FS-534 + Folding function, Saddle stitching function, Tri-folding function

NOTICE

- SYSTEM CONFIGURATION
- FS-534 PRODUCT SPECIFICATIONS
- PK-520 PRODUCT SPECIFICATIONS
- FS-534SD PRODUCT SPECIFICATIONS

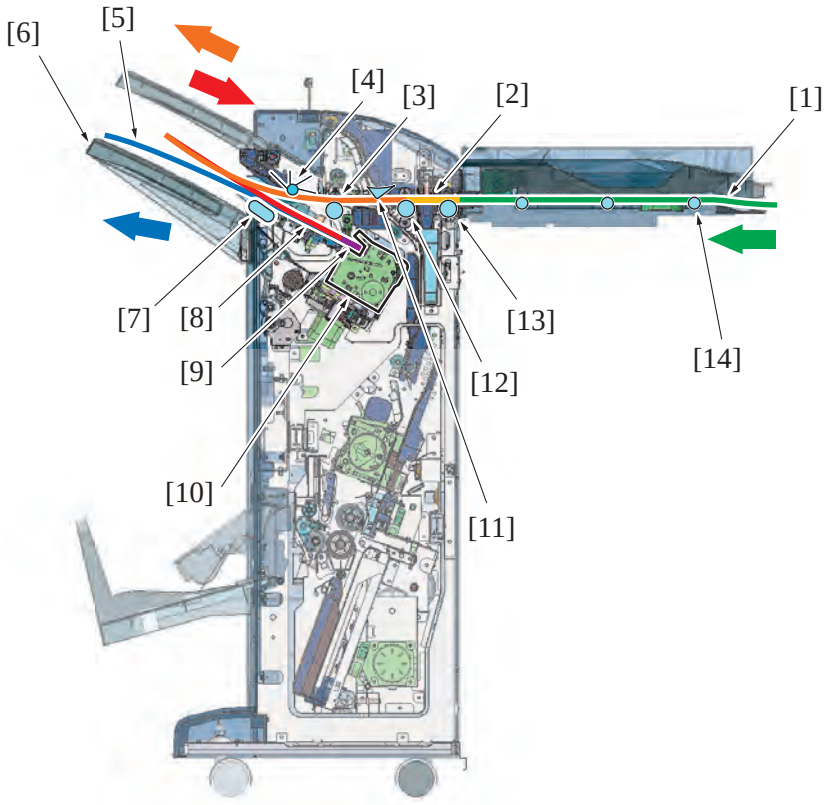
2. PAPER PATH

2.1 Sub tray



[1]	Paper feed (Paper path from the exit section of MFP)	[2]	Punching holes
[3]	Paper exit	[4]	Sub tray
[5]	Sub tray section exit roller	[6]	Paper path switching gate (lower position)
[7]	FNS section transport roller	[8]	FNS section paper feed roller
[9]	RU section horizontal transport roller	-	-

2.2 Main tray

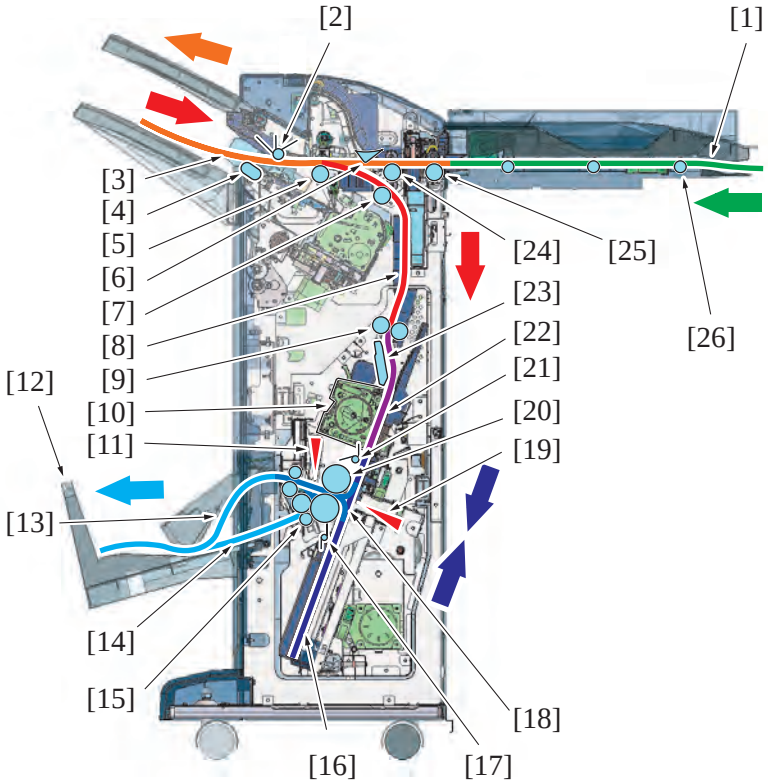


[1]	Paper feed (Paper path from the exit section of MFP)	[2]	Punching holes
[3]	Paper transport	[4]	Exit section upper paddle
[5]	Paper exit	[6]	Main tray
[7]	Exit section lower paddle	[8]	Paper alignment
[9]	Staple (staple mode)	[10]	Stapler
[11]	Paper path switching gate (upper position)	[12]	FNS section transport roller
[13]	FNS section paper feed roller	[14]	RU section horizontal transport roller

2.3 Saddle tray

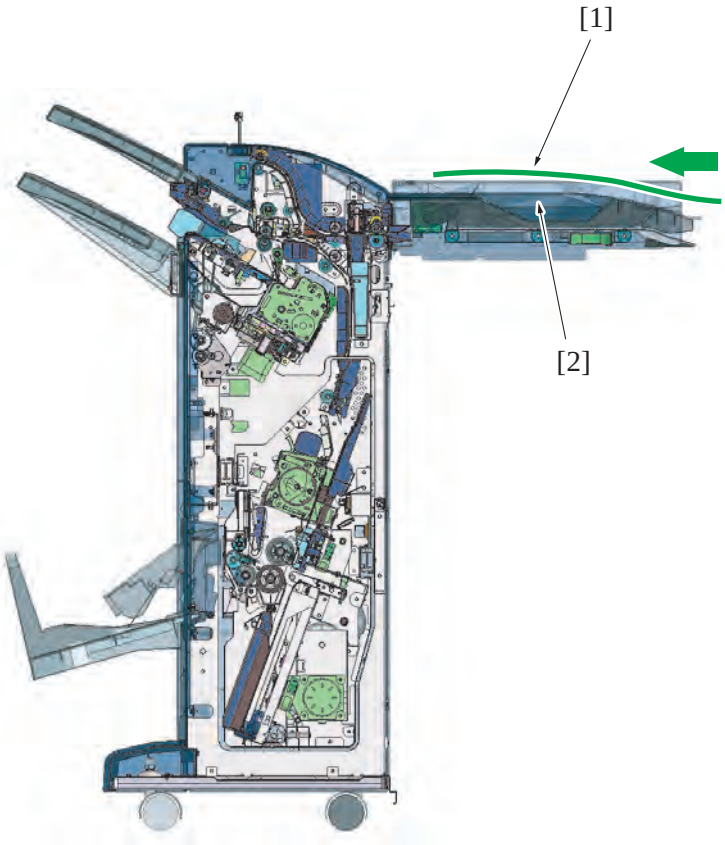
NOTE

- **FS-534SD only**



[1]	Paper feed (Paper path from the exit section of MFP)	[2]	Exit section upper paddle
[3]	Paper transport (switchback)	[4]	Exit section lower paddle
[5]	Receiving roller	[6]	Paper path switching gate (upper position)
[7]	FNS section exit roller	[8]	Paper vertical transport
[9]	Saddle section paper feed roller	[10]	Center stapler
[11]	Tri-folding knife	[12]	Saddle tray
[13]	Paper batch exit (center staple mode)	[14]	Paper batch exit (tri-folding mode)
[15]	Tri-folding roller	[16]	Paper alignment (FD)
[17]	Center folding section lower paddle	[18]	Paper fold (center folding, tri-folding)
[19]	Center fold knife	[20]	Center folding roller
[21]	Center folding section upper paddle	[22]	Paper alignment (CD), center staple
[23]	Curl cover	[24]	FNS section transport roller
[25]	FNS section paper feed roller	[26]	RU section horizontal transport roller

2.4 3rd tray



[1]	Paper exit	[2]	RU section (horizontal transport section): Relay unit RU-514

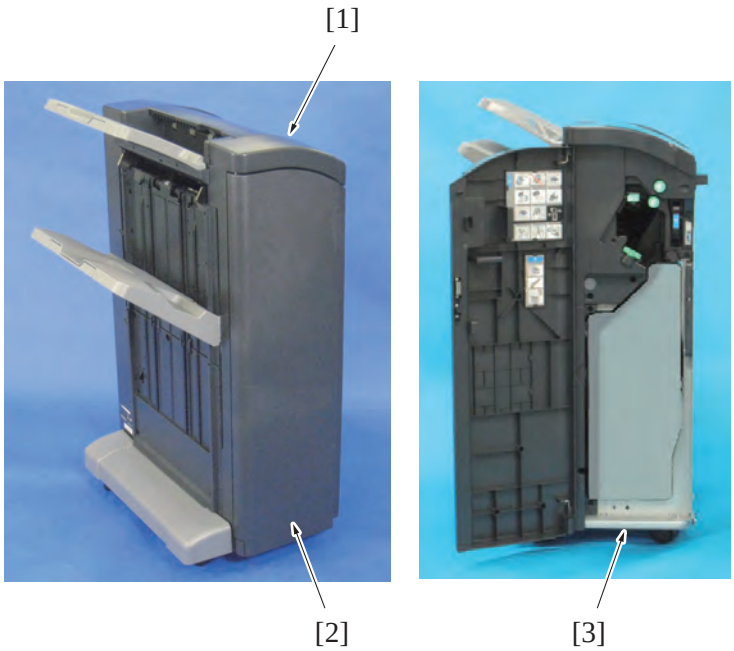
3. CONFIGURATION

3.1 Section configuration

- The staple finisher FS-534 is installed with the finisher main body being fixed on the left side of the MFP. At the time of maintenance, open and close the RU door, the upper door and front door on the finisher. A docking mechanism to slide the finisher from the MFP is not provided.
- The FS-534 comes standard with a sorting mechanism and a stapling mechanism.
- The FS-534SD includes folding function, saddle stitching function, and tri-folding function in addition to all of the functions of the FS-534.
- Also, the optional punch kit PK-520 and the saddle stitcher can be added to the FS-534/534SD.
- At maintenance of the FS-534SD saddle section, pull the saddle section frontward from the finisher.

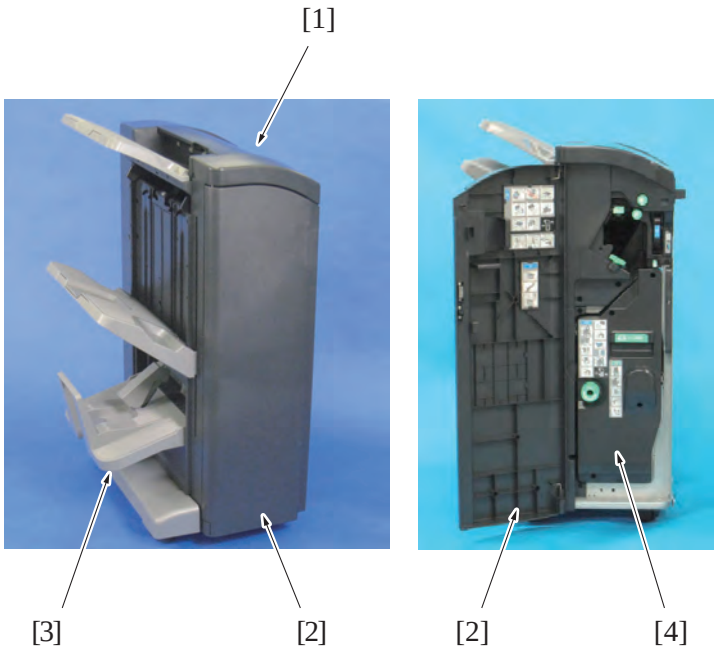
3.1.1 Exterior view

(1) FS-534



[1]	FS-534	[2]	Front door
[3]	Front door inside	-	-

(2) FS-534SD



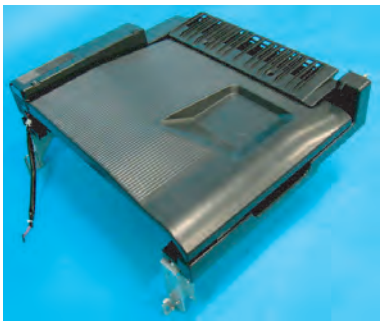
[1]	FS-534SD	[2]	Front door
[3]	Saddle tray section	[4]	Saddle section

(a) Saddle section

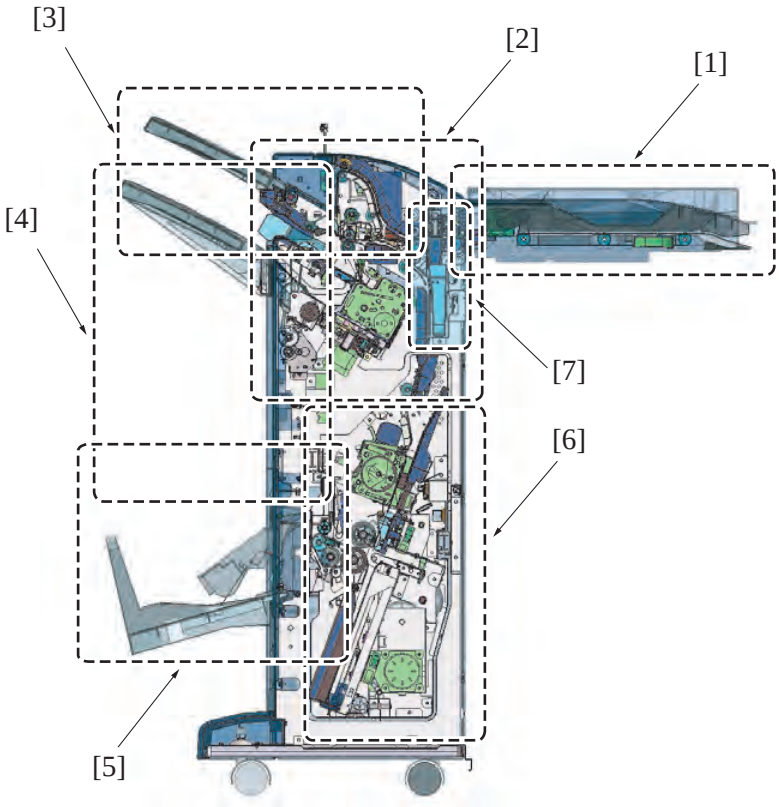


[1]	Saddle section slide status	-	-

(3) RU-514



3.1.2 Section configuration



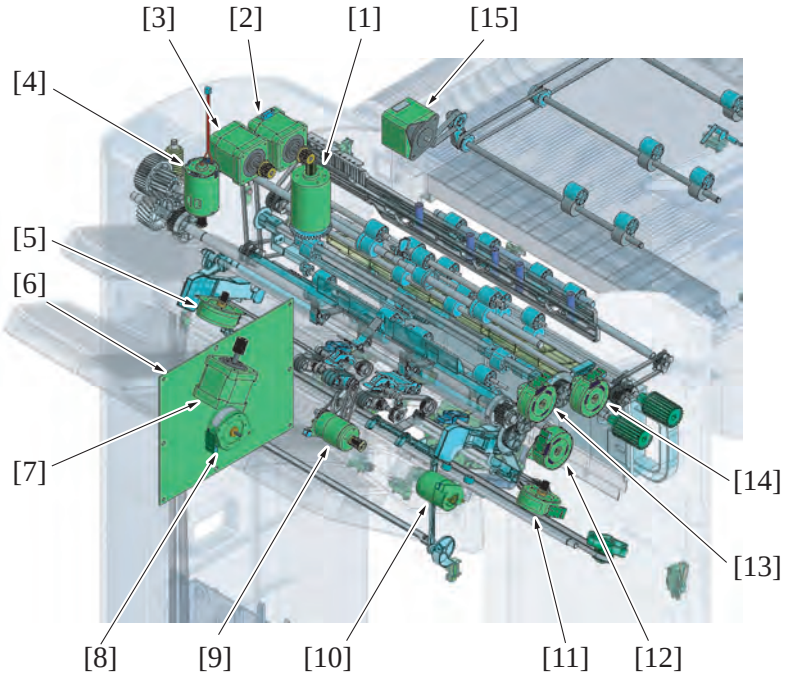
[1]	RU section (horizontal transport section): Relay unit RU-513/514	[2]	FNS section (finisher section)
[3]	Exit section (sub tray)	[4]	Exit section (main tray)

[5]	Saddle tray section (FS-534SD only)	[6]	Saddle section (FS-534SD only)
[7]	Punch section (only when the punch kit PK-520 is mounted)	-	-

3.2 Main electrical part configuration

3.2.1 Control board, motor

(1) RU section, Punch section, FNS section

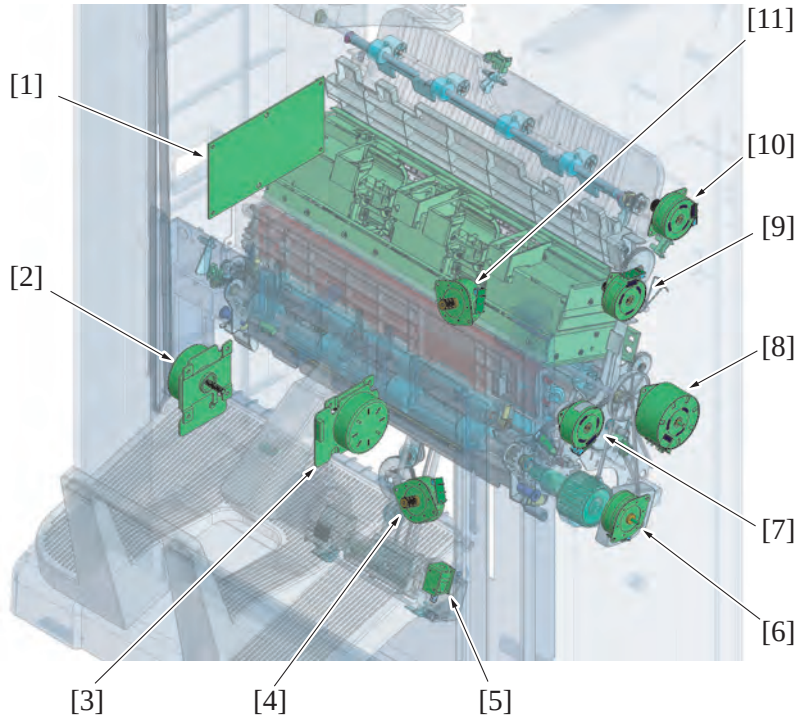


[1]	Punch drive motor (M1): Punch kit	[2]	FNS entry transport motor (M2)
[3]	FNS discharge motor (M3)	[4]	Main tray up/down motor (M11)
[5]	Alignment motor/Rear (M8)	[6]	FS control board (FSCB)
[7]	Side stapler movement motor (M13)	[8]	Paper receiving control motor (M12)
[9]	Pre-eject drive motor (M9)	[10]	Bundle eject motor (M10)
[11]	Alignment motor/Front (M7)	[12]	Trailing edge stopper motor (M6)
[13]	FNS paddle motor (M5)	[14]	Receiving roller retraction motor (M4)
[15]	RU transport motor (M1)	-	-

(2) Saddle section

NOTE

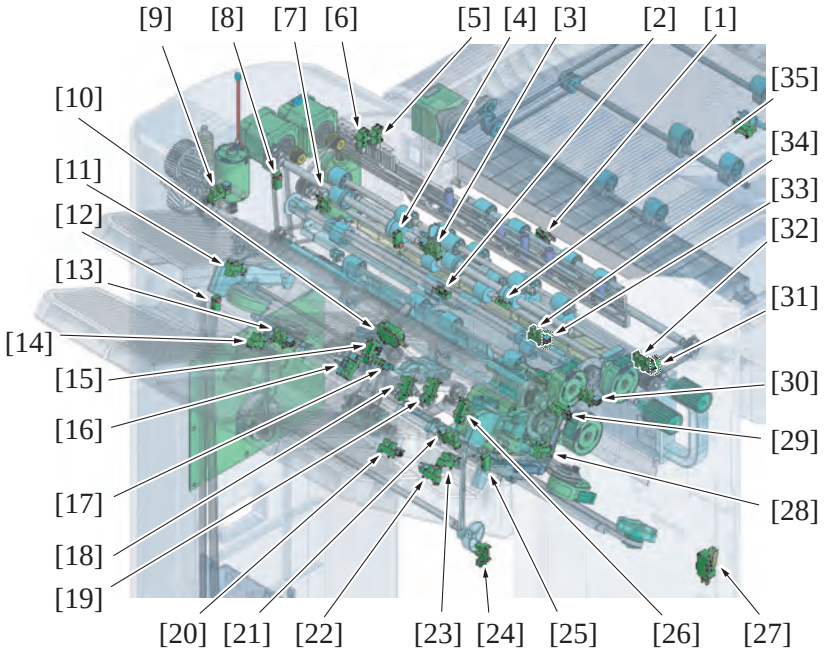
- **FS-534 only**



[1]	SD drive board (SDDB)	[2]	Center fold roller motor (M5)
[3]	Center fold knife motor (M9)	[4]	Stopper drive motor (M4)
[5]	Stopper solenoid (SD1)	[6]	SD paddle motor (M7)
[7]	Tri-folding guide motor (M6)	[8]	Center fold guide motor (M8)
[9]	Paper discharge control motor (M2)	[10]	SD transport motor (M1)
[11]	Alignment motor (M3)	-	-

3.2.2 Sensor

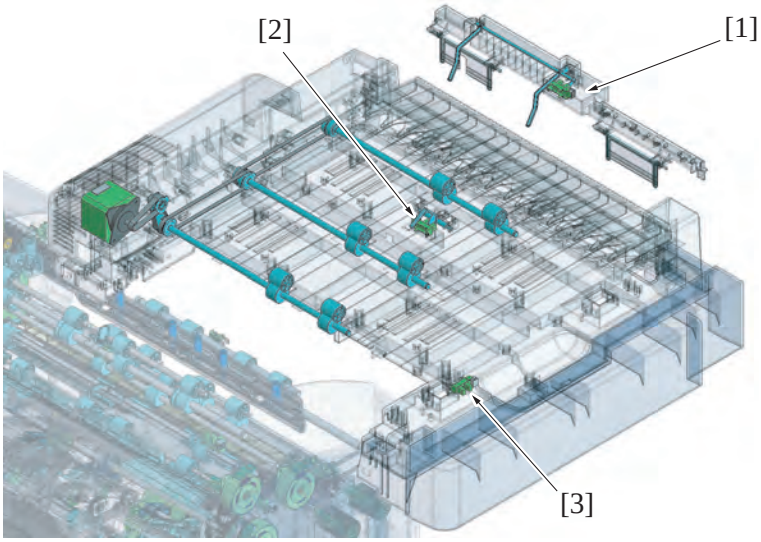
(1) FNS section



[1]	FNS entrance sensor (PS4)	[2]	Main tray exit sensor (PS16)
[3]	Sub tray exit sensor (PS8)	[4]	Punch dust full sensor/in (PS5): Punch kit
[5]	Punch home sensor (PS1): Punch kit	[6]	Punch position sensor (PS2): Punch kit
[7]	Punch motor sensor (PS3): Punch kit	[8]	Sub tray full detection sensor/out (PS9)
[9]	Stacker motor sensor (PS25)	[10]	Main tray upper position detect switch (SW2)
[11]	Alignment plate/R home sensor (PS13)	[12]	Main tray upper sensor/out (PS6)
[13]	Main tray upper position sensor/R (PS26)	[14]	Stapler home position sensor (Rear) (PS23)
[15]	Gripper position detection sensor (PS19)	[16]	Gripper home position sensor (PS18)
[17]	Staple stacker paper detection sensor (PS31)	[18]	Pre-eject away sensor (PS22)

[19]	Pre-eject home sensor (PS21)	[20]	Pre-eject encorder sensor (PS15)
[21]	Main tray upper position sensor/F (PS27)	[22]	Gripper motor sensor (PS17)
[23]	Stapler position sensor (Center) (PS24)	[24]	Paper delivery control sensor (PS28)
[25]	Main tray upper sensor (PS7)	[26]	Trailing edge stopper home position detection sensor (PS20)
[27]	Front door open detect switch (SW1)	[28]	Alignment plate/F home sensor (PS12)
[29]	Upper paddle home position detection sensor (PS14)	[30]	Receiving roller retraction sensor (PS11)
[31]	Punch dust full sensor/out (PS4): Punch kit	[32]	Exchange folded paper output sensor (PS30)
[33]	Sub tray full detection sensor/in (PS10)	[34]	Upper cover open/close detection sensor (PS32)
[35]	Saddle exit sensor (PS5)	-	-

(2) RU section (horizontal transport section)

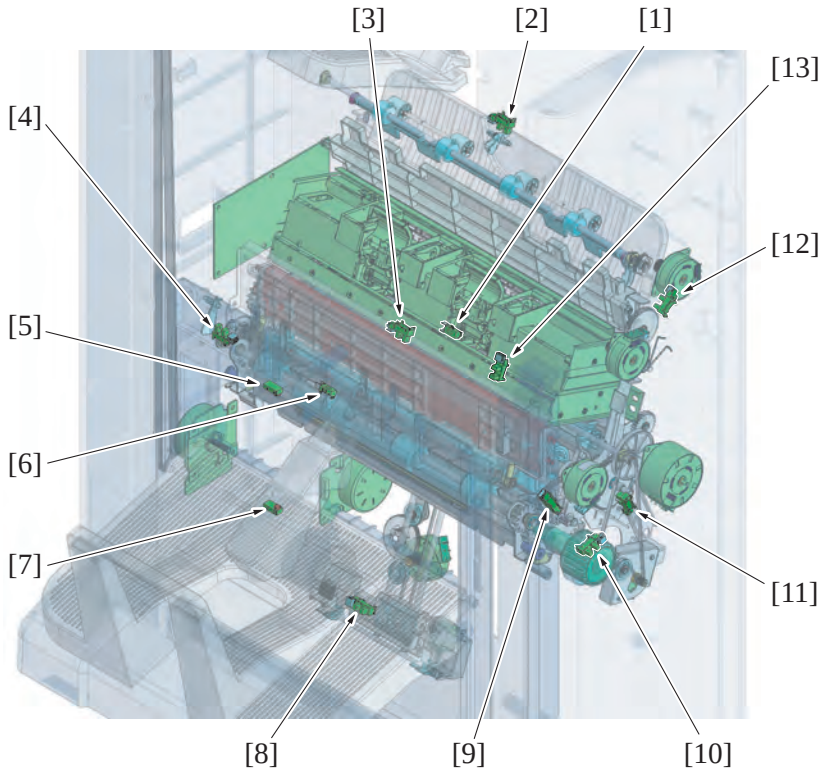


[1]	3rd exit tray full sensor (PS1)	[2]	RU entrance sensor (PS2)
[3]	RU cover open/close detection sensor (PS3)	-	-

(3) Saddle section

NOTE

- **FS-534SD only**



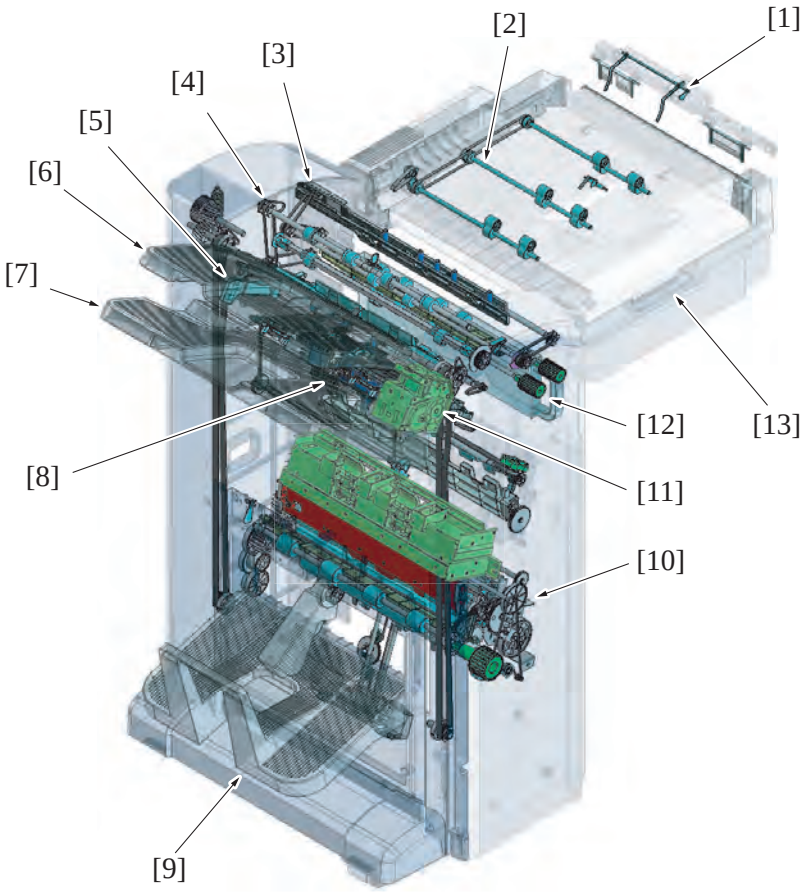
[1]	Center staple/fold stacker paper detect sensor (PS3)	[2]	SD entrance sensor (PS1)
[3]	Center fold knife home sensor (PS8)	[4]	Main tray full detection sensor (PS29) * : finisher

[5]	Booklet tray empty detection sensor/in (PS13)	[6]	Fold exit sensor (PS12)
[7]	Booklet tray empty detection sensor/out (PS14)	[8]	Stopper home sensor (PS6)
[9]	Tri-folding gate home sensor (PS11)	[10]	Paddle home sensor (PS5)
[11]	Guide home sensor (PS7)	[12]	Curl cover detection sensor (PS2)
[13]	Alignment home sensor (PS4)	-	-

- *: The position to install the main tray full detection sensor differs between the FS-534 and FS-534SD. (The main tray capacity for the FS-534 is 3,000 sheets. The capacity for the FS-534SD is 2,000 sheets.) The illustration shows the sensor position for the FS-534SD.

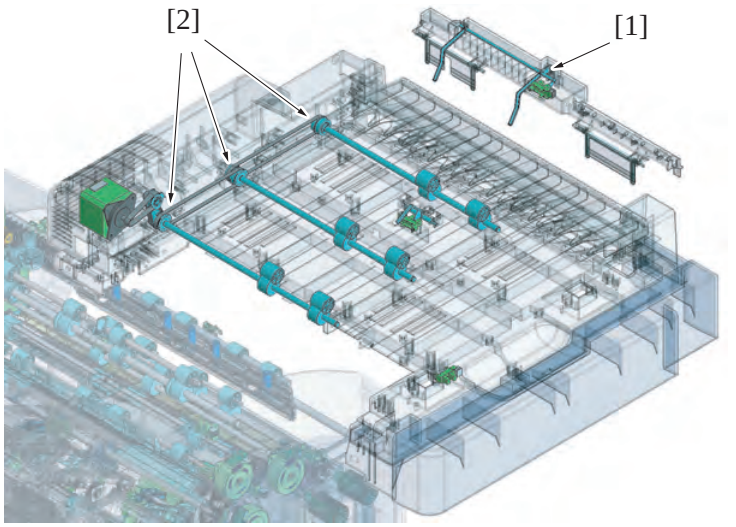
3.3 Main mechanical part configuration

3.3.1 Overall configuration



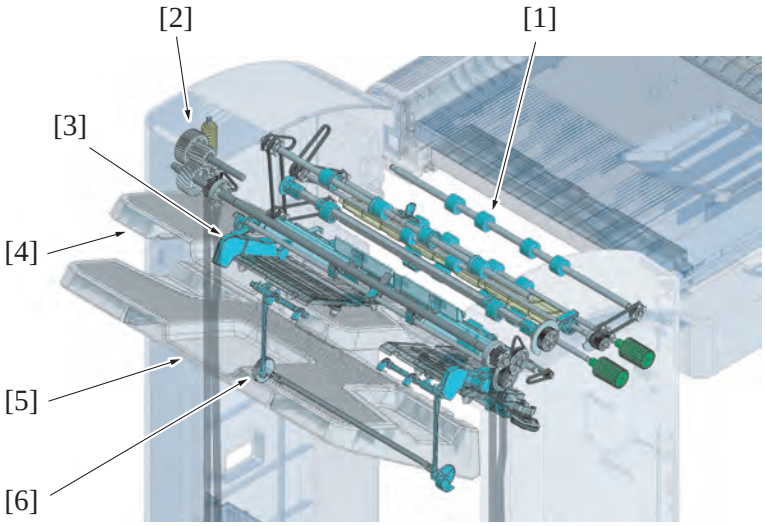
[1]	Exit tray full detection mechanism (when paper exit/ reverse section of the MFP is mounted)	[2]	RU section horizontal transport roller
[3]	Punch section: Punch kit PK-520	[4]	Paper feed/transport section
[5]	Alignment section	[6]	Sub tray
[7]	Main tray	[8]	Exit section
[9]	Saddle tray	[10]	Saddle section: Finisher FS-534SD only
[11]	Staple section	[12]	Punch dust box: Punch kit PK-520
[13]	RU section (horizontal transport section)	-	-

3.3.2 RU section (horizontal transport section)



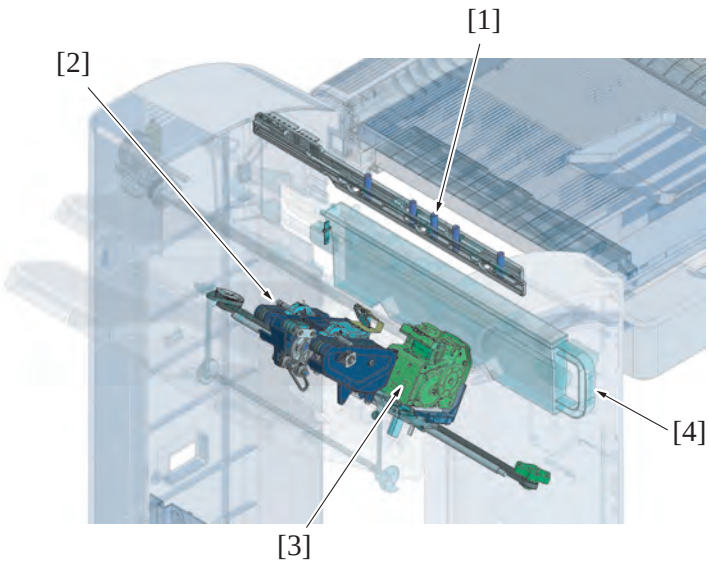
[1]	3rd exit tray full detection sensor actuator	[2]	RU section horizontal transport roller

3.3.3 Paper feed/transport section, Alignment section, Tray section



[1]	Paper feed/transport section	[2]	Main tray up/down section
[3]	Alignment section	[4]	Sub tray
[5]	Main tray	[6]	Main tray paper surface detection mechanism

3.3.4 Punch section, Staple section, Exit section



[1]	Punch section: Punch kit PK-520	[2]	Exit section

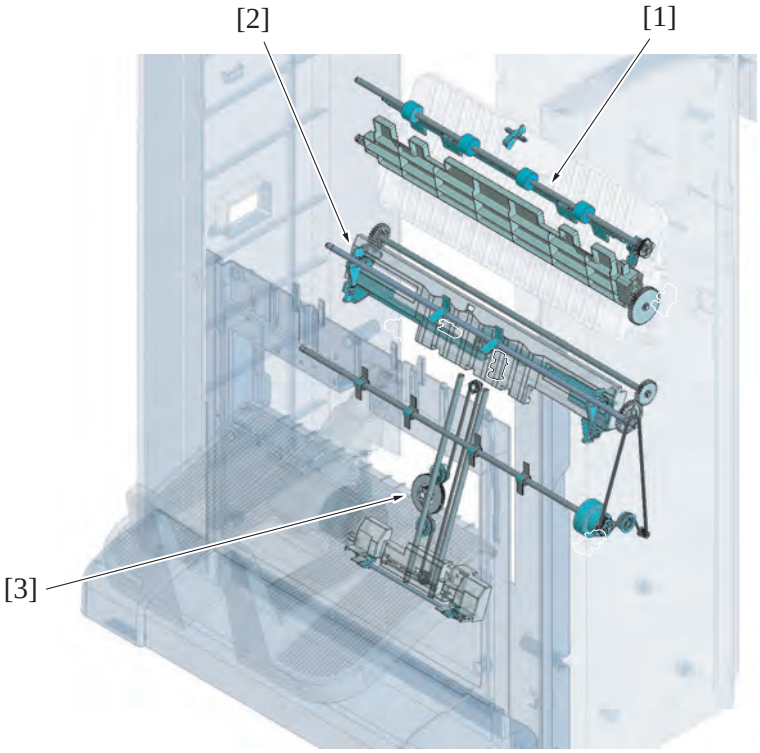
[3]	Staple section	[4]	Punch dust box: Punch kit PK-520

3.3.5 Saddle section

NOTE

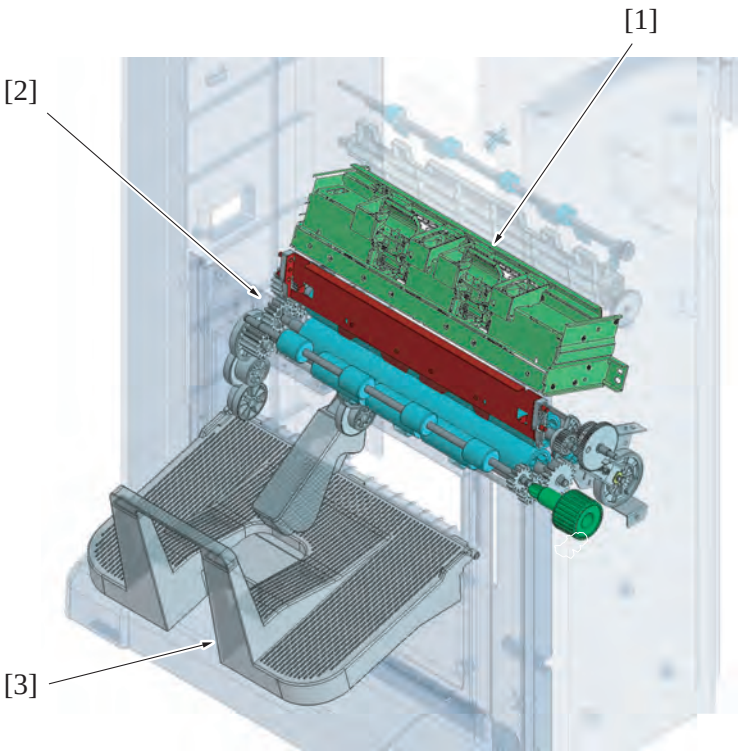
- **FS-534SD only**

(1) Alignment section



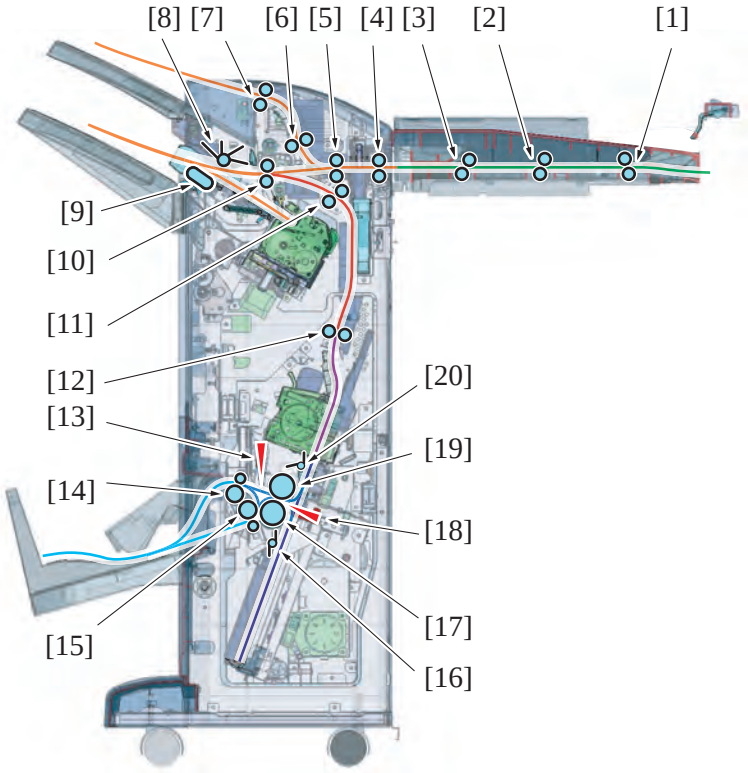
[1]	Saddle stitcher paper feed section	[2]	Center folding stacker CD alignment section
[3]	Center folding stacker FD alignment section	-	-

(2) Folding section



[1]	Center staple unit	[2]	Folding section (center folding section/tri-folding section)
[3]	Saddle tray	-	-

3.4 Main roller configuration



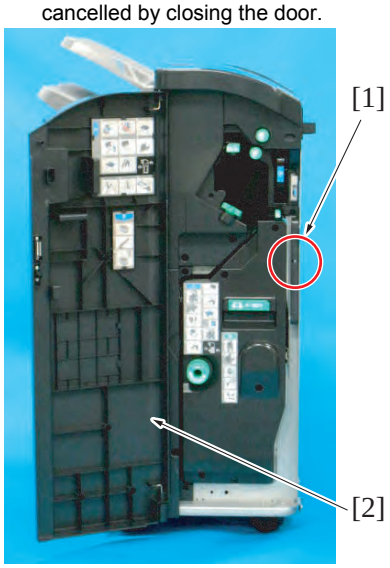
[1]	RU section horizontal transport roller/1	[2]	RU section horizontal transport roller/2
[3]	RU section paper feed roller/3	[4]	FNS section paper feed roller
[5]	FNS section transport roller	[6]	Sub tray section vertical transport roller
[7]	Sub tray section exit roller	[8]	Exit section upper paddle
[9]	Exit section lower paddle	[10]	Receiving roller
[11]	FNS section exit roller	[12]	Saddle section paper feed roller
[13]	Tri-folding knife	[14]	Saddle section exit roller
[15]	Tri-folding roller	[16]	Center folding section lower paddle
[17]	Center folding roller/2	[18]	Center folding knife
[19]	Center folding roller/1	[20]	Center folding section upper paddle

4. FNS SECTION

4.1 Door open/close detection mechanism

4.1.1 Front door open/close detection mechanism

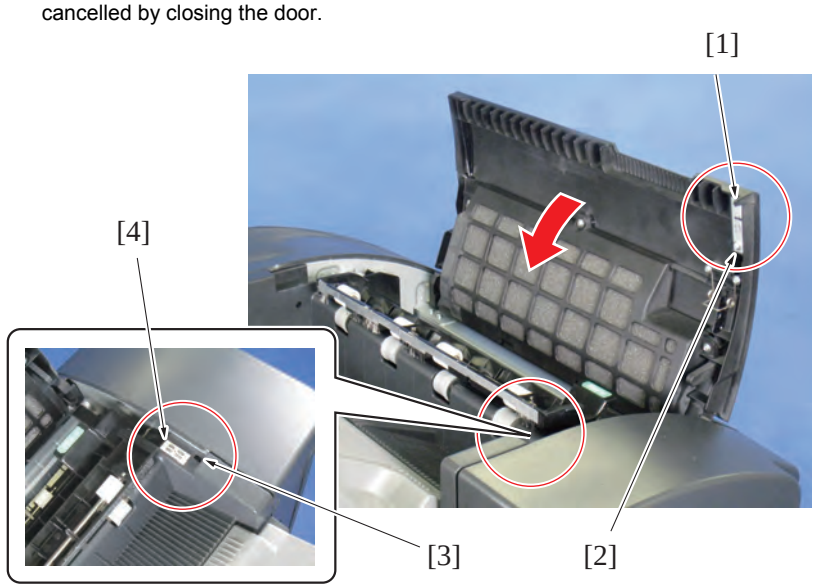
- The front door open detect switch installed at the front right of the FNS section detects open/close of the finisher's front door.
- Open the front door, the warning screen will display on the control panel. All the setting operations and jobs are disabled while the warning screen is displayed. The printing job is interrupted, and the paper being transported causes a paper misfeed. The warning screen can be cancelled by closing the door.



[1]	Front door open detect switch (SW1)	[2]	Front door

4.1.2 Upper door open/close detection mechanism

- The upper cover open/close detection sensor is installed at the front left of the FNS section to detect open/close of the finisher upper door.
- Open the upper 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 a paper misfeed. The warning screen can be cancelled by closing the door.

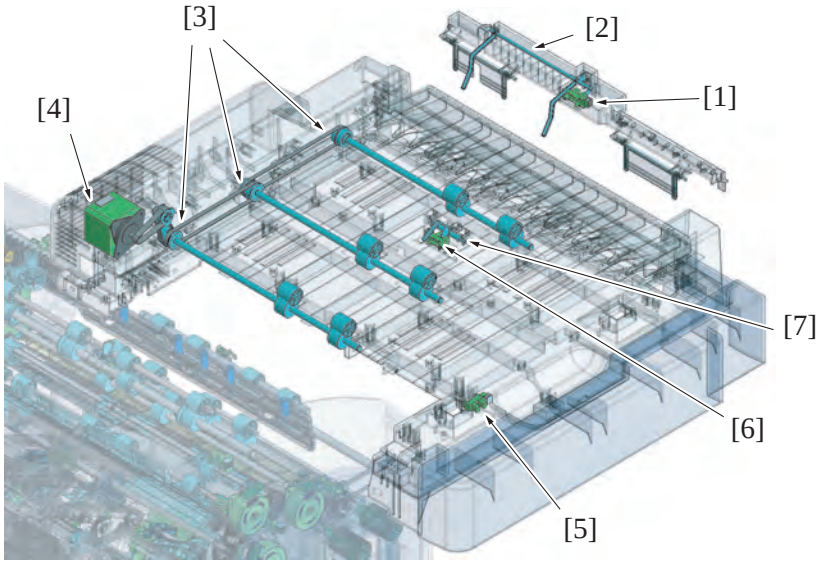


[1]	Upper door open/close detection lever	[2]	Upper door lock plate
[3]	Upper cover open/close detection sensor (PS32)	[4]	Upper door lock magnet

5. RU SECTION (RU-514)

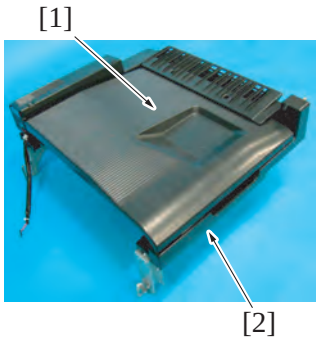
5.1 Configuration

- The RU section (horizontal transport section) transfers paper that is fed out from the MFP 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.



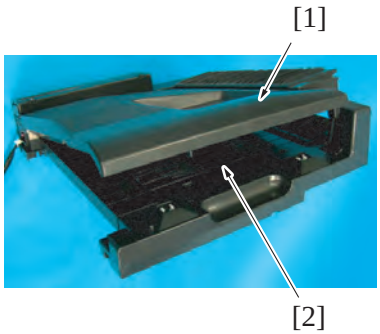
[1]	3rd exit tray full sensor (PS1): Exit section of MFP	[2]	3rd exit tray full sensor actuator: Exit section of MFP
[3]	RU section horizontal transport roller	[4]	RU transport motor (M1)
[5]	RU cover open/close detection sensor (PS3)	[6]	RU entrance sensor (PS2)
[7]	RU entrance sensor actuator	-	-

3rd tray on the RU section



[1]	3rd tray	[2]	Relay unit RU-514

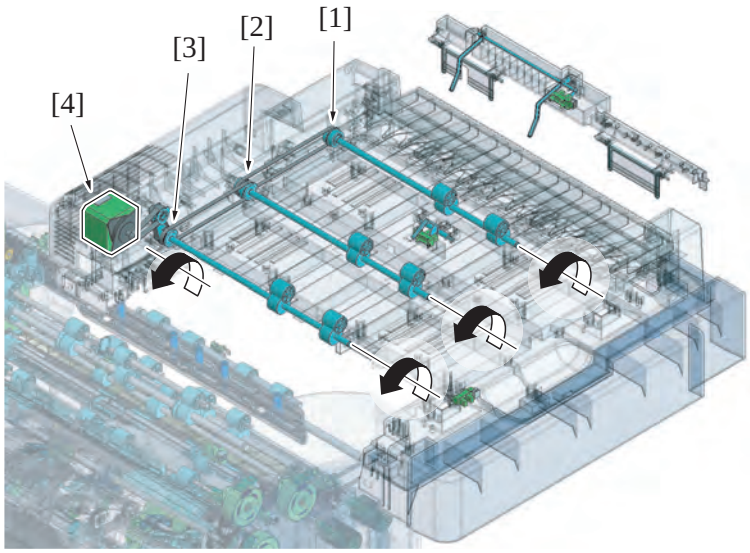
RU section door is opened



[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.



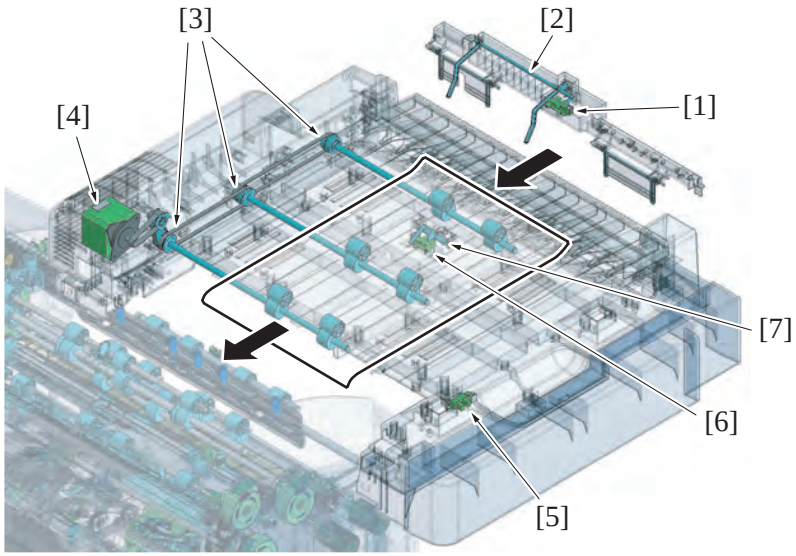
[1]	RU section horizontal transport roller/1	[2]	RU section horizontal transport roller/2
[3]	RU section horizontal transport roller/3	[4]	RU transport motor (M1)

5.3 Operation

5.3.1 Paper transport control

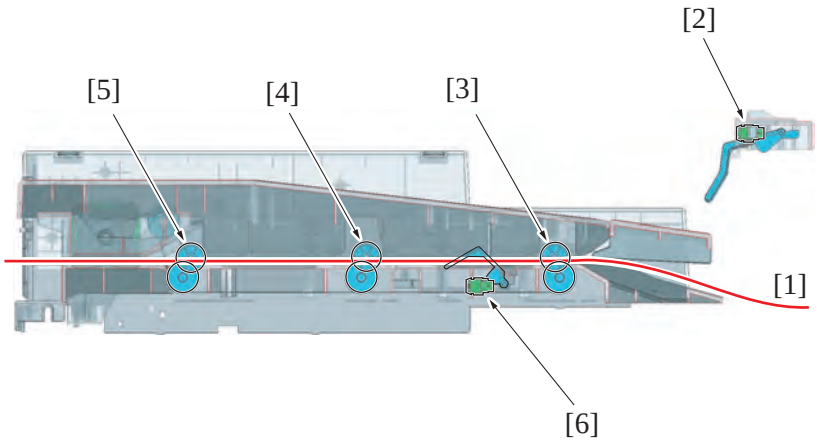
- It transports the paper that is discharged from the lower exit of the MFP paper exit section, to the RU section with the feed guide.
- It transports the paper to the FNS section, using three RU section horizontal transport rollers.
- The RU entrance sensor actuator is installed downstream of the paper 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	-	-

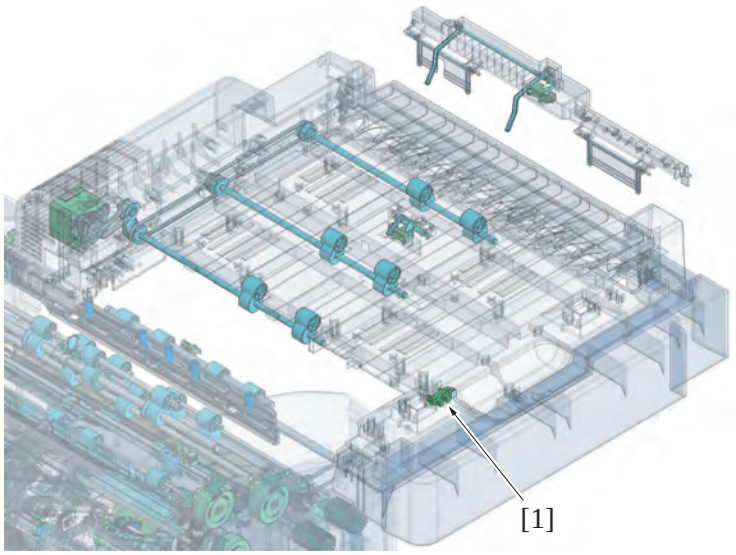
Front view



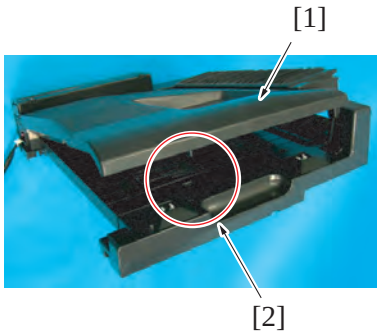
[1]	Paper	[2]	3rd exit tray full sensor (PS1)
[3]	RU section horizontal transport roller/1	[4]	RU section horizontal transport roller/2
[5]	RU section horizontal transport roller/3	[6]	RU entrance sensor (PS2)

5.3.2 RU section door open/close detection mechanism

- The RU cover 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.



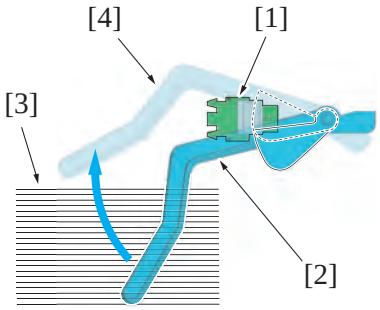
[1]	RU cover open/close detection sensor (PS3)	-	-



[1]	RU door	[2]	RU cover open/close detection sensor (PS3)

5.3.3 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 blocked 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 message is displayed on the screen. The warning section will be released by removing the paper on the 3rd exit tray.



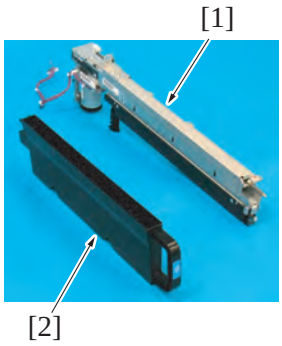
[1]	3rd exit tray full sensor (PS1)	[2]	3rd exit tray full sensor actuator (no paper)
[3]	Paper	[4]	3rd exit tray full sensor actuator (exit tray full)

6. PUNCH SECTION (PK-520)

6.1 Configuration

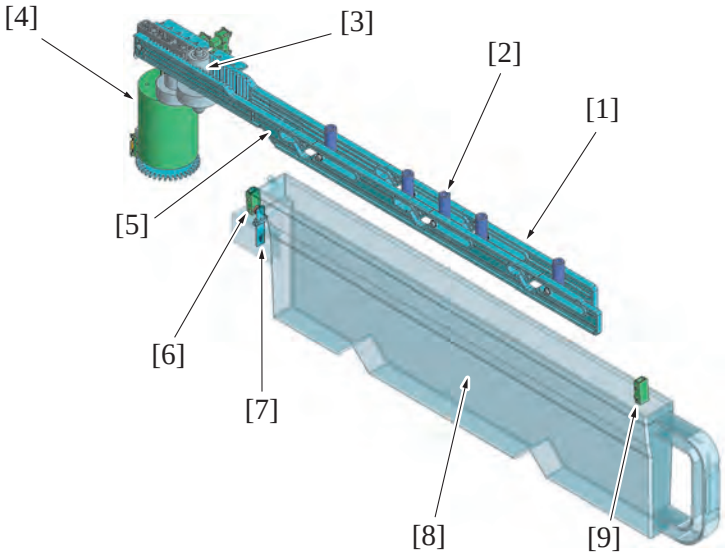
- The punch function can be added to the finishing mode by installing the optional punch kit PK-520 to the finisher FS-534.
- At the punch section, the holes are punched at the trailing edge of the paper, transported from the RU section (horizontal transport section) when the paper is fed into the FNS section (finisher section). Holes are punched sheet by sheet.
- The punch kits for North America, Europe, and other market areas have the configuration to switch the number of punch holes.
  NOTE
  - **2-hole punch kits and 4-hole punch kits do not have the function to switch the number of punch holes.**
  - **"Finishing" cannot be selected using a different punch kit. (Example: The three-hole punch mode cannot be selected when the 4-hole punch kit is installed.)**

- Punch dust generated by punching is received in the punch dust box.
- The paper with punched holes is transported to the transport section from the punch section.
- When the punch holes are not specified at "Finishing", the paper is transported to the transport section from the FNS paper feed section without punching holes.

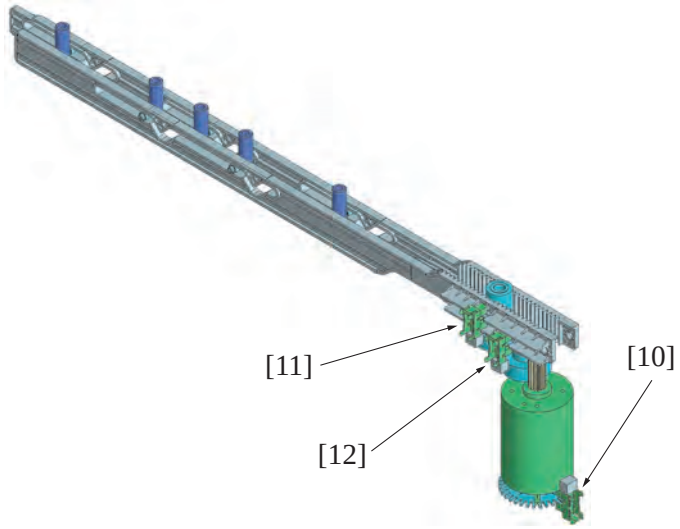


[1]	Punch unit	[2]	Punch dust box

Front view



Rear view



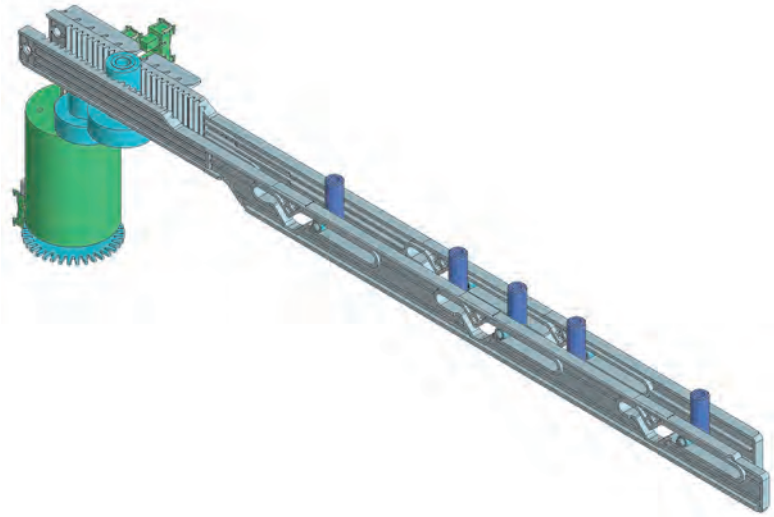
[1]	Puncher frame 1 *1	[2]	Puncher *2

[3]	Puncher drive gear	[4]	Punch drive motor (M1)
[5]	Puncher frame 2 *3	[6]	Punch dust full sensor/in (PS5)
[7]	Punch dust full sensor actuator	[8]	Punch dust box
[9]	Punch dust full sensor/out (PS4)	[10]	Punch motor sensor (PS3)
[11]	Punch home sensor (PS1)	[12]	Punch position sensor (PS2)

- *1: The shape of the puncher frame is varied depending on the type of punch kit.
- *2: The number of the puncher is varied depending on the type of punch kit.
- *3: The shape of the puncher frame is varied depending on the type of punch kit. 2 holes punch kit does not have the puncher frame 2.

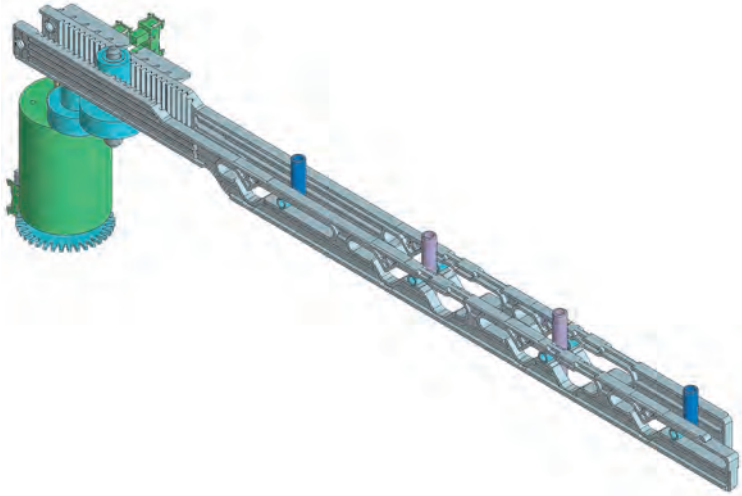
6.1.1 Punch kit type

2 holes/3 holes kit (Selectable the hole number)



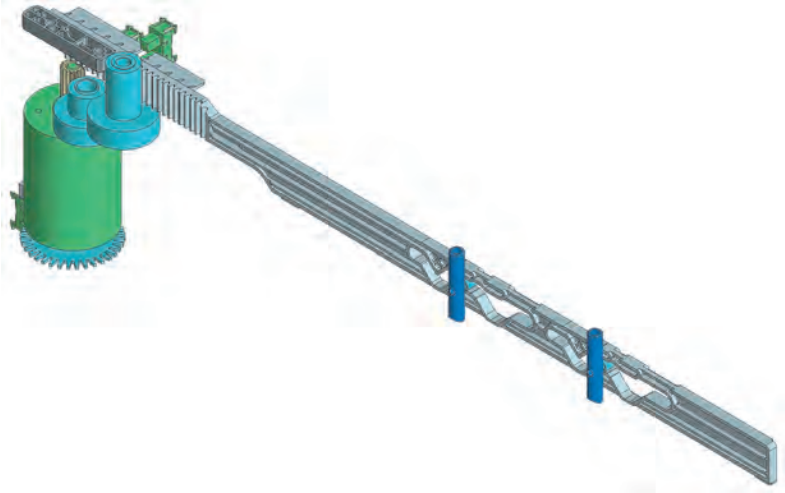
- Attachable marketing area: Europe, US, Others 1-5

2 holes/4 holes kit (Selectable the hole number)



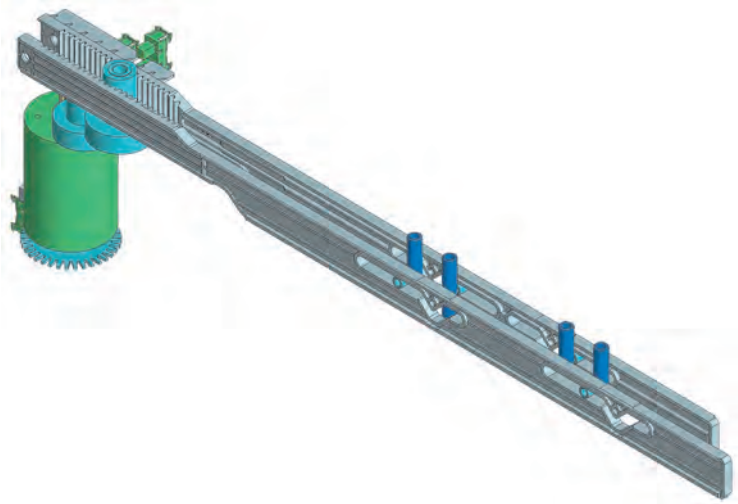
- Attachable marketing area: Europe, US, Others 1-5

2 holes punch kit



- Attachable marketing area: Japan

4 holes punch kit

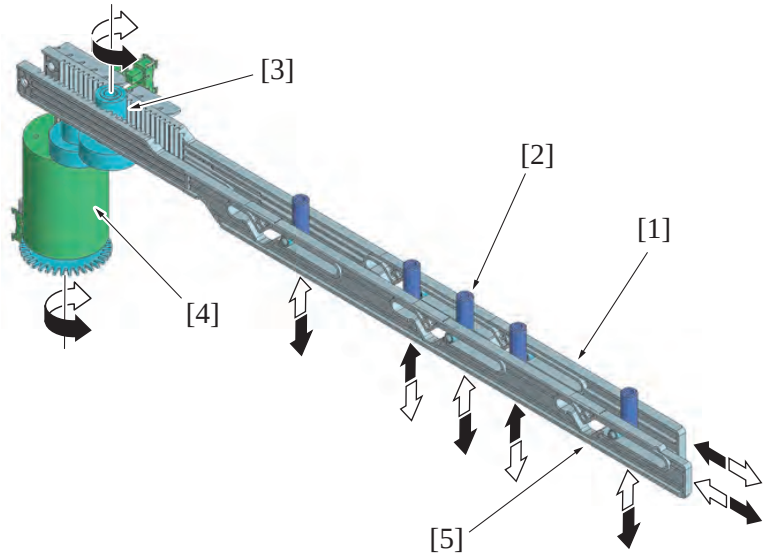


- Attachable marketing area: Europe

6.2 Drive

- The drive source for the punch section is the punch drive motor. The puncher frame is driven in forward/reverse direction by rotating the punch drive motor in forward/reverse direction.
- When the puncher frame moves in forward/reverse direction, the puncher moves up/down by the cam of the puncher frame to punch the holes on the paper.
- Puncher frame 1 and the puncher frame 2 have cams with different shapes. It enables the puncher to move up/down at different timings.
- When the puncher drive gear rotates clockwise, the puncher frame 1 shifts to the front side, and the puncher frame 2 shifts to the back side. When the puncher drive gear rotates counter-clockwise, the puncher frame 1 shifts to the back side, and the puncher frame 2 shifts to the front side. The puncher connected to the puncher frame then moves up/down with the cam. Switching the forward/reverse direction of the punch drive motor, switches the number of punch holes.

Front view



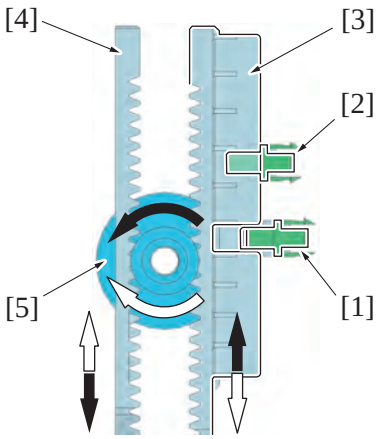
[1]	Puncher frame 1 *1	[2]	Puncher *2
[3]	Puncher drive gear	[4]	Punch drive motor (M1)
[5]	Puncher frame 2 *1	-	-

- *1: The shape of the puncher frame is varied depending on the type of punch kit.
- *2: The number of the puncher is varied depending on the type of punch kit.

NOTE

- **The illustration explains with an example for "2-holes/3-holes kit".**
- **With "2 holes/3 holes kit", the 2-holes puncher moves down when the puncher drive gear rotates clockwise. When the puncher drive gear rotates counter-clockwise, the 3-holes puncher moves down. The number of the punch holes is switched by the same configuration for "2-holes/4-holes kits".**
- **The "2-holes kit" and the "4-holes kit" do not have the punch hole switching function.**

Upper view

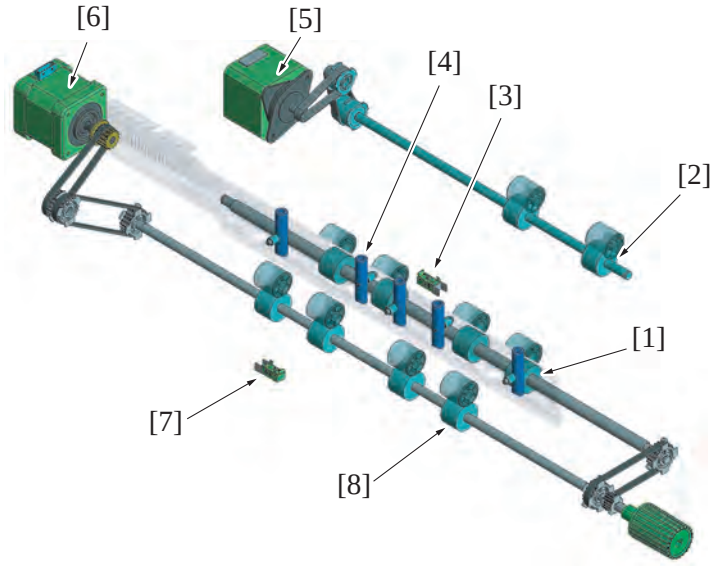


[1]	Punch home sensor (PS1)	[2]	Punch position sensor (PS2)
[3]	Puncher frame 1	[4]	Puncher frame 2
[5]	Puncher drive gear	-	-

6.3 Operation

6.3.1 Skew correction mechanism

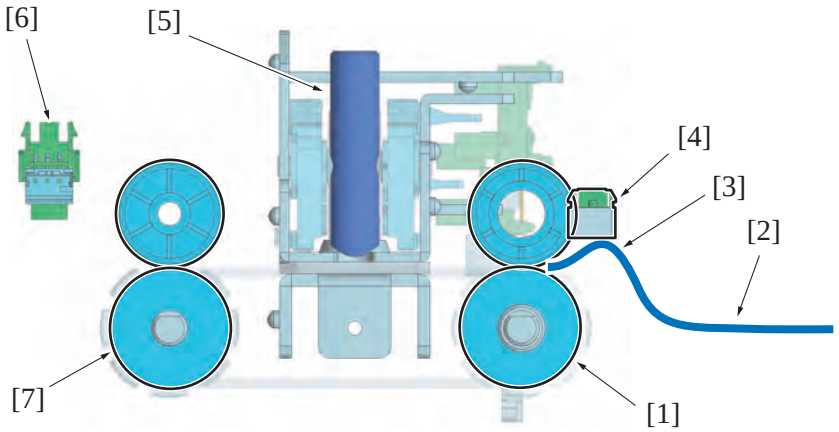
- When punching holes, punch resist loop is formed upstream of FNS section transport roller/1 to remove the skew of the paper.



[1]	FNS section paper feed roller	[2]	RU section horizontal transport roller/3
[3]	FNS entrance sensor (PS4)	[4]	Puncher
[5]	RU transport motor (M1)	[6]	FNS entry transport motor (M2)
[7]	Main tray exit sensor (PS16)	[8]	FNS section transport roller

(1) Skew correction process

1. The paper is transported to the FNS section (finisher section) by the RU transport motor driving the RU section horizontal transport roller/3.
2. When the leading edge of the paper reaches to the FNS section paper feed roller, it is detected by the FNS entrance sensor.
3. The paper is pressed to the FNS section paper feed roller which is at a halt to form the loop at the leading edge of the paper to remove the skew of the paper.
4. The FNS entry transport motor is turned ON when the specified period of time has passed after the leading edge of the paper turns the FNS entrance sensor ON, to start rotating the FNS section paper feed roller and the FNS section transport roller.
5. The paper which skew is removed is transported to the punch section by the FNS section paper feed roller, and then stop the specified position.
6. The holes are punched by the puncher.
7. The punched paper is transported to inside the transport section by the FNS section transport roller.



[1]	FNS section paper feed roller	[2]	Paper
[3]	The resist loop is created at the leading edge of the paper	[4]	FNS entrance sensor (PS4)
[5]	Puncher	[6]	Main tray exit sensor (PS16)
[7]	FNS section transport roller	-	-

(2) Punch Regist Loop Size Adjustment function

- Then the punch holes tilt, punch resist value for the Service Mode can be adjusted to adjust the punch holes.
- Punch resist value (resist loop value) changes by changing the timing the FNS section paper feed roller starts rotating. Tilt of the punch holes can be adjusted by removing the skew of the paper at the resist loop.
- For details of the adjustment procedures, see "Service Mode/Finisher/FS-FN adjustment/Punch Registration Loop Adj."

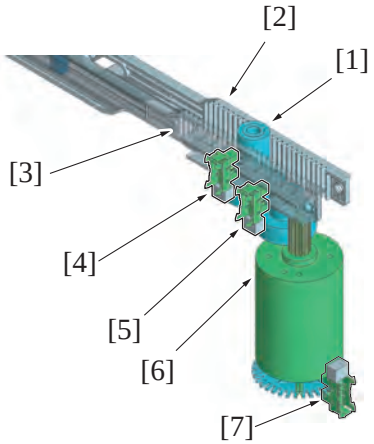
(a) Setting range

- -4.0 to +4.0

6.3.2 Puncher up/down status detection configuration

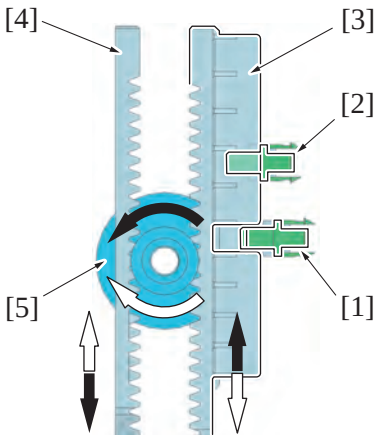
- When the puncher drive gear rotates clockwise, the puncher frame 1 shifts to the front side, and the puncher frame 2 shifts to the back side. When the puncher drive gear rotates counter-clockwise, the puncher frame 1 shifts to the back side, and the puncher frame 2 shifts to the front side. The puncher connected to the puncher frame then moves up/down with the cam. Switching the forward/reverse direction of the punch drive motor, switches the number of punch holes.
  PF.6.2 Drive
- Puncher frame 1 has two light-blocking plates to detect the position of the puncher frame.
- The punch drive motor has a round light-blocking plate and the puncher motor sensor on the same shaft to detect the rotation value (pulse) of the punch drive motor.
- The Up/down status of the puncher is detected by the coordination input from the puncher position sensor, punch home sensor, and the punch motor sensor.

Rear view



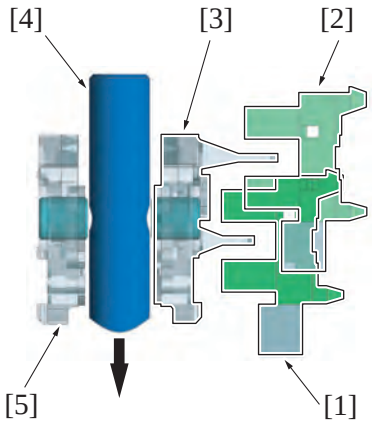
[1]	Puncher drive gear	[2]	Puncher frame 2
[3]	Puncher frame 1	[4]	Punch home sensor (PS1)
[5]	Punch position sensor (PS2)	[6]	Punch drive motor (M1)
[7]	Punch motor sensor (PS3)	-	-

Upper view



[1]	Punch home sensor (PS1)	[2]	Punch position sensor (PS2)
[3]	Puncher frame 1	[4]	Puncher frame 2
[5]	Puncher drive gear	-	-

Front view

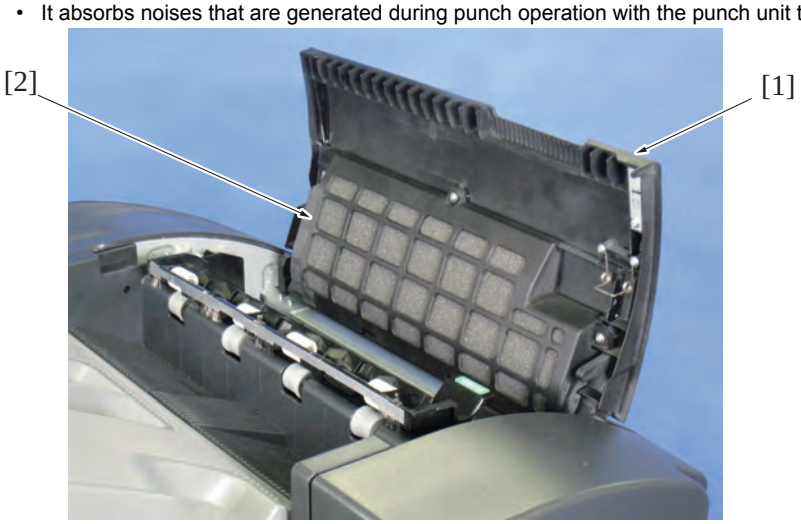


[1]	Punch position sensor (PS2)	[2]	Punch home sensor (PS1)
[3]	Puncher frame 1	[4]	Puncher
[5]	Puncher frame 2	-	-

6.3.3 Punch operation noise suppression mechanism

(1) Operation noise absorption mechanism

- A noise absorption mechanism is installed inside the finisher upper door.
- It absorbs noises that are generated during punch operation with the punch unit to suppress it from being leaked out of the machine.



[1]	Upper door	[2]	Sound-absorbing material*

- *: The sound-absorbing material does not require to be replaced on a regular basis.

(2) Punching operation noise suppression control

- The punching force of the punch motor is controlled in accordance with the thickness of the paper (paper weight).
- It suppresses noises that are generated during plain paper punching operation with the punch unit.

- Use 100% punching force for punching thick paper. Use 60% punching force for punching paper other than thick paper. Thus, it reduces the operation noise during paper punching.

NOTE

- **The punching operation noise reduction control can be disabled when the Engine FW DipSW switch No. 17 is turned to Off. For details on setting, see I.6.3.9 Engine FW DipSW.**

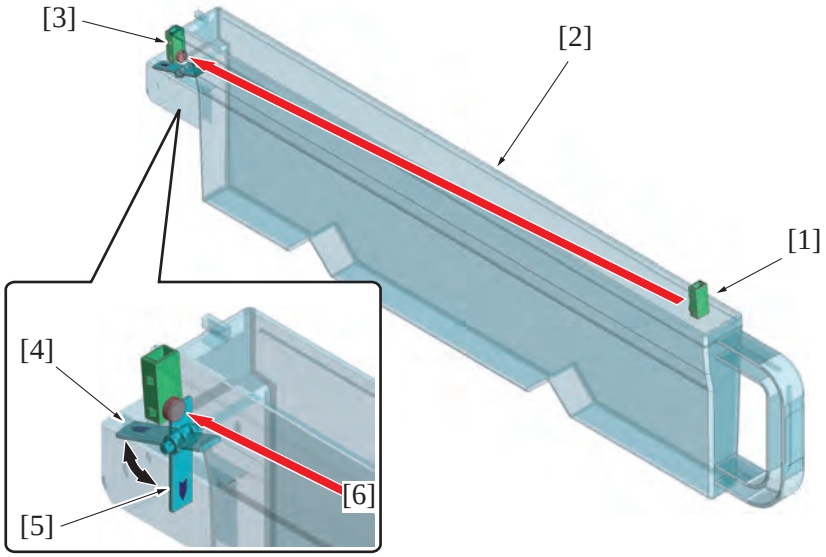
6.3.4 Punch dust box full detection mechanism

- Punch dust created by punching holes on the paper, are collected in the punch dust box.
- The punch unit has a sensor to detect a punch dust full condition at the front side (emission) and the back side (receiving). The sensor detects the status of the punch dust.
- When the punch dust is accumulated inside the punch dust box, the sensor light on punch dust full sensor/out side is interfered by the punch dust. The punch dust box is determined to be full when the sensor light is blocked. A message is displayed on the control panel to indicate a "punch dust full" condition when a punch dust box full is detected.

NOTE

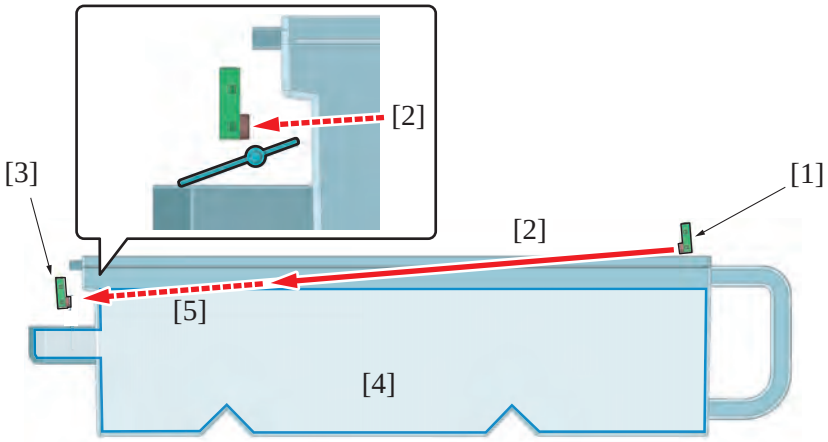
- **When the punch dust box is removed, the sensor light on punch dust full sensor/out side is blocked by the actuator on the punch unit. When the front door is closed is point and the punch job is set a message is displayed on the control panel to indicate a "Punch dust full" condition.**
- **When the empty punch dust box is installed, the sensor light blocked by the actuator, reaches punch dust full sensor/in, and the "punch dust full" message on the control panel disappears.**

Front view



[1]	Punch dust full sensor/out (PS4)	[2]	Punch dust box
[3]	Punch dust full sensor/in (PS5)	[4]	Actuator (Punch dust box is installed position)
[5]	Actuator (Punch dust box is not installed position)	[6]	Sensor light

Side view



[1]	Punch dust full sensor/out (PS4)	[2]	Sensor light
[3]	Punch dust full sensor/in (PS5)	[4]	Punch dust (full detection level)
[5]	Punch dust blocked the sensor light	-	-

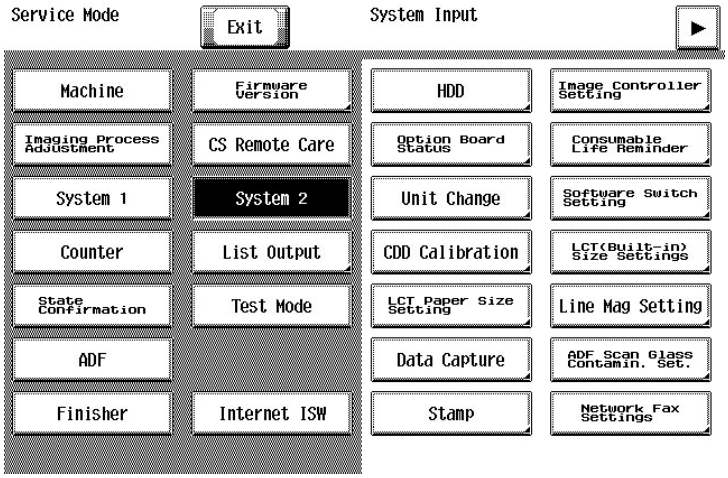
Punch dust full message: typical



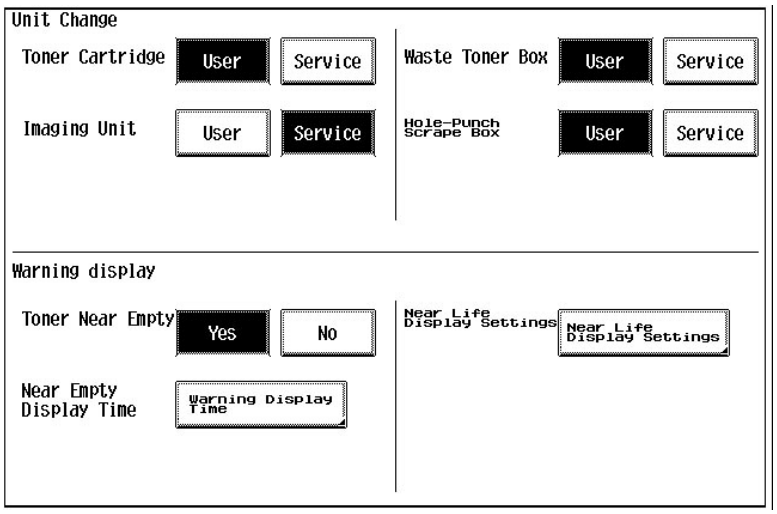
(1) Unit change function

- The screen to be displayed when a punch dust full is detected can be enabled or disabled in the “Unit Change” in the Service Mode.

Service Mode/System screen: typical



System 2/Unit Change screen: typical



NOTE

- **The Service Mode screen display, details, menus, and default settings may change when the FS-534 is installed to the MFP.**
- **For details of the Service Mode, see “I.5.16.5 Unit Change”.**

7. TRANSPORT SECTION

7.1 Configuration

7.1.1 Paper path

- The transport section transports the paper from the RU section (horizontal transport section) to the three paper paths within the FNS section (finisher section).

(1) Paper path to the sub tray

- The paper path switching gate, moves the paper transported from the RU section to the sub tray paper path to discharge the paper to the sub tray.

NOTE

- **The paper is directly discharged to the sub tray without passing through the alignment and exit sections. If "Sub Tray" is selected as exit tray for a print job, the offset option (sort/group/staple) is unavailable.**

(2) Paper path to the main tray

- The paper path switching gate moves the paper transported from the RU section to the main tray paper path. The paper passes through the alignment and exit sections, and then moves to the main tray.

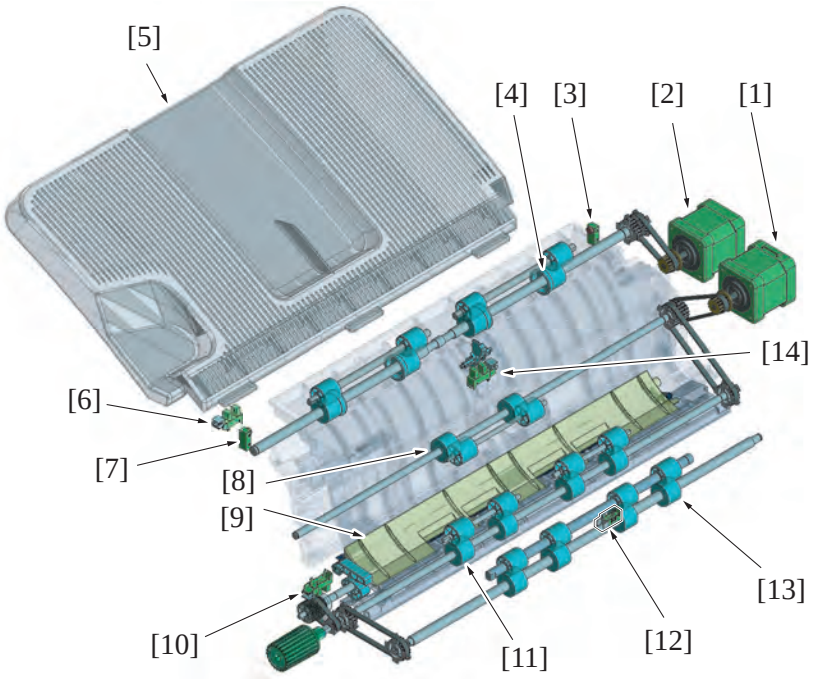
(3) Paper path to the saddle section

NOTE

- **FS-534SD only**
- The paper path switching gate moves the paper transported from the RU section to the main tray paper path. Switchback of the paper is done at the transport section and then the paper passes through the vertical transport section, and moves to the saddle section.

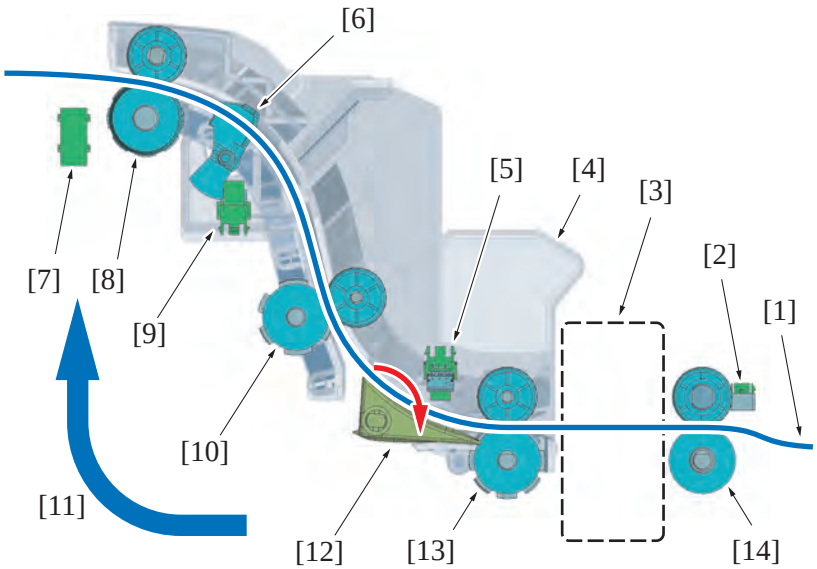
7.1.2 Paper feed section - sub tray section

Front perspective view



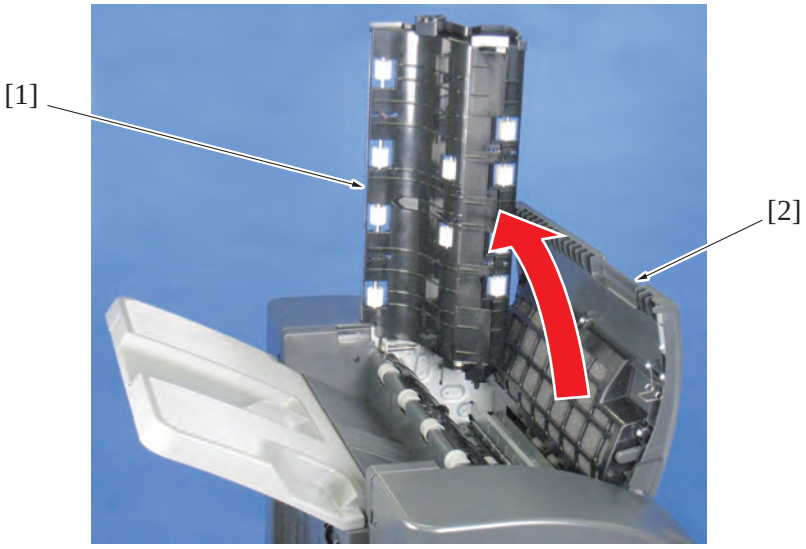
[1]	FNS entry transport motor (M2)	[2]	FNS discharge motor (M3)
[3]	Sub tray full detection sensor/out (PS9)	[4]	Sub tray section exit roller
[5]	Sub tray	[6]	Upper cover open/close detection sensor (PS32)
[7]	Sub tray full detection sensor/in (PS10)	[8]	Sub tray section vertical transport roller
[9]	Paper path switching gate	[10]	Exchange folded paper output sensor (PS30)
[11]	FNS section transport roller	[12]	FNS entrance sensor (PS4)
[13]	FNS section paper feed roller	[14]	Sub tray exit sensor (PS8)

Front view



[1]	Paper path	[2]	FNS entrance sensor (PS4)
[3]	Punch kit PK-520	[4]	Jam removal cover (sub tray transport route)
[5]	Exchange folded paper output sensor (PS30)	[6]	Sub tray exit sensor actuator
[7]	Sub tray full detection sensor	[8]	Sub tray section exit roller
[9]	Sub tray exit sensor (PS8)	[10]	Sub tray section vertical transport roller
[11]	Paper feeding direction	[12]	Paper path switching gate (lower position)
[13]	FNS section transport roller	[14]	FNS section paper feed roller

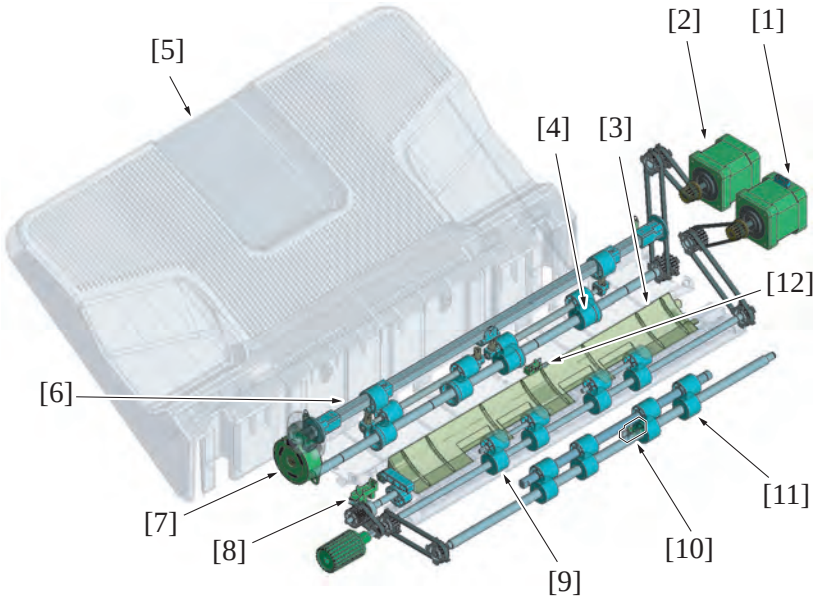
Exterior view



[1]	Jam removal cover	[2]	Upper door

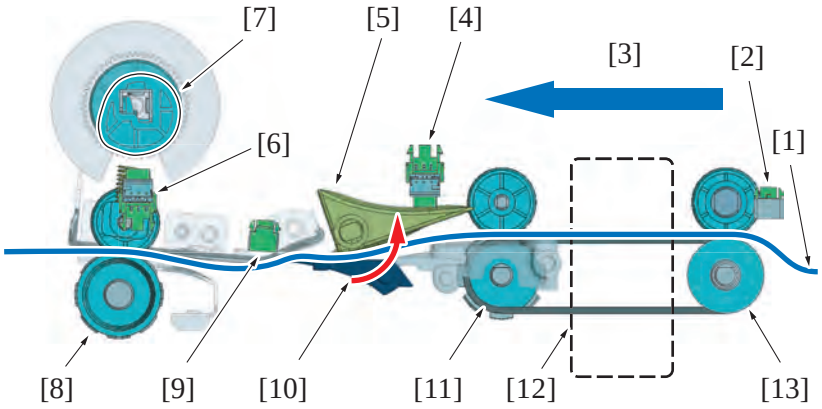
7.1.3 Paper feed section - main tray section

Front perspective view



[1]	FNS entry transport motor (M2)	[2]	FNS discharge motor (M3)
[3]	Paper path switching gate	[4]	Receiving roller
[5]	Main tray	[6]	Receiving roller pressure cam
[7]	Receiving roller retraction motor (M4)	[8]	Exchange folded paper output sensor (PS30)
[9]	FNS section transport roller	[10]	FNS entrance sensor (PS4)
[11]	FNS section paper feed roller	[12]	Main tray exit sensor (PS16)

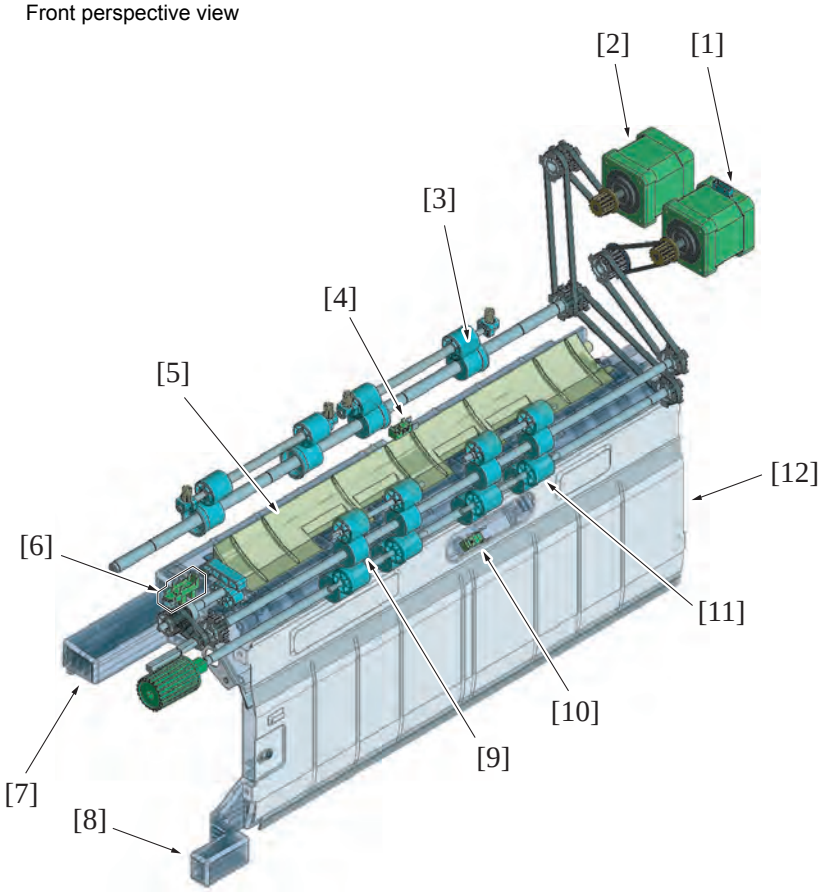
Front view



[1]	Paper path	[2]	FNS entrance sensor (PS4)
[3]	Paper feeding direction	[4]	Exchange folded paper output sensor (PS30)
[5]	Paper path switching gate (upper position)	[6]	Receiving roller retraction sensor (PS11)
[7]	Receiving roller pressure cam	[8]	Receiving roller
[9]	Main tray exit sensor (PS16)	[10]	Movable paper guide
[11]	FNS section transport roller	[12]	Punch kit PK-520
[13]	FNS section paper feed roller	-	-

7.1.4 Main tray section - saddle section

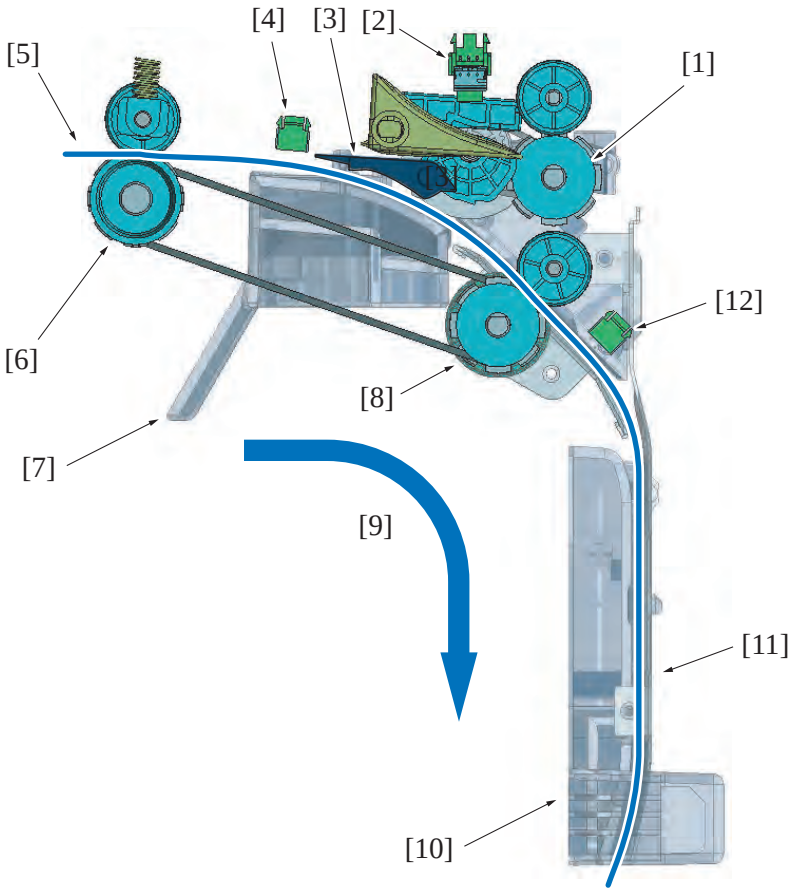
Front perspective view



[1]	FNS entry transport motor (M2)	[2]	FNS discharge motor (M3)
[3]	Receiving roller	[4]	Main tray exit sensor (PS16)
[5]	Paper path switching gate	[6]	Exchange folded paper output sensor (PS30)
[7]	Jam removal cover (horizontal transport section)	[8]	Jam removal cover (vertical transport section)*1
[9]	FNS section transport roller	[10]	Saddle exit sensor (PS5)
[11]	FNS section exit roller	[12]	FNS section vertical transport guide

- *1: FS-534SD only

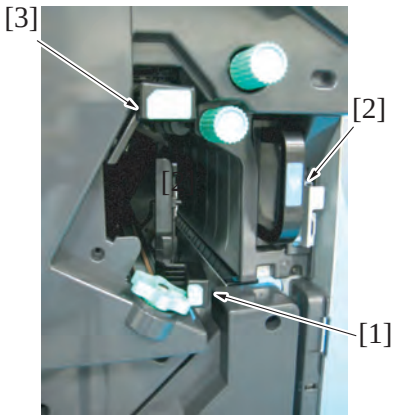
Front view



[1]	FNS section transport roller	[2]	Exchange folded paper output sensor (PS30)
[3]	Movable paper guide	[4]	Main tray exit sensor (PS16)
[5]	Paper path	[6]	Receiving roller
[7]	Jam removal cover (horizontal transport section)	[8]	FNS section exit roller
[9]	Paper feeding direction	[10]	Jam removal cover (vertical transport section)*1
[11]	FNS section vertical transport guide	[12]	Saddle exit sensor (PS5)

- *1: FS-534SD only

Exterior view



[1]	Jam removal cover (vertical transport section) (Open position)	[2]	Punch dust box *1
[3]	Jam removal cover (horizontal transport section) (Close position) *2	-	-

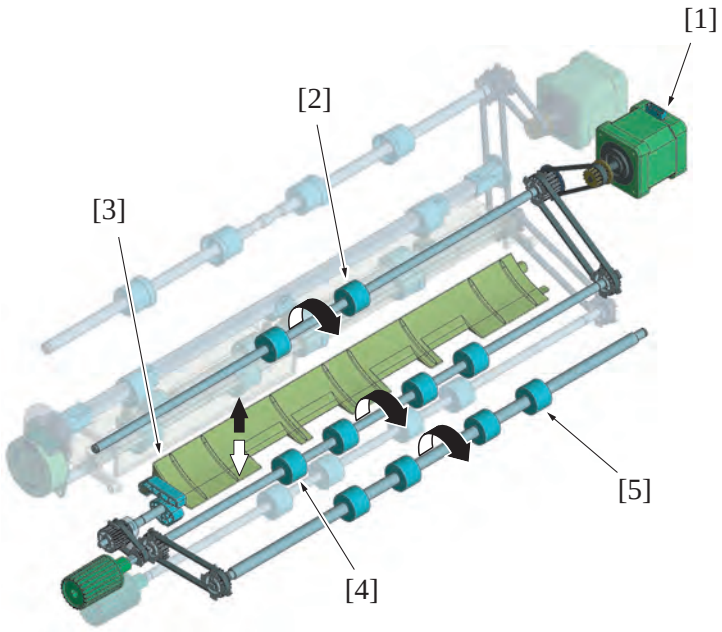
- *1: Only when the PK-520 is added to the finisher.
- *2: FS-534SD only

7.2 Drive

The driving source of the FNS section is the FNS entry transport motor, FNS discharge motor, and receiving roller retraction motor, and the following parts are driven.

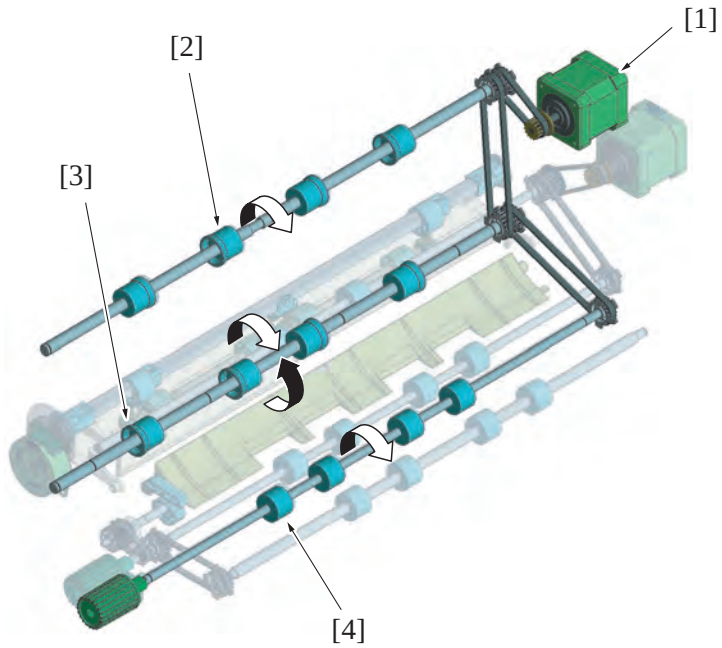
Driving source	Driving parts	Functions
FNS entry transport motor (M2)	FNS section paper feed roller	Feeds paper to the FNS section
	FNS section vertical transport roller	Transports paper to each paper path in the FNS section.
	Paper path switching gate	Switches paper path by the paper path switching gate up/down movement triggered by the cam.
	Sub tray section vertical transport roller	Transports paper to the sub tray section exit roller. (sub tray paper path)
FNS discharge motor (M3)	Sub tray section exit roller	Transports paper to the sub tray. (sub tray paper path)
	Receiving roller	• Normal rotation: Transports paper to alignment section. (main tray paper path) • Reverse rotation: Transports paper to the saddle section. (saddle section paper path)
	FNS section exit roller	Transports paper from the alignment section to the saddle section via the switchback. (saddle section paper path)
Receiving roller retraction motor (M4)	Receiving roller pressure roll	The receiving roller pressure roll is moved up/down by the cam. (main tray paper path) • When the pressure roll is lowered, the paper on the receiving roller is pressed against the receiving roller. When the receiving roller rotates in the normal direction, the paper is transported to the alignment section. When the receiving roller rotates reversely, the paper is switched back through the transport path to the saddle section. • When the pressure roll moves up, the paper on the receiving roller is released. The paper is not transported and brought into a standby state.

7.2.1 FNS entry transport motor



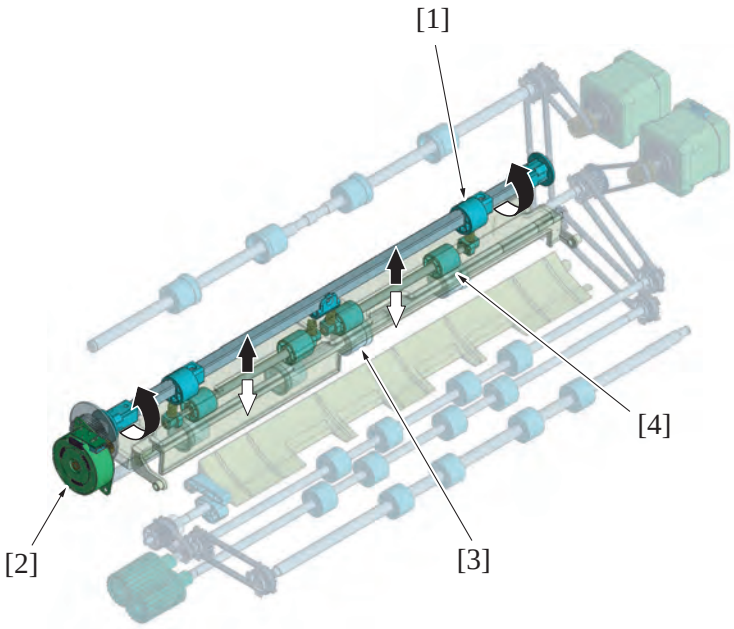
[1]	FNS entry transport motor (M2)	[2]	Sub tray section vertical transport roller
[3]	Paper path switching gate	[4]	FNS section transport roller
[5]	FNS section paper feed roller	-	-

7.2.2 FNS discharge motor



[1]	FNS discharge motor (M3)	[2]	Sub tray section exit roller
[3]	Receiving roller	[4]	FNS section exit roller

7.2.3 Receiving roller retraction motor



[1]	Receiving roller pressure cam	[2]	Receiving roller retraction motor (M4)
[3]	Receiving roller *	[4]	Receiving roller pressure roll

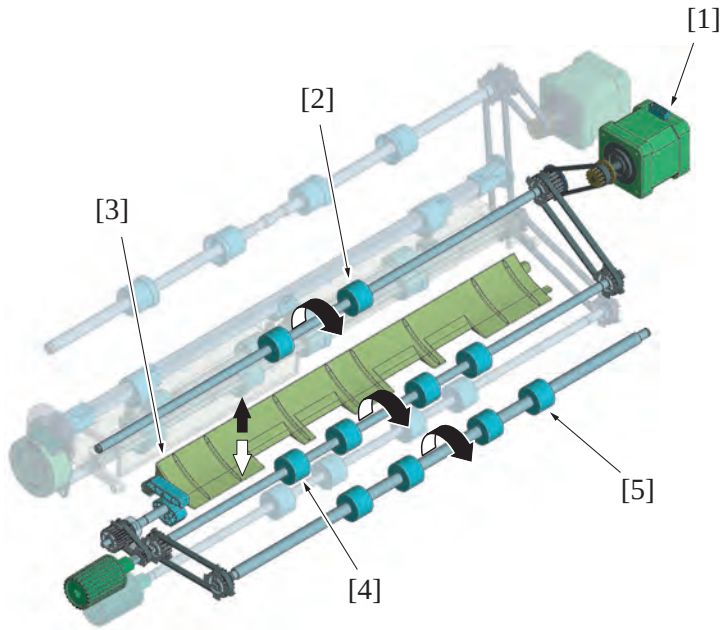
- *: The driving source of the receiving roller is the FNS discharge motor. The driving source of the receiving roller pressure roll is the receiving roller retraction motor.

7.3 Operation

7.3.1 Paper path switching mechanism

- Paper path is switched by the up/down operations of the paper path switching gate to transport paper to each tray or the saddle section.
- The up/down operations of the paper path switching gate is driven by the FNS entry transport motor.
- The position of the paper path switching gate is detected by the exchange folded paper output sensor.

Front perspective view

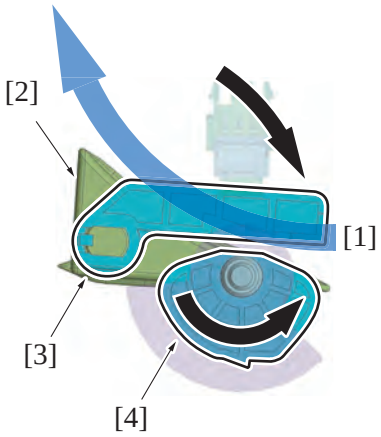


[1]	FNS entry transport motor (M2)	[2]	Sub tray section vertical transport roller
[3]	Paper path switching gate	[4]	FNS section transport roller
[5]	FNS section paper feed roller	-	-

(1) Gate lower position (paper path: sub tray)

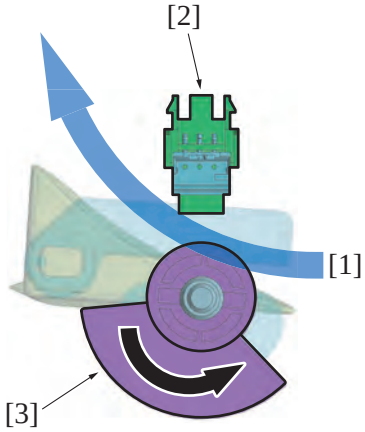
- When the cam rotates, the paper path switching gate moves down to block the paper path to the main tray. The paper passes on the top of the paper path switching gate and is transported to the sub tray.
- When the detection plate located on the shaft, on which the cam is located, rotates, the exchange folded paper output sensor is unblocked. This causes machine to determine that the gate is at the lower position.
- When the paper is transported through the sub tray paper path, the sub tray exit sensor located downstream of the paper path switching gate detects the paper conveyance.

Front view: Illustration on the relationship between the cam and paper path switching gate



[1]	Paper	[2]	Paper path switching gate (lower position)
[3]	Lever	[4]	Cam

Front view: Illustration on the relationship between the detection plate and the exchange folded paper output sensor

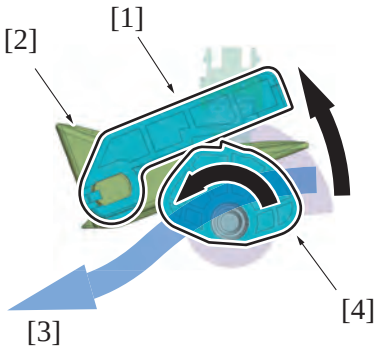


[1]	Paper	[2]	Exchange folded paper output sensor (PS30)
[3]	Detection plate	-	-

(2) Gate upper position (paper path: main tray)

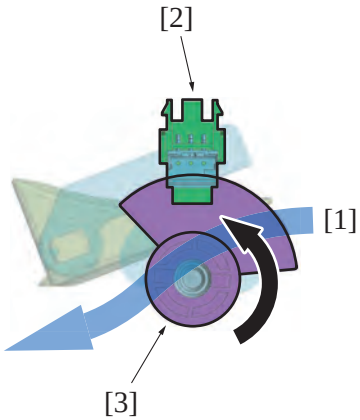
- When the cam rotates, the paper path switching gate moves up to block the paper path to the sub tray. The paper passes on the bottom of the paper path switching gate and is transported to the main tray.
- When the detection plate located on the shaft, on which the cam is located, rotates, the exchange folded paper output sensor is blocked. This causes machine to determine that the gate is at the upper position.
- When the paper is transported through the main tray paper path, the main tray exit sensor located downstream of the paper path switching gate detects the paper conveyance.

Front view: Illustration on the relationship between the cam and paper path switching gate



[1]	Lever	[2]	Paper path switching gate (upper position)
[3]	Paper	[4]	Cam

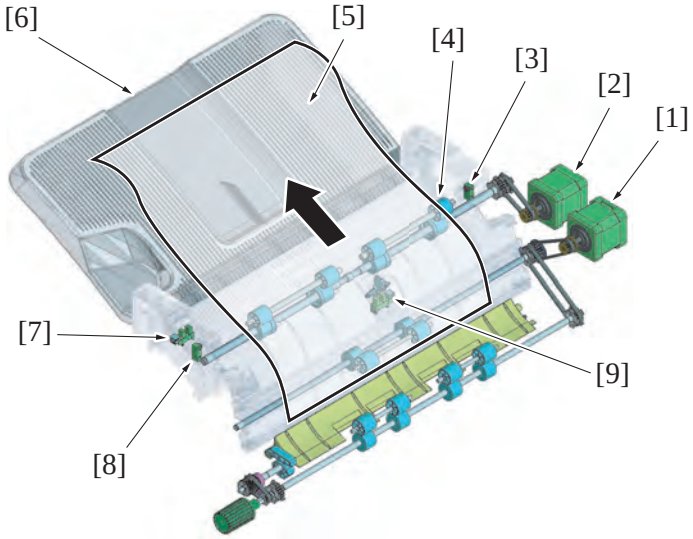
Front view: Illustration on the relationship between the detection plate and the exchange folded paper output sensor



[1]	Paper	[2]	Exchange folded paper output sensor (PS30)
[3]	Detection plate	-	-

7.3.2 Sub tray exit mechanism

- Paper transported from the RU section is discharged to the sub tray by the sub tray section exit roller, via the FNS section paper feed roller, FNS section transport roller, and sub tray section vertical transport roller.
- To transport paper to the sub tray, the paper path switching gate also operates.
- The sub tray section exit roller is driven by the FNS discharge motor.

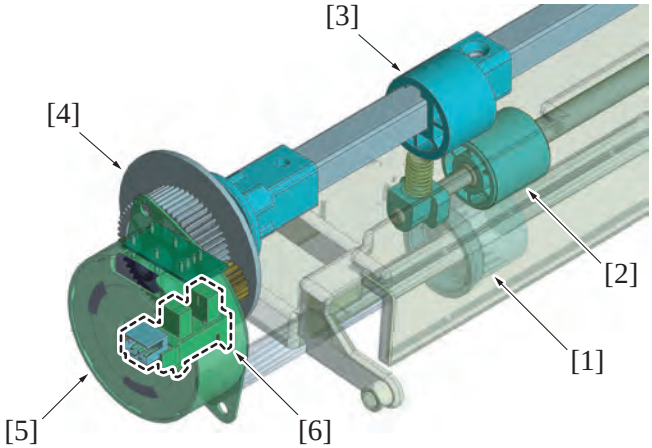


[1]	FNS entry transport motor (M2)	[2]	FNS discharge motor (M3)
[3]	Sub tray full detection sensor/out (PS9)	[4]	Sub tray section exit roller
[5]	Paper	[6]	Sub tray
[7]	Upper cover open/close detection sensor (PS32)	[8]	Sub tray full detection sensor/in (PS10)
[9]	Sub tray exit sensor (PS8)	-	-

7.3.3 Receiving roller section up/down function

- The up/down movement of the receiving roll, switches the timing of transporting the paper to the alignment section. (Buffer control)
- The up/down operations of the receiving roll are driven by the receiving roller retraction motor.
- The position of the receiving roll is detected by the receiving roller retraction sensor.

Front perspective view

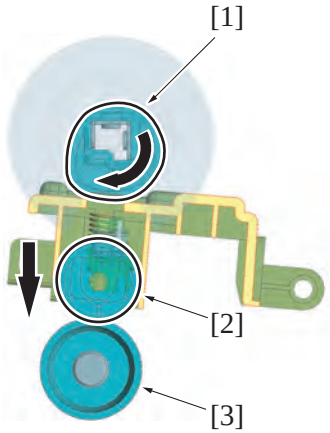


[1]	Receiving roller	[2]	Receiving roll
[3]	Receiving roller pressure cam	[4]	Detection plate
[5]	Receiving roller retraction motor (M4)	[6]	Receiving roller retraction sensor (PS11)

(1) Receiving roller: pressure position

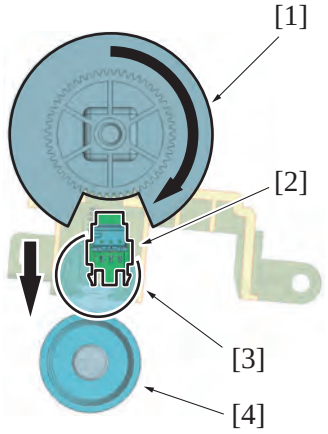
- When the cam rotates, the receiving roll is lowered and pressed against the receiving roller. The paper is transported to the alignment section by the receiving roller.
- When the detection plate located on the shaft, on which the cam is located, rotates, the receiving roller retraction sensor is unblocked. This causes machine to determine that the receiving roll moves down (pressed).

Front view: Illustration on the relationship between the cam and roll



[1]	Receiving roller pressure cam (pressure position)	[2]	Receiving roll (pressure position)
[3]	Receiving roller	-	-

Front view: Illustration on the relationship between the detection plate and sensor

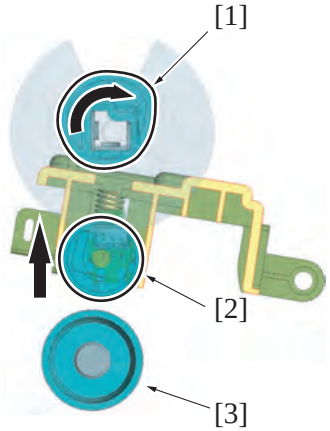


[1]	Detection plate (pressure position)	[2]	Receiving roller retraction sensor (PS11) (unblocked)
[3]	Receiving roll (pressure position)	[4]	Receiving roller

(2) Receiving roller: release position

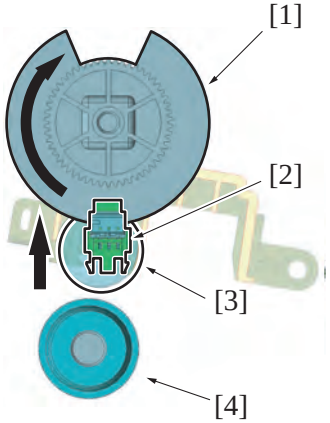
- The receiving roll is lifted by the cam and retracted from the receiving roller. The paper is brought to a standby state on the transport paper path.
- The detection plate located on the shaft, on which the cam is located, rotates and blocks the receiving roller retraction sensor. This causes machine to determine that the receiving roll moves up (retracted).

Front view: Illustration on the relationship between the cam and roll



[1]	Receiving roller pressure cam (release position)	[2]	Receiving roll (release position)
[3]	Receiving roller	-	-

Front view: Illustration on the relationship between the detection plate and sensor

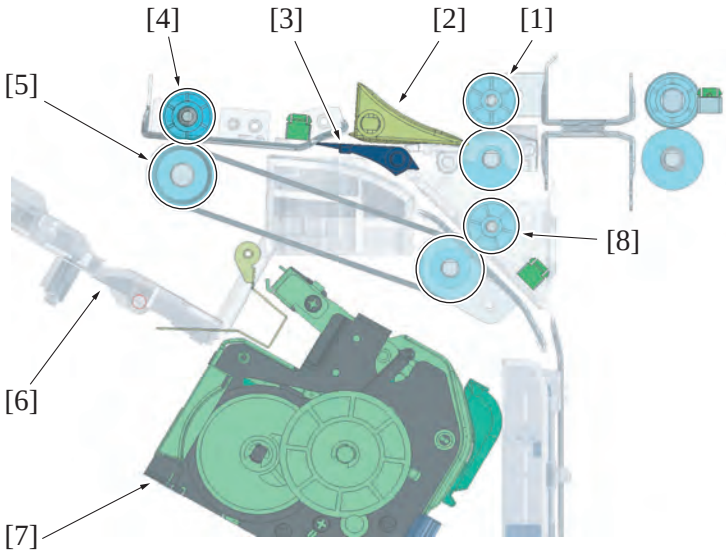


[1]	Detection plate (release position)	[2]	Receiving roller retraction sensor (PS11) (blocked)
[3]	Receiving roll (release position)	[4]	Receiving roller

7.3.4 Buffer control

- The receiving roller section up/down mechanism is provided to achieve high productivity, by eliminating the time loss for the next sheet of paper 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.

Front view

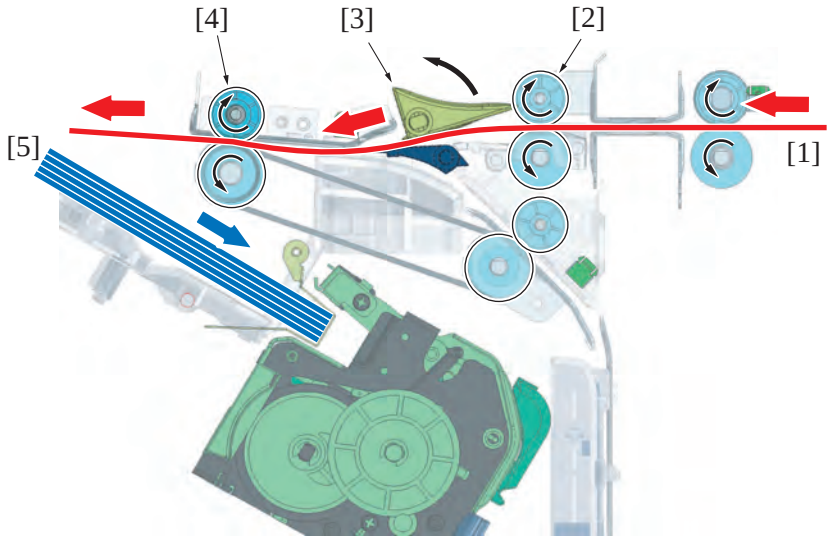


[1]	FNS section transport roller	[2]	Paper path switching gate
[3]	Movable paper guide	[4]	Receiving roll
[5]	Receiving roller	[6]	Alignment tray
[7]	Staple unit	[8]	FNS section exit roller

(1) Paper transport operation

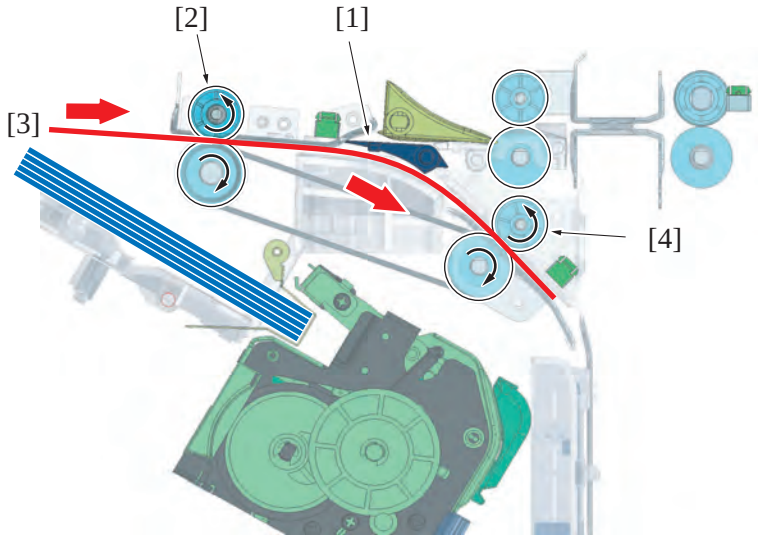
- The following explains the example of a print job where 5 sheets of paper is stapled together and 2 sets are output.

1. When the first set of paper passes, the receiving roll transports the paper to the alignment section without being lifted. The 5 sheets of the first set are aligned and then stapled.



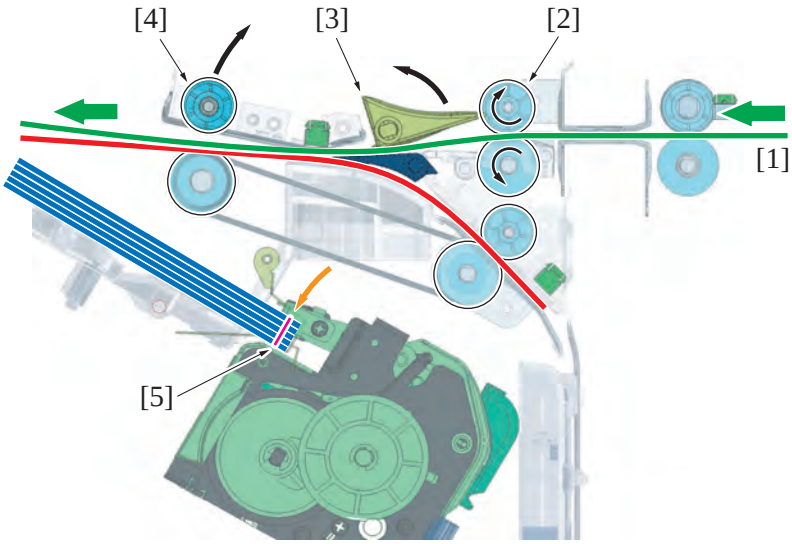
[1]	First sheet in the second set	[2]	FNS section transport roller (forward rotation)
[3]	Paper path switching gate (upper position)	[4]	Receiving roll (pressure, forward rotation)
[5]	First set of sheets (transported to the alignment section)	-	-

2. While the first set of sheets is being aligned, the first sheet in the second set causes the receiving roller to rotate in the reverse direction when the trailing edge of the sheet passes the movable paper guide. This causes the first sheet to move on the switchback until its trailing edge reaches the path to the saddle section. (This operation is performed to avoid blocking the paper path for the second sheet.)



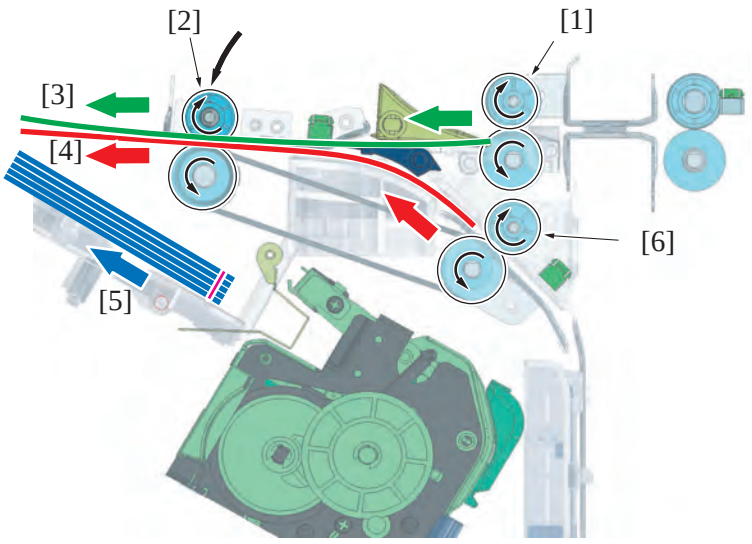
[1]	Movable paper guide	[2]	Receiving roll (pressure, reverse rotation)
[3]	First sheet in the second set (switchback)	[4]	FNS section exit roller (reverse rotation)

3. The receiving roll is lifted. The first sheet of paper that lost the force of being transported stays on the transport path.
4. While the first set is being stapled, the second sheet of the second set is transported and it is placed on the top of the first sheet of the second set.



[1]	Second sheet of the second set	[2]	FNS section transport roller (forward rotation)
[3]	Paper path switching gate (upper position)	[4]	Receiving roll (release, stop)
[5]	First sheet (staple)	-	-

5. The receiving roll is lowered onto the 2nd set. Two sheets of the second set are discharged to the alignment section. (Paper transport time is reduced by moving multiple sheets in one paper transport operation.)
6. While the first and second sheets of the second set are transported to the alignment section, the stapled first set is discharged to the main tray.



[1]	FNS section transport roller (forward rotation)	[2]	Receiving roll (pressure, forward rotation)
[3]	Second sheet of the second set	[4]	First sheet in the second set
[5]	First set of sheets	[6]	FNS section exit roller (forward rotation)

7. The receiving roll is not lifted when the third to fifth sheets of the second set passes through the roller. These sheets are transported to the alignment section in the normal manner.
8. When the fifth sheet of the second set is transported to the alignment tray, the second set is stapled.
9. The operations described above are repeated when multiple staple jobs are performed.

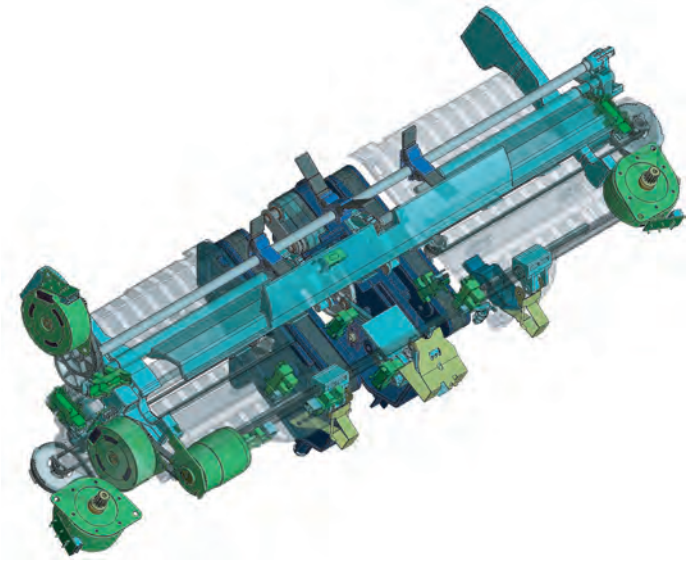
8. ALIGNMENT SECTION

8.1 Configuration

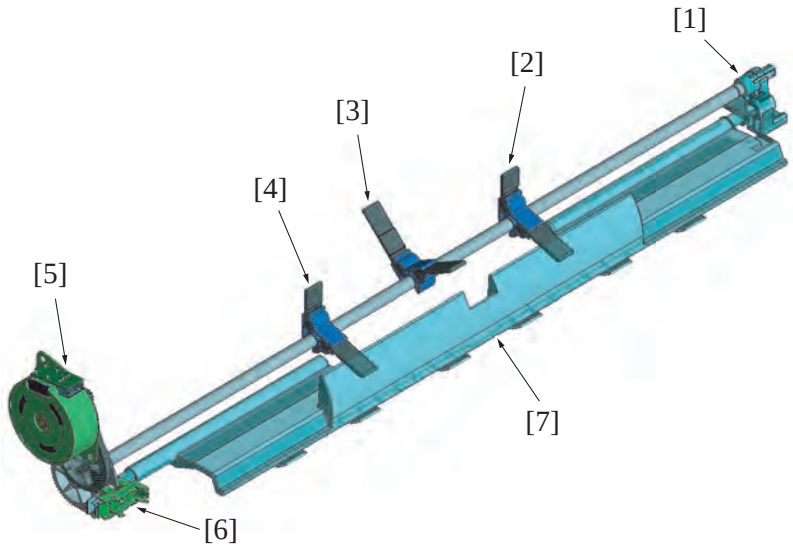
In the alignment section, paper transported from the transport section is aligned and discharged to the main tray.

1. Upper paddle section
   - Paper ejected from the receiving roller in the transport section is guided to the alignment section by the lowered paper guide.
   - The paper led to the alignment section will be switchbacked to the alignment tray by the upper paddle.
2. Exit section (Receiving operation)
   - The paper is switched back to the alignment tray by the lower paddle.
3. Stopper section
   - The paper that was switched back is aligned at its trailing edge by being pressed to the trailing edge stopper. (Paper alignment operation in FD)
   - If paper is stapled (2-point stapling), the stopper is retracted to the position where it does not interfere with the trailing edge stopper/F and trailing edge stopper/R.
4. Alignment tray section
   - When the first sheet is sent, the alignment plate is moved to the center to support the paper passing through the top of the plate. (Alignment plates are used as paper guide.)
   - If paper is not offset stacked, it is placed between the alignment plates so that both ends of the paper are aligned at the center position of the alignment tray. (Paper alignment operation in CD)
   - The paper gathered at the front or rear side on the alignment plate will be aligned on both sides of the paper. This process is repeated to sort out the paper. (CD alignment and shift operation of the paper)
5. Exit section (Exit operation)
   - The trailing edge stopper/C is shifted to press the paper out, and then the gripper receives the paper. The gripper then discharges the paper to the main tray.

Alignment section: Front perspective view



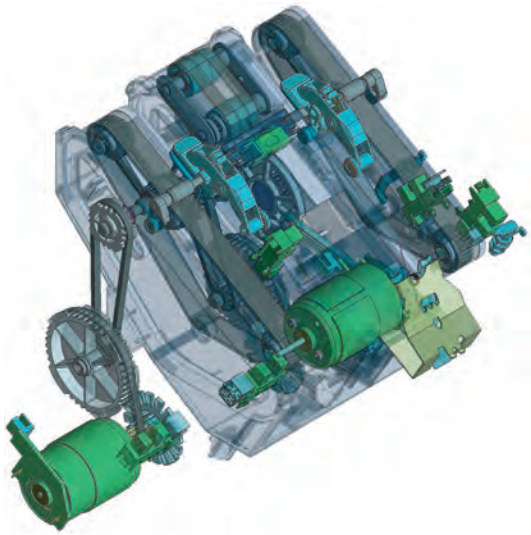
8.1.1 Upper paddle section



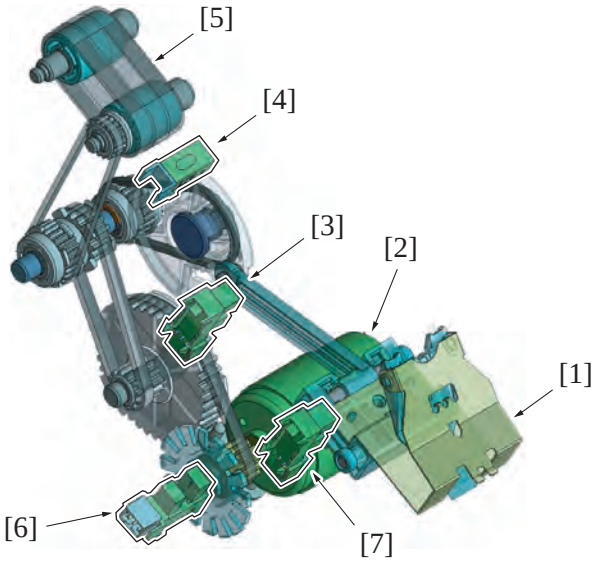
[1]	Cam	[2]	Upper paddle (rear)
[3]	Upper paddle (center)	[4]	Upper paddle (front)
[5]	FNS paddle motor (M5)	[6]	Upper paddle home position detection sensor (PS14)
[7]	Paper guide	-	-

8.1.2 Exit section

Exit section: Front perspective view

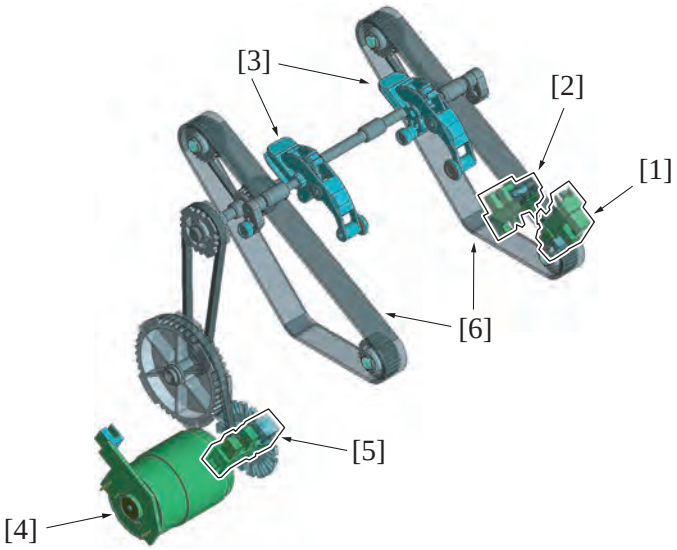


(1) Lower paddle section



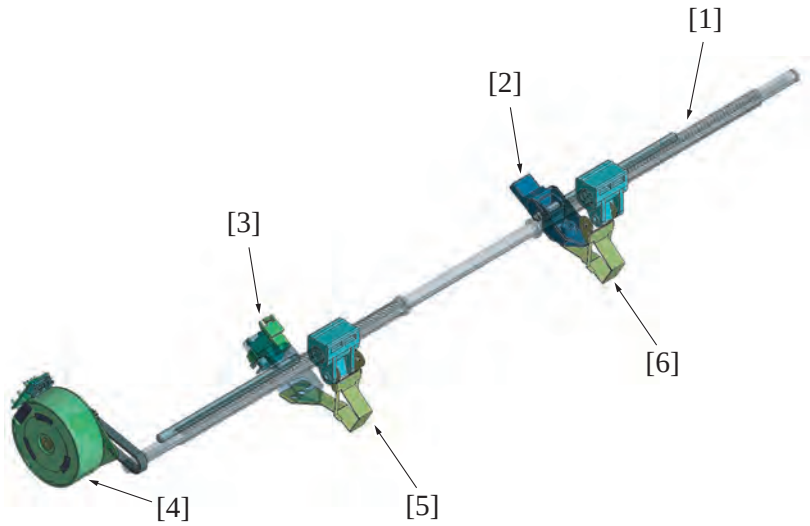
[1]	Trailing edge stopper/C	[2]	Pre-eject drive motor (M9)
[3]	Pre-eject away sensor (PS22)	[4]	Staple stacker paper detection sensor (PS31)
[5]	Lower paddle	[6]	Pre-eject encorder sensor (PS15)
[7]	Pre-eject home sensor (PS21)	-	-

(2) Gripper section



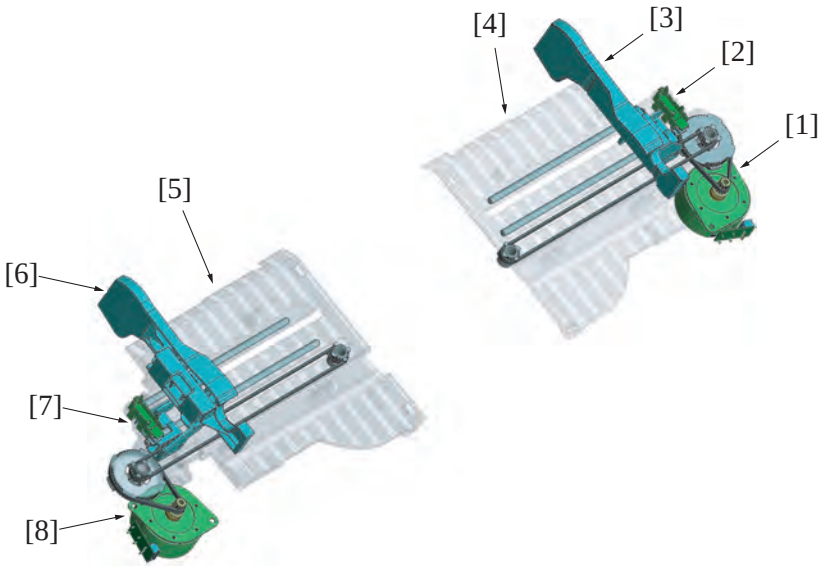
[1]	Gripper home position sensor (PS18)	[2]	Gripper position detection sensor (PS19)
[3]	Gripper	[4]	Bundle eject motor (M10)
[5]	Gripper motor sensor (PS17)	[6]	Paper transport belt

8.1.3 Stopper section (FD alignment section)



[1]	Stopper moving shaft	[2]	Holder
[3]	Trailing edge stopper home position detection sensor (PS20)	[4]	Trailing edge stopper motor (M6)
[5]	Trailing edge stopper/Fr	[6]	Trailing edge stopper/Rr

8.1.4 Alignment tray section (CD alignment section)



[1]	Alignment motor/Rear (M8)	[2]	Alignment plate/R home sensor (PS13)
[3]	Alignment plate/R	[4]	Alignment tray (rear)
[5]	Alignment tray (front)	[6]	Alignment plate/F
[7]	Alignment plate/F home sensor (PS12)	[8]	Alignment motor/Front (M7)

8.2 Drive

8.2.1 Drive outline

The driving source of the alignment section is the FNS paddle motor, pre-eject drive motor, bundle eject motor, trailing edge stopper motor, alignment motor, and the following parts are driven.

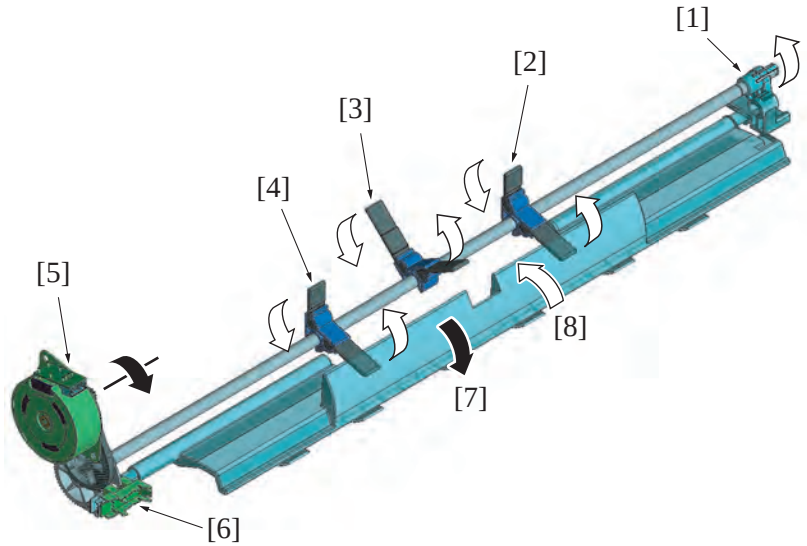
Driving source	Driving parts	Function
FNS paddle motor (M5)	Paper guide	Transports paper to the alignment tray.
	Upper paddle	Draws and drops paper to the alignment tray.
Pre-eject drive motor (M9)	Lower paddle	Presses paper against the stopper in the alignment tray.
	Trailing edge stopper/C	• Aligns the trailing edge of paper (Alignment operation in FD) • Pushes paper out to the main tray after alignment.

Driving source	Driving parts	Function
Bundle eject motor (M10)	Paper transport belt	Moves the gripper.
	Gripper	Grips the trailing edge of paper and discharges it to the main tray.
Trailing edge stopper motor (M6)	Trailing edge stopper /Fr	Moves the trailing edge stopper/Fr forward. It moves back and forth according to the paper width to keep the trailing edge of the paper batch at the front side.
	Trailing edge stopper /Rr	Moves the trailing edge stopper/Rr backward. It moves back and forth according to the paper width to keep the trailing edge of the paper batch at the back side.
Alignment motor/Front (M7)	Alignment plate/F	• Aligns both ends of paper (Alignment operation in CD) • Pushes paper to the front or rear. (Shift operation)
Alignment motor/Rear (M8)	Alignment plate/R	

8.2.2 Upper paddle section

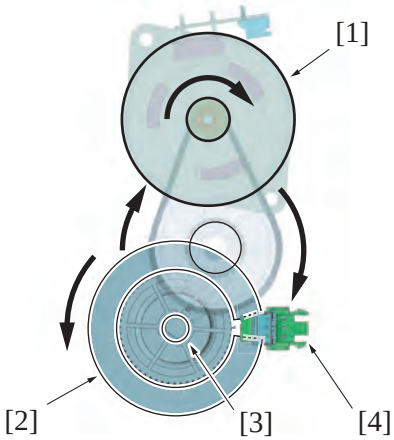
- When the FNS paddle motor rotates, the upper paddles (3 pieces) located on the upper paddle shaft, rotates to draw and drop the paper to the alignment tray.
- The cam located on the upper paddle shaft rotates to move the paper guide up and down.

Front perspective view



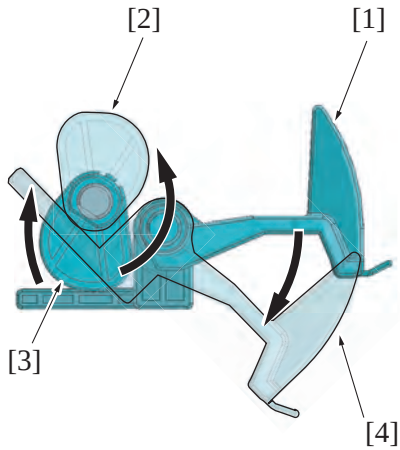
[1]	Cam	[2]	Upper paddle (rear)
[3]	Upper paddle (center)	[4]	Upper paddle (front)
[5]	FNS paddle motor (M5)	[6]	Upper paddle home position detection sensor (PS14)
[7]	Paper guide (move down)	[8]	Paper guide (move up)

Drive front view



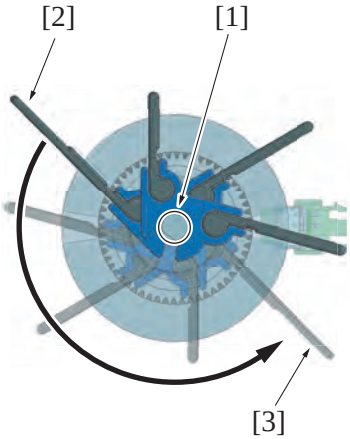
[1]	FNS paddle motor (M5)	[2]	Detection plate (home position)
[3]	Upper paddle turning shaft	[4]	Upper paddle home position detection sensor (PS14)

Paper guide front view



[1]	Paper guide (upper position: home position)	[2]	Cam (upper position)
[3]	Cam (lower position: home position)	[4]	Paper guide (lower position)

Upper paddle front view

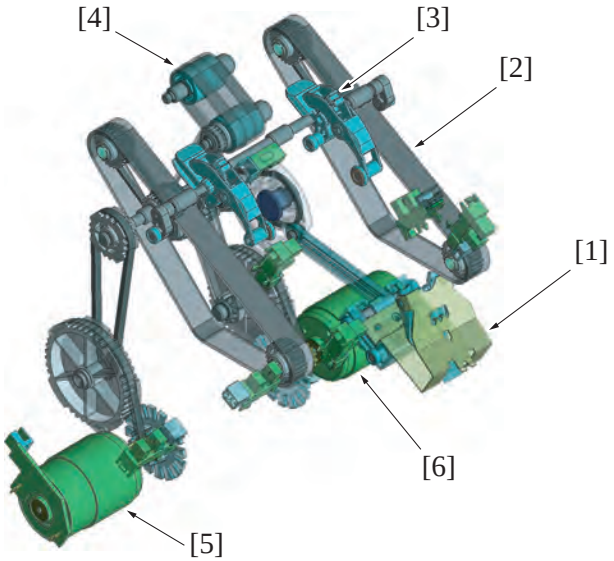


[1]	Upper paddle turning shaft	[2]	Upper paddle (upper position: home position)
[3]	Upper paddle (lower position: make a turn and return to home position.)	-	-

8.2.3 Exit section

- When the pre-eject drive motor rotates clockwise, the lower paddle rotates to press the paper against the trailing edge stopper.
- When the pre-eject drive motor rotates counterclockwise, 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 a turn, the stopper moves from the paper exit position to the home position and is brought into a standby state.

Exit section: Front perspective view

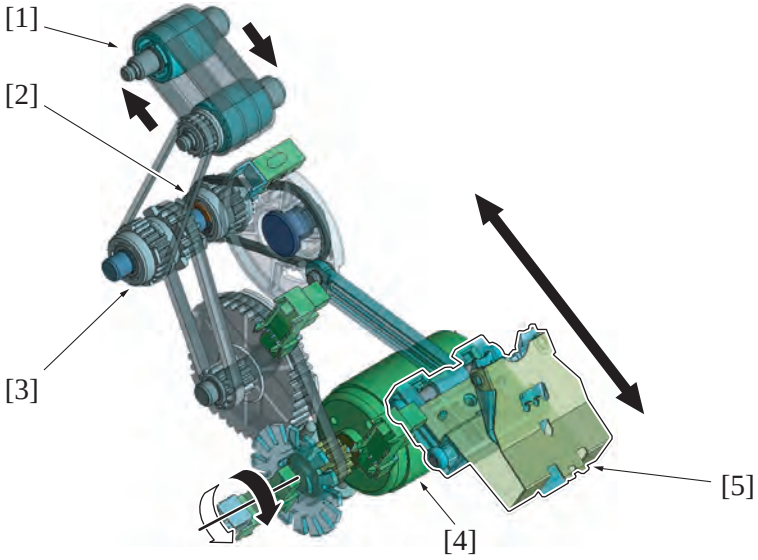


[1]	Trailing edge stopper/C	[2]	Paper transport belt
[3]	Gripper	[4]	Lower paddle

[5]	Bundle eject motor (M10)	[6]	Pre-eject drive motor (M9)

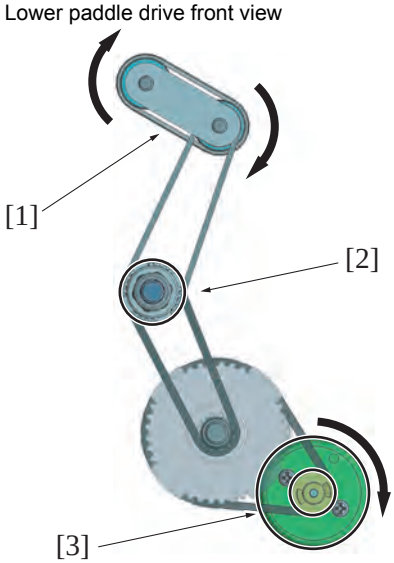
(1) Lower paddle section

Front perspective view



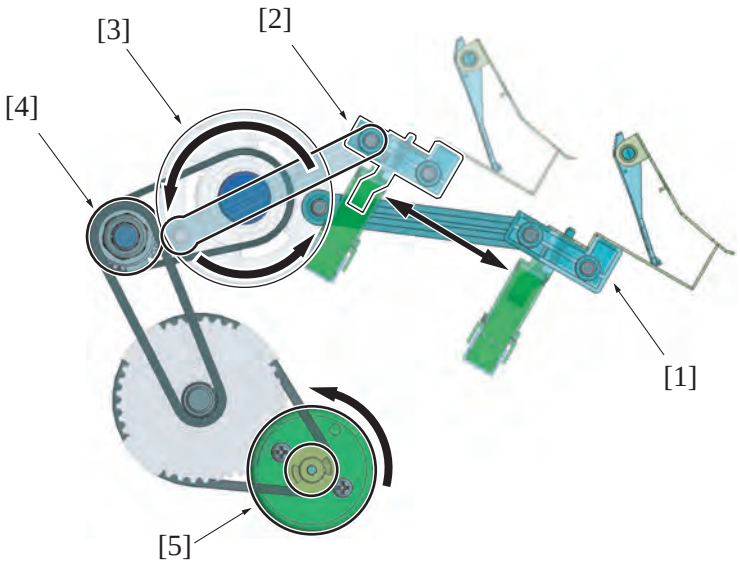
[1]	Lower paddle	[2]	One-way clutch (for trailing edge stopper/C driving)
[3]	One-way clutch (for stopper driving)	[4]	Pre-eject drive motor (M9)
[5]	Trailing edge stopper/C	-	-

Lower paddle drive front view



[1]	Lower paddle	[2]	One-way clutch (for lower paddle driving: transmit driving force only to clockwise rotation)
[3]	Pre-eject drive motor (M9): clockwise rotation	-	-

Trailing edge stopper/C drive front view

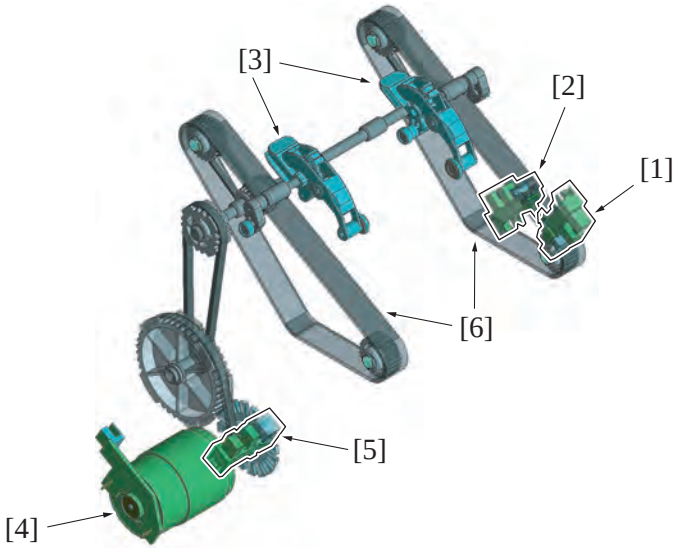


[1]	Trailing edge stopper/C (home position)	[2]	Trailing edge stopper/C (paper exit position)
[3]	Drive gear	[4]	One-way clutch (for trailing edge stopper driving: transmit driving force only to counterclockwise rotation)
[5]	Pre-eject drive motor (M9): counterclockwise rotation	-	-

(2) Gripper section

- The bundle eject motor rotates to turn the paper transport belt. This causes the gripper, fixed to the paper transport belt, to rotate.

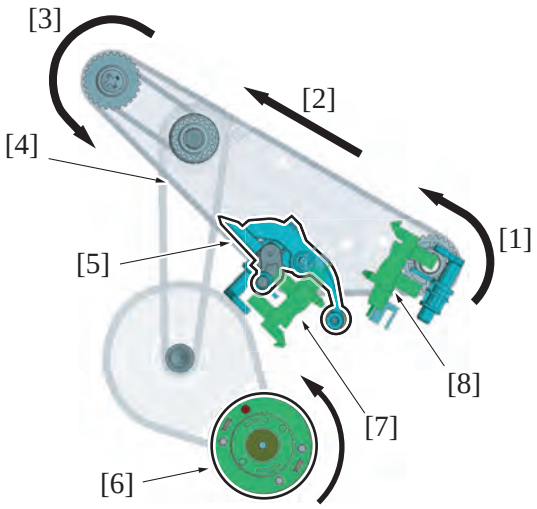
Front perspective view



[1]	Gripper position detection sensor (PS19)	[2]	Gripper home position sensor (PS18)
[3]	Gripper	[4]	Bundle eject motor (M10)
[5]	Gripper motor sensor (PS17)	[6]	Paper transport belt

- The gripper stays at the home position (inside the exit section). It rotates at the position [1] shown in the illustration to grip the trailing edge of paper and transport the paper while keeping the state [2]. The gripper rotates at the position [3] in the illustration to release the paper. When the paper transport belt makes a turn, the gripper returns to the home position [5] and is brought into a standby state.

Gripper drive front view

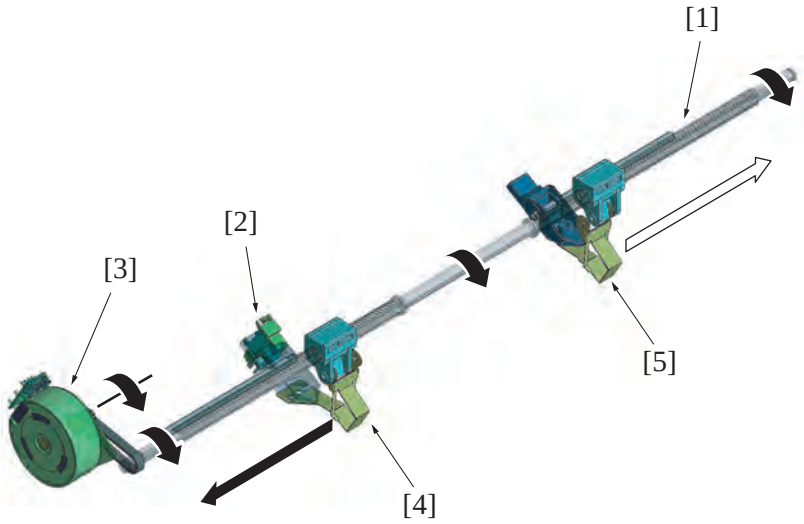


[1]	Gripper position (gripping the paper)	[2]	Gripper position (transporting the paper)
[3]	Gripper position (release the paper)	[4]	Paper transport belt
[5]	Gripper (home position)	[6]	Bundle eject motor (M10)
[7]	Gripper home position sensor (PS18)	[8]	Gripper position detection sensor (PS19)

8.2.4 Stopper section

- The shaft for stopper movement has a different spiral between the front and rear sides. This causes trailing edge stopper/Fr to move forward and trailing edge stopper/Rr to move backward when the trailing edge stopper motor rotates in the normal direction.
- Trailing edge stopper/F and the trailing edge stopper/R 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.

Front perspective view

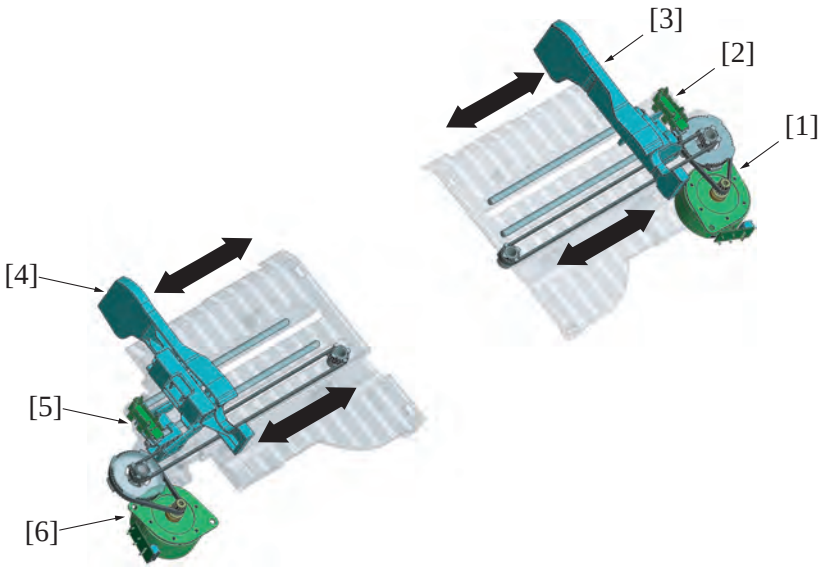


[1]	Stopper moving shaft	[2]	Trailing edge stopper home position detection sensor (PS20)
[3]	Trailing edge stopper motor (M6)	[4]	Trailing edge stopper/Fr: home position
[5]	Trailing edge stopper/Rr: home position	-	-

8.2.5 Alignment tray section

- The normal or reverse rotation of the alignment motor, allows the normal or reverse rotation of the drive belt. This causes the alignment plates to move forward or backward.
- Alignment plates/F and /R are each equipped with a drive motor, allowing them to operate independently. This enables paper alignment to the center, as well as paper shift to the front and rear.

Front perspective view



[1]	Alignment motor/Rear (M8)	[2]	Alignment plate/R home sensor (PS13)
[3]	Alignment plate /R: home position	[4]	Alignment plate /F: home position
[5]	Alignment plate/F home sensor (PS12)	[6]	Alignment motor/Front (M7)

8.3 Operation

8.3.1 Paper transport control in alignment section

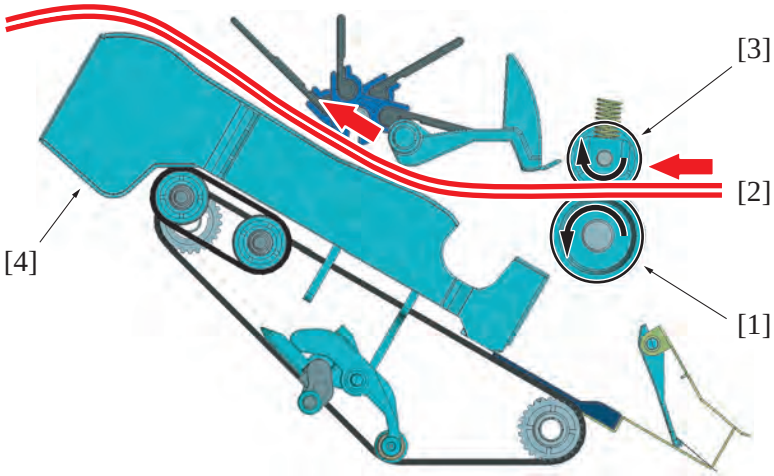
Paper transported to the alignment section, is conveyed and aligned with the following operations.

1. The receiving roller in the transport section ejects paper *1.

   NOTE
   - ***1: For plain paper, due to buffer control, the first and second sheets of paper are ejected at the same time. For other than plain paper, the first paper is ejected.**
     For details of the buffer control, see "PF.7.3.4 Buffer control".
   - **The description below explains the paper transport control for plain paper.**

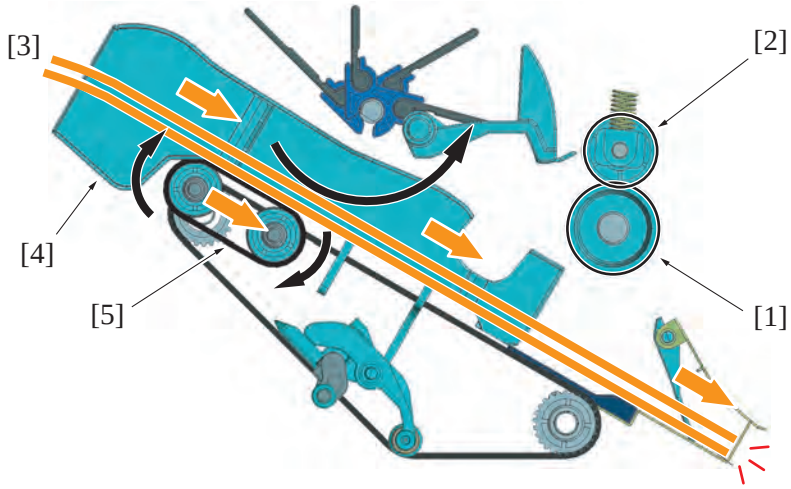
2. The alignment plates/F and /R are moved to the center.
3. The first and second sheets are transported onto the top of the alignment plates.

   NOTE
   - **This is to prevent the leading edge of the sheets from touching the lower paddle and being folded.**



[1]	Receiving roller	[2]	First and second sheets (for plain paper)
[3]	Receiving roll	[4]	Alignment plate/F, Alignment plate/R (moved to the center)

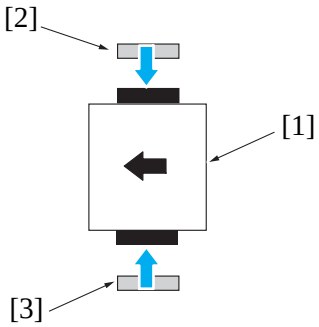
4. The alignment plates return their home position. The alignment plate/F and the alignment plate/R shift to the waiting position according to the paper width immediately before the trailing edge of the paper passes the receiving roller.
5. When the trailing edge of the sheet passes through the receiving roller, the paper guide is lowered to guide the trailing edge of the sheet to the alignment tray.
6. The upper paddle rotates, and the upper and lower paddles grip the sheet. The sheet is transported into the alignment tray. (Operation on switchback) The sheets are transported into the alignment tray and are stopped by the trailing edge stopper. This allows aligning the trailing edge of the sheets. (paper alignment operation in FD)



[1]	Receiving roller	[2]	Receiving roll
[3]	First and second sheets	[4]	Alignment plate/F, Alignment plate/R (Retracted to the home position)
[5]	Lower paddle (rotation)	-	-

7. The alignment plates move to align the ends of the sheets. (Paper alignment in CD)
   - The sheets are placed between the alignment plates/F and /R corresponding to the paper width so that their both ends are aligned.

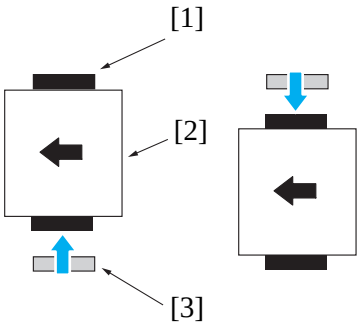
Upper view



[1]	Paper	[2]	Alignment plate /R (moving forward to front side)
[3]	Alignment plate/F (moving backward to rear side)	-	-

   - The alignment operations described above are performed for all sheets of paper in the job to align the ends of the sets of paper.
8. When offset is selected as finishing option, the alignment plates are moved to shift the sets of paper.
   - Depending on the width of paper, the alignment plate/F or /R pushes the sets of paper to the rear side (or to the front side) from one side so that the sets of the paper are shifted.

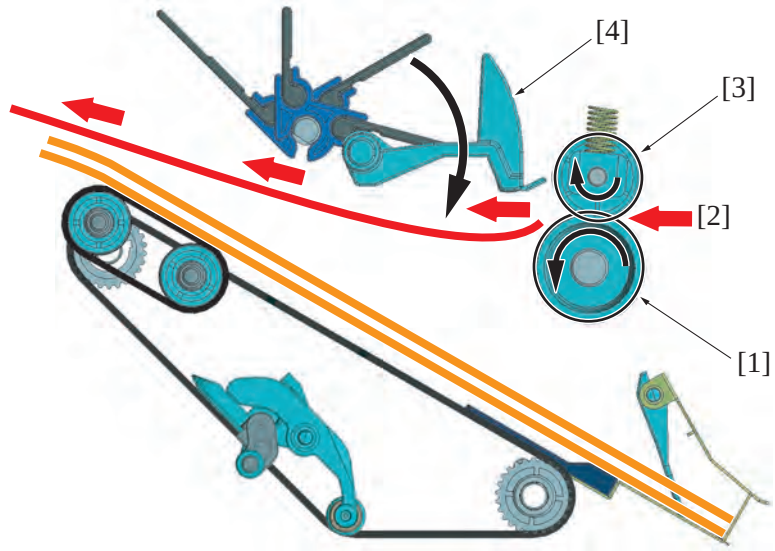
Upper view



[1]	Alignment plate/R	[2]	Paper
[3]	Alignment plate/F	-	-

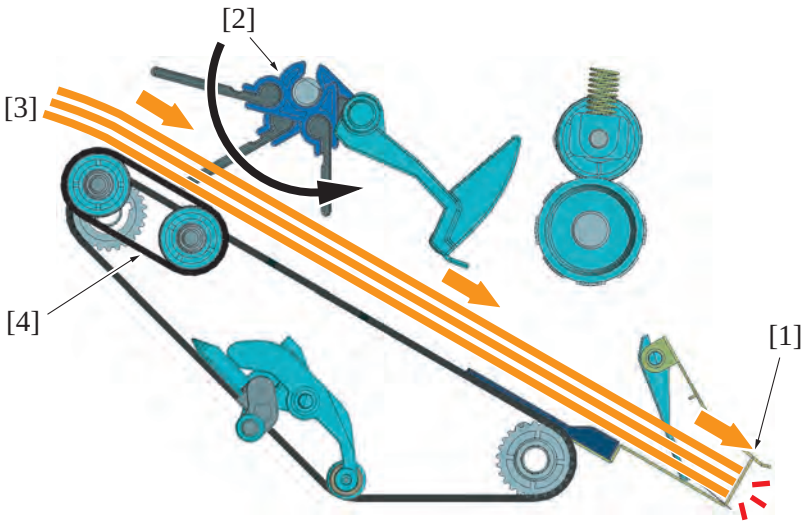
NOTE
- **The offset of paper (amount of shift) is 20 mm (13/16 inches).**

   - The sheets are shifted by alternatively repeating the above operation.
9. The third sheet is ejected by the receiving roller of the transport section.



[1]	Receiving roller	[2]	Third sheet
[3]	Receiving roll	[4]	Paper guide (upper position)

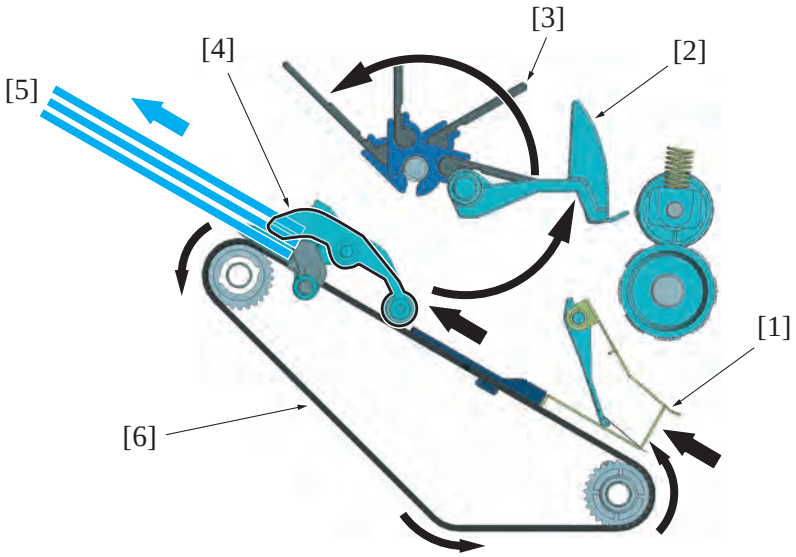
10. When the trailing edge of the sheet passes through the receiving roller, the paper guide is lowered to guide the trailing edge of the sheet to the alignment tray.
11. The upper paddle rotates. The sheet is transported into the alignment tray. (Operation on switchback)
NOTE
- **When the switchback operation for the 3rd sheet or later, the lower paddle does not rotate.**



[1]	Trailing edge stopper	[2]	Upper paddle (rotation)
[3]	Paper	[4]	Lower paddle (rotation)

12. The sheet is stopped by the trailing edge stopper. This allows aligning the trailing edge of the sheets. (Paper alignment operation in FD)
13. The alignment plates move to align the ends of the sheets. (Paper alignment operation in CD)
NOTE
- **CD alignment operation is omitted since it is described in steps 7 to 8.**

14. For staple mode, the trailing edges of the sheets are stapled at this timing.
15. When all paper alignment is completed, the trailing edge stopper pushes the sheets to the position where the gripper can grip them.
16. The gripper grips the trailing edges of the sets of paper in the alignment tray and transports them to the paper exit position.



[1]	Trailing edge stopper/C (paper gripping position)	[2]	Paper guide (upper position: home position)
[3]	Upper paddle (upper position: home position)	[4]	Gripper (move)
[5]	Paper bunch	[6]	Paper transport belt (rotation)

17. 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.

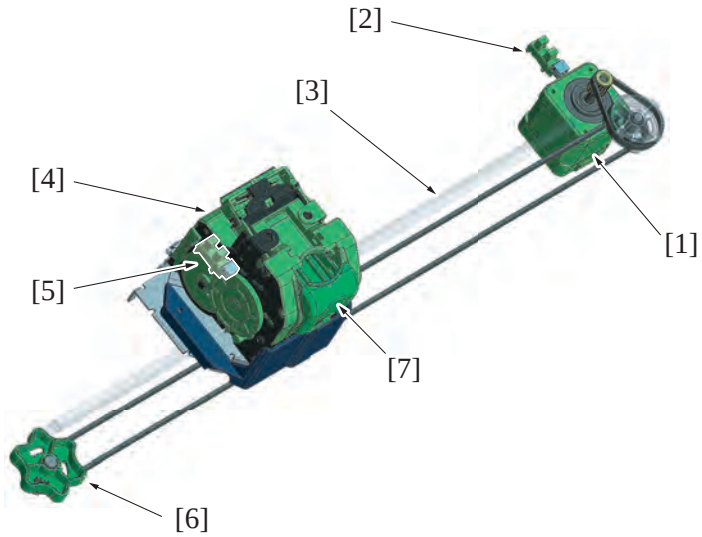
9. STAPLER SECTION

9.1 Configuration/Drive

In the stapler section, staples are pressed through the sheets aligned in the alignment section so that the sheets are fastened together as a batch.

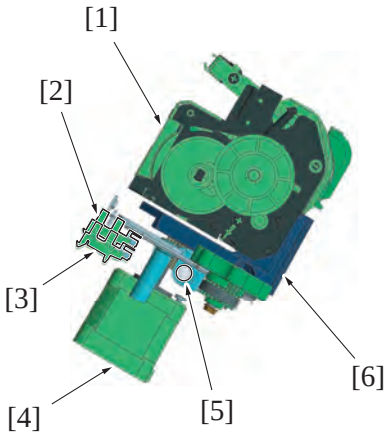
9.1.1 Configuration

Front perspective view



[1]	Side stapler movement motor (M13)	[2]	Stapler home position sensor (Rear) (PS23)
[3]	Shaft	[4]	Stapler unit
[5]	Stapler position sensor (Center) (PS24)	[6]	Stapler move dial
[7]	Staple cartridge	-	-

Front view



[1]	Stapler unit	[2]	Stapler home position sensor (Rear) (PS23)
[3]	Stapler position sensor (Center) (PS24)	[4]	Side stapler movement motor (M13)
[5]	Shaft	[6]	Stapler holder

9.1.2 Drive

- The driving source of the staple section is the side stapler movement motors, stapler motor built into the staple unit, and the following parts are driven.

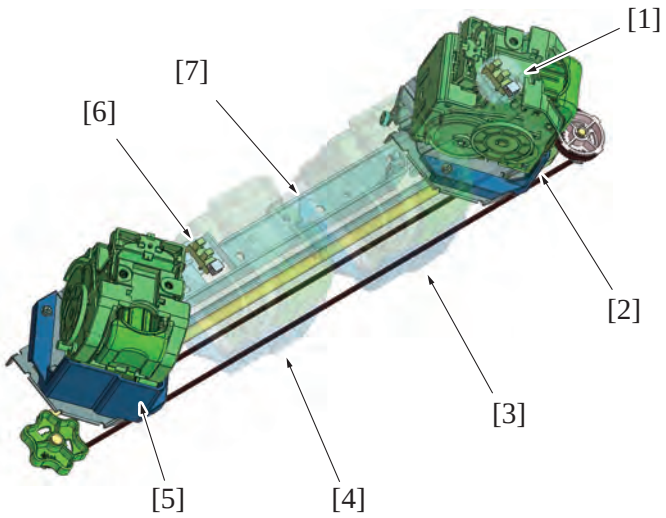
Driving source	Driving parts	Function
Side stapler movement motor	Staple unit	Back and forth movement and rotation of the stapler unit
Stapler	Clincher staple arm	Fastening of sheets with staples

- When the side stapler movement motor rotates, the belt is driven by the pulley and the stapler holder attached to the belt moves back and forth along the shaft.
- When the staple unit moves to the stapler home position, the staple cartridge replacement or the corner staple position, the shape of the slide guide plate causes the staple unit to rotate.

NOTE

- **The staple unit is rotated at the staple cartridge replacement position to ease replacement work.**

Front perspective view



[1]	Stapler home position sensor (Rear) (PS23)	[2]	Stapler unit (home position)
[3]	Stapler unit (2-staple position)	[4]	Stapler unit (2-staple position)
[5]	Stapler unit (staple cartridge replacement position)	[6]	Stapler position sensor (Center) (PS24)
[7]	Slide guide plate	-	

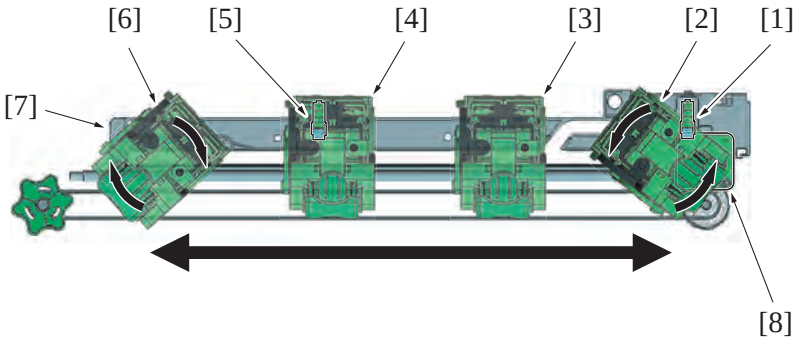
9.2 Operation

9.2.1 Stapler positioning control

(1) Stapler home position detection control

- The stapler home position sensor (rear) detects the stapler home position. The stapler's staple position is detected by the amount of motor rotation provided by the stapler home position sensor (rear) and stapler position sensor (center).
- In the corner staple mode, the stapler moves to the corner staple position and staples paper.
- In the 2-staple mode, the stapler moves to the 2-staple position (rear) and staples paper. Then it moves to the next 2-staple position (front) and staples the paper. After the stapling operation is completed, the stapler returns to the home position.

Upper view



[1]	Stapler home position sensor (Rear) (PS23)	[2]	Stapler unit (home position)
[3]	Stapler unit (2-staple position: rear)	[4]	Stapler unit (2-staple position: front)
[5]	Stapler position sensor (Center) (PS24)	[6]	Stapler unit (staple cartridge replacement position)
[7]	Slide guide plate	[8]	Side stapler movement motor (M13)

(2) Staple cartridge replacement position detection control

- The stapler position sensor (center) detects the staple cartridge replacement position. (The stapler determines that it arrives at the replacement position based on how much the side stapler movement motor rotates after the stapler passes the stapler position sensor (center).
- When staple empty is detected, the staple unit moves to the staple cartridge replacement position, rotates, and stays at the position.
- User can replace the staple cartridge by opening the front door.
  NOTE
  - **Using the stapler move dial, user can replace the staple cartridge without moving the staple unit.**
- When staple cartridge replacement is completed and the front door is closed, the stapler returns to the home position.

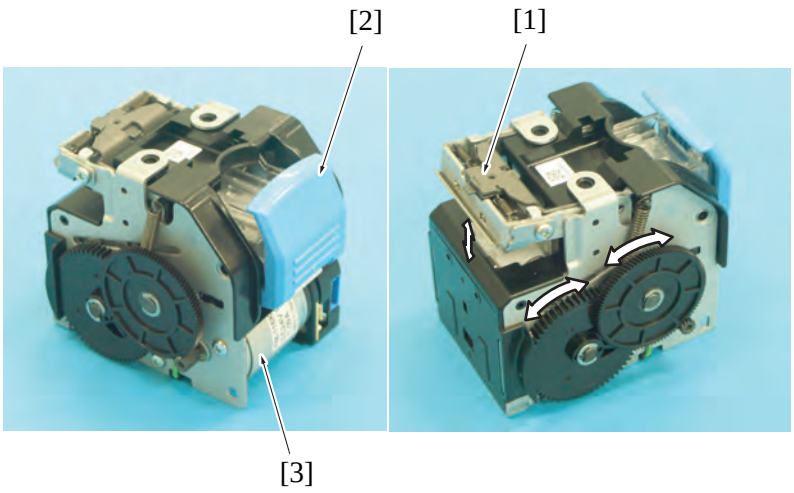
9.2.2 Stapling control

(1) Stapling operation

- The stapling operation is driven by the stapler motor.
- In the stapling operation, the clincher staple arm is lowered by the stapler motor. The clincher staple arm presses the sheets. (This is called clamp operation.) Then a staple is pushed up by the staple arm from the stapler side. The staple is pressed through the sheets and bent from the clincher staple arm side, so that the sheets are fastened together. The stapler motor then lifts the clincher staple arm and lowers the staple arm to complete the stapling operation.

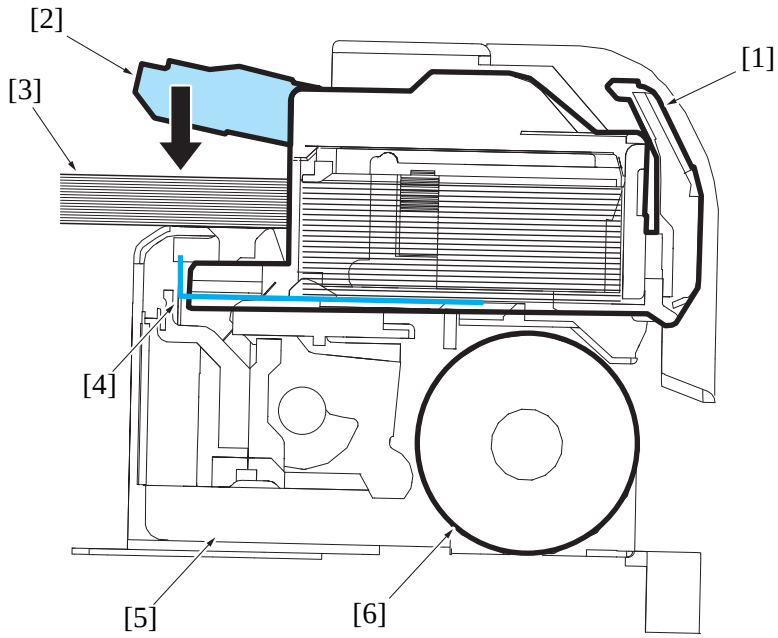
- The number of sheets that user wishes to staple are placed into the alignment tray and the stapling operation is performed. However, if the number exceeds the upper limit, the stack of sheets is discharged to the exit tray without being stapled.
  NOTE
  - **Refer to C.8.3.3 Sort staple for the specifications on the number of sheets that can be stapled.**

Overall view



[1]	Clincher staple arm	[2]	Staple cartridge
[3]	Stapler motor	-	-

Front view

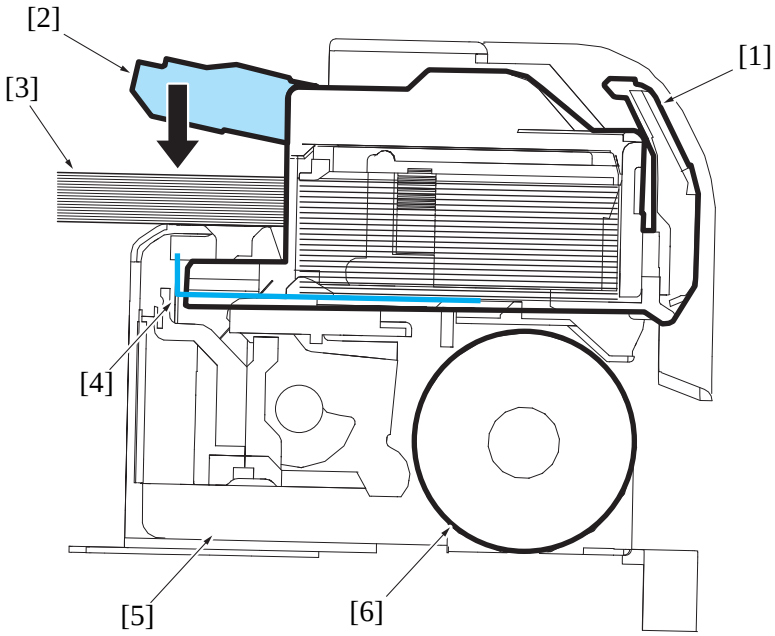


[1]	Staple cartridge	[2]	Clincher staple arm
[3]	Paper bunch	[4]	Staple sheet (staple)
[5]	Stapler	[6]	Stapler motor

9.2.3 Staple empty detection control

(1) Staple cartridge

- The stapler is provided with a staple cartridge used only for the stapler.
- To reload the stapler with staples, the staple cartridge is first loaded with staples (staple sheet type: 5000 staples) and then the staple cartridge is attached to the stapler.
  For information on how to load staplers, refer to the user's guide.

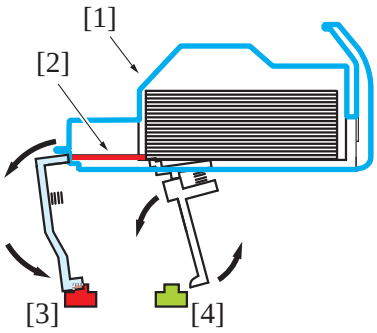


[1]	Staple cartridge	[2]	Clincher staple arm
[3]	Paper bunch	[4]	Staple sheet (staple)
[5]	Stapler	[6]	Stapler motor

(2) Staple empty detection mechanism

- The stapler includes the self-priming sensor and staple empty sensor to detect the status of the staple cartridge and staples.
- The staple cartridge is loaded with staple sheets, and a staple sheet is conveyed to the clinch position (staple position) from the lowest one.

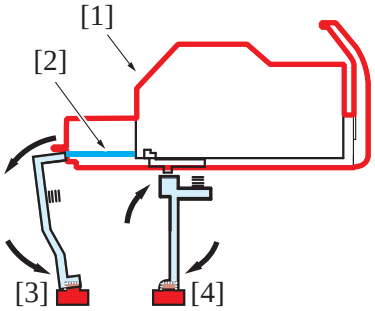
State where staple sheets are loaded



[1]	Staple cartridge (loaded with staple sheets)	[2]	Staple sheet fed from the cartridge
[3]	Self-priming sensor (blocked)	[4]	Staple empty sensor (unblocked)

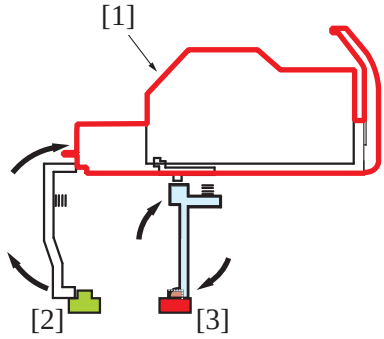
- While the staple cartridge is loaded, if the trailing edge of the last staple sheet in the cartridge passes the actuator of the staple empty sensor, the actuator is raised by the spring force.
- When the actuator is raised, the staple empty sensor is blocked and machine determines that the cartridge is empty. The control panel displays the staple empty message.

State where the last staple sheet is fed



[1]	Staple cartridge (staple empty)	[2]	Staple sheet (remainder)
[3]	Self-priming sensor (blocked)	[4]	Staple empty sensor (blocked)

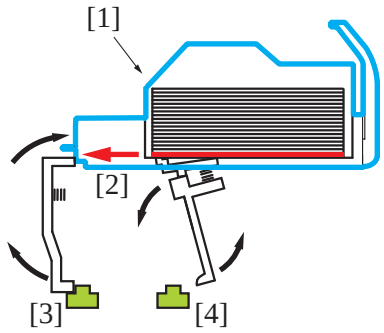
State where staple sheet runs out



[1]	Staple cartridge (empty)	[2]	Self-priming sensor (unblocked)
[3]	Staple empty sensor (blocked)	-	-

- Even when the staple empty sensor detects the trailing edge of the last staple sheet, the staple sheet (staples: about 20) fed from the cartridge remains at the cartridge's front section. In this case, the actuator of the self-priming sensor is pressed down by the leading edge of the staple sheet.
- If the actuator is pressed down, the self-priming sensor is blocked and machine determines that the staple sheet is fed to the clinch position (staple position).
- Even when staple empty is detected, printing is not disabled. Paper is discharged without being stapled.
- After staple empty is detected, when the staple cartridge is loaded with staple sheets and the stapler is loaded with the cartridge, the actuator of the staple empty sensor is pressed down by the staple sheets.
- When the actuator is pressed down, the staple empty sensor is unblocked and staple empty condition is cleared. At this point, the staple empty sensor detects the staple sheets (unblocked). However, if the leading edge of the staple sheet cannot be detected by the self-priming sensor (unblocked), the clinch operation is repeated up to 20 times to feed the leading edge of the staple sheet to the position (clinch position) where it can be detected by the self-priming sensor.

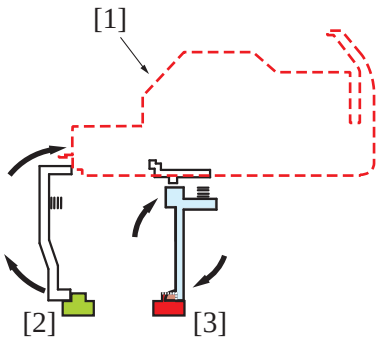
State where staple sheet is not fed



[1]	Staple cartridge (loaded with staple sheets)	[2]	Staple sheet is fed by clinch operation
[3]	Self-priming sensor (unblocked)	[4]	Staple empty sensor (unblocked)

- If the self-priming sensor cannot detect the leading edge of the staple sheet after clinch operations, machine determines that the staple sheet is not properly fed (staple sheet is not properly set) and the control panel displays the staple empty message.
- If the staple empty message appears even after staple sheets are loaded, check whether the staple sheets is properly set in the staple cartridge. If the cartridge is clogged with a staple sheet, clear the sheet.
- If staple empty occurs, the stapler stays at the staple cartridge replacement position. (position where staples can be supplied only by opening the front door).

(a) When the staple cartridge is not loaded



[1]	Staple cartridge (not mounted)	[2]	Self-priming sensor (unblocked)
[3]	Staple empty sensor (blocked)	-	-

- The actuator of the staple empty sensor is raised by the spring force. The staple empty sensor is blocked.
- The actuator of the self-priming sensor is raised by the spring force. The self-priming sensor is unblocked.
- MFP determines that the cartridge is empty and the control panel displays the staple empty message.

9.2.4 Clogged staple detection control

- Stapling operation is performed by lowering of the clincher staple arm and lifting of the staple arm.
- The staple arm position is detected by the staple home sensor located in the stapler.
- The stapler determines that the stapling operation is completed if the staple arm returns to the home position within the specified time after the stapling operation. If the staple arm does not return to the home position after the specified time has passed, the machine determines that staple trouble has occurred and an error message appears on the control panel.

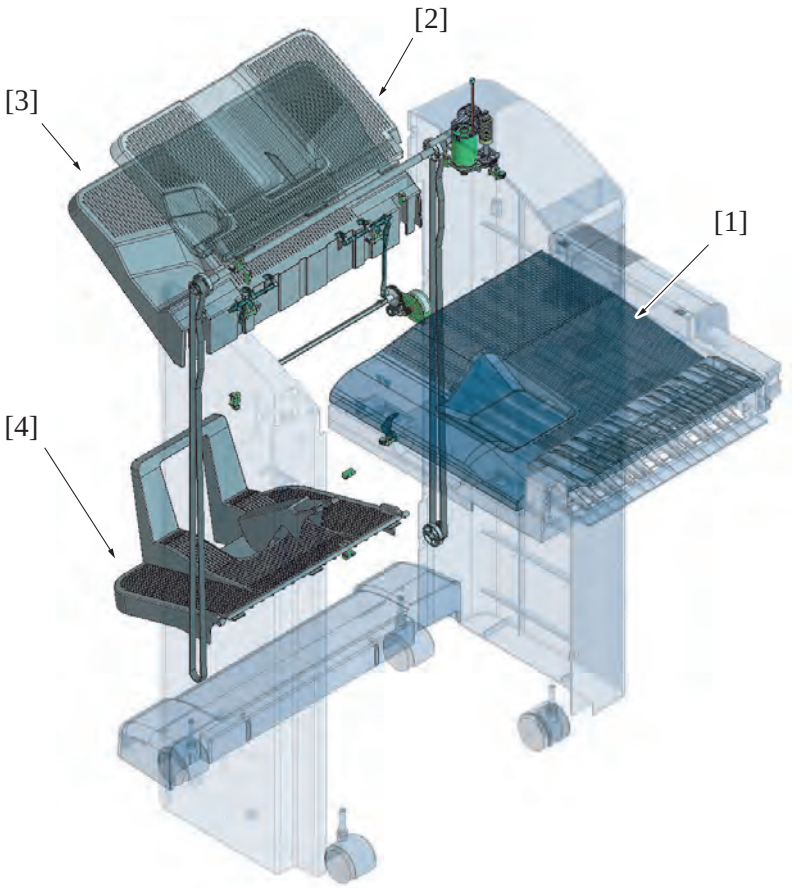
10. RECEIVING SECTION

10.1 Configuration

10.1.1 Configuration outline

- In the receiving section, paper transported into the finisher is placed into each tray.

Overall: Front perspective view



[1]	3rd tray (RU section upper position)	[2]	Sub tray
[3]	Main tray	[4]	Saddle tray: FS-534SD only

(1) Main tray

- Stores paper that is aligned in the alignment section.
- The tray's up/down mechanism moves the tray down depending on the amount of paper loaded, so that a large capacity of paper can be placed. The tray also includes the mechanism for detecting the amount of loaded paper.
- The paper stacking capacity for trays is different between the FS-534 and FS-534SD.

NOTE

- **For details on the paper stacking capacity, refer to C.8.3 Paper process ability.**

(2) Sub tray

- Stores paper that is transported from the transport section without passing through the alignment section.
- The tray is a fixed type without the up/down mechanism. The tray includes the mechanism for detecting the amount of loaded paper.

NOTE

- **For details on the paper stacking capacity, refer to C.8.3.1.(1) Sub tray.**

(3) 3rd tray

- It stores the paper that is transported from the MFP paper exit section.
- The upper part of the RU section door can be used as the exit tray. The tray includes the mechanism for detecting the amount of loaded paper.

NOTE

- **For details on the paper stacking capacity, refer to C.8.3.1.(3) 3rd tray.**

(4) Saddle tray

NOTE

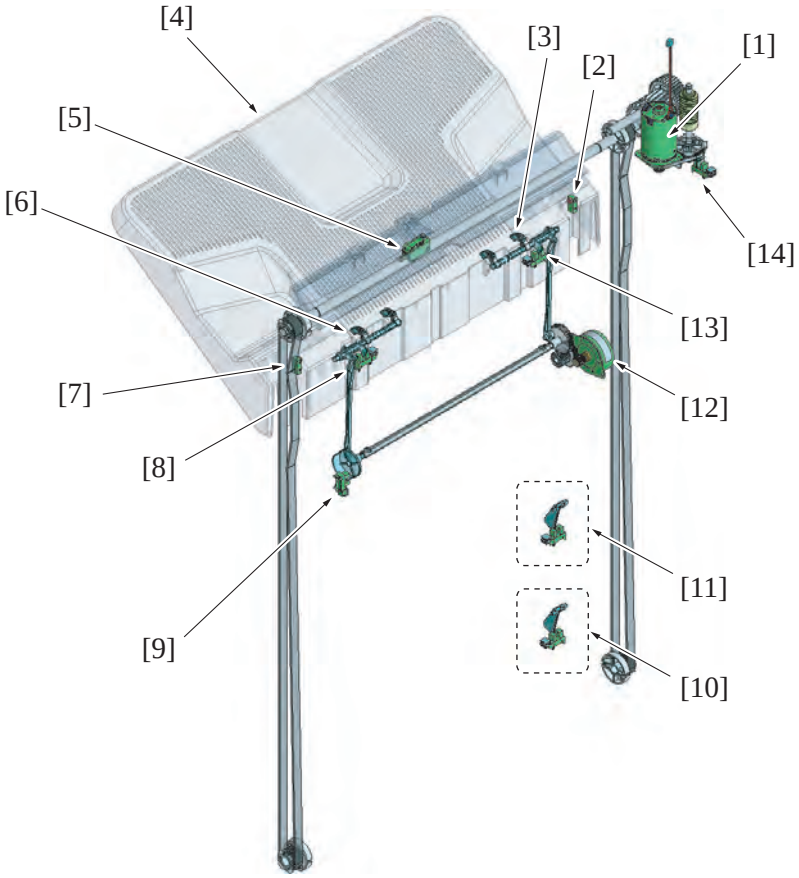
- **FS-534SD only**
- Stores paper that is center-stapled in the saddle section is placed in the tray.
- The tray is a fixed type without the up/down mechanism. The tray does not have the sensor for detecting the amount of loaded paper. (To detect paper full, the number of sets discharged to the tray is counted.)

NOTE

- **For details on the amount of loaded paper, refer to C.8.3.4 Saddle stitching/folding.**

10.1.2 Main tray

Main tray section: Front perspective view



[1]	Main tray up/down motor (M11)	[2]	Main tray upper sensor/out (PS6)
[3]	Paper detection lever/Rr	[4]	Main tray
[5]	Main tray upper position detect switch (SW2)	[6]	Paper detection lever/Fr
[7]	Main tray upper sensor (PS7)	[8]	Main tray upper position sensor/F (PS27)
[9]	Paper delivery control sensor (PS28)	[10]	Main tray full detection sensor (PS29) *1
[11]	Main tray full detection sensor (PS29) *2	[12]	Paper receiving control motor (M12)
[13]	Main tray upper position sensor/R (PS26)	[14]	Stacker motor sensor (PS25)

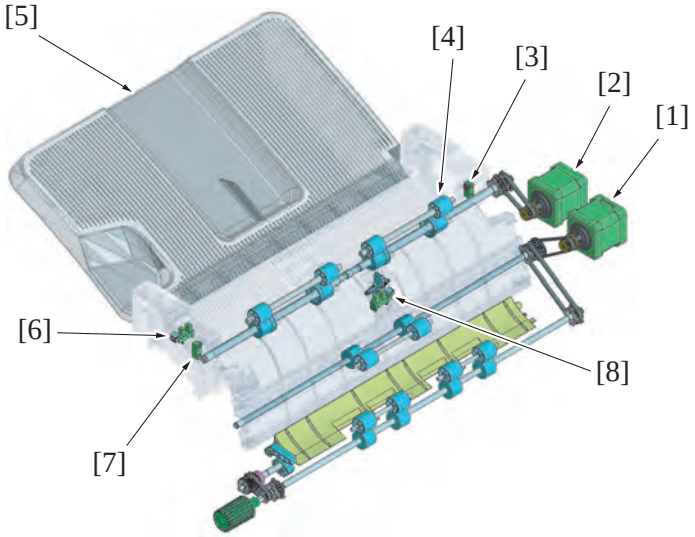
- *1: Installation position for the FS-534 sensor
- *2: Installation position for the FS-534SD sensor

10.1.3 Sub tray

NOTE

- **For configurations of the paper transport path to the sub tray, refer to PF.7.1.2 Paper feed section - sub tray section.**

Sub tray section: Front perspective view



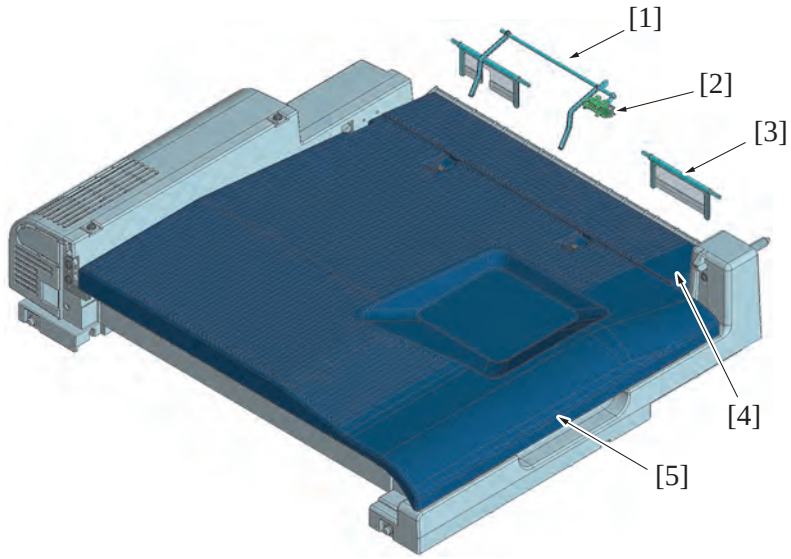
[1]	FNS entry transport motor (M2)	[2]	FNS discharge motor (M3)
[3]	Sub tray full detection sensor/out (PS9)	[4]	Sub tray section exit roller
[5]	Sub tray	[6]	Upper cover open/close detection sensor (PS32)
[7]	Sub tray full detection sensor/in (PS10)	[8]	Sub tray exit sensor (PS8)

10.1.4 3rd tray

NOTE

- **For configurations of the paper transport path to the 3rd tray, refer to O.14.1 Configuration.**

3rd tray section: Front perspective view



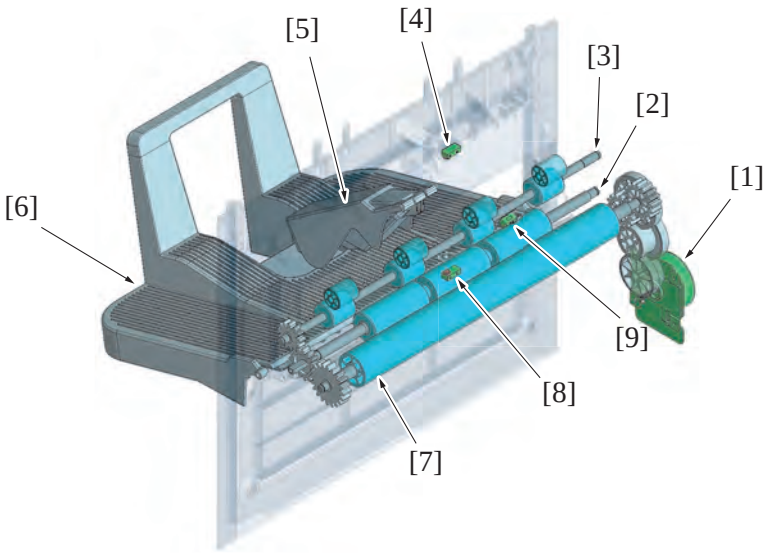
[1]	3rd exit tray full sensor actuator	[2]	3rd exit tray full sensor (PS1)
[3]	Paper press	[4]	Paper feed guide plate
[5]	3rd tray (RU section door)	-	-

10.1.5 Saddle tray

NOTE

- **FS-534SD only**
- **For configurations of the paper transport path to the saddle tray, refer to PF.11.1 Configuration.**

Saddle tray section: Perspective view



[1]	Center fold roller motor (M5)	[2]	Tri-folding roller
[3]	Saddler section exit roller	[4]	Booklet tray empty detection sensor/in (PS13)
[5]	Paper press	[6]	Saddle tray
[7]	Center folding roller/2	[8]	Booklet tray empty detection sensor/out (PS14)
[9]	Fold exit sensor (PS12)	-	-

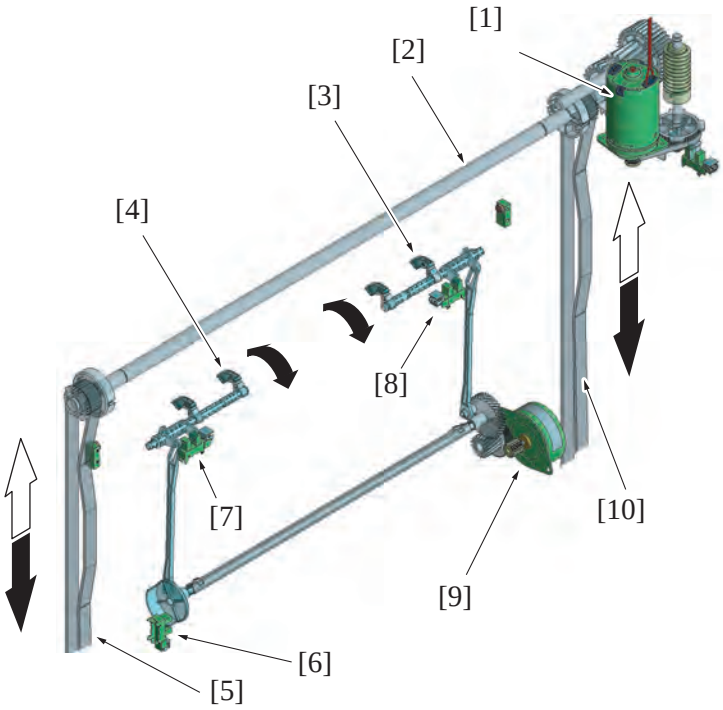
10.2 Drive

The driving source of the main tray section is the main tray up/down motor and the paper receiving control motor, and the following parts are driven.

Driving source	Driving parts	Function
Main tray up/down motor (M11)	Main tray	• Normal rotation: The main tray is lowered depending on the number of sheets discharged into the main tray. • Reverse rotation: After paper is removed, the main tray is lifted to the home position.
Paper receiving control motor (M12)	Paper detection lever	The height of stacked paper (amount of stacked paper) discharged to the main tray is detected.

10.2.1 Main tray section

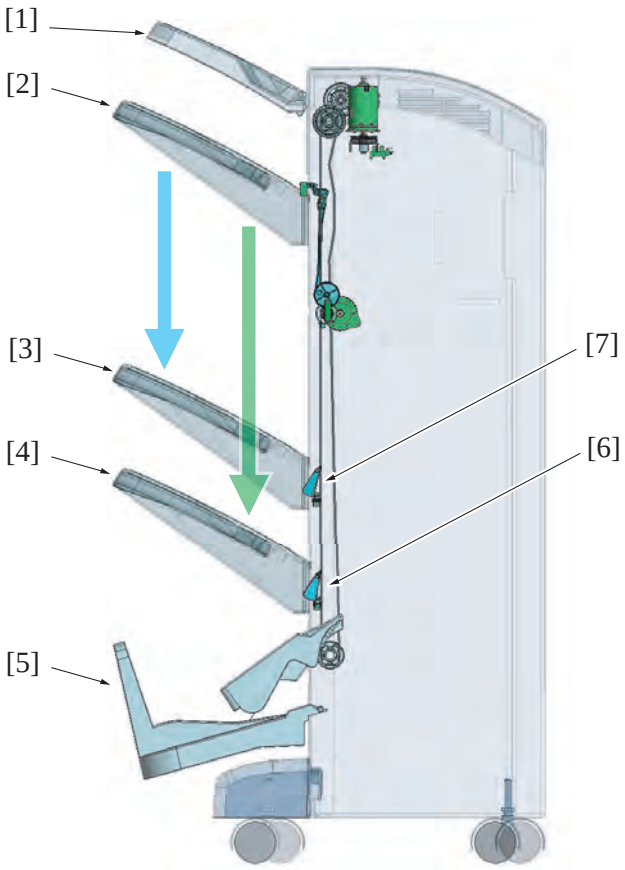
Front perspective view



[1]	Main tray up/down motor (M11)	[2]	Main tray driving shaft

[3]	Paper detection lever/Rr	[4]	Paper detection lever/Fr
[5]	Main tray drive belt/Fr	[6]	Paper delivery control sensor (PS28)
[7]	Main tray upper position sensor/F (PS27)	[8]	Main tray upper position sensor/R (PS26)
[9]	Paper receiving control motor (M12)	[10]	Main tray drive belt/Rr

Front view



[1]	Sub tray	[2]	Main tray (home position)
[3]	Main tray (main tray full position) *1	[4]	Main tray (main tray full position) *2
[5]	Saddle tray	[6]	Main tray full detection sensor (PS29) *2
[7]	Main tray full detection sensor (PS29) *1	-	-

- *1: FS-534SD
- *2: FS-534

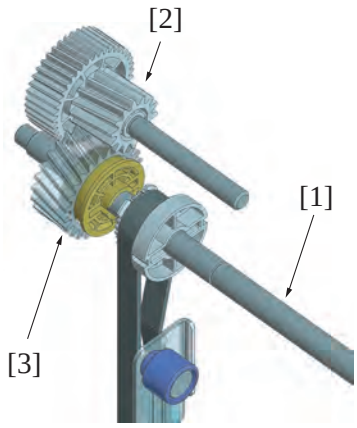
(1) Mechanism for protecting main tray drive section

CAUTION

- When the drive connection in the torque limiter is released, the main tray moves down under its own weight.
- To avoid finisher breakage and your injury, before releasing the drive connection in the torque limiter, be sure to support the main tray with your hand.

- The drive connection section of the main tray up/down drive mechanism has a torque limiter to prevent breakage.
- There may be an obstacle below the main tray during its downward movement. If the tray touches the obstacle and the force required to stop the lowering operation exceeds the specified value, the teeth of the drive gear rotates in the reverse direction and the driving force cannot be transmitted to the main tray. The torque limiter is used to prevent this situation from causing the breakage of the main tray drive mechanism and the main tray up/down motor.
- The main tray can be moved only upward with your hands. By manually pushing it upward with the force exceeding the specified value, the main tray can be raised. In contrast, as the torque limiter is not provided for the downward movement, the main tray cannot be lowered by pushing it down. If the tray is forcibly pushed downward, the main tray drive mechanism can be damaged.
- If the main tray needs to be manually lowered for maintenance and repair, the tray can be lowered by releasing the drive connection in the torque limiter.

Front perspective view

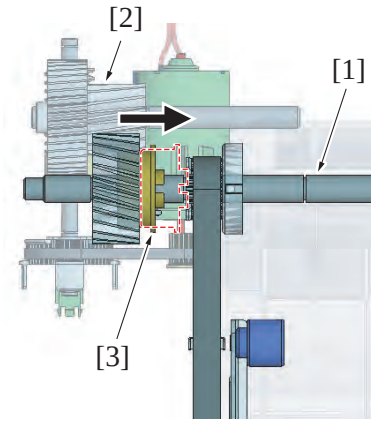


[1]	Main tray driving shaft	[2]	Main tray up/down motor drive connecting gear
[3]	Torque limiter	-	-

(a) Method for releasing the drive connection

1. Remove the rear cover.
2. Support the main tray with your hand so that it does not fall down.
3. Slide the area of the torque limiter, located on the main tray driving shaft, as shown to the front side of the main body. The connection of the drive gears is released and the main tray is lowered.

Side view



[1]	Main tray driving shaft	[2]	Main tray up/down motor drive connecting gear
[3]	Torque limiter	-	-

10.2.2 Sub tray section

NOTE

- **For information on the drive in the sub tray (between transport section and sub tray section), refer to PF.7.2 Drive in the transport section.**

10.2.3 3re tray section

NOTE

- **The 3rd tray does not have drive parts which requires drives source such as drive motor.**

10.2.4 Saddle tray section

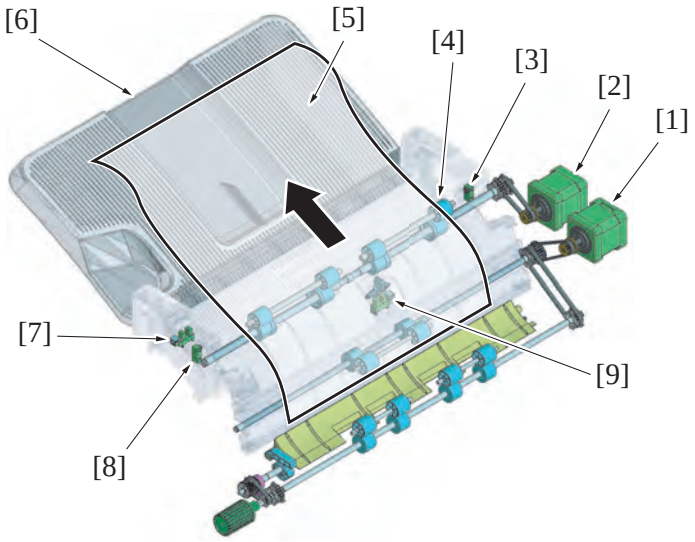
NOTE

- **For information on the drive in the sub tray (between transport section and sub tray section), refer to PF.11.7.1 Drive in the transport section.**

10.3 Operation

10.3.1 Sub tray exit mechanism

- Paper transported from the RU section is discharged to the sub tray by the sub tray exit roller via the FNS paper feed roller, FNS transport roller, and sub tray vertical transport roller.
- To transport paper to the sub tray, the paper path switching gate also operates.
- The sub tray exit roller is driven by the FNS discharge motor.

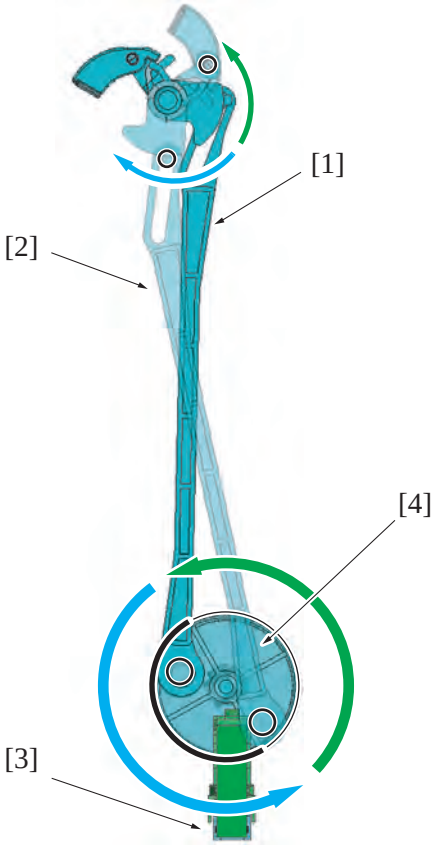


[1]	FNS entry transport motor (M2)	[2]	FNS discharge motor (M3)
[3]	Sub tray full detection sensor/out (PS9)	[4]	Sub tray section exit roller
[5]	Paper	[6]	Sub tray
[7]	Upper cover open/close detection sensor (PS32)	[8]	Sub tray full detection sensor/in (PS10)
[9]	Sub tray exit sensor (PS8)	-	-

10.3.2 Main tray paper level detection control

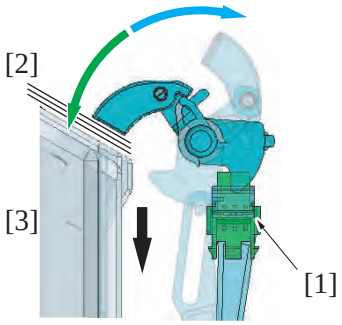
- The height of paper stacked on the main tray is always controlled to the specified level, by lowering the main tray depending on the amount of paper discharged to the main tray.
- The paper level is detected by the main tray upper position sensors/Fr and /Rr. Based on the detection results, the main tray height is controlled.
- The top end of the paper detection lever is lifted when the paper detection lever drive gear makes a half-turn. When the paper receiving control motor makes another half-turn, the end of the lever presses down the top of the trailing edge of the paper stacked on the main tray. Depending on the number of the sheets stacked or the height of the exit tray, the position of the paper detection lever changes.
- When the paper detection lever is at the home position, the main tray upper position sensor is unblocked. When the top end of the lever is lifted, the main tray upper position sensor is blocked. If the amount of stacked paper increases while the end of the lever presses down the top of the trailing edge of the paper stacked on the main tray, the paper detection lever becomes unable to return to the home position and the main tray upper position sensor is blocked. This causes machine to determine that the height of stacked paper exceeds the specified height. In this case, the main tray up/down motor is rotated and the main tray is lowered until the main tray upper position sensor is unblocked. When the main tray is lowered to the main tray full detection sensor, MFP determines that the main tray is full and the control panel displays the main tray full message.
- When main tray full is detected, the control panel displays the warning message. In this state, any main tray related configurations and jobs that use the main tray cannot be performed. The warning screen is cleared by removing the paper on the main tray. By removing the paper from the main tray, the paper detection lever is lowered. This causes machine to determine that the paper is removed and the “main tray full” message disappears.
- When the paper detection lever drive gear makes a turn, paper receiving control motor stops. The position of the paper detection lever drive gear is detected by the paper delivery control sensor.
- The paper level detection control is performed each time when paper is discharged to the tray to always monitor the height of paper. This control also serves as the function of preventing paper stacked on the tray from being disturbed by the paper discharged next.

Front view



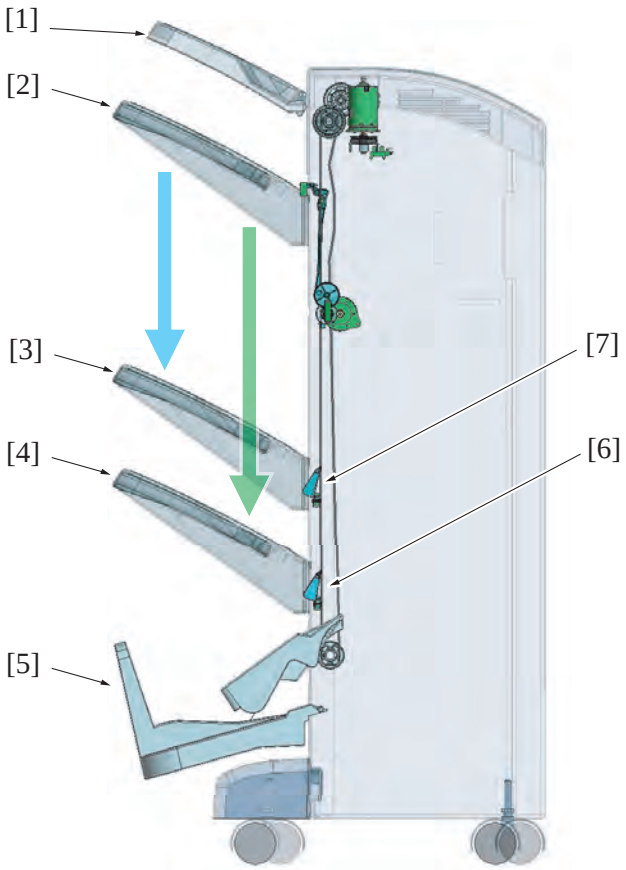
[1]	Paper detection lever (home position)	[2]	Paper detection lever (upper position)
[3]	Paper delivery control sensor (PS28)	[4]	Paper detection lever drive gear

(1) Paper detection lever tip enlarged picture



[1]	• Main tray upper position sensor/F (PS27) • Main tray upper position sensor/R (PS26)	[2]	Paper
[3]	Main tray	-	-

(2) Front view



[1]	Sub tray	[2]	Main tray (home position)
[3]	Main tray (main tray full position) *1	[4]	Main tray (main tray full position) *2
[5]	Saddle tray	[6]	Main tray full detection sensor (PS29) *2
[7]	Main tray full detection sensor (PS29) *1	-	-

- *1: FS-534SD
- *2: FS-534

(3) Amount of paper placed on the main tray

- The amount of paper placed on the main tray is different depending on the mode.
- When either the number or height of stacked sheets reaches the specified value, the main tray full is detected.

(a) Amount of paper placed on the main tray in sort or group mode

- For details on the paper stacking capacity, refer to C.8.3.1.(2).(a) Number of stacked sheets.

(b) Amount of paper placed on the main tray in sort offset or group offset mode

- For details on the paper stacking capacity, refer to C.8.3.2.(1).(b) Number of stacked sheets.

(c) Amount of paper placed on the main tray in staple mode

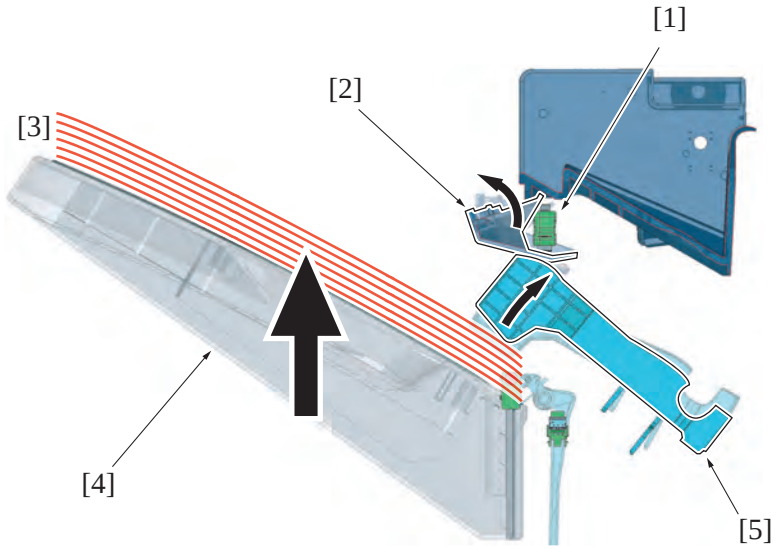
- For details on the paper stacking capacity, refer to C.8.3.3.(1).(a) Paper capacity.

10.3.3 Main tray upper detection mechanism

- The main tray includes the upper limit detection mechanism. The mechanism is to avoid malfunction and breakage of the main tray up/down mechanism that may be caused by the tray being lifted higher than the specified position.
- While paper is stacked on the main tray, if the main tray moves up and the top of the stack pushes the alignment plate up, the main tray upper position detect switch cover is raised and the main tray upper position detect switch is pressed. This causes the main tray up/down motor to stop rotating and the main tray to stop moving upward.

NOTE

- **In the case of small paper of which width is shorter than the distance formed between the alignment plates when the alignments are at home position, the paper may directly pushes up the main tray upper position detect switch cover. In that case, the main tray upward movement is also stopped.**
- **While the main tray is moving upward, if user press the main tray upper position detect switch cover by mistake, the main tray upward movement is also stopped. In this case, when the main tray upper position detect switch cover is released, if the top surface of the main tray does not reach the specified height, the main tray moves up again. When the top surface of the main tray reaches the specified height, the upward operation stops.**
- **For details of the main tray up/down operation, refer to PF.10.3.2 Main tray paper level detection control.**



[1]	Main tray upper position detect switch (SW2)	[2]	Main tray upper switch cover
[3]	Paper	[4]	Main tray
[5]	Alignment plate	-	-

10.3.4 Tray full detection mechanism

(1) Main tray

- The main tray has two types of paper full detection mechanism. When paper full is detected in either way, 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. The warning screen is cleared by removing paper from the main tray.

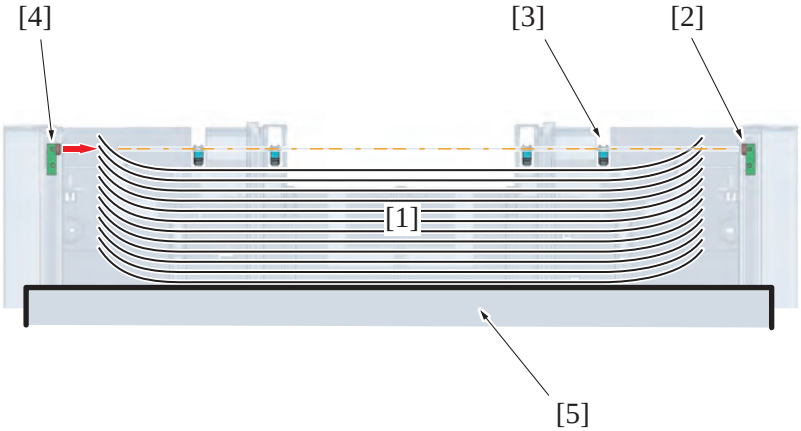
(a) Paper full detection mechanism 1

- When machine determines that the amount of paper stacked on the main tray exceeds the specified height, the paper detection lever causes the main tray up/down motor to rotate to lower the main tray 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.
  For details of main tray up/down control, refer to PF.10.3.2 Main tray paper level detection control.

(b) Paper full detection mechanism 2

- Load multiple copies of stapled paper, the stacked paper may come above the area where paper amount is detectable by the paper detection lever. It shows that the paper amount exceeds the stacking capacity. To avoid this, the main tray upper sensor is mounted.
- When the paper discharged to the main tray blocks light from the main tray upper sensor, the main tray up/down motor is rotated and 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.
  For details of main tray up/down control, refer to PF.10.3.2 Main tray paper level detection control.

Left side view

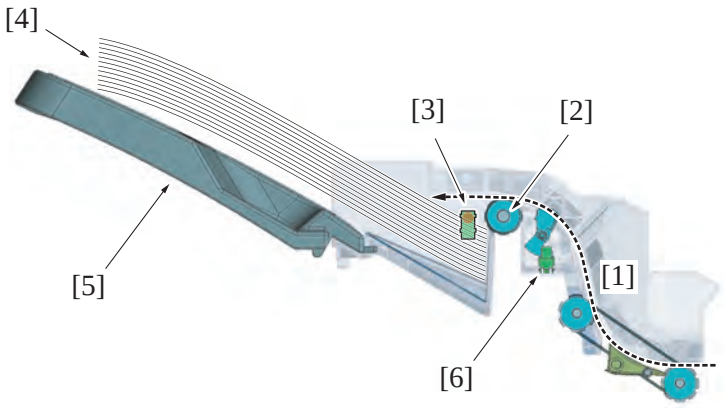


[1]	Paper	[2]	Main tray upper sensor (PS7)
[3]	Paper detection lever	[4]	Main tray upper sensor/out (PS6)
[5]	Main tray	-	-

(2) Sub tray

- When the specified amount of paper is discharged into the sub tray, the stacked paper blocks the sub tray full detection sensor. The sensor detects it as a full state of the exit tray.
- When the sub tray full is detected, the warning message appears on the control panel. In this state, any sub tray related configurations and jobs that use the sub tray cannot be performed. The warning screen can be cleared by removing the paper on the sub tray.

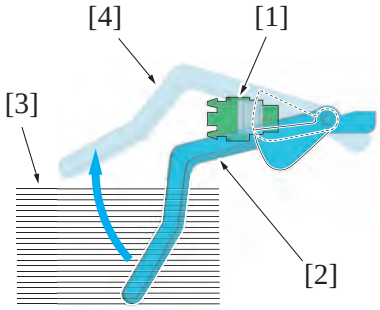
Front view



[1]	Sub tray paper transport route	[2]	Sub tray section exit roller
[3]	• Sub tray full detection sensor/out (PS9) • Sub tray full detection sensor/in (PS10)	[4]	Paper
[5]	Sub tray	[6]	Sub tray exit sensor (PS8)

(3) 3rd tray

- When the specified amount of paper is discharged into the 3rd tray, the stacked paper pushes up the 3rd tray full detection sensor actuator. 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 warning message will be displayed on the control panel when the 3rd tray full is detected. All setting operations and jobs will be disabled when the warning message is displayed on the screen. The warning message will be released by removing the paper on the 3rd tray.



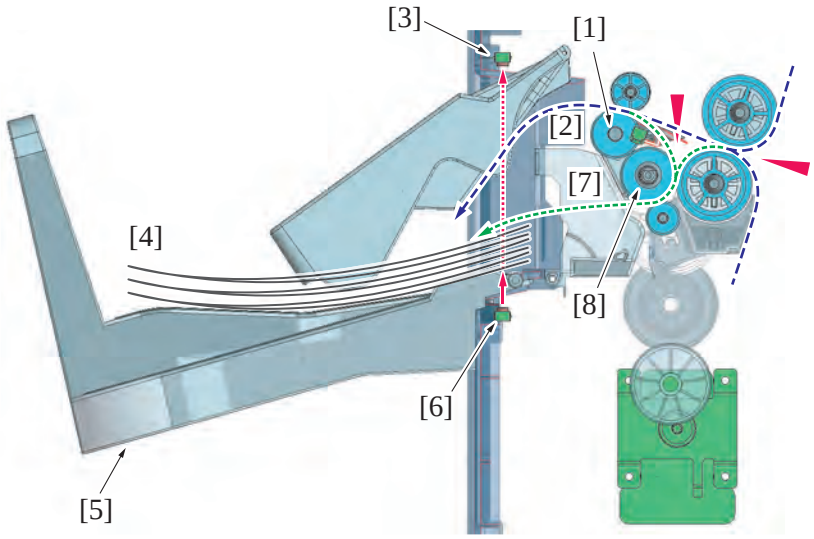
[1]	3rd exit tray full sensor (PS1)	[2]	3rd exit tray full sensor actuator (no paper)
[3]	Paper	[4]	3rd exit tray full sensor actuator (exit tray full)

(4) Saddle tray

NOTE

- **FS-534SD only**
- When paper is discharged to the saddle tray, the light from the saddle tray exit sensor is blocked. When the stacked sheets are removed, the sensor light is unblocked.
- When the specified amount of paper is discharged into the saddle tray, the stacked paper blocks the saddle tray exit sensor. The sensor detects it as a full state of the saddle tray.
  NOTE
  - **For a tri-fold job, if paper is present in the saddle tray when the job is started, the saddle tray full is detected. (Even only one set of sheets remains, tray full is detected.)**

- When the saddle tray full is detected, the warning message appears on the control panel. In this state, any saddle unit related configurations and jobs that use the saddle unit cannot be performed. The warning screen is cleared by removing the paper placed on the saddle unit.



[1]	Saddle section exit roller	[2]	Paper transport route: Center folding
[3]	Booklet tray empty detection sensor/in (PS13)	[4]	Paper
[5]	Saddle tray	[6]	Booklet tray empty detection sensor/out (PS14)
[7]	Paper transport route: Tri-folding	[8]	Tri-folding roller

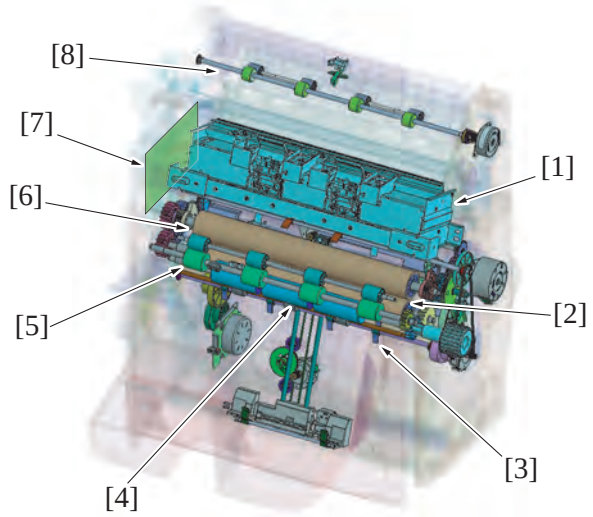
11. SADDLE SECTION

11.1 Configuration

NOTE

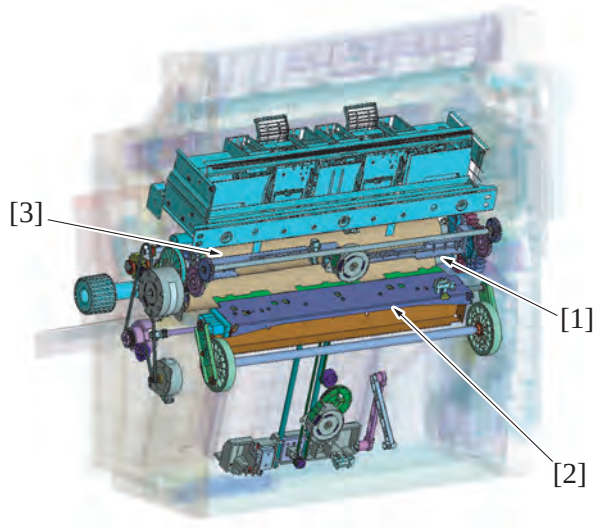
- **FS-534SD only**

Front left side perspective view



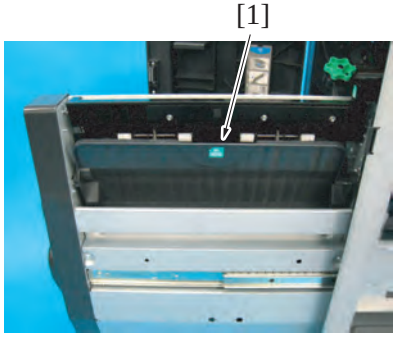
[1]	Staple unit	[2]	Center folding roller/2
[3]	Center fold section lower paddle	[4]	Tri-folding roller
[5]	Saddle section exit roller	[6]	Center fold roller/1
[7]	SD drive board (SDDB)	[8]	Saddle section paper feed roller

Front right side perspective view



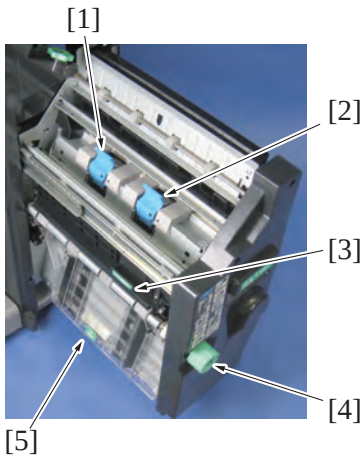
[1]	Center staple alignment plate drive gear/Rr	[2]	Center fold knife
[3]	Center staple alignment plate drive gear/Fr	-	-

Right side view



[1]	Jam removal cover (transport section)	-	-

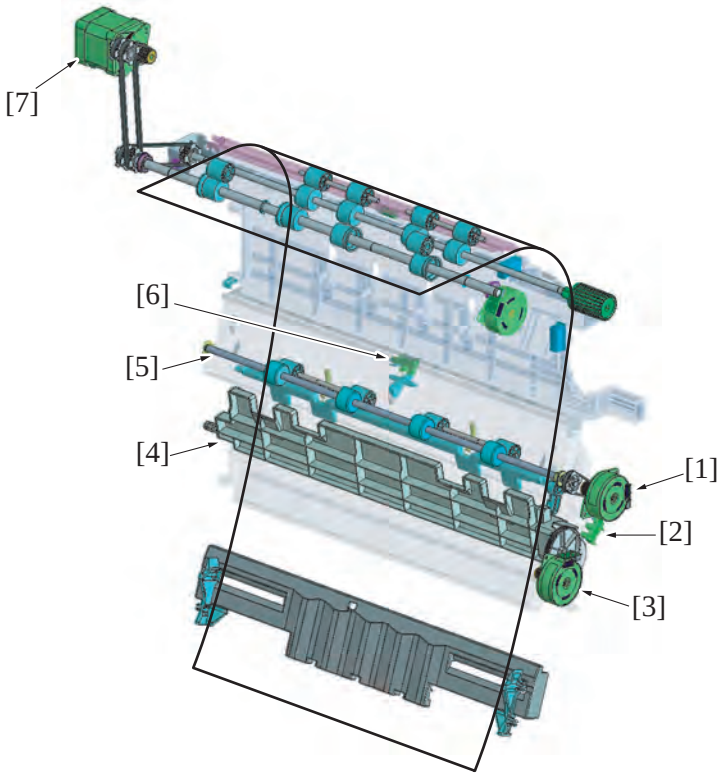
Front left side perspective view



[1]	Staple cartridge (rear side)	[2]	Staple cartridge (front side)
[3]	Jam removal cover (exit section)	[4]	Jam removal dial (folding section)
[5]	Jam removal cover (alignment section)	-	-

11.2 Transport section

11.2.1 Drive



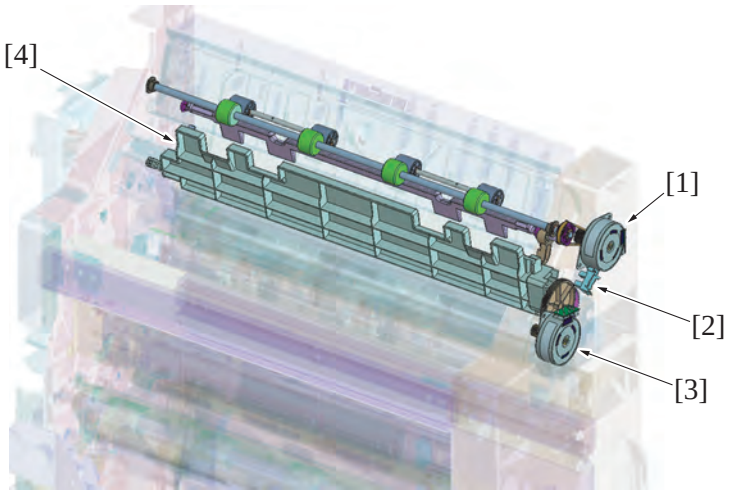
[1]	SD transport motor (M1)	[2]	Curl cover detection sensor (PS2)
[3]	Paper discharge control motor (M2)	[4]	Curl cover
[5]	SD transport roller	[6]	SD entrance sensor (PS1)
[7]	FNS discharge motor (M3)	-	-

11.2.2 Paper transport

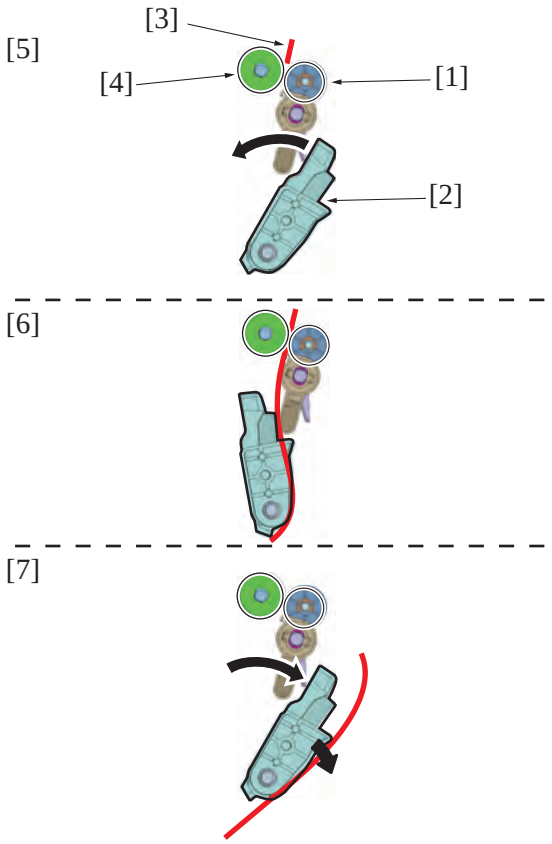
- The FNS discharge motor rotates reversely to transport the paper from the finisher transport section into the saddle unit.
- The paper then is transported to the alignment section by SD transport roller.
- The SD transport roller rotates when the SD transport motor is driven.

11.2.3 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.



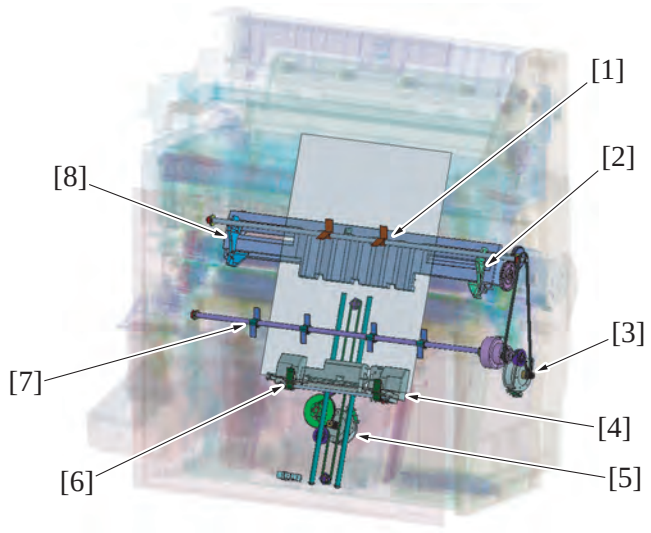
[1]	SD transport motor (M1)	[2]	Curl cover detection sensor (PS2)
[3]	Paper discharge control motor (M2)	[4]	Curl cover



[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)	-	-

11.3 Alignment section

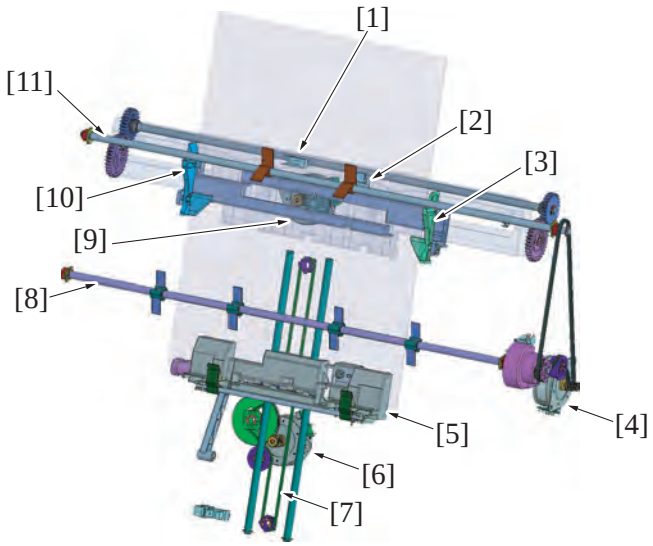
11.3.1 Drive



[1]	Center folding section upper paddle	[2]	Alignment plate/F
[3]	SD paddle motor (M7)	[4]	Stopper guide
[5]	Stopper drive motor (M4)	[6]	Paper grip
[7]	Center folding section lower paddle	[8]	Alignment plate/R

11.3.2 Alignment

- It aligns the paper transported to the alignment section.
- The paper CD alignment is conducted by alignment plate/F and alignment plate/R. The alignment plate shifts by forward/reverse rotation of the alignment motor to align the paper edge.
- The paper FD alignment is conducted by the stopper guide, center folding section upper paddle and center folding section lower paddle.
- The stopper guide moves up when the stopper drive motor rotates in forward/reverse direction to stop at the position which suits the length of the paper transported. The leading edge of the paper stops by the stopper guide to align the leading edge.
- When the paper is transported, the stopper drive motor rotates in forward/reverse direction to operate the stopper guide drive belt, and moves the stopper guide up/down.
- 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 paddle is driven by the SD paddle motor.



[1]	Center staple/fold stacker paper detect sensor (PS3)	[2]	Alignment home sensor (PS4)
[3]	Alignment plate/F	[4]	SD paddle motor (M7)
[5]	Stopper guide	[6]	Stopper drive motor (M4)
[7]	Stopper guide drive belt	[8]	Center folding section lower paddle
[9]	Alignment motor (M3)	[10]	Alignment plate/R
[11]	Center folding section upper paddle	-	-

(1) Alignment operation

- 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/F and the alignment plate/R 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.

(2) Stopper guide operation

- The stopper guide is moved up according to the paper size.
- The stopper guide moves up and stops at the specified position after the leading edge of the paper passes the main tray exit sensor.

(3) Paddle operation

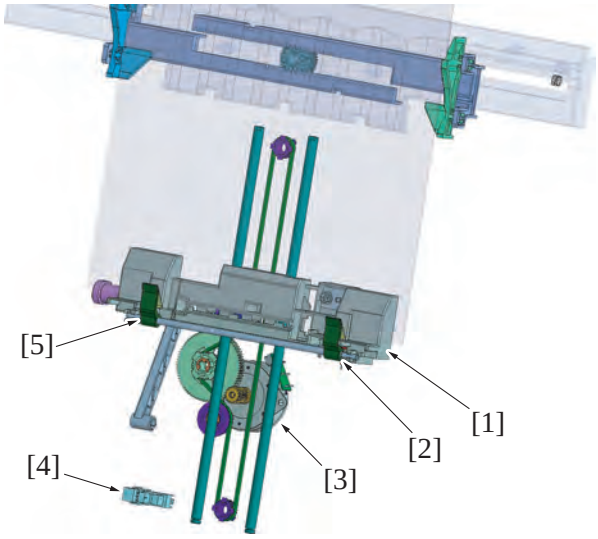
- The up/down paddle is driven by the SD paddle motor. The up/down paddle is driven when the specified period of time has passed after the leading edge of the paper passed the saddle exit sensor of the finisher.
- The up/down paddle stops after the paper trailing edge passes the finisher's main tray exit sensor and the paddle rotates for the specified number of times.

11.3.3 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, saddle folding, tri-folding) have their own up/down stop positions. They are controlled by the pulse number of the stopper drive motor.

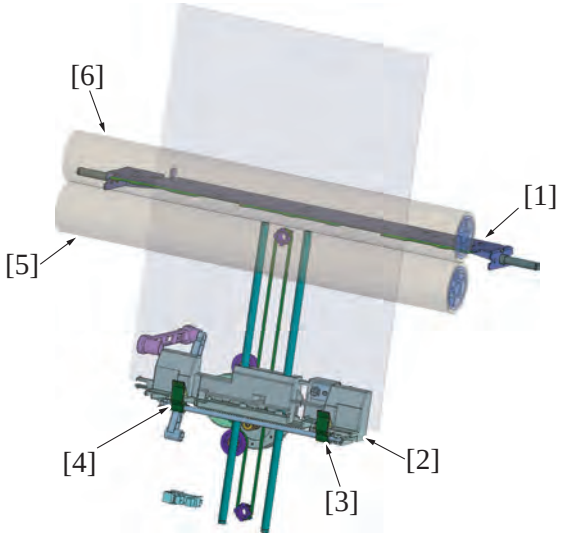
(1) Stopper operation

- 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.



[1]	Stopper guide	[2]	Exit grip/Fr
[3]	Stopper drive motor (M4)	[4]	Stopper home sensor (PS6)
[5]	Exit grip/Rr	-	-

(2) 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

(a) 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.

(b) Saddle stitching mode

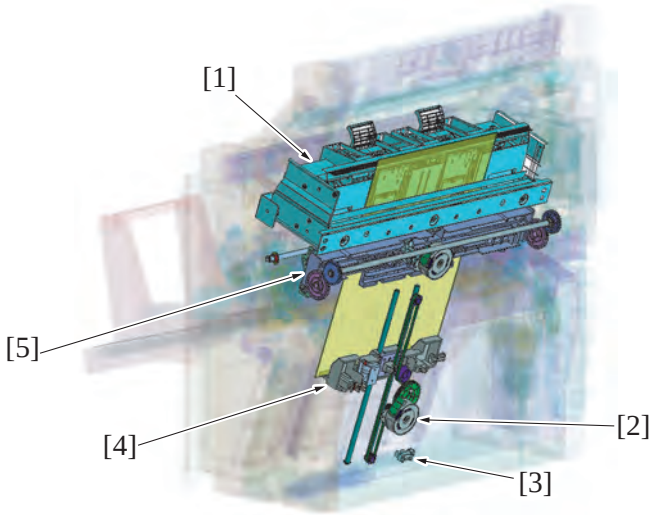
- After a specified period of time since the last sheet of paper was aligned, the stopper solenoid is turned ON and the sheets of paper are held in place.
- After the sheets are held in place, the stopper drive motor rotates to move the stopper guide down and lower the sheets to the saddle stitching 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.

(c) 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.

11.4 Stapler

11.4.1 Drive



[1]	Stapler unit	[2]	Stopper drive motor (M4)

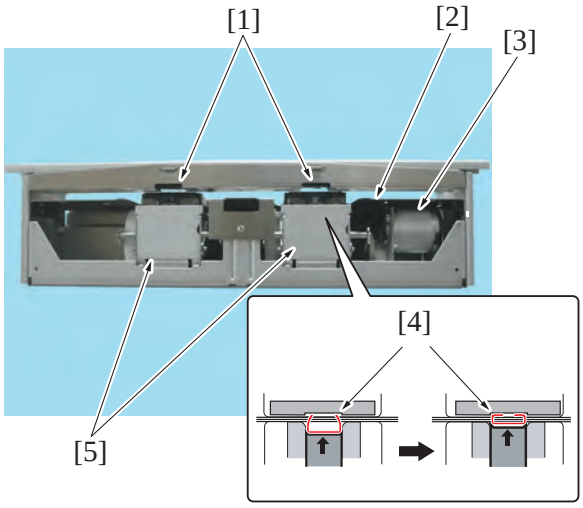
[3]	Stopper home sensor (PS6)	[4]	Stopper guide
[5]	Alignment tray	-	-

11.4.2 Operation

- The stapling operation is performed by the stapler motor.

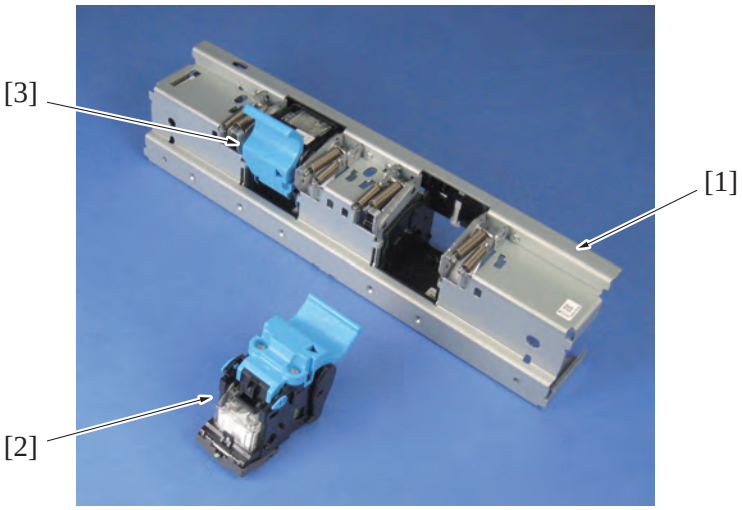
(1) Stapling operation

- 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	-	-

(2) Staple control



[1]	Staple unit	[2]	Staple cartridge (Front side): Removed
[3]	Staple cartridge (Rear side): Installed	-	-

(a) Stapling

- After completing the alignment operation of the alignment plate, the staple motor performs the stapling operation.
- The stapling operation is completed when the stapler home position sensor (rear) detects the home position and turn ON.

(b) Clogged staple detection

- When the stapler home position sensor (rear) does not turn ON after the specified period of time after it turned OFF during stapling, it is determined that the staple motor has the trouble, and stops the stapler motor.

(c) Staple cartridge detection

- The staple cartridge switch detects the presence of a cartridge or the incorrect settings of a staple cartridge.

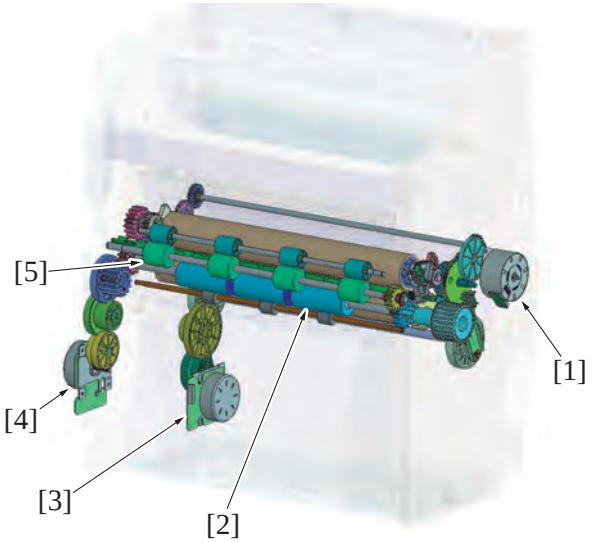
- When no staple cartridge is installed or it is installed incorrectly, an error message appears on the machine control panel.

(d) Staple detection control

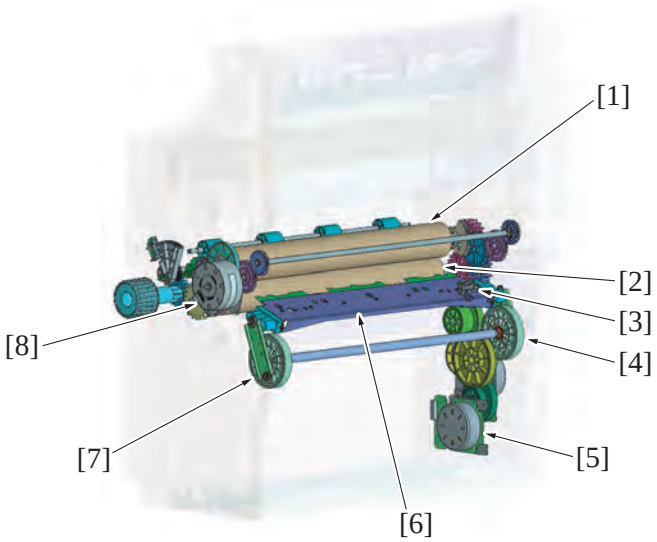
- When the staple goes empty, the staple empty switch turns ON and a message appears on the machine control panel.

11.5 Folding/Saddle stitching

11.5.1 Drive



[1]	Tri-folding guide motor (M6)	[2]	Tri-folding roller
[3]	Center fold knife motor (M9)	[4]	Center fold roller motor (M5)
[5]	Saddle section exit roller	-	-



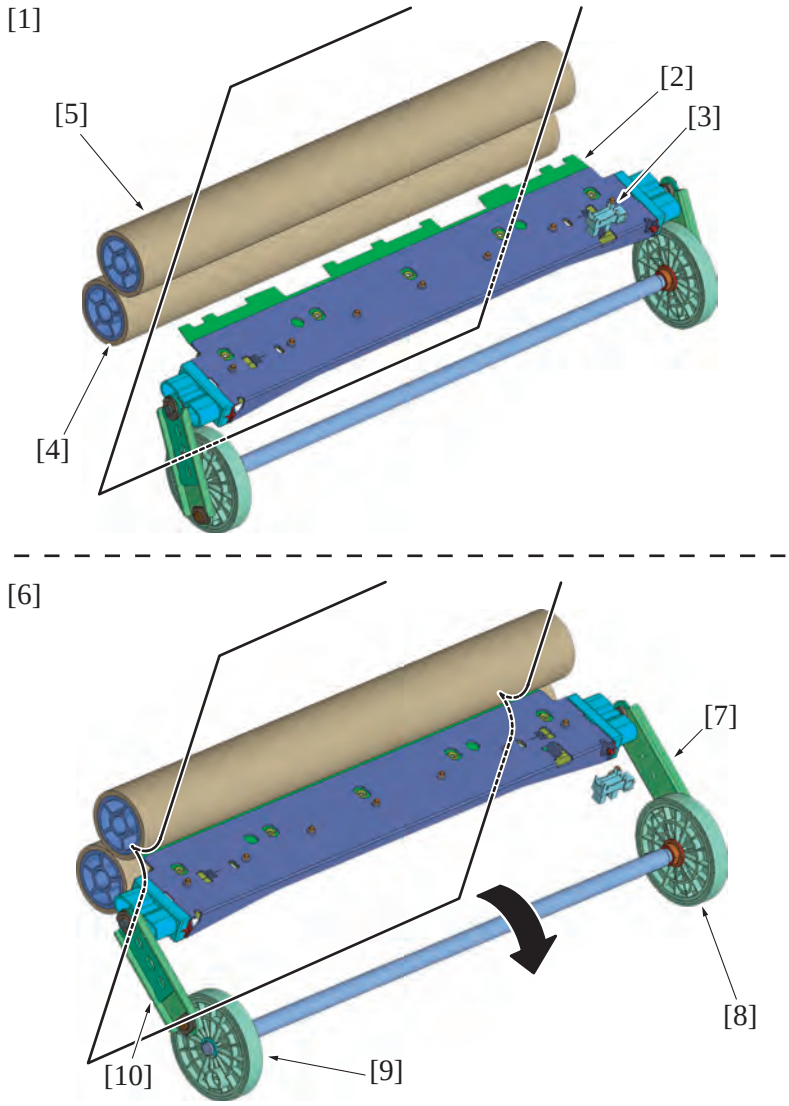
[1]	Center folding roller/1	[2]	Center folding roller/2
[3]	Center fold knife home sensor (PS8)	[4]	Fold drive gear/Rr
[5]	Center fold knife motor (M9)	[6]	Center folding knife assy
[7]	Fold drive gear/Fr	[8]	Tri-folding guide motor (M6)

11.5.2 Folding knife

- The center fold knife motor drives the folding knife.
- The folding knife is used in the folding/saddle stitching/tri-folding mode.
- In the tri-folding mode, it is used at the 1st folding.

(1) Folding knife operation

- The center fold knife motor rotates the crank shaft 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.



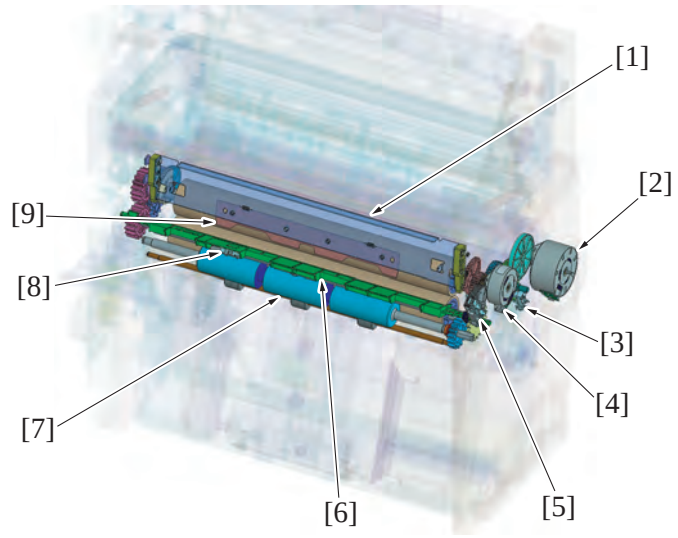
[1]	Before folding	[2]	Folding knife
[3]	Center fold knife home sensor (PS8)	[4]	Center folding roller/2
[5]	Center folding roller/1	[6]	Folding operation
[7]	Crank shaft/Rr	[8]	Fold knife assy drive gear/Rr
[9]	Fold knife assy drive gear/Fr	[10]	Crank shaft/Fr

(2) 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.

11.6 Tri-folding

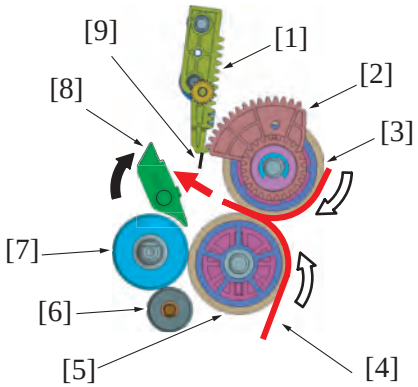
11.6.1 Drive

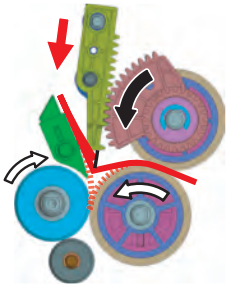


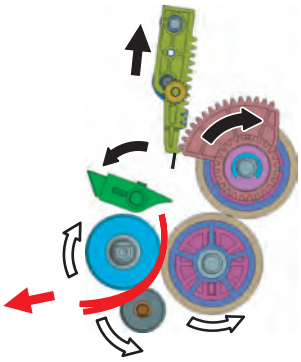
[1]	Tri-folding knife assy	[2]	Center fold guide motor (M8)
[3]	Guide home sensor (PS7)	[4]	Tri-fold guide motor (M6)
[5]	Tri-folding gate home sensor (PS11)	[6]	Center folding change gate
[7]	Tri-folding roller	[8]	Fold exit sensor (PS12)
[9]	Tri-folding knife	-	-

11.6.2 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.



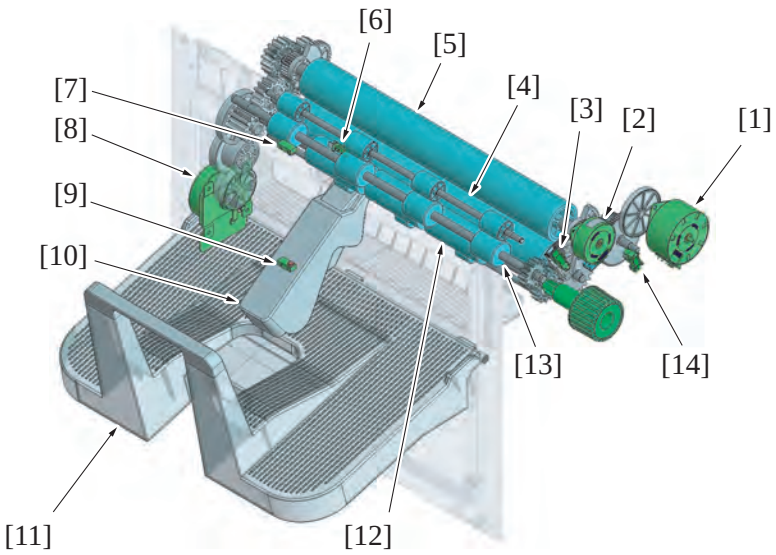




[1]	Tri-folding knife assy	[2]	Tri-folding knife assy drive gear
[3]	Center folding roller/1	[4]	Paper
[5]	Center folding roller/2	[6]	Tri-folding roll
[7]	Tri-folding roller	[8]	Tri-folding gate
[9]	Tri-folding knife	-	-

11.7 Exit section

11.7.1 Drive



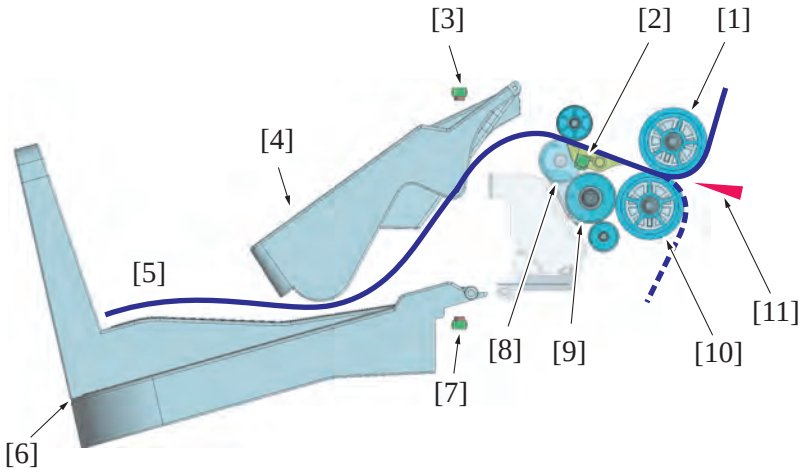
[1]	Center fold guide motor (M8)	[2]	Tri-fold guide motor (M6)
[3]	Tri-folding gate home sensor (PS11)	[4]	Center folding roller/2
[5]	Center folding roller/1	[6]	Fold exit sensor (PS12)
[7]	Booklet tray empty detection sensor/in (PS13)	[8]	Center fold roller motor (M5)
[9]	Booklet tray empty detection sensor/out (PS14)	[10]	Paper press
[11]	Saddle tray	[12]	Tri-folding roller
[13]	Saddle section exit roller	[14]	Guide home sensor (PS7)

11.7.2 Paper exit

- Center folded, saddle stitched, or tri-folded paper is discharged to the saddle tray.
- The paper that is center folded and saddle folded is 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 exit roller and the tri-fold roller. Both rollers are driven by the center fold roller motor.

(1) Paper exit for center fold / saddle stitch

- The center fold roller motor is driven after the center fold or the saddle stitch, and discharges the paper to the saddle tray by the paper exit roller.

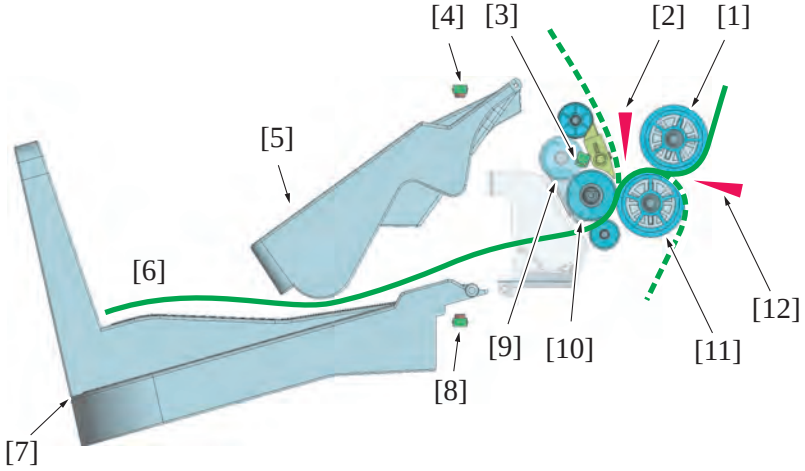


A3EPEPGC607AA

[1]	Center folding roller/1	[2]	Fold exit sensor (PS12)
[3]	Booklet tray empty detection sensor/in (PS13)	[4]	Paper press
[5]	Paper transport route	[6]	Saddle tray
[7]	Booklet tray empty detection sensor/out (PS14)	[8]	Saddle section exit roller
[9]	Tri-folding roller	[10]	Center folding roller/2
[11]	Folding knife	-	-

(2) Paper exit for tri-folding

- Since the paper is tri-folded by the tri-folding roller, the paper is transported through the lower route.



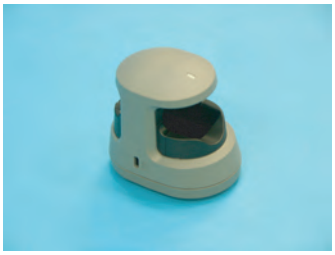
[1]	Center folding roller/1	[2]	Tri-folding knife
[3]	Fold exit sensor (PS12)	[4]	Booklet tray empty detection sensor/in (PS13)
[5]	Paper press	[6]	Paper transport route
[7]	Saddle tray	[8]	Booklet tray empty detection sensor/out (PS14)

[9]	Saddle section exit roller	[10]	Tri-folding roller
[11]	Center folding roller/2	[12]	Folding knife

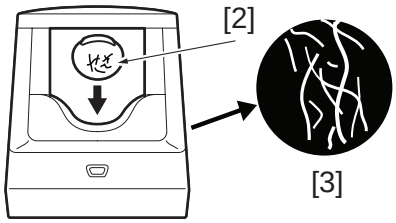
PG THEORY OF OPERATION AU-102/AU-201S

1. AU-102

1.1 Configuration



[1]



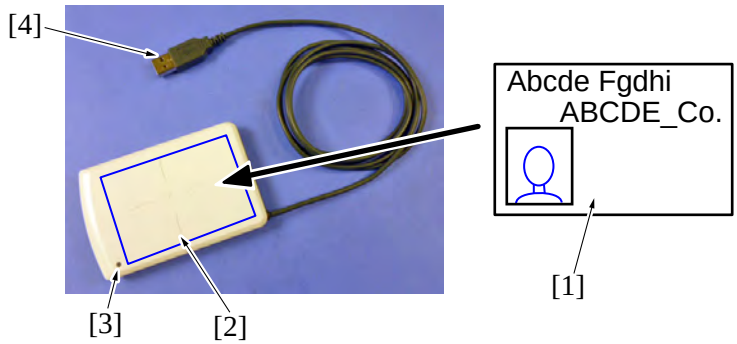
[1]	Authentication unit (AU-102)	[2]	Finger
[3]	Vein image	-	-

1.2 Operation

- A finger vein pattern is used for personal identification.
- Vein patterns are inside the body and cannot be visually recognized. This makes vein patterns extremely difficult to forge or falsify. The vein pattern authentication system can provide high security.
- With ultra-red LED radiation, a finger vein pattern is captured by camera and its image is created. The vein pattern image is registered and a person can be identified if the person's vein pattern matches the registered one at the time of user authentication.

2. AU-201S

2.1 Configuration



[1]	Non-contact IC card	[2]	Read-write area
[3]	Status LED	[4]	USB connector (Type-A)

- Use the Local Interface Kit EK-608 and the Installation Kit MK-735 to attach the authentication device inside the main unit.

2.2 Operation

- Place the non-contact IC card on the authentication device to read and write data.
- Displays the operational status via LEDs on the unit.
  - Yellow-green light glows: Normal operation.
  - Red light or orange light is on: Unit is experiencing an issue.

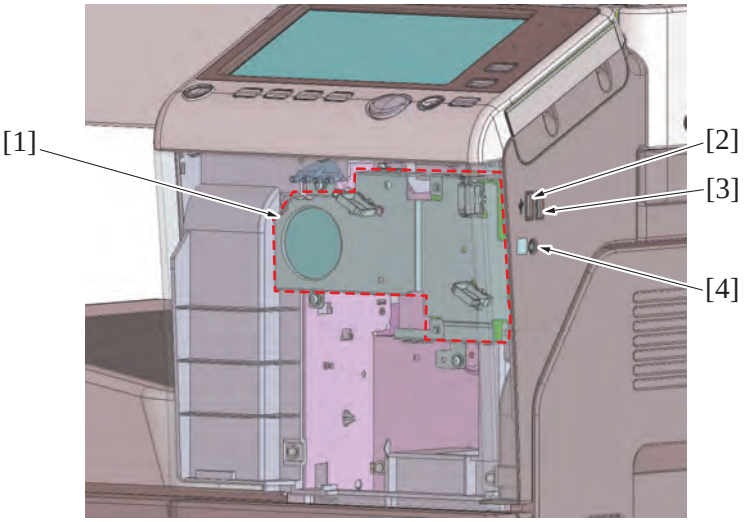
2.3 Specifications

Communication Type	TypeA/Mifare	TypeB	FeliCa
Communication Speed	106 Kbps	106 kbps, 212 kbps, 424 kbps	212 kbps, 424 kbps
Authentication Function	Mifare Crypt	-	DES, AES
Compatible IC cards	• Non-contact IC cards compliant with ISO14443 Type A • Non-contact IC cards compliant with TN2 (SEE55R)	Non-contact IC cards compliant with ISO14443 Type B	FeliCa card
Inter-terminal Communication	Inter-terminal communication compliant with ISO18092 (communication speed: 106, 212, and 424 kbps)		

PH THEORY OF OPERATION EK-608

1. CONFIGURATION

1.1 Configuration



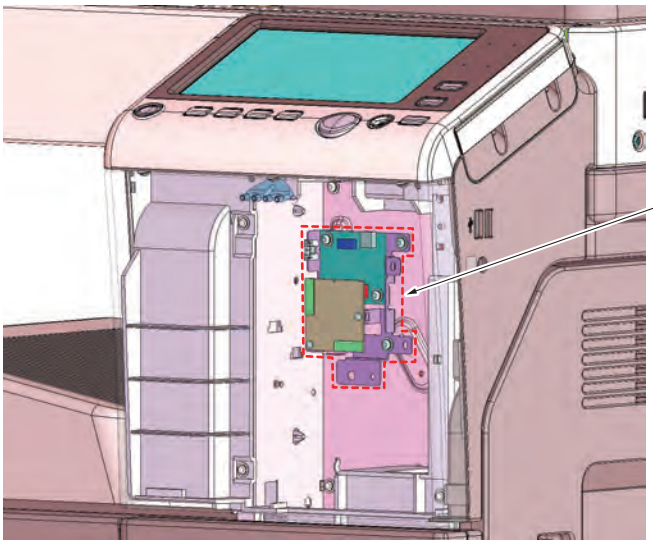
[1]	Local Interface Kit EK-608	[2]	USB terminal (standard)
[3]	USB terminal (extension)	[4]	Voice guidance output terminal

1.2 Operation

- The document can be printed directly from, or saved in, the USB memory.
- Connecting the USB keyboard (dealer option: overseas market only) will permit keyboard input.
- The main unit must have the i-Option LK-104 v3 to use the voice guidance function.

PI THEORY OF OPERATION UK-212

1. CONFIGURATION



[1]	Upgrade kit (UK-212)	-	-

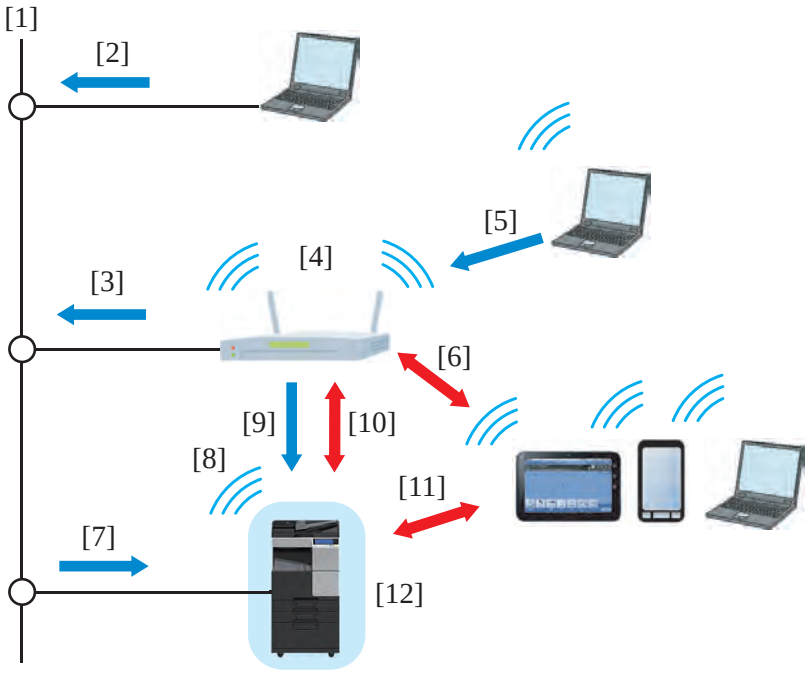
2. OPERATION

2.1 Outline

When the Upgrade kit UK-212 is installed, the following functions can be added.

- Connect the main unit as a wireless LAN adapter to a wireless LAN access point connected to the LAN environment, a job can be executed. The MFP main unit can be connected to both a wireless LAN environment and a LAN environment. (Wireless Only, Wired +Wireless (Secondary Mode))
- Direct communication between the MFP main unit and the mobile terminal (Android terminal, iOS terminal or Wi-Fi support devices) will be enabled. (Wired+Wireless (Primary Mode)*, Wired+Wireless (Wi-Fi Direct))
- Even when the main unit is at standby in "Erp Auto Power Off" mode, a client can start the machine to execute a job.

Basic concept of connection



[1]	LAN environment	[2]	Job received from a PC connected to the LAN environment
[3]	Job received via the wireless LAN access point	[4]	Wireless LAN access point connected to the LAN environment
[5]	Job received from a PC connected to the wireless LAN environment	[6]	Communication with a mobile terminal connected to the wireless LAN environment*1
[7]	Job received from the MFP main unit via the LAN	[8]	• Communication with the wireless LAN access point (Wireless Only, Wired+Wireless (Secondary Mode)) • Enabled communication with a mobile terminal (Wired +Wireless (Primary Mode), Wired+Wireless (Wi-Fi Direct))
[9]	Job received from the MFP main unit via the wireless LAN	[10]	Communication via the wireless LAN access point connected to a mobile terminal (Android terminal, iOS terminal or Wi-Fi support devices)
[11]	Direct communication with a mobile terminal (Wired +Wireless (Primary Mode), Wired+Wireless (Wi-Fi Direct))	[12]	Machine (on startup)

NOTE

- **To use UK-212, the following settings are required.**
  [SERVICE MODE] -> [Network Settings] -> [2nd Network Setting]
- **The "Interface structure" includes the following five patterns. These patterns can be selected depending on the connection environment of the machine.**
  [SERVICE MODE] -> [Network Settings] -> [2nd Network Setting]- > [Network Interface Settings]

No.	Network Interface Settings	Connection environment of MFP main unit
1	Wired Only	Use when the machine is connected only to a LAN environment.
2	Wireless Only	Use when the machine is connected only to a wireless LAN environment.
3	Wired+Wireless (Secondary Mode)	Use when the machine is connected to both a LAN environment and a wireless LAN environment.
4	Wired+Wireless (Primary Mode)	• Use when the machine is connected to both a LAN environment and a wireless LAN environment. • The machine is used as a wireless LAN access point (Primary Mode).
5	Wired+Wireless (Wi-Fi Direct)	• Use when the machine is connected to both a LAN environment and a wireless LAN environment. • The machine is used as a wireless LAN access point. • A mobile terminal (excluding iOS) can be connected to Wi-Fi Direct authentication devices easily.

- **Refer to "PI.2.2 2nd network interface structure" for details on the machine interfaces structure.**

2.2 2nd network interface structure

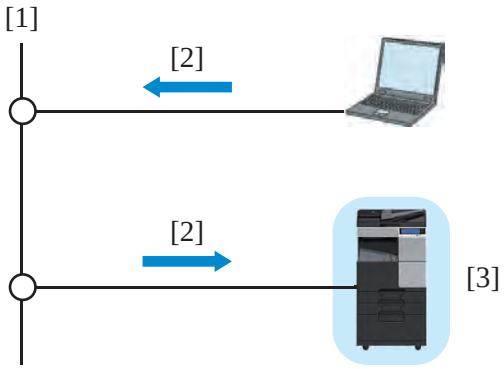
2.2.1 Wired Only

- Use when the machine is connected only to a LAN environment. (Initial setting)
- The LAN line is the main line.

(1) Operation

- To execute a job received from a client via the LAN.

Basic concept of connection



[1]	LAN environment	[2]	Job
[3]	Machine (on startup)	-	-

2.2.2 Wireless Only

- Use when the machine is connected only to a wireless LAN environment.
- The wireless LAN line is the main line.

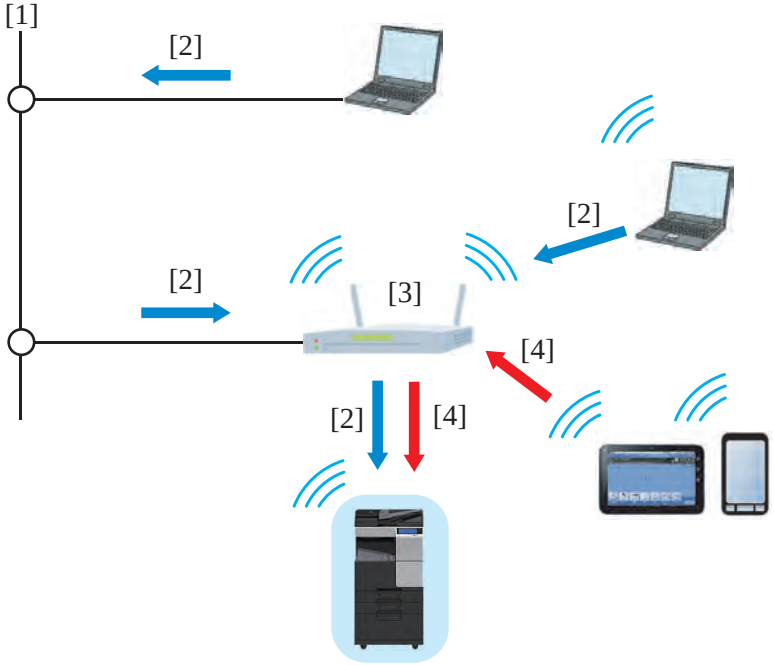
(1) Operation

- To execute a job received from a client via the wireless LAN access point.
  - To execute a job received from a PC connected to the LAN.
  - To execute a job received from a PC connected to the wireless LAN.
  - To execute a job received from an Android terminal or iOS terminal (called mobile terminal hereafter) connected to the wireless LAN.

NOTE

- **A wireless communication is performed between the machine and a client via the wireless LAN access point.**

Basic concept of connection



[1]	LAN environment	[2]	Job received from a PC
[3]	Wireless LAN access point	[4]	Job received from a mobile terminal

2.2.3 Wired+Wireless (Secondary Mode)

- Use when the machine is connected to both a LAN environment and a wireless LAN environment.
- The LAN line is the main line, and the wireless LAN line is the sub line.

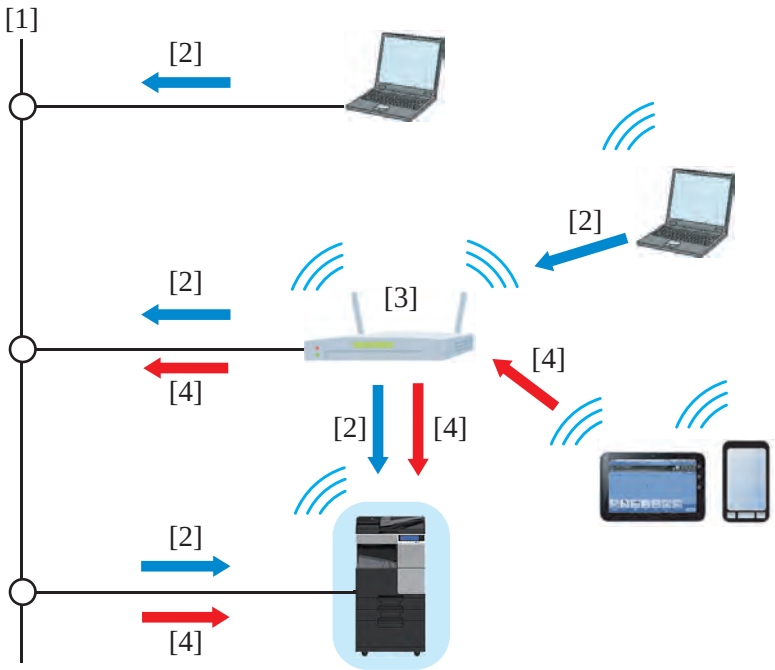
(1) Operation

- To execute a job received from a client via the LAN.
  - To execute a job received from a PC connected to the LAN.
  - To execute a job received from a PC connected to the wireless LAN.
  - To execute a job received from an Android terminal or iOS terminal (called mobile terminal hereafter) connected to the wireless LAN.
- To execute a job from a client via the wireless LAN access point.
  - To execute a job received from a PC connected to the LAN.
  - To execute a job received from a PC connected to the wireless LAN.
  - To execute a job received from an Android terminal or iOS terminal (called mobile terminal hereafter) connected to the wireless LAN.

NOTE

- **A communication is performed between the machine and the mobile terminal via the LAN and wireless LAN access point.**

Basic concept of connection



[1]	LAN environment	[2]	Job received from a PC
[3]	Wireless LAN access point	[4]	Job received from a mobile terminal

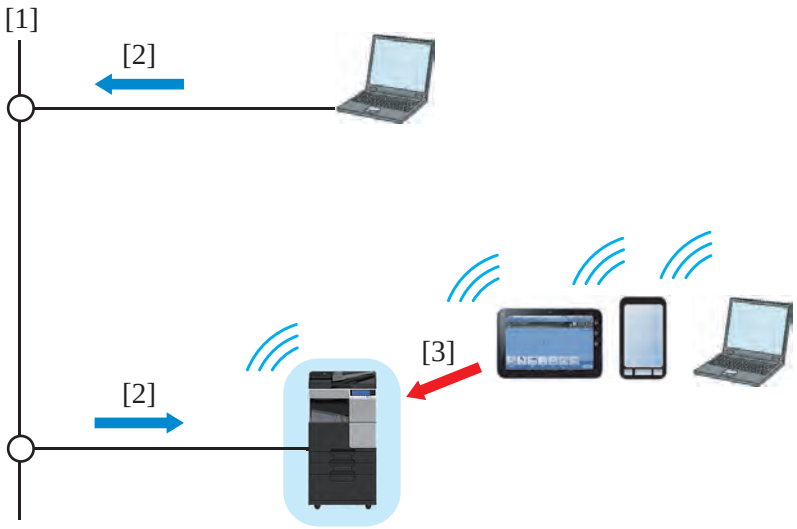
2.2.4 Wired+Wireless (Primary Mode)

- Use when the machine is connected to both a LAN environment and a wireless LAN environment.
- The LAN line is the main line, and the wireless LAN line is the sub line.
- The machine is used as a wireless LAN access point.
- During startup of the machine, perform wireless LAN communication between the machine and the mobile terminal (Android terminal, iOS terminal, or devices supporting Wi-Fi) without via wireless LAN access point.

(1) Operation

- To execute a job received from a client via the LAN.
  - To execute a job received from a PC connected to the LAN.
  - To execute a job received from a PC connected to the wireless LAN.
- To execute a job received from a mobile terminal through a wireless communication.

Basic concept of connection



[1]	LAN environment	[2]	Job received from a PC
[3]	Job received from a mobile terminal	-	-

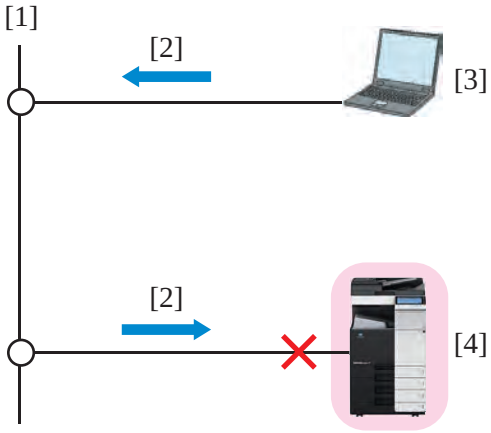
2.2.5 Wired+Wireless (Wi-Fi Direct)

- This mode performs same control as that with Wired+Wireless (Primary Mode).
- When connected to devices supporting Wi-Fi Direct authentication, connection without settings of SSID and password is enabled.

2.3 Operation on ErP Auto Power Off mode

- On ErP Auto Power Off mode, the sub power supply turns off, so that the power consumption is controlled. Touching the power key to start the MFP main unit.
- When the machine without UK-212 is switched to ErP Auto Power Off mode, the following operations are disabled. Such as receiving data, fax RX, scanning original, printing, and so on.
- When UK-212 is installed, ErP Auto Power Off mode can be released remotely (by starting up the machine).
  [Setting menu] -> [Administrator settings] -> [Network Settings] -> [Wireless Network Setting]

Diagram of standby state in "ErP Auto Off mode" of the MFP main unit



[1]	LAN environment	[2]	Print job
[3]	Client (PC)	[4]	Machine (on standby in ErP Auto Power Off mode)

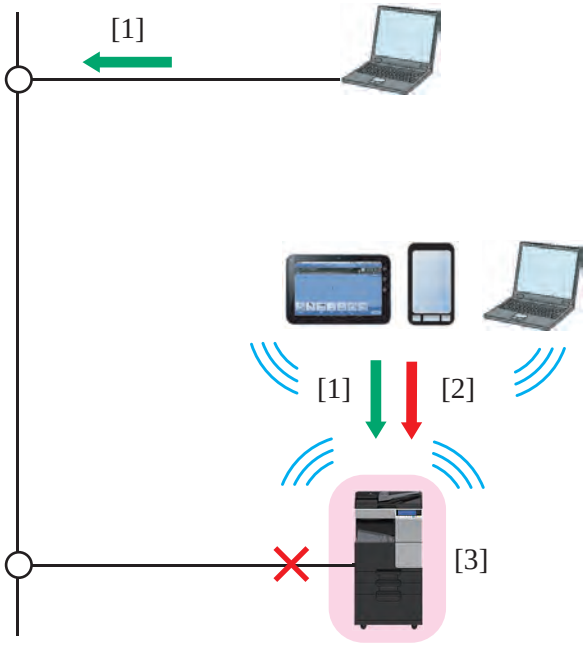
2.3.1 Wired+Wireless (Secondary Mode)

NOTE

- **To awake from the ErP Auto Power Off mode, select [Awake with ARP + Unicast Communication].**

1. The machine waits for a startup indication that is sent via the wireless LAN communication.
2. Receive a startup command from a client via the wireless LAN communication without via the wireless LAN access point to start up the machine.
   - Receiving a startup indication from a PC to start up the MFP main unit.
   - Receiving a communication from a mobile terminal to start up the MFP main unit.

Diagram of startup operation

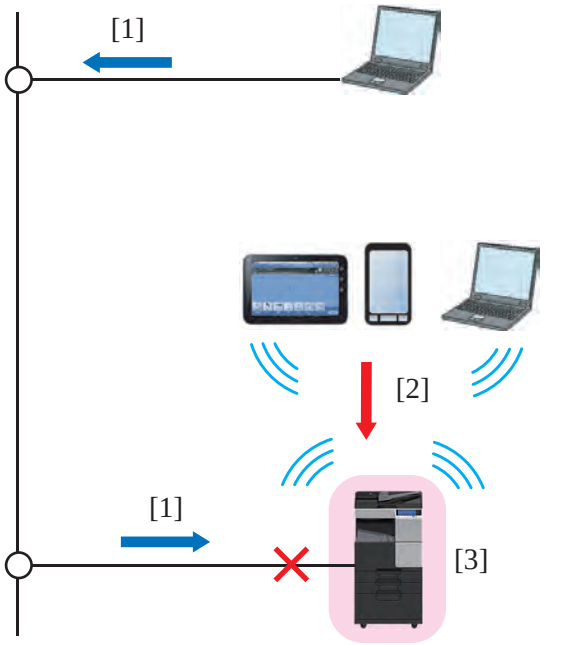


[1]	Startup indication *1	[2]	Job received from a mobile terminal
[3]	Machine (on startup)	-	-

- *1: To execute a print job, [Wake-On-Lan setting] is required to configure at [Initial settings] of a printer driver.

3. After the machine starts up, execute a job that is received from a client.
   - Execute a job received from a PC via the LAN.
   - Execute a job received from a PC via the wireless LAN communication.
   - Execute a job received from a mobile terminal via the wireless LAN communication.

Diagram of operation after startup



[1]	Job received from a PC	[2]	Job received from a mobile terminal
[3]	Machine (after startup)	-	-

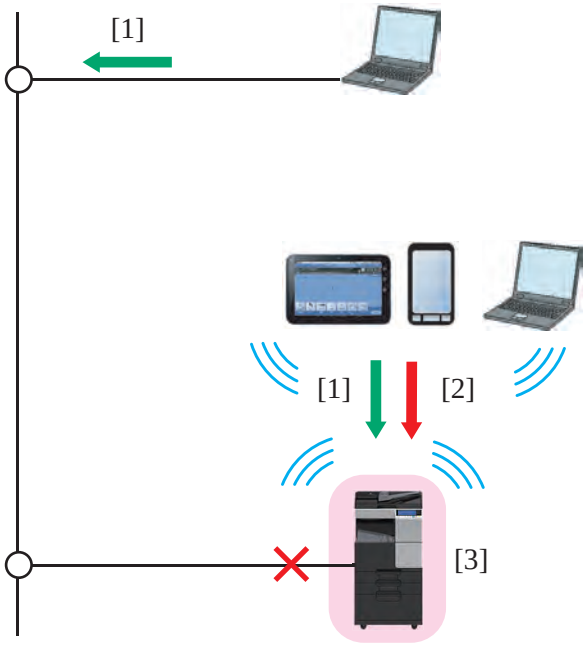
2.3.2 Wired+Wireless (Primary Mode), Wired+Wireless (Wi-Fi Direct)

NOTE

- **To awake from the ErP Auto Power Off mode, select [Awake with ARP + Unicast Communication].**

1. The machine waits for a startup indication that is sent via the wireless LAN communication.
2. Receive a startup command from a client via the wireless LAN communication without via the wireless LAN access point to start up the machine.
   - Receiving a startup indication from a PC to start up the MFP main unit.
   - Receiving a communication from a mobile terminal to start up the MFP main unit.

Diagram of startup operation

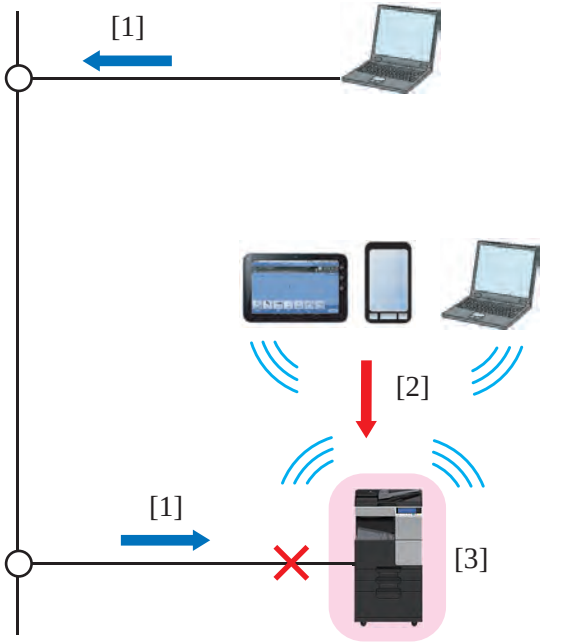


[1]	Startup indication *1	[2]	Job received from a mobile terminal
[3]	Machine (on startup)	-	-

- *1: To execute a print job, [Wake-On-Lan setting] is required to configure at [Initial settings] of a printer driver.

3. After the machine starts up, execute a job that is received from a client.
   - Execute a job received from a PC via the LAN.
   - Execute a job received from a mobile terminal through a direct wireless LAN communication.

Diagram of operation after starting up the MFP main unit



[1]	Job received from a PC	[2]	Job received from a mobile terminal
[3]	Machine (on startup)	-	-

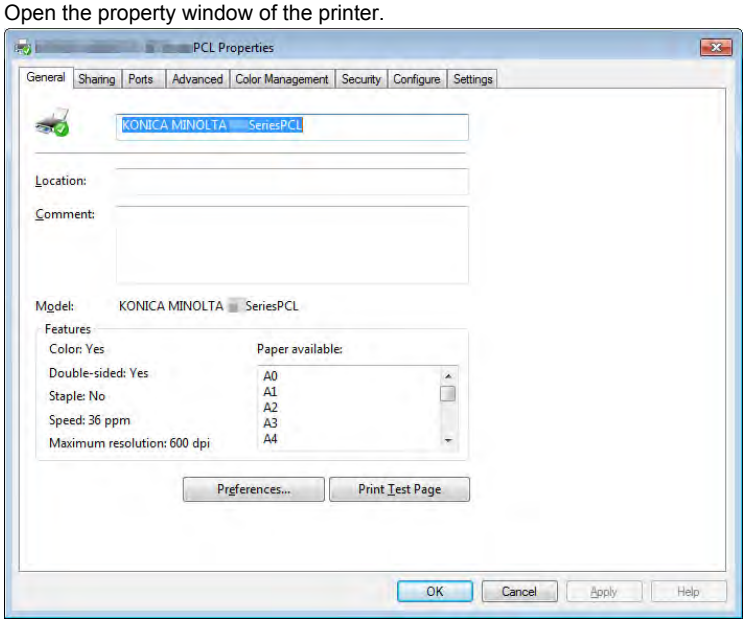
- After the machine starts up, the wireless LAN communication between the machine and the wireless LAN access point will be completed.

2.3.3 Setting for printer driver

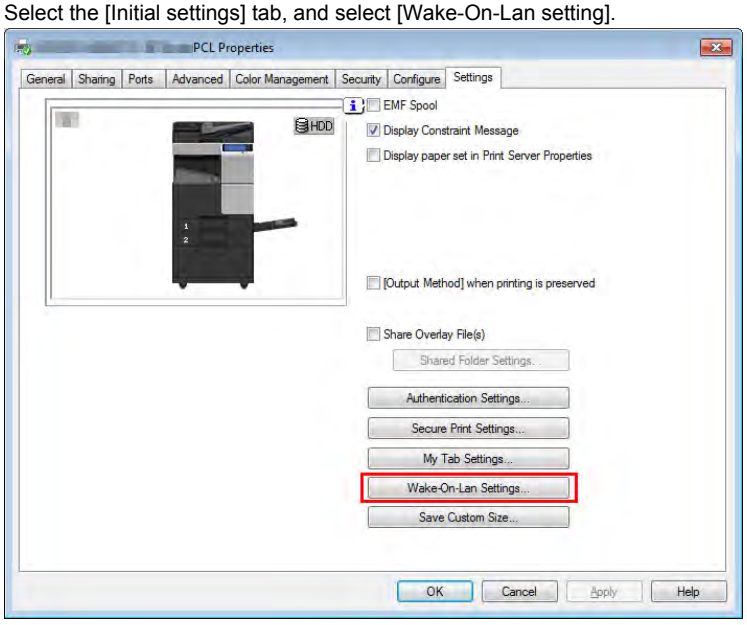
- To execute a print job, property settings are required for the printer driver to start up the machine from ErP Auto Power Off mode.

(1) Setting procedure

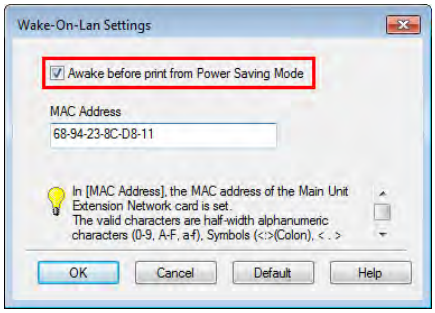
1. Open the property window of the printer.



2. Select the [Initial settings] tab, and select [Wake-On-Lan setting].



3. Select the [Awake before print from Power Saving Mode] check box.



PJ THEORY OF OPERATION FK-513

1. COMMUNICATION CONTROL

1.1 FIF bits of DIS, DTC and DCS

NOTE

- **Considered to be A4 width when the DIS recording paper width is invalid (1, 1).**
  Becomes a FIF error when the DCS recording paper width is invalid (1, 1).
- **Considered to be unlimited when the DIS recording paper length is invalid (1, 1).**
  Considered to be unlimited when the DCS recording paper length is invalid (1, 1).
  The DCS recording paper length in a machine is made to be of the same length as that in a remote station and is sent.
- **Considered to be 2400 bps when the DIS transmission speed is an undefined value.**
  Becomes a FIF error when the DCS transmission speed is an undefined value.
- **Considered to be 40ms instruction when the MSLT of DCS is an undefined value.**
- **Considered to have mm ability when DIS inch ability and mm ability are both set to OFF.**
  Considered to be 200x100 pels/inch when the DCS resolution receives the inch instruction at 3.85 l/mm.
  Becomes a FIF error when more than one of bit41, 42 and 43 are set to on in the resolution of DCS.
- **Becomes a FIF error when DCS receives the MMR instruction without ECM.**
- **Becomes a FIF error when DCS receives the file transfer (BFT) instruction without ECM.**
- **Becomes a FIF error when DCS shows an instruction which exceeds the ability of the machine.**
- **FIF of DIS/DTC is not sent if last octet is 0.**
  DCS sends FIF whose length is the same as that of the machine.
- **When undefined signals are received, they are received and ignored in consideration of the future expansion. (not an error)**

1.1.1 FIF data configuration list (DIS/DTC)

(1) Octet 4

bit	Function	Contents	Default
1	T.37 Internet fax (Simple mode)		0
2	Reserved		0
3	T.38 real time Internet fax		0
4	Third generation mobile network		0
5	Reserved		0
6	V.8 ability		0
7	ECM frame	1: 64 octet 0: 256 octet	0
8	Reserved		0

(2) Octet 5

bit	Function	Contents	Default
9	Ready for polled transmission	1: polled transmission documents exist 0: no polled transmission documents	@
10	Receiver ability	1: Reception is possible. 0: Reception is impossible.	@
11	Transmission speed ability	Refer to *1.	1
12			1
13			0
14			1
15	R8×7.7 l/mm and/or 200×200 pels/25.4 mm		1
16	Two-dimensional coding ability	1: MR 0: MH	1

- @: Changes to 0 or 1 according to a status of devices.
- *1: Transmission speed ability (bit 11, 12, 13 and 14)

11	12	13	14	Contents	Transmission speed
0	0	0	0	V27 ter fall back mode	24
0	1	0	0	V27 ter	48, 24
1	0	0	0	V29	96, 72
1	1	0	0	V27 ter & V29	96, 72, 48, 24
1	1	0	1	V27 ter & V29 & V17	144, 120, 96, 72, 48, 24

(3) Octet 6

bit	Function	Contents	Default
17	Recording paper width ability	bit 17, 18 0,0=A4 0,1=A3 1,0=B4 1,1=Invalid	0
18			1

bit	Function	Contents	Default
19	Recording paper length ability	bit 19, 20 0,0=A4 0,1=Unlimited 1,0=B4 1,1=Invalid	0
20			1
21	Minimum scan line time ability	Refer to *2.	1
22			0
23			0
24	Expansion field		1

- *2: Minimum scan line time ability (bit 21, 22 and 23)

21	22	23	Contents	
0	0	0	3.85 l/mm --- 20 ms	7.7 l/mm --- 20 ms
0	0	1	3.85 l/mm --- 40 ms	7.7 l/mm --- 40 ms
0	1	0	3.85 l/mm --- 10 ms	7.7 l/mm --- 10 ms
0	1	1	3.85 l/mm --- 10 ms	7.7 l/mm --- 5 ms
1	0	0	3.85 l/mm --- 5 ms	7.7 l/mm --- 5 ms
1	0	1	3.85 l/mm --- 40 ms	7.7 l/mm --- 20 ms
1	1	0	3.85 l/mm --- 20 ms	7.7 l/mm --- 10 ms
1	1	1	3.85 l/mm --- 0 ms	7.7 l/mm --- 0 ms

(4) Octet 7

bit	Function	Contents	Default
25	Reserved		0
26	Non-compression mode		0
27	Error correction mode (ECM) ability	1: with ECM 0: without ECM	1
28		0: fixed	0
29	Reserved		0
30	Reserved		0
31	T.6 coding (MMR) ability	1: with MMR 0: without MMR	1
32	Expansion field		1

(5) Octet 8

bit	Function	Contents	Default
33	Field not valid		0
34	Multi-selective polling	1: Ability 0: No ability	0
35	Polled sub-address		0
36	T.43 coding ability		0
37	Plain Interleave		0
38	32K ADPCM voice coding		0
39	Reserved		0
40	Expansion field		1

(6) Octet 9

bit	Function	Contents	Default
41	R8×15.4 l/mm		1
42	300×300 pels/25.4 mm		0
43	R16×15.4 l/mm and/or 400×400 pels/25.4 mm		1
44	inch ability		1
45	mm ability		1
46	Minimum scan line time ability of high resolution	0: T15.4=T7.7 1: T15.4=1/2T7.7	0
47	Selective polling		1
48	Expansion field		1

(7) Octet 10

bit	Function	Contents	Default
49	Sub address ability		1
50	Password		1
51	Ready for data file transmission (polling)		0
52	Reserved		0
53	BFT transfer ability		0
54	DTM transfer ability		0
55	EDI transfer ability		0
56	Expansion field		0

(8) Octet 11

bit	Function	Contents	Default
57	BTM transfer ability		0
58	Reserved		0
59	Character or mixed mode documents ready for Tx (polling)		0
60	Character mode ability		0
61	Reserved		0
62	Mixed mode ability		0
63	Reserved		0
64	Expansion field		0

(9) Octet 12

bit	Function	Contents	Default
65	Processible mode (T.505)		0
66	Digital network ability		0
67	Full-duplex communication ability	1: Full-duplex 0: Half-duplex	0
68	JPEG coding ability		0
69	Full color mode		0
70		0: Fixed	0
71	12 bits / pixel component		0
72	Expansion field		1

(10) Octet 13

bit	Function	Contents	Default
73	No sub sampling (1:1:1)		0
74	Custom illuminance		0
75	Custom gamut range		0
76	North America Letter (215.9*279.4) ability		0
77	North America Legal (215.9*355.6) ability		0
78	Single progression sequential coding (T.85) basic ability		1
79	Single progression sequential coding (T.85) optional LO ability		@
80	Expansion field		0

- @: Changes to 0 or 1 according to a status of devices.

(11) Octet 14

bit	Function	Contents	Default
81	HKM key management capability		0
82	RSA key management capability		0
83	Override capability		0
84	HFX40 cipher capability		0
85	Alternative cipher number 2 capability		0
86	Alternative cipher number 3 capability		0
87	HFX40-I hashing capability		0

bit	Function	Contents	Default
88	Expansion field		1

(12) Octet 15

bit	Function	Contents	Default
89	Alternative hashing system number 2 capability		0
90	Alternative hashing system number 3 capability		0
91	Reserved		0
92	T.44 (Mixed raster content)		0
93	T.44 (Mixed raster content)		0
94	T.44 (Mixed raster content)		0
95	Page length maximum strip size for T.44 (Mixed raster content)		0
96	Expansion field		1

(13) Octet 16

bit	Function	Contents	Default
97	Color/gray-scale 300 pels/25.4 mm x 300 lines/25.4 mm or 400 pels/25.4 mm x 400 lines/25.4 mm resolution		0
98	100 pels/25.4 mm x 100 lines/25.4 mm for color/gray scale		0
99	Simple phase C BFT negotiations capability		0
100	Extended BFT negotiations capability		0
101	Internet selective polling address (ISP)		0
102	Internet routing address (IRA)		0
103	Reserved		0
104	Expansion field		1

(14) Octet 17

bit	Function	Contents	Default
105	600 pels/25.4 mm x 600 lines/25.4 mm		1
106	1200 pels/25.4 mm x 1200 lines/25.4 mm		0
107	300 pels/25.4 mm x 600 lines/25.4 mm		0
108	400 pels/25.4 mm x 800 lines/25.4 mm		0
109	600 pels/25.4 mm x 1200 lines/25.4 mm		0
110	Color/gray-scale 600 pels/25.4 mm x 600/25.4 mm resolution		0
111	Color/gray-scale 1200 pels/25.4 mm x 1200/25.4 mm resolution		0
112	Expansion field		0

(15) Octet 18

bit	Function	Contents	Default
113	Double sided printing capability (alternate mode)		0
114	Double sided printing capability (continuous mode)		0
115	Black and white mixed raster content profile (MRCbw)		0
116	T.45 (run length color encoding)		0
117	Shared date memory capacity	bit 117, 118 0,0=Disable 0,1= Level 1=1.0 Mbytes 1,0= Level 2=2.0 Mbytes 1,1= Level 3=unlimited (i.e. 32 Mbytes or more)	0
118			0
119	Reserved		0
120	Expansion field		0

(16) Octet 19

bit	Function	Contents	Default
121	Flow control capability for T.38 communication		0
122	K > 4		0

bit	Function	Contents	Default
123	Internet aware T.38 mode fax device		0
124	T.89 (Application profiles for ITU-T T.88)	Refer to *3.	0
125			0
126			0
127	sYCC-JPEG coding		0

- *3: T.89 (Application profile for ITU-T T.88)

124	125	126	Contents
0	0	0	Not used
0	0	1	Profile 1
0	1	0	Profile 2
0	1	1	Profile 3
1	0	0	Profile 2 and 3
1	0	1	Reserved
1	1	0	Reserved
1	1	1	Reserved

1.1.2 FIF data configuration list (DCS)

(1) Octet 4

bit	Function	Contents	Default
1	T.37 Internet fax (Simple mode)		0
2	Reserved		0
3	T.38 real time Internet fax		0
4	Third generation mobile network		0
5	Reserved		0
6	Invalid		0
7	Invalid		0
8	Reserved		0

(2) Octet 5

bit	Function	Contents	Default
9		0: fixed	0
10	Reception command		1
11	Transmission speed instruction	Refer to *1.	@
12			@
13			@
14			@
15	R8×7.7 l/mm or 200×200 pels/25.4 mm	1: 7.7 l/mm 0: 3.85 l/mm	@
16	Two-dimensional coding instruction	1: MR 0: MH	@

- @: Changes to 0 or 1 according to a status of devices.
- *1: Transmission speed appointment (bit 11, 12, 13 and 14)

11	12	13	14	Contents
0	0	0	0	24/V27 ter
0	1	0	0	48/V27 ter
1	0	0	0	96/V29
1	1	0	0	72/V29
0	0	0	1	144/V17
0	1	0	1	120/V17
1	0	0	1	96/V17
1	1	0	1	72/V17

(3) Octet 6

bit	Function	Contents	Default
17	Recording paper width instruction	bit 17, 18 0,0=A4 0,1=A3 1,0=B4 1,1=Invalid	@
18			@

bit	Function	Contents	Default
19	Recording paper length instruction	bit 19, 20 0,0=A4 0,1=Unlimited 1,0=B4 1,1=Invalid	@
20			@
21	Minimum scan line time instruction	Refer to *2.	@
22			@
23			@
24	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.
- *2: Minimum scan line time instruction (bit 21, 22 and 23)

21	22	23	Contents
0	0	0	20 ms
0	0	1	40 ms
0	1	0	10 ms
1	0	0	5 ms
1	1	1	0 ms

(4) Octet 7

bit	Function	Contents	Default
25	Reserved		0
26	Non-compression mode		0
27	Error correction mode (ECM) instruction	1: with ECM 0: without ECM	@
28	Frame size instruction	1: 64 octet 0: 256 octet	@
29	Reserved		0
30	Reserved		0
31	T.6 coding (MMR) instruction	1: with MMR 0: without MMR	@
32	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(5) Octet 8

bit	Function	Contents	Default
33	Field not valid capability		0
34		0: fixed	0
35		0: fixed	0
36	T.43 Coding		0
37	Plain Interleave		0
38	32K ADPCM voice coding		0
39	Reserved		0
40	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(6) Octet 9

bit	Function	Contents	Default
41	R8×15.4 l/mm		@
42	300×300 pels/25.4 mm		@
43	R16×15.4 l/mm or 400×400 pels/25.4 mm		@
44	inch/mm instruction	1: mm setting 0: inch setting	@
45	Arbitrary		0
46	Arbitrary		0
47		0: fixed	0
48	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(7) Octet 10

bit	Function	Contents	Default
49	Sub address transmission		@
50	Password (SID) transmission		@
51		0: fixed	0
52	Reserved		0
53	BFT transfer		@
54	DTM transfer		0
55	EDI transfer		0
56	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(8) Octet 11

bit	Function	Contents	Default
57	BTM transfer		0
58	Reserved		0
59		0: fixed	0
60	Character mode		0
61	Reserved		0
62	Mixed mode		0
63	Reserved		0
64	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(9) Octet 12

bit	Function	Contents	Default
65	Processible mode (T.505)		0
66	Digital network ability		0
67	Full-duplex communication instruction	1: Full-duplex 0: Half-duplex	0
68	JPEG coding		0
69	Full color mode		0
70	Default Huffman table use		0
71	12 bits / pixel component		0
72	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(10) Octet 13

bit	Function	Contents	Default
73	No sub sampling (1:1:1)		0
74	Custom illuminance		0
75	Custom gamut range		0
76	North America Letter (215.9 x 279.4)		0
77	North America Legal (215.9 x 355.6)		0
78	Single progression sequential coding (T.85) basic		@
79	Single progression sequential coding (T.85) optional LO		@
80	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(11) Octet 14

bit	Function	Contents	Default
81	HKM key management selected		0
82	RSA key management selected		0
83	Override mode selected		0
84	HFX40 cipher selected		0
85	Alternative cipher number 2 selected		0
86	Alternative cipher number 3 selected		0
87	HFX40-I hashing selected		0
88	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(12) Octet 15

bit	Function	Contents	Default
89	Alternative hashing system number 2 selected		0
90	Alternative hashing system number 3 selected		0
91	Reserved		0
92	T.44 (Mixed raster content)		0
93	T.44 (Mixed raster content)		0
94	T.44 (Mixed raster content)		0
95	Page length maximum strip size for T.44 (Mixed raster content)		0
96	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(13) Octet 16

bit	Function	Contents	Default
97	Color/gray-scale 300 pels/25.4 mm x 300 lines/25.4 mm or 400 pels/25.4 mm x 400 lines/25.4 mm resolution		0
98	100 pels/25.4 mm x 100 lines/25.4 mm for color/gray scale		0
99	Simple phase C BFT negotiations capability		0
100		0: Fixed	0
101		0: Fixed	0
102	Internet routing address (IRA) Transmission		0
103	Reserved		0
104	Expansion field		@

- @: Changes to 0 or 1 according to a status of devices.

(14) Octet 17

bit	Function	Contents	Default
105	600 pels/25.4 mm x 600 lines/25.4 mm		@
106	1200 pels/25.4 mm x 1200 lines/25.4 mm		0
107	300 pels/25.4 mm x 600 lines/25.4 mm		0
108	400 pels/25.4 mm x 800 lines/25.4 mm		0
109	600 pels/25.4 mm x 1200 lines/25.4 mm		0
110	Color/gray-scale 600 pels/25.4 mm x 600/25.4 mm resolution		0
111	Color/gray-scale 1200 pels/25.4 mm x 1200/25.4 mm resolution		0
112	Expansion field		0

- @: Changes to 0 or 1 according to a status of devices.

(15) Octet 18

bit	Function	Contents	Default
113	Double sided printing selected (alternate mode)		0
114	Double sided printing selected (continuous mode)		0
115		0: Fixed	0
116	T.45 (run length color encoding)		0
117	Shared date memory required	bit 117, 118 0,0= not used 0,1= Level 1=1.0 Mbytes 1,0= Level 2=2.0 Mbytes 1,1= Level 3=unlimited (i.e. 32 Mbytes or more)	0
118			0
119	Reserved		0
120	Expansion field		0

(16) Octet 19

bit	Function	Contents	Default
121	Flow control capability for T.38 communication		0

bit	Function	Contents	Default
122	K > 4		0
123	Internet aware fax device operating in T.38 mode		0
124	T.89 (Application profiles for ITU-T T.88)	Refer to *3.	0
125			0
126			0
127	sYCC-JPEG coding		0

- *3: T.89 (Application profile for ITU-T T.88)

124	125	126	Contents
0	0	0	Not used
0	0	1	Profile 1
0	1	0	Profile 2
0	1	1	Profile 3
1	0	0	Invalid
1	0	1	Reserved
1	1	0	Reserved
1	1	1	Reserved

1.2 Modem fallback sequence

- Fallback sequences of TCF and CTC are shown as follows:

1.2.1 V17, V29, and V27 ter

Ability of a remote station	TCF fallback sequence
V27 ter/V29	96/V.29 -> 72/V.29 -> 48/V.27 ter -> 24/V27 ter
V27 ter/V29/V33 V17	144/V.17 -> 120/V.17 -> 96/V.17 -> 72/V.17 -> 48/V.27 ter -> 24/V27 ter

- On the transmission side: If PPR is received four times, a modem is set in the fallback state.
- On the reception side: In case of sending PPR, when the number of error frames exceeds the FP value, a modem is set in the fallback state.

1.2.2 V34 fallback

- Line quality is always water by modem. Optimum speed is automatically selected on-the-fly.

1.3 V8/V34 sequence

1.3.1 V34

(1) Outline

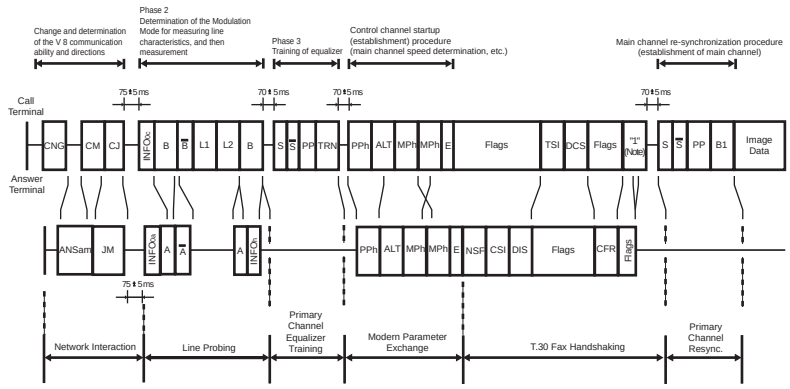
- The 33.6kbps data transmission method and protocol including the V8 protocol. As for each of full-duplex and half-duplex, startup handshake until data transmission starts is divided into four phases, phase1 to 4, and signals used in each phase are regulated.

(2) Features

- Full-duplex (echo canceler method) / Half-duplex method are regulated (for data / FAX respectively)
- 2400, 3000 and 3200 symbols / sec (mandatory) and 2743, 2800 and 3429 symbols / sec (option) QAM synchronous transmission at each symbol rate
- Communication at each signal rate of 33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800 and 2400 bps
- Four-dimensional-symbol trellis coding
- A 200bps sub channel which can be used as an asynchronous second channel (option)
- Negotiation in which characteristics of a line is measured before transmission starts and the maximum communication speed is achieved by finely adjusting the transmission parameter, based on the result of measurement (carrier / frequency / equalizer / symbol rate / level, etc.)
- Data transmission in the super frame with the hierarchical structure

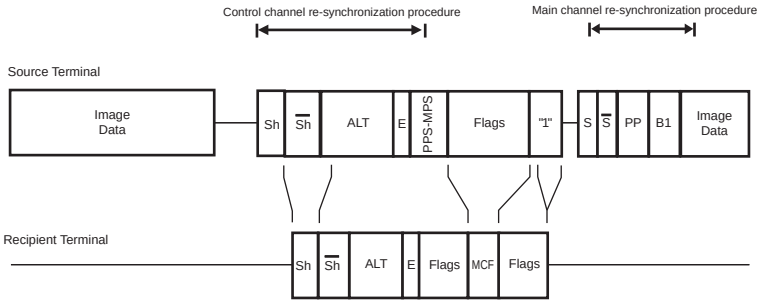
1.3.2 Sample of a signal procedure at sending two pages

(1) Beginning of communications to beginning of 1st page transmission

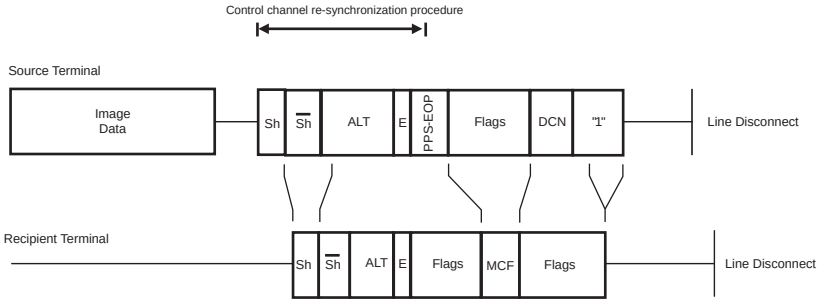


Note - The string of consecutive 1s shall be followed by the 4T of scrambled ones defined in 12.6.3/V34.

(2) Signals between pages



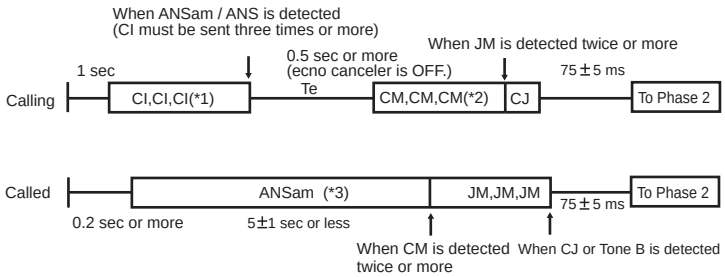
(3) 2nd page transmission termination to communication termination



Note - Some terminals may disconnect the line immediately after sending DCN without sending consecutive 1s.

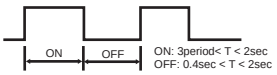
1.3.3 Procedure details

(1) Phase 1 (V8) ....Beginning of connection between a calling modem and a called modem



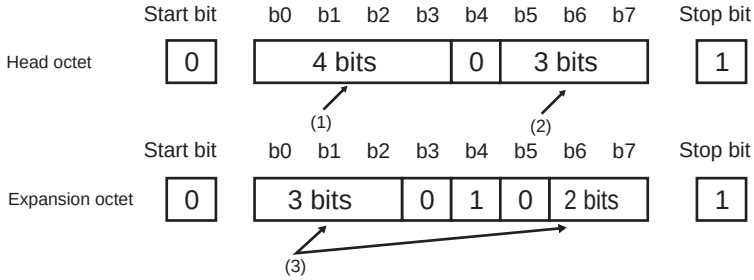
- *1: One of no signals / C1 / CNG (T.30) / CT (V.25)
- *2: V.34 full-duplex ability in the modulation mode bit is ON.
- *3: ANSam of phase inversion is sent. Phase inversion is an option in case of supporting only half-duplex. When CM or valid signal from the calling side is not detected, the procedure is moved to T.30, etc. after 75 ± 5 ms interval.

(a) Signal Definition

Signal type	Meaning	Signal direction call called	Signal speed	Timing of transmission
CI (Call Indicator)	Function display on the calling side	->	V21(L) (300 bps)	• Start: after 0.4 seconds after line connection from ON condition (in the following format) • Stop: when 3 period or more has passed after ANSam / ANS is detected 
	[Comments] • CI is a signal to carry call function. • The calling side send CI, CT (Call Tone - V25) or CNG. • CI transmission and detection are optional. • The ON minimum time (=3 Period) is of duration of three CI signals in the following format.			
ANSam (Modified Answer Tone)	V.8 procedure on the called side Support display	<-	-	When 0.2 seconds or more has passed after reception
	[Comments] • Essential for a called machine which supports the V8 procedure. • 2100 Hz sine wave is phase-inverted by 400 +/-25 ms periods, then amplitude modulated by 15 +/-0.1 Hz sine wave • Average value of modulation factor (x) 0.8 +/- 0.01 < x < 1.2 +/- 0.01 • Average transmission power compliant to V2 • 2100 +/- 200 Hz external power is smaller than the average power by 24 dB or more.			
CM (Call Menu)	Modulation mode etc. on the calling side	-> (300 bps)	V.21 (L)	• Start: Te (0.5 sec. ≤ Te ≤ 1 sec.) has passed after CI transmission stops • Stop: When two or more JM are detected
	[Comments] • CM is a signal which carries call function, modulation modes, protocols and GSTN access. • The first information category is call function. • Protocols and GSTN access category are added when the calling side has ability and when needed to inform to a remote station.			
CJ	CM termination	-> (300 bps)	V.21 (L)	When CM is completed
	[Comments] • START bit (0) and STOP bit (1) are added to 1 octet of all bit 0. • Signal format Start bit b0 b1 b2 b3 b4 b5 b6 b7 Stop bit 0 0 0 0 0 0 0 0 0 1			
JM (Joint Menu)	Display of common ability on both calling and called sides	<- (300 bps)	V.21 (H)	• Start: When two or more same CM are received • Stop: When CJ is received or receives a signal matching the selected Modulation Mode from the calling side
	[Comments] • JM is a response signal to CM and of the same format as the received CM. • The fist information category is Call Function as same as CM. • Modulation mode sets the common bit on calling and called sides and sends by the same octet as received CM. • When there is no common ability, all bits are set to 0 and send by the same octet as received CM. • The minimum item No. is selected from the common bits to determine the actual Modulation Mode. • Protocol is added when it is included in received CM and needed to instruct. • GSTN access is added when it is included in received CM and needed to instruct. • Bit 6 is set to ON when needed to show ability. Bit 5 is set to the same one as received CM.			

(b) Signal format

1. Preamble: a signal added before each signal when CI, CM and JM signals are sent.
   - Format: 1111111111 +0000000001 (for CI)
   - Format: 1111111111 +0000001111 (for CM and JM)
2. Common format among each signal CI, CM and JM
   - Start Bit (=0) is put at the top and Stop Bit (=1) is put at the end of each octet.



- (1): Category tag (tags which represent information types)

Bit assignment					Meaning (information type)	Included signal
b0	b1	b2	b3			
1	0	0	0	...	Call Func	Top of CM, JM / CI
1	0	1	0	...	Modulation Mode	CM/JM
0	1	0	1	...	Protocols	CM/JM
1	0	1	1	...	GSTN access	CM/JM
0	1	1	0	...	PCM modem ability	CM/JM

- (2): Option bit (Differs depending on category tags. See "PJ.1.3.4 Common signal bit definition".)
- (3): Additional option bit (Differs depending on category tags. See "PJ.1.3.4 Common signal bit definition".)

1.3.4 Common signal bit definition

(1) Call function (1 octet)

(a) Top octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning
1	0	0	0	0				(Call Function category tag)
					0	0	0	Defined by ITU-T
					1	0	0	PSTN multi-media terminal
					0	1	0	V18 text phone
					1	1	0	Video tex
					0	0	1	FAX transmission from the calling terminal
					1	0	1	FAX reception in the calling terminal
					0	1	1	Data transmission / reception
					1	1	1	Expansion octet = with call function represented by next octet

- (Other than the above = Reserved)

(2) Modulation mode (3 octets)

(a) 1st octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning	Item No.
1	0	1	0	0				(Modulation mode category tag, b4 = 0 is first octet)	
					0/1			PCM modem ability disabled/enabled	
						0/1		V34 full-duplex ability disabled/enabled	1
							0/1	V34 half-duplex ability disabled/enabled	2

(b) 2nd octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning	Item No.
			0	1	0			(b3, 4 and 5=0, 1, 0 means expanded oct.)	
0/1								V32 bis / V32 ability disabled / enabled	3
	0/1							V22 bis / V22 ability disabled / enabled	4
		0/1						V17 ability disabled / enabled	5
						0/1		V29 half-duplex ability disabled / enabled (used in T.30)	6
							0/1	V27 ter ability disabled / enabled	7

(c) 3rd octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning	Item No.
			0	1	0			(b3, 4 and 5=0, 1, 0 means expanded oct.)	
0/1								V26 ter ability disabled / enabled	8
	0/1							V26 bis ability disabled / enabled	9

b0	b1	b2	b3	b4	b5	b6	b7	Meaning	Item No.
		0/1						V23 full-duplex ability disabled / enabled	10
						0/1		V23 half-duplex ability disabled / enabled	11
							0/1	V21 ability disabled / enabled	12

(3) Protocols (1 octet)

b0	b1	b2	b3	b4	b5	b6	b7	Meaning
0	1	0	1	0				(Protocols category tag)
					1	0	0	V42 LAPM protocol
					1	1	1	Protocol represented by expanding octet

- (Other than the above = Reserved)

(4) GSTN access (1 octet)

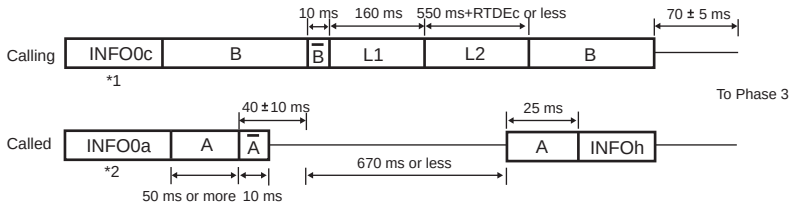
b0	b1	b2	b3	b4	b5	b6	b7	Meaning
1	0	1	1	0				(GSTN access category tag)
					0/1			Celluler connection in the calling side
						0/1		Celluler connection in the called side
							0/1	0: Analog network connection 1: Digital network connection

(5) PCM modem capability (1 octet)

b0	b1	b2	b3	b4	b5	b6	b7	Meaning
1	1	1	0	0				(PCM modem category tag)
					0/1			V.90 analog modem capability
						0/1		V.90 digital modem capability
							0/1	V.91 capability

1.3.5 Phase 2 (Probing) ..... V.34 basic setting

- Exchange of modulation ability
- Measurement of line characteristics (bi-direction)
- Determination and exchange of compensation values to line characteristics (compensation values of maximum data rate, transmission level, pre-emphasis (*))
  - *: linear equalizer for compensating amplitude distortion



A	• 2400 Hz tone signal output from the called side (Level is a set value -1 dB). • 1800 Hz guard tone (Level is a set value -7 dB) is output simultaneously from the called side.	
$\overline{A}$	• 2400 Hz tone signal output from the called side (Phase inversion of A). • 1800 Hz guard tone.	
B	1200 Hz tone signal output from the called side.	
$\overline{B}$	1200 Hz tone signal output from the calling side (Phase inversion of B).	
INFO 0x	Binary signal for indicating auto modulation option signal (x=a/c: a: called side, c: calling side)	
L1, L2	Signal for conditioning line characteristics (tone synthesis at the interval of 150 Hz from 150 to 3750 Hz (except for 900, 1200, 1800 and 2400 Hz))	• L1: 160 ms, Level= Set value+6dB • L2: Maximum 550 ms+TRDEx, Level = Set value
INFO h	Binary signal for indicating parameters used in Phase 3 (training of main channel equalizer). This signal is sent from a modem receiving main channel data to a transmitting modem.	

- *1: INFO 0c Bit 28 OFF
- *2: INFO 0a Bit 28 OFF

(1) <INFO 0x Bit Assignment>

Bits (LSB-MSB)	Value	Meaning	
0-3	1111	Fill Bits	
4-11	01110010	Bit string for frame synchronization	
12	0/1	2743 symbol / sec support	• 0: No

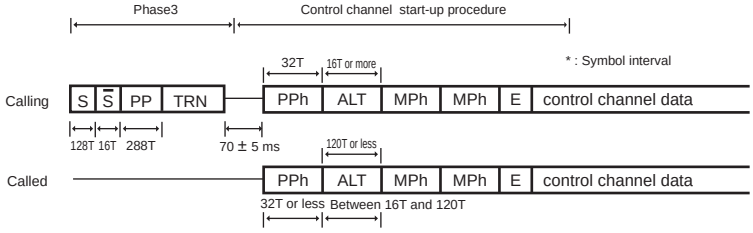
Bits (LSB-MSB)	Value	Meaning	
			• 1: Yes
13	0/1	2800 symbol / sec support	• 0: No • 1: Yes
14	0/1	3429 symbol / sec support	• 0: No • 1: Yes
15	0/1	Ability to transmit at low carrier frequency at 3000 symbol / sec	• 0: No • 1: Yes
16	0/1	Ability to transmit at high carrier frequency at 3000 symbol / sec	• 0: No • 1: Yes
17	0/1	Ability to transmit at low carrier frequency at 3200 symbol / sec	• 0: No • 1: Yes
18	0/1	Ability to transmit at high carrier frequency at 3200 symbol / sec	• 0: No • 1: Yes
19	0/1	3429 symbol / sec transmission	• 0: Disable • 1: OK
20	0/1	Ability to lower the transmission level than a preset value	• 0: No • 1: Yes
21-23	0 to 5	Maximum tolerance of symbol rates between transmission and reception	• 0: 2400 symbol/sec • 1: 2743 symbol/sec • 2: 2800 symbol/sec • 3: 3000 symbol/sec • 4: 3200 symbol/sec • 5: 3429 symbol/sec
24	0/1	1=INFO 0 is sent from the CME modem	
25	0/1	1664 signal point (33.6 K) ability	• 0: No • 1: Yes
26-27	0 to 3	Clock source transmission	• 0: Internal • 1: External • 2: Synchronous to the reception clock • 3: Reserved
28	0/1	1=Correct INFO 0 frame is received during error recovery	
29-44		CRC	
45-48	1111	Fill Bits	

(2) <INFO h Bit Assignment>

Bits (LSB-MSB)	Value	Meaning	
0-3	1111	Fill Bits	
4-11	01110010	Bit string for frame synchronization (transmitted from the left side)	
12-14	0 to 7	• Output reduction width demanded by the reception modem (dB) • When *the modem on the transmitting side can not reduce output* at INFO 0, the value is set to 0.	
15-21	0 to 127	The length of TRN which the modem of the transmitting side send in the Phase 3 (x 35 ms)	
22	0/1	High carrier is user for data mode Tx.	
23-26	0 to 10	Pre-emphasis filer index No.which is used for data transmission	
27-29	0 to 5	Symbol rate of data transmission	0: 2400 ... 5: 3429 (symbol / sec)
30	0/1	Selection of parameters used for TRN.	• 0: 4 points • 1: 16 points
31-46		CRC	
47-50	1111	Fill Bits	

1.3.6 Phase 3 .....Training of the main channel equalizer

- Band division full-duplex method
- Transmission and reception of Phase 3 signals (S, $\overline{S}$PP, TRN) are executed by using parameter values which are determined by exchanging INF Oh. (symbol rate, carrier frequency, pre-emphasis filter and transmission level)



- The speed of the following signals (Phase 3) are determined by INFOh. (The following signals are used in the main channel in the half-duplex procedure.)

S	Signal which sends alternately 0 point and a point which rotated 0 point counterclockwise by 90 degrees
$\overline{S}$	Signal which sends alternately a point which rotated 0 point counterclockwise by 180 degrees and a point which rotated 0 point counterclockwise by 270 degrees
PP	Special signal which is sent from a remote station for adjusting an equalizer
TRN	Training signal. (Symbol rate and duration are determined in INFOh.)

(1) Control channel signal

- The following signals are used for establishing the control channel or re-synchronization and retrain. (peculiar to half-duplex procedure)

Modulation method	1200 / 2400 bps QAM modulation (600 ± 0.01 symbols / sec). However, training and synchronous signals are 1200 bps.	• Calling modem: Carrier (=1200 Hz ± 0.01 % (level = set value)) • Called modem: Carrier (=2400 Hz ± 0.01 % (level = set value-1 dB)) + Guard tone (=1800 Hz ± 0.01 % (level = set value-7 dB))
Sh	Signal which sends alternately 0 point and a point which rotated 0 point counterclockwise by 90 degrees (the same as S)	
$\overline{Sh}$	Signal which sends alternately a point which rotated 0 point counterclockwise by 180 degrees and a point which rotated 0 point counterclockwise by 270 degrees (the same as S)	
AC	Signal which send alternately 0 point and a point which rotated 0 point by 180 degrees	
PPh	Special signal which is sent from a remote station for adjusting an equalizer (used when the initial of the control channel and re-synchronization are executed)	
ALT	Signal which scrambled alternate signals of 0 and 1 (1200 bps)	
MPh	Binary signal used for exchanging parameters of the modulation method when data is actually sent and received by using the main channel (1200 bps)	• Both type 0 and type 1 (type 0+pre-recording coefficient) must be received. • When type 0 is received, pre-recording coefficient is considered to be 0 and never functions.
E	“1”, binary of 20 bit, which represents the beginning of user data transmission on the control channel	

(2) MPh (type 0) bit assignment

Bits (LSB-MSB)	Value	Meaning	
0-16	All bit 1	Bit string for frame synchronization	
17	0	Start bit	
18	0	MP signal type	
19	0	Reserved	
20-23	1 to 14	Maximum transmission rate from the calling modem to the called modem (x 2400) *1	
24-26	0,0,0	Reserved	
27	0/1	Control channel data transmission rate which is selected by the opposed transmitter	• 0: 1200 bps • 1: 2400 bps
28	0	Reserved	
29-30		Trellis coding device selection *2	• 00: 16 state • 10: 32 state • 01: 64 state • 11: Reserved
31	0/1	Non-linear encoder parameter selection for the terminal transmitter of a remote station *2	• 0: φ=0 • 1: φ=0.3125
32	0/1	Parameter (shaping) selection when the data rate is determined within each symbol rate *2	• 0: Minimum • 1: Expanded
33	0	Reserved	
34	0	Start bit	
35-49		Communication speed mask (Bit 35=2400 bps ... Bit 46=28.8 kbps, Bit 47=31.2 kbps, Bit 48=33.6 kbps and Bit 49=Reserved)	• 0: Ability of both modems disabled • 1: Enabled
50	0/1	Use of control channel imbalance data rate	• 0: No • 1: Yes
51	0	Start bit	
52-67	0	Reserved	
68	0	Start bit	
69-84		CRC	
85-87	0,0,0	Fill Bits	

- *1: 13 and 14 are used when the opposed modem supports up to 1664 points
- *2: Set to 0 on the transmitting modem.

(3) MPh (type 1) bit assignment

Bits (LSB-MSB)	Value	Meaning	
0-16	All bit 1	Bit string for frame synchronization	
17	0	Start bit	
18	1	MP signal type	
19	0	Reserved	
20-23	1 to 14	Maximum transmission rate from the calling modem to the called modem (x 2400) *1	
24-26	0,0,0	Reserved	
27	0/1	Control channel data transmission rate which is selected by the opposed transmitter	• 0: 1200 bps • 1: 2400 bps
28	0	Reserved	
29-30		Trellis coding device selection *2	• 00: 16 state • 10: 32 state • 01: 64 state • 11: Reserved
31	0/1	Non-linear encoder parameter selection for the terminal transmitter of a remote station *2	• 0: φ=0 • 1: φ=0.3125
32	0/1	Parameter (shaping) selection when the data rate is determined within each symbol rate *2	• 0: Minimum • 1: Expanded
33	0	Reserved	
34	0	Start bit	
35-49		Communication speed mask (Bit 35=2400 bps ... Bit 46=28.8 kbps, Bit 47=31.2 kbps, Bit 48=33.6 kbps and Bit 49=Reserved)	• 0: Ability of both modems disabled • 1: Enabled
50	0/1	Use of control channel imbalance data rate	• 0: No • 1: Yes
51	0	Start bit	
52-67		Pre-coding coefficient h (1) Real	
68	0	Start bit	
69-84		Pre-coding coefficient h (1) Imaginary	
85	0	Start bit	
86-101		Pre-coding coefficient h (2) Real	
102	0	Start bit	
103-118		Pre-coding coefficient h (2) Imaginary	
119	0	Start bit	
120-135		Pre-coding coefficient h (3) Real	
136	0	Start bit	
137-152		Pre-coding coefficient h (3) Imaginary	
153	0	Start bit	
154-169		Reserved	
170	0	Start bit	
171-186		CRC	
187	0	Fill Bits	

- *1: 13 and 14 are used when the opposed modem supports up to 1664 points
- *2: Set to 0 on the transmitting modem.

1.3.7 Re-synchronization procedure / Startup procedure

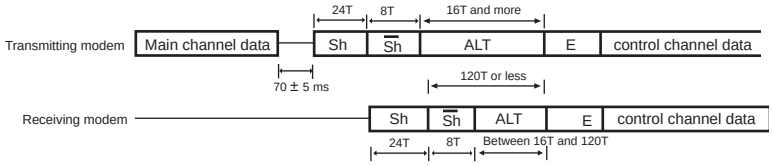
- A procedure required to switch control channel and main channel in the half-duplex procedure
- A procedure which includes another modulation parameter exchanging is especially called the startup procedure. (used for changing the communication speed)

(1) Startup procedure

- Control channel startup procedure (By exchanging MPh, the communication speed is changed.)
- “Control channel re-synchronization procedure” is not used.

(2) Re-synchronization procedure

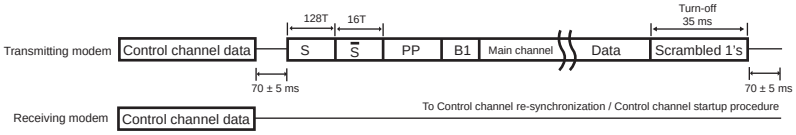
- Control channel re-synchronization.
- See signals related to control channels for signal names and change method.



(a) Main channel re-synchronization procedure and Turn-off

- The receiving modem re-synchronizes the main channel by using the PP signal. After B1, starts receiving Primary Data.
- The transmitting modem sends the scrambled 1's for 35 ms after Primary Data transmission has been completed.
- Both modems move to the control channel re-synchronization procedure or the control channel startup procedure.

S	Signal which sends alternately 0 point and a point which rotated 0 point counterclockwise by 90 degrees
$\overline{S}$	Signal which sends alternately a point which rotated 0 point counterclockwise by 180 degrees and a point which rotated 0 point counterclockwise by 270 degrees
PP	Special for adjusting an equalizer
B1	High-speed signal of one frame length which is sent at the end of a series of startup sequence in the selected modulation parameter.



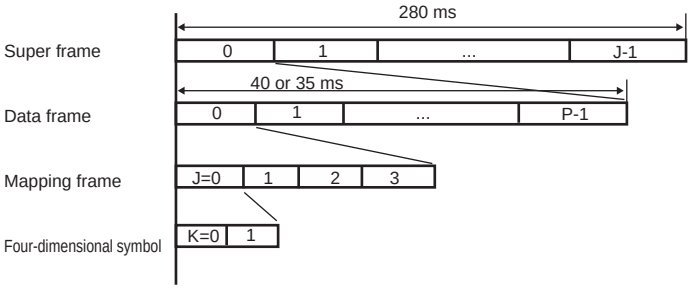
1.3.8 Other

(1) Minimum reception signal level (RLSD) (half-duplex mode only)

- The reception circuit is turned to ON when the signal becomes 43 dBm or more.
- When the signal becomes 48 dBm or less, the reception circuit is turned OFF within 20 to 25 ms after it has exceeded the thresh old.

(2) Data frame structure

- All data transmitted in V.34 (after the Phase 4) is treated in the following frame format.
  - J: The number of data frames within one super frame
  - P: The number of mapping frames within one data frame



Modulation Speed	J	P
2400 baud	7	12
2743 baud	8	12
2800 baud	7	14
3000 baud	7	15
3200 baud	7	16
3429 baud	8	15

2. FUNCTION

2.1 Telephone function

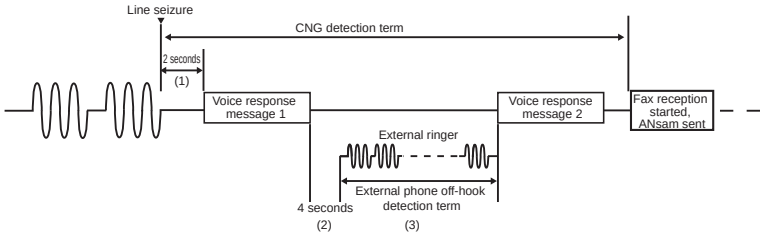
2.1.1 TEL/FAX switching

(1) Outline

- A function to switch telephone and FAX automatically after reception. (Depends on Country spec.)

(2) Operation

1. When CNG is not detected for 2 seconds (or 4 seconds, following address parameter) after line seizure, this function sends voice response message 1 and continues CNG detection.
2. If voice response 1 is sent and CNG detection is continued for 4 seconds but could not be detected, external ringer is sent to the externally installed phone.
3. When CNG is not detected for a given period (Default is 20 seconds. Changeable by address parameters), this function stops external ringer transmission and becomes fax reception after the voice response message 2 is sent.
4. This function detects OFF-HOOK of the external telephone during external ringer transmission only.
5. When OFF-HOOK of the external telephone is detected during external ringer transmission, the line is connected to the external telephone. Even if you use the telephone, you can manually switch to the fax reception after that.
6. When CNG is detected during the above-mentioned external ringer transmission, External ringer transmission is stopped and the fax reception starts.



(3) Related FP

No.	FP	Meaning and purpose	Address	Value	Default	Note
1	Tel-Fax switching	External telephone offhook detection function	0x0e0095 bit5	0: No 1: Normal (RBT transmission)	0	Those with a Administrator Settings
2	RBT transmission time	External ringer transmission time (3) (in steps of 1 second)	0x0e00eb	unit: 1000 ms, HEX	0x14 (20 sec.)	A serviceman setting by address setting
3	Tel-Fax switching parameter	Time from vocal response to RBT transmission (CNG detection waiting time 2)	0x0e0095 bit7	0: 4 sec. 1: 2 sec.	0	Same as the above
4	Tel-Fax switching parameter	Time from reception to voice response transmission (CNG detection waiting time 1)	0x0e0095 bit6	0: 2 sec. 1: 4 sec.	0	Same as the above
5	Tel-Fax switching parameter	TEL/FAX switching ON response details	0x0e0095 bit3	0: Voice response + RBT transmission 1: RBT transmission only	0	Those with a Administrator Settings

2.2 F-code

- F-code is a function to realize confidential transmission / bulletin board polling / relay transmission by using SUB, SEP and SID signals.
- To be more specific, a machine which can open “a box” on the memory is called “a F code compliant center machine” and a machine which can access to a center machine by using the F code function is called “a F-code compliant machine.” The center machine can have plural “boxes” and they are used as the confidential box, bulletin board box and relay box respectively.
- Function outline is as follows.

Function	Outline	Signals to be used			Use (Meaning)	Required function	Remark
		SUB	SEP	SID			
Confidential transmission	Sent to the center machine which opens a confidential box by appointing the confidential box No. (The center machine has memory reception to the confidential box.)	○	×	△	• SUB = Appointment of a confidential box • SID = Password	Registration = Message adding	Each box No. = Contents of a signal (20 digits or less)

Function	Outline	Signals to be used			Use (Meaning)	Required function	Remark
		SUB	SEP	SID			
Bulletin board polling	By appointing a box No. in the center machine which opens a bulletin board, contents are polled.	×	○	×	SUB = Appointment of a bulletin board box	• Registration = Message overwriting • With a mode which is not deleted by polling.	
Relay transmission	Requesting relay to the relay machine which opens a relay box (No.) in which a broadcasting transmission remote station is registered.	○	×	○	• SUB = Appointment of a relay box (No.) • SID = Password		

- ○ = interact is required
- △ = selectable
- × = do not use

2.2.1 Signal format

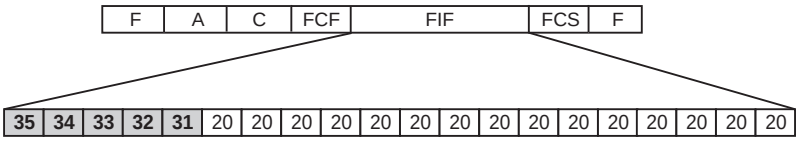
(1) Contents of signals

Item / Signal Name	SUB/SEP	SID
Characters	0 to 9 only (* and # must not be used.)	• 0 to 9 • * • #
Contents	Box No.	Password
No. of digits	Arbitrary between 1 and 20	
Space between digits	Prohibited	
Others	Impossible to designate more than one box	

(2) FIF (SUB/SEP/SID) common

- The last digit is left-justified. The remaining are filled with space (0x20)

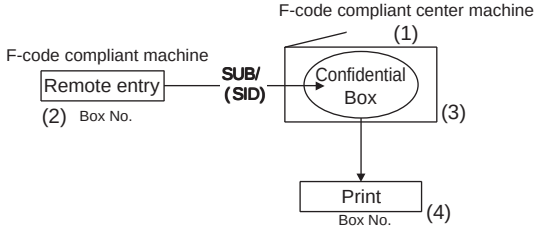
eg.) 12345



(3) DIS/DTC/DCS bit condition

Bit No.	Meaning	DIS/DTC	DCS
47	Selective polling ability	• DIS = ON when SEP reception is possible • DTC = ON when SEP is transmitted	0: fixed
49	Sub address ability / function	ON when SUB reception is possible	ON when SUB transmission is possible
50	Password / sender ID	• DIS = ON when SID reception is possible • DTC = ON when SID is transmitted	ON when SID is transmitted

2.2.2 F-code confidential transmission



1. The confidential box is registered in the center machine.
   - Registration of confidential box No. and name
   - Registration of communication password
   - Registration of box password
2. Transmission operation on the transmitting side
   - Specification of confidential box No.
3. Reception in the center machine

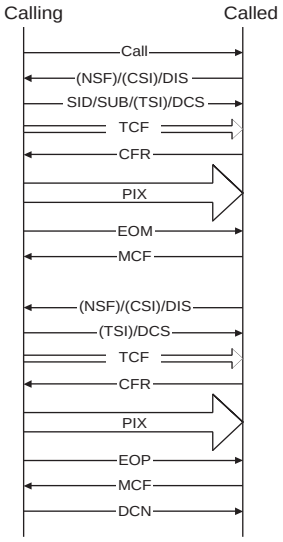
- Automatic output of confidential communication report

4. Printing in the center machine
   - Output by entering an access protect No.

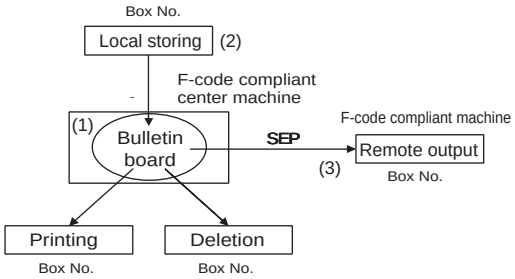
(1) BOX specifications

Confidential box No.	• Represented by a nine digit number. Operationally between 1 and 999999999. • You can not open the same box number as the bulletin board No. which has been already opened.
Communication password	Possible to use.
Confidential BOX name	Possible to resister up to 20 characters.
Erased at printing	Erased on every page after output.
Box password	Represented by eight digit number between 00000000 and 99999999.
No. of files in confidential box	100 files at the maximum including bulletin board.

(2) Example of the protocol sequence



2.2.3 F-code bulletin board polling



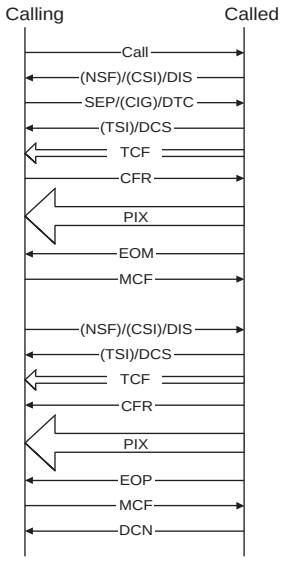
1. Registration of the bulletin board box in the center machine
   - Registration of the bulletin board No. and name
2. Storing documents in the bulletin board
3. Operations for polling reception on the compliant machine
   - Appointment of bulletin board No.

(1) BOX specifications

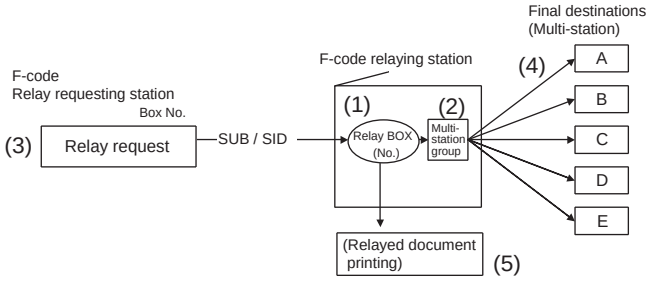
Bulletin board box No.	• Represented by a nine digit number. Operationally between 1 and 999999999. • You can not open the same box number as the confidential box which has been already opened.
Bulletin board password	No
Bulletin board box name	• Yes • Same number of characters as the confidential box
Erased at printing	Not erased when printed.
Erased at polling	Not erased when polled.
Access protect No.	No

No. of document registration to the bulletin board box	Only once. If already exist, it is overwritten.

(2) Example of protocol sequence



2.2.4 F-code relay transmission



NOTE

- **This machine is only relay requests and do not function as a relaying station.**

1. The relay box is registered in the relaying station.
   - Registering relay box No., relay password and relay group No.

2. Registration of group
   - Registering final destinations in the group No.

3. Transmission operation in the relay requesting station
   - Instructs relay box no. and relay password.

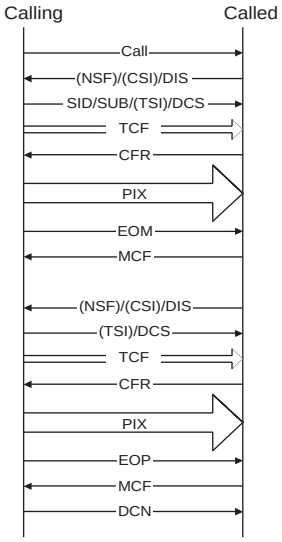
4. Transmission to the final remote stations registered in the group

5. Possible to printed relayed documents on the relaying station (depends on the parameter setting)

(1) BOX specifications

Relay box	Possible to register up to 5.
Relay box No.	Any box number that can range between 1 and 999999999
Relay password	Any 8-digit number
Relay BOX name	To be assignable
Access protect No.	No
Final destination designation	Possible only to register in the relay box by appointing the group.
File erasure after transfer	Always erased
Conditions to erase box by operations	Only when there are no files of received messages in the relay box, box can be erased.

(2) Protocol sequence example



2.3 Transmission function

2.3.1 Original scan mode

- The original scan mode is roughly classified by the regular original scan and the irregular original scan.

Regular original	Irregular original	Mode selection
Normal mode	Irregular mode	Default setting
Mixed original mode		Scan setting

(1) Scan mode default setting

- The scan mode can be set by [Service Mode] -> [FAX] -> [System] -> [Scan Setting]. The default is the irregular mode.

	Paper size detection	Default	Frame erasure
Irregular mode	Trailing edge detection	Yes	Trailing edge erasure may not be done.
Normal mode	DF paper size sensor	Automatically selected when using the page related application function (book transmission, etc.).	Frame erasure of all sides

2.4 Reception function

2.4.1 Reduction / division of reception

- Parameters related to reduction / division are set on the [Administrator Settings] -> [Fax Settings] -> [TX/RX Settings]. There are two parameters as follows:
  - [Min. Reduction for RX Print]: 96, 95, 94, ..., 87: a
  - [Print Separate Fax Pages]: ON, OFF: b
- The reception recording mode is determined by the above-mentioned parameters, a and b.

(1) Auto reduction reception mode

- a = Don’t care (except 100)
- b = OFF
- The received documents are automatically reduced in the range of 35 to 96 %.

(2) Page division recording reception mode

- a = 96, 95, ..., 87
- b = ON
- Documents are reduced to three reduction rate (90 %, 86 %, or 82 %) determined by the width of received documents and the selected recording paper. When they are still larger than a paper size, they are reduced to a value in “a” for the division recording.
  - 90% = Fixed value
  - 86%, 82% = Reduction rate determined by the main scanning direction
- The paper selection and division are determined in accordance with the following figure.

(3) Paper selected for division printing, magnification

(a) A4S width at reception

Original length=Received original size*(1/a)	Optimum paper	Selected paper size / Division operation							
		Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8
152 mm or less	A5	A5/a %	A5S/69 %	A4S/a %	A4/a %	B5S/84 %	B5/a %	B4/a %	A3/a %
153 to 311 mm	A4S	A4S/a %	A4/a %	B4/a %	A3/a %	-	-	-	-
312 to 384 mm	B4	B4/a %	B5/a %	B5S/84 %	A3/a %	A4/a %	A4S/a %	-	-
Over 384 mm	A3	A3/a %	A4/a %	B5S/84 %	-	-	-	-	-

- a : Set magnification

(b) B4 width at reception

Original length=Received original size*(1/a)	Optimum paper	Selected paper size / Division operation							
		Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8
189 mm or less	B5	B5/a %	B5S/71 %	B4/a %	A4S/82 %	A4/a %	A3/a %	-	-
189 to 384 mm	B4	B4/a %	B5/a %	B5S/71 %	A3/a %	A4/a %	A4S/82 %	-	-
Over 384 mm	A3	A3/a %	A4/a %	A4S/82 %	-	-	-	-	-

- a : Set magnification

(c) A3 width at reception

Original length=Received original size*(1/a)	Optimum paper	Selected paper size / Division operation							
		Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8
219 mm or less	A4	A4/a %	A4S/69 %	B4/85 %	A3/a %	-	-	-	-
Over 219 mm	A3	A3/a %	A4/a %	A4S/69 %	-	-	-	-	-

- a : Set magnification

2.4.2 Cassette / paper selection

- The cassette and paper selection is performed by using two parameters of the [Administrator Settings] -> [Fax Settings] -> [TX/RX Settings].
  - [Print Paper Selection]: Auto Select, Fixed Size, Priority Size: a
  - [Tray Selection for RX Print]: Auto, Tray 1, Tray 2, Tray 3 and Tray 4: b

NOTE

- **When “b” is fixed to tray 1, 2, 3 or 4, “a” becomes invalid.**
- **Only when “b” is set to Auto, “a” becomes valid.**
- **Only A3, B4 and A4 sizes can be selected for the fixed size and preferential size modes.**
- **Bypass cannot be specified as fix-tray.**
- **Page dividing function becomes invalid when the tray is fixed.**

2.4.3 Compulsory memory reception

- The function to enable to print out by operations without printing out documents at reception in the FAX communications.

(1) Related settings

(a) Compulsory memory reception function

- Set in the [Service Mode] -> [FAX] > [System] -> [Display Setting].
- When this setting is set to “OFF”, display and actions related to the Compulsory memory reception are not performed. In addition, you can not perform operations. If this setting is not set, the following Compulsory memory reception function used is also set to disabled.

(b) Compulsory memory reception function use

- Set in the [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [Memory RX Setting].
- When this setting is set to “NO”, the compulsory memory reception actions are not performed at reception. In addition, you can not display, erase and print the compulsory memory reception documents. The compulsory memory reception documents are displayed on the main menu irrelevant to this setting.

(c) Compulsory memory reception password

- Within eight digits (0 to 9)
- Set in the [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [Memory RX Setting].
- This setting is required to display, delete or print the compulsory memory reception documents.

(2) Operation

(a) Necessary conditions for this function

- When there is the compulsory memory reception function, and it is used, the compulsory memory reception action is performed.

(b) Line seizure

- It is possible to receive up to 500 compulsory memory reception jobs including the normal reception and the substitute reception. When 500 compulsory memory reception jobs are received, machine will not catch the line. (Except the case that the polled transmission documents and bulletin board documents are registered.)

(c) Reception

- When the reception is performed in the compulsory memory reception mode, printing is not performed even with recording paper and the reception is performed in memory as the compulsory memory reception documents.
- The same as in the polled reception and manual reception.
- The auto forwarding setting is neglected in this mode, and the compulsory memory reception is performed.
- When SUB is received, related applications will start.

(d) Setting change

- When there are received compulsory memory reception documents, even if the compulsory memory reception setting is set to invalid in the utility mode, the compulsory memory reception file is not printed.
- For printing, the compulsory memory reception setting is required to be set to “ON.”

2.4.4 Closed reception (Junk FAX)

- The closed reception function used only at the time of the reception by using the F-code SID signal.

NOTE

- **You can not use this function with the F-code communications.**

(1) Closed reception function

- Set in the [Service Mode] -> [FAX] > [System] -> [Display Setting].

(2) Closed reception function use

- Set in the [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [Closed Network RX].
- When this setting is set to “No”, the closed reception actions are not performed at reception.

(3) Closed reception password

- Four digits (0 to 9)
- Set in the [Administrator Settings] -> [Fax Settings] -> [Function Settings] -> [Closed Network RX].



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