



KONICA MINOLTA

SERVICE MANUAL

bizhub

C3110

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KONICA MINOLTA, INC.

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88	D00012397 33	L.2.2 MFP board (MFPB)	2	The explanation was added.	2015/03/03
89	D00012397 39	N.1. bizhub C3110	2	The explanation was added.	2015/03/03
90	D00012777 53	Section S	1	Add to the section S	2015/03/03

No.	ID	Title	Ver.	Descriptions of revision	Date
114	D00012395 15	D.1. SYSTEM CONFIGURATION	2	The explanation was added.	2015/03/16

Version 1.2

No.	ID	Title	Ver.	Descriptions of revision	Date
1	D00015092 40	E.3. Utility tool	3	The explanation was added.	2015/10/19
2	D00015092 42	I.4.18 LOADABLE DOWNLOAD	3	The explanation was added.	2015/10/19

Version 1.3

No.	ID	Title	Ver.	Descriptions of revision	Date
1	D00012395 04	B.1. Notation of the service manual	2	Support OS was changed.	2016/04/04
2	D00012395 15	D.1. SYSTEM CONFIGURATION	3	The explanation was modified.	2016/04/04
3	D00012522 77	G.3.11 Printer control board (PRCB)	4	The explanation was modified.	2016/04/04
4	D00012546 93	I.3.1 List of service mode (outline)	4	The explanation was modified.	2016/04/04
5	D00012546 94	I.3.2.1 Machine	2	The explanation was modified.	2016/04/04
6	D00012546 95	I.3.2.2 Img. Proc. Adj.	2	The explanation was modified.	2016/04/04
7	D00012546 96	I.3.2.3 System 1	2	The explanation was modified.	2016/04/04
8	D00015407 31	I.4.2.10 ACS Parameter	2	The explanation was modified.	2016/04/04
9	D00015407 32	I.4.2.11 Replace All Units	2	The explanation was modified.	2016/04/04
10	D00015407 33	I.4.2.12 New Replace Mode	3	The explanation was modified.	2016/04/04
11	D00012547 77	I.4.4.1 TransVolt Fn Adj.	7	The explanation was modified.	2016/04/04
12	D00012547 78	I.4.4.2 Img. Stabilization	8	The explanation was modified.	2016/04/04
13	D00012547 79	I.4.4.3 IMG ADJ THICK	6	The explanation was modified.	2016/04/04
14	D00012547 90	I.4.6.2 SOFT SWITCH	10	The switch functions were modified.	2016/04/04
15	D00016288 18	I.4.6.3 Cal Setting	4	The explanation was added.	2016/04/04
16	D00012395 01	A.3.6 Laser Safety	2	The explanation was modified.	2016/04/05
17	D00012395 12	C.1.8 Print functions	2	Support OS was changed.	2016/04/05
18	D00012546 97	I.3.2.4 System 2	2	The explanation was modified.	2016/04/05
19	D00015092 42	I.4.18 loadable download	4	The explanation was modified.	2016/04/05
20	D00012547 82	I.4.5.1 Marketing Area	5	The explanation was modified.	2016/04/05

Version 1.4

No.	ID	Title	Ver.	Descriptions of revision	Date
1	D00012395 04	B.1. Notation of the service manual	3	The supported OS was modified.	2017/05/16
2	D00012395 08	C.1.4 Materials	2	The explanation was modified.	2017/05/16
3	D00012395 12	C.1.8 Print functions	3	The supported OS was modified.	2017/05/16
4	D00012395 20	E.1. Service material list	2	The explanation was modified.	2017/05/16
5	D00012395 28	F.4.1 Life value of consumables and parts	2	The explanation was modified.	2017/05/16
6	D00012547 82	I.4.5.1 Marketing Area	5	The explanation was modified.	2017/05/16

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

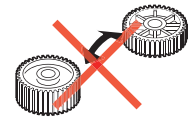
WARNING



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



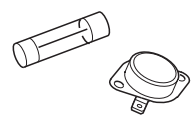
- Do not use any part not specified by KM.



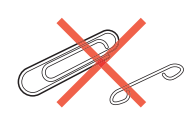
- Do not use any power cord or power plug not specified by KM.



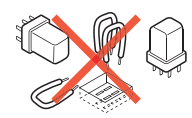
- Use only the protective fuses specified by KM. Use of any type of fuse or related part not specified by KM makes safety devices inoperative which may result in a fire from high heat.



- 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.



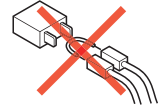
- Do not disable relay functions (for example, inserting a piece of paper between relay contacts to hamper circuit action.) Fire may result from high heat.



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.

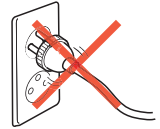
If the plug shape does not match the wall outlet, request the user to perform power source installation work.

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.



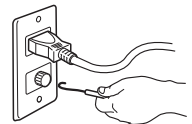
(2) Ground Connection

WARNING

- Check whether the product is grounded properly.



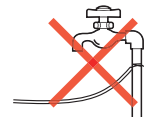
If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product.



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.



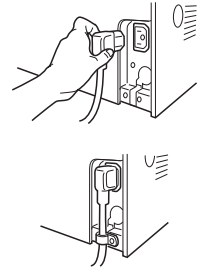
(3) Power Plug and Cord

WARNING

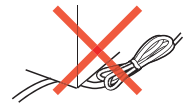
- When using the power cord set (inlet type) that came with this product, make sure the connector is securely inserted in the inlet of the product.



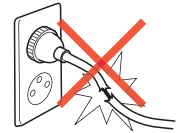
When a securing measure is provided, secure the cord with the fixture properly. If the power cord (inlet type) is not connected to the product securely, a contact problem may lead to increased resistance, overheating, and risk of fire.



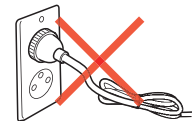
- Do not allow the power cord to be stepped on or pinched. Overheating may occur there, leading to a risk of fire.



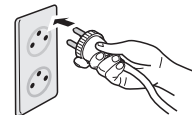
- Check whether the power cord is damaged. Check whether the sheath is damaged. If the power plug, cord, or sheath is damaged, replace with a new power cord (with plug and connector on each end) specified by KM. Using the damaged power cord may result in fire or electric shock.



- 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.

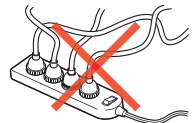


(4) Wiring

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.

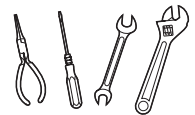


3.3.3 After Service

(1) Inspection before Servicing

WARNING

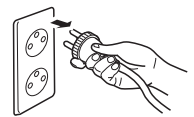
- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure using the recommended personal safety equipment and using only the prescribed tools.



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.

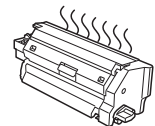
- Before conducting an inspection, be sure to disconnect the power plugs from the Main Body and Accessories (Options).



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



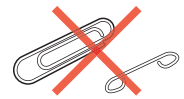
- Check the external covers and frame for possible sharp edges, burrs, and damage. They can be a cause of injury during use or servicing.



- 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.



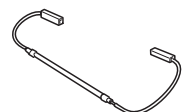
- Do not disassemble or adjust the write unit (PH unit) incorporating a laser. The laser light can enter your eye, leading to a risk of loss of eyesight.



- 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.

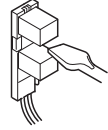


WARNING

- 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.

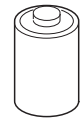
CAUTION



- 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 suositteluun tyyppiin.
Hävittä 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

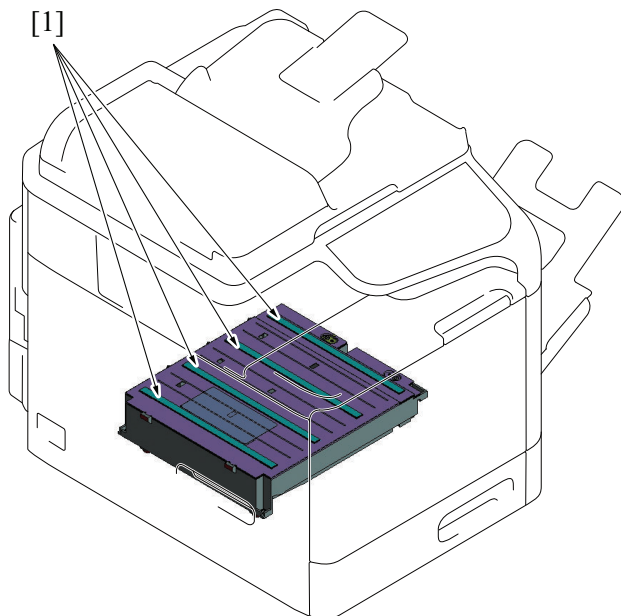
This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

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	22 mW
Maximum average radiation power (*)	13.6 μW
Wavelength	770 to 800 nm


*at laser aperture of the Print Head Unit




[1] Laser Aperture of the Print Head Unit	-	-
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(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.

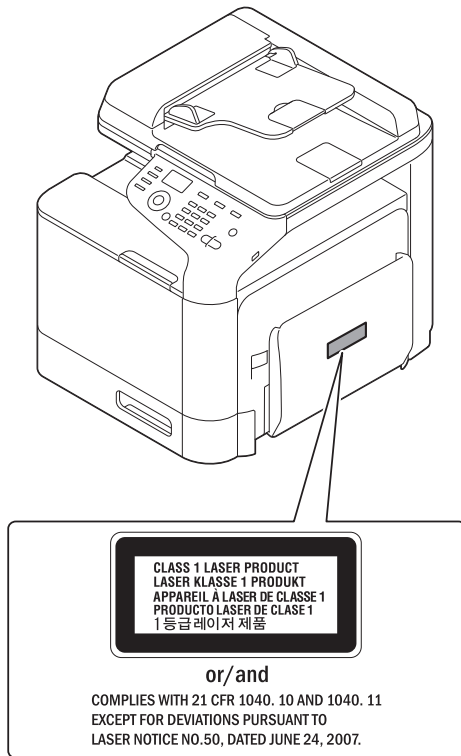
 WARNING	
Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.	
semiconductor laser	
Maximum power of the laser diode	22 mW
Wavelength	770 to 800 nm

(2) All Areas

 WARNING	
Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.	
semiconductor laser	
Maximum power of the laser diode	22 mW
Wavelength	770 to 800 nm

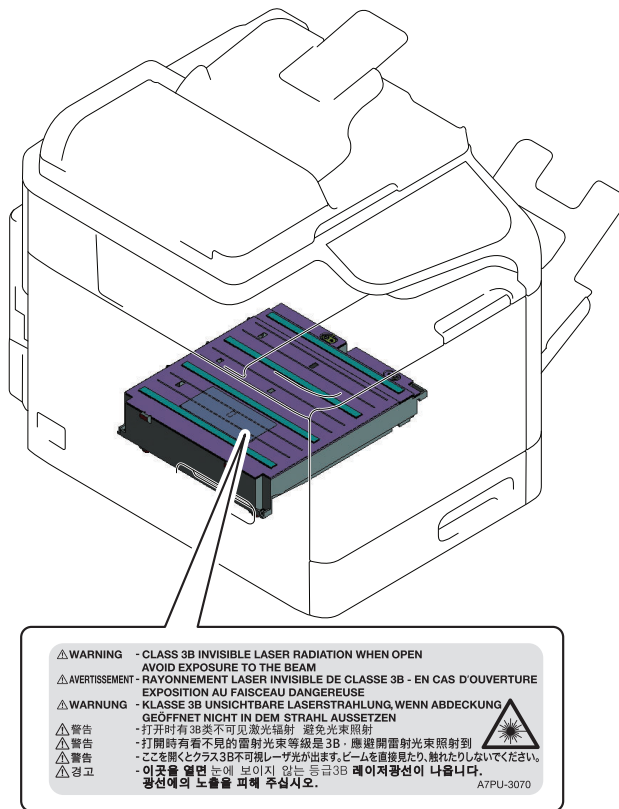
3.6.3 Laser Safety Label

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



3.6.4 Laser Warning Label

A laser warning 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.

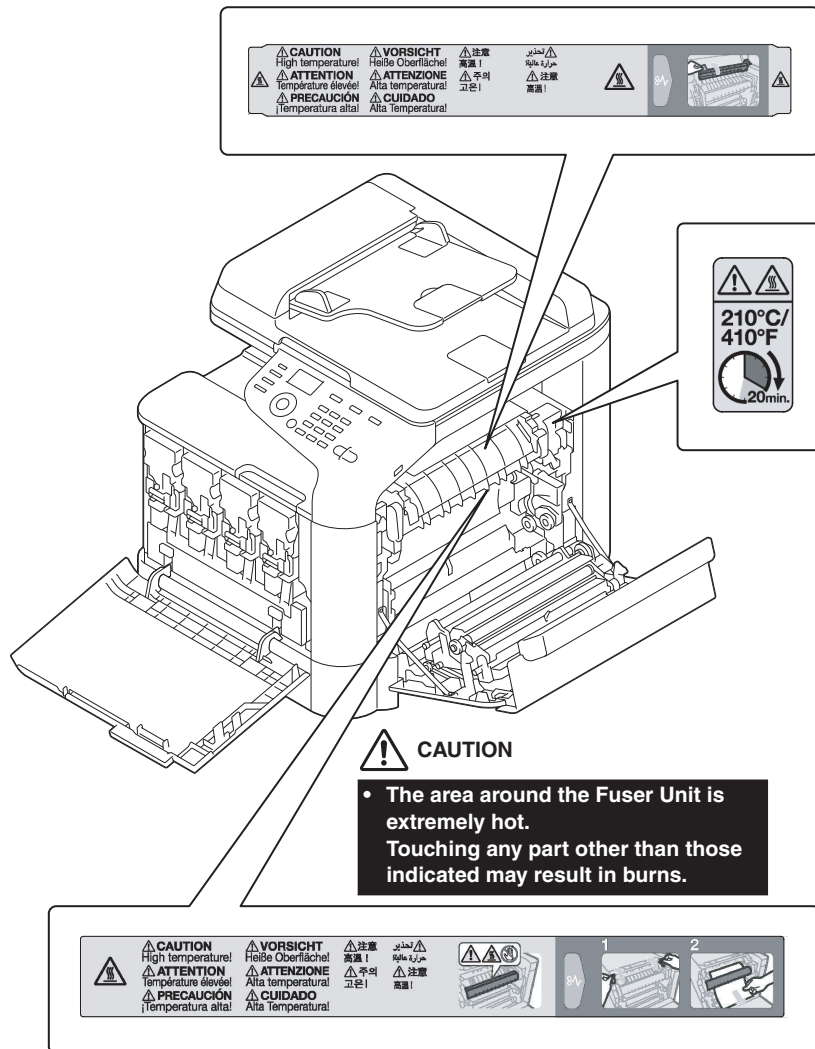
4. WARNING INDICATIONS ON THE MACHINE

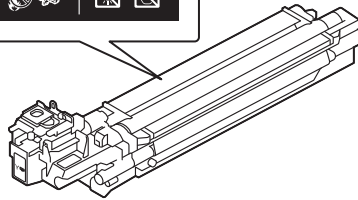
Caution labels shown are attached in some areas on/in the machine. When accessing these areas for maintenance, repair, or adjustment, special care should be taken to avoid burns and electric shock.

4.1 Warning indications inside the machine

! CAUTION

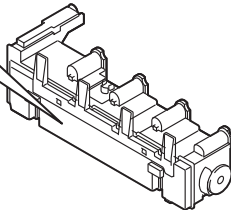
You may be burned or injured if you touch any area that you are advised not to touch by any caution label. Do not remove caution labels. If any caution label has come off or soiled and therefore the caution cannot be read, contact our service office.





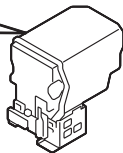
⚠ WARNING

- Do not burn used Imaging Unit.
Toner expelled from the fire is dangerous.



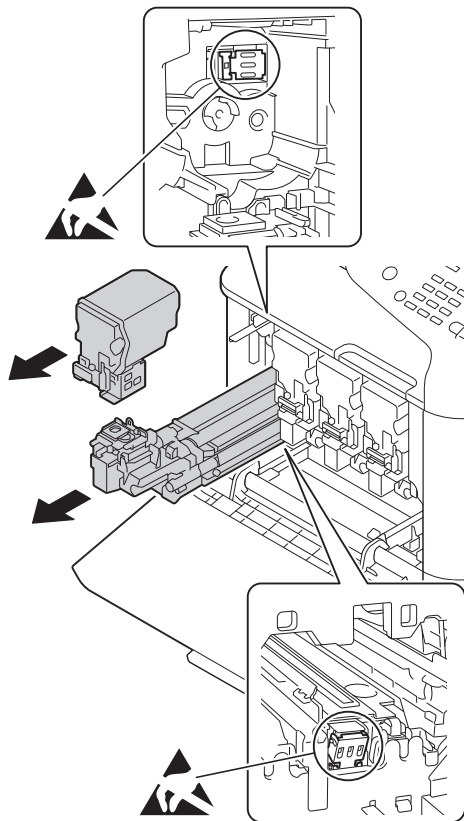
⚠ WARNING

- Do not burn used Waste Toner Bottle.
Toner expelled from the fire is dangerous.



⚠ WARNING

- Do not burn used Toner Cartridges.
Toner expelled from the fire is dangerous.



! CAUTION

- Never touch the electrical contacts of the toner cartridge or the imaging unit, as an electrostatic discharge may damage the product.

4.2 Warning indications on the boards

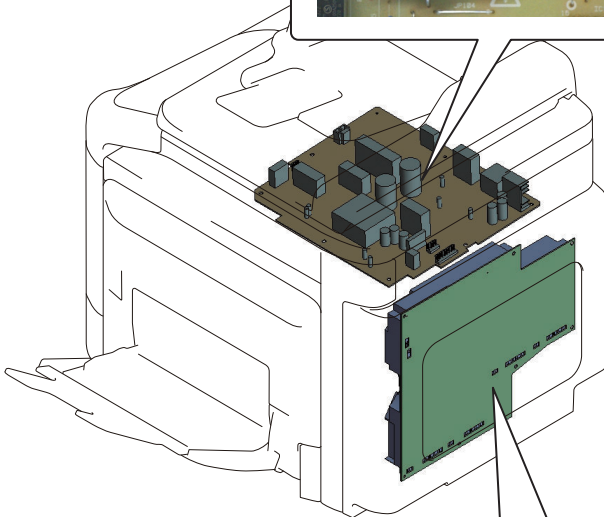
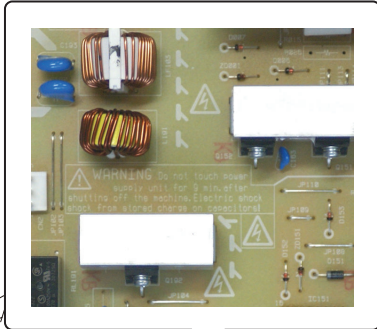
⚠ WARNING



- To avoid electric shock, after turning OFF the power switch, do not touch the DC power supply unit for 9 minutes. If the DC power supply unit is faulty, it may take time before its voltage drops sufficiently.

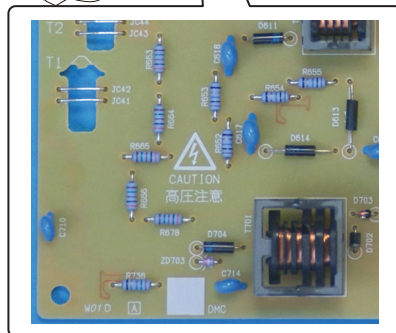
⚠ High voltage

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



⚠ High voltage

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



5. MEASURES TO TAKE IN CASE OF AN ACCIDENT

1. If an accident has occurred, the distributor who has been notified first must immediately take emergency measures to provide relief to affected persons and to prevent further damage.
2. If a report of a serious accident has been received from a customer, an on-site evaluation must be carried out quickly and 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. Notation of the service manual

1.1 Product name

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

- | | | |
|-----|--------------------------------|---------------------|
| (1) | Bizhub C3110 | Main body |
| (2) | Microsoft Windows 7: | Windows 7 |
| | Microsoft Windows 8.1: | Windows 8.1 |
| | Microsoft Windows 10 | Windows 10 |
| | Microsoft Windows Server 2008: | Windows Server 2008 |
| | Microsoft Windows Server 2012: | Windows Server 2012 |

When the description is made in combination of the OS's mentioned above:

Windows 7/8.1/10/Server 2008/Server 2012
 Windows 7/8.1/10
 Windows Server 2008/Server 2012

1.2 Brand name

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

1.3 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	Feed direction	Notation
A5	Long edge feeding	A5
	Short edge feeding	A5S
A4	Short edge feeding	A4

C PRODUCT SPECIFICATIONS

1. bizhub C3110

1.1 Type

Type	Flatbed full-color printer/copier/scanner with stationary plate and DF
Printing system	Semiconductor laser to plain paper
Printing process	Laser electrostatic printing system
Exposure system	4 laser diode and 1 polygon mirror
PC drum type	OPC (organic photo conductor):KM110
Scanning density	Main scan direction: 600 dpi, Sub scan direction: 600 dpi,DF:600dpi(Max)
Print resolution	600 x 600 dpi, 1200 x 1200 dpi
Exposure lamp	LED
Original scanning	<ul style="list-style-type: none"> • Flatbed CIS module scanning system • Sheet through system when DF is used
Registration	Rear left edge
Paper feeding system	<ul style="list-style-type: none"> • Manual Tray: Small roller separation system with torque limiter • Tray1: Small roller separation system with torque limiter
Developing system	Single-element developing system
Charging system	Charge roller system
Image transfer system	Interpaperte transfer belt system
Paper separating system	Curvature separation + charge-neutralizing system
Fusing system	Belt fusing
Paper exit system	Face down (Output tray capacity: 150 sheets (A4S/LetterS))

NOTE

- These specifications are subject to change without notice.

1.2 Functions

Types of original	<ul style="list-style-type: none"> • Sheets • Books • Three-dimensional objects 		
Max. original size	<ul style="list-style-type: none"> • A4S or Legal(DF only) 		
Max. original weight	<ul style="list-style-type: none"> • 3kg(6.6lb) 		
Multiple copies	<ul style="list-style-type: none"> • 1 to 99 		
Warm-up time	<ul style="list-style-type: none"> • Avg. 36 seconds (Time until the printer can start printing after being turned on at room temperature (23°C))		
Process speed	<ul style="list-style-type: none"> • 185 mm/sec. (plain paper, 600 dpi) • 92.5 mm/sec. (thick paper1/2, envelope, post card, label, 1200dpi) 		
First-page output time	Simplex: (Monochrome/Full color)	<ul style="list-style-type: none"> • 12.9 seconds for A4S (plain paper) • 12.9 seconds for Letter (plain paper) 	
Print speed	Simplex: Monochrome/Full color:	<ul style="list-style-type: none"> • 31.0 page per minutes for A4S (plain paper) • 32.5 page per minutes for Letter (plain paper) • 15.5 page per minutes for A4S (thick paper1/2) • 16.0 page per minutes for Letter (thick paper1/2) 	
	Duplex (double-sided): Monochrome/Full color:	<ul style="list-style-type: none"> • 31.0 sheet per minutes for A4S (plain paper) • 32.5 sheet per minutes for Letter (plain paper) 	
Image loss	Copy	<ul style="list-style-type: none"> • Leading edge: 4 mm(0.15 inch) • Trailing edge: 4 mm(0.15 inch) • Rear edge: 4 mm(0.15 inch) • Front edge: 4 mm(0.15 inch) 	
	Print	<ul style="list-style-type: none"> • Leading edge: 4.2 mm (0.16 inch) • Trailing edge: 4.2 mm (0.16 inch) • Rear edge: 4.2 mm (0.16 inch) • Front edge: 4.2 mm (0.16 inch) 	
Fixed zoom ratios	Reduction	Metric area	x0.25 x0.50 x0.70 x0.86
		Inch area	x0.25 x0.50 x0.64 x0.78
	Enlargement	Metric area	x1.15 x1.41 x2.00 x4.00

		Inch area	x1.29 x1.54 x2.00 x4.00
Variable zoom ratios	0.25 to 4.00	in 0.01 increments	
Paper size	Manual bypass	A4S to A6S Legal	
	Tray 1	A4S to A6S	
	Tray 2 (Option)	A4S to B5S Legal	
External memory function	<ul style="list-style-type: none"> • 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 2GB or less recommended. • A USB flash memory that appears as multiple drives on a computer cannot be used. 		
Memory capacity	• 1GB (Max.2GB:Option)		

NOTE

- These specifications are subject to change without notice.

1.3 Paper

Type		Paper source (maximum tray capacity)		
		Manual Feed Tray	Tray 1	Tray 2
Paper type	Plain paper (60 to 90 g/m ² ; 16 to 24 lb)	100 sheets	250 sheets	500 sheets
	Recycled paper (60 to 90 g/m ² ; 16 to 24 lb)			
	Thick 1 (91 to 150 g/m ²)	20 sheets	20 sheets	-
	Thick 2 (151 to 210 g/m ²)			
	Label			
	Letterhead			
	Glossy 1 (100 to 128 g/m ²)			
	Glossy 2 (129 to 158 g/m ²)			
	Postcard			
Envelope	10 sheets	-		
Paper dimensions	Width	92 to 216 mm* (3.6 to 8.5 inch)	92 to 216 mm* (3.6 to 8.5 inch)	B5S,Executive,Letter S
	Length	148 to 356 mm* (5.8 to 14.0 inch)	148 to 297 mm* (5.8 to 11.7 inch)	A4S,G-Legal,Legal

- *: If the width set 210 mm to 216 mm, the max. length is to 279.6 mm.

NOTE

- These specifications are subject to change without notice.

1.4 Materials

Materials	Number of prints (Field standard yield)	Parts name
Toner cartridge/C	4,700 prints	TNP51C
Toner cartridge/M	4,700 prints	TNP51M
Toner cartridge/Y	4,700 prints	TNP51Y
Toner cartridge/K	4,700 prints	TNP51K
Imaging unit/C	20,000 prints	IUP23C
Imaging unit/M	20,000 prints	IUP23M
Imaging unit/Y	20,000 prints	IUP23Y
Imaging unit/K	20,000 prints	IUP23K
Waste toner box	19,700 prints	WB-P03

1.4.1 Conditions for defining the life value for the field standard yield

Specified conditions	bizhub C3110	
Copy/print method	2 P/J	
Copy/print conditions	Standard resolution, plain paper, 1-sided mode	
Color ratio	20%	
Original density	B/W = 5 % for each color, 5 % for black	
Average print volume/month	US	420 prints/month (Color) 1,680 prints/month (Black)
	EU	500 prints/month (Color)

2,000 prints/month (Black)

1.5 Print volume

Average	US	Color print	420 prints/month
		Black print	1,680 prints/month
	EU	Color print	500 prints/month
		Black print	2,000 prints/month
Maximum			120,000 prints/month

1.6 Machine specifications

Power requirements	Voltage:	AC 110V, 127V, 120 V, 220 to 240 V
	Frequency:	50 to 60 Hz
Max power consumption		<ul style="list-style-type: none"> • 1,000 W or less (110 V) • 1,100 W or less (120 V) • 1,200 W or less (127 V) • 1,200 W or less (220-240 V)
Dimensions		<ul style="list-style-type: none"> • 446.5 (W) x 544 (D) x 500 (H) mm • 17.6 (W) x 21.4 (D) x 19.6 (H) inch
Weight		<ul style="list-style-type: none"> • 29.5 kg (65lb) or less without consumables • 34.3 kg (75.6 lb) or less with consumables
Operating noise		<ul style="list-style-type: none"> • During standby:33 dB (A) or less • During printing:53 dB (A) or less

NOTE

- These specifications are subject to change without notice.

1.7 Operating environment

Temperature	10°C to 30°C (50°F to 86°F) (Fluctuations of no more than 10°C (18°F) within an hour.)
Humidity	15% to 85% (Fluctuations of no more than 10% within an hour.)

NOTE

- These specifications are subject to change without notice.

1.8 Print functions

		bizhub C3110	
First print time (Tray1/2 A4S or 8 1/2 x 11, full size)	Simplex: (Monochrome/Full color)	12.9 seconds for A4S (plain paper) 12.9 seconds for Letter (plain paper)	
	Duplex: (Monochrome/Full color)	18.1 seconds for A4S (plain paper)	
Printing speed for multi-print cycle (A4S or 8 1/2 x 11, plain paper)	Simplex:	<ul style="list-style-type: none"> • 31.0 page per minutes for A4S (plain paper) • 32.5 page per minutes for Letter (plain paper) 	
	Duplex (double-sided):	<ul style="list-style-type: none"> • 31.0 sheet per minutes for A4S (plain paper) • 32.5 sheet per minutes for Letter (plain paper) 	
Print resolution	<ul style="list-style-type: none"> • Standard: 600 dpi in main scanning direction x 600 dpi in sub scanning direction • High quality: 1,200 dpi in main scanning direction x 1,200 dpi in sub scanning direction 		
Printer language	<ul style="list-style-type: none"> • PCL5c/e Emulation, PCL 6 (XL Version 3.0) Emulation, PostScript 3 Emulation (3016), XPS ver.1.0, PPML/GA2.2, PPML/VDX, OpenXPS, PDF Direct Printing (Version 1.7) 		
Supported operating systems (server)	<ul style="list-style-type: none"> • Windows server 2008, Windows server 2008 64bit, Windows server 2008 R2 • Windows server 2012, Windows Server 2012 R2 • Red Hat Enterprise Linux 4/5/6 server • SUSE Linux Enterprise Server 9/10/11 		
Supported operating systems (client)	<ul style="list-style-type: none"> • Windows 7, Windows 7 64bit, Windows 8.1, Windows 8.1 64bit, Windows 10, Windows 10 64bit • Mac OSX 10.8, Mac OS X 10.9, Mac OS X 10.10, Mac OS X 10.11 • Red Hat Enterprise Linux 4/5/6 Desktop • SUSE Linux Enterprise Desktop 9/10/11 		
Printer driver (PCL6)	<ul style="list-style-type: none"> • Windows 7, Windows 7 64bit, Windows 8.1, Windows 8.1 64bit, Windows 10, Windows 10 64bit • Windows Server 2008, Windows Server 2008 64bit, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2 		
Printer driver (PostScript 3)	<ul style="list-style-type: none"> • Windows 7, Windows 7 64bit, Windows 8.1, Windows 8.1 64bit, Windows 10, Windows 10 64bit • Windows Server 2008, Windows Server 2008 64bit, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2 • Mac OSX 10.8 PPD+PDE, Mac OS X 10.9 PPD+PDE, Mac OS X 10.10 PPD+PDE, Mac OS X 10.11 PPD+PDE • Linux printer driver PPD file 		
Printer driver (XPS)	<ul style="list-style-type: none"> • Windows 7, Windows 7 64bit, Windows 8.1, Windows 8.1 64bit, Windows 10, Windows 10 64bit 		

	• Windows Server 2008, Windows Server 2008 64bit, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2
Work memory	1GB (Max. 2GB: Option)
Host interface	Ethernet 10Base-T, 100Base-TX, 1000Base-T, USB2.0/1.1, USB_Host
Built-in fonts (PCL)	European 80 fonts
Built-in fonts (PostScript 3 Emulation)	European 137 fonts (Type1 font)

- *With HDD installed

NOTE

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

2. PF-P14

2.1 Type

Name	Add-on 500-sheet paper feed cassette
Type	Front-loading type
Installation	Desk type
Paper feeding system	Paper separation by a small-diameter roller with torque limiter
Document alignment	Center

2.2 Paper type

Paper size	B5S(JIS)/Executive/LetterS/A4S/Letter Plus/G-Legal/Legal
Paper type	<ul style="list-style-type: none"> • Plain paper: 60 to 90 g/m² (16 to 24 lb) • Recycled paper: 60 to 90 g/m² (16 to 24 lb)
Capacity	500 sheets

2.3 Machine specifications

Power Requirements	<ul style="list-style-type: none"> • DC 24 V ± 10% (supplied from the main body) • DC 3.3 V ± 5%
Max. Power Consumption	16 W or less
Dimensions	<ul style="list-style-type: none"> • 447 mm (W) × 519 mm (D) × 117 mm (H) • 17.6 inch (W) × 20.4 inch (D) × 4.6 inch (H)
Weight	<ul style="list-style-type: none"> • Approx. 8.0 kg (17³/₄ lb)

2.4 Operating environment

Temperature	10°C to 35°C / 50°F to 90°F (with a fluctuation of 10°C/h (18°F/h))
Humidity	15% to 85% (with a fluctuation of 20%/h)

NOTE

- These specifications are subject to change without notice.

3. i-Option LK-106/LK-107/LK-108/LK-111

3.1 Available function for i-Option

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

3.1.1 List of advanced functions

Function	Overview
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.*
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).

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

3.1.2 Types of advanced functions

(1) Table 1

Function	Kit name			
	i-Option			
	LK-106	LK-107	LK-108	LK-111
Barcode font	○	-	-	-
Unicode font	-	○	-	-
OCR font	-	-	○	-
ThinPrint function	-	-	-	○

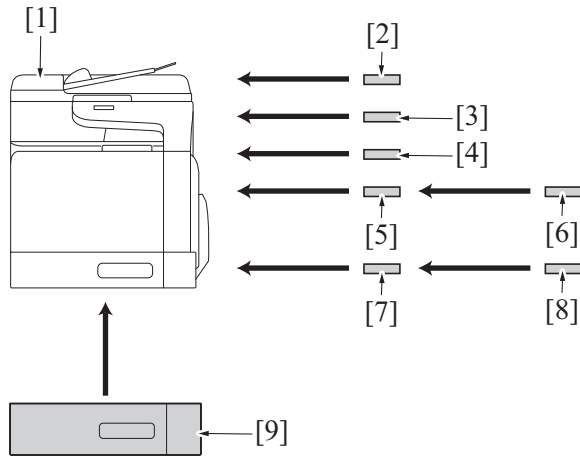
3.1.3 Activation procedures of i-Option

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

- Activation via ADDMIN SETTINGS: [1.2.1.14 Admin Settings - License Management](#)
- Activation via Service Mode: [1.5.3.4 License Management - Activation](#)

D OVERALL COMPOSITION

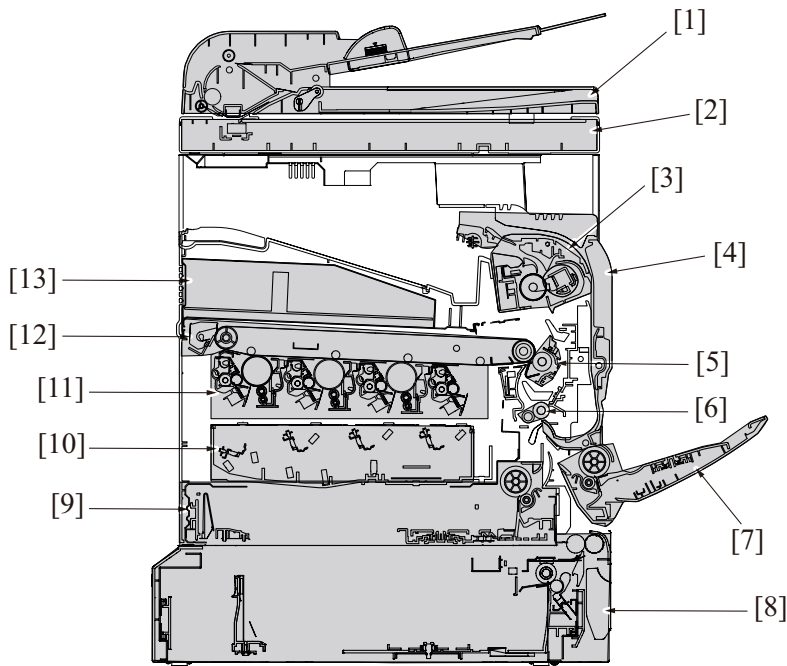
1. SYSTEM CONFIGURATION



[1]	bizhub C3110	[2]	HD-P06 (Hard disk kit)
[3]	AU-201/AU-201S (Authentication Unit)	[4]	i-Option (LK-106/107/108/111)
[5]	MK-P04 (Mounting Kit)	[6]	FK-512 (Fax kit)
[7]	MK-P07 (Mounting kit) *	[8]	NC-P03 (Network card) *
[9]	PF-P14 (Paper feed unit)	-	-

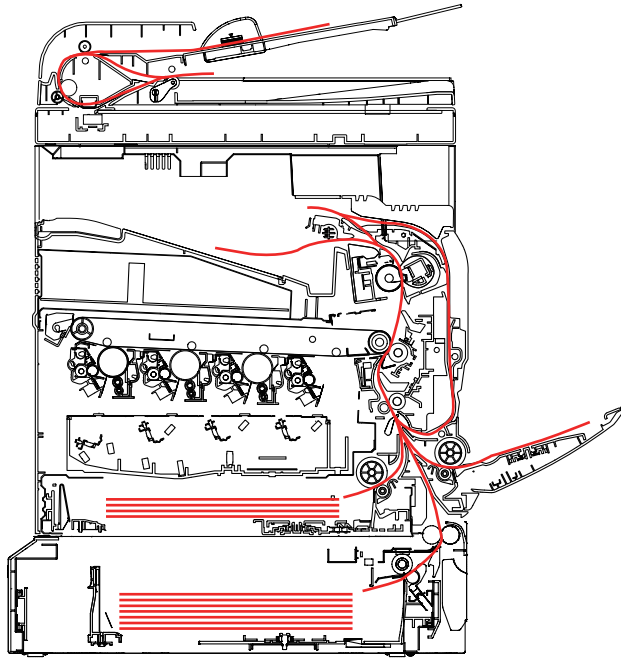
*: Only the machine where a “●” mark is put beside the serial code on the maker plate is allowed to install the Network card.

2. SECTION CONFIGURATION

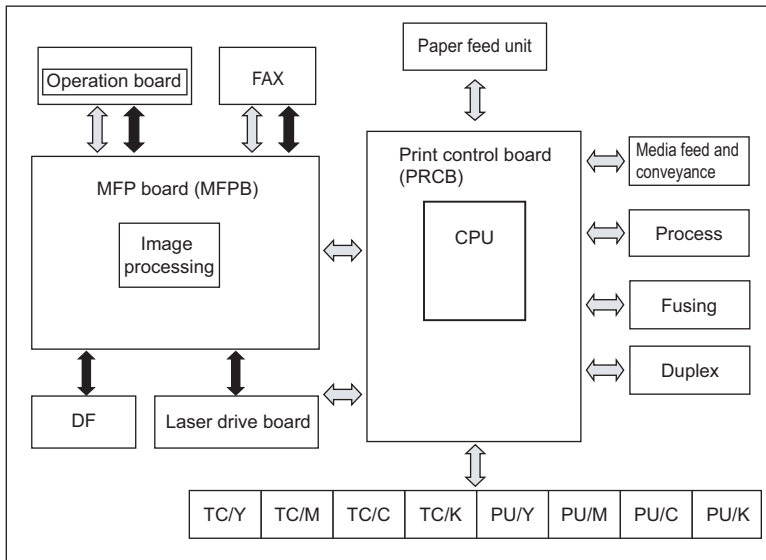


[1]	DF section	[2]	Scanner section
[3]	Fusing section	[4]	Duplex section
[5]	Transfer section (2nd transfer)	[6]	Registration roller
[7]	Manual feed tray section	[8]	Paper feed section (Tray 2)
[9]	Paper feed section (Tray 1)	[10]	Write section
[11]	Imaging unit section	[12]	Transfer section (1st transfer)
[13]	Power supply section	-	-

3. PAPER PATH



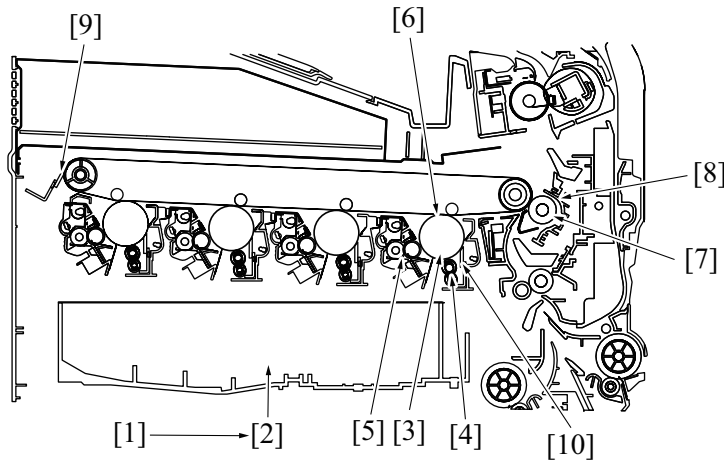
4. CONTROL BLOCK DIAGRAM



⇔ Control system line

⇔ Image bus line

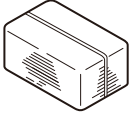

5. IMAGE CREATION PROCESS




[1]	Image processing board	• The intensity of the laser light is controlled based on the image signal transmitted to this board.
[2]	LD exposure	• The surface of the PC drum is irradiated with laser light, and an electrostatic latent image is thereby formed.
[3]	PC drum	• The image of the original projected onto the surface of the PC drum is changed to a corresponding electrostatic latent image.
[4]	PC drum charging	• Apply DC (-) charge to the drum.
[5]	Developing	• The toner, agitated and negatively charged in the toner chamber, is attracted onto the electrostatic latent image formed on the surface of the PC drum. It is thereby changed to a visible, developed image.
[6]	1st image transfer	• A DC positive voltage is applied to the backside of the transfer belt, thereby allowing the visible, developed image on the surface of each of the PC drums (Y, M, C and K) to be transferred onto the transfer belt.
[7]	2nd image transfer	• A DC positive voltage is applied to the backside of the paper, thereby allowing the visible, developed image on the surface of the transfer belt to be transferred onto the paper.
[8]	Paper separation	• The paper, which has undergone the 2nd image transfer process, is neutralized so that it can be properly separated from the transfer belt.
[9]	Transfer belt cleaning	• The residual toner left on the surface of the transfer belt is scraped off.
[10]	Photo conductor cleaning	• The residual toner left on the photo conductor is scraped off.

E SERVICE TOOL

1. Service material list

Tool name	Shape	Material No.	Remarks
Cleaning pad		A5AWP001##	30pcs/1pack
Hydro-wipe		65AA-9920	10pcs/1pack

2. CE tool list

Tool name	Shape	Quantity	Parts No.
Laser lens cleaning tool		1	A0VD 1089 ##

3. Utility tool

3.1 IC card information setting tool of OMNIKEY 5427CK (AU-205H) card reader

3.1.1 Outline

- Before connecting the OMNIKEY 5427CK (AU-205H) 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.

3.1.2 IC card information setting file preparation tool

(1) Tool names

Tools for CE

- For OMNIKEY 5427CK (AU-205H): Auth Device Advanced for 5427CK (AU-205H)

(2) System requirement of tools for CE

OS	<ul style="list-style-type: none"> • Windows Vista • Windows 7 • Windows 8 Support both 32-bit (x86) and 64-bit (x64) editions.
Library (Any of these needs to be installed)	<ul style="list-style-type: none"> • 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

3.1.3 IC card information setting procedures

(1) Preparations 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.

(2) 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 and turn it ON again more than 10 seconds after.
15. Set the authentication user.

(3) 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 and turn it ON again more than 10 seconds after.
17. Set the authentication user.

F 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 [\[SERVICE MODE\]](#) -> [\[PRIINT MENU\]](#) -> [\[Management List\]](#).

2. PERIODICAL MAINTENANCE ITEMS

2.1 bizhub C3110

2.1.1 bizhub C3110

(1) Periodical maintenance 1 (Total counter; every 20,000 counts or upon each call)

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	Processing section	Around waste toner port	-	•			
5	Duplex section	Duplex transport roller	-	•			

(2) Periodical maintenance 2 (Field standard yield; every 4,700 sheets)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Toner cartridge/Y,M,C,K	1			•	

(3) Periodical maintenance 3 (Field standard yield; every 19,700 sheets)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Waste toner bottle	1			•	

(4) Periodical maintenance 4 (Field standard yield; every 20,000 sheets)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Processing section	Imaging unit/Y,M,C,K	1			•	

(5) Periodical maintenance 5 (Life counter; every 100,000 sheets)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Fusing section	Fusing unit	1			•	
2	Image transfer section	Transfer belt unit	1			•	
3		Transfer roller	1			•	

(6) Periodical maintenance 6 (Life counter; every 300,000 counts)

No.	Section	Description/part name	Qt.	Clean	Check	Replace	Descriptions
1	Paper feed section	Tray1 feed roller	1			•	*
2		Tray 1 separation roller	1			•	
3		Manual tray feed roller	1			•	*
4		Manual feed tray separation roller	1			•	

*: Replace those parts at the same time.

2.2 Option

2.2.1 PF-P14

(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	Tray2 feed roller	1				•	*
4		Tray2 separation roller	1				•	

• *: Replace those parts at the same time.

3. PERIODICAL REPLACEMENT PARTS LIST

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.
- Replace with reference to the numeric values displayed on the total counter, the life counter, [the field standard yield](#) or the messages displayed on the control panel.

3.1 bizhub C3110

Classification	Parts name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. page
Paper feed section	Tray1 feed roller	4138 3032 ##	1	300,000	*1	F.5.4.3 Replacing the tray1 feed roller
	Tray 1 separation roller	4658 0151 ##	1	300,000	*3	F.5.4.4 Replacing the tray1 separation roller
	Manual tray feed roller	4138 3032 ##	1	300,000	*1	F.5.4.1 Replacing the manual tray feed roller
	Manual tray separation roller	4658 0151 ##	1	300,000	*3	F.5.4.2 Replacing the manual tray separation roller
Processing section	Toner cartridge/Y,M,C,K	-	1	4,700	*2	F.5.1.1 Replacing the toner cartridge (C, M, Y, K)
	Imaging unit/Y,M,C,K	-	1	20,000	*2	F.5.1.2 Replacing the imaging unit (C, M, Y, K)
	Waste toner bottle	A1AU0Y1	1	19,700	*2 *4	F.5.2.1 Replacing the waste toner bottle
Image transfer section	Transfer belt unit	A1480Y1	1	100,000	*1	F.5.2.3 Replacing the transfer belt unit
	Transfer roller	A1480Y2	1	100,000	*1	F.5.2.2 Replacing the transfer roller
Fusing section	Fusing unit	US: A148010 EU: A148022	1	100,000	*1	F.5.3.1 Replacing the fuser unit

*1: Actual durable cycle (life counter value)

*2: Field standard yield

*3: Replace those parts at the same time.

*4: A waste toner full condition is detected with detecting the actual waste toner emissions.

3.2 Option

3.2.1 PF-P14

Parts name	Parts No.	Qt.	Replacing cycle	Descriptions	Ref. Page
Tray2 Feed roller	4537 6214 ##	1	300,000	*1	F.5.4.5 Replacing the tray2 feed roller
Tray2 Separation roller	4658 0151 ##	1	300,000	*2	F.5.4.6 Replacing the tray2 separation roller

*1: Actual durable cycle (life counter value)

*2: Replace those parts at the same time.

4. CONCEPT OF PARTS LIFE

4.1 Life value of consumables and parts

- The life counter value of each material and parts is available from [\[SERVICE MODE\]](#) -> [\[PRINT MENU\]](#) -> [\[Management List\]](#).
- Life specification value means an actual life terminated when prints are made under the conditions as defined in the next section, "Specified conditions of field standard yield."

The actual life may vary greatly depending on how the machine has been used and other factors.

Consumables/parts name	Target model	Field standard yield *	Near life	Life	Life stop
Imaging unit (C/M/Y/K)	C3110	20,000 sheets	17,000 sheets	20,000 sheets	21,000 sheets
Transfer belt unit	C3110	100,000 sheets	80,000 sheets	100,000 sheets	-
Transfer roller	C3110	100,000 sheets	80,000 sheets	100,000 sheets	-
Toner cartridge (C/M/Y/K)	C3110	4,700 sheets	-	-	4,700 sheets
Waste toner bottle	C3110	19,700 sheets	-	-	19,700 sheets
Fusing unit	C3110	100,000 sheets	80,000 sheets	100,000 counts	-

- *: For details of conditions of field standard yield, see "[C.1.4.1 Conditions for defining the life value for the field standard yield](#)".

4.2 Details of the life specifications

Item	Description
Waste toner bottle	The waste toner near full sensor detects near full for the toner replenishment level of the waste toner bottle. 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 *	Each of the number of prints, fusing unit drive time, and fusing heater ON time is counted and a condition is detected when either one of these counts reaches the corresponding set life value.
Transfer belt unit *	Number of prints and rotation time of the transfer belt are counted, and detected when one of those two reaches to the life value.
Transfer roller *	Number of prints is counted, and detected when it reaches to the life value.
Imaging unit/Y,M,C,K	Number of prints, fusing unit drive time and rotation time of the photo conductor are counted respectively, and detected when one of those values reaches to the set life value.

- *: When the part is replaced with a new one, the life counter value needs to be reset.
[\[SERVICE MODE\]](#) -> [\[COUNTER\]](#) -> [\[LIFE\]](#) -> [\[REPLACE\]](#)

5. PERIODICAL MAINTENANCE PROCEDURE

5.1 Processing section

5.1.1 Replacing the toner cartridge (C, M, Y, K)

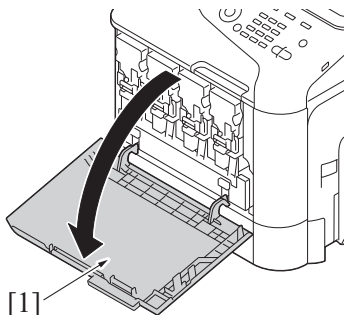
NOTE

- Be sure to replace the toner cartridge with a new one.
Using a used toner cartridge may make the indication remained on the message window, or make the residual toner amount fail to be displayed correctly.

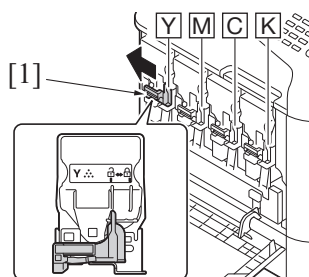
(1) Periodically replaced parts/cycle

- Toner cartridge (C, M, Y, K): Every 4,700 images

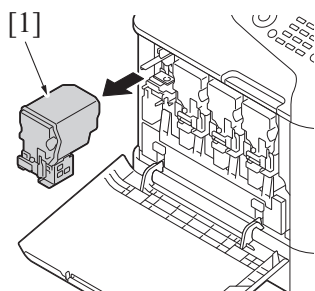
(2) Removal procedure



1. Open the front cover [1].

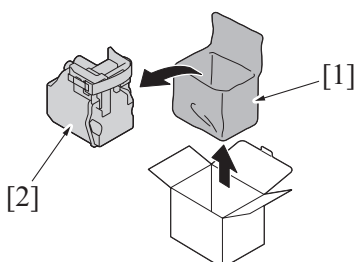


2. Slide the lock lever [1] to the left.

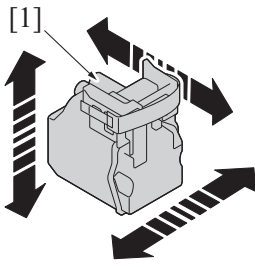


3. Grab the handle of the toner cartridge [1] to be replaced, and then pull out the toner cartridge [1].

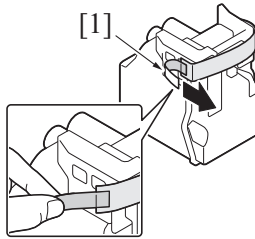
(3) Reinstallation procedure



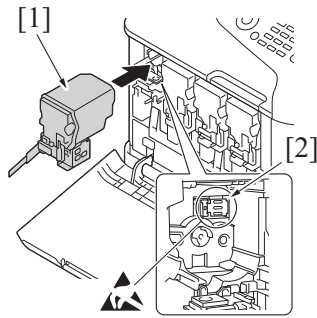
1. Take the toner cartridge [2] out of its plastic bag [1].



2. Gently shake the toner cartridge [1] several times to agitate the toner.



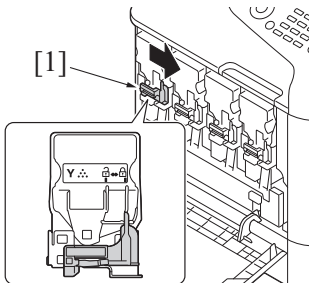
3. Peel off the protective film tape [1] from the left side of the toner cartridge.



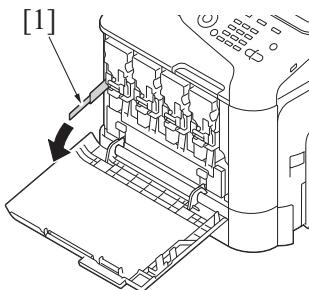
4. Insert the toner cartridge [1] into the machine.

NOTE

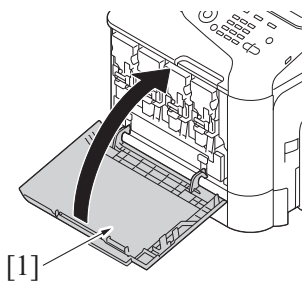
- Never touch the electrical contacts [2] of the toner cartridge, as an electrostatic discharge may damage the product.



5. Slide the lock lever [1] to the right to lock the toner cartridge.



6. Remove the protective film [1].



7. Close the front cover [1].

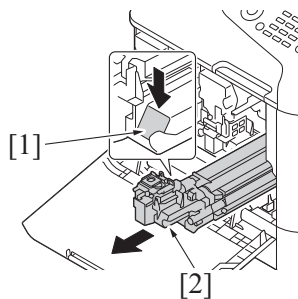
5.1.2 Replacing the imaging unit (C, M, Y, K)

(1) Periodically replaced parts/cycle

- Imaging unit (C, M, Y, K): Every 20,000 images (2 pages/job)

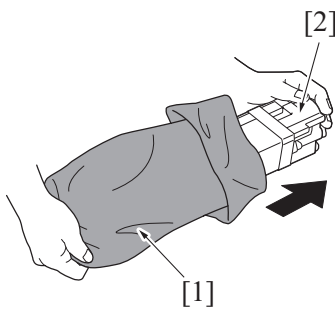
(2) Removal procedure

1. Remove the toner cartridge.
[F.5.1.1 Replacing the toner cartridge \(C, M, Y, K\)](#)
2. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)

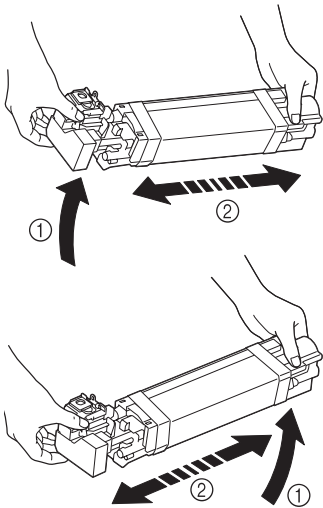


3. Press down the "Push" marked place [1].
4. Pull the imaging unit [2] out.

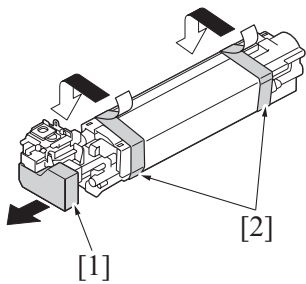
(3) Reinstallation procedure



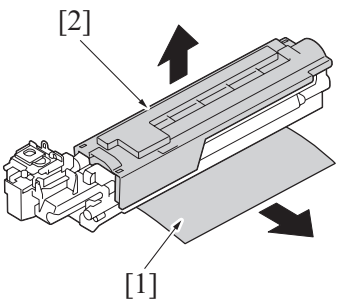
1. Take the imaging unit [2] out of the plastic bag [1].



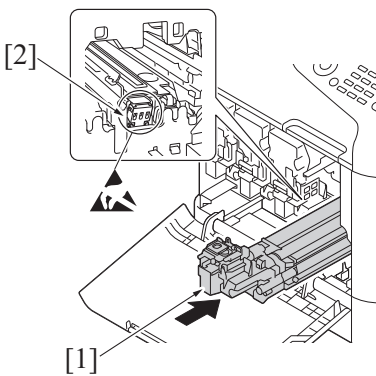
2. Hold the imaging unit with both hands, and then shake it twice as shown in the illustration.



3. Remove the protective cover [1] from the imaging unit.
4. Remove all packing tape [2] from the imaging unit.



5. Remove the paper [1] from the imaging unit.
6. Remove the protective cover [2] from the imaging unit.



7. Slide the imaging unit [1] in.

NOTE

 - Never touch the electrical contacts [2] of the toner cartridge, as an electrostatic discharge may damage the product.

8. Install the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
9. Install the toner cartridge.
[F.5.1.1 Replacing the toner cartridge \(C, M, Y, K\)](#)
10. Close the front cover.

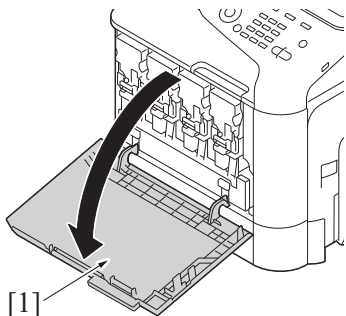
5.2 Transfer section

5.2.1 Replacing the waste toner bottle

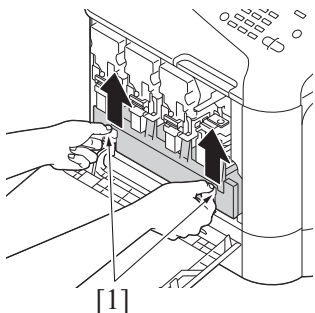
(1) Periodically replaced parts/cycle

- Waste toner bottle: Every 19,700 images (2 pages/job)

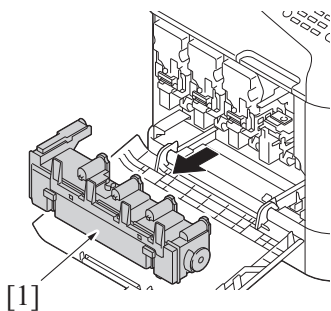
(2) Removal procedure



1. Open the front cover [1].



2. Raise the left and right handles [1] to unlock the waste toner bottle.



3. Grab the left and right handles, remove the waste toner bottle [1].

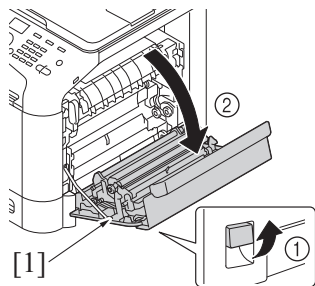
4. To reinstall, reverse the order of removal.

5.2.2 Replacing the transfer roller

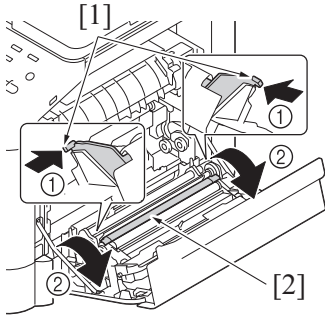
(1) Periodically replaced parts/cycle

Transfer roller: Every 100,000 images (2 pages/job)

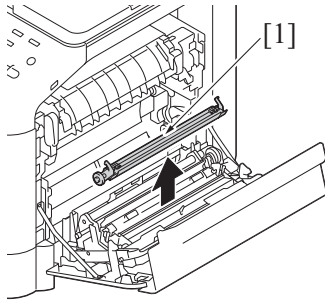
(2) Removal procedure



1. Open the right door [1].



2. Push two levers [1] inside to unlock, and rotate the transfer roller [2] in the direction of the arrow.



3. Remove the transfer roller [1].

4. To reinstall, reverse the order of removal.
5. From the Menu, select [Service Mode] -> [Counter] -> [LIFE] -> [REPLACE] -> [TRANS. ROLLER], and select "YES".
[1.4.7.3 Life-REPLACE-TRANS. ROLLER](#)
6. From the Menu, select [Admin Settings] -> [Printer Settings] -> [QUALITY MENU] -> [CARIBRATION] -> [Image Stabilization] and execute this function.

5.2.3 Replacing the transfer belt unit

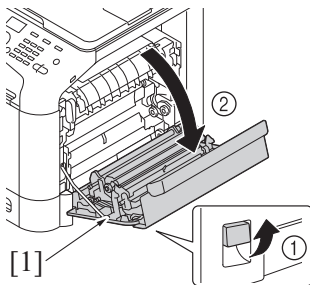
(1) Periodically replaced parts/cycle

Transfer belt unit: Every 100,000 images (2 pages/job)

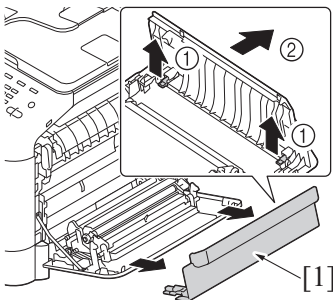
(2) Removal procedure

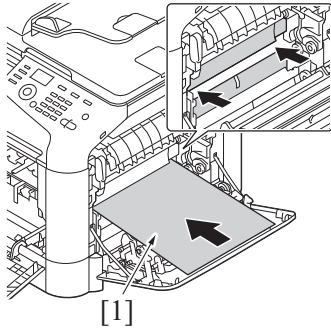
1. Turn OFF the power switch.
2. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
3. Remove the toner cartridge (C,M,Y,K).
[F.5.1.1 Replacing the toner cartridge \(C, M, Y, K\)](#)
4. Remove the imaging unit (C,M,Y,K).
[F.5.1.2 Replacing the imaging unit \(C, M, Y, K\)](#)

5. Open the right door [1].



6. Remove the cover [1].

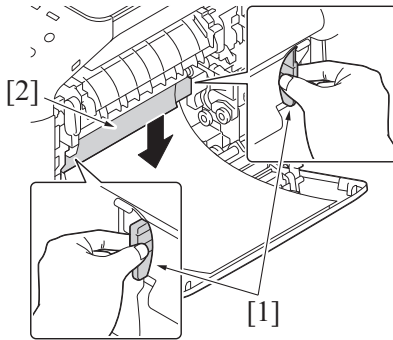




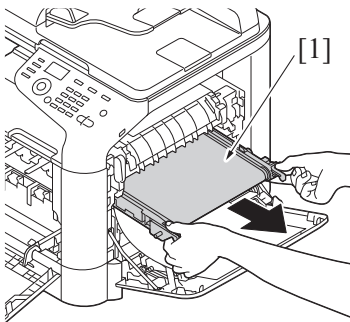
7. Completely insert the protective sheet [1] supplied with the transfer belt unit in the direction of the arrow.

NOTE

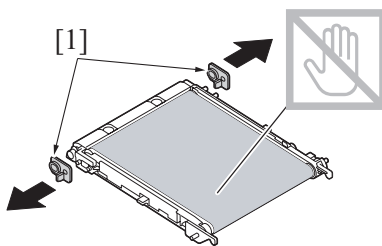
- If the protective sheet is not supplied, use two sheets of A4 or Letter paper.



8. Hold the both handles [1] and lower the guide [2].



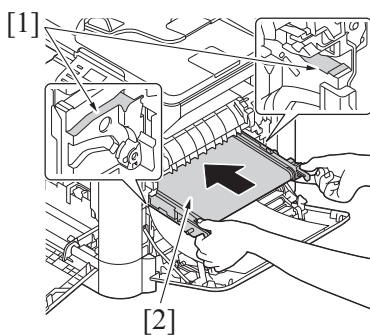
9. Hold the handles, and then carefully pull out the transfer belt unit [1].



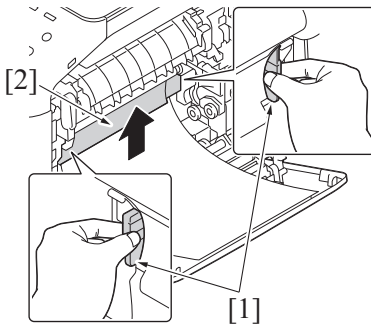
10. Remove the protective cover [1] from the new transfer belt unit.

NOTE

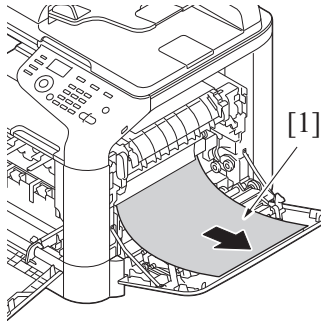
- Be careful not to touch the surface of the belt.



11. Insert the transfer belt unit [2] along the rails [1].



12. Hold the both handles [1] and raise the guide [2].



13. Pull the protective sheet [1] out.

14. To reinstall, reverse the order of removal.

15. From the Menu, select [Service Mode] -> [Counter] -> [LIFE] -> [REPLACE] -> [TRANS. BELT], and select "YES".

1.4.7.2 Life-REPLACE-TRANS. BELT

16. From the Menu, select [Admin Settings] -> [Printer Settings] -> [QUALITY MENU] -> [CARIBRATION] -> [Image Stabilization] and execute this function.

5.3 Fusing section

5.3.1 Replacing the fuser unit

CAUTION



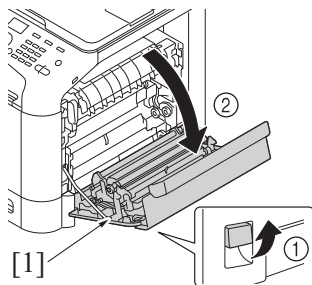
- The temperature gets high in the vicinity of the fuser unit. You may get burned when you come into contact with the area. Before replacement operations, make sure that more than 20 minutes have elapsed since the main and sub power switches were turned off.

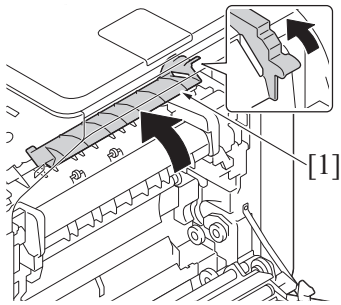
(1) Periodically replaced parts/cycle

Fuser unit: Every 100,000 images (2 pages/job)

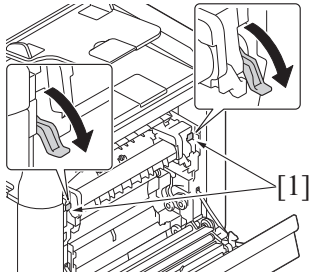
(2) Procedure

- Turn OFF the power switch, unplug the power cord from the power outlet, and let the machine to stand idle for about 20 min.
- Open the right door [1].

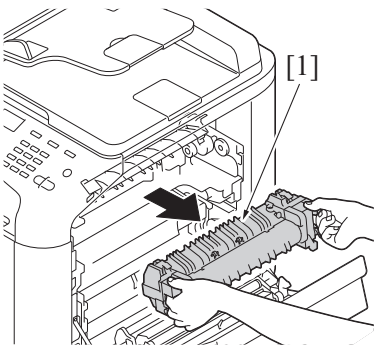




3. Open the fuser unit cover [1].



4. Pull down two levers [1].



5. Remove the fuser unit [1].

- 6. Install the new fuser unit.
 - 7. To reinstall, reverse the order of removal.
 - 8. From the Menu, select [SERVICE MODE] -> [COUNTER] -> [LIFE] -> [REPLACE] -> [FUSER UNIT] and execute this function to reset the fuser unit counter value.
- [1.4.7.1 Life-REPLACE-FUSER UNIT](#)

5.4 Feed section

5.4.1 Replacing the manual tray feed roller

(1) Periodically replacing parts/cycle

Manual tray feed roller: Every 300,000 counts

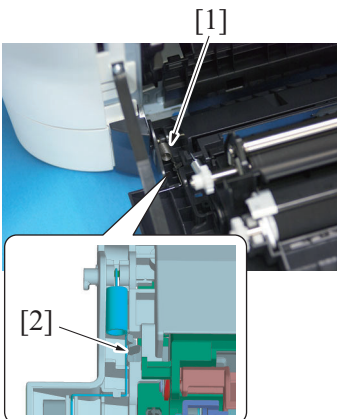
(2) Procedure

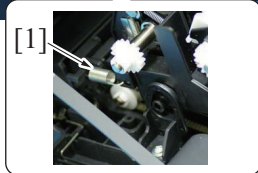
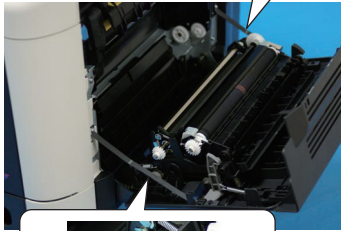
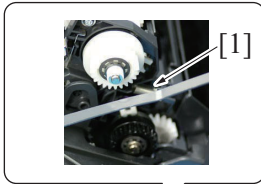
- 1. Remove the manual tray.

[G.3.9 Manual tray](#)

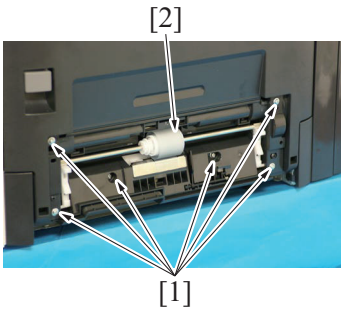
- 2. Open the right door.

3. Detach the spring [1] from the hook [2] in order to unlock the plate.



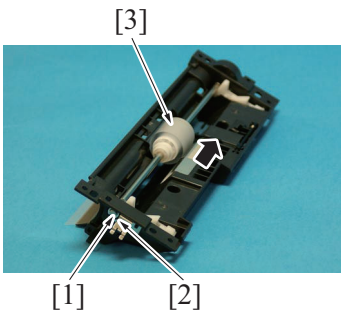


5. Close the right door.

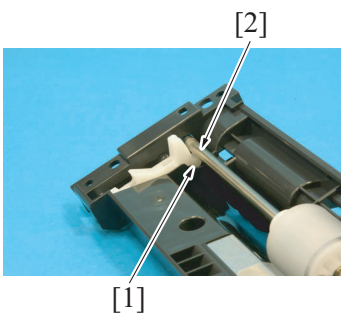


4. Remove two springs [1].

6. Remove six screws [1], and remove the manual tray feed roller assy [2].

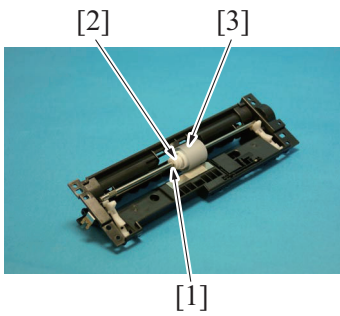


7. Remove the E-ring [1] and the bearing [2], and move the manual tray feed roller assy [3] in the direction of the arrow.



NOTE

- When reinstalling the manual tray feed roller assy, the stopper [1] must be located under the shaft [2] as shown in the illustration.

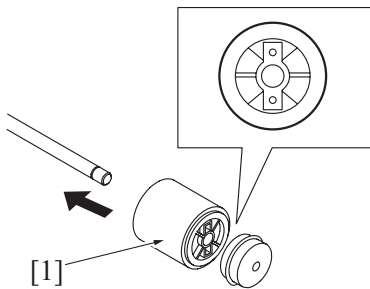


8. Remove the C-clip [1] and mechanism clutch [2], and remove the manual tray feed roller [3].

9. To reinstall, reverse the order of removal.

NOTE

- When reinstalling the feed roller [1], make sure that it is mounted in the direction shown in the illustration.



5.4.2 Replacing the manual tray separation roller

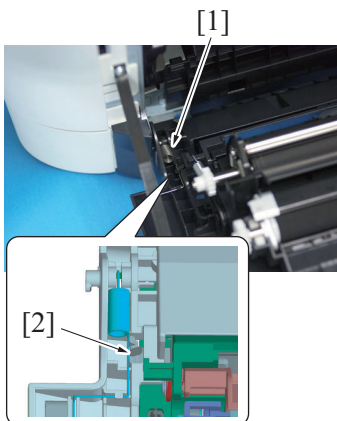
(1) Periodically replacing parts/cycle

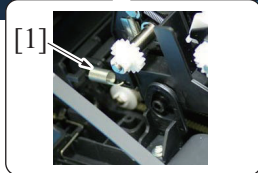
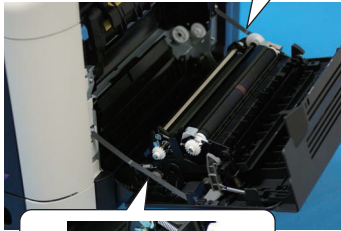
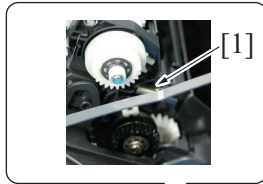
Manual tray separation roller: Every 300,000 counts

(2) Procedure

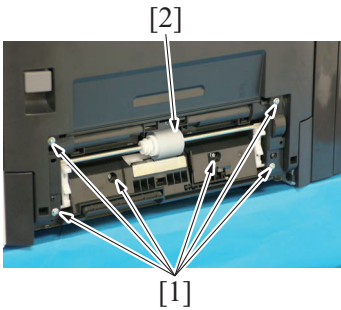
1. Remove the manual tray.
[G.3.9 Manual tray](#)
2. Open the right door.

3. Detach the spring [1] from the hook [2] in order to unlock the plate.



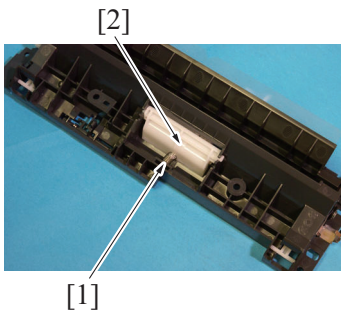


5. Close the right door.

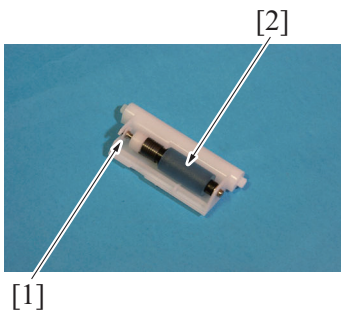


4. Remove two springs [1].

6. Remove six screws [1], and remove the manual tray feed roller assy [2].



7. Remove the spring [1], and remove the manual tray separation roller assy [2].



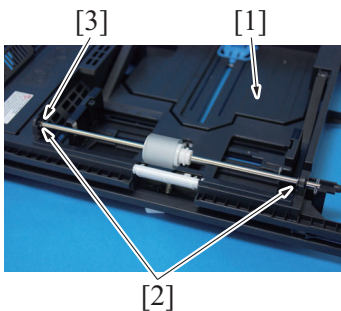
8. Remove the C-clip [1], and remove the manual tray separation roller [2].

9. To reinstall, reverse the order of removal.

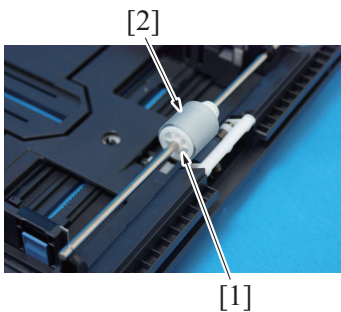
5.4.3 Replacing the tray1 feed roller
(1) Periodically replacing parts/cycle
 Tray1 feed roller: Every 300,000 counts

(2) Procedure

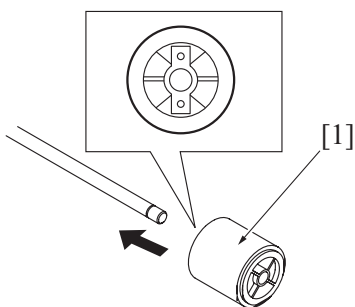
1. Remove the tray1.
G.3.8 Tray1



2. Lock the paper lift metal plate [1].
3. Remove two E-rings [2] and the bushing [3].



4. Remove the C-clip [1], and remove the tray1 feed roller [2].



NOTE

- When reinstalling the feed roller [1], make sure that it is mounted in the direction shown in the illustration.

5. To reinstall, reverse the order of removal.

5.4.4 Replacing the tray1 separation roller

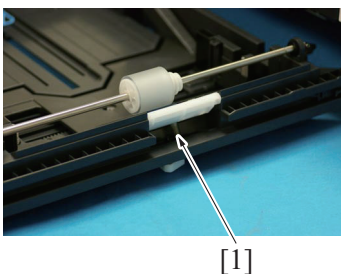
(1) Periodically replacing parts/cycle

Tray 1 separation roller: Every 300,000 counts

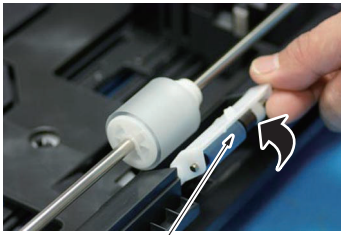
(2) Procedure

1. Pull out the tray1.

2. Remove the spring [1].

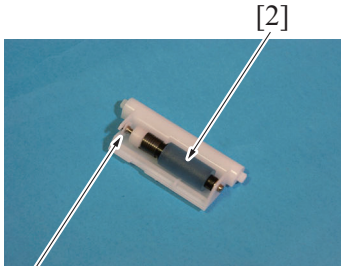


3. Remove the tray 1 separation roller assy [1].



[1]

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



[1]

5. To reinstall, reverse the order of removal.

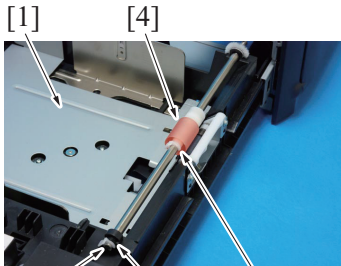
5.4.5 Replacing the tray2 feed roller

(1) Periodically replaced parts/ cycle

- Tray2 feed roller: Every 300,000 counts

(2) Procedure

1. Slide out tray2.



[2] [3] [2]

2. Lock the paper lifting metal plate [1].
3. Remove two C-clips [2] and the bearing [3] at the front, and remove the tray2 feed roller [4].

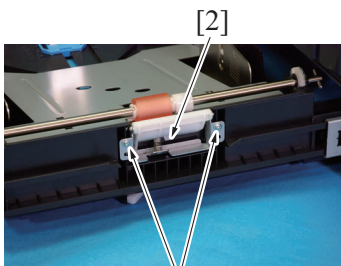
5.4.6 Replacing the tray2 separation roller

(1) Periodically replacing parts/cycle

Tray2 separation roller: Every 300,000 counts

(2) Procedure

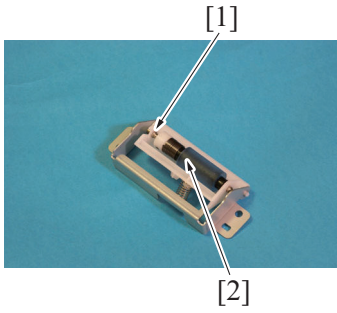
1. Pull out the tray2.



[1]

2. Remove two screws [1], and remove the tray2 separation roller assy [2].

3. Remove the C-clip [1], and remove the tray2 separation roller [2].



4. To reinstall, reverse the order of removal.

G DISASSEMBLING/REASSEMBLING

1. Prohibited items/Caution

1.1 Disassembly/adjustment prohibited items

1.1.1 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.

1.1.2 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.

1.1.3 Variable resistors on board

NOTE

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

1.1.4 PH unit

- The laser runs inside the PH unit. Opening the cover may cause dust to enter and interrupt the laser. Do not remove any screw which may disassemble the PH unit.

1.1.5 Fusing unit

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

1.2 Caution

1.2.1 Inspection before Servicing



WARNING



- To avoid electric shock, after turning OFF the power switch, do not touch the DC power supply unit for 9 minutes.
If the DC power supply unit is faulty, it may take time before its voltage drops sufficiently.



CAUTION

- When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal 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.

1.2.2 Precautions for disassembly

- When accessing a hard-to-view or narrow spot, be careful about sharp edges and burrs of 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.

1.2.3 Precautions during setup or transportation

- Whenever mounting an option on the machine, be attentive to the motion of the fellow worker of the joint work. The fellow worker may be injured with his or her finger or hand pinched 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.
- Do not leave the machine unattended during transportation, installation, and inspection of the machine. If it is to be unavoidably left unattended, face protrusions toward the wall or take other necessary risk reducing action. The user may stumble over a protrusion of the machine or be caught by a cable, falling to the floor or being injured.

2. Disassembly/reassembly parts list

2.1 Main body

Section	Part name	Ref. page
Exterior parts	Rear cover	G.3.1 Rear cover
	Left cover	G.3.2 Left cover
	Rear right cover	G.3.3 Rear right cover
	Exit cover	G.3.4 Exit cover
	Front right cover	G.3.5 Front right cover
	Operation panel	G.3.6 Operation panel
	Upper cover	G.3.7 Upper cover
Boards and etc.	MFP board (MFPB)	G.3.10 MFP board (MFPB)
	Printer control board (PRCB)	G.3.11 Printer control board (PRCB)
	DC power supply (DCPU)	G.3.12 DC power supply (DCPU)
	High voltage unit/1 (HV1)	G.3.13 High voltage unit (HV1)
	Temperature/ humidity sensor (TEM/HUMS)	G.3.31 Temperature/ humidity sensor (TEM/HUMS)
	IDC sensor (IDC)	G.3.32 IDC sensor (IDC)
Units	Manual tray	G.3.9 Manual tray
	Tray1	G.3.8 Tray1
	PH unit	G.3.15 PH unit
	Hard disk kit (HD-P06) *1	G.3.16 Hard disk kit (HD-P06) (Option)
	Network interface card (NC-P03) *1	G.3.16 Hard disk kit (HD-P06) (Option)
	CIS module	G.3.34 CIS module
	Scanner unit	G.3.35 Scanner unit
	DF	G.3.36 DF
Other parts	Backup battery	G.3.18 Backup battery
	Developing motor (M1)	G.3.19 Developing motor (M1)
	Transport motor (M2)	G.3.20 Transport motor (M2)
	Color PC drum motor (M4)	G.3.21 Color PC drum motor (M4)
	DC power supply fan motor (FM10)	G.3.22 DC power supply fan motor (FM10)
	Cooling fan motor (FM11)	G.3.23 Cooling fan motor (FM11)
	Tray1 paper feed clutch (CL1)	G.3.24 Tray1 paper feed clutch (CL1) / Manual tray paper feed clutch (CL2)
	Manual tray paper feed clutch (CL2)	
	Registration clutch (CL3)	G.3.25 Registration clutch (CL3)
	Toner supply clutch/Y (CL4)	G.3.26 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) / Toner supply clutch/K (CL7)
	Toner supply clutch/M (CL5)	
	Toner supply clutch/C (CL6)	
	Toner supply clutch/K (CL7)	
	Loop detection clutch (CL8)	G.3.27 Loop detection clutch (CL8)
	Switchback roller feed clutch (CL11)	G.3.28 Switchback roller feed clutch (CL11) / Switchback roller reverse clutch (CL12)
	Switchback roller reverse clutch (CL12)	
	Duplex conveyance roller clutch (CL13)	G.3.29 Duplex conveyance roller clutch (CL13)
	2nd transfer release solenoid (SD2)	G.3.30 2nd transfer pressure solenoid (SD2)
	Scanner motor (M101)	G.3.33 Scanner motor (M101)
	DF pick-up roller	G.3.37 DF pick-up roller/DF feed roller
DF feed roller		
DF separation pad	G.3.38 DF separation pad	

• *1: Option

2.2 Paper Feed Unit (PF-P14)

Section	Part name	Ref. page
Unit	Paper Feed Unit r	G.4.1 Paper Feed Unit
Exterior parts	Rear cove	G.4.2 Rear cover

	Rear right cover	G.4.3 Rear right cover
Board and etc	PC control board (PCCB)	G.4.4 PC control board (PCCB)
Other parts	Tray2 paper feed motor (M1)	G.4.5 Tray2 paper feed motor (M1)
	Tray2 paper feed clutch (CL1)	G.4.6 Tray2 paper feed clutch (CL1)
	Tray2 conveyance clutch (CL2)	G.4.7 Tray2 conveyance clutch (CL2)

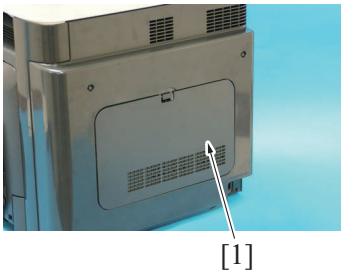
2.3 FAX kit (FK-512)

Section	Part name	Ref. page
Unit	FAX kit	G.5.1 FAX Kit

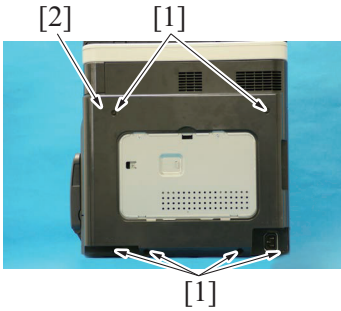
3. Disassembly/reassembly procedure (bizhub C3110)

3.1 Rear cover

1. Remove the rear center cover [1].



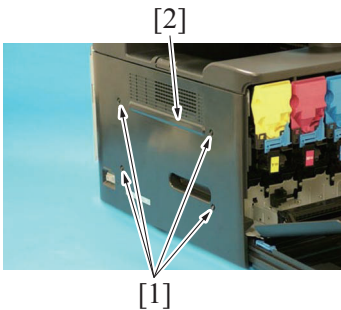
2. Remove six screws [1], and remove the rear cover [2].



3.2 Left cover

1. Slide out tray1.
2. Open the front cover.
3. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
4. Remove the rear cover.
[G.3.1 Rear cover](#)

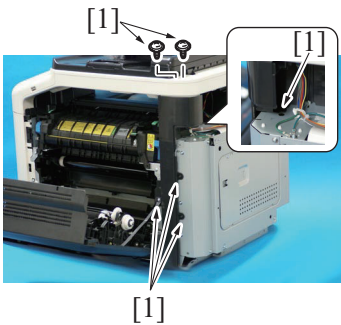
5. Remove four screws [1], and remove the left cover [2].

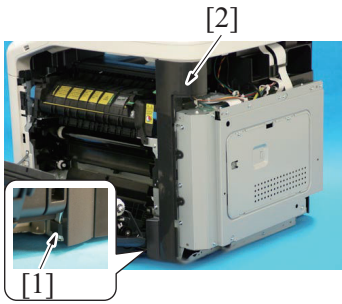


3.3 Rear right cover

1. Remove the Rear cover.
[G.3.1 Rear cover](#)
2. Open the right door.

3. Remove six screws [1].

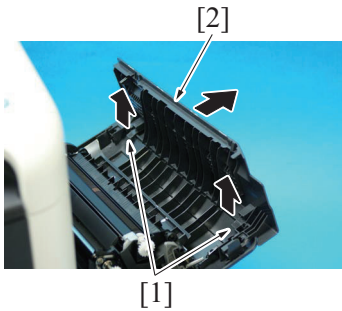




4. Release the tab [1], raise the scanner unit, and remove the rear right cover [2].

3.4 Exit cover

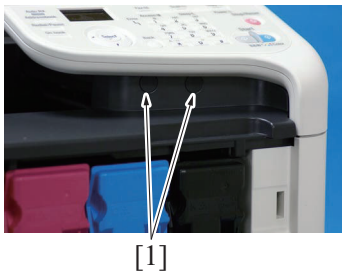
1. Open the right door.



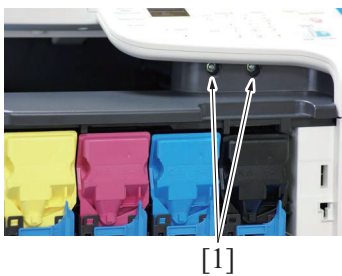
2. Unhook two tabs [1], and remove the exit cover [2].

3.5 Front right cover

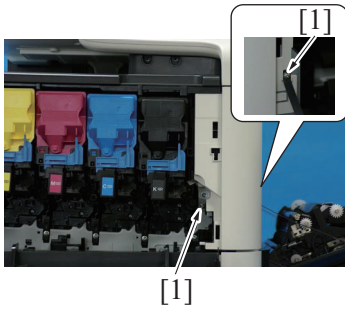
1. Open the front door.
2. Open the right door.
3. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)



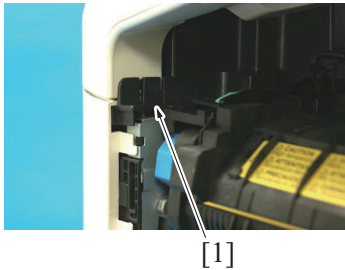
4. Remove two caps [1].



5. Remove two screws [1].



6. Remove two screws [1].

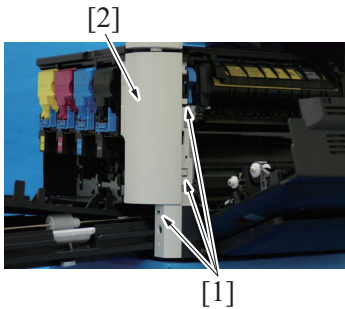


7. Unhook the tab [1], and raise the operation panel.

NOTE

- When unhook the tab [1], use the flathead screwdriver or the similar tool.

8. Pull out the tray 1.

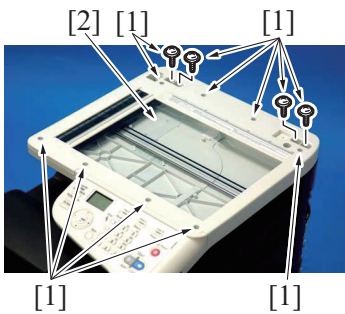


9. Unhook three tabs [1], and remove the front right cover [2].

3.6 Operation panel

1. Remove the DF.

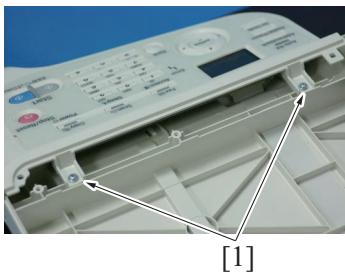
[G.3.36 DF](#)



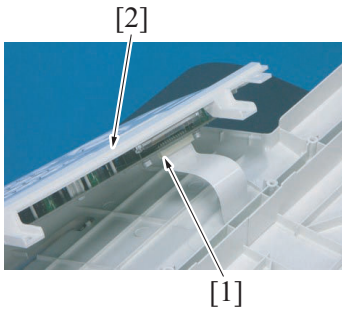
2. Remove twelve screws [1], and remove the original glass [2].

NOTE

- During installation of the original glass, use care not to allow dust or dirt to enter the machine. Clean any dust or dirt that may have entered before attempting to install the original glass.



3. Remove two screws [1].

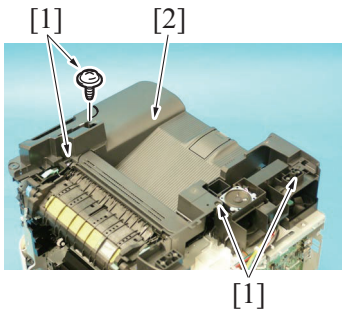


4. Disconnect the flat cable [1], and remove the operation panel [2].

5. To reinstall, reverse the order of removal.

3.7 Upper cover

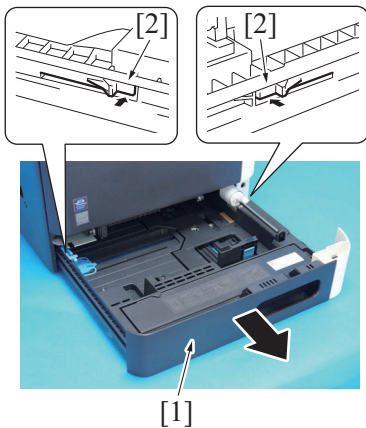
1. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
2. Remove the rear cover.
[G.3.1 Rear cover](#)
3. Remove the left cover.
[G.3.2 Left cover](#)
4. Remove the DF.
[G.3.36 DF](#)
5. Remove the scanner unit.
[G.3.35 Scanner unit](#)
6. Remove the front right cover.
[G.3.5 Front right cover](#)



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

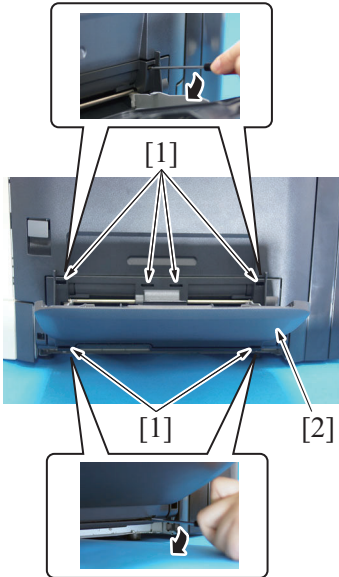
8. To reinstall, reverse the order of removal.

3.8 Tray1



1. Pull out the tray 1 [1].
2. While pushing the left and right tabs [2], remove the tray 1 [1].

3.9 Manual tray



1. Unlock six tabs [1], and remove the manual tray [2].

NOTE

- Insert a flat-blade screwdriver into each of the four places and unlock the tab.

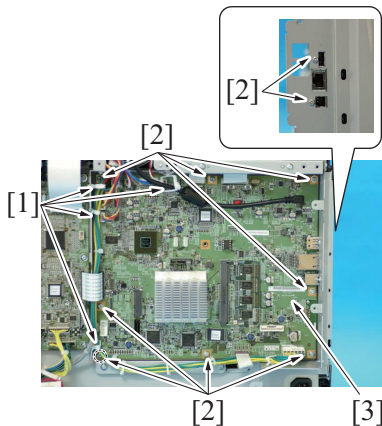
2. To reinstall, reverse the order of removal.

3.10 MFP board (MFPB)

NOTE

- Never use the combination of the used MFP board removed from another machine and the original EEPROM. This combination causes corruption of stored data. Note that the combination of the original MFP board and the used EEPROM removed from another machine also causes the same problem.
- When replacing the MFP board, in order to make the existing counter data become available in the new board, be sure to back up the counter data following the replacement procedure below.

1. Remove the waste toner bottle. [F.5.2.1 Replacing the waste toner bottle](#)
2. Remove the rear cover. [G.3.1 Rear cover](#)
3. Remove the left cover. [G.3.2 Left cover](#)
4. Remove the SSD board. [G.3.14 SSD board \(SSDB\)](#)
5. Remove the FAX board (Option). [G.5.1 FAX Kit](#)



6. Disconnect all connectors and flat cables. Remove four wire saddles [1].
7. Remove ten screws [2], and remove the MFP board [3].

8. Install the new MFP board.
9. Install the removed SSD board on the new MFP board.
10. Connect the MFP board to the disconnected connectors and flat cables. Install the four removed wire saddles.
11. Turn ON the power switch.

NOTE

- Do not perform any printing operation at this stage.

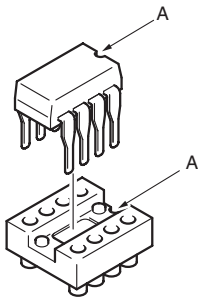
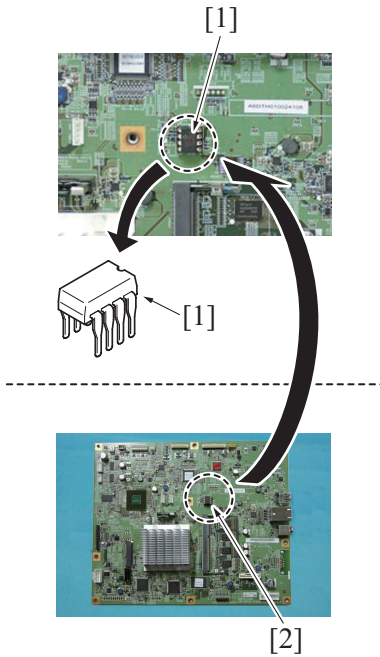
12. Call [\[SERVICE MODE\]](#) to the display.
13. Select [Switch 7] in [SYSTEM 2] -> [SOFT SWITCH], change setting value to [159].

NOTE

- When the optional hard disk HD-P06 is installed, although a service call D093 occurs, you can [enter the service mode](#) as it is.

14. Turn OFF the power switch.

15. Remove the new EEPROM [1] from the MFP board, and mount the old EEPROM [2] that is located on the old MFP board.



NOTE

- When mounting EEPROM (IC15), make sure the notches ("A") are precisely lined up.

16. Turn ON the power switch.

17. Counter data starts to be backed up.

NOTE

- Do not perform any printing operation at this stage.
- Do not turn OFF the power switch during the backup process.

<When backup is completed successfully>

- When backup is completed successfully, "Service Call: D3F1" appears on the screen.

NOTE

- When backup is completed successfully, the setting of soft switch automatically returns to the initial value of "0."

<When backup results in an abnormal end>

- When backup results in an abnormal end, "Service Call: D3F4" appears on the screen.

NOTE

- If an abnormal end recurs after turning OFF/ON the power switch of the machine again, the MFP board or the EEPROM can be damaged.

18. Turn OFF the power switch.

19. Turn ON the power switch of the machine and confirm that the machine operates properly.



- If the service call: D093 (wrong hard disk) occurs continuously even when the above procedures have been performed, format the hard disk in accordance with the following procedures.

CAUTION

1. Call [SERVICE MODE] to the display.
2. Select [HDD FORMAT] and press the [Menu/Select] key to execute HDD format.
3. After completing format, turn OFF the power switch of the machine.
4. Turn ON the power switch.
5. Install the Unicode font (LK-107) and OCR font (LK-108) for i-Option to the HDD.

J.4.2 LK-107/LK-108 font data installation procedure

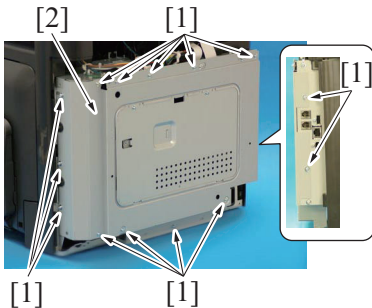
20. To reinstall, reverse the order of removal.

3.11 Printer control board (PRCB)

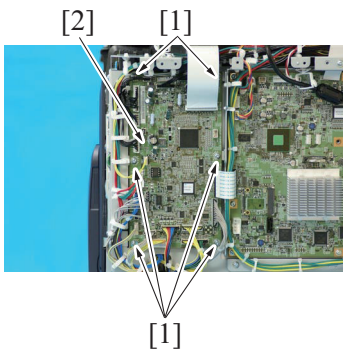
NOTE

- Never use the combination of the used Printer control board removed from another machine and the original EEPROM. This combination causes corruption of stored data.
Note that the combination of the original Printer control board and the used EEPROM removed from another machine also causes the same problem.

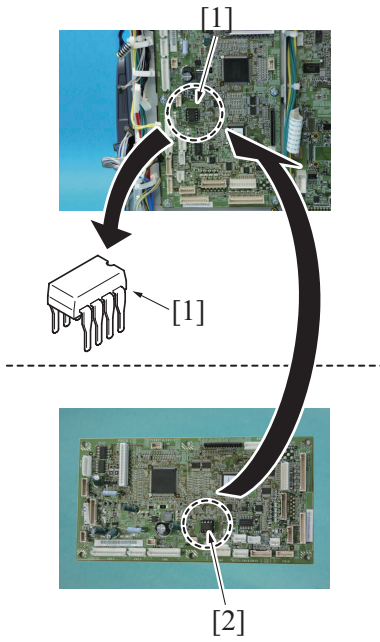
1. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
2. Remove the rear cover.
[G.3.1 Rear cover](#)
3. Remove the left cover.
[G.3.2 Left cover](#)



4. Remove fourteen screws [1], and remove the board protective shield [2].

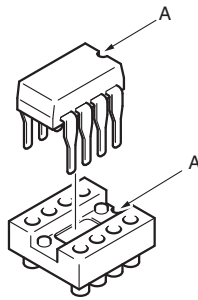


5. Disconnect all connectors and flat cables.
6. Remove six screws [1], and remove the printer control board [2].



NOTE

- When the printer control board (PRCB) has been replaced, be sure to remount EEPROM [1] (ICS1). Unmount EEPROM [2] (ICS1) from the old printer control board and mount it on the new printer control board.



NOTE

- When mounting EEPROM (ICS1), make sure the notches "A" are precisely lined up.

7. To reinstall, reverse the order of removal.

3.12 DC power supply (DCPU)

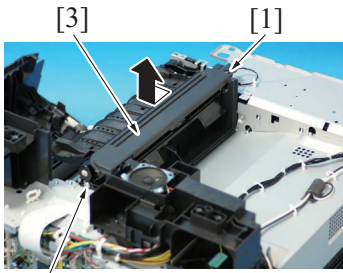


WARNING

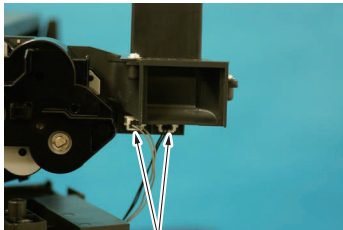


- To avoid electric shock, after turning OFF the power switch, do not touch the DC power supply unit for 9 minutes.
If the DC power supply unit is faulty, it may take time before its voltage drops sufficiently.

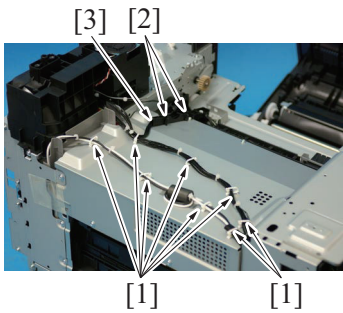
1. Remove the fuser unit.
[F.5.3.1 Replacing the fuser unit](#)
2. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
3. Remove the rear cover.
[G.3.1 Rear cover](#)
4. Remove the left cover.
[G.3.2 Left cover](#)
5. Remove the DF.
[G.3.36 DF](#)
6. Remove the scanner unit.
[G.3.35 Scanner unit](#)
7. Remove the front right cover.
[G.3.5 Front right cover](#)
8. Remove the upper cover.
[G.3.7 Upper cover](#)



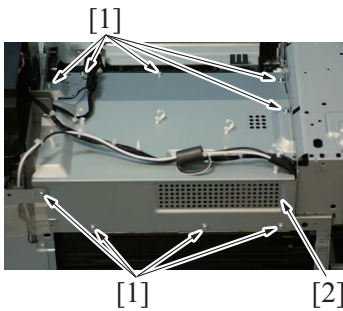
- 9. Disconnect the connector [1].
- 10. Remove the screw [2], and remove the exit drive assy [3].



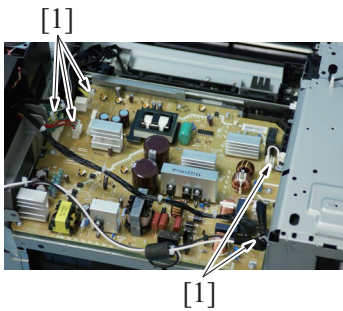
- 11. Disconnect two connectors [1].



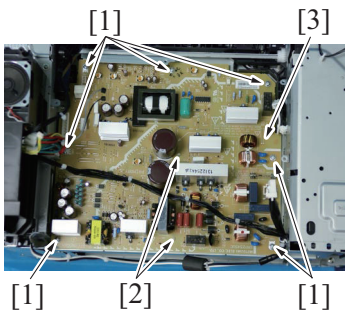
- 12. Remove all harness from eight wire saddles [1].
- 13. Unhook two tabs [2], and remove the harness guide [3].



- 14. Remove eight screws [1], and remove the DC power supply protective cover [2].



- 15. Disconnect five connectors [1].

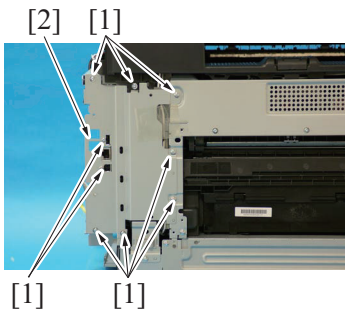


16. Remove seven screws [1] and two board supports [2], and remove the DC power supply [3].

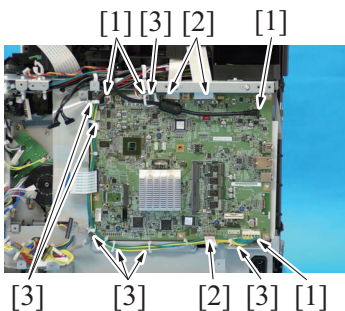
17. To reinstall, reverse the order of removal.

3.13 High voltage unit (HV1)

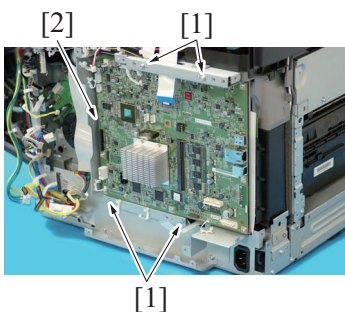
1. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
2. Remove the rear cover.
[G.3.1 Rear cover](#)
3. Remove the left cover.
[G.3.2 Left cover](#)
4. Remove the rear right cover.
[G.3.3 Rear right cover](#)
5. Remove the printer control board.
[G.3.11 Printer control board \(PRCB\)](#)
6. Remove the FAX board (Option).
[G.5.1 FAX Kit](#)



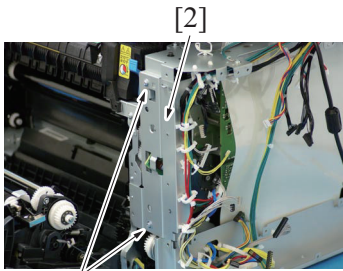
7. Remove nine screws [1], and remove the metal plate [2].



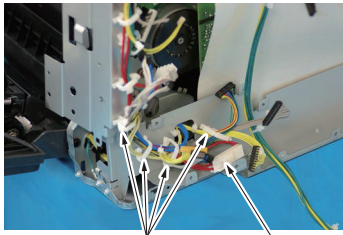
8. Remove four connectors [1] and three flat cables [2] from the MFP board.
9. Remove the harness from seven wire saddles [3].



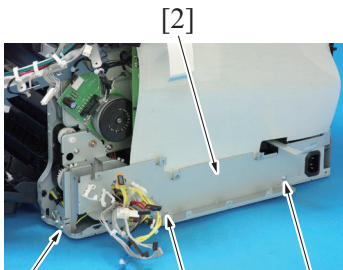
10. Remove four screws [1], and remove the MFP board assy [2].



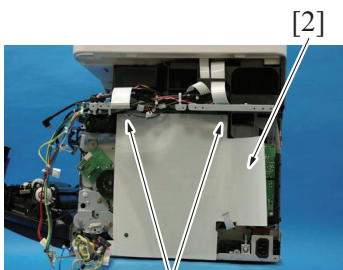
11. Remove two screws [1], and remove the metal plate [2].



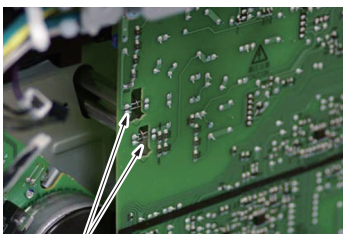
12. Remove the harness from four wire saddles [1].
13. Disconnect the connector [2].



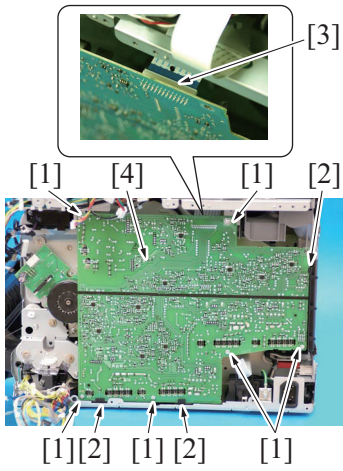
14. Remove three screws [1], and remove the metal plate [2].



15. Remove two screws [1], and remove the protective sheet [2].



16. Detach the spring from two hooks [1].



- 17. Remove six screws [1] and three tabs [2].
- 18. Disconnect the flat cable [3], and remove the high voltage unit [4].

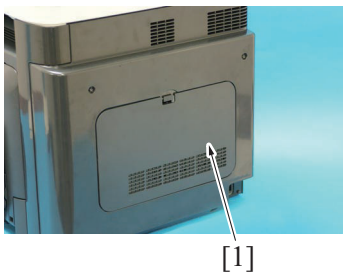
19. To reinstall, reverse the order of removal.

3.14 SSD board (SSDB)

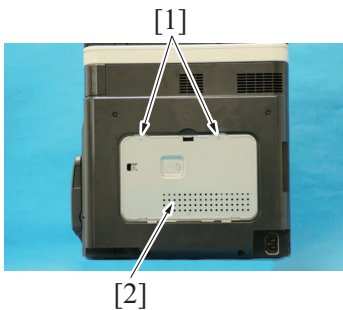
NOTE

- When replacing the SSD board, be sure to update the firmware to the latest version.

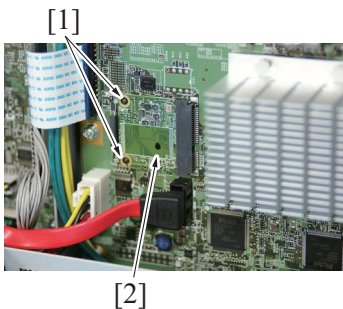
1. Remove the rear center cover [1].



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



3. Unhook two tabs [1], and remove the SSD board [2].



4. To reinstall, reverse the order of removal.

3.15 PH unit

CAUTION



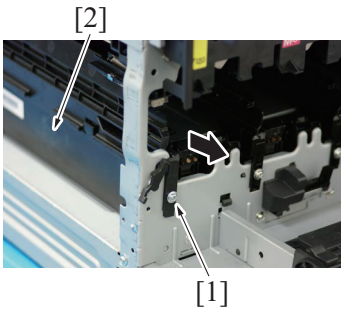
- Do not replace the printer head unit while the power is ON.
Laser beam generated during the above mentioned activity may cause blindness.



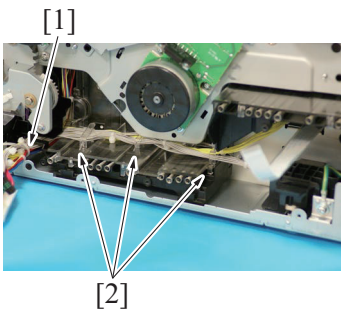
- Do not disassemble or adjust the printer head unit.
Laser beam generated during the above mentioned activity may cause blindness.

1. Remove the toner cartridge (C, M, Y, K).
[F.5.1.1 Replacing the toner cartridge \(C, M, Y, K\)](#)
2. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
3. Remove the imaging unit (C, M, Y, K).
[F.5.1.2 Replacing the imaging unit \(C, M, Y, K\)](#)
4. Remove the rear cover.
[G.3.1 Rear cover](#)
5. Remove the left cover.
[G.3.2 Left cover](#)
6. Remove the rear right cover.
[G.3.3 Rear right cover](#)
7. Remove the FAX board (Option).
[G.5.1 FAX Kit](#)
8. Remove the MFP board.
[G.3.10 MFP board \(MFPB\)](#)
9. Remove the printer control board.
[G.3.11 Printer control board \(PRCB\)](#)
10. Remove the high voltage unit.
[G.3.13 High voltage unit \(HV1\)](#)

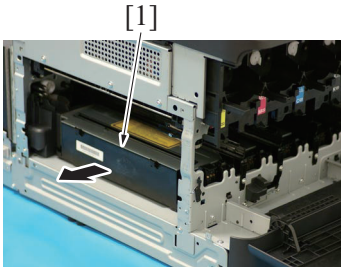
11. Remove the screw [1], and remove the rail [2].



12. Cut the tie band [1], and remove the harness from three harness guides [2].



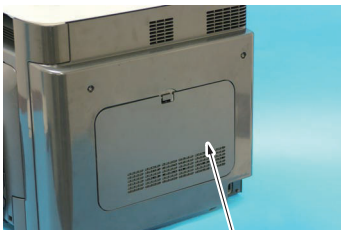
13. Remove the PH unit [1].



- 14. To reinstall, reverse the order of removal.
- 15. Turned ON the power switch after installed.
- 16. Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilizatio] -> [600dpi] to perform image stabilization.
[I.4.4.2 Img. Stabilization](#)
- 17. Select [Service Mode] -> [Machine] -> [SCAN ADJUST VALUE] to adjust the magnification in the main scan direction.
[I.4.2.6 MnScan Dir Zm Adj](#)
- 18. Select [Service Mode] -> [Machine] -> [ALIGNMENT] -> [LEFT ADJUSTMENT] to adjust the side edge of each paper feeding port.
[I.4.2.2.\(2\) LEFT ADJUSTMENT](#)
- 19. Select [Service Mode] -> [Machine] -> [ALIGNMENT] -> [LEFT ADJ DUPLEX] to adjust the side edge of each paper feeding port.
[I.4.2.2.\(4\) LEFT ADJ DUPLEX](#)

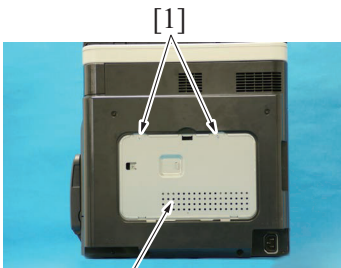
3.16 Hard disk kit (HD-P06) (Option)

1. Remove the rear center cover [1].



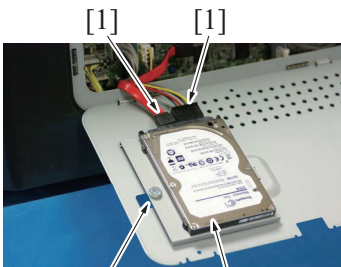
[1]

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



[2]

- 3. Disconnect two connectors [1].
- 4. Remove the screw [2], and remove the hard disk kit [3].



[2]

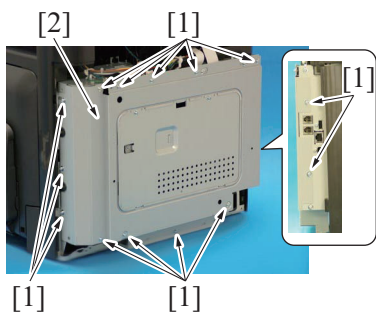
[3]

- 5. To reinstall, reverse the order of removal.
- NOTE**
 - Take notice that, do not catch the cable.

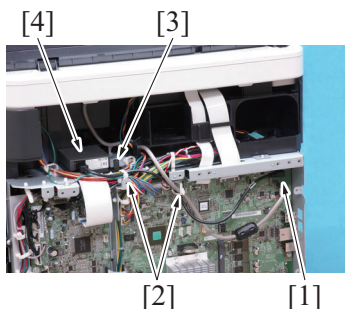
3.17 Network interface card (NC-P03) (Option)

- 1. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
- 2. Remove the rear cover.
[G.3.1 Rear cover](#)

- 3. Remove the left cover.
G.3.2 Left cover
- 4. Remove the hard disk (option).
G.3.16 Hard disk kit (HD-P06) (Option)



- 5. Remove fourteen screws [1], and remove the board protective shield [2].



- 6. Disconnect the connector (CN501) [1], and remove the cable from two wire saddles [2].
- 7. Remove the screw [3], and remove the network interface card assy [4].

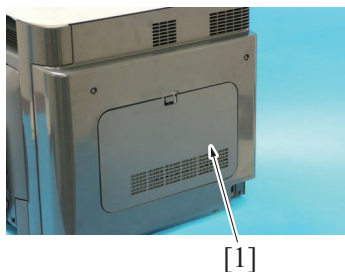
8. Perform the installation in a reverse procedure of the removal.

3.18 Backup battery

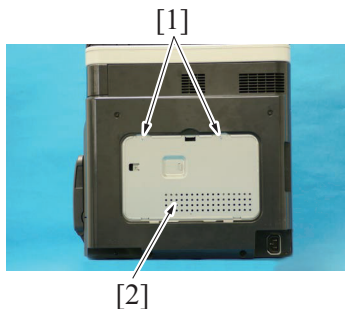
NOTE

- This printer uses a lithium battery to backup memory. Replace the battery with our specified memory backup battery (CR2032). Use of a different battery or the one not equal to our specified battery may present risk of explosion.
- Before your backup battery replacement, refer to the section [G.1.1.4 PH unit].

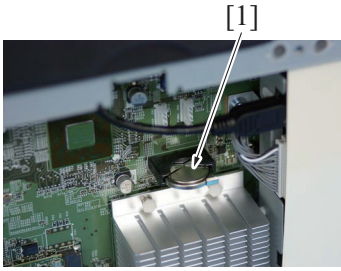
- 1. Remove the rear center cover [1].



- 2. Remove two screws [1], and remove the metal plate panel [2].



3. Remove the backup battery [1].

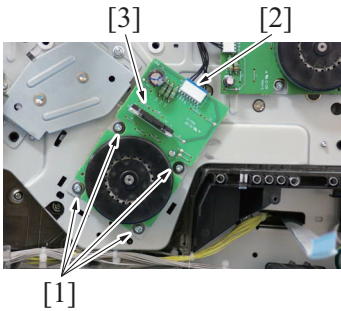


NOTE

- When inserting the new backup battery, be sure that the + side faces toward the downward.

3.19 Developing motor (M1)

1. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
2. Remove the rear cover.
[G.3.1 Rear cover](#)
3. Remove the left cover.
[G.3.2 Left cover](#)
4. Remove the rear right cover.
[G.3.3 Rear right cover](#)
5. Remove the printer control board.
[G.3.11 Printer control board \(PRCB\)](#)
6. Remove the FAX board (Option).
[G.5.1 FAX Kit](#)
7. Remove the high voltage unit.
[G.3.13 High voltage unit \(HV1\)](#)



8. Remove four screws [1].
9. Disconnect the connector [2], and remove the developing motor [3].

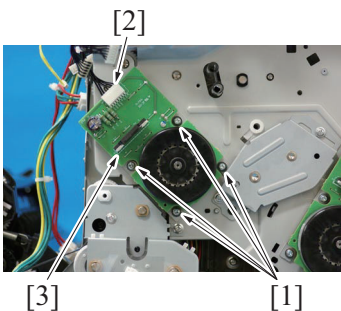
NOTE

- When installing the motor, try to insert it straight, and take care not to damage the gears.

10. To reinstall, reverse the order of removal.

3.20 Transport motor (M2)

1. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
2. Remove the rear cover.
[G.3.1 Rear cover](#)
3. Remove the left cover.
[G.3.2 Left cover](#)
4. Remove the rear right cover.
[G.3.3 Rear right cover](#)
5. Remove the printer control board.
[G.3.11 Printer control board \(PRCB\)](#)
6. Remove the FAX board (Option).
[G.5.1 FAX Kit](#)
7. Remove the high voltage unit.
[G.3.13 High voltage unit \(HV1\)](#)



8. Remove four screws [1].
9. Disconnect the connector [2], and remove the transport motor [3].

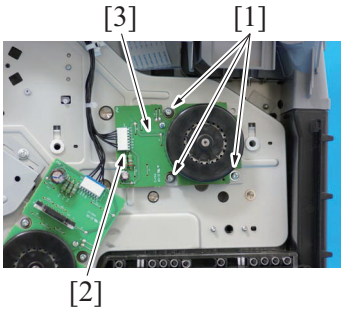
NOTE

- When installing the motor, try to insert it straight, and take care not to damage the gears.

10. To reinstall, reverse the order of removal.

3.21 Color PC drum motor (M4)

1. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
2. Remove the rear cover.
[G.3.1 Rear cover](#)
3. Remove the left cover.
[G.3.2 Left cover](#)
4. Remove the rear right cover.
[G.3.3 Rear right cover](#)
5. Remove the printer control board.
[G.3.11 Printer control board \(PRCB\)](#)
6. Remove the FAX board (Option).
[G.5.1 FAX Kit](#)
7. Remove the high voltage unit.
[G.3.13 High voltage unit \(HV1\)](#)



8. Remove three screws [1].
9. Disconnect the connector [2], and remove the color PC drum motor [3].

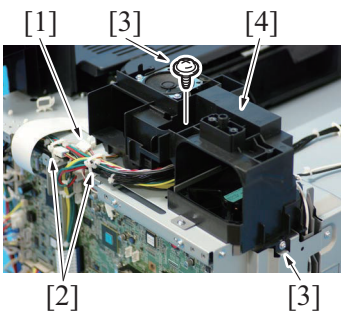
NOTE

- When installing the motor, try to insert it straight, and take care not to damage the gears.

10. To reinstall, reverse the order of removal.

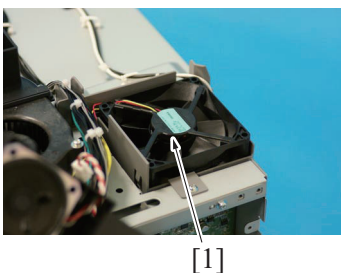
3.22 DC power supply fan motor (FM10)

1. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
2. Remove the rear cover.
[G.3.1 Rear cover](#)
3. Remove the left cover.
[G.3.2 Left cover](#)
4. Remove the DF.
[G.3.36 DF](#)
5. Remove the scanner unit.
[G.3.35 Scanner unit](#)
6. Remove the front right cover.
[G.3.5 Front right cover](#)
7. Remove the upper cover.



8. Disconnect the connector [1], and remove the harness from the wire saddle [2].
9. Remove two screws [3], and slide the duct [4].

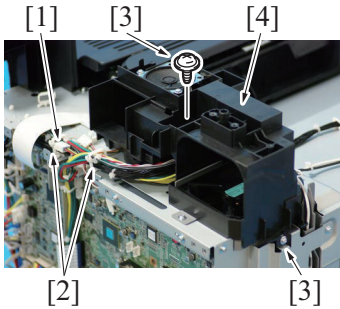
10. Remove the DC power supply fan motor [1].



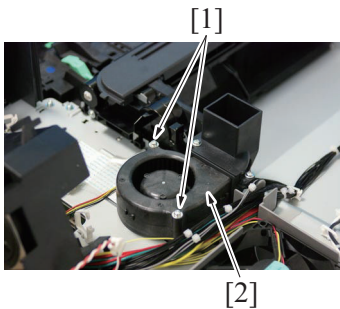
11. To reinstall, reverse the order of removal.

3.23 Cooling fan motor (FM11)

1. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
2. Remove the rear cover.
[G.3.1 Rear cover](#)
3. Remove the left cover.
[G.3.2 Left cover](#)
4. Remove the DF.
[G.3.36 DF](#)
5. Remove the scanner unit.
[G.3.35 Scanner unit](#)
6. Remove the front right cover.
[G.3.5 Front right cover](#)
7. Remove the upper cover.



8. Disconnect the connector [1], and remove the harness from the wire saddle [2].
9. Remove two screws [3], and slide the duct [4].

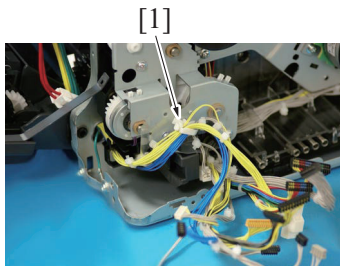


10. Remove two screws [1].
11. Remove the cooling fan motor [2].

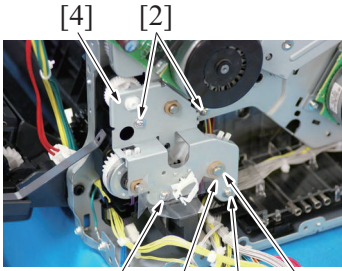
12. To reinstall, reverse the order of removal.

3.24 Tray1 paper feed clutch (CL1) / Manual tray paper feed clutch (CL2)

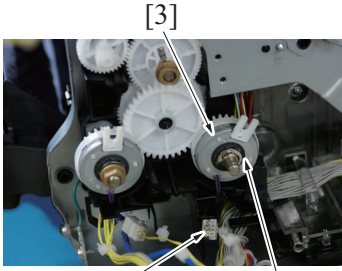
1. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
2. Remove the rear cover.
[G.3.1 Rear cover](#)
3. Remove the left cover.
[G.3.2 Left cover](#)
4. Remove the rear right cover.
[G.3.3 Rear right cover](#)
5. Remove the printer control board.
[G.3.11 Printer control board \(PRCB\)](#)
6. Remove the FAX board (Option).
[G.5.1 FAX Kit](#)
7. Remove the high voltage unit.
[G.3.13 High voltage unit \(HV1\)](#)
8. Remove the transport motor.
[G.3.20 Transport motor \(M2\)](#)



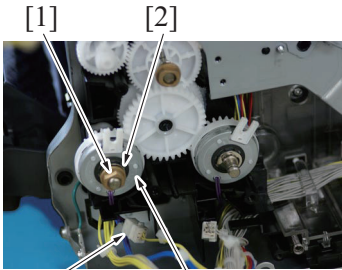
9. Remove the harness from the harness guide [1].



- 10. Remove the E-ring [1].
- 11. Remove four screws [2].
- 12. Remove the bearing [3] and remove the fixing metal plate [4].



- 13. Remove the E-ring [1].
- 14. Disconnect the connector [2], and remove the tray1 paper feed clutch [3].

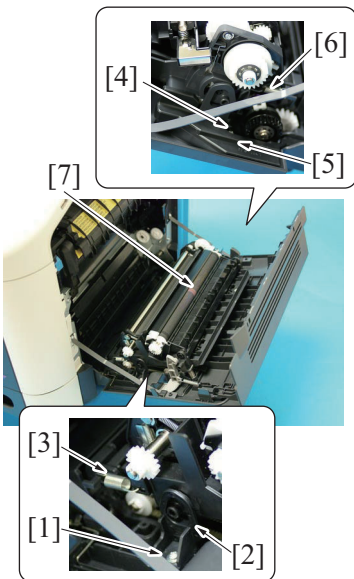


- 15. Remove the bearing [1].
- 16. Remove the E-ring [2].
- 17. Disconnect the connector [3], and remove the manual tray paper feed clutch [4].

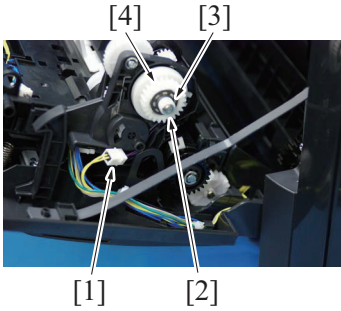
18. To reinstall, reverse the order of removal.

3.25 Registration clutch (CL3)

- 1. Open the right door.



- 2. Remove the screw [1], and remove the fixed cover [2].
- 3. Remove the spring [3].
- 4. Remove four screws [4], and remove the harness cover [5].
- 5. Remove the spring [6].
- 6. Remove the conveyance unit [7].

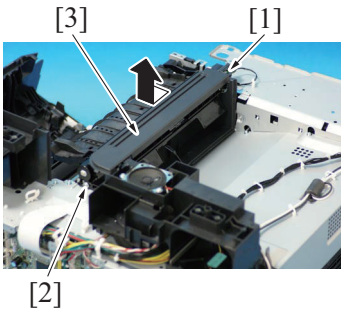


- 7. Disconnect the connector [1].
- 8. Remove the E-ring [2].
- 9. Remove the bushing [3], and remove the registration clutch [4].

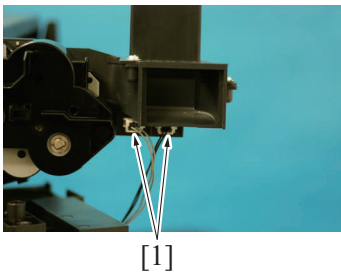
10. To reinstall, reverse the order of removal.

3.26 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) / Toner supply clutch/K (CL7)

- 1. Remove the toner cartridge (C,M,Y,K).
[F.5.1.1 Replacing the toner cartridge \(C, M, Y, K\)](#)
- 2. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
- 3. Remove the imaging unit (C,M,Y,K).
[F.5.1.2 Replacing the imaging unit \(C, M, Y, K\)](#)
- 4. Remove the fuser unit.
[F.5.3.1 Replacing the fuser unit](#)
- 5. Remove the rear cover.
[G.3.1 Rear cover](#)
- 6. Remove the left cover.
[G.3.2 Left cover](#)
- 7. Remove the DF.
[G.3.36 DF](#)
- 8. Remove the scanner unit.
[G.3.35 Scanner unit](#)
- 9. Remove the front right cover.
[G.3.5 Front right cover](#)
- 10. Remove the upper cover.
[G.3.7 Upper cover](#)

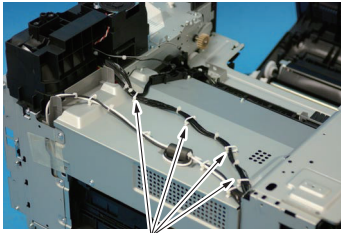


- 11. Disconnect the connector [1], and remove the screw [1].
- 12. Remove the exit drive assy [2].

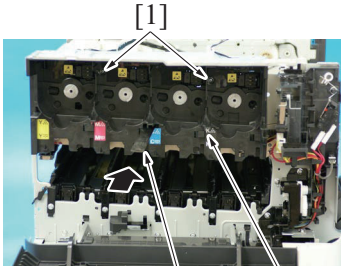


- 13. Disconnect two connectors [1].

14. Remove the harness from four wire saddles [1].



[1]



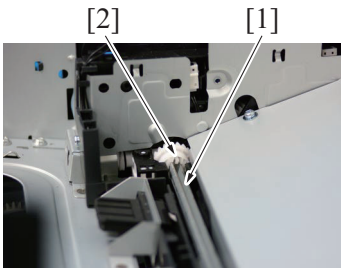
[1]

[2]

[3]

15. Remove two screws [1].

16. While releasing the lock with the inserted metal ruler [2] or another similar tool as shown in the illustration, remove the toner box drive Assy [3].



[2]

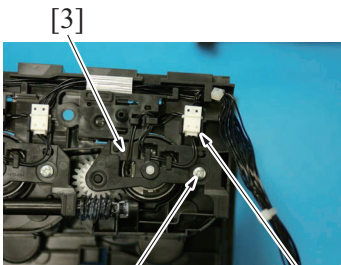
[1]

NOTE

- When installing the toner box drive assy, the shaft [1] is certainly set to the drive connection section [2].

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

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

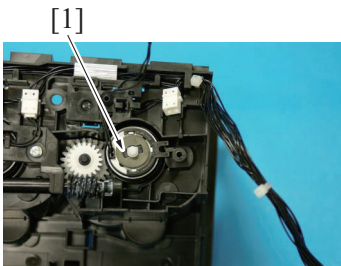


[3]

[2]

[1]

19. Remove the toner supply clutch [1].



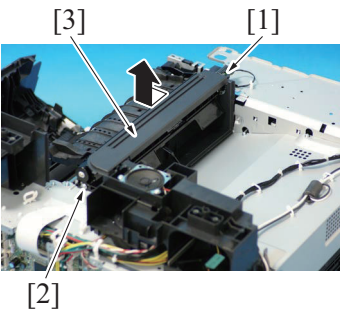
[1]

20. To reinstall, reverse the order of removal.

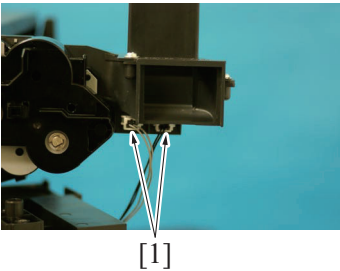
3.27 Loop detection clutch (CL8)

1. Remove the fuser unit.
[F.5.3.1 Replacing the fuser unit](#)
2. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
3. Remove the rear cover.

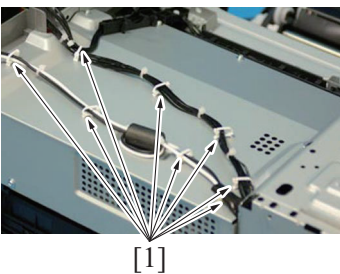
- G.3.1 Rear cover
- 4. Remove the left cover.
G.3.2 Left cover
- 5. Remove the rear right cover.
G.3.3 Rear right cover
- 6. Remove the FAX board (Option).
G.5.1 FAX Kit
- 7. Remove the printer control board.
G.3.11 Printer control board (PRCB)
- 8. Remove the high voltage unit.
G.3.13 High voltage unit (HV1)
- 9. Remove the DF.
G.3.36 DF
- 10. Remove the scanner unit.
G.3.35 Scanner unit
- 11. Remove the front right cover.
G.3.5 Front right cover
- 12. Remove the upper cover.
G.3.7 Upper cover
- 13. Remove DC power supply fan motor.
G.3.22 DC power supply fan motor (FM10)



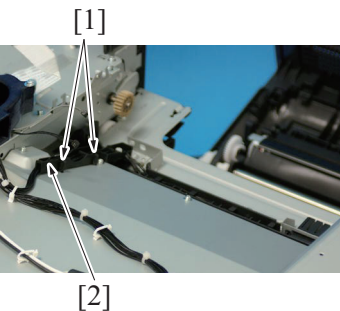
- 14. Disconnect the connector [1], and remove the screw [2].
- 15. Remove the exit drive assy [3].



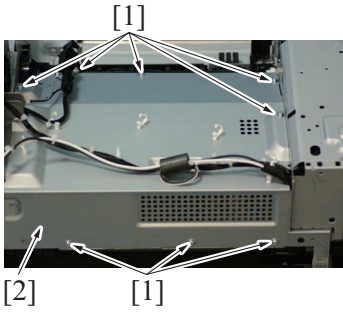
- 16. Disconnect two connectors [1].



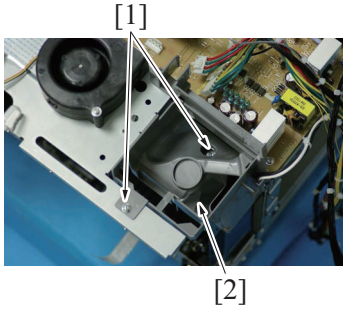
- 17. Remove the harness from eight wire saddles [1].



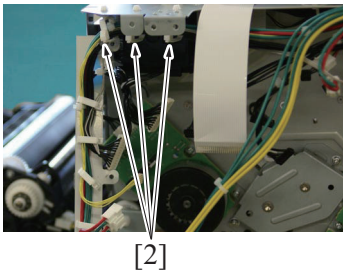
- 18. Unlock two tabs [1], and remove the harness guide [2].



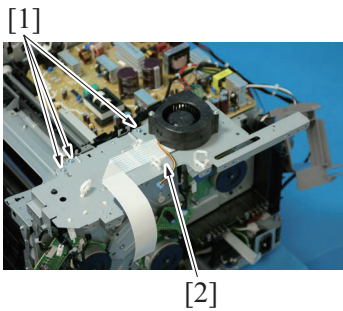
19. Remove eight screws [1], and remove the DC power supply protective cover [2].



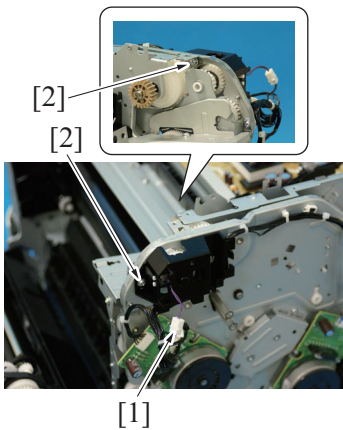
20. Remove two screws [1], and remove the power supply cooling fan cover [2].



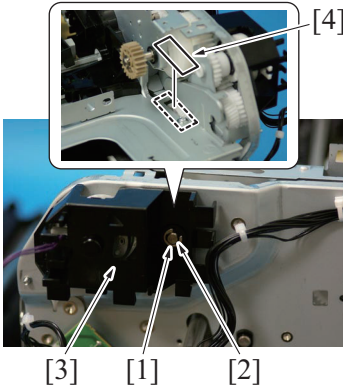
21. Remove the harness from three wire saddles [1].



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



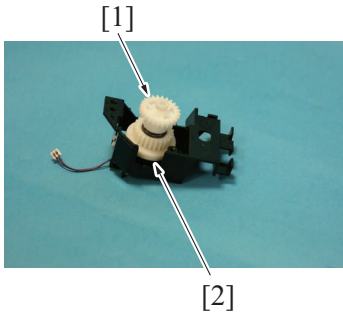
23. Disconnect the connector [1].
24. Remove two screws [2].



25. Remove the E-ring [1] and bushing [2], and remove the holder [3].

NOTE

- Before removing the holder [3], attach tape or similar material [4] to the section shown in the illustration to prevent the shaft from falling down and being lost.

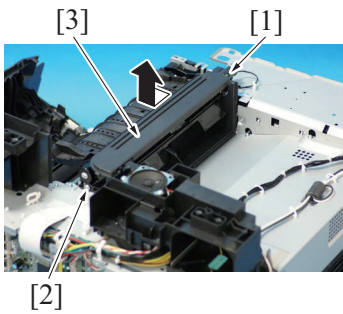


26. Remove the gear [1], and remove the loop detection clutch [2].

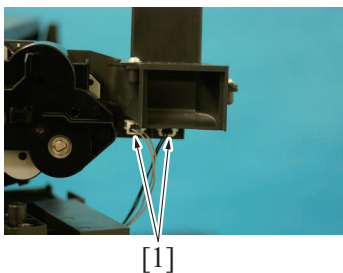
27. To reinstall, reverse the order of removal.

3.28 Switchback roller feed clutch (CL11) / Switchback roller reverse clutch (CL12)

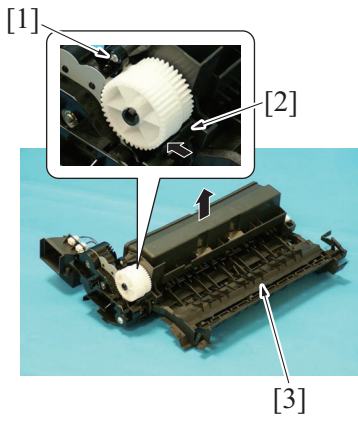
1. Remove the fuser unit.
[F.5.3.1 Replacing the fuser unit](#)
2. Remove the waste toner bottle.
[F.5.2.1 Replacing the waste toner bottle](#)
3. Remove the rear cover.
[G.3.1 Rear cover](#)
4. Remove the left cover.
[G.3.2 Left cover](#)
5. Remove the DF.
[G.3.36 DF](#)
6. Remove the scanner unit.
[G.3.35 Scanner unit](#)
7. Remove the front right cover.
[G.3.5 Front right cover](#)
8. Remove the upper cover.
[G.3.7 Upper cover](#)



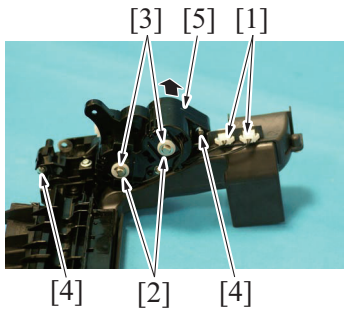
9. Disconnect the connector [1], and remove the screw [2].
10. Remove the exit drive assy [3].



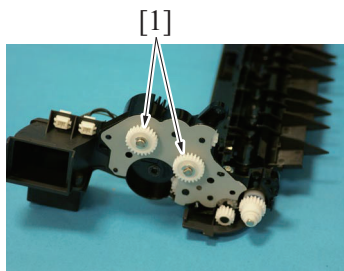
11. Disconnect two connectors [1].



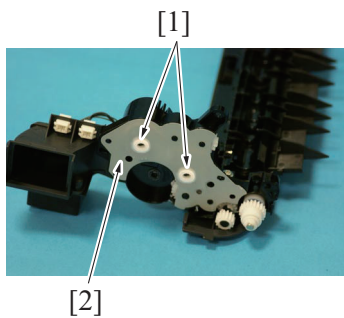
- 12. Remove the screw [1].
- 13. While pushing the tab [2] in the direction of the arrow to unlock it, disassemble and remove the exit drive assy [3].



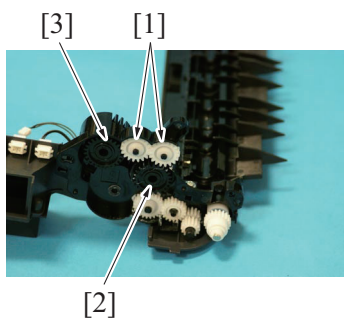
- 14. Disconnect two connectors [1].
- 15. Remove two E-rings [2] and two bushings [3].
- 16. Remove two screws [4], and remove the gear assy [5].



- 17. Remove two gears assy [1].



- 18. Remove two bushings [1], and remove the metal plate [2].

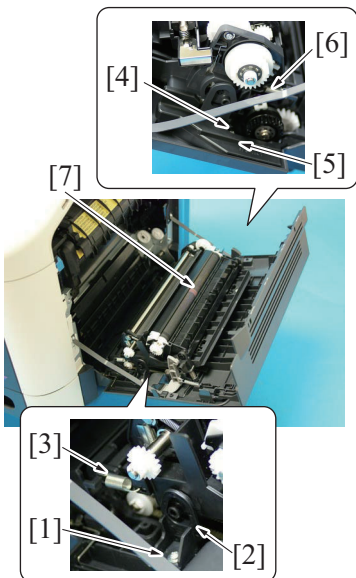


- 19. Remove two gears [1] and remove the switchback roller feed clutch [2] or the switchback roller reverse clutch [3].

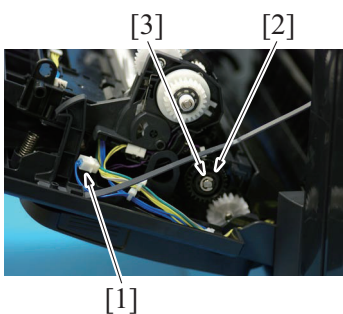
20. To reinstall, reverse the order of removal.

3.29 Duplex conveyance roller clutch (CL13)

- 1. Open the right door.



2. Remove the screw [1], and remove the fixed cover [2].
3. Remove the spring [3].
4. Remove four screws [4], and remove the harness cover [5].
5. Remove the spring [6].
6. Remove the conveyance unit [7].

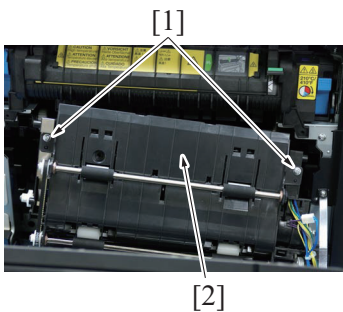


7. Remove the connector from the holder, and disconnect the connector [1].
8. Remove the E-ring [2], and remove the duplex conveyance assy [3].

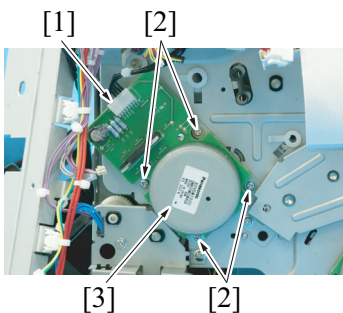
9. To reinstall, reverse the order of removal.

3.30 2nd transfer pressure solenoid (SD2)

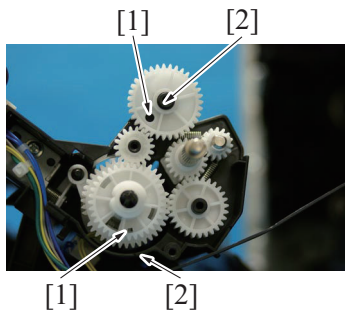
1. Remove the registration clutch.
[G.3.25 Registration clutch \(CL3\)](#)
2. Remove the replacing the transfer roller.
[F.5.2.2 Replacing the transfer roller](#)



3. Remove two screws [1], and remove the duplex conveyance roller assy [2].

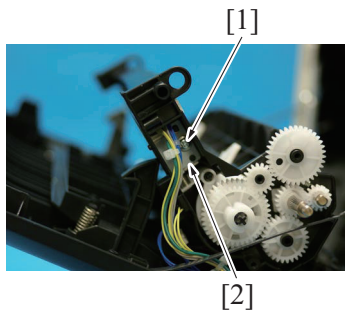


4. Remove two screws [1] and unlock two tabs [2], and remove the holder [3].

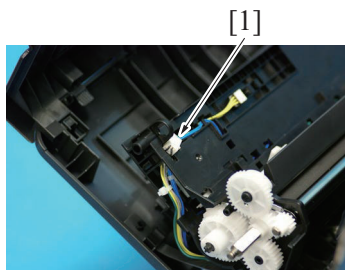


NOTE

- If the gears come off and they need to be reinstalled, align the hole [1] on the gear with the marked line [2] on the holder.



5. Remove the screw [1], and pull the 2nd transfer release solenoid [2] out.

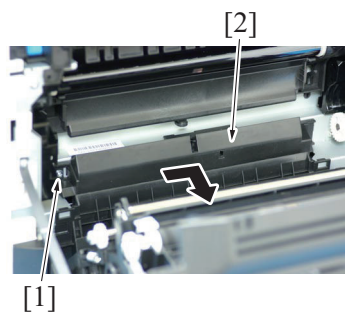


6. Disconnect the connector [1], and remove the 2nd transfer release solenoid.

7. To reinstall, reverse the order of removal.

3.31 Temperature/ humidity sensor (TEM/HUMS)

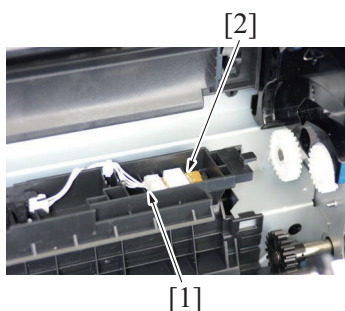
1. Open the right door.



2. Remove the screw [1] and remove the sensor holder [2] as shown in the illustration.

NOTE

- Do not jerk off the sensor holder, to which a harness is connected.

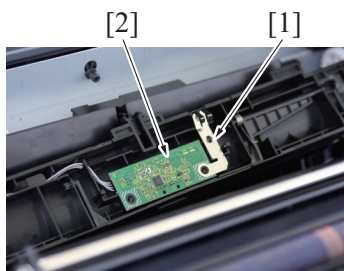
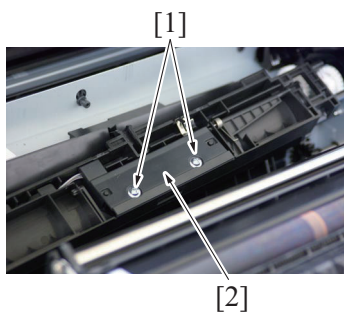
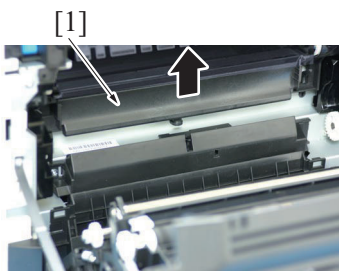
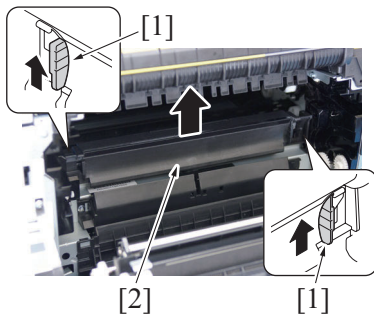


3. Disconnect the connector [1], and remove the temperature/ humidity sensor [2].

4. To reinstall, reverse the order of removal.

3.32 IDC sensor (IDC)

1. Remove the toner cartridge (C,M,Y,K).
F.5.1.1 Replacing the toner cartridge (C, M, Y, K)
2. Remove the waste toner bottle.
F.5.2.1 Replacing the waste toner bottle
3. Remove the imaging unit (C,M,Y,K).
F.5.1.2 Replacing the imaging unit (C, M, Y, K)
4. Remove the transfer belt unit.
F.5.2.3 Replacing the transfer belt unit



5. Hold the both handles [1] and raise the guide [2].

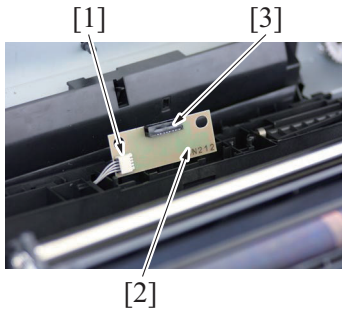
6. Raise the guide [1] further and remove it.

NOTE

- Do not jerk off the sensor holder, to which a harness is connected.

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

8. While slightly raising the ground plate [1], remove the IDC sensor [2].



10. To reinstall, reverse the order of removal.

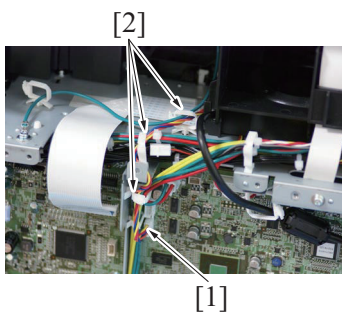
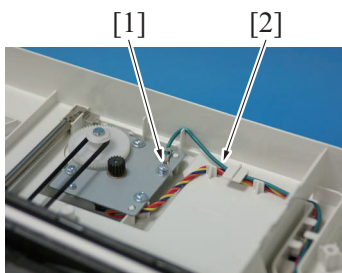
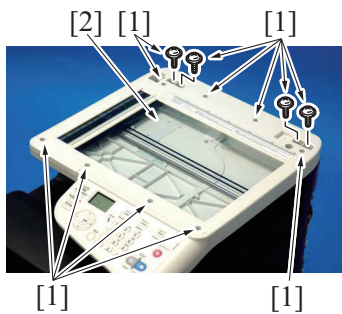
3.33 Scanner motor (M101)

1. Remove the rear cover.

[G.3.1 Rear cover](#)

2. Remove the DF.

[G.3.36 DF](#)



9. Disconnect the connector [1], and remove the IDC sensor [2].

NOTE

- Be careful not to break the sensor head [3] of the IDC sensor.

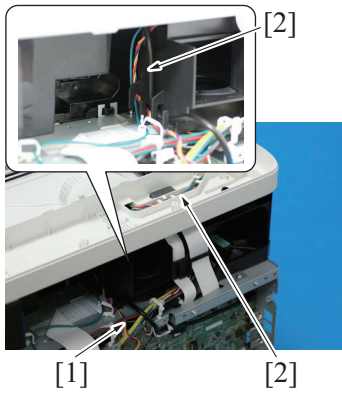
3. Remove 12 screws [1], and remove the original glass [2].

NOTE

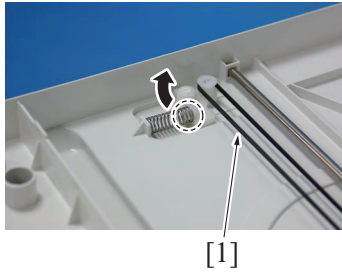
- During installation of the original glass, use care not to allow dust or dirt to enter the machine. Clean any dust or dirt that may have entered before attempting to install the original glass.

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

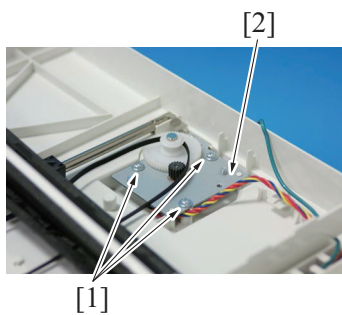
5. Disconnect the connector [1], and remove it from three wire saddles [2].



6. Remove the harness [1] from two harness guides [2].



7. While releasing the stopper, remove the belt [1].

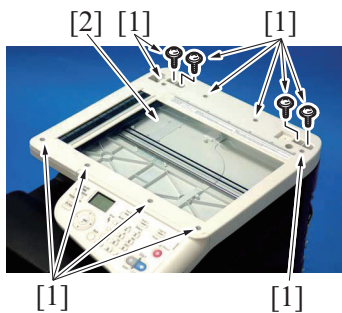


8. Remove three screws [1], and remove the scanner motor [2].

9. To reinstall, reverse the order of removal.

3.34 CIS module

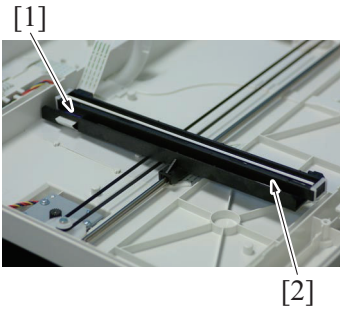
1. Remove the rear cover.
[G.3.1 Rear cover](#)
2. Remove the DF.
[G.3.36 DF](#)



3. Remove 12 screws [1], and remove the original glass [2].

NOTE

- During installation of the original glass, use care not to allow dust or dirt to enter the machine. Clean any dust or dirt that may have entered before attempting to install the original glass.



4. Disconnect the flat cable [1], and remove CIS module [2].

5. To reinstall, reverse the order of removal.

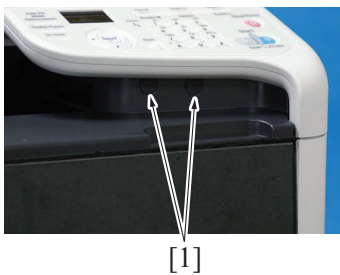
3.35 Scanner unit

1. Remove the rear cover.

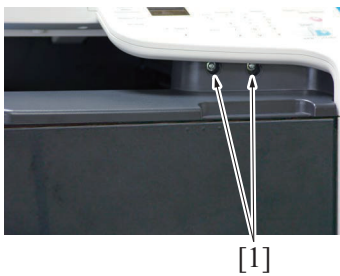
[G.3.1 Rear cover](#)

2. Remove the DF.

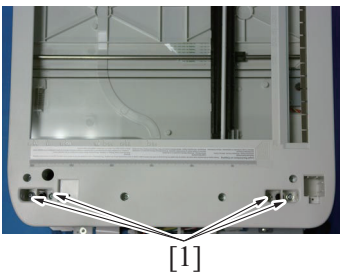
[G.3.36 DF](#)



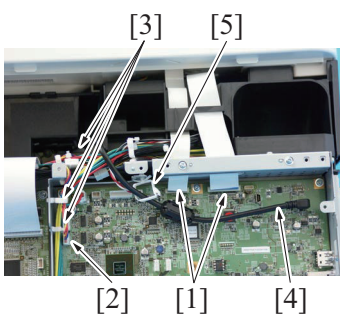
3. Remove two caps [1].



4. Remove two screws [1].



5. Remove four screws [1].



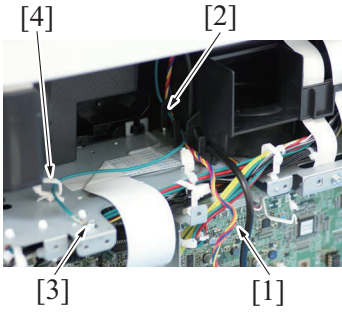
6. Disconnect two flat cables [1].

7. Disconnect the connector [2], and remove it from three wire saddles[3].

8. Disconnect the USB cable [4] from the MFP board, and remove it from the wire saddle [5].

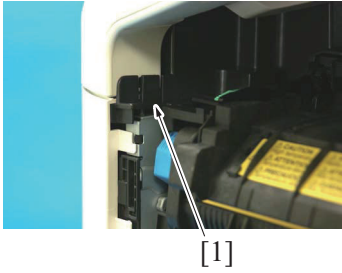
NOTE

- When disconnecting the flat cable, make sure not to lose the ferrite core [6].



9. Remove the harness [1] from the harness guide [2].
10. Remove the earth cable [3] from the wire saddle [4] and the harness guide [2].

11. Open the right door.



12. Remove the tab [1].
13. Remove the scanner unit.

NOTE

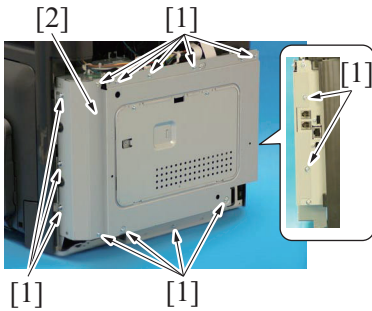
- When unhook the tab [1], use the flathead screwdriver or the similar tool.

14. To reinstall, reverse the order of removal.

3.36 DF

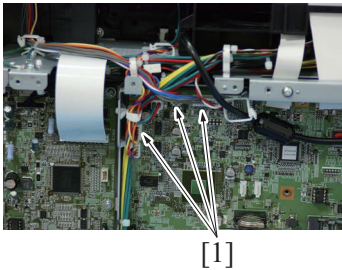
1. Remove the rear cover.

G.3.1 Rear cover

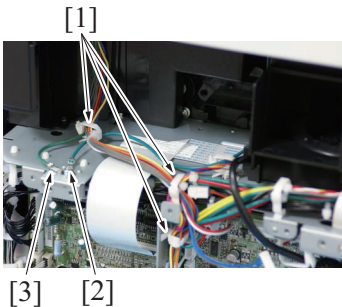


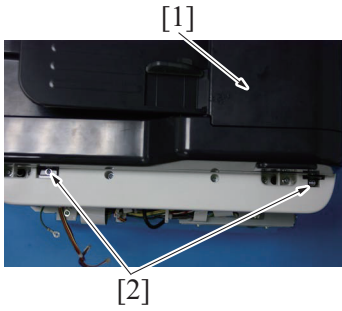
2. Remove fourteen screws [1], and remove the board protective shield [2].

3. Disconnect three connectors [1].



4. Remove the harness from three wire saddles [1].
5. Remove the screw [2], and remove the earth cable [3] from wire saddle.

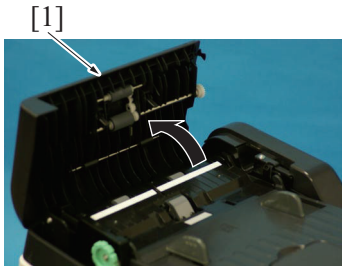




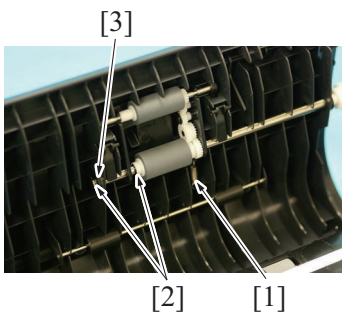
6. Remove two screws [2], and remove the DF [1].

7. To reinstall, reverse the order of removal.

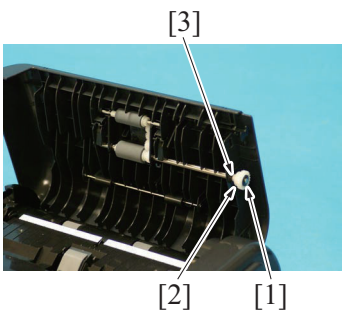
3.37 DF pick-up roller/DF feed roller



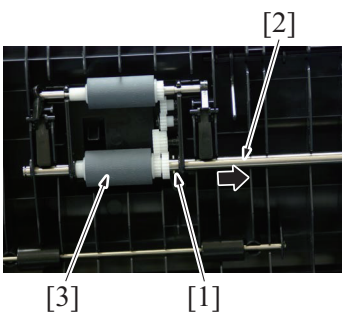
1. Open the DF feed cover [1].



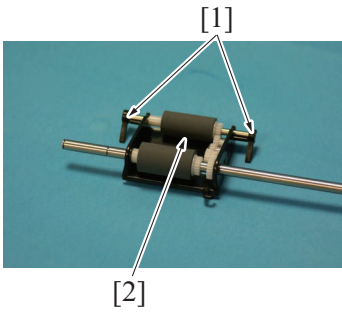
2. Remove the spring [1].
3. Remove two C-clips [2], and remove pushing [3].



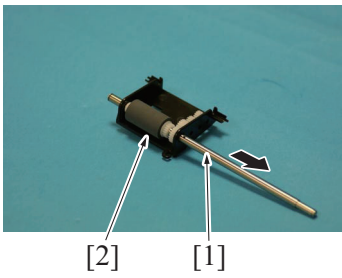
4. Remove the C-ring [1], and remove the gear [2].
5. Remove the bushing [3].



6. Remove the pin [1].
7. Move the shaft [2] in the direction of the arrow, and remove the roller unit [3].



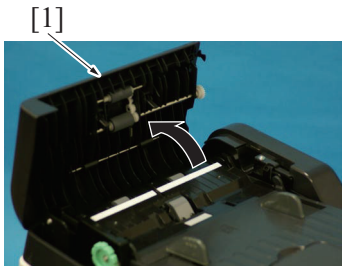
8. Remove two levers [1], and remove the pick-up roller [2].



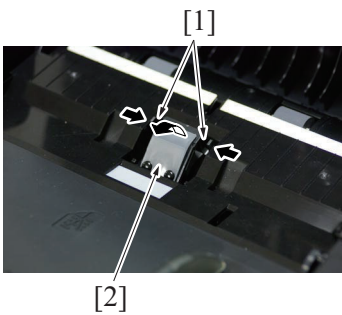
9. Remove the shaft [1], remove the feed roller [2].

10. To reinstall, reverse the order of removal.

3.38 DF separation pad



1. Open the DF feed cover [1].



2. Unhook two tabs [1], and remove the DF separator pad [2].

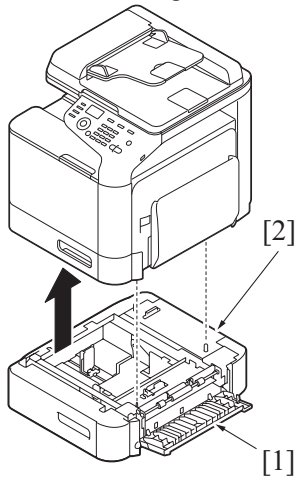
3. To reinstall, reverse the order of removal.

4. Disassembly/reassembly procedure (PF-P14)

4.1 Paper Feed Unit

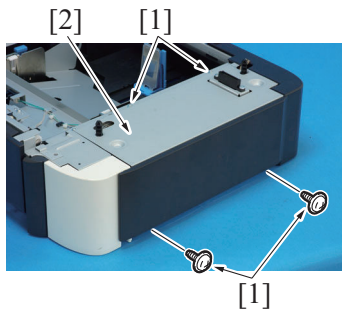
NOTE

- Whenever removing or reinstalling the Paper Feed Unit, be sure first to unplug the power cord of the printer from the power outlet.
 - Open the right door [1].
 - Lift the printer main body and then remove the Paper Feed Unit [2] from the printer.



4.2 Rear cover

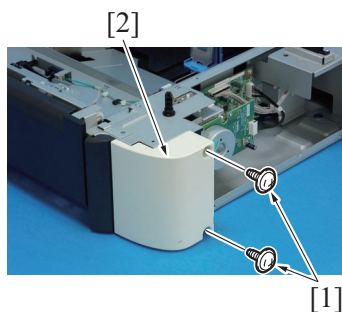
- Remove the Paper Feed Unit from the machine.
[G.4.1 Paper Feed Unit](#)



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

4.3 Rear right cover

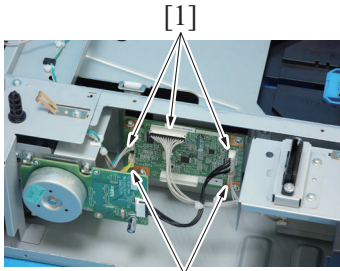
- Remove the Paper Feed Unit from the machine.
[G.4.1 Paper Feed Unit](#)
- Remove the rear cover.
[G.4.2 Rear cover](#)



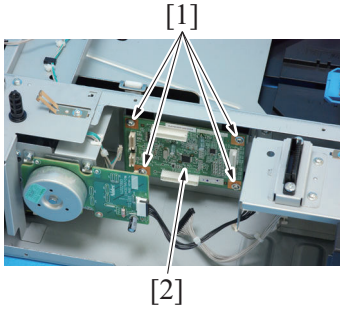
- Remove two screws [1], and remove the rear right cover [2].

4.4 PC control board (PCCB)

- Remove the Paper Feed Unit from the machine.
[G.4.1 Paper Feed Unit](#)
- Remove the rear cover.
[G.4.2 Rear cover](#)



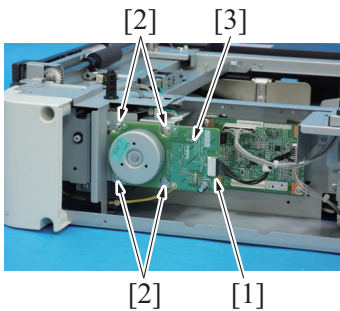
3. Disconnect five connectors [1] from the PC control board.



4. Remove four screws [1], and remove the PC control board [2].

4.5 Tray2 paper feed motor (M1)

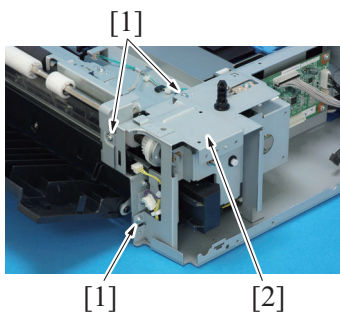
1. Remove the Paper Feed Unit from the machine.
[G.4.1 Paper Feed Unit](#)
2. Remove the rear cover.
[G.4.2 Rear cover](#)



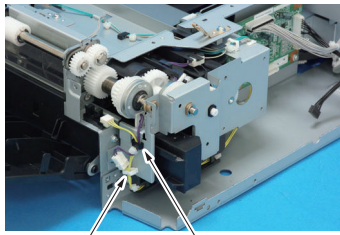
3. Disconnect the connector [1].
4. Remove four screws [2], and remove the tray2 paper feed motor [3].

4.6 Tray2 paper feed clutch (CL1)

1. Remove the Paper Feed Unit from the machine.
[G.4.1 Paper Feed Unit](#)
2. Remove the rear cover.
[G.4.2 Rear cover](#)
3. Remove the rear right cover.
[G.4.3 Rear right cover](#)
4. Remove the tray2 paper feed motor.
[G.4.5 Tray2 paper feed motor \(M1\)](#)
5. Open the right door.

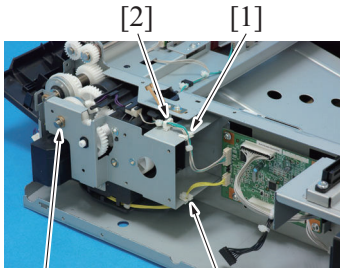


6. Remove three screws [1], and remove the protect metal plate [2].



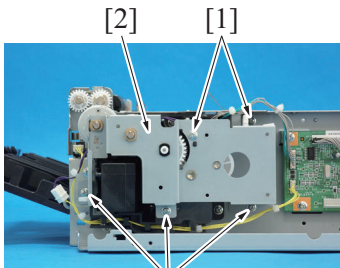
[2] [1]

7. Remove the harness clamp [1], and remove the harness from the wire saddle [2].



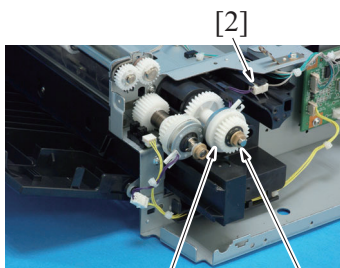
[3] [1]

8. Remove the harness from two edge covers [1] and wire saddle [2].
9. Remove the E-ring [3].



[1]

10. Remove five screws [1], and remove the gear fixing metal plate [2].

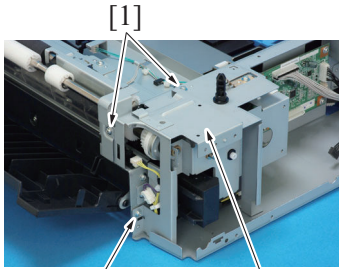


[3] [1]

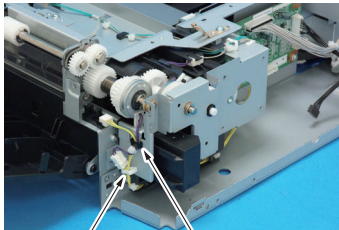
11. Remove the bearing [1].
12. Disconnect the connector [2], and remove the tray2 paper feed clutch [3].

4.7 Tray2 conveyance clutch (CL2)

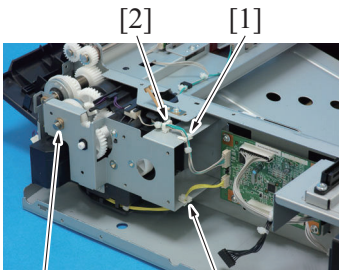
1. Remove the Paper Feed Unit from the machine.
[G.4.1 Paper Feed Unit](#)
2. Remove the rear cover.
[G.4.2 Rear cover](#)
3. Remove the rear right cover.
[G.4.3 Rear right cover](#)
4. Remove the tray2 paper feed motor.
[G.4.5 Tray2 paper feed motor \(M1\)](#)
5. Open the right door.



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

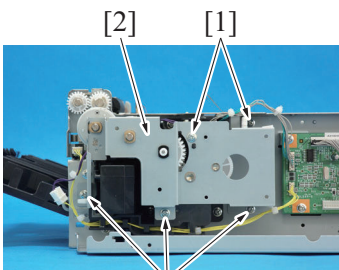


7. Remove the harness clamp [1], and remove the harness from the wire saddle [2].

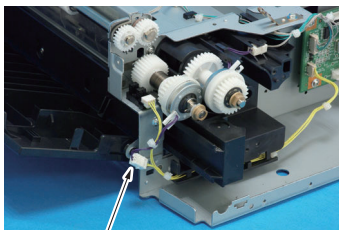


8. Remove the harness from two edge covers [1] and the wire saddle [2].

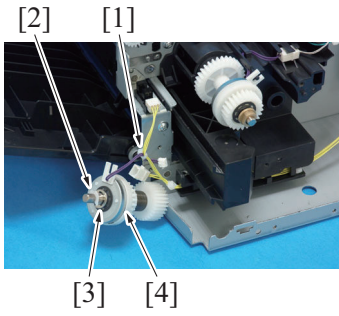
9. Remove the E-ring [3].



10. Remove five screws [1], and remove the gear fixing metal plate [2].



11. Disconnect the connector [1].



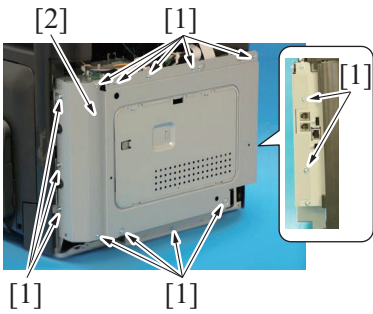
12. Cut the tie band [1].
13. Remove the C-ring [2] and the E-ring [3].
14. Remove the tray2 conveyance clutch [4].

5. Disassembly/reassembly procedure (FK-512)

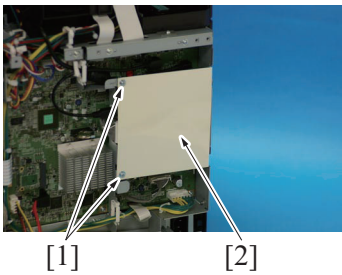
5.1 FAX Kit

- 1. Disconnect the modular cable on the LINE port.
- 2. Remove the rear cover.

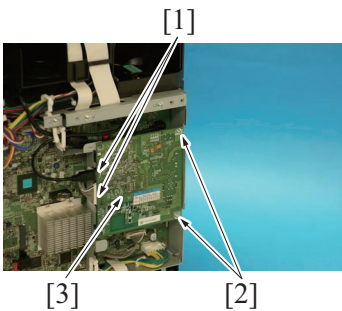
G.3.1 Rear cover



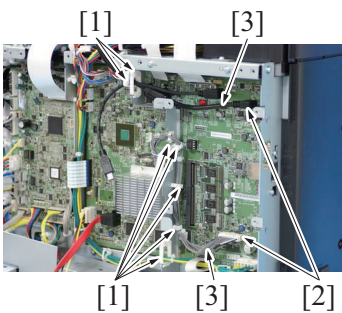
- 3. Remove fourteen screws [1], and remove the board protective shield [2].



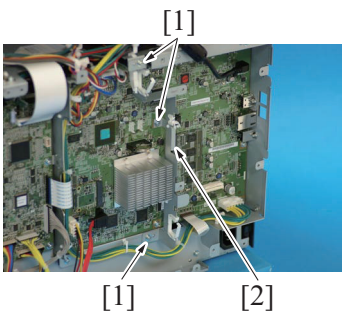
- 4. Remove two screws [1], and remove the insulating sheet [2].



- 5. Disconnect two connectors [1].
- 6. Remove two screws [2], and remove the FAX board (Option) [3].



- 7. Remove the harness from seven wire saddles [1].
- 8. Disconnect two connectors [2], and remove two cables [3].



- 9. Disconnect three connectors [1], and remove the mounting plate [2].

10. To reinstall, reverse the order of removal.

H CLEANING/LUBRICATION

1. Cleaning parts list

Section		Part name	Ref.Page
Main body	Manual tray	Manual tray feed roller	H.2.1 Manual tray feed roller
		Manual tray separation roller	H.2.2 Manual tray separation roller
	Tray1	Tray1 feed roller	H.2.3 Tray1/ Tray2 feed roller
		Tray1 separation roller	H.2.4 Tray1 separation roller
	DF	The DF feed roller	H.2.6 The DF feed roller
Processing section	Laser irradiation section	H.2.7 Laser irradiation section	
Paper Feed Unit	Rollers	Tray2 feed roller	H.2.3 Tray1/ Tray2 feed roller
		Tray2 separation roller	H.2.5 Tray2 separation roller
		Conveyance roller	H.2.8 Conveyance roller

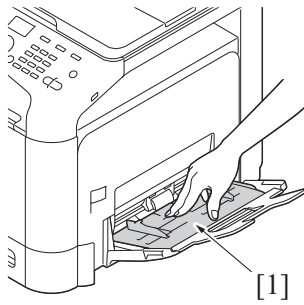
2. Cleaning procedure

2.1 Manual tray feed roller

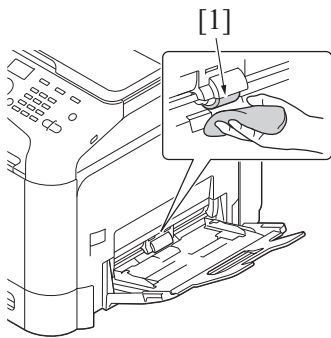
NOTE

- The alcohol described in the cleaning procedure represents the isopropyl alcohol.

1. Open the tray1.



2. Press down the paper lifting metal plate [1].



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

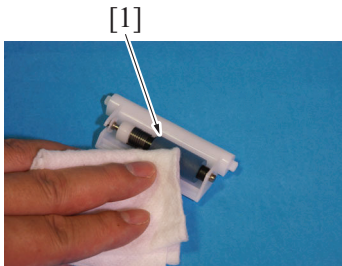
2.2 Manual tray separation roller

NOTE

- The alcohol described in the cleaning procedure represents the isopropyl alcohol.

1. Remove the manual tray separation roller unit.

[F.5.4.2 Replacing the manual tray separation roller](#)



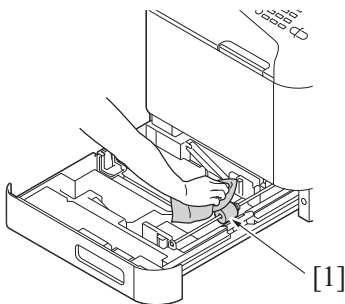
2. Using a cleaning pad dampened with alcohol, wipe the manual tray separation roller [1] clean of dirt.

2.3 Tray1/ Tray2 feed roller

NOTE

- The alcohol described in the cleaning procedure represents the isopropyl alcohol.

1. Slide out tray1/ tray2.



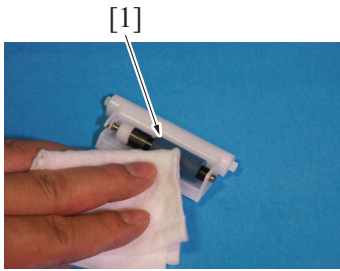
2. Using a cleaning pad dampened with alcohol, wipe the tray1/ tray2 feed roller [1] clean of dirt.

2.4 Tray1 separation roller

NOTE

- The alcohol described in the cleaning procedure represents the isopropyl alcohol.

1. Remove the tray1 separation roller unit.
F.5.4.4 Replacing the tray1 separation roller



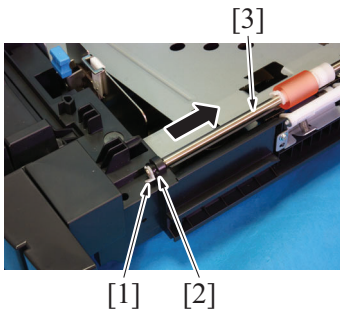
2. Using a cleaning pad dampened with alcohol, wipe the tray1 separation roller [1] clean of dirt.

2.5 Tray2 separation roller

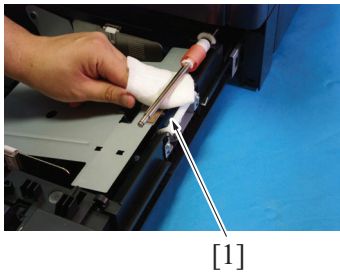
NOTE

- The alcohol described in the cleaning procedure represents the isopropyl alcohol.

1. Pull out tray2.



2. Remove the C-ring [1] and the bearing [2], and remove the tray2 feed roller unit [3].



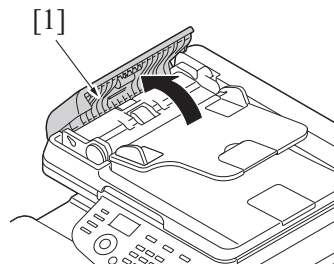
3. Using a cleaning pad dampened with alcohol, wipe the tray2 separation roller [1] clean of dirt.

2.6 The DF feed roller

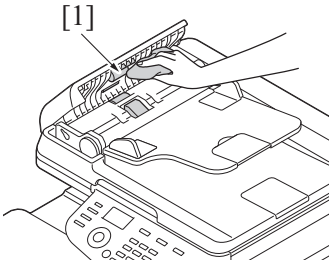
NOTE

- The alcohol described in the cleaning procedure represents the isopropyl alcohol.

1. Open the feed cover.

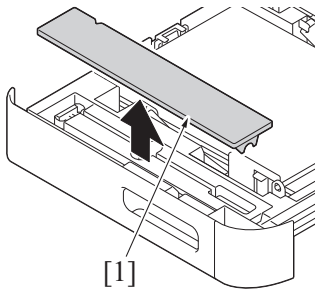


- Using a cleaning pad with alcohol, wipe the pick-up roller [1] /feed roller [2] clean of dirt.

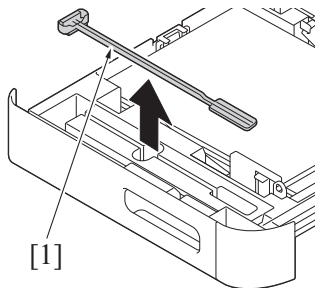


2.7 Laser irradiation section

- Slide out tray1.

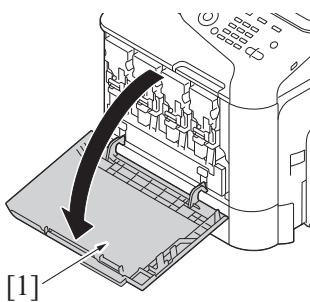


- Remove the cover [1].

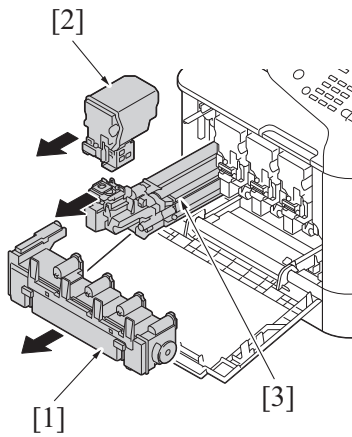


- Remove the laser lens cleaning tool [1].

- Close the tray1.

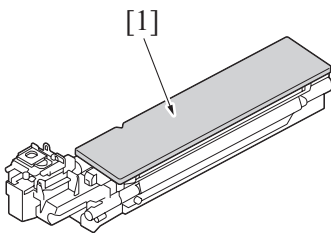


- Open the front cover [1].



6. Remove the waste toner bottle [1].
F.5.2.1 Replacing the waste toner bottle
7. Remove the toner cartridge [2].
F.5.1.1 Replacing the toner cartridge (C, M, Y, K)
8. Remove the imaging unit [3].
F.5.1.2 Replacing the imaging unit (C, M, Y, K)

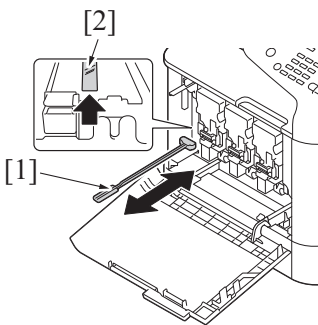
9. Attach the cover [1] to the removed imaging unit.



10. Insert the laser lens cleaning tool [1] into the imaging unit opening [2], pull it out, and then repeat this back and forth movement 2 or 3 times.

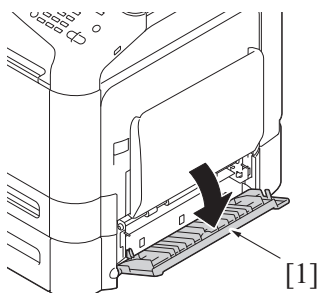
NOTE

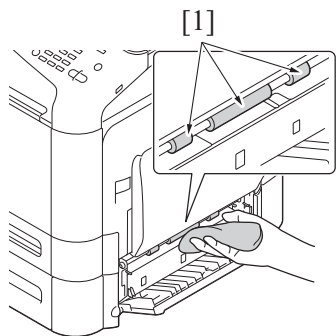
- Never touch the electrical contacts of the toner cartridge or the imaging unit, as an electrostatic discharge may damage the product.

**2.8 Conveyance roller****NOTE**

- The alcohol described in the cleaning procedure represents the isopropyl alcohol.

1. Open the right door [1].





2. Wipe the conveyance roller [1] clean of dirt using a cleaning pad dampened with alcohol.

I ADJUSTMENT/SETTING

1. HOW TO USE THE ADJUSTMENT SECTION

- "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.

1.1 Advance checks

- Before attempting to solve the customer problem, 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.
- The original has a problem that may cause a defective image.
- The density is properly selected.
- The original glass, slit 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 imaging 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. UTILITY

2.1 List of UTILITY mode

List of UTILITY mode - outline

NOTE

- Keys displayed on screens are different depending on the setting.
- The function tree is shown to comply with the format displayed on the screen.

2.1.1 Accessibility

Accessibility				
KeyRepeat/Interval	Time to Start			
	Interval			
Message Display Tm				
Sound Settings	Operation Confirm	Input Confirmation	Input Confirmation	
			Volume	
	Invalid Sound	Invalid Sound	Invalid Sound	
			Volume	
	SuccessCompletion	Operation Complete	Operation Complete	
			Volume	
	TX Complete	TX Complete	TX Complete	
			Volume	
	Completed Prep	Completed Prep	Completed Prep	
			Volume	
	Caution Sound	LowCaution(Level 1)	LowCaution(Level 1)	LowCaution(Level 1)
				Volume
		LowCaution(Level 2)	LowCaution(Level 2)	LowCaution(Level 2)
				Volume
		LowCaution(Level 3)	LowCaution(Level 3)	LowCaution(Level 3)
				Volume
Severe Caution Snd	Severe Caution Snd	Severe Caution Snd		
		Volume		
LCD CONTRAST				

2.1.2 Paper Settings

Paper Settings	
MANUAL	PAPER TYPE
	PAPER SIZE
TRAY1	PAPER TYPE
	PAPER SIZE
TRAY2 *1	PAPER TYPE
	PAPER SIZE

- *1: It will be displayed only when the optional paper feed unit PF-P14 is mounted.

2.1.3 One-Touch Reg

One-Touch Reg	
E-mail	Name
	Favorites
	Destination
Fax	Name
	Favorites
	Destination

2.1.4 User Settings

User Settings			
System Settings	Language Selection		
	UNIT OF MEASURE		
	PAPER SOURCE	Auto Tray Select	Tray 1
			Tray 2 *1
MANUAL			

User Settings					
		Auto Tray Switch			
		Print Lists			
Copier Settings	Auto Zoom Combine				
	Def. Copy Settings				
	Sep. Scan Setting				
Scan/Fax Settings	Bk Compression Lvl				
	Def. Fax Settings				
	Def. Scan Settings				
	Print Reports	TX Report			
	RX Report				
Printer Settings	PAPER MENU	DEFAULT TRAY	TRAY 1		
			TRAY 2 *1		
			MANUAL		
		Any Tray Setting	MANUAL		Manual Any Size
					Manual Any Type
			TRAY 1		Tray1 Any Size
					Tray1 Any Type
				TRAY 2 *1	Tray2 Any Type
		DUPLEX			
		COPIES			
	COLLATE *2				
	BINDING				
	TRAY CHAINING				
	Tray Mapping		TRAY MAPPING MD.		
			LOGICAL TRAY0		
			LOGICAL TRAY1		
			LOGICAL TRAY2		
			LOGICAL TRAY3		
			LOGICAL TRAY4		
			LOGICAL TRAY5		
			LOGICAL TRAY6		
			LOGICAL TRAY7		
			LOGICAL TRAY8		
			LOGICAL TRAY9		
	ORIENTATION				
	Minimal Print				
	TIFF Paper Setting				
Print Reports	Statistics Page				
	Counter List				
OOXML Print Set *2	OOXML Print Mode				
	Sheet/Book Print				
	PAPER				
PAPER TYPE					
Layout - Combination	Layout Settings				
	Line				
	Column				
	Aggr. Order				
	Aggr. Direction				
	Layout Settings		Pg Space - Line		
			Pg Space - Column		
			Pg Margin - Top		
			Pg Margin - Bottom		
			Pg Margin - Left		
			Pg Margin - Right		
			Pg Magnification		
			Pg Zoom - Manual		
		Pg Frame			

- *1: It will be displayed only when the optional paper feed unit PF-P14 is mounted.
- *2: It will be displayed only when the optional hard disk HD-P06 is mounted.

2.1.5 Admin Settings - System Settings

Admin Settings - System Settings				
Pwr Sup/Pwr Sav	ENERGY SAVER	ON/OFF		
		Time Settings		
	Enter Pwr Save Md	Pwr Cons Sleep Md		
CLOCK	Date Setting			
	Time Setting			
	TIME ZONE			
Daylight Saving	Daylight Saving			
	Offset			
WeeklyTmr Settings	Enable Settings			
	Time Settings	Check Settings		
		Sunday	ON TIME	
			OFF TIME	
			Set/Clear	
		Monday	ON TIME	
			OFF TIME	
			Set/Clear	
		Tuesday	ON TIME	
			OFF TIME	
			Set/Clear	
		Wednesday	ON TIME	
			OFF TIME	
			Set/Clear	
		Thursday	ON TIME	
			OFF TIME	
			Set/Clear	
		Friday	ON TIME	
			OFF TIME	
			Set/Clear	
Saturday	ON TIME			
	OFF TIME			
	Set/Clear			
All Setting	ON TIME			
	OFF TIME			
	All Set/Clear			
Overtime Password	ON/OFF			
	ENTER PASSWORD			
Pwr SaveMd Setting				
RestrictUserAccess	Registering and Changing Addr.			
Expert Adjustment	ALIGNMENT	TOP ADJUSTMENT	PLAIN PAPER	
			THICK	
			THICK 2	
			ENVELOPE	
		LEFT ADJUSTMENT	LEFT ADJ TRAY1	
			LEFT ADJ TRAY2 *1	
			LEFT ADJ MANUAL	
		LeadEdgeAdj-Side2	PLAIN PAPER	
			THICK	
			THICK 2	
		LEFT ADJ DUPLEX	LEFT ADJ TRAY1	
			LEFT ADJ TRAY2 *1	
			LEFT ADJ MANUAL	
		Media Adjustment	First Side	PLAIN PAPER
				THICK 1

Admin Settings - System Settings			
			THICK 2
			GLOSSY 1
			GLOSSY 2
			POSTCARD
			ENVELOPE
			LABEL
		Second Side	PLAIN PAPER
			THICK 1
			THICK 2
	IMAGE ADJ PARAM		
IMG ADJ THICK	THICK/1200dpi	YELLOW	
		MAGENTA	
		CYAN	
		BLACK	
IMG ADJ BLACK			
MAIN SCAN ADJUST	YELLOW		
	MAGENTA		
	CYAN		
Main Scan Page			
Fine Line ADJ			
PRINT MENU	Event Log		
	HALFTONE 64	CYAN 64	
		Magenta 64	
		YELLOW 64	
		BLACK 64	
	HALFTONE 128	CYAN 128	
		Magenta 128	
		YELLOW 128	
		BLACK 128	
	HALFTONE 256	CYAN 256	
		Magenta 256	
		YELLOW 256	
		BLACK 256	
	Gradation		
Life	REPLACE	FUSER UNIT	
		TRANS. BELT	
		TRANS. ROLLER	
List/Counter	Job Settings List		
	Activity Report		
	UserAcct Cnt Ls Pg		
	Scan Comm Report		
Priority Tray			
Reset Settings	System auto reset	Priority Mode	
		ON/OFF	
		Reset Time	
	Auto Reset	Copy	
		Scan	
		Fax	
Folder Settings	Doc Del Tm Setting *2	Time Settings	
		Custom Setting	
	ExtMemFuncSettings	Restrict ScantoUSB	
		Print Document *2	

- *1: It will be displayed only when the optional paper feed unit PF-P14 is mounted.
- *2: It will be displayed only when the optional hard disk HD-P06 is mounted.

2.1.6 Admin Settings - Admin/Mach Setgs

Admin Settings - Admin/Mach Setgs	
Admin Registration	Name

Admin Settings - Admin/Mach Setgs	
	E-MAIL ADDRESS
	Extension No.
Input Machine Addr	Device Name
	E-MAIL ADDRESS

2.1.7 Admin Settings - Address Reg List

Admin Settings - Address Reg List		
Speed Address List	E-mail	Starting Dest. No.
		Number of Dest.
		PRINT
	Fax *1	Starting Dest. No.
		Number of Dest.
		PRINT
	SMB	Starting Dest. No.
		Number of Dest.
		PRINT
	FTP	Starting Dest. No.
		Number of Dest.
		PRINT
Group Address List	Starting Dest. No.	
	Number of Dest.	
	PRINT	
Program List	E-mail	Starting Dest. No.
		Number of Dest.
		PRINT
	Fax *1	Starting Dest. No.
		Number of Dest.
		PRINT
	SMB	Starting Dest. No.
		Number of Dest.
		PRINT
	FTP	Starting Dest. No.
		Number of Dest.
		PRINT
	Address Book	Starting Dest. No.
		Number of Dest.
		PRINT
	Group	Starting Dest. No.
		Number of Dest.
		PRINT
E-MailSub/TextList		

• *1: It will be displayed only when the optional fax kit FK-512 is mounted.

2.1.8 Admin Settings - ETHERNET

Admin Settings - ETHERNET			
TCP/IP	ENABLE		
	IPv4 Settings	IP ADDRESS	
		SUBNET MASK	
		DEFAULT GATEWAY	
		IP Appl Method	DHCP
			BOOTP
			ARP/PING
			AUTO IP Settings
	IPv6	ENABLE	
		AUTO SETTING	
		GLOBAL ADDRESS	
		GATEWAY ADDRESS	
		LINK LOCAL	

Admin Settings - ETHERNET		
	DNS Host	DYNAMIC DNS
	IPSEC	
	ACCESS PER.	
	ACCESS REFUSE	
	RAW PORT	ENABLE
		BIDIRECTIONAL
HTTP	HTTP	
	IPP	
FTP	FTP	
E-mail Settings	SMTP	
SNMP		
BONJOUR		
WSD PRINT	WSD PRINT	
Detail Settings	Device Setting	SPEED/DUPLEX
	SLP	
IEEE802.1X		
Extrnd Network Set		

2.1.9 Admin Settings - Printer Settings

Admin Settings - Printer Settings				
DO STARTUP PAGE				
AUTO CONTINUE				
Paper Settings	PAPER TYPE	PAPER SIZE		
		CUSTOM SIZE	LENGTH	
			WIDTH	
UNIT OF MEASURE				
HOLD JOB TIMEOUT *1				
QUALITY MENU	COLOR MODE			
	Brightness			
	Halftone	IMAGE PRINTING		
		TEXT PRINTING		
		GRFX. PRINTING		
	EDGE ENHANCEMENT	IMAGE PRINTING		
		TEXT PRINTING		
		GRFX. PRINTING		
	Edge Strength			
	Economy Print			
	PCL SETTING	Contrast		
		IMAGE PRINTING	RGB Source	
			RGB Intent	
			RGB Gray	
		TEXT PRINTING	RGB Source	
			RGB Intent	
			RGB Gray	
		GRFX. PRINTING	RGB Source	
			RGB Intent	
			RGB Gray	
		PS SETTING	Image Printing	RGB Source
RGB Intent				
RGB Gray				
Dest. Profile				
TEXT PRINTING	RGB Source			
	RGB Intent			
	RGB Gray			
	Dest. Profile			
GRFX. PRINTING	RGB Source			
	RGB Intent			

Admin Settings - Printer Settings							
		SIMULATION	RGB Gray				
			Dest. Profile				
			Simulation Profile				
			Sim. Intent				
			CMYK Gray				
	CALIBRATION	Tone Calibration	CMYK DENSITY	CYAN			
				Highlight			
				MIDDLE			
				Shadow			
				MAGENTA			
				Highlight			
				MIDDLE			
				Shadow			
				YELLOW			
				Highlight			
MIDDLE							
Shadow							
COLOR SEPARATION	Image Stabilization	BLACK					
		Highlight					
EMULATION	DEF. EMULATION	PS Setting	WAIT TIMEOUT				
			PS ERROR PAGE				
			PS PROTOCOL				
			AUTO TRAPPING				
			BLACK OVERPRINT				
			PCL Settings	CR/LF MAPPING	LINE PER PAGE	FONT SOURCE	
						FONT NUMBER	
						PITCH SIZE	
						POINT SIZE	
						SYMBOL SET	
						Barcode Font Setg	Line Width
							Space Width
						XPS *1	DIGITAL SGN.

• *1: It will be displayed only when the optional hard disk HD-P06 is mounted.

2.1.10 Admin Settings - Fax Settings

Admin Settings - Fax Settings *1	
Header Information	Sender
	Sender Fax No.
Header/Footer Pos	Header Position
	TTI Print Area
	Print RX Name
	Footer Position
Line Param Setting	Dialing Method
	RX MODE
	Ring Pattern
	Number of RX Rings
	Number of Redials
	Redial Interval
	LINE MONITOR
	LINE Mon Vol - TX
	LINE Mon Vol - RX
	Manual RX V.34 OFF
	TX/RX Settings
Inch Over A4	

Admin Settings - Fax Settings *1		
	Print Paper Select	
	Print Paper Size	
	Tray RX Print	
	Reduction Ratio	
	PrintSeparateFaxPg	
	FileAfterPollingTX	
Function Settings	Func ON/OFFSetting	F-Code TX
		Restrict Fax TX
		Restrict Fax RX
		Restrict PC-Fax TX
	Memory RX Setting	ON/OFF
		Password
	Forward TX Setting	Enable Settings
		Forward Dest.
		Output Method
	Remote RX Settings	Remote RX Settings
		Password
	PC-Fax RX Settings	ENABLE
		PRINT
	Night RX Settings	Night Fax RX Print
		Night RX Start Tm
Night RX End Time		
PBX CX Settings	PBX CX Settings	
	Password	
Report Settings	Activity Report	Output Settings
		Output Tm Setting
		Output Lim Setting
		Rmk Col PrintSetup
	TX Result Report	Output Settings
		TX ResultRptImage
	Timer ReservTX Rpt	
	PC-Fax TX Err Rpt	
	BroadcastResultRpt	Enable Settings
		Output Settings
TX Result RptCheck		
Job Settings List		

• *1: It will be displayed only when the optional fax kit FK-512 is mounted.

2.1.11 Admin Settings - System Connection

Admin Settings - System Connection	
Admin Dispatch	

2.1.12 Admin Settings - Security Settings

Admin Settings - Security Settings		
Admin. Password		
Security Details	Password Rules	
	Manual Destination	
	Job Log *1	Job Log
		Billing Log
		Count Log
		Audit Log
		Overwrite
		Erase Job Log
	Initialize	RESTORE NETWORK
		RESTORE PRINTER
RESTORE ALL		
EnhancedSecurityMd		

Admin Settings - Security Settings		
HDD Settings *1	Check HDD Capacity	
	Overwrite All Data	HDD Overwrite Meth
		Start
	HDD Format	
	HDD EncryptSetting	
SSD Settings	Overwrite All Data	
	SSD Format	

- *1: It will be displayed only when the optional hard disk HD-P06 is mounted.

2.1.13 Admin Settings - Paper Empty Set

Admin Settings - Paper Empty Set	
TRAY 1	
TRAY 2 *1	
MANUAL	

- *1: It will be displayed only when the optional paper feed unit PF-P14 is mounted.

2.1.14 Admin Settings - License Management

Admin Settings - License Management	
Get Request Code	
Activation	
List EnabledFunc	

2.2 Starting/Exiting

2.2.1 Starting procedure

1. On the main screen, press the ▲ or ▼ key to select [UTILITY], then press the Select key.
2. The utility mode screen will appear.

2.2.2 Exiting procedure

- Press the Stop/Reset key.

3. LIST OF SERVICE MODE

3.1 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 makes the changes to the Service Mode setting take effect.

Service Mode	Machine	I.3.2.1 Machine
	FIRMWARE VERSION	I.4.3 FIRMWARE VERSION
	Img. Proc. Adj.	I.3.2.2 Img. Proc. Adj.
	System 1	I.3.2.3 System 1
	System 2	I.3.2.4 System 2
	Counter	I.3.2.5 Counter
	PRINT MENU	I.3.2.6 PRINT MENU
	StateConfirmation	I.3.2.7 State Confirmation
	Test Mode *1	I.3.2.8 Test Mode
	ADF	I.3.2.9 ADF
	Fax Settings *1	I.3.2.10 Fax Settings
	2nd NIC settings	I.4.14 2nd NIC settings
	BK CLEAR	I.4.15 BK CLEAR
	FIRMWARE UPDATE *2	I.4.16 FIRMWARE UPDATE
	LoadableDriverInfo	I.4.17 LoadableDriverInfo
	loadable download *2	I.4.18 loadable download
	HDD Format	I.4.19 HDD Format
	ENGINE DIPSW	I.4.20 ENGINE DIPSW

- *1: It will be displayed only when the optional fax kit FK-512 is mounted.
- *2: It will be displayed only when the USB memory is connected to the machine.

3.2 List of service mode (detail)

3.2.1 Machine

NOTE

- After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

Machine		Ref. Page	
Fusing Temperature	PLAIN PAPER	I.4.2.1 Fusing Temperature	
	THICK		
	ENVELOPE		
ALIGNMENT	TOP ADJUSTMENT	PLAIN PAPER	I.4.2.2.(1) TOP ADJUSTMENT
		THICK	
		THICK 2	
		NVELOPE	
	LEFT ADJUSTMENT	LEFT ADJ TRAY1	I.4.2.2.(2) LEFT ADJUSTMENT
		LEFT ADJ TRAY2	
		LEFT ADJ MANUAL	
	LeadEdgeAdj-Side2	PLAIN PAPER	I.4.2.2.(3) LeadEdgeAdj-Side2
		THICK	
		THICK 2	
	LEFT ADJ DUPLEX	LEFT ADJ TRAY1	I.4.2.2.(4) LEFT ADJ DUPLEX
		LEFT ADJ TRAY2	
		LEFT ADJ MANUAL	
	IMAGE ADJ PARAM	I.4.2.2.(5) IMAGE ADJ PARAM	
Scanner Area	Offset	I.4.2.3.(1) Offset	
	FB Side Edge	I.4.2.3.(2) FB Side Edge	
	Main ScanZoom Adj.	I.4.2.3.(3) Main ScanZoom Adj	
	Sub ScanZoom Adj.	I.4.2.3.(4) Sub ScanZoom Ad	
LD adjustment	LD LightWidth Adj.	I.4.2.4 LD adjustment	
FUSER CONTROL		I.4.2.5 FUSER CONTROL	
MnScan Dir Zm Adj	YELLOW	I.4.2.6 MnScan Dir Zm Adj	
	MAGENTA		
	CYAN		
Main Scan Page		I.4.2.7 Main Scan Page	
Fine Line ADJ		I.4.2.8 Fine Line ADJ	

Machine	Ref. Page
IU Yield Settings	I.4.2.9 IU Yield Settings
ACS Parameter	I.4.2.10 ACS Parameter
Replace All Units	I.4.2.11 Replace All Units
New Replace Mode	I.4.2.12 New Replace Mode

3.2.2 Img. Proc. Adj.

NOTE

- After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

Imaging ProcessAdj			Ref. Page
TransVolt Fn Adj.	2nd Transfer Adj.	Frist Side	I.4.4.1 TransVolt Fn Adj.
		Second Side	
Img. Stabilization			I.4.4.2 Img. Stabilization
IMG ADJ THICK		YELLOW	I.4.4.3 IMG ADJ THICK
		MAGENTA	
		CYAN	
		BLACK	
IMG ADJ BLACK			I.4.4.4 IMG ADJ BLACK

3.2.3 System 1

NOTE

- After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

System 1		Ref. Page
Marketing Area		I.4.5.1 Marketing Area
SERIAL NUMBER		I.4.5.2 SERIAL NUMBER
Sleep Mode Set		I.4.5.3 Sleep Mode Set
Install Date		I.4.5.4 Install Date
Mach. St. LED Set		I.4.5.5 Mach. St. LED Set
TONER OUT MODE		I.4.5.6 TONER OUT MODE
GRAYSCALE PAGE		I.4.5.7 GRAYSCALE PAGE

3.2.4 System 2

NOTE

- After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

System 2			Ref. Page
ENABLE WARNING	Near Empty	TONER LOW	I.4.6.1 ENABLE WARNING
		I-UNIT LOW	
		Waste Toner Box	
SOFT SWITCH			I.4.6.2 SOFT SWITCH
Cal Setting			I.4.6.3 Cal Setting
Cov. Rate Screen			I.4.6.4 Cov. Rate Screen
App. Change Setting			I.4.6.5 App. Change Setting

3.2.5 Counter

NOTE

- After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

Counter			Ref. Page
Life	REPLACE	FUSER UNIT	I.4.7 Counter
		TRANS. BELT	
		TRANS. ROLLER	

3.2.6 PRINT MENU

NOTE

- After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

PRINT MENU		Ref. Page
Management List		I.4.8.1 Management List

PRINT MENU		Ref. Page
Adjustments List		I.4.8.2 Adjustments List
Service Parameter*1		I.4.8.3 Service Parameter
Protocol Trace*1	Last	I.4.8.4 Protocol Trace
	Error	
Fax Analysis List*1		I.4.8.5 Fax Analysis List
Scan Event Log		I.4.8.6 Scan Event Log
HALFTONE 64	CYAN 64	I.4.8.7 HALFTONE 64
	Magenta 64	
	YELLOW 64	
	BLACK 64	
HALFTONE 128	CYAN 128	I.4.8.8 HALFTONE 128
	Magenta 128	
	YELLOW 128	
	BLACK 128	
HALFTONE 256	CYAN 256	I.4.8.9 HALFTONE 256
	Magenta 256	
	YELLOW 256	
	BLACK 256	
Gradation		I.4.8.10 GRADATION

- It will be displayed only when the optional fax kit FK-512 is mounted.

3.2.7 State Confirmation

NOTE

- After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

StateConfirmation		Ref. Page
SENSOR CHECK	1st.	I.4.9.1 SENSOR CHECK
	2nd.	
	Manual Feed	
	Other	
Level History		I.4.9.2 Level History
Temp. & Humidity		I.4.9.3 Temp. & Humidity
Memory/HDD State		I.4.9.4 Memory/HDD State
Component Check		I.4.9.5 COMP. CHECK

3.2.8 Test Mode

NOTE

- After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

Test Mode		Ref. Page	
Fax Test	SignalSend Test	V34 Main CH	I.4.10.1 Fax Test-Signal Send Test
		V8	
		V17	
		V29	
		V27ter	
		V21	
		PB	
		DP	
		Special Tone	
		Optional Tone	
		PB Tone(High)	
		PB Tone(Low)	
		Pseudo Ring	
	Signal RX Test	V17	I.4.10.2 Fax Test-Signal RX Test
		V29	
		V27 ter	
		V21	
		PB	
		Special Ton	

Test Mode		Ref. Page
NCU Test	CML Relay	I.4.10.3 Fax Test-NCU Test
	CTL Relay	
	TEL Relay	
	DC-LOOPDetect	
	Speaker	
	Outside Ring Send	
	Audio Resp Send	
Dial Test	Dial Number	I.4.10.4 Fax Test - Dial Test
	Dialing Method	
	DialTone Detection	
	BUSYTONE Detection	

3.2.9 ADF

NOTE

- After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

DF		Ref. Page
1-Side		I.4.11.1 1-Side
2-Side		I.4.11.2 2-Side
Register Loop	Back side	I.4.11.3 Register Loop-Back side
Center Adjustment		I.4.11.4 Center Adjustment
ADF(B) Side Edge		I.4.11.5 ADF(B) Side Edge
Feed Zoom		I.4.11.6 Feed Zoom
FD-Mag. Adj. (B)		I.4.11.7 FD-Mag. Adj. (B)
Main Scan Dir Zm		I.4.11.8 Main Scan Dir Zm
Main Scan Dir Zm-B		I.4.11.9 Main Scan Dir Zm-B

3.2.10 Fax Settings

NOTE

- After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

FAX Settings		Ref. Page	
Modem/NCU	V34	RX Max. Bit Speed	I.4.12.1.(1) V34: RX Max. Bit Speed
		TX Max. Bit Speed	I.4.12.1.(2) V34: TX Max. Bit Speed
		Control CH Speed	I.4.12.1.(3) V34: Control CH Speed
		V34Tran.PT	I.4.12.1.(4) V34: V34 Tran.PT
	V17 SendMax Speed	TX Max. Speed	I.4.12.1.(5) V17 Send Max Speed: TX Max. Speed
		RX Max. Speed	I.4.12.1.(6) V17 Send Max Speed: RX Max. Speed
	TxATT	PIX TxATT	I.4.12.1.(7) TxATT: PIX TxATT
		TONE/Pro Sig TxATT	I.4.12.1.(8) TxATT: TONE/Pro Sig TxATT
		CED/ANSam TxATT	I.4.12.1.(9) TxATT: CED/ANSam TxATT
		DTMF TxATT	I.4.12.1.(10) TxATT: DTMF TxATT
	Level	CD/SED ON Level	I.4.12.1.(11) Level: CD/SED ON Level
		DTMF H-L Lvl Diff	I.4.12.1.(12) Level: DTMF H-L Lvl Diff
	Cable EQL		I.4.12.1.(13) Cable EQL
Network	RX Sig Detn Md		I.4.12.2.(1) RX Sig Detn Md
	BUSYTONE Detection		I.4.12.2.(2) BUSYTONE Detection
	BUSYTONE Detn Time		I.4.12.2.(3) BUSYTONE Detn Time
	1300Hz Detection		I.4.12.2.(4) 1300Hz Detection
	DialTone Detection		I.4.12.2.(5) DialTone Detection
	DC-LOOP Check		I.4.12.2.(6) DC-LOOP Check
	min.RING OFF Time		I.4.12.2.(7) min.RING OFF Time
	Partner Resp Time		I.4.12.2.(8) Partner Resp Time
	Pause Time		I.4.12.2.(9) Pause Time
	Pseudo RBTFormat		I.4.12.2.(10) Pseudo RBTFormat
	Pseudo RBT TX Lvl		I.4.12.2.(11) Pseudo RBT TX Lvl

FAX Settings		Ref. Page
System	Display Setting	CompulsoryMemory R I.4.12.3.(1) Display Setting: CompulsoryMemory R
	System Function	Fax Board Watchdog I.4.12.3.(2) System Function: Fax Board Watchdog
		Fax BT Rewrite ISW I.4.12.3.(3) System Function: Fax BT Rewrite ISW
		Error Code Display I.4.12.3.(4) System Function: Error Code Display
	Comm Setting	Error Pg Resending I.4.12.3.(5) Communication Setting: Error Pg Resending
		#ofRedials(Err Pg) I.4.12.3.(6) Communication Setting: #ofRedials(Err Pg)
Fax File Format		I.4.12.4 Fax File Format
COMMUNICATION	Protocol	V8/V34 Protocol I.4.12.5.(1) Protocol: V8 / V34 Protocol
		V17EP TONE I.4.12.5.(2) Protocol: V17EP TONE
		V29EP TONE I.4.12.5.(3) Protocol: V29EP TONE
		V17EP TONE I.4.12.5.(4) Protocol: V17EP TONE
		ANSam Send Time I.4.12.5.(5) Protocol: ANSam Send Time
	Int'l Comm. Functio	Foreign Comm Func I.4.12.5.(6) Int'l Comm. Functio: Foreign Comm Func
		DIS Waiting Times I.4.12.5.(7) Int'l Comm. Functio: DIS Waiting Times
		V34 Speed I.4.12.5.(8) Int'l Comm. Functio: V34 Speed
		V17 Speed I.4.12.5.(9) Int'l Comm. Functio: V17 Speed
		V29 Speed I.4.12.5.(10) Int'l Comm. Functio: V29 Speed
	TIMER	T1 I.4.12.5.(11) TIMER: T1
		DCS-TCF DELAY I.4.12.5.(12) TIMER: DCS-TCF DELAY
		CED-DIS DELAY I.4.12.5.(13) TIMER: CED-DIS DELAY
		PIX-PMC DELAY I.4.12.5.(14) TIMER: PIX-PMC DELAY
		EOL-EOL I.4.12.5.(15) TIMER: EOL-EOL
		CFR-PIXWAIT I.4.12.5.(16) TIMER: CFR-PIXWAIT
		EOM-PIXWAIT I.4.12.5.(17) TIMER: EOM-PIXWAIT
		JM WAIT I.4.12.5.(18) TIMER: JM WAIT
	Others	ECM OFF I.4.12.5.(19) Others: ECM OFF
		Fr Size at ECM TX I.4.12.5.(20) Others: Fr Size at ECM TX
		Cording Ability I.4.12.5.(21) Others: Cording Ability
List Output	Rpt Addition Info I.4.12.6.(1) Rpt Addition Info	
	TX ResultRptImage I.4.12.6.(2) TX ResultRptImage	
	ProtTraceAutoOut I.4.12.6.(3) ProtTraceAutoOut	
FunctionParameter		I.4.12.7 Function Parameter
Initialization	Fax Func Parameter I.4.12.8 Initialization	
	Comm Journal Data	
Line STD.Settings	Partner Resp Time I.4.12.9 Line STD. Settings	
	Always OffHook	
	DialTone Detection	
	BUSY TONE Detection	
	Error Pg Resending	
	#ofRedials (Err Pg)	
	Reduce RX err	
	Busytone Detn Time	
	Number of Redials	
	Redial Intervval	
	RX Sig Detn Md	
	Number of RX Rings	
	Detection time	
	Pause Time	
Line Mon Vol-TX		

FAX Settings	Ref. Page
Line Mon Vol-RX	

4. Service Mode

4.1 STARTING/EXITING

4.1.1 STARTING PROCEDURE

NOTE

- Make sure not to reveal the password of the service mode to any unauthorized person.

(1) Procedure

1. Select [Utility] on the menu screen and press the Select key.
2. Press the following keys in this order.
Stop/Reset -> 0 -> 0 -> Stop/Reset -> 0 -> 1
3. Using the keyboard, type the CE password.
The initial setting for CE password is "92729272."
4. Press the Select key.

NOTE

- Pressing the * key on the control panel each time switches the input mode.
- Access attempts to the Service Mode with a CE password is limited to up to 3 times.
If the number of invalid access attempts reaches three, your access is locked. Until access lock is released, the Service Mode is not accessible.
To release access lock, turning OFF/ON the power switch and rebooting the machine is necessary.
(When the machine is rebooted, the invalid access attempts count is cleared.)
- The service code entered is displayed as " * ".

5. The Service Mode menu will appear.

NOTE

- Be sure to change the CE password if it is set by default.
- For how to change the CE password, refer to [5.5 CE Password](#).
- Never forget the CE password.

4.1.2 Exiting procedure

- Press the Stop/Reset key.

4.2 Machine

4.2.1 Fusing Temperature

(1) Use

- To adjust the fusing heating temperature individually for each paper type so as to ensure good fusing performance that varies with varying 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 this function when curled paper, or paper jam as a result of the curled paper, occurs under varying environmental conditions or depending on the type of paper used.

(2) Setting item

PLAIN PAPER	-10 °C to 0 °C (step: 5 °C)
THICK	-10 °C to 0 °C (step: 5 °C)
ENVELOPE	-10 °C to 0 °C (step: 5 °C)

(3) Procedure

1. Call the Service Mode to the screen.
2. Select [Fusing Temperature] and press the Select key.
3. Select the type of paper and press the Select key.
4. Select desired setting value with the up key/down key and press the Select key.

<Adjustment instructions>

Fusing failure	Increase the setting value.
Uneven waxing	Increase the setting value.
Offset	Increase the setting value.
Curled paper	Increase the setting value.

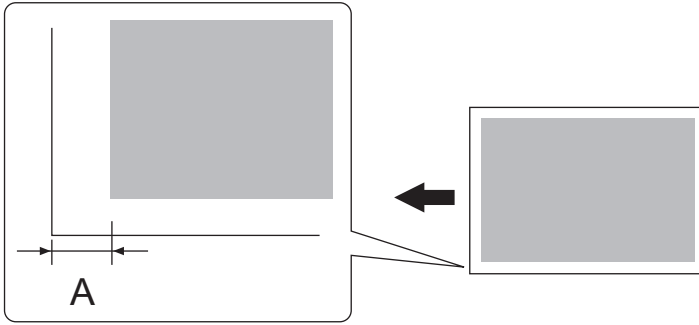
4.2.2 ALIGNMENT

(1) TOP 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)
- 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, THICK 2 and ENVELOPE.

(b) Setting range



- Adjust so that width A on the one-sided printed page falls within the target range.

Target	4.2 mm ± 2.0 mm
Setting range	-3.15 mm to + 3.15 mm (in 0.21 mm increments)

(c) Procedure

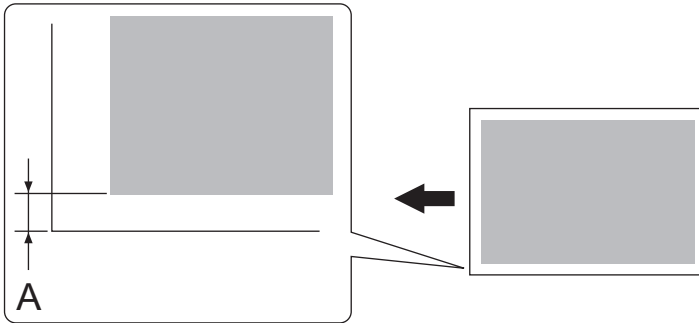
1. Check width A on the printed page.
2. If width A falls outside the target, follow the adjustment procedures below.
3. [Call the Service Mode to the screen.](#)
4. Select [TOP ADJUSTMENT] and press the Select key.
5. Select the type of paper and press the Select key.
6. Select the adjusted value with the up key/down key and press the Select key.
7. Increase the setting value, if width A on the printed page is shorter than the target value.
Decrease the setting value, if width A on the printed page is longer than the target value.
8. Back to the basic screen.
9. Produce a printed page again and make sure that the image is not faulty.
10. Following the same procedure, adjust for each paper.

(2) LEFT ADJUSTMENT

(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.
- This setting can be made independently for LEFT ADJ TRAY1, LEFT ADJ TRAY2 and LEFT ADJ MANUAL.

(b) Setting range



- Adjust so that width A on the one-sided printed page falls within the target range.

Target	4.2 mm ± 2.0 mm
Setting range	-3.15 mm to + 3.15 mm (in 0.21 mm increments)

(c) Procedure

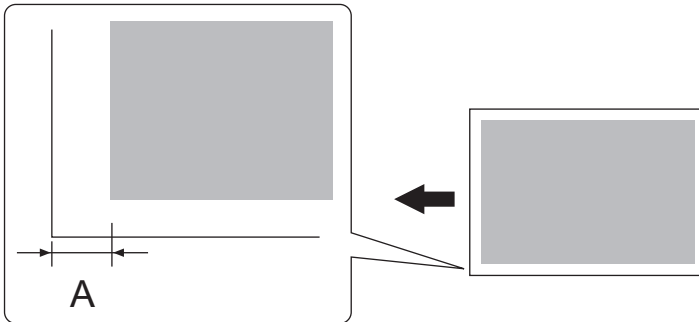
1. Check width A on the printed page.
2. If width A falls outside the target, follow the adjustment procedures below.
3. [Call the Service Mode to the screen.](#)
4. Select [LEFT ADJUSTMENT] and press the Select key.
5. Select the type of paper and press the Select key.
6. Select the adjusted value with the up key/down key and press the Select key.
7. Increase the setting value, if width A on the printed page is shorter than the target value.
Decrease the setting value, if width A on the printed page is longer than the target value.
8. Back to the basic screen.
9. Produce a printed page again and make sure that the image is not faulty.
10. Following the same procedure, adjust for each paper source.

(3) LeadEdgeAdj-Side2

(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.
- 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 and THICK 2.

(b) Setting range



- Adjust so that width A on the 2-sided printed page falls within the target range.
- For measurement, use the image produced on the backside of the width A.

Target	4.2 mm ± 2.0 mm
Setting range	-3.15 mm to +3.15 mm (in 0.21 mm increments)

(c) Procedure

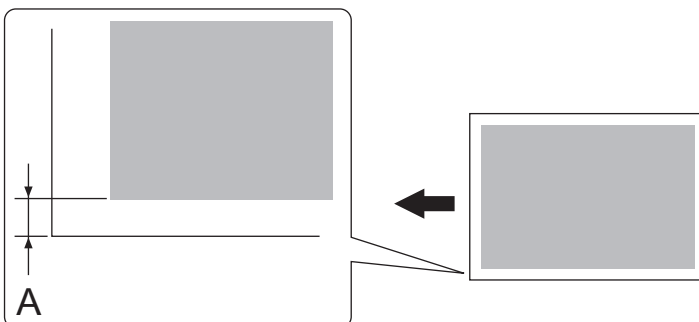
1. Check width A on the printed page.
2. If width A falls outside the target, follow the adjustment procedures below.
3. [Call the Service Mode to the screen.](#)
4. Select [LeadEdgeAdj-Side2] and press the Select key.
5. Select the type of paper and press the Select key.
6. Select the adjusted value with the up key/down key and press the Select key.
7. Increase the setting value, if width A on the printed page is shorter than the target value.
Decrease the setting value, if width A on the printed page is longer than the target value.
8. Back to the basic screen.
9. Produce a printed page again and make sure that the image is not faulty.
10. Following the same procedure, adjust for each paper.

(4) LEFT ADJ DUPLEX

(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 print deviates in the main scan direction.
- This setting can be made independently for LEFT ADJ TRAY1, LEFT ADJ TRAY2 and LEFT ADJ MANUAL.

(b) Setting range



- Adjust so that width A on the 2-sided printed page falls within the target range.
- For measurement, use the image produced on the backside of the width A.

Target	4.2 mm±2.0 mm
Setting range	-3.15 mm to +3.15 mm (in 0.21 mm increments)

(c) Procedure

1. Check width A on the printed page.
2. If width A falls outside the target, follow the adjustment procedures below.
3. [Call the Service Mode to the screen.](#)
4. Select [LEFT ADJ DUPLEX] and press the Select key.
5. Select the type of paper and press the Select key.
6. Select the adjusted value with the up key/down key and press the Select key.

7. Increase the setting value, if width A on the printed page is shorter than the target value.
Decrease the setting value, if width A on the printed page is longer than the target value.
8. Back to the basic screen.
9. Produce a printed page again and make sure that the image is not faulty.
10. Following the same procedure, adjust for each paper source.

(5) IMAGE ADJ PARAM

(a) Use

- Adjusts the printer in case of an image quality problem (uneven density)
- To correct image quality problems (uneven density) due to the machine being operated at a high altitude.

(b) Default setting

- 0

(c) Setting range

- 0 to 6 (Step:1)

(d) Procedure

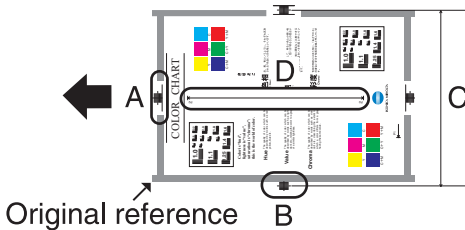
1. Call the Service Mode to the screen.
2. Select [IMAGE ADJ PARAM] and press the Select key.
3. Select the adjusted value with the up key ▲/down key ▼ and press the Select key.
4. Back to the basic screen.
5. Check the print image for any image problem.

NOTE

- When the setting value is changed, the image stabilization will be executed automatically.

4.2.3 Scanner 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.



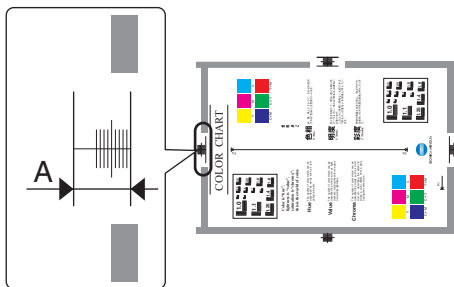
Adjustment item	Ref. page
A: Offset	I.4.2.3.(1) Offset
B: FB Side Edge	I.4.2.3.(2) FB Side Edge
C: Main ScanZoom Adj	I.4.2.3.(3) Main ScanZoom Adj
D: Sub ScanZoom Adj	I.4.2.3.(4) Sub ScanZoom Ad

(1) Offset

(a) Use

- To adjust variations in mounting accuracy of the original width scale by varying the scan start position in the sub scan direction.
- When the Scanner unit is replaced.
- When the MFP board is replaced.

(b) Setting range



- Measure width A on the color chart and width A on the produced copy and adjust so that the error falls within the target range.
- An adjustment must have been completed correctly of [TOP ADJUSTMENT] of [ALIGNMENT].

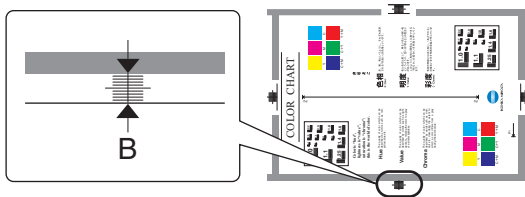
Target	Width A: ± 2.50 mm
Setting range	-5.00 mm +5.00 mm (in 0.01 mm increments)

(c) Procedure

1. Call the Service Mode to the screen.
2. Select [Offset] and press the Select key.
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 width A on the produced copy.
6. If width A falls outside the target range, vary the setting value using the up key ▲/down key ▼.
 - If width A on the copy is shorter than width A on the color chart, increase the setting value.
 - If width A on the copy is longer than width A on the color chart, decrease the setting value.
7. Return to the basic screen.
8. Make a copy again. Make the adjustment until the target range is satisfied.

(2) FB 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 Scanner unit is replaced.
- When the MFP board is replaced.

(b) Setting range

- Measure width B on the color chart and width B on the produced copy and adjust so that the error falls within the target range.
- An adjustment must have been completed correctly of [LEFT ADJUSTMENT] of [ALIGNMENT].

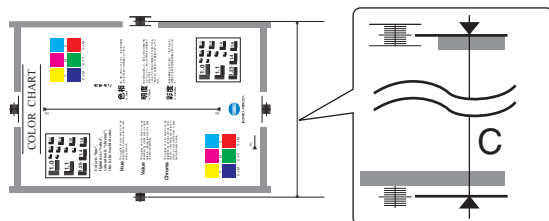
Target	Width B: ± 2.00 mm
Setting range	-5.00 mm to + 5.00 mm (in 0.01 mm increments)

(c) Procedure

1. Call the Service Mode to the screen.
2. Select [FB Side Edge] and press the Select key.
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 width B on the produced copy.
6. If width B falls outside the target range, vary the setting value using the up key ▲/down key ▼.
 - If width B on the copy is shorter than width B on the color chart, increase the setting value.
 - If width B on the copy is longer than width B on the color chart, decrease the setting value.
7. Return to the basic screen.
8. Make a copy again. Make the adjustment until the target range is satisfied.

(3) Main ScanZoom Adj**(a) Use**

- To adjust the zoom ratio in the main scan direction for the scanner section.
- The scanner unit has been replaced.
- When the MFP board is replaced.

(b) Setting range

- Measure width C on the color chart and width C on the produced copy and adjust so that the error falls within the target range.
- An adjustment must have been completed correctly of the printer side.

Target	Width C: ± 2.0 mm
Setting range	-2.00% to + 2.00% (in 0.01% increments)

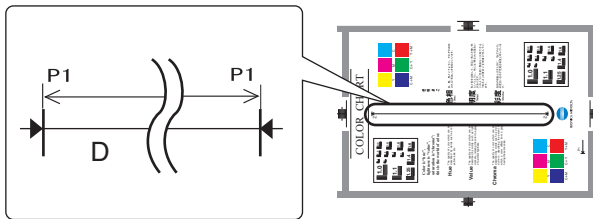
* Standard size when using a scale: 200.0 mm

(c) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [Main ScanZoom Adj] and press the Select key.
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 width C on the produced copy.
6. If width C falls outside the target range, vary the setting value using the up key ▲/down key ▼.
 - If width C on the copy is shorter than width C on the color chart, increase the setting value.
 - If width C on the copy is longer than width C on the color chart, decrease the setting value.
7. Return to the basic screen.
8. Make a copy again. Make the adjustment until the target range is satisfied.

(4) Sub ScanZoom Ad**(a) Use**

- To adjust the zoom ratio in the sub scan direction for the scanner section.
- When the MFP board is replaced.

(b) Setting range

- Measure width D on the color chart and width D on the produced copy and adjust so that the error falls within the target range.
- An adjustment must have been completed correctly of the printer side.

Target	Width D: ± 2.0 mm
Setting range	-2.00% to 2.00% (in 0.01% increments)

* Standard size when using a scale: 200.0 mm

(c) Procedure

1. [Call the Service Mode to the screen.](#)
2. Touch these keys in this order: [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 width D on the produced copy.
6. If width D falls outside the target range, vary the setting value using up key ▲/down key ▼.
 - If width D on the copy is shorter than width D on the color chart, increase the setting value.
 - If width D on the copy is longer than width D on the color chart, decrease the setting value.
7. Return to the basic screen.
8. Make a copy again. Make the adjustment until the target range is satisfied.

4.2.4 LD adjustment**(1) LD Light Width Adjustment****(a) Use**

- To adjust the amount to be added to the laser pulse width.

(b) Default setting

- 3

(c) Setting range

- 0 to 6 (Step: 1)

(d) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [LD LightWidth Adj.] and press the Select key.
3. Select desired setting value with the up key ▲/down key ▼ and press the Select key.

4.2.5 FUSER CONTROL**(1) Use**

- To set the heater lamp lighting control that complies with the flicker standard.
 - 0: Not specify the flicker control
 - 1: Perform the flicker control
 - 2: Not perform the flicker control

(2) Default setting

- 0

(3) Setting item

- 0 to 2 (Step: 1)

(4) Procedure

1. Call the Service Mode to the screen.
2. Select [FUSER CONTROL] and press the Select key.
3. Select desired setting value with the up key ▲/down key ▼ and press the Select key.

4.2.6 MnScan Dir Zm Adj

(1) Use

- To make the zoom adjustment in the main scanning direction.
- Use the function when the PH unit has been replaced with a new one.
- This adjustment needs to be made when the setting value has been reset as a result of the replacement of EEPROM on the printer control board.

(2) Default setting

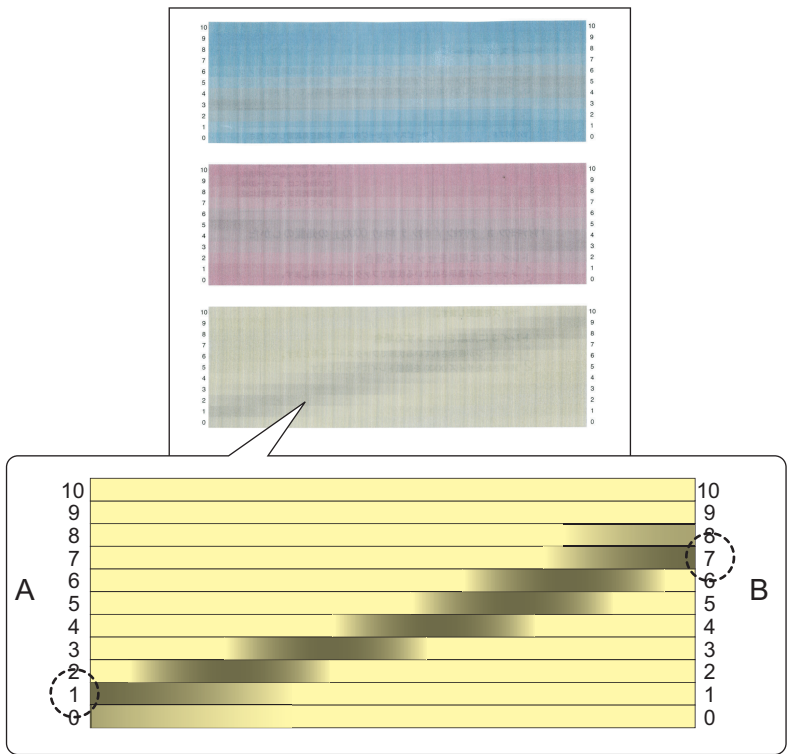
- 0

(3) Setting range

- -42 to +42 (Step: 1)

(4) Procedure

1. Select [Main Scan Page] and press the Select key.
2. Select [PRINT] and press the Select key.



3. Using the produced test pattern, adjust so that the gray line on each color pattern extends in parallel with the main scanning direction. Follow the steps given below to calculate the setting value of each of cyan, magenta, and yellow:
 1. On the ends on side A and side B on each color pattern, identify the numeral at which the darkest gray line is located. (For the sample yellow pattern, the numerals are "1" on side A and "7" on side B.)
 2. The setting value is the numeral on side B subtracted from the numeral on side A. (For the sample yellow pattern, $1 - 7 = 6$ and the setting value is "-6".)
4. Call the Service Mode to the screen.
5. Select [SCAN ADJUST VALUE] and press the Select key.
6. Select the color to be adjusted with the up key ▲/down key ▼ and press the Select key.
7. Enter the setting value calculated in step 2 and press the Select key.
8. Enter the setting value for each of cyan, magenta, and yellow.
9. Using [Main Scan Page], produce a test pattern again and check the result of the adjustment.
 - Specifications: The positions at which the darkest gray lines are located on the ends on side A and side B should fall within two steps.

4.2.7 Main Scan Page

(1) Use

- To print a test pattern to be used for the zoom adjustment in the main scanning direction.

(2) Procedure

- Call the Service Mode to the screen.
- Select [Main Scan Page] and press the Select key.
- Select [PRINT] and press the Select key.
- The test pattern is produced.

4.2.8 Fine Line ADJ

(1) Use

- Adjust how fine lines are reproduced by changing the applied voltage (VC) to the electrostatic roller.

(2) Default setting

- 0

(3) Setting item

- 4 to 3 (step:1*)
- *: 10V per 1 step

NOTE

- The setting can be set by user in [Admin Settings] -> [System Settings]-> [Expert Adjustment]-> [Fine Line ADJ]. However, the adjustable range of the parameter is narrowed to -3 to 2.

4.2.9 IU Yield Settings

(1) Use

- Sets the timing of life stop (prohibition of printing) of the imaging unit.

STANDARD	Causes the life stop (prohibition of printing) event to occur at a consumption rate of 105% (equivalent to 21,000 printed pages).	
EXTENSION	Causes the life stop (prohibition of printing) event to occur at a consumption rate of 167% (equivalent to 33,400 printed pages).	
	STANDARD	EXTENSION
Life (prohibition of printing) threshold value (consumption rate)	105% (equivalent to 21,000 printed pages)	167% (equivalent to 33,400 printed pages)

NOTE

- For more details, see [F.4.1 Life value of consumables and parts](#).

(2) Default setting

- STANDARD

(3) Setting item

- "STANDARD"
- EXTENSION

4.2.10 ACS Parameter

(1) Use

- To switch the ACS parameters.

(2) Default setting

- Prod. Priority

(3) Setting item

- "Prod. Priority": Select parameters with priority on productivity.
- Suspend: Select parameters with priority on life.

4.2.11 Replace All Units

(1) Use

- To select whether or not to replace a imaging unit together with other imaging units when it comes to the end of it's life.

(2) Default setting

- Do not remind

(3) Setting item

- "Do not remind": Simultaneous replacement is promoted
- Remind: Simultaneous replacement is not promoted

4.2.12 New Replace Mode

(1) Use

- To select whether or not to release the new imaging unit and toner cartridge.

(2) Default setting

- New Release

(3) Setting item

- "New Release": New release is promoted.
- No New Release: New release is not promoted.

4.3 FIRMWARE VERSION

4.3.1 Use

- To check the firmware version.
- To use when the firmware is updated.
- When the boards is replaced.

4.3.2 Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [FIRMWARE VERSION] and press the Select key.
3. Select desired firmware and press the Select key to check the firmware version.

4.4 Img. Proc. Adj.

4.4.1 TransVolt Fn Adj.

(1) Secondarytransfer

(a) Use

- Adjust the 2nd image transfer output (ATVC) on the 1st page and the 2nd page for each paper type.
- To use when the transfer failure at the trailing edge occurs.

(b) Setting range

- -8 to +7 (step: 1 *)
- *1: step is equivalent to 100 V.

(c) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [TransVolt Fn Adj.] -> [2nd Transfer Adj.] and press the Select key.
3. Select the side of the image (the 1st side or the 2nd side) on which image transfer failure occurs and press the Select key.
4. Select the paper type with the transfer failure and press the Select key.
5. Select desired setting value with the up key ▲/down key ▼ and press the Select key.
 - To increase the ATVC value, increase the setting value.
 - To decrease the ATVC value, decrease the setting value.
6. Press the Select key to validate the setting value.
7. Check the print image for any image problem.

4.4.2 Img. Stabilization

(1) Use

- To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized.
- Use if an image problem persists even after gradation adjustment has been executed.
- Use if tone reproduction and maximum density are faulty even after stabilizer mode has been executed.
- When color shift correction is needed again after the machine maintenance.

(2) Setting item

- 600dpi
- 1200dpi
- CANCEL

(3) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [Img. Stabilization] and press the Select key.
3. Select [600dpi] or [1200dpi] by using the up key/down key, and press the Select key.
4. The image stabilization is executed.

4.4.3 IMG ADJ THICK

(1) Use

- To adjust the density of printed images for Thick Paper and 1200 dpi.
- Use to vary the density of printed images for Thick Paper and 1200 dpi.

(2) Default setting

- 0

(3) Setting range

- -5 to 5 (step: 1)

(4) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [IMG ADJ THICK] and press the Select key.
3. Select the desired color, and change the setting value using up key ▲/down key ▼ or the 10-key pad.
 - Light color: Increase the setting value.
 - Dark color: Decrease the setting value.
4. Press the Select key to validate the setting value.

4.4.4 IMG ADJ BLACK**(1) Use**

- To fine-adjust the density of the printed image for a black print.
- To vary the density of the printed image of a black print.

(2) Default setting

- 0

(3) Setting range

- -2 to 2 (step: 1)

(4) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [IMG ADJ BLACK] and press the Select key.
3. Change the adjusted value using up key ▲/down key ▼ or 10-key.
 - Black is light: Increase the setting value.
 - Black is dark: Decrease the setting value.
4. Press the Select key to validate the setting value.

4.5 System 1**4.5.1 Marketing Area****(1) Wireless LAN Dest**

- To be configured when the optional network interface card NC-P03 has been installed.

(a) Use

- To set the region (country) in which the machine is installed
- Upon setup.

(b) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select the following menu using up key ▲/down key ▼ and press the Select key.
[System 1] -> [Marketing area] -> [Wireless LAN Dest]
3. Select the applicable marketing area using up key ▲/down key ▼ and press the Select key.

(c) Setting item

- U.S., Mexico, Belgium, Finland, Germany, Canada, Austria, Denmark, France, Greece, Ireland, The Netherlands, Poland, Spain, Switzerland, Italy, Norway, Portugal, Sweden, The U.K., Russia, Brazil, Australia, China, Malaysia, Argentina, South Africa, New Zealand, Hong Kong, Singapore, Korea, Japan, Turkey, Slovakia, The Czech Republic, Taiwan, Saudi Arabia, Hungary, Vietnam, The Philippines, EU, Ukraine, Chile, Indonesia, India and Other

(2) Fax Target

- It will be displayed only when the optional FAX kit FK-512 is mounted.

(a) Use

- To set the region (country) in which the machine is installed
- Upon setup.

(b) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select the following menu using up key ▲/down key ▼ and press the Select key.
[System 1] -> [Marketing area] -> [Fax Target]
3. Select the applicable marketing area using up key ▲/down key ▼ and press the Select key.

(c) Setting item

- U.S.A, Canada, Mexico, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, The Netherlands, Norway, Poland, Portugal, Spain, Sweden, Switzerland, The U.K., Russia, Argentina, Brazil, South Africa, Australia, New Zealand, China, Hong Kong, Malaysia, Singapore, Korea, Taiwan, Israel, Japan, Saudi Arabia, Turkey, Hungary, Slovakia, Vietnam, The Czech Republic, The Philippines, EU

4.5.2 SERIAL NUMBER**(1) Use**

- To display the serial number

(2) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [System1] -> [SERIAL NUMBER] and press the Select key.

4.5.3 Sleep Mode Set**(1) Use**

- To display the option of "ON/OFF" for the [ENERGY SAVER] screen available from [UTILITY] -> [Administrator Settings] -> [System Settings] -> [Pwr Sup/Pwr Sav].

(2) Default setting

- Restrict

(3) Setting item

- Allow
- "Restrict"

4.5.4 Install Date**(1) Use**

- To register the date the main body was installed.
- Upon setup.

(2) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [Install Date] and press the Select key.
3. The set date of installation is displayed.
4. Press the Select key, and enter the new date of installation from the 10-key pad.
5. Press the Select key to set the date of installation.

4.5.5 Mach. St. LED Set

- Not used

4.5.6 TONER OUT MODE**(1) Use**

- To set whether to permit monochrome printing when the toner cartridge/Y, M, C runs out of toner (empty condition)

(2) Default setting

- Mode 1

(3) Setting item

- "Mode 1": Allow
- Mode 2: Restrict

4.5.7 GRAYSCALE PAGE**(1) Use**

- To handle a job specified for color printing as a monochrome page

(2) Default setting

- AUTO

(3) Setting item

- "AUTO": Automatically make monochrome determination according to the job data (the same as in monochrome printing for duplex printing)
- GRAYSCALE PRINT: Automatically make monochrome determination for each page
- COLOR PRINT: Perform color printing for any job that is specified for color printing

4.6 System 2

4.6.1 ENABLE WARNING

(1) Near Empty / Near Full Display Setting

(a) Use

- To set whether to give the alert display for a near-empty condition of the toner cartridge IC near life, and a near-full condition of the waste toner bottle.
- To be used for setup.

(b) Default setting

- ON

(c) Setting item

- ON (Alert is displayed.)
- "OFF" (Alert is not displayed.)

4.6.2 SOFT SWITCH

(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. Select [SOFT SWITCH] and press the Select key.
3. Select the switch to be changed using up key ▲/down key ▼ and press the Select key.
4. Change the setting value using up key ▲/down key ▼ or the 10-key pad, and press the menu select key.

(3) Details of the software switch settings

NOTE

- For switches not mentioned in the list below, use them in the default value unless indicated otherwise.

Switch No.	Function	Setting value	Details	Default value	Reference
3	Overwriting data with same file name at secure printing	0	Overwrite the data with a same file name at secure printing.	16	-
		16	Not overwrite the data with a same file name at secure printing.		
7	Counter back up	159	Back up the counter data from EEPROM of the MPF board.	0	-
12	OpenAPI certification management system	0	Not certified. Connection disabled without certification. Deletion of prohibition list disabled.	0	-
		1	Certified.		
		2	Connection enabled without certification.		
		10	Deletion of prohibition list enabled.		
26	Selection of enabling or disabling the encryption PDF function	0	Enabled	0	-
		80	[PDF Encrypt] key not available in Scan -> [Application] -> [File Type].		
27	Binding position in 2-sided -> 2-sided	0	Use the binding position set for the original as the binding position.	0	-
		1	Determine the paper direction based on the print size.		
58	Switching between 1-sided print and 2-sided print for the odd page	0	Unavailable to 1-sided only/2-sided prohibited rules.	0	-
		16	Available to 1-sided only/2-sided prohibited rules.		
59	Display setting of [Engine FW Dip SW]	0	Not displayed.	0	I.4.20 ENGINE DIPSW
		1	Displayed.		

Switch No.	Function	Setting value	Details	Default value	Reference
67	Operation setting for color printing	0	Perform grayscale printing forcibly. (For users or accounts prohibited from performing color printing, grayscale printing is performed forcibly if it is permitted.)	0	-
		1	Cancel a job.		
81	PKI mode setting	0	Standard function (PKI not supported).	0	-
		2	PKI supported.		
104	Early morning reboot function	1	Execute rebooting at 4 o'clock.	0	-
		2	Execute rebooting at 4 o'clock 15 minute.		
		4	Execute rebooting at 4 o'clock 30 minute.		
		Except for above value.	Do not execute rebooting.		
120	Change data format of scanned file names	0	YYMMDDhhmm(conventional specifications).	0	-
		1	Format compatible with the marketing destination		
145	Operation upon mismatch in size during paper feeding (manual bypass tray and tray 1 are available)	0	Stop immediately (misfeed).	0	-
		2	Stop as necessary (stop after the paper has been discharged).		
146	Uneven density during 2-sided printing	0	No restrictions.	0	-
		1	2-sided printing of single sheet circulation (high-speed 2-sided printing not performed).		
157	Set the upper limit for the time span switching to the power saving mode to 240 minutes.	0	Do not change the upper limit.	0	-
		2	Change the upper limit to 240 minutes.		
251	Disable the PSWC direct print function	1	Disable the PSWC direct print function.	0	-
	Enable or disable a USB port from PSWC	2	Use the function to enable or disable a USB port from PSWC.		
255	Handling image loss at printing	2	When printing, control the image loss (margin) at each edge within 2 mm.	0	-
	Acquire JobLog via MIB	8	Acquire JobLog via MIB.		
285	Enabling AUTO SUFFIX function	1	Enable the AUTO SUFFIX function in Scan to E-mail. The following menu appears when Admin Settings -> ETHERNET -> E-mail Settings are selected in sequence. AUTO SUFFIX: Enable/disable SUFFIX: Enter the suffix. Suffix input patterns are as follows: • Numerals only • Numerals + characters • Characters only	0	-
289	Enabled retry processing of DNS name resolution	8	Retry processing of DNS name resolution is enabled. If a primary DNS server fails to resolve a name when an email is sent, the server tries the name resolution processing up to three times.	0	-

Switch No.	Function	Setting value	Details	Default value	Reference
			If the processing fails, a secondary DNS server tries to resolve the name. If it fails, the secondary server performs the processing up to three times.		
291	Enabling TWAIN scan in USB connection	16	Enable the TWAIN scan in USB cable connection.	0	-
	Change FB0B code to jam display	32	The jam display appears instead of the FB0B (abort code). If the setting value in 291 has been changed, add 32 to the value.	0	-
299	Restriction on the file format at WSD scan	0	"XPS" can be selected at WSD scan.	0	-
		1	"XPS" cannot be selected at WSD scan.		

(4) Software Switch Setting list

- The list of the setting values of Software Switch Setting can be print from [Service Mode] -> [PRINT MENU] -> [Management List].

Machine Management List

P 5
11/05/2013 15:40
Serial No. A6VF011000019
TC: 00000046

No	BIT	HEX	No	BIT	HEX	No	BIT	HEX	No	BIT	HEX	No	BIT	HEX
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	00010000	(10)	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	00000000	(00)	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	00000100	(04)	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	00000000	(00)	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	00000000	(00)	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	00000000	(00)	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)			
064	00000000	(00)	128	00000000	(00)	192	00000000	(00)	256	00000000	(00)			

4.6.3 Cal Setting

(1) Use

- To change the type and timing of image stabilization.
- To provide the desirable image stabilization control that depends on customer's machine usage pattern, i.e. the ratio of color to black print.
- To reflect the adjustment value after change, make sure to exit from the Service Mode.
- The adjustment value is not reflected when turning off the power without exiting from the Service Mode.

B&W Priority	This mode is suitable for users who use mainly black print and use less color print. It provides monochrome stabilization and reduces the number of times image stabilization is carried out when the main power switch is turned ON.	If the change of absolute humidity is detected during warm-up, monochrome stabilization is performed during the warm-up and color stabilization is performed before color printing.
Standard	This mode is suitable for low-volume users and reduces the number of times image stabilization is carried out when the main power switch is turned ON.	If the change of absolute humidity is detected during warm-up, normal stabilization is performed during warm-up.

(2) Default setting

- Standard

(3) Setting item

- "Standard"
- B&W Priority

4.6.4 Cov. Rate Screen**(1) Use**

- To set whether or not to display a coverage rate on the Counter List.

(2) Default setting

- OFF

(3) Setting item

- ON
- "OFF"

4.6.5 App. Change Setting

- Not used

4.7 Counter

The counter displays the counts of various counters to allow the technical representative to check or set as necessary.

4.7.1 Life-REPLACE-FUSER UNIT**(1) Use**

- Resets the fuser unit counter.
- To use when the fuser unit has been replaced.

(2) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [Counter] -> [Life] -> [REPLACE] -> [FUSER UNIT], and select "YES".
3. Press the Select key and reset the counter.

4.7.2 Life-REPLACE-TRANS. BELT**(1) Use**

- Resets the transfer belt unit counter.
- To use when the transfer belt unit has been replaced.

(2) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [Counter] -> [Life] -> [REPLACE] -> [TRANS. BELT], and select "YES."
3. Press the Select key and reset the counter.

4.7.3 Life-REPLACE-TRANS. ROLLER**(1) Use**

- Resets the transfer roller unit counter.
- To use when the transfer roller unit has been replaced.

(2) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [Counter] -> [Life] -> [REPLACE] -> [TRANS. ROLLER], and select "YES."
3. Press the Select key and reset the counter.

4.8 PRINT MENU**4.8.1 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 or when a malfunction occurs.
- To produce an output of a list of Software Switch Setting.

(2) Procedure

1. Load the A4 or 8 1/2 x 11 plain paper to a paper source.
2. Select [Print], and press the Select key.
3. The time-of-day and date will also be printed.

4.8.2 Adjustments List**(1) Use**

- To output the adjustment list for machine adjustment, process adjustment, etc. in Service Mode.

- At the end of setup or when a malfunction occurs.

(2) Procedure

1. Load the A4 or 8¹/₂ x 11 plain paper to a paper source.
2. Select [Print], and press the Select key.
3. The time-of-day and date will also be printed.

4.8.3 Service Parameter

(1) Use

- Output a FAX Service Mode set value list.
- It will be displayed only when the optional fax kit FK-512 is mounted.

(2) Procedure

1. Load the A4 or 8¹/₂ x 11 plain paper to a paper source.
2. Select [Print], and press the Select key.
3. The time-of-day and date will also be printed.

4.8.4 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.
- It will be displayed only when the optional fax kit FK-512 is mounted.

(2) Procedure

1. Load the A4 or 8¹/₂ x 11 plain paper to a paper source.
2. Select [Last] or [Error], and press the Select key..
3. Select [Print], and press the Select key.
4. The time-of-day and date will also be printed.

4.8.5 Fax Analysis List

(1) Use

- Following list is output in the Fax Analysis List.
 - Communication Report RX Result
 - Communication Report RX Result
 - Machine Management List
 - Fax Set Up Information List
 - Service Parameter List
 - Protocol Trace List (Error)
- It will be displayed only when the optional fax kit FK-512 is mounted.

(2) Procedure

1. Load the A4 or 8¹/₂ x 11 plain paper to a paper source.
2. Select [Print], and press the Select key.
3. The time-of-day and date will also be printed.

4.8.6 Scan Event Log

- Not used

4.8.7 HALFTONE 64

(1) Use

- Print a halftone pattern of density 25% for each CMYK color.
- Used for checking uneven density and pitch noise.

(2) Procedure

1. Load the A4 plain paper to a paper source.
2. Select [Halftone 64], and press the Select key.
3. Select the desired color using up key ▲/down key ▼ and press the Select key.
4. Select [Print], and press the Select key.

4.8.8 HALFTONE 128

(1) Use

- Print a halftone pattern of density 50% for each CMYK color.
- Used for checking uneven density and pitch noise.

(2) Procedure

1. Load the A4 plain paper to a paper source.
2. Select [Halftone 128], and press the Select key.
3. Select the desired color using up key ▲/down key ▼ and press the Select key.
4. Select [Print], and press the Select key.

4.8.9 HALFTONE 256**(1) Use**

- Print a halftone pattern of density 100% for each CMYK color.
- Used for checking uneven density and pitch noise.

(2) Procedure

1. Load the A4 plain paper to a paper source.
2. Select [Halftone 256], and press the Select key.
3. Select the desired color using up key ▲/down key ▼ and press the Select key.
4. Select [Print], and press the Select key.

4.8.10 GRADATION**(1) Use**

- Print a gradation pattern.
- Used for checking gradation reproducibility.

(2) Procedure

1. Load the A4 plain paper to a paper source.
2. Select [Gradation], and press the Select key.
3. Select [Print], and press the Select key.

4.9 State Confirmation**4.9.1 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) Sensor check list

Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			ON	OFF
-	1st.			
PS2	Paper Empty Sensor	Tray1 paper empty sensor	Paper present	Paper not present
PS1	Tray 1 set sensor	Tray 1 set sensor	In position	Out of position
-	2nd.			
PS1	Paper Empty Sensor	Tray2 paper empty sensor	Paper present	Paper not present
PS3	Paper Feed Sensor	Tray2 paper feed sensor	Paper present	Paper not present
SW1	Size Detect Sensor 1	Tray2 paper size switch	ON	OFF
	Size Detect Sensor 2		ON	OFF
	Size Detect Sensor 3		ON	OFF
-	Manual Feed			
PS3	Paper Empty Sensor	Manual tray paper empty sensor	Paper present	Paper not present
-	Other			
PS5	Registration sensor	Registration sensor	Paper present	Paper not present
PS6	Paper Loop Sensor	Loop detection sensor	Paper present	Paper not present
PS8	Exit Sensor	Exit sensor	Paper present	Paper not present
PS7	Outbin full sensor	Paper full sensor	Paper present	Paper not present
PS9	Duplex sensor	Duplex conveyance sensor	Paper present	Paper not present
PS17	Transfer Belt Retraction	1st transfer pressure sensor	Not Retracted	Retracted
PS12	West Toner Sensor	Waste toner near full sensor	Full	Not full
PS101	Original Det Sensor	Document detection sensor	Paper present	Paper not present
PS102	RS Sensor	Document read sensor	Paper present	Paper not present
PS103	DP Sensor	Document loop sensor	Paper present	Paper not present

Symbol	Panel display	Part/signal name	Operation characteristics/panel display	
			ON	OFF
-	Fuser set sensor	Fusing unit		

4.9.2 Level History

(1) Use

- IDC Sensor (Transfer belt bare surface level) as adjusted through the image stabilization sequence and 2nd Transfer output value.
- Used for troubleshooting of image problems.

(2) Item

IDC BASE REFLECTION	Shows the intensity adjustment value (0 to 1023) of the IDC sensor. The normal value is 35 to 110, but the value increases depending on how long the machine has been used.
2nd Transfer output value	<ul style="list-style-type: none"> • Displays the 2nd transfer output value (-800 to 5000V). • This function displays the 2nd transfer output value in the last print cycle, though the output value varies for different types of paper.

4.9.3 Temp. & Humidity

(1) Use

- To display the temperature and humidity inside the machine
- Used as reference information when a malfunction occurs.

(2) Setting range

Temp-Inside	0 to 100 °C in 1 °C increments
Humidity	0 to 100 % in 1 % increments

4.9.4 Memory/HDD State

(1) Use

- To display the condition and amount of the memory, disk and SSD.

4.9.5 COMP. CHECK

(1) Use

- To perform an operation check for each electric component.
- The following electric components can be checked.

Key name	The electrical parts name	The electrical parts sign
LA FAN (H-S)	DC power supply fan motor	FM10
DUP FAN (H-S)	Cooling fan motor	FM11
DUP FAN (M-S)	Cooling fan motor	FM11
CONT Fan (H-S)	Not used.	-
CONT Fan (M-S)	Not used.	-
POLYGON MOTOR	Polygon motor	M5
T2 feeding motor	Tray2 paper feed motor	M1
COLOR PC MOTOR	Color PC drum motor	M4
DEV MOTOR K	Developing motor	M1
DEV MOTOR YMCK	Developing motor	M1
TRAY 1 FEED CLUTCH	Tray 1 paper feed clutch	CL1
Manual feed clutch	Manual tray paper feed clutch	CL2
SYNCRPLLER CLUTCH	Registration clutch	CL3
2ND TRANS CLUTCH	2nd transfer pressure solenoid	SD2
1ST TRANS CLUTCH	1st transfer pressure solenoid	SD1
TRAY2 FEED CLUTCH	Tray2 paper feed clutch	CL1
TONER CLUTCH Y	Toner supply clutch/Y	CL4
TONER CLUTCH M	Toner supply clutch/M	CL5
TONER CLUTCH C	Toner supply clutch/C	CL6
TONER CLUTCH K	Toner supply clutch/K	CL7
DUP NORMAL CLUTCH	Switchback roller feed clutch	CL11
DUP REV CLUTCH	Switchback roller reverse clutch	CL12
DUP FEED CLUTCH	Duplex conveyance roller clutch	CL13
MAIN MOTOR	Transport motor	M2
Fuser LoopClutch	Loop detection clutch	CL8
FB Scan	Scanner unit	-

Key name	The electrical parts name	The electrical parts sign
DF Scan Simplex	Scanner motor Pressure solenoid	M101 SD101
DF Scan Duplex	Scanner motor Pressure solenoid	M101 SD101
CheckDF Motor	DF transport motor	M100
CheckBringPaperSL	Pressure solenoid	SD101
CheckDuplexSL	Pressure solenoid	SD101
Check Lamp	Not used.	-

(2) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [Component Check], and press the Select key.
3. Select the necessary electric component using up key ▲/down key ▼ and press the Select key.
4. Select [Execute], and press the Select key. This causes the corresponding component to start operating.
5. To check an electric component which may stop running in midstream, press the Select key to stop the operation.

NOTE

- **No check results are displayed for the DF motor. Press the Select key. to stop the operation as required.**

4.10 Test Mode

- A fax communication test is conducted in the test mode.
- It will be displayed only when the optional fax kit FK-512 is mounted.

4.10.1 Fax Test-Signal Send Test

(1) Use

- Image information signals, control signals and DTMF can be individually output.
- Signal sounds are monitored by the monitor speaker.

(2) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [SignalSend Test] and press the Select key.
3. Select the parameter you would like to test using up key ▲/down key ▼ and press the Select key.
4. Press the Start key.

(In order to move to another test, select the next test item after pressing the Stop/Reset key.)

NOTICE

- Signal is output from pressing the Start key to pressing the Stop key.
- [Administrator Settings] -> [Fax Settings] -> [Line Parameter Setting] -> [Line Monitor] should be set to "Until Connection Complete" or "Until Transmission Complete".

(a) V34 Main CH: Default setting

- 33600

(b) V34 Main CH: Setting range

- 2400 to "33600" (step: 2400)

(c) V8: Default setting

- CM

(d) V8: Setting item

- "CM"

(e) V17: Default setting

- 14400bps

(f) V17: Setting item

- "14400bps"
- 12000bps
- 9600bps
- 7200bps

(g) V29: Default setting

- 9600bps

(h) V29: Setting item

- "9600bps"
- 7200bps

(i) V27ter: Default setting

- 4800bps

(j) V27ter: Setting item

- "4800bps"
- 2400bps

(k) V21

- No parameters

(l) PB: Setting item

- "0" to 9, *, #, A, B, C, D

(m) DP: Setting range

- "0" to 9

(n) Special Tone: Default setting

- 1100Hz

(o) Special Tone: Setting item

- "1100Hz"
- 1300Hz
- 1650Hz
- 2100Hz

(p) Optional Tone: Default setting

- 200Hz

(q) Optional Tone: Setting range

- "200" to 4000Hz (step: 100Hz)

(r) PB Tone (High): Default setting

- 1209Hz

(s) PB Tone (High): Setting item

- "1209Hz"
- 1336Hz
- 1477Hz
- 1633Hz

(t) PB Tone (Low): Default setting

- 697Hz

(u) PB Tone (Low): Setting item

- "697Hz"
- 770Hz
- 852Hz
- 941Hz

(v) Pseudo Ring

- No parameters

4.10.2 Fax Test-Signal RX Test**(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. [Call the Service Mode to the screen.](#)
2. Select [Signal RX Test] and press the Select key.
3. Select the parameter you would like to test using up key ▲/down key ▼ and press the Select key.
4. Press the Start key.

(In order to move to another test, select the next test item after pressing the Stop/Reset key.)

NOTICE

- Signal is received from pressing the Start key to pressing the Stop/Reset key.
- [Administrator Settings] -> [Fax Settings] -> [Line Parameter Setting] -> [Line Monitor] should be set to "Until Connection Complete" or "Until Transmission Complete".
- The results of tests are shown as follows

OK/NG	Results of signal reception
-------	-----------------------------

(a) V17: Default setting

- 14,400bps

(b) V17: Setting item

- "14,400bps"
- 12,000bps
- 9,600bps
- 7,200bps

(c) V29: Default setting

- 9,600bps

(d) V29: Setting item

- "9,600bps"
- 7,200bps

(e) V27ter: Default setting

- 4,800bps

(f) V27ter: Setting item

- "4,800bps"
- 2,400bps

(g) V21

- No parameters

(h) PB: Setting item

- 0 to 9, *, #, A, B, C, D

(i) Special Tone: Default setting

- 1,100Hz

(j) Special Tone: Setting item

- "1,100Hz"
- 1,300Hz
- 2,100Hz

4.10.3 Fax Test-NCU Test**(1) Use**

- To check the operation of NCU.

(2) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [NCU TEST] and press the Select key.
3. Select the parameter you would like to test using up key ▲/down key ▼ and press the Select key.
4. Press the Start key.

(In order to move to another test, select the next test item after pressing the Stop/Reset 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 the Stop key 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	IC401, IC402
CTL Relay	RL501
TEL Relay	RL502 *
DC-LOOP Detect	
Speaker	
Outside Ring Send	
Audio Response Send	

- * RL502 mounts only the Japanese.

4.10.4 Fax Test - Dial Test

(1) Use

- To conduct a dial test for fax communication

(2) Procedure

(a) Dial Number

1. [Call the Service Mode to the screen.](#)
2. Select [Dial Test] and press the Select key.
3. Set each of [Dialing Method], [Dial Tone Detection], and [BUSY TONE Detection].
4. Select [Dial Number] and press the Select key.
5. Enter the dial number from the 10-key pad. and press the start key.

(b) Dialing Method: Setting item

- PB
- 10pps

(c) Dial Tone Detection: Setting item

- "ON"
- OFF

(d) BUSY TONE Detection: Setting item

- "ON"
- OFF

4.11 ADF

4.11.1 1-Side

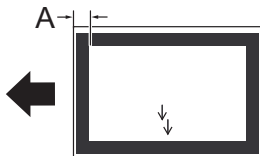
(1) Use

- To adjust part-to-part variations in manufacturing and mounting accuracy of scanner parts by varying the start-of-scan position in the sub-scanning direction during DF scan (front side)
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

NOTE

- **Make this adjustment after [Feed Zoom] has been adjusted.**
[I.4.11.6 Feed Zoom](#)

(2) Procedure



- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0 ± 3.0 mm
- Default setting: 0.00mm
- Setting range: -5.00mm to 5.00mm (in 0.01 mm increments)

1. Make a copy of the chart in full size.

NOTE

- **Load the chart in the DF with the blank side downward.**
- **Use A4-size paper loaded in tray 1 to make the copy.**

2. Measure width A on the chart and that on the copy. If the difference between the two falls outside the standard value, perform the following steps to make an adjustment.
3. [Call the Service Mode to the screen.](#)
4. Select [1-Side], and press the Select key.
5. Change the adjusted setting value using up key ▲/down key ▼ and press the Select key.
 - If width A on the copy of the chart is greater than width A on the chart, decrease the setting value.
 - If width A on the copy of the chart is smaller than width A on the chart, increase the setting value.
6. [Exit the Service Mode.](#)
7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
8. Turn OFF the main power switch, wait for 10 sec., then turn the switch ON.

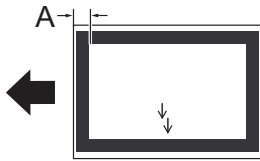
4.11.2 2-Side

(1) Use

- To adjust part-to-part variations in manufacturing and mounting accuracy of scanner parts by varying the start-of-scan position in the sub-scanning direction during DF scan (back side)
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

NOTE

- Make this adjustment after [FD-Mag. Adj. (B)] has been adjusted.
[I.4.11.7 FD-Mag. Adj. \(B\)](#)

(2) Procedure

- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
 - Reference value: 0 ± 3.0 mm
 - Default setting: 0.00 mm
 - Setting range: -5.00mm to 5.00mm (in 0.01 mm increments)
1. Make a copy of the chart in full size.

NOTE

- Load the chart in the DF with the blank side upward.
 - Use A4-size paper loaded in tray 1 to make the copy.
2. Measure width A on the chart and that on the copy. If the difference between the two falls outside the standard value, perform the following steps to make an adjustment.
 3. [Call the Service Mode to the screen.](#)
 4. Select [2-Side], and press the Select key.
 5. Using the up key ▲/down key ▼, vary the setting value and then press the Select key.
 - If width A on the copy of the chart is greater than width A on the chart, decrease the setting value.
 - If width A on the copy of the chart is smaller than width A on the chart, increase the setting value.
 6. [Exit the Service Mode.](#)
 7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
 8. Turn OFF/ON the main power switch.

4.11.3 Register Loop-Back side**(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. Select [ADF] -> [Register Loop], and press the Select key.
3. Use the up key ▲/down key ▼ to change the setting value, and press the Select key.
Use the up key ▲ to increase the looping amount above the input value, and use the down key ▼ to decrease the looping amount below the input value.
4. [Exit the Service Mode.](#)
5. Turn OFF/ON the main power switch.

(3) Default setting

- 0.0 mm

(4) Setting range

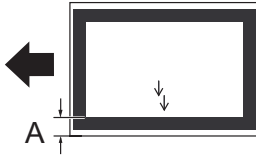
- -5.00 mm to 5.00 mm (in 0.50 mm increments)

4.11.4 Center Adjustment**(1) Use**

- To adjust part-to-part variations in manufacturing and mounting accuracy of scanner parts by varying the start-of-scan position in the main scanning direction during DF scan (front side).
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

NOTE

- Make this adjustment after " Feed Zoom" has been adjusted.
[I.4.11.6 Feed Zoom](#)

(2) Procedure

- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0 ± 3.0 mm
- Default setting: 0.0 mm
- Setting range: -5.00mm to 5.00mm (in 0.01 mm increments)

1. Make a copy of the test pattern.

NOTE

- Load the chart in the DF with the blank side downward.
- Use A4-size paper loaded in tray 1 to make the copy.

2. Measure width A on the chart and that on the copy. If the difference between the two falls outside the standard value, perform the following steps to make an adjustment.

3. [Call the Service Mode to the screen.](#)

4. Select [Main Scanning Direction 1-side], and press the Select key.

5. Use the up key ▲/down key ▼ to change the setting value, and press the Select key.

- If width A on the copy of the chart is greater than width A on the chart, decrease the setting value.
- If width A on the copy of the chart is smaller than width A on the chart, increase the setting value.

6. [Exit the Service Mode.](#)

7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.

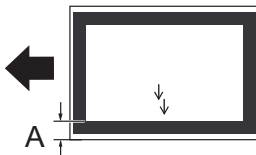
8. Turn OFF/ON the main power switch.

4.11.5 ADF(B) Side Edge**(1) Use**

- To adjust part-to-part variations in manufacturing and mounting accuracy of scanner parts by varying the start-of-scan position in the main scanning direction during DF scan (back side).
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

NOTE

- Make this adjustment after [FD-Mag. Adj. (B)] has been adjusted.
[I.4.11.7 FD-Mag. Adj. \(B\)](#)

(2) Procedure

- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0 ± 3.0 mm
- Default setting: 0
- Setting range: -5.00 mm to 5.00 mm (in 0.01 mm increments)

1. Make a copy of the chart in full size.

NOTE

- Load the chart in the DF with the blank side upward.
- Use A4-size paper loaded in tray 1 to make the copy.

2. Measure width A on the original test pattern and that on the copy. If the difference between the two falls outside the specified range, perform the following steps to make an adjustment.

3. [Call the Service Mode to the screen.](#)

4. Select [Main Scanning Direction 2-side], and press the Select key.

5. Use the up key ▲/down key ▼ to change the setting value, and press the Select key.

- If width A on the copy of the chart is greater than width A on the chart, decrease the setting value.
- If width A on the copy of the chart is smaller than width A on the chart, increase the setting value.

6. [Exit the Service Mode.](#)

7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.

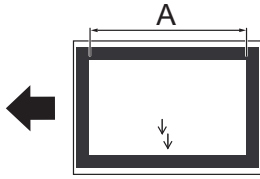
8. Turn OFF/ON the main power switch.

4.11.6 Feed Zoom**(1) Use**

- To adjust the scanning zoom ratio in the front side paper feeding direction through the DF (sub-scanning direction).
- When scanner unit and DF has been replaced.

- When the MFP board is replaced.

(2) Procedure



- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0 \pm 1.0%
- Default setting: 0.00%
- Setting range: -2.00% to 2.00% (in 0.01% increments)

1. Make a copy of the chart in full size.

NOTE

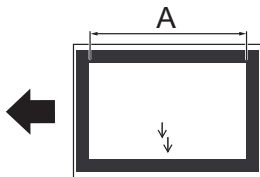
- **Load the chart in the DF with the blank side downward.**
 - **Use A4-size paper loaded in tray 1 to make the copy.**
2. If the width A on the chart and that on the copy is greater than ± 2.5 mm, perform the following steps to make an adjustment.
 3. [Call the Service Mode to the screen.](#)
 4. Select [Feed Zoom], and press the Select key. Select [Feed Zoom], and press the Select key.
 5. Use the up key \blacktriangle /down key \blacktriangledown to change the setting value, and press the Select key.
 6. [Exit the Service Mode.](#)
 7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
 8. Turn OFF/ON the main power switch.

4.11.7 FD-Mag. Adj. (B)

(1) Use

- To adjust the scanning zoom ratio in the back side paper feeding direction through the DF (sub-scanning direction).
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

(2) Procedure



- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: 0 \pm 1.0%
- Default setting: 0.00%
- Setting range: -2.00% to +2.00% (in 0.01% increments)

1. Make a copy of the chart in full size.

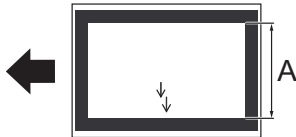
NOTE

- **Load the chart in the DF with the blank side upward.**
 - **Use A4-size paper loaded in tray 1 to make the copy.**
2. If the width A on the chart and that on the copy is greater than ± 2.5 mm, perform the following steps to make an adjustment.
 3. [Call the Service Mode to the screen.](#)
 4. Select [FD-Mag. Adj. (B)], and press the Select key.
 5. Use the up key \blacktriangle /down key \blacktriangledown to change the setting value, and press the Select key.
 6. [Exit the Service Mode.](#)
 7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
 8. Turn OFF/ON the main power switch.

4.11.8 Main Scan Dir Zm

(1) Use

- To adjust the scanning zoom ratio in the front side main scanning direction through the DF.
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

(2) Procedure

- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: $0 \pm 1.0\%$
- Default setting: 0.00%
- Setting range: -2.00% to +2.00% (in 0.01% increments)

1. Make a copy of the chart in full size.

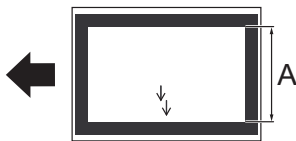
NOTE

- Load the chart in the DF with the blank side downward.
- Use A4-size paper loaded in tray 1 to make the copy.

2. If the width A on the chart and that on the copy is greater than ± 1.5 mm, perform the following steps to make an adjustment.
3. [Call the Service Mode to the screen.](#)
4. Select [Main Scan Dir Zm], and press the Select key.
5. Use the up key \blacktriangle /down key \blacktriangledown to change the setting value, and press the Select key.
6. [Exit the Service Mode.](#)
7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
8. Turn OFF/ON the main power switch.

4.11.9 Main Scan Dir Zm-B**(1) Use**

- To adjust the scanning zoom ratio in the back side main scanning direction through the DF.
- When scanner unit and DF has been replaced.
- When the MFP board is replaced.

(2) Procedure

- Adjust so that the difference between width A on the chart and that on the copy of the chart falls within the standard value.
- Reference value: $0 \pm 1.0\%$
- Default setting: 0.00%
- Setting range: -2.00% to +2.00% (in 0.01% increments)

1. Make a copy of the chart in full size.

NOTE

- Load the chart in the DF with the blank side upward.
- Use A4-size paper loaded in tray 1 to make the copy.

2. If the width A on the chart and that on the copy is greater than ± 1.5 mm, perform the following steps to make an adjustment.
3. [Call the Service Mode to the screen.](#)
4. Select [Main Scan Dir Zm-B], and press the Select key.
5. Use the up key \blacktriangle /down key \blacktriangledown to change the setting value, and press the Select key.
6. [Exit the Service Mode.](#)
7. Make another copy to make sure that the specifications are met. Repeat the adjustment procedure until the specifications are met.
8. Turn OFF/ON the main power switch.

4.12 FAX Settings

- It will be displayed only when the optional fax kit FK-512 is mounted.

4.12.1 Modem/NCU**(1) V34: RX Max. Bit Speed****(a) Use**

- To set the max. bit speed for reception in V.34.

(b) Default setting

- 33600 bps

(c) Setting item

- 2400 bps

- 4800 bps
- 7200 bps
- 9600 bps
- 12000 bps
- 14400 bps
- 16800 bps
- 19200 bps
- 21600 bps
- 24000 bps
- 26400 bps
- 28800 bps
- 31200 bps
- "33600 bps"

(2) V34: TX Max. Bit Speed**(a) Use**

- To set the max. bit speed for transmission in V.34.

(b) Default setting

- 33600 bps

(c) Setting item

- 2400 bps
- 4800 bps
- 7200 bps
- 9600 bps
- 12000bps
- 14400 bps
- 16800 bps
- 19200 bps
- 21600 bps
- 24000 bps
- 26400 bps
- 28800 bps
- 31200 bps
- "33600 bps"

(3) V34: 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: V34 Tran.PT**(a) Use**

- To set the number of training points at V34.

(b) Default setting

- Auto

(c) Setting item

- "Auto"
- 16 pts
- 4 pts

(5) V17 Send Max Speed: TX Max. Speed**(a) Use**

- To set the max. speed for transmission.

(b) Default setting

- V17-14400bps

(c) Setting item

- "V17-14400bps"
- V17-12000bps
- V17-9600bps
- V17-7200bps
- V29-9600bps
- V29-7200bps
- V27-4800bps
- V27-2400bps

(6) V17 Send Max Speed: RX Max. Speed**(a) Use**

- To set the max. speed for reception.

(b) Default setting

- V17-14400bps

(c) Setting item

- "V17-14400bps"
- V29-9600bps
- V27-4800bps

(7) 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.

(8) TxATT: TONE/Pro Sig 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.

(9) 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.

(10) 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.

(11) Level: CD/SED ON Level**(a) Use**

- To set reception signal sensitivity level.
- SED is not used.

(b) Default setting

- -48 dBm

(c) Setting item

- "-48 dBm"
- -43 dBm
- -38 dBm

- -33 dBm

(12) Level: DTMF H-L Lvl Diff

(a) Use

- To set DTMF H-L level difference.

(b) Default setting

- 2.0 dB

(c) Setting item

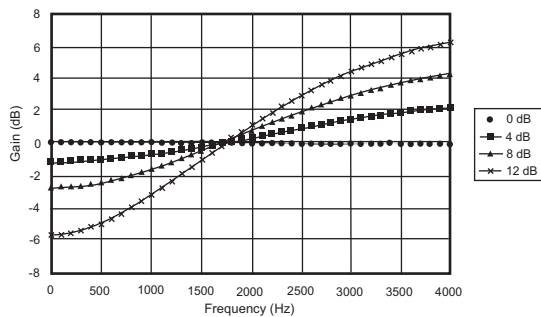
- 1.0 dB
- 1.5 dB
- "2.0 dB"
- 2.5 dB
- 3.0 dB
- 3.5 dB
- 4.0 dB

(13) Cable EQ

(a) Use

- Frequency response of the cable attenuation equalizer.

Frequency response of the cable amplitude equalizer



(b) Default setting

- 0 km

(c) Setting item

- "0 km"
- 1.8 km
- 3.6 km
- 7.2 km

4.12.2 Network

(1) RX Sig Detn Md

(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) BUSYTONE Detection

(a) Use

- To set whether to use the Busy Tone detection or not.

(b) Default setting

- ON

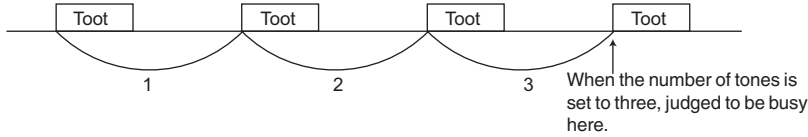
(c) Setting item

- "ON"
- OFF

(3) BUSYTONE Detn Time

(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)

(4) 1300Hz 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) DialTone Detection

(a) Use

- To set whether to use the Dial Tone detection or not.

(b) Default setting

- ON

(c) Setting item

- "ON"
- OFF

(6) 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

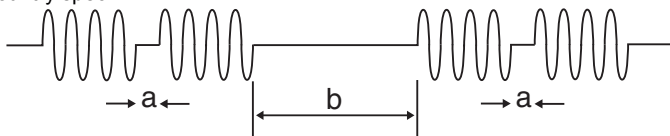
- ON
- "OFF"

(7) min.RING OFF Time

(a) Use

- Minimum time to recognize ringer interval.

For country spec.



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) Partner Resp 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 sec.

(c) Setting range

- 35 to 115 sec (step: 5 s)

(9) Pause Time**(a) Use**

- The pause time for one pause key (pause between digits)

(b) Default setting

- 1 sec.

(c) Setting range

- "1" to 7 sec (step: 1 s)

(10) Pseudo RBTFormat**(a) Use**

- To set the pseudo-ring back tone format to be returned to the calling side

(b) Setting item

- JP
- US
- GB
- GE
- None

NOTE

- The setting value are different depending on the country.

(11) Pseudo RBT TX Lvl**(a) Use**

- To set the pseudo-ring back tone level

(b) Default setting

- -10 dBm

(c) Setting range

- -15 to "-10 dBm" (Step: 1 dBm)

4.12.3 System**(1) Display Setting: CompulsoryMemory R****(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.

(2) 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

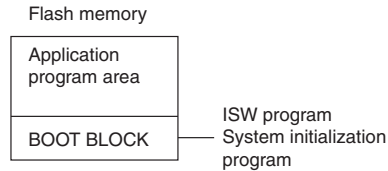
(c) Setting item

- "ON"
- OFF

(3) System Function: Fax BT Rewrite 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"

(4) System Function: Error Code Display

(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

(5) Communication Setting: Error Pg 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

(6) Communication Setting: #ofRedials(Err Pg)

(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

- 3

(c) Setting range

- 0 to 7 (step: 1)

4.12.4 Fax File Format

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.

(1) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [Fax File Format], and press the Select key.
3. Select [Start] and press the Select key..
4. The Fax File Format is executed.
5. All saved data are deleted and the machine restarts automatically.

4.12.5 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: V17EP 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: V29EP 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: V17EP TONE

(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.

(b) Default setting

- 4.0 sec

(c) Setting item

- 1.0 sec

- 1.5 sec
- 2.0 sec
- 2.5 sec
- 3.0 sec
- 3.5 sec
- "4.0 sec"
- 4.5 sec
- 5.0 sec
- 5.5 sec

(6) Int'l Comm. Functio: Foreign Comm Func**(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. Functio: DIS Waiting Times**(a) Use**

- To set the number of DIS waiting times.

(b) Default setting

- 1

(c) Setting item

- "1"
- 2

(8) Int'l Comm. Functio: V34 Speed**(a) Use**

- To set the V.34 international communication mode speed.

(b) Default setting

- 28800 bps

(c) Setting item

- 16800
- 19200
- 21600
- 24000
- 26400
- "28800"
- 31200
- 33600

(9) Int'l Comm. Functio: V17 Speed**(a) Use**

- To set the V.17 international communication mode speed.

(b) Default setting

- 7200 bps

(c) Setting item

- "7200"
- 9600
- 12000
- 14400

(10) Int'l Comm. Functio: V29 Speed**(a) Use**

- To set the V.29 international communication mode speed.

(b) Default setting

- 4800 bps

(c) Setting item

- 2400
- "4800"
- 7200
- 9600

(11) TIMER: 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 ms

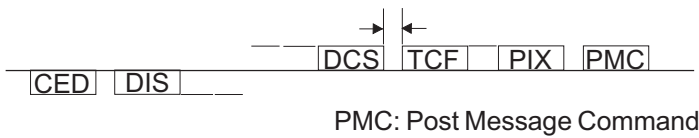
(c) Setting range

- 30 to 90 ms (step: 1 ms)

(12) TIMER: DCS-TCF DELAY

(a) Use

- To set the delay time between DCS and TCF.



(b) Default setting

- 80 ms

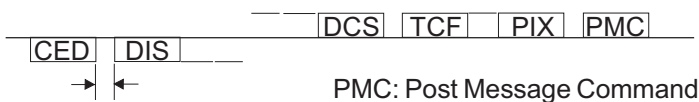
(c) Setting item

- 50 ms
- 60 ms
- 70 ms
- "80 ms"
- 90 ms
- 100 ms
- 110 ms
- 120 ms
- 130 ms
- 140 ms
- 150 ms

(13) TIMER: CED-DIS DELAY

(a) Use

- To set the delay time between CED and DIS.



(b) Default setting

- 80 ms

(c) Setting item

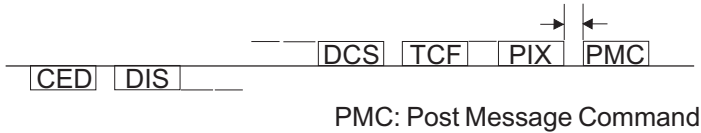
- 50 ms
- 60 ms

- 70 ms
- "80 ms"
- 90 ms
- 100 ms
- 110 ms
- 120 ms
- 130 ms
- 140 ms
- 150 ms

(14) TIMER: PIX-PMC DELAY

(a) Use

- To set the delay time between PIX and PMC.



(b) Default setting

- 80 ms

(c) Setting item

- 50 ms
- 60 ms
- 70 ms
- "80 ms"
- 90 ms
- 100 ms
- 110 ms
- 120 ms
- 130 ms
- 140 ms
- 150 ms

(15) TIMER: EOL-EOL

(a) Use

- To set the transmission time between EOLs.



(b) Default setting

- 13.0 sec.

(c) Setting range

- 4.0 to 25.5 sec (step: 0.5 sec)

(16) TIMER: 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

- 5.5 sec

(c) Setting range

- "6.0" to 25.5 sec (step: 0.5 sec)

(17) TIMER: 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

- 6.0 sec

(c) Setting range

- "5.5" to 25.5 sec (step: 0.5 sec)

(18) TIMER: JM WAIT**(a) Use**

- Time to continue outputting CM until receiving JM.

(b) Default setting

- 9.0 sec

(c) Setting range

- 6.0 to 25.5 sec (step: 0.5 sec)

(19) Others: ECM OFF**(a) Use**

- To set whether to turn OFF the reception ECM (error correction mode)

(b) Default setting

- ON

(c) Setting item

- "ON"
- OFF

(20) Others: Fr 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"

4.12.6 List Output**(1) Rpt Addition Info****(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 ResultRptImage

(a) Use

- To set whether or not to add image to the transmission result report.
- Even if set to "ON" images are not attached at the time of the quick memory transmission and the manual transmission.

(b) Default setting

- ON

(c) Setting item

- "ON"
- OFF

(3) ProtTraceAutoOut

(a) Use

- To set the timing for the protocol trace auto output.

(b) Default setting

- OFF

(c) Setting item

- Always
- Error
- "OFF"

4.12.7 Function Parameter

(1) Use

- Function parameters can be set through addressing.

(2) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [FunctionParameter], and press the Select key.
3. Select the address input area and enter the address.
4. Select the [data] and enter numerals in binary.
5. When the address and the value are correct, select [Start], and press the Select key.

(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 \(Address parameter list: for line 1\)](#)

4.12.8 Initialization

(1) Use

- The following data can be initialized. Select data you want to initialize and touch the [Yes].

Fax Func Parameter	The function set condition is initialized into the Factory Default condition.
Comm 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.4.12.4 Fax File Format](#).

(2) Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [Initialization], and press the Select key.
3. Select data you want to initialize using up key ▲/down key ▼ and press the Select key.
4. Select [ON], and press the Select key.
5. The data selected is initialized.

4.12.9 Line STD. Settings

(1) Use

- The screen that consolidates various types of setting parameters for improved work efficiency
- For details of each type of setting parameter, see the following table.

Partner Resp Time	I.4.12.2.(8) Partner Resp Time
Always OffHook	To set to always off state.

DialTone Detection	I.4.12.2.(5) DialTone Detection
BUSYtone Detection	I.4.12.2.(2) BUSYtone Detection
Error Pg Resending	I.4.12.3.(5) Communication Setting: Error Pg Resending
#ofRedials (Err Pg)	I.4.12.3.(6) Communication Setting: #ofRedials(Err Pg)
Reduce RX err	Set when V.17 has to be used for sending fax in a poor line condition.
Busytone Detn Time	I.4.12.2.(3) BUSYtone Detn Time
Number of Redials	To set the number of redials. (Default setting: The default setting is different depending on the country.)
Redial Interval	To set the interval for redialing. (Default setting: 3 min.)
RX Sig Detn Md	I.4.12.2.(1) RX Sig Detn Md
Number of RX Rings	To set the number of times to receive call rings. (Default setting: 2)
Receive Time	To set the time of receive interval. (Default setting: 6 sec.)
Pause Time	I.4.12.2.(9) Pause Time
Line Mon Vol-TX	To set the volume of the speaker for the sent signal sound. (Default setting: 3)
Line Mon Vol-RX	To sets the volume for the speaker of this machine when outputting the communication sound created on destination side (including exchange equipments or terminals). (Default setting: 4)

4.13 FAX setting (Address parameter)

4.13.1 0b00##

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0b0000	Redial interval	7	Redial interval (min, HEX, 0 - 15)	Utility Mode (0-3)	0x03	0x03	0x03	X0	00
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b0001	No. of busy redials	7	No. of busy redials (No, HEX, 0 - 15)	Utility Mode (0-2)	0x03	0x01	0x03	X0	01
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b0002	No. of error redials	7	No. of error redials (No, HEX, 0 - 15)	Utility Mode Special Setting (0-2)	0x03	0x01	0x03	X0	02
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b0003 -0b000f	Reserved area	7		-	-	-	-	-	03 - 0F
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0b0010	Inter-station timer	7	HEX (unit: second)(00 - ffh)(00 means 03)	-	0x03	0x03	0x03	X0	10
		6							
		5							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		4							
		3							
		2							
		1							
		0							
0b0011 -0b006 f	Reserved area	7		-	-	-	-	-	11 - 6F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

4.13.2 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 line						
		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							
0e0002	No. of error lines-good	7	No. of good judgment error lines (HEX) VeryGoodErrorNum<No. of error linesGoodErrorNum, RTP is transmitted	-	0x40	0x40	0x80	X1	02
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0003	No. of error lines-bad	7	No. of bad judgment error lines (HEX) GoodErrorNum<No. of error linesBadErrorNum, RTN is transmitted.	-	0x80	0x80	0xff	X1	03
		6	No. of error lines>BadErrorNum, it is considered to be error line over.						
		5							
		4							
		3							
		2							
		1							
		0							
0e0004	Rate of error lines-very good	7	Rate of very good judgment error lines (HEX, %) Rate of error linesVeryGoodErrorPercent, MCF is transmitted.	-	0x05	0x05	0x05	X1	04
		6							
		5							
		4							
		3							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		2							
		1							
		0							
0e0005	Rate of error lines-good	7	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
		6							
		5							
		4							
		3							
		2							
		1							
0									
0e0006	No. of continuous error lines-bad	7	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
		6							
		5							
		4							
		3							
		2							
		1							
0									
0e0007	No. of continuous error lines-bad	7	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
		6							
		5							
		4							
		3							
		2							
		1							
0									
0e0008	No. of continuous error lines-bad	7	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
		6							
		5							
		4							
		3							
		2							
		1							
0									
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	V.17	Utility Mode Special Setting (0,2)	0x06	0x06	0x06	X1	0A
		6							
		5							
		4							
		3							
		2							
		1							
0	V.29								
0e000b	CED detection-transmission frequency	7		-	0x00	0x00	0x00	X1	0B
		6							
		5							
		4							
		3							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		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	G3ModeError	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 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						
		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							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0							

4.13.3 0e001#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0010	Delay timer between PIX-PMC	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: 1sec, 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							
		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							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		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 CFR-PIX/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							
		1							
		0							
0e001b	RTC Counter	7		-	0x01	0x01	0x01	X1	1B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
			The EOL counter judged to be RTC 000: EOL*2 001: EOL*3 010: EOL*4 011: EOL*5 100: EOL*6						
0e001c	Closed area communication	7		-	0x00	0x00	0x00	X1	1C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
			Polling TX						
			Polling RX						
			Reserved						
0e001d - 0e001f	Machine password [20]	7	ASCII [20] When ID is less than 20 digits, justify to the left and insert	Utility Mode	ALL 0x20	ALL 0x20	ALL 0x20	X1	1D – 1F
		6							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		5	space at the top. (No NULL terminators)						
		4							
		3							
		2							
		1							
		0							

4.13.4 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 terminators)	Utility Mode	ALL 0x20	ALL 0x20	ALL 0x20	X1	20 – 2F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

4.13.5 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 terminators)	Utility Mode	ALL 0x20	ALL 0x20	ALL 0x20	X1	30
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0031 - 0e003f	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	31 – 3F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

4.13.6 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	0x01	0x01	0x01	X1	45
		6							
		5							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		4		Setting (0)					
		3							
		2							
		1							
		0	Watch dog 0: OFF 1: ON						
0e0046	T2 timer after CFR	7	T2 timer value after CFR x100ms (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	0x00: US 0x01: Canada 0x02: Japan 0x03: Australia 0x04: New Zealand 0x05: Europe 0x06: Germany 0x07: UK 0x08: France 0x09: Switzerland 0x0A: Netherlands 0x0B: Belgium 0x0C: Austria 0x0D: Norway 0x0E: Sweden 0x0F: Finland 0x10: Ireland 0x11: Denmark 0x12: Italy 0x13: Spain 0x14: Portugal 0x15: Poland 0x16: South Africa 0x17: Taiwan 0x18: Saudi Arabia 0x19: China 0x1A: Malaysia 0x1B: Singapore 0x1C: Korea 0x1D: Hong Kong 0x1E: General purpose (OT) 0x1F: Argentina 0x20: Brazil 0x21: Vietnam 0x22: Philippines 0x23: Russia	Service Mode	0x02	0x00	0x05	X1	49
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e004a	Function when DIS signal is created	7		-	0x01	0x01	0x01	X1	4A
		6							
		5							
		4							
		3							
		2							
		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: V8bitON 1: V8bitOFF						

Address	Items	Bit No	Contents	Setting	Default			CSRC		
					Japan	North America	Europe	Command	Parameter	
0e004b	Signal check at the time of F code communication	7	Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished	-	0x00	0x00	0x00	X1	4B	
		6								
		5								
		4								
		3								
		2								
		1								
0e004c	No. of CI signal transmission in manual transmission	7	CI signal repetitive transmission frequency when no ANSam received after CI transmission (times, HEX)	-	0x03	0x03	0x03	X1	4C	
		6								
		5								
		4								
		3								
		2								
		1								
0										
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										

4.13.7 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									

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0051	1300-Hz toner detection frequency pattern	7	1300-Hz toner detection frequency pattern 00: 1300Hz±30Hz 01: 1300Hz±10Hz	-	0x85	0x85	0x85	X1	51
		6							
		5							
		4							
		3							
		2							
		1							
0e0052	German specifications	7	Customized mode (error line-related FP overwriting canceled for EU destination)	-	0x00	0x00	0x0f	X1	53
		6							
		5							
		4							
		3							
		2							
		1							
0									
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	TTI in transmission TTI added 00: OFF 01: (OFF) 10: INSIDE 11: OUTSIDE	-	0x03	0x03	0x03	X1	54
		6							
		5							
		4							
		3							
		2							
		1							
0									
0e0055	Image reduction parameter	7	Reduction parameter in main scanning direction 0: Thick line kept 1: Thick line not kept	-	0x00	0x00	0x00	X1	55
		6							
		5							
		4							
		3							
		2							
		1							
0									
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									

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e0057	Post message command receive mode switching guarantee time	7	Guarantee time for switching to the post message command receiving mode (x100ms, HEX) (0 is defaulted to 50ms)	-	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							

4.13.8 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						
										0						
0e0091	CED transmission ATT	7	CED/ANS transmission ATT (HEX) every 1 dBm (0 to -15dBm)	Utility Mode Special Setting (0-3)	0x0a	0x0a	0x0a	XB	01							
		6														
		5														
		4														
		3														
		2														
		1														
		0														
0e0092	CD/SED ON level	7	CD/SED ON level [dBm] 00: -33 01: -38 10: -43 11: -48	Utility Mode Special Setting (0,1)	0x03	0x03	0x03	XB	02							
		6														
		5														
		4														
		3														
		2														
		1														
		0														
0e0093	Cable equalizer	7	Cable EQL transmission/reception selection 00: OFF 01: Transmission only 10: Reception only 11: Both transmission and reception	Utility Mode Special Setting (4,5)	0x00	0x00	0x00	XB	03							
		6														
		5														
		4														
		3														
		2														

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		1 0	Cable EQL parameter selection 00: 1.8km 01: 3.6km 10: 7.2km 11: NTT4						
0e0094	Number of V34 Point	7 6 5 4 3 2 1 0	V34 Point 00: Auto 01: 16Point 10: 24Point	Utility Mode Special Setting (4,5)	0x00	0x00	0x00	XB	04
0e0095	TEL/FAX switching	7 6 5 4 3 2 1 0	Time from vocal response to RBT transmission (CNG detection waiting time 2) 0: 4 sec. 1: 2 sec. Time from reception to voice response transmission (CNG detection waiting time 1) 0: 2 sec. 1: 4 sec. TEL/FAX switching mode 0: Disabled 1: Enabled External telephone no ringing setting 0: Disabled 1: Enabled (disconnected) TEL/FAX switching ON response details 0: Voice response + RBT transmission 1: RBT transmission only Voice response content selection (bit3 is available only when 0 is selected) 1: Only for voice response 2 0: Voice response (1+2) Reserved	Utility Mode Special Setting (4,5)	0x00	0x00	0x00	XB	05
0e0096	Ring Back Tone parameter	7 6 5 4 3 2 1 0	RBT format 000: None 001: Japan 010: US 011: UK 100: Germany 101 to 111: Others CED transmitted upon TEL/FAX switching RBT transmission level (HEX) 0 to -15 dBm	Utility Mode Special Setting (0-3,5-7)	0x2a	0x4a	0x68	XB	06
0e0097	International com mode operation	7 6 5 4 3	DIS waiting frequency 0: Always 1 time 1: Twice in overseas communication Overseas communication 0: No 1: Yes	Utility Mode Special Setting (6,7)	0x40	0x40	0x40	XB	07

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		2							
		1							
		0							
0e0098	Starting speed in international mode (V29 modem)	7		Utility Mode Special Setting (0,1,3,4)	0x02	0x02	0x02	XB	08
		6							
		5							
		4	9600bps/V.29						
		3	7200bps/V.29						
		2							
		1	4800bps/V.27ter						
		0	2400bps/V.27ter						
0e0099	Starting speed in international mode (V17 or V33 modem)	7	14400bps/V.17	Utility Mode Special Setting (4-7)	0x10	0x10	0x10	XB	09
		6	12000bps/V.17						
		5	9600bps/V.17						
		4	7200bps/V.17						
		3							
		2							
		1							
		0							
0e009a	Starting speed in international mode (V34)	7	33600bps/V.34	Utility Mode Special Setting	0x20	0x20	0x20	XB	0A
		6	31200bps/V.34						
		5	28800bps/V.34						
		4	26400bps/V.34						
		3	24000bps/V.34						
		2	21600bps/V.34						
		1	19200bps/V.34						
		0	16800bps/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	Symbol rate maximum allowable value	7	V34 controlled ch data rate 0: 1200 1: 2400	Utility Mode Special Setting (0-3,7)	0x05	0x05	0x05	XB	0D
		6	Reserved						
		5							
		4							
		3	Max. allowable symbol speed						
		2	0000: 2400						
		1	0001: Reserved						
		0	0010: 2800 0011: 3000 0100: 3200 0101: 3429						
0e009e	V34 primary channel fallback	7	Number of fallback frame errors (HEX)	-	0x03	0x03	0x03	XB	0E
		6							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		5							
		4							
		3							
		2							
		1							
		0							
0e009f	Reserved	7		-	0x00	0x00	0x00	X0	0F
6									
5									
4									
3									
2									
1									
0									

4.13.9 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							
		1							
		0							
0e00a2	(Inhibit of) V34 off Rx-Function ON/OFF	7	V34off function for manual reception 0: Enable 1: Disable	-	0x00	0x00	0x00	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							

Address	Items	Bit No	Contents	Setting	Default			CSRC		
					Japan	North America	Europe	Command	Parameter	
		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 - 0e00a7	JBIG LO size	7	JBIG optional LO size used for reduction (HEX) (setting range: 0x01to0xfffffff) [0] = HH, [1] = HL, [2] = LH, [3] = LL	-	0x00 0x00 0x00 0x80	0x00 0x00 0x00 0x80	0x00 0x00 0x00 0x80	XB	14 - 17	
		6								
		5								
		4								
		3								
		2								
		1								
		0								
0e00a8	(Inhibit of) JBIG off Rx-Function ON/OFF	7		-	0x00	0x00	0x00	XB	8	
		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	9	
		6								
		5								
		4								
		3								
		2								
		1								
		0								
0e00aa	PBX dial tone detection frequency upper limits	7		-	0x08	0x00	0x00	XB	1A	
		6								
		5								
		4								PBX dial tone detection frequency upper limit 1: 155±65Hz 2: 1155±25Hz 3: 375±75Hz 4: 400±75Hz 5: 425±75Hz 6: 440±75Hz 7: 375±100Hz 8: 400±100Hz 9: 425±100Hz 10: 440±100Hz 11: 375±125Hz 12: 400±125Hz 13: 425±125Hz 14: 440±125Hz 15: 375±150Hz 16: 400±150Hz 17: 425±150Hz 18: 440±150Hz 19: 465±205Hz 20: 350±25Hz(Dual) 21: 620±25Hz(Dual) 22: 400±75Hz(Dual) 23: 50±100Hz(Dual)
		3								
		2								
		1								
		0								

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
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							
		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							

4.13.10 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	0x14	0x13	XB	21
		6							
		5							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		4 3 2 1 0	1st dial tone detection frequency pattern 1: 155±65Hz 2: 1155±25Hz 3: 375±75Hz 4: 400±75Hz 5: 425±75Hz 6: 440±75Hz 7: 375±100Hz 8: 400±100Hz 9: 425±100Hz 10: 440±100Hz 11: 375±125Hz 12: 400±125Hz 13: 425±125Hz 14: 440±125Hz 15: 375±150Hz 16: 400±150Hz 17: 425±150Hz 18: 440±150Hz 19: 465±205Hz 20: 350±25Hz(Dual) 21: 620±25Hz(Dual) 22: 400±75Hz(Dual) 23: 50±100Hz(Dual)						
0e00b2	1st dial tone detection time	7 6 5 4 3 2 1 0	1st dial tone detection time or ON time max. value (unit: 20 ms, HEX)	-	0x32	0x32	0x1a	XB	22
0e00b3	1st dial tone ON time min. value	7 6 5 4 3 2 1 0	1st dial tone ON time min. value (unit: 20 ms, HEX)	-	0x00	0x00	0x00	XB	23
0e00b4	1st dial tone OFF time max. value	7 6 5 4 3 2 1 0	1st dial tone OFF time max. value (unit: 20 ms, HEX)	-	0x00	0x00	0x00	XB	24
0e00b5	1st dial tone OFF time min. value	7 6 5 4 3 2 1 0	1st dial tone OFF time min. value (unit: 20 ms, HEX)	-	0x00	0x00	0x00	XB	25
0e00b6	1st dial tone waiting time	7 6 5 4 3	1st dial tone waiting time or pre-pause time (unit: 1 sec, HEX)	-	0x03	0x03	0x04	XB	27

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		2							
		1							
		0							
0e00b7	1st dial tone instantaneous break detection time	7	Instantaneous shutdown detection time (unit: 20 ms, HEX) or tone detection frequency (times, HEX)	-	0x00	0x00	0x05	XB	28
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00b8	2nd dial tone detection frequency upper limits	7	2nd dial tone detection frequency upper limits 1: 155±65Hz 2: 1155±25Hz 3: 375±75Hz 4: 400±75Hz 5: 425±75Hz 6: 440±75Hz 7: 375±100Hz 8: 400±100Hz 9: 425±100Hz 10: 440±100Hz 11: 375±125Hz 12: 400±125Hz 13: 425±125Hz 14: 440±125Hz 15: 375±150Hz 16: 400±150Hz 17: 425±150Hz 18: 440±150Hz 19: 465±205Hz 20: 350±25Hz(Dual) 21: 620±25Hz(Dual) 22: 400±75Hz(Dual) 23: 50±100Hz(Dual)	-	0x08	0x00	0x00	XB	28
		6							
		5							
		4							
		3							
		2							
		1							
		0							
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 (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									

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0							
0e00bc	2nd dial tone OFF time min. value	7	2nd dial tone OFF time min. value (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 frequency upper limits	7	3rd dial tone detection frequency upper limits 1: 155±65Hz 2: 1155±25Hz 3: 375±75Hz 4: 400±75Hz 5: 425±75Hz 6: 440±75Hz 7: 375±100Hz 8: 400±100Hz 9: 425±100Hz 10: 440±100Hz 11: 375±125Hz 12: 400±125Hz 13: 425±125Hz 14: 440±125Hz 15: 375±150Hz 16: 400±150Hz 17: 425±150Hz 18: 440±150Hz 19: 465±205Hz 20: 350±25Hz(Dual) 21: 620±25Hz(Dual) 22: 400±75Hz(Dual) 23: 50±100Hz(Dual)	-	0x00	0x00	0x00	XB	2F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

4.13.11 0e00c#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00c0	Busy tone detection frequency pattern	7		-	0x08	0x15	0x09	XB	30
		6							
		5							

Address	Items	Bit No	Contents	Setting	Default			CSRC		
					Japan	North America	Europe	Command	Parameter	
		4	Busy tone detection frequency pattern 1: 155±65Hz 2: 1155±25Hz 3: 375±75Hz 4: 400±75Hz 5: 425±75Hz 6: 440±75Hz 7: 375±100Hz 8: 400±100Hz 9: 425±100Hz 10: 440±100Hz 11: 375±125Hz 12: 400±125Hz 13: 425±125Hz 14: 440±125Hz 15: 375±150Hz 16: 400±150Hz 17: 425±150Hz 18: 440±150Hz 19: 465±205Hz 20: 350±25Hz(Dual) 21: 620±25Hz(Dual) 22: 400±75Hz(Dual) 23: 50±100Hz(Dual)							
		3								
		2								
		1								
		0								
0e00c1	Busy tone ON time max. value	7		Busy tone ON time max. value (unit: 20 ms, HEX)	-	0x1e	0x1e	0x16	XB	31
		6								
		5								
		4								
		3								
		2								
		1								
		0								
0e00c2	Busy tone ON time min. value	7		Busy tone ON time min. value (unit: 20 ms, HEX)	-	0x14	0x14	0x05	XB	32
		6								
		5								
		4								
		3								
		2								
		1								
		0								
0e00c3	Busy tone OFF time max. value	7		Busy tone OFF time max. value (unit: 20 ms, HEX)	-	0x1e	0x1e	0x1f	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	0x09	XB	34	
		6								
		5								
		4								
		3								
		2								
		1								
		0								
0e00c5	Ringer detection pattern	7	Custom mode 0: OFF(to comply with bits 3-0) 1: ON(to comply with bits 5-4)	Utility Mode Special Setting	0x00	0x00	0x00	XB	35	
		6								
		5								Custom mode ringer detection pattern

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		4	00: Single 01: Double 10: Triple *The specified time is set in DRPD_Custom[]. The judge time is adjusted in common between DRPD_1st[] to 3rd[].						
		3	Ringer detection pattern 0000: Normal 0001: DRPD_Single 0010: DRPD_Double 0011: DRPD_Triple1 0100: DRPD_Triple2 0101: DRPD_NZDA1 0110: DRPD_NZDA2 0111: DRPD_NZDA3 1000: DRPD_NZDA4 *Normal should be set within Ringer[2] to [5]. At DRPD, the margin time (min, max) is set from the specified time. (unit: 1 Hz, HEX)						
		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							
		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							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		1							
		0							
0e00cb	Ringer OFF time max. 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 adjustment	7	DRPD ringer ON time maximum value adjustment (unit: 20 ms, HEX)	-	0x09	0x09	0x09	XB	3C
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00cd	DRPD ringer ON time min. value adjustment	7	DRPD ringer ON time minimum value adjustment (unit: 20 ms, HEX)	-	0x09	0x09	0x09	XB	3D
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00ce	DRPD ringer OFF time max. value adjustment	7	DRPD ringer OFF time maximum value adjustment (unit: 20 ms, HEX)	-	0x09	0x09	0x09	XB	3E
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00cf	DRPD ringer OFF time min. value adjustment	7	DRPD ringer OFF time minimum value adjustment (unit: 20 ms, HEX)	-	0x09	0x09	0x09	XB	3F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

4.13.12 0e00d#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00d0	DRPD maximum OFF time max. value adjustment	7	DRPD ringer maximum OFF time maximum value adjustment (unit: 100 ms, HEX)	-	0x05	0x05	0x05	XB	40
		6							
		5							
		4							
		3							
		2							
		1							
		0							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00d1	DRPD maximum OFF time min. value adjustment	7	DRPD ringer maximum OFF time minimum value adjustment (unit: 100 ms, HEX)	-	0x05	0x05	0x05	XB	41
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d2	DRPD Single Ring STOPdetermination time	7	DRPD Single Ring STOPdetermination time (1unit: 100 ms, HEX)	-	0x50	0x50	0x50	XB	42
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d3	DRPD Double Ring STOPdetermination time	7	DRPD Double Ring STOPdetermination time (unit: 100 ms, HEX)	-	0x50	0x50	0x50	XB	43
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d4	DRPD Triple1 Ring STOPdetermination time	7	DRPD Triple1 Ring STOPdetermination time (unit: 100 ms, HEX)	-	0x50	0x50	0x50	XB	44
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d5	DRPD Triple2 Ring STOPdetermination time	7	DRPD Triple2 Ring STOPdetermination time (unit: 100 ms, HEX)	-	0x50	0x50	0x50	XB	45
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d6	DRPD NZ-DA1 Ring STOPdetermination time	7	DRPD NZ-DA1 Ring STOPdetermination time (unit: 100 ms, HEX)	-	0x3c	0x3c	0x3c	XB	46
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d7	DRPD NZ-DA2 Ring STOP determination time	7	DRPD NZ-DA2 Ring STOPdetermination time (unit: 100 ms, HEX)	-	0x3c	0x3c	0x3c	XB	47
		6							
		5							
		4							
		3							
		2							
		1							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0							
0e00d8	DRPD NZ-DA3 Ring STOP determination time	7	DRPD NZ-DA3 Ring STOP determination time (unit: 100 ms, HEX)	-	0x32	0x32	0x32	XB	48
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00d9	DRPD NZ-DA4 Ring STOP determination time	7	DRPD NZ-DA4 Ring STOP determination time (unit: 100 ms, HEX)	-	0x32	0x32	0x32	XB	49
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00da	Custom 1st ringer ON time specified value	7	Custom 1st ringer ON time specified value (unit: 100 ms, 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 (unit: 100 ms, 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 (unit: 100 ms, 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 (unit: 100 ms, 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 (unit: 100 ms, HEX)	-	0x00	0x00	0x00	XB	4E
		6							
		5							
		4							
		3							
		2							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		1							
		0							
0e00df	Custom 3rd ringer OFF time specified value	7	Custom 3rd ringer OFF time specified value (unit: 100 ms, HEX)	-	0x00	0x00	0x00	XB	4F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

4.13.13 0e00e#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00e0	Custom ring OFF determination time	7	Custom ring OFF determination time (unit: 100 ms, 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	10pps pulse dial break rate	7	10pps pulse dial break rate (% , HEX)	-	0x44	0x3d	0x3d	XB	53
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00e4	10pps pulse dial break time	7	10pps pulse dial break time	-	0x1f	0x1c	0x1c	XB	54
		6							
		5							
		4							
		3							
		2							
		1							
		0							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00e5	10pps pulse dial inter digit pause	7	10pps pulse dial inter digit pause (unit: 10 ms, HEX)	-	0x68	0x68	0x5e	XB	55
		6							
		5							
		4							
		3							
		2							
		1							
0									
0e00e6	20pps pulse dial make time	7	20pps pulse dial make time	-	0x07	0x09	0x09	XB	56
		6							
		5							
		4							
		3							
		2							
		1							
0									
0e00e7	20pps pulse dial break time	7	20pps pulse dial break time	-	0x10	0x0E	0x0E	XB	57
		6							
		5							
		4							
		3							
		2							
		1							
0									
0e00e8	20pps pulse dial inter digit pause	7	20pps 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 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 when CML is set to 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	7	DCLOOP integration time at CML relay ON (unit: 5 ms, HEX) (Lower limit 20 ms)	-	0x10	0x10	0x10	XB	5C

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
	when CML is set to ON	6 5 4 3 2 1 0							
0e00ed	Pause time	7 6 5 4 3 2 1 0	Pause time (unit: sec, HEX)	Utility Mode Special Setting (0-2)	0x01	0x01	0x01	XB	5D
0e00ee	DCLOOP check mode	7 6 5 4 3 2 1 0	DC-LOOP check 0: No 1: Always	Utility Mode Special Setting (6,7)	0x00	0x00	0x00	XB	5E
0e00ef	DCLOOP waiting time	7 6 5 4 3 2 1 0	DCLOOP waiting time (unit: 100 ms, HEX)	-	0x00	0x00	0x00	XB	5F

4.13.14 0e00f#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00df	DCLOOP instantaneous shutdown allowed time (ph.A)	7 6 5 4 3 2 1 0	DCLOOP instantaneous shutdown allowable time (unit: 10 ms, HEX) (at the time of calling, CML ON to end of dialing)	-	0x00	0x00	0x00	XB	60
0e00f1	DCLOOP instantaneous shutdown allowed time (ph.B)	7 6 5 4 3 2 1 0	DCLOOP instantaneous shutdown allowable time (unit: 10ms, HEX) (after completion of dialing and after CML ON at the time of reception)	-	0x00	0x00	0x00	XB	61
0e00f2	Dial mode RING DET mode	7 6 5	RING detection mode	Utility Mode (0,1)	0x12	0x10	0x10	XB	62

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		4	01: No. of times 10: Time	Utility Mode Special Setting (4,5)					
		3	Pulse format						
		2	00: General 01: SW 10: NO						
		1	Dialing method						
		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	0x01	0x01	XB	64
		6							
		5	1300Hz 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	7	Busy tone detection frequency (HEX)	Utility Mode Special Setting	0x02	0x02	0x03	XB	65
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00f6	No. of RING detection	7	Ring detection frequency (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							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
0e00f8	Time to wait for a response from a remote station	7	Time waiting response from remote station after calling (unit: sec, HEX)	Utility Mode Special Setting	0x37	0x37	0x37	XB	68
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e00f9	Answering machine function	7	Answering machine CNG detection time (unit: 10sec, HEX) (1 - 7)	Utility Mode Special Setting (4)	0x64	0x64	0x64	XB	69
		6							
		5							
		4							
		3	Answering machine DCLOOP detection time (unit: 5sec, 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	Ring Back Tone 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	0x28	0x28	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	0x0a	0x0a	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	0x28	0x28	XB	6F
		6							
		5							
		4							
		3							
		2							
		1							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0							

4.13.15 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	CAR signal detection frequency	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 determination 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 off-hook	Utility Mode (0-6)	0x03	0x03	0x03	XB	75
		6	Monitor speaker in communication						
		5	00: OFF 11: ON						
		4	Speaker volume (HEX)(0-1F)						
		3							
		2							
		1							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		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 - 7F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

4.13.16 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	PBX call 0000 - 1001: keypad 1011: Reserved 1100: Reserved 1101: Reserved 1110: Reserved 1111: PBX unconnected	Utility Mode (0-3)	0x0f	0x0f	0x0f	XB	8A	
		6								
		5								
		4								
		3								
		2								
		1								
0										
0e011b	Reserved	7		Utility Mode (5)	0x00	0x00	0x00	XB	8B	
		6								
		5								
		4								
		3								
		2								
		1								
		0								
0e011c	Reception function (disable)	7		Utility Mode (0-4)	0x3f	0x3f	0x3f	XB	8C	
		6								
		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
		1								Remote RX 0: Not inhibit 1: Inhibit
		0								Dial In 0: Not inhibit 1: Inhibit

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
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	Limit of long size reception 0: Limit 1: Unlimited	-	0x00	0x00	0x00	XB	8F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

4.13.17 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 size 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 or less)	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	Voice response volume (HEX) 0: min F: max	-	0x0e	0x0e	0x0e	XB	92
		6							
		5							
		4							
		3							
		2							
		1							
		0							
0e0123	Monitor speaker	7		Utility Mode (0-4)	0x14	0x14	0x14	XB	93
		6							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
	(Received signal sound)	5	Speaker volume (HEX) (0-1F)						
		4							
		3							
		2							
		1							
		0							
0e0124 - 0e012f	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	XB	94 - 9F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

4.13.18 0f000#

Address	Items	Bit No	Contents	Setting	Default			CSRC		
					Japan	North America	Europe	Command	Parameter	
0f0000	Reception main scan line resolution ability [0]	7	400dpi	-	0xaa	0xaa	0xaa	X2	00	
		6	300dpi							
		5	200dpi							
		4								
		3	16pels/mm							
		2								
		1	8pels/mm							
		0								
0f0001	Reception main scan line resolution ability [0]	7		-	0x01	0x01	0x01	X2	01	
		6								
		5								
		4								
		3								
		2								(1200dpi)
		1								(800dpi)
		0								600dpi
0f0002	Reception sub scanning resolution ability [0]	7	400dpi	-	0xbb	0xbb	0xbb	X2	02	
		6	300dpi							
		5	200dpi							
		4	100dpi							
		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								(1200dpi)
		1								(800dpi)
		0								600dpi
0f0004	Reception coding method ability	7		-	0x1f	0x1f	0x1f	X2	04	
		6								
		5								(JPEG)
		4								JBIG
		3								MMR

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		2	MR						
		1	MH						
		0	THRU						
0f0005	Received document width ability	7		-	0x02	0x02	0x02	X2	05
		6							
		5	(Legal)						
		4	(Letter)						
		3	A3						
		2	B4						
		1	A4						
		0	(A5)						
0f0006	Received document length ability	7		-	0x42	0x42	0x42	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	-	0xfc	0xfc	0xfc	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						
0f000b	Reception MSLT ability	7	T3.85 or 200 x 100dpi (0-40) ms unit	-	0x05	0x05	0x05	X2	0B
		6							
		5							
		4							
		3							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		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							

4.13.19 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							
		4							
		3							
		2							
		1							
		0							
0f0011	Reception option frame ability	7		-	0x07	0x07	0x07	X2	11
		6							
		5							
		4							
		3							
		2							
		1							
	(BFT)								
	(BTM)								
	PWD								
	(SEP)								

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		0	SUB						
0f0012 - 0f001f	Reserved area	7		-	ALL 0x00	ALL 0x00	ALL 0x00	X2	12 - 1F
		6							
		5							
		4							
		3							
		2							
		1							
		0							

4.13.20 10000#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
100000	Transmission main scan line resolution instruction [0]	7	400dpi	-	0x22	0x22	0x22	X2	40
		6	300dpi						
		5	200dpi						
		4							
		3	16pels/mm						
		2							
		1	8pels/mm						
		0							
100001	Transmission main scan line resolution instruction [1]	7		-	0x01	0x01	0x01	X2	41
		6							
		5							
		4							
		3							
		2	(1200dpi)						
		1	(800dpi)						
		0	600dpi						
100002	Transmission sub scanning resolution instruction [0]	7	400dpi	-	0x11	0x11	0x11	X2	42
		6	300dpi						
		5	200dpi						
		4	100dpi						
		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	(1200dpi)						
		1	(800dpi)						
		0	600dpi						
100004	Transmission coding method instruction	7		-	0x1f	0x1f	0x1f	X2	44
		6							
		5	(JPEG)						
		4	JBIG						
		3	MMR						
		2	MR						
		1	MH						
		0	THRU						
100005	Transmission document	7		-	0x02	0x02	0x02	X2	45
		6							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
	width instruction	5	(Legal)						
		4	(Letter)						
		3	A3						
		2	B4						
		1	A4						
		0	(A5)						
100006	Transmission document length instruction	7		-	0x42	0x42	0x42	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							
		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							

Address	Items	Bit No	Contents	Setting	Default			CSRC		
					Japan	North America	Europe	Command	Parameter	
		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

4.13.21 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								V8/V34
		3								DIAG
		2								
		1								
		0								G3S
100011	Transmission option frame instruction	7		-	0x00	0x00	0x00	X2	51	
		6								
		5								
		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								

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		5							
		4							
		3							
		2							
		1							
		0							

4.13.22 13000#, 13001#, 13002#, 13003#, 13004#, 13005#, 13006#

Address	Items	Bit No	Contents	Setting	Default			CSRC		
					Japan	North America	Europe	Command	Parameter	
130000 - 130068	Reserved area	7								
		6								
		5								
		4								
		3								
		2								
		1								
		0								
130069	Upper limit for signal transmission level setting	7	(-dBm) Switched according to destination of FAX	-	0x0a	0x0a	0x08	XE	00 - 68	
		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	0x02	0x01	XE	6C	
		6								
		5								
		4								
		3								
		2								
		1								Dial method setting (main line) 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								

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		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							
		5							
		4							
		3							
		2							
		1							
		0							

4.13.23 13007#, 13008#, 13009#, 1300a#, 1300b#

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
130070 - 130071	Reserved area	7		-	0x7f	0x00	0x00	XE	70 - 71
		6							
		5							
		4							
		3							
		2							
		1							
		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							
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							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
		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	Reserved area	7		-	0x00	0x00	0x00	XE	76
		6							
		5							
		4							
		3							
		2							
		1							
		0							
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 - 130086	Reserved area/ Boundary area	7		-	-	-	-	XE	78 - 86
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130087	DRPD ring pattern	7		-	0x00	0x00	0x00	XE	87
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130088	Single/Double/ Triple Setting of lower limit for call termination frequency setting range	7	(No. of times)	-	0x00	0x00	0x00	XE	88
		6							
		5							
		4							
		3							
		2							
		1							
		0							
130089	Single/Double/ Triple Setting of upper limit for call termination	7	(No. of times)	-	0x00	0x00	0x00	XE	89
		6							
		5							
		4							
		3							

Address	Items	Bit No	Contents	Setting	Default			CSRC	
					Japan	North America	Europe	Command	Parameter
	frequency setting range	2							
		1							
		0							
13008a	NZ_DA4 Setting of lower limit for call termination frequency setting range	7	(No. of times)	-	0x00	0x00	0x00	XE	8A
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13008b	NZ_DA4 Setting of upper limit for call termination frequency setting range	7	(No. of times)	-	0x00	0x00	0x00	XE	8B
		6							
		5							
		4							
		3							
		2							
		1							
		0							
13008c – 1300b8	Reserved area	7		-	0x00	0x00	0x00	XE	8C - B8
		6							
		5							
		4							
		3							
		2							
		1							
		0							
1300b9 – 1300bb	Boundary area	7		-	-	-	-	XE	B9 - BB
		6							
		5							
		4							
		3							
		2							
		1							
		0							
1300bc	Setting of upper limit for call time frequency setting range	7	(second)	-	0x00	0x00	0x00	XE	BC
		6							
		5							
		4							
		3							
		2							
		1							
		0							
1300bd	Setting of lower limit for call time frequency setting range	7	(second)	-	0x2d	0x2d	0x2d	XE	BD
		6							
		5							
		4							
		3							
		2							
		1							
		0							

4.14 2nd NIC settings

4.14.1 Use

- To be configured when the optional network interface card NC-P03 has been installed.

4.14.2 Default setting

- Not Installed

4.14.3 Setting item

- Installed
- "Not Installed"

4.15 BK CLEAR

- Not used

4.16 FIRMWARE UPDATE

4.16.1 Use

- To display the firmware information stored in the USB memory device.

4.16.2 Procedure

1. Set the USB memory device.
2. [Call the Service Mode to the screen.](#)
3. Select [FIRMWARE UPDATE] and press the Select key.
4. Select the specific type of firmware data to be upgraded and press the Select key.

For details, see [\[J.2. Firmware upgrading procedure by USB memory device\]](#)

4.17 LoadableDriverInfo

4.17.1 Use

- To display information relating to loadable drivers downloaded in the machine.
- To delete a loadable driver downloaded in the machine.
 - Condition: Loadable driver condition

Yet to be installed	The loadable driver is yet to be installed in the machine.
Installed	The loadable driver has been installed in the machine with the corresponding IC card reader ready for operation.

- Serial number: Serial number of the IC card reader
- Version: Version of firmware of the IC card reader

4.17.2 Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [LoadableDriverInfo] and press the Select key.
3. The loadable driver information appears.
4. To delete the loadable driver, select [DELETE] and press the Select key.
5. On the screen that confirms deletion of the loadable driver, select [YES] and press the Select key.
6. Turn OFF and ON the power switch to restart the machine.

4.18 loadable download

4.18.1 Use

- Download the loadable driver data in the machine.
- Use a USB memory for the downloading.

4.18.2 Required systems

- PC having a USB port
- USB memory device

4.18.3 Authentication units (Loadable driver)

- 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.
- Use the loadable driver in combination with the following firmware version.
Controller firmware: A6DR30G0706-999 or later

Authentication units	Compatible IC cards	Loadable driver
AU-201	FeliCa TypeA2 FCF_C	A3GN0Y0A502G0000_LDR_AU201_FCF_C.exe
	FeliCa TypeA2 FCF_G	A3GN0Y0A502G0000_LDR_AU201_FCF_G.exe
	FeliCa TypeA2 IDm	A3GN0Y0A502G0000_LDR_AU201_IDm.exe
	FeliCa TypeA2 SSFC	A3GN0Y0A502G0000_LDR_AU201_SSFC.exe
	FeliCa TypeA2 TypeA	A3GN0Y0A502G0000_LDR_AU201_TypeA.exe
AU-201S	FeliCa TypeA2 Android	A3GN0Y0A020G0000_ICC_LDR_AU201S_Android.exe
	FeliCa TypeA2 FCF_C	A3GN0Y0A020G0000_ICC_LDR_AU201S_FCF_C.exe
	FeliCa TypeA2 FCF_G	A3GN0Y0A020G0000_ICC_LDR_AU201S_FCF_G.exe
	FeliCa TypeA2 IDm	A3GN0Y0A020G0000_ICC_LDR_AU201S_IDm.exe

	FeliCa TypeA2 SSFC	A3GN0Y0A020G0000_ICC_LDR_AU201S_SSFC.exe
	FeliCa TypeA2 TypeA	A3GN0Y0A020G0000_ICC_LDR_AU201S_TypeA.exe
AU-201H	Prox	A3GN0Y0A000G0000_LDR_AU201h_Prox.exe
AU-202H	iClass	A3GN0Y0A300G0000_LDR_AU202H_iClass.exe
SCL-010	IDm	A3GN0Y0A510G0000_LDR_SCL_IDm.exe
	TypeA	A3GN0Y0A510G0000_LDR_SCL_TypeA.exe
YSoft card reader	HID Prox	A3GN0Y0A521G0001_LDR_YSoft.exe
OMNIKEY 5427CK (AU-205H)	iClass	A3GN0Y0A010G0002_ICC_LDR_AU205H_iClass.exe *
	Multiple	A3GN0Y0A010G0002_ICC_LDR_AU205H_Multiple.exe
	Prox	A3GN0Y0A010G0002_ICC_LDR_AU205H_Prox.exe
	TypeA	A3GN0Y0A010G0002_ICC_LDR_AU205H_TypeA.exe

- *: If HID iClass, or related card requiring detailed settings is to be used, make the detailed settings by using either one of the following methods:
 - Using the 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.3. Utility tool](#)
 - Using the Auth Device Tool Advanced for 5427CK (AU-205H), prepare the IC card information setting file only and install the loadable driver in the Printer. Then, using the PageScope Data Administrator, write the IC card information setting file in the MFP.
[E.3. Utility tool](#)

4.18.4 Writing data to USB memory device

- Save the loadable driver data in an appropriate location of the PC.
- Connect the USB memory device to the PC.
- Create a [firmware] folder in an area immediately under the drive of the USB memory device.
- Copy the loadable driver data (***.tar) in the firmware folder created in step 3.

NOTE

- Make sure that the loadable driver data is saved in drive:/firmware/***.tar.

4.18.5 Procedure

- Turn ON the main power switch and connect the USB memory device to the USB port of the machine.
- Call [SERVICE MODE] to the display and press the Menu/Select key.
- Select [loadable download].
- The loadable driver data in the USB memory device is displayed in a list.
- Select the loadable driver data to be downloaded and press the Menu/Select key.
- Select the [YES] and press the Menu/Select key.
- The loadable driver starts to be downloaded.

NOTE

- NEVER disconnect the USB memory device from the machine while the loadable driver is being downloaded.

- Following the messages shown on the control panel, restart the machine.

4.19 HDD Format

4.19.1 Use

- To format the hard disk.
- To be used at replacement of the MFP board.
- To be used at occurrence of troubles related to the hard disk.

NOTE

- Pick out the required data from the hard disk in advance.

4.19.2 Procedure

- Call the Service Mode to the screen.
- Select [HDD format], and press the Select key.
- Select [ARE YOU SURE?], and press the Select key.

4.20 ENGINE DIPSW

It will be displayed when the following setting shows that switch No.59 is set to [1].
[Service Mode] -> [System 2] -> [SOFT SWITCH]

4.20.1 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	Not used	-
2		-
3		-
4		-
5		-

6		-
7		-
8		-
9		-
10		-
11		-
12	Change of developing unit cleaning frequency	I.4.20.3.(1) Change of developing unit cleaning frequency
13	Not used	-
14	Choice of not executing image stabilization	I.4.20.3.(2) Choice of not executing image stabilization
15	Not used	-
16		-
17		-
18		-
19		-
20		-
21	Choice of prohibiting environment measurement on sleep mode	I.4.20.3.(3) Choice of prohibiting environment measurement on sleep mode
22	Choice 2 of not executing image stabilization	I.4.20.3.(4) Choice 2 of not executing image stabilization
23	Not used	-
24		-
25	Choice of 1200dpi line width	I.4.20.3.(5) Choice of 1200 dpi line width
26	Not used	-
27		-
28	Choice of toner empty recovery mode	I.4.20.3.(6) Choice of toner empty recovery mode

4.20.2 Procedure

1. [Call the Service Mode to the screen.](#)
2. Select [ENGINE DIPSW] and press the Select key.
3. Select the Change switch by using the up key/down key, and press the Select key.
4. Change the setting by using the up key/down key, and press the Select key.

4.20.3 Details of Each Function

(1) Change of developing unit cleaning frequency

- Increase the cleaning frequency of the developing unit.
- To be performed when remarkable stain is found due to insufficient cleaning.
 - 0: OFF (default)
 - 1: ON

(2) Choice of not executing image stabilization

- Decrease the frequency of image stabilization.
 - 0: Normal frequency of image stabilization (default)
 - 1: Decrease frequency of image stabilization

(3) Choice of prohibiting environment measurement on sleep mode

- Noise control
- To set whether or not to check the environment in the sleep mode.
- When 0 (Execute) is selected, once start the machine to check the environment when one hour elapsed.
 - 0: Execute environment measurement (default)
 - 1: Not to execute environment measurement

(4) Choice 2 of not executing image stabilization

- Decrease frequency of image stabilization.
- A limitation stricter than SW No.14 has been set in the image stabilization execution condition.
 - 0: Normal frequency of image stabilization (default)
 - 1: Decrease frequency of image stabilization (Decrease frequency of image stabilization furthermore to make the limitation looser than switch No.14.)

(5) Choice of 1200 dpi line width

- To make line width of 1200 dpi broader.
 - 0: Priority on density (default)
 - 1: Priority on making characters thinner

(6) Choice of toner empty recovery mode

- By executing this function, the New release of a toner cartridge can be executed forcibly when a new toner cartridge is not detected for some reason.
 - 0: Not to execute (default)
 - 1: Execute

NOTE

- **Be sure to set back to “0” after release an empty status.**

5. SecurityServ. Mode

5.1 List of SecurityServ. Mode

NOTE

- After exiting Service Mode, you must turn OFF the main power switch. Turning ON the main power switch again makes the changes to the Service Mode setting take effect.

SECURITY SERVICE			Ref. page
Billing Setting	Counter Setting	L Size Counter Md	I.5.3.1 Counter Setting
		Total Counter Mode	
	License Management	Get Request Code	I.5.3.2 License Management - Get Request Code
		Initialize	I.5.3.3 License Management - Initialize
		Activation	I.5.3.4 License Management - Activation
		Deactivation	I.5.3.5 License Management - Deactivation
		Deac. Compl. Code	I.5.3.7 License Management - List EnabledFunc
		List EnabledFunc	I.5.3.6 License Management - Deac. Compl. Code
Admin. Password			I.5.4 Admin. Password
CE Password			I.5.5 CE Password

5.2 STARTING/EXITING

Starting procedure

1. [Call the Service Mode to the screen.](#)
2. Press the following keys in this order.
Back -> 2 -> 2 -> 2 -> 0 -> 0
3. The Billing Setting screen appears.

Exiting procedure

1. Press the Stop/Reset key.

5.3 Billing Setting

5.3.1 Counter Setting

(1) L Size Counter Md

(a) Use

- To set the counting method for the size counter.
- To set the size regarded as the large size (2 counts.)

(b) Default setting

- US: Not counted
- Other: Legal
- JP: Not counted

(c) Setting item

No counted	No Count
Legal	When it exceeds 215.9 mm in the main scan direction and 355.6 mm in the sub scan direction, it is regarded as the large size.
Legal/Foolscap	When it exceeds 203 mm in the main scan direction and 330 mm in the sub scan direction, it is regarded as the large size

NOTE

- When the Large Size Count MODE is set to Not counted, the machine operate with following conditions regardless of the each control panel settings.
Total Counter: Mode 1

(2) Total Counter Mode

(a) Use

- To set the counting method for the total counter.

(b) Default setting

- JP: Mode 1
- Other: Mode 2

(c) Setting item

- Mode 1: 1 count per 1 copy cycle

- Mode 2: Large size is double counts

(d) Count-up table

Print mode	1-Sided				2-Sided			
	Sizes other than those specified		Specified sizes		Sizes other than those specified		Specified sizes	
Mode	Mode		Mode		Mode		Mode	
Type	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

5.3.2 License Management - Get Request Code

- When the license management error is occurred, it will not be displayed until the repair code is input.

(1) Functions

- To display or print request code and serial number.

(2) Use

- To check the request code and serial number.

5.3.3 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. Select [License Management] -> [Initialize] and press the Select key.
 5. Select [Initialize code] and press the Select key.
 6. Enter the initialize code issued by call center using 10-key pad, and touch [Apply].
 7. Select [Apply] and press the Select key.
 8. Select [Yes] and press the Select key.
 9. Initialization of license management information is started.
 10. Turn OFF/ON the main power switch after the end of initialization.

5.3.4 License Management - Activation

(1) Functions

- To activate i-Option functions.

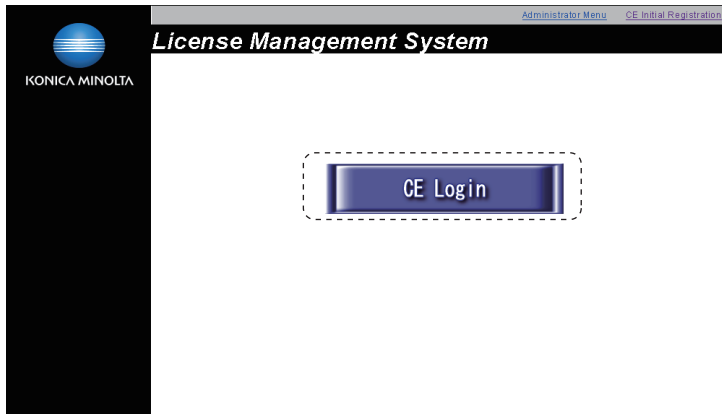
(2) Use

- 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.

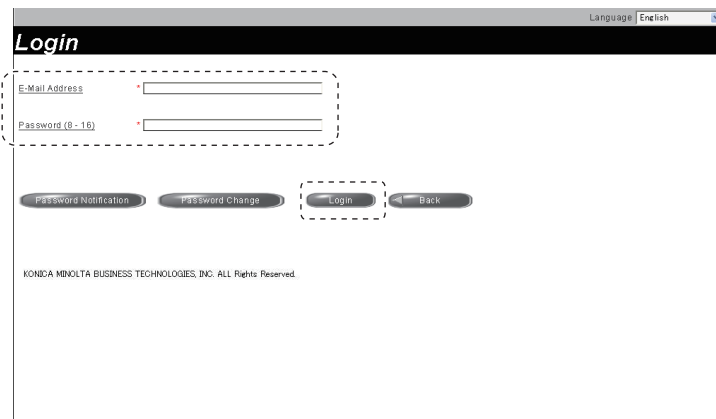
(3) Procedure

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].



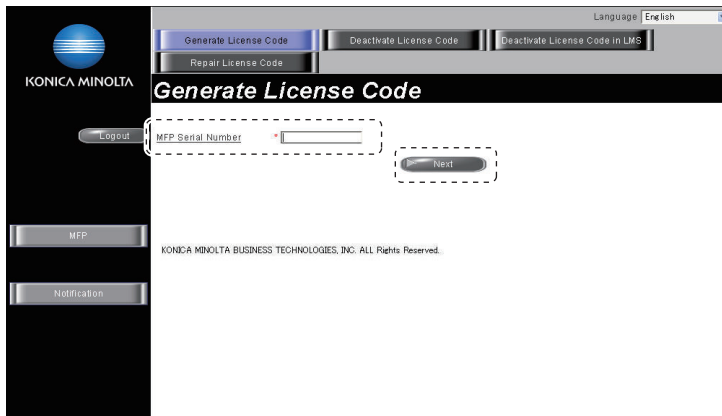
5. Click [Generate License Code].



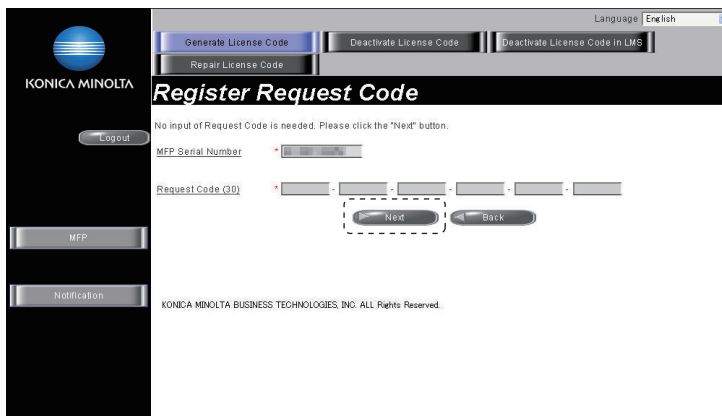
6. Enter the serial number of the target MFP, and click [Next].

NOTE

- Make sure to enter alphabet letters of the serial number in all capital letters.

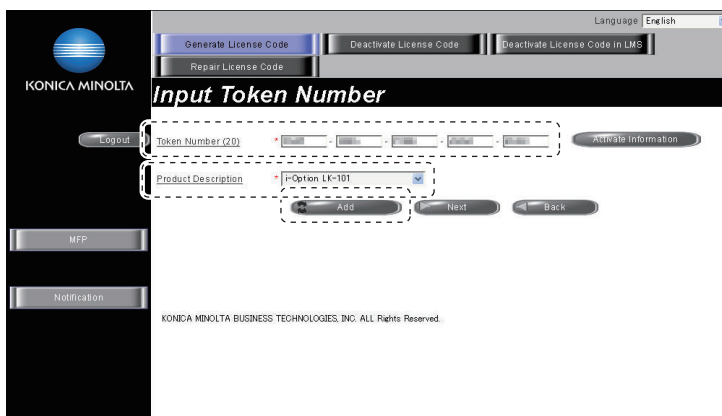


7. Click [Next].

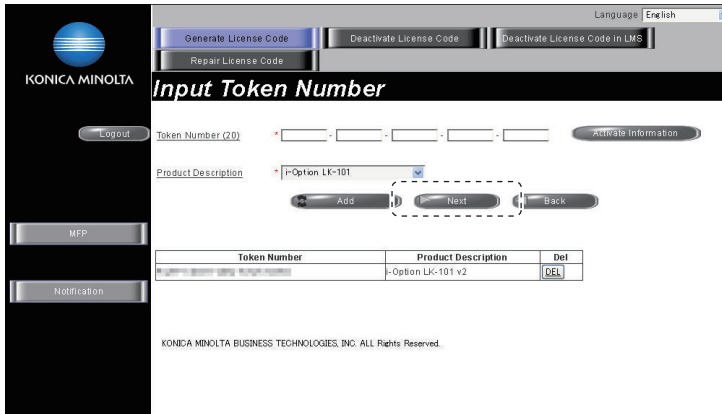


8. Enter the token number written in the token certification, and select the product description.

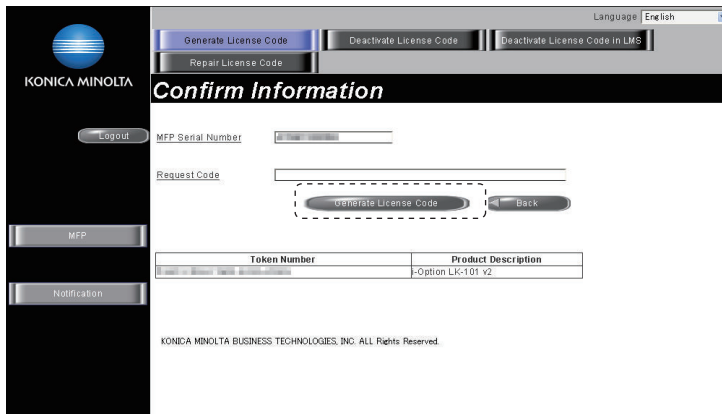
9. Click [Add].



10. Confirm the registered items, and click [Next].



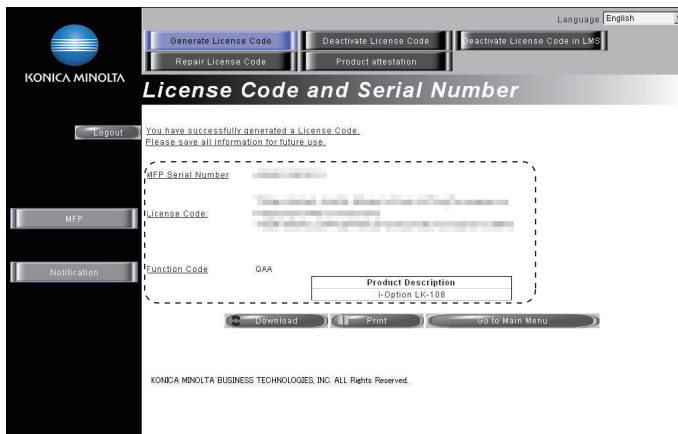
11. Click [Generate license Code].



- 12. LMS issues license code and function code.
- 13. Write down the serial number, license code and function code.

NOTE

- Do not use [Download]. In this machine, you cannot enable the advanced functions using a USB memory device.



- 14. Select [Service Mode] -> [Billing Setting] -> [License Management] -> [Activation].
- 15. Select [Function Code] and [License Code] and press the Select key.
- 16. Enter the function code and the license code using 10-key pad confirmed at Step13.

NOTE

- Do not use [Download]. In this machine, you cannot enable the advanced functions using a USB memory device.

17. Select [EXCUTE] and press the Select key.

5.3.5 License Management - Deactivation

(1) Functions

- To deactivate i-Option functions.

(2) Use

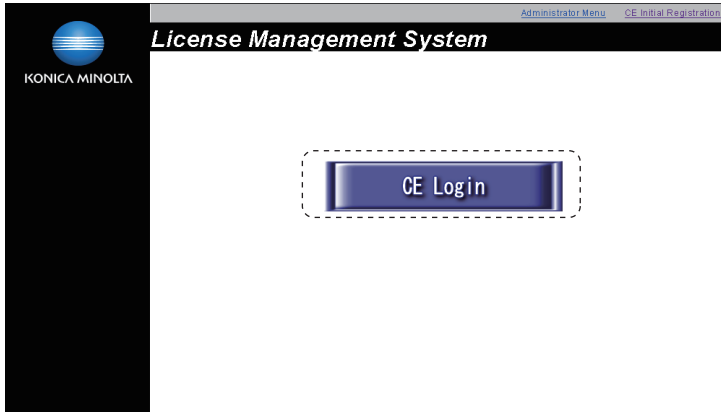
- To deactivate i-Option functions due to registration error, expiration of lease term, change to other MFP or etc.

- The functions can be deactivated by selecting the desired function and enter the appropriate deactivation code.

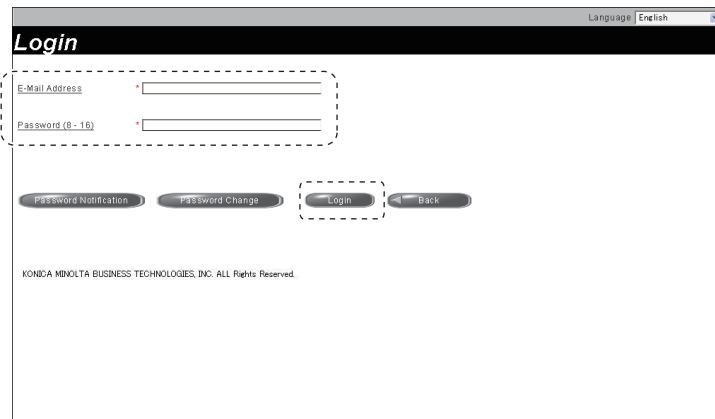
(3) Procedure

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].



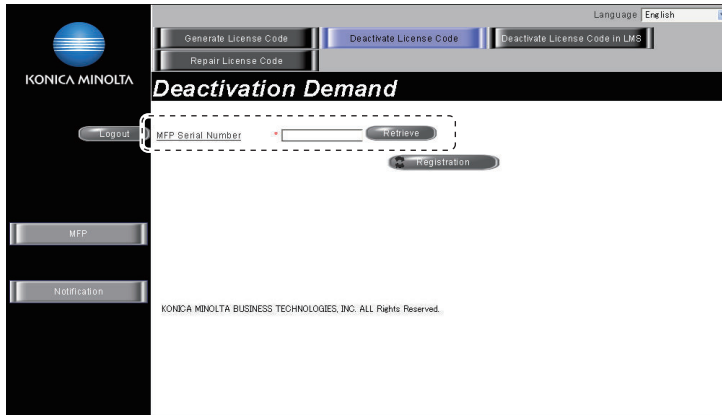
5. Click [Deactivate License Code].



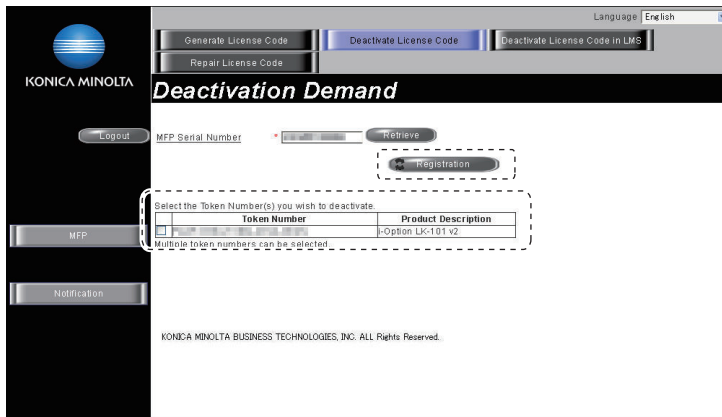
6. Enter the serial number of the target MFP, and click [Retrieve].

NOTE

- Make sure to enter alphabet letters of the serial number in all capital letters.



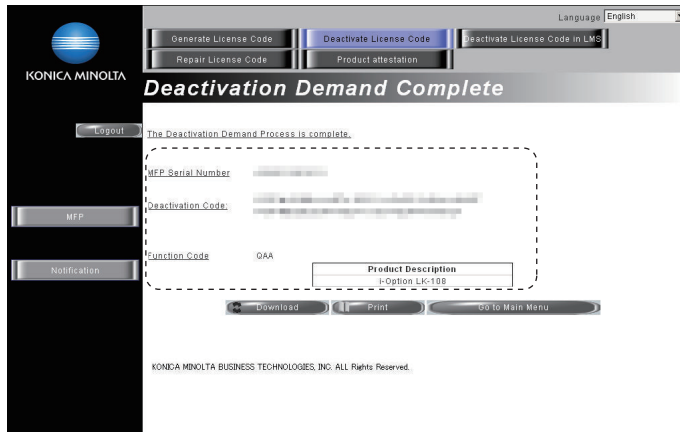
7. Select the token to be deactivated, and click [Registration].



- 8. LMS issues deactivation code and function code.
- 9. Write down the serial number, deactivation code and function code.

NOTE

- Do not use [Download]. In this machine, you cannot enable the advanced functions using a USB memory device.



- 10. Select [Service Mode] -> [Billing Setting] -> [License Management] -> [Deactivation].
- 11. Select [Function Code] and [Deactivation Code], and press the Select key.
- 12. Enter the function code and the deactivation code using 10-key pad confirmed at Step9.

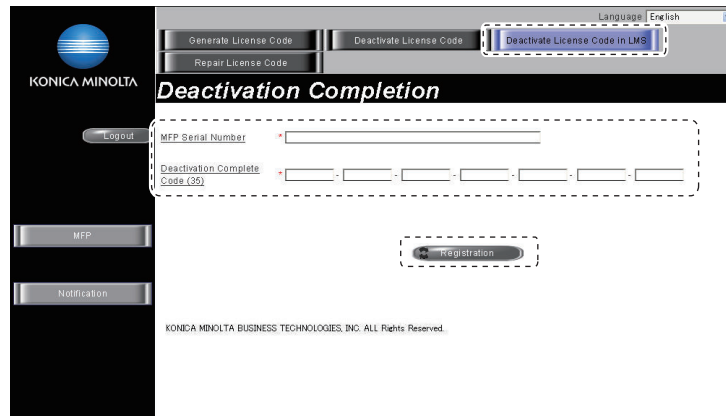
NOTE

- Do not use [Download]. In this machine, you cannot enable the advanced functions using a USB memory device.

- 13. Select [EXCUTE] and press the Select key.
- 14. Write down or print out the serial number and deactivation complete code.
- 15. Follow the message appearing on the screen and turn OFF and ON the main power switch.
- 16. Access to the LMS and login again.
For detail of the login method, refer to step 2 to step4.
- 17. Click [Deactivate License Code in LMS].
- 18. Enter the serial number and the deactivation complete code confirmed at step13.

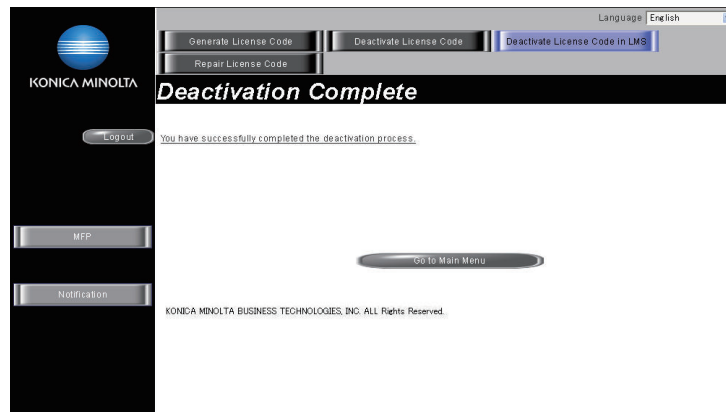
NOTE

- Make sure to enter alphabet letters of the serial number in all capital letters.



19. "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.



5.3.6 License Management - Deac. Compl. Code

(1) Functions

- To display the deactivation finish code and the serial number.
- To print the deactivation finish code and the serial number.

(2) Use

- To check the deactivation finish code and the serial number.

5.3.7 License Management - List EnabledFunc

(1) Functions

- To display activated functions.

(2) Use

- To check the activated functions.

5.4 Admin. Password

5.4.1 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 one-byte alphanumeric characters and symbols.

5.4.2 Default setting

- 12345678

5.4.3 Procedure

- Enter the password.
 1. New Password: Enter the new administrator password.
 2. Re-Input Password: Enter the new administrator password again.

5.5 CE Password

5.5.1 Use

- To set and change the CE password.
- The CE password needs to be 8 one-byte alphanumeric characters and symbols.

5.5.2 Default setting

- 92729272

5.5.3 Procedure

- Enter the password.
 1. PASSWORD: Enter the new CE password.
 2. PW CONFIRMATION: Enter the new CE password again.

NOTE

- **Exiting the service mode after the change of the passwords validates the new password.**
- **NEVER forget the CE password. When forgetting the CE password, call responsible person of KM.**

J REWRITING OF FIRMWARE

1. Checking the current firmware version

1. Display [SERVICE MODE].
2. Display [FIRMWARE VERSION].



3. Select the firmware to be updated and check the current version.
[I.4.3 FIRMWARE VERSION](#)

2. Firmware upgrading procedure by USB memory device

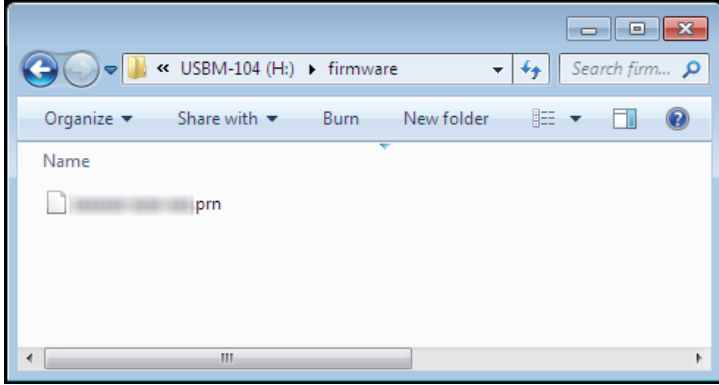
2.1 Preparations for firmware rewriting

2.1.1 System requirements

- PC equipped with a USB port
- USB memory device

2.1.2 Saving the firmware data into the USB memory device

1. Save the firmware data in appropriate space in the PC.
2. Connect the USB memory device to the PC.
3. Create a "firmware" folder immediately under the drive of the USB memory device.
4. Copy the firmware data (*.prn) in the firmware folder created in step 3.



NOTE

- Be sure to save the firmware data in "drive:/firmware/**/*.prn."
- The printer can display up to 20 files of firmware data during upgrading.

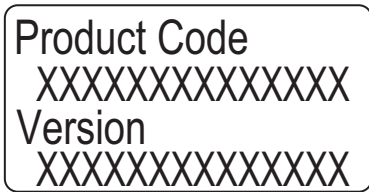
2.2 How to write firmware data

1. Turn the power switch ON.
2. Connect the USB memory device to the printer.
3. Call the SERVICE MODE to the display.
4. Select [FIRMWARE UPDATE] and press the Menu/Select key.
5. A list of firmware data in the USB memory device is displayed.



NOTE

- Before upgrading firmware, use [VIEW INFORMATION] to check that the firmware data is correct.



6. Press the back key.
7. Select the specific firmware data to be upgraded and press the Menu/Select key.
8. Select [EXECUTE] and press the Menu/Select key.



9. Select [EXECUTE] and press the Menu/Select key.



10. The firmware upgrading procedure starts.

NOTE

- **Do not turn off the printer while its firmware is being updated.**
- **NEVER disconnect the USB memory device from the printer during the firmware upgrading procedure.**

11. The printer is automatically restarted as soon as the firmware is upgraded correctly.

3. Checking the version after the firmware update

1. Display [SERVICE MODE].
2. Display [FIRMWARE VERSION].



3. Select the firmware that has been updated and check the current version.

[I.4.3 FIRMWARE VERSION](#)

4. How to install the i-Option data

4.1 Available function for i-Option

i-Option	Function	Data location	How to recover when replacing or formatting HDD.
LK-106	Barcode font	In the Standard firmware	n/a
LK-107	Unicode font	In the Standard HDD	LK-107/LK-108 font data installation procedure
LK-108	OCR font	In the Standard HDD	
LK-111	Enhancing external linkage (supported by ThinPrint)	In the Standard firmware	n/a

4.2 LK-107/LK-108 font data installation procedure

Installing procedure of the font data

4.2.1 When the font data is *****.pdf** format file

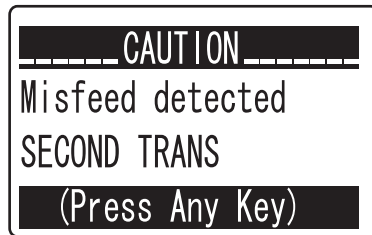
1. Prepare an USB memory.
2. Copy the font data to the root directory of the USB memory.
 - OCR font: download_OCRA-0.pdf
 - Unicode font: download_Andale_J-0.pdf, download_Andale_K-0.pdf, download_Andale_S-0.pdf, download_Andale_T-0.pdf
3. Turn ON the main power switch, and connect the USB memory to the USB port.
4. Touch [MEMORY DIRECT] -> [LIST OF FILES].
5. Select a font file to install from the file list, touch the [Print].
6. When the data indicator stops blinking, the installation is completed.
7. Touch [PRINT REPORTS] -> [HDD DDIRECTORY] to print out a HDD Directory 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

K TROUBLESHOOTING

1. JAM DISPLAY

1.1 JAM display

- When the paper jam occurred, the message is displayed on the control panel.



1.2 List of JAM display

Display			Jam location	Jam processing location	Action
LCD 1	LCD 2	Factory code (Management List) *2			
Misfeed detected	FUSER/ EXIT	8	• Fusing/exit section	• Right side cover • Fusing unit	K.1.4.2 Jam at fusing/exit section
	SECOND TRANS	7	• Transfer section	• Right side cover	K.1.4.3 Jam at transfer section
	VERTICAL TRANS	6	• Vertical transport	• Right side cover • Tray2 right side cover	K.1.4.7 Jam at tray2 vertical conveyance section
	DUPLEX1	4	• Duplex paper feed section	• Duplex door	K.1.4.9 Jam at duplex paper feed section
	DUPLEX2	5	• Duplex transport section		K.1.4.8 Jam at duplex paper transport section
	MANUAL	0	• Manual tray paper feed	• Manual feed tray • Right side cover	K.1.4.4 Jam at manual tray paper feed section
	TRAY1	1	• Tray1 paper feed	• Tray1 • Right side cover	K.1.4.5 Jam at tray1 paper feed section
	TRAY2 *1	2	• Tray2 paper feed • Vertical transport	• Tray2 • Tray2 right side cover	K.1.4.6 Jam at tray2 paper feed section K.1.4.7 Jam at tray2 vertical conveyance section
Misfeed DF		001	• DF section	• DF cover	K.1.4.10 Jam at DF section
Service Call: F001		19	• Paperjam in control logic	-	K.1.4.11 Paper jam in control logic

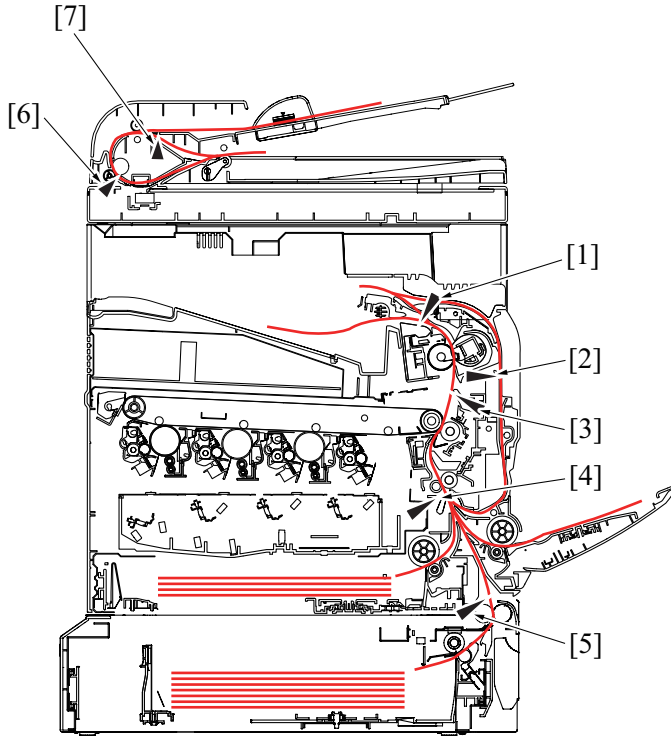
- *1: Only when the optional paper feed unit is mounted.
- *2: Indicates the factory codes for "JAM History at ADF" and "JAM History at Print" that are described on the third page of [Service Mode] -> [PRINT MENU] -> [\[Management List\]](#).

1.2.1 JAM display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.
- Turn OFF the power switch and then ON.

1.3 Sensor layout

- When the optional paper feed unit is installed.



[1]	Exit sensor (PS8)	[2]	Duplex conveyance sensor (PS9)
[3]	Loop detection sensor (PS6)	[4]	Registration sensor (PS5)
[5]	Tray2 paper feed sensor (PS3) *	[6]	Document read sensor (PS102)
[7]	Document loop sensor (PS103)	-	-

• *: Only when the optional paper feed unit is installed.

1.4 Solution

1.4.1 Initial check items

• When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct user on proper paper storage.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path or replace the part on the paper path if necessary.
Are rolls/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.

1.4.2 Jam at fusing/exit section

(1) Detection timing

JAM type	Detection timing
Detection of jam at fusing/exit section	<ul style="list-style-type: none"> • The exit sensor (PS8) is not blocked even after the lapse of a given period of time after the paper has unblocked the exit sensor (PS8). • The exit sensor (PS8) is blocked even before the lapse of a given period of time after the paper has unblocked the exit sensor (PS8).
Detection of paper left in fusing/exit section	<ul style="list-style-type: none"> • The exit sensor (PS8) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a jam or malfunction is reset.

(2) Action

Relevant electrical parts	
<ul style="list-style-type: none"> • Exit sensor (PS8) • Duplex conveyance roller clutch (CL13) 	<ul style="list-style-type: none"> • Printer control board (PRCB) • Transport motor (M2)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS8-PRCB CN15 for proper connection and correct as necessary.	-	-
5	Check the connector between CL13-relay CN20-PRCB CN14 for proper connection and correct as necessary.	-	-
6	PS8 sensor check	PRCB CN15-9 (ON)	15-I
7	CL13 operation check	PRCB CN14-5 (REM)	7-C
8	M2 operation check	PRCB CN11-10 to 13	15-C
9	Replace PRCB.	-	-

- [Link to the wiring diagram \(N.1. bizhub C3110\)](#)

1.4.3 Jam at transfer section

(1) Detection timing

JAM type	Detection timing
Detection of jam at transfer section	<ul style="list-style-type: none"> • The registration sensor (PS5) is not blocked even after the lapse of a given period of time after the registration roller driving is started. • The paper does not unblock the exit sensor (PS8) even after the lapse of a given period of time after the registration roller driving is started.
Detection of paper left in transfer section	<ul style="list-style-type: none"> • The registration sensor (PS5) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a jam or malfunction is reset. • The loop detection sensor (PS6) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a jam or malfunction is reset.

(2) Action

Relevant electrical parts	
<ul style="list-style-type: none"> • Registration sensor (PS5) • Exit sensor (PS8) • Loop detection sensor (PS6) 	<ul style="list-style-type: none"> • Printer control board (PRCB) • Transport motor (M2) • Loop detection clutch (CL8)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB CN23 for proper connection and correct as necessary.	-	-
5	Check the connector between PS6-PRCB CN24 for proper connection and correct as necessary.	-	-
6	Check the connector between PS8-PRCB CN15 for proper connection and correct as necessary.	-	-
7	Check the connector between CL8-relay CN2-PRCB CN7 for proper connection and correct as necessary.	-	-
8	PS5 sensor check	PRCB CN23-3 (ON)	15-L
9	PS8 sensor check	PRCB CN15-9 (ON)	15-I
10	PS6 sensor check	PRCB CN24-3 (ON)	7-C
11	CL8 operation check	PRCB CN7-2 (REM)	15-C
12	M2 operation check	PRCB CN11-10 to 13	15-C
13	Replace PRCB.	-	-

- [Link to the wiring diagram \(N.1. bizhub C3110\)](#)

1.4.4 Jam at manual tray paper feed section

(1) Detection timing

JAM type	Detection timing
Detection of jam at manual traypaper feed section	• The paper does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the manual tray paper feed clutch (CL2) is turned ON.

(2) Action

Relevant electrical parts			
• Registration sensor (PS5)		• Printer control board (PRCB)	
• Manual tray paper feed clutch (CL2)		• Transport motor (M2)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB CN23 for proper connection and correct as necessary.	-	-
5	Check the connector between CL2 -relay CN18-PRCB CN16 for proper connection and correct as necessary.	-	-
6	PS5 sensor check	PRCB CN23-3 (ON)	15-L
7	CL2 operation check	PRCB CN16-7 (REM)	7-B
8	M2 operation check	PRCB CN11-10 to 13	15-C
9	Replace PRCB.	-	-

- [Link to the wiring diagram \(N.1. bizhub C3110\)](#)

1.4.5 Jam at tray1 paper feed section

(1) Detection timing

JAM type	Detection timing
Detection of jam at tray1 paper feed section	• The paper does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the tray1 paper feed clutch (CL1) is turned ON.

(2) Action

Relevant electrical parts			
• Registration sensor (PS5)		• Printer control board (PRCB)	
• Tray1 paper feed clutch (CL1)		• Transport motor (M2)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB CN23 for proper connection and correct as necessary.	-	-
5	Check the connector between CL1-relay CN16-PRCB CN16 for proper connection and correct as necessary.	-	-
6	PS5 sensor check	PRCB CN23-3 (ON)	15-L
7	CL1 operation check	PRCB CN16-2 (REM)	7-A
8	M2 operation check	PRCB CN11-10 to 13	15-C
9	Change PRCB.	-	-

- [Link to the wiring diagram \(N.1. bizhub C3110\)](#)

1.4.6 Jam at tray2 paper feed section

(1) Detection timing

JAM type	Detection timing
Detection of jam at tray2 paper feed section	• The paper does not unblock the tray2 paper feed sensor (PS3) even after the lapse of a given period of time after the tray2 paper feed clutch (CL1) is turned ON.

JAM type	Detection timing
Detection of paper left in tray2 paper feed section	<ul style="list-style-type: none"> The tray2 paper feed sensor (PS3) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a jam or malfunction is reset.

(2) Action

Relevant electrical parts			
<ul style="list-style-type: none"> Tray2 paper feed sensor (PS3) Tray2 paper feed clutch (CL1) Printer control board (PRCB) 		<ul style="list-style-type: none"> PC control board (PCCB) Tray2 paper feed motor (M1) 	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M1-PCCB PJ3 for proper connection and correct as necessary.	-	-
3	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS3-PCCB PJ5 for proper connection and correct as necessary.	-	-
5	Check the connector between CL1-relay CN57-PCCB PJ15 for proper connection and correct as necessary.	-	-
6	PS3 sensor check	PCCB PJ5-3 (ON)	2-I
7	CL1 operation check	PCCB PJ5-8 (REM)	2-I
8	M1 operation check	PCCB PJ3-4 to 8	2-K to L
9	Check the connector between PCCB PJ1-relay CN53-PRCB CN25 for proper connection and correct as necessary.	-	-
10	Replace PCCB.	-	-
11	Replace PRCB.	-	-

- Link to the wiring diagram ([N.1. bizhub C3110](#))

1.4.7 Jam at tray2 vertical conveyance section**(1) Detection timing**

JAM type	Detection timing
Detection of jam at tray2 vertical section	<ul style="list-style-type: none"> The paper does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the paper has unblocked the tray2 paper feed sensor (PS3). The paper does not block the tray2 paper feed sensor (PS3) even after the lapse of a given period of time after the paper has unblocked the tray2 paper feed sensor (PS3).

(2) Action

Relevant electrical parts			
<ul style="list-style-type: none"> Tray2 paper feed sensor (PS3) Tray2 paper feed clutch (CL1) Registration sensor (PS5) 		<ul style="list-style-type: none"> Printer control board (PRCB) PC control board (PCCB) Tray2 paper feed motor (M1) 	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M1-PCCB PJ3 for proper connection and correct as necessary.	-	-
3	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB CN23 for proper connection and correct as necessary.	-	-
5	Check the connector between PS3-PCCB PJ5 for proper connection and correct as necessary.	-	-
6	Check the connector between CL1-relay CN57-PCCB PJ15 for proper connection and correct as necessary.	-	-
7	Check the connector between PCCB PJ1-relay CN53-PRCB CN25 for proper connection and correct as necessary.	-	-
8	PS3 sensor check	PCCB PJ5-3 (ON)	2-H to I
9	PS5 sensor check	PRCB CN23-3 (ON)	15-L
10	CL1 operation check	PCCB PJ5-8 (REM)	2-I

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
11	M1 operation check	PCCB PJ3-4 to 8	2-K to L
12	Replace PCCB.	-	-
13	Replace PRCB.	-	-

- [Link to the wiring diagram \(N.1. bizhub C3110\)](#)

1.4.8 Jam at duplex paper transport section

(1) Detection timing

JAM type	Detection timing
Detection of jam at duplex paper transport section	<ul style="list-style-type: none"> • The duplex conveyance sensor (PS9) is not blocked even after the lapse of a given period of time after the paper has unblocked PS9. • The duplex conveyance sensor (PS9) is not unblocked even after the lapse of a given period of time after the paper has blocked the exit sensor (PS8).
Detection of paper left at duplex paper transport section	<ul style="list-style-type: none"> • The duplex conveyance sensor (PS9) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a jam or malfunction is reset.

(2) Action

Relevant electrical parts	
<ul style="list-style-type: none"> • Exit sensor (PS8) • Duplex conveyance sensor (PS9) • Duplex conveyance roller clutch (CL13) 	<ul style="list-style-type: none"> • Printer control board (PRCB) • Transport motor (M2)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS8-PRCB CN15 for proper connection and correct as necessary.	-	-
5	Check the connector between PS9-PRCB CN14 for proper connection and correct as necessary.	-	-
6	Check the connector between CL13-relay CN20-PRCB CN14 for proper connection and correct as necessary.	-	-
7	PS8 sensor check	PRCB CN15-9 (ON)	15-I
8	PS9 sensor check	PRCB CN14-3 (ON)	7-B
9	CL13 operation check	PRCB CN14-5 (REM)	7-C
10	M2 operation check	PRCB CN11-10 to 13	15-C
11	Replace PRCB.	-	-

- [Link to the wiring diagram \(N.1. bizhub C3110\)](#)

1.4.9 Jam at duplex paper feed section

(1) Detection timing

JAM type	Detection timing
Detection of jam at duplex paper feed section	<ul style="list-style-type: none"> • The paper does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the paper feed sequence has been started at the duplex.

(2) Action

Relevant electrical parts	
<ul style="list-style-type: none"> • Registration sensor (PS5) • Duplex conveyance roller clutch (CL13) 	<ul style="list-style-type: none"> • Printer control board (PRCB) • Transport motor (M2)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
3	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS5-PRCB CN23 for proper connection and correct as necessary.	-	-

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
5	Check the connector between CL13-relay CN20-PRCB CN14 for proper connection and correct as necessary.	-	-
6	PS5 sensor check	PRCB CN23-3 (ON)	15-L
7	CL13 operation check	PRCB CN14-5 (REM)	7-C
8	M2 operation check	PRCB CN11-10 to 13	15-C
9	Replace PRCB.	-	-

- [Link to the wiring diagram \(N.1. bizhub C3110\)](#)

1.4.10 Jam at DF section

(1) Detection timing

JAM type	Detection timing
Detection of jam at DF section	<ul style="list-style-type: none"> • The original does not block the document read sensor (PS102) even after the lapse of a given period of time after the original feed is started. • The original does not block the document read sensor (PS102) even after the lapse of a given period of time after the original blocks the document loop sensor (PS103). • When the preceding page of the original blocks and then unblocks the document read sensor (PS102), the subsequent page of the original does not block the document loop sensor (PS103). • The original does not block the document read sensor (PS102) even after the lapse of a given period of time after the original is fed again. • The original blocks the document read sensor (PS102) longer than a given period of time. • When the power switch is turned ON, the document read sensor (PS102) or document loop sensor (PS103) is blocked.

(2) Action

Relevant electrical parts	
<ul style="list-style-type: none"> • Document read sensor (PS102) • Document loop sensor (PS103) • MFP board (MFPB) 	<ul style="list-style-type: none"> • DF transport motor (M100) • Scanner unit

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Initial check items	-	-
2	Check the connector between M100-MFPB CN104 for proper connection and correct as necessary.	-	-
3	Check the M100 connector for proper drive coupling and correct as necessary.	-	-
4	Check the connector between PS103-MFPB CN105 for proper connection and correct as necessary.	-	-
5	Check the connector between PS102-MFPB CN105 for proper connection and correct as necessary.	-	-
6	PS103 sensor check	MFPB CN105-9 (ON)	9-I
7	PS102 sensor check	MFPB CN105-6 (ON)	9-I
8	M100 operation check	MFPB CN104-1 to 4	9-H
9	Replace MFPB.	-	-
10	Replace DF.	-	-

- [Link to the wiring diagram \(N.1. bizhub C3110\)](#)

1.4.11 Paper jam in control logic

(1) Detection timing

JAM type	Detection timing
Detection of controller JAM	<ul style="list-style-type: none"> • A duplex print job is sent with the number of pages that goes beyond the maximum number of pages allowed to be in the printer for the selected paper type. • When trying to feed duplex paper though there is no paper to be fed to the duplex print unit. • When printing is directed with the duplex print unit selected as a paper source and an exit paper set to be fed to the duplex unit. • While two sheets of paper are in the printer, printing is directed with normal paper feed settings other than a duplex paper feed setting. • In duplex printing, a size error occurs.

(2) Action

Relevant electrical parts			
• Print control board (PRCB)		• MFP board (MFPB)	
Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check printer driver settings.	-	-
2	Replace PRCB.	-	-
3	Replace MFPB.	-	-

2. PROCESS CAUTION INFORMATION

2.1 Display procedure

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the process caution information in the report that is output by [Service Mode] -> [PRINT MENU] -> [Management List].
- When receiving the process caution information, user can continue printing. However, as the information indicates that some error has occurred in the image stabilization process, the error must be addressed rapidly.

2.2 List

- If an image stabilization fault occurs, the process caution information is provided.

Item	
LD Error	The DETOUT signal of the LD drive detected malfunction consecutively for the predetermined frequency.
IDC Sensor Error	IDC sensor output values are out of the specified range.
C IU Error	The amount of toner of each test pattern is lower than the lower limit value of the effective range.
M IU Error	
Y IU Error	
K IU Error	
Color Registration Adj. (Test Pattern Error)	
Color Registration Adj. (Adj. Value Error)	<ul style="list-style-type: none"> • The color shift amount is greater than the specified range during main scan direction registration correction. • The color shift amount is greater than the specified range during sub scan direction registration correction.
Lamp lights on and AFE gain adjustment failure	A warning message is displayed when it is detected that the lamp lights on and AFE gain adjustment value is faulty.

2.3 Solution

2.3.1 LD Error

(1) Contents

Relevant parts
<ul style="list-style-type: none"> • Laser diode/Y • Laser diode/M • Laser diode/C • Laser diode/K • PH unit • MFP board (MFPB) • Printer control board (PRCB)

(2) Procedure

Step	Action
1	Replace the PH unit.
2	Replace MFPB.
3	Replace PRCB.

2.3.2 IDC Sensor Error

(1) Contents

Relevant parts
<ul style="list-style-type: none"> • IDC sensor (IDC) • Transfer belt unit • Printer control board (PRCB) • High voltage unit (HV1)

(2) Procedure

Step	Action
1	Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2	Change the image transfer belt unit if the transfer belt is damaged.
3	Reinstall or reconnect IDC or connector, if it is installed or connected improperly.
4	Clean IDC if it is dirty.
5	Check the HV1 connector for proper connection and correct as necessary.
6	Replace IDC.

Step	Action
7	Replace PRCB.

2.3.3 C IU Error, M IU Error, Y IU Error, K IU Error

(1) Contents

Relevant parts
<ul style="list-style-type: none"> • Imaging unit/Y,M,C,K • IDC sensor (IDC) • Printer control board (PRCB) • High voltage unit (HV1) • Transfer belt unit

(2) Procedure

Step	Action
1	Select [Imaging ProcessAdj] -> [IMG ADJ THICK] and, if the setting value is negative, readjust.
2	Check the drive transmission portion of the imaging unit and correct as necessary.
3	Clean IDC window if dirty.
4	Clean the contact of the imaging unit connector if dirty.
5	Check the HV1 connector for proper connection and correct as necessary.
6	Replace the imaging unit.
7	Replace the transfer belt unit.
8	Replace HV1.
9	Replace PRCB.

2.3.4 Color Registration Adj. (Test Pattern Error)

(1) Contents

Relevant parts
<ul style="list-style-type: none"> • Transfer belt unit • PH unit • Printer control board (PRCB) • MFP board (MFPB)

(2) Procedure

Step	Action
1	Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
2	Change the image transfer belt unit if the transfer belt is damaged.
3	Replace PH unit.
4	Replace MFPB.
5	Replace PRCB.

2.3.5 Color Registration Adj. (Adj. Value Error)

(1) Contents

Relevant parts
<ul style="list-style-type: none"> • IDC sensor (IDC) • Printer control board (PRCB)

(2) Procedure

Step	Action
1	Slide out the imaging unit and reinstall it in position.
2	Reinstall or reconnect IDC if it is installed or connected improperly.
3	Change IDC.
4	Change PRCB.

2.3.6 Lamp lights on and AFE gain adjustment failure

(1) Contents

Relevant parts
<ul style="list-style-type: none"> • Scanner unit • MFP board (MFPB)

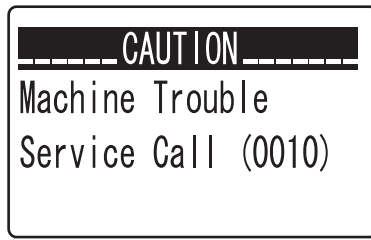
(2) Procedure

Step	Action
1	Correct the harness connection between the scanner unit and MFPB CN102 if faulty.
2	Check for possible extraneous light and correct as necessary.
3	Clean the lens, mirrors, AFE surface, and shading sheet if dirty.
4	Correct reflective mirror of the scanner if faulty, or change scanner mirror.
5	Replace the scanner unit.
6	Replace MFPB.

3. TROUBLE CODE

3.1 Trouble code (Service Call)

- 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

- To reset a malfunction, turn the power switch OFF and then ON again.

3.3 List of the trouble code

Code	Item	Rank
0010	Color PC drum motor malfunction	C
0017	Transport motor malfunction	C
0018	Developing motor malfunction	C
004A	Cooling fan motor malfunction	C
004E	DC power supply fan motor malfunction	C
0062	Tray2 paper feed motor malfunction	C
0094	2nd transfer pressure / retraction failure	C
0096	1st transfer pressure/retraction failure	C
0101	Power malfunction	C
0300	Polygon motor malfunction	C
0310	Laser malfunction	C
0315	PH board communication error	C
0500	Heating roller warm-up failure	C
0502	Thermistor open-circuit failure	C
0503	Thermistor resistance failure	C
0510	Abnormally low heating roller temperature	C
0520	Abnormally high heating roller temperature	C
0F52	Toner level sensor/Y malfunction	C
0F53	Toner level sensor/M malfunction	C
0F54	Toner level sensor/C malfunction	C
0F55	Toner level sensor/K malfunction	C
13C4	Imaging unit/C new article release	C
13C5	Imaging unit/M new article release	C
13C6	Imaging unit/Y new article release	C
13C7	Imaging unit/K new article release	C
13CB	Toner cartridge/C new release failure	C
13CC	Toner cartridge/M new release failure	C
13CD	Toner cartridge/Y new release failure	C
13CE	Toner cartridge/K new release failure	C
13DD	Backup data error	C
13E2	Engine flash ROM device fault	C
13E3	Engine flash ROM download communication error	C
13F0	Engine control failure	C
3C00	EEPROM fault 1 (main body)	C
3C10	EEPROM fault 2 (main body)	C
4091	Engine communication error	C
4092	Interface communication error	C
4901	FW/OS integrity verification error	C
6751	Lamp lights on and AFE gain adjustment failure	C
6790	AFE offset adjustment error	C
6791	AFE register setting error	C

Code	Item	Rank
6792	White reference plate search error	C
6793	Scanner communication error	C
9401	Exposure lamp lighting failure detected	C
B001	FAX board error 1	C
B002	FAX board error 2	C
B003	FAX board error 3	C
B051	FAX board installation error (Line 1)	C
B110	Instance generation error or observer registration error	C
B111	Configuration space initialization NG	C
B112	Semaphore acquisition, release error	C
B113	Sequence error among main body tasks	C
B114	Message queue control error	C
B115	Main body - sequence error among FAX boards	C
B116	Communication fault between controller and FAX board	C
B117	ACK waiting timeout error	C
B118	Receiving undefined frame	C
B119	DMA transfer error	C
B120	Soft error	C
B122	Device error (GA LOCAL SRAM)	C
B123	Device error (DRAM)	C
B125	Device error (GA)	C
B126	Timeout error due to non-response from codec control during suspension process	C
B127	Timeout error due to non-response from communication control during suspension process	C
B128	Timeout error due to non-response from LINE control during suspension process	C
B129	Timeout error due to non-response from file system/file driver during suspension process	C
B130	Driver soft error	C
B131	Reception frame length error from main	C
B132	Reception frame header error from main	C
B133	232C I/F sequence error	C
B134	DPRAM I/F sequence error	C
B135	DPRAM CTL/STS register error	C
B136	ACK waiting timeout	C
B137	DPRAM RESET reception	C
B140	MSG I/F error with job control	C
B141	I/F error with driver	C
B142	Undefined command reception	C
B143	Command frame length error	C
B144	Command parameter length error	C
B145	Undefined parameter	C
B146	Command/response sequence error	C
B150	External class instance acquisition error	C
B151	Job start error (starting job parameter error/child job generation error)	C
B152	Doc access error (report buf access error)	C
B153	Response wait timeout from external task	C
B154	Internal que table control error (create/enque/deque)	C
B160	Instance generation error	C
B161	Timeout error	C
B162	Interface error	C
B163	Message que control error	C
B164	Semaphore acquisition release error	C
B165	Observer registration error	C
B166	Reception resource check error	C
B167	Deployment error of sending image information	C
B168	Serialization error of receiving image	C
B169	Access error to quick memory data	C
B170	Internal que table control error (create/enque/deque)	C

Code	Item	Rank
B171	Instance generation error	C
B172	Timeout error	C
B173	Interface error	C
B174	Semaphore acquisition release error	C
B175	Observer registration error	C
B176	Unable to secure TTI domain	C
B177	Error return from TTI rasterizer	C
B178	Receiving job generation error	C
B179	Sequence control error (line specification fault, status mismatch, event mismatch)	C
B180	Access error to quick sending memory data	C
B181	BlockBuff acquisition error	C
B182	Sending block image error (Req, restore)	C
B183	Receiving block image error (Req, store)	C
B184	Storage error of receiving image information	C
B185	Receiving data size logic error (Receiving data are not multiples of dotline)	C
B186	ImageBuf acquisition (alloc) error	C
B187	Error return from compressor	C
B188	BandBuf control error (newInstance/get/free)	C
B190	USB IF error (OS notifies an error during configuration setting after recovery from the sleep or attach.)	C
B191	USB IF error (EndPoint1: Bulk Out (command, transmitted image data)) (error retry 1 min. timeout)	C
B192	USB IF error (EndPoint2: Bulk In (response, received image data)) (error retry 5 sec. timeout)	C
B193	USB IF error (EndPoint3: Interrupt In (fax board status)) (error retry 1 min. timeout)	C
B194	USB IF error (EndPoint4: Bulk Out (main body status)) (error retry 3 sec. timeout)	C
B195	USB IF error (Attach not detected for 1 min. after recovery from sleep)	C
B196	USB IF error (Detach not detected for 1 min. after recovery from sleep)	C
C151	ROM contents error upon startup (MSC)	C
C161	Firmware update error	C
C164	ROM contents error (MSC)	C
D004	Hard disk access error (connection failure)	C
D091	Hard disk full error	C
D092	No hard disk (found during a disk check)	C
D093	Wrong hard disk (found during a disk check)	C
D094	Hard disk check disk error	C
D095	Hard disk recovered (requiring reboot)	C
D096	Hard disk access fault	C
D0A2	No SSD board (found during a disk check)	C
D0A3	Wrong SSD board (found during a disk check)	C
D0A4	SSD board check disk error	C
D0A5	SSD board recovered (requiring reboot)	C
D0A6	SSD board access fault	C
D110	Wireless LAN destination initialization error	C
D262	Extension network adapter installation error	C
D2B1	Controller ROM data error	C
D3A2	Counter error	C
D3F1	Successful completion of counter backup	C
D3F2	Write error of the counter area (NVRAM)	C
D3F3	Write error of the counter area (SSD)	C
D3F4	Copy write error of the counter area	C
D501	FLASH error	C
E301	Error signal reception (Referring incorrect memory)	C
E302	Error signal reception (Incorrect command)	C
E303	Error signal reception (Finished due to error inside Qt library)	C
E304	Error signal reception (Finished due to error outside Qt library)	C
E305	Error signal reception (Program forced to stop)	C

Code	Item	Rank
F###	Trouble code (F###) is referred to as abort code. For details of abort code, refer to "K.4. ABORT CODE".	C

3.4 Solution

3.4.1 0010

(1) Contents

Trouble type	Color PC drum motor malfunction
Trouble code	0010
Rank	C
Detection timing	<ul style="list-style-type: none"> The color PC drum motor does not rotate evenly even after the lapse of a given period of time while it is being started. The motor lock signal remains HIGH for a given period of consecutive time while the color PC drum motor is being rotated.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> Color PC drum motor (M4) Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between M4-PRCB CN12 for proper connection and correct as necessary.	-	-
2	Check the M4 connector for proper drive coupling and correct as necessary.	-	-
3	M4 operation check	PRCB CN12-3 to 6	13-E
4	Replace M4.	-	-
5	Replace PRCB.	-	-

- Link to the wiring diagram ([N.1. bizhub C3110](#))
- Link to the layout drawings for related parts by each trouble code ([S.1. 0010](#))

3.4.2 0017

(1) Contents

Trouble type	Transport motor malfunction
Trouble code	0017
Rank	C
Detection timing	<ul style="list-style-type: none"> The transport motor does not rotate evenly even after the lapse of a given period of time while it is being started. The motor lock signal remains HIGH for a given period of consecutive time while the transport motor is being rotated.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> Transport motor (M2) Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	M2 operation check	PRCB CN11-10 to 13	13-B to C
4	Replace M2.	-	-
5	Replace PRCB.	-	-

- Link to the wiring diagram ([N.1. bizhub C3110](#))
- Link to the layout drawings for related parts by each trouble code ([S.2. 0017](#))

3.4.3 0018

(1) Contents

Trouble type	Developing motor malfunction
Trouble code	0018
Rank	C
Detection timing	<ul style="list-style-type: none"> The developing motor does not rotate evenly even after the lapse of a given period of time while it is being started.

	<ul style="list-style-type: none"> The motor lock signal remains HIGH for a given period of consecutive time while the developing motor is being rotated.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> Developing motor (M1) Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between M1-PRCB CN11 for proper connection and correct as necessary.	-	-
2	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
3	M1 operation check	PRCB CN11-3 to 6	13-B
4	Replace M1.	-	-
5	Replace PRCB.	-	-

- Link to the wiring diagram ([N.1. bizhub C3110](#))
- Link to the layout drawings for related parts by each trouble code ([S.3. 0018](#))

3.4.4 004A**(1) Contents**

Trouble type	Cooling fan motor malfunction
Trouble code	004A
Rank	C
Detection timing	<ul style="list-style-type: none"> The cooling fan motor does not rotate evenly even after the lapse of a given period of time while it is being started. The motor lock signal remains HIGH for a given period of consecutive time while the cooling fan motor is being rotated.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> Cooling fan motor (FM11) Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between FM11-relay CN29-PRCB CN10 for proper connection and correct as necessary.	-	-
2	Check the fan for possible overload and correct as necessary.	-	-
3	FM11 operation check	PRCB CN10-5 (REM) PRCB CN10-7 (LOCK)	5-E
4	Replace FM11.	-	-
5	Replace PRCB.	-	-

- Link to the wiring diagram ([N.1. bizhub C3110](#))
- Link to the layout drawings for related parts by each trouble code ([S.4. 004A](#))

3.4.5 004E**(1) Contents**

Trouble type	DC power supply fan motor malfunction
Trouble code	004E
Rank	C
Detection timing	<ul style="list-style-type: none"> The DC power supply fan motor does not rotate evenly even after the lapse of a given period of time while it is being started. The motor lock signal remains HIGH for a given period of consecutive time while the DC power supply fan motor is being rotated.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> DC power supply fan motor (FM10) Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between FM10-relay CN43-PRCB CN2 for proper connection and correct as necessary.	-	-

Step	Action	Control signal	Location of electrical components
2	Check the fan for possible overload and correct as necessary.	-	-
3	FM10 operation check	PRCB CN2-1 (REM) PRCB CN2-3 (LOCK)	13-J
4	Replace FM10.		
5	Replace PRCB.	-	-

- Link to the wiring diagram ([N.1. bizhub C3110](#))
- Link to the layout drawings for related parts by each trouble code ([S.5. 004E](#))

3.4.6 0062

(1) Contents

Trouble type	Tray2 paper feed motor malfunction		
Trouble code	0062		
Rank	C		
Detection timing	The motor lock signal remains HIGH for a given period of consecutive time while the tray2 paper feed motor is being rotated.		
Trouble isolation	-		
Relevant electrical parts	<When PF-P14 is installed>	<ul style="list-style-type: none"> • Tray2 paper feed motor (M1) • Printer control board (PRCB) • PC control board (PCCB) 	

(2) Procedure

When PF-P14 is installed

Step	Action	Control signal	Location of electrical components
1	Check the connector between M1-PCCB PJ3 for proper connection and correct as necessary.	-	-
2	Check the connector between PCCB PJ1-relay CN53-PRCB CN25 for proper connection and correct as necessary.	-	-
3	Check the M1 connector for proper drive coupling and correct as necessary.	-	-
4	M1 operation check	PCCB PJ3-4 to 8	2-K to L
5	Replace M1.	-	-
6	Replace PCCB.	-	-
7	Replace PRCB.	-	-

- Link to the wiring diagram ([N.1. bizhub C3110](#))
- Link to the layout drawings for related parts by each trouble code ([S.6. 0062](#))

3.4.7 0094

(1) Contents

Trouble type	2nd transfer pressure / retraction failure		
Trouble code	0094		
Rank	C		
Detection timing	<ul style="list-style-type: none"> • The IDC sensor does not come into the condition where the level detection is available within a given period of time after the 2nd transfer pressure solenoid has turned ON. • The IDC sensor does not come into the condition where the level detection is not available within a given period of time after the 2nd transfer pressure solenoid has turned ON. 		
Trouble isolation	-		
Relevant electrical parts	<ul style="list-style-type: none"> • IDC sensor (IDC) • Transport motor (M2) • 2nd transfer pressure solenoid (SD2) • Printer control board (PRCB) 		

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	Check the connector between IDC-PRCB CN19 for proper connection and correct as necessary.	-	-
4	Check the connector between SD2-relay CN23-PRCB CN24 for proper connection and correct as necessary.	-	-

Step	Action	Control signal	Location of electrical components
5	IDC sensor check	PRCB CN19-1 (IDC_D_LEFT) PRCB CN19-4 (IDC_CTL_LEFT)	13-K
6	SD2 operation check	PRCB CN24-6 (REM)	5-C
7	M2 operation check	PRCB CN11-10 to 13	13-B to C
8	Replace SD2.	-	-
9	Replace M2.	-	-
10	Replace IDC.	-	-
11	Replace PRCB.	-	-

- Link to the wiring diagram ([N.1. bizhub C3110](#))
- Link to the layout drawings for related parts by each trouble code ([S.7. 0094](#))

3.4.8 0096

(1) Contents

Trouble type	1st transfer pressure/retraction failure
Trouble code	0096
Rank	C
Detection timing	<ul style="list-style-type: none"> • The 1st transfer pressure sensor is not activated (retracted position) within a given period of time after the 1st transfer pressure solenoid has turned ON. • The 1st transfer pressure sensor is not deactivated (pressed position) within a given period of time after the 1st transfer pressure solenoid has turned ON.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • 1st transfer pressure sensor (PS17) • Transport motor (M2) • 1st transfer pressure solenoid (SD1) • Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between M2-PRCB CN11 for proper connection and correct as necessary.	-	-
2	Check the M2 connector for proper drive coupling and correct as necessary.	-	-
3	Check the connector between PS17-PRCB CN9 for proper connection and correct as necessary.	-	-
4	Check the connector between SD1-relay CN25-PRCB CN7 for proper connection and correct as necessary.	-	-
5	PS17 sensor check	PRCB CN9-6 (ON)	12 to 13-L
6	SD1 operation check	PRCB CN7-4 (REM)	13-D
7	M2 operation check	PRCB CN11-10 to 13	13-B to C
8	Replace SD1.	-	-
9	Replace M2.	-	-
10	Replace PRCB.	-	-

- Link to the wiring diagram ([N.1. bizhub C3110](#))
- Link to the layout drawings for related parts by each trouble code ([S.8. 0096](#))

3.4.9 0101

(1) Contents

Trouble type	Power malfunction
Trouble code	0101
Rank	C
Detection timing	When opening or closing the door and cover, a paper jam occurs, or the power is not supplied to the printer control board even after a specified period of time passed.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Front door sensor (PS10) • Right door sensor (PS11) • Front door switch (SW2) • Right door switch (SW3) • DC power supply (DCPU) • Printer control board (PRCB) • MFP board (MFPB) • PH unit

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between PS10-PRCB CN15 for proper connection and correct as necessary.	-	-
2	Check the connector between PS11-PRCB CN15 for proper connection and correct as necessary.	-	-
3	Check the connector between PRCB CN5-MFPB CN16 for proper connection and correct as necessary.	-	-
4	Check the connector between DCPU CN4-relay CN90-SW2-SW3-relay CN90-PRCB CN1 for proper connection and correct as necessary.	-	-
5	Check the connector between DCPU CN3-PRCB CN3 for proper connection and correct as necessary.	-	-
6	Check the connector between PRCB CN18-relay CN63-PH unit for proper connection and correct as necessary.	-	-
7	PS10 sensor check	PRCB CN15-3 (ON)	15-H
8	PS11 sensor check	PRCB CN15-6 (ON)	15-H
9	Replace PRCB.	-	-
10	Replace DCPU.	-	-
11	Replace the PH unit.	-	-
12	Replace MFPB.	-	-

- Link to the wiring diagram ([N.1. bizhub C3110](#))
- Link to the layout drawings for related parts by each trouble code ([S.9. 0101](#))

3.4.10 0300**(1) Contents**

Trouble type	Polygon motor malfunction
Trouble code	0300
Rank	C
Detection timing	<ul style="list-style-type: none"> • The polygon motor does not rotate evenly even after the lapse of a given period of time after it has been started. • The motor lock signal remains HIGH for a given period of consecutive time while the polygon motor is being rotated.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • PH unit • Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between PH unit-relay CN63-PRCB CN18 for proper connection and correct as necessary.	-	-
2	Replace PH unit.	-	-
3	Replace PRCB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.10. 0300, 0315](#))

3.4.11 0310**(1) Contents**

Trouble type	Laser malfunction
Trouble code	0310
Rank	C
Detection timing	The SOS signal is not detected within a given period of time after the output of the laser has been started.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • PH unit • Printer control board (PRCB) • MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between PH unit-relay CN63-PRCB CN18 for proper connection and correct as necessary.	-	-

Step	Action	Control signal	Location of electrical components
2	Check the connector between PH unit-MFPB CN15 for proper connection and correct as necessary.	-	-
3	Replace the PH unit.	-	-
4	Replace PRCB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.11. 0310](#))

3.4.12 0315

(1) Contents

Trouble type	PH board communication error
Trouble code	0315
Rank	C
Detection timing	<ul style="list-style-type: none"> • Mismatching of data being written and read occurs continuously for certain times during communication with the PH board. • The EEPROM of the PH board is not yet initialized.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Printer control board (PRCB) • PH unit

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between PRCB CN18-relay CN63-PH unit for proper connection and correct as necessary.	-	-
2	Replace the PH unit.	-	-
3	Replace PRCB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.10. 0300, 0315](#))

3.4.13 0500, 0502, 0503, 0510, 0520

(1) Contents

Trouble type	Heating roller warm-up failure
Trouble code	0500
Rank	C
Detection timing	The thermistor/1 does not detect the specified temperature and the warm-up cycle is not completed even after the lapse of a given period of time after the cycle has been started.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Fusing unit • Printer control board (PRCB) • DC power supply (DCPU)
Trouble type	Thermistor open-circuit failure
Trouble code	0502
Rank	C
Detection timing	The temperature detected by the thermistor/1 or thermistor/2 does not reach a predetermined level even after the lapse of a given period time after the warm-up cycle has been started.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Fusing unit • Printer control board (PRCB) • DC power supply (DCPU)
Trouble type	Thermistor resistance failure
Trouble code	0503
Rank	C
Detection timing	The difference between the temperature detected by thermistor/1 and that detected by thermistor/2 exceeds a predetermined value.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Fusing unit • Printer control board (PRCB) • DC power supply (DCPU)
Trouble type	Abnormally low heating roller temperature
Trouble code	0510
Rank	C
Detection timing	The temperature detected by the thermistor/1 or thermistor/2 remains lower than the specified value.
Trouble isolation	-

Relevant electrical parts	<ul style="list-style-type: none"> • Fusing unit • Printer control board (PRCB) • DC power supply (DCPU)
Trouble type	Abnormally high heating roller temperature
Trouble code	0520
Rank	C
Detection timing	The temperature detected by the thermistor/1 or thermistor/2 remains higher than the specified value.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Fusing unit • Printer control board (PRCB) • DC power supply (DCPU)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the fusing unit for correct installation (whether it is secured in position).	-	-
2	Check the connector between fusing unit-PRCB CN9 for proper connection and correct as necessary.	-	-
3	Check the connector between fusing unit-DCPU CN2 for proper connection and correct as necessary.	-	-
4	Replace the fusing unit.	-	-
5	Replace PRCB.	-	-
6	Replace DCPU.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.12. 0500, 0502, 0503, 0510, 0520](#))

3.4.14 0F52, 0F53, 0F54, 0F55

(1) Contents

Trouble type	Toner level sensor/Y malfunction
Trouble code	0F52
Rank	C
Detection timing	An error occurs on the toner level sensor/Y.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Toner level sensor/Y (PS13) • Printer control board (PRCB)
Trouble type	Toner level sensor/M malfunction
Trouble code	0F53
Rank	C
Detection timing	An error occurs on the toner level sensor/M.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Toner level sensor/M (PS14) • Printer control board (PRCB)
Trouble type	Toner level sensor/C malfunction
Trouble code	0F54
Rank	C
Detection timing	An error occurs on the toner level sensor/C.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Toner level sensor/C (PS15) • Printer control board (PRCB)
Trouble type	Toner level sensor/K malfunction
Trouble code	0F55
Rank	C
Detection timing	An error occurs on the toner level sensor/K.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Toner level sensor/K (PS16) • Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between each sensor-PRCB CN21 for proper connection and correct as necessary.	-	-

Step	Action	Control signal	Location of electrical components
2	Replace the toner level sensor of the corresponding color.	-	-
3	Replace PRCB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.13. 0F52, 0F53, 0F54, 0F55](#))

3.4.15 13C4, 13C5, 13C6, 13C7

(1) Contents

Trouble type	Imaging unit/C new article release
Trouble code	13C4
Rank	C
Detection timing	The status with the new unit is not cleared continuously for 3 times after the new imaging unit is set.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Imaging unit/C • Printer control board (PRCB)
Trouble type	Imaging unit/M new article release
Trouble code	13C5
Rank	C
Detection timing	The status with the new unit is not cleared continuously for 3 times after the new imaging unit is set.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Imaging unit/M • Printer control board (PRCB)
Trouble type	Imaging unit/Y new article release
Trouble code	13C6
Rank	C
Detection timing	The status with the new unit is not cleared continuously for 3 times after the new imaging unit is set.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Imaging unit/Y • Printer control board (PRCB)
Trouble type	Imaging unit/K new article release
Trouble code	13C7
Rank	C
Detection timing	The status with the new unit is not cleared continuously for 3 times after the new imaging unit is set.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Imaging unit/K • Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reinstall the imaging unit.	-	-
2	Check the connector between imaging unit-PRCB CN221 for proper connection and correct as necessary.	-	-
3	Replace the imaging unit.	-	-
4	Replace PRCB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.14. 13C4, 13C5, 13C6, 13C7](#))

3.4.16 13CB, 13CC, 13CD, 13CE

(1) Contents

Trouble type	Toner cartridge/C new release failure
Trouble code	13CB
Rank	C
Detection timing	The status with the new cartridge is not cleared continuously for 3 times after the new toner cartridge is set.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Toner cartridge/C • Printer control board (PRCB)
Trouble type	Toner cartridge/M new release failure
Trouble code	13CC
Rank	C
Detection timing	The status with the new cartridge is not cleared continuously for 3 times after the new toner cartridge is set.

Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Toner cartridge/M • Printer control board (PRCB)
Trouble type	Toner cartridge/Y new release failure
Trouble code	13CD
Rank	C
Detection timing	The status with the new cartridge is not cleared continuously for 3 times after the new toner cartridge is set.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Toner cartridge/Y • Printer control board (PRCB)
Trouble type	Toner cartridge/K new release failure
Trouble code	13CE
Rank	C
Detection timing	The status with the new cartridge is not cleared continuously for 3 times after the new toner cartridge is set.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Toner cartridge/K • Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reinstall the toner cartridge.	-	-
2	Check the connector between toner cartridge-PRCB CN82 for proper connection and correct as necessary.	-	-
3	Replace the toner cartridge.	-	-
4	Replace PRCB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.15. 13CB, 13CC, 13CD, 13CE](#))

3.4.17 13DD**(1) Contents**

Trouble type	Backup data error
Trouble code	13DD
Rank	C
Detection timing	The engine counter data and the controller counter data are inconsistent.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Printer control board (PRCB) • MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Select [SERVICE MODE] -> [BK CLEAR], and execute the BK Clear function.	-	-
2	Check the connector between MFPB CN16-PRCB CN5 for proper connection and correct as necessary.	-	-
3	Replace PRCB.	-	-
4	Replace MFPB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.16. 13DD, 4091, 4092](#))

3.4.18 13E2, 13E3**(1) Contents**

Trouble type	Engine flash ROM device fault
Trouble code	13E2
Rank	C
Detection timing	An erase error occurs during erasing of data in flash ROM.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Printer control board (PRCB) • MFP board (MFPB)
Trouble type	Engine flash ROM download communication error
Trouble code	13E3
Rank	C
Detection timing	Flash ROM writing is found faulty during a check.

Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Printer control board (PRCB) • MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Rewrite the engine firmware.	-	-
2	Replace PRCB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.17. 13E2, 13E3, 13F0, C164](#))

3.4.19 13F0**(1) Contents**

Trouble type	Engine control failure
Trouble code	13F0
Rank	C
Detection timing	An undefined malfunction occurs in the engine section (PRCB, etc.).
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Printer control board (PRCB) • MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.17. 13E2, 13E3, 13F0, C164](#))

3.4.20 3C00**(1) Contents**

Trouble type	EEPROM fault 1 (main body)
Trouble code	3C00
Rank	C
Detection timing	An EEPROM communication error of the main body occurs.
Trouble isolation	-
Relevant electrical parts	Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connectors on the PRCB for proper connection and correct any faulty connection as necessary.	-	-
2	Replace PRCB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.18. 3C00, 3C10](#))

3.4.21 3C10**(1) Contents**

Trouble type	EEPROM fault 2 (main body)
Trouble code	3C10
Rank	C
Detection timing	The engine serial number cannot be recovered.
Trouble isolation	-
Relevant electrical parts	Printer control board (PRCB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connectors on the PRCB for proper connection and correct any faulty connection as necessary.	-	-
2	Replace PRCB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.18. 3C00, 3C10](#))

3.4.22 4091**(1) Contents**

Trouble type	Engine communication error
Trouble code	4091
Rank	C
Detection timing	<ul style="list-style-type: none"> The engine resends the maximum number of retries (five times) after a retry sequence has occurred. Communication with the CTL is interrupted for one min. or longer during a stabilization sequence.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> Printer control board (PRCB) MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	Check the flat cable between MFPB CN16-PRCB CN5 for proper connection and correct as necessary.	-	-
3	Check the connected portion of the flat cable for any curled pattern or any scratches, and replace it if necessary.	-	-
4	Replace PRCB.	-	-
5	Replace MFPB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.16. 13DD, 4091, 4092](#))

3.4.23 4092**(1) Contents**

Trouble type	Interface communication error
Trouble code	4092
Rank	C
Detection timing	Correct communication is failed when receiving/sending the command between MFPB and PRCB.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> Printer control board (PRCB) MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	Check the flat cable between MFPB CN16-PRCB CN5 for proper connection and correct as necessary.	-	-
3	Check the connected portion of the flat cable for any curled pattern or any scratches, and replace it if necessary.	-	-
4	Replace PRCB.	-	-
5	Replace MFPB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.16. 13DD, 4091, 4092](#))

3.4.24 4901**(1) Contents**

Trouble type	FW/OS integrity verification error
Trouble code	4901
Rank	C
Detection timing	<ul style="list-style-type: none"> NG results from verification of the hash value of the controller FW. Faulty, damaged, or illegally written ROM data
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> MFP board (MFPB) SSD board (SSDB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	Update the firmware.	-	-

Step	Action	Control signal	Location of electrical components
3	Check the MFPB for proper connection and correct as necessary.	-	-
4	Check the SSDB for proper connection and correct as necessary.	-	-
5	Replace SSDB.	-	-
6	Replace MFPB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.19. 4901, C151, D2B1, D501](#))

3.4.25 6751

(1) Contents

Trouble type	Lamp lights on and AFE gain adjustment failure
Trouble code	6751
Rank	C
Detection timing	During the AFE gain adjustment, the error occurs continuously for three times after retrying in a state that the the peek value of the output data is 64 or less.
Trouble isolation	Scanner
Relevant electrical parts	<ul style="list-style-type: none"> • Scanner unit • MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between scanner unit-MFPB CN102 for proper connection and correct as necessary.	-	-
2	Check for possible extraneous light and correct as necessary.	-	-
3	Clean the lens, mirrors, AFE surface, and shading sheet if dirty.	-	-
4	Correct reflective mirror of the scanner if faulty, or change scanner mirror.	-	-
5	Replace the scanner unit.	-	-
6	Replace MFPB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.20. 6751, 6790, 6791, 6792, 6793, 9401](#))

3.4.26 6790, 6791, 6792, 6793

(1) Contents

Trouble type	AFE offset adjustment error
Trouble code	6790
Rank	C
Detection timing	During the offset adjustment, the offset value does not fall within the predetermined range a total of three times including retries.
Trouble isolation	Scanner
Relevant electrical parts	<ul style="list-style-type: none"> • Scanner unit • MFP board (MFPB)

Trouble type	AFE register setting error
Trouble code	6791
Rank	C
Detection timing	There is a mismatch between the set default values of the AFE gain/offset and the gain/offset values read thereafter.
Trouble isolation	Scanner
Relevant electrical parts	<ul style="list-style-type: none"> • Scanner unit • MFP board (MFPB)

Trouble type	White reference plate search error
Trouble code	6792
Rank	C
Detection timing	The black/white edge on the shading plate cannot be detected during initialization.
Trouble isolation	Scanner
Relevant electrical parts	<ul style="list-style-type: none"> • Scanner unit • MFP board (MFPB)

Trouble type	Scanner communication error
Trouble code	6793

Rank	C
Detection timing	A communication error of some sort occurs between the controller and the scanner.
Trouble isolation	Scanner
Relevant electrical parts	<ul style="list-style-type: none"> • Scanner unit • MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between scanner unit-MFPB CN102 for proper connection and correct as necessary.	-	-
2	Check for possible extraneous light and correct as necessary.	-	-
3	Clean the lens, mirrors, AFE surface, and shading sheet if dirty.	-	-
4	Correct reflective mirror of the scanner if faulty, or change scanner mirror.	-	-
5	Replace the scanner unit.	-	-
6	Replace MFPB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.20. 6751, 6790, 6791, 6792, 6793, 9401](#))

3.4.27 9401**(1) Contents**

Trouble type	Exposure lamp lighting failure detected
Trouble code	9401
Rank	C
Detection timing	The intensity of the lamp is not stabilized within a predetermined period of time during the lamp stabilization check process in a lamp warm-up cycle.
Trouble isolation	Scanner
Relevant electrical parts	<ul style="list-style-type: none"> • Scanner unit • MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between scanner unit-MFPB CN102 for proper connection and correct as necessary.	-	-
2	Check for possible extraneous light and correct as necessary.	-	-
3	Clean the lens, mirrors, AEF surface, and shading sheet if dirty.	-	-
4	Correct reflective mirror of the scanner if faulty, or change scanner mirror.	-	-
5	Replace the scanner unit.	-	-
6	Replace MFPB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.20. 6751, 6790, 6791, 6792, 6793, 9401](#))

3.4.28 C151**(1) Contents**

Trouble type	ROM contents error upon startup (MSC)
Trouble code	C151
Rank	C
Detection timing	A fault is detected in a sequence of ROM contents check of the MFPB during starting.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • MFP board (MFPB) • SSD board (SSDB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	Check the ROM version.	-	-
3	Rewrite the firmware.	-	-

Step	Action	Control signal	Location of electrical components
4	Replace MFPB and SSDB .	-	-

- Link to the layout drawings for related parts by each trouble code ([S.19. 4901](#), [C151](#), [D2B1](#), [D501](#))

3.4.29 C161

(1) Contents

Trouble type	Firmware update error
Trouble code	C161
Rank	C
Detection timing	A firmware updating sequence is not normally terminated.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the cable used for updating the firmware for proper connection and correct any faulty connection as necessary.	-	-
2	Check the firmware updating file; if the file is not correct, update the firmware again.	-	-
3	Check the firmware updating procedure; if the procedure is not correct, update the firmware again.	-	-
4	Update the firmware again.	-	-
5	Check the MFPB connector for proper connection and correct any faulty connection as necessary.	-	-
6	Replace MFPB .	-	-

- Link to the layout drawings for related parts by each trouble code ([S.21. C161](#), [D3A2](#), [D3F2](#), [D3F3](#), [D3F4](#))

3.4.30 C164

(1) Contents

Trouble type	ROM contents error (MSC)
Trouble code	C164
Rank	C
Detection timing	The wrong model of firmware is detected in the MFP board when the main power switch is turned ON.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • Printer control board (PRCB) • MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the ROM version.	-	-
2	Rewrite the firmware .	-	-
3	Replace the corresponding board.	-	-
4	If the above actions do not solve the problem, contact KM.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.17. 13E2](#), [13E3](#), [13F0](#), [C164](#))

3.4.31 D004

(1) Contents

Trouble type	Hard disk access error (connection failure)
Trouble code	D004
Rank	C
Detection timing	Unable to communicate between the hard disk and MFP board (MFPB).
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • MFP board (MFPB) • HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the connector between hard disk-MFPB CN5, CN13 for proper connection and correct as necessary.	-	-

Step	Action	Control signal	Location of electrical components
2	Reinstall the hard disk.	-	-
3	Replace the hard disk.	-	-
4	Replace MFPB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.22. D004, D091](#))

3.4.32 D091

(1) Contents

Trouble type	Hard disk full error
Trouble code	D091
Rank	C
Detection timing	The area made available as a user area is full during access to the hard disk.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • MFP board (MFPB) • HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Set [Admin Settings] -> [Printer Settings] -> [HOLD JOB TIMEOUT] to [Disable].	-	-
2	Check the connector between hard disk-MFPB CN5, CN13 for proper connection and correct as necessary.	-	-
3	Format the hard disk.	-	-
4	Replace the hard disk.	-	-
5	Replace MFPB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.22. D004, D091](#))

3.4.33 D092

(1) Contents

Trouble type	No hard disk (found during a disk check)
Trouble code	D092
Rank	C
Detection timing	The hard disk is not mounted.
Trouble isolation	-
Relevant electrical parts	HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Install and format the hard disk.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.23. D092, D093, D094, D095, D096](#))

3.4.34 D093

(1) Contents

Trouble type	Wrong hard disk (found during a disk check)
Trouble code	D093
Rank	C
Detection timing	<ul style="list-style-type: none"> • A hard disk intended for another model is mounted. • The hard disk capacity is short.
Trouble isolation	-
Relevant electrical parts	HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Replace the hard disk.	-	-
2	Format the hard disk.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.23. D092, D093, D094, D095, D096](#))

3.4.35 D094**(1) Contents**

Trouble type	Hard disk check disk error
Trouble code	D094
Rank	C
Detection timing	When the power switch ON, the hard disk fails to be checked.
Trouble isolation	-
Relevant electrical parts	HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Replace the hard disk.	-	-
2	Format the hard disk.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.23. D092, D093, D094, D095, D096](#))

3.4.36 D095**(1) Contents**

Trouble type	Hard disk recovered (requiring reboot)
Trouble code	D095
Rank	C
Detection timing	When the power switch ON, the hard disk fails to be recovered.
Trouble isolation	-
Relevant electrical parts	HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Turn OFF/ON the power switch.	-	-
2	Replace the hard disk.	-	-
3	Format the hard disk.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.23. D092, D093, D094, D095, D096](#))

3.4.37 D096**(1) Contents**

Trouble type	Hard disk access fault
Trouble code	D096
Rank	C
Detection timing	When the power switch ON, the hard disk fails to be access.
Trouble isolation	-
Relevant electrical parts	HDD (HDD)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Replace the hard disk.	-	-
2	Format the hard disk.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.23. D092, D093, D094, D095, D096](#))

3.4.38 D0A2**(1) Contents**

Trouble type	No SSD board (found during a disk check)
Trouble code	D0A2
Rank	C
Detection timing	The SSD board is not mounted.
Trouble isolation	-
Relevant electrical parts	SSD board (SSDB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Install the SSDB.	-	-

Step	Action	Control signal	Location of electrical components
2	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.24. D0A2, D0A3, D0A4, D0A5, D0A6](#))

3.4.39 D0A3

(1) Contents

Trouble type	Wrong SSD board (found during a disk check)
Trouble code	D0A3
Rank	C
Detection timing	<ul style="list-style-type: none"> • A SSD board intended for another model is mounted. • The SSD board capacity is short.
Trouble isolation	-
Relevant electrical parts	SSD board (SSDB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Replace SSDB.	-	-
2	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.24. D0A2, D0A3, D0A4, D0A5, D0A6](#))

3.4.40 D0A4

(1) Contents

Trouble type	SSD board check disk error
Trouble code	D0A4
Rank	C
Detection timing	When the power switch ON, the SSD board fails to be checked.
Trouble isolation	-
Relevant electrical parts	SSD board (SSDB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-
2	Replace SSDB.	-	-
3	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.24. D0A2, D0A3, D0A4, D0A5, D0A6](#))

3.4.41 D0A5

(1) Contents

Trouble type	SSD board recovered (requiring reboot)
Trouble code	D0A5
Rank	C
Detection timing	When the power switch ON, the SSD board fails to be recovered.
Trouble isolation	-
Relevant electrical parts	SSD board (SSDB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Turn OFF/ON the power switch.	-	-
2	Replace SSDB.	-	-
3	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.24. D0A2, D0A3, D0A4, D0A5, D0A6](#))

3.4.42 D0A6

(1) Contents

Trouble type	SSD board access fault
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Trouble code	D0A6
Rank	C
Detection timing	When the power switch ON, the SSD board fails to be access.
Trouble isolation	-
Relevant electrical parts	SSD board (SSDB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Replace SSDB.	-	-
2	Using [Admin Settings] -> [Security Settings] -> [SSD Settings] -> [SSD Format], format the SSD.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.24. D0A2, D0A3, D0A4, D0A5, D0A6](#))

3.4.43 D110**(1) Contents**

Trouble type	Wireless LAN destination initialization error
Trouble code	D110
Rank	C
Detection timing	When an initialization error occurred on the settings of the wireless LAN in the network interface card (NC-P03).
Trouble isolation	-
Relevant electrical parts	-

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the MK-P07 connector for proper connection and correct as necessary.	-	-
2	Rewrite the firmware.	-	-
3	Reinstall the MK-P07 and NC-P03.	-	-

3.4.44 D262**(1) Contents**

Trouble type	Extension network adapter installation error
Trouble code	D262
Rank	C
Detection timing	The communication is failed even when the mount kit (MK-P07)/network interface card (NC-P03) has been installed.
Trouble isolation	-
Relevant electrical parts	-

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the settings of the Service Mode is set to "Installed." [Service Mode] -> [2nd NIC settings]	-	-
2	Check the MK-P07 connector for proper connection and correct as necessary.	-	-
3	Rewrite the firmware.	-	-
4	Reinstall the MK-P07 and NC-P03.	-	-

3.4.45 D2B1**(1) Contents**

Trouble type	Controller ROM data error
Trouble code	D2B1
Rank	C
Detection timing	An access error or data error to the ROM of MFPB occurs.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • MFP board (MFPB) • SSD board (SSDB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	Check the ROM version.	-	-
3	Rewrite the firmware.	-	-
4	Replace MFPB and SSDB .	-	-

- Link to the layout drawings for related parts by each trouble code ([S.19. 4901](#), [C151](#), [D2B1](#), [D501](#))

3.4.46 D3A2**(1) Contents**

Trouble type	Counter error
Trouble code	D3A2
Rank	C
Detection timing	A write error occurs in the counter area.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the MFPB for its mounting condition and correct any faulty condition.	-	-
2	Replace MFPB	-	-
3	If the same trouble code persists after the abovementioned procedures, the EEPROM is probably damaged.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.21. C161](#), [D3A2](#), [D3F2](#), [D3F3](#), [D3F4](#))

3.4.47 D3F1**(1) Contents**

Trouble type	Successful completion of counter backup
Trouble code	D3F1
Rank	C
Detection timing	The counter backup process is completed successfully.
Trouble isolation	-
Relevant electrical parts	-

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	This code is displayed when the counter backup process is completed successfully. When this code is displayed, turn OFF/ON the power switch and then perform the given steps. G.3.10 MFP board (MFPB)	-	-

3.4.48 D3F2**(1) Contents**

Trouble type	Write error of the counter area (NVRAM)
Trouble code	D3F2
Rank	C
Detection timing	An error occurs in the counter area when writing to the BootFlash.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Turn OFF/ON the power switch.	-	-
2	Check the MFPB for its mounting condition and correct any faulty condition.	-	-
3	Replace MFPB	-	-

- Link to the layout drawings for related parts by each trouble code ([S.21. C161](#), [D3A2](#), [D3F2](#), [D3F3](#), [D3F4](#))

3.4.49 D3F3**(1) Contents**

Trouble type	Write error of the counter area (SSD)
Trouble code	D3F3
Rank	C
Detection timing	An error occurs in the counter area when writing to the EEPROM.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Turn OFF/ON the power switch.	-	-
2	Check the MFPB for its mounting condition and correct any faulty condition.	-	-
3	Replace MFPB	-	-
4	If the same trouble code persists after the abovementioned procedures, replace the EEPROM with the one has been installed on the new board.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.21. C161, D3A2, D3F2, D3F3, D3F4](#))

3.4.50 D3F4**(1) Contents**

Trouble type	Copy write error of the counter area
Trouble code	D3F4
Rank	C
Detection timing	An error occurs in the counter area when restoring from the EEPROM to the BootFlash.
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Turn OFF/ON the power switch.	-	-
2	Check the MFPB for its mounting condition and correct any faulty condition.	-	-
3	Replace MFPB	-	-
4	If the same trouble code persists after the abovementioned procedures, replace the EEPROM with the one has been installed on the new board.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.21. C161, D3A2, D3F2, D3F3, D3F4](#))

3.4.51 D501**(1) Contents**

Trouble type	FLASH error
Trouble code	D501
Rank	C
Detection timing	The SSD board (SSDB) develops a fault.
Trouble isolation	-
Relevant electrical parts	<ul style="list-style-type: none"> • MFP board (MFPB) • SSD board (SSDB)

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Check the SSD for its mounting condition and correct any faulty condition.	-	-
2	Replace MFPB.	-	-

- Link to the layout drawings for related parts by each trouble code ([S.19. 4901, C151, D2B1, D501](#))

3.4.52 E30#**(1) Contents**

Trouble type	Error signal reception
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Trouble code	E301: Referring incorrect memory E302: Incorrect command E303: Finished due to error inside Qt library E304: Finished due to error outside Qt library E305: Program forced to stop
Rank	C
Detection timing	Received an error of irregularity.
Trouble isolation	-
Relevant electrical parts	-

(2) Procedure

Step	Action	Control signal	Location of electrical components
1	Reboot the main body.	-	-
2	If the above actions do not solve the problem, contact KM.	-	-

4. ABORT CODE

4.1 Troubleshooting of the abort code

- The machine displays an abort code (F###) 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	FB00 to FBA5
Rank	C
Detection timing	-
Trouble isolation	-
Relevant electrical parts	MFP board (MFPB)

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	Power switch	Turn OFF and ON the 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	Check the connector for proper connection on MFPB and correct as necessary.	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	After conducting firmware updating, check the firmware version No. and confirm that the firmware has been normally updated.
4	MFP board	Replace MFPB		

4.2 FB0#

Code	Item	Component	Rank
FB00	Asahi ASIC error (IMAGE) Memory error: scanner memory error (SCANNER LSI)	MFP board (MFPB)	C
FB01	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO1 error		
FB02	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO2 error		
FB03	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO3 error		
FB04	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO4 error		
FB05	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO5 error		
FB06	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO6 error		
FB07	Asahi ASIC error (IMAGE) Memory error: ASAHI FIFO7 error		
FB08	Asahi ASIC error (IMAGE) Memory error: ASAHI register setting error		
FB09	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3C70)		
FB0A	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3C80)		
FB0B	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3CA0)		
FB0C	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3CB0)		
FB0D	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3CE0)		
FB0E	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3CF0)		
FB0F	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3C60)		

4.3 FB1#

Code	Item	Component	Rank
FB10	Asahi ASIC error (IMAGE) TUKUBA error: TUKUBA initialization error (C3C50)	MFP board (MFPB)	C

4.4 FB4#

Code	Item	Component	Rank
FB40	Asahi ASIC error (higher layer driver) Rotation circuit: FMIT uncompressing error	MFP board (MFPB)	C
FB41	Asahi ASIC error (higher layer driver) Rotation circuit: timeout		
FB42	Asahi ASIC error (higher layer driver) JPEG compressing circuit: FMIT uncompressing error		
FB43	Asahi ASIC error (higher layer driver) JPEG compressing circuit: FMIT uncompressing error		
FB44	Asahi ASIC error (higher layer driver) JPEG compressing circuit: sequence fault		
FB45	Asahi ASIC error (higher layer driver) JPEG compressing circuit: miscellaneous error		
FB46	Asahi ASIC error (higher layer driver) Memory FILL circuit: timeout		
FB47	Asahi ASIC error (higher layer driver) FMIT compressing circuit: FMIT compressing error		
FB48	Asahi ASIC error (higher layer driver) FMIT compressing circuit: FMIT uncompressing error		
FB49	Asahi ASIC error (higher layer driver) Simplified color conversion: simplified color conversion error		

4.5 FB8#

Code	Item	Component	Rank
FB80	Asahi ASIC error(ENG) Video output section: PC-to-PC delay memory WDMA FIFO full signal K	MFP board (MFPB)	C
FB81	Asahi ASIC error (ENG) Video output section: PC-to-PC delay memory WDMA FIFO full signal C		
FB82	Asahi ASIC error (ENG) Video output section: PC-to-PC delay memory WDMA FIFO full signal M		
FB83	Asahi ASIC error (ENG) Video output section: PC-to-PC delay memory WDMA FIFO full signal Y		
FB84	Asahi ASIC error (ENG) Video output section: mask frame data FIFO full signal		
FB85	Asahi ASIC error (ENG) Video output section: overlay frame data FIFO full signal		
FB86	Asahi ASIC error (ENG) Video output section: ground tint frame data FIFO full signal		
FB87	Asahi ASIC error (ENG) Video output section: scanner frame color information FIFO full signal		
FB88	Asahi ASIC error (ENG) Video output section: scanner frame data FIFO full signal		
FB89	Asahi ASIC error (ENG) Video output section: print frame color information FIFO full signal		
FB8A	Asahi ASIC error (ENG) Video output section: print frame data FIFO full signal		
FB8B	Asahi ASIC error (ENG) Video output section: video underrun (K)		
FB8C	Asahi ASIC error (ENG) Video output section: video underrun (C)		
FB8D	Asahi ASIC error (ENG) Video output section: video underrun (M)		
FB8E	Asahi ASIC error (ENG) Video output section: video underrun (Y)		

Code	Item	Component	Rank
FB8F	Asahi ASIC error (ENG) Video output section: FMIT compressing FIFO overflow K (VDP_W section)		

4.6 FB9#

Code	Item	Component	Rank
FB90	Asahi ASIC error (ENG) Video output section: FMIT compressing FIFO overflow C (VDP_W section)	MFP board (MFPB)	C
FB91	Asahi ASIC error (ENG) Video output section: FMIT compressing FIFO overflow M (VDP_W section)		
FB92	Asahi ASIC error (ENG) Video output section: FMIT compressing FIFO overflow Y (VDP_W section)		
FB93	Asahi ASIC error (ENG) Video output section: FMIT uncompressing FIFO overflow K (VDP_R section)		
FB94	Asahi ASIC error (ENG) Video output section: FMIT uncompressing FIFO overflow C (VDP_R section)		
FB95	Asahi ASIC error (ENG) Video output section: FMIT uncompressing FIFO overflow M (VDP_R section)		
FB96	Asahi ASIC error (ENG) Video output section: FMIT uncompressing FIFO overflow Y (VDP_R section)		
FB97	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error K (VDP_R section)		
FB98	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error C (VDP_R section)		
FB99	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error M (VDP_R section)		
FB9A	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error Y (VDP_R section)		
FB9B	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_T)		
FB9C	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_K)		
FB9D	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_C)		
FB9E	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_M)		
FB9F	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_Y)		

4.7 FBA#

Code	Item	Component	Rank
FBA0	Asahi ASIC error (ENG) Video output section: FMIT uncompressing decode error (RDMA3_PR)	MFP board (MFPB)	C
FBA1	Asahi ASIC error (ENG) Video output section: FMIT uncompressing error (overlay section)		
FBA2	Asahi ASIC error (ENG) Video output section: FMIT uncompressing error (mask section)		
FBA3	Asahi ASIC error (ENG) Video output section: FMIT uncompressing error (ground tint generating section)		
FBA4	Asahi ASIC error (ENG) Video output section: FMIT uncompressing error (scanner frame section)		

Code	Item	Component	Rank
FBA5	Asahi ASIC error (ENG) Video output section: page descriptor Queue overflow		

5. FAX TROUBLE CODE

5.1 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.

5.2 B0##

Code No.	Category	Contents of error	How to correct
B001	FAX board error	FAX board error 1 (FAX ROM check sum error)	<ul style="list-style-type: none"> • 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.

5.3 B11#

Code No.	Category	Contents of error	How to correct
B110	FAX driver error	Instance generation error or observer registration error	Turn OFF/ON the 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		Communication fault between controller and FAX board	
B117		ACK waiting timeout error	
B118		Receiving undefined frame	
B119		DMA transfer error	

5.4 B12#

Code No.	Category	Contents of error	How to correct
B120	JC	Soft error (FAX board side)	Turn OFF/ON the power switch.
B122		Device error (GA LOCAL SRAM)	<ul style="list-style-type: none"> • Turn OFF/ON the 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 non-response from codec control during suspension process	Turn OFF/ON the power switch.
B127		Timeout error due to non-response from communication control during suspension process	
B128		Timeout error due to non-response from LINE control during suspension process	
B129		Timeout error due to non-response from file system/file driver during suspension process	

5.5 B13#

Code No.	Category	Contents of error	How to correct
B130	Driver error (FAX board side)	Driver soft error	Turn OFF/ON the 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	
B137		DPRAM RESET reception	

5.6 B14#

Code No.	Category	Contents of error	How to correct
B140	Soft error (FAX board side)	MSG I/F error with job control	Turn OFF/ON the 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	

5.7 B15#

Code No.	Category	Contents of error	How to correct
B150	Line control	External class instance acquisition error	Turn OFF/ON the 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)	

5.8 B16#

Code No.	Category	Contents of error	How to correct
B160	1 destination control	Instance generation error	Turn OFF/ON the 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	

5.9 B17#

Code No.	Category	Contents of error	How to correct
B170	Page control	Internal que table control error (create/enque/deque)	Turn OFF/ON the 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)	

5.10 B18#

Code No.	Category	Contents of error	How to correct
B180	Page control	Access error to quick sending memory data	Turn OFF/ON the power switch.
B181		BlockBuff acquisition error	
B182		Sending block image error (Req, restore)	
B183		Receiving block image error (Req, store)	

Code No.	Category	Contents of error	How to correct
B184		Storage error of receiving image information	
B185		Receiving data size logic error (Receiving data are not multiples of dotline)	
B186		ImageBuf acquisition (alloc) error	
B187		Error return from compressor	
B188		BandBuf control error (newInstance/get/free)	

5.11 B19#

Code No.	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 power switch, then check the connection of USB, turn ON the 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)	

5.12 T0#

Code No.	Category	Contents of error	How to correct
T00	Sending	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.

5.13 T1#

Code No.	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	-
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.

Code No.	Category	Contents of error	How to correct
T19	Not used		

5.14 T2#

Code No.	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		

5.15 T3#

Code No.	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		

5.16 T4#

Code No.	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		

5.17 T5#

Code No.	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.
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.

Code No.	Category	Contents of error	How to correct
T59	Not used		

5.18 T6#

Code No.	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		

5.19 T7#

Code No.	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	-

5.20 T8#

Code No.	Category	Contents of error	How to correct
T80	Call control	LOOP current detection NG when CML is turned ON at calling	<ul style="list-style-type: none"> The line may not be connected. Check the line connection status.
T81		Dial Tone detection NG when CML is turned ON at calling	
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		Dial tone continues after dialing	-
T87	Not used		
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.	-

5.21 T9#

Code No.	Category	Contents of error	How to correct
T90	Not used		
T91	Not used		
T92	Not used		
T93	Not used		
T94	Not used		

Code No.	Category	Contents of error	How to correct
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 re-dialing (redial / transmission / polling reception) *	-

* *: The corresponding error code is not displayed on the control panel even if the error occurs.

5.22 R0#

Code No.	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	

5.23 R1#

Code No.	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		

5.24 R2#

Code No.	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	-

Code No.	Category	Contents of error	How to correct
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	-

5.25 R3#

Code No.	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		

5.26 R4#

Code No.	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.

5.27 R5#

Code No.	Category	Contents of error	How to correct
R50	Reception	No. of error lines exceeds.	<ul style="list-style-type: none"> The line may be in trouble. Check the line noise.
R51		The FAX board does not respond during reception	<ul style="list-style-type: none"> The line may be in trouble. Check the line noise.
R52	Not used		
R53	Not used		
R54	Not used		
R55	Not used		
R56	Not used		
R57	Not used		
R58	Not used		
R59	Not used		

5.28 R6#

Code No.	Category	Contents of error	How to correct
R60	Reception	Reception image error (RTN/PIN sending)	<ul style="list-style-type: none"> The line may be in trouble. Check the line noise.

Code No.	Category	Contents of error	How to correct
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.	<ul style="list-style-type: none"> The line may be in trouble. Check the line noise.

5.29 R7#

Code No.	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	-

5.30 R8#

Code No.	Category	Contents of error	How to correct
R80	FAX-CSRC	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.	-
R84		NVRAM writing error.	-
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		

5.31 R9#

Code No.	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.

Code No.	Category	Contents of error	How to correct
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.	-

6. POWER SUPPLY TROUBLE

6.1 Machine is not energized at all (DCPU operation check)

Relevant parts				
<ul style="list-style-type: none"> Power switch (SW1) Printer control board (PRCB) DC power supply (DCPU) 				
Step	Check item	Wiring diagram (Location)	Result	Action
1	Is a power voltage supplied across CN1 on DCPU?	15-I	NO	Check the wiring from the wall outlet to inlet to SW1 to DCPU CN1.
2	Are DC5.1 V being output from CN11 on MFPB?	10-I to J	NO	<ul style="list-style-type: none"> Check the wiring from the DCPU CN5 to MFPB CN11. Replace DCPU.
3	Is DC24 V being output from CN1 on PRCB?	12-K	NO	Check the wiring from the DCPU CN4 to PRCB CN1.
4	Is DC24 V being output from CN502 on MFPB?	10-J	YES	Replace MFPB.
5	Check the wiring from the MFPB CN16C to PRCB CN5.	-	YES	<ul style="list-style-type: none"> Reconnect. Replace the flat cable.
6	Check the wiring from the PRCB CN1 to DCPU CN4.	-	YES	Reconnect.
			NO	Replace PRCB.

- Link to the wiring diagram ([N.1. bizhub C3110](#))

6.2 Control panel indicators do not light

Relevant parts				
<ul style="list-style-type: none"> MFP board (MFPB) Control panel DC power supply (DCPU) 				
Step	Check item	Wiring diagram (Location)	Result	Action
1	Is a power voltage supplied across CN1 on DCPU?	15-I	NO	Check the wiring from the wall outlet to inlet to SW1 to DCPU CN1.
2	Are the fuses on DCPU conducting?	-	NO	Replace DCPU.
3	Is CN200 on MFPB properly connected?	10-F to G	NO	Reconnect.
4	Is CN11, CN502 on MFPB properly connected?	10-I to J	NO	Reconnect.
			YES	<ul style="list-style-type: none"> Replace MFPB. Replace the scanner unit. Replace the control panel.

- Link to the wiring diagram ([N.1. bizhub C3110](#))

6.3 Fusing heaters do not operate

Relevant parts				
<ul style="list-style-type: none"> Front door switch (SW2) Right door switch (SW3) Fusing unit DC power supply (DCPU) Printer control board (PRCB) 				
Step	Check item	Wiring diagram (Location)	Result	Action
1	Is the power source voltage applied across CN1 on DCPU?	15-I	NO	Check the wiring from the wall outlet to inlet to SW1 to DCPU CN1.
2	Is the power source voltage applied across CN2 on DCPU?	11-K	YES	Replace the fusing unit.
			NO	<ul style="list-style-type: none"> Check the wiring from the DCPU CN3 to PRCB CN3. Replace DCPU. Replace PRCB.

- Link to the wiring diagram ([N.1. bizhub C3110](#))

7. IMAGE QUALITY PROBLEM

7.1 Troubleshooting procedure overview

7.1.1 Test pattern printing

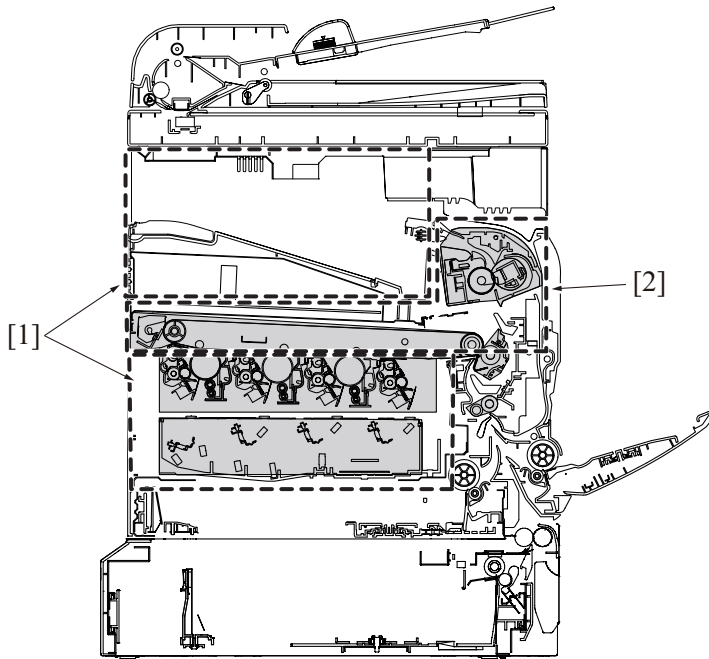
- Following give an overview of a procedure to isolate a faulty spot of an image trouble using a test pattern.
- A faulty spot that is responsible for the image trouble is isolated by printing a test pattern to determine whether an image trouble is evident and determining which color of toner, Y, M, C, or K, has the trouble.

(1) Scanner system image trouble

- If an image trouble occurs during a copy cycle, use the image trouble that may be evident on the test pattern printed to determine whether the trouble is attributable to the scanner system or the printer system.
- If no image trouble occurs on a test pattern produced following a print cycle, the image trouble is determined to be attributable to the scanner system.

(2) Printer system image trouble

- If the image trouble is attributable to the printer system, determine whether the image trouble occurs with one to three colors, or with four colors of Y, M, C, and K.
- If the same image trouble occurs with four colors, the image trouble is determined to be that of the four-color system.



[1] Faulty spot responsible for an image trouble of the single-to-three-color system	[2] Faulty spot responsible for an image trouble of the four-color system
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7.2 Solution

7.2.1 Image trouble sample illustrations

NOTE

- Sample illustrations schematically show exemplary image troubles that occur when the images are printed on A4-size paper.
- The arrow in the exemplary image troubles indicates the paper feeding direction.

White line 1, White band 1



Uneven density 1

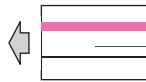


Color reproducibility error



White spot

Color line 1, Color band 1



Uneven density 2



Incorrect color image registration

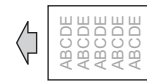


Color spot

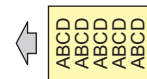
White line 2, White band 2



Faint image, Low image density

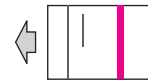


Foggy background

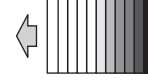
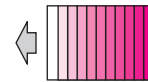


Blurred image

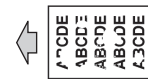
Color line 2, Color band 2



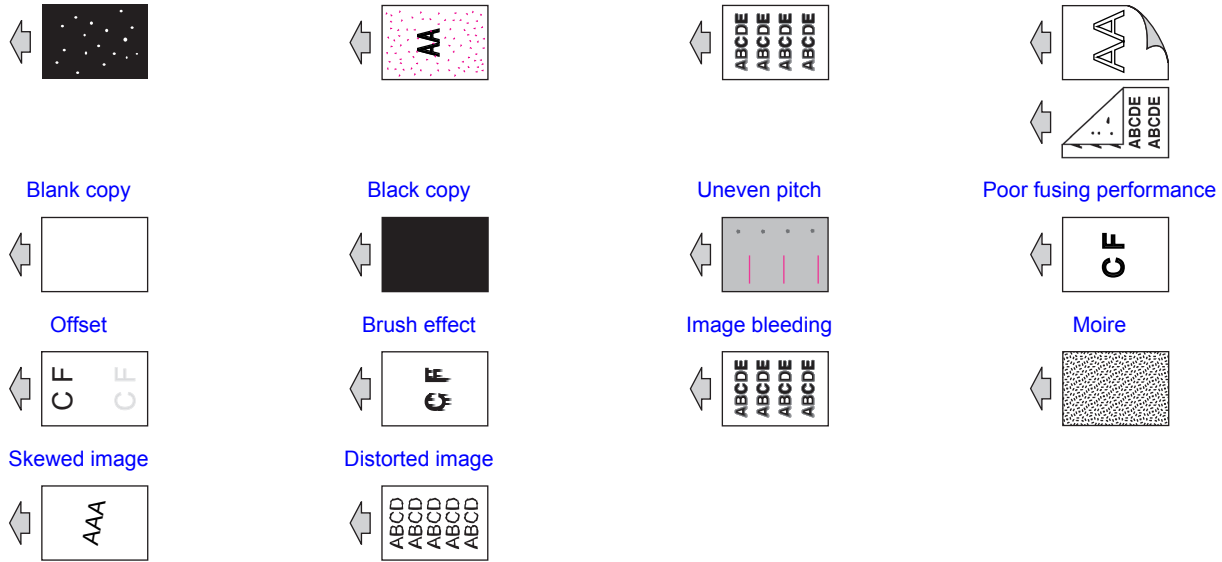
Gradation reproduction failure



Void area



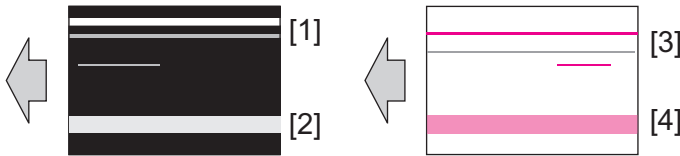
Back marking



7.2.2 White line 1, White band 1, Color line 1, Color 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]	Color line	[4]	Color 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	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
3	Image check	<ul style="list-style-type: none"> Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. Check the image after printing to determine which color causes the abnormal image. 	1 to 3 colors	Go to the 1-color troubleshooting procedure.
			4 colors	Go to the 4-color troubleshooting procedure.
			None	Go to the scanner troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Image check	A white line or black line in sub scan direction is sharp.	YES	Clean the electrostatic charger wire.
2	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.
3		Dirty on the outside.	YES	Clean.
4		Contact terminals make good connection between each imaging unit and machine.	NO	Clean contact terminals.
5		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
6		PH unit	The surface of the PH window is dirty.	YES
7		The problem has been eliminated through the checks of steps up to 6.	NO	<ul style="list-style-type: none"> Replace the transfer belt unit. Replace the PH unit.

(4) 4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Transfer belt is dirty or scratched.	YES	<ul style="list-style-type: none"> • Clean dirty belt with a soft cloth. • Replace the transfer belt unit if belt is damaged.
3		Cleaning blade is not effective in removing toner completely.	YES	Replace the transfer belt unit.
4	Transfer roller	Transfer roller is dirty or scratched.	YES	Replace the transfer roller.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
7	Fusing unit	Fusing entrance guide plate is dirty or damaged.	YES	<ul style="list-style-type: none"> • Clean. • Replace the fusing unit.
8		Fusing paper separator fingers are dirty.	YES	Clean.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Replace the printer control board.

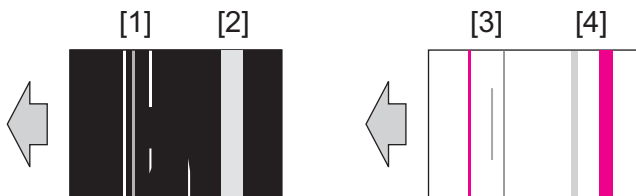
(5) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	DF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	FB Side Edge	The adjustment value for [Service Mode] -> [Machine] -> [Scanner Area] -> [FB Side Edge] falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Replace the scanner unit.

7.2.3 White line 2, White band 2, Color line 2, Color 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]	Color line	[4]	Color 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	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	<ul style="list-style-type: none"> • Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load the tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. • Check the image after printing to determine which color causes the abnormal image. 	1 to 3 colors	Go to 1-color troubleshooting procedure.
			4 colors	Go to 4-color troubleshooting procedure.
			None	Go to scanner troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Image check	A white line or black line in main scan direction is sharp.	NO	Clean the electrostatic charger wire.
2	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.

3		Dirty on the outside.	YES	Clean.
4		Contact terminals make good connection between each imaging unit and machine.	NO	Clean contact terminals.
5		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
6	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
7		The problem has been eliminated through the checks of steps up to 6.	NO	<ul style="list-style-type: none"> • Replace the transfer belt unit. • Replace the PH unit.

(4) 4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Transfer belt is dirty or scratched.	YES	<ul style="list-style-type: none"> • Clean dirty belt with a soft cloth. • Replace the transfer belt unit if belt is damaged.
3	Transfer roller	Transfer roller is dirty or scratched.	YES	Replace the transfer roller.
4	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
5		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
6	Fusing unit	Fusing entrance guide plate is dirty or damaged.	YES	<ul style="list-style-type: none"> • Clean. • Replace the fusing unit.
7		Fusing paper separator fingers are dirty.	YES	Clean.
8	Neutralizing brush	The resistance values between the neutralizing brush and the ground terminal is not ∞.	NO	<ul style="list-style-type: none"> • Check the contact. • Replace the neutralizing brush.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Replace the printer control board.

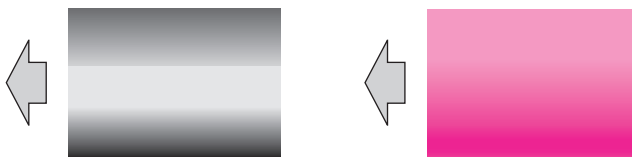
(5) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	DF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Offset	The adjustment value for [Service Mode] -> [Machine] -> [Scanner Area] -> [Offset] falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Replace the scanner unit.

7.2.4 Uneven density 1

(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	IDC sensor	<ul style="list-style-type: none"> • IDC sensor is dirty. • IDC sensor cover does not operate properly. 	YES	<ul style="list-style-type: none"> • Clean. • Clean or correct the IDC sensor cover.
3	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	<ul style="list-style-type: none"> • Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. 	YES	Go to 1-color troubleshooting procedure.

Step	Section	Check item	Result	Action
		<ul style="list-style-type: none"> Check the image after printing and the abnormal image occurs only with one color. 	NO	Go to 4-color troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.
2		Dirty on the outside.	YES	Clean.
3	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
4	Transfer roller	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Replace the transfer roller.
6	Transfer belt unit	Is abnormality found in the cam gear?	YES	Replace the transfer belt unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	<ul style="list-style-type: none"> Replace the PH unit. Replace the printer control board. Replace the high voltage unit.

(4) 4-color troubleshooting procedure

Step	Section	Check	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
2		Transfer belt is dirty or scratched.	YES	<ul style="list-style-type: none"> Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Transfer roller	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Replace the transfer roller.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Replace the transfer belt unit.

7.2.5 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	IDC sensor	<ul style="list-style-type: none"> IDC sensor is dirty. IDC sensor cover does not operate properly. 	YES	<ul style="list-style-type: none"> Clean. Clean or correct the IDC sensor cover.
3	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	<ul style="list-style-type: none"> Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. Check the image after printing and the abnormal image occurs only with one color. 	YES	Go to 1-color troubleshooting procedure.
			NO	Go to 4-color troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.
2		Dirty on the outside.	YES	Clean.
3	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
4	Transfer roller	Check that the spring does not come off during the pressure operation of the transfer roller.	NO	<ul style="list-style-type: none"> Correct. Replace the transfer roller.

Step	Section	Check item for the faulty color	Result	Action
5	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
6		Is abnormality found in the cam gear?	YES	Replace the transfer belt unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	<ul style="list-style-type: none"> Replace the PH unit. Replace the high voltage unit.

(4) 4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
2		Transfer belt is dirty or scratched.	YES	<ul style="list-style-type: none"> Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.
4	Transfer roller	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Replace the transfer roller.
6		The problem has been eliminated through the checks of steps up to 5.	NO	<ul style="list-style-type: none"> Replace the transfer belt unit. Replace the high voltage unit.

7.2.6 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	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	IDC sensor	<ul style="list-style-type: none"> IDC sensor is dirty. IDC sensor cover does not operate properly. 	YES	<ul style="list-style-type: none"> Clean. Clean or correct the IDC sensor cover.
4	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
5	Image check	<ul style="list-style-type: none"> Select [Service Mode] -> [PRINT MENU] -> [Gradation]. Load tray with A4 paper. This runs a print cycle of 4 colors on one sheet of paper. Check the image after printing to determine which color causes the abnormal image. 	1 to 3 colors	Go to 1-color troubleshooting procedure.
			4 colors	Go to 4-color troubleshooting procedure.
			None	Go to scanner troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
2	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
3		Is abnormality found in the cam gear?	YES	Replace the transfer belt unit.
4		The problem has been eliminated through the checks of steps up to 3.	NO	<ul style="list-style-type: none"> Replace the imaging unit. Replace the printer control board. Replace the PH unit. Replace the high voltage unit.

(4) 4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Terminal is dirty.	YES	Clean.
2	Transfer roller	Transfer roller is installed properly.	NO	Reinstall.
3		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
4	Fusing unit	The problem has been eliminated through the checks of steps up to 3.	NO	<ul style="list-style-type: none"> • Replace the transfer belt unit. • Replace the printer control board. • Replace the high voltage unit.

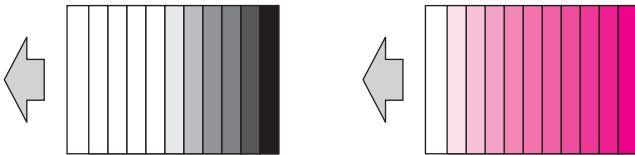
(5) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
2		The problem has been eliminated through the checks of steps up to 1.	NO	<ul style="list-style-type: none"> • Replace the scanner unit. • Replace MFPB.

7.2.7 Gradation reproduction failure

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



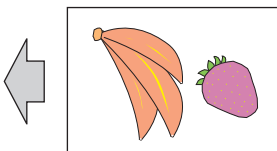
(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	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	Photo/density	Original type and screen pattern are selected properly.	NO	Change screen pattern.
3	Image check	<ul style="list-style-type: none"> • Select [Service Mode] -> [PRINT MENU] -> [Gradation]. Load tray with A4 paper. This runs a print cycle of 4 colors on one sheet of paper. • Check the image after printing to determine which color causes the abnormal image. 	-	Go to the next step.
4	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
5	IDC sensor	<ul style="list-style-type: none"> • IDC sensor is dirty. • IDC sensor cover does not operate properly. 	YES	<ul style="list-style-type: none"> • Clean. • Clean or correct the IDC sensor cover.
6	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
7		The problem has been eliminated through the checks of steps up to 6.	NO	<ul style="list-style-type: none"> • Replace the imaging unit that is responsible for the abnormal image. • Replace the PH unit. • Replace the high voltage unit. • Replace the printer control board. • Replace the MFP board.

7.2.8 Color reproducibility error

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.

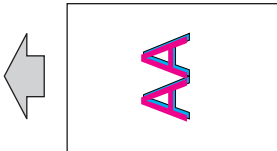


(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	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	Write section	Terminal is dirty.	YES	Clean.
4	Transfer roller	Transfer roller is installed properly.	NO	Reinstall.
5		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
6	IDC sensor	<ul style="list-style-type: none"> IDC sensor is dirty. IDC sensor cover does not operate properly. 	YES	<ul style="list-style-type: none"> Clean. Clean or correct the IDC sensor cover.
7	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
8		The problem has been eliminated through the checks of steps up to 7.	NO	<ul style="list-style-type: none"> Replace the transfer belt unit. Replace the printer control board. Replace the high voltage unit. Replace the MFP board.

7.2.9 Incorrect color image registration**(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	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
3	Image check	<ul style="list-style-type: none"> Select [Service Mode] -> [PRINT MENU] -> [Gradation]. Load tray with A4 paper. This runs a print cycle of 4 colors on one sheet of paper. Check the image after printing and determine if the abnormal image is evident. 	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

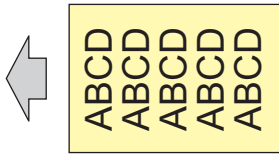
Step	Section	Check item	Result	Action
1	Machine condition	Vibration is given to the machine after power switch has been turned ON.	YES	Turn off the power switch and turn it on again more than 10 seconds after.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
3		Transfer belt is dirty or scratched.	YES	<ul style="list-style-type: none"> Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
4		Drive coupling to the machine is dirty.	YES	Clean.
5	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.
6	Transfer roller	Transfer roller is installed properly.	NO	Reinstall.
7		Transfer roller is dirty or scratched.	YES	Replace the transfer roller.
8		The problem has been eliminated through the checks of steps up to 7.	NO	<ul style="list-style-type: none"> Replace the transfer belt unit. Replace the printer control board. Replace the MFP board.

(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	DF	DF does not lie flat.	YES	Replace DF if it is deformed or hinges are broken.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Replace the scanner unit.

7.2.10 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	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	IDC sensor	<ul style="list-style-type: none"> IDC sensor is dirty. IDC sensor cover does not operate properly. 	YES	<ul style="list-style-type: none"> Clean. Clean or correct the IDC sensor cover.
4	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
5	Image check	<ul style="list-style-type: none"> Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 256]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. Check the image after printing to determine which color causes the abnormal image. 	YES	Go to engine troubleshooting procedure.
			NO	Go to scanner troubleshooting procedure.

(3) Engine troubleshooting procedure

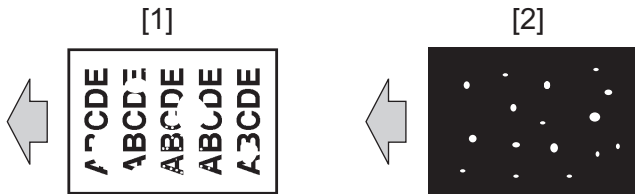
Step	Section	Check item	Result	Action
1	Imaging unit	Dirty on the outside.	YES	Clean.
2	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
3	Printer control board (PRCB)	Check the connection of connectors, harness, and flat cables between PRCB and PH unit, and correct if necessary.	NO	Replace the printer control board.
4		The problem has been eliminated through the checks of steps up to 3.	NO	<ul style="list-style-type: none"> Replace the imaging 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 original.
2	DF	Original pad is dirty.	YES	Clean.
3		DF does not lie flat.	YES	Replace DF if it is deformed or hinges are broken.
4	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Basic screen Density	The problem is eliminated when the image is produced in the manual exposure setting.	NO	Try another exposure level in manual.
6		The problem has been eliminated through the checks of steps up to 5.	NO	<ul style="list-style-type: none"> Replace the scanner unit. Replace MFPB.

7.2.11 Void areas, White spots**(1) Typical faulty images**

The arrow in the exemplary image troubles indicates the paper feeding direction.



[1]	Void areas	[2]	White spots
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(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	IDC sensor	<ul style="list-style-type: none"> IDC sensor is dirty. IDC sensor cover does not operate properly. 	YES	<ul style="list-style-type: none"> Clean. Clean or correct the IDC sensor cover.
3	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	<ul style="list-style-type: none"> Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. If the abnormal image does not recur, perform [Service Mode] -> [PRINT MENU] -> [HALFTONE 256] and make a print check. Check the image after printing and the abnormal image occurs only with one color. 	YES	Go to 1-color troubleshooting procedure.
			NO	Go to 4-color troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	K.7.2.6 Faint image, low image density (ID lowering)
2		There is void area at the rear side section.	YES	Make the following adjustment: [Service Mode] -> [Imaging ProcessAdj] -> [Transfer VoltageFi] -> [Secondarytransfer].
3	Imaging unit	The surface of the PC drum is scratched.	YES	Replace the imaging unit.
4	Toner cartridge	Foreign matter or caked toner in the toner cartridge.	YES	Remove foreign matter.
5	Installation environment	Is the atmospheric pressure at the installation site low?	YES	Make the following adjustment: [Service Mode] -> [Machine] -> [ALIGNMENT] -> [IMAGE ADJ PARAM].

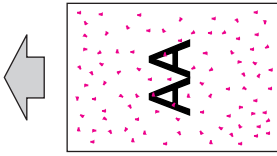
(4) 4-color troubleshooting procedure

Step	Section	Check	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	K.7.2.6 Faint image, low image density (ID lowering)
2		There is void area at the rear side section.	YES	Make the following adjustment: [Service Mode] -> [Imaging ProcessAdj] -> [Transfer VoltageFi] -> [Secondarytransfer].
3	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
4		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
5	Transfer roller	Transfer roller is dirty or scratched.	YES	Replace the transfer roller.
6		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
7	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
8		Pre-image transfer guide plate is damaged or dirty.	YES	Clean or change.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Replace the transfer belt unit.

7.2.12 Color 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	IDC sensor	<ul style="list-style-type: none"> IDC sensor is dirty. IDC sensor cover does not operate properly. 	YES	<ul style="list-style-type: none"> Clean. Clean or correct the IDC sensor cover.
3	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	Secondarytransfer	Select [Service Mode] -> [Imaging ProcessAdj] -> [Transfer VoltageFi] -> [Secondarytransfer] and the image trouble is eliminated. * Decrease the setting value for color spots.	NO	Return the setting value to the original one and go to the next step.
5	Image check	<ul style="list-style-type: none"> Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. Check the image after printing to determine which color causes the abnormal image. 	1 to 3 colors	Go to the 1-color troubleshooting procedure.
			4 colors	Go to the 4-color troubleshooting procedure.
			None	Go to the scanner troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Imaging unit	Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
2		The surface of the PC drum is scratched.	YES	Replace the imaging unit.
3		Dirty on the outside.	YES	Clean.

(4) 4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the image transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.
2		Transfer belt is dirty or scratched.	YES	<ul style="list-style-type: none"> Clean dirty belt with a soft cloth. Replace the transfer belt unit if belt is damaged.
3	Transfer roller	Transfer roller is dirty or scratched.	YES	Replace the transfer roller.
4	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
5	Fusing unit	Fusing belt is dirty or scratched.	YES	Replace the fusing unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Replace the transfer belt unit.

(5) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	DF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4		The problem has been eliminated through the checks of steps up to 3.	NO	<ul style="list-style-type: none"> Replace the scanner unit. Replace MFPB.

7.2.13 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	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
4	Image check	<ul style="list-style-type: none"> Select [Service Mode] -> [PRINT MENU] -> [Gradation]. Load tray with A4 paper. This runs a print cycle of 4 colors on one sheet of paper. 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	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
2	Imaging unit	Dirty on the outside.	YES	Clean.
3		The problem has been eliminated through the checks of steps up to 2.	NO	<ul style="list-style-type: none"> Replace the imaging unit. Replace the PH unit.

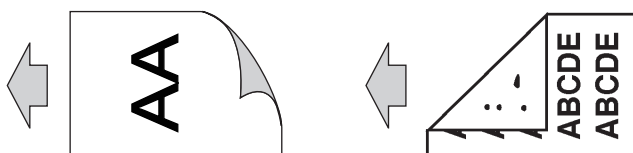
(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	DF	DF does not lie flat.	YES	Replace DF if it is deformed or hinges are broken.
3	Original glass	Original glass tilts.	YES	Position original glass correctly. Check original loading position.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Replace the scanner unit.

7.2.14 Back marking

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Troubleshooting procedure

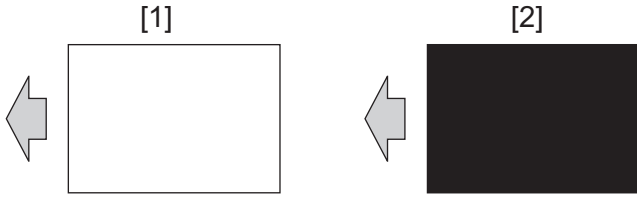
Step	Section	Check item	Result	Action
1	Transfer roller	Transfer roller is scratched or dirty.	YES	Replace the transfer roller.
2	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
3	Fusing unit	Fusing entrance guide plate is scratched or dirty.	YES	Clean or change.
4		Fusing roller is scratched or dirty.	YES	Replace the fusing unit.
5	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean it with the tender cloth or paper which is dusted with the toner.

Step	Section	Check item	Result	Action
6		The problem has been eliminated through the checks of steps up to 5.	NO	<ul style="list-style-type: none"> • Replace the transfer belt unit. • Replace the high voltage unit.

7.2.15 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
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(2) Initial troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
2	Image check	<ul style="list-style-type: none"> • Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 128]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. • 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	PH unit	A blank copy occurs.	YES	Check PH unit connector for proper connection.
2	Imaging unit	Coupling of PC drum drive mechanism is installed properly.	NO	<ul style="list-style-type: none"> • Check and correct drive transmitting coupling. • Replace the imaging unit.
3		The PC drum charge corona voltage contact or PC drum ground contact of the imaging unit is connected properly.	NO	Check, clean, or correct the contact.
4	High voltage unit	Connector is connected properly.	NO	Reconnect.
5		The problem has been eliminated through the check of step 4.	NO	<ul style="list-style-type: none"> • Replace the high voltage unit. • Replace the printer control board. • Replace the PH unit. • Replace the MFP board.

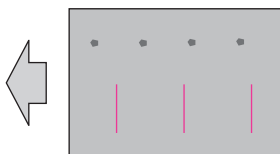
(4) Scanner troubleshooting procedure

Step	Section	Check item	Result	Action
1	Cable connecting scanner and printer	Connector CN102 on MFPB are connected properly with no pins bent.	NO	Reconnect.
2	MFP board (MFPB)	The problem is eliminated after the I/F connection cable has been changed.	NO	<ul style="list-style-type: none"> • Replace MFPB. • Replace the scanner unit.

7.2.16 Uneven pitch

(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	Image Stabilization	Select [Service Mode] -> [Imaging ProcessAdj] -> [Image Stabilization] and the image trouble is eliminated.	NO	Go to the next step.
3	Image check	<ul style="list-style-type: none"> Select [Service Mode] -> [PRINT MENU] -> [HALFTONE 64]. Load tray with A4 paper. This runs a print cycle for C, M, Y, and K in that order. Check the image after printing and the abnormal image occurs only with one color. 	YES	Go to 1-color troubleshooting procedure.
			NO	Go to 4-color troubleshooting procedure.

(3) 1-color troubleshooting procedure

Step	Section	Check item for the faulty color	Result	Action
1	Toner cartridge	The toner cartridge of every color is surely installed.	NO	Re-install it.
2	PH unit	The PH unit is surely installed.	NO	Re-install it.
3	Toner cartridge	There is any stain or breakage on the drive section of the toner cartridge.	YES	Clean/replace the toner cartridge.
4	Imaging unit	There is any stain, damage or abrasion on the PC drum.	YES	Replace the imaging unit.
5	Transfer roller	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Replace the transfer roller.
6		The problem has been eliminated through the check of step 5.	NO	Replace the transfer belt unit.

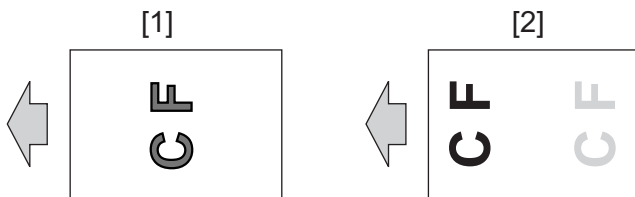
(4) 4-color troubleshooting procedure

Step	Section	Check item	Result	Action
1	PH unit	The PH unit is surely installed.	NO	Re-install it.
2	Transfer roller	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Replace the transfer roller.
3	Fusing unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fusing unit.	YES	Replace the fusing unit.
4		The problem has been eliminated through the check of step 3.	NO	Replace the transfer belt unit.

7.2.17 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
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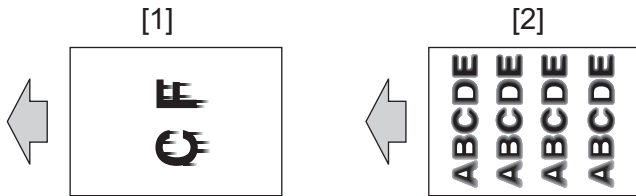
(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper type does not match.	YES	Change the setting.
2	Fusing Temperature	Select [Service Mode] -> [Machine] -> [Fusing Temperature] and change the setting, and the image trouble is eliminated.	YES	Go to the next step.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Replace the fusing unit.

7.2.18 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
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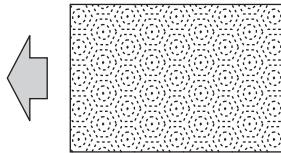
(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2		Paper type does not match.	YES	Change the setting.
3	Fusing unit	Fusing unit is installed properly.	NO	Reinstall.
4		Fusing entrance guide plate is dirty.	YES	Clean.
5		Fusing belt is dirty or scratched.	YES	Replace the fusing unit.

7.2.19 Moire

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



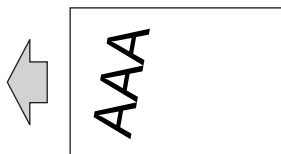
(2) Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Moire distortions recur even after the orientation of original has been changed.	NO	Change the original orientation.
2	Basic screen Original Type	Moire distortions recur even after the original mode has been changed.	YES	Select Text mode or Photo mode.
3	Basic screen Zoom	The problem has been eliminated through the checks of steps up to 2.	NO	Change the zoom ratio.

7.2.20 Skewed image

(1) Typical faulty images

The arrow in the exemplary image troubles indicates the paper feeding direction.



(2) Troubleshooting procedure

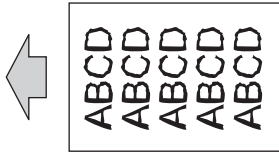
Perform the scanner troubleshooting procedure after having made sure that the same image trouble does not occur in the printer system.

Step	Section	Check item	Result	Action
1	Original	Original is skew.	YES	Reposition original.
2	Original glass	Original glass is in positive contact with the flat spring without being tilt.	NO	<ul style="list-style-type: none"> Reinstall the glass. Check the original loading position.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Replace the scanner unit.

7.2.21 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	Machine is installed on a level surface.	NO	Reinstall.
2		The problem has been eliminated through the checks of steps up to 1.	NO	Replace the scanner unit.

8. IC PROTECTOR

8.1 IC protector 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.

8.2 IC protector list

8.2.1 bizhub C3110

(1) Printer control board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1	CL1	Tray 1 paper feed clutch	Freeze control panel (Printer control board communication error)	-
	CL2	Manual tray paper feed clutch		
	CL3	Registration clutch		
	CL4	Toner supply clutch/Y		
	CL5	Toner supply clutch/M		
	CL6	Toner supply clutch/C		
	CL7	Toner supply clutch/K		
	CL8	Loop detection clutch		
	CL11	Switchback roller feed clutch		
	CL12	Switchback roller reverse clutch		
	CL13	Duplex conveyance roller clutch		
	SD1	1st transfer pressure solenoid		
	SD2	2nd transfer pressure solenoid		
-	3.3V DC/DC converter			
F2	HV1	High voltage unit	Faulty image	
F3	FM10	DC power supply fan motor	DC power supply fan motor malfunction	004E
	FM11	Cooling fan motor	Cooling fan motor malfunction	004A
F4	M5	Polygon motor	Polygon motor malfunction	0300
F6	-	Paper feed unit	Misfeed at tray2 paper feed section	-
F7	M1	Developing motor	Developing motor malfunction	0018
F8	M4	Color PC drum motor	Color PC drum motor malfunction	0010
F9	M2	Transport motor	Transport motor malfunction	0017
F10	-	3.3V DC/DC converter	Freeze control panel (Printer control board communication error)	-
F11	PS1	Tray1 set sensor	Jam	-
	PS2	Tray1 paper empty sensor		
	PS3	Manual tray paper empty sensor		
	PS5	Registration sensor		
	PS6	Loop detection sensor		
	PS7	Paper full sensor		
	PS8	Exit sensor		
	PS9	Duplex conveyance sensor		
	PS12	Waste toner near full sensor		
	PS13	Toner level sensor/Y		
	PS14	Toner level sensor/M		
	PS15	Toner level sensor/C		
	PS16	Toner level sensor/K		
	PS17	1st transfer pressure sensor		
	IDC	IDC sensor		
TEM/HUMS	Temperature/ humidity sensor			
-	Paper feed unit			
PSW2	-	Toner Y	Power malfunction	0101
	-	Toner M		
	-	Toner C		
	-	Toner K		
	-	Imaging unit Y		
	-	Imaging unit M		

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
	-	Imaging unit C		
	-	Imaging unit K		
	-	PH unit		

(2) MFP board

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F1	-	USB	Unable to detect host USB	-
F3	M101	Scanner motor	White reference plate search error	6792
F4	HDD	Hard disk	Unable to detect HDD	-
F5	M100	DF transport motor	ADF paper not conveyed	-
F10	-	Control panel	The control panel back light and the LED do not light on.	-
F11	-	Control panel	Abnormal display on the control panel	-
F12	PRCB	Printer control board	Power malfunction	0101 *
F13	-	IR	Unable to detect home position	-
F14	-	IR	Unable to detect home position	-
F15	PS101	Document detection sensor	DF paper not detected	-
F16	PS102	Document read sensor	Misfeed at ADF section (when scanning)	-
	PS103	Document loop sensor		
F17	SD101	Pressure solenoid	Misfeed at ADF section (when duplex scanning)	-
F18	DCPU	DC power supply	White reference plate search error	6792
F19	DCPU	DC power supply	Not start	-
F401	FAXB	FAX board	Unable to detect FAX board	-
F500	-	Authentication unit (AU-201)	Unable to detect authentication unit	-

NOTICE

- *: A trouble code appears at cover OPEN.

(3) DC power supply

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
F101	-	DC power supply circuit	DC power supply does not supply power.	-

(4) High voltage unit

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
IP301	-	Charging, developing DC circuit	Faulty image	-
IP801	-	Developing AC circuit	Faulty image	-
IP901	-	Transfer circuit	Faulty image	-

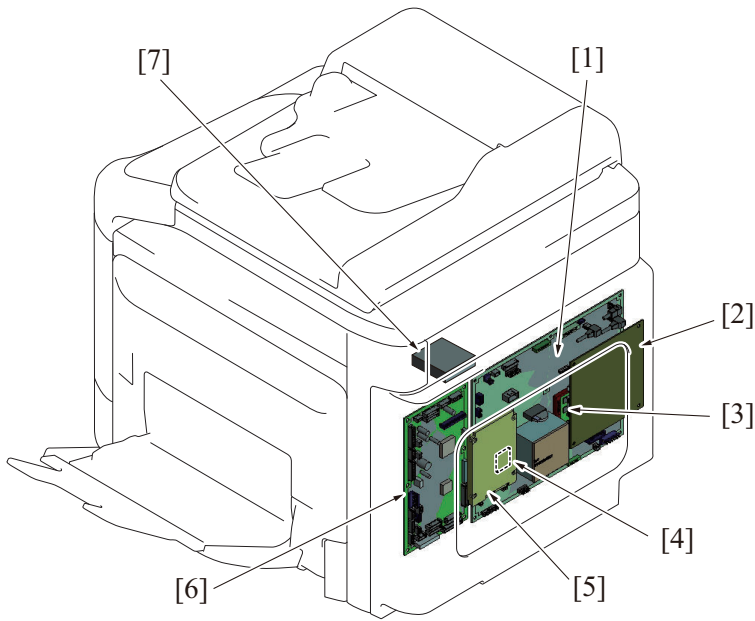
8.2.2 PF-P14**(1) PC control board**

ICP No.	Symbol	Target part name	When ICP trips	
			Symptom in each load	Trouble code and others
ICP1	CL1	Tray2 paper feed clutch	Misfeed at tray2 paper feed section	-
ICP2	CL2	Tray2 conveyance clutch	Misfeed at tray2 vertical conveyance section	-

L PARTS/CONNECTOR LAYOUT DRAWING

1. PARTS LAYOUT DRAWING

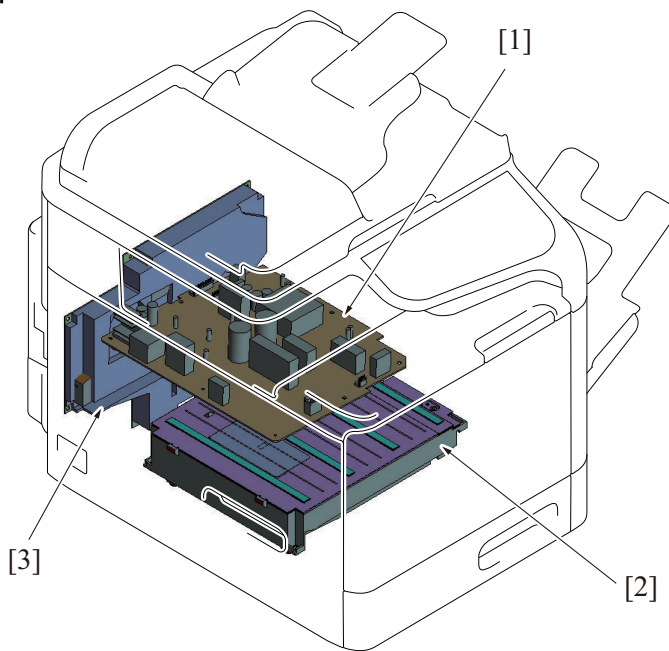
1.1 Main Body



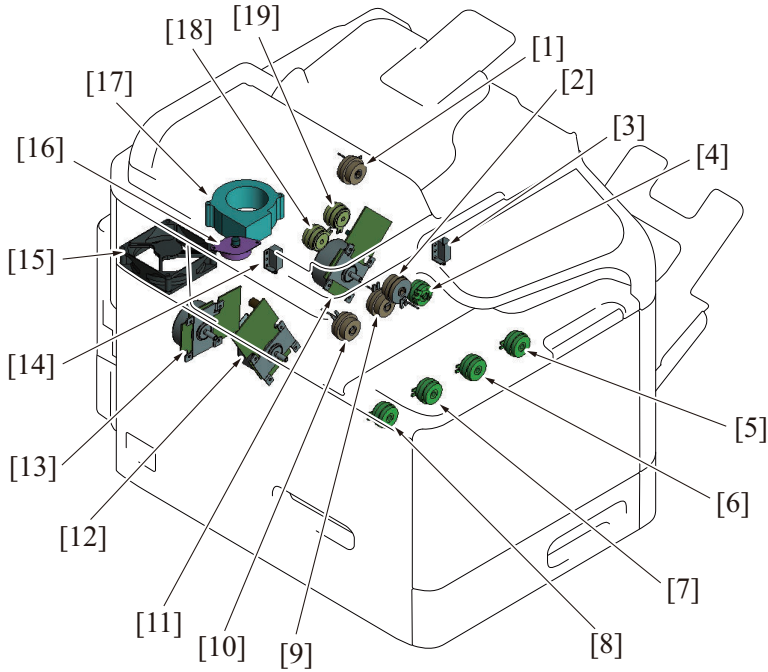
[1]	MFP board (MFPB)	[2]	FAX board (FAXB) *
[3]	Memory board (MEMB) *	[4]	SSD board (SSDB)
[5]	Hard disk (HDD) *	[5]	Printer control board (PRCB)
[7]	Network card*	-	-

NOTE

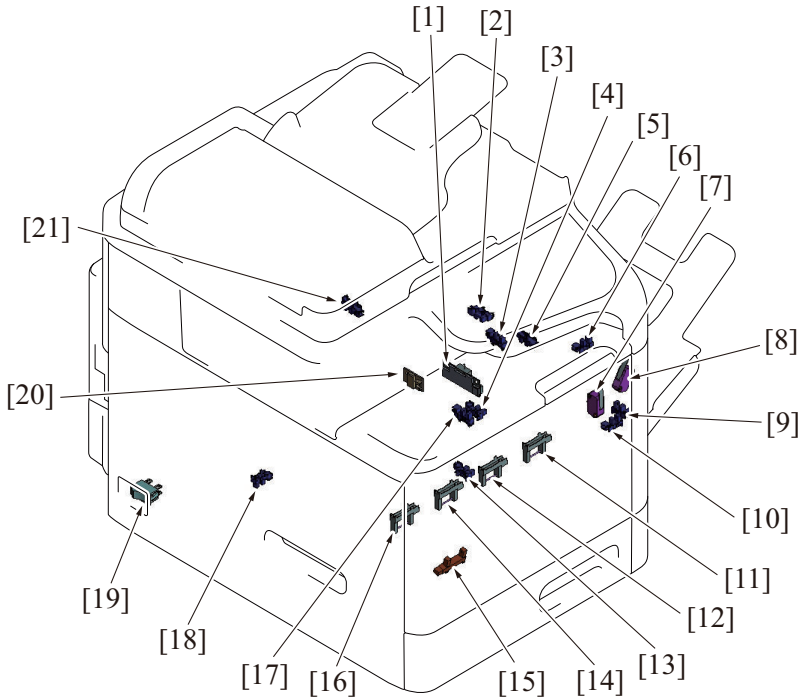
- *: Option



[1]	DC power supply (DCPU)	[2]	PH unit
[3]	High voltage unit (HV1)	-	-

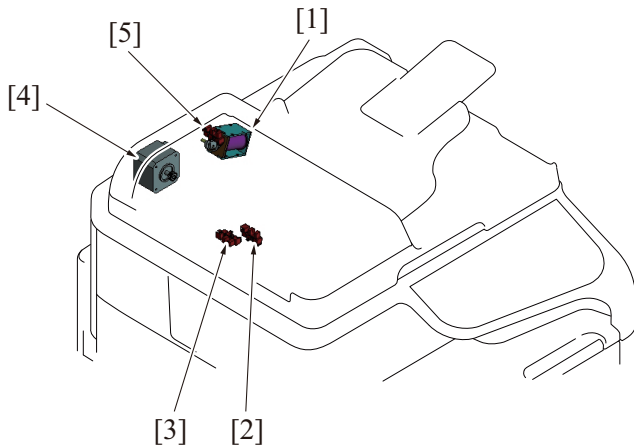


[1]	Loop detection clutch (CL8)	[2]	Registration clutch (CL3)
[3]	2nd transfer pressure solenoid (SD2)	[4]	Duplex conveyance roller clutch (CL13)
[5]	Toner supply clutch/K (CL7)	[6]	Toner supply clutch/C (CL6)
[7]	Toner supply clutch/M (CL5)	[8]	Toner supply clutch/Y (CL4)
[9]	Manual paper feed clutch (CL2)	[10]	Tray1 paper feed clutch (CL1)
[11]	Transport motor (M2)	[12]	Developing motor (M1)
[13]	Color PC drum motor (M4)	[14]	1st transfer pressure solenoid (SD1)
[15]	DC power supply fan motor (FM10)	[16]	Scanner motor (M101)
[17]	Cooling fan motor (FM11)	[18]	Switchback roller reverse clutch (CL12)
[19]	Switchback roller feed clutch (CL11)	-	-



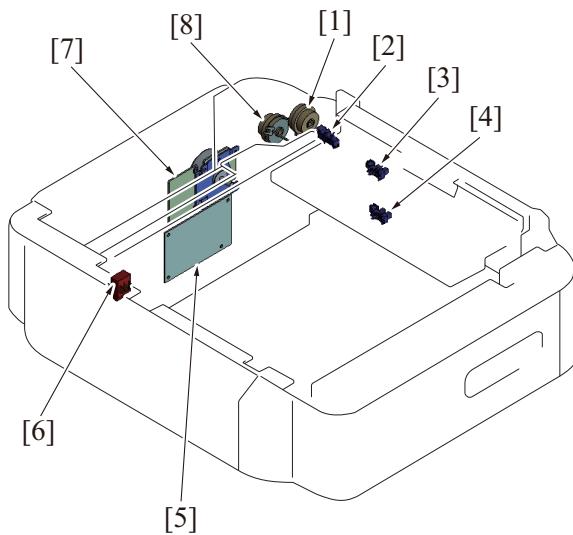
[1]	IDC sensor (IDC)	[2]	Loop detection sensor (PS6)
[3]	Duplex conveyance sensor (PS9)	[4]	Manual tray paper empty sensor (PS3)
[5]	Paper full sensor (PS7)	[6]	Exit sensor (PS8)
[7]	Front door switch (SW2)	[8]	Right door switch (SW3)
[9]	Right door sensor (PS11)	[10]	Front door sensor (PS10)
[11]	Toner level sensor/K (PS16)	[12]	Toner level sensor/C (PS15)

[13]	Tray1 paper empty sensor (PS2)	[14]	Toner level sensor/M (PS14)
[15]	Waste toner near full sensor (PS12)	[16]	Toner level sensor/Y (PS13)
[17]	Registration sensor (PS5)	[18]	Tray1 set sensor (PS1)
[19]	Power switch (SW1)	[20]	Temperature/humidity sensor (TEM/HUMS)
[21]	1st transfer pressure sensor (PS17)	-	-



[1]	Pressure solenoid (SD101)	[2]	Document loop sensor (PS103)
[3]	Document read sensor (PS102)	[4]	DF transport motor (M100)
[5]	Document detection sensor (PS101)	-	-

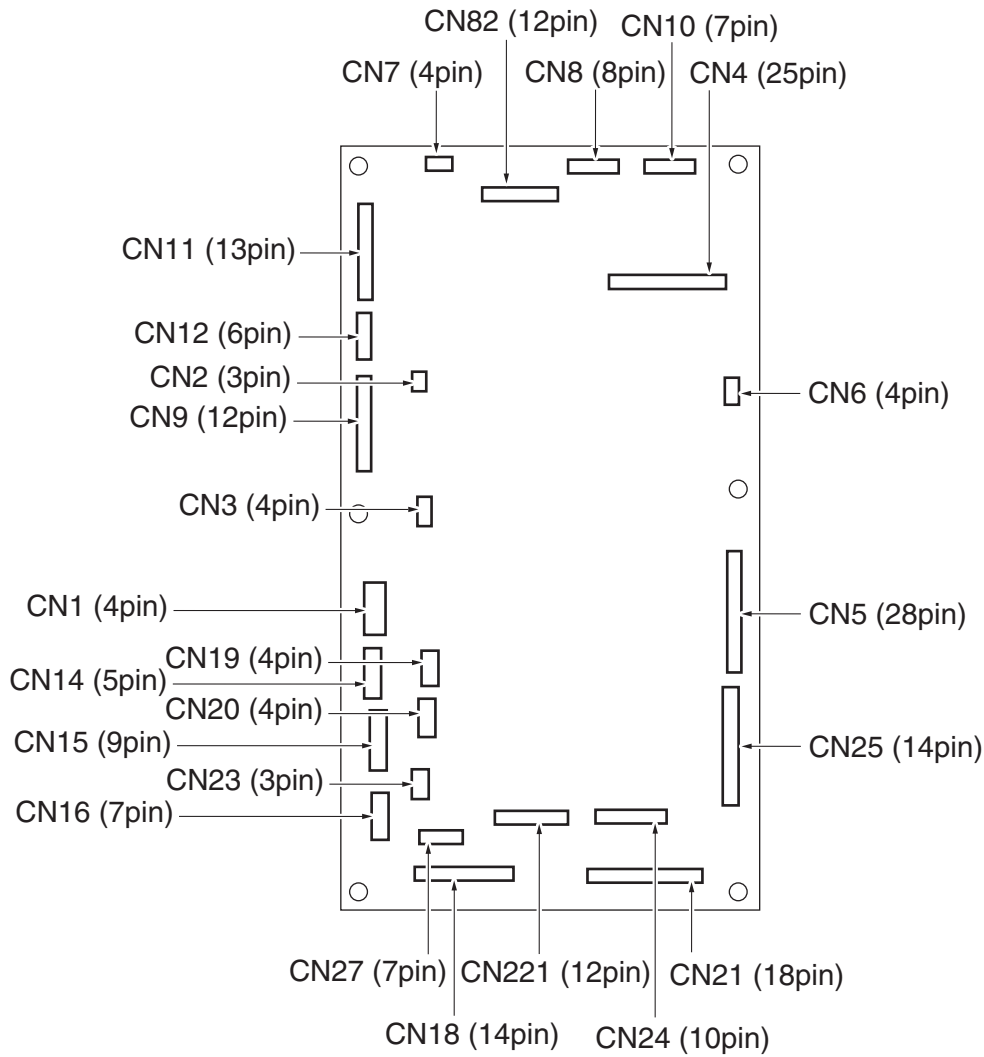
1.2 Paper feeder unit (option)



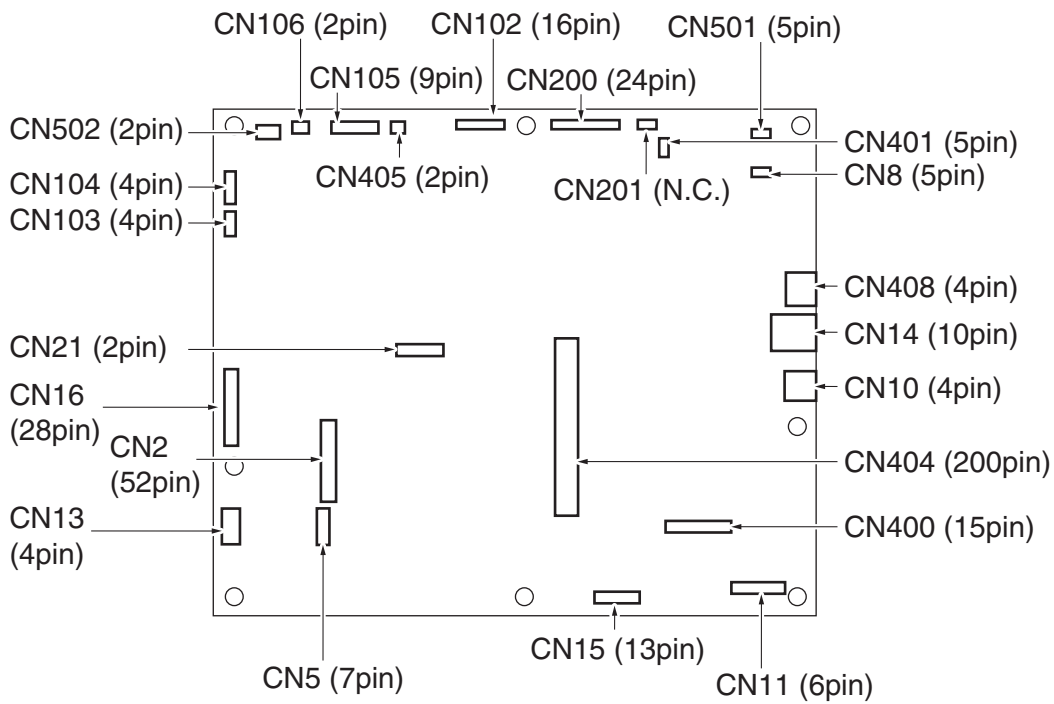
[1]	Tray2 conveyance clutch (CL2)	[2]	Tray2 right door sensor (PS5)
[3]	Tray2 paper feed sensor (PS3)	[4]	Tray2 paper empty sensor (PS1)
[5]	PC control board (PCCB)	[6]	Tray2 paper size switch (SW1)
[7]	Tray2 paper feed motor (M1)	[8]	Tray2 paper feed clutch (CL1)

2. BOARD CONNECTOR LAYOUT DRAWING

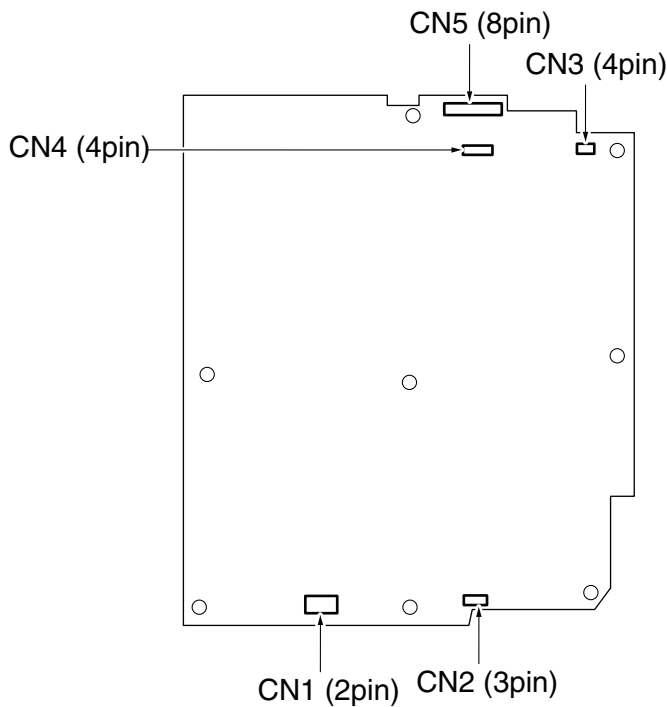
2.1 Printer control board (PRCB)



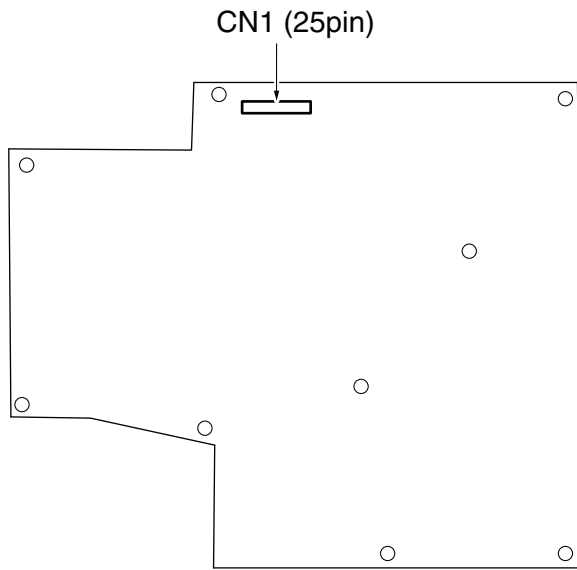
2.2 MFP board (MFPB)



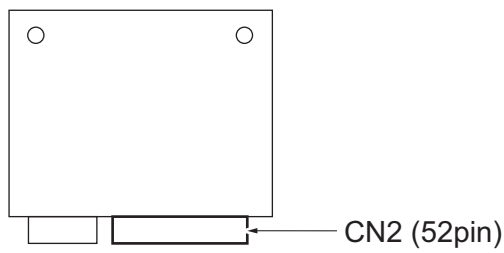
2.3 DC power supply (DCPU)



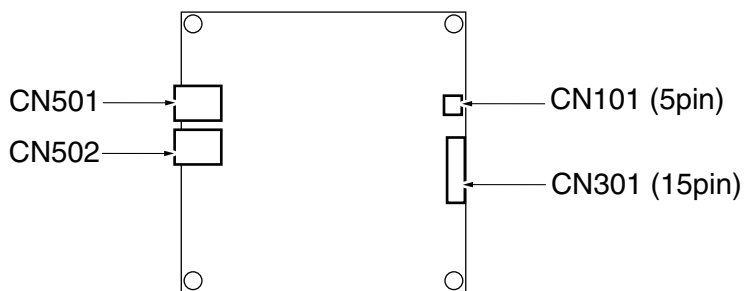
2.4 High voltage unit (HV1)



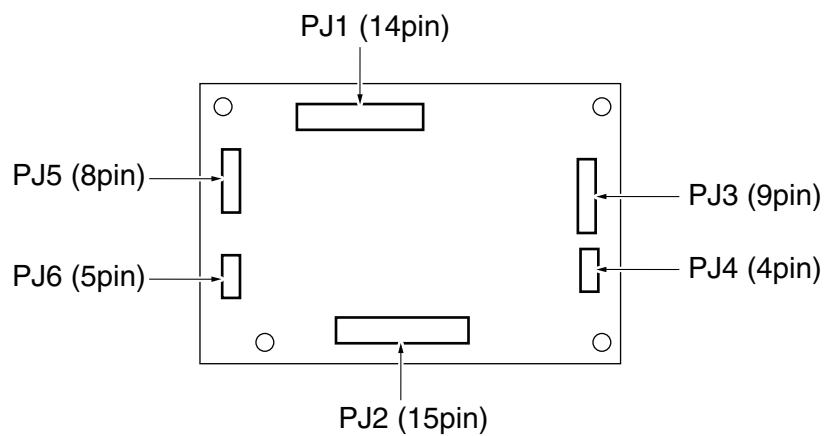
2.5 SSD board (SSDB)



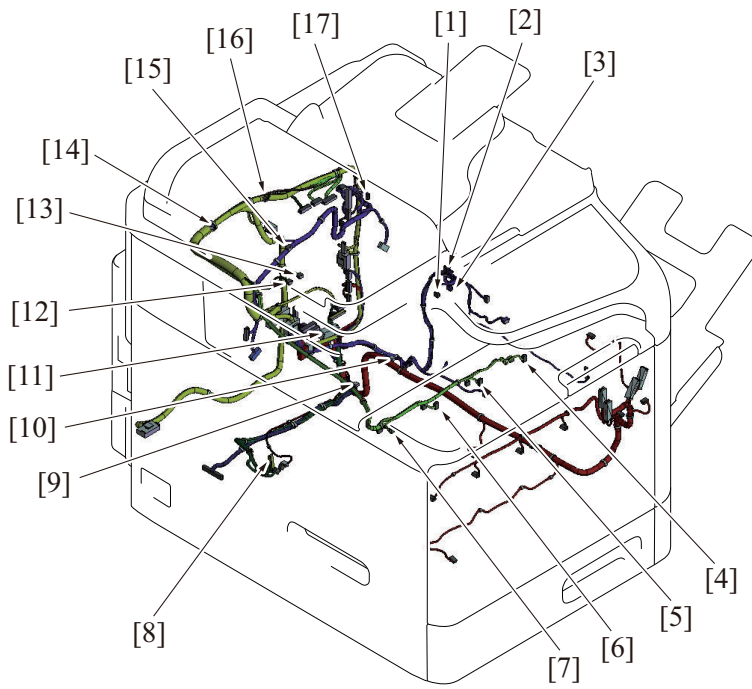
2.6 FAX board (FAXB)



2.7 PC control board (PCCB)



3. RELAY CONNECTOR LAYOUT DRAWING



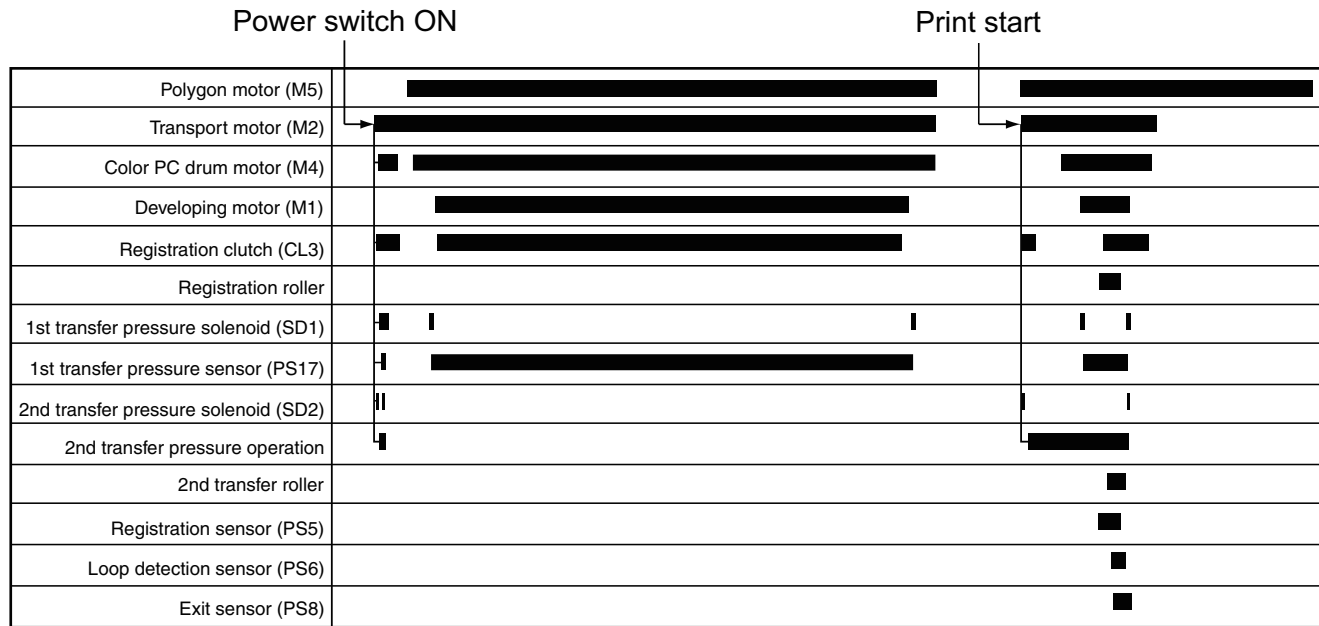
No.	CN No.	Location	No.	CN No.	Location
[1]	CN23	D-7	[2]	CN22	D-7
[3]	CN20	C-7	[4]	CN35	H-7
[5]	CN34	H-7	[6]	CN33	H-7
[7]	CN32	G-7	[8]	CN63	C-11
[9]	CN16	A-7	[10]	CN18	B-7
[11]	CN90	G-12	[12]	CN28	E-7
[13]	CN27	E-7	[14]	CN29	F-7
[15]	CN25	C-15	[16]	CN43	K-11
[17]	CN2	C-15	-	-	-

M TIMING CHART

1. Timing chart

1.1 Main body

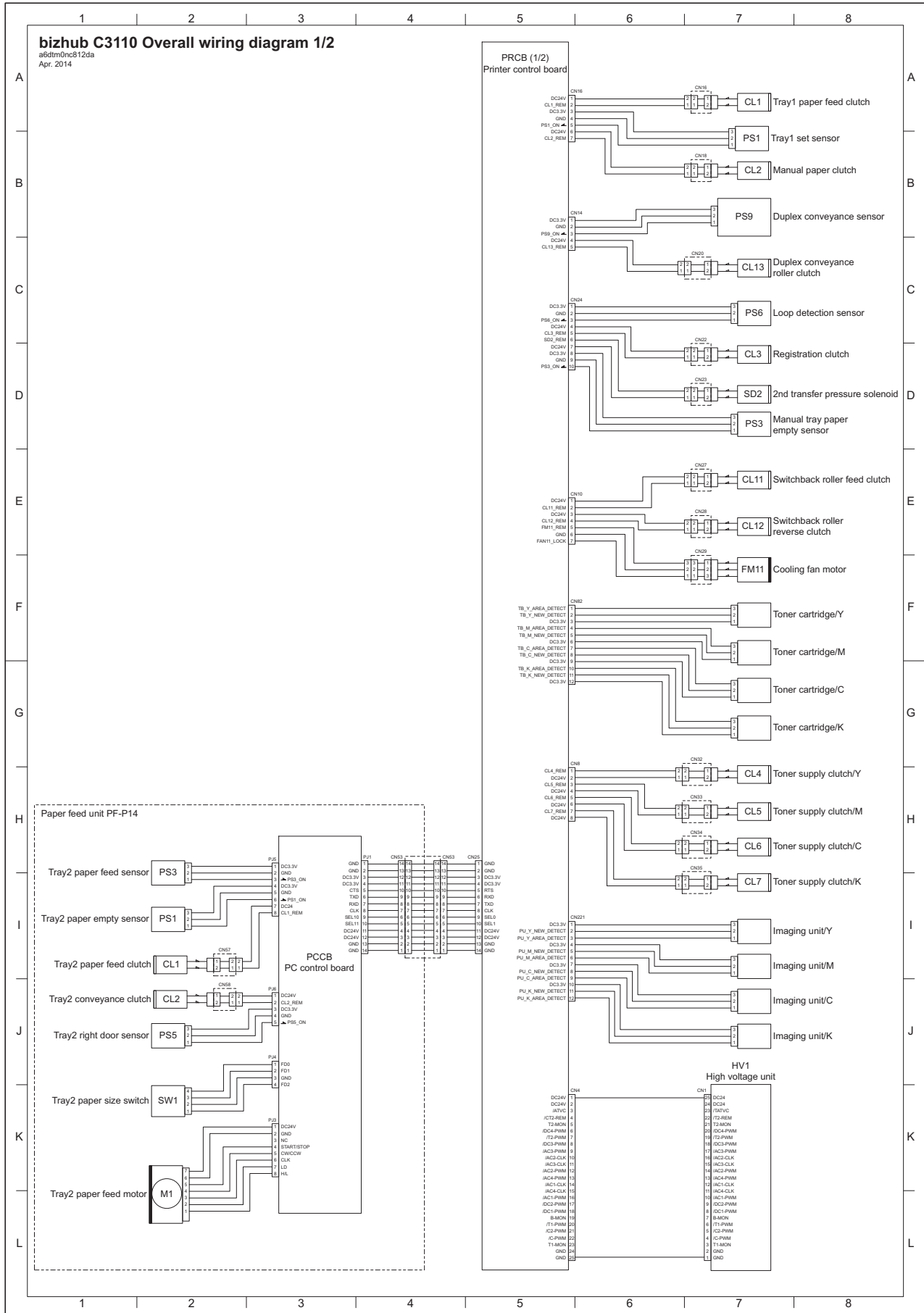
- Operating conditions: Color, A4S or 8 1/2 x 11S




N WIRING DIAGRAM

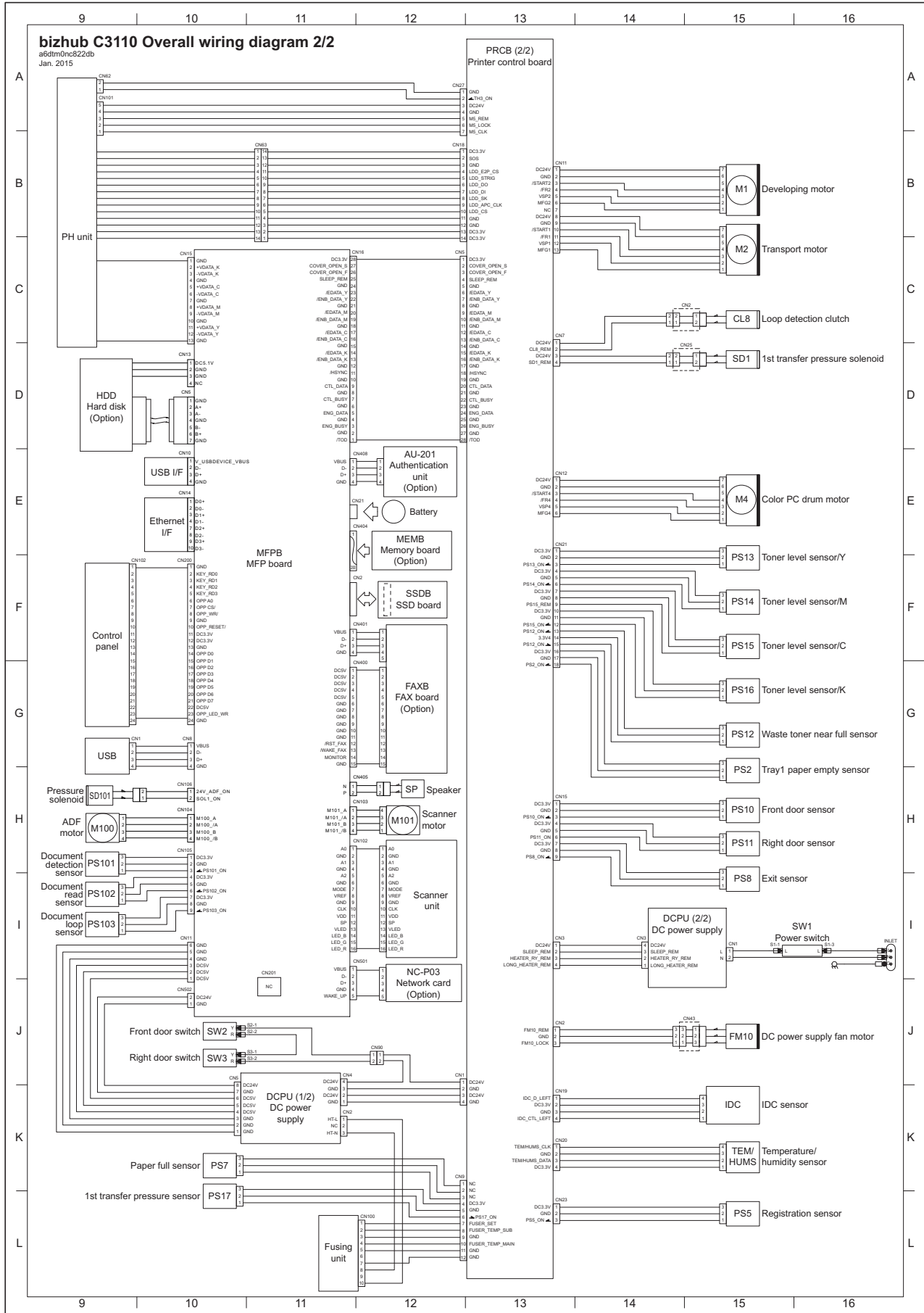
1. bizhub C3110


1.1 Main body (1/2)



- bizhub C3110 Wiring diagram ( tm0nc812da.pdf 998 KB)

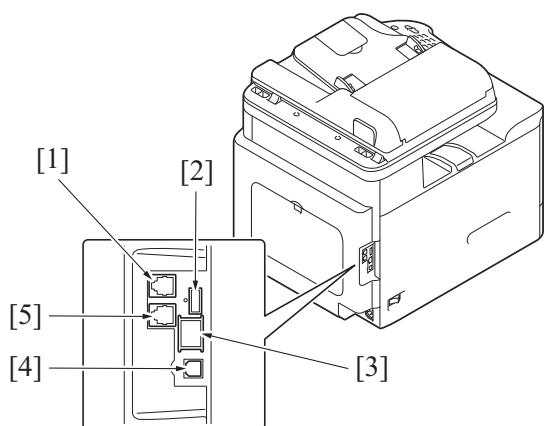
1.2 Main body (2/2)



- bizhub C3110 Wiring diagram ( tm0nc822db.pdf 1196 KB)

O THEORY OF OPERATION bizhub C3110

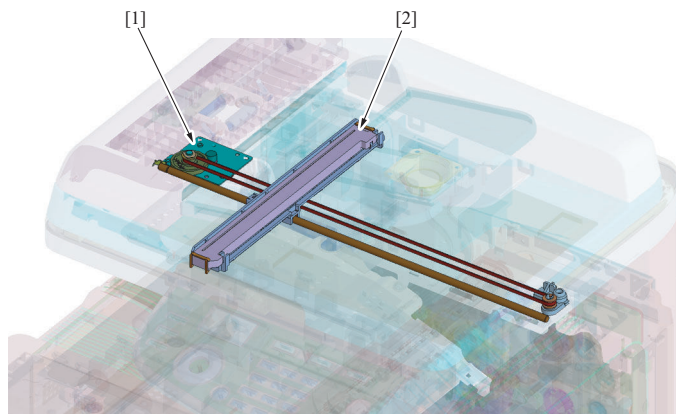
1. INTERFACE SECTION



No.	Type	Use
[1]	LINE (telephone line) jack	For line connection
[2]	USB port (Authentication Unit)	For connection between Authentication Unit and main body
[3]	Ethernet(LAN) port (1000Base-T/100Base-TX/10Base-T)	For network
[4]	USB port (Type B)	For connection between PC and main body
[5]	TEL (telephone) jack	For telephone connection

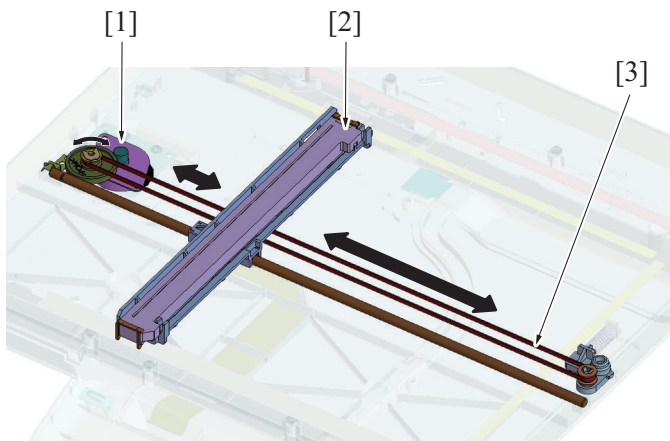
2. SCANNER SECTION

2.1 Composition



[1]	Scanner motor (M101)	[2]	CIS
-----	----------------------	-----	-----

2.2 Drive



[1]	Scanner motor (M101)	[2]	CSI
[3]	Drive belt	-	-

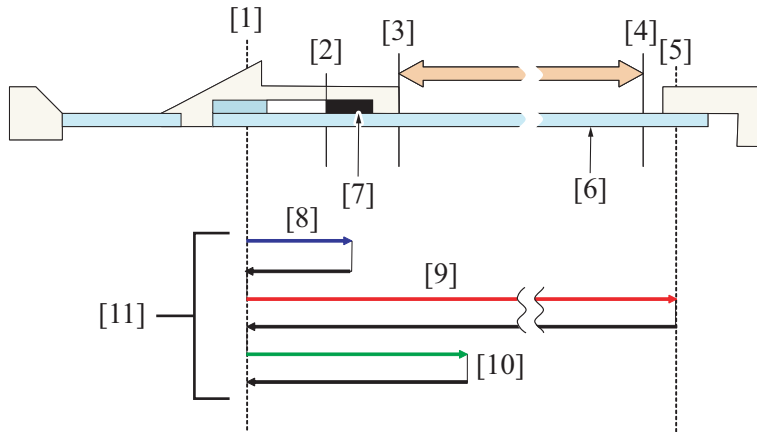
2.3 Operation

2.3.1 When the Start key is pressed

(1) Original reading mode

(a) Original cover mode

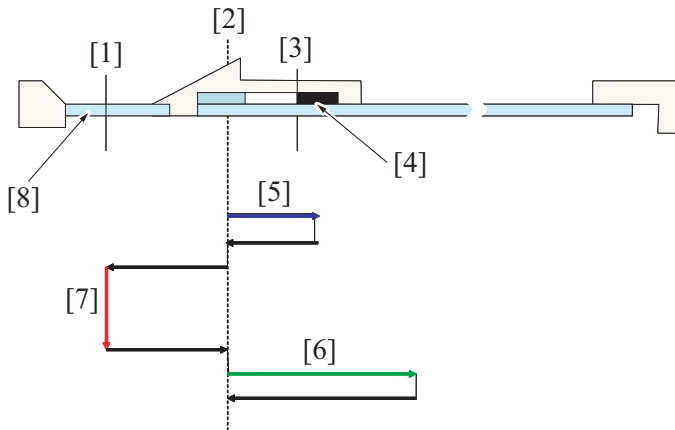
1. Press the Start key to make the CIS light up.
2. The CIS moves from the home position (standby position) while reading the shading sheet to correct the shading.
3. The CIS moves to the standby position.
4. Original image reading starts from the start position of original reading.
5. When the original reading completes, it moves to scanner stop position.
6. After reading, the CIS lights out and moves to the standby position.
7. The CIS moves again for detecting the home position.
8. It moves to the stand-by position and stops there.



[1]	Home position (Stand-by position)	[2]	Reference position
[3]	Original reading start position	[4]	Original reading finish position
[5]	Scanner stop position	[6]	Original glass
[7]	Shading sheet	[8]	Shading
[9]	Original reading	[10]	Detecting the home position
[11]	Scanner reading motion	-	-

(b) DF mode

1. Press the Start key to make the CIS light up.
2. The CIS moves from the home position (standby position) while reading the shading sheet to correct the shading.
3. The CIS moves to the standby position.
4. The CIS moves to the DF reading position to start Original image reading.
5. After reading, the CIS lights out and moves to the standby position.
6. The CIS moves again for detecting the home position.
7. It moves to the stand-by position and stops there.



[1]	DF reading position	[2]	Home position (Stand-by position)
[3]	Reference position	[4]	Shading sheet
[5]	Shading	[6]	Detecting the home position
[7]	Original reading	[8]	DF reading glass

2.3.2 Home position detection

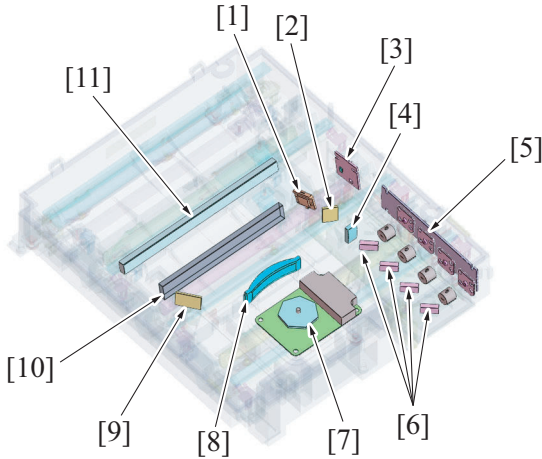
- Reading parts doesn't have a sensor to detect the home position of the scanner.
- Therefore the green LED lights on while the scanner is moving so that the reference positions to be the border between the white and black of the shading sheet is searched and the scanner moves from that position to the home position where locates far to the given distance. Home position detection is conducted when power is On and the scan completes its moving.

2.3.3 Shading compensation

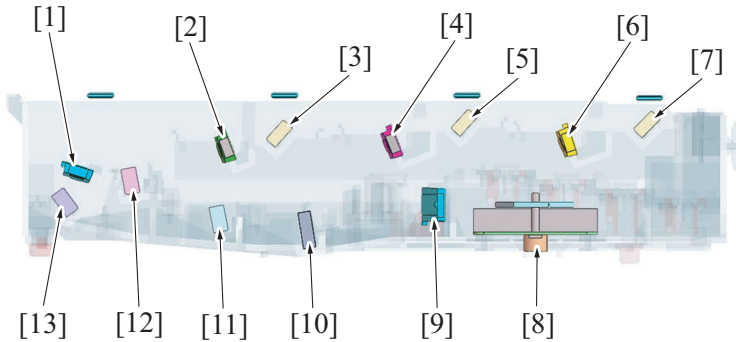
- This shading compensation function compensates reading quality dispersion due to sensitivity uniformity of image element of each CIS sensor or LED light distribution irregularity.
- Shading compensation is carried out immediately before the original glass reading and DF original reading.

3. WRITE SECTION

3.1 Configuration



[1]	Index lens	[2]	Return mirror (light source)
[3]	Index board	[4]	Cylindrical lens
[5]	Semiconductor laser	[6]	Synthetic mirror (Y,M,C,K)
[7]	Polygon mirror	[8]	G1 lens
[9]	Index mirror (K)	[10]	Return mirror (K)
[11]	Return mirror (C)	-	-



[1]	G2 lens (Y)	[2]	G2 lens (M)
[3]	Return mirror (M)	[4]	G2 lens (C)
[5]	Return mirror (C)	[6]	G2 lens (K)
[7]	Return mirror (K)	[8]	Polygon mirror
[9]	G1 lens	[10]	Return mirror (K)
[11]	Return mirror (C)	[12]	Return mirror (M)
[13]	Return mirror (Y)	-	-

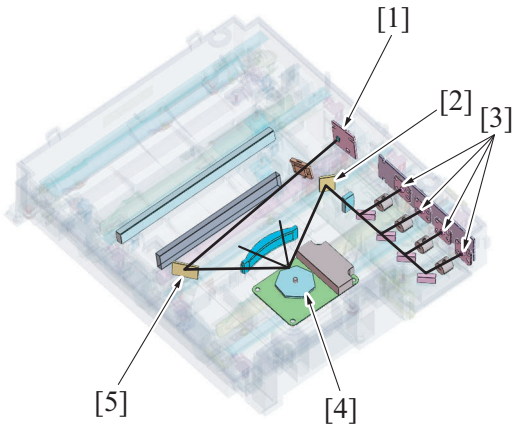
3.2 Operation

3.2.1 Overview

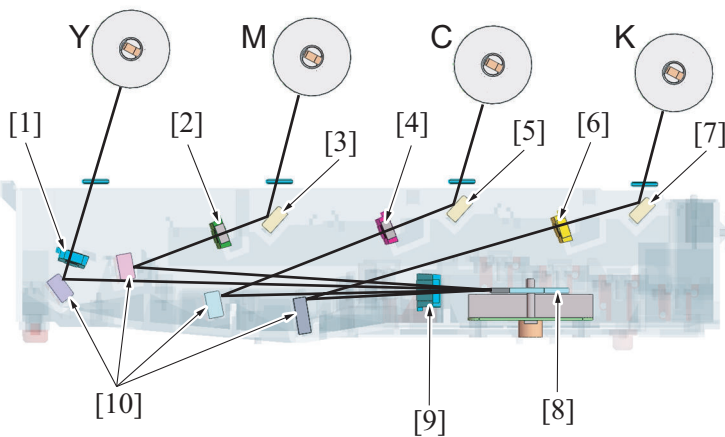
- Four semiconductor lasers provided, one for each of the four different colors. A single polygon motor is used to make a scan motion.
- Each photo conductor is irradiated with a laser light so that an electrostatic latent image is formed on it.

3.2.2 Laser exposure process

1. The laser light emitted by each of the semiconductor laser/Y, M, C, and K is reflected onto the polygon mirror via the synthetic mirror.
2. Since the angle of incidence for each color of laser light varies, the laser light reflected by the polygon mirror is reflected at a different angle for each color.
3. The condensing angle of each color of laser light is corrected by the G1 lens before reaching each return mirror.
4. The laser light of each color is condensed on the surface of the photo conductor through the return mirror/1st, G2 lens, and return mirror/2nd.



[1]	Index board	[2]	Return mirror (light source)
[3]	Semiconductor laser	[4]	Polygon mirror
[5]	Index mirror (K)	-	-



[1]	G2 lens (Y)	[2]	G2 lens (M)
[3]	Return mirror (M)	[4]	G2 lens (C)
[5]	Return mirror (C)	[6]	G2 lens (K)
[7]	Return mirror (K)	[8]	Polygon mirror
[9]	G1 lens	[10]	Return mirror (Y,M,C,K)

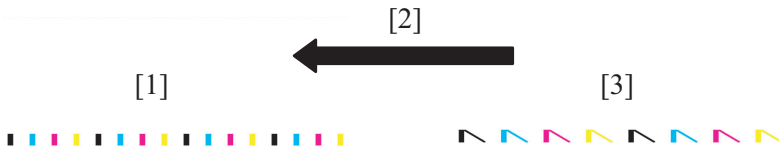
3.2.3 Laser emission timing

- When a ready signal is detected after the lapse of a given period of time after the print cycle has been started, a laser ON signal is output from the MFP board.
- The laser ON signal triggers the firing of each laser light, which illuminates the index board via the polygon mirror, G1 lens, index mirror (K), and Index lens. This generates an Index signal.
- This Index (Start of Scan) signal unifies the timing at which the laser lights are irradiated for each main scan line.
- The Index signal is generated only from the K laser light. For the other colors, the emission timing is determined with reference to K.

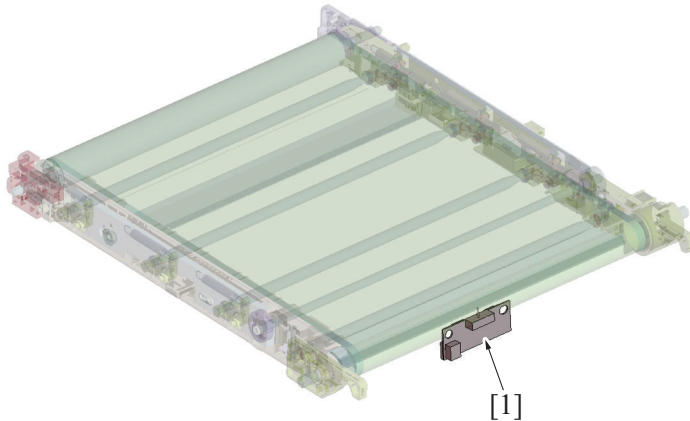
3.2.4 Color registration control (color shift correction) system

(1) Overview of the registration control

- In a tandem engine, each four different color has an independent image reproduction process. Color shift may occur because of variations in part accuracy. The color registration control system automatically detects color shift and correct color shift in the main and sub scanning directions.
- The color shift detection sequence proceeds as follows. A pattern each is produced at the front and rear on the transfer belt. Each of IDC sensors at the front and rear reads the corresponding pattern. The amount of color shift in each of the sub-scanning and main scanning directions is then calculated and stored in memory.
- The amount of color shift in the sub scanning direction is read from the pattern falling within the sub scanning detection range. That in the main scanning direction is read from the entire pattern.
- From data readings, the machine calculates how much the position of each of the different colors should be corrected. Based on the calculated data, the machine controls each dot during image output, thereby correcting the color shift amount.



[1]	Detection area for sub scanning direction	[2]	Movement direction of the transfer belt
[3]	Detection area for main scanning direction	-	-



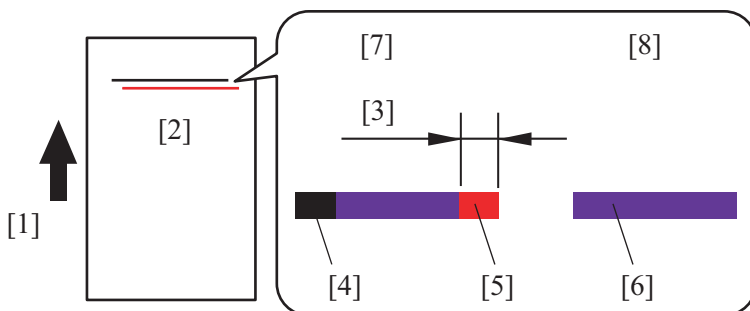
[1]	IDC sensor (IDC)	-	-
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(2) Types of color shift

- Color shift is misalignment of the images of three different colors, yellow (Y), magenta (M), and cyan (C), with respect to the image of black (K).
- Four different types of color shift can occur: color shift in the main scan direction, color shift due to overall scaling error in the main scan direction, color shift in the sub scan direction, and image skew.

(3) Correction of color shift in the main scan direction

- If the image of each color (Y, M, C) is misaligned with respect to the image of black (K) in the main scan direction, changing the write start timing in the main scan direction can correct the color shift. Color shift correction needs to be performed separately for the respective colors (Y, M, C).
 - Color shift correction control is activated when the image stabilization sequence is started.
- * When the image of magenta is misaligned with respect to the image of black (K)

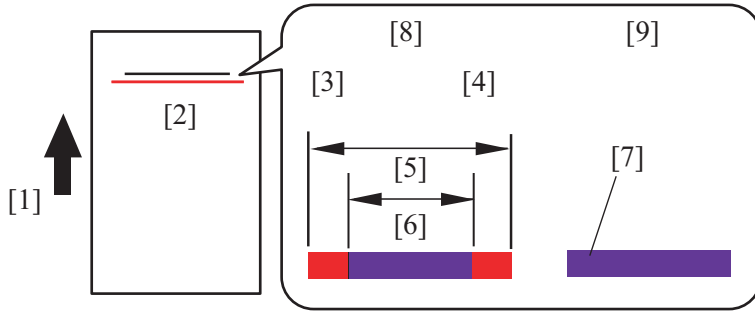


[1]	Rotational direction of the transfer belt	[2]	Transfer belt
[3]	Color shift	[4]	Black (K)
[5]	Magenta (M)	[6]	No color shift
[7]	Before correction	[8]	After correction

(4) Correction of color shift due to overall scaling error in the main scan direction

- If the image of each color (Y, M, C) and the image of black (K) vary in length in the main scan direction, changing the clock frequency of the laser diode can correct the length difference in the main scan direction. Color shift correction needs to be performed separately for the respective colors (Y, M, C).
- Color shift correction control is activated when the image stabilization sequence is started.

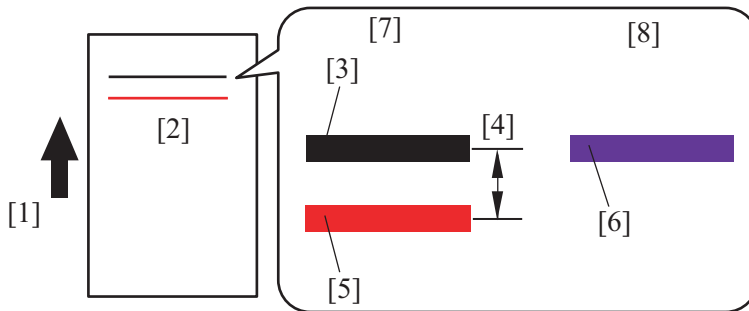
* When the image of magenta is longer than the image of black (K)



[1]	Rotational direction of the transfer belt	[2]	Transfer belt
[3]	Color shift	[4]	Color shift
[5]	Magenta (M)	[6]	Black (K)
[7]	No color shift	[8]	Before correction
[9]	After correction	-	-

(5) Correction of color shift in the sub scan direction

- If the image of each color (Y, M, C) is misaligned with respect to the image of black (K) in the sub scan direction, changing the write start timing in the sub scan direction can correct the color shift. Color shift correction needs to be performed separately for the respective colors (Y, M, C).
 - Color shift correction control is activated when the image stabilization sequence is started.
- * When the image of magenta is misaligned with respect to the image of black (K) in the sub scan direction



[1]	Rotational direction of the transfer belt	[2]	Transfer belt
[3]	Black (K)	[4]	Color shift
[5]	Magenta (M)	[6]	No color shift
[7]	Before correction	[8]	After correction

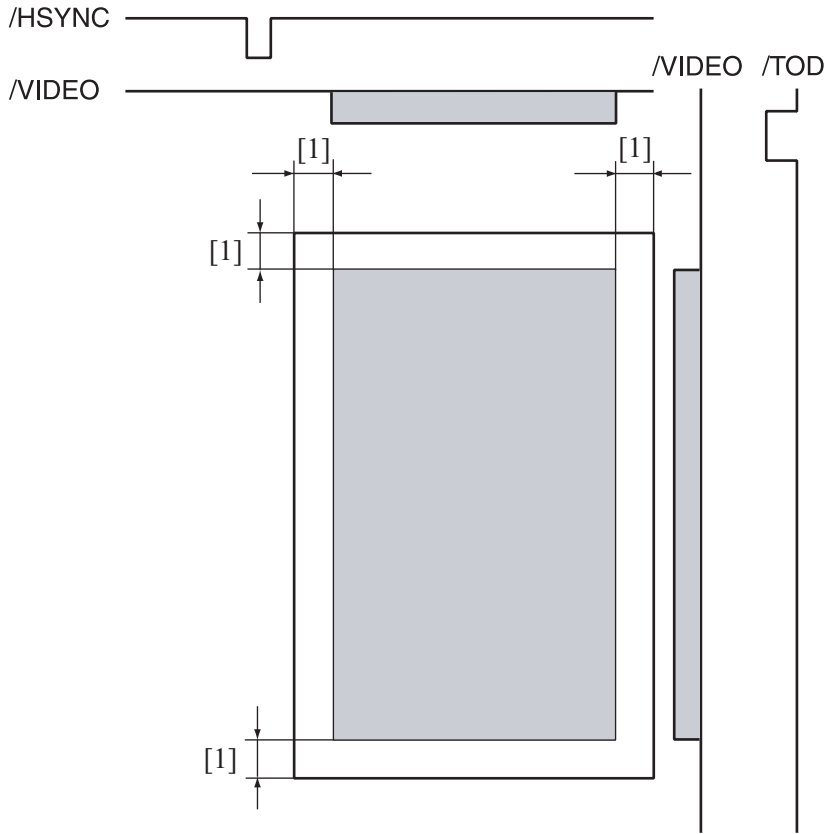
3.2.5 Laser emission area

(1) Main scan direction (FD)

- The print start position in the FD direction is determined by the FD print start signal (HSYNC) that is output from the MFP board and the width of the paper.
- The laser emission area is determined by the paper size. However, there is a 4.2 mm wide void area on both the edges of the paper.

(2) Sub scan direction (CD)

- The print start position in the CD direction is determined by the CD print start signal (TOD) that is output from the MFP board and the length of the paper. However, there is a 4.2 mm wide void area on both edges of the paper.
- The laser emission area is determined by the paper size. However, there is a 4.2 mm wide void area on both the leading and trailing edges of the paper.



[1]	Void width: 4.2 mm/0.165"	-	-
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3.2.6 PH unit temperature detection control

- The temperature inside the PH unit is measured at intervals of 30 sec. by the PH temperature sensor mounted in the PH unit.
- The detected temperature data is recorded to form part of the environmental information data and used for controlling, for example, color registration, 1st transfer output determination, and transfer roller cleaning.

3.2.7 Main scan magnification adjustment

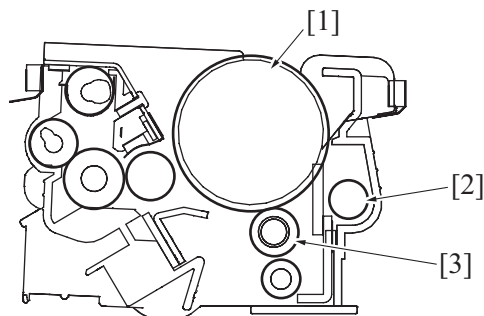
- Magnification of the main scan direction is adjusted.
- The main body is mounted with only one IDC sensor and therefore unable to make the main scan magnification adjustment or calculate the skew amount automatically.
The main scan magnification adjustment is therefore manually made using the menu on the control panel.
- The adjustment is necessary when the adjustment value is cleared, such as when the PH unit or the EEPROM on the printer control board is replaced with a new one.

3.2.8 Image processing

- The following image stabilization functions are available as they relate to the write section. For more details, see ["Image stabilization control"](#).
 - Laser light intensity correction control
 - Color registration correction control (main scan/sub-scan)
 - Gamma correction

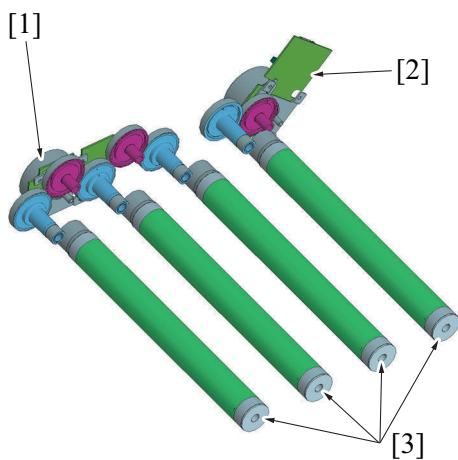
4. PHOTO CONDUCTOR SECTION

4.1 Configuration



[1]	Photo conductor	[2]	Waste Toner collecting screw
[3]	Charge roller	-	-

4.2 Drive

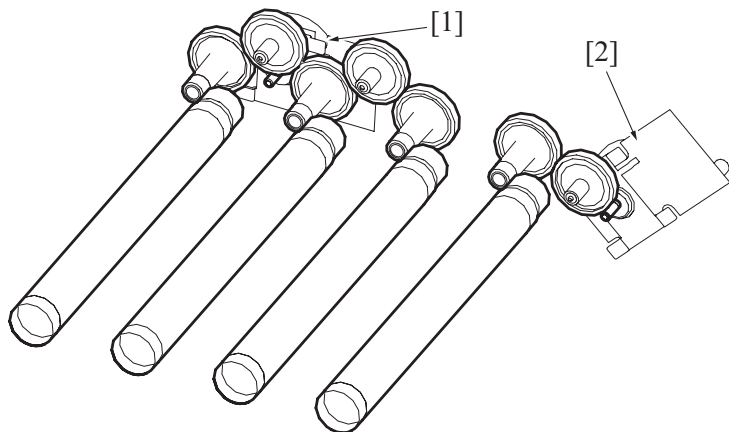


[1]	Color PC drum motor (M4)	[2]	Transport motor (M2)
[3]	Photo conductor	-	-

4.3 Operation

4.3.1 Photo conductor drive mechanism

- Motors are used for the drive mechanism independently of the developing system to suppress incorrect color registration and uneven pitch.
- Because the drive for the color imaging unit is stopped in the monochrome mode, different motors are used to drive the color photo conductors and black photo conductor.
- The color PC drum motor drives the photo conductor/Y, M, and C, while the transport motor drives the photo conductor/K.
- In addition to the photo conductor/K, the transport motor also drives the transfer system, paper feed system, and synchronizing drive system.

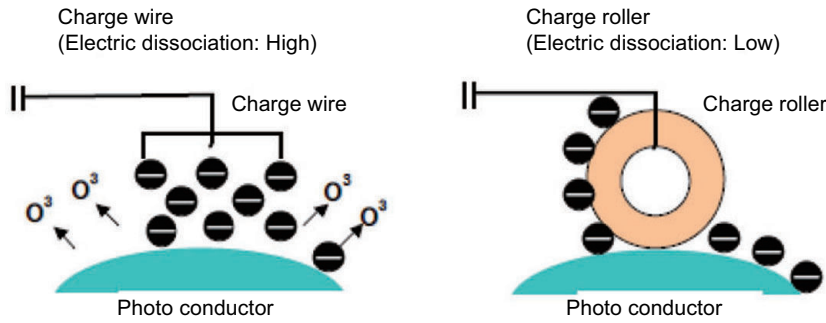


[1]	Color PC drum motor (M4)	[2]	Transport motor (M2)
-----	--------------------------	-----	----------------------

4.3.2 Charge roller

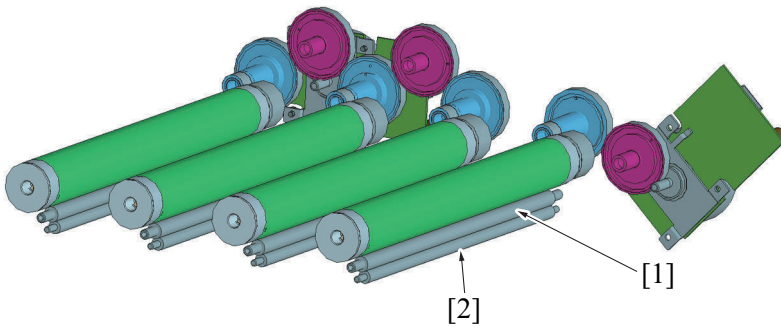
- Charge rollers are used for charging the photo conductor.

- As compared with the charge wire, the charge roller applies a lower voltage and thus produces a smaller amount of ozone. The main body is not therefore mounted with any ozone filter.
- The charge roller is driven to follow the movement of the photo conductor.



4.3.3 Cleaning roller

- The cleaning roller removes toner stick to the charge roller.
- The cleaning roller rotates by following the movement of the charge roller.



[1] Charge roller	[2] Cleaning roller
-------------------	---------------------

4.3.4 Imaging unit detection

- Different imaging unit detection methods apply according to the type of imaging unit: the in-box imaging unit shipped with the main body and the replacement imaging unit. Control also varies when the life is reached. The following describe details.

(1) In-box imaging unit

- The toner level sensor is used to determine whether the imaging unit is mounted or not.
- The detection is made during the print cycle and image stabilization sequence.
- When a condition of the imaging unit yet to be mounted is detected during the print cycle, a message appears on the control panel showing the condition.

(2) Replacement imaging unit

- After the imaging unit has been detected by accessing the imaging unit detection board, the main body determines whether the imaging unit is new or not.
- The toner level sensor is used to determine whether the imaging unit is mounted or not.

(3) Combination of alternative (used) imaging unit

- It is prohibited to use the alternative (used) imaging unit among the same model.

NOTE

- **Whenever an imaging unit is replaced, it must be replaced with an unused new one. If the imaging unit is replaced with a used one, the message may not be cleared or the consumption rate of the imaging unit is not correctly reflected.**

4.3.5 Imaging unit consumption rate detection

- The consumption rate is calculated based on the period of time through which the transport motor and the color PC drum motor are energized and displayed on the statistics page, control panel and PageScope Web Connection.

4.3.6 Imaging unit life detection

NOTE

- **When the "life end display" appears, the machine prohibits all print cycles. The service mode does not allow "life display" to be set to be "disabled" or "life end display" to be set to be "disabled (but printing enabled)". It should, however, be noted that the service mode allows the number of printed pages to be produced between "life display" and "life end display" to be changed.**
- **Life-related display default settings**
Near life display: Enabled

Life display: Enabled
Life end display: Enabled

(1) Life determination

- The life of the imaging unit is determined based on the transport motor drive time, color PC drum motor drive time, and the number of printed pages produced.

(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 (Display and settings for unit to be replaced)

(a) Near life (near full) display

- The default setting for the near life display in this machine is "enabled". The near life display setting can still be set to be disabled. Make this setting for near empty/near full display as necessary. [\[SERVICE MODE\]->\[SYSTEM 2\]->\[Paper Empty Alert\]->\[Near Empty/Near Full Display Setting\]->\[Warning Detection\]->\[Near Empty / Near Full Display Setting\]](#)

(b) Life display

- When any one of the transport motor drive time, color PC drum motor drive time, and the number of printed pages produced reaches a life value, the life message is displayed on the control panel.

(c) Life end display

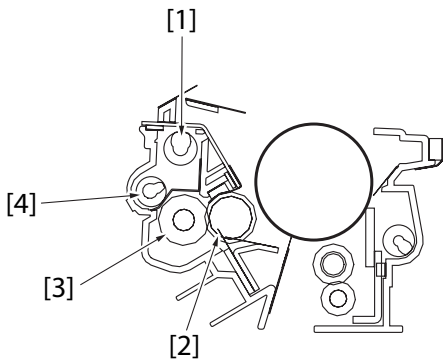
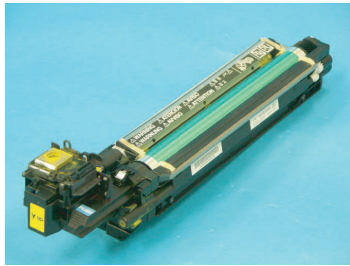
- When the life end display value is reached, the machine gives a message that prompts the user to replace the imaging unit with a new one and prohibits all print cycles. The replacement of the imaging unit with a new one cancels the printing prohibited condition.

(d) Extension of life end display

- The number of printed pages to be produced between "life display" and "life end display (print prohibited)" can be set. For details, see [1.4.2.9 IU Yield Settings](#) and make the setting as necessary.

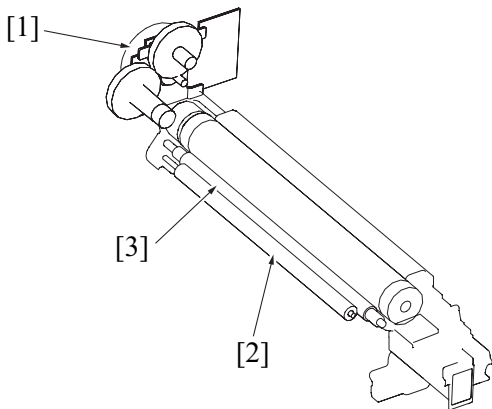
5. DEVELOPING SECTION

5.1 Configuration



[1]	Toner conveyance screw	[2]	Developing roller
[3]	Toner supply roller	[4]	Agitating screw

5.2 Drive



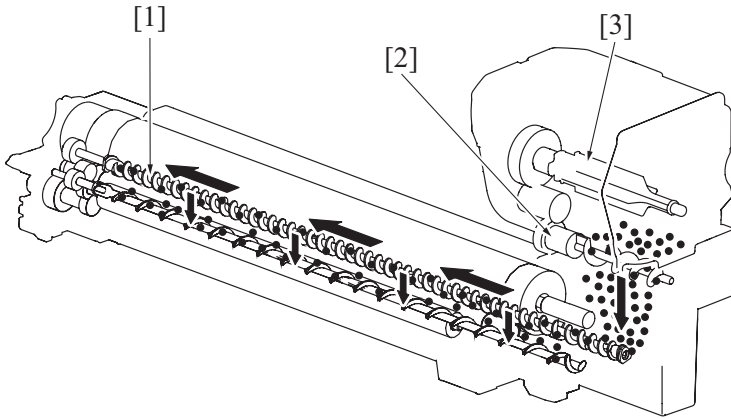
[1]	Developing motor (M1)	[2]	Toner supply roller
[3]	Developing roller	-	-

5.3 Operation

5.3.1 Toner flow

1. Toner stored in the toner cartridge is agitated by the agitating blade and conveyed onto the front side of the toner cartridge by the toner supply screw.
2. Toner conveyed onto the front side of the toner cartridge is conveyed through the toner collecting port and then conveyed to the imaging unit collecting port.
3. The toner conveyed to the collecting port is conveyed into the toner chamber by the conveyance screw.
4. The toner level detection system of the imaging unit (the sensor is mounted on the main body side) detects, at this time, the level of toner still available for use in the toner chamber.
5. Toner conveyed onto the rear side of the toner chamber is fed to the toner supply roller via the agitating screw.
6. Toner fed to the supply roller is conveyed onto the developing roller.
At this time, the regulator blade/1st and /2nd regulate the height of toner on the surface of the developing roller.
7. Toner on the developing roller is fed to the electrostatic latent image formed on the surface of the photo conductor.
8. Toner left on the developing roller is neutralized and returned to the supply roller.
9. The toner on the surface of the photo conductor is transferred onto the transfer belt.
10. Toner left on the surface of the photo conductor is scraped off by the cleaning blade.
11. The toner scraped off by the cleaning blade is conveyed to the waste toner conveyance section by the waste toner collecting screw.

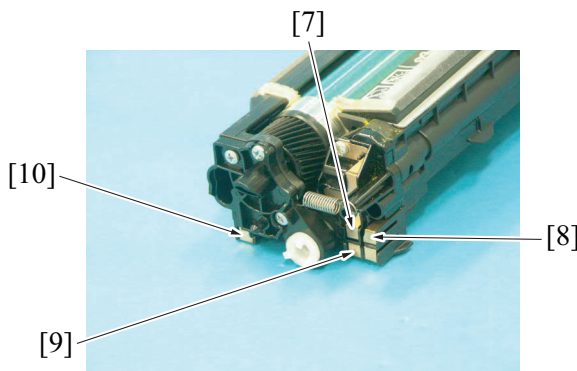
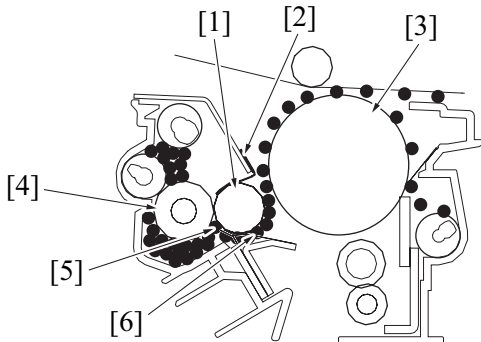
12. The toner conveyed by the toner collecting screw is conveyed and stored as waste toner in the waste toner bottle.



[1]	Toner conveyance screw	[2]	Toner supply screw
[3]	Agitating blade	-	-

5.3.2 Developing system

- Two types of developing systems are used, a non-contact developing system and an alternating current application system.
- 1. A negative charge (supply bias voltage V_r) is applied the supply roller to regulate the amount of toner sticking to the developing roller.
- 2. A negative charge (blade bias voltage V_{b1}) is applied to the regulator blade/1st to negatively charge the toner and form a thin layer of toner.
- 3. Toner on the surface of the developing roller is evened out by the regulator blade/2nd.
- 4. During development, DC + AC developing bias voltage (V_b) is applied to developing roller. The AC component of the developing bias voltage is applied only during development. At any time other than the development, only the DC component of the developing bias voltage is applied.
- 5. The developing roller causes the toner to stick to the photo conductor when the AC component of the developing bias voltage is negative. The voltage and time length of the negative component determine the image density.
- 6. A negative charge (charge neutralizing bias voltage: same potential as the developing bias) is applied to the charge neutralizing sheet to neutralize any toner left on the surface of the developing roller. The neutralized toner is returned to the supply roller.



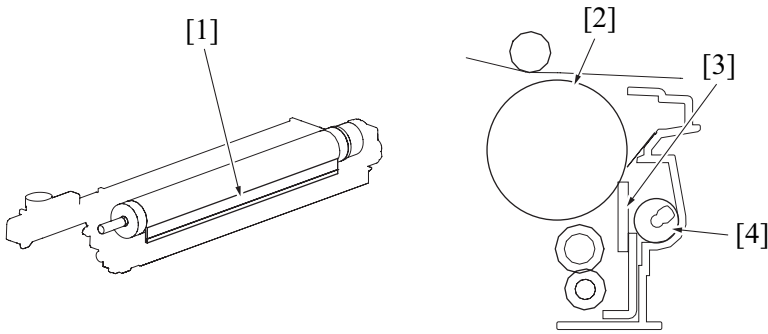
[1]	Developing roller	[2]	Charge neutralizing sheet
[3]	Photo conductor	[4]	Supply roller
[5]	Regulator blade/1st	[6]	Regulator blade/2nd
[7]	Developing roller bias	[8]	Supply roller bias
[9]	Charge roller bias	[10]	Regulator blade bias

5.3.3 Cleaning mechanism

(1) Cleaning operation

1. The cleaning blade is pressed against the surface of the photo conductor to remove toner left off the surface (fixed blade system).

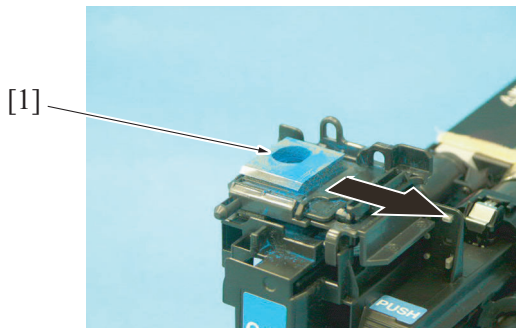
2. The toner, which has been scraped off by the cleaning blade, is conveyed by the waste toner collecting screw and collected in the waste toner transport section.



[1]	Cleaning blade	[2]	Photo conductor
[3]	Cleaning blade	[4]	Waste toner collecting screw

5.3.4 Toner collecting port shutter mechanism

- The toner collecting port is equipped with a shutter mechanism that prevents toner from being spilled out when the imaging unit is removed from the main body.
- The shutter of the toner collecting port is operatively connected to the toner cartridge release lever. Operating the toner cartridge release lever to the right or left opens or closes the shutter of the imaging unit.



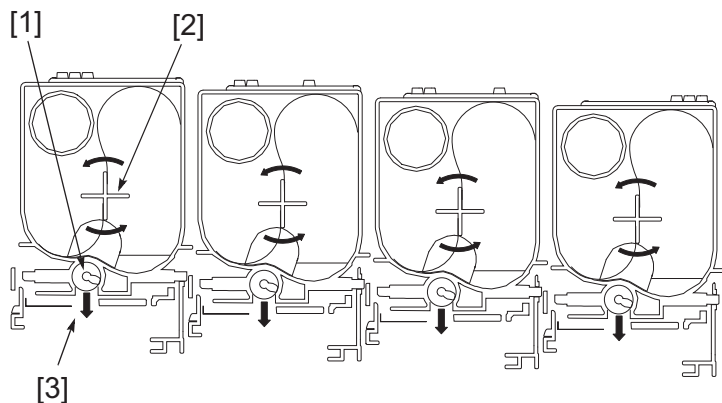
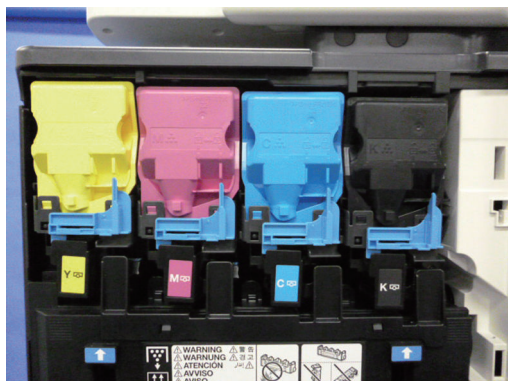
[1]	Toner collecting port	-	-
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5.3.5 Image processing

- The following image stabilization functions are available as they relate to the imaging unit section (developing). For more details, see [O.16.2.2 Developing bias correction](#) and [O.16.2.3 Control of the maximum amount of toner sticking to the transfer belt](#).
 - Developing bias correction
 - Control of the maximum amount of toner sticking to the transfer belt

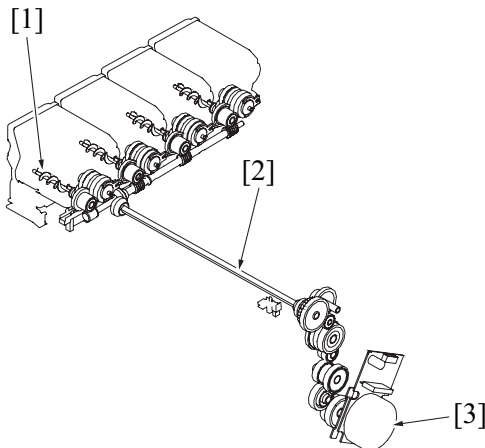
6. TONER SUPPLY SECTION

6.1 Configuration



[1]	Toner supply screw	[2]	Agitating blade
[3]	Toner collecting port	-	-

6.2 Drive

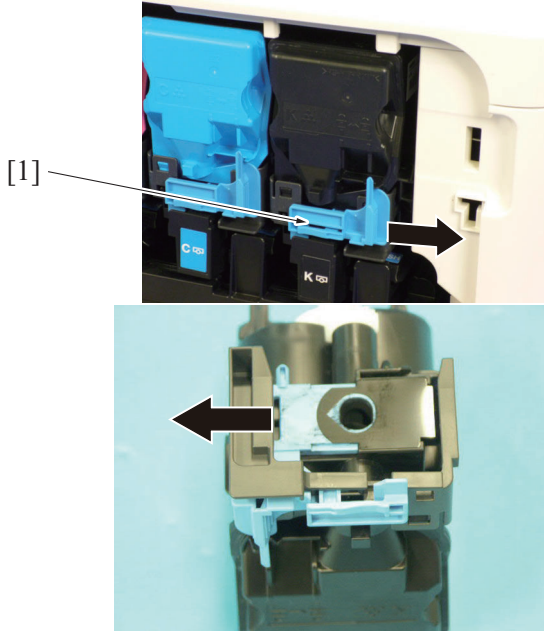


[1]	Toner supply screw	[2]	Drive shaft
[3]	Developing motor (M1)	-	-

6.3 Operation

6.3.1 Toner collecting port shutter mechanism

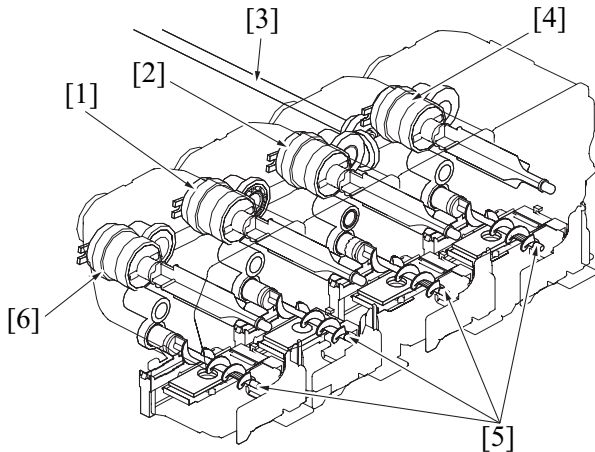
- The toner collecting port is provided with a shutter that prevents toner from being spilled out when the toner cartridge is removed from the main body.
- After installing the toner cartridge into the main body, placing the toner cartridge release lever in its locked position opens the shutter of the toner collecting port. Then toner can be conveyed to the imaging unit.
- Moving the toner cartridge release lever to the right or left accompanies a synchronized movement of the slider to open or close the shutter. The toner collecting port is provided with a shutter that prevents toner from being spilled out when the imaging unit is removed from the main body.



[1]	Shutter	-	-
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6.3.2 Toner replenishing mechanism

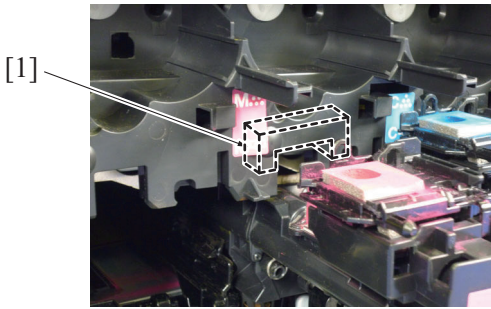
- The developing motor is energized by monitoring the condition of the toner level sensor for each color of toner. Toner is then supplied from the toner cartridge to the imaging unit as necessary.
- Rotation of the developing motor transmits the drive to the drive shaft via each gear.
- Rotation of the drive shaft then transmits the drive to the supply screw of the toner cartridge.
- The drive of the supply screw is controlled by the toner supply clutch of each toner cartridge. The supply screw is operated when the toner supply clutch is energized.



[1]	Toner supply clutch/M	[2]	Toner supply clutch/C
[3]	Drive shaft	[4]	Toner supply clutch/K
[5]	Toner supply screw	[6]	Toner supply clutch/Y

6.3.3 Toner replenishing control

- The toner level sensor is used to detect the amount of toner in the pre-agitation section (imaging unit), so that the main body can determine whether to replenish the toner or not.
- During developing drive, the toner level sensor measures the amount of toner. If the value detected by the toner level sensor is a predetermined value in V or less, the main body determines that there is a short supply of toner and replenish the toner as necessary.
- When the value detected by the toner level sensor reaches the predetermined value or more, the toner replenishing sequence is stopped.



[1]	Toner level sensor	-	-
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6.3.4 Auxiliary toner replenishing

- If a short supply of toner is detected during a multi-print cycle, the print cycle is performed while the ordinary toner replenishing sequence is carried out. If the short supply of toner is not corrected even after a predetermined number of printed pages are produced, the multi-print cycle is temporarily interrupted and the auxiliary toner replenishing sequence is carried out.
- The auxiliary toner replenishing sequence is carried out for a maximum of about 1 min. for each color of toner.

6.3.5 Toner cartridge detection

- Different toner cartridge detection methods apply according to the type of toner cartridge: the in-box toner cartridge shipped with the main body and the replacement toner cartridge. Control also varies when the life is reached. The following describe details.

(1) In-box toner cartridge

- The in-box toner cartridge is not provided with the toner cartridge detection board and thus does not allow the user to determine whether a toner cartridge is mounted or not. The main body determines whether the toner cartridge is mounted or not at a toner empty condition. A new print cycle can therefore be started even when each of the toner cartridges is not mounted.

(2) Replacement toner cartridge

- The main body accesses the toner cartridge detection board when the front door is closed or the power switch is turned ON, thereby determining whether or not the toner cartridge is mounted.
- After the toner cartridge has been detected, the main body then determines whether the cartridge is new or not.

(3) Combination of alternative (used) toner cartridge

- It is prohibited to use the alternative (used) toner cartridge among the same model.

NOTE

- **Whenever a toner cartridge is replaced, it must be replaced with an unused new one. If the toner cartridge is replaced with a used one, the message may not be cleared or the amount of toner still available for use is not correctly displayed.**

6.3.6 Toner consumption rate detection

- The toner consumption rate is calculated based on the toner supply time (the number of times the toner supply clutch is energized).
- The toner level (approximate threshold) can be checked with statistics page, control panel, or PageScope Web Connection.

6.3.7 Toner life detection

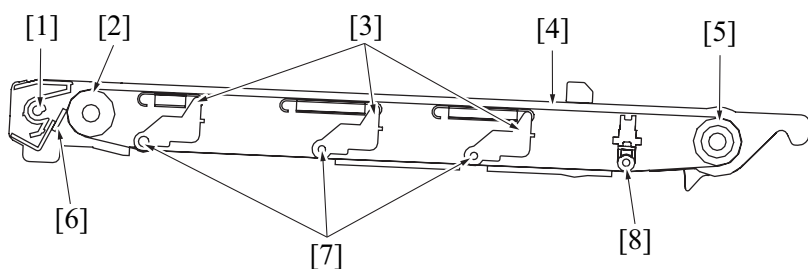
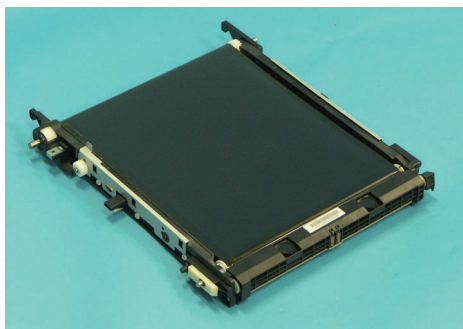
- A near life (near-empty) condition of the toner cartridge is detected based on the toner supply time (the number of times the toner supply clutch is energized) of each color of toner.
- When a near life condition is detected, a corresponding message will appear on the control panel.
- A life (empty) condition of the toner cartridge is detected by the toner level sensor.
- If the toner level sensor detects a life (empty) condition and toner is not replenished after the lapse of a predetermined period of time thereafter, the main body determines that there is an empty condition, giving a corresponding message on the control panel and stopping to operate.

6.3.8 Monochrome prints

- The color print is disabled when any of the C, M, and Y toner cartridges is empty. Monochrome print only is, however, enabled if the K toner cartridge is not empty.
- The monochrome print is also controlled by the ordinary near-empty and empty condition detection methods.

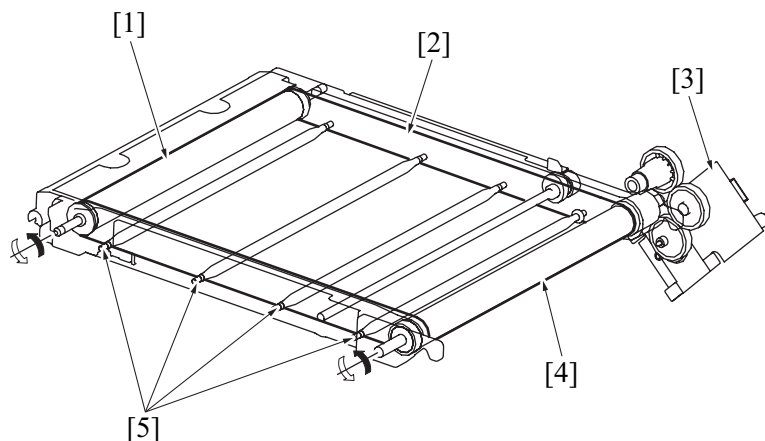
7. 1ST TRANSFER SECTION

7.1 Configuration



[1]	Waste toner collecting screw	[2]	Driven roller
[3]	Release lever	[4]	Transfer belt
[5]	Transfer belt drive roller	[6]	Cleaning blade
[7]	1st transfer roller/Y, M, C	[8]	1st transfer roller/K

7.2 Drive



[1]	Driven roller	[2]	Transfer belt
[3]	Transport motor (M2)	[4]	Transfer belt drive roller
[5]	1st transfer roller/Y, /M, /C, /K	-	-

7.3 Operation

7.3.1 1st transfer output control

- To transfer the toner image from the photo conductor to the transfer belt, the transfer voltage is applied to the 1st transfer roller.
- A charge of the same potential is applied to each of the 1st transfer rollers.
- The transfer voltage is applied after the 1st transfer roller/Y, M, C is pressed against the transfer belt for color mode.
- The transfer output is turned OFF after the last image moves past the 2nd transfer section.

(1) Monochrome mode

- The 1st transfer roller/Y, M, C is moved inward the unit (for retraction) and the photo conductor/Y, M, C is stopped.

(2) Color mode

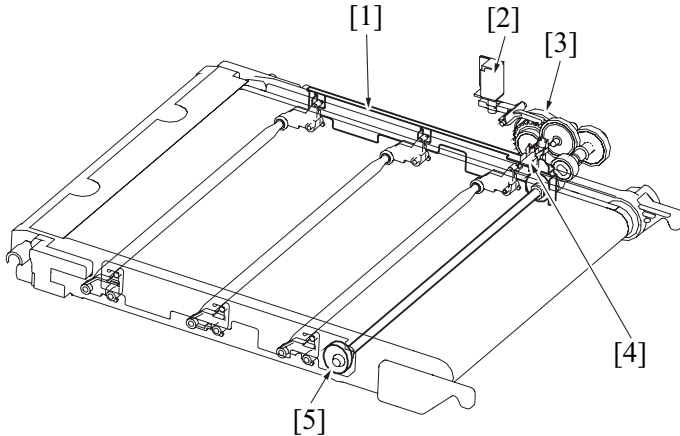
- During the 1st transfer in the color mode, the 1st transfer roller/Y, M, C is moved toward the photo conductor (pressed) so that transfer belt is pressed against the photo conductor.

(3) Others

- The transfer roller is moved (retracted) and the photo conductor is stopped in the ordinary standby state.

7.3.2 1st transfer roller pressure/retraction control

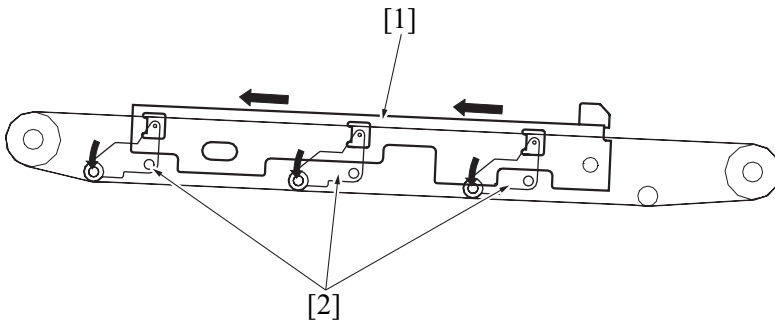
- To extend the service life of the photo conductor/Y, M, C, the pressure position of the 1st transfer roller is changed between the monochrome mode and the color mode.
The 1st transfer roller/K is not provided with a retraction mechanism; the transfer belt is pressed against the photo conductor/K at all times.
- The Transport motor provides the drive for pressure/retraction operation of the 1st transfer roller/Y, M, C.



[1]	Sliding plate	[2]	1st transfer pressure solenoid (SD1)
[3]	Pressure/release clutch	[4]	1st transfer pressure sensor (PS17)
[5]	Pressure cam	-	-

(1) 1st transfer roller pressure operation

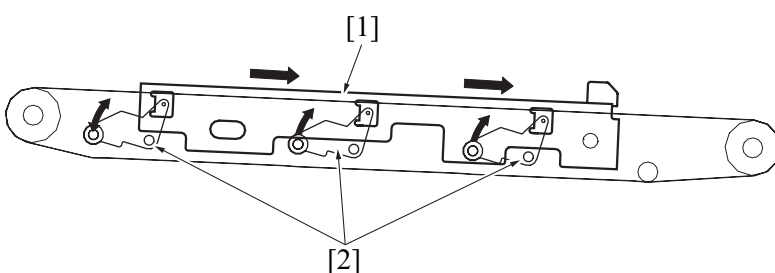
1. Rotation of the Transport motor is transmitted by a gear train to the pressure/release clutch.
2. Drive through the pressure/release clutch rotates the pressure cam a half turn, thus pushing back the sliding plate.
3. As the sliding plate is pushed back, the release lever turns.
4. As the release lever turns, the 1st transfer roller is pressed against the transfer belt.



[1]	Sliding plate	[2]	Release lever
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(2) 1st transfer roller release operation

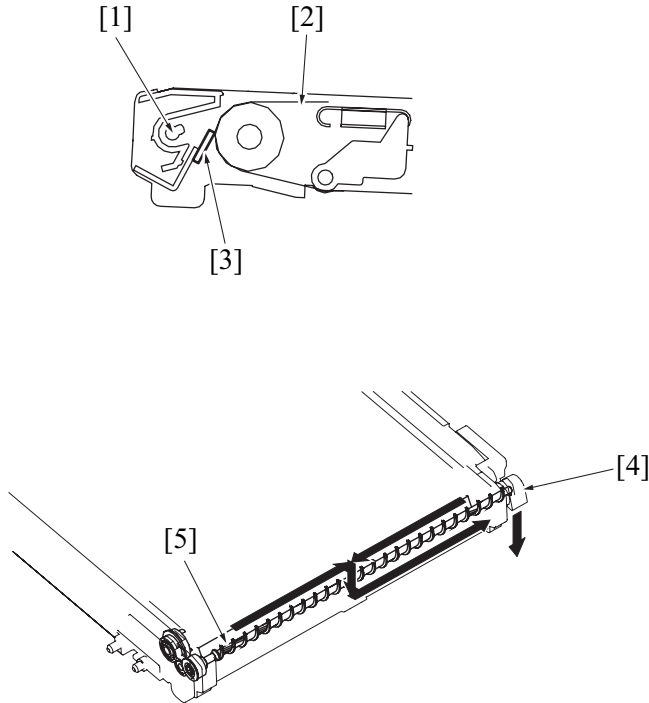
1. Rotation of the Transport motor is transmitted by a gear train to the pressure/release clutch.
2. Drive through the pressure/release clutch rotates the pressure cam a half turn, thus pushing the sliding plate.
3. As the sliding plate is pushed, the release lever turns.
4. As the release lever turns, the 1st transfer roller is released from the transfer belt.



[1] Sliding plate	[2] Release lever
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7.3.3 Transfer belt cleaning mechanism

- To scrape residual toner off the surface of the transfer belt unit, the transfer belt is provided with a cleaning blade.
- The cleaning blade is in pressed contact with the transfer belt at all times. That is, it cleans the surface of the transfer belt as long as the belt turns.
- The toner scraped off by the cleaning blade is collected to the middle of the transfer belt by the waste toner collecting screw.
- The collected waste toner is conveyed from the waste toner discharge port of the transfer belt unit to the waste toner bottle by way of the waste toner collecting screw.



[1] Waste toner collecting screw	[2] Transfer belt
[3] Cleaning blade	[4] Waste toner discharge port
[5] Waste toner collecting screw	- -

7.3.4 1st transfer belt backward rotation control

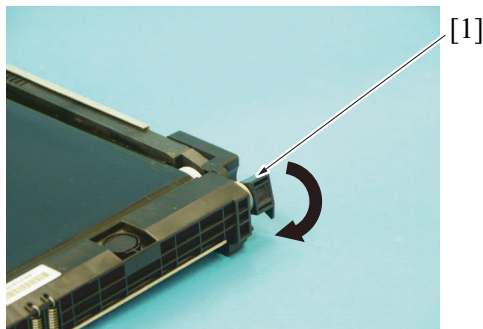
- To prevent paper dust, toner, and other foreign matter from being wedged in the cleaning blade while the transfer belt remains stationary, the transfer belt is turned backward so that the foreign matter can be removed.

(1) Operation timing

- At the end of the print cycle
- Main body interior temperature is a predetermined value or less.

7.3.5 Toner collecting port shutter mechanism

- A shutter mechanism is provided to prevent waste toner from being spilled from the waste toner discharge port when the transfer belt unit is removed and reinstalled.
- The shutter is fitted to the transfer belt unit. When the transfer belt unit is removed, the waste toner discharge port is automatically closed.



[1] Shutter	- -
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7.3.6 Transfer belt new article detection

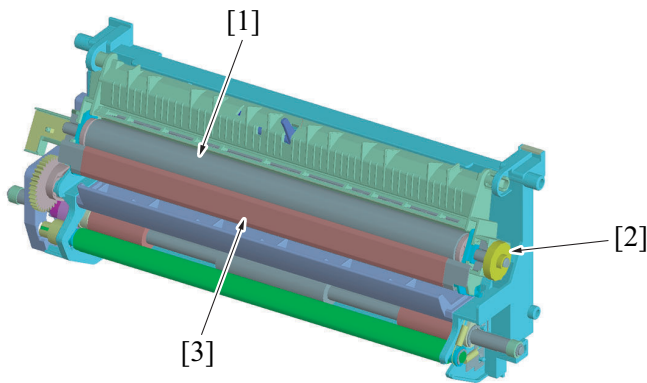
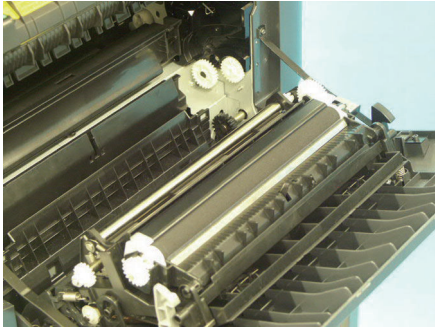
- The transfer belt unit is not provided with any new article detection mechanism. Whenever the transfer belt has been replaced with a new one, the following steps must be performed: in the service mode, select [COUNTER] -> [LIFE] -> [REPLACE] -> [TRANS. BELT] and select [YES] to reset the counter.

7.3.7 Transfer belt life detection

- Count the sheets of paper, rotating time of the transfer belt, and detect any of them where the value reaches the life limit.
- After life detection, life stop does not work even when a message appears on the control panel.

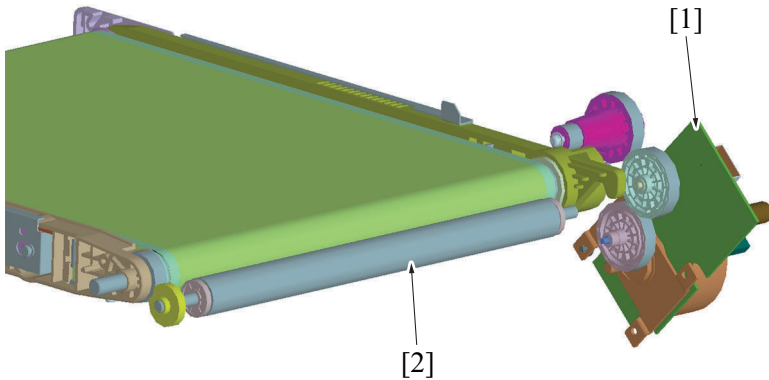
8. 2ND TRANSFER SECTION

8.1 Configuration



[1]	2nd transfer roller	[2]	Retraction gear
[3]	Pre-transfer guide plate	-	-

8.2 Drive



[1]	Transport motor (M2)	[2]	2nd transfer roller
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8.3 Operation

8.3.1 2nd transfer roller pressure mechanism

- The main body is provided with a mechanism that presses the 2nd transfer roller up against, and retracts it from, the transfer belt. This is done to prevent the 2nd transfer roller from being dirtied due to patterns produced for purposes other than an actual printing operation and to prevent creep that would otherwise occur between the transfer belt and the 2nd transfer roller as a result of tight contact between them at all times.
- The IDC sensor serves to determine whether the two parts are in contact with, or separated from, each other.
- When the registration clutch and the 2nd transfer pressure solenoid are energized, drive of the gear train is transmitted to the lever of the IDC sensor, closing the IDC sensor shutter. When the shutter is closed, the IDC sensor outputs a predetermined value, which allows the main body to determine that the 2nd transfer roller is pressed up against the transfer belt.

(1) 2nd transfer roller pressure

- The 2nd transfer roller is pressed against the transfer belt to allow the toner image on the transfer belt to be transferred onto the paper.

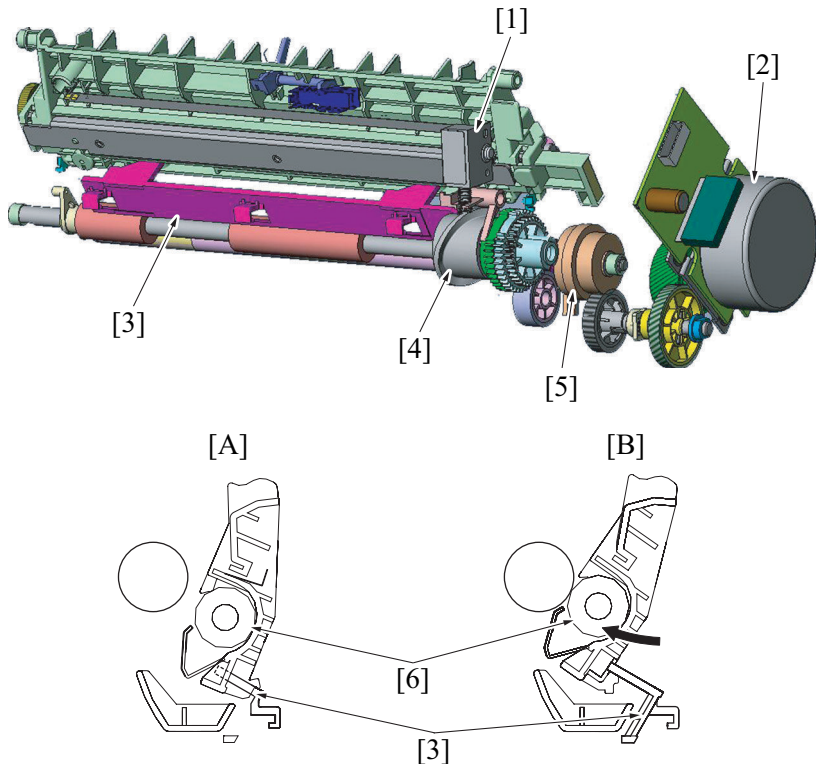
- The 2nd transfer roller is pressed against the transfer belt to allow the roller to be cleaned.

(2) 2nd transfer roller retraction

- The 2nd transfer roller is retracted from the transfer belt at timing when a detection pattern is produced on the transfer belt during, for example, an image stabilization control sequence.
- The 2nd transfer roller is also retracted from the transfer belt when the image on the transfer belt cannot be transferred onto paper due to a paper empty condition during a print cycle.
- The 2nd transfer roller is retracted from the transfer belt after the 2nd transfer of the last image is completed during a multi-print cycle.

(3) Pressure/release operation

1. When the registration clutch and the 2nd transfer pressure solenoid are energized, the rotation is transmitted to the release cam via a coupling gear.
2. When the release cam is rotated a half turn, the release slider moves to the front side of the main body, which results in the 2nd transfer roller being pressed against the transfer belt.
3. When the registration clutch and the 2nd transfer pressure solenoid are energized a second time, the release cam is rotated another half turn. This moves the release slider toward the back side of the main body, which results in the 2nd transfer roller being retracted from the transfer belt.



[1]	2nd transfer pressure solenoid (SD2)	[2]	Transport motor (M2)
[3]	Release slider	[4]	Release cam
[5]	Registration clutch(CL3)	[6]	2nd transfer roller
[A]	Release	[B]	Pressure

8.3.2 2nd transfer voltage control

- The transfer voltage is applied to the 2nd transfer roller in order to transfer the toner image from the transfer belt to the paper.
- The transfer voltage is applied after the 2nd transfer roller has been pressed against the transfer belt.

8.3.3 2nd transfer voltage setting control (ATVC: auto transfer voltage control)

- The transfer voltage is corrected to reduce effect from the transfer belt and environmental changes of toner.

(1) Operation timing

- A print request is accepted.
- During a multi-print cycle, the temperature inside the main body changes by a predetermined value or more from the level during execution of ATVC, and a predetermined number of printed pages or more have been produced since the execution of the previous ATVC.

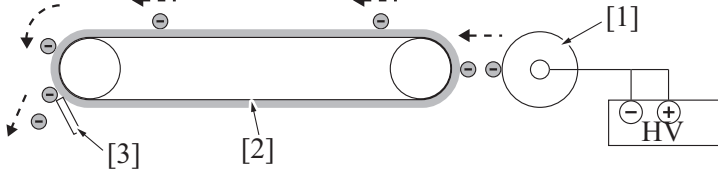
(2) Control

1. The 2nd transfer roller is pressed against the transfer belt.
2. A constant current is applied to the 2nd transfer roller.
3. The voltage of the 2nd transfer roller surface is detected.
4. Using a conversion formula, the output value of the transfer voltage is determined.

5. The current temperature inside the main body is detected and backed up.

8.3.4 2nd transfer roller cleaning control

- DC positive and negative transfer bias voltages are alternately applied to the 2nd transfer roller. This allows toner residue on the surface of the 2nd transfer roller to be transferred back to the transfer belt, thus cleaning the 2nd transfer roller.
- Any voltage for other control purposes is not applied during the cleaning procedure.
- The toner transferred back to the transfer belt is collected by the cleaning blade.



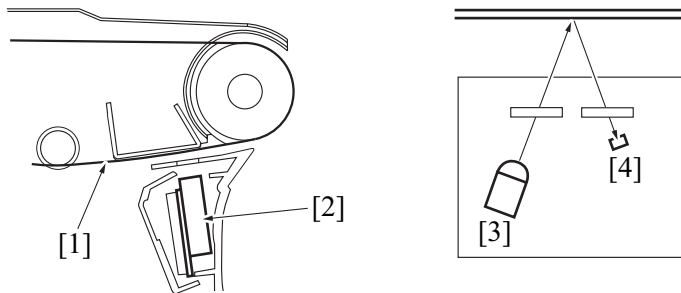
[1]	2nd transfer roller	[2]	Transfer belt
[3]	Cleaning blade	-	-

(1) Operation timing

- The 2nd transfer roller cleaning sequence is carried out after the transfer belt has been cleaned during recovery from a paperjam or malfunction.
- If a predetermined number of printed pages or more have been produced after the last cleaning sequence when the printer completes a print cycle and is then brought to a stop, a new cleaning sequence is carried out before the printer is brought to a stop.
- The cleaning sequence is carried out when a paper size error occurs.

8.3.5 Toner density detection control

- A reflective sensor is used for the IDC sensor that detects the amount of toner sticking to the surface of the transfer belt. Image stabilization is performed based on the value detected.
- The detection pattern (toner image) produced on the surface of the transfer belt is irradiated with light emitted by the LED of the sensor.
- The photodiode of the sensor detects the light reflected off the toner pattern on the surface of the transfer belt.



[1]	Transfer belt surface	[2]	IDC sensor
[3]	LED	[4]	Photodiode

- A voltage corresponding to the intensity of the light reflected off the toner pattern is output to the MFP board.

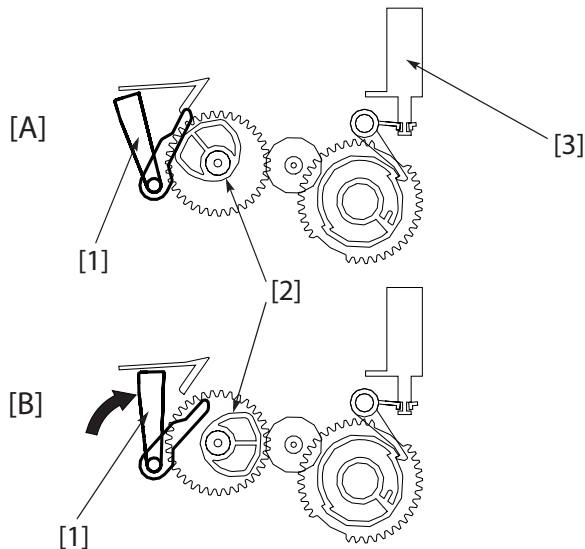
Amount of toner sticking	Intensity of light reflected	Output
Large	Small	Low
Small	Great	High

8.3.6 IDC sensor calibration control

- Changes in various types of characteristics due to change with time of the IDC sensor (deteriorated LED, dirty sensor surface), part-to-part variations in the sensors, and change of environment affect the IDC sensor output corresponding to the clear transfer belt surface. To correct fluctuations in the output, the sensor LED intensity is adjusted so as to keep constant the IDC sensor output value.
- This calibration is executed when an image stabilization sequence is performed.

8.3.7 IDC sensor cover open/close mechanism

- Since the IDC sensor is installed below the transfer belt, it can be dirtied with toner or other foreign matter. A shutter mechanism is therefore provided above the IDC sensor to prevent it from being dirtied.
- The cover is opened or closed in synchronism with the pressure or retraction motion of the 2nd transfer roller. When the 2nd transfer roller is released, the cam pushes up the sensor lever, which opens the cover above the IDC sensor.
- When the 2nd transfer roller is pressed, on the other hand, the cover above the IDC sensor is closed by the tension of a spring.



[A]	Cover open	[B]	Cover close
[1]	IDC sensor cover	[2]	Cam
[3]	2nd transfer pressure solenoid	-	-

8.3.8 2nd transfer roller new article detection

- The 2nd transfer roller is not provided with any new article detection mechanism. Whenever the 2nd transfer roller has been replaced with a new one, the following steps must be performed: in the service mode, select [COUNTER] -> [LIFE] -> [REPLACE] -> [TRANS. ROLLER] and select [YES] to reset the counter.

8.3.9 2nd transfer roller life detection

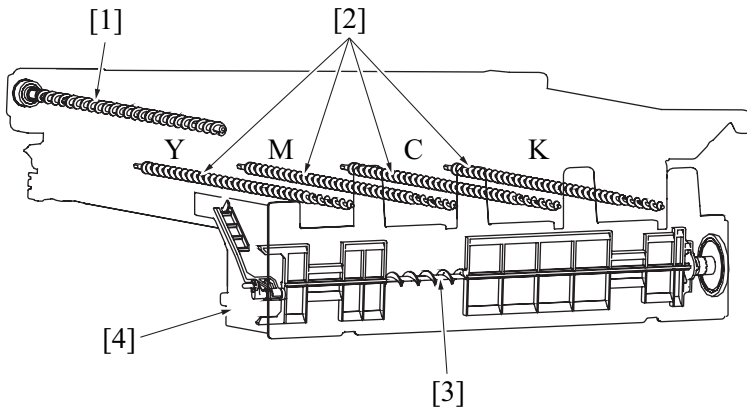
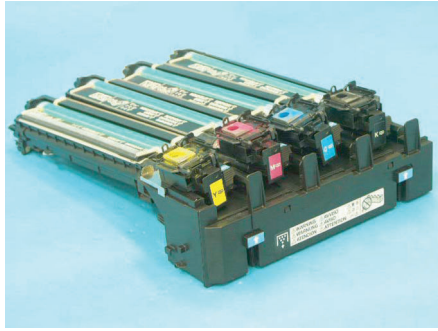
- The number of printed pages is counted, and will be detected when it reaches the life limit.
- After life detection, the life stop does not work even when a message appears on the control panel.

8.3.10 Image processing

- The following image stabilization function is available as they relate to the 2nd transfer section. For more details, see [O.16.2.1 IDC sensor output correction](#).
 - IDC sensor output correction

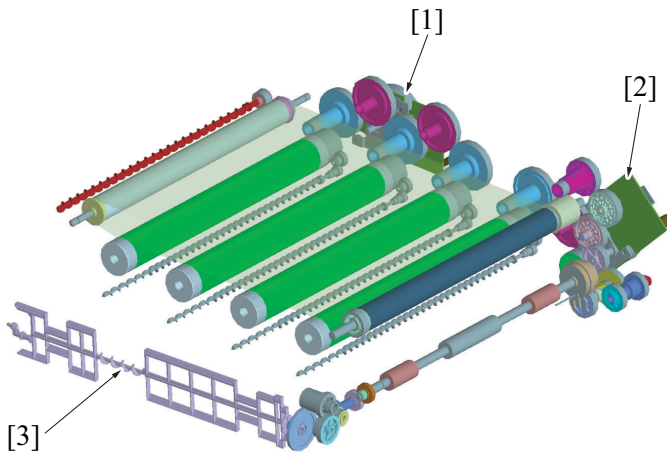
9. TONER COLLECTING SECTION

9.1 Configuration



[1]	Waste toner collecting screw (Transfer belt)	[2]	Waste toner collecting screw (Imaging unit)
[3]	Waste toner agitating blade	[4]	Waste toner bottle

9.2 Drive

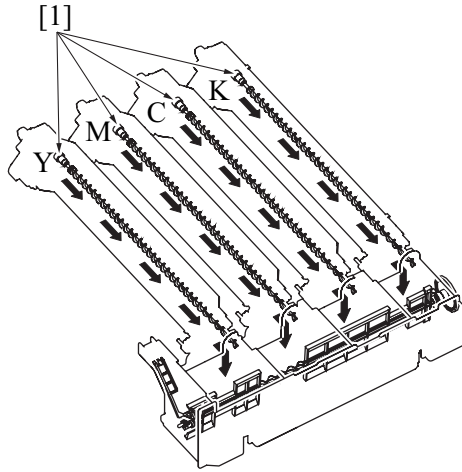


[1]	Color PC drum motor (M4)	[2]	Transport motor (M2)
[3]	Waste toner agitating blade	-	-

9.3 Operation

9.3.1 Toner flow at the imaging unit section

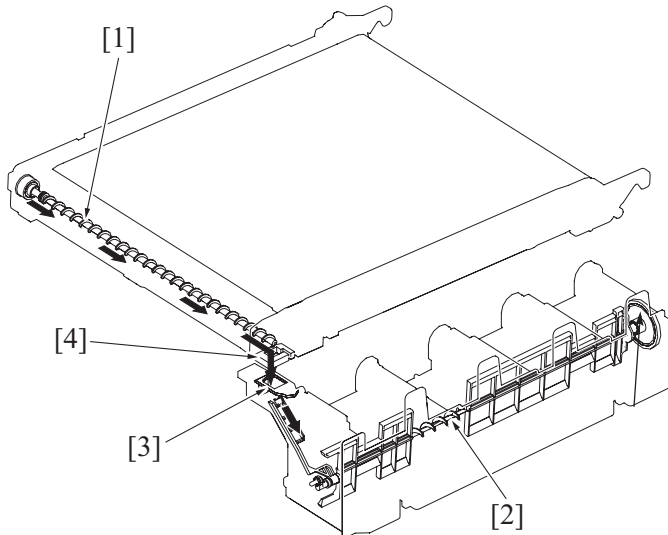
1. Toner scraped off by the cleaning blade in the imaging unit is conveyed to the waste toner discharge port by the waste toner collecting screw.
2. The waste toner conveyed is stored in the waste toner bottle.



[1]	Waste toner collecting screw	-	-
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9.3.2 Waste toner flow at transfer belt unit section/2nd transfer section

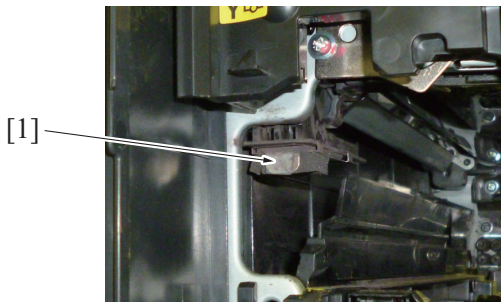
1. Toner scraped off by the cleaning blade provided in the transfer belt unit is collected onto the waste toner discharge port of the transfer belt unit by the waste toner collecting screw.
2. The waste toner collected is conveyed to the waste toner bottle by the waste toner agitating blade from the waste toner collecting port that is provided in the middle of the transfer belt unit.



[1]	Waste toner collecting screw	[2]	Waste toner agitating blade
[3]	Waste toner collecting port	[4]	Waste toner discharge port

9.3.3 Waste toner collecting port shutter mechanism

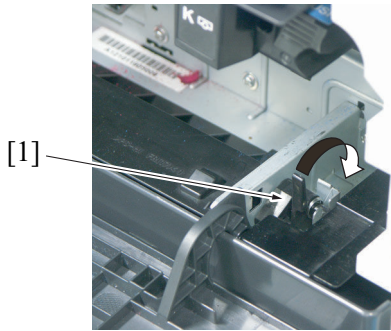
- A shutter mechanism is provided to prevent waste toner from being spilled from the waste toner collecting port when the waste toner bottle is removed or reinstalled.
- Inserting the waste toner bottle causes the shutter stopper to be caught by the frame of the main body, which automatically opens the shutter.



[1]	Shutter stopper	-	-
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9.3.4 Waste toner bottle-in-position detection mechanism

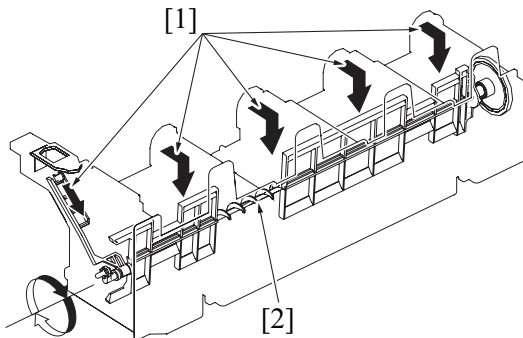
- The waste toner bottle set detection lever is provided to detect a waste toner bottle loaded in position.
- When the waste toner bottle is not loaded, the set detection lever is raised, so that the protrusion provided in the front door interferes with the set detection lever. Then, the front door cannot be closed.



[1]	Set detection lever	-	-
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9.3.5 Waste toner flow in the waste toner bottle

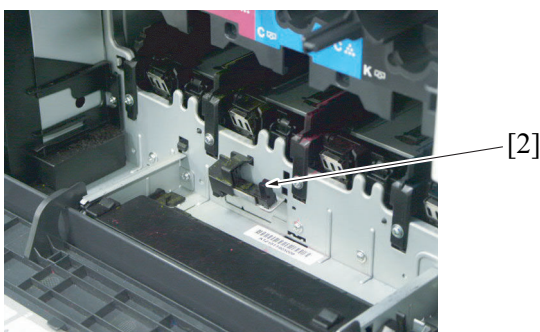
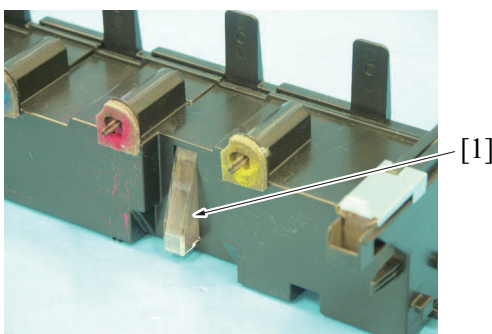
- Waste toner conveyed from the transfer belt and each of the imaging units is evened out in the waste toner bottle by the waste toner agitating blade.
- The waste toner bottle is provided with a detection window. The waste toner near full sensor is unblocked or blocked through the detection window to detect the amount of waste toner in the waste toner bottle.
- The waste toner near full sensor is blocked, which allows the main body to determine a waste toner near-full condition.



[1]	Waste toner	[2]	Waste toner agitating blade
-----	-------------	-----	-----------------------------

9.3.6 Waste toner near-full condition detection control

- A waste toner near-full condition is detected when the Waste toner near full sensor continuously blocks for a predetermined period of time.
- At this time, a waste toner near-full condition warning is given on the panel.
- Approx. 600 printed pages can be produced for the period of time that begins when the waste toner near-full condition is detected and ends when the lifetime is reached.



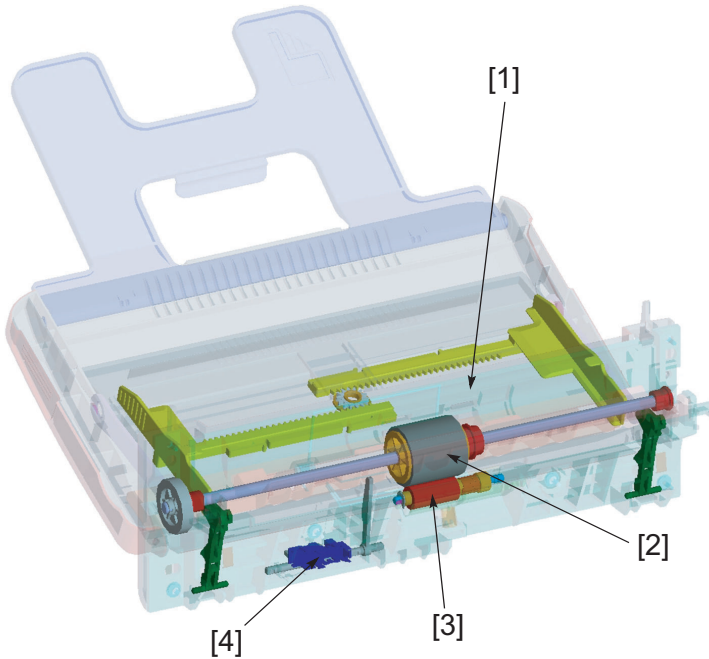
[1] Detection window	[2] Waste toner near full sensor (PS12)
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9.3.7 Waste toner full condition detection control

- A waste toner full condition warning is given on the panel at this time.
- The main body accepts no print job after the waste toner full condition has been detected.
- The waste toner full warning indication disappears when a new waste toner bottle is installed.

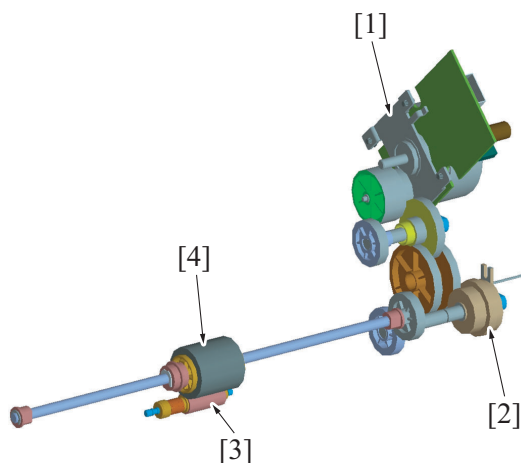
10. PAPER FEED SECTION (MANUAL TRAY)

10.1 Configuration



[1]	Paper lift plate	[2]	Feed roller
[3]	Separation roller	[4]	Manual tray paper empty sensor (PS3)

10.2 Drive



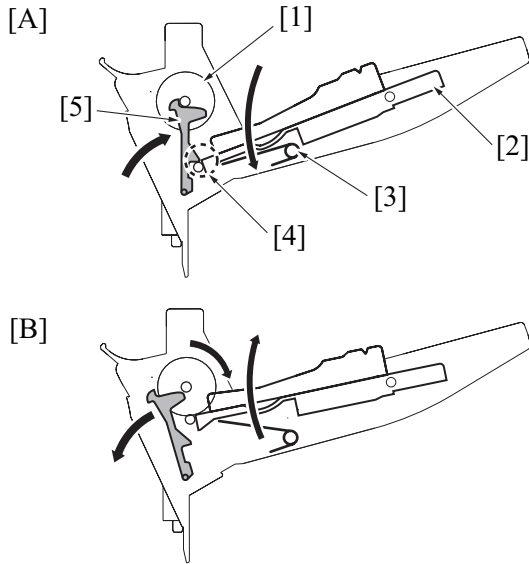
[1]	Transport motor (M2)	[2]	Manual tray paper feed clutch (CL2)
[3]	Separation roller	[4]	Feed roller

10.3 Operation

10.3.1 Paper lift plate mechanism

- The paper lift plate will be locked under the paper lift plate lock lever by pressing it down (in which the paper is loaded in position).
- The manual tray paper feed clutch causes the feed roller shaft to rotate, which causes the paper lift plate lock lever to follow the motion to thereby release the paper lift plate.
- The paper lift plate (paper stack) is pressed against the feed roller.

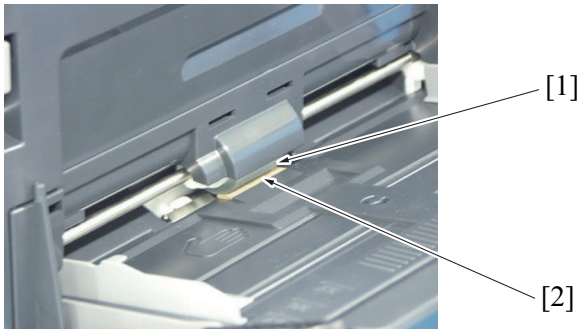
- The paper lift plate (paper stack) is pressed upward by the springs at all times.



[A]	LOCK POSITION	[B]	LOCK RELEASE POSITION
[1]	Feed roller	[2]	Paper lift plate
[3]	Spring	[4]	Locked position
[5]	Paper lift plate lock lever	-	-

10.3.2 Paper separation mechanism

- Rotation of the transport motor is transmitted through the manual tray paper feed clutch to thereby drive the feed roller.
- The feed roller rotates to take up and feed paper into the main body.
- Double-feeding of paper is prevented by the separation roller provided with a torque limiter.



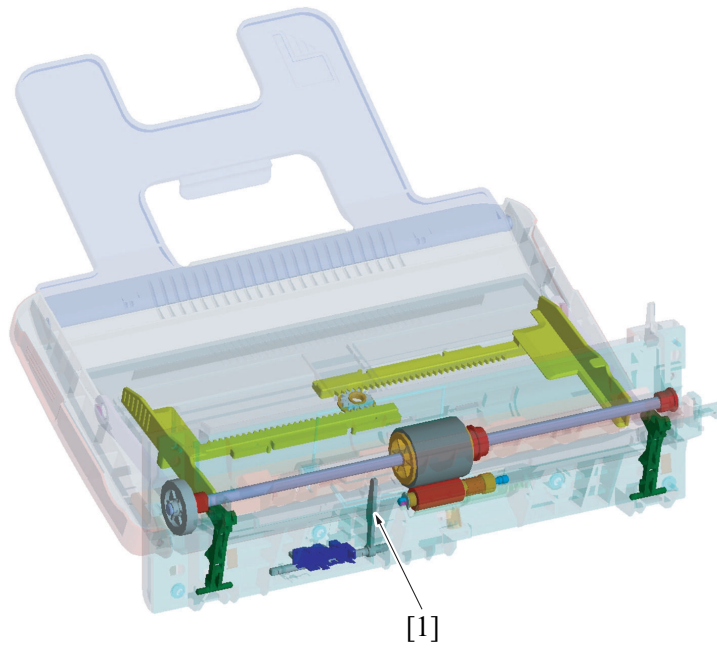
[1]	Feed roller	[2]	Separation roller
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10.3.3 Paper feed control

- Rotation of the transport motor is transmitted through the manual tray paper feed clutch to drive the feed roller to take up and feed the paper.
- The paper taken up and fed in is conveyed onto the registration roller.
- The paper is pressed against the stationary registration roller so that a loop is formed in the paper. The feed roller is then stopped. The loop thus formed in the paper corrects any mechanical skew in the paper.

10.3.4 Paper empty condition detection control

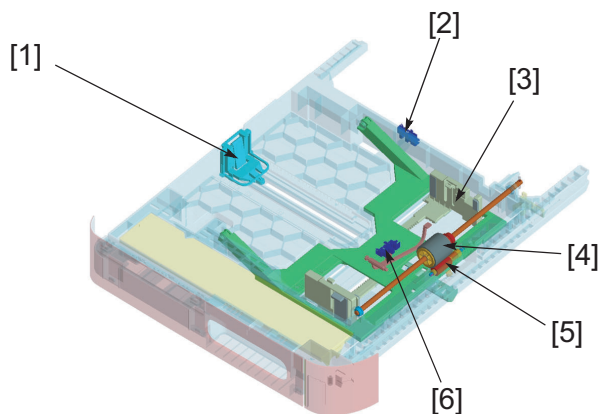
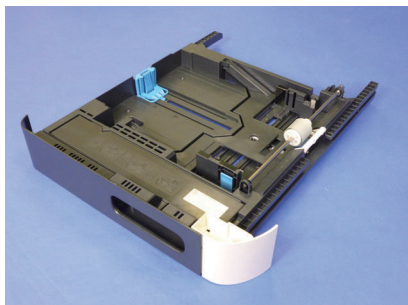
- A paper empty condition is detected when the empty sensor actuator blocks the manual tray paper empty sensor.
- No mechanism is provided for detecting a paper near-empty condition. The paper supply level indicator serves this purpose.



[1]	Actuator (Manual tray paper empty sensor)	-	-
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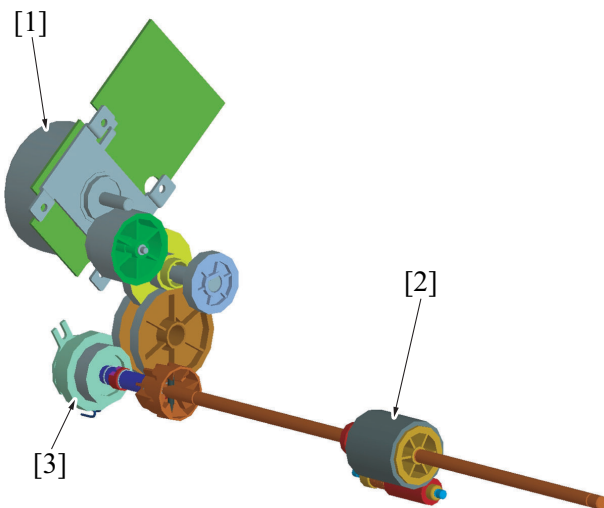
11. PAPER FEED SECTION (TRAY 1)

11.1 Configuration



[1]	Trailing edge guide plate	[2]	Tray1 set sensor (PS1)
[3]	Edge guide plate	[4]	Feed roller
[5]	Separation roller	[6]	Tray1 paper empty sensor (PS2)

11.2 Drive

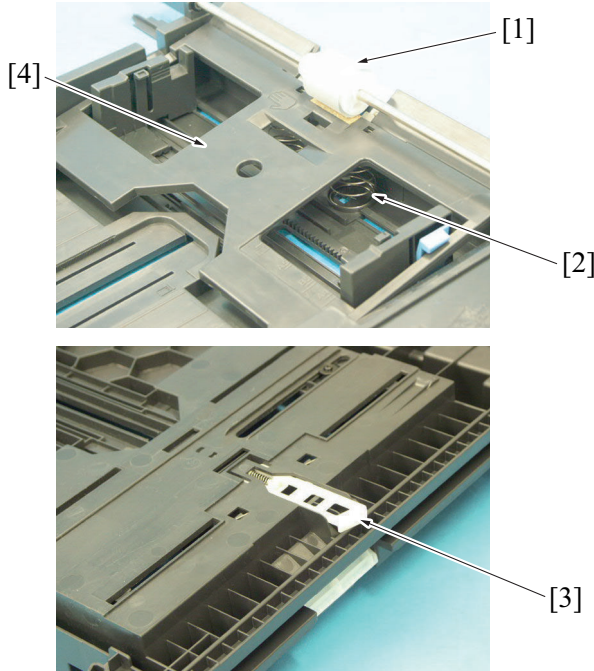


[1]	Transport motor (M2)	[2]	Feed roller
[3]	Tray 1 paper feed clutch (CL1)	-	-

11.3 Operation

11.3.1 Paper lift plate mechanism

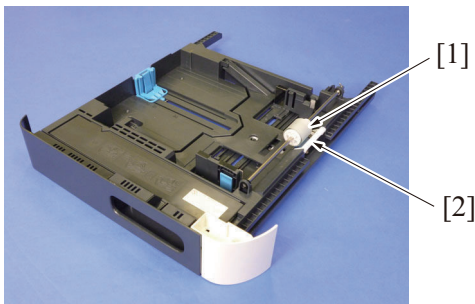
- The paper lift plate is pressed down into the locked position (in which the paper is loaded in position).
- Load a paper stack and then slide the tray into the main body. This causes the lock release lever to unlock the paper lift plate.
- The paper lift plate (paper stack) is pressed against the feed roller.
- The paper lift plate (paper stack) is pressed upward by the springs at all times.



[1]	Feed roller	[2]	Spring
[3]	Lock release lever	[4]	Paper lift plate

11.3.2 Paper separation mechanism

- Rotation of the transport motor is transmitted through the tray 1 paper feed clutch to thereby drive the feed roller.
- The feed roller rotates to take up and feed paper into the main body.
- Double-feeding of paper is prevented by the separation roller provided with a torque limiter.



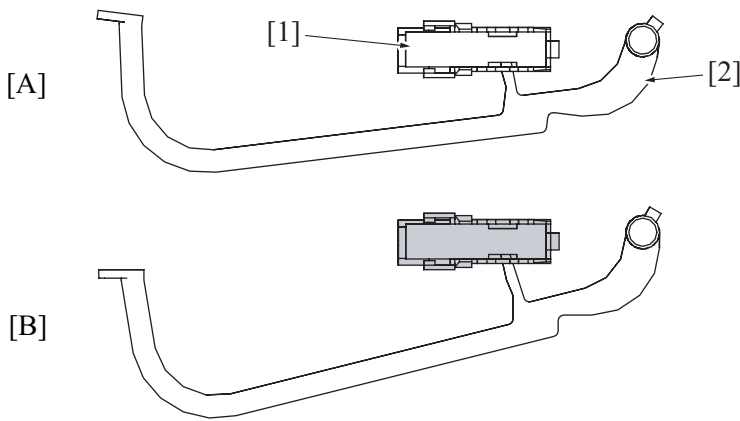
[1]	Feed roller	[2]	Separation roller
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11.3.3 Paper feed control

- Rotation of the transport motor is transmitted through the tray 1 paper feed clutch to drive the feed roller to take up and feed the paper.
- The paper taken up and fed in is conveyed onto the registration roller.
- The paper is pressed against the stationary registration roller so that a loop is formed in the paper. The feed roller is then stopped. The loop thus formed in the paper corrects any mechanical skew in the paper.
- As the trailing edge of the paper reaches a point impapertely before the feed roller, the feed roller is stopped.

11.3.4 Paper empty condition detection control

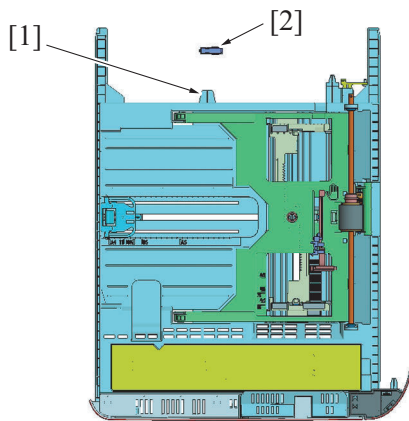
- The paper empty message "PAPER EMPTY TRAY1" is displayed on the panel when the empty sensor actuator unblocks the tray1 paper empty sensor.
- No mechanism is provided for detecting a paper near-empty condition. The paper supply level indicator replaces this function.



[A]	When paper is loaded	[B]	A paper empty condition
[1]	Tray1 paper empty sensor (PS2)	[2]	Empty sensor actuator

11.3.5 Tray open/close detection control

- The tray1 set sensor detects a tray in the open or closed position.
- The detection plate of tray1 blocks or unblocks the tray1 set sensor, which allows the main body to determine that tray1 is in place or not.



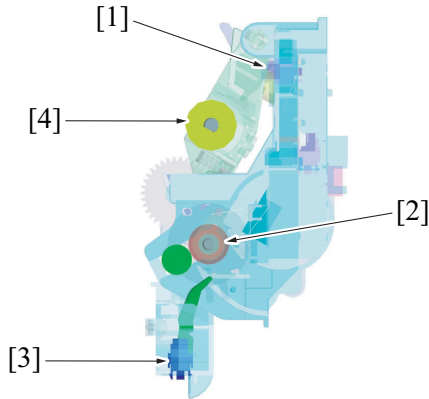
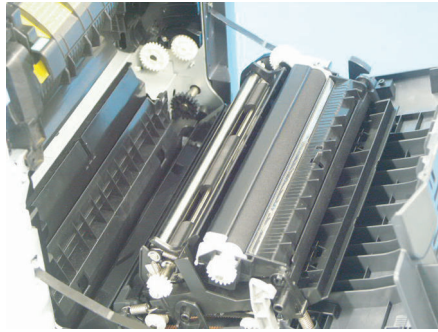
[1]	Tray detection plate	[2]	Tray1 set sensor (PS1)
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11.3.6 Paper jam detection control

- If the registration sensor is not activated within a predetermined period of time after a paper feed sequence has been started, the main body determines that there is a paperjam. It then gives the message "PAPER JAM TRAY 1" on the panel.
- The paperjam display can be reset by opening and closing any of the doors.

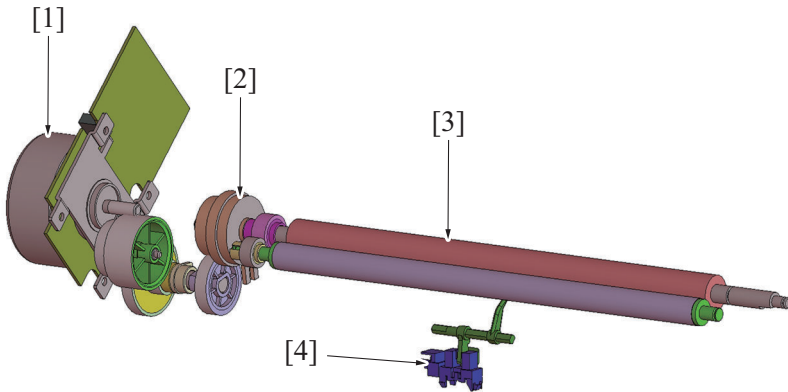
12. REGISTRATION SECTION

12.1 Configuration



[1]	Loop detection sensor (PS6)	[2]	Registration roller
[3]	Registration sensor (PS5)	[4]	2nd transfer roller

12.2 Drive



[1]	Transport motor (M2)	[2]	Registration clutch (CL3)
[3]	Registration roller	[4]	Registration sensor (PS5)

12.3 Operation

12.3.1 Conveyance speed control

- The transport motor provides drive for the conveyance section.
- The conveyance speed is variable in two steps and the appropriate one is selected according to the paper type and print mode as detailed below.

Paper type/print mode	Conveyance speed
Plain paper	185 mm/s
Thick paper, envelopes, postcards, label, 1200 dpi	92.5 mm/s

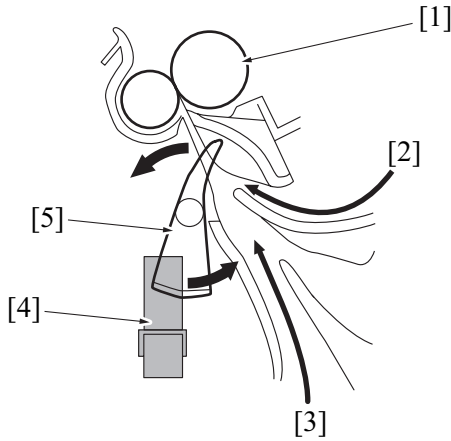
12.3.2 Registration roller control

- When the paper taken up and fed in by the feed roller reaches the registration roller, a loop is formed in the paper and paper conveyance is temporarily stopped. Conveyance skew is corrected by this loop.
- The registration sensor detects whether or not the paper has reached the registration roller.

- The paper fed in is synchronized with the image before paper conveyance is restarted.

(1) Paper detection control

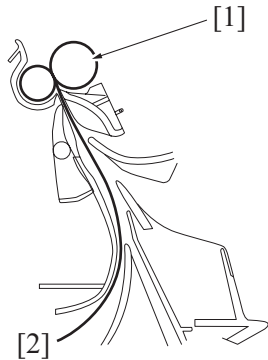
- When the paper fed from the feed roller pushes up the actuator of the registration sensor, the sensor is unblocked. The main body then determines that the paper has reached the registration roller.



[1]	Registration roller	[2]	Paper (fed from duplex)
[3]	Paper (from tray 1)	[4]	Registration sensor (PS5)
[5]	Actuator	-	-

12.3.3 Control of loop formed before registration roller

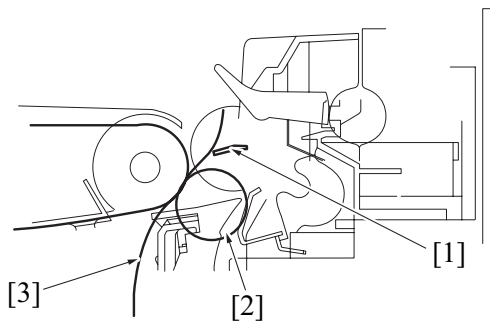
- Paper conveyance is stopped after the lapse of a predetermined period of time after the leading edge of the paper fed from the feed roller has reached the registration roller. This forms a loop in the paper.
- The loop in the paper corrects skew in the paper.



[1]	Registration roller	[2]	Paper
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12.3.4 Paper neutralization

- The charge neutralizing cloth neutralizes any charge left in the paper after the 2nd transfer process.
- The charge residue is grounded through the charge neutralizing cloth to the main body frame.



[1]	Charge neutralizing cloth	[2]	2nd transfer roller
[3]	Paper	-	-

12.3.5 Paper size error detection control

- To prevent incorrect printed pages, the size of the paper being conveyed is detected using the registration sensor and tray2 paper feed sensor (Option).
- The length of the paper is detected based on the value calculated using the period of time that begins when the sensor is activated and ends when it is deactivated for each paper source.
- For the lower feeder unit, even if the tray2 paper feed sensor does not detect a paper size error, the downstream registration sensor makes an error check again.

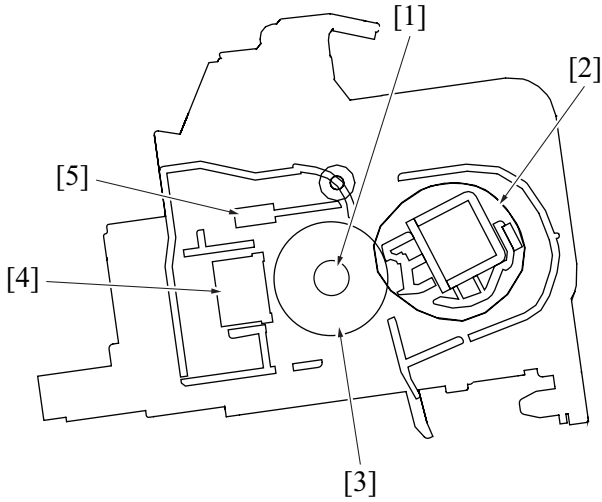
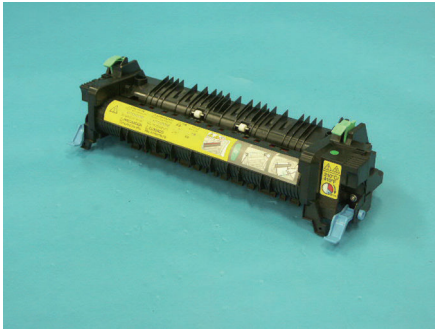
Paper source	Paper length detection sensor	Starting point	Ending point
Manual tray	Registration sensor (PS5)	Registration roller clutch (CL3): ON	Registration sensor (PS5): OFF
Tray 1	Registration sensor (PS5)	Registration roller clutch (CL3): ON	Registration sensor (PS5): OFF
Tray 2 (PF-P14)	Tray2 paper feed sensor (PS3)	Tray2 paper feed sensor (PS3): ON	Tray2 paper feed sensor (PS3): OFF
	Registration sensor (PS5)	Registration roller clutch (CL3): ON	Tray2 paper feed sensor (PS3): OFF

12.3.6 Temperature/humidity sensor

- The temperature/humidity sensor detects temperature and humidity inside the main body.
- The detected data are used for image stabilization control, ATVC control, and transfer output control.

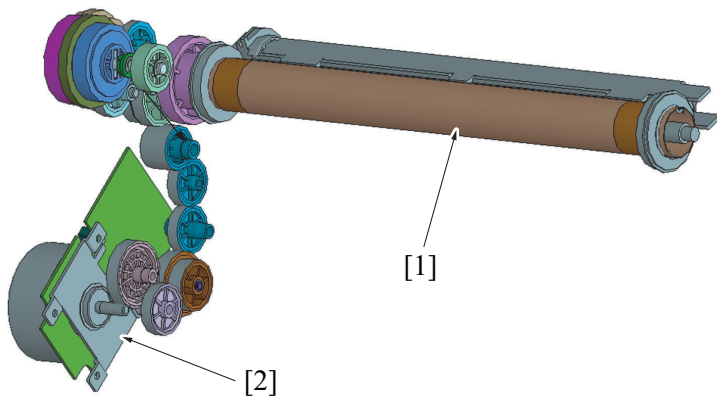
13. FUSING SECTION

13.1 Configuration



[1]	Fusing heater	[2]	Pressure belt
[3]	Fusing roller	[4]	Thermostat
[5]	Thermistor 1/2	-	-

13.2 Drive



[1]	Fusing roller	[2]	Transport motor (M2)
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13.3 Operation

13.3.1 Fusing roller drive control

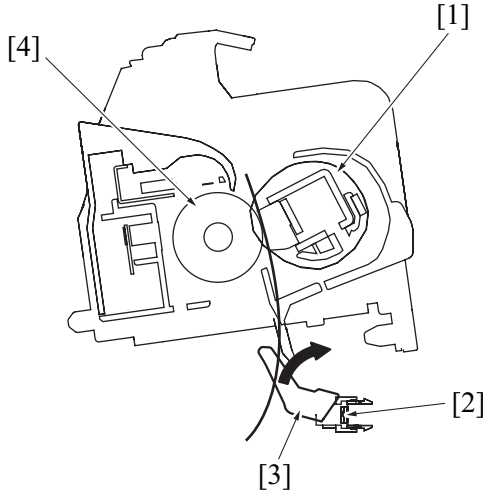
(1) Fusing speed switching control

- The transport motor provides drive for the fusing section.
- To prevent poor fusing performance, the fusing speed is changed in two steps according to the paper type.

	Plain paper (mm/s)	Thick paper, envelopes, gloss paper, 1200 dpi (mm/s)
Fusing speed	185	92.5

(2) Fusing speed control (control of loop before fusing)

- To prevent double transferred images and brush effects from occurring, the difference between the fusing speed and the paper conveyance speed during image transfer is corrected.
- The loop detection sensor detects the length of the loop formed in the paper between the 2nd transfer roller and the fusing roller. The fusing speed is then varied according to the paper type. By varying the fusing speed, paper is prevented from being misfed or contacting the charge neutralizing cloth.
- No loop control is provided to perform the fusing process when envelopes are used (to prevent wrinkles).



[1]	Pressure belt	[2]	Loop detection sensor (PS6)
[3]	Actuator	[4]	Fusing roller

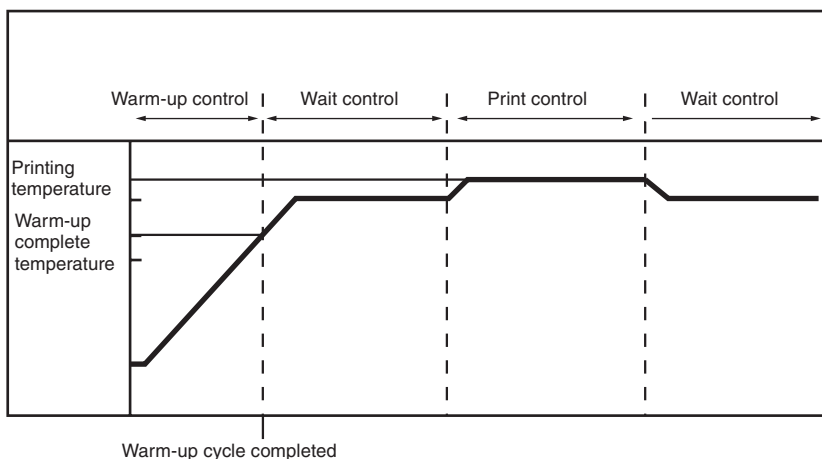
(3) Fusing roller deformation prevention control

- To prevent the fusing roller from being deformed, the fusing roller is forcibly turned if it is left idle for a predetermined period of time.
- Operation timing
 1. If the main body remains in the standby state for more than a predetermined period of time, the fusing motor is energized for a predetermined period of time.
 2. If the main body remains in the power save mode for more than a predetermined number of days, the temperature adjustment is started. After the temperature rises to a predetermined value or more, the transport motor is energized for a predetermined period of time.

13.3.2 Fusing temperature control

- To fuse the toner image on the paper (image yet to be permanently fixed) properly into the paper, the heater lamps are turned ON and OFF as necessary to bring the fusing temperature to an appropriate level.
- Thermistors are used to detect the surface temperature of the Fusing roller. The heater lamps are then turned ON and OFF as necessary to achieve the set temperature.

<Temperature control for plain paper, A4, full color print, ordinary start>



(1) Warm-up control

- Control is provided until the Fusing roller reaches the predetermined level.
- 1. Control start timing
 - The power switch is turned ON.
 - The main body leaves the power save mode.
 - A door is closed.
- 2. Control termination timing
 - The Fusing roller reaches a predetermined temperature.

- A door is opened.

(2) Wait control

- Control is provided to ensure that the temperature of the fusing roller becomes a constant value during the standby state.
1. Control start timing
 - At the end of the warm-up control
 - At the end of a print cycle
 2. Control termination timing
 - At the start of a print cycle
 - A door is opened.
 - A malfunction or paperjam occurs.

(3) Print control

- The fusing speed and fusing temperature are controlled to ensure a sufficient fusing strength.
1. Control start timing
 - A print request is received.
 2. Control termination timing
 - A malfunction or paperjam occurs.
 - A door is opened.
 3. Print control temperatures
 - The fusing roller temperature is set according to the type of paper, main body interior temperature (as measured by the temperature/humidity sensor), and warm-up start temperature.
 - For types of paper other than plain paper, the fusing speed is controlled at the 1/2 speed.
 4. Print control temperature adjustments
 - The temperature during print control is adjusted using the menu available from the control panel. The temperature can, however, be decreased only.
 - Adjustment steps are 0°C, -5°C, and -10°C.

(4) Temperature control during the power save mode

- The fusing heater is turned OFF during the power save mode.

13.3.3 Protection from abnormal temperatures

- The main body provides protection at three different stages to prevent abnormal temperatures of the fusing unit.
 1. Thermistor protection (Soft protection)
 2. Thermistor protection (Hard protection)
 3. Thermostat protection

(1) 1st stage: Thermistor protection (Soft protection)

- If the thermistor detects a temperature exceeding a predetermined value, the malfunction code representing abnormal temperatures is displayed. At this time, the heater lamps are turned OFF forcibly and the initiation of any new print cycle is prohibited.

(2) 2nd stage: Thermistor protection (Hard protection)

- The following hard protection control is provided if the CPU overruns and becomes unable to detect an abnormal temperature.
 1. The thermistor/1 or thermistor/2 detect a temperature exceeding a predetermined value.
 2. The remote signal for the corresponding heater lamp of the DC power supply is forcibly turned OFF through the MFP board.
 3. The triac circuit on the DC power supply is turned OFF to shut down the power supply to the corresponding heater lamp.
 4. The heater lamp is forcibly turned OFF.
 5. The temperature detected by the thermistor/1 or thermistor/2 is decreased to a level below the predetermined value.
 6. The remote signal forcible OFF of the corresponding heater lamp is reset so that power supply to the heater lamp is resumed.

(3) 3rd stage: Thermostat protection

- If neither the soft protection nor hard protection can detect an abnormal temperature due to a defective thermistor or other reason, the thermostat operates at a specified temperature. This shuts down the power supply to the fusing heater lamp, thus forcibly turning them OFF.

13.3.4 Fusing speed control

1. PPM control

- The PPM control is performed to inhibit the temperature of the fusing roller from decreasing during a multi-print cycle and the temperatures of the edges of the roller from increasing.
- Running a multi-print cycle causes the temperature of the fusing roller to decrease, thus degrading fusing performance of the printed image.

To prevent this, fusing performance is estimated from the surface temperature of the fusing roller; the distance between sheets of paper is then widened according to the length of the paper and the fusing speed, thereby allowing the fusing roller and pressure belt to recover their temperatures to thereby achieve satisfactory fusing performance of the printed toner image.
- If a multi-print cycle is run using plain paper of a small size (B5, A5) or thick paper of a small size (B5, A5, postcards), a difference is produced in temperature between the center portion of the roller/belt (the surface over which the paper moves past) and the edges of the roller/belt (where no part of the paper moves past). To inhibit this situation, the distance between sheets of paper is widened and the temperature of the fusing roller is thereby made uniform.
- The PPM control is also performed during a two-sided print cycle to produce a predetermined number of printed pages or more continuously.

Only the plain paper (A4, Letter, B5) is subject to this control.

13.3.5 Detecting New Article

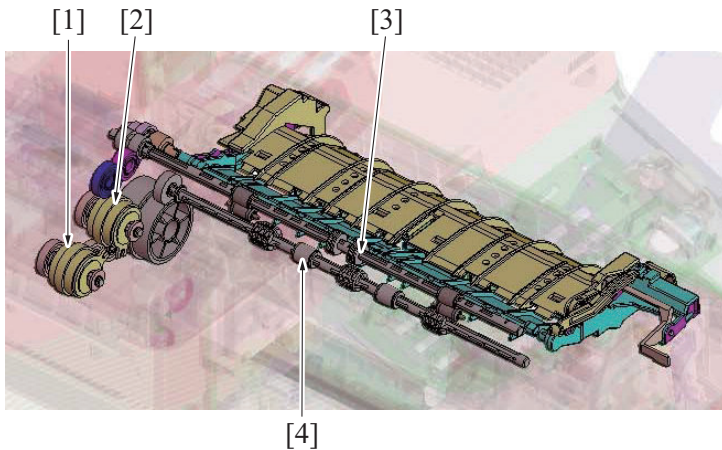
- The fusing roller is not provided with any new article detection mechanism. Whenever the fusing roller has been replaced with a new one, the following steps must be performed: in the service mode, select [COUNTER] -> [LIFE] -> [REPLACE] -> [FUSER UNIT] and select [YES] to reset the counter.

13.3.6 Fusing unit life detection

- Count the sheets of paper, driving time of the fusing unit and the time when the fusing heater turning ON, and detect any of them where the value reaches the life limit.
- After life detection, life stop does not work even when a message appears on the control panel.

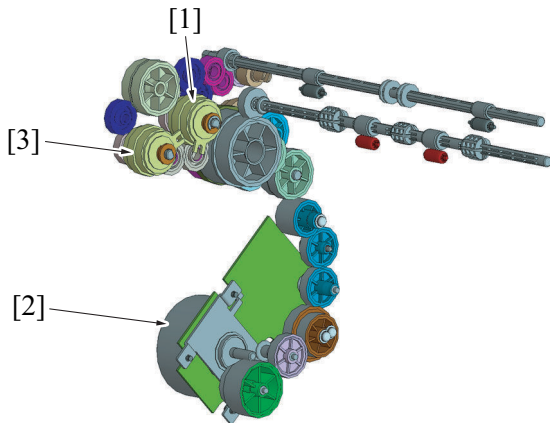
14. PAPER EXIT/REVERSE SECTION

14.1 Configuration



[1]	Switchback roller reverse clutch (CL12)	[2]	Switchback roller feed clutch (CL11)
[3]	Switchback roller reverse	[4]	Paper exit roller

14.2 Drive



[1]	Switchback roller feed clutch (CL11)	[2]	Transport motor (M2)
[3]	Switchback roller reverse clutch (CL12)	-	-

14.3 Operation

14.3.1 Transport control

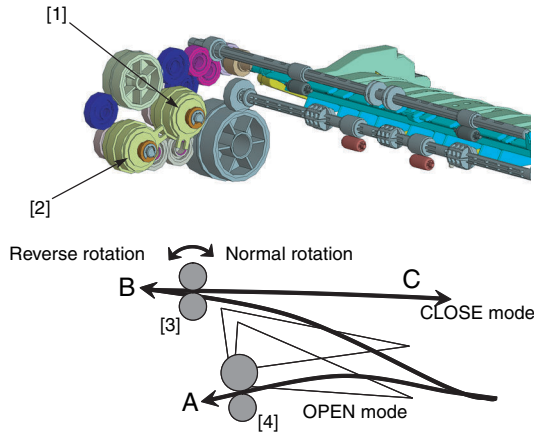
(1) Paper exit switching mechanism

- The paper transport path is switched between one in the exit direction and one toward the switchback roller.
- The path is switched through the combination of the two clutches, switchback roller feed clutch and switchback roller reverse clutch. The direction of paper travel is controlled by the position of the switchback guide and normal or reverse rotation of the switchback roller.

The two clutches are never energized at the same time.

1. Normal/reverse rotation clutch motion

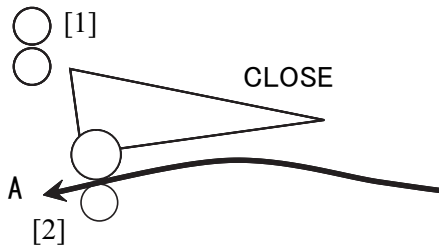
Transportation route	Switchback roller rotating direction	Normal rotation clutch	Reverse rotation clutch	Switchback guide mode
A	Stopping	OFF	OFF	CLOSE
B	Normal rotation	ON	OFF	OPEN
C	Reverse rotation	OFF	ON	CLOSE



[1]	Switchback roller feed clutch (CL11)	[2]	Switchback roller reverse clutch (CL12)
[3]	Switchback roller	[4]	Paper exit roller

(2) <Single-side printing>

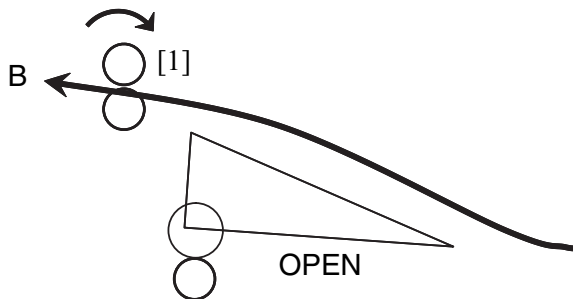
- Paper exits outside the machine with the switchback gate in CLOSE mode.
- The switchback roller mode is stopping.



[1]	Switchback roller	[2]	Paper exit roller
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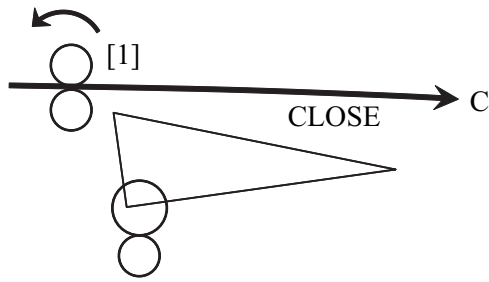
(3) <Duplex printing>

1. The switchback guide turns to the OPEN mode and the paper is transported to the direction of the switchback roller.
2. The switchback roller rotates forward.



[1]	Switchback roller	-	-
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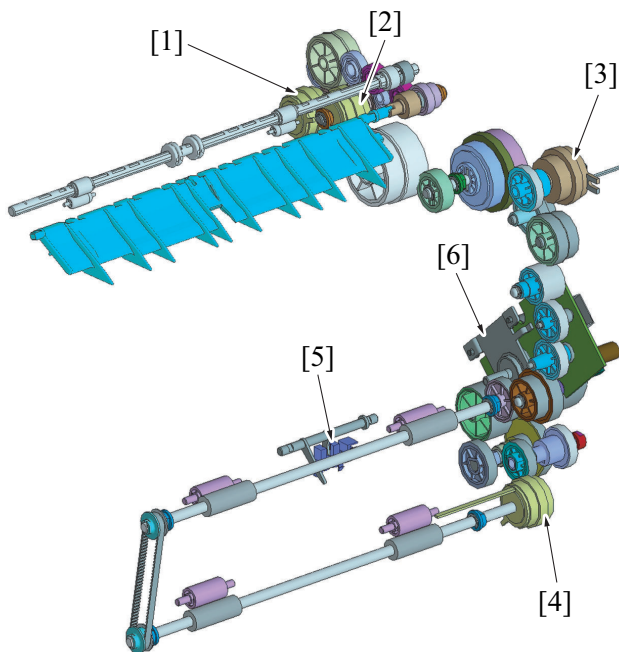
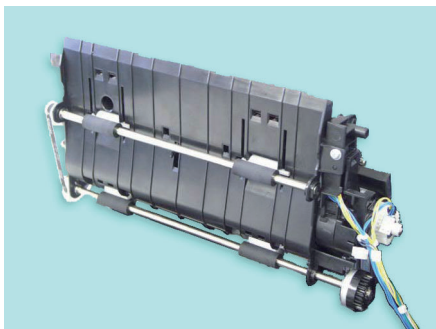
3. The switchback guide becomes CLOSE mode after the back end of the paper passes through the switchback roller, and the switchback roller starts rotating backward to send the paper to the duplex unit direction.



[1]	Switchback roller	-	-
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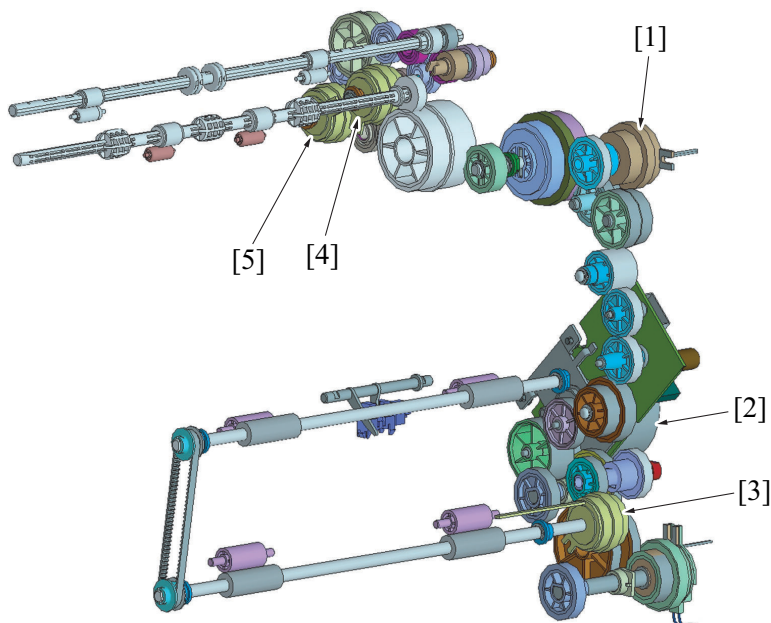
15. DUPLEX SECTION

15.1 Configuration



[1]	Switchback roller reverse clutch (CL12)	[2]	Switchback roller feed clutch (CL11)
[3]	Loop detection clutch (CL8)	[4]	Duplex conveyance roller clutch (CL13)
[5]	Duplex conveyance sensor (PS9)	[6]	Transport motor (M2)

15.2 Drive



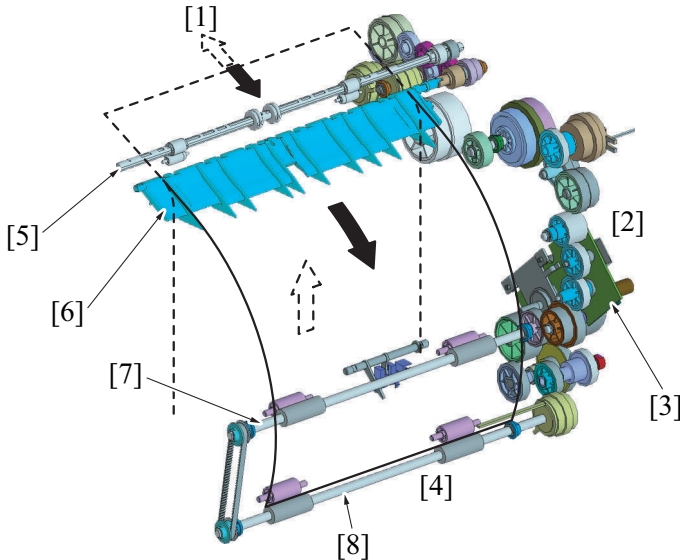
[1]	Loop detection clutch (CL8)	[2]	Transport motor (M2)
[3]	Duplex conveyance roller clutch (CL13)	[4]	Switchback roller feed clutch (CL11)
[5]	Switchback roller reverse clutch (CL12)	-	-

15.3 Operation

15.3.1 Paper transport control

1. Paper transport

- The transport motor provides drive for paper transport onto the duplex section.
- When the transport motor is energized, the paper exit roller, switchback roller, transport roller 1, and transport roller 2 are driven to transport paper from the duplex section to re-feeding position.
- The duplex conveyance sensor is located at the re-feeding position in the duplex section, serving to control the timing at which paper is moved and detect paperjam or paper left in the duplex section.
- To enable a thick paper two-sided printing, transport roller 2 is located between the transport roller 1 and registration roller to ensure that paper is properly transported onto the main body.



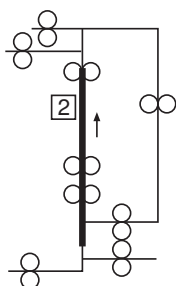
[1]	Paper switchback section	[2]	Drive section
[3]	Transport motor (M2)	[4]	Re-feeding conveyance section
[5]	Switchback roller	[6]	Switchback guide
[7]	Transport roller 1	[8]	Transport roller 2

2. Loop formation

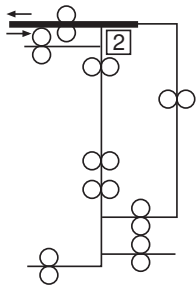
- To correct skew in the paper transported to the duplex section, a loop is formed in the paper at the duplex section before the paper is transported onto the main body.
- The registration roller functions to control formation of the loop. The registration roller is brought to a stop after the lapse of a predetermined period of time after the paper has moved past the duplex conveyance sensor. A loop is thereby formed in the paper at the duplex section.

15.3.2 Duplex print control

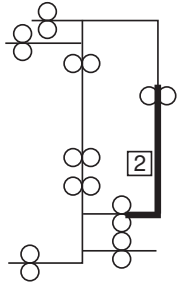
(1) 1 sheet operation



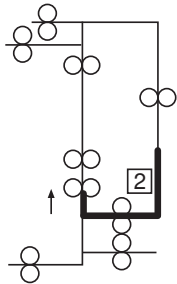
1. A sheet of paper is taken up and fed in and the image of the second page of the original is printed.



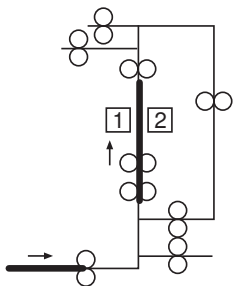
2. The switchback guide operates so as to transport the paper to the switchback section. Immediately before the paper leaves the paper exit roller, the direction of rotation of the switchback roller is reversed and the paper is transported toward and into the duplex section.



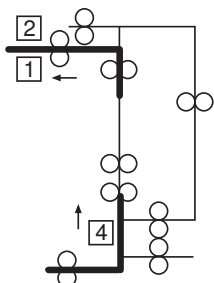
3. While passing through the duplex section, the paper stops temporarily at the re-feeding position.



4. The paper is subject to skew correction at the registration roller section before being re-fed.



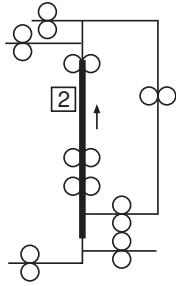
5. The image of the first page of the original is printed on the paper re-fed from the duplex section.



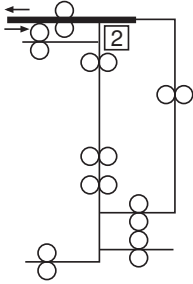
6. While the first sheet of paper is fed out, the second sheet of paper is taken up and fed in and the image of the fourth page of the original is printed.

• Steps 2 to 5 are repeated hereafter.

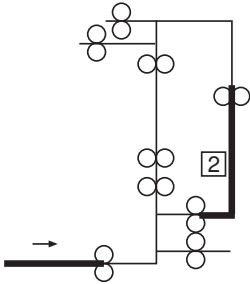
(2) 2 sheet operation



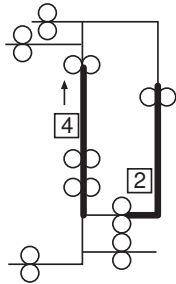
1. A sheet of paper is taken up and fed in and the image of the second page of the original is printed.



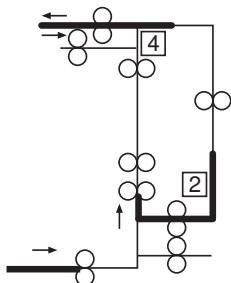
2. The switchback guide operates so as to transport the paper to the switchback section. Impartedly before the paper leaves the paper switchback roller, the direction of rotation of the switchback roller is reversed and the paper is transported toward and into the duplex section.



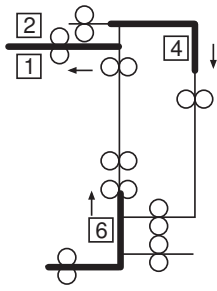
3. While passing through the duplex section, the paper stops temporarily at the re-feeding position. At the same time, the second sheet of paper is taken up and fed in.



4. The second sheet of paper is taken up and fed in and the image of the fourth page of the original is printed. The first sheet of paper stops temporarily at the re-feeding position.



5. The first sheet of paper is subject to skew correction at the registration roller section before being re-fed. The second sheet of paper is transported into the duplex section by the switchback roller. At the same time, the third sheet of paper is taken up and fed in.



6. The image of the first page of the original is printed on the paper re-fed from the duplex section.
7. While the first sheet of paper is fed out, the third sheet of paper is taken up and fed in and the image of the six page of the original is printed.
The second sheet of paper being transported through the duplex section is brought to a temporary stop at the re-feeding position.

- Steps 4 to 7 are repeated hereafter.

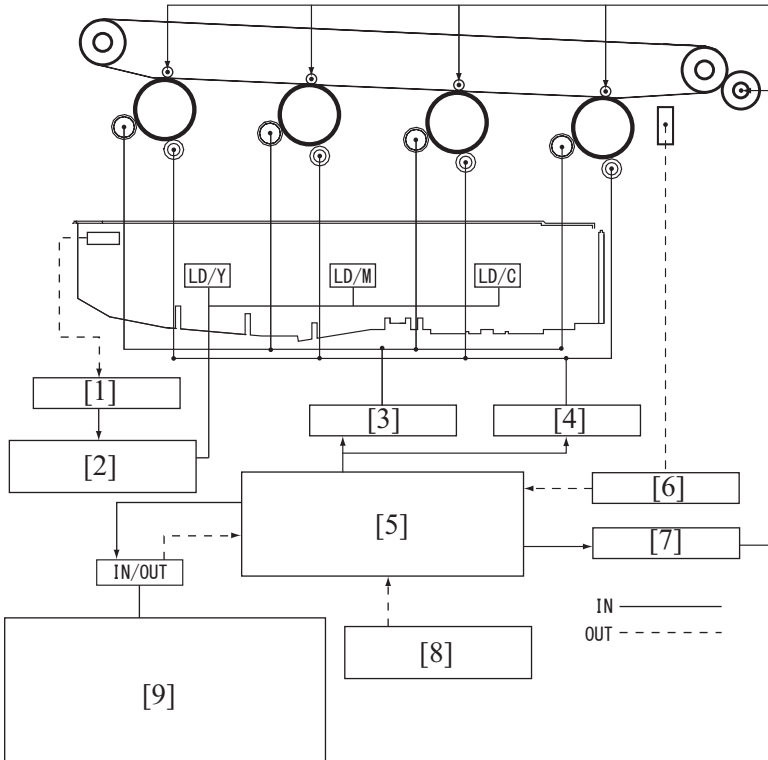
16. IMAGE STABILIZATION CONTROL

16.1 Outline

- To ensure uniform output image quality at all times, comprehensive control is provided including control of the developing bias voltage, laser light intensity, registration correction, gamma correction, and other parameters.

Purpose	Control	Control means
To stabilize image density	<ul style="list-style-type: none"> IDC sensor output control Developing bias control Control of the maximum amount of toner sticking to the transfer belt Laser light intensity control Gamma correction control Color shift correction control 	IDC sensor Temperature/ humidity sensor Thermistor/3
To stabilize image transfer	<ul style="list-style-type: none"> 1st image transfer ATVC 2nd image transfer ATVC 	Temperature/ humidity sensor

An explanation is given of the control for each section.



[1]	Thermistor/3	[2]	Color shift correction control
[3]	Developing bias	[4]	Transfer voltage
[5]	Gamma correction Developing bias control (control of the maximum amount of toner sticking to the transfer belt) Laser light intensity control	[6]	IDC sensor
[7]	ATVC control	[8]	Temperature/ humidity sensor
[9]	To be set on the control panel AIDC mode Transfer power IMG ADJ THICK IMG ADJ BLACK FINE LINE ADJ	-	-

16.2 Operation sequence

16.2.1 IDC sensor output correction

- Changes in various types of characteristics due to changes with time of the IDC sensor (deteriorated LED, contaminated sensor surface), part-to-part variations in the IDC sensor, and changes in environment affect the transfer belt. To correct fluctuations in the sensor output, the sensor LED light intensity is adjusted so that the IDC sensor output value remains constant.

16.2.2 Developing bias correction

- If the developing bias voltage (V_{pp}) is excessively high relative to the D_s distance in the imaging unit, a leak image (background leak, image part leak) occurs. If V_{pp} is excessively low, faulty halftone reproduction occurs. The V_{pp} range within which no faulty images occur is detected to thereby set the proper V_{pp} .

16.2.3 Control of the maximum amount of toner sticking to the transfer belt

- A simplified detection pattern is produced on the transfer belt and the IDC registration sensor detects the amount of toner sticking to the pattern.
- The detected data and the environmental data obtained from the temperature/humidity sensor are referenced and the developing bias value that achieves the proper maximum density is calculated and stored in memory.

16.2.4 Laser light intensity correction control

- This control corrects variations in fine line reproducibility and void reproducibility occurring due to variations (part-to-part, environmental, durability) in PC drum electrostatic characteristics, developing characteristics, and transfer characteristics to target levels.
- A simplified detection pattern is produced with a predetermined laser light intensity on the transfer belt and the output value from the IDC registration sensor is detected.
- The laser light intensity is calculated from the detected output data of the IDC registration sensor.

16.2.5 Gamma correction control

- The intensity of LD in all gradation levels is adjusted to correct changes in gradation characteristics to a linear one. The changes in gradation characteristics are caused by variations in the photo conductor sensitivity and developing characteristics and changes with time and in environment.
- It produces gradation patterns on the transfer belt and calculates gradation characteristics output by the current engine with the IDC sensor.
- The gamma correction data is calculated using the density measurements of different gradation levels. The optimum LD intensity is set for each of the different gradation levels.

16.2.6 Color shift correction

- With the tandem engine that has an image forming process for each of different colors, color shift tends to occur due to positional deviations and variations in parts that restrict the drawing position within the printer.
- The color shift is automatically detected and corrected.

16.3 Control descriptions

16.3.1 Image stabilization type (mode)

- Five different modes of image stabilization are available.
- A specific mode is selected according to the environmental conditions and print requirements, thereby achieving stabilized image at all times.

Stabilization type	Description
Mode 1 (Full correction control)	All stabilization control items are performed.
Mode 2 (simplified correction control)	All stabilization control items are performed in a simplified manner.
Mode 3 (individual registration control)	This mode is only performed for correcting color shift.
Mode 4 (1200 dpi mode control)	This mode is performed upon receipt of a 1200-dpi print command; Performed when "1200 dpi" is performed in image stabilization of the service mode.
Mode 5 (monochrome image stabilization)	All stabilization control items are performed for monochrome.

16.3.2 Control sequence by mode

- A different control sequence applies according to the mode of image stabilization.
- Control is performed in the specified sequence for each mode.

Sequence	Mode 1	Mode 2	Mode 3	Mode 4	Mode 5
1	IDC sensor output correction	IDC sensor output check	IDC sensor output check	Control of the maximum amount of toner sticking to the transfer belt (simplified)	IDC sensor output correction
2	Developing bias correction	Developing bias check	Color shift correction (sub-scanning)	Laser light intensity control	Developing bias correction
3	Control of the maximum amount of toner sticking to the transfer belt	Control of the maximum amount of toner sticking to the transfer belt (simplified)	Color shift correction (main scanning)	Gamma correction control	Control of the maximum amount of toner sticking to the transfer belt
4	Laser light intensity control	Color shift correction (sub-scanning)	-	-	Laser light intensity control
5	Control of the maximum amount of toner sticking to the transfer belt	Laser light intensity correction (simplified)	-	-	Control of the maximum amount of toner sticking to the transfer belt
6	Laser light intensity control	Color shift correction check (main scanning)	-	-	Laser light intensity control
7	Gamma correction control	Gamma correction control	-	-	Gamma correction control
8	Color shift correction (sub-scanning)	-	-	-	-

Sequence	Mode 1	Mode 2	Mode 3	Mode 4	Mode 5
9	Color shift correction (main scanning)	-	-	-	-

16.4 Operation timing

16.4.1 Predrive operation

- The following describe the stabilization operations executed when, for example, the main power switch is turned ON, the sleep mode is canceled, the front door is closed, or a malfunction is reset.

Mode	Operation condition
Mode 1	<ul style="list-style-type: none"> A new imaging unit is detected. A change in environment is detected (there is a change in humidity or temperature of a predetermined value or more from the last image stabilization sequence). There is a change in environment (temperature) inside the PH of a predetermined value or more during a multi-print cycle. A trouble has been reset. Performance of a simplified correction control sequence is not effective. During the sleep mode, a change in environment is detected (there is a change in humidity or temperature of a predetermined value or more from the last image stabilization sequence). *
Mode 2	<ul style="list-style-type: none"> When the main power switch is turned ON, a period of time of 24 hours or longer elapses after the last event of turning power OFF. The number of printed pages produced reaches a predetermined value after the last image stabilization sequence. The machine is reset from the sleep state that has extended for a predetermined period of time or longer.
Mode 3	<ul style="list-style-type: none"> There is a change in environment (temperature) inside the PH of a predetermined value or more. There is a change in environment (temperature) inside the PH of a predetermined value or more during the sleep mode.
Mode 4	<ul style="list-style-type: none"> A 1200-dpi print command is received. A panel menu is executed.
Mode 5	<ul style="list-style-type: none"> Any of the Y/M/C toner bottle is empty and the operation condition of the mode 1 or 2 is satisfied.

- *: An environmental check is made every hour during the sleep mode and the power supply cooling fan is driven for several sec. to take measurement.

16.4.2 During a print cycle

- When the stabilization execution condition is met during printing, a specific image stabilization mode according to the condition is selected and executed.

Operating conditions	Stabilization (mode)
A change in environment is detected (there is a change in humidity or temperature of a predetermined value or more from the last image stabilization sequence).	Full correction control
The number of printed pages produced reaches a predetermined value after the last image stabilization sequence.	Simplified correction control
There is a change in environment (temperature) inside the PH of a predetermined value or more.	Individual registration control

16.4.3 Service Mode

- Types (modes) of image stabilization to be executed with the menu of the SERVICE MODE will be described.

	Operating conditions	CARIBRATION (mode)
Menu of SERVICE MODE	600dpi (SERVICE MODE -> Process Adjustment -> CARIBRATION)	Mode 1
	1200dpi (SERVICE MODE -> Process Adjustment -> CARIBRATION)	Mode 4

16.4.4 Expert Adjustment

- Types (modes) of image stabilization to be executed with the menu of the administrator settings will be described.

	Operating conditions	CARIBRATION (mode)
Menu of administrator settings	600dpi (UTILITY -> ADMIN SETTINGS -> PRINTER SETTINGS -> IMAGE STABILIZATION)	Mode 1
	1200dpi (UTILITY -> ADMIN SETTINGS -> PRINTER SETTINGS -> IMAGE STABILIZATION)	Mode 4

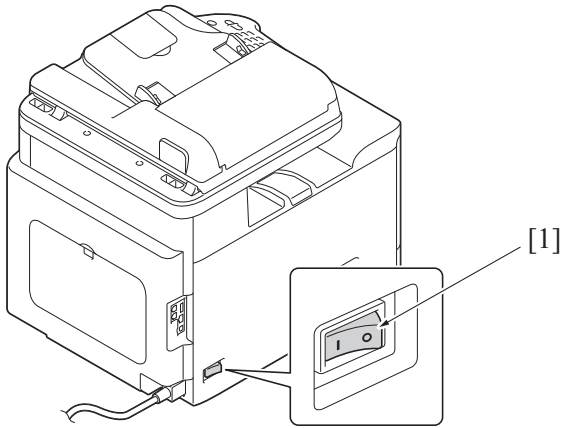
16.4.5 Stabilization time

States	Time
Mode 1	2 minutes
Mode 2	1 minutes

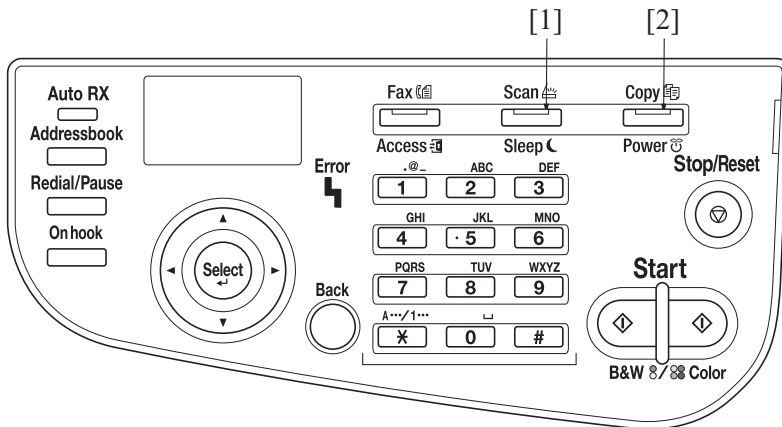
17. POWER SUPPLY SECTION

17.1 Power switch/Power key

17.1.1 Configuration



[1]	Power switch	-	-
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[1]	Scan/Sleep key	[2]	Copy/Power key
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17.1.2 Operation

(1) Power switch functions

- When the main power switch is turned ON, power is supplied from the DC power supply to the following components.

Voltage	Power supplied to
24V	Printer control board (PRCB)
5.1V	MFP board (MFPB)

(2) Keys functions

- To select the low power mode, sleep mode, or the ErP auto power off mode according to the period of time during which the power key is held down.
- Holding down the Scan/Sleep key for a long time sets the machine into the low power mode.
- Admini Settings-System Settings-Power Supply/Power Save Settings allows the setting to be changed to low power mode or sleep mode.
- Holding down the Copy/Power key for a long time sets the machine into the Erp auto power off mode.

Key	Default setting	Settings changed by Administrator Settings
Scan/Sleep key	Low power mode	Sleep mode
Copy/Power key	ErP auto power off mode	-

(3) Status in each mode

Mode	Status	Copy/Power key LED
Standby	All functions are turned ON and ready to accept and to perform jobs.	Lit up blue
Low power mode	<ul style="list-style-type: none"> The power consumption is lower than that in standby state. To be reset when a job is received or the machine is operated. 	Blinking in blue
Sleep mode	<ul style="list-style-type: none"> Power is supplied only to a portion of the MFP board required for receiving a job. To be reset when a job is received or the machine is operated. 	Blinking in blue
ErP auto power off mode	<ul style="list-style-type: none"> Power consumption is decreased to the lowest level. 	Blinking up orange

Mode	Status	Copy/Power key LED
	<ul style="list-style-type: none"> • To be reset only by the power key or the weekly timer setting. • No jobs can be received.* 	

- *: In ErP auto power off mode, this machine cannot receive data and perform job.

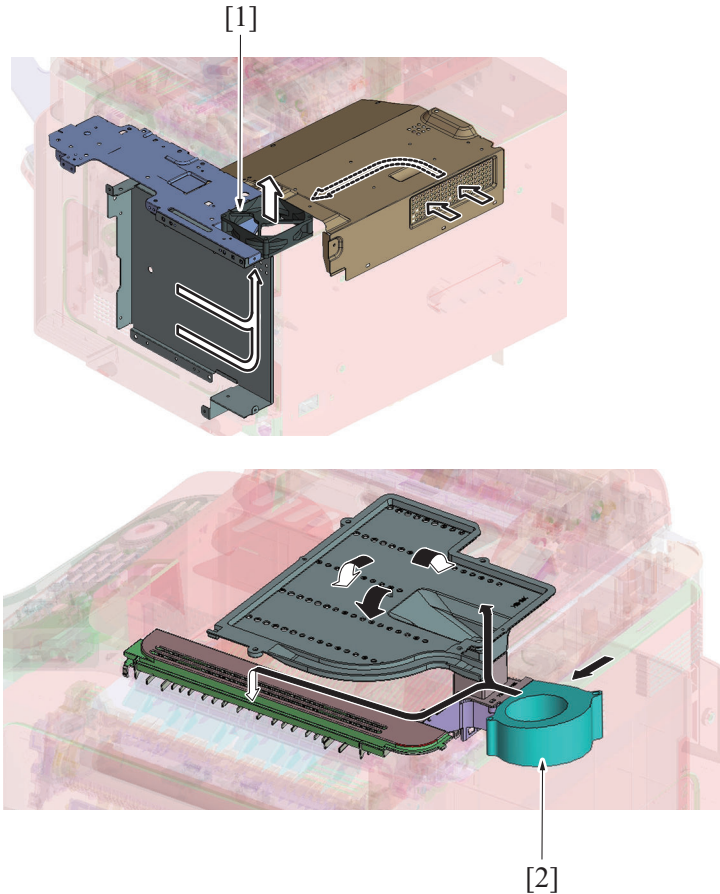
(4) Power supply

Power is supplied only to the following portions in the sleep mode and the low power mode.

5.1V	<ul style="list-style-type: none"> • MFP controller • Printer engine
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18. FAN CONTROL

18.1 Configuration



[1] DC power supply fan motor (FM10)	[2] Cooling fan motor (FM11)
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18.2 Operation

18.2.1 Function

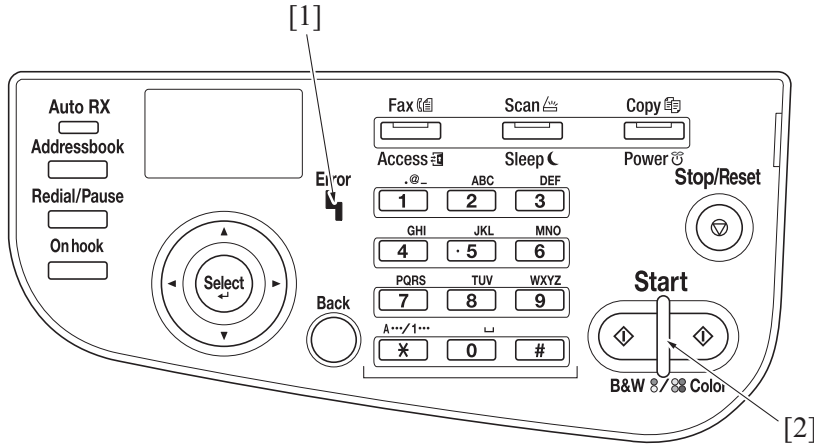
Motor name	Function (purpose)
DC power supply fan motor	<ul style="list-style-type: none"> Discharges heat generated from the interior parts (including the DC power supply, transfer belt section, toner cartridges/C, M, Y, and motor drives) to prevent the interior temperature from rising. Discharges heat generated from the print head out off the machine to prevent the temperature of the print head from rising. Removes ozone produced from the toner cartridges and charging section. Discharges heat generated inside of the MFP board out off the machine.
Cooling fan motor	<ul style="list-style-type: none"> Prevents paper in the duplex section from getting adhered due to the fusing heat. Prevents the scanner interior temperature from rising.

18.2.2 Fan control

Motor name	Control	Control conditions (outline)
DC power supply fan motor	ON (high speed)	During a print cycle, warm-up cycle (including door open/close), image stabilization sequence, or firmware upgrading, high temperature inside the PH
	ON (medium speed)	No control
	ON (low speed)	Conditions other than those of ON (high speed)
	OFF	Not turned OFF
Cooling fan motor	ON (high speed)	During a two-sided print cycle, when the door is opened and closed, high temperature inside the PH
	ON (medium speed)	No control
	ON (low speed)	No control
	OFF	Conditions other than those of ON (high speed)

19. INDICATOR FUNCTION

19.1 Configuration



[1] Error lamp	[2] Start lamp
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19.2 Control

19.2.1 Error lamp

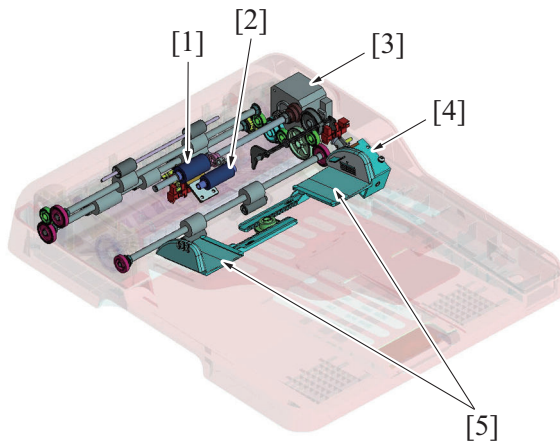
Machine operation	Lamp state
<ul style="list-style-type: none"> • Toner cartridge not in proper position • Toner life (empty) 	Blinking in orange
<ul style="list-style-type: none"> • Trouble code • Paper jam • Door left open • Life stop • Toner life empty (stop) 	Lit up orange

19.2.2 Start lamp

Machine operation	Lamp state
Print cycle (cannot receive the next job due to user operation)	Lit up orange
Print cycle (ready to receive the next job)	Lit up blue
Paper jam/Trouble code	Lit up orange
Standby (ready to receive a job)	Lit up blue
Standby (cannot receive a job)	Lit up orange
Low power mode	Unlit
Sleep mode	Blinking in blue
Erp auto power OFF	Blinking in orange

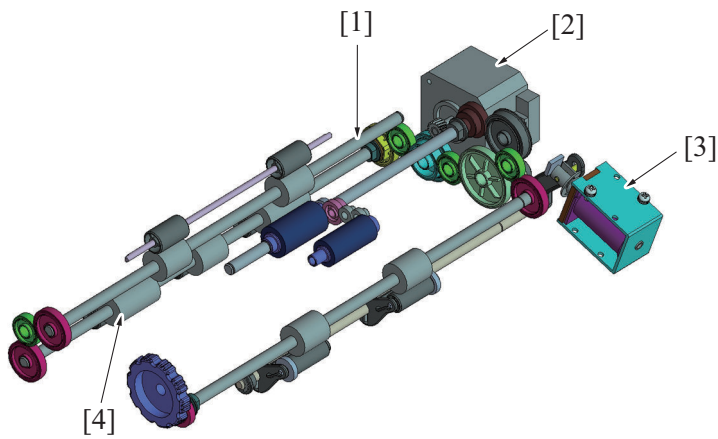
PA AUTOMATIC DOCUMENT FEEDER SECTION

1. Composition



[1]	Feed roller	[2]	Pick-up roller
[3]	DF Transport motor (M100)	[4]	Pressure solenoid (SD101)
[5]	Document guide	-	-

2. Drive

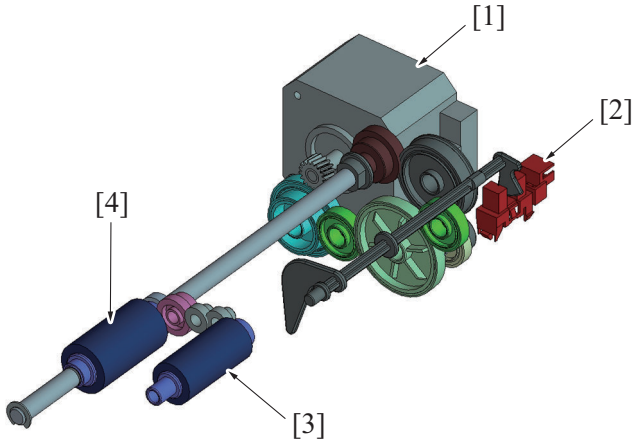


[1]	Registration roller	[2]	DF Transport motor (M100)
[3]	Pressure solenoid (SD101)	[4]	Transport roller

3. Operation

3.1 Document feed mechanism

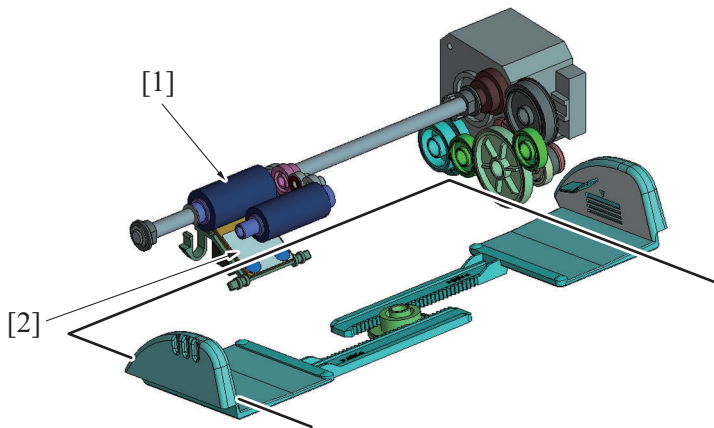
- The document sensor detects an original loaded in position.
- When the start key is pressed, the DF transport motor is driven and the pick-up roller is pushed down.
- The pick-up roller and feed roller turn to take up and feed the original properly.
- The pick-up roller transports the original up to the feed roller.
- The DF transport motor (M100) drives the pick-up roller and feed roller through a gear train.



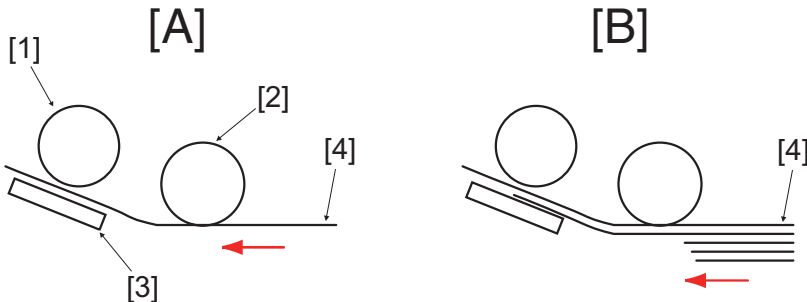
[1]	DF Transport motor (M100)	[2]	Document sensor (PS101)
[3]	Pick-up roller	[4]	Feed roller

3.2 Document separation mechanism

- Double feeding of paper is prevented using coefficient of friction between the feed roller and separator pad.



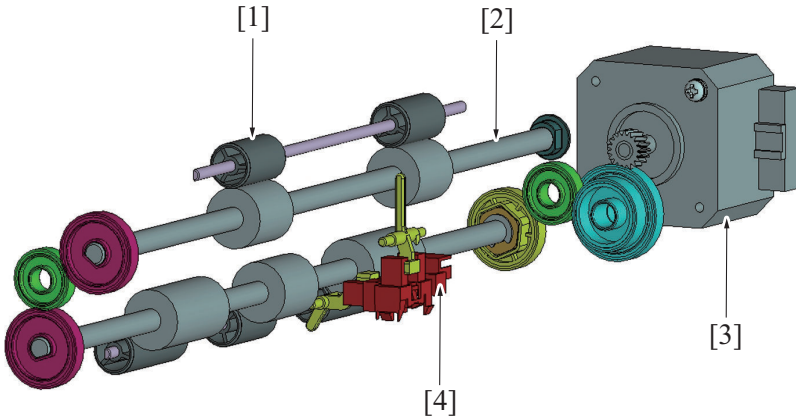
[1]	Feed roller	[2]	Separator pad
Single sheet feeding	• The coefficient of friction on the front side of the paper fed between the feed roller and separator pad is equal to that on the backside of the paper. This allows the feed roller to transport the paper.		
Multiple sheet feeding	• The coefficient of friction between the paper and separator pad is greater than that between sheets of paper. This allows only the first sheet of paper to be transported by the feed roller.		



[A]	Single sheet feeding of original	[B]	Multiple sheet feeding of original
[1]	Feed roller	[2]	Pick-up roller
[3]	Separator pad	[4]	Original

3.3 Document transport mechanism

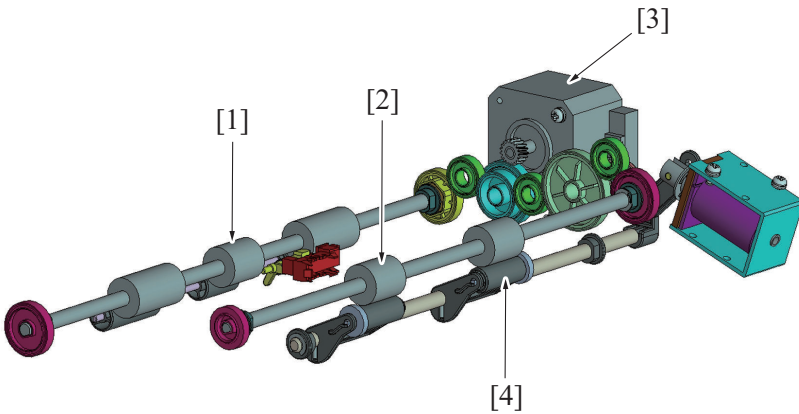
- The registration roller turns to transport the original that has been taken up onto the document scanning position of the printer.
- The DF transport motor drives the registration roller through a gear train.
- When the original reaches the document scanning position, the document read sensor (PS102) is unblocked, which causes the main body to determine that there is an original.



[1]	Registration roll	[2]	Registration roller
[3]	DF Transport motor (M100)	[4]	Document read sensor (PS102)

3.4 Document exit mechanism

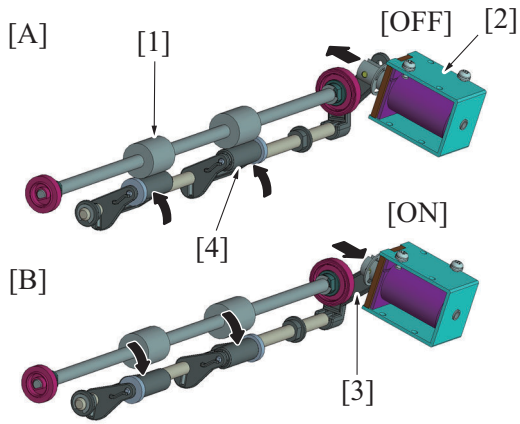
- The original fed off by the transport roller is fed out into the document exit tray by the exit switch back roller.
- The DF transport motor (M100) turns the exit switch back roller through a gear train.



[1]	Transport roller	[2]	Exit switch back roller
[3]	DF Transport motor (M100)	[4]	Exit roll

3.5 Switching mechanism for turnover/paper exit

- Rotation of the exit switch back roller turns over the original conveyed from the transport section or feeds it out into the document exit tray.
- The exit switch back roller is driven by the transport motor.
- During the turnover operation, the exit rolls are pressed against, or retracted from, the exit switch back roller to prevent the leading and trailing edges of the original from being pinched between the roller and rolls.
- Pressure and retraction operations are performed by energizing or deenergizing the pressure solenoid (SD101).
- When the pressure solenoid (SD101) is energized, the arm is moved to move the exit rolls away from the exit switch back roller.

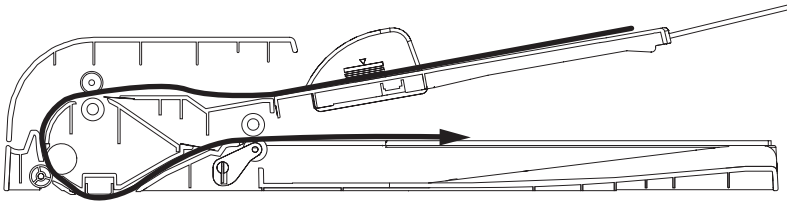


[A]	When the pressure solenoid is deenergized	[B]	When the pressure solenoid is energized
[1]	Exit switch back roller	[2]	Pressure solenoid (SD101)
[3]	Arm	[4]	Exit roll

4. Paper Path

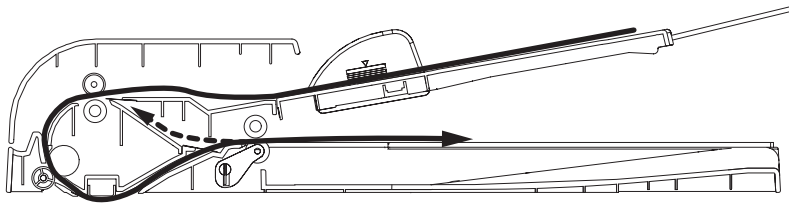
4.1 1-sided mode

- When the start key is pressed, take-up and feeding of the original will be started by the DF transport motor.
- The original that has been taken up and fed in is transported to the exit tray by way of the registration roller and exit switch back roller.

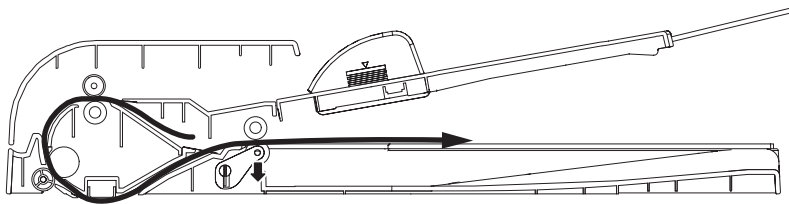


4.2 2-sided mode

1. The first side of the original will be read.
2. The exit switch back roller turns backward to feed the original back into the document feeder.

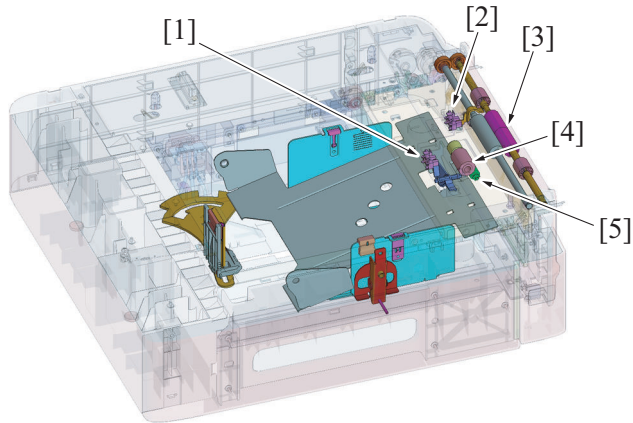
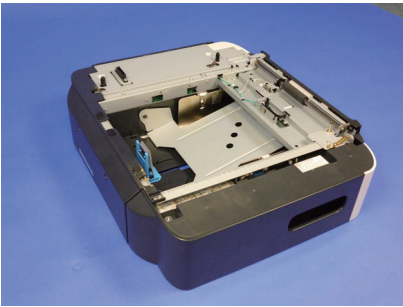


3. The original that has been taken up again from the exit tray is transported up to the document scanning position by way of the registration roller.
4. As soon as the original reaches the document scanning position, a read sequence of the second side of the original will be started.
5. The original that has been read is fed via the exit switch back roller. At this time, the exit rolls are moved away from the exit roller to prevent the leading and trailing edges of the original from being pinched between the roller and rolls.
6. In order to keep the proper order of the original, the original is taken up again and exited through the registration roller and exit switch back roller back into the exit tray.



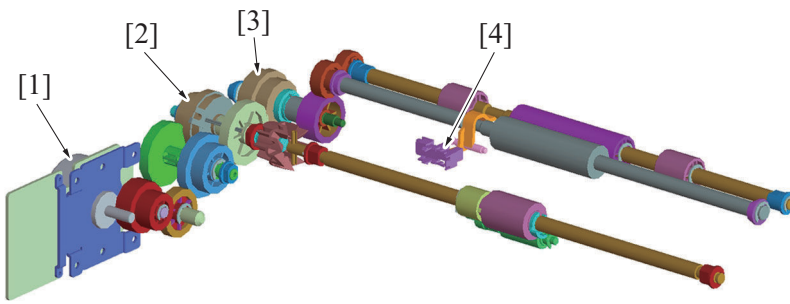
PB THEORY OF OPERATION PF-P14

1. Configuration



[1]	Tray2 paper empty sensor (PS1)	[2]	Tray2 paper feed sensor (PS3)
[3]	Vertical transport roller	[4]	Feed roller
[5]	Separation roller	-	-

2. Drive



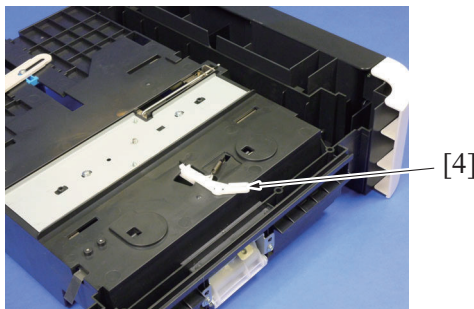
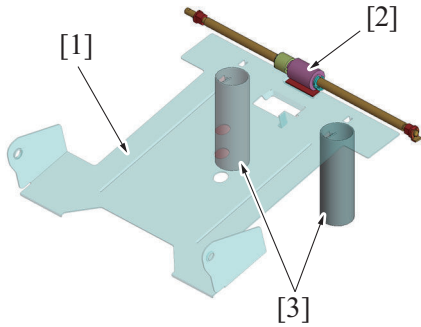
[1]	Tray2 paper feed motor (M1)	[2]	Tray2 paper feed clutch (CL1)
[3]	Tray2 conveyance clutch (CL2)	[4]	Tray2 paper feed sensor (PS3)

3. Operation

3.1 Paper feed control

3.1.1 Paper lift plate mechanism

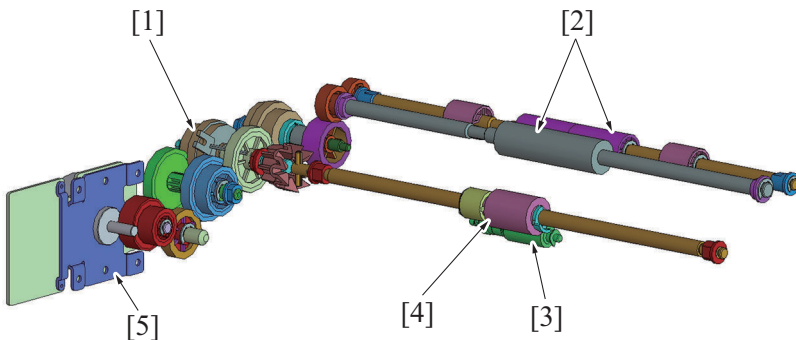
- The paper lift plate is pressed down into the locked position (in which the paper is loaded in position).
- Load a paper stack and then slide the tray into the main body. This unlocks the paper lift plate.
- The paper lift plate (paper stack) is pressed against the feed roller.
- The paper lift plate (paper stack) is pressed upward by the springs at all times.



[1]	Paper lift plate	[2]	Feed roller
[3]	Spring	[4]	Lock lever

3.1.2 Feed roller/vertical transport roller control

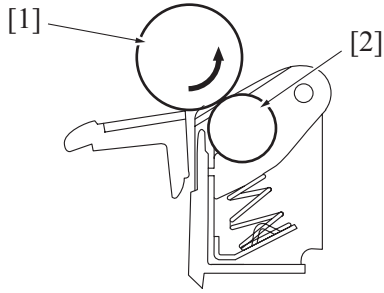
- The feed roller and vertical transport roller are rotated, which feeds paper from the lower feeder unit and conveys it further into the inside of the main body.
1. The tray2 paper feed motor is energized to turn the vertical transport roller.
 2. The tray2 paper feed clutch is energized to turn the feed roller.
 3. The paper is fed in by the feed roller.
 4. The paper fed in by the feed roller is conveyed onto the registration roller of the main body by the vertical transport roller.
 5. When the tray2 paper feed sensor is activated and then the paper is conveyed onto a predetermined point in the paper path, the tray2 paper feed clutch is de-energized, thus bringing the feed roller to a stop. The vertical transport roller thereafter takes charge of conveying paper further.
 6. When the trailing edge of the last sheet of paper moves past the registration sensor, the tray2 paper feed motor is de-energized to bring the vertical transport roller to a stop.



[1]	Tray2 paper feed clutch (CL1)	[2]	Vertical transport roller
[3]	Separation roller	[4]	Tray2 roller
[5]	Tray2 paper feed motor (M1)	-	-

3.1.3 Paper separation mechanism

- A separation roller provided with a torque limiter is used to prevent double feeding of paper.



[1] Tray2 roller	[2] Separation roller
------------------	-----------------------

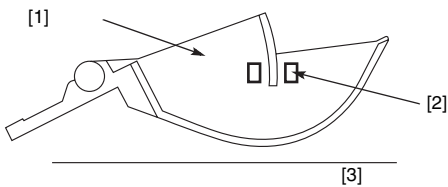
3.1.4 Paper detection mechanism

- The tray2 paper feed sensor detects the paper fed in by the feed roller.
- When the tray2 paper feed sensor actuator unblocks the tray2 paper feed sensor, the main body considers that the paper has reached the sensor position.

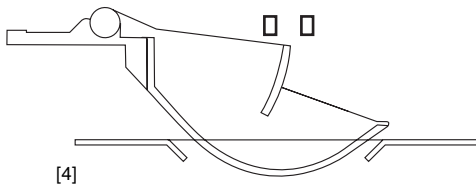
3.1.5 Paper empty condition detection control

- The paper empty message is displayed on the panel when the empty sensor actuator unblocks the paper empty sensor.
- No mechanism is provided for detecting a paper near empty condition. The paper supply level indicator serves this purpose.

When media is loaded



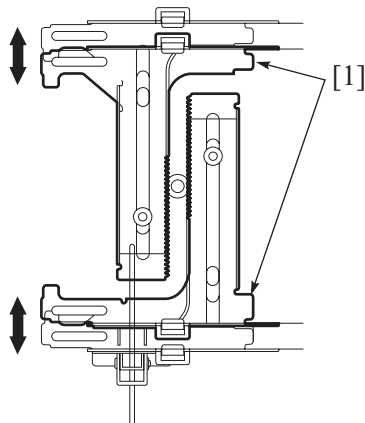
A media empty condition



[1] Actuator	[2] Tray2 paper empty sensor (PS1)
[3] Paper	[4] Paper lift plate

3.1.6 Edge guide plate

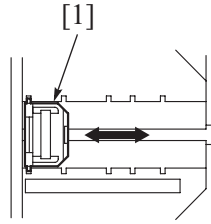
- The edge guide plate can be slid to the exact size in the width direction of the paper to be loaded (A4, B5, 8-1/2).



[1]	Edge guide plate	-	-
-----	------------------	---	---

3.1.7 Trailing edge guide plate

- The trailing edge guide plate can be slid to the exact size in the length direction of the paper to be loaded (14 inch, 13 inch, 12-7/10 inch, A4, 11 inch, 10-1/2 inch, B5).

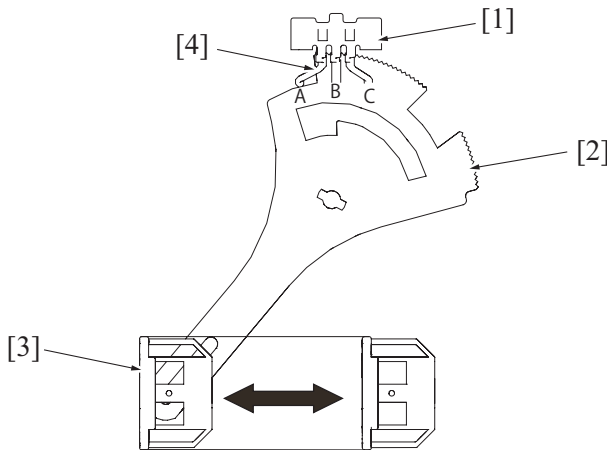


[1]	Trailing edge guide plate	-	-
-----	---------------------------	---	---

3.1.8 Paper size detection control

- The tray2 paper size switch detects the length size (feed direction) of the paper.
 - The size detection board turns as the trailing edge guide plate is moved.
 - When the tray is slid into the main body, the size detection board pushes the actuator of the tray 2 paper size switch installed to the main body frame, thus turning ON the switch.
 - The combination of ON/OFF positions of the sub-switches of the paper size switch determines the specific paper size that can be either one of the seven different sizes.

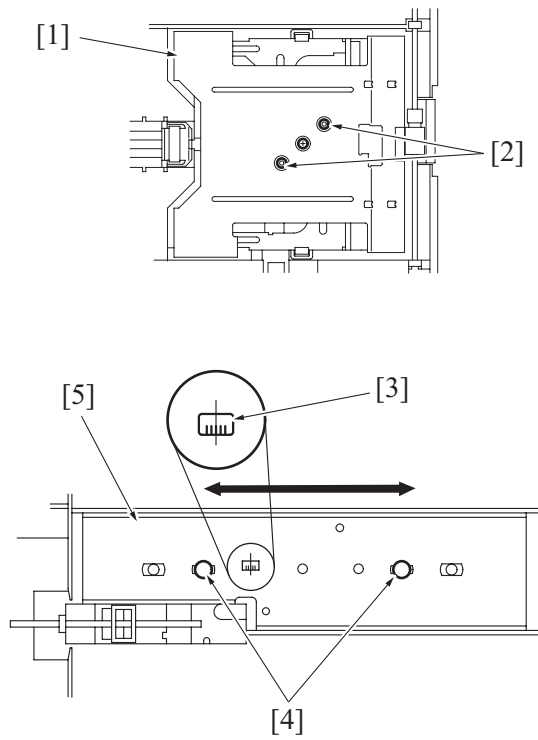
Tray2 paper size switch (SW1)			Paper size
A	B	C	
OFF	ON	ON	Legal (8.5" x 14")
ON	ON	ON	Government legal letter plus
ON	ON	OFF	A4
ON	OFF	OFF	Letter (8.5" x 11")
ON	OFF	ON	Executive
OFF	ON	OFF	Custom Size
OFF	OFF	ON	B5
OFF	OFF	OFF	Lower feeder unit not installed



[1]	Tray2 paper size switch (SW1)	[2]	Size detection board
[3]	Trailing edge guide plate	[4]	Actuator

3.1.9 Paper reference position adjustment mechanism

- The edge guide plate can be moved to allow the print start reference position for the paper to be adjusted.
 - Through a hole in the paper lift plate on top of the tray, loosen two screws that secure the edge guide plate.
 - Accessing the tray from its bottom surface, loosen two screws that secure the reference position adjusting plate.
 - Slide the reference position adjusting plate as necessary as indicated on the scale.
 - From the bottom surface of the tray, tighten the two screws that secure the reference position adjusting plate.
 - Through the hole in the paper lift plate on top of the tray, tighten the two screws that secure the edge guide plate.



[1]	Paper lift plate	[2]	Edge guide plate fixing screws
[3]	Adjustment scale	[4]	Reference position adjusting plate fixing screws
[5]	Reference position adjusting plate	-	-

3.1.10 Paper jam detection control

- If the tray2 paper feed sensor is not activated within a predetermined period of time after a paper feed sequence has been started, the main body determines that there is a paperjam. It then displays a paperjam message on the panel.
- The paperjam display can be reset by opening and closing any door.

Q PARTS GUIDE MANUAL (1st Edition)

INFORMATION FOR PARTS GUIDE MANUAL

To find correct Parts No., refer to the ["HOW TO MAKE THE BEST USE OF THIS MANUAL"](#) in the following page.

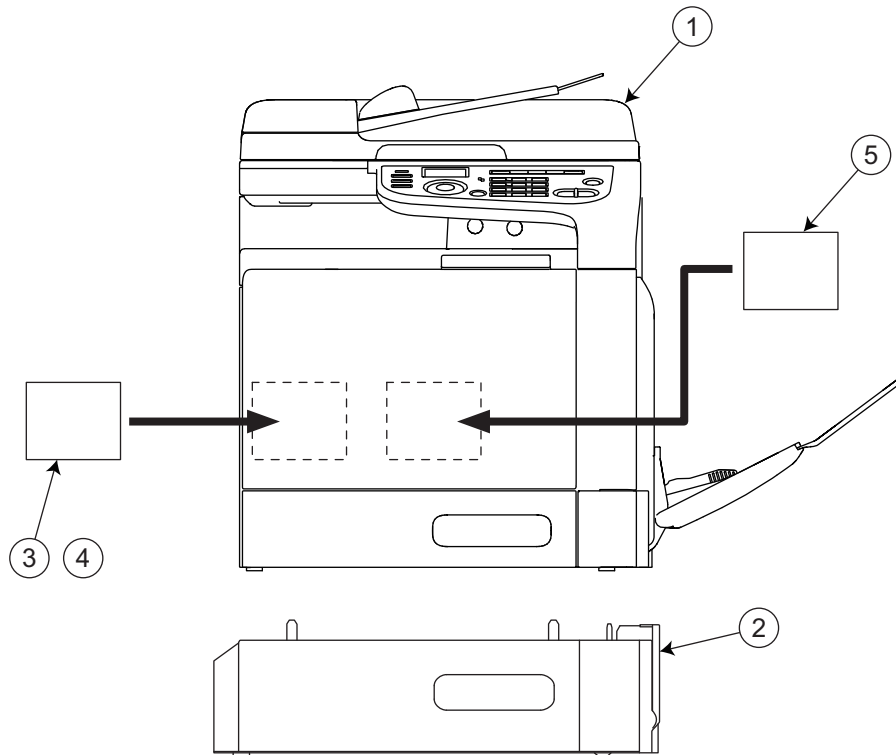
NOTICE

- This parts guide manual is 1st edition and will not be updated. Please ask your parts administrator about the newest parts information.

HOW TO MAKE THE BEST USE OF THIS MANUAL

1. When you order, please check the proper figures beforehand that are on Our Parts Guide Manual, and order with the appropriate figures.
2. For screws, Nuts, Washers, retaining rings and Pins which are used in this model, one letter is shown on the Standard parts column of Parts list and exploded diagrams.
3. In order to maintain safety of the product, some specific parts composed of this product are set up as "essential safety parts".
4. The assigned parts number for the "essential safety parts" is indicated as "SP00-*****".
When replacing these parts, follow precautions for disassembling and installing which are listed in the Service Manual.
Do not use any parts that are not set up as
5. ♣ means that there are exclusive parts for each destination.
Please check the appropriate destination when you order.
6. Revision Mark
Marked as ▲ on the illustration shows that the revision has been made.
7. All rights reserved. (any reprints or quotations are prohibited.)
Use of this parts guide manual should be strictly supervised to avoid disclosure of confidential information.

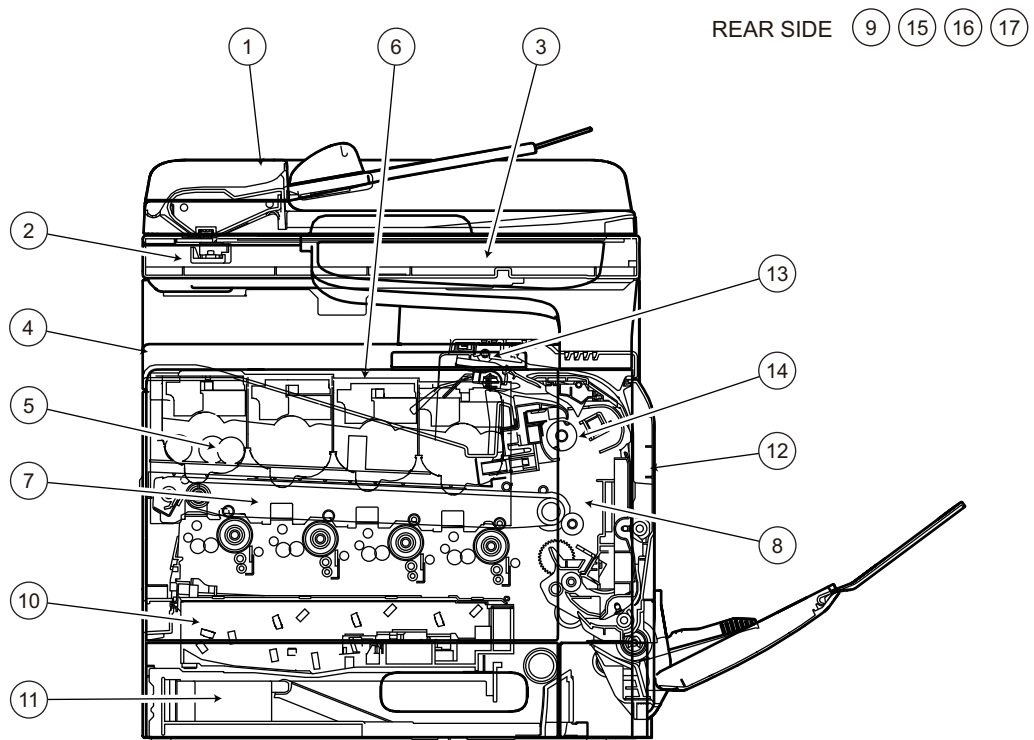
SYSTEM OUTLINE



No.	Description	Model
1	Printer Color	bizhub C3110
2	Paper Feeder	PF-P14
3	Fax Kit	FK-512
4	Mount Kit	MK-P04
5	HDD	HD-P06

1. Printer Color (bizhub C3110)

DIAGRAM OF MAIN PARTS SECTION

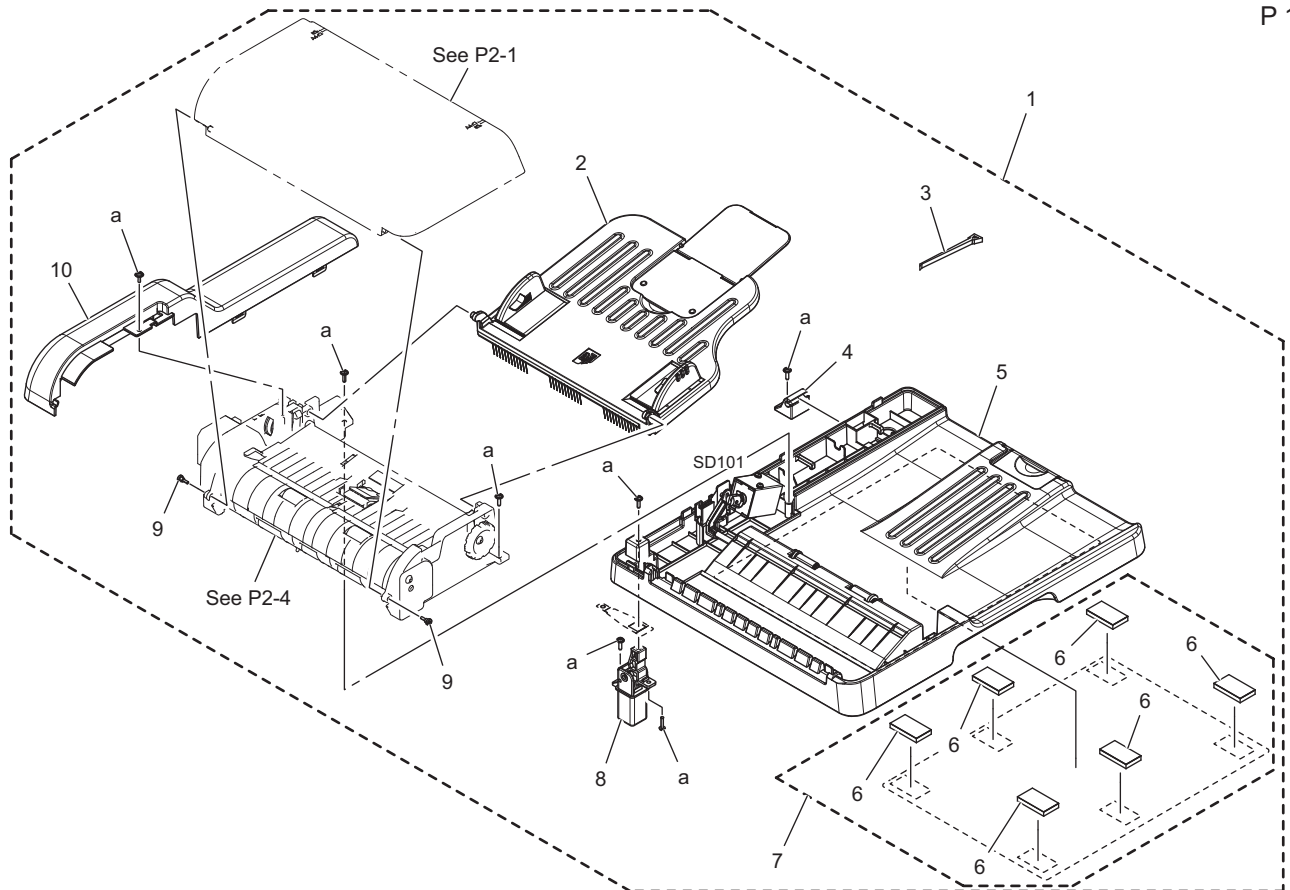


[1] ADF UNIT	[2] IR UNIT
[3] OPERATION PANEL SECTION	[4] EXTERNAL PARTS
[5] POWER SUPPLY SECTION	[6] TONER BOTTLE DRIVE SECTION
[7] TRANSFER BELT UNIT	[8] TRANSFER GUIDE SECTION
[9] HIGH VOLTAGE SECTION	[10] PRINT HEAD SECTION
[11] CASSETTE SECTION	[12] VERTICAL CONVEYANCE SECTION
[13] DUP REVERSE DRIVE SECTION	[14] FUSING SECTION
[15] MAIN DRIVE SECTION	[16] PAPER FEED DRIVE SECTION
[17] ELECTRICAL COMPONENTS	[18] WIRING ACCESSORIES AND JIGS
[19] ACCESSORY PARTS	- -

1.1 ADF UNIT

1.1.1 P1

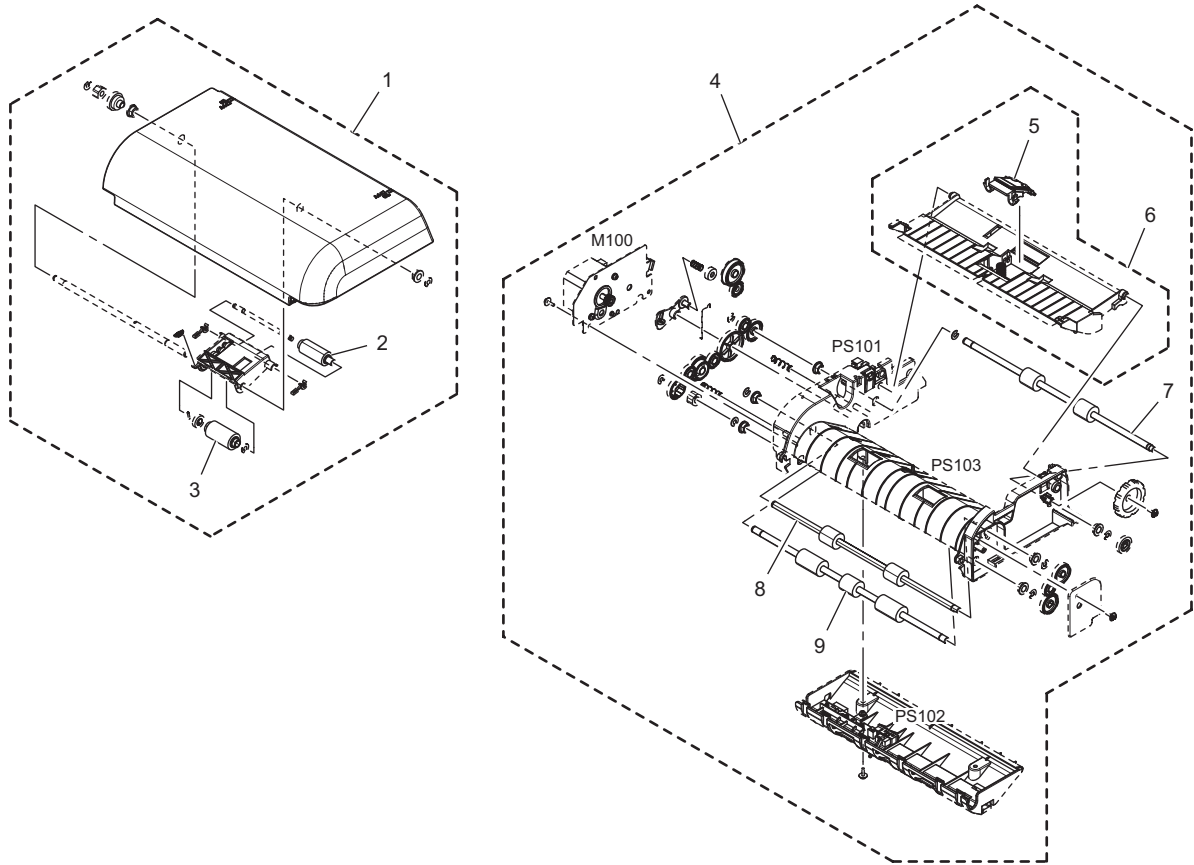
P 1



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
1	1	A6DTPP0B00	ADF UNIT			S	1
1	2	A6DTPP0300	Tray Assy			S	1
1	3	A0HFPP1900	Cable Tie			D	1
1	4	A0HFPP4302	Hinge			C	1
1	5	A6DTPP0100	Cover Assy			D	1
1	6	A0HFPP1700	Sponge			C	6
1	7	A6DTPP0600	Pad Assy			D	1
1	8	A0HFPP4400	Hinge			C	1
1	9	A0FDPP2K00	Shoulder Screw			C	2
1	10	A6DTPP0400	Cover/Rear			C	1
1	a	A6DTPP0E00	Screw M3x10			D	19

1.1.2 P2

P 2

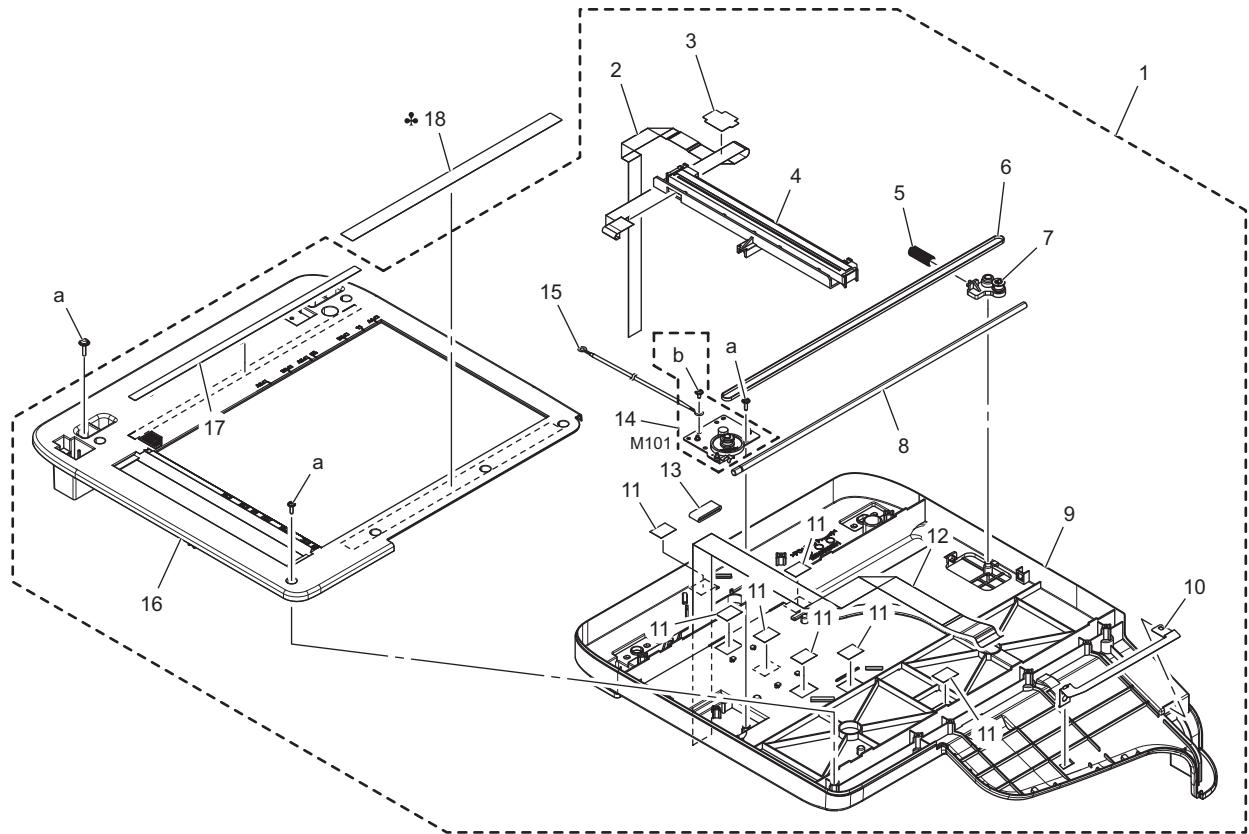


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
2	1	A6DTPP0200	Cover/Upper Assy			S	1
2	2	A6DTPP0800	Pick-Up Roller			C	1
2	3	A6DTPP0700	Take-Up Roller			C	1
2	4	A6DTPP0000	ADF Guide Assy			C	1
2	5	A6DTPP0500	Separating Pad			C	1
2	6	A6DTPP0C00	Guide Assy			C	1
2	7	A6DTPP0D00	Roller			C	1
2	8	A6DTPP0900	Roller			C	1
2	9	A6DTPP0A00	Roller			C	1

1.2 IR UNIT

1.2.1 P3

P 3

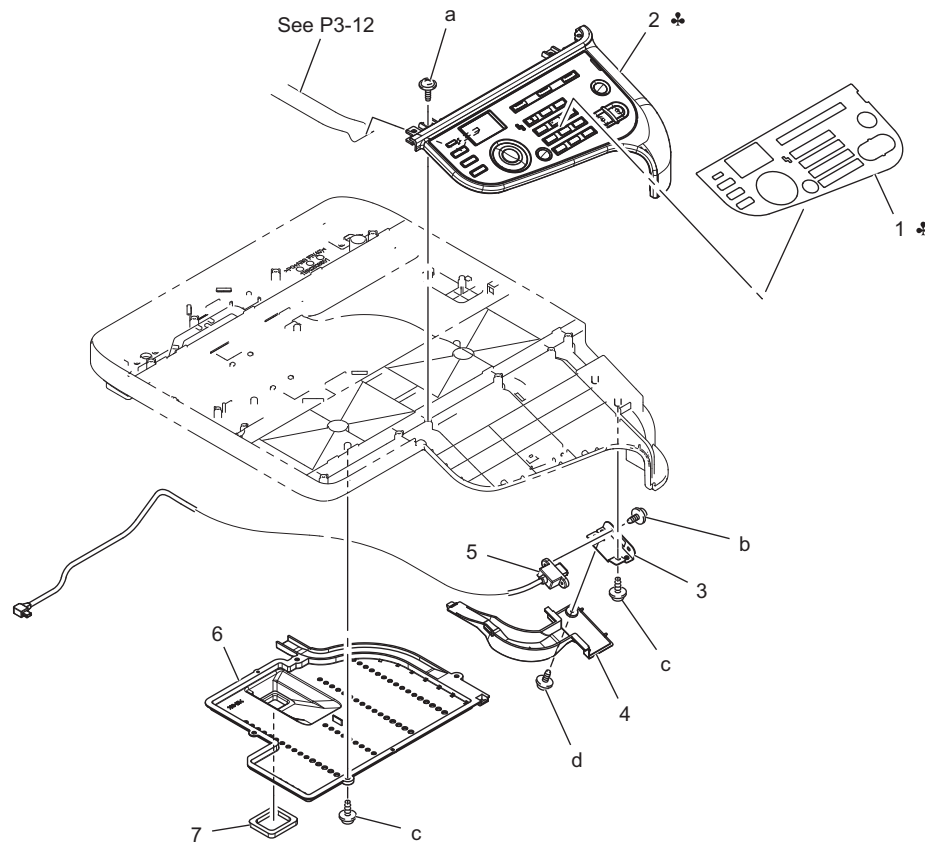


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
3	1	A6DTPP0W00	OPTICAL UNIT			S	1
3	2	A6DTPP0N00	Flatcable			C	1
3	3	A6DTPP0X00	Guide Film			D	1
3	4	A6DTPP0P00	CIS Assy			I	1
3	5	A6DTPP0J00	Pressure Spring			D	1
3	6	A2YFPP5800	Timing Belt			C	1
3	7	A2YFPP1500	Pulley Assy			D	1
3	8	A6DTPP0R00	Shaft			D	1
3	9	A6DTPP0Q00	Frame			D	1
3	10	A6DTPP0V00	Plate Spring			D	1
3	11	A6DTPP0U00	Tape			D	7
3	12	A6DTPP0S00	Flatcable			D	1
3	13	A6DTPP0T00	Ferritecore			D	1
3	14	A6DTPP0K00	Driving Assy	Scanner motor (M101)		C	1
3	15	A6DTPP0M00	Earth ground			D	1
3	16	A6DTPP0F00	Cover/IR Assy			C	1
3	17	A6DTPP0G00	Label Scale			D	1
3	18	A3EW944600	Label		A1	C	1
3	18	A121944700	Label Prohibit		B,G2,H	C	1
3	a	A6DTPP0E00	Screw M3x10			D	14
3	b	A6DTPP0Y00	Screw			D	4

1.3 OPERATION PANEL SECTION

1.3.1 P4

P 4

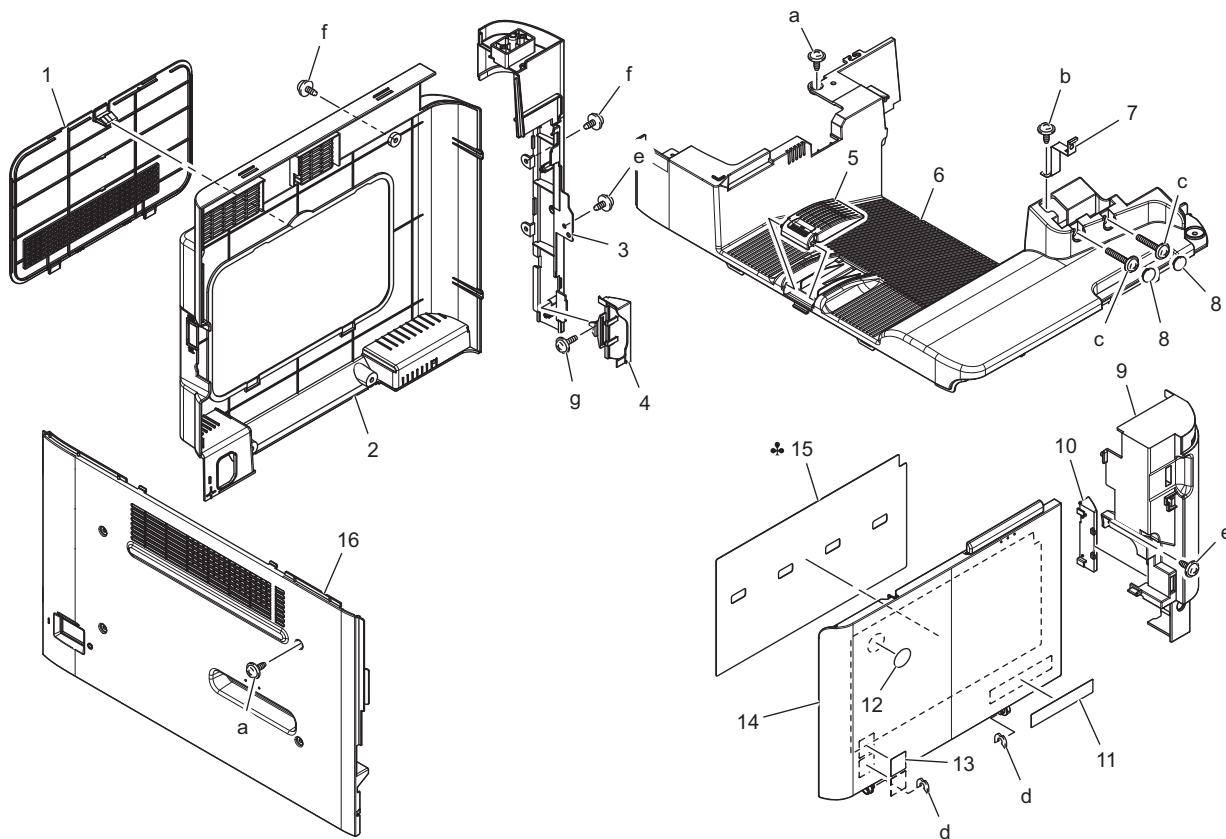


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
4	1	A6DT950800	Panel Sheet (Japanese)		A1	C	1
4	1	A6DT950100	Panel Sheet (English)		B,G2,H	C	1
4	2	A2YFPP1700	Panel assembly		A1	I	1
4	2	A2YFPP1600	Panel assembly		B,C,D1,D3,E,F2,G1,G2,H,I,K	I	1
4	3	A2YF161701	Mounting Plate			D	1
4	4	A2YF138300	Cover			D	1
4	5	A6DRN12100	Cable			D	1
4	6	A2YF105300	Duct			D	1
4	7	A2YF105400	Seal			D	1
4	a	A6DTPP0E00	Screw M3x10			D	19
4	b	V116030603	Screw			V	
4	c	V153030803	Screw			V	
4	d	V137030603	screw			V	

1.4 EXTERNAL PARTS

1.4.1 P5

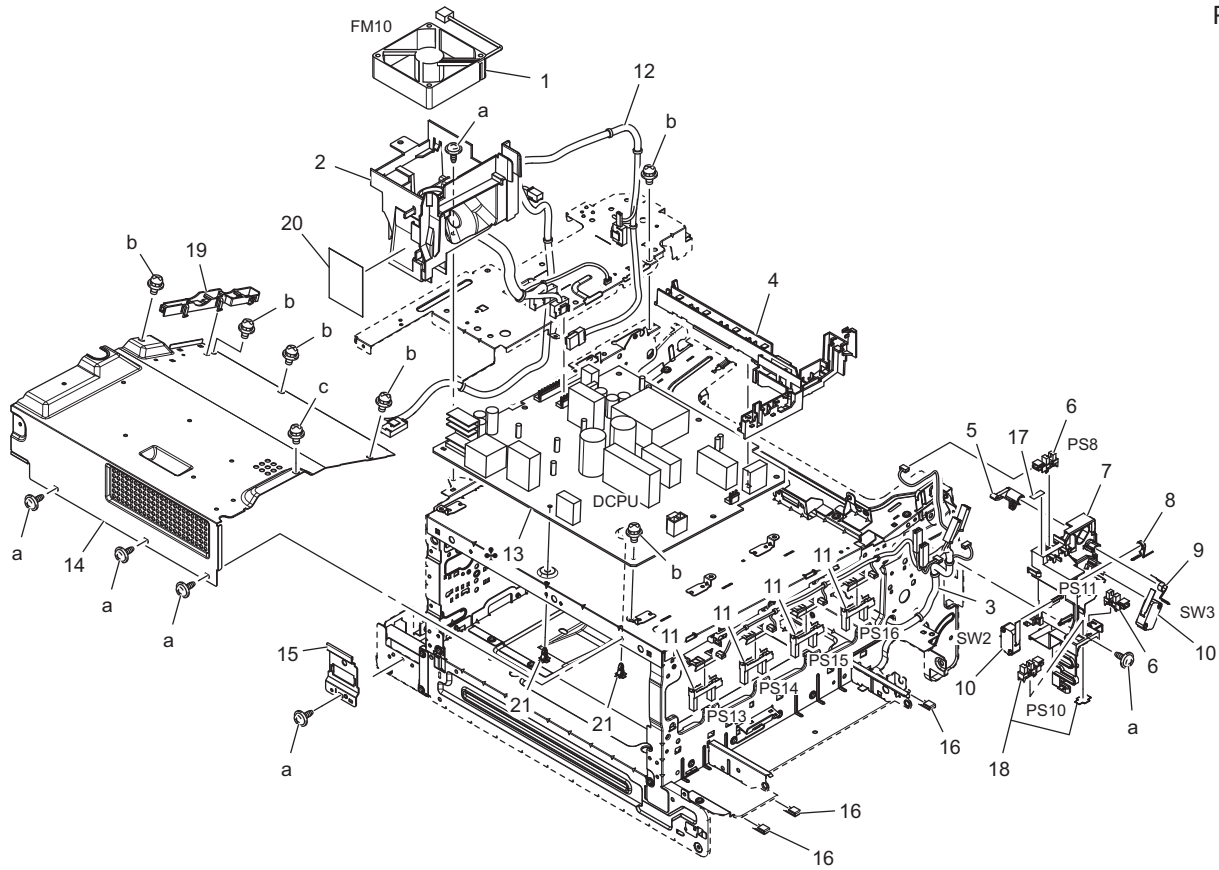
P 5



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
5	1	A6DR160903	Cover			C	1
5	2	A6DT163001	Cover			C	1
5	3	A6DT160300	Cover /Right rear			C	1
5	4	A0VD166501	Cover			D	1
5	5	A2YF161800	Tray			D	1
5	6	A2YF160102	Cover			D	1
5	7	A2YF138800	Ground Plate			D	1
5	8	A02E167800	Cover			C	2
5	9	A2YF160501	Cover /Right front			D	1
5	10	A0VD166401	Cover			D	1
5	11	A6DT941800	Label bizhub C3110			C	1
5	12	A00F942000	Label Logo Mark			C	1
5	13	A011946200	Label Emperon			D	1
5	14	A2YF160400	Cover /Front			C	1
5	15	A6DT942000	Sheet		A1	C	1
5	15	A0VD941801	Sheet		B,C,D1,D3,E,F2,G1,G2,H,I,K	C	1
5	16	A6DT160200	Cover			C	1
5	a	V137030804	screw			V	
5	b	V137030603	screw			V	
5	c	V151041403	screw			V	
5	d	V218040086	C-Clip			V	
5	e	V137030803	screw			V	
5	f	V116030804	Screw			V	
5	g	V153030803	Screw			V	

1.5 POWER SUPPLY SECTION

1.5.1 P6

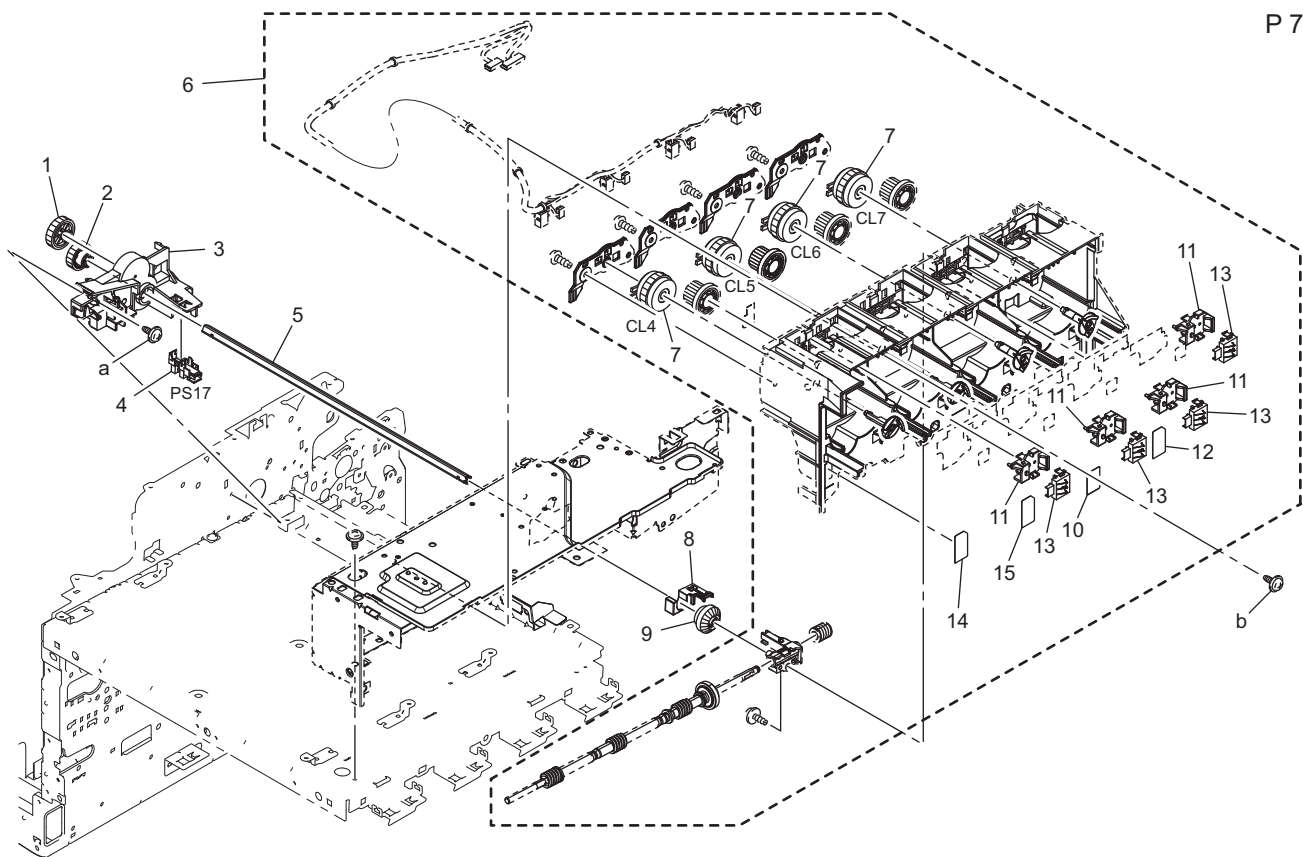


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
6	1	4139M10000	FAN MOTOR	DC power supply fan motor (FM10)		B	1
6	2	A6DR102200	Cooling Duct			D	1
6	3	A6DRN10200	Toner Detection harness			D	1
6	4	A121104101	Protection Cover			D	1
6	5	A0VD135512	Detecting Part			C	1
6	6	A108M50100	Photointerrupter	Exit sensor (PS8) Right door sensor (PS11)		B	2
6	7	A0VD135317	Hold Holder			D	1
6	8	A0VD135201	Adjusting Spring			D	1
6	9	A0VD135402	Torsion Coil spring			D	1
6	10	9J06M60100	MICRO SWITCH	Front door switch (SW2) Right door switch (SW3)		C	2
6	11	A0VDM50200	Photointerrupter	Toner level sensor/Y (PS13) Toner level sensor/M (PS14) Toner level sensor/C (PS15) Toner level sensor/K (PS16)		I	4
6	12	A6DTN10100	DC Power source harness /A			D	1
6	13	A6DRM40001	DC Power source (100-127V)	DC power supply (DCPU)	A1,B,G2,H	I	1
6	13	A6DRM40101	DC Power source (220-240V)	DC power supply (DCPU)	C,D1,D3,E,F2,G1,I,K	I	1
6	14	A2YF133100	Frame			C	1
6	15	A6DR103001	Mounting Plate			D	1
6	16	A121102600	Seal			D	3
6	17	A0VD139700	Seal			D	1
6	18	A108R90000	PHOTO INTERRUPTER	Front door sensor (PS10)		I	1
6	19	A2YF138501	Wiring Guide /1			D	1
6	20	A2YF139000	Sheet			C	1
6	21	V502010021	spacer			D	2

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
6	a	V137030603	screw			V	
6	b	V116030603	Screw			V	
6	c	V118030603	screw			V	

1.6 TONER BOTTLE DRIVE SECTION

1.6.1 P7

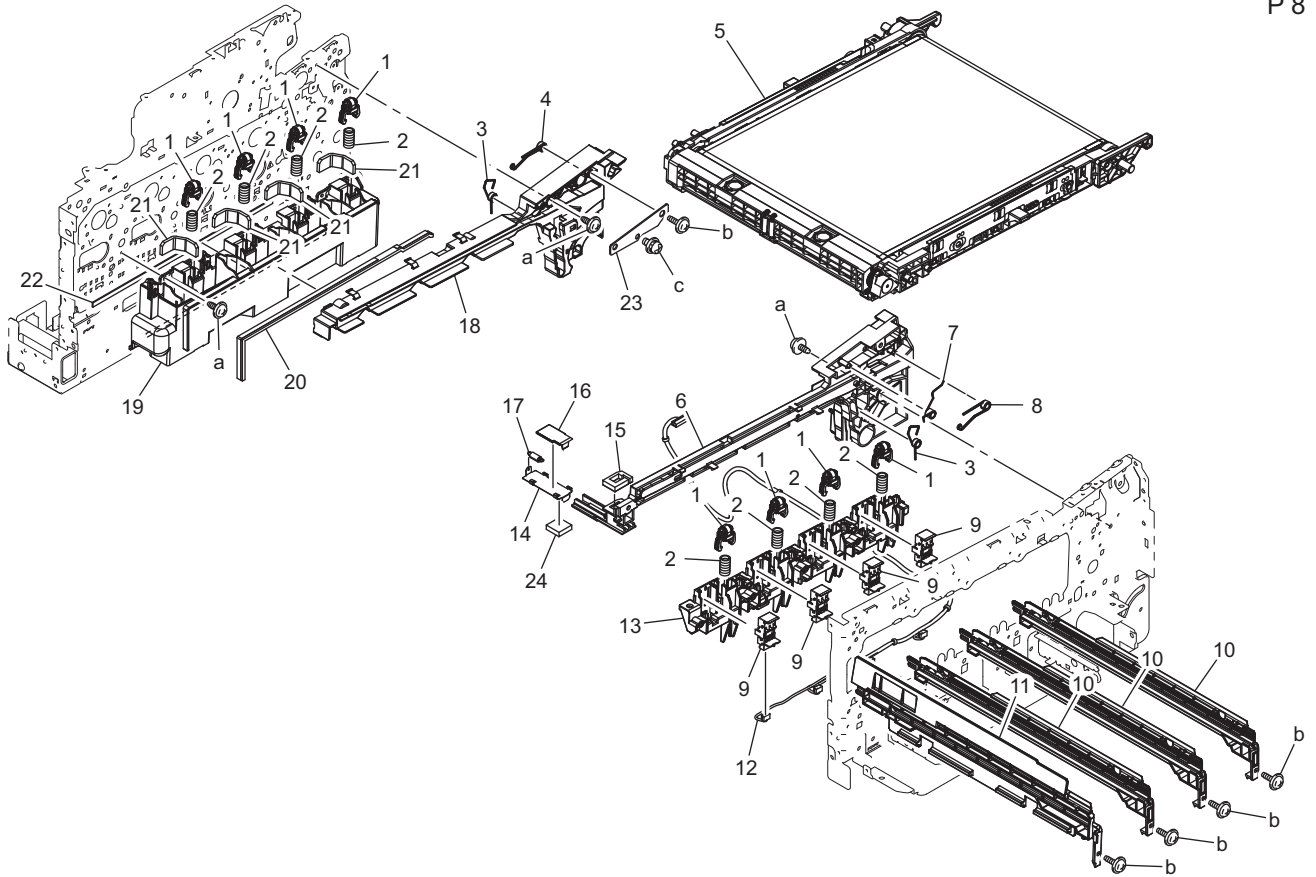


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
7	1	A0VD236400	Gear 29T			D	1
7	2	A0VD236601	Gear 25T			D	1
7	3	A0VD236902	Drive Holder			D	1
7	4	A108M50100	Photointerrupter	1st transfer pressure sensor (PS17)		B	1
7	5	A0VD236500	Shaft			D	1
7	6	A6DTR70000	Toner bottle Drive Assy			D	1
7	7	A0VDM20000	Clutch	Toner supply clutch/Y (CL4) Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) Toner supply clutch/K (CL7)		C	4
7	8	A0VD237400	Stopper			D	1
7	9	A0VD237800	Gear 20T			D	1
7	10	A0VD491200	Label			C	1
7	11	A0VD117500	Mounting Part			D	4
7	12	A0VD491300	Label			C	1
7	13	A0EDM60001	Relay Connector			D	4
7	14	A0VD491000	Label			C	1
7	15	A0VD491100	Label			C	1
7	a	V137030803	screw			V	
7	b	V137030603	screw			V	

1.7 TRANSFER BELT UNIT

1.7.1 P8

P 8

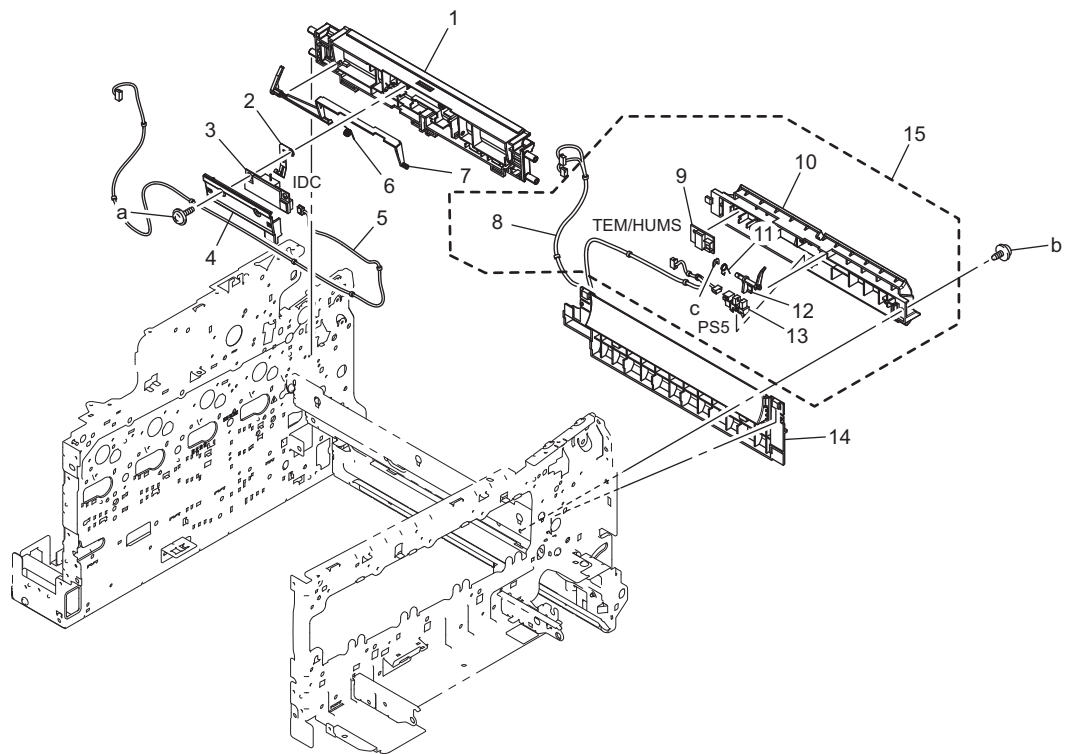


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
8	1	A0VD111700	Holder			D	8
8	2	A0VD111600	Compressing Coil spring			D	8
8	3	A0VD114101	Torsion Coil spring			D	2
8	4	A0VD110500	Torsion Coil spring /Rear			D	1
8	5	A1480Y1	Transfer Unit			A	1
8	6	A0VD110104	Rail /Front			D	1
8	7	A0VD136800	Contact			D	1
8	8	A0VD110400	Torsion Coil spring /Front			D	1
8	9	A6DR134100	Hold Holder /ASSY			D	4
8	10	A0VD112000	Rail			D	3
8	11	A0VD111203	Rail			D	1
8	12	A6DRN10A00	Photoconductor Wiring			D	1
8	13	A0VD111402	Holder /Front			D	1
8	14	A0VD362300	Shutter			D	1
8	15	A0VD362201	Seal			D	1
8	16	A0VD362400	Seal			D	1
8	17	A0VD362500	Pulling Coil spring			D	1
8	18	A0VD110205	Rail /Rear			D	1
8	19	A0VD111502	Duct			D	1
8	20	A0VD115100	Seal			D	1
8	21	A0VD115301	Seal			D	4
8	22	A0VD115200	Seal			D	1
8	23	A0VD214700	Mounting Plate			D	1
8	24	A0VD363700	Seal			D	1
8	a	V137030803	screw			V	
8	b	V153030803	Screw			V	
8	c	V116030603	Screw			V	

1.8 TRANSFER GUIDE SECTION

1.8.1 P9

P 9

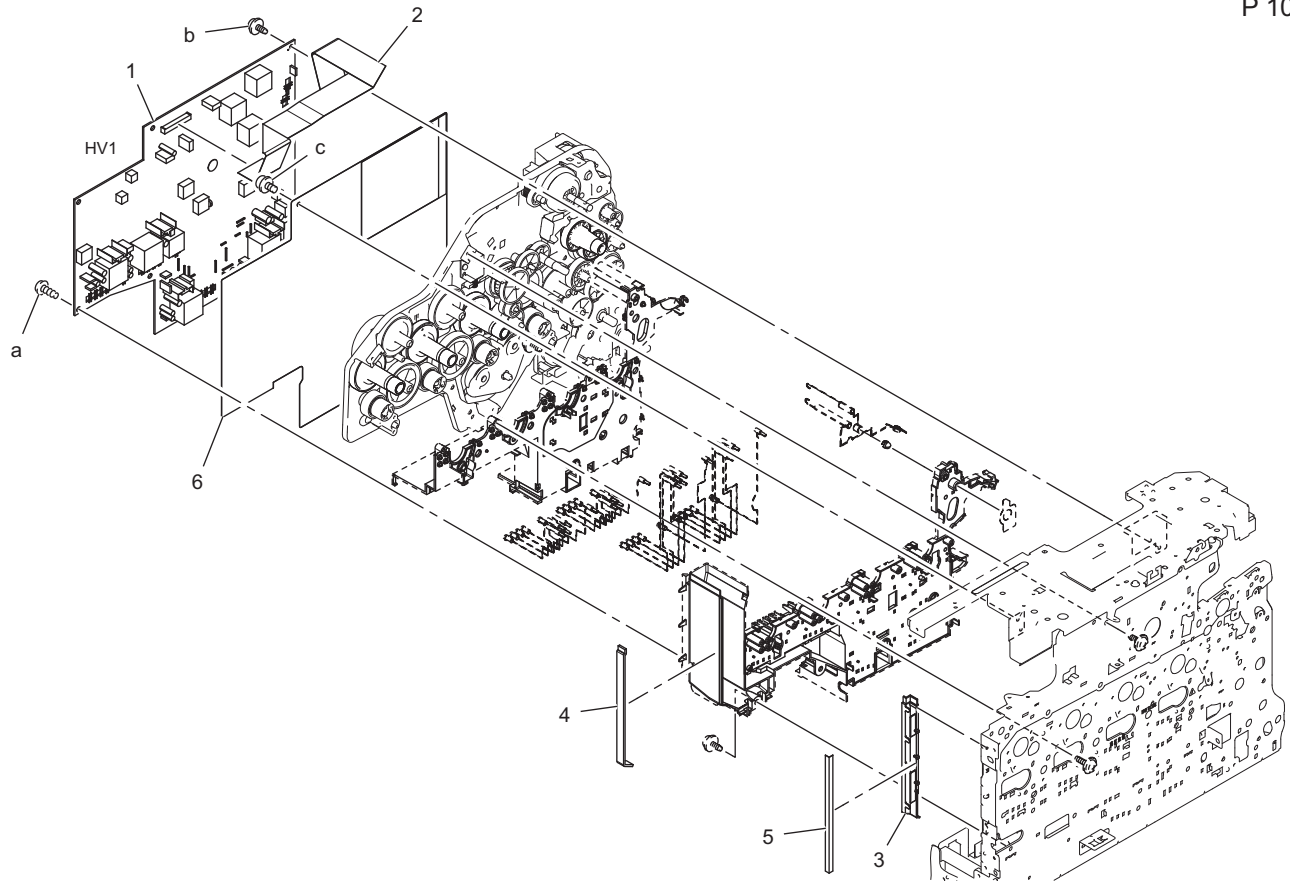


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
9	1	A0VD706400	Guide			D	1
9	2	A0VD706300	Contact			D	1
9	3	A0VDM50000	Photo sensing	IDC sensor (IDC)		I	1
9	4	A0VD706500	Holder			D	1
9	5	A6DRN10D00	Sensor Wiring			D	1
9	6	A0VD706203	Torsion Coil spring			D	1
9	7	A0VD706102	Cover			D	1
9	8	A6DRN10C00	Sensor Wiring			D	1
9	9	A0VDM50100	Humidity sensor	Temperature/humidity sensor (TEM/HUMS)		I	1
9	10	A6DT707300	Guide			C	1
9	11	A0VD707201	Torsion Coil spring			D	1
9	12	A6DT707100	Actuator			C	1
9	13	A108M50100	Photointerrupter	Registration sensor (PS5)		B	1
9	14	A0VD707501	Guide			D	1
9	15	A6DTR70200	Timing Roller Guide			I	1
9	a	V153031203	screw			V	
9	b	V144030803	SCREW			V	
9	c	V218030086	C-Clip			V	1

1.9 HIGH VOLTAGE SECTION

1.9.1 P10

P 10

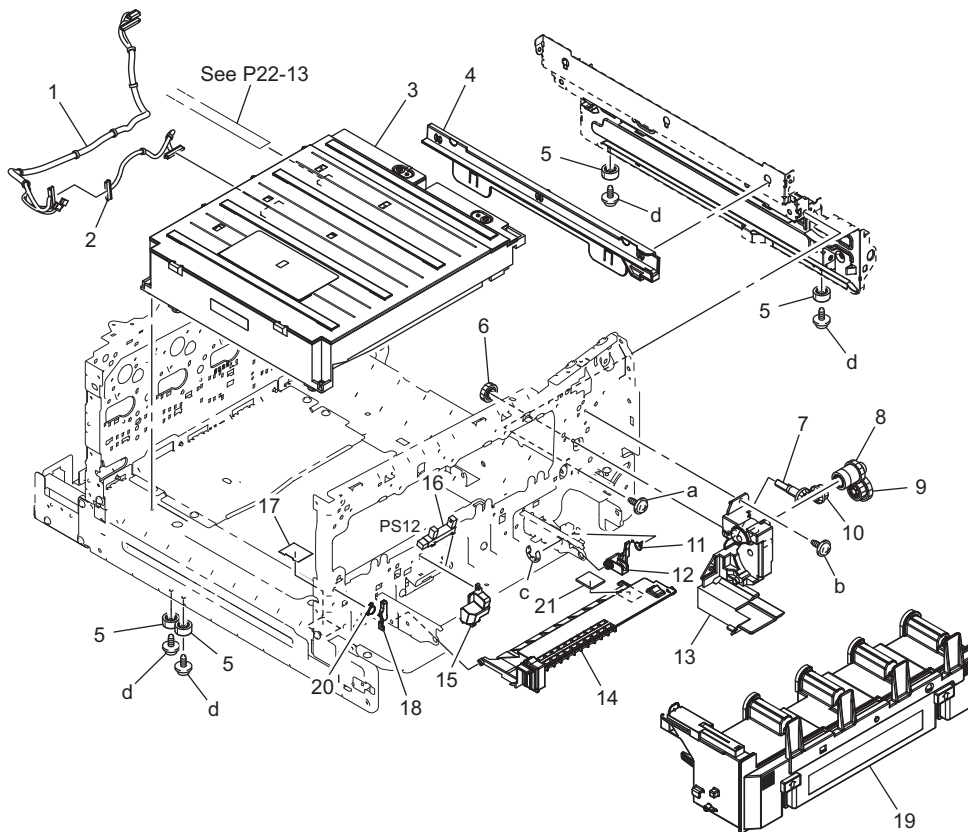


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
10	1	A0VDM40402	High voltage unit	High voltage unit (HV1)		I	1
10	2	A6DRN11100	HV Flatcable			D	1
10	3	A0VD139401	Duct /2			D	1
10	4	A0VD139500	Seal			D	1
10	5	A0VD134500	Sheet			C	1
10	6	A6DR134401	Insulating Sheet			D	1
10	a	V149031003	screw			V	
10	b	V137030603	screw			V	
10	c	V116030603	Screw			V	

1.10 PRINT HEAD SECTION

1.10.1 P11

P 11

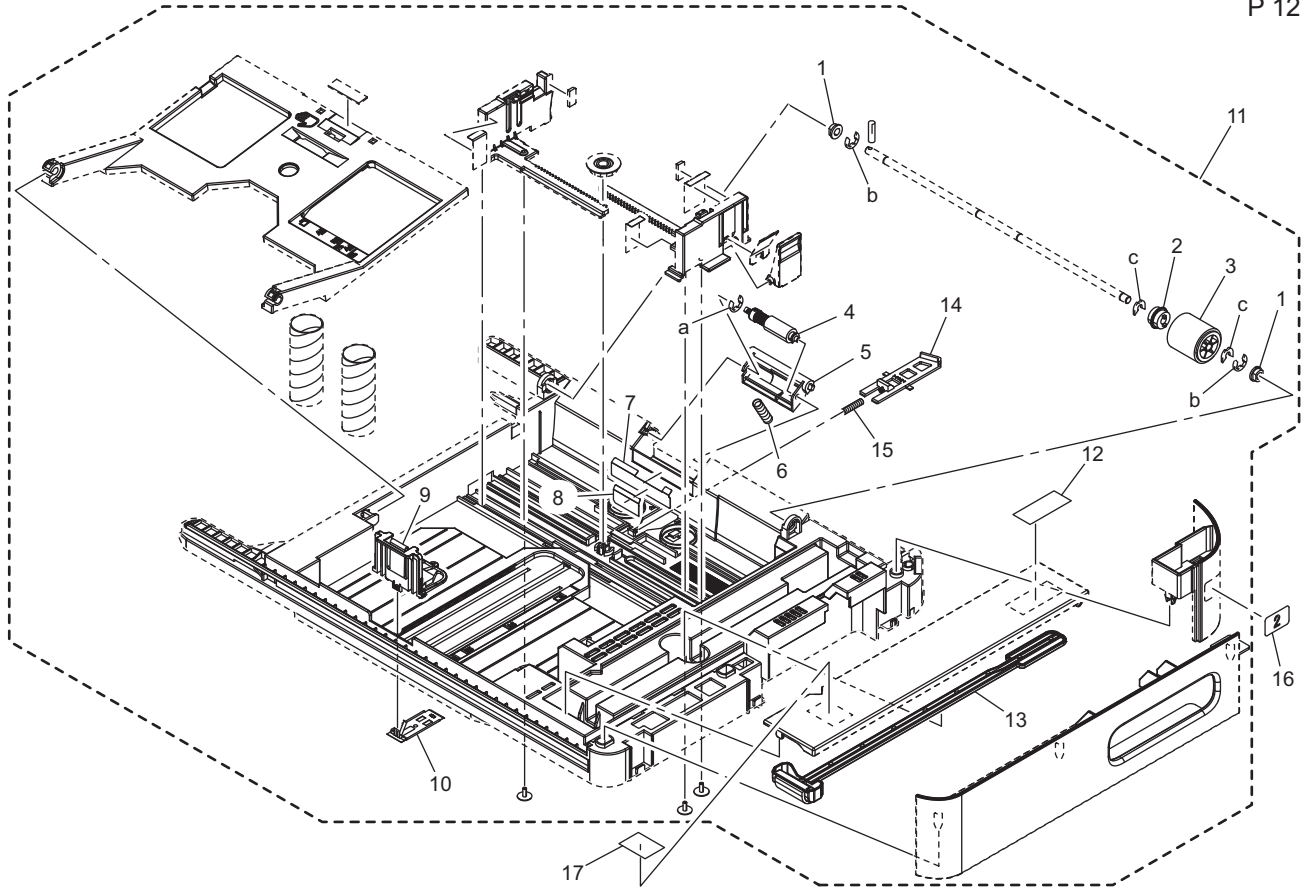


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
11	1	A6DRN10P00	LD Relay harness			D	1
11	2	A6DRN10N00	LD Wiring			D	1
11	3	A73JR70011	Print Head Assy	PH unit		I	1
11	4	A0VD111302	Rail			D	1
11	5	996305501	RUBBER FOOT			C	4
11	6	A0VD235700	Gear 16T			C	1
11	7	A0VD235400	Gear 16T			D	1
11	8	A0VD235600	Gear 16/26T			D	1
11	9	A0VD235900	Gear 22/30T			D	1
11	10	A0VD235500	Gear 16/16T			D	1
11	11	A0VD362702	Torsion Coil spring			D	1
11	12	A0VD362602	Lever			D	1
11	13	A0VD235101	Drive Holder			D	1
11	14	A0VD108703	Cover			D	1
11	15	A0VD136701	Hold Holder			D	1
11	16	9335140051	SOLID STATE SWITCH			B	1
11	17	A0VD109400	Scatteringprevention Seal			D	1
11	18	A0VD107401	Stopper			D	1
11	19	A1AU0Y1	Waste Toner Bottle			A	1
11	20	A0VD107500	Torsion Coil spring			D	1
11	21	A0VD109001	Spacer			C	1
11	a	V144030803	SCREW			V	
11	b	V144030803	SCREW			V	
11	c	V217060001	E-ring			V	
11	d	V116031003	Screw			V	

1.11 CASSETTE SECTION

1.11.1 P12

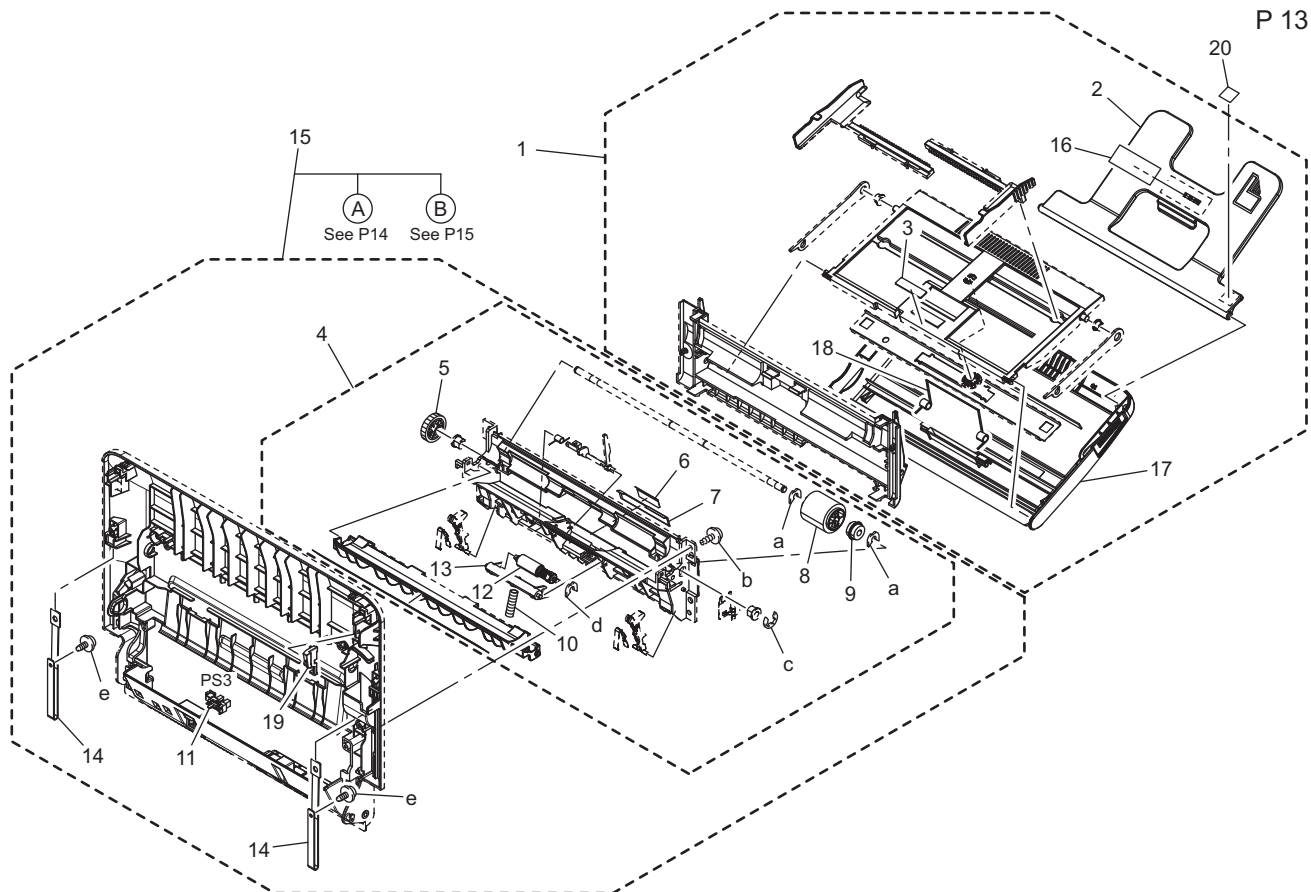
P 12



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
12	1	4138324401	BUSHING			C	2
12	2	4030303401	CLUTCH			C	1
12	3	4138303202	ROLLER			B	1
12	4	4658015106	Roller Assy			A	1
12	5	A0VD621100	Holder			D	1
12	6	A0VD624800	Compressing Coil spring			C	1
12	7	4131305601	GUIDE PLATE			C	1
12	8	4131305702	GUIDE			C	1
12	9	A0VD623101	Regulating Plate			D	1
12	10	A0VD623200	Mounting Plate			D	1
12	11	A0VDR72511	Cassette Assy			D	1
12	12	4138731601	Label Prohibition inkjet media			D	1
12	13	A0VD108902	Cleaning Part			C	1
12	14	A0VD622102	Lock Lever			D	1
12	15	1164306201	PRESSURE SPRING			C	1
12	16	A121943200	Label 2			C	1
12	17	A2YF945100	Label Paper Direction			D	1
12	a	V217030001	E-ring			V	
12	b	V217040001	E-ring			V	
12	c	V218040086	C-Clip			V	

1.12 VERTICAL CONVEYANCE SECTION

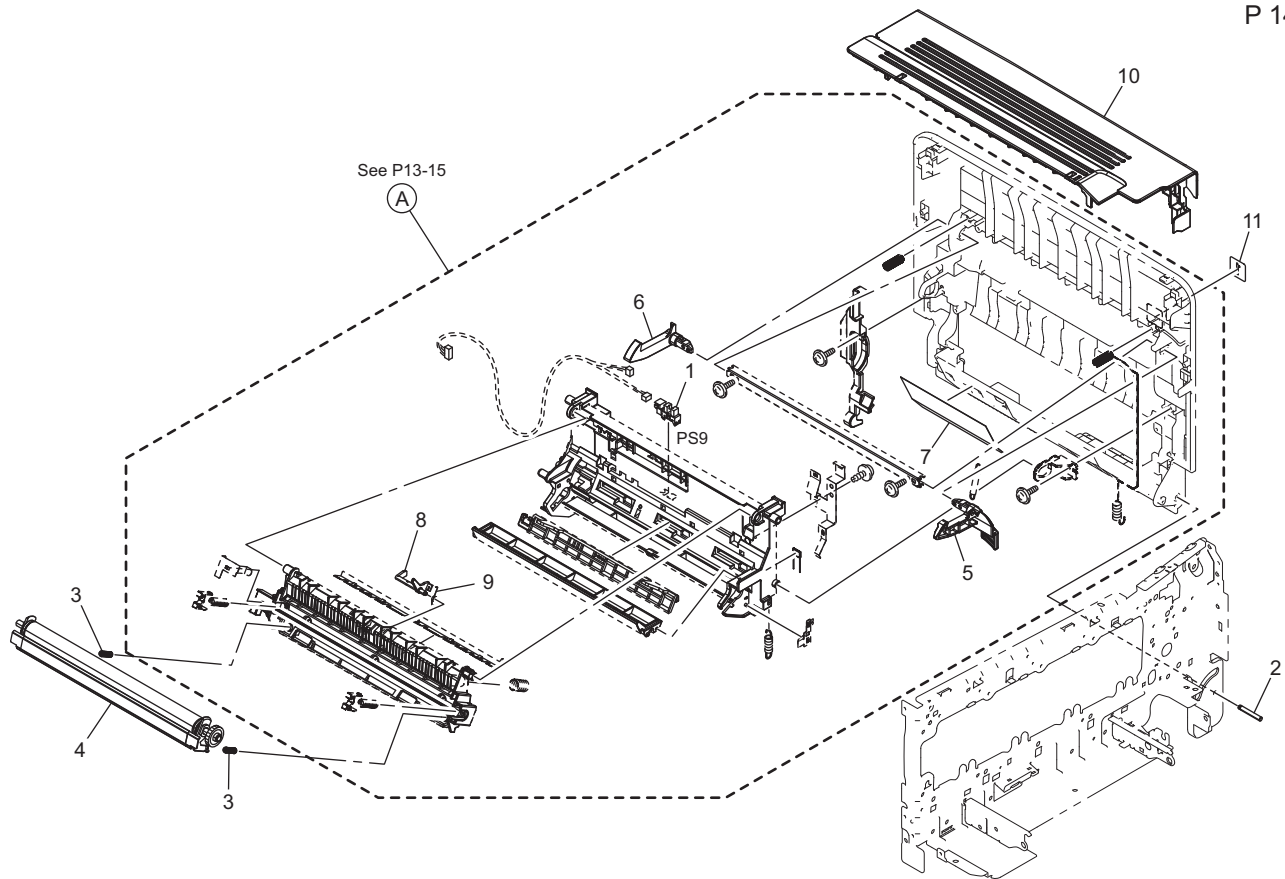
1.12.1 P13



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
13	1	A0VDR71600	Manual Feed Tray Unit			C	1
13	2	A0VD561700	Tray			C	1
13	3	4138325501	FRICTION SHEET			C	1
13	4	A0VDR71300	Manual Paper Feed Assy			C	1
13	5	A0VD561301	Gear 20T			D	1
13	6	A0VD561800	Guide			C	1
13	7	4131305601	GUIDE PLATE			C	1
13	8	4138303202	ROLLER			B	1
13	9	4030303401	CLUTCH			C	1
13	10	A0VD624800	Compressing Coil spring			C	1
13	11	A108M50100	Photointerrupter	Manual tray paper empty sensor (PS3)		B	1
13	12	4658015106	Roller Assy			A	1
13	13	A0VD621100	Holder			D	1
13	14	A0VD162300	Open/close Stopper			D	2
13	15	A6DTR70100	Vertical Conveyance Assy			D	1
13	16	4138731601	Label Prohibition inkjet media			D	1
13	17	A0VD560202	Bypass Tray			C	1
13	18	4138325201	TORSION SPRING			C	1
13	19	A0VD168200	Stopper			D	1
13	20	A2YF945200	Label Paper Direction			C	1
13	a	V218040086	C-Clip			V	
13	b	V153030803	Screw			V	
13	c	V217040001	E-ring			V	
13	d	V218030086	C-Clip			V	
13	e	V137030603	screw			V	

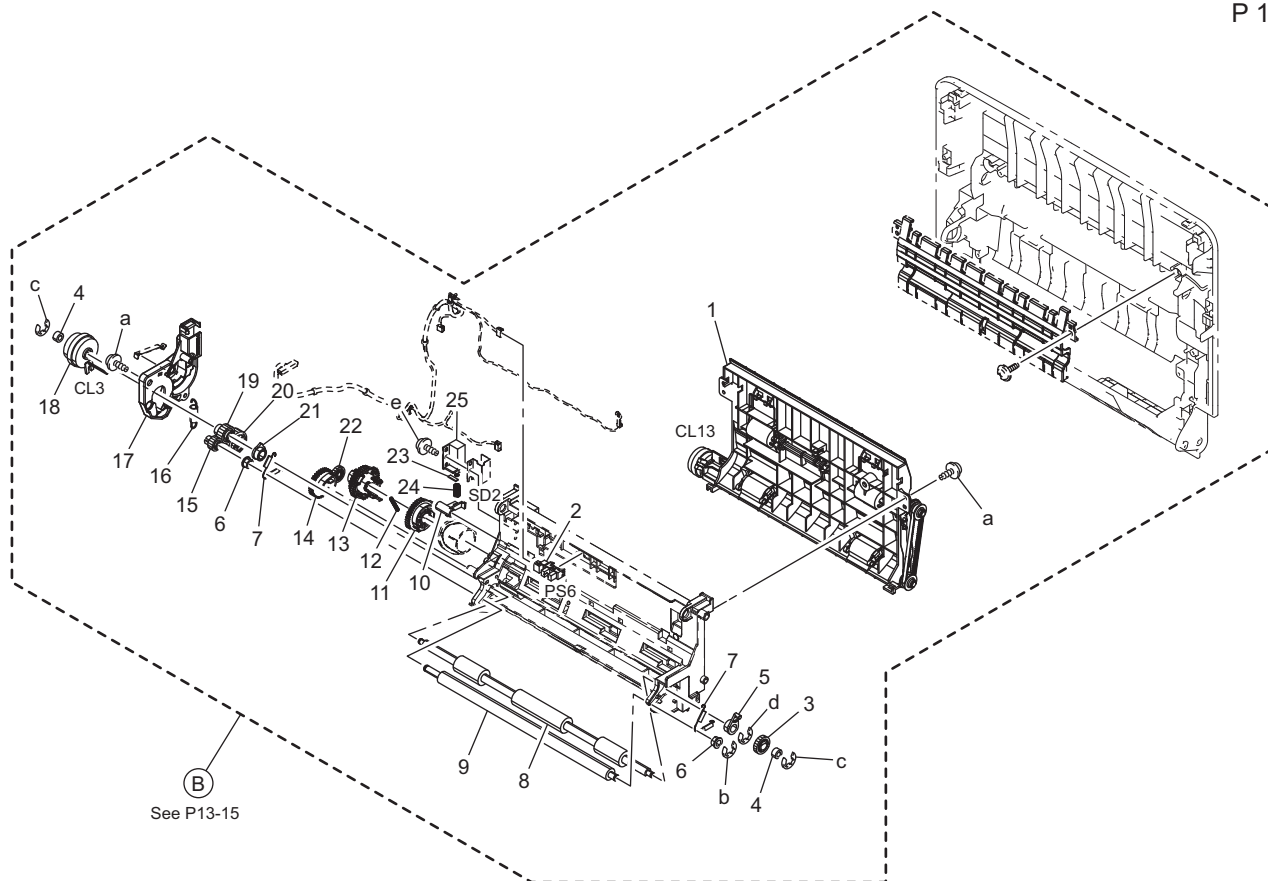
1.12.2 P14

P 14



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
14	1	A108M50100	Photointerrupter	Duplex conveyance sensor (PS9)		B	1
14	2	A0VD162101	Shaft			D	1
14	3	A0VD701701	Compressing Spring			C	2
14	4	A1480Y2	2nd Transfer Roller			A	1
14	5	A0VD163600	Lever /Front			D	1
14	6	A0VD163400	Lever /Rear			D	1
14	7	A0VD161600	Guide			D	1
14	8	A0VD700202	Actuator			C	1
14	9	A0VD700302	Torsion Coil spring			C	1
14	10	A2YF160601	Cover			D	1
14	11	A6DT941100	Label 1			C	1

1.12.3 P15



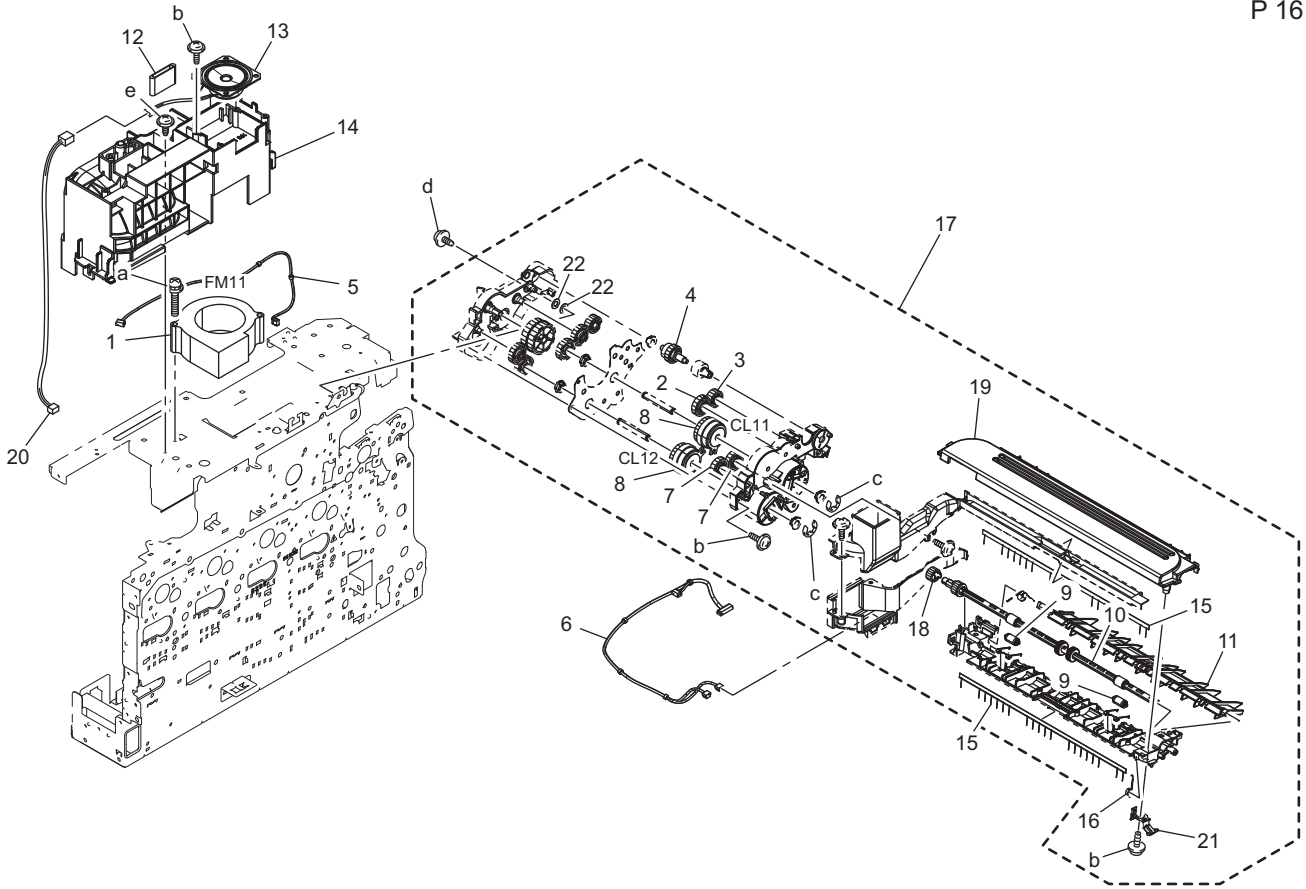
Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
15	1	A0VDR71722	DUP Transport Assy			C	1
15	2	A108M50100	Photointerrupter	Loop detection sensor (PS6)		B	1
15	3	A0VD235301	Gear 16T			C	1
15	4	4138352802	ROLL			C	2
15	5	A0VD702300	Bushing			D	1
15	6	4138353202	BUSHING			C	2
15	7	A0VD702501	Pulling Coil spring			D	2
15	8	A3GN702100	Roller			C	1
15	9	A0VD702902	Roller			D	1
15	10	A0VD704700	Lever			D	1
15	11	A0VD704400	Gear 32T			D	1
15	12	A034563800	Compressing Spring			D	1
15	13	A0VD704300	Gear 35/42T			D	1
15	14	A0VD705101	Gear 35T			D	1
15	15	A0VD703001	Gear 15T			D	1
15	16	A0VD703700	Pulling Coil spring			D	1
15	17	A0VD705303	Mounting Plate			D	1
15	18	A011M20000	CLUTCH	Registration clutch (CL3)		C	1
15	19	A0VD703501	Gear 20T			D	1
15	20	A0VD704900	Gear 28T			D	1
15	21	A0VD702400	Bushing			D	1
15	22	A0VD705200	Gear 18T			D	1
15	23	A034220100	Seal			D	1
15	24	A034213400	Compressing Spring			D	1
15	25	A034M20000	Paperfeed Solenoid	2nd transfer pressure solenoid (SD2)		C	1
15	a	V153030803	Screw			V	
15	b	V217040001	E-ring			V	
15	c	V217030001	E-ring			V	

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
15	d	V217060001	E-ring			V	
15	e	V153031003	screw			V	

1.13 DUP REVERSE DRIVE SECTION

1.13.1 P16

P 16



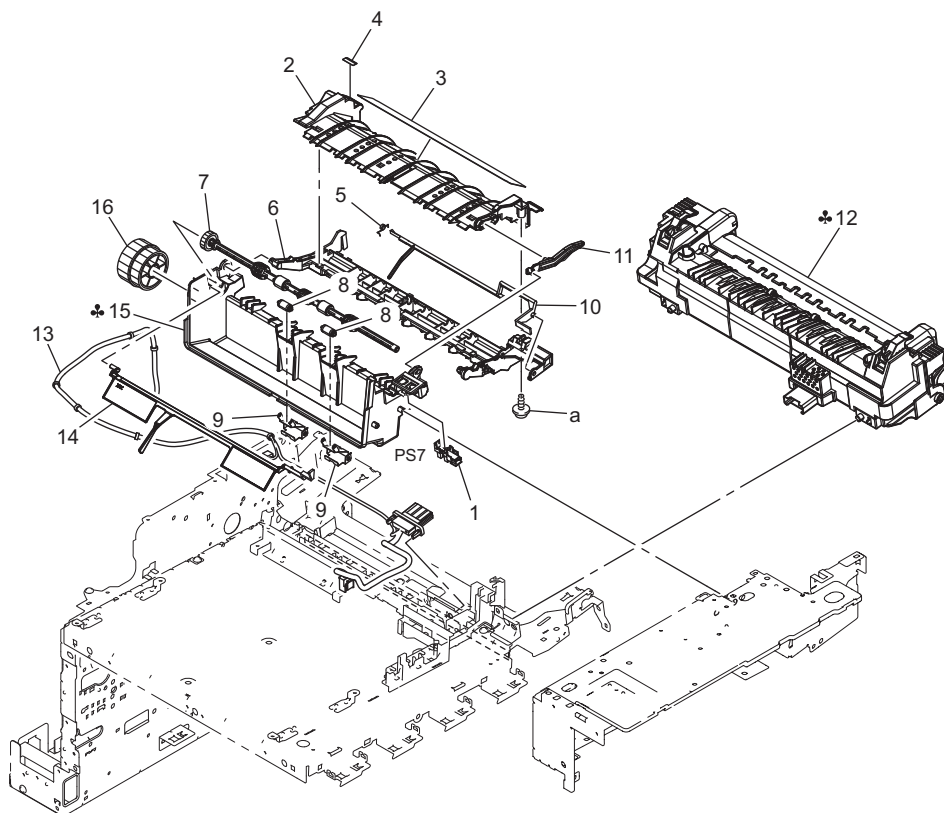
Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
16	1	9313130051	FAN MOTOR	Cooling fan motor (FM11)		B	1
16	2	A0VD822800	Gear 23T			D	1
16	3	A0VD822700	Gear 19T			D	1
16	4	A3GN823500	Torque limiter ASSY			C	1
16	5	A6DRN10K00	Cooling Wiring			D	1
16	6	A6DRN10R00	Conveyance Wiring			D	1
16	7	A0VD822400	Gear 18T			D	2
16	8	A0VDM20000	Clutch	Switchback roller feed clutch (CL11) Switchback roller reverse clutch (CL12)		C	2
16	9	A0VD820200	Roll			C	2
16	10	A0VD820103	Reverse/exit Roller			D	1
16	11	A0VD825600	Guide			D	1
16	12	A2YFM70500	Ferritecore			D	1
16	13	4040M40100	LOUDSPEAKER			D	1
16	14	A6DT133502	Duct			D	1
16	15	A0VD894100	Neutralizing Brush			D	2
16	16	A121820800	Torsion Coil spring			C	1
16	17	A2YFR70211	DUP Reverse Drive Assy			D	1
16	18	A0VD821100	Gear 14T			D	1
16	19	A0VD820403	Guide /Upper			D	1
16	20	A6DTN12200	Relay harness			D	1
16	21	A0VD820900	Contact			D	1

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
16	22	A6DR819900	Spacer			D	2
16	a	V116033503	Screw			V	
16	b	V153030803	Screw			V	
16	c	V217040001	E-ring			V	
16	d	V137030803	screw			V	
16	e	V137030803	screw			V	

1.14 FUSING SECTION

1.14.1 P17

P 17



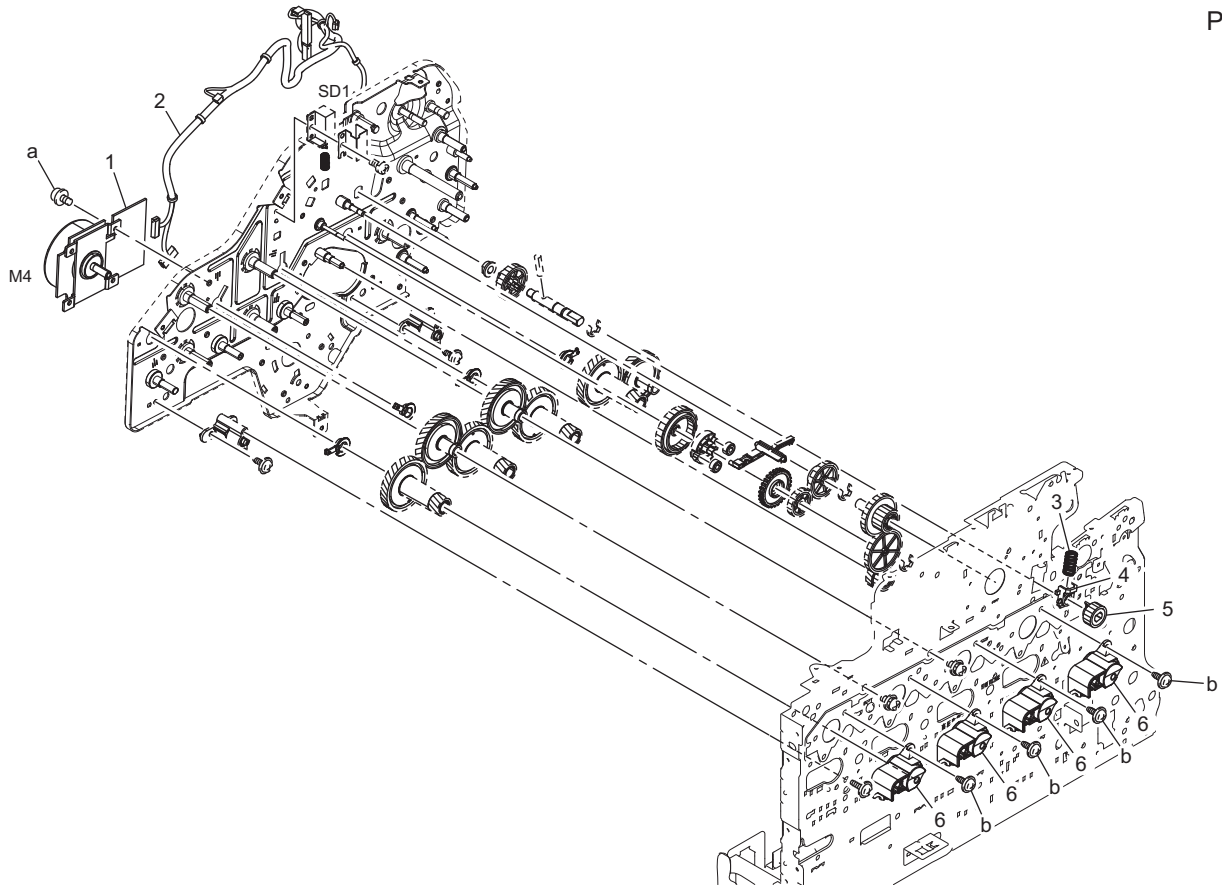
Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
17	1	A108M50100	Photointerrupter	Paper full sensor (PS7)		B	1
17	2	A121902500	Guide			D	1
17	3	A3GN948300	Label Hi-Temp Caution/ Jam			D	1
17	4	A0VD949100	Label JAM			D	1
17	5	A0VD892400	Torsion Coil spring			D	1
17	6	A0VD908101	Guide			D	1
17	7	A0VD890102	Paper exit Roller			D	1
17	8	A3GN890301	Paper exit Roll			C	2
17	9	A0VD890200	Spring			D	2
17	10	A0VD907300	Actuator			D	1
17	11	A121893002	Lever			C	1
17	12	A148002	Fusing Unit (100V)		A1	A	1
17	12	A148010	Fusing Unit (110-127V)		B,G2,H	A	1
17	12	A148022	Fusing Unit (220-240V)		C,D1,D3,E,F2,G1,I, K	A	1
17	13	A6DTN10H00	Fixing Relay harness /A			D	1
17	14	A2YF891202	Actuator			C	1
17	15	A6DT890300	Paper exit Holder		A1	D	1
17	15	A6DT891100	Paper exit Holder		B,G2,H	D	1

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
17	15	A6DT895300	Paper exit Holder		C,D1,D3,E,F2,G1,I,K	D	1
17	16	A0VD890800	Gear 38/40T			D	1
17	a	V153030803	Screw			V	

1.15 MAIN DRIVE SECTION

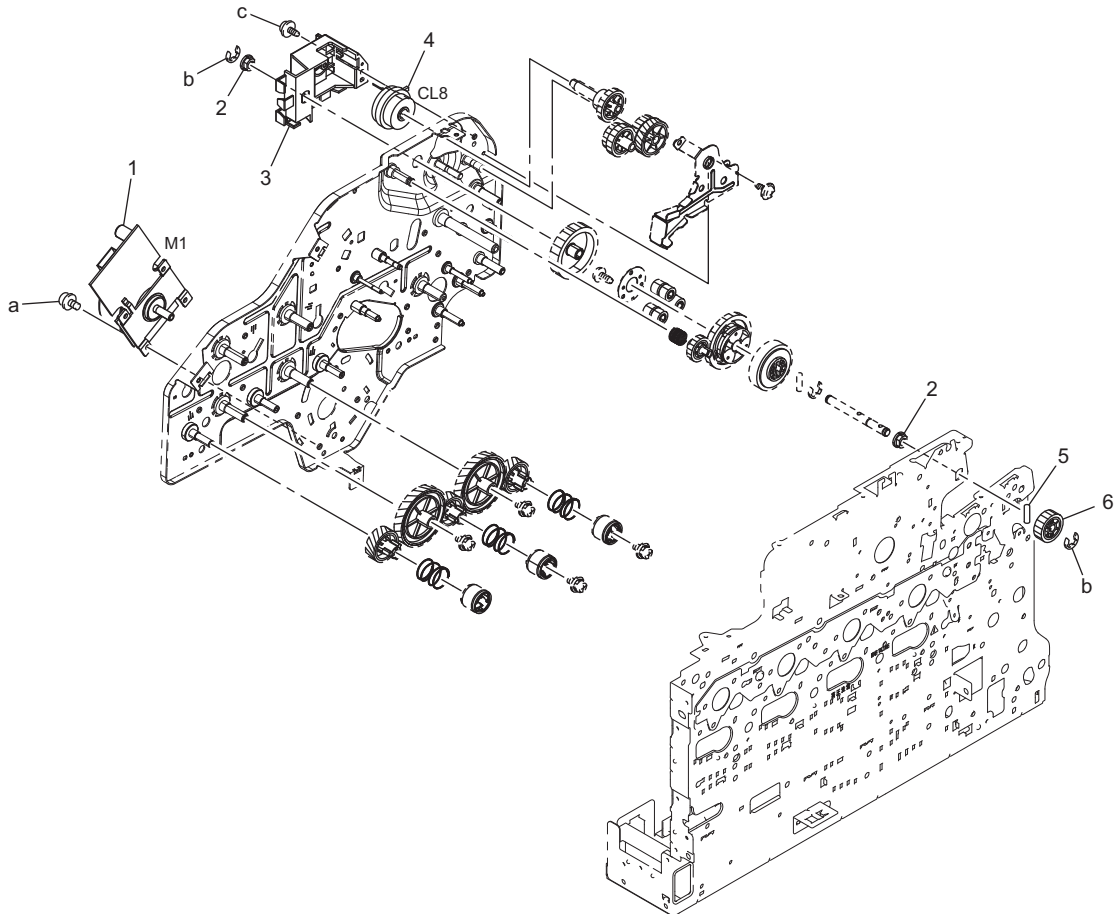
1.15.1 P18

P 18



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
18	1	A2YFM10000	Brushless motor	Color PC drum motor (M4)		C	1
18	2	A6DRN10500	Main body Drive harness			D	1
18	3	A0VD220300	Compressing Coil spring			D	1
18	4	A0VD220201	Bushing			D	1
18	5	A0VD219800	Gear 20T			C	1
18	6	A0VD211303	Hold Plate			D	4
18	a	V116030504	Screw			V	
18	b	V137030803	screw			V	

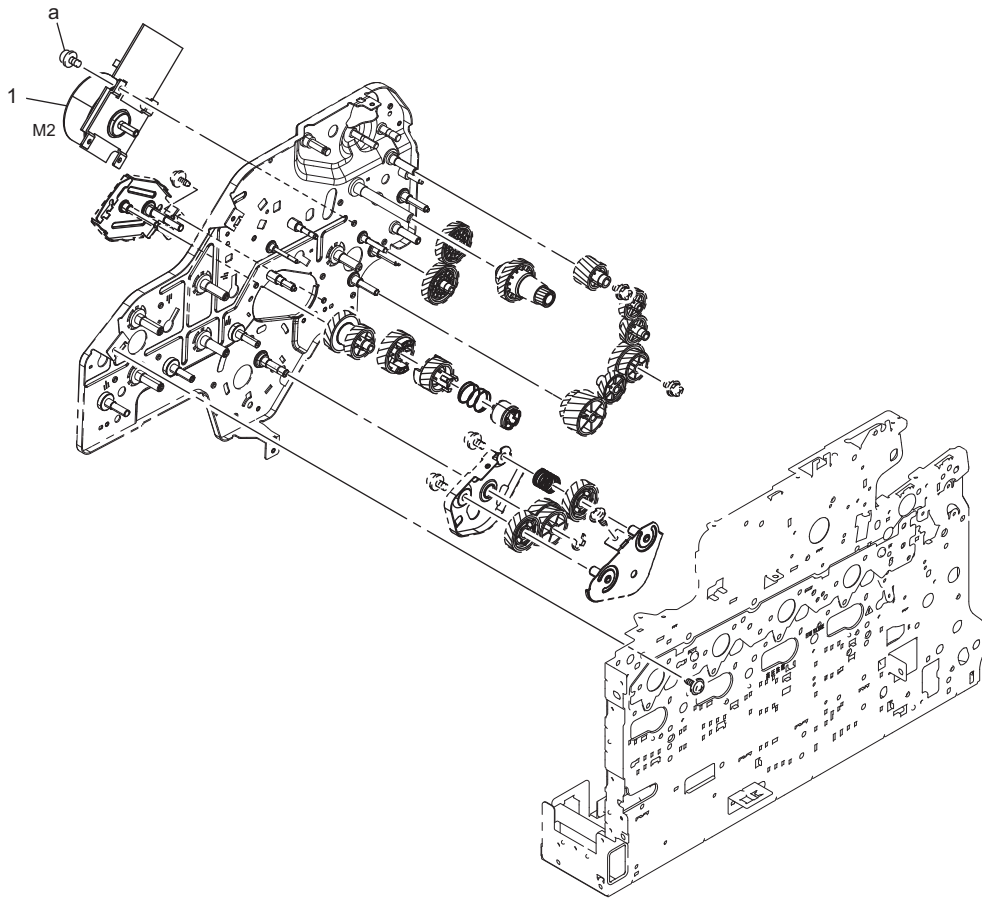
1.15.2 P19



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
19	1	A2YFM10200	Brushless motor	Developing motor (M1)		C	1
19	2	A00F213900	Bearing			C	2
19	3	A0VD248501	Mounting Plate /A			D	1
19	4	A011M20000	CLUTCH	Loop detection clutch (CL8)		C	1
19	5	4036301401	PIN			C	1
19	6	A0VD218301	Gear 21T			C	1
19	a	V116030504	Screw			V	
19	b	V217040001	E-ring			V	
19	c	V137030803	screw			V	

1.15.3 P20

P 20

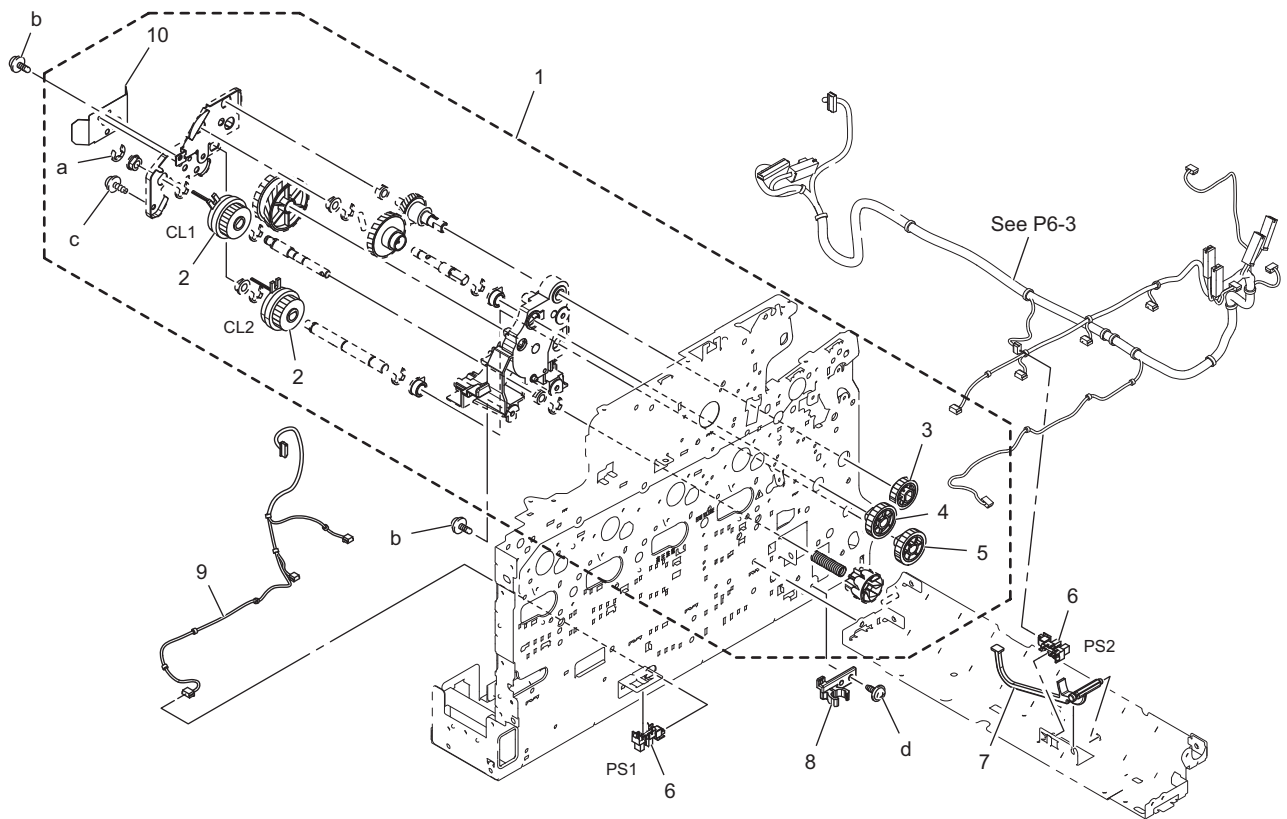


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
20	1	A2YFM10200	Brushless motor	Transport motor (M2)		C	1
20	a	V116030504	Screw			V	

1.16 PAPER FEED DRIVE SECTION

1.16.1 P21

P 21

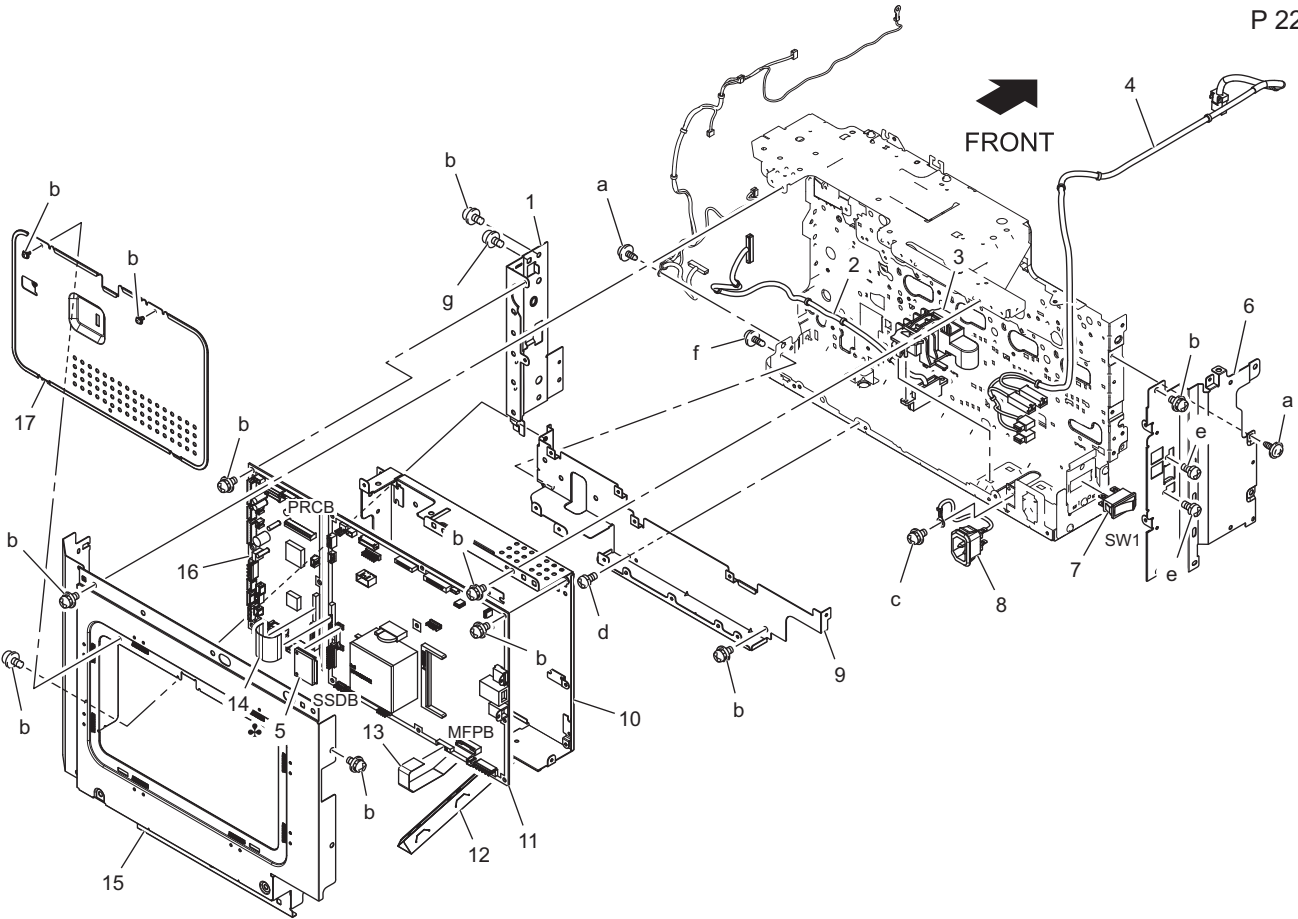


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
21	1	A6DRR70000	Paper Feed Drive Assy			C	1
21	2	A02EM20000	Clutch	Tray1 paper feed clutch (CL1) Manual paper feed clutch (CL2)		B	2
21	3	A0VD231200	Gear 22T			D	1
21	4	A0VD230901	Gear 25T			C	1
21	5	A0VD233301	Gear 20T			C	1
21	6	A108M50100	Photointerrupter	Tray1 set sensor (PS1) Tray1 paper empty sensor (PS2)		B	2
21	7	A0VD624100	Lever			C	1
21	8	4002312303	HOLDER			D	1
21	9	A6DRN10E00	Paperfeed Wiring			D	1
21	10	A3GN217000	Guide Sheet			C	1
21	a	V217040001	E-ring			V	
21	b	V144030803	SCREW			V	
21	c	V153030803	Screw			V	
21	d	V137030603	screw			V	

1.17 ELECTRICAL COMPONENTS

1.17.1 P22

P 22

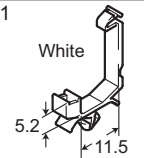
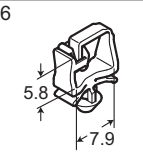
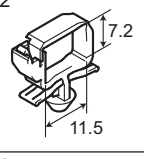
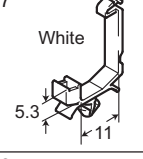
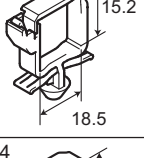
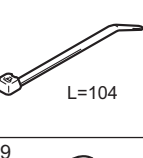
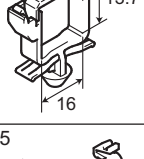
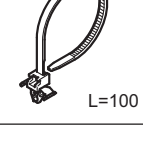
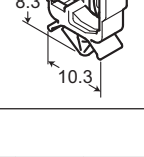


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
22	1	A6DR132800	Mounting Plate			D	1
22	2	A6DRN10F00	Paperfeed Relay harness			D	1
22	3	A0VD136100	Hold Holder			D	1
22	4	A6DRN10X00	AC Wiring			D	1
22	5	A6DTR70400	Memory Board (JP)	SSD board (SSDB)	A1	I	1
22	5	A6DTR70300	Memory Board (WW)	SSD board (SSDB)	B,C,D1,D3,E,F2,G1,G2,H,I,K	I	1
22	6	A6DR133600	Reinforce Plate /Left			D	1
22	7	A034M60200	Rocker switch	Power switch (SW1)		C	1
22	8	A6DRN10000	AC Wiring			D	1
22	9	A6DR132900	Mounting Plate			D	1
22	10	A6DT132500	Mounting Plate			D	1
22	11	A6DTH01004	PWB Assembly	MFP board (MFPB)		I	1
22	12	A6DR133901	Seal			D	1
22	13	A6DRN10S00	LD Flatcable			D	1
22	14	A6DRN10T00	Controller Flatcable			D	1
22	15	A6DR133401	Shield Plate			D	1
22	16	A6DTH00102	PWB Assembly (PRCB)	Printer control board (PRCB)		I	1
22	17	A6DR132400	Cover			D	1
22	a	V137030603	screw			V	
22	b	V116030603	Screw			V	
22	c	V116040803	Screw			V	
22	d	V115260503	Screw			V	
22	e	V115030603	Screw			V	
22	f	V144030803	SCREW			V	
22	g	V116030803	Screw			V	

1.18 WIRING ACCESSORIES AND JIGS

1.18.1 P23

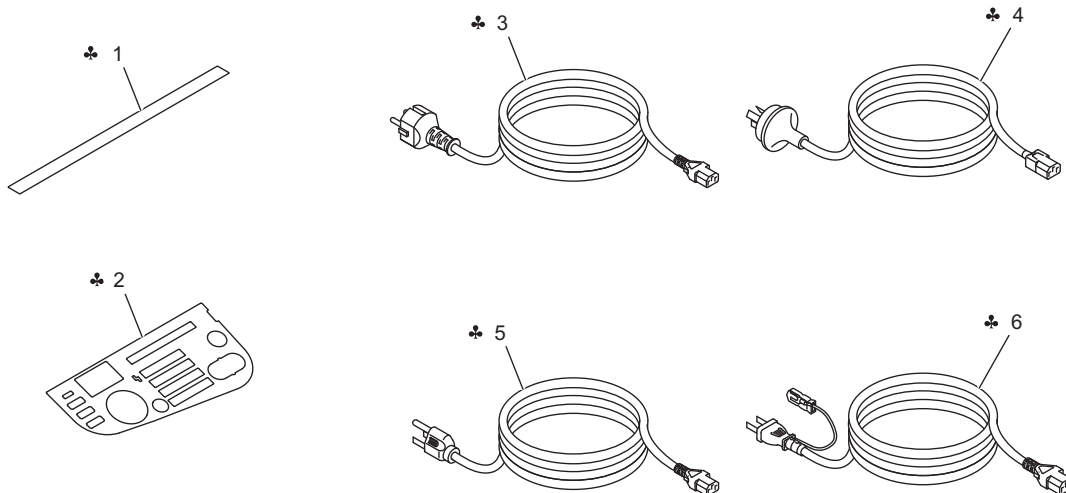
P 23

1 	6 						
2 	7 						
3 	8 						
4 	9 						
5 							

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
23	1	V500010081	Locking Wire Saddle			D	
23	2	V500010082	Locking Wire Saddle			D	
23	3	V500010083	Locking Wire Saddle			D	
23	4	V500010084	Locking Wire Saddle			D	
23	5	V500020077	wabe Clamp			D	
23	6	V500020098	Mini Locking wire saddle			D	
23	7	V500020100	Mini Locking wire saddle			D	
23	8	V501010001	band			D	
23	9	V501010018	BAND			D	

1.19 ACCESSORY PARTS

1.19.1 P24



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
24	1	A121944700	Label Prohibit		C,D1,D3,E,F2,G1,I,K	C	1
24	2	A6DT950200	Sheet/ French		B,G2,H	C	1
24	2	A6DT950300	Sheet/ Portuguese		B,G2,H	C	1
24	2	A6DT950500	Sheet/ Spanish		B,G2,H	C	1
24	3	A0VDN30000	Power code		C	C	1
24	4	9381420021	POWER CORD		D1,D3,E,F2,G1,I,K	D	1
24	5	A0VDN30100	Power code		B,G2,H	C	1
24	6	A0VDN30200	Power code		A1	C	1

1.20 MAINTENANCE LIST

• The items with no Page/Key numbers are not handled as spare parts.

No.	Section	PM Parts Description	Maintenance Cycle (K=1,000)		Parts No.	Destinations	Page/Key	Note
			QTY	Replace				
1	Paper feed section	Tray1 feed roller	1	300k	4138303202		P12-3	*2 *4
2		Tray1 separation roller	1	300k	4658015106		P12-4	*2 *4
3		Manual tray feed roller	1	300k	4138303202		P13-8	*2 *4
4		Manual tray separation roller	1	300k	4658015106		P13-12	*2 *4
5	Processing section	Toner cartridge/Y,M,C,K	1	4.7k	-			*1 *3
6		Imaging unit/Y,M,C,K	1	20k	-			*2
7		Waste toner bottle	1	19.7k	A1AU0Y1		P11-19	*3 *5
8	Image transfer section	Transfer belt unit	1	100k	A1480Y1		P8-5	*2
9		Transfer roller	1	100k	A1480Y2		P14-4	*2
10	Fusing section	Fusing unit	1	100k	A148002	A1	P17-12	*2
11		Fusing unit	1	100k	A148010	B,G2,H	P17-12	*2

No.	Section	PM Parts Description	Maintenance Cycle (K=1,000)		Parts No.	Destinations	Page/Key	Note
			QTY	Replace				
12		Fusing unit	1	100k	A148022	C,D1,D3,E,F2,G 1,I,K	P17-12	*2

- *1: The parts can be replaced either by user or service engineer.
- *2: Actual durable cycle (life counter value)
- *3: Field standard yield
- *4: Replace those parts at the same time.
- *5: A waste toner full condition is detected with detecting the actual waste toner emissions.

1.21 DESTINATION

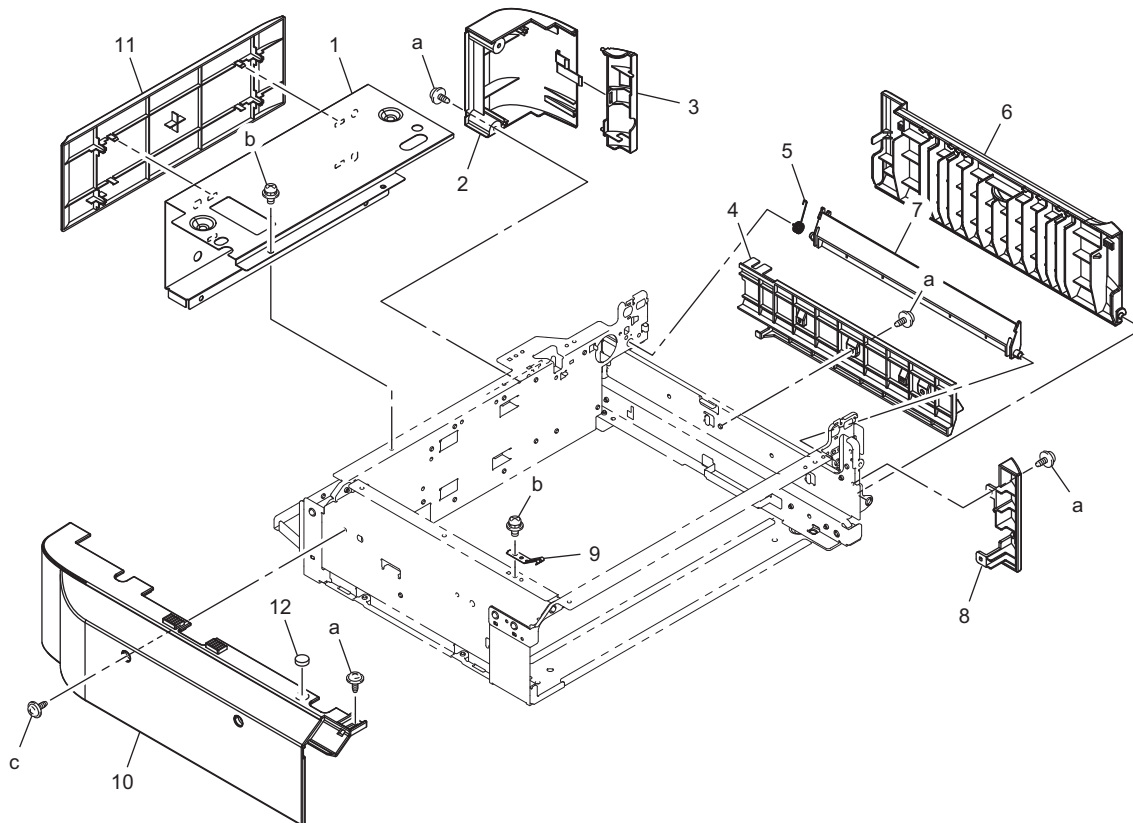
Destination No.	Destinations		V	Hz	Model No.
A	A1	JAPAN	100	50/60	A6DT-001
	A2	JAPAN			
B	USA, CANADA		120	60	A6DT-011
C	EUROPEAN TYPE		220-240	50/60	A6DT-021
D	D1	S.E ASIA TYPE THAILAND, SRI LANKA, SINGAPORE, MALAYSIA, HONGKONG, PAKISTAN, INDIA, BANGLADESH, INDONESIA	220-240	50/60	A6DT-041
	D3	OCEAINA TYPE AUSTRALIA, NEW ZEALAND	220-240	50/60	A6DT-041
E	PHILIPPINES		220-240	50/60	A6DT-041
F	F1	SAUDI ARABIA	220-240	50/60	A6DT-041
	F2	SAUDI ARABIA			
G	G1	C.S AMERICA	220-240	50/60	A6DT-041
	G2	C.S AMERICA	120	60	A6DT-011
H	TAIWAN		110	60	A6DT-011
I	JORDAN, LEBANON, SYRIA, SOUTH AFRICA, IRAQ, IRAN, N.YEMEN, CAMEROON, UAE, BAHRAIN, OMAN, QATAR, KUWAIT, KENYA, TUNISIA, IVORY COAST, MOROCCO		220-240	50/60	A6DT-041
J	CHINA				
K	KOREA		220-240	50/60	A6DT-041

2. Paper Feeder (PF-P14)

2.1 EXTERNAL PARTS

2.1.1 P1

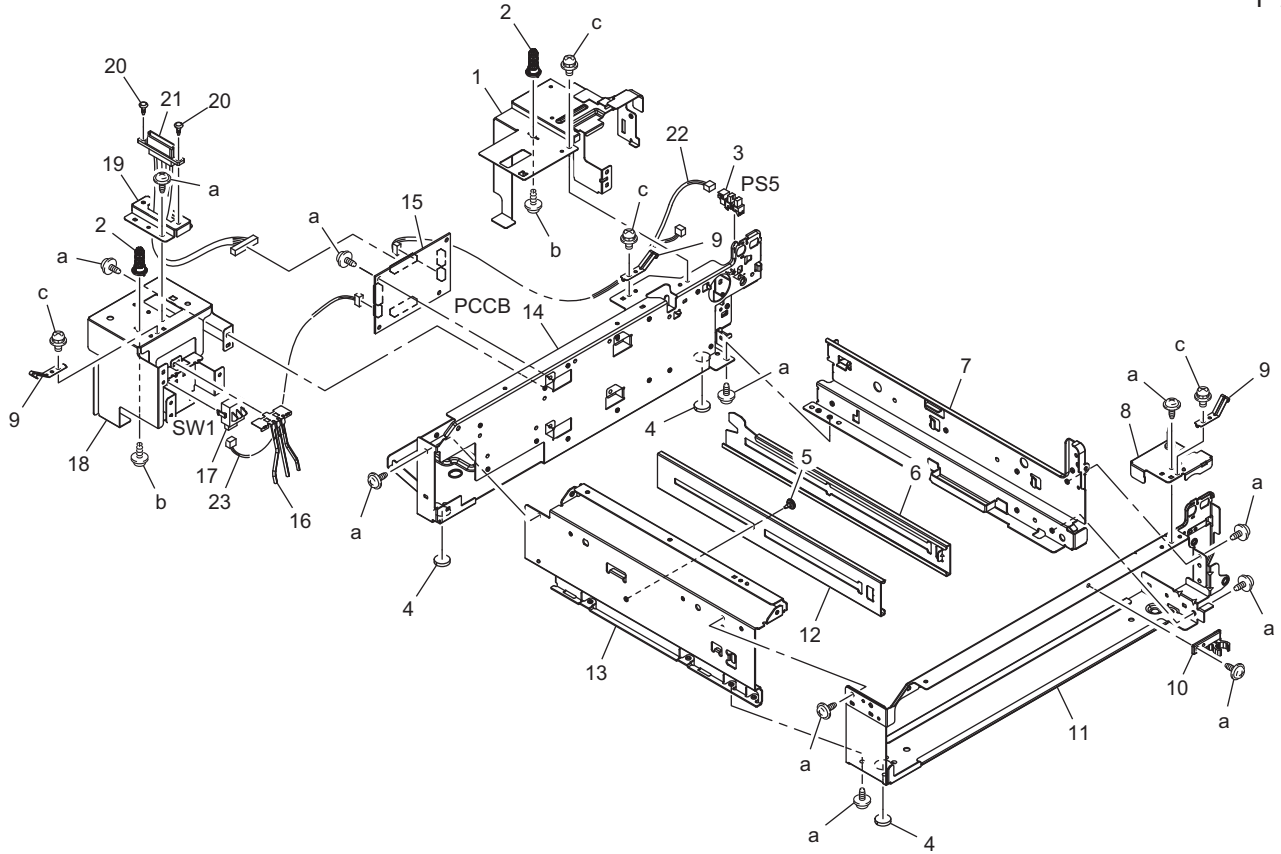
P 1



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
1	1	A0WJ686001	Rear Cover			C	1
1	2	A0WJ685102	Right Rear Cover			C	1
1	3	A0WJ685502	Right Cover			C	1
1	4	A0WJ682200	Guide			C	1
1	5	4537339701	TORSION SPRING			C	1
1	6	A0WJ682103	Conveyance Cover			C	1
1	7	4537338213	GUIDE			I	1
1	8	A0WJ685400	Right Front Cover			C	1
1	9	A0WJ689400	Plate spring			C	1
1	10	A0WJ686203	Left Cover			C	1
1	11	A0WJ685600	Rear Cover			C	1
1	12	A0CR121900	Rubber Foot			D	1
1	a	V144030603	Screw			V	
1	b	V116030603	Screw			V	
1	c	V137030804	screw			V	

2.2 FRAME SECTION

2.2.1 P2

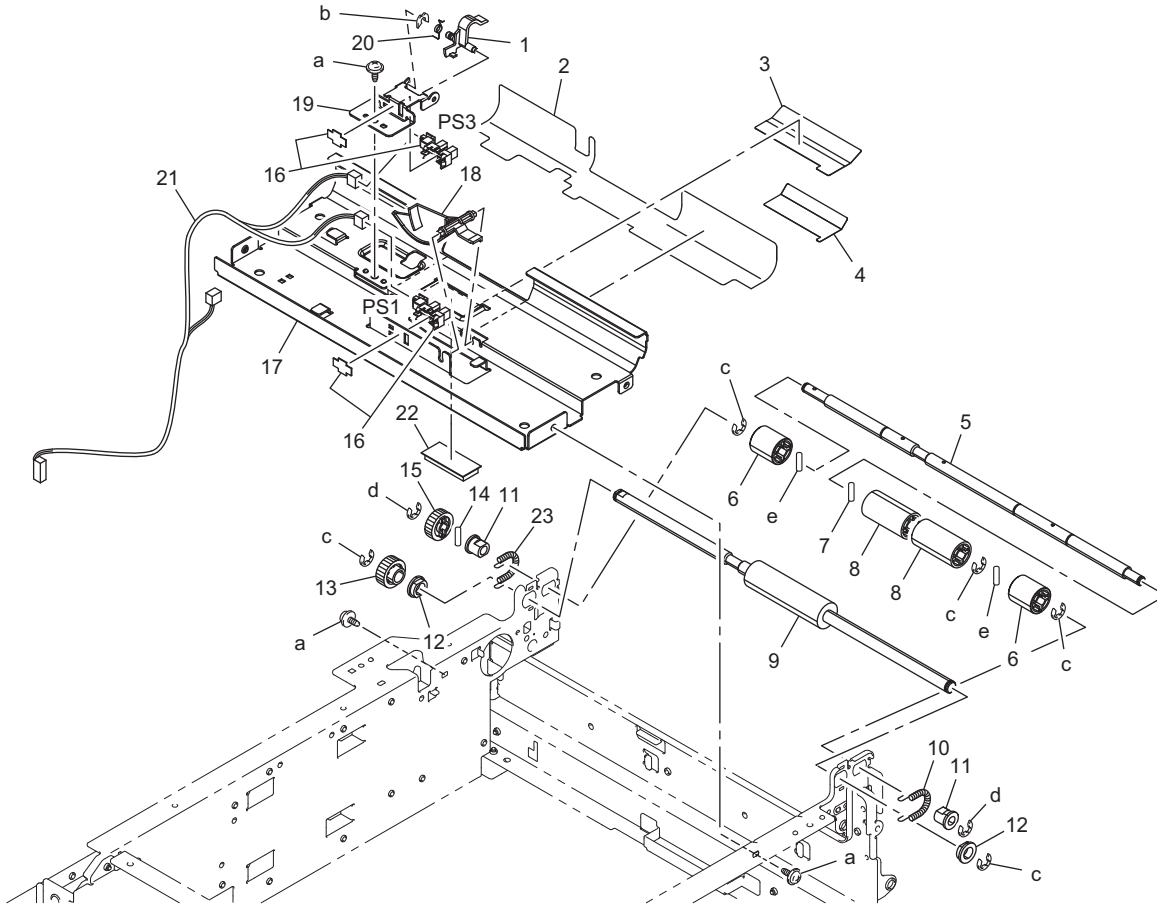


Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
2	1	A0WJ684701	Frame /Right rear			D	1
2	2	A0WJ683801	Positioning Pin			D	2
2	3	A108M50100	Photointerrupter	Tray2 right door sensor (PS5)		B	1
2	4	A0CR121900	Rubber Foot			D	3
2	5	4139231901	SHOULDER SCREW			C	1
2	6	A0WJ683301	Auxiliary Rail /Right			D	1
2	7	A0WJ683202	Rail /Right			D	1
2	8	A0WJG67000	Axle Plate			D	1
2	9	A0WJ689400	Plate spring			C	3
2	10	A0WJ684200	Holder			C	1
2	11	A0WJ683001	Frame /Front			D	1
2	12	A0WJ684601	Rail			D	1
2	13	A0WJ683401	Rail /Left			D	1
2	14	A0WJ683101	Frame /Rear			D	1
2	15	A4Y6H00100	PWB Assembly (PCCB)	PC control board (PCCB)		I	1
2	16	4537337701	PLATE SPRING			D	1
2	17	9332371011	SWITCH(DETECT)	Tray2 paper size switch (SW1)		C	1
2	18	A0WJ689101	Mounting Plate			D	1
2	19	A0WJ689500	Mounting Plate			D	1
2	20	4537333801	SHOULDER SCREW			D	2
2	21	A0WJN10000	Paperfeed Wiring /1			D	1
2	22	A0WJN10400	Sensor Wiring /2			D	1
2	23	A0WJN10500	Sensor Wiring /3			D	1
2	a	V144030603	Screw			V	
2	b	V153031003	screw			V	
2	c	V116030603	Screw			V	

2.3 PAPER TAKE-UP SECTION

2.3.1 P3

P 3



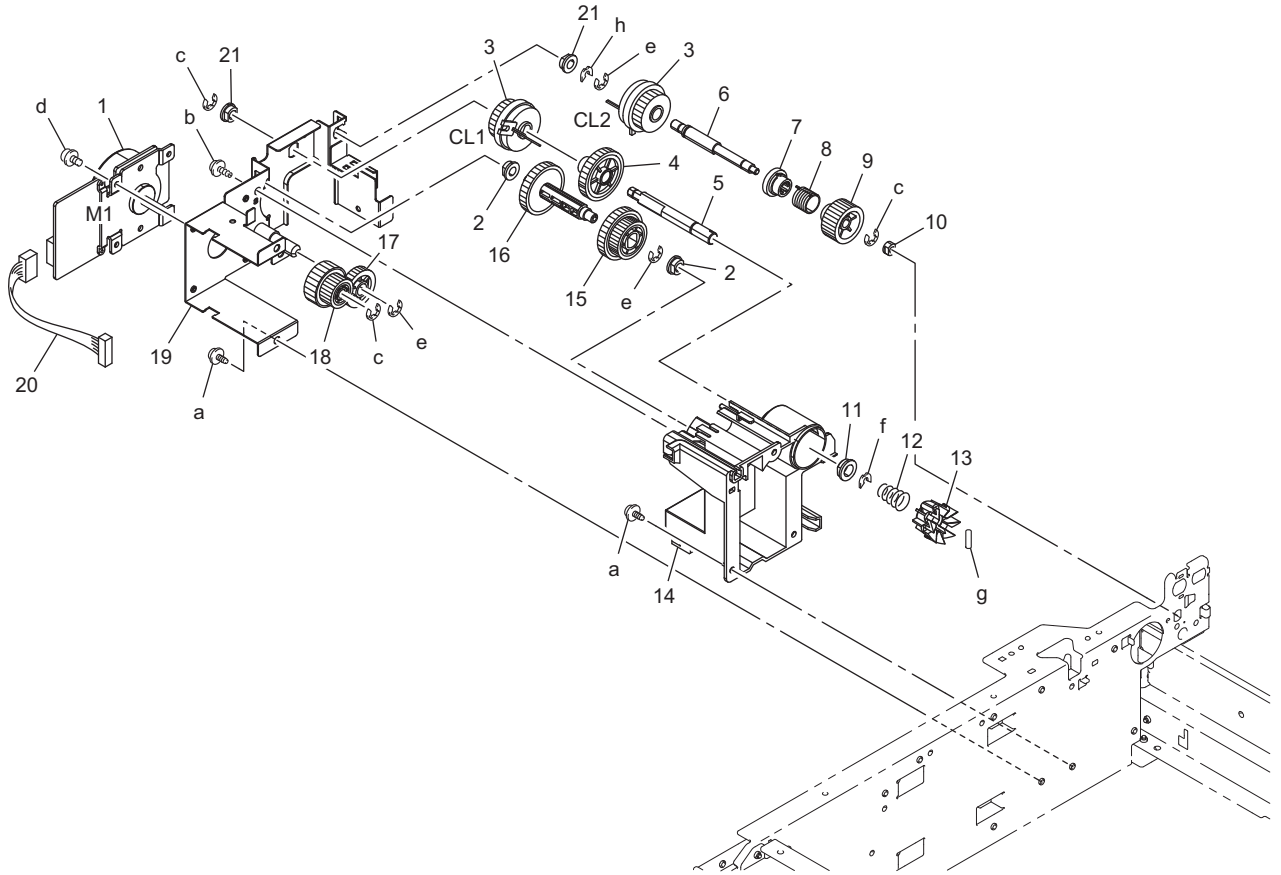
Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
3	1	4537337003	ACTUATOR			C	1
3	2	A0WJ682600	Sheet			D	1
3	3	A0WJ682700	Guide			D	1
3	4	A0WJ682800	Slide Part			D	1
3	5	4537338102	SHAFT			D	1
3	6	4537339302	ROLLER			C	2
3	7	1067250301	PIN			D	1
3	8	4537338802	ROLLER			C	2
3	9	4537338001	ROLLER			C	1
3	10	4537339201	TENSION SPRING			C	1
3	11	4517210100	BUSHING			C	2
3	12	4658351701	BUSHING			C	2
3	13	4537338601	GEAR 22T			C	1
3	14	4131253602	PIN			C	1
3	15	4537338701	GEAR 22T			C	1
3	16	A108R90000	PHOTO INTERRUPTER	Tray2 paper feed sensor (PS3) Tray2 paper empty sensor (PS1)		I	2
3	17	4537337104	Guide Plate			D	1
3	18	4537337201	ACTUATOR			C	1
3	19	4537337401	BRACKET			D	1
3	20	4537336903	TORSION SPRING			C	1
3	21	A0WJN10300	Sensor Wiring /1			D	1
3	22	A0WJ682300	Brush /1			C	1
3	23	A73H339200	Pulling Coil spring			C	1
3	a	V144030603	Screw			V	
3	b	V218030086	C-Clip			V	
3	c	V217060050	E-ring			V	
3	d	V217040001	E-ring			V	

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
3	e	V233201050	pin			V	

2.4 DRIVE SECTION

2.4.1 P4

P 4



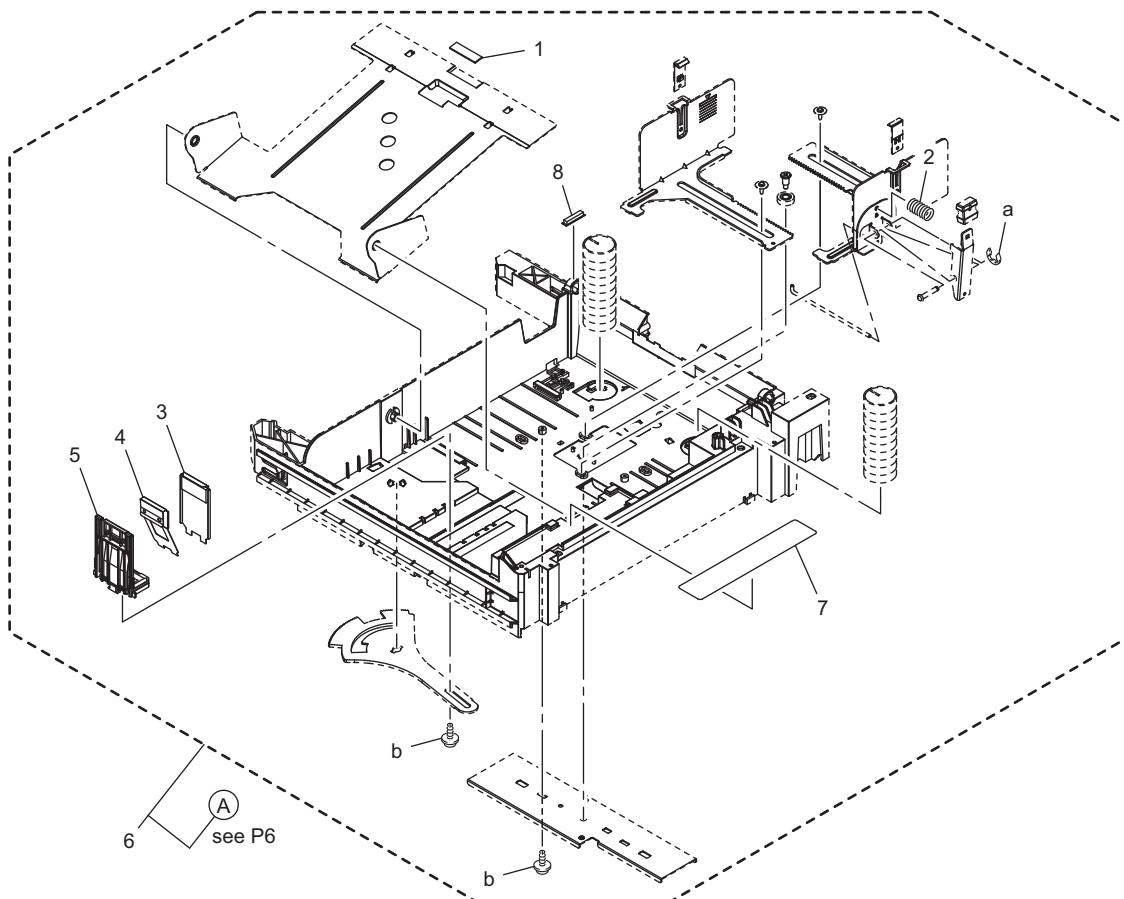
Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
4	1	A011M10000	BRUSHLESS MOTOR	Tray2 paper feed motor (M1)		B	1
4	2	4131300301	BUSHING			C	2
4	3	A011M20000	CLUTCH	Tray2 conveyance clutch (CL2) Tray2 paper feed clutch (CL1)		C	2
4	4	A0WJ687301	Gear 32T			C	1
4	5	A0WJ687500	Drive Shaft			D	1
4	6	A0WJ687900	Drive Shaft			D	1
4	7	A0WJ687401	Drive Pulley			C	1
4	8	4537333701	TORSION SPRING			C	1
4	9	4537336001	GEAR			C	1
4	10	4004533901	BUSHING			C	1
4	11	4131353202	BUSHING			C	1
4	12	1164300502	PRESSURE SPRING			C	1
4	13	1164300403	PAWL			C	1
4	14	A0WJ688102	Holder			D	1
4	15	A0WJ687200	Gear 24/32T			C	1
4	16	A0WJ687100	Gear 32T			C	1
4	17	4537336101	GEAR 24T			C	1
4	18	A0WJ687000	Gear 18/50T			C	1
4	19	A0WJG67100	Motor Mounting Plate Supporting Shaft			D	1
4	20	A4Y6N10000	Drive Wiring			D	1
4	21	4134588202	BUSHING			D	2
4	a	V144030603	Screw			V	
4	b	V153030803	Screw			V	

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
4	c	V217040001	E-ring			V	
4	d	V116030603	Screw			V	
4	e	V217060050	E-ring			V	
4	f	V218060086	C-Clip			B	
4	g	V231301450	pin			V	
4	h	V218040086	C-Clip			V	

2.5 PAPER TRAY SECTION

2.5.1 P5

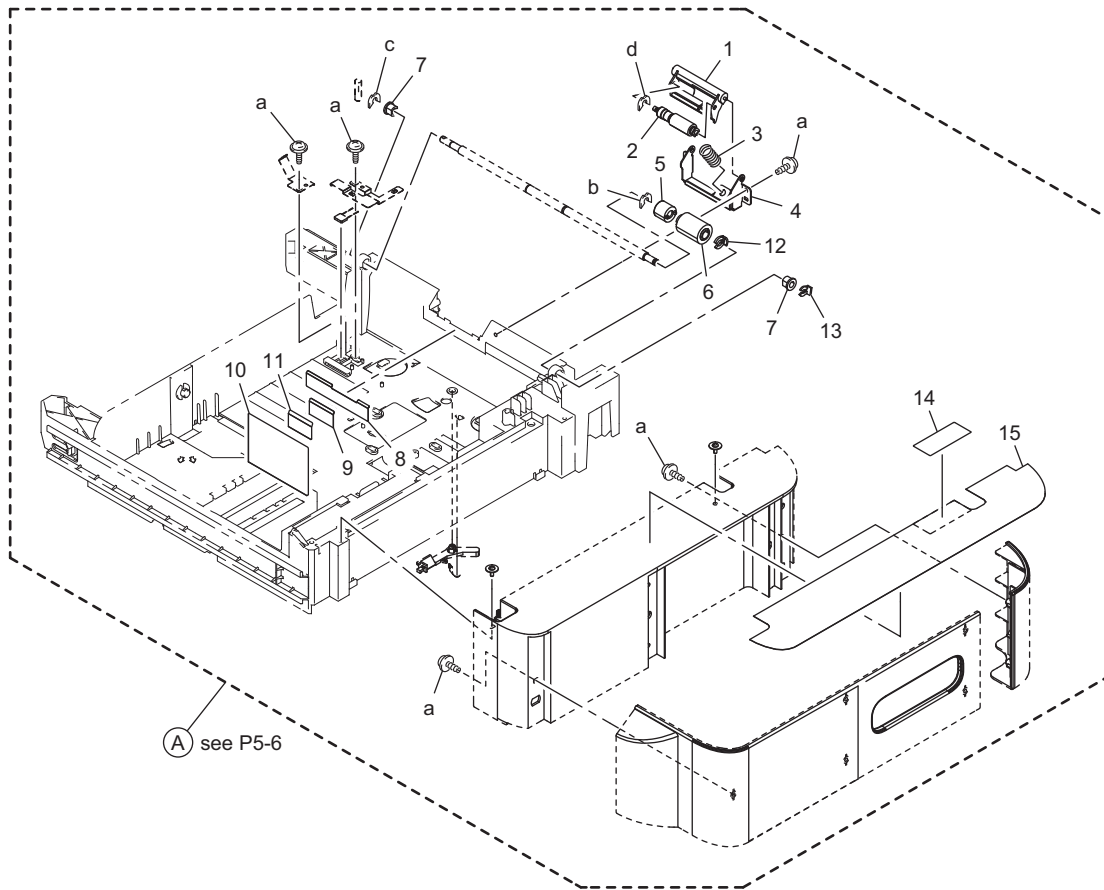
P 5



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
5	1	978381101	FRICITION SHEET			C	1
5	2	4498382501	PRESSURE SPRING			C	1
5	3	4537331501	MEMBER			C	1
5	4	4537331401	PLATE SPRING			D	1
5	5	A00T651300	Regulating plate			C	1
5	6	A0WJR70100	Cassette Assy			S	1
5	7	A00T940500	Label			C	1
5	8	A0WJ682400	Brush /2			C	1
5	a	V217030001	E-ring			V	
5	b	V153030803	Screw			V	

2.5.2 P6

P 6



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
6	1	4138326103	Holder			D	1
6	2	4658015106	Roller Assy			A	1
6	3	A0VD624800	Compressing Coil spring			C	1
6	4	4537332501	BRACKET			D	1
6	5	4537332401	CLUTCH			C	1
6	6	4537621400	Roller			A	1
6	7	4138324401	BUSHING			C	2
6	8	4658300501	GUIDE PLATE			C	1
6	9	4537639400	Guide			C	1
6	10	4537339601	GUIDE			I	1
6	11	4537639500	Guide			C	1
6	12	4658304601	STOP RING			C	1
6	13	1033440203	STOPPER RING			C	1
6	14	4138731601	Label Prohibition inkjet media			D	1
6	15	A0WJ942100	Label			C	1
6	a	V153030803	Screw			V	
6	b	V218060086	C-Clip			B	
6	c	V218040086	C-Clip			V	
6	d	V218030086	C-Clip			V	

2.6 WIRING ACCESSORIES AND JIGS

2.6.1 P7

P 7

1							
2							
3							
4							

Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
7	1	1065587202	CORD CLAMP			D	
7	2	V570010021	Saddle			D	
7	3	V500010023	clip			D	
7	4	V501010001	band			D	

2.7 MAINTENANCE LIST

• The items with no Page/Key numbers are not handled as spare parts.

No.	Section	PM Parts Description	Maintenance Cycle (K=1,000)		Parts No.	Destinations	Page/Key	Note
			QTY	Replace				
1	Paper Tray	Tray2 feed roller	1	300K	4537621400		P6-6	

• *1: Actual durable cycle (life counter value)

2.8 DESTINATION

Destination No.	Destinations		V	Hz	Model No.
A	A1	JAPAN			
	A2	JAPAN			
B	USA, CANADA		120	60	A73H-WY1
C	EUROPEAN TYPE		220-240	50/60	A73H-WY1
D	D1	S.E ASIA TYPE THAILAND,SRI LANKA,SINGAPORE,MALAYSIA,HONGKONG, PAKISTAN,INDIA,BANGLADESH,INDONESIA			
	D3	OCEAINA TYPE AUSTRALIA,NEW ZEALAND			
E	PHILIPPINES				
F	F1	SAUDI ARABIA			
	F2	SAUDI ARABIA			
G	G1	C.S AMERICA			

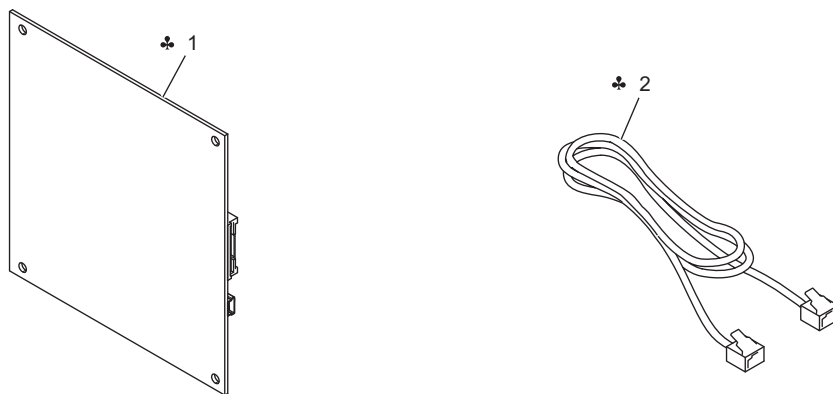
Destination No.	Destinations	V	Hz	Model No.
G2	C.S AMERICA	120	60	A73H-WY1
H	TAIWAN	110	60	A73H-WY1
I	JORDAN, LEBANON, SYRIA, SOUTH AFRICA, IRAQ, IRAN, N.YEMEN, CAMEROON, UAE, BAHRAIN, OMAN, QATAR, KUWAIT, KENYA, TUNISIA, IVORY COAST, MOROCCO			
J	CHINA			
K	KOREA			

3. Fax Kit (FK-512)

3.1 FK-512

3.1.1 P1

P 1



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
1	1	A6EDH01A05	FAX Assembly (JP)		A,A1	I	1
1	1	A6EDH01905	FAX Assembly (WW-100V)		B	I	1
1	1	A6EDH01806	FAX Assembly (WW-200V)		C,D1,D3,E,F2,G1,I	I	1
1	2	4628680101	WIRE HARNESS ASSY		A,A1,B,C,D1,E,F2,G1,G2,I	D	1
1	2	4628680201	WIRE HARNESS ASSY		D3	D	1

3.2 DESTINATION

Destination No.	Destinations		V	Hz	Model No.
A	A1	JAPAN	100	50/60	A6ED-W01
	A2	JAPAN			
B	USA, CANADA		120	60	A6ED-W11
C	EUROPEAN TYPE		220-240	50/60	A6ED-W21
D	D1	S.E ASIA TYPE THAILAND,SRI LANKA,SINGAPORE,MALAYSIA,HONGKONG, PAKISTAN,INDIA,BANGLADESH,INDONESIA	220-240	50/60	A6ED-W41
	D3	OCEAINA TYPE AUSTRALIA,NEW ZEALAND	220-240	50/60	A6ED-W51
E	PHILIPPINES		220-240	50/60	A6ED-W41
F	F1	SAUDI ARABIA			
	F2	SAUDI ARABIA	220-240	50/60	A6ED-W41
G	G1	C.S AMERICA	220-240	50/60	A6ED-W41

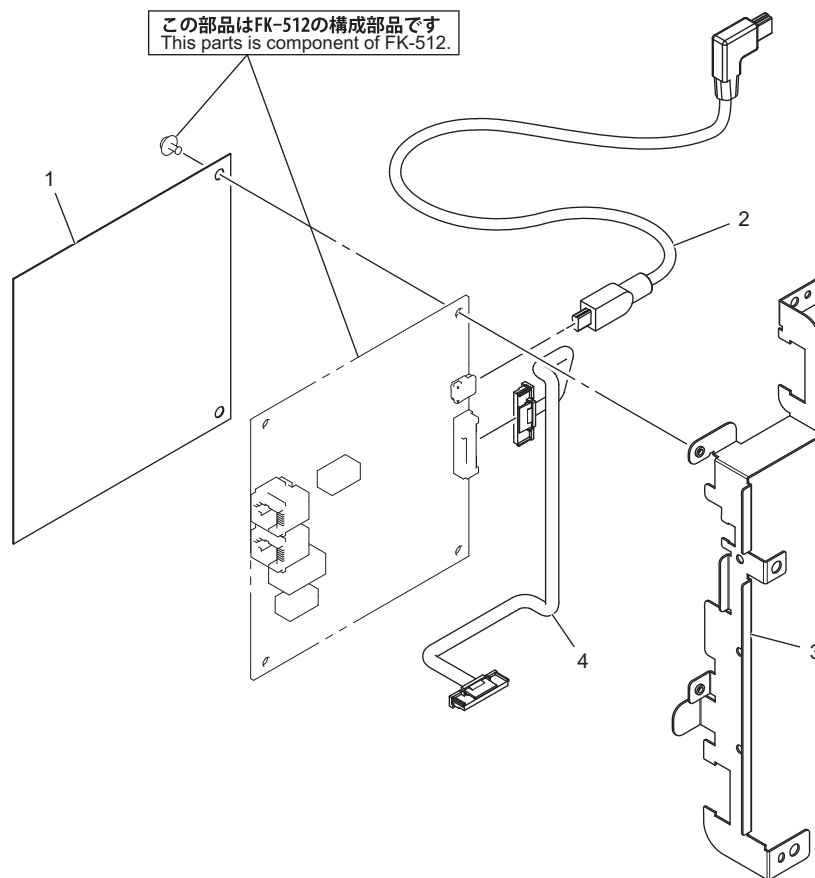
Destination No.	Destinations	V	Hz	Model No.
G2	C.S AMERICA	120	60	A6ED-W11
H	TAIWAN			
I	JORDAN, LEBANON, SYRIA, SOUTH AFRICA, IRAQ, IRAN, N.YEMEN, CAMEROON, UAE, BAHRAIN, OMAN, QATAR, KUWAIT, KENYA, TUNISIA, IVORY COAST, MOROCCO	220-240	50/60	A6ED-W41
J	CHINA			
K	KOREA			

4. Mount Kit (MK-P04)

4.1 MK-P04

4.1.1 P1

P 1



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
1	1	A735135000	Insulating Sheet			D	1
1	2	A6VGN10000	Relay harness			D	1
1	3	A735138000	Mounting Plate			D	1
1	4	A735N10100	Relay harness			D	1

4.2 DESTINATION

Destination No.		Destinations		V	Hz	Model No.
A	A1	JAPAN		100	50/60	A735-WY1
	A2	JAPAN				
B		USA, CANADA		120	60	A735-WY1
C		EUROPEAN TYPE		220-240	50/60	A735-WY1
D	D1	S.E ASIA TYPE	THAILAND, SRI LANKA, SINGAPORE, MALAYSIA, HONGKONG, PAKISTAN, INDIA, BANGLADESH, INDONESIA	220-240	50/60	A735-WY1
	D3	OCEAINA TYPE	AUSTRALIA, NEW ZEALAND	220-240	50/60	A735-WY1
E		PHILIPPINES		220-240	50/60	A735-WY1
F	F1	SAUDI ARABIA				
	F2	SAUDI ARABIA		220-240	50/60	A735-WY1
G	G1	C.S AMERICA		220-240	50/60	A735-WY1
	G2	C.S AMERICA		120	60	A735-WY1
H		TAIWAN		110	60	A735-WY1

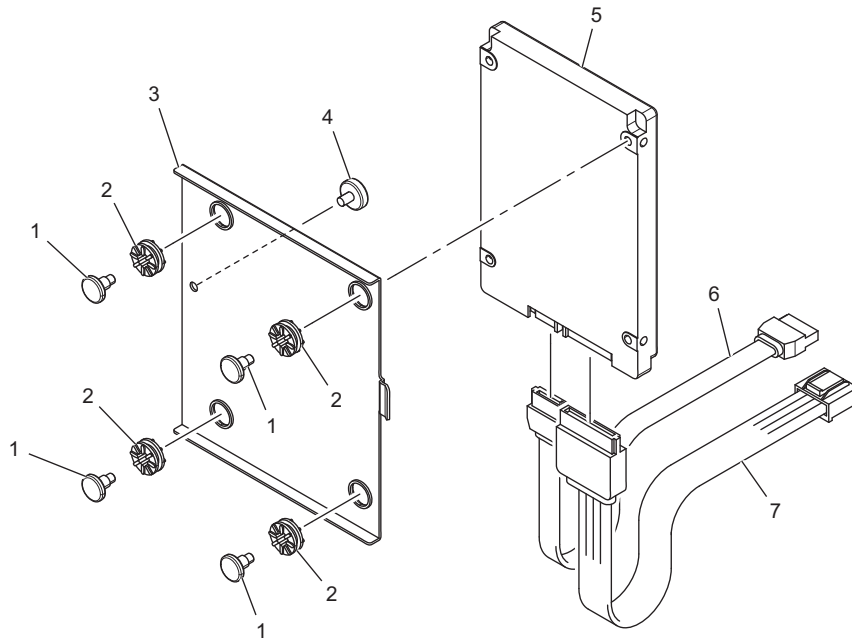
Destination No.	Destinations	V	Hz	Model No.
I	JORDAN, LEBANON, SYRIA, SOUTH AFRICA, IRAQ, IRAN, N.YEMEN, CAMEROON, UAE, SAUDI ARABIA, OMAN, QATAR, KUWAIT, KENYA, TUNISIA, IVORY COAST, MOROCCO	220-240	50/60	A735-WY1
J	CHINA	220-240	50/60	A735-WY1
K	KOREA	220-240	50/60	A735-WY1

5. HDD (HD-P06)

5.1 HD-P06

5.1.1 P1

P 1



Page	Key	Parts No.	Description	Service Manual	Destinations	Class	Quantity
1	1	A121132200	Shoulder screw			D	4
1	2	13KK73060	Base Plate Support Rubber			C	4
1	3	A734132601	Mounting Plate			D	1
1	4	4139232801	SHOULDER SCREW			C	1
1	5	A3GNM71B00	HDD	Hard disk (HDD)		I	1
1	6	A0VDN12200	Relay harness			D	1
1	7	A0VDN12300	Relay harness			D	1

5.2 DESTINATION

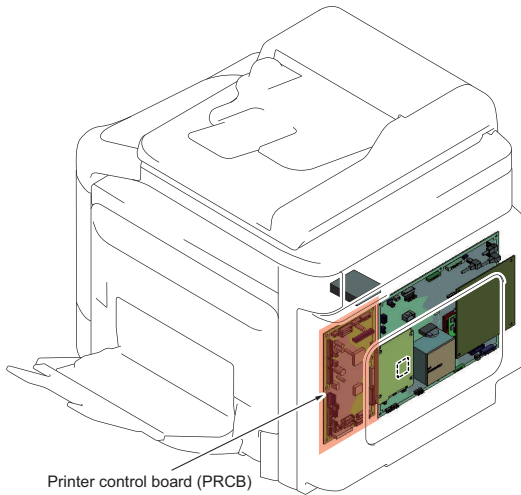
Destination No.	Destinations		V	Hz	Model No.
A	A1	JAPAN			
	A2	JAPAN			
B	USA, CANADA		120	60	A734-WY1
C	EUROPEAN TYPE		220-240	50/60	A734-WY1
D	D1	S.E ASIA TYPE THAILAND, SRI LANKA, SINGAPORE, MALAYSIA, HONGKONG, PAKISTAN, INDIA, BANGLADESH, INDONESIA			
	D3	OCEAINA TYPE AUSTRALIA, NEW ZEALAND			
E	PHILIPPINES				
F	F1	SAUDI ARABIA			
	F2	SAUDI ARABIA			
G	G1	C.S AMERICA			
	G2	C.S AMERICA	120	60	A734-WY1
H	TAIWAN		110	60	A734-WY1

Destination No.	Destinations	V	Hz	Model No.
I	JORDAN, LEBANON, SYRIA, SOUTH AFRICA, IRAQ, IRAN, N.YEMEN, CAMEROON, UAE, BAHRAIN, OMAN, QATAR, KUWAIT, KENYA, TUNISIA, IVORY COAST, MOROCCO			
J	CHINA			
K	KOREA			

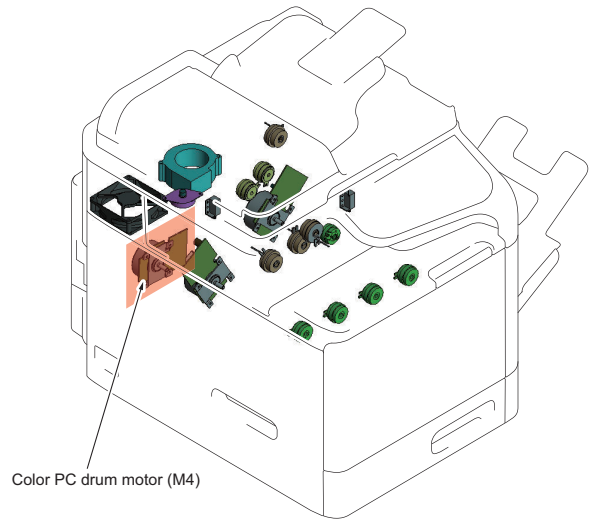
S LAYOUT DRAWINGS FOR RELATED PARTS BY EACH TROUBLE CODE

1. 0010

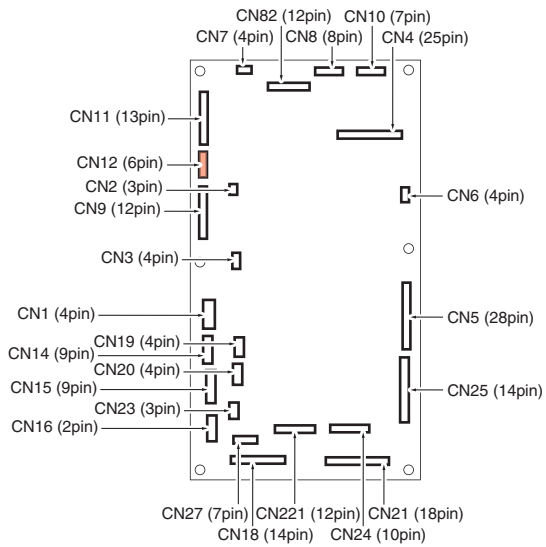
PARTS LAYOUT DRAWING/1



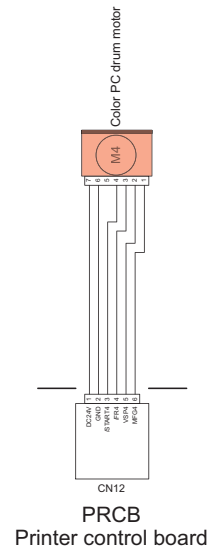
PARTS LAYOUT DRAWING/2



BOARD CONNECTOR LAYOUT DRAWING (PRCB)

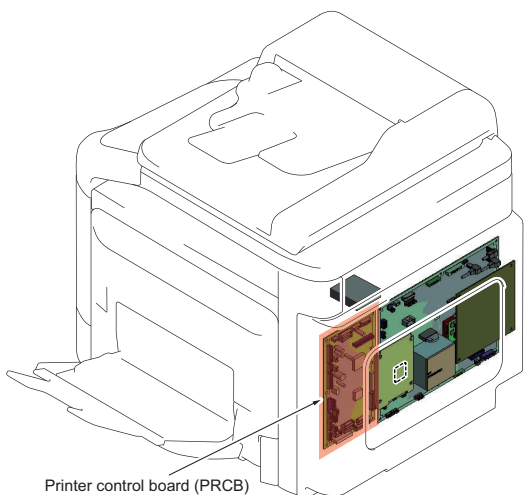


WIRING DIAGRAM

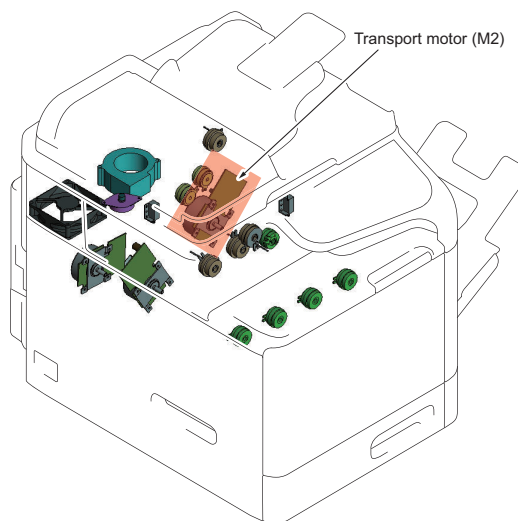


2. 0017

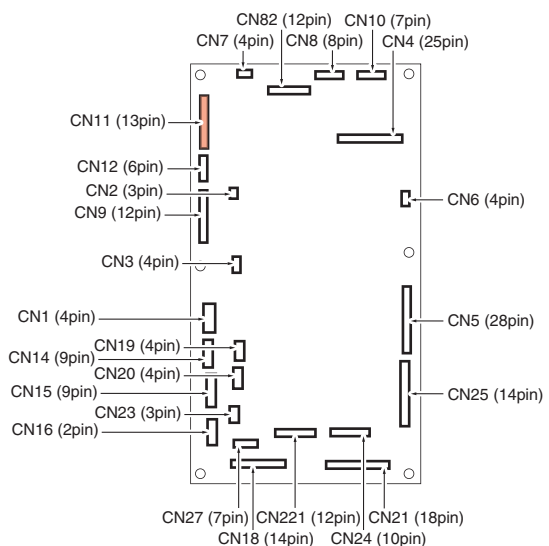
PARTS LAYOUT DRAWING/1



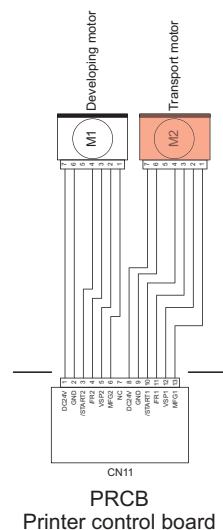
PARTS LAYOUT DRAWING/2



BOARD CONNECTOR LAYOUT DRAWING (PRCB)

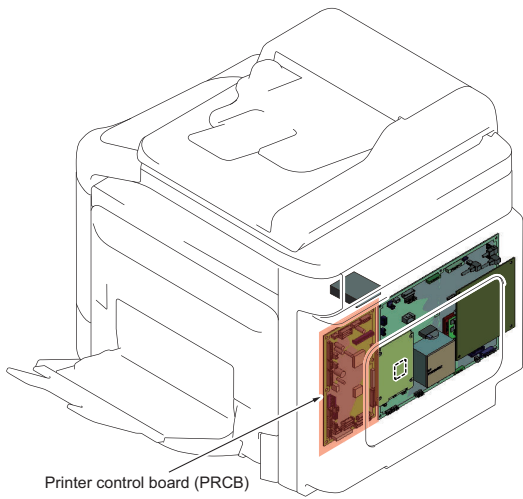


WIRING DIAGRAM

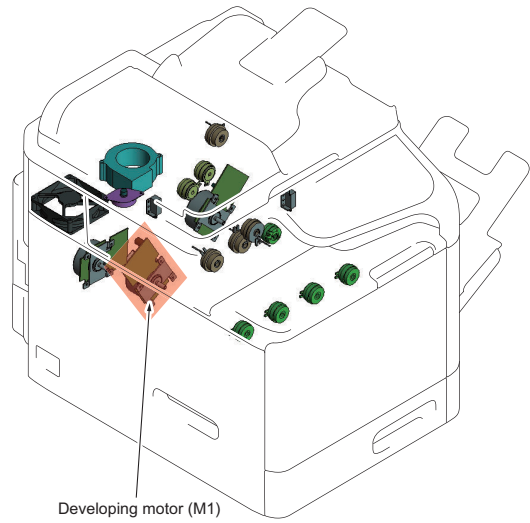


3. 0018

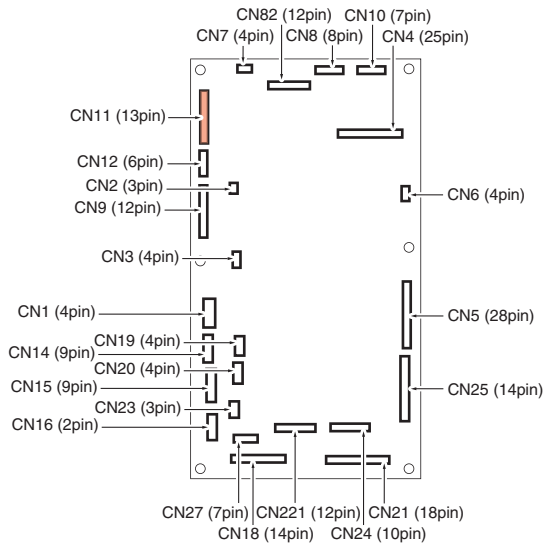
PARTS LAYOUT DRAWING/1



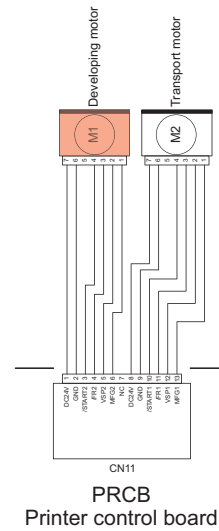
PARTS LAYOUT DRAWING/2



BOARD CONNECTOR LAYOUT DRAWING (PRCB)

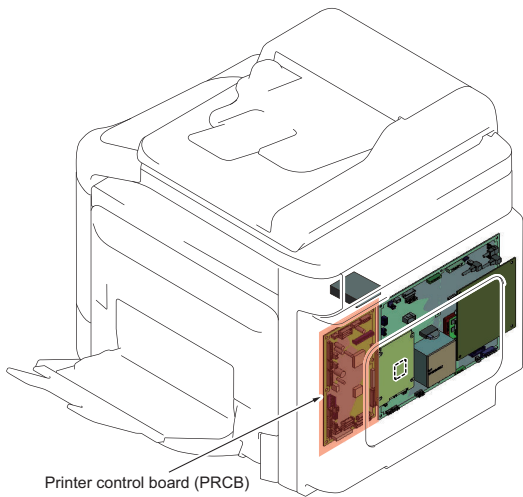


WIRING DIAGRAM

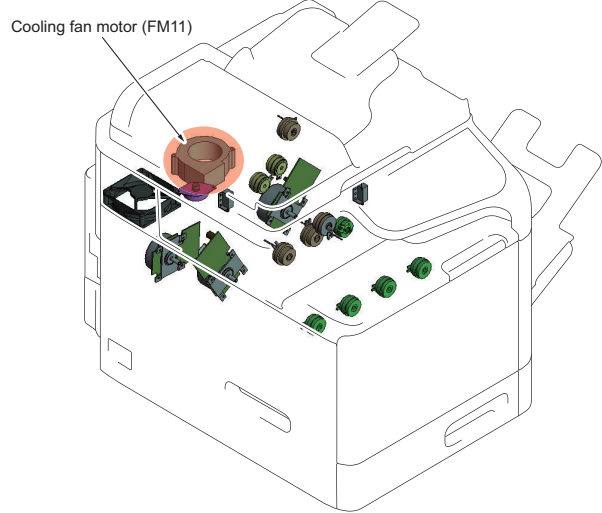


4. 004A

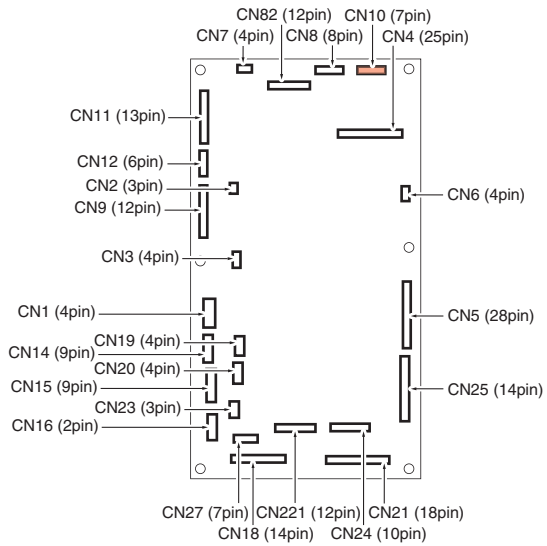
PARTS LAYOUT DRAWING/1



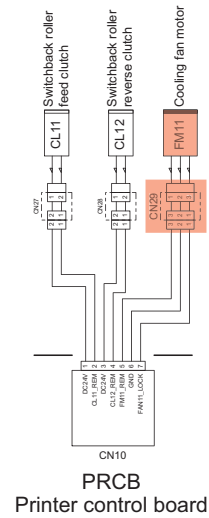
PARTS LAYOUT DRAWING/2



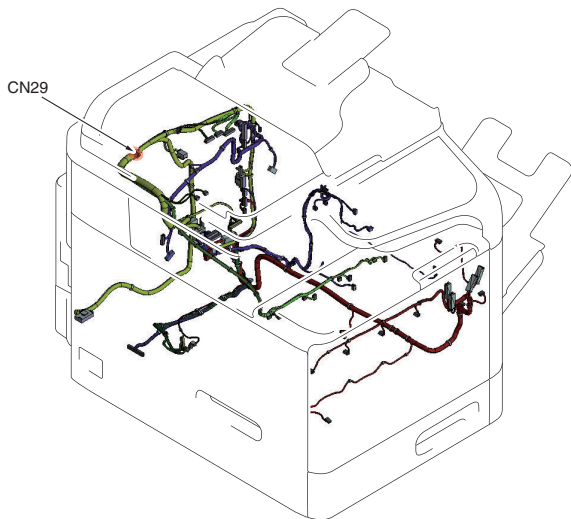
BOARD CONNECTOR LAYOUT DRAWING (PRCB)



WIRING DIAGRAM

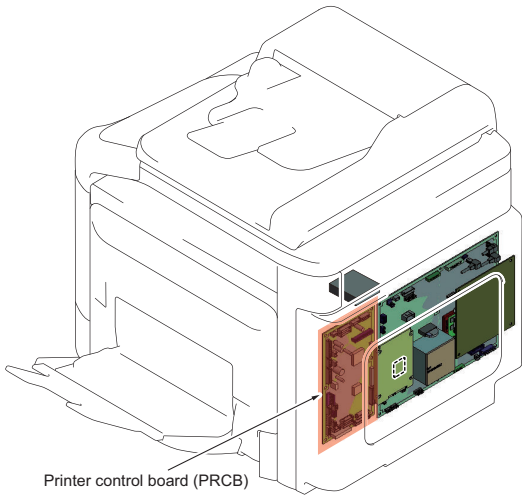


RELAY CONNECTOR LAYOUT DRAWING

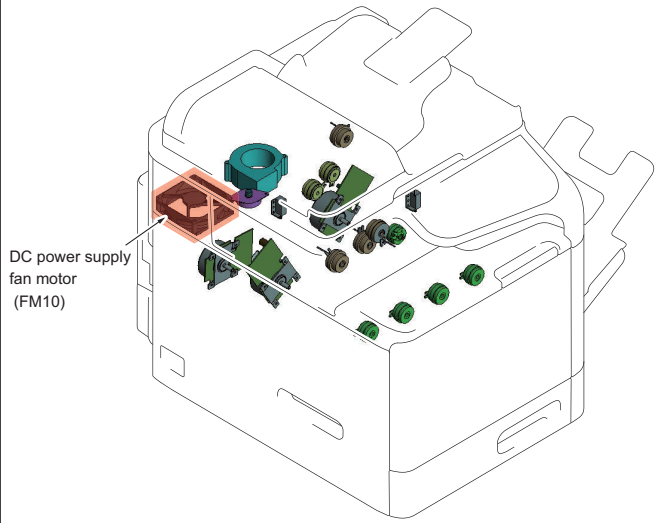


5. 004E

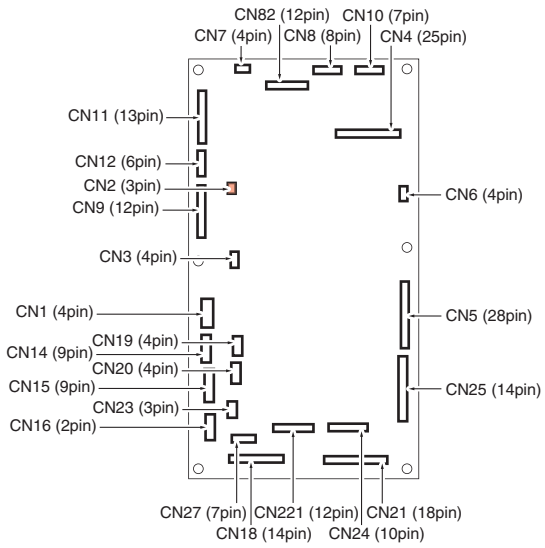
PARTS LAYOUT DRAWING/1



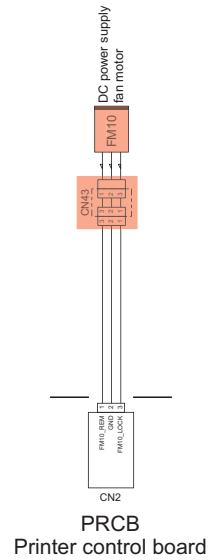
PARTS LAYOUT DRAWING/2



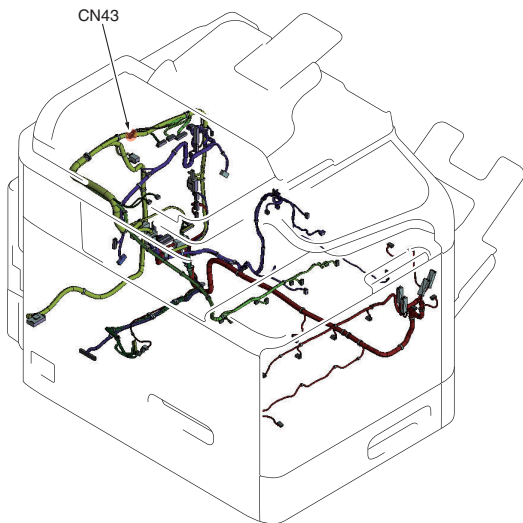
BOARD CONNECTOR LAYOUT DRAWING (PRCB)



WIRING DIAGRAM

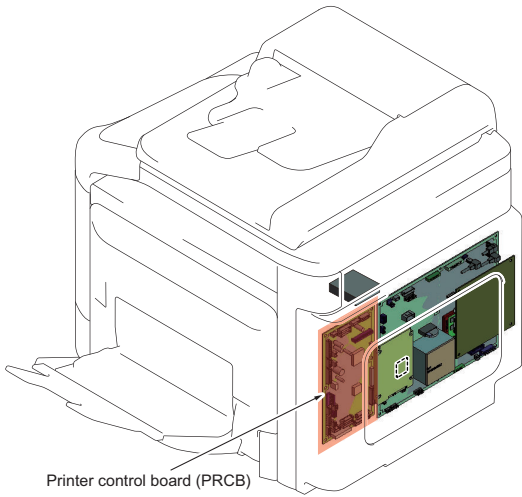


RELAY CONNECTOR LAYOUT DRAWING



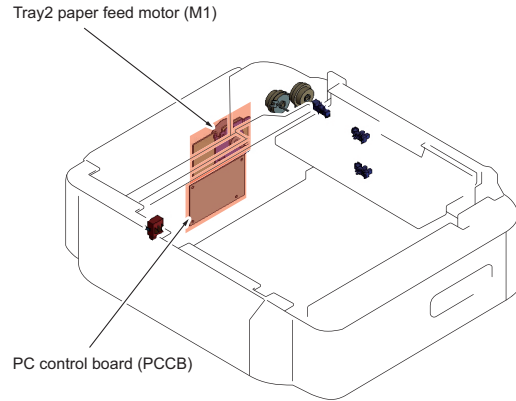
6. 0062

PARTS LAYOUT DRAWING/1



Printer control board (PRCB)

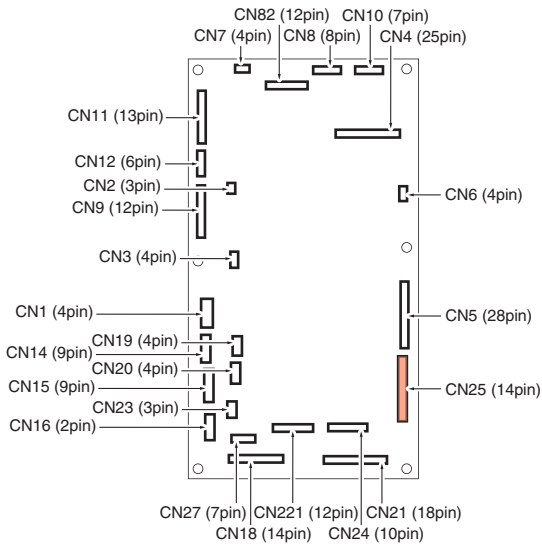
PARTS LAYOUT DRAWING/2



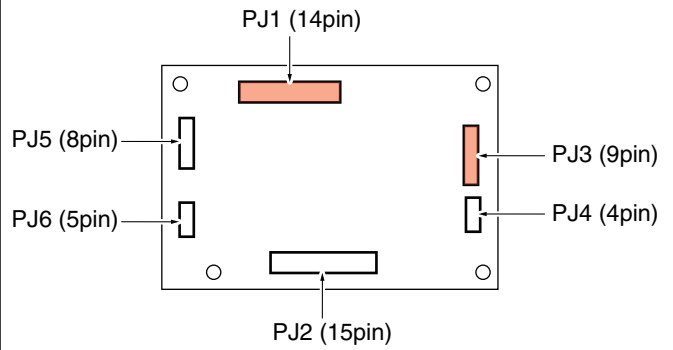
Tray2 paper feed motor (M1)

PC control board (PCCB)

BOARD CONNECTOR LAYOUT DRAWING (PRCB)

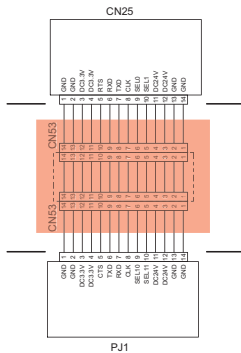


BOARD CONNECTOR LAYOUT DRAWING (PCCB)



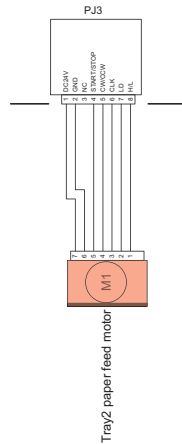
WIRING DIAGRAM

PRCB
Printer control board



PCCB
PC control board

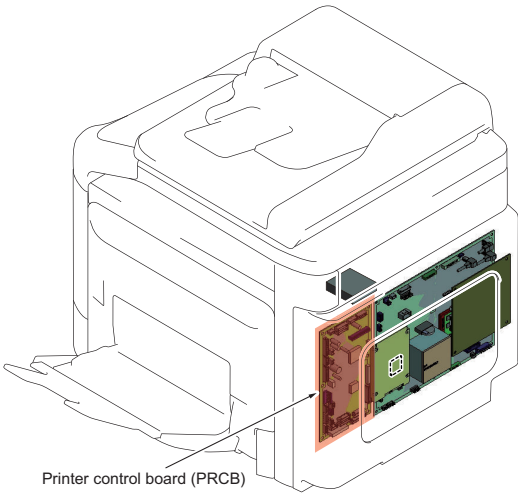
PCCB
PC control board



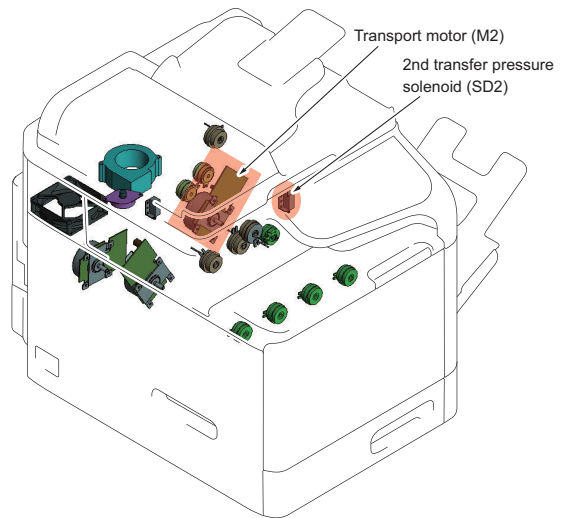
Tray2 paper feed motor (M1)

7. 0094

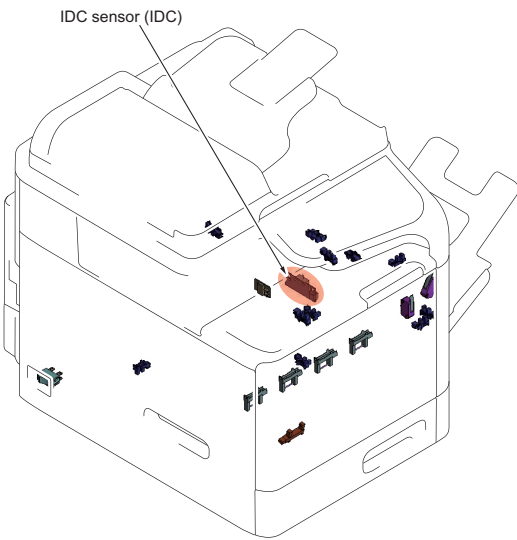
PARTS LAYOUT DRAWING/1



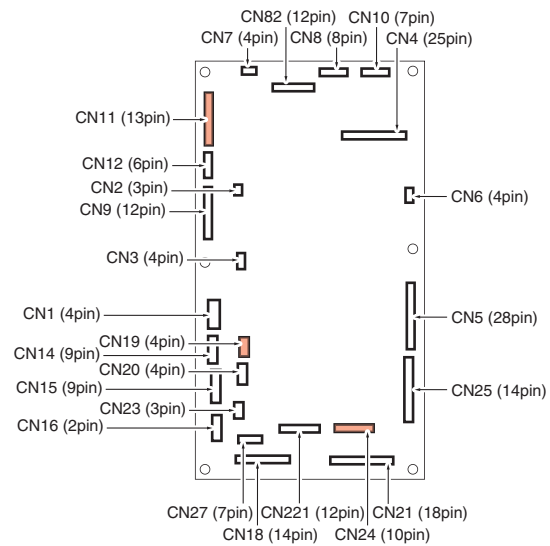
PARTS LAYOUT DRAWING/2



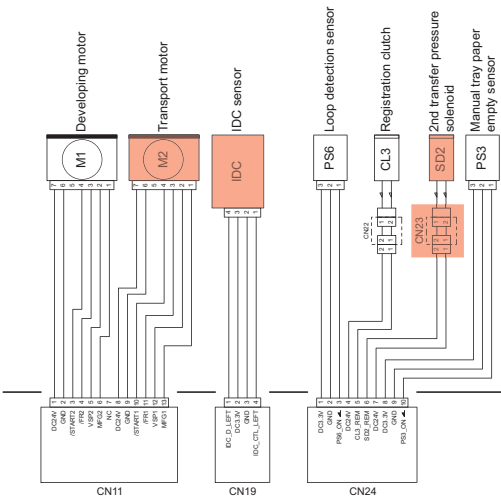
PARTS LAYOUT DRAWING/3



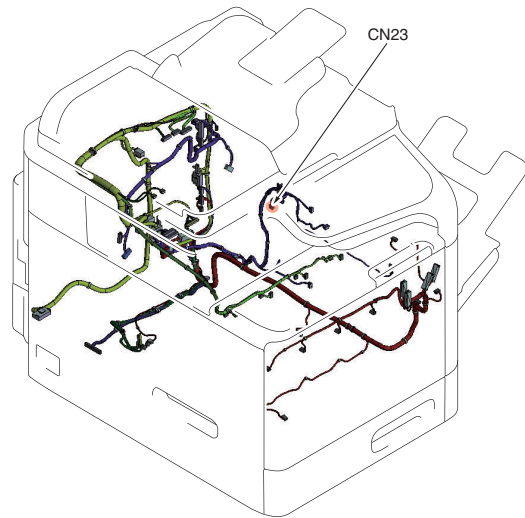
BOARD CONNECTOR LAYOUT DRAWING (PRCB)



WIRING DIAGRAM

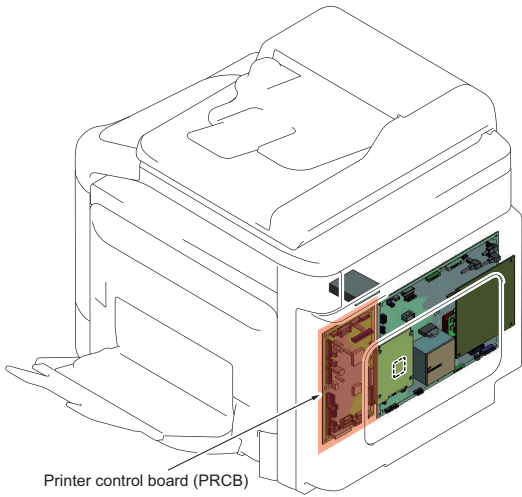


RELAY CONNECTOR LAYOUT DRAWING

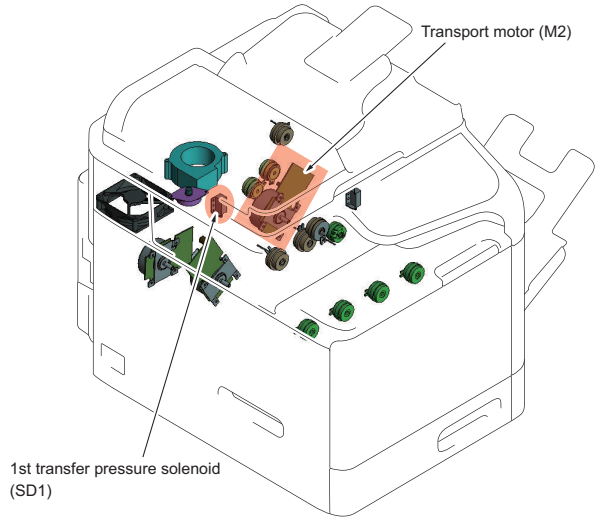


8. 0096

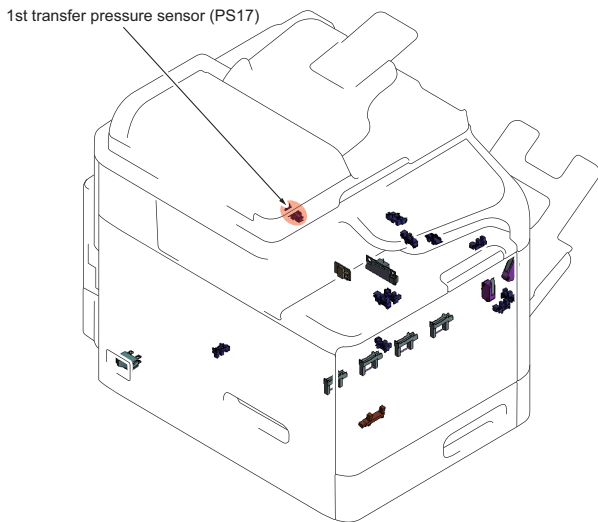
PARTS LAYOUT DRAWING/1



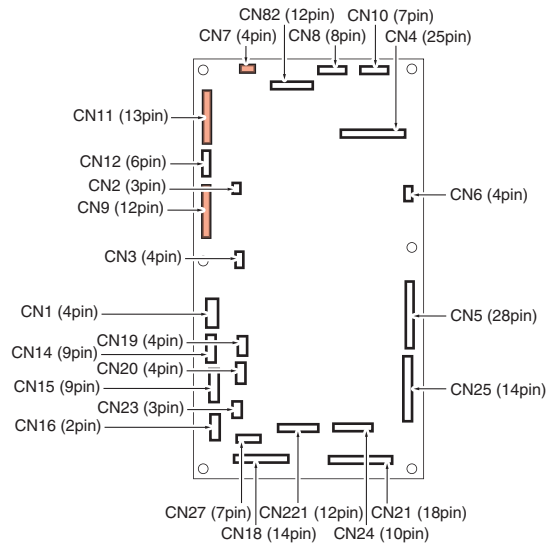
PARTS LAYOUT DRAWING/2



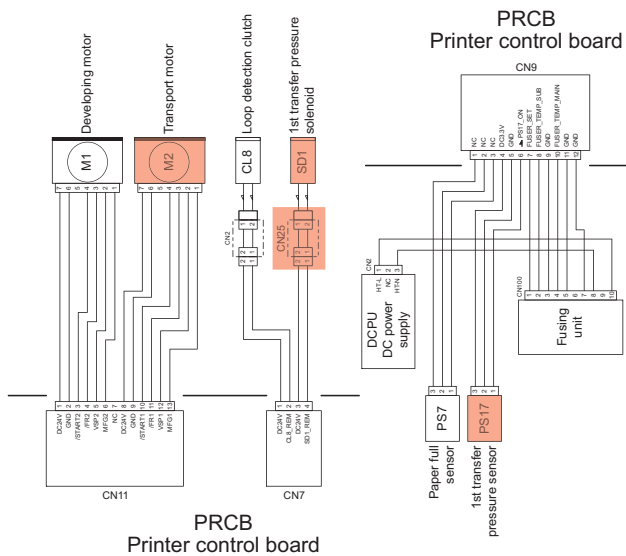
PARTS LAYOUT DRAWING/3



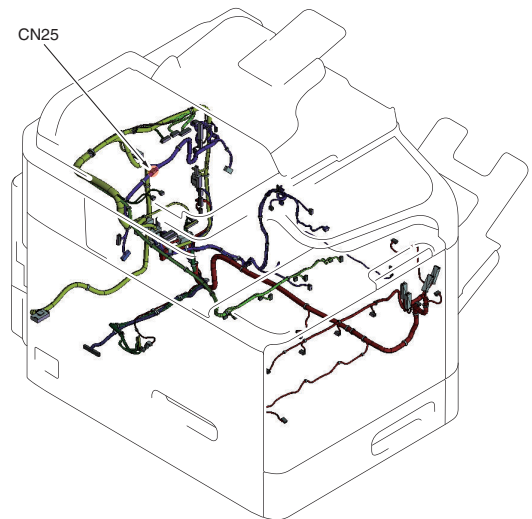
BOARD CONNECTOR LAYOUT DRAWING (PRCB)



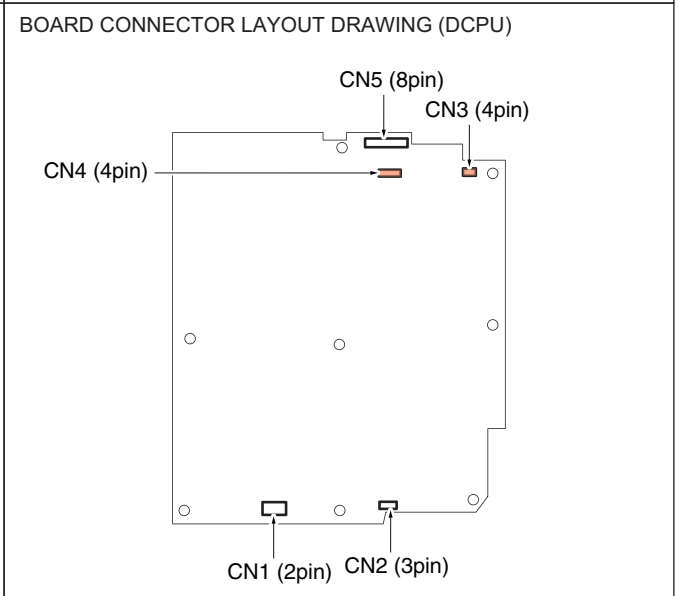
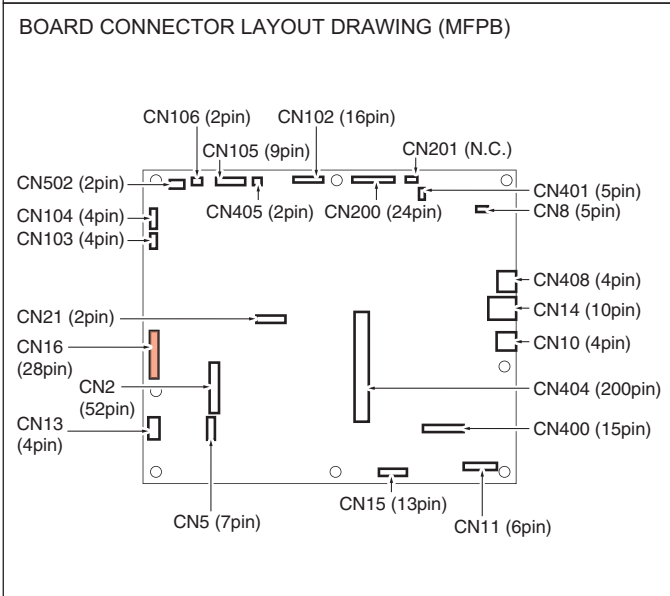
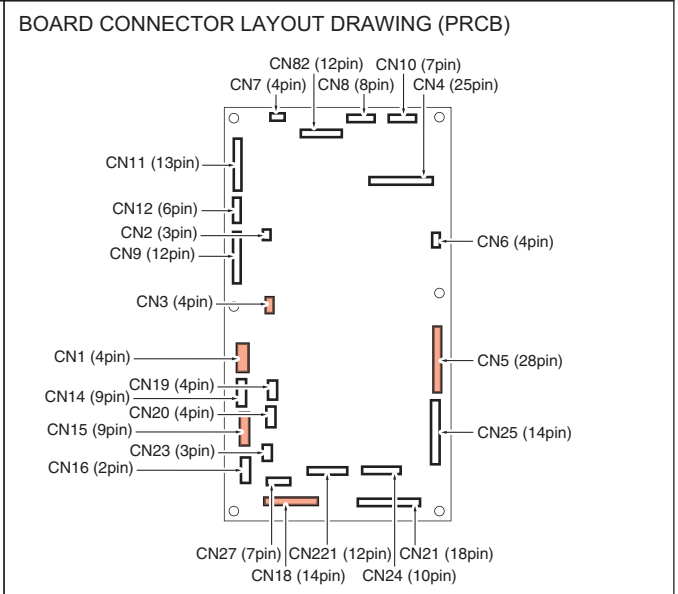
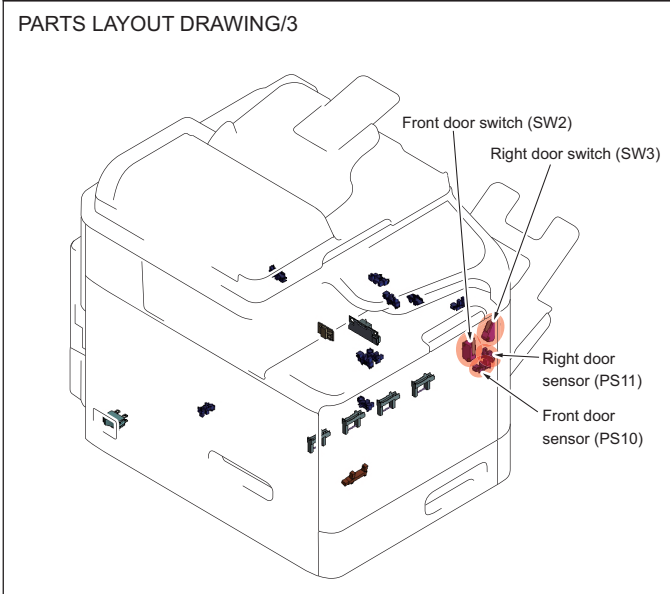
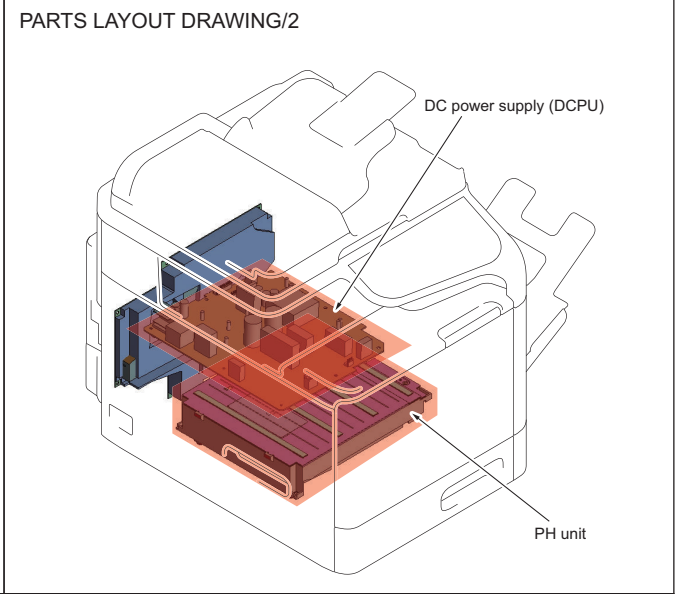
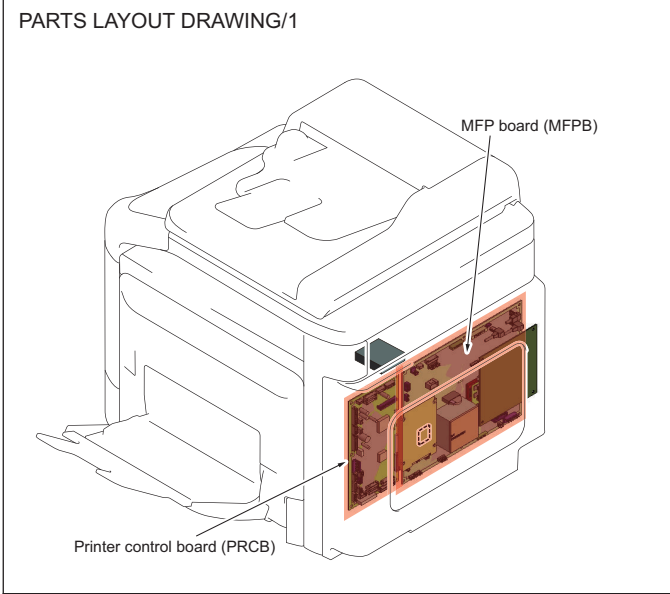
WIRING DIAGRAM



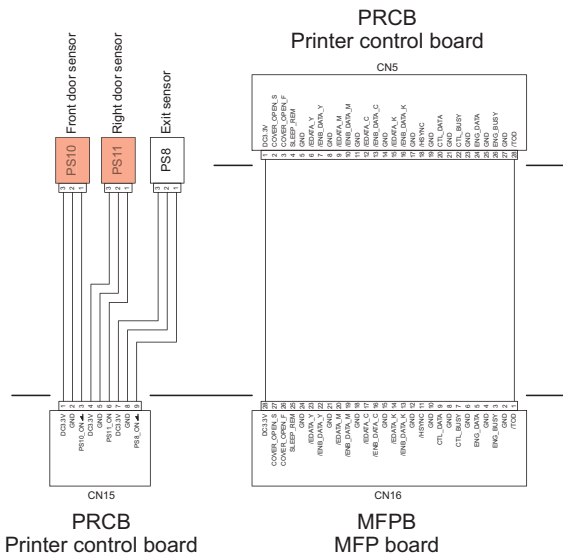
RELAY CONNECTOR LAYOUT DRAWING



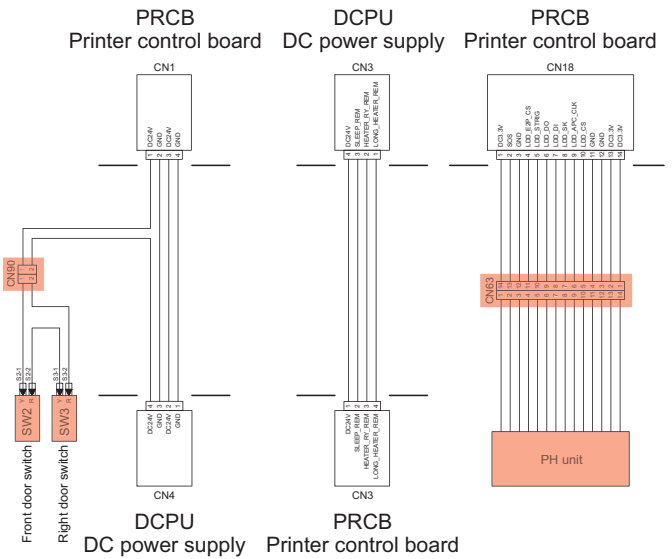
9. 0101



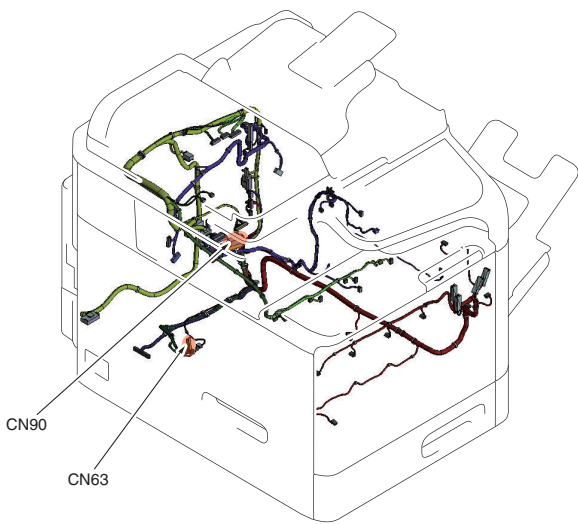
WIRING DIAGRAM/1



WIRING DIAGRAM/2

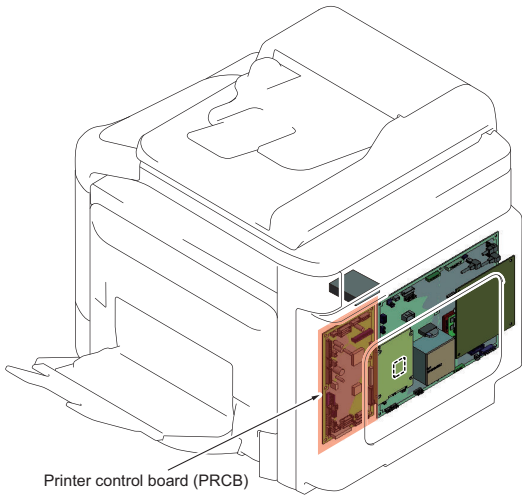


RELAY CONNECTOR LAYOUT DRAWING

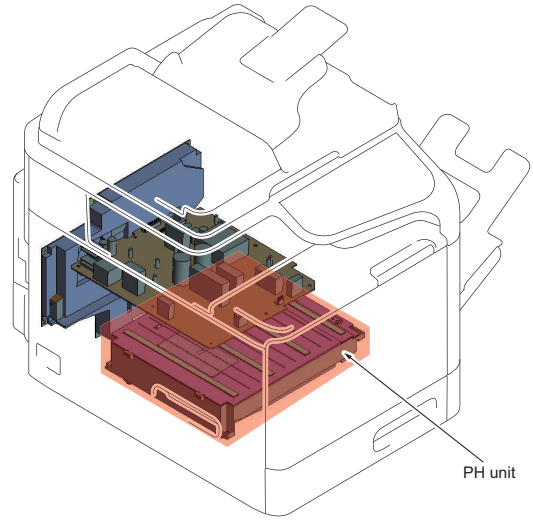


10. 0300, 0315

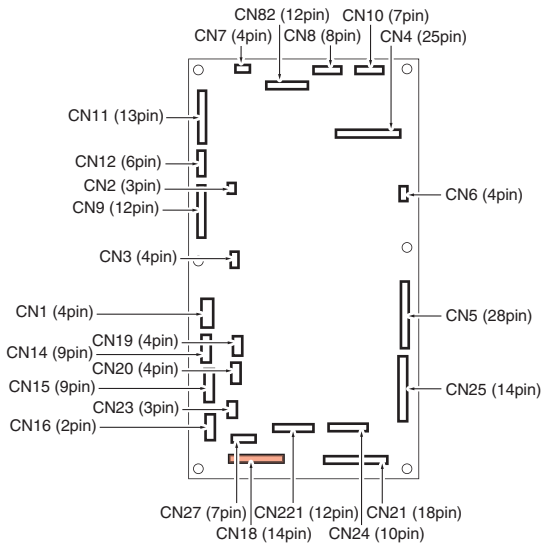
PARTS LAYOUT DRAWING/1



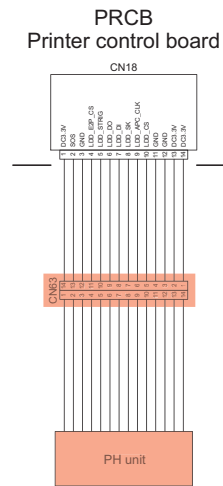
PARTS LAYOUT DRAWING/2



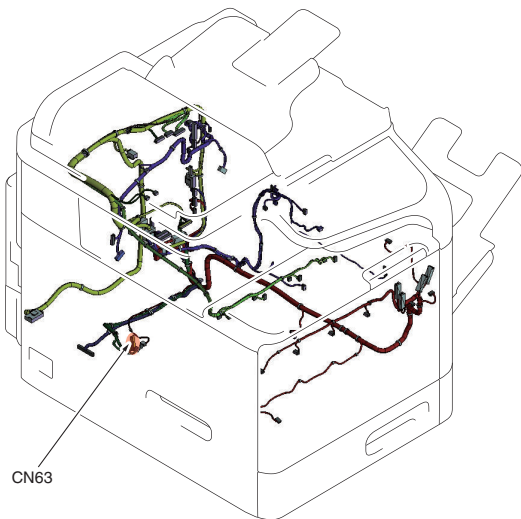
BOARD CONNECTOR LAYOUT DRAWING (PRCB)



WIRING DIAGRAM

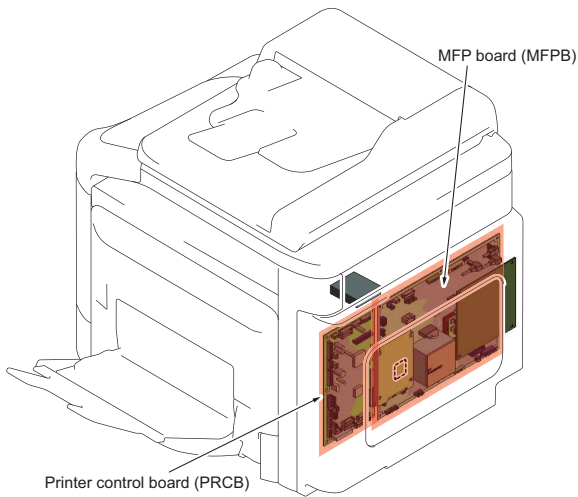


RELAY CONNECTOR LAYOUT DRAWING

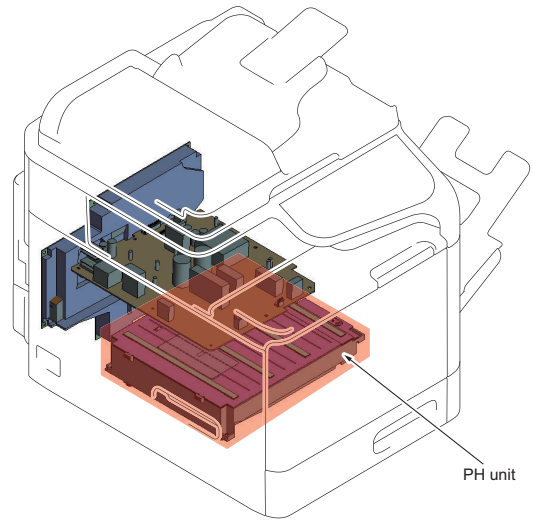


11. 0310

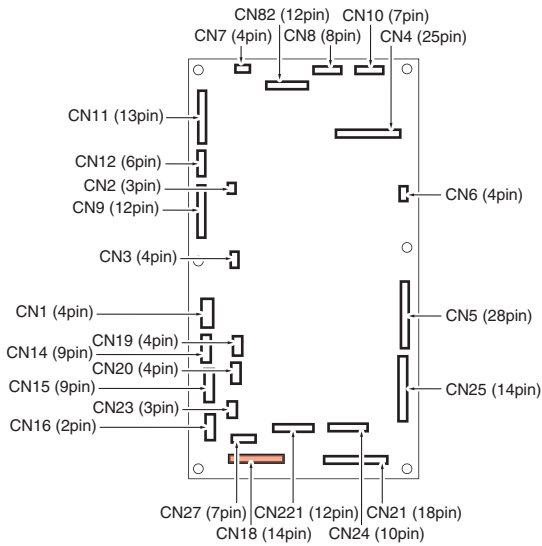
PARTS LAYOUT DRAWING/1



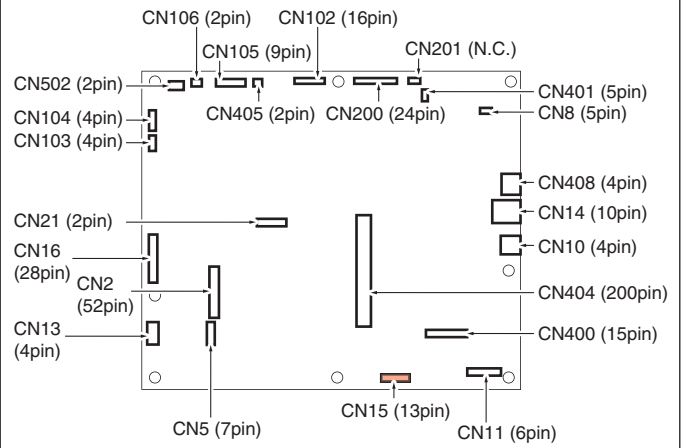
PARTS LAYOUT DRAWING/2



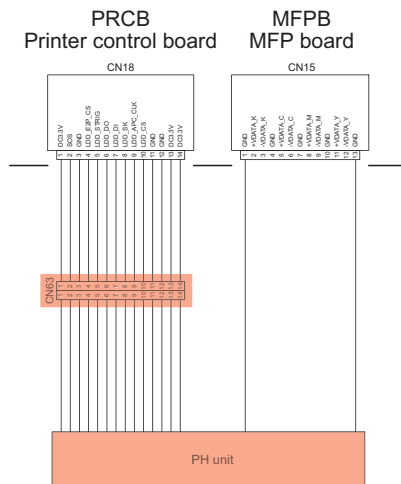
BOARD CONNECTOR LAYOUT DRAWING (PRCB)



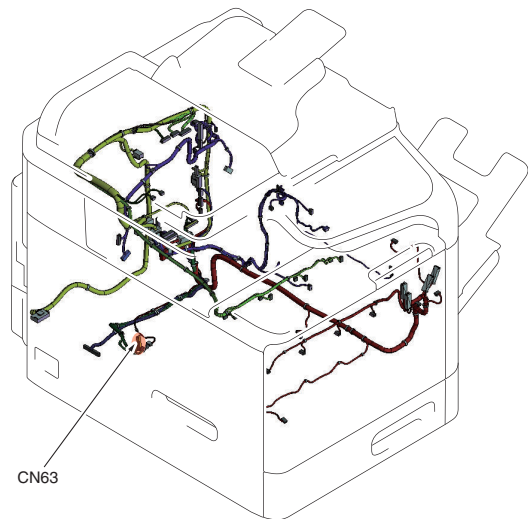
BOARD CONNECTOR LAYOUT DRAWING (MFPB)



WIRING DIAGRAM

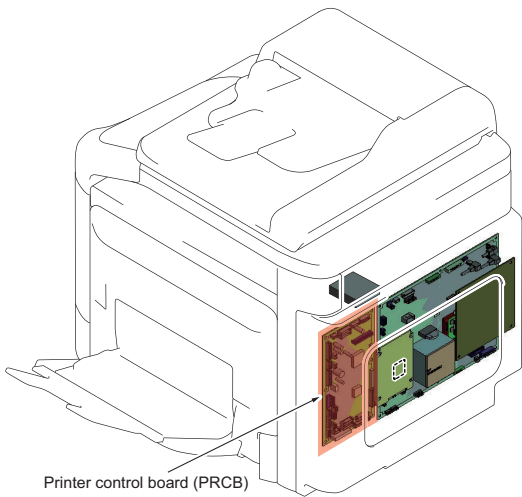


RELAY CONNECTOR LAYOUT DRAWING

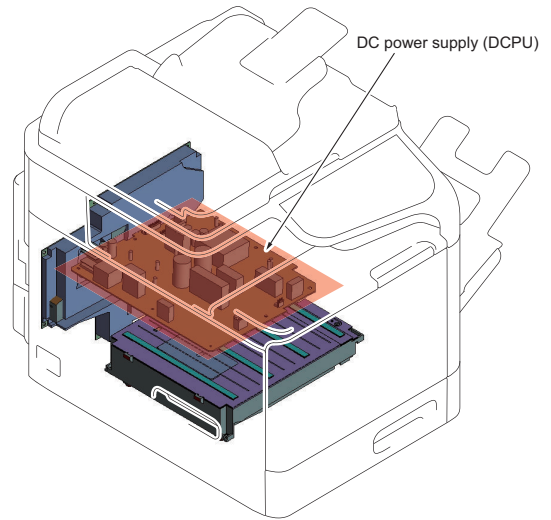


12. 0500, 0502, 0503, 0510, 0520

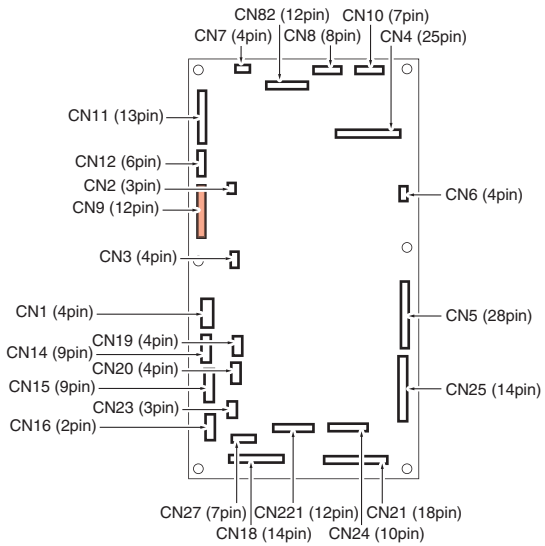
PARTS LAYOUT DRAWING/1



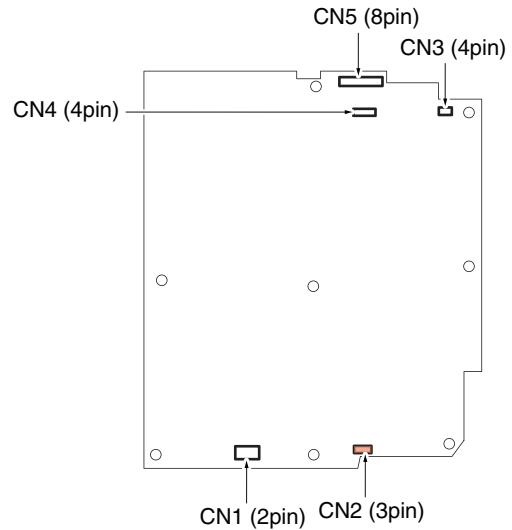
PARTS LAYOUT DRAWING/2



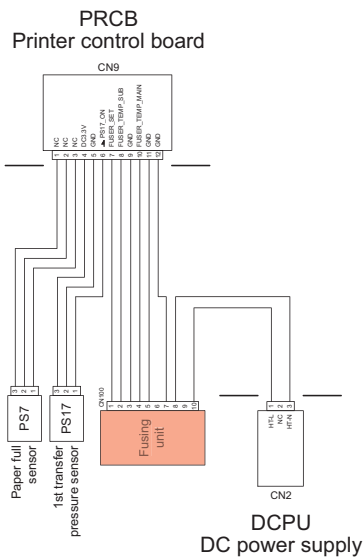
BOARD CONNECTOR LAYOUT DRAWING (PRCB)



BOARD CONNECTOR LAYOUT DRAWING (DCPU)

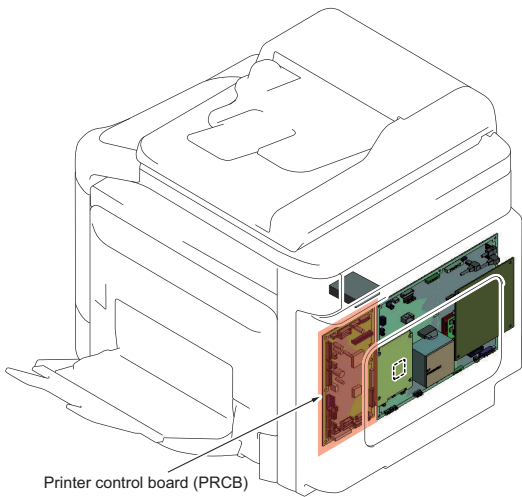


WIRING DIAGRAM

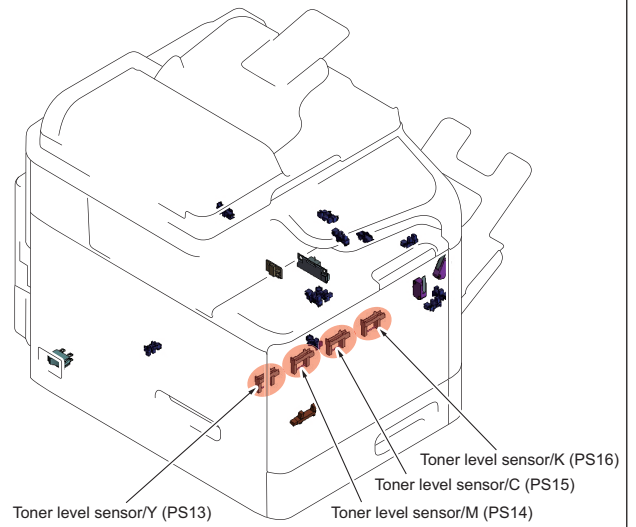


13. 0F52, 0F53, 0F54, 0F55

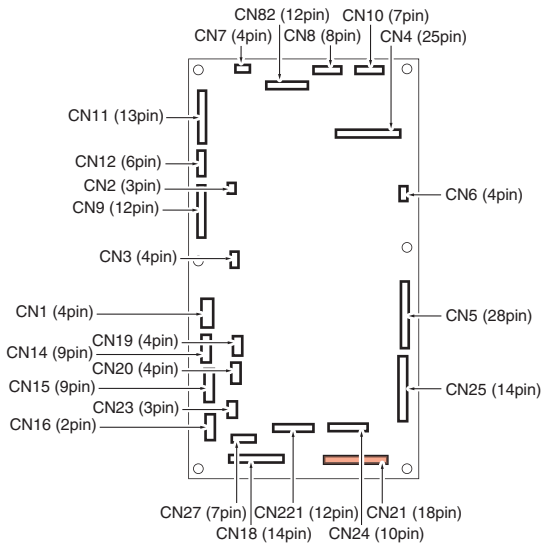
PARTS LAYOUT DRAWING/1



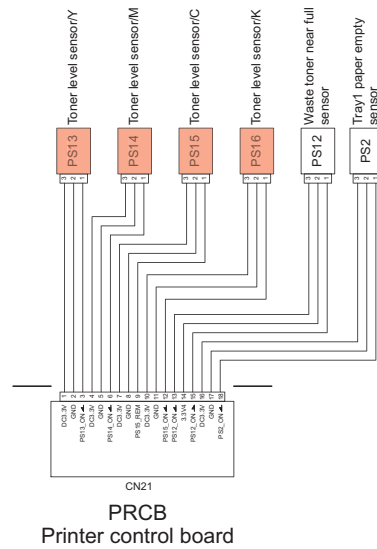
PARTS LAYOUT DRAWING/2



BOARD CONNECTOR LAYOUT DRAWING (PRCB)

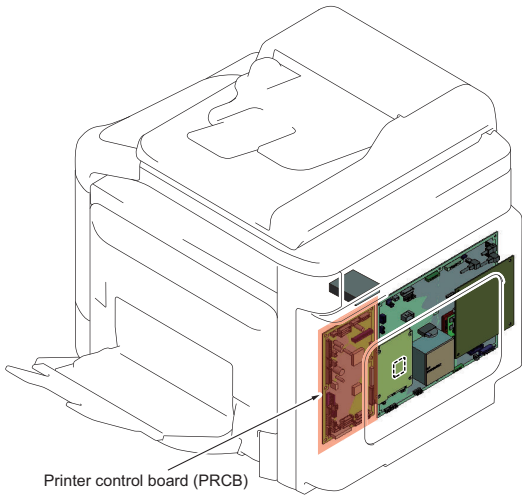


WIRING DIAGRAM

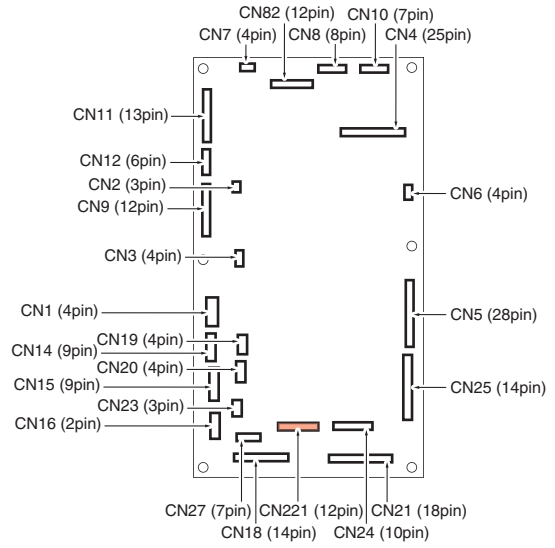


14. 13C4, 13C5, 13C6, 13C7

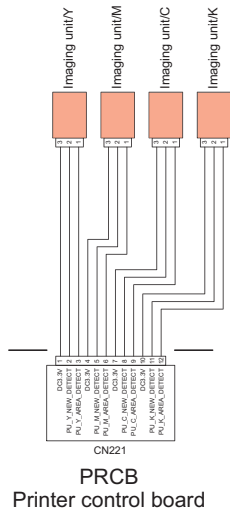
PARTS LAYOUT DRAWING



BOARD CONNECTOR LAYOUT DRAWING (PRCB)

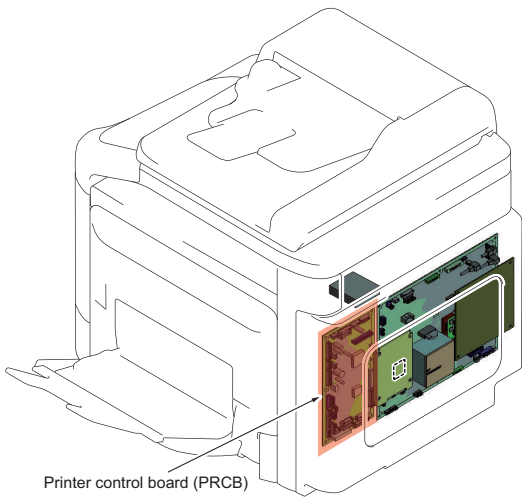


WIRING DIAGRAM

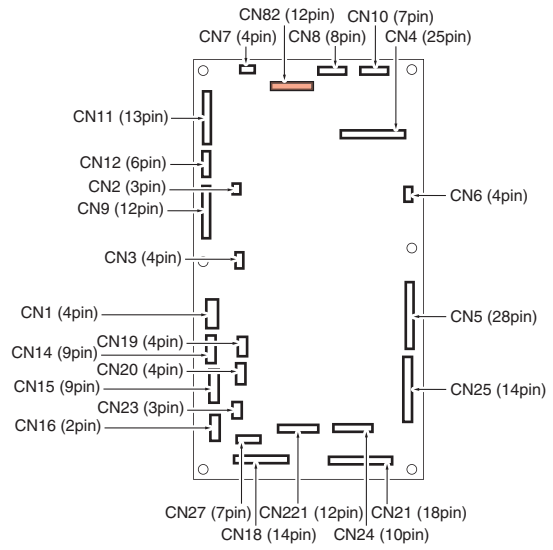


15. 13CB, 13CC, 13CD, 13CE

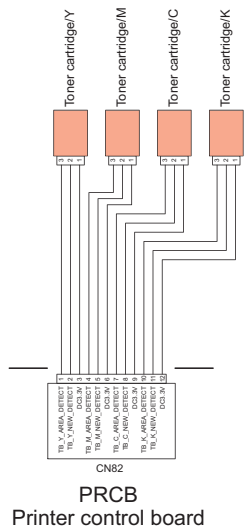
PARTS LAYOUT DRAWING



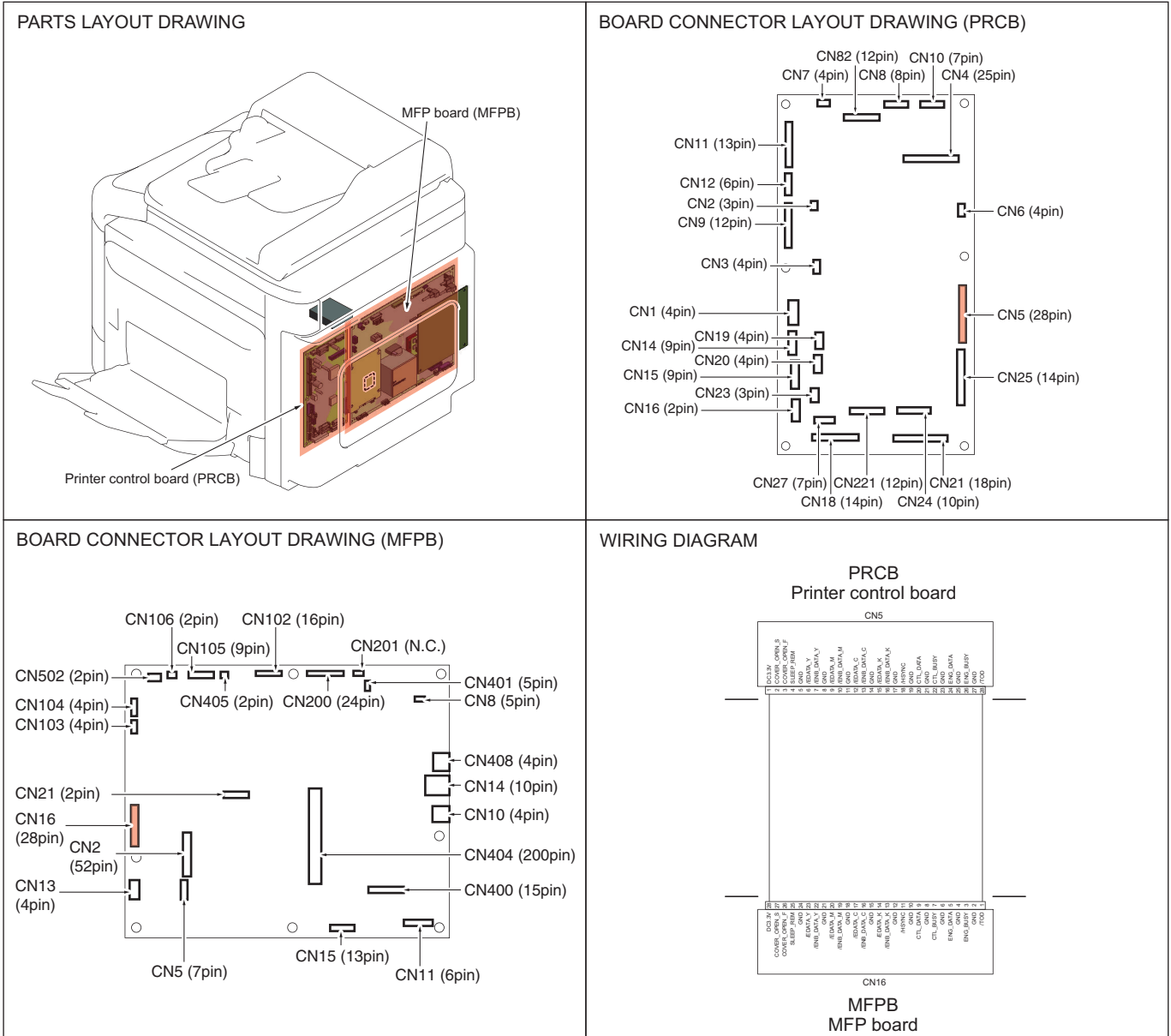
BOARD CONNECTOR LAYOUT DRAWING (PRCB)



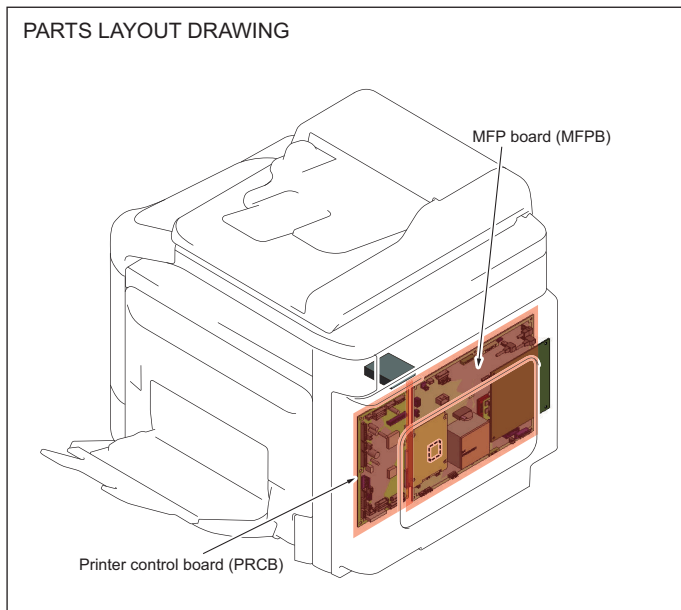
WIRING DIAGRAM



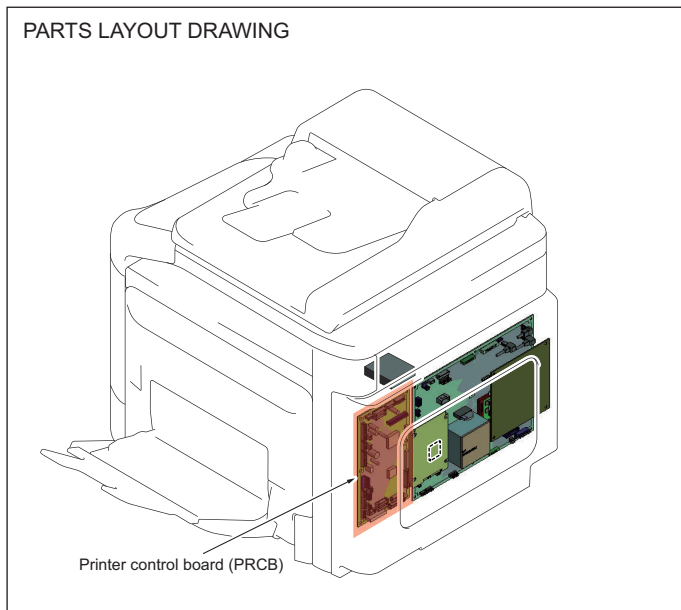
16. 13DD, 4091, 4092



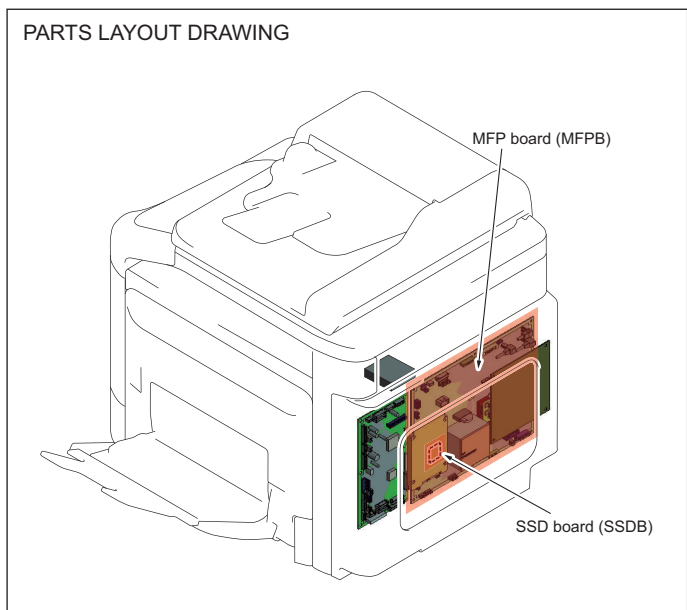
17. 13E2, 13E3, 13F0, C164



18. 3C00, 3C10

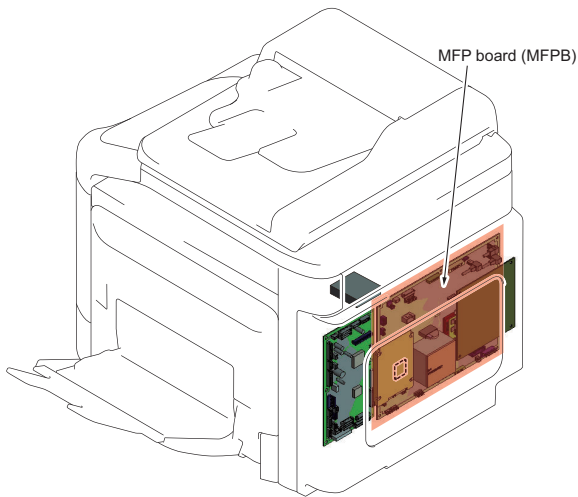


19. 4901, C151, D2B1, D501

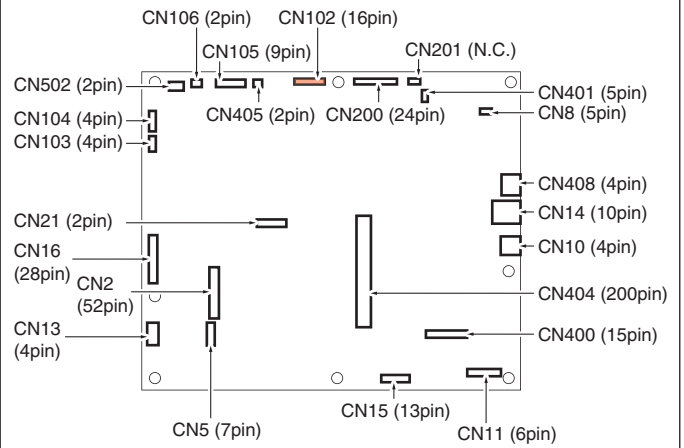


20. 6751, 6790, 6791, 6792, 6793, 9401

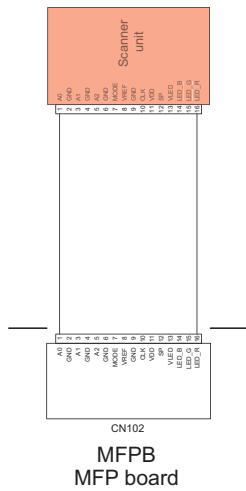
PARTS LAYOUT DRAWING



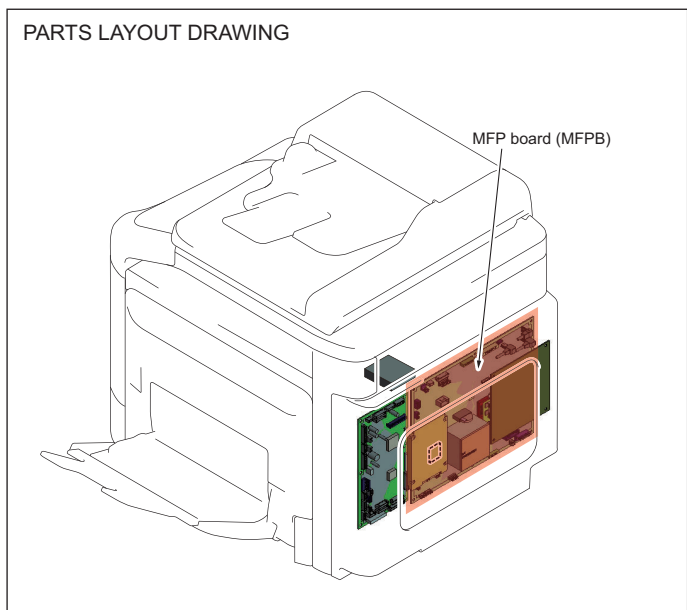
BOARD CONNECTOR LAYOUT DRAWING (MFPB)



WIRING DIAGRAM

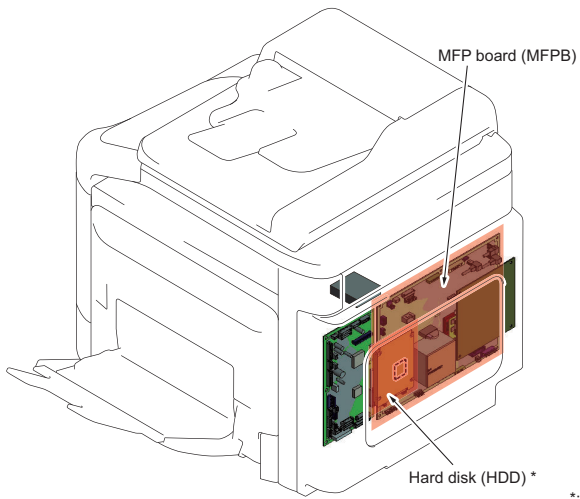


21. C161, D3A2, D3F2, D3F3, D3F4

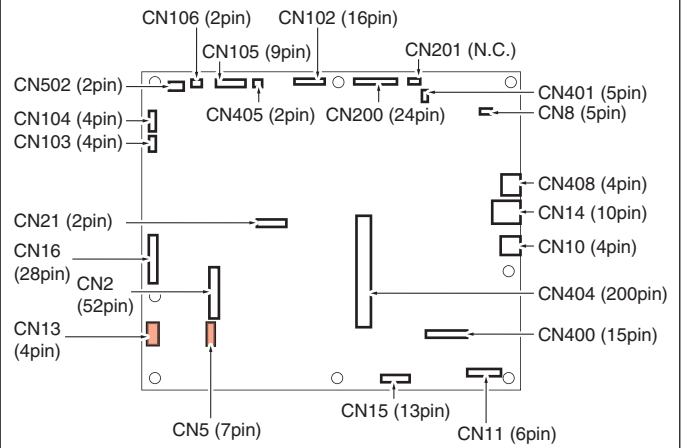


22. D004, D091

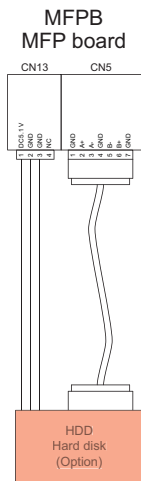
PARTS LAYOUT DRAWING



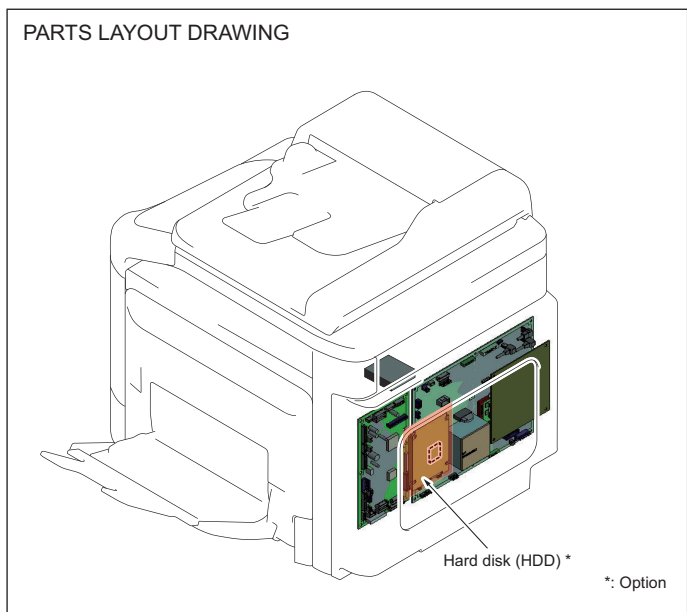
BOARD CONNECTOR LAYOUT DRAWING (MFPB)



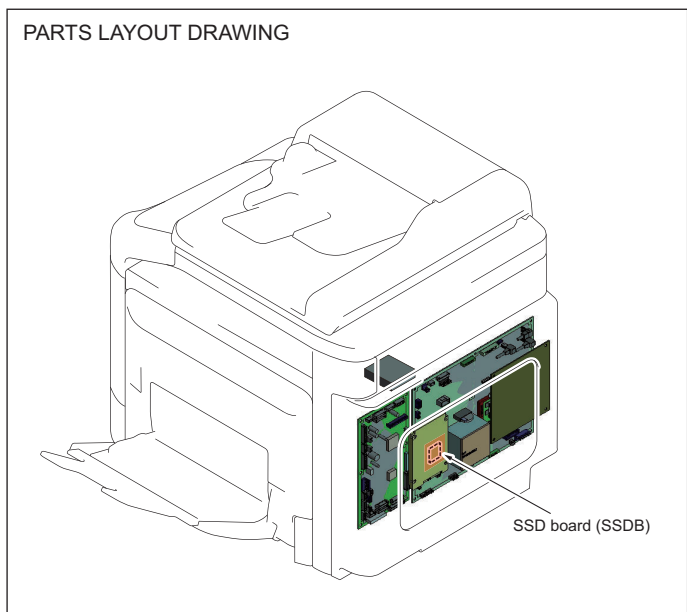
WIRING DIAGRAM



23. D092, D093, D094, D095, D096



24. D0A2, D0A3, D0A4, D0A5, D0A6





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