

# **SERVICE MANUAL**

# bizhub C35

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bizhub C35 Revision history

# Revision history

No.	ID	Title	Ver.	Descriptions of revision	Date
1	D00004327 51	I.2.1 List of utility mode	2	Error corrections	2013/02/13
2	D00004327 54	I.2.4 Restore Defaults	2	Error corrections	2013/02/13
3	D00010496 69	I.3.25 Sleep ON/OFF Choice Setting	1	Addition	2013/02/13
4		Issued as the one combined service manual. (Ver. 3.3)	-	Former "Field Service" is alocated from Section C to N.     And former "Theory of Operation" is alocated from Section O to PA.     Wiring Diagram data are attached in Section N.     Section Q is just for reference, will not be updated in this service manual.	2013/02/13
5	D00012515 42	G.3.18 Imaging unit rail	1	The section was added.	2014/03/18
6	D00012514 96	Section R	1	Add to the section R (TROUBLESHOOTING GUIDE BASED ON REPORTS FROM THE FIELD)	2014/03/18
17	D00002886 89	G.2. Disassembly/reassembly parts list	2	The section was added.	2014/04/09

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

# DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

### 2.1 Description items in this Service Manual

In this Service Manual, each of three expressions "ADANGER", "AWARNING", and "A CAUTION" is defined as follows together with a symbol mark to be used in a limited meaning. When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.

<u></u>	DANGER	Action having a high possibility of suffering death or serious injury
<u></u>	WARNING	Action having a possibility of suffering death or serious injury
<u></u>	CAUTION	Action having a possibility of suffering a slight wound, medium trouble, 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:

	<u></u>	General precaution
Precaution when servicing the product.	A	Electric hazard
		High temperature
		General prohibition
Prohibition when servicing the product.		Do not touch with wet hand
		Do not disassemble

	0	General instruction
Direction when servicing the product.	BIC	Unplug
		Ground/Earth

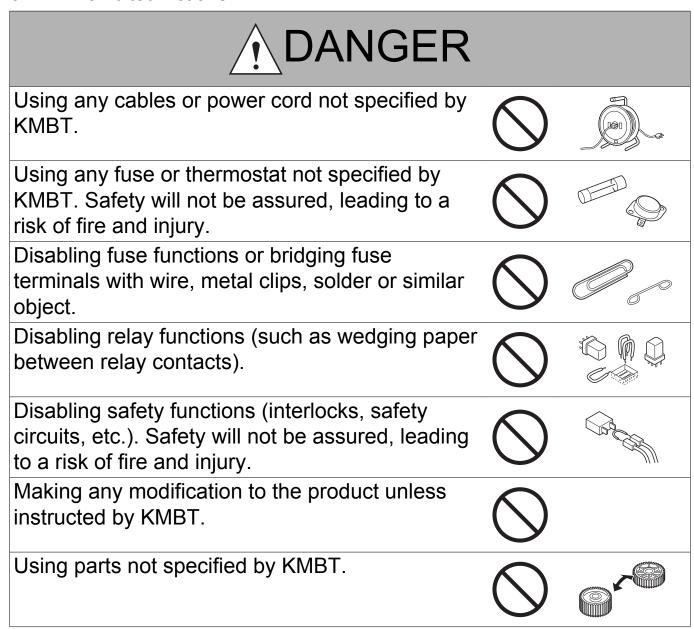
### 3. SAFETY WARNINGS

# 3.1 MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA BUSINESS TECHNOLOGIES, 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 Prohibited Actions



#### 3.2 POWER PLUG SELECTION

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



Use 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.

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.

# **!** WARNING

Conductors in the power cable must be connected to terminals of the plug according to the following order:



- Black or Brown:L (line)
- White or Light Blue:N (neutral)
- Green/Yellow:PE (earth)

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

Check that mains voltage is as specified. Connection to wrong voltage supply may result in fire or electric shock.



Connect power plug directly into wall outlet having same configuration as the plug. Use of an adapter leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.



If proper wall outlet is not available, advice the customer to contact qualified electrician for the installation.



# **!** WARNING

Plug the power cord into the dedicated wall outlet with a capacity greater than the maximum power consumption.



If excessive current flows in the wall outlet, fire may result.

If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.



If excessive current flows in the wall outlet, fire may result.

Make sure the power cord is plugged in the wall outlet securely.

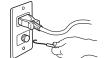




Contact problems may lead to increased resistance, overheating, and the risk of fire.

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.

### (2) Power Plug and Cord

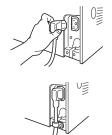
# **MARNING**

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 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.





Check whether the power cord is not stepped on or pinched by a table and so on.

Overheating may occur there, leading to a risk of fire.





Check whether the power cord is damaged.

Check whether the sheath is damaged.

If the power plug, cord, or sheath is damaged, replace with a new power cord (with plug and connector on each end) specified by KMBT. Using the damaged power cord may result in





Do not bundle or tie the power cord.

fire or electric shock.

Overheating may occur there, leading to a risk of fire.

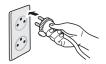




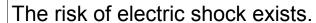
Check whether dust is collected around the power plug and wall outlet.

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.



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.





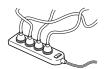


### (3) Wiring

# **!** WARNING

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





# **!** WARNING

When an extension cord is required, use a specified one.

Current that can flow in the extension cord is limited, so using a too long extension cord may result in fire.





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.

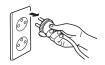
A risk of fire and electric shock exists.

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

# **!** WARNING

When the product is not used over an extended period of time (holidays, etc.), switch it off and unplug the power cord. Dust collected around the power plug and outlet may cause fire.





### (3) Ventilation

# **!** CAUTION

The product generates ozone gas during operation, but it will not be harmful to the human body.

If a bad 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 taking 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 and so on, the product may slide, leading to a injury.



### 3.3.3 Servicing

### (1) Inspection before Servicing



Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure in safety clothes, using only the prescribed tools. Do not make any adjustment not described in the documentation.



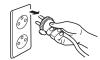


If the prescribed procedure or tool is not used, the product may break and a risk of injury or fire exists.

Before conducting an inspection, be sure to disconnect the power plugs from the product and options.

When the power plug is inserted in the wall outlet, some units are still powered even if the POWER switch is turned OFF. A risk of electric shock exists.





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





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) 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.

### (3) Safety Checkpoints

# **N**WARNING

Check the exterior and frame for edges, burrs, and other damage.



The user or CE may be injured.

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.

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.

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 of 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 fire.



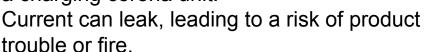


Check wiring for squeezing and any other damage.

Current can leak, leading to a risk of electric shock or fire.



Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit.





Check high-voltage cables and sheaths for any damage.

Current can leak, leading to a risk of electric shock or fire.



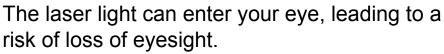


Check electrode units such as a charging corona unit for deterioration and sign of leakage.

Current can leak, leading to a risk of trouble or fire.



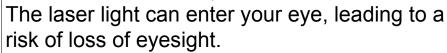
Before disassembling or adjusting the write unit (P/H unit) incorporating a laser, make sure that the power cord has been disconnected.







Do not remove the cover of the write unit. Do not supply power with the write unit shifted from the specified mounting position.





When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.





Improper replacement can cause explosion.

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.

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. Current can leak, leading to a 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, electric shock, and fire exists.

### (4) Handling of Consumables

# **N**WARNING

Toner and developer are not harmful substances, but care must be taken not to breathe excessive amounts or let the substances come into contact with eyes, etc. It may be stimulative.



If the substances get in the eye, rinse with plenty of water immediately. When symptoms are noticeable, consult a physician.

Never throw the used cartridge and toner into fire.





You may be burned due to dust explosion.

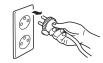
### (5) Handling of Service Materials



# CAUTION

Unplug the power cord from the wall outlet. Drum cleaner (isopropyl alcohol) and roller cleaner (acetone-based) are highly flammable and must be handled with care. A risk of fire exists.





Do not replace the cover or turn the product ON before any solvent remnants on the cleaned parts have fully evaporated. A risk of fire exists.





Use only a small amount of cleaner at a time and take care not to spill any liquid. If this happens, immediately wipe it off.

A risk of fire exists.



When using any solvent, ventilate the room well.

Breathing large quantities of organic solvents can lead to discomfort.





### 4. LASER SAFETY

#### 4.1 Outline

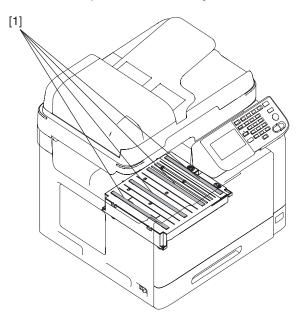
This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

#### 4.2 Internal Laser Radiation

semiconductor laser		
Maximum power of the laser diode 15 mW		
Maximum average radiation power (*)	11.2 µW	
Wavelength	770 - 800 nm	

<sup>\*</sup>at laser aperture of the Print Head Unit

- 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.



[1] Laser Aperture of the Print Head Unit

### 4.2.1 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 page S-16 indicates compliance with the CDRH regulations and must be attached to laser products marketed in the United States.

#### **CAUTION**

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

semiconductor laser		
Maximum power of the laser diode 15 mW		
Wavelength	770 - 800 nm	

#### 4.2.2 All Area

#### **CAUTION**

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

semiconductor laser		
Maximum power of the laser diode 15 mW		
Wavelength	770 - 800 nm	

#### 4.2.3 Denmark

#### NOTE

 Usynlig laserstraling ved abning, nar sikkerhedsafbrydere er ude af funktion. Undga udsattelse for straling. Klasse 1 laser produkt der opfylder IEC60825-1 sikkerheds kravene.

semiconductor laser		
Maximum power of the laser diode 15 mW		
Wavelength	770 - 800 nm	

#### 4.2.4 Finland, Sweden

LUOKAN 1 LASERLAITE KLASS 1 LASER APPARAT

#### **VAROITUS!**

• Laitteen kayttaminen muulla kuin tassa kayttoohjeessa mainitulla tavalla saattaa altistaa kayttajan turvallisuusluokan 1 ylittavalle nakymattomalle lasersateilylle.

puolijohdelaser		
Laserdiodin suurin teho 15 mW		
aallonpituus	770 - 800 nm	

#### **VARNING!**

 Om apparaten anvands pa annat satt an i denna bruksanvisning specificerats, kan anvandaren utsattas for osynlig laserstralning, som overskrider gransen for laserklass 1.

halvledarlaser	
Den maximala effekten for laserdioden 15 mW	
vaglangden	770 - 800 nm

#### VARO!

Avattaessa ja suojalukitus ohitettaessa olet alttiina nakymattomalle lasersateilylle.
 Ala katso sateeseen.

#### **VARNING!**

• Osynlig laserstraining nar denna del ar oppnad och sparren ar urkopplad. Betrakta ej straien.

#### 4.2.5 Norway

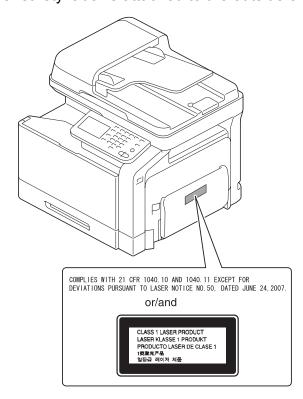
#### **ADVERSEL**

 Dersom apparatet brukes pa annen mate enn spesifisert i denne bruksanvisning, kan brukeren utsettes for unsynlig laserstralning, som overskrider grensen for laser klass
 1.

halvleder laser		
Maksimal effekt till laserdiode 15 mW		
bolgelengde	770 - 800 nm	

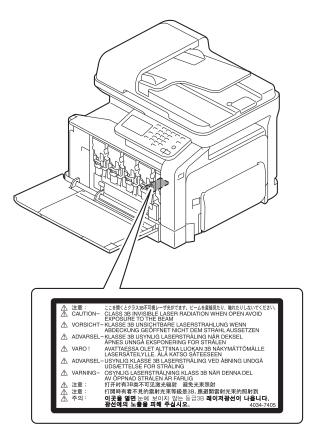
### 4.3 Laser Safety Label

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



#### 4.4 Laser Caution Label

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

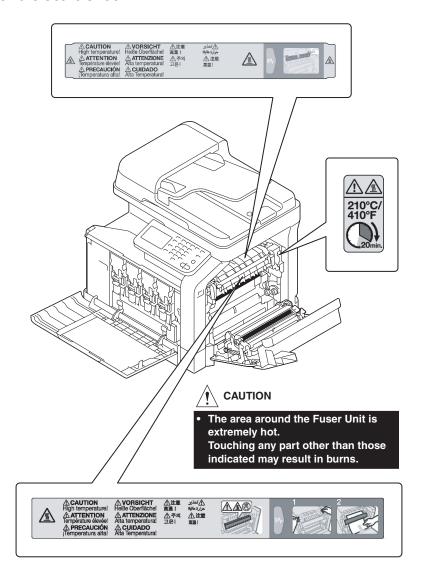


#### 4.5 PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

- When laser protective goggles are to be used, select ones with a lens conforming to the above specifications.
- When a disassembly job needs to be performed in the laser beam path, such as when working around the printerhead and PC Drum, be sure first to turn the printer OFF.
- If the job requires that the printer be left ON, take off your watch and ring and wear laser protective goggles.
- A highly reflective tool can be dangerous if it is brought into the laser beam path. Use utmost care when handling tools on the user's premises.

# 5. INDICATIONS OF WARNING ON THE MACHINE

Caution labels shown below 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.





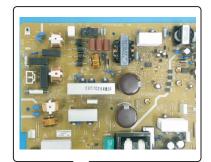
### High voltage

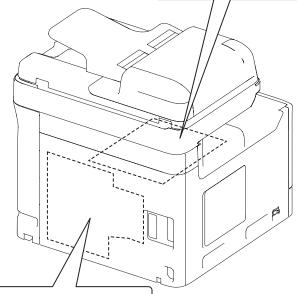
 This area generates high voltage.
 Be careful not to touch here when the power is turned ON to avoid getting an electric shock.



#### Electric hazard

 To avoid electrical shock, after turning OFF the power switch, do not touch the DC power supply for 9 minutes.



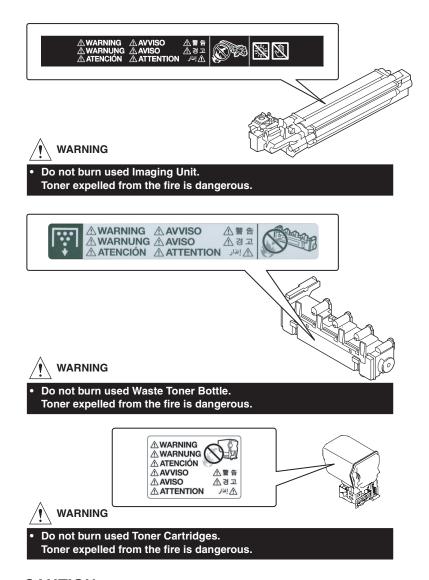






### High voltage

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



# **ACAUTION**

You may be burned or injured if you touch any area that you are advised by any
caution label to keep yourself away from. Do not remove caution labels. And also,
when the caution label is peeled off or soiled and cannot be seen clearly, replace it
with a new caution label.

# 6. 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 KMBT 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 KMBT.
- 4. For reports and measures concerning serious accidents, follow the regulations specified by every distributor.

# **B NOTATION OF THE CONTENTS**

# 1. NOTATION OF THE CONTENTS

#### 1.1 Product name

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

(1) bizhub C35 Main body
(2) Microsoft Windows 2000: Windows 2000
Microsoft Windows XP: Windows XP
Microsoft Windows Vista: Windows 7: Windows 7

Microsoft Windows Server 2003: Windows Server 2003
Microsoft Windows Server 2008: Windows Server 2008

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

Windows 7/Vista/Server 2008/XP/Server 2003/2000

Windows 7/Vista/XP/2000

Windows Server 2008/Server 2003

#### 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
A4	Transverse feed	A4
	Longitudinal feed	A4S
A3	Longitudinal feed	A3

# C PRODUCT SPECIFICATIONS

# 1. bizhub C35

# 1.1 Type

Туре	Full-color printer/copier/scanner with stationary plate and ADF	
Printing system	Semiconductor laser and electrostatic image transfer to plain paper	
Exposure system	4 laser diode and 1 polygon mirror	
PC drum type	OPC (organic photo conductor)	
Photoconductor cleaning	Blade cleaning system	
Scan resolution	600 x 1200 dpi     600 x 600 dpi     600 x 300 dpi	
Luminous source	CCFL Dual	
Original scanning	Flatbed CCD module scanning system	
Print resolution	600 x 600 dpi	
Paper feeding system	<ul> <li>Tray1: Small roller separation system with torque limiter</li> <li>Tray2: Small roller separation system with torque limiter</li> </ul>	
Developing system	Single-element developing system	
Charging system	Charge roller system	
Image transfer system	Intermediate transfer belt system	
Paper separating system	Curvature separation + charge-neutralizing system	
Fusing system	Belt fusing	
Paper exit system	Face down (Output tray capacity: 250 sheets (A4S/LetterS))	

#### NOTE

• These specifications are subject to change without notice.

#### 1.2 Functions

Types of original	Sheets, books, and three-dimensional objects		
Max. original size	A4 or Legal		
Max. original weight	3 kg		
Multiple copies	1 to 999		
Image loss	Сору:	Leading edge: 4.0 mm, trailing edge: 4.0 mm, rear edge: 4.0 mm, front edge: 4.0 mm	
	Print:	Leading edge: 4.2 mm, trailing edge: 4.2 mm, rear edge: 4.2 mm, front edge: 4.2 mm	
Warm-up time	Power on to ready: average 45 seconds or less (Power on to ready, at ambient temperature of 23 °C/73.4 °F and rated source voltage)		
Process speed	<ul> <li>185 mm/sec. (plain paper)</li> <li>92.5 mm/sec. (thick paper1/2, envelope, post card, label, letterhead, glossy 1/2)</li> </ul>		
First-page output time	12.9 second or less (A4S/LetterS, plain paper)		
Copy speed	Simplex: Monochrome/Full color:	30.0 page per minutes for A4 (plain paper)     31.6 page per minutes for Letter (plain paper)     15.0 page per minutes for A4 (thick paper1/2)     15.8 page per minutes for Letter (thick paper1/2)	
	Duplex (double-sided): Monochrome/Full color:	<ul> <li>30.0 sheet per minutes for A4 (plain paper)</li> <li>31.6 sheet per minutes for Letter (plain paper)</li> <li>15.0 page per minutes for A4 (thick paper1/2)</li> <li>15.8 page per minutes for Letter (thick paper1/2)</li> </ul>	
Fixed zoom ratios	<ul> <li>Enlargement: x2.000, x1.631, x1.545, x1.414, x1.294, x1.224, x1.154</li> <li>Reduction: x0.866, x0.816, x0.785, x0.707, x0.647, x0.607, x0.500</li> </ul>		
Variable zoom ratios	<ul> <li>Platen: x 0.250 to x4.000 (in x0.001 increments)</li> <li>ADF: x 0.250 to x2.000 (in x0.001 increments)</li> </ul>		

# NOTE

These specifications are subject to change without notice.

# 1.3 Media

Туре		Paper source (maximum tray capacity)	
		Tray 1	Tray 2
Plain paper (60 to 90 g/m2 24 lb)		100 sheets	250 sheets
Media type	Thick 1 (91 to 150 g/m2)		
	Thick 2 (151 to 210 g/m2)	20 sheets	20 sheets
	Label		

Туре		Paper source (maximum tray capacity)	
		Tray 1	Tray 2
	Letterhead		
	Glossy 1 (100 to 128 g/m2)		
Glossy 2 (129 to 158 g/m2)			
	Postcard		
Envelope		10 sheets	_
Media dimensions	Width	92 to 216 mm* (3.6 to 8.5 inch)	92 to 216 mm (3.6 to 8.5 inch)
	Length	148 to 356 mm* (5.8 to 14.0 inch)	148 to 356 mm (5.8 to 14.0 inch)

<sup>• \*:</sup> If the width set 210 mm to 216 mm, the max. length is to 279.4 mm.

#### NOTE

· These specifications are subject to change without notice.

#### 1.4 Maintenance

Machine durability	Main body	400,000 prints or 5 years, whichever comes first
	Flatbed scanner unit	150,000 scans or 5 years, whichever comes first
	ADF	200,000 scans or 5 years, whichever comes first

#### NOTE

• These specifications are subject to change without notice.

# 1.5 Machine specifications

Power requirements Current:		AC 100 V, 120 V, 220 to 240 V	
		100 V: 10.5 A or less     110 V: 9.0 A or less     120 V: 9.0 A or less     127 V: 9.0 A or less     220 to 240 V: 4.8 A or less	
	Frequency:	50 to 60 Hz	
Max power consumption		1,300 W or less (127 V, 220-240 V)     1,200 W or less (100 V, 120 V)     1,100 W or less (110 V)     Power save mode: 34 W or less	
Dimensions		• 530 (W) x 508 (D) x 550 (H) mm • 20.87 (W) x 20.00 (D) x 21.65 (H) inch	
Weight		34.6 kg (76.28 lb) or less without consumables     39.0 kg (85.98 lb) or less with consumables	
Operating noise		During standby: 39 dB (A) or less     During printing: 55.0 dB (A) or less     During copying: 57.0 dB (A) or less	

### NOTE

• These specifications are subject to change without notice.

# 1.6 Operating environment

Temperature	10 to 30° C / 50 to 86° F (with a fluctuation of 10° C / 18° F or less per hour)	
Humidity	15 to 85% (Relative humidity with a fluctuation of 10% or less per hour)	

#### NOTE

These specifications are subject to change without notice.

# 1.7 Print functions

Туре	Built-in printer controller	
RAM	1536 MB	
Interface	USB 2.0 (High Speed) compliant, 10Base-T/100Base-TX/1000Base-T Ethernet	
HDD	120 GB (shared with the main body)/20 GB is available for user storage	
Supported protocols	TCP/IP, IPX/SPX, Ethertalk, SMB, Netware 4.x, 5.x, 6, IPP 1.1, POP3, LDAP, SNMP v1, v2, v3, HTTP/HTTPS, IPv6, DPWS (WSD), IPP over SSL, IPSec (IPv6), Bonjour, NTP, SSL/TLS, Dynamic DNS, LLTD	
Print speed	<ul> <li>30 pages/min. (A4S, 1-sided print, plain paper)</li> <li>31.6 pages/min. (LetterS, 1-sided print, plain paper)</li> <li>15 pages/min. (A4S, 1-sided print, thick paper)</li> <li>15.8 pages/min. (LetterS, 1-sided print, thick paper)</li> </ul>	
Printer language	PostScript3 (3016) PCL 5 e/c, PCL 6 (XL3.0) XPS (Version1.0) PDF Direct Printing (Version 1.7) JPEG/TIFF Direct Print	

Print resolution	600 x 600 dpi	
Printer fonts	PCL: 80 fonts, PostScript3: 137 fonts	
Supported operating system	Windows Server 2008/Server 2003/Server 2008 x64 Edition/Server 2003 x64 Edition     Netware 4 / 5 / 6     Windows 7/Vista (ServicePack1)/Vista x64 Edition/XP (ServicePack2 or later)/XP x64 Edition/2000 (ServicePack4)     Mac OS X (10.2.8/10.3.9/10.4/10.5/10.6)     Linux SUSE Linux Enterprise Desktop 10 (CUPS Ver. 1.1.23)     Red Hat Enterprise Linux 5 Desktop (CUPS Ver. 1.2.4)	
Printer driver	PCL driver	Windows 7/Vista/Server 2008/XP/Server 2003/2000     Windows 7/Vista/Server 2008/XP/Server 2003 64bit     Windows 7/Vista/Server 2008/XP/Server 2003/2000 printer driver for monochrome printing     Windows 7/Vista/Server 2008/XP/Server 2003 64bit printer driver for monochrome printing     Windows 7/Vista/Server 2008/XP/Server 2003/2000 Universal Driver     Windows 7/Vista/Server 2008/XP/Server 2003 64bit     Universal Driver
	PostScript driver	Windows 7/Vista/Server 2008/XP/Server 2003/2000 Windows 7/Vista/Server 2008/XP/Server 2003 64bit Windows 7/Vista/Server 2008/XP/Server 2003/2000 Universal Driver Windows 7/Vista/Server 2008/XP/Server 2003 64bit Universal Driver
	PostScript PPD driver	<ul> <li>Mac OS X (10.2.8/10.3.9/10.4/10.5/10.6)</li> <li>Mac OS X Server (10.2/10.3/10.4/10.5/10.6)</li> <li>Red Hat Enterprise Linux 5 Desktop</li> <li>SUSE Linux Enterprise Desktop 10</li> </ul>
	XPS driver	Windows 7/Vista/Server 2008     Windows 7/ Vista/Server 2008 64bit
	PC FAX driver	Windows 7/Vista/Server 2008/XP/Server 2003/2000     Windows 7/Vista/Server 2008/XP/Server 2003 64 bit

#### NOTE

These specifications are subject to change without notice.

# 1.8 Scan Function

Scannable range	Same as the copier specification (Max. A4 or Legal)	
Scan Speed (ADF scan, resolution 300 dpi)	30 pages/min (A4)     31 pages/min (Letter)	
Functions	Scan to E-mail, Scan to FTP, Scan to SMB, Scan to WebDAV, Scan to HDD, Scan to USB memory, WSD scan	
Scanning resolution	150 x 150 dpi, 200 x 200 dpi, 300 x 300 dpi, 600 x 600 dpi (Network Twain: 150/300/600/1,200/2,400/4,800 dpi)	
Supported operation system	Windows 7/Vista/Server 2008/XP/Server 2003/2000     Mac OS X (10.3.9/10.4/10.5/10.6)	
Drivers	TWAIN Driver for Windows 7/Vista/Server 2008/XP/Server 2003/2000 TWAIN Driver for Mac OS X (10.3.9/10.4/10.5/10.6) WIA Driver for Windows 7/Vista/Server 2008/XP WIA Driver for Windows 7/Vista/Server 2008/XP 64bit	
Output file format	TIFF, PDF, CompactPDF, JPEG, XPS	

#### NOTE

• These specifications are subject to change without notice.

# 1.9 Fax specifications

Applicable lines	PSTN, PBX		
Protocol	Group 3 (compliant to ITU-T T.30)  • Konica Minolta non-standard protocol: No  • Group 4: No  TCP/IP, SMTP, POP3 (compliant to ITU-T T.37 and W-NET FAX)		
Communication resolution (G3 fax)	Standard (203 dpi x 98 dpi)     Fine (203 dpi x 196 dpi)     Super fine (406 dpi x 391dpi)		
	Transmission	Standard: 200 x 100 dpi     Fine: 200 x 200 dpi	
Communication resolution(Internet fax)	Reception	<ul> <li>204 x 98 dpi, 200 x 100 dpi</li> <li>204 x 196 dpi, 200 x 200 dpi</li> <li>408 x 391 dpi, 400 x 400 dpi</li> <li>204 x 391 dpi, 200 x 400 dpi, 300 x 300 dpi</li> </ul>	
Compatibility	ECM/Super G3	ECM/Super G3	
Communication speed	2.4 to 33.6 kbps		

Fax transmission speed	3 seconds/page (at A4, V.34, 33.6kbps, JBIG)  • Resolution: standard mode  • Konica Minolta standard original				
Coding method	Internet fax (Transmission):	G3 fax: MH, MR, MMR and JBIG Internet fax (Transmission): TIFF-S (MH) Internet fax (Reception): TIFF-S (MH), TIFF-F (MR/MMR)			
File type	Monochrome (TIFF)				
Modulation method	V.27 ter, V.29, V.17 and V.34				
Fax memory	256 MB				
Max. scanning size	ADF: 216 x 1000 mm     Original glass: Legal				
Max. recording size	Legal The fax message is printed acc the paper loaded in the machin	cording to the setting of Print Separate Fax Pages, if an original longer than be is received.			
Scanning speed	<ul><li>30 sheets/minute (A4)</li><li>15 sheets/minute (A4) with re</li></ul>	esolution in the super fine mode			
Functions	Abbreviated dial	Max. 2000 stations to be registered			
	Program dial	Max. 400 numbers to be registered			
	Key pad dial	<ul><li> 38 digits maximum (during off-hook dial mode)</li><li> 60 digits maximum (during on-hook dial mode)</li></ul>			
	Group dial	Max. 100 numbers to be registered. Up to 500 abbreviated dial numbers can be registered for each group.			
	Manual redial	Possible to select from five latest histories.			
	Automatic redial	<ul> <li>Automatically redial when remote stations are busy or return no responses or transmission errors occur at the memory transmission. Note that, this is not performed at a manual (off-hook) transmission.</li> <li>Possible to receive during redial waiting.</li> <li>Another call is possible.</li> </ul>			
	Pulse/tone switching	Capable of switching from pulse to tone by using the [*] key on the [Key pad] or [Tone] key on LCD.			
	PBX mode setting	<ul> <li>Possible to turn ON or OFF the PBX connection and to register the external access code.</li> <li>There is the automatic removal function of external access code to registered abbreviated remote station No. Nothing is automatic addition function.</li> </ul>			
	Off-hook	Manual start is possible with the "Off-Hook" button on the LCD screen.			
	Call progress detection	<ul> <li>DC loop (Depends on country spec)</li> <li>Dial tone (Depends on country spec)</li> <li>Busy tone (Depends on country spec)</li> </ul>			
	Dialing system	To be selected from among PB, 10 pps, and 20 pps			
	Line monitoring sound	ON (A-B): Monitoring sound is sounded for communication phase between A and B. ON (All): Monitoring sound is sounded for communication phase between A and E. OFF: Monitoring sound is not sounded.			
	Off-Hook alarm	Notifies the user if the external telephone is off-hook at the end of fax communication.			

NOTE
• These specifications are subject to change without notice.

# 2. PF-P08

# **2.1 Type**

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

# 2.2 Media type

Media size	B5S(JIS)/Executive/LetterS/A4S/Letter Plus/G-Legal/Legal		
Media type	<ul> <li>Plain paper: 60 to 90 g/m2 (16 to 24 lb)</li> <li>Recycled paper: 60 to 90 g/m2 (16 to 24 lb)</li> </ul>		
Capacity	500 sheets		

# 2.3 Machine specifications

Power Requirements	• DC 24 V ± 10% (supplied from the main body) • DC 3.3 V ± 5%	
Max. Power Consumption	16 W or less	
Dimensions	• 533 mm (W) × 508 mm (D) × 117 mm (H) • 21.0 inch (W) × 20.0 inch (D) × 4.6 inch (H)	
Weight	Approx. 8.5 kg (18.74 lb)	

# 2.4 Operating environment

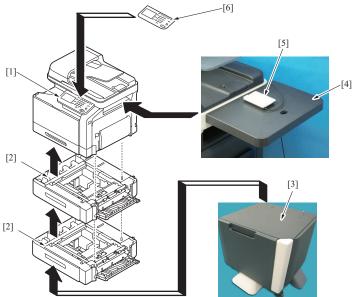
Temperature	10° to 30° C/50° to 86° F (with a fluctuation of 10° C /18° F or less per hour)
Humidity	15% to 85% (with a fluctuation of 10% or less per hour)

### NOTE

These specifications are subject to change without notice.

# D OVERALL COMPOSITION

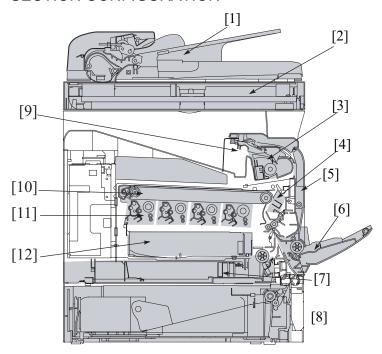
# 1. SYSTEM CONFIGURATION



[1]	bizhub C35	[2]	PF-P08 (Lower feeder unit)
[3]	DK-P01 (Desk) *1	[4]	WT-P01 (Working table)
[5]	AU 201 (Authentication unit)	[6]	MK-727 (Panel sheet) *2

<sup>\*1:</sup> To be locally procured for North America/Europe.
\*2: Panel sheet for traditional Chinese characters that is available as an option only in Taiwan.

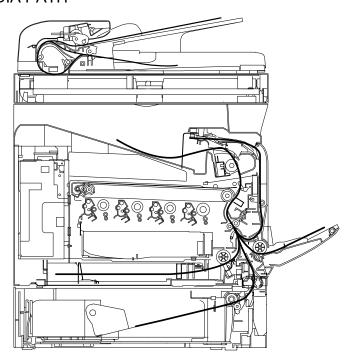
# 2. SECTION CONFIGURATION



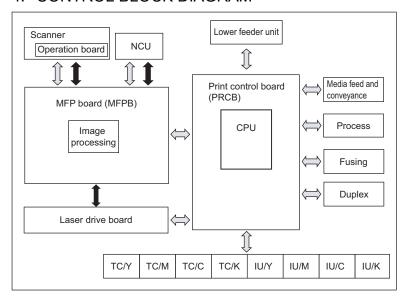
[1]	Auto document feeder	[2]	Scanner section
[3]	Fusing section	[4]	Transfer section (2nd transfer)
[5]	Duplex section	[6]	Media feed section (Tray 1)
[7]	Media feed section (Tray 2)	[8]	Lower feeder unit (Tray 3)*
[9]	Media exit section	[10]	Transfer belt
[11]	Imaging unit section	[12]	Write section

<sup>\*:</sup> Option

# 3. MEDIA PATH



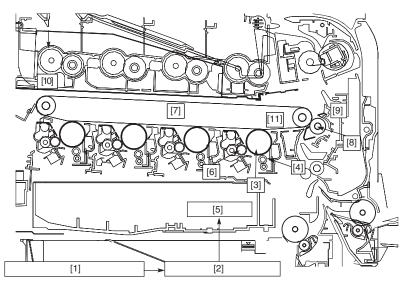
# 4. CONTROL BLOCK DIAGRAM



Control system line

Image bus line

# 5. IMAGE CREATION PROCESS



[1]	CCD (Photoelectric conversion)	• Light reflected off the surface of the original is converted to a corresponding electric signal by CCD and the resultant electric signal is sent to the image processing board.
[2]	Image processing board	The intensity of the laser light is controlled based on the image signal transmitted to CCD.
[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 photo conductor.
[5]	LD exposure	The surface of the PC drum is irradiated with laser light, and an electrostatic latent image is thereby formed.
[6]	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.
[7]	1st image transfer	<ul> <li>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.</li> </ul>
[8]	2nd image transfer	A DC positive voltage is applied to the backside of the media, thereby allowing the visible, developed image on the surface of the transfer belt to be transferred onto the media.
[9]	Media separation	The media, which has undergone the 2nd image transfer process, is neutralized so that it can be properly separated from the transfer belt.
[10]	Transfer belt cleaning	The residual toner left on the surface of the transfer belt is scraped off.
[11]	PC drum cleaning	The residual toner left on the surface of the PC drum is scraped off.

# E SERVICE TOOL

# 1. Service material list

Tool name	Shape	Material No.	Remarks
Cleaning pad		000V-18-1	10pcs/1pack
Isopropyl alcohol		000V-19-0	

# 2. CE tool list

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

# F MAINTENANCE

# 1. PERIODICAL MAINTENANCE ITEMS

# 1.1 Periodical replacement parts list (CRU)

- To ensure that the machine produces good prints and to extend its service life, it is recommended that the maintenance jobs described in this schedule be carried out as instructed.
- The replacing time is to be determined by the total counter value.
- Maintenance conditions are based on A4S or letterS,1-side print.

Class	Class Part to be replaced Number of prints		Ref. page	
	Imaging unit (C,M,Y,K)	30,000 (Continuous printing) 20,000 (2 pages/job)	F.3.1.2 Replacing the imaging unit (C, M, Y, K)	
Processing section	Standard in-box toner cartridge (C,M,Y,K)	6,000 (Continuous printing)	F.3.1.1 Replacing the toner cartridge (C, M,	
	High-capacity toner cartridge (C,M,Y,K)	6,000 (Continuous printing)	Y, K)	
Image transfer section	Waste toner bottle (WB-P03)	36,000 (monochrome) (Continuous printing)	F.3.2.1 Replacing the waste toner bottle	
	waste toner bottle (WD-1 03)	9,000 (full color) (Continuous printing)	1 .5.2.1 Replacing the waste toner bottle	
	Transfer roller (TF-P04)	100,000 (2 pages/job)	F.3.2.2 Replacing the transfer roller unit	
	Transfer belt unit (TF-P05)	100,000 (2 pages/job)	F.3.2.3 Replacing the transfer belt unit	
Fusing section	Fuser unit (FU-P02)	100,000 (2 pages/job)	F.3.3.1 Replacing the fuser unit	

## 1.2 Periodical replacement parts list (FRU)

# 1.2.1 Main body

Class	Maintenance parts	Quantity	Parts No.	Actual durable cycle	Ref.Page
Tray1 (Manual feed tray)	Tray1 feed roller	1	4138 3032 ##	300,000	F.3.4.1 Replacing the tray1 feed roller
Tray2	Tray2 feed roller	1	4138 3032 ##	300,000	F.3.4.2 Replacing the tray2 feed roller

#### 1.2.2 Option

•					
Class	Maintenance parts	Quantity	Parts No.	Actual durable cycle	Ref.Page
Tray3/4(Lower feeder unit)	Feed roller	1	4537 6214 ##	300,000	F.3.4.3 Replacing the tray3 feed roller/tray4 feed roller

# 2. CONCEPT OF PARTS LIFE

• Conditions for life specifications values (standard mode)

Item	Description
Job type	2 page prints/job (2P/J)
Media size	A4S or LetterS
Print color ratio	K (Black) : C (Color) = 1 : 1

The number of prints to be actually produced varies depending on print conditions.

# 2.1 Imaging Unit (C/M/Y/K)

Item		Description
F	Part replaced by	User
Life value (Specification value)		30K images
Ne	w article detection	CSIC
Unit-	in-position detection	CSIC
	Life value	<ul> <li>Standard mode: 20K</li> <li>Monochrome continuous printing (K only): 30K</li> <li>Color continuous printing (all colors): 30K</li> </ul>
	Near life value	<ul><li> Use rate 80%</li><li> Equivalent to 16,000 images (standard mode)</li><li> Equivalent to 24,000 images (continuous printing)</li></ul>
	Near life detection	Effected
	Near life display	Available
Near life (Near	Message	Replace imaging unit soon X (X denotes color)
empty)	Display function availability	Available Default is [ON: displayed] [Service mode] -> [Enable Warning] -> [Imaging Unit Low]
	Near life control method	K: Calculate based on the main motor drive time (distance).  YMC: Calculate based on the Color PC drum motor drive time (distance).  The drive time of each motor is compared with the number of prints produced and whichever has a higher use rate is set as the life value to determine a near life condition.
	Life detection	Effected
	Life display	Available
	Message	Replace imaging unit X (X denotes color)
	Display function availability	Not available (No display prohibit function available)
Life (Empty)	Life stop	Effected Life stop display is given at timing equivalent to about 1000 images (standard mode) counted from the life display. Note, however, that the timing may be extended to that equivalent to about 10,000 images (standard mode) when [Long] is selected for [IU Yield Settings].
	Life control method	K: Calculate based on the main motor drive time (distance). YMC: Calculate based on the Color PC drum motor drive time (distance). The drive time of each motor is compared with the number of prints produced and whichever has a higher use rate is set as the life value to determine a life condition.

# 2.2 Toner Cartridge (Replacement)

Item		Description
Part replaced by		User
Life value (Specification value)		6K images (by ISO chart)
Ne	w article detection	CSIC
Unit-	in-position detection	CSIC
	Life value	6K by ISO19798 chart
	Near life value	K: Use rate 75%     Equivalent to 4,500 images     Y,M,C: Use rate 80%     Equivalent to 4,800 images
	Near life detection	Effected
Near life (Near	Near life display	Available
empty)	Message	Toner is low X (X denotes color)
	Display function availability	Available Default is [ON: displayed] [Service mode] -> [Enable Warning] -> [Toner Low]
	Near life control method	Calculate based on the toner replenishing time (the number of times the toner supply clutch is energized).
	Life detection	Effected
	Life display	Available
	Message	Replace toner (X) (X denotes color)
	Display function availability	Not available (No display prohibit function available)
Life (Empty)	Life stop	Effected Stopped at an empty condition. Monochrome printing only can, however, continue as long as the K toner is not empty (when [MODE1] is selected in [SERVICE MODE] -> [TONER OUT MODE]).
	Life control method	The toner level sensor is used for the detection. An empty condition is determined, if toner is not replenished even after the lapse of a predetermined period of time after a toner replenishing sequence is started.

# 2.3 Toner Cartridge (In-box)

Item		Description
Part replaced by		User
Life value (Specification value)		6K images (by ISO chart)
Ne	w article detection	Not available
Unit-	in-position detection	Not available
	Life value	6K by ISO19799 chart
	Near life value	K: Use rate 75% Equivalent to 4,500 images Y,M,C: Use rate 80% Equivalent to 4,800 images
	Near life detection	Effected
Near life (Near	Near life display	Available
empty)	Message	Toner is low X (X denotes color)
	Display function availability	Available Default is [ON: displayed] [Service mode] -> [Enable Warning] -> [Toner Low]
	Near life control method	Calculate based on the toner replenishing time (the number of times the toner supply clutch is energized).
	Life detection	Effected
	Life display	Available
	Message	Replace toner (X) (X denotes color)
Life (Empty)	Display function availability	Not available (No display prohibit function available)
	Life stop	Effected Stopped at an empty condition. Monochrome printing only can, however, continue as long as the K toner is not empty (when [MODE1] is selected in [SERVICE MODE] -> [TONER OUT MODE]).
	Life control method	The toner level sensor is used for the detection. An empty condition is determined, if toner is not replenished even after the lapse of a predetermined period of time after a toner replenishing sequence is started.

# 2.4 Waste Toner Bottle

Item		Description
Part replaced by		User
Life value (Specification value)		Monochrome: 36K images     Color: 9K images
Ne	w article detection	Not available. The error is reset by replacing the part with a new one.
Unit-	in-position detection	Not available
	Life value	Waste toner equivalent to 36K images during printing in standard mode to be collected
	Near life value	<ul> <li>Use rate 92%</li> <li>Equivalent to 33,120 images (standard mode: monochrome)</li> <li>Equivalent to 8,280 images (standard mode: color)</li> </ul>
	Near life detection	Effected
	Near life display	Available
Near life (Near	Message	Waste toner Box Full
empty)	Display function availability	Available Default is [ON: displayed] [Service mode] -> [Enable Warning] -> [Waste Toner Box Near Full]
	Near life control method	A waste toner near full condition is detected when the waste toner near full sensor is blocked for a predetermined continuous period of time.  Approx. 600 prints can be produced before a life condition is detected after the near full condition has been detected. (based on the standard mode)
	Life detection	Effected
	Life display	Available
	Message	Replace waste toner box
Life (Empty)	Display function availability	Not available (No display prohibit function available)
- ( 1-5)	Life stop	Effected
	Life control method	A waste toner full condition is determined after approx. 600 prints are produced in the standard mode.  No more print jobs are accepted after the detection of the waste toner full condition.

# 2.5 Transfer Belt Unit

Item		Description
Part replaced by		User
Life valu	ue (Specification value)	100K images
New article detection		Not available.  Select [Utility] -> [Admin Setting] -> [Maintenance Menu] -> [Supplies] -> [Consumables Replace] and execute [Transfer Belt Unit]. This resets the counter and the image stabilization sequence is automatically performed.
Unit-	in-position detection	Not available
	Life value	Standard mode: 100K
	Near life value	
	Near life detection	
Near life (Near	Near life display	Near life not displayed
empty)	Message	near me not displayed
	Display function availability	
	Near life control method	
	Life detection	Effected
	Life display	Available
	Message	Replace image transfer belt
Life (Empty)	Display function availability	Not available (No display prohibit function available)
(	Life stop	Not effected
	Life control method	The drive time of the transfer belt is counted.  The use rate is calculated based on the transfer belt drive time and a life is determined when a predetermined life value is reached.

# 2.6 Transfer Roller

Item		Description
Part replaced by		User
Life valu	ue (Specification value)	100K images
New article detection		Not available.  Select [Utility] -> [Admin Setting] -> [Maintenance Menu] -> [Supplies] -> [Consumables Replace] and execute [Transfer Roller Unit].  This resets the counter and the image stabilization sequence is automatically performed.
Unit-	in-position detection	Not available
	Life value	Standard mode: 100K
	Near life value	
	Near life detection	
Near life (Near	Near life display	Near life not displayed
empty)	Message	Theat the flot displayed
	Display function availability	
	Near life control method	
	Life detection	Effected
	Life display	Available
	Message	Replace transfer roller unit
Life (Empty)	Display function availability	Not available (No display prohibit function available)
( 1-3)	Life stop	Not effected
	Life control method	The drive time of the 2nd image transfer roller is counted.  The use rate is calculated based on the 2nd image transfer roller drive time and a life is determined when a predetermined life value is reached.

# 2.7 Fuser Unit

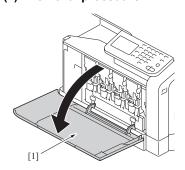
Item		Description	
Part replaced by		User	
Life valu	ue (Specification value)	100K images	
New article detection		Not available.  Select [Utility] -> [Admin Setting] -> [Maintenance Menu] -> [Supplies] -> [Consumables Replace] and execute [Fusing Unit].  This resets the counter.	
Unit-	in-position detection	Not available.	
	Life value	Standard mode: 100K     Monochrome continuous printing: 120K     Color continuous printing: 120K	
	Near life value		
	Near life detection		
Near life (Near	Near life display	Near life not displayed	
empty)	Message		
	Display function availability		
	Near life control method		
	Life detection	Effected	
	Life display	Available	
	Message	Replace fusing unit	
	Display function availability	Not available (No display prohibit function available)	
Life (Empty)	Life stop	Not effected	
	Life control method	The drive time of the fusing unit is counted.  The use rate is calculated based on each of the fusing unit drive time, the number of prints produced, and the fusing heater ON time; the largest use rate is set as the use rate of the fusing unit and a life is determined when a predetermined life value is reached.	

# 3. PERIODICAL MAINTENANCE PROCEDURE

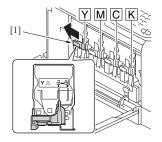
### 3.1 Processing section

- 3.1.1 Replacing the toner cartridge (C, M, Y, K)
  - (1) Periodically replaced parts/cycle
    - Standard-in box toner cartridge (C, M, Y, K): Every 6,000 images
       High-capacity toner cartridge (C, M, Y, K): Every 6,000 images

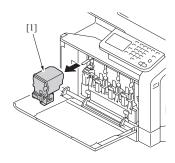
### (2) Removal procedure



1. Open the front cover [1].

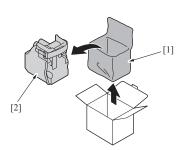


2. Slide the lock lever [1] to the left.

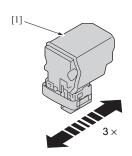


3. Grab the handle of the toner cartridge [1] to be replaced, and then pull out the toner cartridge [1].

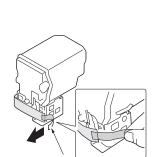
### (3) Reinstallation procedure



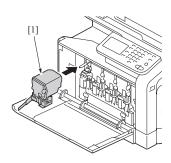
1. Take the toner cartridge [2] out of its plastic bag [1].



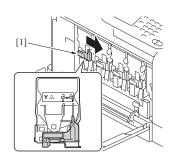
2. Gently shake the toner cartridge [1] three times to agitate the toner.



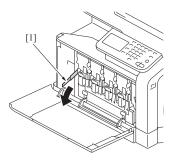
3. Peel off the protective film tape [1] from the right side of the toner cartridge.



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



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



6. Remove the protective film [1].

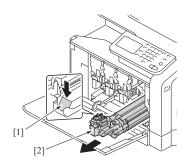
7. Close the front cover [1].

# 3.1.2 Replacing the imaging unit (C, M, Y, K)

### (1) Periodically replaced parts/cycle

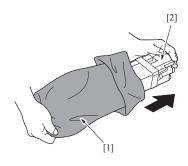
• Imaging unit (C, M, Y, K): Every 30,000 images (Continuous printing) or 20,000 images (2 pages/job)

#### (2) Removal procedure

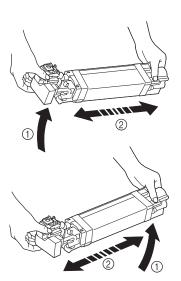


- Remove the toner cartridge.
   F.3.1.1 Replacing the toner cartridge (C, M, Y, K)
- Remove the waste toner bottle.F.3.2.1 Replacing the waste toner bottle
- 3. Press down the "Push" marked place [1].
- 4. Pull the imaging unit [2] out.

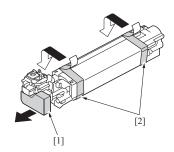
#### (3) Reinstallation procedure

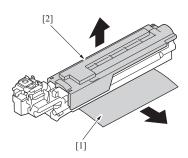


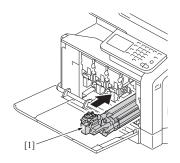
1. Take the toner cartridge [2] out of its plastic bag [1].



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





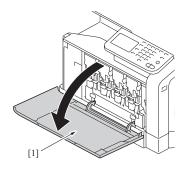


- 8. Install the waste toner bottle.
  - F.3.2.1 Replacing the waste toner bottle
- 9. Install the toner cartridge.
  - F.3.1.1 Replacing the toner cartridge (C, M, Y, K)
- 10. Close the front cover.

### 3.2 Transfer section

# 3.2.1 Replacing the waste toner bottle

- (1) Periodically replaced parts/cycle
  - Waste toner bottle: Every 36,000 images (monochrome) / 9,000 images (full color)
- (2) Removal procedure

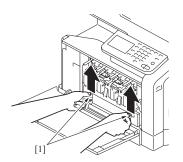


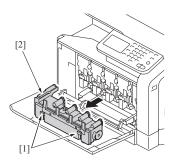
- 3. Remove the protective cover [1] from the imaging unit.
- 4. Remove all packing tape [2] from the imaging unit.

- 5. Remove the paper [1] from the imaging unit.
- 6. Remove all packing tape [2] from the imaging unit.

7. Slide the imaging unit [1] in.

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 [1], remove the waste toner bottle [2]. 4. To reinstall, reverse the order of removal.

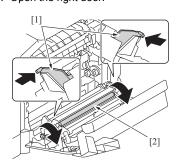
# 3.2.2 Replacing the transfer roller unit

#### (1) Periodically replaced parts/cycle

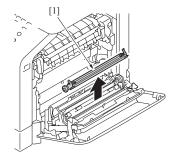
Transfer roller unit: Every 100,000 images (2 pages/job)

#### (2) Removal procedure

1. Open the right door.



- 2. Push two levers [1] inside to unlock the transfer roller.
- 3. Rotate the transfer roller unit [2] in the direction of the arrow.



4. Remove the transfer roller unit [1].

- 5. To reinstall, reverse the order of removal.
- From the Menu, select [Service Mode]  $\rightarrow$  [Supplies]  $\rightarrow$  [Consumables Replace]  $\rightarrow$  [Transfer Roller Unit] and execute this function to reset the transfer roller counter value.
- 7. From the Menu, select [Admin Setting]  $\rightarrow$  [Printer Setting]  $\rightarrow$  [Quality Settings]  $\rightarrow$  [Gradation Adjust]  $\rightarrow$  [AIDC Process] and execute this function.

### 3.2.3 Replacing the transfer belt unit

#### (1) Periodically replaced parts/cycle

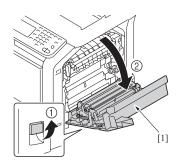
Transfer belt unit: Every 100,000 images (2 pages/job)

#### (2) Replacing procedure

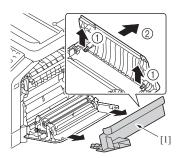
#### NOTE

Before replacing the transfer belt unit, be sure to perform the following items so that the machine does not start to print jobs before the counter value of the transfer belt unit is reset.

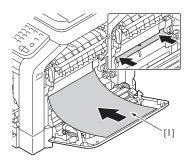
- Make sure that the machine does not have print jobs and fax reception data waiting to print.
- · Be sure to disconnect the USB cable, (the network cable, and the fax cable) from the machine.
- 1. Turn OFF the power switch.
- 2. Remove the toner cartridge (C,M,Y,K).
  - F.3.1.1 Replacing the toner cartridge (C, M, Y, K)
- 3. Remove the waste toner bottle.
  - F.3.2.1 Replacing the waste toner bottle
- Remove the imaging unit (C,M,Y,K).
   F.3.1.2 Replacing the imaging unit (C, M, Y, K)



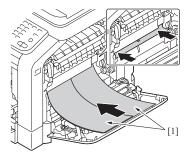
5. Open the right door [1].



6. Remove the top part [1] of the right door.

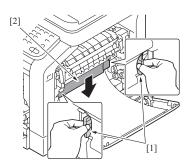


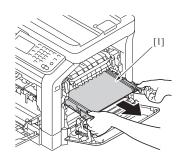
7. Completely insert the protective sheet [1] supplied with the transfer belt unit in the direction of the arrow.

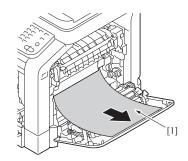


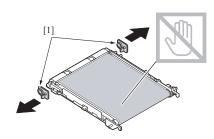
#### NOTE

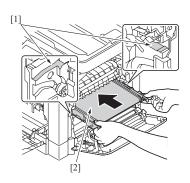
 If the protective sheet is not supplied, use two sheets of A4 or Letter paper as shown in the illustration.











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

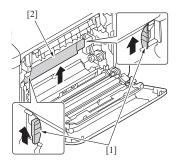
9. Hold the handles, and then carefully pull out the transfer belt unit [1].

10. Pull the protective sheet [1] out.

- Remove the protective cover [1] from the new transfer belt unit.
   NOTE
  - Be careful not to touch the surface of the belt.

12. Insert the transfer belt unit [2] along the rail [1].

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



- 14. To reinstall, reverse the order of removal.
- 15. Turn ON the power switch.

#### **NOTE**

- · Make sure that the USB cable, (the network cable, and the fax cable) are not connected to the machine.
- 16. From the Menu, select [Service Mode] → [Supplies] → [Consumables Replace] → [Transfer Belt Unit] and execute this function to reset the transfer belt unit counter value.
- 17. From the Menu, select [Admin Setting] → [Printer Setting] → [Quality Settings] → [Gradation Adjust] → [AIDC Process] and execute this function
- 18. Connect the USB cable, (the network cable, and the fax cable) to the machine.

#### 3.3 Fusing section

#### 3.3.1 Replacing the fuser unit



# **CAUTION**

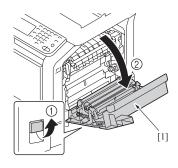


 The temperature gets high in the vicinity of the fusing unit. You may get burned when you come into contact with the area. Before replacement operations, make sure that more than 20 minutes have elapsed since the main and sub power switches were turned off.

#### (1) Periodically replaced parts/cycle

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

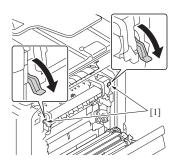
#### (2) Procedure

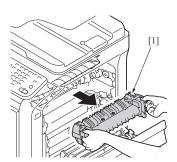


- Turn OFF the power switch, unplug the power cord from the power outlet, and let the machine to stand idle for about 20 min.
- 2. Open the right door [1].

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. From the Menu, select [Service Mode] → [Supplies] → [Consumables Replace] → [Fusing Unit] and execute this function to reset the fuser unit counter value.

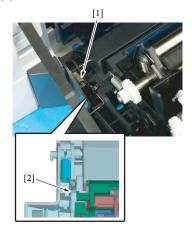
#### 3.4 Feed section

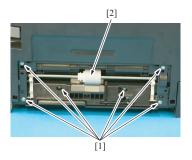
#### 3.4.1 Replacing the tray1 feed roller

# (1) Periodically replacing parts/cycle

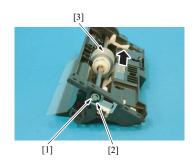
Tray1 feed roller: Every 300,000 counts

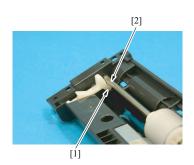
#### (2) Procedure

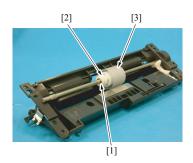


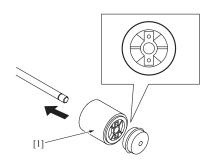


- 1. Remove the tray1. G.3.10 Tray1
- 2. Open the right door.
- 3. Detach the spring [1] from the hook [2] in order to unlock the plate.
- 4. Remove six screws [1], and remove the tray1 feed roller assy [2].







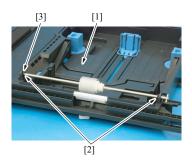


### 3.4.2 Replacing the tray2 feed roller

# (1) Periodically replacing parts/cycle

Tray2 feed roller: Every 300,000 counts

#### (2) Procedure



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

#### NOTE

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

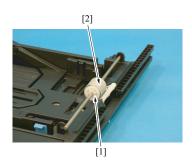
6. Remove the E-ring [1] and mechanism clutch [2], and remove the tray1 feed roller [3].

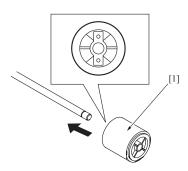
7. To reinstall, reverse the order of removal.

#### NOTE

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

- Remove the tray2.
   G.3.11 Tray2
- 2. Lock the media lift metal plate [1].
- 3. Remove two E-rings [2] and the bearing [3].





#### NOTE

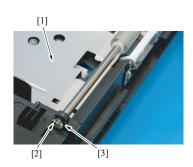
When reinstalling the feed roller [1], make sure that it is mounted in the direction shown in the illustration on the

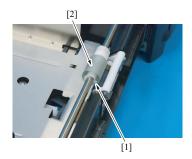
#### 3.4.3 Replacing the tray3 feed roller/tray4 feed roller

### (1) Periodically replacing parts/cycle

Tray3 feed roller/Tray4 feed roller: Every 300,000 counts

#### (2) Procedure





5. To reinstall, reverse the order of removal.

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

5. To reinstall, reverse the order of removal.

- Pull out the tray3/tray4.
   Lock the media lifting metal plate [1].
- 3. Remove the C-ring [2] and front bearing [3].4. Remove the C-ring [1], and remove the tray3 feed roller/tray4 feed

# G DISASSEMBLING/REASSEMBLING

# 1. Disassembly/adjustment prohibited items

#### 1.1 Paint-locked screws

#### NOTE

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

#### 1.2 Red-painted screws

#### NOTE

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

#### 1.3 Variable resistors on board

#### NOTE

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

#### 1.4 Removal of PWBs

#### **CAUTION**

- · To avoid electrical shock, after turning OFF the power switch, do not touch the DC power supply for 9 minutes.
- 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.

# 2. Disassembly/reassembly parts list

# 2.1 Main body

Section	Part name	Ref. page
	Front door	G.3.1 Front door
Exterior parts	Rear cover	G.3.2 Rear cover
	Left cover	G.3.3 Left cover
	Rear right cover	G.3.4 Rear right cover
	Operation panel	G.3.5 Operation panel
	FAX board (FAXB)	G.3.13 FAX board (FAXB)
	MFP board (MFPB)	G.3.14 MFP board (MFPB)
	Printer control board (PRCB)	G.3.15 Printer control board (PRCB)
Boards and etc.	DC power supply (DCPU)	G.3.16 DC power supply (DCPU)
boards and ctc.	High voltage unit (HV1)	G.3.17 High voltage unit (HV1)
	Temperature/ humidity sensor (TEM/HUMS)	G.3.35 Temperature/ humidity sensor (TEM/HUMS)
	IDC sensor (IDC)	G.3.36 IDC sensor (IDC)
	ADF	G.3.6 ADF
	ADF feed roller unit	G.3.7 ADF feed roller unit
	ADF separation pad	G.3.8 ADF separation pad
Units	Scanner unit	G.3.9 Scanner unit
Units	Tray1	G.3.10 Tray1
	Tray2	G.3.11 Tray2
	Hard disk (HDD)	G.3.12 Hard disk (HDD)
	PH unit	G.3.19 PH Unit
	Imaging unit rail	G.3.18 Imaging unit rail
	Backup battery	G.3.20 Backup battery
	Developing motor (M1)	G.3.21 Developing motor (M1)
	Main motor (M2)	G.3.22 Main motor (M2)
	Color PC drum motor (M4)	G.3.23 Color PC drum motor (M4)
	DC power supply fan motor (FM10)	G.3.24 DC power supply fan motor (FM10)
	Cooling fan motor (FM11)	G.3.25 Cooling fan motor (FM11)
	MFP board cooling fan motor (FM12)	G.3.26 MFP board cooling fan motor (FM12)
	Tray2 media feed clutch (CL1)	G.3.27 Tray2 media feed clutch (CL1) / Tray1 media feed clutch (CL2)
	Tray1 media feed clutch (CL2)	G.3.27 Tray2 media feed clutch (CL1) / Tray1 media feed clutch (CL2)
	Registration clutch (CL3)	G.3.28 Registration clutch (CL3)
	Toner supply motor/Y (CL4)	G.3.29 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) / Toner supply clutch/K (CL7)
Other parts	Toner supply motor/M (CL5)	G.3.29 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) / Toner supply clutch/K (CL7)
	Toner supply motor/C (CL6)	G.3.29 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) / Toner supply clutch/K (CL7)
	Toner supply motor/K (CL7)	G.3.29 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) / Toner supply clutch/K (CL7)
	Loop detection clutch (CL8)	G.3.29 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) / Toner supply clutch/K (CL7)
	Switchback roller feed clutch (CL11)	G.3.31 Switchback roller feed clutch (CL11) / Switchback roller reverse clutch (CL12)
	Switchback roller reverse clutch (CL12)	G.3.31 Switchback roller feed clutch (CL11) / Switchback roller reverse clutch (CL12)
	Duplex conveyance roller clutch (CL13)	G.3.32 Duplex conveyance roller clutch (CL13)
	2nd transfer release solenoid (SD2)	G.3.34 2nd transfer release solenoid (SD2)
	Speaker (SP1)	G.3.37 Speaker (SP1)

# 2.2 Lower Feeder Unit (PF-P08)

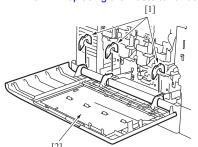
Section	Part name	Ref. page
Exterior parts	Rear cover	G.4.1 PF-P08: Rear cover
	Rear sheet metal cover	G.4.2 PF-P08: Rear sheet metal cover

Board and etc.	PC control board (PCCB)	G.4.4 PF-P08: PC control board (PCCB)
Unit	Lower Feeder Unit	G.4.3 PF-P08: Lower Feeder Unit
Other parts	Media feed motor (M1)	G.4.5 PF-P08: Media feed motor (M1)
	Media feed clutch (CL1)	G.4.6 PF-P08: Media feed clutch (CL1)
	Conveyance clutch (CL2)	G.4.7 PF-P08: Conveyance clutch (CL2)

## 3. Disassembly/reassembly procedure (bizhub C35)

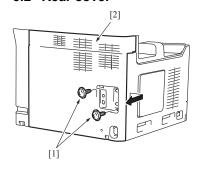
### 3.1 Front door

- Remove the tray 2. G.3.11 Tray2
- Remove the waste toner bottle.F.3.2.1 Replacing the waste toner bottle



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

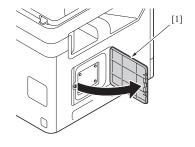
### 3.2 Rear cover



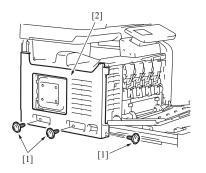
1. Remove two screws [1], and remove the rear cover [2] as shown in the illustration.

### 3.3 Left cover

- Remove the rear cover.
   G.3.2 Rear cover
- 2. Slide out the tray 2.
- Open the front cover.



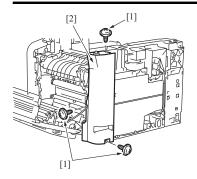
4. Remove the cover [1].



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

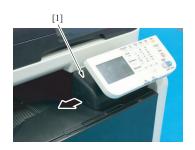
### 3.4 Rear right cover

- Remove the ADF. G.3.6 ADF
- 2. Remove the scanner unit. G.3.9 Scanner unit
- 3. Open the right door.

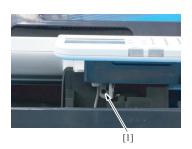


4. Remove three screws [1], and remove the rear right cover [2].

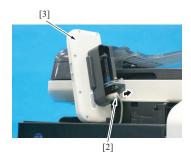
### 3.5 Operation panel



1. Remove the operation panel lower cover [1].



- 2. Remove the screw [1].3. Disconnect the connector [2], and remove the operation panel [3].



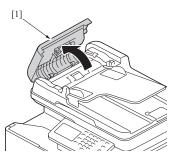
4. To reinstall, reverse the order of removal.

### 3.6 ADF

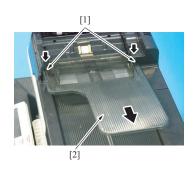
### **ACAUTION**

• Turn OFF the main power and then wait 15 seconds or more before disconnecting the connector from the DF control board.

1. Open the ADF feed cover [1].

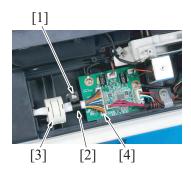


2. Unhook two tabs [1], and remove the ADF document feed tray [2].



[2]

3. Remove three screws [1], and remove the ADF rear cover [2].



- 4. Remove the screw [1], and remove the clamp [2].
- 5. Remove the ferrite core [3].6. Disconnect the connector (J1) [4].



7. Pull the cable [1] out.

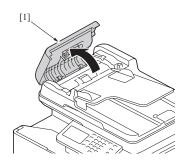


8. While pushing two tabs [1], remove the ADF [2].

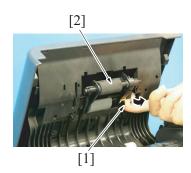
9. To reinstall, reverse the order of removal.

### 3.7 ADF feed roller unit

### 3.7.1 Removal procedure

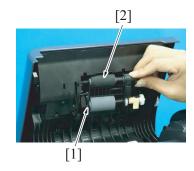


1. Open the ADF feed cover [1].

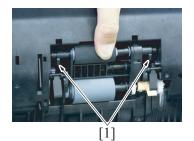


2. Pull the lock lever [1] upward to release the lock and remove the ADF feed roller unit [2].

### 3.7.2 Reinstall procedure

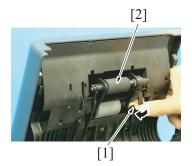


 To install the ADF feed roller unit [2], attach the bearing side [1] first.



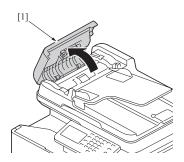
### NOTE

 Install the ADF feed roller unit, fitting the two levers [1] into the housing.

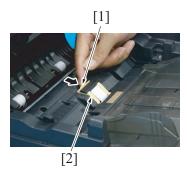


2. To fix the ADF feed roller unit [2], press the lock lever [1] until it clicks.

### 3.8 ADF separation pad



1. Open the ADF feed cover [1].

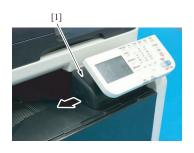


2. Unhook the tab [1], and remove the ADF separator pad/1 [2].

3. To reinstall, reverse the order of removal.

### 3.9 Scanner unit

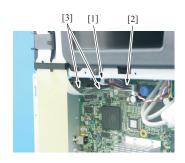
- Remove the rear cover.
   G.3.2 Rear cover
- Remove the left cover.
   G.3.3 Left cover
- 3. Remove the hard disk. G.3.12 Hard disk (HDD)
- 4. Remove the FAX board. G.3.13 FAX board (FAXB)
- Remove the ADF. G.3.6 ADF

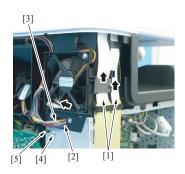


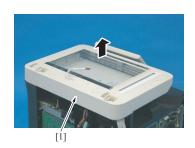
6. Remove the operation panel lower cover [1].



7. Remove four screws (rear side) [1] and three screws (front side) [2].

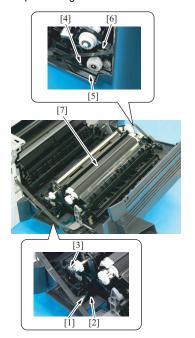






### 3.10 Tray1

1. Open the right door.

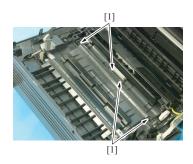


- 8. Remove the harness from the wire saddle [1].
- 9. Disconnect the connector (CN104) [2] and two flat cables (CN102, CN103) [3].

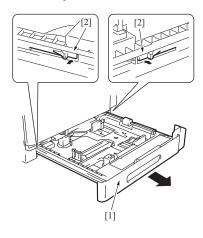
- 10. Pull the flat cables [1] out of the guide.
- 11. Pull the harness [3] out of the hole [2] shown in the illustration.
  12. Remove the screw [4], and remove the earth cable [5].

13. Remove the scanner unit [1].

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

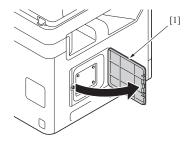


### 3.11 Tray2



3. To reinstall, reverse the order of removal.

# 3.12 Hard disk (HDD)

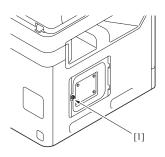


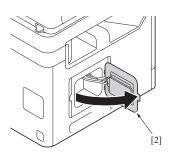
7. Unlock four tabs [1], and remove the tray 1.

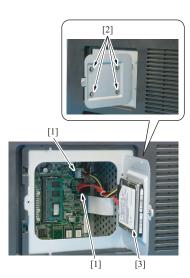
- Pull out the tray 2 [1].
   While pushing the left and right tabs [2], remove the tray 2 [1].

1. Remove the cover [1].

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



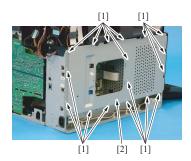




5. To reinstall, reverse the order of removal.

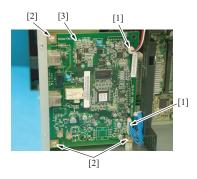
### 3.13 FAX board (FAXB)

- 1. Remove the rear cover. G.3.2 Rear cover
- 2. Remove the left cover. G.3.3 Left cover
- 3. Remove the hard disk. G.3.12 Hard disk (HDD)



- 3. Disconnect two connectors (CN5, CN7) [1].4. Remove four screws [2], and remove the hard disk [3].

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



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

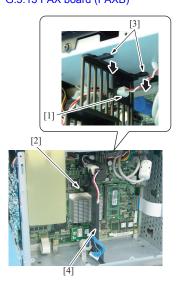
### 3.14 MFP board (MFPB)

### NOTE

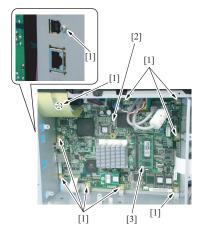
- When replacing the MFP board, in order to make the existing counter data become available in the new board, be sure to back up the counter data following the replacement procedure below.
- When the MFP board is replaced, upgrade the firmware to the latest version.
  - J.1. Checking the current firmware version
- When the MFP board is replaced with a new one, be sure to execute [BK CLEAR].
   I.3.11 BK Clear

### 3.14.1 Replacement procedure

- 1. Remove the rear cover.
  - G.3.2 Rear cover
- 2. Remove the left cover. G.3.3 Left cover
- Remove the hard disk. G.3.12 Hard disk (HDD)
- Remove the FAX board.G.3.13 FAX board (FAXB)



- 5. Disconnect the connector [1].
- 6. Remove the screw [2] and two tabs [3], and remove the harness guide [4].



9. Install the new MFP board.

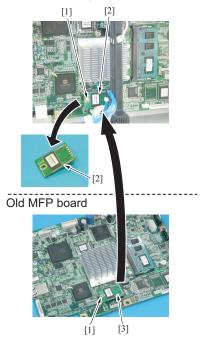
- 7. Disconnect all connectors and flat cables.
- 8. Remove ten screws [1], and remove the MFP board [2].

### NOTE

 If the memory board (DIMM) [3] is not mounted on the new MFP board, be sure to remove the memory board from the old MFP board and mount it on the new MFP board. 10. Turn ON the power switch.

### NOTE

- · Do not perform any printing operation at this stage.
- 11. Enter the SERVICE MODE.
- 12. Select [Soft Switch] [L.] [Switch 7]. Set [Switch 7] to "159."
- 13. Turn OFF the power switch.



14. Remove the screw [1], remove the new SSD board [2] from the MFP board, and mount the old SSD [3] board that is located on the old MFP board.

- 15. Turn ON the power switch.
- 16. 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: C900" appears on the screen.

### NOTE

 When backup is completed successfully, the setting of Soft Switch 7 automatically returns to the initial value of "0."

<When backup results in an abnormal end>

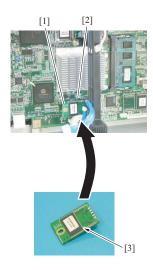
 When backup results in an abnormal end, "Service Call: C907" appears on the screen.

### NOTE

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



17. Turn OFF the power switch.



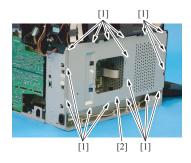
18. Remove the screw [1], remove the old SSD board [2], and mount the new SSD board [3].

- 19. Install the FAX board.
- 20. Turn ON the power switch of the machine and confirm that the machine operates properly.
- 21. Upgrade the firmware to the latest version.
  - J.1. Checking the current firmware version
- 22. Execute [BK CLEAR].
  - I.3.11 BK Clear

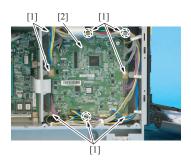
### 3.15 Printer control board (PRCB)

#### NOTE

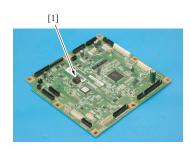
- When the printer control board is replaced with a new one, be sure to execute [BK CLEAR].
   I.3.11 BK Clear
- 1. Remove the rear cover.
  - G.3.2 Rear cover
- Remove the left cover.
  - G.3.3 Left cover
- Remove the hard disk. G.3.12 Hard disk (HDD)



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

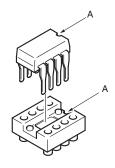


- 5. Disconnect all connectors and flat cables.
- Remove eight screws [1], and remove the printer control board [2]. NOTE
  - When the printer control board (PRCB) has been replaced, be sure to remount EEPROM (ICS1) [1]. Unmount EEPROM (ICS1) [1] from the old printer control board and mount it on the new printer control board.



### NOTE

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

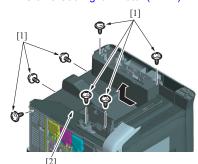


- 7. To reinstall, reverse the order of removal.
- 8. Execute [BK CLEAR].

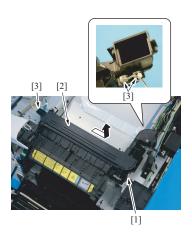
### 3.16 DC power supply (DCPU)

### **⚠** CAUTION

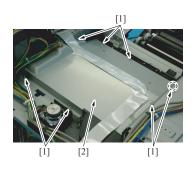
- Note that in the event of DC power supply failure, it can take long before voltage drops even after turning OFF the power switch.
   To avoid electrical shock, after turning OFF the power switch, do not touch the DC power supply for 9 minutes.
- 1. Remove the fuser unit.
  - F.3.3.1 Replacing the fuser unit
- 2. Remove the high voltage unit. G.3.17 High voltage unit (HV1)
- Remove the ADF. G.3.6 ADF
- Remove the scanner unit.
   G.3.9 Scanner unit
- Remove the operation panel.
   G.3.5 Operation panel
- Remove the cooling fan motor.
   G.3.25 Cooling fan motor (FM11)

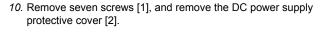


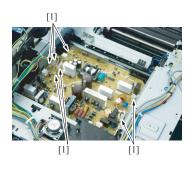
7. Remove seven screws [1], and remove the upper cover [2].



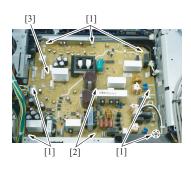
- 8. Remove the screw [1], and remove the exit drive assy [2].
- 9. Disconnect three connectors [3].



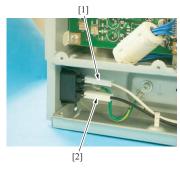




11. Disconnect seven connectors [1].



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



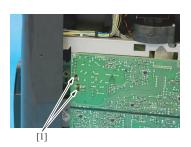
### **⚠CAUTION**

 When reconnecting the AC inlet, make sure that the white harness [1] is connected to the upper part and the black harness [2] is connected to the lower part of the AC inlet.

13. To reinstall, reverse the order of removal.

### 3.17 High voltage unit (HV1)

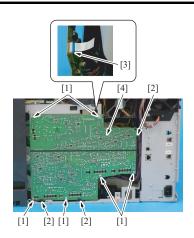
Remove the rear cover.
 G.3.2 Rear cover



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

4. Disconnect the flat cable [3], and remove the high voltage unit [4].

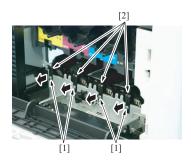
3. Remove six screws [1] and three tabs [2].



5. To reinstall, reverse the order of removal.

### 3.18 Imaging unit rail

- Remove the toner cartridge (C, M, Y, K).
   F.3.1.1 Replacing the toner cartridge (C, M, Y, K)
- 2. Remove the waste toner bottle. F.3.2.1 Replacing the waste toner bottle
- 3. Remove the imaging unit (C, M, Y, K). F.3.1.2 Replacing the imaging unit (C, M, Y, K)



4. Remove four screws [1], and remove four rails [2].



### Note

 When mounting the imaging unit rails, make sure that tabs on the rails fit in the mounting holes in the front lower frame.

### 3.19 PH Unit



# **CAUTION**



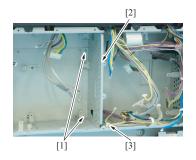
 Do not replace the printer head unit while the power is ON.

Laser beam generated during the above mentioned activity may cause blindness.

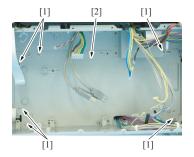
# **!** CAUTION



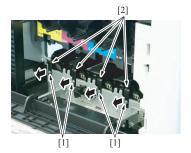
- Do not disassemble or adjust the printer head unit.
   Laser beam generated during the above mentioned activity may cause blindness.
- Remove the toner cartridge (C, M, Y, K).
   F.3.1.1 Replacing the toner cartridge (C, M, Y, K)
- 2. Remove the waste toner bottle.
  - F.3.2.1 Replacing the waste toner bottle
- Remove the imaging unit (C, M, Y, K).
   F.3.1.2 Replacing the imaging unit (C, M, Y, K)
- 4. Remove the fuser unit.
- F.3.3.1 Replacing the fuser unit 5. Remove the rear cover.
- G.3.2 Rear cover
- 6. Remove the left cover.G.3.3 Left cover7. Remove the hard disk.
- G.3.12 Hard disk (HDD)
- Remove the MFP board.G.3.14 MFP board (MFPB)
- Remove the printer control board.G.3.15 Printer control board (PRCB)



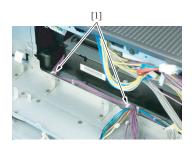
- Remove two screws [1], and remove the shield sheet metal [2].
   NOTE
  - · Remove the wire saddle [3].



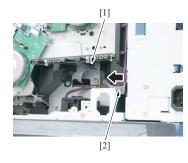
11. Remove six screws [1], and remove the installation sheet metal [2].



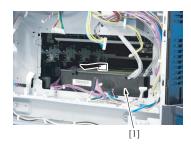
12. Remove four screws [1], and remove four rails [2].



13. Remove the harness from two harness guides [1].



14. Detach the flat cable [2] from the hook [1] as shown in the

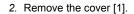


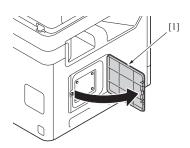
- 15. Remove the PH unit [1].
- 16. To reinstall, reverse the order of removal.17. Perform the following setting.[Service Mode] [Main Scan Adjust] I.3.6 Main Scan Adjust

### 3.20 Backup battery

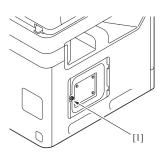
### NOTE

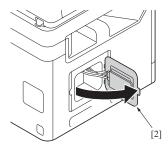
- This printer uses a lithium battery to backup memory. Replace the battery with our specified memory backup battery (CR2032). Use of a different battery or the one not equal to our specified battery may present risk of explosion. Before your backup battery replacement, refer to "G.1.4 Removal of PWBs".
- 1. Turn OFF the power switch.

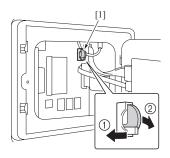




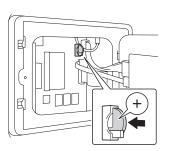
3. Remove the screw [1], and remove the cover [2].







4. Remove the backup battery [1].

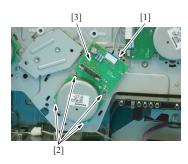


### NOTE

When attaching a new backup battery, the side marked with "+" must be located on the left front side.

### 3.21 Developing motor (M1)

1. Remove the high voltage unit. G.3.17 High voltage unit (HV1)

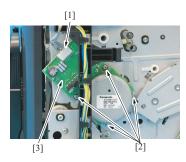


4. To reinstall, reverse the order of removal.

- 2. Disconnect the connector [1].3. Remove four screws [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.

### 3.22 Main motor (M2)

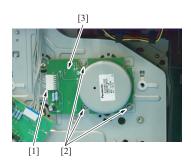
- Remove the high voltage unit.
   G.3.17 High voltage unit (HV1)
- Remove the rear right cover.
   G.3.4 Rear right cover



5. To reinstall, reverse the order of removal.

### 3.23 Color PC drum motor (M4)

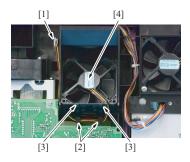
 Remove the high voltage unit. G.3.17 High voltage unit (HV1)



4. To reinstall, reverse the order of removal.

### 3.24 DC power supply fan motor (FM10)

Remove the rear cover.
 G.3.2 Rear cover



5. To reinstall, reverse the order of removal.

# 3.25 Cooling fan motor (FM11)

- Remove the ADF. G.3.6 ADF
- 2. Remove the scanner unit. G.3.9 Scanner unit

- 3. Disconnect the connector [1].
- Remove four screws [2], and remove the main motor [3].
   NOTE
  - When installing the motor, try to insert it straight, and take care not to damage the gears.

- 2. Disconnect the connector [1].
- Remove four screws [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.

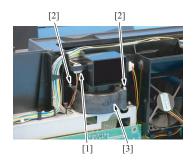
- 2. Disconnect the connector [1].
- 3. Remove the harness from the wire saddle [2].
- 4. Unlock the tab [3], and remove the DC power supply fan motor [4].

4. Remove two screws [2], and remove the cooling fan motor [3].

3. Disconnect the connector [1].

5. Disconnect the connector [1].

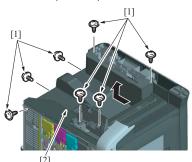
motor [3].



5. To reinstall, reverse the order of removal.

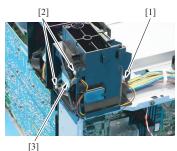
### 3.26 MFP board cooling fan motor (FM12)

- 1. Remove the ADF.
- **G.3.6 ADF**
- 2. Remove the scanner unit. G.3.9 Scanner unit
- 3. Remove the operation panel. G.3.5 Operation panel



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

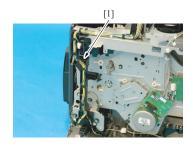
6. Remove two screws [2], and remove the MFP board cooling fan



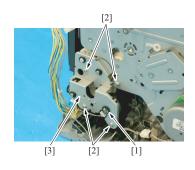
- 7. To reinstall, reverse the order of removal.

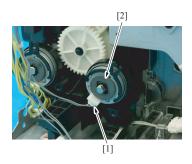
### 3.27 Tray2 media feed clutch (CL1) / Tray1 media feed clutch (CL2)

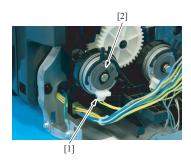
- 1. Remove the rear cover. G.3.2 Rear cover
- Remove the main motor. G.3.22 Main motor (M2)



3. Remove the harness from the harness guide [1], and remove the harness guide [1].

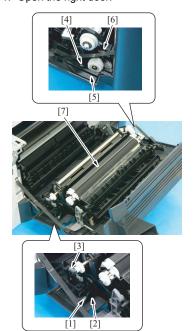






### 3.28 Registration clutch (CL3)

1. Open the right door.

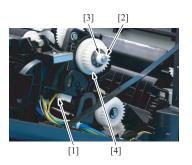


- 4. Remove the E-ring [1].
- 5. Remove four screws [2], and remove the fixing metal plate [3].

6. Disconnect the connector [1], and remove the tray2 media feed clutch [2].

7. Disconnect the connector [1], and remove the tray1 media feed clutch [2].

- Remove the screw [1], and remove the fixed cover [2].
   Remove the spring [3].
   Remove the screw [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] and the bearing [3], and remove the registration clutch [4].

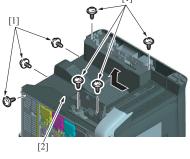
### 3.29 Toner supply clutch/Y (CL4) / Toner supply clutch/M (CL5) Toner supply clutch/C (CL6) / Toner supply clutch/K (CL7)

- 1. Remove the toner cartridge (C,M,Y,K). F.3.1.1 Replacing the toner cartridge (C, M, Y, K)
- 2. Remove the waste toner bottle.
  - F.3.2.1 Replacing the waste toner bottle
- 3. Remove the imaging unit (C,M,Y,K). F.3.1.2 Replacing the imaging unit (C, M, Y, K)
- 4. Remove the fuser unit.
  - F.3.3.1 Replacing the fuser unit
- 5. Remove the ADF. **G.3.6 ADF**
- 6. Remove the scanner unit.
- G.3.9 Scanner unit 7. Remove the rear right cover.
- G.3.4 Rear right cover
- 8. Remove the operation panel.
- G.3.5 Operation panel 9. Remove the cooling fan motor.



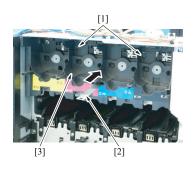
G.3.25 Cooling fan motor (FM11)

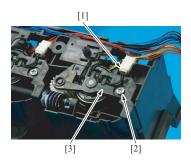
10. Remove seven screws [1], and remove the upper cover [2].

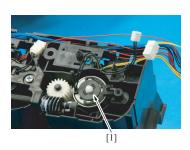


[3] [2]

- 11. Remove the screw [1], and remove the exit drive assy [2].
- 12. Disconnect three connectors [3].

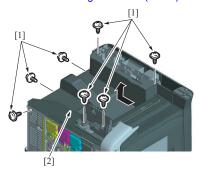






### 3.30 Loop detection clutch (CL8)

- Remove the fuser unit.
   F.3.3.1 Replacing the fuser unit
- Remove the high voltage unit.G.3.17 High voltage unit (HV1)
- 3. Remove the ADF. G.3.6 ADF
- Remove the scanner unit. G.3.9 Scanner unit
- Remove the rear right cover.G.3.4 Rear right cover
- 6. Remove the cooling fan motor. G.3.25 Cooling fan motor (FM11)

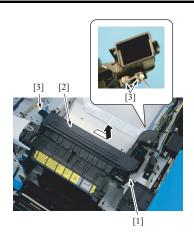


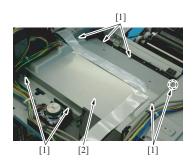
- 13. Remove two screws [1].
- 14. While releasing the lock with the inserted metal ruler [2] or another similar tool as shown in the illustration, remove the toner box drive Assy [3].

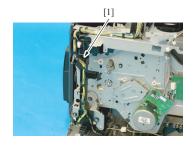
- 15. Remove the harness from guide, and disconnect the connector [1].
- 16. Remove the screw [2], and remove the cover [3].

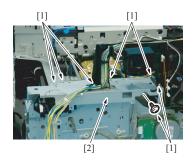
17. Remove the toner supply clutch [1].

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







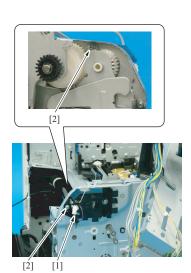


- 8. Remove the screw [1], and remove the exit drive assy [2].9. Disconnect three connectors [3].

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

11. Remove the harness from the harness guide [1], and remove the harness guide [1].

12. Remove seven screws [1], and remove the sheet metal [2].

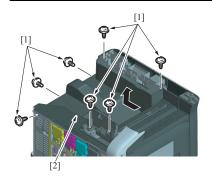


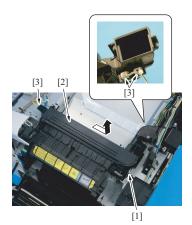
- 17. To reinstall, reverse the order of removal.
- 3.31 Switchback roller feed clutch (CL11) / Switchback roller reverse clutch (CL12)
- Remove the fuser unit.
   F.3.3.1 Replacing the fuser unit
- Remove the cooling fan motor.
   G.3.25 Cooling fan motor (FM11)

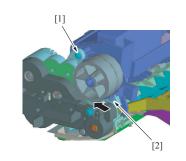
- 13. Disconnect the connector [1].
- 14. Remove two screws [2].

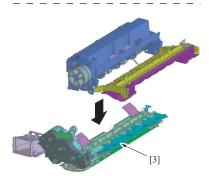
- Remove the E-ring [1] and bearing [2], and remove the holder [3].
   NOTE
  - Before removing the holder [3], attach tape or similar material [4] to the section shown in the illustration to prevent the shaft from falling down and being lost.

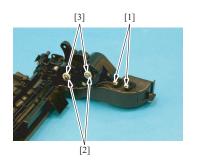
16. Remove the loop detection clutch [1].









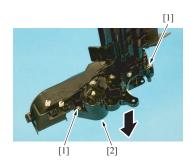


3. Remove seven screws [1], and remove the upper cover [2].

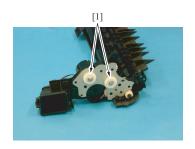
- 4. Remove the screw [1], and remove the exit drive assy [2].5. Disconnect three connectors [3].

- 6. Remove the screw [1].7. While pushing the tab [2] in the direction of the arrow to unlock it, disassemble and remove the exit drive assy [3].

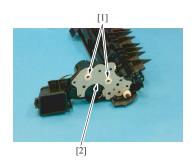
- 8. Disconnect two connectors [1].9. Remove two E-rings [2] and two bearings [3].



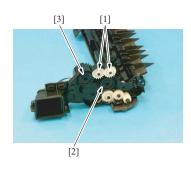
10. Remove two screws [1], and remove the gear assy [2].



11. Remove two gears [1].



12. Remove two bearings [1], and remove the metal plate [2].

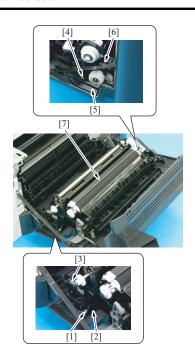


13. Remove two gears [1] and remove the switchback roller feed clutch [2] or the switchback roller reverse clutch [3].

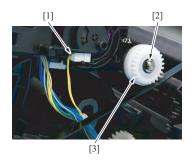
14. To reinstall, reverse the order of removal.

### 3.32 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 the screw [4], and remove the harness cover [5].
- 5. Remove the spring [6].
- 6. Remove the conveyance unit [7].



7. Remove the heavy sponge.



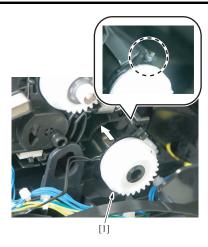
- 8. Remove the hookup connector from the holder and pull out the connector [1].
- 9. Remove the E-ring [2] and remove the duplex conveyance roller clutch [3].

### 3.33 Installation of the duplex conveyance roller clutch (CL13)

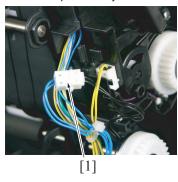
1. Prepare the heavy sponge shipped with the replacement clutch.



2. Install the duplex conveyance roller clutch [1] and fix it with the E-ring.



3. Connect the duplex conveyance roller clutch connector [1].



4. Fix the hookup connector of the duplex conveyance roller clutch to the holder of the conveyance unit.



5. Route the harness of the duplex conveyance roller clutch as illustrated on the left.



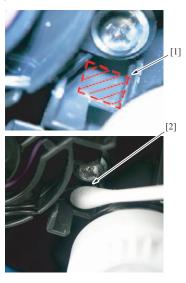
6. Using tweezers or similar tool, tidy up the harness on the duplex conveyance roller clutch side by pushing it in the direction of the arrow.



7. Make sure that the harness is neatly stored inside.



8. Dampen a cotton swab with alcohol and clean [2] the shaded area [1] shown on the left.

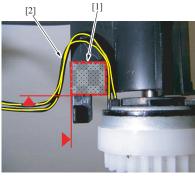


9. Mount the heavy sponge shipped with the clutch on the area cleaned earlier.



### NOTE

- When mounting the heavy sponge, affix it at the location [1] shown in the affixing standard.
  Make sure that the heavy sponge and the harness [2] are not in contact with the harness when the heavy sponge is mounted.

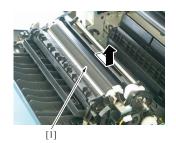




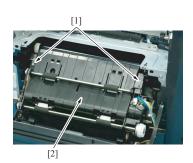
10. Perform steps from 6 to 1 of the duplex conveyance roller clutch (CL13).

### 3.34 2nd transfer release solenoid (SD2)

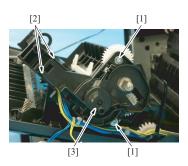
 Remove the registration clutch. G.3.28 Registration clutch (CL3)



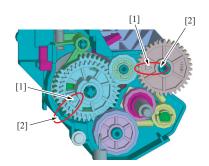
2. Remove the 2nd transfer roller unit assy [1].



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

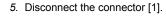


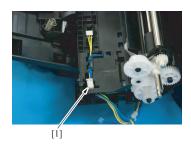
4. Remove two screws [1] and unlock two tabs [2], and remove the holder [3].

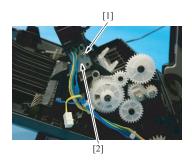


### NOTE

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





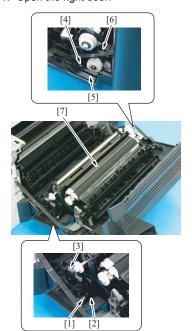


6. Remove the screw [1], and remove the 2nd transfer release solenoid [2].

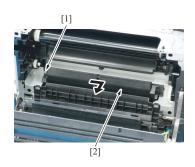
7. To reinstall, reverse the order of removal.

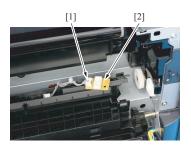
### 3.35 Temperature/ humidity sensor (TEM/HUMS)

1. Open the right door.



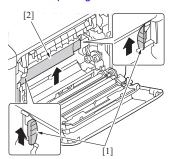
- 2. Remove the screw [1], and remove the fixed cover [2].3. Remove the spring [3].
- Remove the screw [4], and remove the harness cover [5].
- 5. Remove the spring [6].
- 6. Remove the conveyance unit [7].

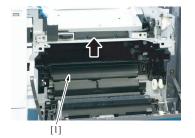




### 3.36 IDC sensor (IDC)

- Remove the toner cartridge (C,M,Y,K).
   F.3.1.1 Replacing the toner cartridge (C, M, Y, K)
- Remove the waste toner bottle.
   F.3.2.1 Replacing the waste toner bottle
- 3. Remove the imaging unit (C,M,Y,K). F.3.1.2 Replacing the imaging unit (C, M, Y, K)
- Remove the transfer belt unit.
   F.3.2.3 Replacing the transfer belt unit





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

### NOTE

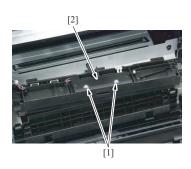
- Do not jerk off the sensor holder, to which a harness is connected.
- 8. Disconnect the connector [1], and remove the temperature/ humidity sensor [2].

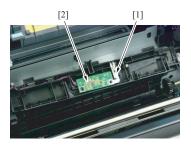
5. Hold the both handles [1] and raise the guide [2].

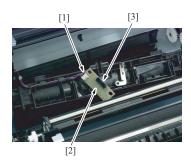
6. Raise the guide [1] further and remove it.

### NOTE

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

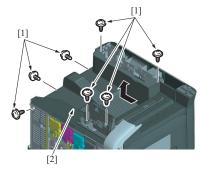






### 3.37 Speaker (SP1)

- Remove the ADF. G.3.6 ADF
- 2. Remove the scanner unit. G.3.9 Scanner unit
- 3. Remove the operation panel. G.3.5 Operation panel



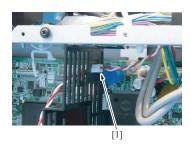
7. Remove two screws [1], and remove the sensor cover [2].

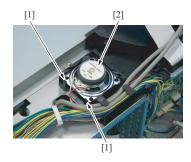
While slightly raising the ground plate [1], remove the IDC sensor [2].

- Disconnect the connector [1], and remove the IDC sensor [2]. NOTE
  - Be careful not to break the sensor head [3] of the IDC sensor

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

5. Disconnect the connector [1].





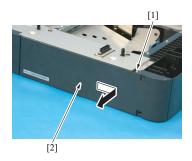
7. To reinstall, reverse the order of removal.

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

### 4. Disassembly/reassembly procedure (PF-P08)

### 4.1 PF-P08: Rear cover

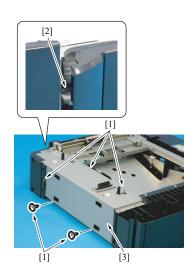
 Remove the Lower Feeder Unit from the main body. G.4.3 PF-P08: Lower Feeder Unit



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

### 4.2 PF-P08: Rear sheet metal cover

- Remove the Lower Feeder Unit from the main body. G.4.3 PF-P08: Lower Feeder Unit
- 2. Remove the rear cover. G.4.1 PF-P08: Rear cover

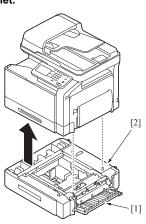


- 3. Remove five screws [1], unlock the tab [2], and remove the rear plate cover [3].
- 4. To reinstall, reverse the order of removal.

### 4.3 PF-P08: Lower Feeder Unit

### NOTE

 Whenever removing or reinstalling the Lower Feeder Unit, be sure first to unplug the power cord of the printer from the power outlet.

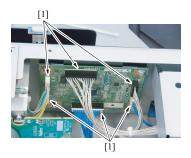


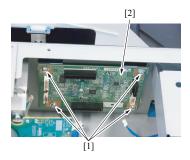
- 1. Open the right door [1].
- 2. Lift the printer main body and then remove the lower feeder unit [2] from the printer.

### 4.4 PF-P08: PC control board (PCCB)

 Remove the Lower Feeder Unit from the main body. G.4.3 PF-P08: Lower Feeder Unit

- 2. Remove the rear cover. G.4.1 PF-P08: Rear cover
- 3. Remove the rear sheet metal cover. G.4.2 PF-P08: Rear sheet metal cover

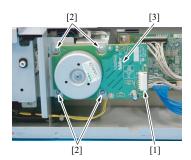




# 4.5 PF-P08: Media feed motor (M1)

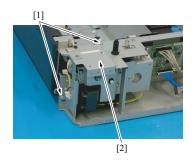
G.4.2 PF-P08: Rear sheet metal cover

- Remove the rear cover.
   G.4.1 PF-P08: Rear cover
- Remove the rear sheet metal cover.



# 4.6 PF-P08: Media feed clutch (CL1)

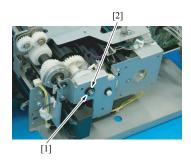
- Remove the Lower Feeder Unit from the main body. G.4.3 PF-P08: Lower Feeder Unit
- Remove the rear cover. G.4.1 PF-P08: Rear cover
- Remove the rear sheet metal cover.G.4.2 PF-P08: Rear sheet metal cover
- Remove the media feed motor.
   G.4.5 PF-P08: Media feed motor (M1)

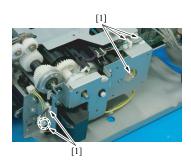


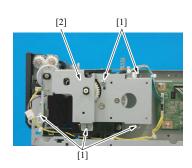
- 4. Disconnect six connectors [1] from the PC control board.
- 5. Disconnect six connectors [1] from the PC control board.
- 6. To reinstall, reverse the order of removal.

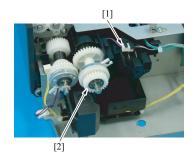
- 3. Disconnect the connector [1].
- 4. Remove four screws [2], and remove the media feed motor [3].
- 5. To reinstall, reverse the order of removal.

- 5. Remove two screws [1], and remove the sheet metal [2].
- 6. Remove the E-ring [1] and the bearing [2].
- 7. Remove the harness from five edge covers [1].
- 8. Remove five screws [1], and remove the gear fixing sheet metal [2].
- 9. Disconnect the connector [1], and remove the media feed clutch [2].
- 10. To reinstall, reverse the order of removal.



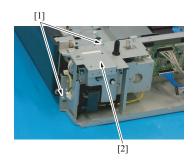


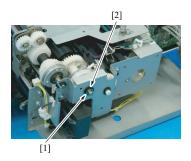


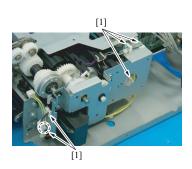


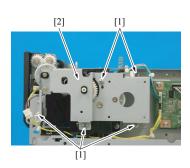
### 4.7 PF-P08: Conveyance clutch (CL2)

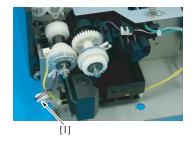
- 1. Remove the Lower Feeder Unit from the main body. G.4.3 PF-P08: Lower Feeder Unit
- Remove the rear cover.
   G.4.1 PF-P08: Rear cover
- 3. Remove the rear sheet metal cover. G.4.2 PF-P08: Rear sheet metal cover
- Remove the media feed motor.
   G.4.5 PF-P08: Media feed motor (M1)





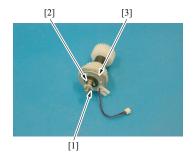






- Remove two screws [1], and remove the sheet metal [2].
   Remove the E-ring [1] and the bearing [2].
   Remove the harness from five edge covers [1].
   Remove five screws [1], and remove the gear fixing sheet metal [2].
   Remove two screws [1], and remove the sheet metal [2].
   Remove the C-ring [1] and E-ring [2], and remove the media feed clutch [3]. clutch [3].

  11. To reinstall, reverse the order of removal.



# H CLEANING/LUBRICATION

# 1. Cleaning parts list

Section		Part name	Ref.Page
	Tray1	Tray1 feed roller	H.2.1 Tray1 feed roller
Main body	Tray2	Tray2 feed roller	H.2.2 Tray2 feed roller
	ADF	ADF feed roller	H.2.3 ADF feed roller
	Processing section	Laser irradiation section	H.2.4 Laser irradiation section
Lower Feeder Unit	Rollers	Tray3 feed roller / tray4 feed roller	H.2.5 PF-P08: Tray3 feed roller / tray4 feed roller
		Conveyance roller	H.2.6 PF-P08: Conveyance roller

## 2. Cleaning procedure

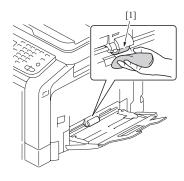
## 2.1 Tray1 feed roller

#### NOTE

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

- 1. Open the tray1.
- 2. Press down the media lifting metal plate [1].



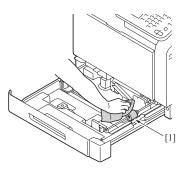


3. Using a cleaning pad dampened with alcohol, wipe the tray1 feed roller [1] clean of dirt.

### 2.2 Tray2 feed roller

#### NOTE

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

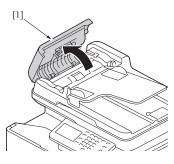


- 1. Slide out tray2.
- Using a cleaning pad dampened with alcohol, wipe the tray2 feed roller [1] clean of dirt.

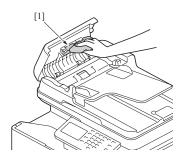
### 2.3 ADF feed roller

### NOTE

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

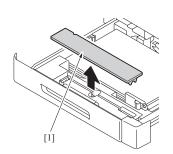


1. Open the ADF feed cover [1].

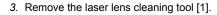


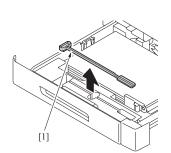
2. Using a cleaning pad dampened with alcohol, wipe the ADF feed roller [1] clean of dirt.

### 2.4 Laser irradiation section

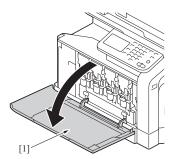


- 1. Slide out tray2.
- 2. Remove the cover [1].

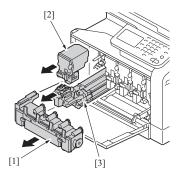




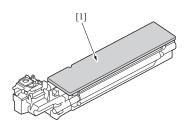
- 4. Close the tray2.
- 5. Open the front cover [1].

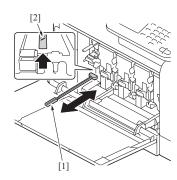


- 6. Remove the waste toner bottle [1].
- F.3.2.1 Replacing the waste toner bottle
  7. Remove the toner cartridge [2]. F.3.1.1 Replacing the toner cartridge (C, M, Y, K)
- 8. Remove the imaging unit [3]. F.3.1.2 Replacing the imaging unit (C, M, Y, K)



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



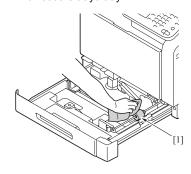


10. Insert the laser lens cleaning tool [1] into the imaging unit opening [2], pull it out, and then repeat this back and forth movement 2 or 3 times

### 2.5 PF-P08: Tray3 feed roller / tray4 feed roller

#### NOTE

- The alcohol described in the cleaning procedure represents the isopropyl alcohol.
- 1. Pull out the tray3/tray4.

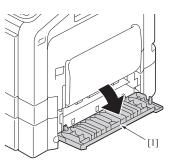


2. Wipe the tray3 feed roller/tray4 feed roller [1] clean of dirt using a cleaning pad dampened with alcohol.

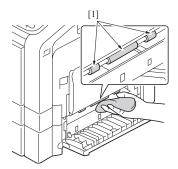
### 2.6 PF-P08: Conveyance roller

#### 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.

#### SE

### I ADJUSTMENT/SETTING

### 1. HOW TO USE THE ADJUSTMENT SECTION

- · "Adjustment/Setting" contains detailed information on the adjustment items and procedures for this machine.
- Throughout this "Adjustment/Setting," the default settings are indicated by " ".

#### 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.

### **!**CAUTION

- 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 fuser unit which can be extremely hot.
- · The developing unit has a strong magnetic field. Keep watches and measuring instruments away from it.
- · Take care not to damage the PC drum with a tool or similar device.
- Do not touch IC pins with bare hands.

# 2. Utility

## 2.1 List of utility mode

• Keys displayed on screens are different depending on the setting.
\*: The list is displayed only when logging in as a registered user who is authenticated by an extension server and allowed to change default start applications.

		Utility				
Accessibility	Key Repeat/Interval					
,	Sound Settings					
	Touch Panel Adjustment					
	Message Display Time					
	LCD Brightness					
Meter Count						
Address	E-Mail					
Registration	Fax					
	SMB					
User Settings	Machine Settings	Language				
J		Measurement Unit Settin				
		Paper Tray Settings	Auto Tray Switch			
		1,111,111,111	Enable ATS/APS			
		ACS Level				
		Scan to E-mail Default Ta	ab			
		Fax Default Tab				
		Scan to Folder Default Ta	ab			
	Copy Settings	Auto Zoom for Combine				
	1,7	Default Copy Settings				
		Separate Scan Output M	ethod			
	Scan Settings	JPEG Compression Leve				
		Black Compression Leve				
		Default Scan Settings				
	Print Settings	Paper Settings	Paper Tray	Default Tray		
		3	Settings	Tray1		
				Tray2		
				Tray3		
				Tray4		
			Duplex			
			Copies			
			Collate			
			Auto Tray Switching			
			Tray Mapping			
		Print Reports	Configuration Page			
		'	Statistics Page			
			Font List	PS		
				PCL		
			HDD Directory List			
			Counter List Print			
	Fax Settings	Remote RX Enabled	I			
		Remote RX No.				
		Default Fax Settings				
		Display Fax Activity	Fax TX			
			Fax RX			
	Select Default Start App	o *				
Admin Settings	Machine Settings	Sleep Mode Setting				
J		Sleep Time Setting				
		Date & Time Setting	DATE (DD.MM.YY)	)		
			Time			
			Time Zone			
		Daylight Saving Time	Enable			
			Offset			
	ſ					

		List/Counter	Job Settings List	
		Report Input Tray		
		Auto Reset Settings	Enable	
			Auto Reset	
			Priority Mode	
	Administrator	Administrator	Name	
	Registration	Registration	Extension No.	
			E-Mail Address	
		Machine Settings	Device Name	
		Madrinio Collingo	Address	
	Address Registration	Address Book	Address Book	
	Address Negistration	Address book		
			Group	
	A (1 . C . C	11 1: (5: 1 0 %	Program	
	Authentication Setting	User List Display Setting		
	County	Logout Confirmation Dis	spiay	
		Card Authentication	1	
Admin Settings	Ethernet	TCP/IP	Enable	
			IP Address	
			Subnet Mask	
			Gateway	
			DHCP	
			ВООТР	
			ARP/PING	
			HTTP	
			FTP	
			Telnet	
			Bonjour	
			Dynamic DNS	
			IPP	
			RAW Port	Enable
			TVAVV I OIL	Bidirectional
			SLP	Bidirectional
			SMTP	
			SNMP	
			WSD Print	
			IPSec	
			IP Address Filter	Permit Access
				Deny Access
			IPv6	Enable
				Auto Setting
				Link Local
				Global Address
				Gateway Address
		Netware		
		AppleTalk		
		Network Speed		
		IEEE802.1X		
		Binary Division		
		S/MIME Comm. Setting	S/MIME Enabled	
		S/IVIIIVIE COITIIII. Setting		
			Digital Signature	
			Encryption Method	
			Auto. Obtain Certificat	
			Print S/MIME Informat	tion
	External Memory Print			
	Job Timeout			
	Copy Settings	Specify Tray when APS	OFF	
		Paper Priority		
		Startup Page Setting		
Admin Settings	Print Settings	Startup Page Setting		

		Paper	Default Paper	Paper Size
				Custom Size
				Paper Type
			Measurement Unit Setting	
		Hold Job Timeout		
		Quality Settings	Color Mode	
			Brightness	
			Halftone	Image Printing
				Text Printing
				Graphics Printing
			Edge Enhancement	Image Printing
			191	Text Printing
				Graphics Printing
			Edge Strength	
			Economy Print	
			PCL Settings	Contrast
			1 02 counge	Image Printing
				Text Printing
				Graphics Printing
			PS Setting	Image Printing
			. o ooming	Text Printing
				Graphics Printing
				Simulation
			Gradation	Tone Calibration
			Adjustment	AIDC Process
			,	CMYK Density
			Color Separation	CWITK Delisity
		Emulation	Default Emulation	
		Emulation	PS	Wait Timeout
			P5	Print PS Errors
				PS Protocol
				Auto Trapping
			DOI	Black Overprint
			PCL	CR/LF Mapping
				Line/Page
			\/D0	Font Setting
			XPS	Digital Signature
	- 0 W	0 1 0 111		Print XPS Errors
Admin Settings	Fax Settings	Sender Settings	Sender	
			Sender Fax No.  Header Position	
		Header/Footer Settings		
		Cettingo	Fax TX Header Name	
		0	Footer Position	
		Comm. Settings	PB/DP	
			RX Mode	
			Number of RX Call Rings	
			Redial	
			Redial Interval	
			Line Monitor	
			Line Monitor Volume	
			Ring Pattern	
			Manual RX V.34 OFF	
			External Phone Call Time	
		Function Settings	Inch Paper Priority	
			Paper Priority	
			Print Paper Size	
			Tray Selection for RX Print	
			Min. Reduction for RX Prin	t
			Print Separate Fax Pages	

			Duplex Print (RX)	
		Fax Function Settings	F-Code TX	
			Dest. Check Display Func.	
			Confirm Addr (TX)	
			Confirm Addr (Register)	
			Restrict Fax TX	
			Restrict Fax RX	
			Restrict PC-Fax TX	
			Restrict Internet Fax TX	
			Restrict Internet Fax RX	
		Memory RX	Memory RX	
			Password	
		Closed Network RX	Enable	
		Password	Password	
		Forward TX Settings	Forward TX Setting	
		Forward 17 Settings		
			Forwarding Address	
			Forward & Print	
		Remote RX Settings	Remote RX Enabled	
			Remote RX No.	
Admin Settings	Fax Settings	PC-Fax RX Settings	PC-Fax RX Setting	
			PC-Fax RX Print	
		Nighttime RX Settings	Night Fax RX Print	
		Trigitalino For Coungo	Night RX Start Time	
			-	
			Night RX End Time	
		PBX Connection	PBX Function	
		Settings	PBX Number	
		Fax Report	Activity Report	Output Settings
				Output Time
				Setting
				Output Limit
				Setting
			TX Result Report	
			TX Result Report Image	
			TX Reserve	
			PC-Fax TX Error Report	
			Broadcast Report	
			Broadcast Result Report	
			TX Result Report Screen	
			I-Fax RX Error Report	
		List Print	Fax Setup Pg	
		Fax Target	•	
		Fax Factory Default		
		Fax Image initialized		
	Maintenance Menu	Print Menu	Event Log	
	maintenance Menu	i iiiit iviellu		
			Halftone 64	
			Halftone 128	
			Halftone 256	
			Gradation	
			Activity Report	
			Scan Send Report Print	
			Scan Event Log	
Admin Sotting	Maintenance Menu	Drintor Adjustment	Leading Edge Adjustment	
Admin Setting	ivialitieriarice ivieriu	Printer Adjustment		
			Side Edge Adjustment	
			Left ADJ Duplex	
			2nd Image Transfer	Simplex Pass
			Current	Manual Duplex
			Thick Paper Image Density	
			Monochrome Density Adj.	
			Fine Line ADJ	
		and the second s		

			AIDC Mode	
			Thick Mode	
			Engine DipSW	
		Main Scan Adjust	Main Scan Page	
			Scan Adjust Value	
		Supplies		
	Folder Settings	Auto Del Interval		
		Auto Document Delete Tim	ne	
		Document Hold Setting		
	Security Settings	Administrator Password		
		Security Details	Password Rules	
			Registering and Changing Addr.	
			Manual Destination Input	
			Hide Personal Data	
			Disable Job History Display	
			Restrict Scan to USB	
		Enhanced Security Mode		
		HDD Settings	Check HDD Capacity	
			Overwrite All Data	
		SSD Low-level Format		
	Restore Defaults	Restore Network		
		Restore System		
		Restore All		
	HDD Format	User Area (Print)		
		User Area (Scan)		
		All		
Paper Empty Tray 1		-		
		Tray 2		
		Tray 3		
		Tray 4		
	Restriction Code Settings	ettings		
	Job Log			

<sup>• \*</sup> The settings list shown in the above is in accordance with the screen display format.

## 2.2 Starting/Exiting

### 2.2.1 Starting procedure

- 1. Press the Utility/Counter key.
- 2. The Utility Mode screen will appear.



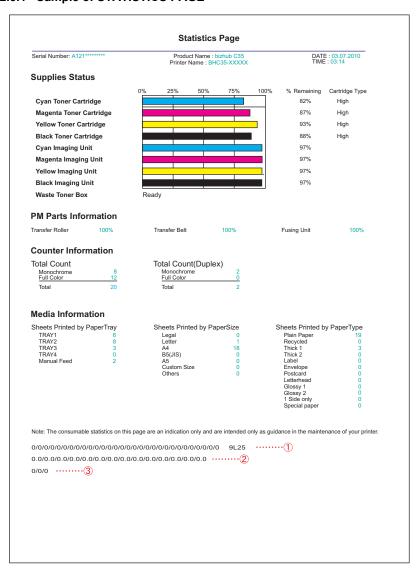
### 2.2.2 Exiting procedure

· Touch the [Home] key.

### 2.3 Statistics Page

• To check the status and the usage of the machine (consumables, maintenance parts and paper).

#### 2.3.1 Sample of STATISTICS PAGE



### (1) Supplies Status

- Display the estimated percent of life remaining in the toner cartridge and imaging unit.
   The type of the toner cartridges that are installed in the printer is also displayed (See the table below).
- Display the status of the waste toner bottle.

Types of toner cartridges	
Starter	Toner cartridge included with a product shipped from the factory: 6.0 K
High	High-capacity toner cartridge: 6.0 K

#### NOTE

The percent of life remaining in the toner cartridge or imaging unit can be used as a guide, but may not exactly reflect the
amount that has been used in the toner cartridge or imaging unit.

#### (2) PM Parts Information

Display the estimated percent of life remaining in periodic replacement parts and units such as the transfer roller unit, transfer belt unit
and fuser unit.

### (3) Counter Information

· The total number of pages that have been printed is counted and displayed based on the description shown in the following table.

### <Counter information list>

Types of count		Contents	Count timing
Total Count	Monochrome	The total number of monochrome pages ejected from the printer. Increment by one per simplex and by two per duplex	When a sheet of media is ejected properly
Total Count	Full color	<ul> <li>The total number of color pages ejected from the printer.</li> <li>Increment by one per simplex and by two per duplex</li> </ul>	when a sheet of media is ejected properly

9L25

Monochrome Total Count		The total number of monochrome duplex sheets ejected from the printer. Increment by one per duplex (and by zero per simplex)		
(duplex)	Full color	The total number of color duplex sheets ejected from the printer. Increment by one per duplex (and by zero per simplex)		
Sheets Printed by Paper Tray  Sheets Printed by Paper Size  Sheets Printed by Paper Type		The number of sheets used for each media source.     Increment by one for both simplex and duplex		
		The number of sheets used for each media size.     Increment by one for both simplex and duplex	When a sheet of media is fed	
		The number of pages used per each media type.     Increment by one for both simplex and duplex		

#### NOTE

• The total counters and the print counters count at a different timing, when a sheet of media is properly ejected and when a sheet of media is fed, respectively. Therefore, the sum of each total counter value may not be same with the sum of each print counter value if a sheet of media cannot be ejected due to media jam inside the machine or other possible problems.

### (4) How to read consumable/periodic replacement parts (units) counter information.

• The lower left part of the statistics page ( in the sample page) shows numerical values that represent consumable/periodic replacement parts (units) counter information.

The table below explains counter information that is provided by each numerical data.

### <Display on the statistics page>

	0/	9L25	
<mea< td=""><td>ning of counter value&gt; (From the left of the numerical values)</td><td></td><td></td></mea<>	ning of counter value> (From the left of the numerical values)		
No.	Contents		Remark
1	Number of times a high-capacity toner cartridge (K) has been replace		
2	Number of times a standard-capacity toner cartridge (K) has been re	* This item is not available in this machine.	
3	Number of times a toner cartridge (K) made by companies other that been replaced	in KMBT has	
4	Number of times a high-capacity toner cartridge (C) has been replace		
5	Number of times a standard-capacity toner cartridge (C) has been r	eplaced	* This item is not available in this machine.
6	Number of times a toner cartridge (C) made by companies other that has been replaced		
7	Number of times a high-capacity toner cartridge (M) has been repla	ced	
8	Number of times a standard-capacity toner cartridge (M) has been r	eplaced	* This item is not available in this machine.
9	Number of times a toner cartridge (M) made by companies other that has been replaced	an KMBT	
10	Number of times a high-capacity toner cartridge (Y) has been replace	ced	
11	Number of times a standard-capacity toner cartridge (Y) has been re	eplaced	* This item is not available in this machine.
12	Number of times a toner cartridge (Y) made by companies other that been replaced.	in KMBT has	
13	When once use of toner cartridge (K) made by companies other that set at "1."	n KMBT is	The default value is 0.
14	When once use of toner cartridge (C) made by companies other that set at "1."	n KMBT is	The default value is 0.
15	When once use of toner cartridge (M) made by companies other that set at "1."	n KMBT is	The default value is 0.
16	When once use of toner cartridge (Y) made by companies other that set at "1."	n KMBT is	The default value is 0.
17	When once use of toner refill cartridge (K) is set at "1."		The default value is 0.
18	When once use of toner refill cartridge (C) is set at "1."		The default value is 0.
19	When once use of toner refill cartridge (M) is set at "1."		The default value is 0.
20	When once use of toner refill cartridge (Y) is set at "1."		The default value is 0.
21	Rate of transfer roller consumption (%)		
22	Number of times a transfer roller has been replaced		
23	Rate of transfer belt unit consumption (%)		
24	Number of times a transfer belt unit has been replaced		
25	Rate of fuser unit consumption (%)		
26	Number of times a fuser unit has been replaced		
27	Number of times a imaging unit (K) has been replaced		
28	Number of times a imaging unit (C) has been replaced		
29	Number of times a imaging unit (M) has been replaced		
30	Number of times a imaging unit (Y) has been replaced		

1		Year (e.g. The year 2009 is displayed as 9.)	
2	Installation date *1	Month (e.g. January is displayed as A. February is B. March is C. and December is L.)	
3		Day (e.g. The day 1 is displayed as 01.)	

\*1: The installation date can be set by manual setting with [Service Mode] → [Installation Date]. (The preset installation date can be reset.) When the installation date is not entered even after 100 sheets have been printed, the date at the time will be set as installation date automatically.

### (5) How to read coverage information.

• The lower left part of the statistics page (② in the sample page) shows numerical values that represent coverage information. The table below explains coverage information that is provided by each numerical data.

#### <Display on the statistics page>

0/0/0/0/0/0/0/0/0/0/0/0/0

<Meaning of counter value> (From the left of the numerical values)

No.	Contents
1	Display the average dot coverage of cyan in the last job. (Calculated on an A4/Letter)
2	Display the average dot coverage of magenta in the last job. (Calculated on an A4/Letter)
3	Display the average dot coverage of yellow in the last job. (Calculated on an A4/Letter)
4	Display the average dot coverage of black in the last job. (Calculated on an A4/Letter)
5	Display the average dot coverage of cyan in the current toner cartridges. (Calculated on an A4/Letter)
6	Display the average dot coverage of magenta in the current toner cartridges. (Calculated on an A4/Letter)
7	Display the average dot coverage of yellow in the current toner cartridges. (Calculated on an A4/Letter)
8	Display the average dot coverage of black in the current toner cartridges. (Calculated on an A4/Letter)
9	Display the average dot coverage of cyan for all prints performed after the printer was installed. (Calculated on an A4/Letter)
10	Display the average dot coverage of magenta for all prints performed after the printer was installed. (Calculated on an A4/Letter)
11	Display the average dot coverage of yellow for all prints performed after the printer was installed. (Calculated on an A4/Letter)
12	Display the average dot coverage of black for all prints performed after the printer was installed. (Calculated on an A4/Letter)
13	Display the average dot coverage of color print for all prints performed after the printer was installed. (Calculated on an A4/Letter)
14	Display the average dot coverage of monochrome print for all prints performed after the printer was installed. (Calculated on an A4/Letter)

#### NOTE

Coverage information can be used as a guide and may not completely reflect the actual amount of toner used.

#### (6) How to read total count information.

• The lower left part of the statistics page (3) in the sample page) shows numerical values that represent total count information.

The table below explains total count information that is provided by each numerical data.

### <Display on the statistics page>

0/0/0

<Meaning of counter value (From the left of the numerical values)>

No.	Contents
1	The number of pages that have been printed in monochrome is counted on an A4 or Letter basis and displayed in the hexadecimal notation.  Printed pages are counted.
2	The number of pages that have been printed in color is counted on an A4 or Letter basis and displayed in the hexadecimal notation. Printed pages are counted.
3	The total number of pages that have been printed is counted on an A4 or Letter basis and displayed in the hexadecimal notation. Printed pages are counted.

#### 2.4 Restore Defaults

- · Restores various settings to their default values.
- · Use when restoring settings to their default values.

Restore Network: Restores the [Admin Setting] → [Ethernet] setting to its default value.

Restore System: Restores both the [User Settings] → [Print Setting] and [Admin Setting] → [Print Setting] settings to their default values. Restore All: Restores all settings, which Restore Network and Restore System apply to, to their default values.

- 1. Touch [Restore Defaults].
- 2. Touch the key for desired mode.
- The confirmation message is displayed.
- 4. When you touch [OK], the initialization is started.
- 5. The default setting is restored and the machine reboots itself. Once the initialization is started, it cannot be canceled.

#### NOTE

• While the Enhanced Security Mode is set to "ON," if Restore Network or Restore All is performed, the network related settings are initialized and the setting of Enhanced Security Mode is changed to "OFF."

Utility	Restore Defaults	Initial value	
---------	------------------	---------------	--

					Restore Network	Restore System	Restore All	
Accessibility	·							
	Key Repeat/I	nterval						
		Time to Start			-	Reset	Reset	0.8
		Key Interval			-	Reset	Reset	0.3
	Sound Setting	gs						
		Operation Confirmation						
			Input	Enable	_	Reset	Reset	Yes
			Confirmatio	Volume	_	Reset	Reset	Middle
			n Sound	Voidino		110001	110001	Middle
			Invalid Input	Enable	-	Reset	Reset	Yes
				Volume	-	Reset	Reset	Middle
				Enable	-	Reset	Reset	Yes
				Volume	-	Reset	Reset	Middle
		Successful C	ompletion					
			Operation	Enable	_	Reset	Reset	Yes
			Completion	Volume	_	Reset	Reset	Middle
			Transmissio	Enable	_	Reset	Reset	Yes
			n					
			Completion	Volume	-	Reset	Reset	Middle
		Completion F	·	1	ı		1	1
			Enable		_	Reset	Reset	Yes
			Volume		_	Reset	Reset	Middle
		Caution Sour						
		Oddilon oodi	Low Caution	Enable	_	Reset	Reset	Yes
			Sound					
			(Level 1)	Volume	-	Reset	Reset	Middle
			Low Caution Sound	Enable	-	Reset	Reset	Yes
			(Level 2)	Volume	-	Reset	Reset	Middle
			Low Caution	Enable	-	Reset	Reset	Yes
			Sound (Level 3)	Volume	-	Reset	Reset	Middle
			Severe	Enable	-	Reset	Reset	Yes
			Caution Sound	Volume	-	Reset	Reset	Middle
	Touch Panel	LAdiustment			_	Reset	Reset	_
	Message Disp				-	Reset	Reset	3 sec.
	LCD Brightne	<u> </u>			_	Reset	Reset	0
Iser Setting					-	110301	Neset	U
isei Seiliig	Machine Setti	ingo						
	Macrille Setti					Danet	Deset	Faaliah
		Language	4 I I - it O - tti		-	Reset	Reset	English
		Measuremen			-	Reset	Reset	Inch/mm
		Paper Tray S					T -	
			Auto Tray Sw		-	Reset	Reset	OFF
			Enable ATS/	Tray 1	-	Reset	Reset	ON
			APS	Tray 2	-	Reset	Reset	ON
				Tray 3	-	Reset	Reset	ON
				Tray 4	-	Reset	Reset	ON
		ACS Level	1	1	-	Reset	Reset	2
		Scan to E-ma	ail Default Tab		_	Reset	Reset	Favorite
		Fax Default T			_	Reset	Reset	Favorite
			er Default Tab		_	Reset	Reset	Favorite
	Copy Settings		J. Dordan Tab			. 10001	. 10001	. avonte
	Copy Settings	Auto Zoom fo	or Combine			Reset	Reset	Yes
		Default Copy			-	Reset	Reset	Factory
			an Output Meth	nd	-	Reset	Reset	Default Page Pri
	Coon Cotting		an Output MEII	ou .		1/6961	Neset	i aye Fill
	Scan Settings						T 5 :	0: :
		JPEG Compr			-	Reset	Reset	Standard
			ession Level		_	Reset	Reset	MMR

	Default Sca	Default Scan Settings			-	Reset	Reset	Factory Default
Print Settin	-							
	Paper Setti						1	
		Paper Tray Settings	Default Tr	· ,	-	Reset	Reset	Tray 2
		Settings	Tray1	Paper Size	-	Reset	Reset	Letter/A4
				Custom Size	-	Reset	Reset	-
				Paper Type	-	Reset	Reset	Plain Paper
			Tray2	Paper Size	-	Reset	Reset	Letter/A4
				Custom Size	-	Reset	Reset	-
				Paper Type	-	Reset	Reset	Plain Paper
			Tray3	Paper Size	-	-	Reset	Letter/A4
				Paper Type	-	Reset	Reset	Plain Paper
			Tray4	Paper Size	-	-	Reset	Letter/A4
				Paper Type	-	Reset	Reset	Plain Paper
		Duplex			-	Reset	Reset	Off
		Copies			-	Reset	Reset	1
		Collate			-	Reset	Reset	Off
		Auto Tray Sv	witching		-	Reset	Reset	On
		Tray Mappin		Tray Mapping Mode	-	Reset	Reset	Off
				Logical Tray 0-9	-	Reset	Reset	Physical Tray 2
Fax Setting	Remote RX	( Enabled			_	Reset	Reset	No
	Remote RX				_	Reset	Reset	-
		\ 1 <b>1</b> 0.			_	I (CSCI	110301	_
ng Machine Se	Default Fax	Settings			-	Reset	Reset	Factory Default
ng Machine Se	Default Fax ettings Sleep Time	e Setting			-	Reset Reset Reset	Reset Reset Reset	Default  30 min.
Machine Se	Default Fax	e Setting ut Tray			-	Reset	Reset	Default
Machine Se	ettings Sleep Time Report Input tor Registration	e Setting ut Tray			-	Reset	Reset	Default  30 min.
Machine Se	ettings Sleep Time Report Input tor Registration	e Setting ut Tray			-	Reset	Reset	Default 30 min.
Machine Se	ettings Sleep Time Report Input tor Registration	e Setting ut Tray n tor Registration	0.			Reset Reset	Reset Reset	30 min. Tray 2
Machine Se	ettings Sleep Time Report Input tor Registration	e Setting ut Tray n tor Registration Name				Reset Reset	Reset Reset Reset	30 min. Tray 2
Machine Se	ettings Sleep Time Report Input tor Registration	e Setting  ut Tray  tor Registration  Name  Extension No			- - -	Reset Reset Reset Reset	Reset Reset Reset Reset	30 min. Tray 2
Machine Se	ettings Sleep Time Report Input tor Registration Administrat	e Setting  ut Tray  tor Registration  Name  Extension No	ess		- - -	Reset Reset Reset Reset	Reset Reset Reset Reset	30 min. Tray 2
Machine Se	ettings Sleep Time Report Input tor Registration Administrat	e Setting ut Tray tor Registration Name Extension No E-mail Addre	ess		- - - -	Reset Reset Reset Reset Reset Reset Reset	Reset Reset Reset Reset Reset Reset	30 min. Tray 2
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Machine Se	ettings Sleep Time Report Input tor Registration Administrat  Machine Setting	e Setting ut Tray tor Registration Name Extension No E-mail Addre	ess		- - - -	Reset Reset Reset Reset Reset Reset Reset Reset	Reset Reset Reset Reset Reset Reset Reset	30 min. Tray 2
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Machine Se	ettings Sleep Time Report Input tor Registration Administrat  Machine So tion Setting Logout Cor	e Setting ut Tray n tor Registration Name Extension N E-mail Addre ettings Device Name Address	ess		- - - - - Reset	Reset Reset Reset Reset Reset Reset -	Reset Reset Reset Reset Reset Reset Reset Reset Reset	30 min.   Tray 2   -
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Administrat	ettings Sleep Time Report Inputor Registration Administrat  Machine Setting Logout Corc Card Auther	e Setting ut Tray for Registration Name Extension No E-mail Addre ettings Device Name Address  Infirmation Displacentication	e e		Reset	Reset Reset Reset Reset Reset Reset - Reset	Reset	30 min.   Tray 2   -
Administrat	ettings Sleep Time Report Inputor Registration Administrat  Machine Setting Logout Corc Card Auther	e Setting  ut Tray  tor Registration  Name  Extension No  E-mail Addre  ettings  Device Nam  Address  infirmation Displae  entication  Enable  IP Address	e e		Reset - Reset Reset	Reset Reset Reset Reset Reset Reset - Reset	Reset	30 min.   Tray 2
Administrat	ettings Sleep Time Report Inputor Registration Administrat  Machine Setting Logout Corc Card Auther	e Setting ut Tray n tor Registration Name Extension No E-mail Addre ettings Device Name Address  Infirmation Displaentication  Enable IP Address Subnet Mask	e e		Reset Reset Reset Reset	Reset Reset Reset Reset Reset Reset - Reset	Reset	30 min.   Tray 2   -
Administrat	ettings Sleep Time Report Inputor Registration Administrat  Machine Setting Logout Corc Card Auther	e Setting  ut Tray  tor Registration  Name  Extension No  E-mail Addre  ettings  Device Name  Address  Infirmation Displace  entication  Enable  IP Address  Subnet Mask  Gateway	e e		Reset Reset Reset Reset Reset	Reset Reset Reset Reset Reset Reset - Reset	Reset	30 min.   Tray 2   -
Administrat	ettings Sleep Time Report Inputor Registration Administrat  Machine Setting Logout Corc Card Auther	e Setting ut Tray n tor Registration Name Extension No E-mail Addre ettings Device Name Address  Infirmation Displatentication  Enable IP Address Subnet Mask Gateway DHCP	e e		Reset - Reset Reset Reset Reset Reset Reset Reset Reset	Reset Reset Reset Reset Reset Reset - Reset	Reset	OPF
Administrat	ettings Sleep Time Report Inputor Registration Administrat  Machine Setting Logout Corc Card Auther	e Setting ut Tray n tor Registration Name Extension No E-mail Addresettings Device Name Address  Infirmation Displaentication  Enable IP Address Subnet Masi Gateway DHCP BOOTP	e e		Reset Rese	Reset Reset Reset Reset Reset Reset - Reset	Reset	30 min.   Tray 2   -
Administrat	ettings Sleep Time Report Inputor Registration Administrat  Machine Setting Logout Corc Card Auther	e Setting ut Tray for Registration Name Extension No E-mail Addres ettings Device Name Address  Infirmation Displaentication  Enable IP Address Subnet Masl Gateway DHCP BOOTP ARP/PING	e e		Reset - Reset	Reset Reset Reset Reset Reset Reset - Reset	Reset	OPF   OFF   OFF   OFF   OOO

		Bonjour			Reset	_	Reset	Enable
		Dynamic DN	S		Reset	-	Reset	Disable
		IPP			Reset	-	Reset	Disable
		RAW Port	Enable		Reset	-	Reset	Yes
			Bidirectional		Reset	_	Reset	Off
		SLP			Reset	_	Reset	Enable
		SMTP			Reset	_	Reset	Enable
		SNMP			Reset	_	Reset	Enable
		WSD Print			Reset	_	Reset	Enable
		IPSec			Reset	_	Reset	Disable
		IP Address	Permit Acces	20	Reset	_	Reset	Disable
		Filter	Deny Access		Reset		Reset	Disable
		IPv6	Enable	•	Reset		Reset	Yes
		IF VO			Reset	-	Reset	Enable
			Auto Setting			-		Enable
			Link Local Global Addre		Reset	-	Reset	-
					Reset	-	Reset	-
			Gateway Ado	aress	Reset	-	Reset	-
	Netware				Reset	-	Reset	Disable
	AppleTalk				Reset	-	Reset	Enable
	Network Spe				Reset	-	Reset	Auto
	IEEE802.1X				Reset	-	Reset	Disable
	Binary Divisi				Reset	-	Reset	Off
	S/MIME Cor							
		S/MIME Enal	oled		Reset	-	Reset	Disable
		Digital Signat	ure		Reset	-	Reset	Do not add signature
		Encryption M	ethod		Reset	-	Reset	3DES
		Auto. Obtain	Certificates		Reset	-	Reset	No
		Print S/MIME	Information		Reset	-	Reset	No
External Me	emory Print	-			-	Reset	Reset	Enable
Copy Settin	gs						1	-
	Specify Tray	when APS OF	F		-	Reset	Reset	Tray Before APS ON
	Paper Priorit	ty			-	Reset	Reset	Tray 2
Print Setting	gs							
	Startup Page	e Setting			-	Reset	Reset	Off
	Auto Continu	re			-	Reset	Reset	Off
	Paper							
	·	Default	Paper Size		-	Reset	Reset	Letter/A4
		Paper	Custom Size	<u> </u>	-	Reset	Reset	-
			Paper Type		-	Reset	Reset	Plain Paper
		Measuremen	t Unit Setting		-	Reset	Reset	Inch
	Hold Job Tin		9		_	Reset	Reset	Disable
	Quality Setti					1.0001		
	addinty Octil	Color Mode			-	Reset	Reset	Color
		Brightness			-	Reset	Reset	0
		Halftone	Image Printir	na	_	Reset	Reset	Detail
		i iaiilUiie			-			
			Text Printing		-	Reset	Reset	Line Art
	1	Graphics Pri			-	Reset	Reset	Detail
		Edes	Гирина			Reset	Reset	Off
			Image Printin		-		Б .	_
		Edge Enhanceme nt	Text Printing		-	Reset	Reset	On
		Enhanceme nt	Text Printing Graphics Pri		-	Reset Reset	Reset	On
		Enhanceme nt  Edge Strengt	Text Printing Graphics Printing			Reset Reset Reset	Reset Reset	On Middle
		Enhanceme nt  Edge Strengt Economy Pri	Text Printing Graphics Printing		-	Reset Reset Reset Reset	Reset Reset Reset	On Middle Off
		Enhanceme nt  Edge Strengt Economy Print PCL	Text Printing Graphics Printing h nt Contrast	nting	- - -	Reset Reset Reset Reset Reset Reset	Reset Reset Reset Reset	On Middle Off 0
		Enhanceme nt  Edge Strengt Economy Pri	Text Printing Graphics Pri h nt Contrast Image		- - -	Reset Reset Reset Reset	Reset Reset Reset	On Middle Off
		Enhanceme nt  Edge Strengt Economy Print PCL	Text Printing Graphics Printing h nt Contrast	nting	- - -	Reset Reset Reset Reset Reset Reset	Reset Reset Reset Reset	On Middle Off 0

			Text Printing	RGB Source	_	Reset	Reset	sRGB
				RGB Intent	-	Reset	Reset	Vivid
				RGB Gray	-	Reset	Reset	Bk=K Gray=K
			Graphics	RGB Source	-	Reset	Reset	sRGB
			Printing	RGB Intent	-	Reset	Reset	Vivid
				RGB Gray	-	Reset	Reset	Bk=K
			Image	RGB Source	_	Reset	Reset	Gray=K sRGB
			Printing	RGB Intent	-	Reset	Reset	Photographi
				RGB Gray	-	Reset	Reset	Bk=K Gray=K
				Destination	-	Reset	Reset	Auto
		PS Setting	Text Printing	Profile RGB Source	-	Reset	Reset	sRGB
				RGB Intent	-	Reset	Reset	Vivid
				RGB Gray	-	Reset	Reset	Bk=K Gray=K
				Destination Profile	-	Reset	Reset	Auto
			Graphics	RGB Source	-	Reset	Reset	Auto
			Printing	RGB Intent	-	Reset	Reset	sRGB
				RGB Gray	-	Reset	Reset	Vivid
				Destination Profile	-	Reset	Reset	Bk=K Gray=K
			Simulation	Simulation Profile	-	Reset	Reset	NONE
				Sim. Intent	-	Reset	Reset	Relative Color
				CMYK Gray	-	Reset	Reset	Bk=CMYK Gray=CMY K
		Gradation	Tone Calibrat	tion	-	Reset	Reset	ON
		Adjustment	CMYK Densit		-	Reset	Reset	0
		Color Separa		•	-	Reset	Reset	OFF
	Emulation							
		Default Emul	ation		-	Reset	Reset	Auto
		PS	Wait Timeout	:	-	Reset	Reset	0
			Print PS Erro	rs	-	Reset	Reset	OFF
			PS Protocol		-	Reset	Reset	Auto
			Auto Trapping	g	-	Reset	Reset	OFF
			Black Overpri		-	Reset	Reset	OFF
		PCL	CR/LF Mappi	ng	-	Reset	Reset	CR = CR LF = LF
			Line/Page		-	Reset	Reset	60
			Font Setting	Font Number	-	Reset	Reset	0
				Pitch Size/ Point Size	-	Reset	Reset	10.00
	1			Symbol Set	-	Reset	Reset	PC8
						D 4	Reset	Disable
		XPS	Digital Signat	ure	i	Reset	reset	
		XPS	Digital Signat Print XPS Err		-	Reset	Reset	ON
Fax Settings		XPS						ON
Fax Settings	Sender Setti	ngs				Reset	Reset	ON
Fax Settings		ngs Sender	Print XPS Err					ON -
Fax Settings	Sender Setti	ngs Sender Sender Fax N	Print XPS Err		-	Reset	Reset	ON
Fax Settings		ngs Sender Sender Fax N	Print XPS Err		-	Reset	Reset	Outside
Fax Settings	Sender Setti	ngs Sender Sender Fax to the ser Settings Header Posit	Print XPS Err			Reset Reset Reset Reset	Reset Reset Reset Reset	Outside Body Text
Fax Settings	Sender Setti	ngs Sender Sender Fax Ner Settings	Print XPS Err		-	Reset Reset Reset	Reset Reset Reset	Outside

	PB/DP		-	Reset	Reset	РВ
	RX Mode		-	Reset	Reset	Auto RX
	Number of R	X Call Rings	-	Reset	Reset	2
	Redial		-	Reset	Reset	1
	Redial Interva	al	-	Reset	Reset	2
	Line Monitor		-	Reset	Reset	OFF
	Line Monitor	Volume	-	Reset	Reset	Low
	Ring Pattern		-	Reset	Reset	Double
	Manual RX V	'.34 OFF	_	Reset	Reset	No
Function Set				110001	110001	
	Inch Paper P	riority	_	Reset	Reset	ON/OFF
	Paper Priority		_	Reset	Reset	Auto Select
	Print Paper S		_	Reset	Reset	Letter/A4
		n for RX Print	_	Reset	Reset	Auto
		on for RX Print	-	Reset	Reset	96%
			-	Reset	Reset	OFF
	Print Separat					-
"	Duplex Print	(RX)	-	Reset	Reset	OFF
Fax Function				<b>.</b>		
	F-Code TX	<u> </u>	-	Reset	Reset	ON
		Display Func.	-	Reset	Reset	OFF
	Confirm Addr	<u> </u>	-	Reset	Reset	OFF
	Confirm Addr	<u> </u>	-	Reset	Reset	ON
	Restrict Fax	TX	-	Reset	Reset	OFF
	Restrict Fax I	RX	-	Reset	Reset	OFF
	Restrict PC-F	ax TX	-	Reset	Reset	OFF
	Restrict Intern	net Fax TX	-	Reset	Reset	OFF
	Restrict Intern	net Fax RX	-	Reset	Reset	OFF
Memory RX			1		·L	-1
•	Memory RX		-	Reset	Reset	OFF
	Password		-	Reset	Reset	-
Closed Netw	ork RX Passwo	ord	1	I	.1	1
	Enable		-	Reset	Reset	No
	Password		-	Reset	Reset	-
Forward TX S			1	1		1
	Forward TX S	Settina	_	Reset	Reset	OFF
	Forwarding A		-	Reset	Reset	-
	Forward & Pr		_	Reset	Reset	Forward &
	, or ward at 1			1,0001	. 10001	Print (If TX
						Fails)]
Remote RX S	Settings					
	Remote RX E	Enabled	-	Reset	Reset	OFF
	Remote RX N	No.	-	Reset	Reset	-
PC-Fax RX S	Settings		-	1	1	-
	PC-Fax RX S	Setting	-	Reset	Reset	OFF
	PC-Fax RX F		-	Reset	Reset	OFF
Nighttime RX			1	1	1	1
	Night Fax RX	( Print	_	Reset	Reset	OFF
	Night RX Sta		<del>  _</del>	Reset	Reset	-
	Night RX End		-	Reset	Reset	<del>  _</del>
PBX Connec	_			110001	110001	
. DV COILIEC	PBX Function	<u> </u>	Τ	Reset	Reset	OFF
			-			UFF
Fox Post-+	PBX Number		-	Reset	Reset	
Fax Report	A -45. 11	0.45.40 #			T	T F: 100
	Activity Report	Output Settings	-	Reset	Reset	Every 100 comm.
	vehour	Output Time Cotting	+	Paget	Doort	COMMIN.
		Output Time Setting	-	Reset	Reset	1000
	TV D " " "	Output Limit Setting	-	Reset	Reset	Journal 100
	TX Result Re	Tiods	-	Reset	Reset	If TX Fails
		<u> </u>				
	TX Result Re	<u> </u>	-	Reset Reset	Reset Reset	OFF ON

			PC-Fax TX E	rror Report	_	Reset	Reset	ON
		Broadcast Report		-	Reset	Reset	ON	
		Broadcast Result Report			-	Reset	Reset	All Dest.
		TX Result Report Screen			-	Reset	Reset	OFF
			I-Fax RX Erro	or Report	-	Reset	Reset	OFF
		Fax Target			-	Reset	Reset	U.S.A.
	Maintenance	e Menu						
		Printer Adju	ıstment					
			Thick Paper	Cyan	-	Reset	Reset	0
			Density	Magenta	-	Reset	Reset	0
				Yellow	-	Reset	Reset	0
				Black	-	Reset	Reset	0
			Monochrome	Density Adj.	-	Reset	Reset	0
	Folder Settir	ngs						
		Auto Del Int	terval		-	Reset	Reset	1 Day
		Auto Docun	nent Delete Time	е	-	Reset	Reset	1 Day
		Document I	Hold Setting		-	Reset	Reset	Disable
	Security Set	tings						
		Security De	tails					
			Password Ru	lles	-	Reset	Reset	OFF
			Registering a	nd Changing Addr.	-	Reset	Reset	Allow
			Manual Desti	nation Input	-	Reset	Reset	Allow
			Hide Persona	al Data	-	Reset	Reset	OFF
			Disable Job I	History Display	-	Reset	Reset	OFF
		Enhanced S	Security Mode		-	Reset	Reset	OFF
Admin	Paper Empty	у						
Setting		Tray 1			-	Reset	Reset	OFF
		Tray 2			-	Reset	Reset	ON
		Tray 3			-	Reset	Reset	ON
		Tray 4			-	Reset	Reset	ON

## 3. SERVICE MODE

## 3.1 List of service mode

 $\ensuremath{^{\star}}$  The function tree is shown to comply with the format displayed on the screen.

Service Mode			Ref. page
Serial Number			I.3.3 Serial Number
Firmware Version	Controller F/W		I.3.4 Firmware Version
	Engine F/W		
	Boot F/W		
	Panel F/W		
	Fax F/W		
	Scanner F/W		
	Loadable Driver		
Printer Adjustment	Leading Edge Adjustment	Plain Paper	I.3.5.1 Leading Edge Adjustment
		Thick 1	
		Thick 2	
		Envelope	
	Side Edge Adjustment	Tray1	
		Tray2	LO FO Cido Edga Adivistas ent
		Tray3	I.3.5.2 Side Edge Adjustment
		Tray4	
	Left ADJ Duplex	Tray1	I.3.5.3 Left ADJ Duplex
		Tray2	
		Tray3	
		Tray4	
	2nd Image Transfer Current	Simplex Pass	I.3.5.4 2nd Image Transfer-Simplex Pass
		Manual Duplex	I.3.5.5 2nd Image Transfer-Manual Duplex
	Thick Paper Image Density	Cyan	I.3.5.6 Thick Paper Image Density
		Magenta	
		Yellow	
		Black	
	Monochrome Density Adj.		I.3.5.7 Monochrome Density Adj.
	Image ADJ Param		I.3.5.8 Image ADJ Param
	Fuser Temp Control	Plain Paper	I.3.5.9 Fuser Temp Control
	·	Thick	
		Envelope	
	Fuser Control	·	I.3.5.10 Fuser Control
	AIDC Mode		I.3.5.11 AIDC Mode
	Thick Mode		I.3.5.12 Thick Mode
	Fine Line ADJ		I.3.5.13 Fine Line ADJ
	Grayscale Page		I.3.5.14 Grayscacle Page
Main Scan Adjust	Main Scan Page		I.3.6.1 Main Scan Page
,	Scan Adjust Value	Yellow	I.3.6.2 Scan Adjust Value
	,	Magenta	
		Cyan	
Service Fax Settings	Restrict Fax TX		I.3.7.1 Restrict Fax TX
J	Restrict Fax RX		I.3.7.2 Restrict Fax RX
	Restrict PC-Fax TX		I.3.7.3 Restrict PC-Fax TX
	TX Speed		I.3.7.4 TX Speed
	RX Speed		I.3.7.5 RX Speed
	ECM RX OFF		I.3.7.6 ECM RX OFF
	Redial V34 Dis.		I.3.7.7 Redial V34 Dis.
	RX V34 OFF		1.3.7.8 RX V34 OFF
	V17 Mod. Permit.		I.3.7.9 V17 Mod. Permit.
	Retry Start Pg		I.3.7.10 Retry Start Pg
	DT Detect		I.3.7.11 DT Detect
	BT Detect		I.3.7.11 BT Detect
	Cable Equalize		I.3.7.13 Cable Equalize
	Echo Measure		I.3.7.14 Echo Measure
	LUIO MEASUIE		1.5.7.14 LGIO MEASURE

Service Mode			Ref. page		
	CFR to Phase C		I.3.7.15 CFR to Phase C		
	TX Level		I.3.7.16 TX Level		
	Connect. Timeout		I.3.7.17 Connect. Timeout		
	CED Level	I.3.7.18 CED Level			
	eRTN %		I.3.7.19 eRTN %		
	V34 Symbol Rate		I.3.7.20 V34 Symbol Rate		
	Data Format		I.3.7.21 Data Format		
	V34 Tran.Pt		I.3.7.22 V34 Tran.Pt		
	Fax Target		I.3.7.23 Fax Target		
	Fax Factory Default		I.3.7.24 Fax Factory Default		
	Fax Image Initialized		I.3.7.25 Fax Image Initialized		
	Fax Maint.		I.3.7.26 Fax Maint.		
	DTMF Test		I.3.7.27 DTMF Test		
	Modem Test		I.3.7.28 Modem Test		
	FAX Diagnostics Code		I.3.7.29 Fax Diagnostics Code		
	Data Dmp. List		I.3.7.30 Data Dmp. List		
	Fax EventLog		I.3.7.31 Fax EventLog		
	Restrict Internet Fax TX		I.3.7.32 Restrict Internet Fax TX		
	Restrict Internet Fax RX		I.3.7.33 Restrict Internet Fax RX		
Scanner Adjustment	FB Leading Edge		I.3.8.1 FB Leading Edge		
•	FB Side Edge		I.3.8.2 FB Side Edge		
	ADF(F) Leading Edge		I.3.8.3 ADF(F) Leading Edge		
	ADF(F) Side Edge		I.3.8.4 ADF(F) Side Edge		
	ADF(B) Leading Edge		I.3.8.5 ADF(B) Leading Edge		
	ADF(B) Side Edge		I.3.8.6 ADF(B) Side Edge		
	FB CD Multiplier		I.3.8.7 FB CD Multiplier		
	FB FD Multiplier		I.3.8.8 FB FD Multiplier		
	ADF(F) CD Multiplier		I.3.8.9 ADF(F) CD Multiplier		
	ADF(F) FD Multiplier		I.3.8.10 ADF(F) FD Multiplier		
	ADF(B) CD Multiplier		I.3.8.11 ADF(B) CD Multiplier		
	ADF(B) FD Multiplier		I.3.8.12 ADF(B) FD Multiplier		
	Tilt(F)		I.3.8.13 Tilt(F)		
	Tilt(B)		I.3.8.14 Tilt(B)		
Print Menu	Mgmt. List		I.3.9.1 Mgmt. List		
	Event Log		I.3.9.2 Event Log		
	Adjust Information		I.3.9.3 Adjust Information		
	Element Page		I.3.9.4 Element Page		
	Halftone 64		I.3.9.5 Halftone 64		
	Halftone 128		I.3.9.6 Halftone 128		
	Halftone 256		I.3.9.7 Halftone 256		
	Gradation		I.3.9.8 Gradation		
	Scanner Adjustment		I.3.9.9 Scanner Adjustment		
	Scan Event Log		I.3.9.10 Scan Event Log		
Supplies	Consumables Replace	Transfer Belt Unit	I.3.10.1 Consumable Replace-Transfer Belt Unit		
		Transfer Roller Unit	I.3.10.2 Consumable Replace-Transfer Roller Unit		
		Fusing Unit	I.3.10.3 Consumable Replace-Fusing Unit		
BK Clear		<u> </u>	I.3.11 BK Clear		
Firmware Update *1			I.3.12 Firmware Update		
CS Remote Care			I.3.13.1 Outline		
Count Mode	Count Mode		I.4.3.1 Count Mode		
	Large Paper size Mode		I.4.3.2 Large Paper size Mode		
Clear Admin Password			I.3.14 Clear Admin Password		
			I.3.15 CE Password		
CE Password		I.3.16 Soft Switch			
CE Password Soft Switch			1.5. TO SOIL SWILCH		
			I.3.17 Engine DipSW		
Soft Switch	Print				
Soft Switch Engine DipSW	Print Comp. Check		I.3.17 Engine DipSW		

Service Mode		Ref. page
	Scanner Sensor Check	
Toner Out Mode		I.3.19 Toner Out Mode
IU Yield Settings		I.3.20 IU Yield Settings
Enable Warning	Toner Low	I.3.21.1 Toner Low
	Imaging Unit Low	I.3.21.2 Imaging Unit Low
	Waste Toner Box Near Full	I.3.21.3 Waste Toner Box Near Full
Installation Date		I.3.22 Installation Date
Loadable Driver Information		I.3.23 Loadable Driver Information
Loadable Driver Download		I.3.24 Loadable Driver Download
Sleep ON/OFF Choice Setting		I.3.25 Sleep ON/OFF Choice Setting

<sup>• \*1:</sup> It will be displayed only when the USB memory device is connected to the machine.

### 3.2 Starting/Exiting

### 3.2.1 Starting procedure

#### NOTE

 Ensure appropriate security for Service Mode function setting procedures. They should NEVER be shown to any unauthorized person not involved with service jobs.

#### (1) Procedure

- 1. Press the Utility/Counter key.
- 2. Touch [Meter Count] on meter count display.
- 3. Press the following keys in this order.; Stop  $\rightarrow 0 \rightarrow 0 \rightarrow \text{Stop} \rightarrow 0 \rightarrow 1$
- 4. Touch [Password], and enter the CE password using the display keyboard or the 10-key pad.

#### NOTE

- · The initial setting for CE password is "92729272."
- · 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 from its default value.
- For the procedure to change the CE password, see the [CE Password].
   I.3.15 CE Password

#### (2) Exiting procedure

· Touch the [Close].

#### 3.3 Serial Number

#### 3.3.1 Use

- · Displays the serial number of the machine.
- · When a loadable driver is installed to the machine, the serial number of the loadable driver will be displayed.
- · Use when maintaining and managing the machine.

#### 3.3.2 Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Serial Number].
- 3. The serial number of the machine and the loadable driver are displayed.

#### 3.4 Firmware Version

#### 3.4.1 Use

- Displays the firmware version number of the machine.
- · To use when the firmware is updated.
- Use when maintaining and managing the machine.
   Controller F/W: Firmware for the controller software
   Engine F/W: Firmware for the printer engine software
   Boot F/W: Firmware for the boot program

Panel F/W: Firmware for the control panel display

Fax F/W: Firmware for the fax control software

Scanner F/W: Firmware for the scanner control software

Loadable Driver: Loadable driver software

#### 3.4.2 Procedure

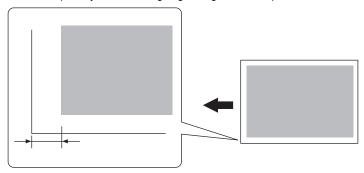
- 1. Call the Service Mode to the display.
- 2. Touch [Firmware Version].
- 3. Touch the key for desired firmware.
- 4. Version number of firmware is displayed.

#### 3.5 Printer Adjustment

#### 3.5.1 Leading Edge Adjustment

#### (1) Use

- · Adjusts the leading edge margin of media for single-sided printing.
- · To correct a misaligned print image.
  - Plain Paper: Adjust the leading edge margin of plain paper.
  - Thick: Adjust the leading edge margin of thick 1 paper.
  - Thick2: Adjust the leading edge of thick 2 paper
  - · Envelope: Adjust the leading edge margin of envelope.



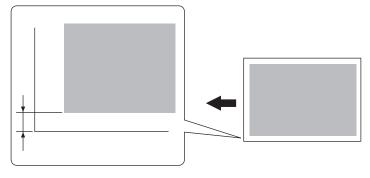
#### (2) Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Printer Adjustment] → [Leading Edge Adjustment].
- 3. Touch the key for desired paper type.
- 4. Using the [+]/[-] key on the screen or the ten-key pad, enter a correction amount and touch [OK].
  - 15 to 15 (1 step: 0.2 mm)

### 3.5.2 Side Edge Adjustment

### (1) Use

- Adjusts the left margin of media for single-sided printing.
- To correct a misaligned print image.
  - Tray1: Adjust the left margin of paper fed from tray 1 (manual tray.)
  - Tray2: Adjust the left margin of paper fed from tray 2.
  - · Tray3: Adjust the left margin of paper fed from tray 3.
  - · Tray4: Adjust the left margin of paper fed from tray 4.



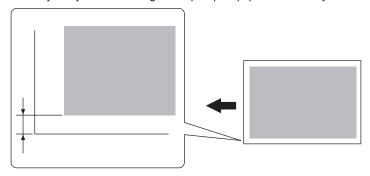
#### (2) Procedure

- 1. Call the Service Mode to the display.
- Touch [Printer Adjustment] → [Side Edge Adjustment].
- 3. Touch the key for desired paper tray.
- 4. Using the [+]/[-] key on the screen or the ten-key pad, enter a correction amount and touch [OK].
  - 15 to 15 (1 step: 0.2 mm)

#### 3.5.3 Left ADJ Duplex

#### (1) Use

- · Adjusts the left margin of media for double-sided printing.
- To correct a misaligned print image.
  - Tray1: Adjust the left margin of duplex print paper fed from tray 1 (manual tray.)
  - Tray2: Adjust the left margin of duplex print paper fed from tray 2.
  - Tray3: Adjust the left margin of duplex print paper fed from tray 3.
  - Tray4: Adjust the left margin of duplex print paper fed from tray 4.



#### (2) Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Printer Adjustment] → [Left ADJ Duplex].
- 3. Touch the key for desired paper tray.
- 4. Using the [+]/[-] key on the screen or the ten-key pad, enter a correction amount and touch [OK].
  - 15 to 15 (1 step: 0.2 mm)

#### 3.5.4 2nd Image Transfer-Simplex Pass

#### (1) Use

- Adjust the 2nd image transfer output (ATVC) on the single-sided pages for each media type.
- To use when the transfer failure at the trailing edge occurs.

#### (2) Procedure

- The default setting is 0.
  - -8 to +7
- 1. Call the Service Mode to the display.
- 2. Touch [Printer Adjustment] → [2nd Image Transfer] → [Simplex Pass].
- 3. Touch the key for desired paper type.
- 4. Using the [+]/[-] key on the screen or the ten-key pad, enter a correction amount and touch [OK].
- <Adjustment instructions>
- To increase the ATVC value (in the direction of a foggier image), decrease the setting value.
- To decrease the ATVC value (in the direction of a less foggy image), increase the setting value.

### 3.5.5 2nd Image Transfer-Manual Duplex

#### (1) Use

- · Adjust the 2nd image transfer output (ATVC) on the manual duplexed pages for each media type.
- To use when the transfer failure at the trailing edge occurs.

#### (2) Procedure

- · The default setting is 0.
  - -8 to +7
- 1. Call the Service Mode to the display.
- Touch [Printer Adjustment] → [2nd Image Transfer] → [Manual Duplex].
- 3. Touch the key for desired paper type.
- 4. Using the [+]/[-] key on the screen or the ten-key pad, enter a correction amount and touch [OK].

### <Adjustment instructions>

- To increase the ATVC value (in the direction of a foggier image), decrease the setting value.
- To decrease the ATVC value (in the direction of a less foggy image), increase the setting value.

#### 3.5.6 Thick Paper Image Density

#### (1) Use

- · To fine-adjust density of printed images of each color for thick paper.
- To change the density of the printed image for each color with thick paper.

#### (2) Procedure

- The default setting is 0.
  - -5 to +5
- 1. Call the Service Mode to the display.
- 2. Touch [Printer Adjustment] → [Thick Paper Image Density].
- 3. Touch the key for desired color.
- 4. Using the [+]/[-] key on the screen or the ten-key pad, enter a correction amount and touch [OK].
- <Adjustment instructions>
- · Light color: increase the setting value
- · Dark color: decrease the setting value

#### 3.5.7 Monochrome Density Adj.

#### (1) Use

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

#### (2) Procedure

- The default setting is 0.
  - -2 to +2
- 1. Call the Service Mode to the display.
- 2. Touch [Printer Adjustment] → [Monochrome Density Adj].
- 3. Using the [+]/[-] key on the screen or the ten-key pad, enter a correction amount and touch [OK].
- <Adjustment instructions>
- · If the black is light, increase the setting value.
- · If the black is dark, decrease the setting value.

### 3.5.8 Image ADJ Param

#### (1) 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.

#### (2) Procedure

 The default setting is 0. 0 to 6

### 3.5.9 Fuser Temp Control

#### (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 misfeed as a result of the curled paper, occurs under varying environmental conditions or depending on the type of paper used.
  - 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)

### (2) Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Printer Adjustment] → [Fuser Temp Control].
- 3. Touch the key for desired paper type.
- 4. Using the [+]/[-] key on the screen or the ten-key pad, enter a correction amount and touch [OK].

#### <Adjustment instructions>

- · If fusing performance is poor, increase the setting.
- · If wax streaks occur, decrease the setting.
- · If offset occur, decrease the setting.
- · If curling of the paper occurs, decrease the setting.

#### 3.5.10 Fuser Control

#### (1) Use

- · Sets the heater lamp lighting control so that it implements the flicker standards.
- · To use when flickering from fluorescent light occurs.
  - · 0: Not set flicker control
  - 1: Control flickering
  - 2: Not control flickering
  - 3: Undefined (When "3" is selected, it becomes "0: Not set flicker control. ")

#### (2) Procedure

The default setting is 0.
 "0" to 3

#### 3.5.11 AIDC Mode

· Not used.

#### 3.5.12 Thick Mode

#### (1) Use

- In order to prevent toner from clogging within the developer unit as a result of it being driven at half-speed, select the timing for driving the
  developer unit at full speed for a fixed length of time when thick paper is being fed.
  - Quality Mode: While printing on thick paper, printing is periodically paused, and the developer unit is driven at full speed for a fixed
    length of time. Since printing is paused, the quality is not affected; however, a standby time of approximately 70 seconds occurs every
    400 seconds or so of half-speed operation.
  - Speed Mode: While printing on thick paper, only the drive of the developer unit periodically switches to full speed for a fixed length of time. Since printing continues during full-speed drive, the print quality is slightly affected, however the standby time is short.

#### (2) Procedure

The default setting is Quality Mode.

"Quality Mode", Speed Mode

#### 3.5.13 Fine Line ADJ

#### (1) Use

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

#### (2) Procedure

· The default setting is 0.

-4 to 3

#### NOTE

The administrator can also make this setting by selecting [Admin Settings] → [Maintenance Menu] → [Printer Adjustment] → [Fine Line ADJ].

However, the adjustable range of the parameter is narrowed to -3 to 2.

#### 3.5.14 Grayscacle Page

#### (1) Use

- · Specify the operation to be performed for black-and-white pages in a job specified for color printing.
  - · Auto: Printing is automatically performed according to the job. (When duplex printing, the operation is same as [Grayscale Print].)
  - Grayscale Print : Black-and-white printing is automatically performed depending on each page.
  - · Color Print : Color printing is performed, even for a black-and-white page.

#### (2) Procedure

· The default setting is Auto.

"Auto", Grayscale Print, Color Print

### 3.6 Main Scan Adjust

#### 3.6.1 Main Scan Page

### (1) Use

· Prints the test pattern used for the main scan adjustment.

### (2) Procedure

- 1. Call the Service Mode to the display.
- Touch [Main Scan Adjust] → [Main Scan Page].
- 3. Select [Print], and touch [OK].
- 4. The test pattern is output.

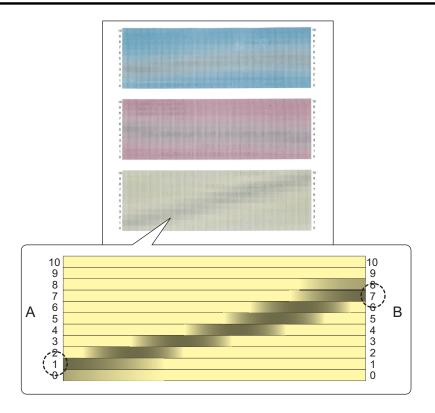
### 3.6.2 Scan Adjust Value

#### (1) Use

- Adjusts magnification in the main scan direction.
- · Use when replacing the PH unit.
- This adjustment is necessary when the adjustment values are cleared due to the replacement of the EEPROM on the print control board or other reasons.

#### (2) Procedure

1. Touch [Main Scan Adjust] → [Main Scan Page] to print the test pattern.



- 2. Make adjustments so that the gray area on each color sample of the output test pattern becomes parallel to the main scan direction. Calculate the correction values for cyan, magenta, and yellow in the following way.
  - Check the numbers indicated on the ends of A and B which correspond to the darkest black lines in the gray area of each color pattern.
    - (In the example of the yellow pattern, "1" is selected for the end of A and "7" is selected for the end of B.)
  - The number indicated on the end of A minus the number on the end of B equals the correction value.
     (In the example of the yellow pattern, the calculation is 1-7=-6. "-6" is the correction value.)
- 3. Call the Service Mode to the display.
- 4. Touch [Main Scan Adjust] → [Scan Adjust Value].
- 5. Touch the key for color to be adjusted.
- 6. Enter the correction value calculated in step 2 and touch [OK].
- 7. Enter the correction values for cyan, magenta, and yellow respectively.
- Touch [Main Scan Adjust] → [Main Scan Page] and output the test pattern again to check the results of the adjustments.
- Specification: The difference between the respective numbers indicated on the ends of A and B which correspond to the darkest black lines must be within 2 steps.

### 3.7 Service Fax Settings

#### 3.7.1 Restrict Fax TX

### (1) Use

· Set whether to enable or disable G3 Fax transmission.

#### (2) Procedure

 The default setting is OFF. ON."OFF"

### 3.7.2 Restrict Fax RX

#### (1) Use

Set whether to enable or disable G3 Fax reception.

#### (2) Procedure

 The default setting is OFF. ON, "OFF"

### 3.7.3 Restrict PC-Fax TX

### (1) Use

· Set whether to enable or disable PC-Fax transmission.

#### (2) Procedure

· The default setting is OFF.

ON, "OFF"

### 3.7.4 TX Speed

#### (1) Use

Set the transmission starting speed.

#### (2) Procedure

The default setting is 33600bps. 2400bps, 4800bps, 7200bps, 9600bps, 12000bps, 14400bps, 16800bps, 19200bps, 21600bps, 24000bps, 26400bps, 28800bps, 31200bps, "33600bps"

#### 3.7.5 RX Speed

### (1) Use

Set the max. reception speed.

#### (2) Procedure

The default setting is 33600bps. 2400bps, 4800bps, 7200bps, 9600bps, 12000bps, 14400bps, 16800bps, 19200bps, 21600bps, 24000bps, 26400bps, 28800bps, 31200bps, "33600bps"

#### 3.7.6 ECM RX OFF

### (1) Use

· Set whether or not to cancel reception ECM (error correction mode).

### (2) Procedure

· The default setting is No.

Yes, "No"

- · Yes: Ignores all errors that occur during communication.
- If "Yes" is selected, select Yes for RX V34 OFF and MR or MH for the coding system.

#### 3.7.7 Redial V34 Dis.

#### (1) Use

· Set whether to enable or disable V.34 communication when redialing after a communication error.

### (2) Procedure

 The default setting is ON. "ON", OFF

### 3.7.8 RX V34 OFF

### (1) Use

· Set V34 OFF during reception.

#### (2) Procedure

 The default setting is No. Yes, "No"

### 3.7.9 V17 Mod. Permit.

#### (1) Use

• Set whether to enable or disable the V.17 modulation/demodulation mode.

#### (2) Procedure

 The default setting is ON. "ON", OFF

### 3.7.10 Retry Start Pg

#### (1) Use

· Set whether, during redial, to start with the first page or the page in which an error occurs during the transmission.

#### (2) Procedure

The default setting is Error Page.
 1st Page, "Error Page"

### 3.7.11 DT Detect

### (1) Use

· Set whether or not to detect the dial tone before dialing.

· No transmission is executed if the dial tone is not detected.

#### (2) Procedure

The default setting is ON.

"ON", OFF

#### 3.7.12 BT Detect

### (1) Use

• Set whether or not to detect the busy tone.

#### (2) Procedure

· The default setting is ON.

"ON", OFF

#### 3.7.13 Cable Equalize

#### (1) Use

- · Set the cable equalizer setting value.
- · Adjust this when communication fails.

#### (2) Procedure

The default setting is 0Km.
 "0Km", 1.8Km, 3.6Km, 7.2Km

#### 3.7.14 Echo Measure

#### (1) Use

- · Set whether or not to take the echo measure.
- · Adjust this when communication fails.

#### (2) Procedure

 The default setting is OFF. ON, "OFF"

#### 3.7.15 CFR to Phase C

### (1) Use

- · Set the wait time between CFR and phase C.
- · Adjust this when communication fails.

#### (2) Procedure

- The default setting is 400.
   10 to 1000 ms (Step: 10)
- 1. Call the Service Mode to the display.
- 2. Touch [Service Fax Settings]  $\rightarrow$  [CFR to Phase C].
- 3. Use [+]/[-] key on the screen to set the wait time and touch [OK].

### 3.7.16 TX Level

#### (1) Use

- Set the transmission level.
- · Adjust this when communication fails.

### (2) Procedure

- The default setting is -10.
  - -15 to -4db (Step: 1)
- 1. Call the Service Mode to the display.
- Touch [Service Fax Settings] → [TX Level].
- 3. Use [+]/[-] key or 10-key pad on the screen to set the transmission level and touch [OK].

### 3.7.17 Connect. Timeout

### (1) Use

- · Set the T0 timer (call connection wait time).
- · Adjust this when communication fails.

#### (2) Procedure

- The default setting is 55.
  - 30 to 120 s (Step: 1)
- Call the Service Mode to the display.
- 2. Touch [Service Fax Settings]  $\rightarrow$  [Connect. Timeout].
- 3. Use [+]/[-] key or 10-key pad on the screen to set the call connection wait time and touch [OK].

#### 3.7.18 CED Level

#### (1) Use

Set the answer tone output level.

#### (2) Procedure

The default setting is -43db.
 -35db, -36db, -37db, -38db, -39db, -40db, -41db, -42db, "-43db", -44db, -45db

### 3.7.19 eRTN %

### (1) Use

Set the RTN transmission reference.

#### (2) Procedure

The default setting is 10.
 1, 2, 3, 4, 5, "10", 15, 20

#### 3.7.20 V34 Symbol Rate

#### (1) Use

Set the V34 symbol rate.

#### (2) Procedure

The default setting is 3429.
 2400, 2800, 3000, 3200, "3429"

#### 3.7.21 Data Format

#### (1) Use

· Set the coding system for communication.

#### (2) Procedure

 The default setting is JBIG. MH, MR, MMR, "JBIG"

#### 3.7.22 V34 Tran.Pt

### (1) Use

• Set the number of training points for V.34 communication.

#### (2) Procedure

The default setting is Auto.
 "Auto", 16 pts, 4 pts

### 3.7.23 Fax Target

### (1) Use

- · Set the region (country) in which the machine is installed.
- · Use this during setup procedures.

#### (2) Procedure

· The default setting is U.S.A.

"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, Europe

### 3.7.24 Fax Factory Default

#### (1) Use

· Initialize the fax settings (not including the address book).

### (2) Procedure

· The default setting is No.

Yes, "No"

- 1. Call the Service Mode to the display.
- 2. Touch [Service Fax Settings] → [Fax Factory Default].
- 3. Select [Yes], and touch [OK].
- 4. Initialization is started.
- 5. The settings are initialized.

#### 3.7.25 Fax Image Initialized

#### (1) Use

· Delete all data (jobs) saved in the fax transmission/reception area for initialization. (The address book is not included.)

#### (2) Procedure

· The default setting is No.

Yes, "No"

- 1. Call the Service Mode to the display.
- 2. Touch [Service Fax Settings] → [Fax Image Initialized].
- 3. Select [Yes], and touch [OK].
- 4. Initialization is started.
- 5. All saved data (jobs) are deleted and the machine is automatically restarted.

#### 3.7.26 Fax Maint.

### (1) Use

· Check a signaling tone by connecting the machine to the line to output a test signal of the fax board.

#### (2) Procedure

· The default setting is G3 Maint Off-Hook.

"G3 Maint Off-Hook", G3 Maint CED, G3 Maint CNG, G3 Maint Ansam, G3 Maint Ringtone, G3 Maint DTMF, G3 Maint Modem, G3 Maint Stop

- The signaling tone can be checked with a monitor speaker.
- 1. Call the Service Mode to the display.
- 2. Touch [Service Fax Settings] → [Fax Maint.].
- 3. Select the signal to be checked and touch [OK].
- 4. Check the signaling tone.
- 5. Touch [Fax Maint.].
- 6. Select [G3 Maint Stop] and touch [OK] to stop the signaling tone.
- 7. Following the same steps, check other signaling tones.

#### NOTE

• "Until Connection Complete" or "Until Transmission Complete" must be selected for [Admin Settings] → [Fax Settings] → [Comm. Settings] → [Line Monitor].

#### 3.7.27 DTMF Test

#### (1) Use

· Select the type of signal transmission at the start of the DTMF test.

#### (2) Procedure

The default setting is 0.
 "0", 1, 2, 3, 4, 5, 6, 7, 8, 9, \*, #

#### 3.7.28 Modem Test

#### (1) Use

· Select the type of signal transmission at the start of the modem test.

#### (2) Procedure

The default setting is V.34(33600bps).
"V.34(33600bps)", V.34(28800bps), V.17(14400bps), V.17(12000bps), V.17(9600bps), V.17(7200bps), V.29(9600bps), V.29(7200bps), V.27(4800bps), V.27(2400bps), V.21(300bps)

### 3.7.29 Fax Diagnostics Code

### (1) Use

- Set the fax diagnostics code.
- · Use to describe the error code in the communication management journal.

#### (2) Procedure

 The default setting is OFF. ON, "OFF"

#### 3.7.30 Data Dmp. List

#### (1) Use

· Print the data dump list (protocol report) of G3 fax.

### (2) Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Service Fax Settings] → [Data Dmp. List].
- 3. Select [Print], and touch [OK].
- 4. The data dump list is printed.

#### 3.7.31 Fax EventLog

#### (1) Use

· Print the event log list of G3 fax.

#### (2) Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Service Fax Settings] → [Data Dmp. List].
- 3. Select [Print], and touch [OK].
- 4. The event log list is printed.

#### 3.7.32 Restrict Internet Fax TX

#### (1) Use

· Set whether or not to prohibit transmission of internet fax.

#### (2) Procedure

 The default setting is OFF. ON, "OFF"

#### 3.7.33 Restrict Internet Fax RX

#### (1) Use

· Set whether or not to prohibit reception of internet fax.

#### (2) Procedure

The default setting is OFF.
 -35db, -36db, -37db, -38db, -39db, -40db, -41db, -42db, "-43db", -44db, -45db

### 3.8 Scanner Adjustment

#### 3.8.1 FB Leading Edge

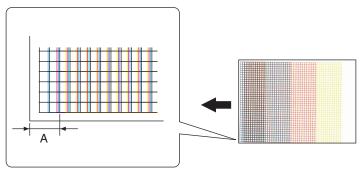
### (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning start position at the flatbed scanning in the sub-scanning direction.
- · When the scanner unit has been replaced.

#### NOTE

After the [FB FD Multiplier] adjustments have been performed

#### (2) Procedure



- Make adjustments so that the difference in the width of A between the test pattern and the copy of the test pattern is within the following specification.
- · Specification value: 2.5 mm or less
- · The default setting is 0.
- -5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm)
- · Step: 0.25 mm
- Print the test pattern.

I.3.18.1 Print-Test Print A4/Test Print Letter

2. Make a test copy.

### NOTE

- The test pattern should be positioned vertically.
- · Use A4 or Letter paper loaded into tray1 to make the test copy.
- 3. Check that the width of A in the original and its copy of the test pattern are shifted. If the width of A is out of specification, adjust it according to the following procedure.
- 4. Call the Service Mode to the display.
- 5. Touch [Scanner Adjustment] → [FB Leading Edge].
- 6. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK]. If width A of the copy image is exceeds one on the test pattern, decrease the setting. If width A of the copy image is less than one on the test pattern, increase the setting.
- 7. Make a test copy again and check it.

### 3.8.2 FB Side Edge

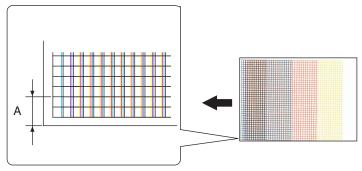
#### (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning start position at the flatbed scanning in the main-scanning direction.
- · When the scanner unit has been replaced.

#### NOTE

· After the [FB CD Multiplier] adjustments have been performed

### (2) Procedure



- Make adjustments so that the difference in the width of A between the test pattern and the copy of the test pattern is within the following specification.
- Specification value: 2.0 mm or less (front side), 3.0 mm or less (back side)
- · The default setting is 0.
- -5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm)
- Step: 0.25 mm
- 1. Print the test pattern.

I.3.18.1 Print-Test Print A4/Test Print Letter

2. Make a test copy.

#### NOTE

- · The test pattern should be positioned vertically.
- · Use A4 or Letter paper loaded into tray1 to make the test copy.
- Check that the width of A in the original and its copy of the test pattern are shifted.If the width of A is out of specification, adjust it according to the following procedure.
- 4. Call the Service Mode to the display.
- Touch [Scanner Adjustment] → [FB Side Edge].
- 6. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK]. If width A of the copy image is exceeds one on the test pattern, decrease the setting. If width A of the copy image is less than one on the test pattern, increase the setting.
- 7. Make a test copy again and check it.

## 3.8.3 ADF(F) Leading Edge

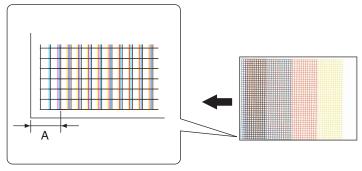
### (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning start position at the ADF scanning (front side) in the sub-scanning direction.
- · When the scanner unit or the ADF has been replaced.

#### NOTE

· After the [ADF(F) FD Multiplier] adjustments have been performed

## (2) Procedure



- Make adjustments so that the difference in the width of A between the test pattern and the copy of the test pattern is within the following specification.
- Specification value: 3.0 mm or less
- The default setting is 0.
- -5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm)
- Step: 0.5 mm
- 1. Print the test pattern.

I.3.18.1 Print-Test Print A4/Test Print Letter

2. Make a test copy.

#### NOTE

- · Set the test pattern on the ADF.
- · Use A4 or Letter paper loaded into tray1 to make the test copy.
- 3. Check that the width of A in the original and its copy of the test pattern are shifted.

If the width of A is out of specification, adjust it according to the following procedure.

- Call the Service Mode to the display.
- 5. Touch [Scanner Adjustment] → [ADF(F) Leading Edge].
- 6. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK]. If width A of the copy image is exceeds one on the test pattern, decrease the setting. If width A of the copy image is less than one on the test pattern, increase the setting.
- 7. Make a test copy again and check it.

### 3.8.4 ADF(F) Side Edge

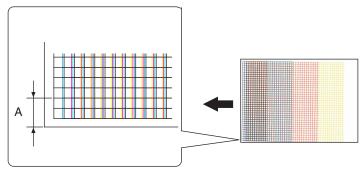
## (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning start position at the ADF scanning (front side) in the main-scanning direction.
- When the scanner unit or the ADF has been replaced.

#### NOTE

· After the [ADF(F) CD Multiplier] adjustments have been performed

#### (2) Procedure



- Make adjustments so that the difference in the width of A between the test pattern and the copy of the test pattern is within the following specification.
- Specification value: 2.0 mm or less
- · The default setting is 0.
- -5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm)
- Step: 0.5 mm
- 1. Print the test pattern.

I.3.18.1 Print-Test Print A4/Test Print Letter

2. Make a test copy.

#### NOTE

- · Set the test pattern on the ADF.
- Use A4 or Letter paper loaded into tray1 to make the test copy.
- 3. Check that the width of A in the original and its copy of the test pattern are shifted.

If the width of A is out of specification, adjust it according to the following procedure.

- 4. Call the Service Mode to the display.
- 5. Touch [Scanner Adjustment] → [ADF(F) Side Edge].
- 6. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK]. If width A of the copy image is exceeds one on the test pattern, decrease the setting. If width A of the copy image is less than one on the test pattern, increase the setting.
- 7. Make a test copy again and check it.

### 3.8.5 ADF(B) Leading Edge

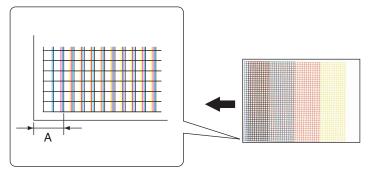
#### (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning start position at the ADF scanning (back side) in the sub-scanning direction.
- When the scanner unit or the ADF has been replaced.

#### NOTE

• After the [ADF(B) FD Multiplier] adjustments have been performed

#### (2) Procedure



- Make adjustments so that the difference in the width of A between the test pattern and the copy of the test pattern is within the following specification.
- · Specification value: 3.0 mm or less
- · The default setting is 0.
- -5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm)
- Step: 0.5 mm
- 1. Print the test pattern.

I.3.18.1 Print-Test Print A4/Test Print Letter

2. Make a test copy.

#### NOTE

- · Set the test pattern with the printed side down on the ADF.
- · Use A4 or Letter paper loaded into tray1 to make the test copy.
- 3. Check that the width of A in the original and its copy of the test pattern are shifted. If the width of A is out of specification, adjust it according to the following procedure.
- 4. Call the Service Mode to the display.
- 5. Touch [Scanner Adjustment] → [ADF(B) Leading Edge].
- 6. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK]. If width A of the copy image is exceeds one on the test pattern, decrease the setting. If width A of the copy image is less than one on the test pattern, increase the setting.
- 7. Make a test copy again and check it.

### 3.8.6 ADF(B) Side Edge

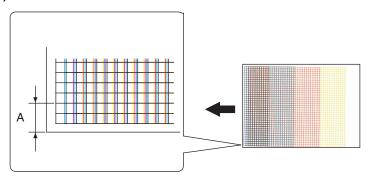
## (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning start position at the ADF scanning (back side) in the main-scanning direction.
- · When the scanner unit or the ADF has been replaced.

#### NOTE

After the [ADF(B) CD Multiplier] adjustments have been performed

### (2) Procedure



- Make adjustments so that the difference in the width of A between the test pattern and the copy of the test pattern is within the following specification.
- Specification value: 3.0 mm or less
- The default setting is 0.
- -5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm)
- Step: 0.5 mm
- 1. Print the test pattern.

I.3.18.1 Print-Test Print A4/Test Print Letter

2. Make a test copy.

#### NOTE

- · Set the test pattern with the printed side down on the ADF.
- Use A4 or Letter paper loaded into tray1 to make the test copy.
- Check that the width of A in the original and its copy of the test pattern are shifted.If the width of A is out of specification, adjust it according to the following procedure.
- 4. Call the Service Mode to the display.
- 5. Touch [Scanner Adjustment] → [ADF(B) Side Edge].

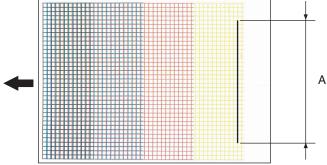
- 6. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK]. If width A of the copy image is exceeds one on the test pattern, decrease the setting. If width A of the copy image is less than one on the test pattern, increase the setting.
- 7. Make a test copy again and check it.

### 3.8.7 FB CD Multiplier

### (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning zoom ratio in the main scanning direction.
- · When the scanner unit has been replaced.

### (2) Procedure



- Draw a straight line 200 mm on the test pattern. Make adjustments so that the difference between the line length on the test pattern (length A) and length A on the test copy is within the following specification.
- Specification value: 100 ± 1.0% (Zoom ratio = Full Size:100%)
- The default setting is 0%.
- -2.0% ~ "0%" ~ +2.0%
- Step: 0.2%
- 1. Print the test pattern.
  - I.3.18.1 Print-Test Print A4/Test Print Letter
- 2. Draw a straight line 200 mm on the test pattern.
- 3. Make a test copy.

#### **NOTE**

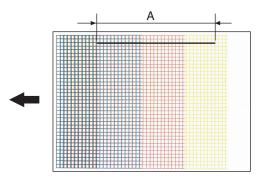
- · The test pattern should be positioned vertically.
- · Use A4 or Letter paper loaded into tray1 to make the test copy.
- If the difference between the length A on the test pattern and that on the test copy is greater than ± 2 mm, perform the adjustment steps below.
- 5. Call the Service Mode to the display.
- 6. Touch [Scanner Adjustment] → [FB CD Multiplier].
- 7. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK].
- 8. Make a test copy again and check it.

#### 3.8.8 FB FD Multiplier

## (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning zoom ratio in the sub scanning direction.
- When the scanner unit has been replaced.

### (2) Procedure



- Draw a straight line 200 mm on the test pattern. Make adjustments so that the difference between the line length on the test pattern (length A) and length A on the test copy is within the following specification.
- Specification value: 100 ± 1.0% (Zoom ratio = Full Size:100%)
- The default setting is 0%.
- -2.0% ~ "0%" ~ +2.0%
- · Step: 0.2%
- 1. Print the test pattern.

I.3.18.1 Print-Test Print A4/Test Print Letter

- 2. Draw a straight line 200 mm on the test pattern.
- 3. Make a test copy.

#### NOTE

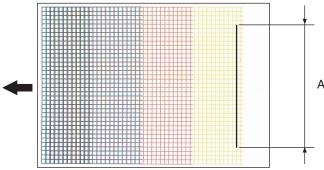
- · The test pattern should be positioned vertically.
- · Use A4 or Letter paper loaded into tray1 to make the test copy.
- If the difference between the length A on the test pattern and that on the test copy is greater than ± 2 mm, perform the adjustment steps below.
- 5. Call the Service Mode to the display.
- 6. Touch [Scanner Adjustment] → [FB FD Multiplier].
- 7. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK].
- 8. Make a test copy again and check it.

### 3.8.9 ADF(F) CD Multiplier

### (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning zoom ratio at the ADF scanning (front side) in the main scanning direction.
- · When the scanner unit or the ADF has been replaced.

#### (2) Procedure



- Draw a straight line 200 mm on the test pattern. Make adjustments so that the difference between the line length on the test pattern (length A) and length A on the test copy is within the following specification.
- Specification value: 100 ± 1.0% (Zoom ratio = Full Size:100%)
- · The default setting is 0%.
- -2.0% ~ "0%" ~ +2.0%
- Step: 0.4%
- Print the test pattern.
  - I.3.18.1 Print-Test Print A4/Test Print Letter
- Draw a straight line 200 mm on the test pattern.
- 3. Make a test copy.

#### NOTE

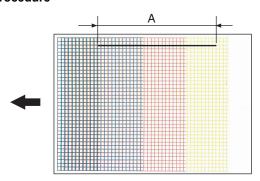
- · Set the test pattern on the ADF.
- Use A4 or Letter paper loaded into tray1 to make the test copy.
- If the difference between the length A on the test pattern and that on the test copy is greater than ± 2 mm, perform the adjustment steps below.
- 5. Call the Service Mode to the display.
- Touch [Scanner Adjustment] → [ADF(F) CD Multiplier].
- 7. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK].
- 8. Make a test copy again and check it.

## 3.8.10 ADF(F) FD Multiplier

## (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning zoom ratio at the ADF scanning (front side) in the sub scanning direction.
- · When the scanner unit or the ADF has been replaced.

## (2) Procedure



- Draw a straight line 200 mm on the test pattern. Make adjustments so that the difference between the line length on the test pattern (length A) and length A on the test copy is within the following specification.
- Specification value: 100 ± 1.0% (Zoom ratio = Full Size:100%)
- · The default setting is 0%.
- -2.0% ~ "0%" ~ +2.0%
- Step: 0.4%
- 1. Print the test pattern.

I.3.18.1 Print-Test Print A4/Test Print Letter

- 2. Draw a straight line 200 mm on the test pattern.
- 3. Make a test copy.

#### NOTE

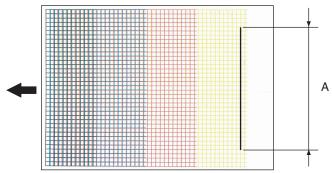
- · Set the test pattern on the ADF.
- · Use A4 or Letter paper loaded into tray1 to make the test copy.
- If the difference between the length A on the test pattern and that on the test copy is greater than ± 2 mm, perform the adjustment steps below
- 5. Call the Service Mode to the display.
- 6. Touch [Scanner Adjustment] → [ADF(F) FD Multiplier].
- 7. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK].
- 8. Make a test copy again and check it.

### 3.8.11 ADF(B) CD Multiplier

### (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning zoom ratio at the ADF scanning (back side) in the main scanning direction.
- · When the scanner unit or the ADF has been replaced.

## (2) Procedure



- Draw a straight line 200 mm on the test pattern. Make adjustments so that the difference between the line length on the test pattern (length A) and length A on the test copy is within the following specification.
- Specification value: 100 ± 1.0% (Zoom ratio = Full Size:100%)
- · The default setting is 0%.
- -2.0% ~ "0%" ~ +2.0%
- · Step: 0.4%
- 1. Print the test pattern.

I.3.18.1 Print-Test Print A4/Test Print Letter

- 2. Draw a straight line 200 mm on the test pattern.
- Make a test copy.

## NOTE

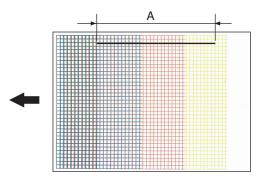
- · Set the test pattern with the printed side down on the ADF.
- Use A4 or Letter paper loaded into tray1 to make the test copy.
- 4. If the difference between the length A on the test pattern and that on the test copy is greater than ± 2 mm, perform the adjustment steps below.
- 5. Call the Service Mode to the display.
- 6. Touch [Scanner Adjustment] → [ADF(B) CD Multiplier].
- 7. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK].
- 8. Make a test copy again and check it.

## 3.8.12 ADF(B) FD Multiplier

## (1) Use

- To adjust for variations in the accuracy of scanner parts and their mounting accuracy by varying the scanning zoom ratio at the ADF scanning (back side) in the sub scanning direction.
- · When the scanner unit or the ADF has been replaced.

### (2) Procedure



- Draw a straight line 200 mm on the test pattern. Make adjustments so that the difference between the line length on the test pattern (length A) and length A on the test copy is within the following specification.
- Specification value: 100 ± 1.0% (Zoom ratio = Full Size:100%)
- · The default setting is 0%.
- -2.0% ~ "0%" ~ +2.0%
- Step: 0.4%
- 1. Print the test pattern.
  - I.3.18.1 Print-Test Print A4/Test Print Letter
- 2. Draw a straight line 200 mm on the test pattern.
- 3. Make a test copy.

#### NOTE

- · Set the test pattern with the printed side down on the ADF.
- · Use A4 or Letter paper loaded into tray1 to make the test copy.
- 4. If the difference between the length A on the test pattern and that on the test copy is greater than ± 2 mm, perform the adjustment steps below.
- 5. Call the Service Mode to the display.
- Touch [Scanner Adjustment] → [ADF(B) FD Multiplier].
- 7. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK].
- 8. Make a test copy again and check it.

### 3.8.13 Tilt(F)

### (1) Use

- · Adjusts the amount of loop produced before the ADF registration roller for the front side of the original fed from the ADF.
- · When original jam or skew occurs, use this function for the front side of the original fed from the ADF.

### (2) Procedure

- · The default setting is 0.
- -5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm)
- Step: 0.5 mm
- 1. Call the Service Mode to the display.
- Touch [Scanner Adjustment] → [Tilt(F)].
- 3. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK].

### 3.8.14 Tilt(B)

#### (1) Use

- · Adjusts the amount of loop produced before the ADF registration roller for the front side of the original fed from the ADF.
- When original jam or skew occurs, use this function for the front side of the original fed from the ADF.

## (2) Procedure

- · The default setting is 0.
- -5.0 (-5.0 mm) ~ "0 (0 mm)" ~ +5.0 (+5.0 mm)
- Step: 0.5 mm
- 1. Call the Service Mode to the display.
- 2. Touch [Scanner Adjustment]  $\rightarrow$  [Tilt(B)].
- 3. Using the [+]/[-] key on the screen or the ten-key pad, enter a setting value and touch [OK].

### 3.9 Print Menu

### 3.9.1 Mgmt. List

### (1) Use

- Prints the management information of the machine.
- To check the maintenance information. The items which can be checked are as follows.
  - Device Caution Information: Caution information, Process caution information
  - · Count (total): Counter value for each color
  - · Coverage (total): Coverage rate for each color
  - · Replace count (total): Number of times IU, TC, transfer belt, transfer roller, and fuser unit have been replaced.
  - · Imaging Unit Information: Information concerning the imaging unit

· Toner Cartridge Information: Information concerning the toner cartridge

### (2) Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Print Menu] → [Mgmt. List].
- 3. Select [Print], and touch [OK].

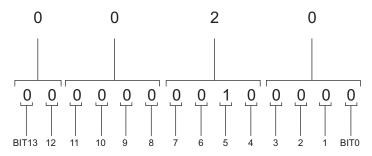
## (3) Process Caution Information

## (a) List of the process caution information

BIT	Item	Status	
0	_	_	
1	_	_	
2	_	_	
3	Temperature/ humidity sensor	No response is provided from the temperature/ humidity sensor.	
	failure	Power switch OFF/ON, and normal image stabilization are complete besides the ones listed above.	
4	_	_	
5	IDC Sensor failure	IDC sensor output values are out of the specified range.	
		Right door or front cover open/close, power switch OFF/ON, and normal image stabilization are complete besides the ones listed above.	
6	_	_	
7	_	_	
8	_	_	
9	_	_	
10	_	_	
11	Color Shift Test Pattern failure	The number of points detected in the main scan direction is more or less than specified value during main scan direction registration correction.  The number of points detected in the sub scan direction is more or less than t specified value during sub scan direction registration correction.	
		Right door or front cover open/close, power switch OFF/ON, and normal image stabilization are complete besides the ones listed above.	
12	Color Shift Adjust failure	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.  The skew correction amount is greater than the specified value.	
		Right door or front cover open/close, power switch OFF/ON, and normal image stabilization are complete besides the ones listed above.	
13	_	_	

## (b) How to read process caution information

- Convert the numerical value of the hexadecimal number printed on "PROCESS CAUTION INFORMATION in [MAINTENANCE INFO] into the binary number, it compares with the allocation of each BIT, and the caution status is confirmed.
- ex. When process caution information is displayed as 0x0020.
- 1. Convert four end digits "0020" of 0x0020 into the binary number (14 digits).
- 2. The BIT number is allocated in converted value "0000000100000." (BIT0 to BIT13 is sequentially allocated from the first digit.)



3. In this case, BIT No. "5" corresponds to "1". From the "PROCESS CAUTION INFORMATION", IDC sensor failure can be detected.

### Conversion method from hexadecimal number to binary number

1. The hexadecimal number (four digits) is converted in each digit based on the following table.

Hexadecimal number	Binary number						
0	0000	4	0100	8	1000	С	1100

1	0001	5	0101	9	1001	D	1101
2	0010	6	0110	Α	1010	E	1110
3	0011	7	0111	В	1011	F	1111

Match the converted numerical value of four digits, then two head digits are excluded and it is assumed the binary number of 14 digits.

### 3.9.2 Event Log

## (1) Use

- · To print the error log information.
- To check the jams/troubles which occurred, and the history of replacing the consumables. The items which can be checked are as follows
  - · Paper Jam Error: The number of times jam have occurred and its history
  - Engine Fatal Error: The history of the troubles which required service call
  - · Fuser Unit: The history of replacing the fuser unit
  - Transfer Belt: The history of replacing the transfer belt
  - · Second Trans: The history of replacing the transfer roller
  - · Toner Cartridge: The history of replacing the toner cartridge
  - · Imaging Unit: The history of replacing the print unit
  - · Trouble Counter: Trouble counting for each section

### (2) Procedure

- 1. Call the Service Mode to the display.
- Touch [Print Menu] → [Event Log].
- 3. Select [Print], and touch [OK].

### 3.9.3 Adjust Information

#### (1) Use

- · To print the engine adjustment information.
- To check the adjustment values set by the Utility menu and Service Mode. The items which can be checked are as follows.
   Leading Edge Adjustment/Side Edge Adjustment/Left ADJ Duplex/2nd Image Transfer Current/Thick Paper Image Density/Black Image Density/Image ADJ Param/Fuser Temp Control/Fuser Control/AIDC Mode/Engine DipSW/Thick Mode/Fine Line ADJ/Toner Out Mode/IU Yield Settings
- The scanner and ADF related adjustment values can be checked from [Scanner Adjustment].
   1.3.9.9 Scanner Adjustment

## (2) Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Print Menu] → [Adjust Information].
- 3. Select [Print], and touch [OK].

### 3.9.4 Element Page

## (1) Use

- · To print the engine element data information.
- To check the element data.
- See the attached chart listed below for details.

### (2) Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Print Menu] → [Element Page].
- 3. Select [Print], and touch [OK].

### (3) Engine element data information

Element data name	Description
Inside Humidity	Displays the inside humidity (in 1% increments).
INSIDE TEMPERATURE	Displays the inside temperature (in 1 °C increments).
PH TEMPRATURE	Displays the PH temperature (in 1 °C increments).
Sensor Information 1	Displays the input port status of the sensors and switches in hexadecimal numbers.
Sensor Information 2	
Sensor Information 3	
Sensor Information 4	
Sensor Information 5	
Fuser Heater 1 Temperature	Displays the latest temperature on the middle of the heating roller (in 1 °C increments).
Fuser Heater 2 Temperature	Displays the latest temperature at the edges of the heating roller (in 1 °C increments).

IDC Sensor 1 PS	Shows the latest IDC data.
IDC Sensor 1 P	Range of output: 0V to 9.99V (in 0.01V increments)
TONER LEVEL SENSOR C	Displays the number of times the toner level sensor has detected an empty condition during one cycle of developer agitation.
TONER LEVEL SENSOR M	Range of output: 0 to 200 (in increments of one time)
TONER LEVEL SENSOR Y	
TONER LEVEL SENSOR K	
VDC Volt C	Displays the Vdc voltage of each color of toner.
VDC Volt M	Range of output: -1000V to 255V (in 1V increments)
VDC Volt Y	
VDC Volt K	
VPP Volt C	Displays the Vpp voltage of each color of toner.
VPP Volt M	ange of output: 700V to 2000V (in 1V increments)
VPP Volt Y	
VPP Volt K	
VPP Volt Limit C	Displays the limit value of Vpp voltage of each color of toner.
VPP Volt Limit M	Range of output: 700V to 2000V (in 1V increments)
VPP Volt Limit Y	
VPP Volt Limit K	
Duty C	Displays the duty ratio of each color of toner.
Duty M	Range of output: 0% to 100.0% (in 0.1% increments)
Duty Y	
Duty K	
IDC Base Reflection 1	Displays the IDC intensity adjustment value.     Range of output: 0 to 1023 (in 1 increments)
Trans Current 2	Displays the latest second image transfer output value.     Range of output: -800V to 5000V (in 1V increments)

## 3.9.5 Halftone 64

### (1) Use

- Prints the halftone pattern with 25% level for CMYK respectively.
- To check the unevenness of the density and the pitch.

## (2) Procedure

- 1. Set the A4 or Letter paper on the tray.
- Call the Service Mode to the display.
- 3. Touch [Print Menu]  $\rightarrow$  [Halftone 64].
- 4. Touch the key for desired color.
- 5. Select [Print], and touch [OK].

## 3.9.6 Halftone 128

### (1) Use

- Prints the halftone pattern with 50% level for CMYK respectively.
- To check the unevenness of the density and the pitch.

## (2) Procedure

- 1. Set the A4 or Letter paper on the tray.
- 2. Call the Service Mode to the display.
- 3. Touch [Print Menu] → [Halftone 128].
- 4. Touch the key for desired color.
- 5. Select [Print], and touch [OK].

## 3.9.7 Halftone 256

### (1) Use

- Prints the halftone pattern with 100% level for CMYK respectively.
- To check the unevenness of the density and the pitch.

## (2) Procedure

- 1. Set the A4 or Letter paper on the tray.
- 2. Call the Service Mode to the display.
- Touch [Print Menu] → [Halftone 256].
- 4. Touch the key for desired color.

5. Select [Print], and touch [OK].

## 3.9.8 Gradation

#### (1) Use

- · Prints the gradation pattern.
- · To check the gradation reproductively.

#### (2) Procedure

- 1. Set the A4 or Letter paper on the tray.
- 2. Call the Service Mode to the display.
- 3. Touch [Print Menu]  $\rightarrow$  [Gradation].
- 4. Select [Print], and touch [OK].

### 3.9.9 Scanner Adjustment

#### (1) Use

· Prints the list of the scanner and ADF related setting values.

#### (2) Procedure

- 1. Set the A4 or Letter paper on the tray.
- 2. Call the Service Mode to the display.
- 3. Touch [Print Menu] → [Scanner Adjustment].
- 4. Select [Print], and touch [OK].

### 3.9.10 Scan Event Log

#### (1) Use

· Prints the data of the number of times jam has occurred during scanning and the jam history.

#### (2) Procedure

- 1. Set the A4 or Letter paper on the tray.
- 2. Call the Service Mode to the display.
- 3. Touch [Print Menu]  $\rightarrow$  [Scan Event Log].
- 4. Select [Print], and touch [OK].

### 3.10 Supplies

### 3.10.1 Consumable Replace-Transfer Belt Unit

#### (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 display.
- 2. Touch [Supplies]  $\rightarrow$  [Consumable Replace]  $\rightarrow$  [Transfer Belt Unit].
- 3. Select [Yes], and touch [OK]

### 3.10.2 Consumable Replace-Transfer Roller Unit

#### (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 display.
- 2. Touch [Supplies] → [Consumable Replace] → [Transfer Roller Unit].
- 3. Select [Yes], and touch [OK]

## 3.10.3 Consumable Replace-Fusing 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 display.
- 2. Touch [Supplies]  $\rightarrow$  [Consumable Replace]  $\rightarrow$  [Fusing Unit].
- 3. Select [Yes], and touch [OK]

### 3.11 BK Clear

## 3.11.1 Use

• To clear engine information backup data.

- · Use when the engine information backup data is cleared.
- Use when the MFP board is replaced.
  - · Yes: Executes data clear
  - · No: Does not execute data clear

#### 3.11.2 Procedure

 The default setting is No. Yes, "No"

## 3.12 Firmware Update

## 3.12.1 **Details**

## (1) Use

- · To display the firmware information stored in the USB memory device.
- The following information is displayed:
  - · Model name (bizhub C35) of firmware data
  - · Version information of firmware data

### (2) Procedure

- 1. Set the USB memory device.
- 2. Call the Service Mode to the display.
- 3. Touch [Firmware Update].
- 4. Select the firmware to be updated and touch [Details].

#### NOTE

· An error message appears if the selected data is not of the appropriate data format.

#### **3.12.2 Execute**

#### (1) Use

- · To upgrade firmware using the USB memory device.
- Use for upgrading firmware.

#### (2) Procedure

• For details, see "J.2. Firmware upgrading procedure by USB memory device".

## 3.13 CS Remote Care

### 3.13.1 Outline

- CS Remote Care enables the machine and the computer at CS Remote Care center to exchange data through network in order to control
  the machine.
- CS Remote Care enables the machine to call the computer at the center when trouble occurs. It also enables the computer at the center to contact the machine for the necessary data.
- Data which CS Remote Care handles can be divided into the following groups.
  - Data which show the status of use of the machine such as total count, PM count.
  - Data which show the abnormal situation on the machine such as where and how often errors occur.
  - · Data on adjustment
  - · Data on setting

### 3.13.2 Setting up the CS Remote Care

## NOTE

- The following describes how to set up the CS Remote Care from the Service Mode on the control panel. In addition to the set-up
  from the control panel, the CS Remote Care can be set from the PageScope Web Connection.
- For resetting up the machine which CS Remote Care has already been set up, clear the RAM for CS Remote Care before resetting.
   1.3.13.12 RAM Clear

	Two-way communication	One-way communication
Step	Proc	edure
0	Register the device ID to the application at CS Remote Care center The initial connection is not available unless the device ID is registed	
1	Clearing the RAM for CS Remote Care  1. Select [Service Mode] → [CS Remote Care] → [RAM Clear].  2. Select [Yes], and touch [OK].  1.3.13.12 RAM Clear	
2	Setting the date and time for CS Remote Care  1. Select [Service Mode] → [CS Remote Care] → [CSRC Clock].  2. Select [Date], [Time] or [Time Zone], and touch [OK].  3. Input the date, time or time zone, and touch [OK].  1.3.13.10 CSRC Clock	
3	Setting the communication method  1. Select [Service Mode] → [CS Remote Care] → [Basic Setting]  → [Comm. Method].  2. Select [Duplex], and touch [OK].	Setting the communication method  1. Select [Service Mode] → [CS Remote Care] → [Basic Setting]  → [Comm. Method].  2. Select [Simplex], and touch [OK].
4	Inputting the ID code	

	1. Select [Service Mode] $\rightarrow$ [CS Remote Care] $\rightarrow$ [Service Engr ID] 2. Input the seven digits ID of the service engineer, and touch [OK]. I.3.13.3 Service Engr ID				
5		<ol> <li>Select [Service Mode] → [CS Remote Care] → [Basic Setting] → [Center ID].</li> <li>Input the five digits ID of the CS Remote Care center, and touch [OK].</li> </ol>			
6	Encryption setting 1. Select [Service Mode] $\rightarrow$ [CS Remote Care] $\rightarrow$ [Basic Setting] $\rightarrow$ 2. Select [Yes] or [No] according to the necessity of encryption, and				
7	Heart Beat *1  1. Select [Service Mode] → [CS Remote Care] → [CSRC Settings] → [Heartbeat Settings].  2. In [Enable Heartbeat], set whether or not to enable Heart Beat communication. (Default: Yes)  3. Select [Interval] and enter a Heart Beat transmission interval (1 to 256 minutes, Default: 30 minutes).  4. In [Enable Fixed Time], set whether or not to enable Heartbeat transmission at a fixed interval. (Default: Yes)  5. Select [Fixed Time] and enter a Heartbeat transmission interval (1 to 256 minutes, Default: 30 minutes).				
8	Proceed to step 10.	Periodic transmission setting  1. Select [Service Mode] → [CS Remote Care] → [CSRC Settings] → [Periodic Trans.].  2. In [Enable Trans.], set whether or not to enable periodic transmission. (Default: On)  3. Select [Interval], [Time], [Day of the Week] or [Date] and set the schedule of periodic transmission.  I.3.13.11 CSRC Settings			
9		Report setting 1. Select [Service Mode] → [CS Remote Care] → [CSRC Settings] → [Report Settings]. 2. Select the report item and set items that will be reported to the Center. I.3.13.11 CSRC Settings			
10	Setting the http server  1. Select [Service Mode]—[CS Remote Care]—[Basic Setting]—[Web Server]  2. Input the server name of the CS Remote Care center, and touch [OK].  3. Select [Service Mode]—[CS Remote Care]—[WebDAV Settings], and make the settings of communication with the server according to the network environment.  1.3.13.9 WebDAV Settings				
11	Enables/disables some special warning and report functions  1. Select [Service Mode] → [CS Remote Care] → [CSRC Settings] → [Switches Settings], and set whether or not to enable each function.  1.3.13.11 CSRC Settings				
12	Executing the initial transmission  1. Select [Service Mode] → [CS Remote Care] → [Subscribe].  2. Select [Yes], and touch [OK] to start initial transmission.				

<sup>• \*1</sup> Heartbeat is a feature that uploads a Heartbeat file to the registered web server at a specified interval to report that the device is operating. Heartbeat files include total counter and status information.

## 3.13.3 Service Engr ID

### (1) Use

- To register the service engineer ID.
- Use when registering and changing service engineer ID.

### (2) Procedure

• Enter a 7-digit code using the software keyboard. (0000001 to 9999999)

## 3.13.4 Subscribe

• Not displayed when the machine is registered in the CS Remote Care center.

#### (1) Use

• Sent the information to the CS Remote Care center to register the machine.

## (2) Procedure

- 1. Select [Service Mode]  $\rightarrow$  [CS Remote Care]  $\rightarrow$  [Subscribe].
- 2. Press the Menu/Select key to start initial transmission.

## 3.13.5 Maintenance Start.

#### (1) Use

- · Starts the maintenance using the CS Remote Care.
- · Not displayed in the following cases.
  - The machine is not registered in the center.
  - The Service Engineer ID is not registered.

· The maintenance is already provided.

### (2) Procedure

- Select [Service Mode] → [CS Remote Care] → [Maintenance Start.].
- 2. Select [Yes], and touch [OK] to start the maintenance.

#### 3.13.6 Maintenance End.

#### (1) Use

- · Ends the maintenance provided by the CS Remote Care.
- · Not displayed in the following cases.
  - The machine is not registered in the center.
  - The Service Engineer ID is not registered.
  - · The maintenance is not provided.

### (2) Procedure

- 1. Select [Service Mode] → [CS Remote Care] → [Maintenance End.].
- 2. Select [Yes], and touch [OK] to finish the maintenance.

### 3.13.7 Manual Trans.

#### (1) Use

- · Use when enabling the manual transmission for the CS Remote Care.
- · Not displayed in the following cases.
  - · The machine is not registered in the center.
  - · The maintenance is already provided.

### (2) Procedure

- 1. Select [Service Mode] → [CS Remote Care] → [Manual Trans.].
- 2. Select [Yes], and touch [OK] to start manual transmission.

## 3.13.8 Basic Settings

#### (1) Center ID

#### (a) Use

· Registers and checks the Center ID for the CS Remote Care.

### (b) Procedure

- 1. Select [Service Mode]  $\rightarrow$  [CS Remote Care]  $\rightarrow$  [Basic Settings]  $\rightarrow$  [Center ID].
- 2. Touch [Center ID].
- 3. Enter the ID number using the software keyboard.

#### (2) Web Server

#### (a) Use

· Registers and checks the Web Server which is used for communication with the CS Remote Care.

## (b) Procedure

- 1. Select [Service Mode]  $\rightarrow$  [CS Remote Care]  $\rightarrow$  [Basic Settings]  $\rightarrow$  [Web Server].
- 2. Touch [Web Server].
- 3. Enter the server address or domain name using the software keyboard.

### (3) Encryption

## (a) Use

• Sets whether or not to enable encryption for communication with the CS Remote Care.

## (b) Procedure

- 1. Select [Service Mode]  $\rightarrow$  [CS Remote Care]  $\rightarrow$  [Basic Settings]  $\rightarrow$  [Encryption].
- 2. Select [Yes] or [No], and touch [OK].

## (4) Comm. Method

## (a) Use

- · Sets the communication method for the CS Remote Care.
  - Simplex: One-way communication
  - Duplex: Two-way communication

#### (b) Procedure

- 1. Select [Service Mode]  $\rightarrow$  [CS Remote Care]  $\rightarrow$  [Basic Settings]  $\rightarrow$  [Comm. Method].
- 2. Select [Simplex] or [Duplex], and touch [OK].

### 3.13.9 WebDAV Settings

#### (1) Enable Proxy

### (a) Use

· Sets whether or not to use the proxy server for communication with the CS Remote Care

### (b) Procedure

- Select [Service Mode] → [CS Remote Care] → [WebDAV Settings] → [Enable Proxy].
- 2. Select [Yes] or [No], and touch [OK].

### (2) Proxy Address

### (a) Use

· Sets the proxy server address.

### (b) Procedure

- 1. Select [Service Mode]  $\rightarrow$  [CS Remote Care]  $\rightarrow$  [WebDAV Settings]  $\rightarrow$  [Proxy Address].
- 2. Touch [Proxy Address].
- 3. Enter the server address or domain name using the software keyboard.

## (3) Proxy Port

## (a) Use

· Sets the proxy server port number.

## (b) Procedure

- 1. Select [Service Mode] → [CS Remote Care] → [WebDAV Settings] → [Proxy Port].
- 2. Touch [Number].
- 3. Enter the port number using the software keyboard.

### (4) Proxy User Name

### (a) Use

· Sets the user name of the proxy server.

## (b) Procedure

- 1. Select [Service Mode]  $\rightarrow$  [CS Remote Care]  $\rightarrow$  [WebDAV Settings]  $\rightarrow$  [Proxy User Name].
- 2. Touch [Proxy User Name].
- 3. Enter the user name using the software keyboard.

## (5) Proxy Password

### (a) Use

· Sets the proxy server password.

## (b) Procedure

- 1. Select [Service Mode]  $\rightarrow$  [CS Remote Care]  $\rightarrow$  [WebDAV Settings]  $\rightarrow$  [Proxy Password].
- 2. Touch [Proxy Password].
- 3. Enter the password using the software keyboard.

### (6) Enable SSL

### (a) Use

· Sets whether or not to enable SSL for communication with the CS Remote Care.

### (b) Procedure

- 1. Select [Service Mode] → [CS Remote Care] → [WebDAV Settings] → [Enable SSL].
- 2. Select [Yes] or [No], and touch [OK].

## (7) WebDAV Auth.

#### (a) Use

· Sets whether or not to use the WebDAV server authentication for communication with the CS Remote Care.

### (b) Procedure

- 1. Select [Service Mode]  $\rightarrow$  [CS Remote Care]  $\rightarrow$  [WebDAV Settings]  $\rightarrow$  [WebDAV Auth.].
- 2. Select [Yes] or [No], and touch [OK].

#### (8) WebDAV User Name

#### (a) Use

· Sets the user name used to access the WebDAV server.

#### (b) Procedure

- 1. Select [Service Mode]  $\rightarrow$  [CS Remote Care]  $\rightarrow$  [WebDAV Settings]  $\rightarrow$  [WebDAV User Name].
- 2. Touch [WebDAV User Name].
- 3. Enter the user name using the software keyboard.

## (9) WebDAV Password

#### (a) Use

· Sets the password used to access the WebDAV server.

#### (b) Procedure

- 1. Select [Service Mode] → [CS Remote Care] → [WebDAV Settings] → [WebDAV Password].
- 2. Touch [WebDAV Password].
- 3. Enter the password using the software keyboard.

#### 3.13.10 CSRC Clock

#### (1) Use

- · Sets the time for the time stamp used in the reports provided by the CS Remote Care.
- · Not displayed in the following cases.

The machine is registered in the center but the maintenance is not provided.

#### (2) Procedure

- 1. Select [Service Mode]  $\rightarrow$  [CS Remote Care]  $\rightarrow$  [CSRC Clock].
- 2. Select [Date], [Time] or [Time Zone].
- 3. Input the date, time or time zone, and touch [OK].

#### 3.13.11 CSRC Settings

- · Not displayed in the following cases.
  - · The machine is not registered in the center.
  - · The Service Engineer ID is not registered.
  - · The maintenance is not provided.

## (1) Heartbeat Settings

## (a) Use

- · To make Heartbeat related settings.
- Heart Beat is a feature that uploads a Heartbeat file to the registered web server at a specified interval to report that the device is
  operating. Heartbeat files include total counter and status information.

## (2) Switches Settings

## (a) Use

- · To change the CS Remote Care settings.
- · The items which can be set are as follows.

Retry Settings	Retry Count • Retransmission times on http communication error		
	Retry Interval • Retransmission interval on http communication error		
SC Error [SC]			
Specify Date [A5]			
Parts Life [TP]			
Warning [TT]			
Toner Rep. [TN]			
Waste Full [T0]			
Paper Jam Threshold.			
Originals Jam Threshold			
Paper Jam Warning			
Manuscript Jam Warning			
Jam History			

### (3) Periodic Trans.

### (a) Use

- · Set the schedule of periodic transmission to the center.
- Select the notification interval from [Daily], [Weekly], or [Monthly].
  - When selecting [Daily] for the notification interval, set the [Time].
  - · When selecting [Weekly] for the notification interval, set the [Time] and [Day of the Week].
  - When selecting [Monthly], set the [Time] and [Date].

#### (4) Fixed Date Trans.

## (a) Use

- Set the schedule of fixed date transmission to the center.
- · Set the transmission date and transmission time in [Fixed Date] and [Fixed Time] respectively.

### (5) Report Settings

#### (a) Use

- · Select the items of report data that will be sent to the center.
- · The items of report data which can be set are as follows.
  - Sales Count/Error Count/Service Count/Life Count/System Data/History Data/Adjustment Data/Coverage Data

#### 3.13.12 RAM Clear

#### (1) Use

- To reset the every setting data for CS Remote Care to the default settings.
- · To be used for setting CS Remote Care.

#### NOTE

 If RAM clear is selected during transmission, RAM clear processing will be implemented at the time the transmission is completed regardless of whether it is done properly or not.

#### 3.13.13 CS Remote Care Operation under Enhanced Security Mode

CS Remote Care can be used even when "ON" is selected in [Administrator Settings]  $\rightarrow$  [Security Settings]  $\rightarrow$  [Enhanced Security Mode]. However, to keep the enhanced security level, the following restrictions are accompanied.

- · Only SSL communication is available.
- Error occurs if the Center tries to send the following commands.
  - · Command of reading and updating account track information
  - · Machine settings update command

#### 3.14 Clear Admin Password

#### 3.14.1 Clear Admin Password

#### (1) Use

- To initialize the administrator password (Default value: 12345678).
- Use this function when the administrator forget the administrator password.

#### NOTE

 If the administrator password is initialized, after the initialization, immediately ask the administrator for a new administrator password and change the default value to the new password.

### (2) Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Clear Admin Password].
- 3. Touch [OK] on the confirmation screen to initialize the administrator password.

#### 3.15 CE Password

### 3.15.1 CE Password

### (1) Use

· To set and change the CE password.

#### (2) Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [CE Password].
- 3. Touch [Password] of the upper section, and enter the 8-digit new CE password using the screen key board or the 10-key pad.
- 4. Touch [Password] of the lower section, and reenter the 8-digit new CE password using the screen key board or the 10-key pad.

#### NOTE

- If Password Rules of Security Settings available from Admin Settings is set to "ON," the machine does not accept any new
  password that contains only the same character, consists of less than 8 digits, or that is the same as the previous password.
- In the CE password change display, enter the same CE password to the entry areas (upper and lower).
- · For the CE Password, set a value other than the default.
- · Quitting the Service Mode after the new password has been set will validate the setting of the new password.
- · NEVER forget the CE password. When forgetting the CE password, call responsible person of KMBT.

#### 3.16 Soft Switch

### 3.16.1 Soft Switch

#### (1) Use

· To set the operating characteristic of each function from software switch depending on what types of printing are normally made.

Soft switch	Bit	Detail
Switch 1	_	
Switch 2	_	
Switch 3		_

Switch 4		_	
Switch 5	_		
Switch 6		_	
Switch 7	157	To use when the MFP board is replaced. G.3.14 MFP board (MFPB)	
Switch 8		_	
Switch 9		_	
Switch 10		-	
Switch 11		_	
Switch 12	9	To change the display of the System Menu (Administrator Mode) in the PageScope Web Connection  • "Job Log" in Machine settings will not be displayed.  • "Job Log" tab in Import/Export will not be displayed.  • "Job Log" in System menu will be displayed.	

## 3.17 Engine DipSW

Not used.

#### 3.18 Function

### 3.18.1 Print-Test Print A4/Test Print Letter

## (1) Use

- · Prints the test pattern for the image adjustment.
- Use when adjusting skew, registration, and magnification.



## (2) Procedure

1. Set plain paper of A4 or Letter size in the tray1.

## NOTE

- To output the test pattern, the paper feed is only from the tray1.
- 2. Call the Service Mode to the display.
- 3. Touch [Function]  $\rightarrow$  [Print]  $\rightarrow$  [Test Print A4] or [Test Print Letter]. 4. Select [Execute], and touch [OK].
- 5. The test pattern is output.

## 3.18.2 Comp. Check

## (1) Use

- Checks the operation of each electrical component.
- The electrical components which can be checked are as follows.

Name	Electric parts name	Symbol
LV Fan (H-S)	DC power supply fan motor (High speed)	FM10
DUP Fan (H-S)	Cooling fan motor (High speed)	FM11
DUP Fan (M-S)	Cooling fan motor (Half speed)	
Polygon Motor	Polygon motor	M5
Tray 3 Feed Motor	Tray 3 media feed motor	M1
Color PC Motor	Color PC drum motor	M4
DEV Motor K	Developing motor (reverse rotation)	M1
DEV Motor YMCK	Developing motor (normal rotation)	M1
Tray 2 Feed Clutch	Tray 2 media feed clutch	CL1
Tray 1 Feed Clutch	Tray 1 media feed clutch	CL2
Sync roller Clutch	Registration clutch	CL3
2nd Trans Clutch	2nd transfer release solenoid	SD2
1st Trans Clutch	1st transfer release solenoid	SD1
Tray 3 Feed Clutch	Tray 3 media feed clutch	CL1

Toner supply clutch/Y	CL4
117	CL5
11.7	
Toner supply clutch/C	CL6
Toner supply clutch/K	CL7
Switchback roller feed clutch	CL11
Switchback roller reverse clutch	CL12
Duplex conveyance roller clutch	CL13
Main motor	M2
MFP board cooling fan motor (High speed)	FM12
MFP board cooling fan motor (Half speed)	
Tray 4 media feed motor	M1
Tray 4 media feed clutch	CL1
Loop detection clutch	CL8
Scanner motor	M101
Transport motor	M100
Pick-up clutch	CL100
Registration clutch	CL101
Pick-up solenoid	SD100
Release solenoid	SD101
Exposure lamp	LA1
	Switchback roller feed clutch Switchback roller reverse clutch Duplex conveyance roller clutch Main motor MFP board cooling fan motor (High speed) MFP board cooling fan motor (Half speed) Tray 4 media feed motor Tray 4 media feed clutch Loop detection clutch Scanner motor Transport motor Pick-up clutch Registration clutch Pick-up solenoid Release solenoid

### NOTE

- Any component does not operate in the event of jam or when a cover is open.
- · When making the developing motor or the registration clutch driven, be sure to install the waste toner bottle.

## (2) Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Function] → [Comp. Check].
- 3. Touch the key for electrical component of which operation is checked.
- 4. Select [Execute], and touch [OK].
  - The corresponding component starts to operate.
- 5. If the component is the one which can be stopped during its operation, you can press [Stop] to stop the operation.

### 3.18.3 Sensor Check/Scanner 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.
- 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.

## (2) Sensor check list

Cumbal	Danal dianlay	Dort/signal name	Operation characte	eristics/panel displa							
Symbol	Panel display	Part/signal name	ON	OFF							
	001/004										
PS2	Tray 2 Empty	Tray2 media empty sensor	Paper present	Paper not prese							
PS3	Tray 1 Empty	Tray1 media empty sensor	Paper present	Paper not prese							
PS1	Tray 3 Empty	Tray3 media empty sensor	Paper present	Paper not prese							
PS1	Tray 4 Empty	Tray4 media empty sensor	Paper present	Paper not pres							
PS5	Sync Roller	Registration sensor	Paper present	Paper not prese							
	002/004										
PS6	Paper Loop	Loop detection sensor	Paper present	Paper not prese							
PS8	Exit	Exit sensor	Paper present								
PS7	Paper Full	Tray media full sensor	Paper present	Paper not prese							
PS9	Duplex	Duplex conveyance sensor	Paper present	Paper not prese							
PS3	Tray 3 Feeder	Tray3 media feed sensor	Paper present	Paper not prese							
	003/004	1		1							

PS3	Tray 4 Feeder	Tray4 media feed sensor	Paper present	Paper not present
PS17	1st Trans	1st transfer release sensor	Engaged	Released
PS1	Tray 2 Set	Tray2 set sensor	Set	Unset
SW1	Tray 3 Size 1	Tray3 media size switch	ON	OFF
SW1	Tray 3 Size 2	Tray3 media size switch	ON	OFF
	004/004			
SW1	Tray 3 Size 3	Tray3 media size switch	ON	OFF
SW1	Tray 4 Size 1	Tray4 media size switch	ON	OFF
SW1	Tray 4 Size 2	Tray4 media size switch	ON	OFF
SW1	Tray 4 Size 3	Tray4 media size switch	ON	OFF
PS12	Waste Toner	Waste toner near full sensor	Full	Not full

## (3) Scanner sensor check list

Comple al	Denal display	Doubleins of some	Operation characteristics/panel display					
Symbol	Panel display	Part/signal name	ON	OFF				
	001/002							
REYB102	FB Home Sensor	Scanner home sensor	Home	Out of home				
PS101	ADF Pickup Sensor	Pick-up sensor	Paper present	Paper not preser				
PS102	ADF Doc Sensor	Document sensor	Paper present	Paper not prese				
REYB100	ADF Deskew Sensor	Registration sensor	Paper present	Paper not prese				
REYB101	ADF Paper Out Sensor	Before read sensor	Paper present	Paper not prese				
	002/002							
PS100	ADF Cover Sensor	ADF door sensor	Open	Close				
PS103	ADF Paper Gap Sensor	Paper interval sensor	Paper present	Paper not prese				

## 3.19 Toner Out Mode

## 3.19.1 Toner Out Mode

## (1) Use

- · Sets whether or not to enable monochrome print when the toner cartridge/Y,M,C becomes empty.
  - · Mode1: Enables monochrome print.
  - Mode2: Disables monochrome print.

## (2) Procedure

• The default setting is Mode1.

"Mode1", Mode2

## 3.20 IU Yield Settings

## 3.20.1 Toner Out Mode

## (1) Use

- · Sets the life detection timing of the imaging unit.
  - Standard: Detect the imaging unit life (prohibition of printing) as the specification value.
  - Long: Change the threshold value of the imaging unit life (prohibition of printing) detection, and extend the detection timing.

Life (prohibition of printing) threshold value	Standard	Long
(consumption rate)	105 %	150 %

## (2) Procedure

The default setting is Standard.

"Standard", Long

## 3.21 Enable Warning

#### **3.21.1 Toner Low**

#### (1) Use

· Specifies whether or not a warning appears when the toner is about to run out.

#### (2) Procedure

The default setting is ON.

"ON", OFF

#### 3.21.2 Imaging Unit Low

### (1) Use

· Specifies whether or not a warning appears when the imaging unit is about to reach the end of its service life.

#### (2) Procedure

The default setting is ON.

"ON", OFF

#### 3.21.3 Waste Toner Box Near Full

#### (1) Use

· Specifies whether or not a warning appears when the waste toner bottle becomes a near full condition.

#### (2) Procedure

The default setting is ON.

"ON", OFF

#### 3.22 Installation Date

#### 3.22.1 Use

- To register the date the machine was installed.
- The preset installation date can be reset.
- If an installation date is not specified in this setting, the time when the installed machine has printed 100 sheets automatically takes effect as
  the installation date.

#### 3.22.2 Exiting procedure

- 1. Call the Service Mode to the display.
- Touch [Installation Date].
- 3. The screen shows the current date and the preset installation date if it is specified.
- Touch [Installation Date], and enter a new installation date. (To enter the current date as the installation date, this step is unnecessary.)
- 5. Touch [Register] to set the installation date.

#### 3.23 Loadable Driver Information

### 3.23.1 Use

- · Display the information about the loadable driver that installed in the machine.
- To delete the loadable driver that installed in the machine.
  - · Status: Present state of the loadable driver

Installed	The loadable driver is installed in the machine, and the corresponding IC card reader is operable.
Not Installed	The loadable driver is not installed in the machine.

- · Product Name: Product name of the IC card reader
- · Serial Number: Serial number of the IC card reader
- · Version: Firmware version of the IC card reader
- · Manufacturer: Manufacturer of the IC card reader

## 3.23.2 Procedure

- 1. Call the Service Mode to the display.
- 2. Touch [Loadable Driver Information].
- 3. Loadable driver information will be displayed.
- 4. To delete the loadable driver, touch [Delete].
- 5. Select [Yes] and touch [OK] on the confirmation screen to delete the loadable driver.
- Reboot the machine.

#### 3.24 Loadable Driver Download

### 3.24.1 Use

- To download the loadable driver to the machine.
- · For downloading, use a USB memory device.

## 3.24.2 Procedure

#### (1) System requirements

- · PC equipped with a USB port
- · USB memory device

### 3.24.3 Saving the loadable driver data into the USB memory device

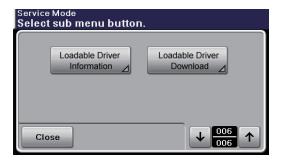
- 1. Save the loadable driver data in appropriate space in the PC.
- 2. Connect the USB memory device to the PC.
- 3. Create a "firmware" folder immediately under the drive of the USB memory
- 4. Copy the loadable driver (\*\*\*.bin) in the firmware folder created in step 3.

#### NOTE

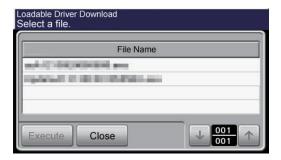
• Be sure to save the firmware data in "drive:/firmware/\*\*\*.bin."

### 3.24.4 How to download loadable driver data

- 1. Turn the power switch ON.
- 2. Connect the USB memory device to the printer.
- 3. Call the Service Mode to the screen.
- 4. Display [006/006] screen of the Service Mode.



- 5. Touch [Loadable Driver Download].
- 6. The loadable driver data list in the USB memory device will be displayed.



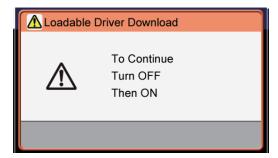
- 7. Select the loadable driver data to be downloaded, and touch [Execute].
- 8. Touch [OK].



9. The loadable driver downloading procedure starts.

#### NOTE

- · NEVER disconnect the USB memory device from the printer during the loadable driver downloading procedure.
- 10. Follow the message on the control panel to reboot the printer.

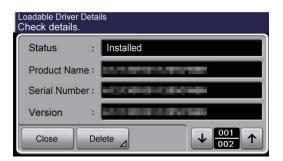


## 3.24.5 Deleting procedure

- 1. Turn the power switch ON.
- 2. Call the Service Mode to the screen.
- 3. Display [006/006] screen of the Service Mode.



- 4. Touch [Loadable Driver Information].
- 5. Touch [Delete].



- 6. Select [Yes] on the confirmation screen and touch [OK].
- 7. Follow the message on the control panel to reboot the printer.

## 3.25 Sleep ON/OFF Choice Setting

## 3.25.1 Sleep ON/OFF Choice Setting

#### (1) Use

To display the option of "Sleep Mode Setting" for the sleep mode setting screen available from [Utility] -> [Admin Settings] -> [Machine Settings].

## (2) Procedure

The default setting is Restrict.
 "Allow", Restrict

## 4. Billing Setting

## 4.1 List of billing setting

• The function tree is shown to comply with the format displayed on the screen.

	Ref. page		
Billing Setting	Count Setting	Count Mode	I.4.3.1 Count Mode
		Large Paper size Mode	I.4.3.2 Large Paper size Mode
	Restriction Code Settings	3	I.4.4 Restriction Code Settings

## 4.2 Starting/Exiting

## 4.2.1 Starting procedure

- 1. Call the Service Mode to the display.
- 2. Press the following keys in this order.; Stop  $\rightarrow$  2  $\rightarrow$  2  $\rightarrow$  2  $\rightarrow$  0  $\rightarrow$  0
- 3. Billing Setting display will appear.



## 4.2.2 Exiting procedure

· Touch the [Close].

# 4.3 Count Setting

#### 4.3.1 Count Mode

#### (1) Use

- To set the counting method for the total counter and size counter.
- Use to change the counting method for the counters.

### (2) Procedure

- · The default setting is depend on the marketing area.
  - Mode 1: 1 count per 1 copy cycle (Default: Japan)
  - · Mode 2: Large size is double counts (Default: US, Europe, Asian pacific and other areas)

### 4.3.2 Large Paper size Mode

## (1) Use

• To set the size regarded as the large size (2 counts.)

## (2) Procedure

- The default setting is depend on the marketing area.
  - Large Paper size Mode 0: Not counted Never regard any size as the large size (Default: Japan)
  - Large Paper size Mode 1: Regard A3/11 x 17 or more size as the large size. In this machine, it is virtually no different than [Large Paper size Mode 0]. (Default: US)
  - Large Paper size Mode 2: Regard 81/2 x 14 or more size as the large size. When it exceeds 215.9 mm in the main scan direction and 355.6 mm in the sub scan direction (exceeds 337.8 mm at fax scan) (Default: Europe, Asian pacific)
  - Large Paper size Mode 3: Regard Foolscap or more size as the large size. When it exceeds 203 mm in the main scan direction and 330 mm in the sub scan direction (exceeds 313.5 mm at fax scan)

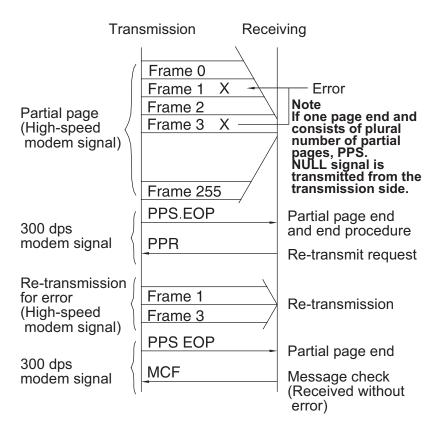
### 4.4 Restriction Code Settings

These are communication settings for the application which is developed by the third vendor.
 Do not set or change these settings without vendor's instructions.

## 5. FAX PROTOCOLS

## 5.1 G3 ECM (G3 Error Correction Mode)

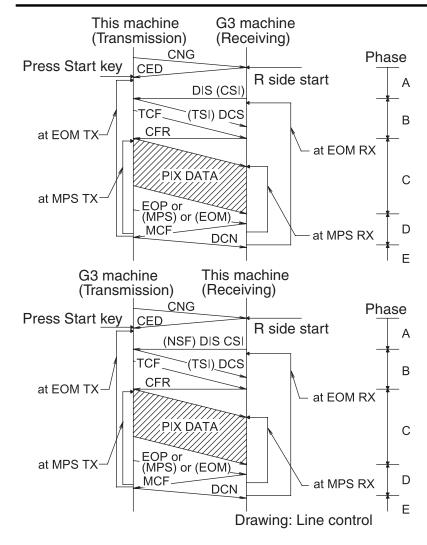
- · G3 ECM is the error correction system newly recommended by consultative committee of international telephone & telegraph of 1988.
- By G3 ECM, documents are divided into blocks (called partial page) for transmission. If any error takes place in any frame (one partial page consists of 256 frames at a maximum) on a partial page, the receiving party generates the retransmit request with erroneous frame numbers.
- · Here is an example where frame 1 and frame 3 are subjected to error:



## 5.2 Line control

## 5.2.1 Procedure of G3 mode communication

· Basic communications diagram of G3 mode.



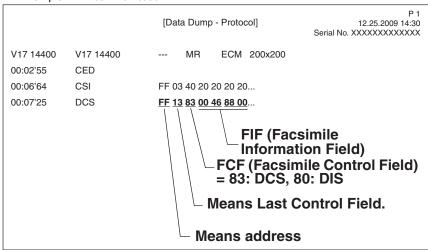
## 5.3 Table of reference code

Code	Function
CED	Called Terminal Identification.
CFR	Confirmation to Receive. 1850 Hz or 1650 Hz 3 sec.
CIG	Calling Station Identification.
CNG	Calling Tone.
CRP	Command Repeat.
CSI	Called Subscriber Identification.
DCN	Disconnect.
DCS	Digital Command Signal.
DIS	Digital Identification Signal.
DTC	Digital Transmit Command.
EOM	End of Message. 1,100 Hz.
EOP	End of Procedure.
FTT	Failure to Train.
MCF	Message Confirmation. 1,650 Hz or 1,850 Hz.
MPS	Multi-Page Signal.
NSC	Non-Standard Facilities Command.
NSF	Non-Standard Facilities.
NSS	Non-Standard Facilities Set-up.
PIN	Procedural Interrupt Negative.
PIP	Procedural Interrupt Positive.
PRI-EOM	Procedure Interrupt-End of Message (EOM).
PRI-MPS	Procedure Interrupt-Multi Page Signal (MPS).
PRI-EOP	Procedure Interrupt-End of Procedure (EOP).
RTN	Retrain Negative.
RTP	Retrain Positive.

	Code	Function								
Γ	TCF	Fraining Check.								
	TSI	Transmitting Station Identification.								

## 5.4 How to analyze the T30 protocol monitor

- DCS or DIS
- · HEX data as printed on page.
- Example: V.17 communication



## FIF (Facsimile Information Field)

HEX									•	1							2															
ПЕХ	0			0			4			6			8			8			0				0									
Data bit	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Bit No.	8	7	6	5	4	3	2	1	16	15	14	13	12	11	10	9	24	23	22	21	20	19	18	17	32	31	30	29	28	27	26	25
Note	Bi	t N	o.1	5=	1 R	8 x	7.7	7 Li	:0 72 nes/r :1 Ur	nm (	Fine		,	↑ gth							1	1										

## Hex-binary conversion list

Hex		Bin	ary																
0	0	0	0	0	4	0	1	0	0	8	1	0	0	0	С	1	1	0	0
1	0	0	0	1	5	0	1	0	1	9	1	0	0	1	D	1	1	0	1
2	0	0	1	0	6	0	1	1	0	Α	1	0	1	0	Е	1	1	1	0
3	0	0	1	1	7	0	1	1	1	В	1	0	1	1	F	1	1	1	1

## • DIS (DTC) / DCS bit allocation table of FIF (Facsimile Information Field)

Bit No.	Designation					DIS/DTC					DCS					
1	"0"= Invalid "1"= Store-and-forward swi	"0"= Invalid "1"= Store-and-forward switching Internet fax simple mode														
2	Set to "0"															
3	"0"= Invalid "1"= Real-time Internet fax															
4	Set to "0"															
5	Set to "0"															
6	"0"= Invalid "1"= V.8 capabilities				Invalid											
7	Flame size	"0" = 256 octets preferred "1"= 64 octets preferred								Invalid						
8	Set to "0"	o "0"														
9	"0"= Invalid "1"= Ready to transmit a fa	csimile	docu	ment	(polli	ng)	Set t	o "0"								
10	"0"= Invalid "1"= Receiver fax operation															
11			Bit N	No.		Data signalling rate	Bit No.				Data signalling rate					
''	14   13   12   11		Data signalling rate	14	13	12	11	Data signalling rate								
40	Data signalling rate	0	0	0	0	V.27 ter fall-back mode	0	0	0	0	2400 bit/s, rec. V.27ter					
12		0	0	0	1	Rec. V.29	0	0	0	1	9600 bit/s, rec. V.29					

Bit No.	Designation					DIS/DTC					DCS
		0	0	1	0	Rec. V.27 ter	0	0	1	0	4800 bit/s, rec. V.27ter
		0	0	1	1	Rec. V.27 ter and V.29	0	0	1	1	7200 bit/s, rec. V.29
		0	1	0	0	Not used	0	1	0	0	Invalid
		0	1	0	1	Not used	0	1	0	1	Reserved
		0	1	1	0	Reserved		1	1	0	Invalid
4.0		0	1	1	1	Reserved	0	1	1	1	Reserved
13		1	0	0	0	Not used	1	0	0	0	14,400 bit/s, rec. V.17
		1	0	0	1	Not used	1	0	0	1	9,600 bit/s, rec. V.17
		1	0	1	0	Reserved	1	0	1	0	12,000 bit/s, rec. V.17
		1	0	1	1	Rec. V.27 ter, V.29, V33 and V.17	1	0	1	1	7,200 bit/s, rec. V.17
		1	1	0	0	Not used	1	1	0	0	Reserved
14		1	1	0	1	Not used	1	1	0	1	Reserved
		1	1	1	0	Reserved	1	1	1	0	Reserved
		1	1	1	1	Reserved	1	1	1	1	Reserved
15	"0"= Invalid				•				•		
	"1"= R8 x 7.7 lines/mm and	l/or 20	0 x 20	00 pels	s/25.4	mm					
16	"0"= Invalid		abilit					Invali		olona	al coding
	"1"= Two-dimensional codi						1 =			isiona	ai coding
17		18	Bit No	17	-	Data signaling rate	1	Bit		7	Data signaling rate
		0		0	Scar	n line length 215 mm ± 1%	C			)	Scan line length 215 mm ± 1%
	Recording width capabilities	0		1		n line length 215 mm ± 1% scan line length 255 mm ± 1%	c	)		1	Scan line length 255 mm ± 1%
18	capabilities	1		0	and	n line length 215 mm ± 1% scan line length 255 mm ± 1% scan line length 303 mm ± 1%	1		0		Scan line length 303 mm ± 1%
		1		1	Inva		1			1	Invalid
19		E	3it No			Recording length capability		Bit	No.		Recording length capability
		20		19	'	recording length capability	2	0	1	9	Treediang length capability
	Recording length	0		0	,	297 mm)	C	)	1	)	A4 (297 mm)
20	capability	0		1	,	297 mm) and B4 (364 mm)	C	)		1	B4 (364 mm)
		1		0	Unlir	nited	1		(	)	Unlimited
		1		1	Inva	lid	1			1	Invalid
21		E	Bit No					Bit	No.		
22						Minimum scan line time			_		Minimum scan line time
		23	22	21			23	2	22	21	
		0	0	0	3.85		0		0	0	20 ms
		0	0	1		at 3.85 1/mm: T 7.7 = T 3.85	0		0	1	5 ms
	Minimum scan line time	0	1	0	10 m 3.85	ns at 3.85 1/mm: T 7.7 = T	0		1	0	10 ms
23	capability at the receive	0	1	1	20 m 3.85	ns at 3.85 1/mm: T 7.7 = 1/2 T	1		0	0	40 ms
		1	0	0	40 m 3.85	ns at 3.85 1/mm: T 7.7 = T	1		1	1	0 ms
		1	0	1	40 m	ns at 3.85 1/mm: T 7.7 = 1/2 T					
		1	1	0		ns at 3.85 1/mm: T 7.7 = 1/2 T					
		1	1	1		at 3.85 1/mm: T 7.7 = T 3.85					
24	Extension field	"0"= \ "1"= \	Nithou Nith	ut							
25	Reserved										
	Reserveu										
26	"0"= Invalid										
26											
	"0"= Invalid "1"= Un-compressed mode "0"= Invalid						l .			:56 oct	

30 Set to "0"   "O" = Invalid   "1" = 1.6 coding capability   "1" = 1.6 coding enabled   "1" = 1.6 coding   "1"	Bit No.	Designation	DIS/DTC	DCS		
"I" = T.6 coding capability   "I" = Without	30	Set to "0"				
1	31					
1	32					
The Multiple selective polling capability   Set to "0"	33					
39   1" = Polling sub address transmission (DTC) by Polled Sub Address (DIS)/PSA	34	"0"= Invalid		Set to "0"		
1	35					
39 Set to "0" 40 Extend field "0"= Without "1"= Without "1"= Without "1"= Without "1"= Without "1"= Without "1"= With "1"= R8 1.54 lines/mm   41 "1"= R8 1.54 lines/mm   42 "1"= 300 x 300 pols/2.54 mm   43 "0"= Invalid "1"= Inch based resolution preferred "1"= Resolution type selection "1"= Inch based resolution preferred "1"= Inch based resolution "1"= Inch based resolu	36	"0"= Invalid "1"= T.43 coding	"0"= Invalid			
39   Set to "0"   Extend field   "0" = Without   "1" = With   "1" = R8 x 15.4 lines/mm   "1" = R8 x 15.4 lines/mm   "0" = Invalid   "1" = R8 x 15.4 lines/mm and/or 400 x 400 pels/25.4 mm   "0" = Invalid   "1" = R16 x 15.4 lines/mm and/or 400 x 400 pels/25.4 mm   "0" = Invalid   "1" = Inch based resolution preferred   "1" = Inch based resolution preferred   "1" = Inch based resolution   "1" = Inch based	37					
40 Extend field """ = Without "1" = Without "1" = With "1" = With "1" = R8 x 15.4 lines/mm   41 "1" = R8 x 15.4 lines/mm   42 "0" = Invalid	38	Set to "0"				
40 Exend field "1"= With  41 "0"= Invalid "1"= Rix x1.5.4 lines/mm  42 "0"= Invalid "1"= Rix x1.5.4 lines/mm and/or 400 x 400 pels/25.4 mm  43 "0"= Invalid "1"= Inch based resolution preferred "1"= inch based resolution preferred "1"= inch based resolution (1"= "1"= inch based resolution "1"= inch based resolution (1"= "1"= inch based resolution (1"= invalid "1"=	39	Set to "0"				
11   11   R8 x 15.4 lines/mm	40					
42 "1"= 300 x 300 pels/25.4 mm  43 "0"= Invalid "1"= Rifs x 15.4 lines/mm and/or 400 x 400 pels/25.4 mm  44 "0"= Invalid "0"= Invalid "1"= inch based resolution preferred "0"= metric based resolution "1"= inch based resolution preferred "0"= metric based resolution "1"= inch based resolution preferred "1"= inch based resolution preferred Do not care  45 "0"= Invalid "1"= Metric based resolution preferred Do not care "1"= resolutions.  46 Repair of the provided "1"= resolutions.  47 "0"= Invalid "1"= Selective polling (DIS)/ Selective polling transmission (DTC) Set to "0"  48 Extend field "0"= Without "1"= Without "1"= Sub addressing capability "1"= Sub addressing transmission "0"= Invalid "1"= Reasword/ Sender identification capability (DIS)/ Password transmission "0"= Invalid "1"= Ready to transmit a data file (polling) Set to "0"  50 "Invalid "1"= Ready to transmit a data file (polling) Set to "0"  51 "0"= Invalid "1"= Binary File Transfer (BET) "0"= Invalid "1"= Binary File Transfer (EDI)  54 "0"= Invalid "1"= Basic Transfer Mode (DTM)  57 "0"= Invalid "1"= Basic Transfer Mode (BTM)  58 Set to "0"  10"= Invalid "1"= Ready to transmit a character or mixed mode document (polling) Set to "0"  10"= Invalid "1"= Ready to transmit a character or mixed mode document (polling) Set to "0"  10"= Invalid "1"= Ready to transmit a character or mixed mode document (polling) Set to "0"  10"= Invalid "1"= Ready to transmit a character or mixed mode document (polling) Set to "0"  10"= Invalid "1"= Ready to transmit a character or mixed mode document (polling) Set to "0"  10"= Invalid "1"= Ready to transmit a character or mixed mode document (polling) Set to "0"  10"= Invalid "1"= Ready to transmit a character or mixed mode document (polling) Set to "0"  10"= Invalid "1"= Not and the province of the provin	41					
"1" = R16 x 15.4 lines/mm and/or 400 x 400 pels/25.4 mm	42					
44 '1" inch based resolution preferred "0" emetric based resolution "1" inch based resolution "1" inch based resolution preferred "1" inch based resolution preferred "1" inch based resolution Do not care "1" inch based resolution preferred "1" inch based resolution preferred "1" inch based resolution Do not care "1" inch based resolutions. "1" inch based resolutions. "2" inch based resolutions. "2" inch based resolution Do not care resolutions. "3" inch based resolutions. "2" inch based resolutions. "3" inch based resolution and the provided inch based resolution based resolution inch based resolution and inch based resolution inch based resolutions.  To "a Invalid "1" a Ready to transmit a data file (polling) in the based resolution inch based resolution inch based resolution inch based resolution inch based resolution.  To "a Invalid "1" a Ready to transmit a data file (polling) in the based resolution.  To "a Invalid "1" a Ready to transmit a data file (polling) in the based resolution.  To "a Invalid "1" a Read	43					
49    "1"= Metric based resolution preferred	44	"1"= Inch based resolution preferred "0"= metric based resolution				
46 capability for higher resolutions.  47 "0"= Invalid "1"= Selective polling (DIS)/ Selective polling transmission (DTC)  48 Extend field "0"= Without "1"= Sub addressing capability "1"= Sub addressing transmission (DTC)  49 "0"= Invalid "1"= Sub addressing capability "1"= Sub addressing transmission (DTC)  50 "0"= Invalid "1"= Sub addressing transmission (DTC)  51 "0"= Invalid "1"= Sender identification capability (DIS)/ Password transmission (DTC)  52 Set to "0"  53 "4"= Ready to transmit a data file (polling)  53 "1"= Binary File Transfer (BFT)  54 "1"= Document Transfer (BFT)  55 "0"= Invalid "1"= Vithout "1"= With  57 "0"= Invalid "1"= With  58 Set to "0"  59 "0"= Invalid "1"= With  59 "0"= Invalid "1"= With  50 "0"= Invalid "1"= With  51 "0"= Invalid "1"= Ready to transfer Mode (BTM)  58 Set to "0"  59 "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  60 "0"= Invalid "1"= Character mode  61 Set to "0"  62 Set to "0"  63 Set to "0"  64 Set to "0"  65 Set to "0"  66 Set to "0"  67 "Invalid "1"= Character mode	45					
47 "1"= Selective polling (DIS)/ Selective polling transmission (DTC)  48 Extend field "0"= Without "1"= With  49 "0"= Invalid "1"= Sub addressing capability "1"= Sub addressing transmission (DTC)  50 "0"= Invalid "1"= Selective polling (DIS)/ Password transmission (DTC)  51 "0"= Invalid "1"= Sender identification capability (DIS)/ Password transmission (DTC)  52 Set to "0"  53 "1"= Binary File Transfer (BFT)  54 "0"= Invalid "1"= Document Transfer Mode (DTM)  55 "0"= Invalid "1"= EDIFACT Transfer (EDI)  56 Extend field "0"= Without "1"= With  57 "0"= Invalid "1"= Basic Transfer Mode (BTM)  58 Set to "0"  59 "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  60 "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  61 Set to "0"  62 Set to "0"  63 Set to "0"  64 "1"= Character mode  65 Set to "0"  67 "0"= Invalid "1"= Character mode	46	capability for higher		Do not care		
49 "0"= Invalid "1"= Sub addressing capability "0"= Invalid "1"= Sub addressing capability "0"= Invalid "1"= Password/ Sender identification capability (DIS)/ Password transmission (DTC) "0"= Invalid "1"= Ready to transmit a data file (polling)  52 Set to "0"  53 "0"= Invalid "1"= Binary File Transfer (BFT)  54 "0"= Invalid "1"= Document Transfer Mode (DTM)  55 "0"= Invalid "1"= EDIFACT Transfer (EDI)  56 Extend field "0"= Without "1"= With  57 "0"= Invalid "1"= Basic Transfer Mode (BTM)  58 Set to "0"  59 "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  60 "1"= Ready to transmit a character mode  61 Set to "0"  "0"= Invalid "1"= Character mode  61 Set to "0" "0"= Invalid "1"= Character mode  61 Set to "0"  "0"= Invalid "1"= Character mode	47			Set to "0"		
"1"= Sub addressing capability "1"= Sub addressing transmission "0"= Invalid "1"= Password / Sender identification capability (DIS) / Password transmission (DTC)  51 "0"= Invalid "1"= Ready to transmit a data file (polling)  52 Set to "0"  53 "1"= Binary File Transfer (BFT)  54 "0"= Invalid "1"= Document Transfer Mode (DTM)  55 "1"= EDIFACT Transfer (EDI)  56 Extend field "0"= Without "1"= With  57 "0"= Invalid "1"= Basic Transfer Mode (BTM)  58 Set to "0"  59 "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  60 "0"= Invalid "1"= Character mode  61 Set to "0"  20 "O"= Invalid "1"= Character mode  61 Set to "0"  20 "O"= Invalid "1"= Mixed mode	48	Extend field				
50 "1"= Password/ Sender identification capability (DIS)/ Password transmission (DTC)  51 "0"= Invalid "1"= Ready to transmit a data file (polling)  52 Set to "0"  53 "0"= Invalid "1"= Binary File Transfer (BFT)  54 "0"= Invalid "1"= Document Transfer Mode (DTM)  55 "0"= Invalid "1"= Display Transfer (EDI)  56 Extend field "0"= Without "1"= With  57 "1"= Basic Transfer Mode (BTM)  58 Set to "0"  59 "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  60 "0"= Invalid "1"= Character mode  61 Set to "0"  62 "0"= Invalid "1"= Mixed mode	49	"0"= Invalid "1"= Sub addressing capab	bility			
51 "1"= Ready to transmit a data file (polling)  52 Set to "0"  53 "0"= Invalid "4"= Binary File Transfer (BFT)  54 "0"= Invalid "1"= Document Transfer Mode (DTM)  55 "0"= Invalid "4"= EDIFACT Transfer (EDI)  56 Extend field "0"= Without "1"= With  57 "0"= Invalid "4"= Basic Transfer Mode (BTM)  58 Set to "0"  59 "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  60 "4"= Character mode  61 Set to "0"  62 "0"= Invalid "1"= Mixed mode	50	"0"= Invalid "1"= Password/ Sender identification capability (DIS)/ Password transmission "0"= Invalid "1"= Sender identification transmission				
"0"= Invalid "1"= Binary File Transfer (BFT)  54 "0"= Invalid "1"= Document Transfer Mode (DTM)  55 "0"= Invalid "1"= EDIFACT Transfer (EDI)  56 Extend field "0"= Without "1"= With  57 "0"= Invalid "4"= Basic Transfer Mode (BTM)  58 Set to "0"  59 "1"= Ready to transmit a character or mixed mode document (polling)  60 "0"= Invalid "1"= Character mode  61 Set to "0"  62 "0"= Invalid "1"= Mixed mode	51		ata file (polling)	Set to "0"		
"1"= Binary File Transfer (BFT)  14 "0"= Invalid "1"= Document Transfer Mode (DTM)  15 "0"= Invalid "1"= EDIFACT Transfer (EDI)  16 Extend field  10"= Without "1"= With  17"= Basic Transfer Mode (BTM)  18 Set to "0"  19 "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  10 "0"= Invalid "1"= Character mode  11 Set to "0"  12 "0"= Invalid "1"= Character mode  13 Set to "0"  14 Set to "0"  15 Set to "0"  16 Set to "0"  17 Set to "0"  18 Set to "0"	52	-		1		
"0"= Invalid "1"= Document Transfer Mode (DTM)  55 "0"= Invalid "1"= EDIFACT Transfer (EDI)  56 Extend field "0"= Without "1"= With  57 "0"= Invalid "1"= Basic Transfer Mode (BTM)  58 Set to "0"  59 "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  60 "0"= Invalid "1"= Character mode  61 Set to "0"  62 "0"= Invalid "1"= Mixed mode	53		BFT)			
"1"= EDIFACT Transfer (EDI)  Extend field "0"= Without "1"= With  "0"= Invalid "1"= Basic Transfer Mode (BTM)  Set to "0"  "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  60 "0"= Invalid "1"= Character mode  61 Set to "0"  62 "0"= Invalid "1"= Mixed mode	54	"0"= Invalid				
56 Extend field "1"= With  57 "0"= Invalid "1"= Basic Transfer Mode (BTM)  58 Set to "0"  59 "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  60 "0"= Invalid "1"= Character mode  61 Set to "0"  62 "0"= Invalid "1"= Mixed mode	55	"0"= Invalid				
"1"= Basic Transfer Mode (BTM)  Set to "0"  "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  60 "0"= Invalid "1"= Character mode  Set to "0"  Set to "0"  62 "0"= Invalid "1"= Mixed mode	56	Extend field				
58 Set to "0"  59 "0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)  60 "0"= Invalid "1"= Character mode  61 Set to "0"  62 "0"= Invalid "1"= Mixed mode	57	"0"= Invalid				
"1"= Ready to transmit a character or mixed mode document (polling)  "0"= Invalid "1"= Character mode  61 Set to "0"  62 "0"= Invalid "1"= Mixed mode	58					
"1"= Character mode  61 Set to "0"  62 "0"= Invalid "1"= Mixed mode	59	SQT TO "II"				
61 Set to "0"  62 "0"= Invalid "1"= Mixed mode	60					
62 "0"= Invalid "1"= Mixed mode	61		Set to "0"			
		"0"= Invalid				
	63	Set to "0"				

Bit No.	Designation	DIS/DTC	DCS	
64	Extend field	"0"= Without "1"= With	,	
65	"0"= Invalid "1"= Processable mode 26			
66	"0"= Invalid "1"= Digital network capability			
67	Duplex and half duplex capabilities	"0"= Half duplex operation only "1"= Duplex and half duplex operation	"0"= Half duplex operation only "1"= Duplex operation	
68	"0"= Invalid "1"= JPEG coding	"0"= Invalid		
69	"0"= Invalid "1"= Full color mode	"0"= Invalid		
70	Set to "0"			
71	"0"= Invalid "1"= 12 bit/pixel/element	"0"= Invalid		
72	Extend field	"0"= Without "1"= With		
73	"0"= Invalid "1"= No sampling (1:1:1)			
74	"0"= Invalid "1"= Custom illuminant			
75	"0"= Invalid "1"= Custom gamut range			
76	"0"= Invalid	(215.9 mm × 279.4 mm) capability	"0"= Invalid "1"= North American letter (215.9 mm × 279.4 mm)	
77	"0"= Invalid "1"= North American Legal (215.9 mm × 355.6 mm) capability		"0"= Invalid "1"= North American Legal (215.9 mm × 355.6 mm)	
78	"0"= Invalid "0"= Invalid		"0"= Invalid "1"= Single layer sequential encoding, basic	
79	"0"= Invalid "1"= Single layer sequential encoding, optional L0 capability "1"= Single layer sequential encoding, optional L0			
80	Extend field	"0"= Without "1"= With		
81	"0"= Invalid "0"= Invalid		"0"= Invalid "1"= HKM key management selected	
82	"0"= Invalid		"0"= Invalid "1"= RSA key management selected	
83	"0"= Invalid "1"= Override mode capability "1"= Override mode selected			
84	"0"= Invalid		"0"= Invalid "1"= HFX40 code selected	
85	"0"= Invalid "0"= Invalid		"0"= Invalid "1"= Alternative code number 2 selected	
86	"0"= Invalid			
87	"0"= Invalid "1"= HFX40-1 hashing cap	ability	"0"= Invalid "1"= HFX40-1 hashing selected	
88	Extend field	"0"= Without "1"= With	<u> </u>	
89	"0"= Invalid "1"= Alternative hashing sy	I	"0"= Invalid "1"= Alternative hashing system number 2 selected	
90	"0"= Invalid "1"= Alternative hashing system number 3 capability "0"= Invalid "1"= Alternative hashing system number 3 selected			
91	Reserved			
92	"0"= Invalid "1"= T.44 (Mixed raster content) mode			
93	"0"= Invalid "1"= T.44 (Mixed raster content) mode			
94	"0"= Invalid "1"= T.44 (Mixed raster content) mode			
95	"0"= Invalid "1"= Page length maximum strip size for T.44 (Mixed raster content)			
96	Extend field	"0"= Without "1"= With		

Bit No.	Designation	DIS/DTC	DCS
97	"0"= Invalid "1"= Color/mono-color multi-value 300 pixels x 300 pixels or 400 pixels x 400 pixels / 25.4 mm		
98	"0"= Invalid "1"= R4 x 3.85 lines/mm and/or 100 pixels x 100 pixels / 25.4 mm for color/mono-color multi-value		
99	"0"= Invalid "1"= Single phase C BFT negotiation capability		
100	Set to "0"		
101	Set to "0"		
102	Set to "0"		
103	Set to "0"		
104	Extend field	"0"= Without "1"= With	

# 6. Lower Feeder Unit (PF-P08)

## 6.1 Registration adjustment

This adjustment must be made if:
 The printed image deviates in the main scan direction, and the following setting does not resolve a problem.

 [Service Mode] 

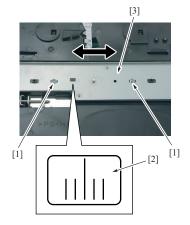
 [Printer Adjustment] 

 [Side Edge Adjustment]



- Remove the tray.
   G.4.3 PF-P08: Lower Feeder Unit
- 2. Loosen two screws [1].
- 3. Loosen two screws [1].

4. Watching the graduations [2] on the adjusting plate, move the edge guide plate [3] as necessary. Adjustment range:  $\pm$  2.0 mm



Tighten the four screws that have been loosened and mount the tray.

# **REWRITING OF FIRMWARE**

# 1. Checking the current firmware version

- Call the Service Mode to the screen.
   Touch [Firmware Version].
- 3. Select the firmware to be updated and check the current version.



## 2. Firmware upgrading procedure by USB memory device

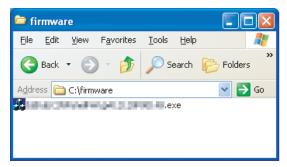
## 2.1 Preparations for firmware upgrading

## 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 (\*\*\*.exe) in the firmware folder created in step 3.



#### NOTE

- Be sure to save the firmware data in "drive:/firmware/\*\*\*.exe."
- The printer can display up to 20 files of firmware data during upgrading.

### 2.1.3 How to write firmware data

- 1. Turn the power switch ON.
- Connect the USB memory device to the printer.
- 3. Call the Service Mode to the screen.
- 4. Touch [Firmware Update].

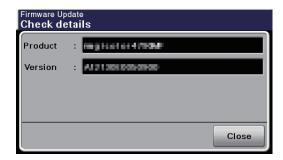


5. A list of firmware data in the USB memory device will be displayed.



## NOTE

• Before upgrading firmware, use [Details] to check that the firmware data is correct.



- 6. Touch [Close].
- 7. Select the specific firmware data to be upgraded and press [Execute].
- 8. Touch [OK].



9. 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.
- 10. The printer is automatically restarted as soon as the firmware is upgraded correctly.

## 3. Firmware upgrading procedure by updater

## 3.1 Updating method

• To update the firmware, perform "Firmware Updater."

## 3.1.1 System requirements

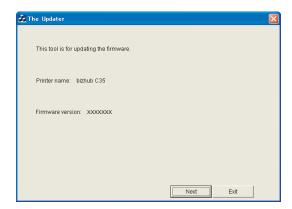
Computer	PC with a Pentium 2, 400 MHz or faster processor (A Pentium 3, 500 MHz or faster processor is recommended.)
OS	Microsoft Windows XP Home Edition/Professional, Windows 2000, Windows Vista Home Basic/ Home Premium/Business/Enterprise/Ultimate
Available hard disk space	Approximately 20 to 26 MB
Memory	• 128 MB or more
Interface	10Base-T/100Base-TX/1000Base-T Ethernet     USB 2.0 (High Speed) compliant

## 3.1.2 Connection for Windows

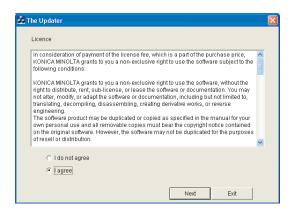
## (1) Starting the firmware updater

#### NOTE

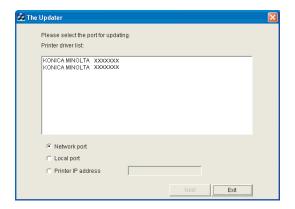
- Before starting the firmware updater, turn on the printer, and make sure that it is correctly connected.
- 1. Download the firmware updater.
- 2. Double-click "xxxxxxxxxxxxxexe."
- 3. The printer name and firmware version are displayed. Click the [Next].



4. The license agreement is displayed. Select "I agree", and then click the [Next].



5. The list of printer drivers is displayed. Select the appropriate connection for the environment where the printer is being used.



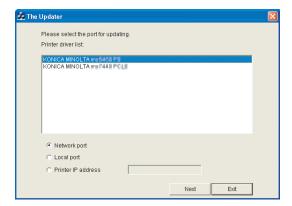
- For a network connection: Select "Network port."
  - J.3.1.2.(2) For a network connection
- For a local connection: Select "Local port."
- J.3.1.2.(3) For a local connection
- · When specifying the IP address of the printer: Select "Printer IP address."
- J.3.1.2.(4) When specifying the IP address of the printer

#### NOTE

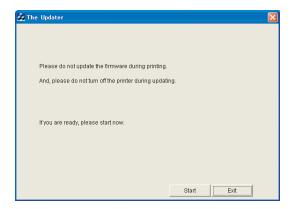
- If you select "Network port" or "Local port", make sure that the printer driver has been installed.
- · If you select "Printer IP address", the firmware can be updated even if a printer driver is not already installed.

#### (2) For a network connection

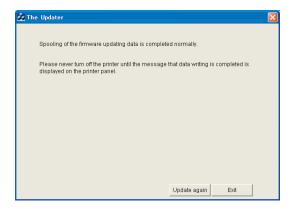
- 1. When "Network port" is selected, a list of printer drivers for the network port appears.
- 2. Select the printer driver, and then click the [Next].



- A message appears, requesting confirmation to update the firmware. Click the [Start] to begin transferring the firmware.NOTE
  - · Do not turn off the printer while its firmware is being updated.



4. The result of the firmware transfer is displayed. Click the [Exit].



5. If the firmware was successfully updated, the printer will automatically restart.

#### <If spooling of the data fails>

#### NOTE

- If spooling fails, data may remain in the printer spooler. Delete this data, and then try again.
- 1. If spooling of the data fails, the following message appears.
- 2. Click [OK].

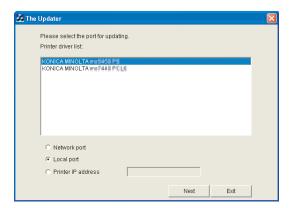


3. Check that the printer is ready and that it is correctly connected, and then click the [Update again].

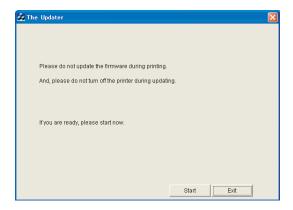


## (3) For a local connection

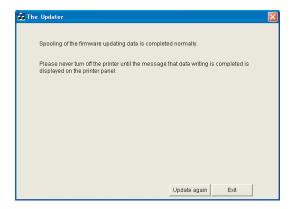
- 1. When "Local port" is selected, a list of printer drivers for the local port appears.
- 2. Select the printer driver, and then click the [Next].



- 3. A message appears, requesting confirmation to update the firmware. Click the [Start] to begin transferring the firmware. **NOTE** 
  - · Do not turn off the printer while its firmware is being updated.



4. The result of the firmware transfer is displayed. Click the [Exit].



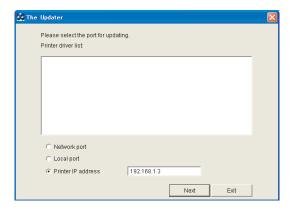
5. If the firmware was successfully updated, the printer will automatically restart.

#### <If spooling of the data fails>

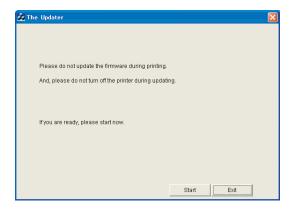
• For details, see "J.3.1.2.(2) For a network connection"

#### (4) When specifying the IP address of the printer

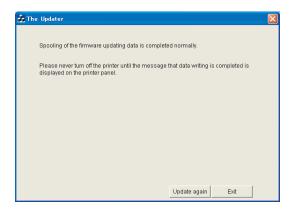
- 1. When "Printer IP address" is selected, the "Printer IP address" box becomes available.
- 2. Type in the IP address, and then click the [Next].



- 3. A message appears, requesting confirmation to update the firmware. Click the [Start] to begin transferring the firmware. **NOTE** 
  - Do not turn off the printer while its firmware is being updated.



4. The result of the firmware transfer is displayed. Click the [Exit].



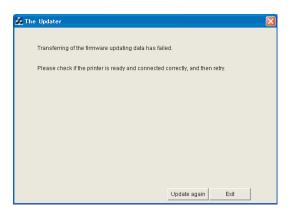
5. If the firmware was successfully updated, the printer will automatically restart.

#### <If transferring of the data fails>

- 1. If transferring of the data fails, the following message appears.
- 2. Click [OK].



3. Check that the printer is ready and that it is correctly connected, and then click the [Update again].



### 3.2 Checking the version after the firmware update

- 1. Call the Service Mode to the screen.
- 2. Touch [Firmware Version].

3. Select the firmware to be updated and check the current version.



# 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

• Open the 1st side cover, clear the sheet of paper misfed, and close the cover.

JAM type	JAM location	JAM processing location	Action
Fusing/paper exit section	Fusing/paper exit section	Right door     Fuser unit	K.1.4.2 Misfeed at fusing/paper exit section
Transfer section	Transfer section	Right door	K.1.4.3 Misfeed at transfer section
Conveyance section	Vertical conveyance section	<ul><li>Right door</li><li>Tray 3 right door *1</li><li>Tray 4 right door *1</li></ul>	K.1.4.7 Misfeed at tray 3/tray 4 vertical conveyance section
Duplex section	Duplex pre-registration section	Duplex door	K.1.4.9 Misfeed at duplex paper feed section
	Duplex paper conveyance section		K.1.4.8 Misfeed at duplex paper transport section
Tray 1	Tray 1 (manual bypass tray) paper feed section	Manual bypass tray     Right door	K.1.4.4 Misfeed at tray 1 paper feed section
Tray 2	Tray 2 paper feed section	Tray 2 Right door	K.1.4.5 Misfeed at tray 2 paper feed section
Tray 3 *1	Tray 3 paper feed section     Vertical conveyance section	• Tray 3 • Tray 3 right door	K.1.4.6 Misfeed at tray 3/tray 4 paper feed section K.1.4.7 Misfeed at tray 3/tray 4 vertical conveyance section
Tray 4 *1	Tray 4 paper feed section     Vertical conveyance section	Tray 4 Tray 4 right door	K.1.4.6 Misfeed at tray 3/tray 4 paper feed section K.1.4.7 Misfeed at tray 3/tray 4 vertical conveyance section
ADF section	ADF paper feed section     ADF conveyance section     ADF paper exit section	ADF feed cover	K.1.4.10 Misfeed at ADF section
Controller JAM Service Call: F001	Controller JAM	_	K.1.4.11 Controller JAM

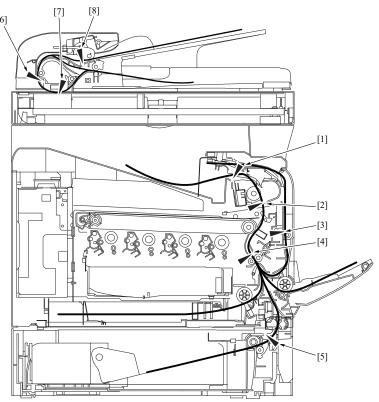
<sup>• \*1:</sup> Only when the optional paper feeder unit is installed.

## 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 feeder unit is installed.



[1]	Exit sensor (PS8)	[2]	Loop detection sensor (PS6)
[3]	Duplex conveyance sensor (PS9)	[4]	Registration sensor (PS5)
[5]	Media feed sensor (PS3) *1	[6]	Registration sensor (REYB100)
[7]	Before read sensor (REYB101)	[8]	Paper interval sensor (PS103)

<sup>• \*1:</sup> Only when the optional paper feeder unit is installed.

# 1.4 Solution

### 1.4.1 Initial check items

• When a paper misfeed occurs, first perform the following initial checks.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean the paper path and replace if necessary.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the edge guide and trailing edge stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

# 1.4.2 Misfeed at fusing/paper exit section

## (1) Contents

JAM type	Detection timing	Relevant electrical parts
Detection of misfeed at fusing/ paper exit section	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).	Exit sensor (PS8)     Duplex conveyance roller clutch (CL13)     Printer control board (PRCB)
Detection of paper left in fusing/ paper exit section	The exit sensor (PS8) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.	Main motor (M2)

Step	Action	WIRING DIAGRAM	
Step	Action	Control signal	Location (electrical component)
1	Initial check items	_	_
2	Check the connector between M2-PRCB PJ6 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 PJ9 for proper connection and correct as necessary.		_
5	Check the connector between CL13-relay CN20-PRCB PJ16 for proper connection and correct as necessary.	_	_
6	PS8 sensor check	PRCB PJ9-9(ON)	I-15
7	CL13 operation check	PRCB PJ16-15 (REM)	C-7
8	M2 operation check	PRCB PJ6-3 to 6	C-15
9	Change PRCB.	_	_

<sup>•</sup> Link to the wiring diagram

## 1.4.3 Misfeed at transfer section

## (1) Contents

JAM Type	Detection timing	Relevant electrical parts
Detection of misfeed at transfer section	<ul> <li>The registration sensor (PS5) is not blocked even after the lapse of a given period of time after the registration roller driving is started.</li> <li>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.</li> </ul>	Registration sensor (PS5)     Exit sensor (PS8)     Loop detection sensor (PS6)     Printer control board (PRCB)     Main motor (M2)
Detection of paper left in transfer section	<ul> <li>The registration sensor (PS5) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.</li> <li>The loop detection sensor (PS6) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.</li> </ul>	Loop detection clutch (CL8)

### (2) Procedure

Ston	Actions	WIRING DIAGRAM	
Step	Actions	Control signal	Location (electrical component)
1	Initial check items	_	_
2	Check the connector between M2-PRCB PJ6 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 PJ27 for proper connection and correct as necessary.	_	_
5	Check the connector between PS6-PRCB PJ16 for proper connection and correct as necessary.	_	_
6	Check the connector between PS8-PRCB PJ9 for proper connection and correct as necessary.	_	_
7	Check the connector between CL8-relay CN2-PRCB PJ15 for proper connection and correct as necessary.	_	_
8	PS5 sensor check	PRCB PJ27-7 (ON)	E-15
9	PS8 sensor check	PRCB PJ9-9 (ON)	I-15
10	PS6 sensor check	PRCB PJ16-3 (ON)	A-7
11	CL8 operation check	PRCB PJ15-6 (REM)	E-7
12	M2 operation check	PRCB PJ6-3 to 6	C-15
13	Change PRCB.	<del>_</del>	_

<sup>•</sup> Link to the wiring diagram

# 1.4.4 Misfeed at tray 1 paper feed section

### (1) Contents

JAM Type	Detection timing	Relevant electrical parts
Detection of tray 1 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 media feed clutch (CL2) is turned ON.	Registration sensor (PS5) Tray1 media feed clutch (CL2) Printer control board (PRCB) Main motor (M2)

Step Action WIRING DIAGRAM	
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		Control signal	Location (electrical component)
1	Initial check items	_	_
2	Check the connector between M2-PRCB PJ6 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 PJ27 for proper connection and correct as necessary.	_	_
5	Check the connector between CL2-PRCB PJ11 for proper connection and correct as necessary.	_	_
6	PS5 sensor check	PRCB PJ27-7 (ON)	E-15
7	CL2 operation check	PRCB PJ11-7 (REM)	K-15
8	M2 operation check	PRCB PJ6-3 to 6	C-15
9	Change PRCB.	_	_

## • Link to the wiring diagram

# 1.4.5 Misfeed at tray 2 paper feed section

## (1) Contents

JAM Type	Detection timing	Relevant electrical parts
Detection of misfeed at tray 2 paper feed section	The paper does not unblock the registration sensor (PS5) even after the lapse of a given period of time after the tray2 media feed clutch (CL1) is turned ON.	Registration sensor (PS5) Tray2 media feed clutch (CL1) Printer control board (PRCB) Main motor (M2)

## (2) Procedure

Step Action		WIRING DIAGRAM	
Siep	Action	Control signal	Location (electrical component)
1	Initial check items	_	_
2	Check the connector between M2-PRCB PJ6 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 PJ27 for proper connection and correct as necessary.	_	_
5	Check the connector between CL1-PRCB PJ11 for proper connection and correct as necessary.	_	_
6	PS5 sensor check	PRCB PJ27-7 (ON)	E-15
7	CL1 operation check	PRCB PJ11-2 (REM)	J-15
8	M2 operation check	PRCB PJ6-3 to 6	C-15
9	Change PRCB.	<del>_</del>	_

## • Link to the wiring diagram

# 1.4.6 Misfeed at tray 3/tray 4 paper feed section

## (1) Contents

JAM Type	Detection timing	Relevant electrical parts
Detection of misfeed at tray 3/tray 4 paper feed section	<ul> <li>The paper does not unblock the media feed sensor (PS3) even after the lapse of a given period of time after the media feed clutch (CL1) is turned ON.</li> </ul>	Media feed sensor (PS3)     Media feed clutch (CL1)
Detection of paper left in tray 3/ tray 4 paper feed section	The media feed sensor (PS3) is unblocked when the power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.	Printer control board (PRCB) PC control board (PCCB) Media 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)	I-2
7	CL1 operation check	PCCB PJ5-8 (REM)	I-2
8	M1 operation check	PCCB PJ3-4 to 8	K-2
9	Check the connector between PCCB PJ1, PJ2-relay CN53, CN70-PRCB PJ7 for proper connection and correct as necessary.	_	_
10	Change PCCB.	_	_
11	Change PRCB.	_	_

<sup>•</sup> Link to the wiring diagram

## 1.4.7 Misfeed at tray 3/tray 4 vertical conveyance section

## (1) Contents

JAM Type	Detection timing	Relevant electrical parts
Detection of misfeed at tray 3/tray 4 vertical conveyance section	The paper does not unblock the registration sensor (PS5) or the upper tray's media feed sensor (PS3) even after the lapse of a given period of time after the paper has unblocked the media feed sensor (PS3).  The paper does not block the media feed sensor (PS3) even after the lapse of a given period of time after the paper has unblocked the media feed sensor (PS3).	Media feed sensor (PS3)     Media feed clutch (CL1)     Registration sensor (PS5)     Printer control board (PRCB)     PC control board (PCCB)     Media feed motor (M1)

## (2) Procedure

Step	Action	WIRING DIAGRAM		
Siep	Action	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 PJ27 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, PJ2-relay CN53, CN70-PRCB PJ7 for proper connection and correct as necessary.	_	_	
8	PS3 sensor check	PCCB PJ5-3 (ON)	I-2	
9	PS5 sensor check	PRCB PJ27-7 (ON)	E-15	
10	CL1 operation check	PCCB PJ5-8 (REM)	I-2	
11	M1 operation check	PCCB PJ3-4 to 8	K-2	
12	Change PCCB.	_	_	
13	Change PRCB.	_	_	

<sup>•</sup> Link to the wiring diagram

## 1.4.8 Misfeed at duplex paper transport section

# (1) Contents

JAM Type	Detection timing	Relevant electrical parts
Detection of misfeed at duplex paper transport section	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).	Exit sensor (PS8)     Duplex conveyance sensor (PS9)     Duplex conveyance roller clutch (CL13)     Printer control board (PRCB)     Main motor (M2)

Detection of paper le	ft at duplex •	The duplex conveyance sensor (PS9) is unblocked when the power
paper transport section	on	switch is turned ON, a door or cover is opened and closed, or a misfeed
		or malfunction is reset.

## (2) Procedure

Cton	Action	WIRING DIAGRAM	
Step	Action	Control signal	Location (electrical component)
1	Initial check items	_	_
2	Check the connector between M2-PRCB PJ6 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 PJ9 for proper connection and correct as necessary.	_	_
5	Check the connector between PS9-PRCB PJ16 for proper connection and correct as necessary.	_	_
6	Check the connector between CL13-relay CN20-PRCB PJ16 for proper connection and correct as necessary.	_	_
7	PS8 sensor check	PRCB PJ9-9 (ON)	I-15
8	PS9 sensor check	PRCB PJ16-13 (ON)	C-7
9	CL13 operation check	PRCB PJ16-15 (REM)	C-7
10	M2 operation check	PRCB PJ6-3 to 6	C-15
11	Change PRCB.	_	_

<sup>•</sup> Link to the wiring diagram

# 1.4.9 Misfeed at duplex paper feed section

### (1) Contents

JAM Type	Detection timing	Relevant electrical parts
Detection of misfeed at duplex paper feed section	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.	Registration sensor (PS5) Duplex conveyance roller clutch (CL13) Printer control board (PRCB) Main motor (M2)

## (2) Procedure

Step	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Initial check items	_	_
2	Check the connector between M2-PRCB PJ6 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 PJ27 for proper connection and correct as necessary.	_	_
5	Check the connector between CL13-relay CN20-PRCB PJ16 for proper connection and correct as necessary.	_	_
6	PS5 sensor check	PRCB PJ27-7 (ON)	E-15
7	CL13 operation check	PRCB PJ16-15 (REM)	C-7
8	M2 operation check	PRCB PJ6-3 to 6	C-15
9	Change PRCB.	_	_

<sup>•</sup> Link to the wiring diagram

### 1.4.10 Misfeed at ADF section

## (1) Contents

JAM Type	Detection timing	Relevant electrical parts
Detection of misfeed at ADF section	The original does not block the paper interval sensor (PS103) even after the lapse of a given period of time after the original feed is started.  The original does not block the registration sensor (REYB100) even after the lapse of a given period of time after the original blocks the paper interval sensor (PS103).  The duration between the original's blocking and unblocking of the paper interval sensor (PS103) is shorter than a given period of time.	Registration sensor (REYB100)     Before read sensor (REYB101)     Paper interval sensor (PS103)

	When the preceding page of the original blocks and then unblocks the registration sensor (REYB1009), the subsequent page of the original does not block the paper interval sensor (PS103). The original does not block the registration sensor (REYB100) even after the lapse of a given period of time after the original is fed again. The original does not block the before read sensor (REYB101) even after the lapse of a given period of time after the original blocked the registration sensor (REYB100). The original blocks the before read sensor (REYB101) longer than a given period of time.	DF control board (DFCB)     MFP board (MFPB)
Detection of paper left in ADF section	When the power switch is turned ON, the registration sensor (REYB100), before read sensor (REYB101), or paper interval sensor (PS103) is blocked.	

# (2) Procedure

Step	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Initial check items	_	_
2	Check the connectors on the DFCB for proper connection and correct as necessary.	_	_
3	Change MFPB.	_	_
4	Change ADF.	_	_

Link to the wiring diagram

## 1.4.11 Controller JAM

## (1) Contents

JAM Type	Detection timing	Relevant electrical parts
Detection of controller JAM	<ul> <li>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 media type.</li> <li>When trying to feed duplex media though there is no media to be fed to the duplex print unit.</li> <li>When printing is directed with the duplex print unit selected as a media source and an exit media set to be fed to the duplex unit.</li> <li>While two sheets of media are in the printer, printing is directed with normal media feed settings other than a duplex media feed setting.</li> <li>In duplex printing, a size error occurs.</li> </ul>	Print control board (PRCB)  MFP board (MFPB)

## (2) Procedure

Step	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Check printer driver settings.	_	_
2	Change PRCB.	_	_
3	Change MFPB.	_	_

## • Link to the wiring diagram

## 2. PROCESS CAUTION INFROMATION

# 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] → [Mgmt. List].
   L3.9.1 Mgmt. 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	
Temperature/ humidity sensor failure	No response is provided from the temperature/ humidity sensor.
IDC Sensor failure	IDC sensor output values are out of the specified range.
Color Shift Test Pattern failure	<ul> <li>The number of points detected in the main scan direction is more or less than the specified value during main scan direction registration correction.</li> <li>The number of points detected in the sub scan direction is more or less than the specified value during sub scan direction registration correction.</li> </ul>
Color Shift Adjust failure	<ul> <li>The color shift amount is greater than the specified range during main scan direction registration correction.</li> <li>The color shift amount is greater than the specified range during sub scan direction registration correction.</li> <li>The skew correction amount is greater than the specified value.</li> </ul>

#### 2.3 Solution

#### 2.3.1 Temperature/ humidity sensor failure

#### (1) Contents

	Relevant parts
Temperature/ humidity sensor (TEM/HUMS)     Printer control board (PRCB)	

#### (2) Procedure

Step	Action	
1	Check the connector between TEM/HUMS-PRCB PJ27 for proper connection and correct as necessary.	
2	Change TEM/HUMS.	
3	Change PRCB.	

<sup>·</sup> Link to the wiring diagram

#### 2.3.2 IDC sensor failure

#### (1) Contents

Relevant parts
• IDC sensor (IDC)
Transfer belt unit
Printer control board (PRCB)
High voltage unit (HV)

#### (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, sensor shutter or connector, if it is installed or connected improperly.
4	Clean IDC if it is dirty.
5	Check the HV connector for proper connection and correct as necessary.
6	Change IDC.
7	Change PRCB.

<sup>·</sup> Link to the wiring diagram

### 2.3.3 Color regist test pattern failure

#### (1) Contents

	Relevant parts
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	Change PH unit.
4	Change PRCB.
5	Change MFPB.

Link to the wiring diagram

# 2.3.4 Color regist adjust failure

## (1) Contents

Relevant parts
• IDC sensor (IDC)
Printer control board (PRCB)

## (2) Procedure

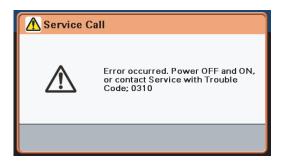
Step	Action	
1	Slide out the imaging unit and reinstall it in position.	
2	Reinstall or reconnect IDC if it is installed or connected improperly.	
3	Change IDC.	
4	Change PRCB.	

Link to the wiring diagram

# 3. MALFUNCTION 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 List

Code	Description	Detection timing	
0010	Color PC drum motor malfunction	<ul> <li>The color PC drum motor does not rotate evenly even after the lapse of a given period of time while it is being started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the color PC drum motor is being rotated.</li> </ul>	
0017	Main motor malfunction	<ul> <li>The main motor does not rotate evenly even after the lapse of a given period of time while it is being started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the main motor is being rotated.</li> </ul>	
0018	Developing motor malfunction	<ul> <li>The developing motor does not rotate evenly even after the lapse of a given period of time while it is being started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the developing motor is being rotated.</li> </ul>	
0045	MFP board cooling fan motor malfunction	<ul> <li>The MFP board cooling fan motor does not rotate evenly even after the lapse of a given period of time while it is being started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the MFP board cooling fan motor is being rotated.</li> </ul>	
004A	Cooling fan motor malfunction	<ul> <li>The cooling fan motor does not rotate evenly even after the lapse of a given period of time while it is being started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the cooling fan motor is being rotated.</li> </ul>	
004E	DC power supply fan motor malfunction	<ul> <li>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.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the DC power supply fan motor is being rotated.</li> </ul>	
0062	Tray 3 media feed motor malfunction	The motor lock signal remains HIGH for a given period of consecutive time while the media feed motor is being rotated.	
0063	Tray 4 media feed motor malfunction	The motor lock signal remains HIGH for a given period of consecutive time while the media feed motor is being rotated.	
0094	2nd image transfer pressure / retraction failure	The IDC sensor does not come into the condition where the level detection is available (retracted position = IDC sensor shutter is open) within a given period of time after the 2nd transfer release solenoid has turned ON.  The IDC sensor does not come into the condition where the level detection is not available (pressed position = IDC sensor shutter is closed) within a given period of time after the 2nd transfer release solenoid has turned ON.	
0096	1st image transfer pressure / retraction failure	<ul> <li>The 1st transfer release sensor is not activated (retracted position) within a given period of time after the 1st transfer release solenoid has turned ON.</li> <li>The 1st transfer release sensor is not deactivated (pressed position) within a given period of time after the 1st transfer release solenoid has turned ON.</li> </ul>	
0300	Polygon motor malfunction	<ul> <li>The polygon motor does not rotate evenly even after the lapse of a given period of time after it has been started.</li> <li>The motor lock signal remains HIGH for a given period of consecutive time while the polygon motor is being rotated.</li> </ul>	
0310	Laser malfunction	The SOS signal is not detected within a given period of time after the output of the laser has been started.	
0500	Heating roller warm-up failure	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.	
0502	Thermistor open-circuit failure	The temperature detected by the thermistor/1 does not reach a predetermined level even after the lapse of a given period time after the warm-up cycle has been started.	

0503	Thermistor resistance failure	The difference between the temperature detected by thermistor/1 and that detected by thermistor/2 exceeds a predetermined value.	
0510	Abnormally low heating roller temperature	The temperature detected by the thermistor /1 remains lower than the specified value for a given period of time or longer.	
0520	Abnormally high heating roller temperature	<ul> <li>The temperature detected by the thermistor /1 remains higher than the specified value for a given period of time or longer.</li> <li>The heater lamp remains ON for a given period of time or longer.</li> </ul>	
0F52	Toner level sensor/Y malfunction	An error occurs on the toner level sensor for each color.	
0F53	Toner level sensor/M malfunction		
0F54	Toner level sensor/C malfunction		
0F55	Toner level sensor/K malfunction		
13DD	Backup data error	The engine counter data and the controller counter data are inconsistent.	
13E2	Engine flash ROM write error	Flash ROM writing is found faulty during a check.	
13E3	Engine flash ROM device fault	An erase error occurs during erasing of data in flash ROM.	
13F0	Engine control failure	An undefined malfunction occurs in the engine section (PRCB, etc.).     While the machine is operating, if it detects defective conditions, e.g. the next print is not started after the lapse of a given period of time, it stops operating and the trouble code is displayed.	
3C00	Trouble related to	Contact the responsible people of KONICA MINOLTA when not returning in power	
3C10	security	switch OFF/ON.	
6751	Gain adjustment error	<ul> <li>Reading the white pixel output of each color from the data provided by the shading plate, the machine makes the gain adjustment for each color so that the maximum value of each color becomes within the specified range. However, after the machine attempts the adjustment three times in total (including two retries), the value is out of the specified range.</li> </ul>	
6790	Offset adjustment error	<ul> <li>Reading the black pixel output of each color from the data provided by the shad plate, the machine makes the offset adjustment for each color so that the avera value of each color becomes within the specified range. However, after the ma- attempts the offset adjustment three times in total (including two retries), the va- out of the specified range.</li> </ul>	
6791	Register setting error	<ul> <li>After the default values of AFE gain and offset are set, the machine reads the gain and offset values again. Inconsistency between the values that are set and read is found.</li> </ul>	
6792	White reference plate search error	During an initialization, the black edge and the white edge read by the shading plate cannot be detected.	
6793	Scanner communication error	An undefined communication error occurs between the controller and the scanner.	
9401	Lamp illumination check error	In the lamp stabilization check process during the lamp warm-up, light quantity does not become steady within a given period of time.	
B116	Communication error with the fax board	An undefined communication error occurs between the controller and the fax board.	
C023	FlashROM error	A SSD board failure occurs.	
C026	Controller ROM error (Access error)	Flash ROM access error is detected during the printer starting.	
C027	Controller ROM error (Data error)	<ul> <li>Final check sum error is detected during the printer starting.</li> <li>When the machine is started, a malfunction is detected in state confirmation process of the loadable driver.</li> </ul>	
C050	HDD access error	When correct access to the hard disk kit is failed during access.	
C051	HDD full error	Range for user space is full during access to the hard disk kit.	
C060	Firmware update error	Firmware update fails to complete correctly during update.	
C072	Counter not installed	The total counter (TCT) is not installed.	
C080	Memory error	The failure of the RAM on the MFP board occurs.	
C900	Successful completion of counter backup	The counter backup process is completed successfully.	
C907	Abnormal end of counter backup	The counter backup process results in an abnormal end due to a write error or other reasons.	
FF10			
FF20	Board image processing error		
FF40	(ASIC)	An image processing error is detected in the board.	
FF80			
FFFF	Interface communication error	Correct communication is failed when receiving/sending the command between PRCB and MFPB/2.	
	•	•	

# 3.3 Trouble resetting procedure

• To reset a malfunction, turn the power switch OFF and then ON again.

### 3.4 Solution

#### 3.4.1 0010

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
0010	Color PC drum motor malfunction	Color PC drum motor (M4)     Printer control board (PRCB)

# (2) Procedure

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Check the connector between M4-PRCB PJ5 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 PJ5-3 to 6	B-15
4	Change M4.	_	_
5	Change PRCB.		

Link to the wiring diagram

#### 3.4.2 0017

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
0017	Main motor malfunction	Main motor (M2)     Printer control board (PRCB)

### (2) Procedure

	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Check the connector between M2-PRCB PJ6 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 PJ6-3 to 6	C-15
4	Change M2.	_	_
5	Change PRCB.	_	_

Link to the wiring diagram

#### 3.4.3 0018

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
0018	Developing motor malfunction	Developing motor (M1)     Print control board (PRCB)

### (2) Procedure

	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Check the connector between M1-PRCB PJ5 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 PJ5-10 to 13	B-15
4	Change M1.	_	_
5	Change PRCB.	_	_

Link to the wiring diagram

#### 3.4.4 0045

## (1) Contents

Trouble code Trouble type	Relevant electrical parts
---------------------------	---------------------------

0045	MFP board cooling fan motor malfunction	MFP board cooling fan motor (FM12)
		Printer control board (PRCB)

### (2) Procedure

	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Check the connector between FM12-relay CN64-PRCB PJ14 for proper connection and correct as necessary.	_	_
2	Check the fan for possible overload and correct as necessary.	_	_
3	FM12 operation check	PRCB PJ14-7 (REM) PRCB PJ14-9 (LOCK)	H-15
4	Change FM12.	_	_
5	Change PRCB.	_	_

<sup>•</sup> Link to the wiring diagram

### 3.4.5 004A

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
004A	Cooling fan motor malfunction	Cooling fan motor (FM11)     Printer control board (PRCB)

### (2) Procedure

	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Check the connector between FM11-relay CN29-PRCB PJ14 for proper connection and correct as necessary.	_	_
2	Check the fan for possible overload and correct as necessary.	_	_
3	FM11 operation check	PRCB PJ14-4 (REM) PRCB PJ14-6 (LOCK)	G-15
4	Change FM11.	_	_
5	Change PRCB.	_	_

Link to the wiring diagram

#### 3.4.6 004E

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
004E	DC power supply fan motor malfunction	DC power supply fan motor (FM10)     Printer control board (PRCB)

### (2) Procedure

	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Check the connector between FM10-relay CN43-PRCB PJ14 for proper connection and correct as necessary.	_	_
2	Check the fan for possible overload and correct as necessary.	_	_
3	FM10 operation check	PRCB PJ14-1 (REM) PRCB PJ14-3 (LOCK)	G-15
4	Change FM10.	_	_
5	Change PRCB.	_	_

Link to the wiring diagram

# 3.4.7 0062, 0063

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
0062	Tray 3 media feed motor malfunction	Media feed motor (M1)
0063	Tray 4 media feed motor malfunction	Printer control board (PRCB) PC control board (PCCB)

## (2) Procedure

	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Check the connector between M1-PCCB PJ3 for proper connection and correct as necessary.	_	_
2	Check the connector between PCCB PJ1, PJ2-relay CN53, CN70-PRCB PJ7 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	K-2
5	Change M1.	_	_
6	Change PCCB.	_	_
7	Change PRCB.	_	_

Link to the wiring diagram

## 3.4.8 0094

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
0094	2nd image transfer pressure/retraction failure	IDC sensor (IDC)     2nd transfer release solenoid (SD2)     Main motor (M2)     Printer control board (PRCB)

## (2) Procedure

	Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Check the connector between M2-PRCB PJ6 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 PJ24 for proper connection and correct as necessary.	_	_
4	Check the connector between SD2-relay CN23-PRCB PJ16 for proper connection and correct as necessary.	_	_
5	IDC sensor check	PRCB PJ24-1 (IDC_V01) PRCB PJ24-4 (IDC_VREF)	F-15
6	SD2 operation check	PRCB PJ16-7 (REM)	B-7
7	M2 operation check	PRCB PJ6-3 to 6	C-15
8	Change SD2.	_	_
9	Change M2.	_	_
10	Change IDC.	_	_
11	Change PRCB.	_	_

Link to the wiring diagram

## 3.4.9 0096

# (1) Contents

Trouble code	Trouble type	Relevant electrical parts
0096	1st image transfer pressure/retraction failure	1st transfer release sensor (PS17)     1st transfer release solenoid (SD1)     Main motor (M2)Printer control board (PRCB)

		WIRING DIAGRAM	
Step	Action	Control signal	Location (electrical component)
1	Check the connector between M2-PRCB PJ6 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 PJ26 for proper connection and correct as necessary.	_	_
4	Check the connector between SD1-relay CN25-PRCB PJ14 for proper connection and correct as necessary.	_	_
5	PS17 sensor check	PRCB PJ26-7 (ON)	G-7
6	SD1 operation check	PRCB PJ14-11 (REM)	H-15
7	M2 operation check	PRCB PJ6-3 to 6	C-15
8	Change PS17.	_	_
9	Change SD1.	_	_
10	Change M2.	_	_
11	Change PRCB.	_	<del>_</del>

Link to the wiring diagram

### 3.4.10 0300

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
0300	Polygon motor malfunction	• PH unit
		Printer control board (PRCB)

## (2) Procedure

Step Action		WIRING DIAGRAM	
	Action	Control signal	Location (electrical component)
1	Check the connector between PH unit-PRCB PJ19 for proper connection and correct as necessary.	_	_
2	Change PH unit.	_	_
3	Change PRCB.	_	_

Link to the wiring diagram

### 3.4.11 0310

### (1) Contents

Trouble code	Trouble type	Relevant electrical parts
0310	Laser malfunction	PH unit Printer control board (PRCB) MFP board (MFPB)

### (2) Procedure

		WIRING DIAGRAM	
Step	Action	Control signal	Location (electrical component)
1	Check the connector between PH unit-PRCB PJ19 for proper connection and correct as necessary.	_	_
2	Check the connector between PH unit-MFPB PJ4 for proper connection and correct as necessary.	_	_
3	Change PH unit.	_	_
4	Change PRCB.		

Link to the wiring diagram

# 3.4.12 0500, 0502, 0503, 0510, 0520

### (1) Contents

Trouble code	Trouble type	Relevant electrical parts
0500	Heating roller warm-up failure	Fuser unit
0502	Thermistor open-circuit failure	Printer control board (PRCB)     DC power supply (DCPU)
0503	Thermistor resistance failure	- DC power supply (DCPO)
0510	Abnormally low heating roller temperature	
0520	Abnormally high heating roller temperature	

		WIRING DIAGRAM	
Step	Action	Control signal	Location (electrical component)

1	Check the fuser unit for correct installation (whether it is secured in position).	_	_
2	Check the connector between fuser unit-PRCB PJ26 for proper connection and correct as necessary.	_	_
3	Check the connector between fuser unit-DCPU CN2 for proper connection and correct as necessary.	_	_
4	Change fuser unit.	_	_
5	Change PRCB.	_	_
6	Change DCPU.	_	_

Link to the wiring diagram

## 3.4.13 0F52, 0F53, 0F54, 0F55

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
0F52	Toner level sensor/Y malfunction	Toner level sensor/Y (PS13)
0F53	Toner level sensor/M malfunction	Toner level sensor/M (PS14)     Toner level sensor/C (PS15)
0F54	Toner level sensor/C malfunction	Toner level sensor/K (PS16)      Toner level sensor/K (PS16)
0F55	Toner level sensor/K malfunction	Printer control board (PRCB)

### (2) Procedure

		WIRING DIAGRAM	
Step	Step Action		Location (electrical component)
1	Check the connector between each sensor-PRCB PJ25 for proper connection and correct as necessary.	_	_
2	Replace the toner level sensor of the corresponding color.	_	_
3	Change PRCB.	_	_

<sup>•</sup> Link to the wiring diagram

## 3.4.14 13DD

### (1) Contents

Trouble code	Trouble type	Relevant electrical parts
13DD	Backup data error	Print control board (PRCB)     MFP board (MFPB)

## (2) Procedure

Step	Action	WIRING DIAGRAM	
		Control signal	Location (electrical component)
1	Select [Service Mode] $\rightarrow$ [BK Clear], and execute the BK Clear function.	_	_
2	Check the connector between MFPB CN16-PRCB PJ21 for proper connection and correct as necessary.	_	_
3	Change PRCB.	_	_
4	Change MFPB.	_	_

<sup>·</sup> Link to the wiring diagram

#### 3.4.15 13E2, 13E3

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
13E2	Engine flash ROM write error	Printer control board (PRCB)
13E3	Engine flash ROM device fault	

	Step Action	WIRING DIAGRAM	
Step		Control signal	Location (electrical component)
1	Rewrite the engine firmware.	_	_
2	Change PRCB.	_	_

<sup>•</sup> Link to the wiring diagram

### 3.4.16 13F0

### (1) Contents

Trouble code	Trouble type	Relevant electrical parts
13F0	Engine control failure	Printer control board (PRCB)

## (2) Procedure

		WIRING DIAGRAM	
Step	Action	Control signal	Location (electrical component)
1	Reboot the main body.	_	_

Link to the wiring diagram

## 3.4.17 6751, 6790, 6792, 6793, 9401

### (1) Contents

` '		
Trouble code	Trouble type	Relevant electrical parts
6751	Gain adjustment error	Scanner unit
6790	Offset adjustment error	MFP board (MFPB)
6792	White reference plate search error	
6793	Scanner communication error	
9401	Lamp illumination check error	

### (2) Procedure

		WIRING D	DIAGRAM	
Step	Action	Control signal	Location (electrical component)	
1	Reboot the main body.	_	_	
2	Clean the original glass.	_	_	
3	Check the connector CN102, CN103 on MFPB for proper connection and correct as necessary.	_	_	
4	Change scanner unit.	_	_	
5	Change MFPB.	_	_	

<sup>·</sup> Link to the wiring diagram

### 3.4.18 6791

### (1) Contents

Trouble code	Trouble type	Relevant electrical parts
6791	Register setting error	MFP board (MFPB)

### (2) Procedure

		WIRING DIAGRAM	
Step	Action	Control signal	Location (electrical component)
1	Reboot the main body.	_	_
2	Check the connector CN102, CN103 on MFPB for proper connection and correct as necessary.	_	_
3	Change MFPB.	_	_

Link to the wiring diagram

#### 3.4.19 B116

### (1) Contents

Trouble code	Trouble type	Relevant electrical parts
B116	Communication error with the fax board	Fax board (FAXB)     MFP board (MFPB)

	WIRING DIAGRAM		
Step	Action	Control signal	Location (electrical component)
1	Check the connector CN106 on MFPB for proper connection and correct as necessary.	_	_

2	Change FAXB.	_	_
3	Change MFPB.	_	_

<sup>·</sup> Link to the wiring diagram

## 3.4.20 C023

# (1) Contents

Trouble code	Trouble type	Relevant electrical parts
C023	Flash ROM error	SSD board (SSDB)     MFP board (MFPB)

## (2) Procedure

		WIRING DIAC	DIAGRAM
Step	Action	Control signal	Location (electrical component)
1	Reboot the main body.	_	_
2	Check the SSDB for proper connection and correct as necessary.	_	_
3	Change MFPB.	_	_

<sup>·</sup> Link to the wiring diagram

### 3.4.21 C026, C027

### (1) Contents

Trouble code	Trouble type	Relevant electrical parts
C026	Controller ROM error (Access error)	MFP board (MFPB)
C027	Controller ROM error (Data error)	

### (2) Procedure

		WIRING D Control signal	DIAGRAM	
Step	Action		Location (electrical component)	
1	Reboot the main body.	_	_	
2	Check the MFPB connector for proper connection and correct as necessary.	_	_	
3	If this error message is displayed after update of firmware, conduct the firmware update procedures again.	_	_	
4	Change MFPB.	_		

Link to the wiring diagram

## 3.4.22 C050

# (1) Contents

Trouble code	Trouble type	Relevant electrical parts
C050	HDD access error	MFP board (MFPB)     Hard disk kit (HDD)

### (2) Procedure

Step		WIRING DIAGRAM	
	Action	Control signal	Location (electrical component)
1	Reboot the main body.		_
2	Check the connector between HDD-MFPB CN7 for proper connection and correct as necessary.	_	_
3	Change HDD.	_	_
4	Change MFPB.	_	_

<sup>•</sup> Link to the wiring diagram

### 3.4.23 C051

### (1) Contents

Trouble code	Trouble type	Relevant electrical parts
C051	HDD full error	MFP board (MFPB)     Hard disk kit (HDD)

### (2) Procedure

		WIRING DIAGRAM	
Step	Action	Control signal	Location (electrical component)
1	Reboot the main body.	_	_
2	Delete the job hold in [PS/PCL PRINT] - [PROOF/PRINT MENU] to increase the available range for user space.	_	_
3	Check the connector between HDD-MFPB CN7 for proper connection and correct as necessary.	_	_
4	Format HDD with [SYS DEFAULT MENU] - [HDD FORMAT].	_	_
5	Change HDD.	_	_

<sup>•</sup> Link to the wiring diagram

#### 3.4.24 C060

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
C060	Firmware update error	MFP board (MFPB)

## (2) Procedure

		WIRING DIAGRAM	
Step	Action	Control signal	Location (electrical component)
1	Reboot the main body.	_	_
2	Check the cable that has been used for update of the firmware for proper connection and correct as necessary.	_	_
3	Check the firmware update file and if the file is not the correct one, update the firmware again.	_	_
4	Check the firmware update procedure and if the procedure is not correct, update the firmware again.	_	_
5	Update the firmware again.	_	_
6	Check the MFPB connector for proper connection and correct as necessary.	_	_
7	Change MFPB.	_	_

Link to the wiring diagram

## 3.4.25 C072

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
C072	Counter not installed	Total counter (TCT)
		Printer control board (PRCB)

## (2) Procedure

		WIRING DIAGRA Control signal	DIAGRAM
Step	Action		Location (electrical component)
1	Reboot the main body.	_	_
2	Check the connector between TCT-PRCB PJ13 for proper connection and correct as necessary.	_	_
3	Change PRCB.	_	_

<sup>•</sup> Link to the wiring diagram

#### 3.4.26 C080

## (1) Contents

Trouble code	Trouble type	Relevant electrical parts
C080	Memory error	MFP board (MFPB)

		WIRING DIAGRAM		
	Step	Action	Control signal	Location (electrical component)
	1	Reboot the main body.		_

ſ		Change MEDR		
	2	Change MFPB.	_	_

· Link to the wiring diagram

#### 3.4.27 C900

### (1) Contents

Trouble code	Trouble type
C900	Successful completion of counter backup

## (2) Procedure

- 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.3.14 MFP board (MFPB)
- Link to the wiring diagram

#### 3.4.28 C907

### (1) Contents

Trouble code	Trouble type	Relevant electrical parts
C907	Abnormal end of counter backup	MFP board (MFPB)     SSD board (SSDB)

#### (2) Procedure

		WIRING DIAGRAM		
Step	Action	Control signal	Location (electrical components)	
1	Check the MFPB connector for proper connection and correct as necessary	_	_	
2	Check the SSDB connector for proper connection and correct as necessary	_	_	
3	Change MFPB.	_	_	
4	After taking the above actions, if the counter backup process results in the same trouble code again, the SSD can be broken. In this case, the counter backup is unavailable.	_	_	

<sup>•</sup> Link to the wiring diagram

## 3.4.29 FF10, FF20, FF40, FF80

#### (1) Contents

Trouble code	Trouble type	Relevant electrical parts
FF10,FF20,FF40,FF80	Board image processing error (ASIC)	MFP board (MFPB)

### (2) Procedure

		WIRING DIAGRAM		
Step	Action	Control signal	Location (electrical components)	
1	Reboot the main body.	-	-	
2	Change MFPB.	-	-	

Link to the wiring diagram

### 3.4.30 FFFF

### (1) Contents

Trouble code	Trouble type	Relevant electrical parts
FFFF	Interface communication error	MFP board (MFPB)     Print control board (PRCB)

			WIRING DIAGRAM	
Step	Action	Control signal	Location (electrical component)	
1	Reboot the main body.	_	_	
2	Check the MFPB connector for proper connection and correct as necessary	_	_	
3	Check the PRCB connector for proper connection and correct as necessary.	_	_	

4	Change PRCB.	_	_
5	Change MFPB.	_	_

<sup>•</sup> Link to the wiring diagram

# 4. POWER SUPPLY TROUBLE

### 4.1 Machine is not energized at all (DCPU operation check)

Relevant parts

- 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?	G-10	NO	Check the wiring from the wall outlet to inlet to SW1 to CN1DCPU.
2	Are DC5 V and DC3.3V being output from CN11 ON MFPB?	C-2	NO	Check the wiring from the CN5, CN9DCPU to CN11MFPB.
3	Is DC3.3 V being output from PJ1 on PRCB?	F-13	NO	Check the wiring from the CN4DCPU to PJ1PRCB.
4	Is DC24 V being output from CN105 on MFPB?	C-2	YES	Change MFPB.
5	Check the wiring from the CN16MFPB to PJ21PRCB.	-	YES	Reconnect.     Change flat cable.
6	Check the wiring from the PJ1PRCB to CN4DCPU.	_	YES	Reconnect.  Character PDOP
	014-201 0.		NO	Change PRCB.

<sup>·</sup> Link to the wiring diagram

## 4.2 Control panel indicators do not light

Relevant parts

- 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?	G-10	NO	Check the wiring from the wall outlet to inlet to SW1 to CN1DCPU.
2	Are the fuses on DCPU conducting?	_	NO	Change DCPU.
3	Is CN13 on MFPB properly connected?	C-2	NO	Reconnect.
			NO	Reconnect.
4	Is CN11 on MFPB properly connected?	C-2	YES	Change MFPB. Change scanner unit. Change operation panel.

<sup>·</sup> Link to the wiring diagram

### 4.3 Fusing heaters do not operate

Relevant parts

- Main power switch (SW1)
- Right door switch (SW3)
- · Fuser 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?	G-10	NO	Check the wiring from the wall outlet to inlet to SW1 to CN1DCPU.
			YES	Change fuser unit.
2	Is the power source voltage applied across CN2 on DCPU?	G-6	NO	Check the wiring from the CN3DCPU to PJ4PRCB. Change DCPU. Change PRCB.

<sup>·</sup> Link to the wiring diagram

### 5. IMAGE QUALITY PROBLEM

### 5.1 How to identify problematic part

- · This chapter is divided into two parts: "Initial check items" and "Troubleshooting procedure by a particular image quality problem."
- When an image quality problem occurs, first go through the "Initial check items" and, if the cause is yet to be identified, go to "Troubleshooting procedure by a particular image quality problem."

#### 5.1.1 Initial check items

### (1) Initial check items 1

- · Let the machine produce a test print and determine whether the image problem is attributable to the scanner or printer system.
- · Evaluation procedure

Action	Result	Cause	Next step
From [Service Mode], select [Print Menu] → [Gradation], and		Printer	Initial check items 2
produce a test print. Is image problem evident?	NO		K.5.2.1 Scanner system: white lines, white bands, colored lines and colored bands in sub scan direction

#### (2) Initial check items 2

- If the printer is responsible for the image problem, let the machine produce a test print and determine whether the image problem occurs in a specific single color or four colors
- · Evaluation procedure

Action	Result	Cause	Next step
From [Service Mode], select [Print Menu] → [Gradation], and produce a test print. Is image problem evident in each of all four colors?	YES	Printer, 4 colors	K.5.2.24 Printer 4-color: white lines, white bands, colored lines and colored bands in sub scan direction
	NO	Printer, single color	K.5.2.12 Printer monocolor: white lines, white bands, colored lines and colored bands in sub scan direction

#### 5.2 Solution

#### 5.2.1 Scanner system: white lines, white bands, colored lines and colored bands in sub scan direction

1. Typical faulty images



#### 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Service Mode → Scanner Adjustment →FB Leading Edge	The adjustment value for [FB Leading Edge] falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change scanner unit.

### 5.2.2 Scanner system: white lines, white bands, colored lines and colored bands in main scan direction

1. Typical faulty images



#### 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Service Mode → Scanner Adjustment → FB Side Edge	The adjustment value for [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	Change scanner unit.

## 5.2.3 Scanner system: color spots

1. Typical faulty images



## 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF	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	Change scanner unit.     Change MFPB.

### 5.2.4 Scanner system: fog

1. Typical faulty images



Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.

2	ADF	Original pad is dirty.	YES	Clean.
3		ADF does not lie flat.	YES	Change ADF 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 Quality/ 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	Change scanner unit.     Change MFPB.

## 5.2.5 Scanner system: blurred image, blotchy image

1. Typical faulty images



### 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	ADF	ADF does not lie flat.	YES	Change ADF 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	Change scanner unit.

### 5.2.6 Scanner system: incorrect color image registration, sync shift (lines in main scan direction)

1. Typical faulty images

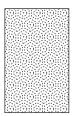


### 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Original does not lie flat.	YES	Change original.
2	ADF	ADF does not lie flat.	YES	Change ADF if it is deformed or hinges are broken.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change scanner unit.

### 5.2.7 Scanner system: moire

1. Typical faulty images



#### 2. Troubleshooting procedure

	<u> </u>			
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 Quality/ Density	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.

# 5.2.8 Scanner system: skewed image

1. Typical faulty images



### 2. Troubleshooting procedure

	0.			
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	Reinstall the glass.     Check the original loading position.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change scanner unit.

## 5.2.9 Scanner system: distorted image

1. Typical faulty images



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	Change scanner unit.

### 5.2.10 Scanner system: low image density, rough image

1. Typical faulty images

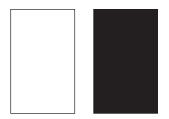


### 2. Troubleshooting procedure

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	Change scanner unit.     Change MFPB.

## 5.2.11 Scanner system: blank copy, black copy

1. Typical faulty images



### 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Cable connecting scanner and printer	Connector CN102, CN103 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	Change MFP board.     Change scanner unit.

## 5.2.12 Printer monocolor: white lines, white bands, colored lines and colored bands in sub scan direction

1. Typical faulty images



Step	Section	Check item	Result	Action
1	Image check	A white line or black line in sub scan direction is sharp.	YES	Clean the electrostatic charger wire.
2		When printing thick paper, black lines appear.	YES	Select [Service Mode]     → [Printer Adjustment]     → [Thick Mode] and set [Quality Mode].
3	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.

4		Dirty on the outside.	YES	Clean.
5		Contact terminals make good connection between each imaging unit and machine.	NO	Clean contact terminals.
6		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
7	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Change transfer belt unit.     Change PH unit.

## 5.2.13 Printer monocolor: white lines, white bands, colored lines and colored bands in main scan direction

1. Typical faulty images



#### 2. Troubleshooting procedure

Step	Section	Check item	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	Change 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	Change transfer belt unit.     Change PH unit.

## 5.2.14 Printer monocolor: uneven density in sub scan direction

1. Typical faulty images



Step	Section	Check item	Result	Action
1	Imaging unit	The surface of the PC drum is scratched.	YES	Change 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 unit	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6	Transfer belt unit	Is abnormality found in the cam gear?	YES	Change transfer belt unit.

7	The problem has been eliminated through the checks of steps up to 7.	NO	Change PH unit.     Change High voltage unit.
			Printer control board.

### 5.2.15 Printer monocolor: uneven density in main scan direction

1. Typical faulty images



### 2. Troubleshooting procedure

	0.			
Step	Section	Check item	Result	Action
1	Imaging unit	The surface of the PC drum is scratched.	YES	Change 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	Correct.     Change transfer roller unit.
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	Change image transfer belt unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change PH unit.     Change high voltage unit.

## 5.2.16 Printer monocolor: low image density

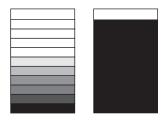
1. Typical faulty images



Step	Section	Check item	Result	Action
1	IDC sensor	The surface of the IDC sensor is dirty.	YES	Clean.
2	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
3	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
4		Is abnormality found in the cam gear?	YES	Change image transfer belt unit.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change imaging unit.     Change IDC sensor.     Change printer control board.     Change PH unit.     Change high voltage unit.

### 5.2.17 Printer monocolor: gradation reproduction failure

## 1. Typical faulty images



### 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Photo/density	Original type and screen pattern are selected properly.	NO	Change screen pattern.
2	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
3	IDC sensor	The surface of the IDC sensor is dirty.	YES	Clean.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change imaging unit.     Change printer control board     Change PH unit.     Change high voltage unit.

### 5.2.18 Printer monocolor: foggy background

1. Typical faulty images

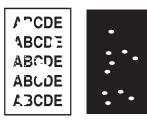


### 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	IDC sensor	The surface of the IDC sensor is dirty.	YES	Clean.
2	Imaging unit	Dirty on the outside.	YES	Clean.
3	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
4	Printer control board (PRCB)	Check the connection of connectors, harness, and flat cables between PRCB and PH unit, and correct if necessary.	NO	Change printer control board.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change imaging unit.     → Change PH unit.     → Change high voltage unit.

### 5.2.19 Printer monocolor: void areas, white spots

1. Typical faulty images



#### 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	K.5.2.16 Printer monocolor: low image density
2		There is void area at the rear side section.	YES	Perform [2nd Image transfer Current] of [Printer Adjustment] under Service Mode.
3	Imaging unit	The surface of the PC drum is scratched.	YES	Change drum 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] → [Printer     Adjustment] → [Image     ADJ Param].

## 5.2.20 Printer monocolor: colored spots

1. Typical faulty images

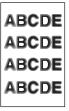


#### 2. Troubleshooting procedure

Step	Section	Check item	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	Change imaging unit.
3		Dirty on the outside.	YES	Clean.

## 5.2.21 Printer monocolor: blurred image

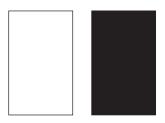
1. Typical faulty images



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	Change imaging unit.     → Change PH unit.

# 5.2.22 Printer monocolor: blank copy, black copy

1. Typical faulty images



## 2. 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 drum unit drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling.     Change 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	Change high voltage unit.      → Change printer control board      → Change PH unit.      → Change MFP board.

# 5.2.23 Printer monocolor: uneven image

1. Typical faulty images

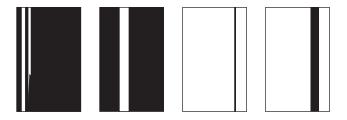


Step	Section	Check item	Result	Action
1	Toner cartridge	The toner cartridge of every color is surely installed.	NO	Re-install it.
2	PH unit	The PH unit is surely installed.	NO	Re-install it.
3	Toner cartridge	There is any stain or breakage on the drive section of the toner cartridge.	YES	Clean/replace 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	Fuser unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fuser unit.	YES	Replace the fuser unit.

7	The problem has been eliminated through the check	NO	Replace the transfer
	of step 6.		belt unit.

# 5.2.24 Printer 4-color: white lines, white bands, colored lines and colored bands in sub scan direction

# 1. Typical faulty images

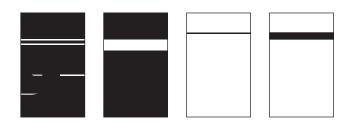


# 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A white line or colored line in sub scan direction.	YES	Clean the comb electrode.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
3		Transfer belt is dirty or scratched.	YES	<ul> <li>Clean dirty belt with a soft cloth.</li> <li>Change transfer belt unit if belt is damaged.</li> </ul>
4		Cleaning blade is not effective in removing toner completely.	YES	Change transfer belt unit.
5	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
7		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
8	Fuser unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean. Change fuser unit.
9		Fusing paper separator fingers are dirty.	YES	Clean.
10		The problem has been eliminated through the checks of steps up to 9.	NO	Change printer control board

# 5.2.25 Printer 4-color: white lines, white bands, colored lines and colored bands in main scan direction

# 1. Typical faulty images

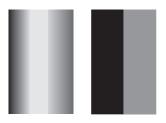


Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean with specified solvent. (See Maintenance.)
2		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.

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	Fuser unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean.Change fuser 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	Check the contact.     Change neutralizing brush.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change printer control board

# 5.2.26 Printer 4-color: uneven density in sub scan direction

# 1. Typical faulty images



# 2. 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> <li>Clean dirty belt with a soft cloth.</li> <li>Change transfer belt unit if belt is damaged.</li> </ul>
3		Terminal is dirty.	YES	Clean.
4	Transfer roller unit	Image transfer roller is installed properly.	NO	Reinstall.
5	-	Image transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit.

# 5.2.27 Printer 4-color: uneven density in main scan direction

# 1. Typical faulty images



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	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3		Terminal is dirty.	YES	Clean.

4	Transfer roller unit	Image transfer roller is installed properly.	NO	Reinstall.
5		Image transfer roller is dirty or scratched.	YES	Change transfer roller unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit.     Change high voltage unit.

# 5.2.28 Printer 4-color: low image density

1. Typical faulty images



# 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	Transfer belt unit	Terminal is dirty.	YES	Clean.
3	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
4		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.
5	IDC sensor	Sensor is dirty.	YES	Clean IDC sensor and execute the image stabilization.
6	Fuser unit	The problem has been eliminated through the checks of steps up to 5.	NO	Change image transfer belt unit.     Change IDC sensor.     Change printer control board.     Change high voltage unit.

# 5.2.29 Printer 4-color: poor color reproduction

1. Typical faulty images



Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2	Transfer belt unit	Terminal is dirty.	YES	Clean.
3	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
4		Charge neutralizing needle is not separated and ground terminal is connected properly.	NO	Correct or change.

5	IDC sensor	Sensor is dirty.	YES	Clean IDC sensor and execute the image stabilization.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit.     Change printer control board.     Change high voltage unit.     Change MFP board.

# 5.2.30 Printer 4-color: incorrect color image registration

1. Typical faulty images



# 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Machine condition	Vibration is given to the machine after main power switch has been turned ON.	YES	Turn off the main 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	Clean dirty belt with a soft cloth. Change 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	Change imaging unit.
6	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
7		Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
8		The problem has been eliminated through the checks of steps up to 7.	NO	Change transfer belt unit. Change printer control board. Change MFP board.

# 5.2.31 Printer 4-color: void areas, white spots

1. Typical faulty images





Step	Section	Check	Result	Action
1	Image check	There are void areas at the front side or high density  YE		K.5.2.28 Printer 4-color:
		section.		low image density

2		There are void areas in the trailing edge.	YES	Perform [2nd Image transfer Current] of [Printer Adjustment] under Service Mode.
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. Change transfer belt unit if belt is damaged.
5	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
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	Change transfer belt unit.

# 5.2.32 Printer 4-color: colored spots

1. Typical faulty images

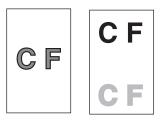


## 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
2	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the image transfer belt.		Clean it with the tender cloth or paper which is dusted with the toner.
3		Transfer belt is dirty or scratched.	YES	<ul><li>Clean dirty belt with a soft cloth.</li><li>Change transfer belt unit if belt is damaged.</li></ul>
4	Transfer roller unit	Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
5	Paper path	There is foreign matter on paper path.	YES	Remove foreign matter.
6	Fuser unit	Fusing belt is dirty or scratched.	YES	Change fuser unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change transfer belt unit.

# 5.2.33 Printer 4-color: poor fusing performance, offset

1. Typical faulty images



Step	Section	Check item	Result	Action
1	Paper	Paper type does not match.	YES	Change the setting.
2	Printer Adjustment → Fuser Temp Control (Service Mode)	Changing fusing temperature eliminates the problem of poor fusing performance and offset.	YES	Readjust fusing temperature.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change fuser unit.

# 5.2.34 Printer 4-color: brush effect, blurred image

1. Typical faulty images





# 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	Fuser unit	Fuser unit is installed properly.	NO	Reinstall.
4		Fusing entrance guide plate is dirty.	YES	Clean.
5	1	Fusing belt is dirty or scratched.	YES	Change fuser unit.

# 5.2.35 Printer 4-color: back marking

1. Typical faulty images





## 2. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer roller unit	Transfer roller is scratched or dirty.	YES	Change transfer roller unit.
2	Paper path There is foreign matter on paper path.		YES	Remove foreign matter.
3	Fuser unit	Fusing entrance guide plate is scratched or dirty.	YES	Clean or change.
4		Lower fusing roller is scratched or dirty.	YES	Change fuser 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.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit.     → Change high voltage unit.

# 5.2.36 Printer 4-color: uneven image

1. Typical faulty images



Step	Section	Check item	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.		Clean/replace the toner cartridge.
4	Imaging unit	There is any stain, damage or abrasion on the PC drum.		Replace the imaging unit.
5	Transfer roller	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Replace the transfer roller unit.
6	Fuser unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fuser unit.	YES	Replace the fuser unit.
7		The problem has been eliminated through the check of step 6.	NO	Replace the transfer belt unit.

# 6. IC PROTECTOR

# 6.1 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.

# 6.2 IC protector list

## 6.2.1 Main body

## (1) Printer control board

ICP No.	Cumbal	Target part name	W	When ICP trips		
ICP NO.	Symbol	Target part name	Symptom in each load	Trouble code and others		
=1	-	SOS sensor	No function	0310		
	-	Laser diode				
F2	CL1	Media feed clutch	No function	Misfeed at tray 3/tray 4 paper feed		
	CL2	Conveyance clutch		section *1		
	M1	Media feed motor				
CP1	FM10	DC power supply fan motor	No function	0045 *1		
	FM11	Cooling fan motor				
	FM12	MFP board cooling fan motor				
CP2	CL1	Tray 2 media feed clutch	No function	0094 *1		
	CL2	Tray 1 media feed clutch		0096 *1		
	CL3	Registration clutch				
CL4 CL5	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 release solenoid				
	SD2	2nd transfer release solenoid				
	TCT	Total counter				
CP3	HV	High voltage unit	No function	Process caution *1		
CP4	M5	Polygon motor	No function	0300		
ICP5	-	On-board components	No function	Regardless of whether the door is open or closed, Door Open error is displayed.		

<sup>• \*1:</sup> This is an error that occurs when the power switch is turned ON. If the IC protector trips after the power switch is turned ON, another error may occur.

# (2) DC power supply

ICP No. Symbol	Target part name	When ICP trips		
ICP NO. Symbol		Symptom in each load	Trouble code and others	
FU101	-	DC power supply circuit	DC power supply does not supply power.	Power switch is not turned ON.
FU191	-	Heater circuit	The heater does not turn ON.	0500 *1

<sup>• \*1:</sup> This is an error that occurs when the power switch is turned ON. If the IC protector trips after the power switch is turned ON, another error may occur.

### 6.2.2 Lower feeder unit PF-P08

## (1) PC control board

ICP No.	Symbol	Target part name	Wh	nen ICP trips
ICF NO. Symbol		Target part name	Symptom in each load	Trouble code and others
ICP1	CL1	Media feed clutch	No function	Misfeed at tray 3/tray 4 paper feed section
ICP2	CL2	Conveyance clutch	No function	Misfeed at tray 3/tray 4 vertical conveyance section

# 7. FAX ERROR

#### 7.1 Fax-related error codes

 Error codes are displayed on the Communication Report when "Fax Diagnostics Code", which can be reached by way of "Service Mode" → "Service Fax Settings", is set to "ON".

## 7.2 Action to be taken when a communication error occurs

Output the following report and check detailed information including the error status and conditions causing the error.

- Communication Report (Set "Fax Diagnostics Code" to "ON")
  "Admin Settings" → "Maintenance Menu" → "Print Menu" → "Activity Report"
- Data Dump Protocol (immediately after the symptom occurs)
- "Service Mode" → "Service Fax Settings" → "Data Dmp. List"
- Data Dump Event log (immediately after the symptom occurs)
- "Service Mode" → "Service Fax Settings" → "Fax Event Log"
- Fax Set UP Information List
- "Admin Settings" → "Fax Settings" → "List Print" → "Fax Setup Pg"
- Set Value List (for those relating to printing and other settings not concerned with communication)
  - "Admin Settings"  $\rightarrow$  "Machine Settings"  $\rightarrow$  "List/Counter"  $\rightarrow$  "Job Settings List"

# 7.3 Error code list

## 7.3.1 Definition of system error codes (fax diagnostics codes)

- Each code number is defined by an 8-digit hexadecimal numeral.
- The hexadecimal numerals containing "x" vary depending on the setting/condition during transmission/reception.

Code	Category	Contents of error Remarks	
00xxxx00	Common	Normal (communication complete successfully)	
00xxxx01	Common	STOP (job canceled by the user)	
002xxx02	G3 reception	RX no handshake	
0xxxxx03	Common	Accounting counter error	
002xxx14	G3 reception	Memory full during RX	Local Mechanical error
002xxx1A	G3 reception	Data length error RX	Local Mechanical error
001xxx1B	G3 reception	Manual TX next page information error	Local Mechanical error
002xxx1C	G3 reception	RX pages over	Local Mechanical error
00xxxx21	Common	Connection fail	Dial failure
00xxxx22	Common	Dial fail (except Busy, No answer)	Dial failure
00xxxx23	Common	Redial all failed	Dial failure
00xxxx24	Common	Busy	Dial failure
00xxxx25	Common	No answer	Dial failure
00xxxx31	Common	TX T1 time out	Communication error at Phase-B
00xxxx32	Common	V8 negotiation fail	Communication error at Phase-B
00xxxx34	Common	Polling TX file not found	Communication error at Phase-B
00xxxx35	Common	F-code CNF RX SUB error	Communication error at Phase-B
00xxxx36	Common	F-code CNF RX SID error	Communication error at Phase-B
00xxxx37	Common	F-code BBS TX SEP error	Communication error at Phase-B
00xxxx39	Common	F-code PWD RX SID error	Communication error at Phase-B
00xxxx3B	Common	F-code BBS TX disable	Communication error at Phase-B
00xxxx3D	Common	F-code other error	Communication error at Phase-B
00xxxx3E	Common	F-code BBS TX file not found	Communication error at Phase-B
00xxxx40	Common	Retry out	Communication error at Phase-B
00xxxx41	Common	Too many FTT	Communication error at Phase-B
00xxxx43	Common	T2 time out	Communication error at Phase-B
00xxxx45	Common	Command reception error	Communication error at Phase-B
00xxxx46	Common	Response RX error	Communication error at Phase-B
00xxxx47	Common	Invalid command/response RX	Communication error at Phase-B
00xxxx48	Common	Receiver no RX capability	Communication error at Phase-B
00xxxx49	Common	T1 time out after EOM	Communication error at Phase-B
00xxxx4A	Common	Invalid CSI error	Communication error at Phase-B
00xxxx4B	Common	RX reject	Communication error at Phase-B
00xxxx4C	Common	F-code SUB receive error	Communication error at Phase-B
00xxxx4D	Common	F-code SID receive error	Communication error at Phase-B
00xxxx4E	Common	F-code SEP receive error	Communication error at Phase-B
00xxxx4F	Common	F-code PWD receive error	Communication error at Phase-B
00xxxx51	Common	Image data codec error	Communication error at Phase-C
00xxxx52	Common	Phase-C time out	Communication error at Phase-C

Code	Category	Contents of error	Remarks
00xxxx60	Common	Retry out	Communication error at Phase-D
00xxxx65	Common	RNR time out	Communication error at Phase-D
00xxxx66	Common	RTN/PIN received, disconnected by EOR/ERR	Communication error at Phase-D
00xxxx67	Common	Invalid command/response RX	Communication error at Phase-D
00xxxx69	Common	Response RX error	Communication error at Phase-D
00xxxx6A	Common	Disconnected by EOR	Communication error at Phase-D
00xxxx80	Common	Modem hang-up	Other general Communication error
00xxxx82	Common	V34 T1 timeout, control channel error	Other general Communication error
00xxxx83	Common	V34 T1 timeout, primary channel error	Other general Communication error
00xxxx84	Common	Data not sent until guard timer expire	Other general Communication error
01xxxxA0	Common	The power switch is turned OFF during transmission/reception	
01xxxxB0	Common	Fax memory full (during scanning, reception, PC-Fax transmission, or PWSC downloading)	
01xxxxB1	G3 transmission	A transmission error occurs and the machine is in queue for retry	
01xxxxD3	PC-Fax transmission	Illegal PJL received	
01xxxxD5	PC-Fax transmission	Log-in error	
01xxxxD8	PC-Fax transmission	Broadcast transmission over (101 cases or more)	
01xxxxD9	PC-Fax transmission	TX pages over (1000 pages or more)	
01xxxxDB	PC-Fax transmission	PC-Fax transmission prohibition error	
01xxxxF0	Forwarding	Transfer error (the destination is invalid, or resolution that cannot be transferred is received)	

# 7.3.2 Definition of 3rd to 6th digits

Code	Meaning	Category
1xxx	TX	Transmission
2xxx	RX	Reception
x1xx	MH	Coding method
x2xx	MR	Coding method
x3xx	MMR	Coding method
x4xx	JBIG	Coding method
x5xx	JPEG	Coding method
xx1x	V27ter non ECM	Communication modem mode
xx2x	V29 non ECM	Communication modem mode
xx3x	V17 non ECM	Communication modem mode
xx4x	V33 non ECM	Communication modem mode
xx5x	V34	Communication modem mode
xx9x	V27ter ECM	Communication modem mode
xxAx	V29 ECM	Communication modem mode
xxBx	V17 ECM	Communication modem mode
xxCx	V33 ECM	Communication modem mode
xxx1	2400	Communication modem speed
xxx2	4800	Communication modem speed
xxx3	7200	Communication modem speed
xxx4	9600	Communication modem speed
xxx5	12000	Communication modem speed
xxx6	14400	Communication modem speed
xxx7	16800	Communication modem speed
xxx8	19200	Communication modem speed
xxx9	21600	Communication modem speed
xxxA	24000	Communication modem speed
xxxB	26400	Communication modem speed
xxxC	28800	Communication modem speed
xxxD	31200	Communication modem speed

Code	Meaning	Category
xxxE	33600	Communication modem speed

#### 7.4 Details of error codes

· The following describe detailed conditions in which each of the error codes is outputted.

#### 7.4.1 00xxxx00

#### (1) Contents of error

Normal (communication complete successfully)

#### (2) How error occurs

The fax transmission or reception is complete successfully. This is not an error.

#### (3) Action

None

#### 7.4.2 00xxxx01

#### (1) Contents of error

STOP (job canceled by the user)

## (2) How error occurs

The user cancels a job being scanned, transmitted, or printed.

#### (3) Action

None

#### 7.4.3 002xxx02

#### (1) Contents of error

RX no handshake

#### (2) How error occurs

Handshake is not reached during reception.

## (3) Action

Wrong number on the transmitting side: None

Other than wrong number: Check the line connection status and ask the transmitter to retransmit the fax.

## (4) Remarks

The journal does not contain this error code.

## 7.4.4 0xxxxx03

#### (1) Contents of error

Accounting counter error

## (2) How error occurs

Under the billing control environment, the ticket of the user in question is not enough before transmission of the page, or the procedure to acquire information on the ticket balance from the billing server has failed.

#### (3) Action

Charge the ticket of the user in question, or check for connection to the billing server.

## (4) Remarks

No auto redial is performed for this error.

## 7.4.5 002xxx14

## (1) Contents of error

Memory full during RX

## (2) How error occurs

Fax memory space is not available during fax reception (20 Kbytes).

#### (3) Action

Increase the fax memory space to 20 Kbytes or more before starting reception.

## 7.4.6 002xxx1A

#### (1) Contents of error

Data length error RX

#### (2) How error occurs

The number of lines of the received image exceeds the maximum reception length (1000 mm).

#### (3) Action

Ask the transmitter to transmit the page with a length of 1000 mm or less.

#### 7.4.7 001xxx1B

## (1) Contents of error

Manual TX next page information error

#### (2) How error occurs

The image transmitted next is not properly acquired in manual transmission.

#### (3) Action

Let the machine read the page to be transmitted next correctly in manual transmission.

#### 7.4.8 002xxx1C

#### (1) Contents of error

RX pages over

#### (2) How error occurs

The maximum number of pages to be received (999) is exceeded. (Note: 999 pages can be received.)

# (3) Action

Make sure that the number of pages to be transmitted from the remote machine during one session is 999 pages or less.

#### 7.4.9 00xxxx21

## (1) Contents of error

Connection fail

#### (2) How error occurs

Line is yet to be connected or no dial tone is heard ("DT Detect" is set to "ON") during dialing in fax transmission.

## (3) Action

The line may not be connected. Check the line connection status.

Or, if PSTN is set for the PSTN/PBX setting with the machine connected to a private branch exchange, change the setting to PBX.

## 7.4.10 00xxxx22

## (1) Contents of error

Dial fail (except Busy, No answer)

## (2) How error occurs

Transmission is started while the line is being used.

#### (3) Action

Retransmit (when auto redial is not available).

#### 7.4.11 00xxxx23

### (1) Contents of error

Redial all failed

## (2) How error occurs

All the auto redials failed in transmission.

#### (3) Action

Eliminate the cause of the transmission failure.

#### 7.4.12 00xxxx24

#### (1) Contents of error

Busy

### (2) How error occurs

The receiver end is busy after dialing in fax transmission.

#### (3) Action

Wait until the receiver is free and retransmit the fax (when auto redial is not available).

#### 7.4.13 00xxxx25

#### (1) Contents of error

No answer

### (2) How error occurs

The receiver does not answer.

#### (3) Action

Retransmit (when auto redial is not available).

#### 7.4.14 00xxxx31

#### (1) Contents of error

TX T1 time out

#### (2) How error occurs

(When DTS is enabled) A timeout after reception of PIP for MPS transmission.

# (3) Action

Retransmit (when auto redial is not available).

## 7.4.15 00xxxx32

## (1) Contents of error

V8 negotiation fail

#### (2) How error occurs

Incompatible performance with the remote machine in V34 reception.

# (3) Action

Set "RX V34 OFF" to "Yes".

#### 7.4.16 00xxxx34

## (1) Contents of error

Polling TX file not found

## (2) How error occurs

The document to be transmitted in polling transmission is not stored.

## (3) Action

Store the document to be transmitted in advance before the polling transmission.

#### 7.4.17 00xxxx35

# (1) Contents of error

F-code CNF RX SUB error

#### (2) How error occurs

There is a mismatch of the SUB code (confidential box number) in confidential reception.

#### (3) Action

Set the correct SUB code (confidential box number) when the transmitter performs the confidential transmission.

## 7.4.18 00xxxx36

## (1) Contents of error

F-code CNF RX SID error

#### (2) How error occurs

There is a mismatch of the SID code (password) in confidential reception.

#### (3) Action

Set the correct SID code (password) when the transmitter performs the confidential transmission.

#### 7.4.19 00xxxx37

## (1) Contents of error

F-code BBS TX SEP error

#### (2) How error occurs

There is a mismatch of the SEP code (bulletin board number) in polling transmission (bulletin).

#### (3) Action

Set the correct SEP code (bulletin board number) in the polling transmission (bulletin).

## 7.4.20 00xxxx39

#### (1) Contents of error

F-code PWD RX SID error

#### (2) How error occurs

There is a mismatch of the SID code (password) in closed network reception.

## (3) Action

Set the correct SID code (password) when the transmitter performs the password transmission.

#### 7.4.21 00xxxx3B

## (1) Contents of error

F-code BBS TX disable

#### (2) How error occurs

An SEP code is received when "F-Code TX" is set to "OFF".

#### (3) Action

Set "F-Code TX" to "ON".

### 7.4.22 00xxxx3D

## (1) Contents of error

F-code other error

#### (2) How error occurs

This error occurs for many reasons. Only a most typical cause is given.

E.g.: The confidential box is full (no more jobs can be stored in the confidential box).

#### (3) Action

E.g.: Delete or print any one job out of those in the confidential box specified with an SUB code by the transmitter.

## 7.4.23 00xxxx3E

## (1) Contents of error

F-code BBS TX file not found

#### (2) How error occurs

The document to be transmitted in polling transmission (bulletin) is not stored.

#### (3) Action

Store the document to be transmitted in advance before the polling transmission (bulletin).

## 7.4.24 00xxxx40

# (1) Contents of error

Retry out

## (2) How error occurs

No response is received to the DCS signal transmitted three times in fax transmission.

#### (3) Action

Retransmit (when auto redial is not available).

#### 7.4.25 00xxxx41

### (1) Contents of error

Too many FTT

## (2) How error occurs

Training fails (possible cause: noise in telephone line)

### (3) Action

Retransmit the fax (when auto redial is not available).

#### 7.4.26 00xxxx43

#### (1) Contents of error

T2 time out

#### (2) How error occurs

No response is received from the remote machine during phase-B, resulting in T2 timeout.

#### (3) Action

Ask the transmitter to retransmit the fax.

#### 7.4.27 00xxxx45

#### (1) Contents of error

Command reception error

## (2) How error occurs

Faulty FSK signal (possible cause: noise in telephone line)

#### (3) Action

Retransmit (when auto redial is not available).

### 7.4.28 00xxxx46

## (1) Contents of error

Response RX error

## (2) How error occurs

Faulty FSK signal (possible cause: noise in telephone line)

#### (3) Action

Retransmit (when auto redial is not available).

## 7.4.29 00xxxx47

## (1) Contents of error

Invalid command/response RX

## (2) How error occurs

Faulty FSK signal (possible cause: noise in telephone line)

## (3) Action

Retransmit (when auto redial is not available).

## 7.4.30 00xxxx48

### (1) Contents of error

Receiver no RX capability

# (2) How error occurs

The remote machine is not ready.

## (3) Action

Retransmit as soon as the remote machine is ready (when auto redial is not available).

## 7.4.31 00xxxx49

## (1) Contents of error

T1 time out after EOM

### (2) How error occurs

T1 timeout occurs after EOM.

### (3) Action

Retransmit (when auto redial is not available).

#### 7.4.32 00xxxx4A

#### (1) Contents of error

Invalid CSI error

#### (2) How error occurs

A mismatch is found in a comparison made between the dialed number and the CSI signal received from the remote machine in remote machine check transmission.

# (3) Action

The remote machine should register its correct own number. Or, the transmission may be done to a wrong machine, so retransmit (when auto redial is not available).

#### 7.4.33 00xxxx4B

## (1) Contents of error

RX reject

#### (2) How error occurs

The line is disconnected by anonymous call rejection of the caller ID display.

#### (3) Action

Remove the telephone number of the remote machine from the call rejection numbers.

## 7.4.34 00xxxx4C

## (1) Contents of error

F-code SUB receive error

# (2) How error occurs

No SUB code is received when reception of one is expected.

## (3) Action

Ask the transmitter to transmit the SUB code when reception of one is expected (by, for example, correctly specifying the F-code).

## 7.4.35 00xxxx4D

## (1) Contents of error

F-code SID receive error

## (2) How error occurs

No SID code is received when reception of one is expected.

## (3) Action

Ask the transmitter to transmit the SID code when reception of one is expected (by, for example, correctly specifying the F-code).

#### 7.4.36 00xxxx4E

#### (1) Contents of error

F-code SEP receive error

# (2) How error occurs

No SEP code is received when reception of one is expected.

#### (3) Action

Ask the transmitter to transmit the SEP code when reception of one is expected (by, for example, correctly specifying the F-code).

#### 7.4.37 00xxxx4F

#### (1) Contents of error

F-code PWD receive error

#### (2) How error occurs

No PWD code is received when reception of one is expected.

#### (3) Action

Ask the transmitter to transmit the PWD code when reception of one is expected (by, for example, correctly specifying the F-code).

#### 7.4.38 00xxxx51

#### (1) Contents of error

Image data codec error

## (2) How error occurs

An ECM codec error occurs.

#### (3) Action

During transmission: Cancel the transmission job and retransmit the fax.

During reception: Ask the transmitter to retransmit the fax.

#### 7.4.39 00xxxx52

#### (1) Contents of error

Phase-C time out

#### (2) How error occurs

An EOL timeout (during NonECM) or frame timeout (during ECM) occurs while data is being received.

#### (3) Action

Ask the transmitter to retransmit the fax.

#### 7.4.40 00xxxx60

# (1) Contents of error

Retry out

#### (2) How error occurs

No response is received from the remote machine during phase-D (CTC, EOP, EOR, MPS, PPS-EOP, PPS-MPS, PPS-NULL, and RR retry error).

## (3) Action

The line is probably disconnected. Retransmit (when auto redial is not available).

## 7.4.41 00xxxx65

## (1) Contents of error

RNR time out

# (2) How error occurs

Timeout error when the remote machine keeps sending RNR repeatedly during transmission.

## (3) Action

(If the resolution is high) Reduce the resolution and retransmit.

#### 7.4.42 00xxxx66

#### (1) Contents of error

RTN/PIN received, disconnected by EOR/ERR

## (2) How error occurs

RTN/PIN is received and the line is disconnected during transmission. (The error tends to occur when there is a lot of noise in the telephone line.)

Or, after transmission of PPS-NULL, ERR is received and the line is disconnected.

### (3) Action

Retransmit (when auto redial is not available).

## 7.4.43 00xxxx67

## (1) Contents of error

Invalid command/response RX

#### (2) How error occurs

An invalid command/response is received.

#### (3) Action

Retransmit (when auto redial is not available).

#### 7.4.44 00xxxx69

## (1) Contents of error

Response RX error

#### (2) How error occurs

A response reception error occurs during transmission.

#### (3) Action

Retransmit (when auto redial is not available).

#### 7.4.45 00xxxx6A

#### (1) Contents of error

Disconnected by EOR

#### (2) How error occurs

An EOR is detected during reception and the line is disconnected.

## (3) Action

Ask the transmitter to retransmit the fax.

## 7.4.46 00xxxx80

## (1) Contents of error

Modem hang-up

## (2) How error occurs

Modem hang-up occurs for some reason.

# (3) Action

Investigation into the individual case is necessary.

#### 7.4.47 00xxxx82

## (1) Contents of error

V34 T1 timeout, control channel error

## (2) How error occurs

A T1 timeout error occurs in the V34 control channel.

## (3) Action

Investigation into the individual case is necessary.

#### 7.4.48 00xxxx83

# (1) Contents of error

V34 T1 timeout, primary channel error

#### (2) How error occurs

A T1 timeout error occurs in the V34 primary channel.

## (3) Action

Investigation into the individual case is necessary.

## 7.4.49 00xxxx84

## (1) Contents of error

Data not sent until guard timer expire

#### (2) How error occurs

Data is not transmitted before the guard timer expire (fail-safe error).

#### (3) Action

Increase the communication speed, reduce the resolution, or shorten the communication time.

#### 7.4.50 01xxxxA0

#### (1) Contents of error

The power switch is turned OFF during transmission/reception.

#### (2) How error occurs

During fax transmission: The power switch is turned OFF during transmission.

During fax reception: The power switch is turned OFF during reception.

#### (3) Action

None

#### 7.4.51 01xxxxB0

## (1) Contents of error

Fax memory full (during scanning, reception, PC-Fax transmission, or PWSC downloading)

#### (2) How error occurs

An SSD memory full event occurs during any of the operations mentioned above.

### (3) Action

Delete the fax job being executed or one stored earlier in, for example, the compulsory memory RX user box.

#### 7.4.52 01xxxxB1

## (1) Contents of error

A transmission error occurs and the machine is in queue for retry

#### (2) How error occurs

G3 fax transmission fails with the number of retries set to one or more in the G3 fax transmission.

#### (3) Action

Identify the cause of the transmission error and take necessary action against the transmission error.

#### 7.4.53 01xxxxD3

# (1) Contents of error

Illegal PJL received

#### (2) How error occurs

An illegal PJL is received from the PC-Fax driver (the illegal PJL being a want of a necessary PJL command or PJL command parameter not supported).

#### (3) Action

Not using the PC-Fax driver not supported by this machine.

## 7.4.54 01xxxxD5

## (1) Contents of error

Log-in error

#### (2) How error occurs

This machine received an illegal user, or an illegal password of an authorized user from the PC-Fax driver.

#### (3) Action

Perform the PC-Fax transmission using the authorized password of an authorized user from the PC-Fax driver.

#### 7.4.55 01xxxxD8

#### (1) Contents of error

Broadcast transmission over (101 cases or more)

## (2) How error occurs

101 or more cases of the PJL command [PCFAXNUM#] are received from the PC-Fax driver.

#### (3) Action

Keep within 100 cases for PC-Fax broadcast transmission and transmit the excessive jobs separately.

#### 7.4.56 01xxxxD9

### (1) Contents of error

TX pages over (1000 pages or more)

## (2) How error occurs

The number of image pages transmitted from the PC-Fax driver to this machine exceeds 999.

#### (3) Action

None

#### 7.4.57 01xxxxDB

#### (1) Contents of error

PC-Fax transmission prohibition error

#### (2) How error occurs

PJL is received from the PC with "Restrict PC-Fax TX" set to "ON" or "Restrict Fax TX" set to "ON".

## (3) Action

Set "Restrict PC-Fax TX" to "OFF" and "Restrict Fax TX" to "OFF".

#### 7.4.58 01xxxxF0

## (1) Contents of error

Transfer error (the destination is invalid, or resolution that cannot be transferred is received)

#### (2) How error occurs

This error occurs if the forwarding address of "Forward TX Settings" is invalid.

It also occurs if an attempt is made to perform G3 fax transfer after data with a resolution of 300 x 300 dpi is received through I-fax reception.

#### (3) Action

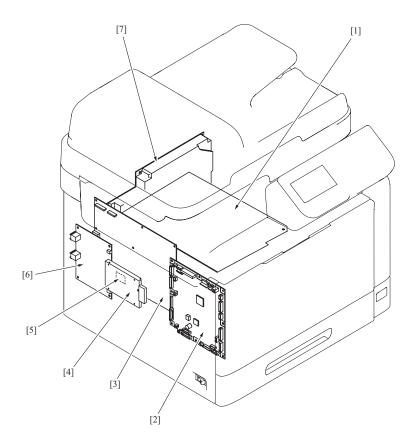
Set the transfer destination before the fax reception.

No special action, because 300 x 300 dpi data cannot be transferred.

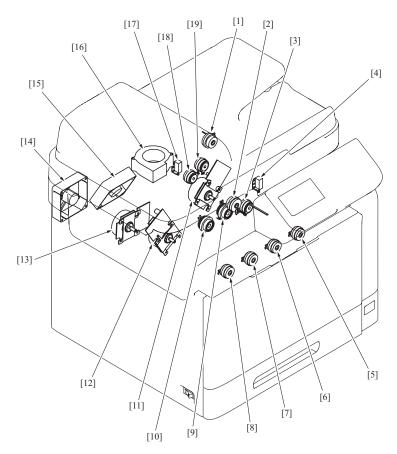
# L PARTS/CONNECTOR LAYOUT DRAWING

# 1. PARTS LAYOUT DRAWING

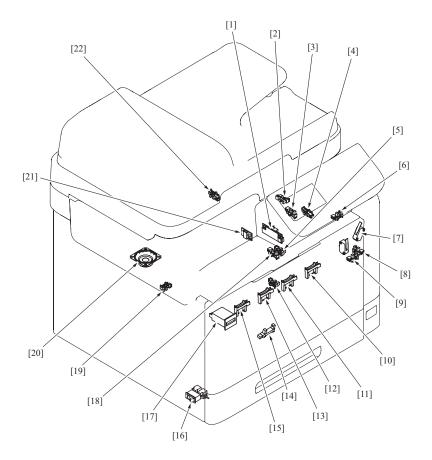
# 1.1 Main Body



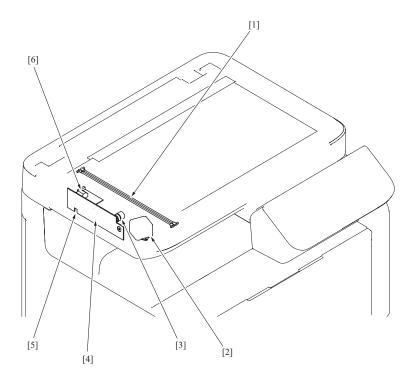
[1]	DC power supply (DCPU)	[2]	Printer control board (PRCB)
[3]	MFP board (MFPB)	[4]	Hard disk (HDD)
[5]	SSD board (SSDB)	[6]	FAX board (FAXB)
[7]	High voltage unit (HV1)		



[1]	Loop detection clutch (CL8)	[2]	Registration clutch (CL3)
[3]	Duplex conveyance roller clutch (CL13)	[4]	2nd transfer release solenoid (SD2)
[5]	Toner supply motor/K (CL7)	[6]	Toner supply motor/C (CL6)
[7]	Toner supply motor/M (CL5)	[8]	Toner supply motor/Y (CL4)
[9]	Tray 1 media feed clutch (CL2)	[10]	Tray 2 media feed clutch (CL1)
[11]	Main motor (M2)	[12]	Developing motor (M1)
[13]	Color PC drum motor (M4)	[14]	MFP board cooling fan motor (FM12)
[15]	DC power supply fan motor (FM10)	[16]	Cooling fan motor (FM11)
[17]	1st transfer release solenoid (SD1)	[18]	Switchback roller reverse clutch (CL12)
[19]	Switchback roller feed clutch (CL11)		

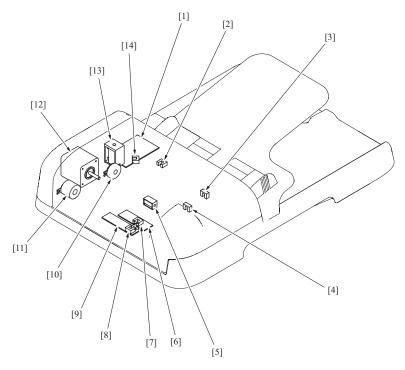


[1]	IDC sensor (IDC)	[2]	Loop detection sensor (PS6)
[3]	Duplex conveyance sensor (PS9)	[4]	Tray media full sensor (PS7)
[5]	Tray1 media empty sensor (PS3)	[6]	Exit sensor (PS8)
[7]	Right door switch (SW3)	[8]	Right door sensor (PS11)
[9]	Front door sensor (PS10)	[10]	Toner level sensor/K (PS16)
[11]	Toner level sensor/C (PS15)	[12]	Tray2 media empty sensor (PS2)
[13]	Toner level sensor/M (PS14)	[14]	Waste toner near full sensor (PS12)
[15]	Toner level sensor/Y (PS13)	[16]	Power switch (SW1)
[17]	Total counter (TCT)	[18]	Registration sensor (PS5)
[19]	Tray2 set sensor (PS1)	[20]	Speaker (SP1)
[21]	Temperature/ humidity sensor (TEM/HUMS)	[22]	1st transfer release sensor (PS17)



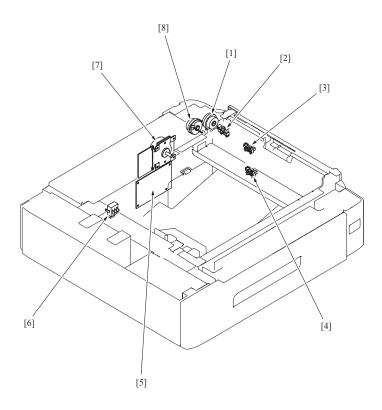
[1]	Exposure lamp (LA1)	[2]	Scanner motor (M101)
[3]	CCD board (CCDB)	[4]	Relay board/3 (REYB102)
[5]	Scanner home sensor (on REYB102)	[6]	Inverter board (INVB)

# 1.2 ADF



[1]	DF control board (DFCB)	[2]	Pick-up sensor (PS101)
[3]	Document sensor (PS102)	[4]	Paper interval sensor (PS103)
[5]	Pick-up solenoid (SD100)	[6]	Relay board/2 (REYB101)
[7]	Before read sensor (on REYB101)	[8]	Relay board/1 (REYB100)
[9]	Registration sensor (on REYB100)	[10]	Pick-up clutch (CL100)
[11]	Registration clutch (CL101)	[12]	Transport motor (M100)
[13]	Release solenoid (SD101)	[14]	ADF door sensor (PS100)

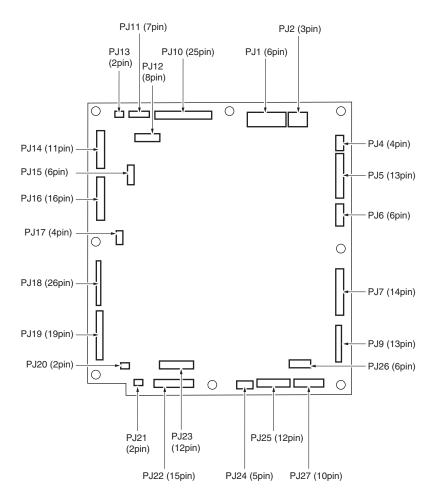
# 1.3 Lower feeder unit (option)



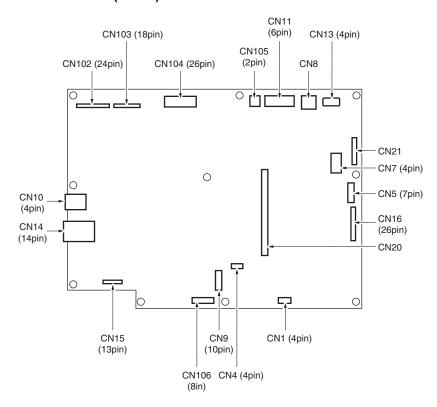
[1]	Conveyance clutch (CL2)	[2]	Right door sensor (PS5)
[3]	Media feed sensor (PS3)	[4]	Media empty sensor (PS1)
[5]	PC control board (PCCB)	[6]	Media size switch (SW1)
[7]	Media feed motor (M1)	[8]	Media feed clutch (CL1)

# 2. CONNECTOR LAYOUT DRAWING

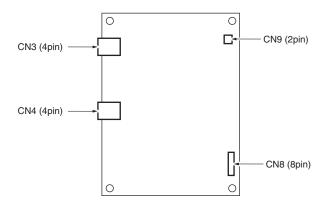
# 2.1 Printer control board (PRCB)



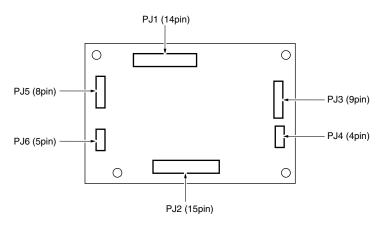
# 2.2 MFP board (MFPB)



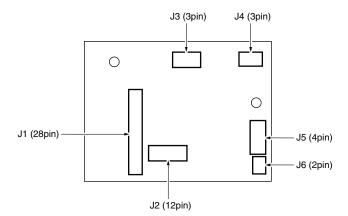
# 2.3 FAX board (FAXB)



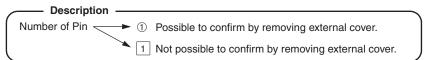
# 2.4 PC control board (PCCB)

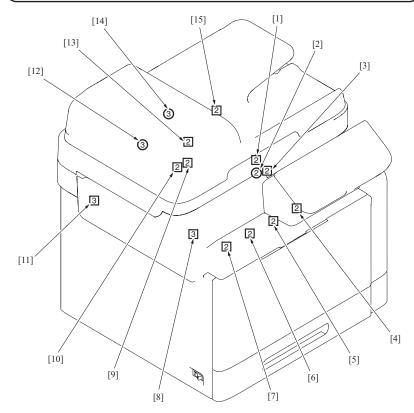


# 2.5 DF control board (DFCB)



# 3. CONNECTOR LAYOUT DRAWING





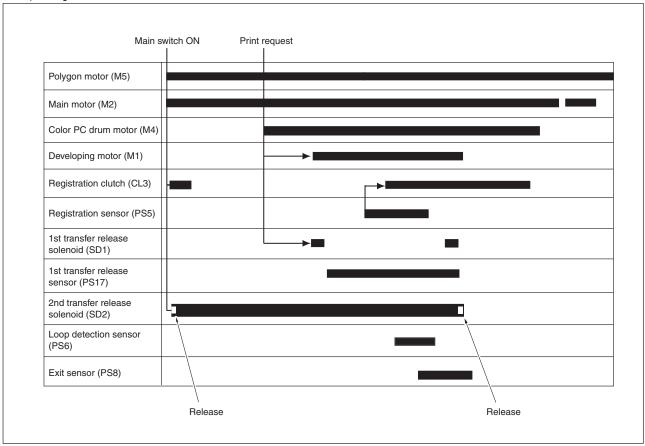
No.	CN No.	Location	No.	CN No.	Location
[1]	CN23	B-7	[2]	CN22	B-7
[3]	CN20	C-7	[4]	CN35	I-7
[5]	CN34	H-7	[6]	CN33	H-7
[7]	CN32	H-7	[8]	CN63	J-15
[9]	CN27	D-7	[10]	CN28	D-7
[11]	CN64	H-15	[12]	CN43	G15
[13]	CN25	H-15	[14]	CN29	G-15
[15]	CN2	E-7			

# M TIMING CHART

# 1. Timing chart

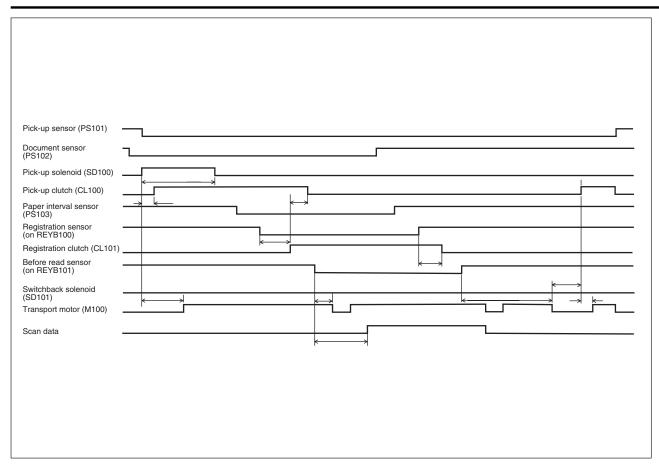
# 1.1 Main body

· Operating conditions : Color, A4 or Letter



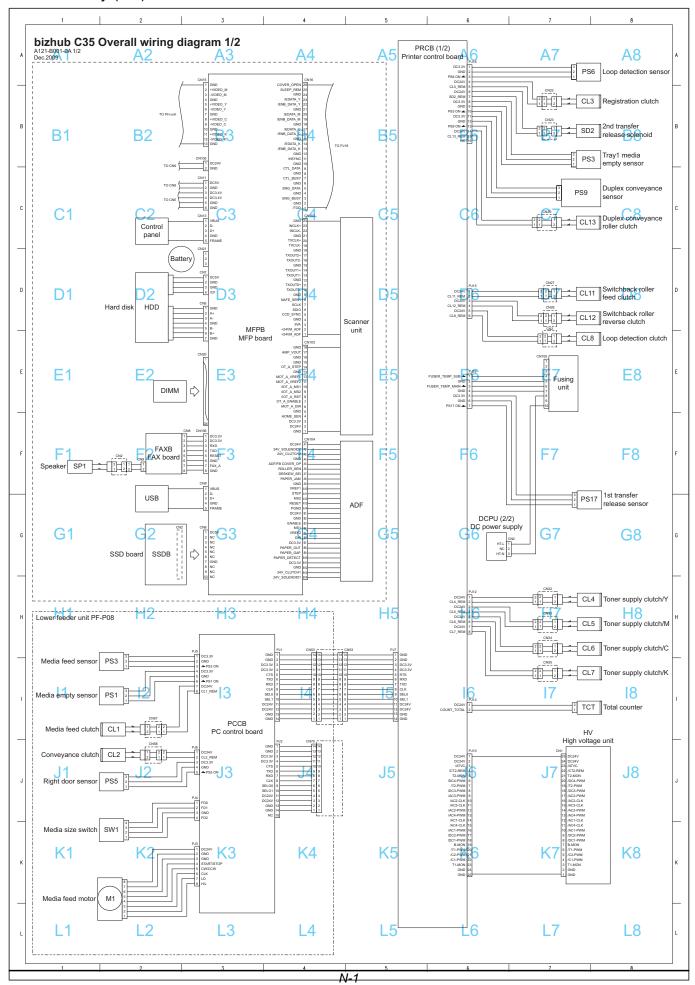
# 1.2 ADF

· Operating conditions : Color, A4 or Letter



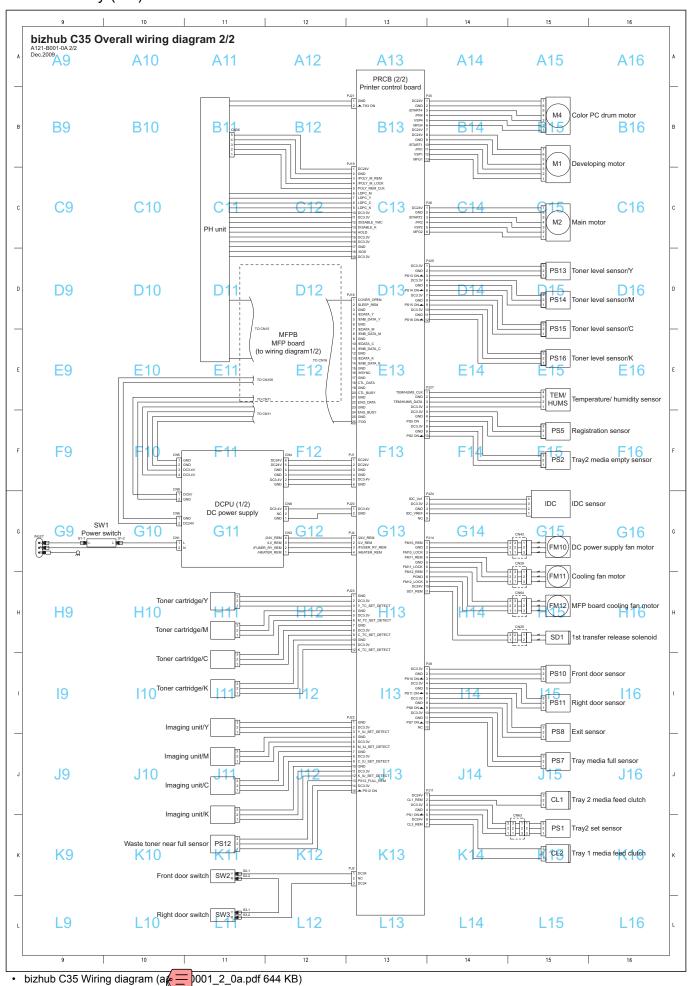
# N WIRING DIAGRAM

# 1. Main Body (1/2)



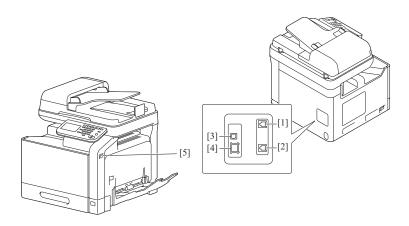
• bizhub C35 Wiring diagram (a 0001\_1\_0a.pdf 955KB)

# 2. Main Body (2/2)



# O THEORY OF OPERATION bizhub C35

# 1. INTERFACE SECTION

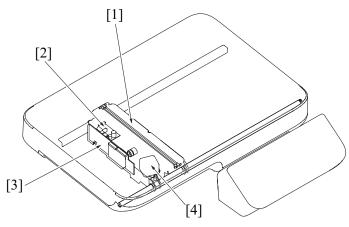


No.	Туре	Use
[1]	LINE (telephone line) jack	For line connection
[2]	TEL (telephone) jack	For telephone connection
[3]	USB port	For PC connection
[4]	10Base-T/100Base-TX/1000Base-T Ethernet interface port	For network
[5]	USB HOST port	For connection of USB device

## 2. SCANNER SECTION

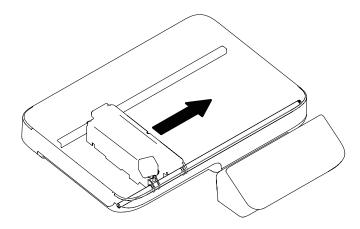
## 2.1 Composition





[1]	Exposure lamp (LA1)	[2]	Inverter board (INVB)
[3]	Relay board/3 (REYB102)	[4]	Scanner motor (M101)

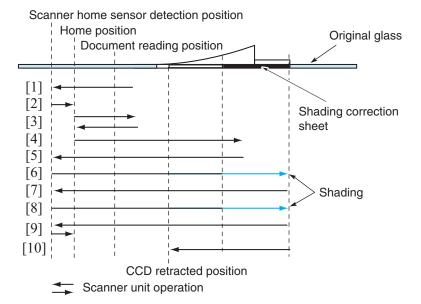
### 2.2 Drive



#### 2.3 Operation

## 2.3.1 When the power is ON

- 1. To identify the position of the scanner unit, the scanner unit is moved until the scanner home sensor is activated.
- 2. When the scanner home sensor is activated, the scanner motor is turned backward to move the scanner unit to its home position.
- 3. The scanner unit is moved to check that it is not locked.
- 4. The scanner unit is moved to the position of the shading correction sheet and the shading correction position is detected.
- 5. The scanner unit is moved until the scanner home sensor is activated. At this time, the distance (motor pulses) between the shading correction position and the scanner home sensor is measured and each of reading positions is calculated with reference to the scanner home sensor.
- 6. The scanner unit is moved to the shading position and a shading correction (CCD gain/offset adjustment) is made.
- 7. The scanner unit is moved until the scanner home sensor is activated.
- 8. The scanner unit is moved to the shading position and a shading correction (reading the shading correction sheet data) is made.
- 9. If the ADF is lowered, the scanner unit is moved until the scanner home sensor is activated and then to the home position.
- 10. If the ADF is raised, the scanner unit is moved until the scanner home sensor is activated and is then brought to a stop at the CCD retracted position.

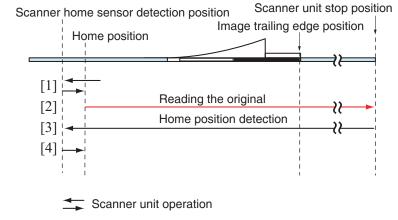


#### 2.3.2 Control when the Start key is pressed

### (1) Original scanning mode

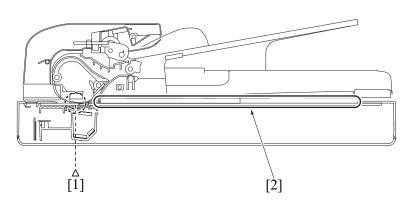
#### (a) Original cover mode

- 1. The scanner unit is moved to the scanner home sensor detection position and then to the home position.
- 2. The scanner unit starts reading the original from the image trailing edge position.
- 3. After completing reading, the scanner unit is moved to the scanner home sensor detection position.
- 4. The scanner unit is moved again to detect the home position.



## (b) DF mode

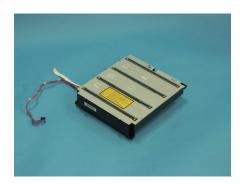
• The original fed by the document feeder will be read at the original DF glass for. The scanner unit will move to the reading position and stops.

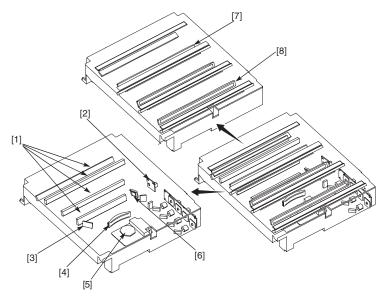


[1] Reading position	[2]	Original cover reading position
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## 3. WRITE SECTION

## 3.1 Composition





[1]	Return mirror/1st	[2]	Index board
[3]	Index mirror	[4]	G1 lens
[5]	Polygon mirror	[6]	Index lens
[7]	Return mirror/2nd	[8]	G2 lens

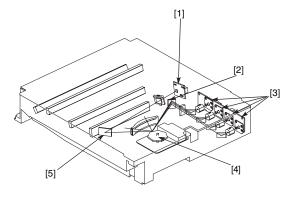
## 3.2 Operation

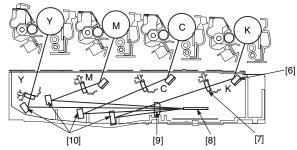
### 3.2.1 Overview

- · A semiconductor laser is provided for each of four different colors. A single polygon motor is used to make a scan.
- · 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]	Synthetic mirror
[3]	Semiconductor laser	[4]	Polygon mirror
[5]	Index mirror (K)	[6]	Return mirror/2nd
[7]	G2 lens	[8]	Polygon mirror
[9]	G1 lens	[10]	Return mirror/1st

#### 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 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.

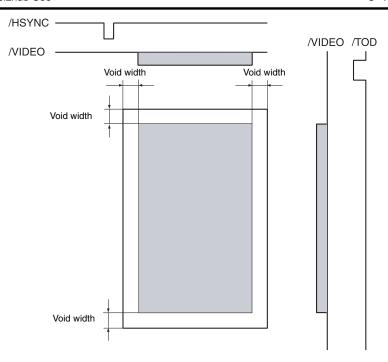
#### 3.2.4 Laser emission area

### (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 media.
- The laser emission area is determined by the media size. However, there is a 4.0 mm (copy) /4.2 mm (PC print) wide void area on both
  the both edges of the media.

### (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 media.
- The laser emission area is determined by the media size. However, there is a 4.0 mm (copy) /4.2 mm (PC print) wide void area on both
  the both edges of the media.



### 3.2.5 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.

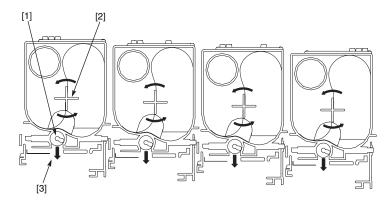
#### 3.2.6 Image processing

- · The following image stabilization functions are available as they relate to the write section. For more details, see "Image stabilization
- Laser light intensity correction control
  Color registration correction control (main scan/sub-scan)
- Gamma correction

## 4. TONER SUPPLY SECTION

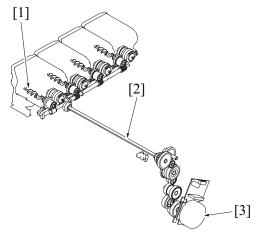
## 4.1 Composition





[1]	Toner supply screw	[2]	Agitating blade
[3]	Toner collecting port		

### 4.2 Drive



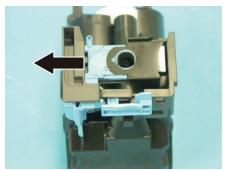
[1]	Toner supply screw	[2]	Drive shaft
[3]	Developing motor (M1)		

## 4.3 Operation

## 4.3.1 Toner collecting port shutter mechanism

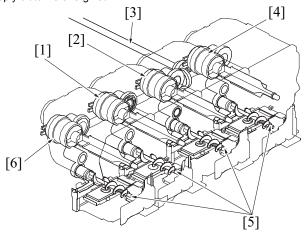
- The toner collecting port is provided with a shutter that prevents toner from being spilled out when the toner cartridge is removed from the main body.
- After installing the toner cartridge into the main body, placing the toner cartridge release lever in its locked position opens the shutter of the 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.





#### 4.3.2 Toner replenishing mechanism

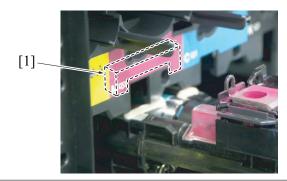
- The developing motor is energized by monitoring the condition of the toner level sensor for each color of toner. Toner is then supplied from the toner cartridge to the imaging unit as necessary.
- Rotation of the developing motor transmits the drive to the drive shaft via each gear.
- · Rotation of 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 clutch/Y	[6]	Toner supply screw

### 4.3.3 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

#### 4.3.4 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.

#### 4.3.5 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.

#### (1) In-box toner cartridge

The in-box toner cartridge is not provided with the CSIC 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 CSIC 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

The main body allows an alternative (used) toner cartridge to be used among main body variations of the same model in consideration of
a case in which a new toner cartridge is not ready when the toner near-empty or empty message appears.
 Note, however, that, even if the in-box toner cartridge is remounted after the replacement toner cartridge has once been mounted, a
message appears telling that the toner cartridge is yet to be mounted and the in-box toner cartridge is not usable.
 When the alternative toner cartridge is mounted, the consumption rate display succeeds the information of the alternative toner cartridge.

#### 4.3.6 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.

#### 4.3.7 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.

#### 4.3.8 Toner near-empty condition detection

• The taget value for the toner near-empty condition (toner level) detection is as follows. (in-box cartridge with the main body/replacement toner cartridge)

3 /	
Toner cartridge	Toner level (target value)
Toner cartridge: Equivalent to 6,000 printed pages (Y,M,C)	20%
Toner cartridge: Equivalent to 6,000 printed pages (K)	25%

- · \*: Based on the ISO19798 chart.
- The toner near-empty condition is reset when a new toner cartridge is detected.

### 4.3.9 Toner empty condition detection

A sequence is started for detecting a toner empty condition when a toner near-empty condition is detected.
 The main body determines that there is a toner empty condition when the toner level sensor output value exceeds a predetermined value and if the following event is detected a predetermined number of consecutive times: the output value of the toner level sensor exceeds a predetermined value for more than a predetermined period of time.

- The consecutive detection count is retained in memory even when the power switch is turned OFF.
- The toner empty condition is reset when a new toner cartridge is detected.

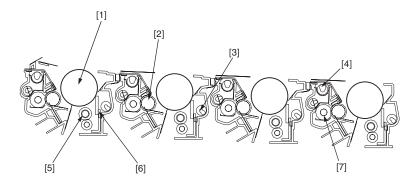
### 4.3.10 Monochrome prints

- 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.

## 5. IMAGING UNIT SECTION (overall composition)

#### 5.1 Composition





[1]	Photo conductor	[2]	Developing roller
[3]	Waste Toner collecting screw	[4]	Toner conveyance screw
[5]	Charge roller	[6]	Cleaning blade
[7]	Agitating screw		

## 5.2 Operation

### 5.2.1 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.

#### (1) In-box imaging unit

- The in-box imaging unit has no CSIC board and 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.
- A condition of the imaging unit yet to be mounted as detected during the print cycle is detected as a paper size error or a paper misfeed.
   The condition is detected as a paper size error or a paper misfeed, though paper of a small size may be fed out.

## (2) Replacement imaging unit

- The main body accesses the CSIC board when the front door is closed or the power switch is turned ON, thereby determining whether or not the imaging unit is mounted.
- · After the imaging unit has been detected, the main body then determines whether the imaging unit is new or not.

### (3) Combination of alternative (used) imaging unit

• The main body allows an alternative (used) imaging unit to be used among main body variations of the same model in consideration of a case in which a new imaging unit is not ready when the imaging unit near-life or life message appears.
Note, however, that, even if the in-box imaging unit is remounted after the replacement imaging unit has once been mounted, a message appears telling that the imaging unit is yet to be mounted and the in-box imaging unit is not usable.
When the alternative imaging unit is mounted, the consumption rate display succeeds the information of the alternative imaging unit.

#### 5.2.2 Imaging unit consumption rate detection

 The consumption rate is calculated based on the period of time through which the main motor and the color PC drum motor are energized and displayed on the Statistics Page, control panel and PageScope Web Connection.

#### 5.2.3 Imaging unit life detection

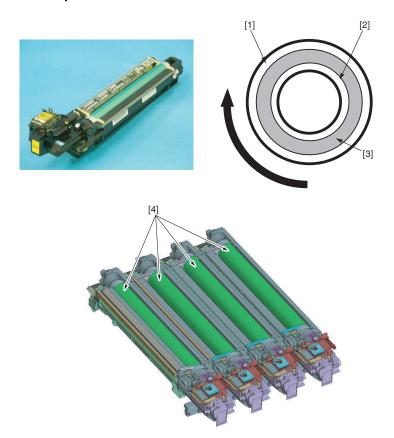
• The life of the imaging unit is determined based on the main motor drive time, color PC drum motor drive time, and the number of printed pages produced.

- When any one of the main motor drive time, color PC drum motor drive time, and the number of printed pages produced reaches a life
- value, the near-life and life message is displayed on the control panel.

  When the life value (empty) is reached, the main body is brought to a stop and a message prompting replacement is displayed on the

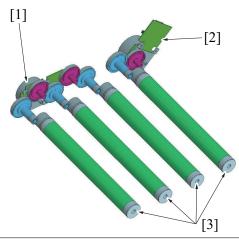
# 6. IMAGING UNIT SECTION (photo conductor)

## 6.1 Composition



[1]	Charge transport layer	[2]	Aluminum base
[3]	Charge generating layer	[4]	Photo conductor

### 6.2 Drive



[1]	Color PC drum motor (M4)	[2]	Main motor (M2)
[3]	Photo conductor		

## 6.3 Operation

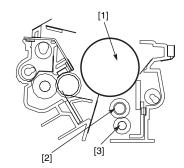
## 6.3.1 Photo conductor drive mechanism

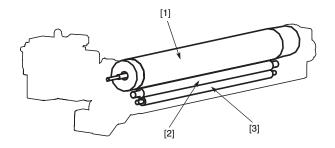
- Motors are used for the drive mechanism independently of the developing system to suppress incorrect color registration and uneven pitch.
- Because the drive for the color imaging unit is stopped in the monochrome mode, different motors are used to drive the color photo conductors and black photo conductor.
- The color PC drum motor drives the photo conductor/Y, M, and C, while the main motor drives the photo conductor/K.
- In addition to the photo conductor/K, the main motor also drives the transfer system, media feed system, and synchronizing drive system.

# 7. IMAGING UNIT SECTION (charge corona)

## 7.1 Composition

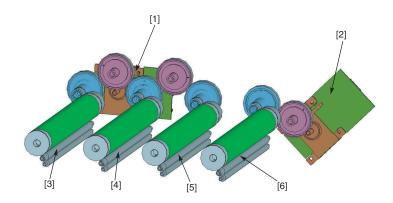






[1]	Photo conductor	[2]	Charge roller
[3]	Cleaning roller		

## 7.2 Drive



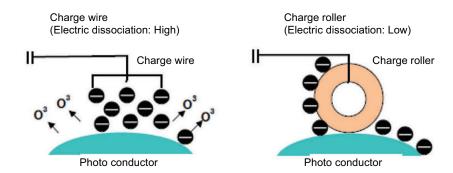
[1]	Color PC drum motor (M4)	[2]	Main motor (M2)
[3]	Charge roller/Y	[4]	Charge roller/M
[5]	Charge roller/C	[6]	Charge roller/K

## 7.3 Operation

## 7.3.1 Charge roller

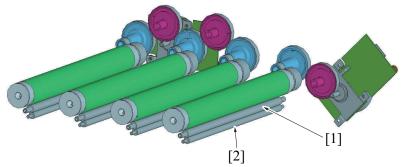
- Charge rollers are used for charging the photo conductor.

  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.



## 7.3.2 Cleaning roller

- The cleaning roller removes toner stick to the charge roller.
  The cleaning roller is driven to follow the movement of the charge roller.

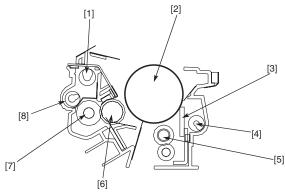


[1] Cleaning roller [2] Charge roller

## 8. IMAGING UNIT SECTION (developing)

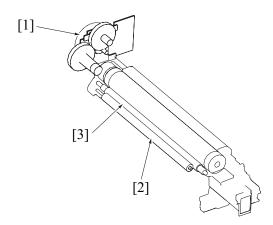
## 8.1 Composition





[1]	Toner conveyance screw	[2]	Photo conductor
[3]	Cleaning blade	[4]	Waste Toner collecting screw
[5]	Charge roller	[6]	Developing roller
[7]	Toner supply roller	[8]	Agitating screw

#### 8.2 Drive



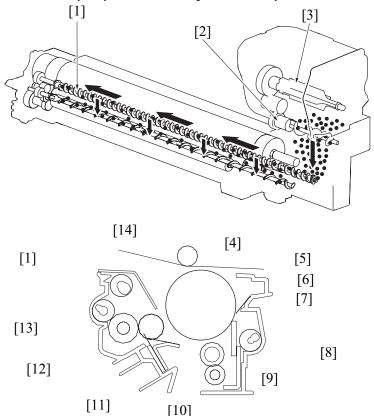
[1]	Developing motor (M1)	[2]	Toner supply roller
[3]	Developing roller		

## 8.3 Operation

#### 8.3.1 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.

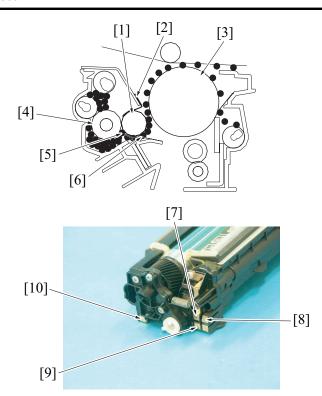
- 9. The toner on the surface of the photo conductor is transferred onto the transfer belt.
- 10. Toner left on the surface of the photo conductor is scraped off by the cleaning blade.
- 11. The toner scraped off by the cleaning blade is conveyed to the waste toner conveyance section by the waste toner 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	[4]	1st transfer roller
[5]	Transfer belt	[6]	Photo conductor
[7]	Cleaning blade	[8]	Waste Toner collecting screw
[9]	Cleaning roller	[10]	Charge roller
[11]	Regulator blade	[12]	Toner supply roller
[13]	Agitating screw	[14]	Developing roller

#### 8.3.2 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 Vr) is applied the supply roller to regulate the amount of toner sticking to the developing roller.
- 2. A negative charge (blade bias voltage Vb1) 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 (Vb) 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.

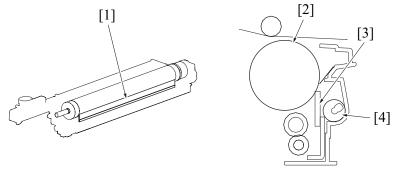


[1]	Developing roller	[2]	Charge neutralizing sheet
[3]	Photo conductor	[4]	Supply roller
[5]	Regulator blade/1st	[6]	Regulator blade/2nd
[7]	Developing roller bias	[8]	Supply roller bias
[9]	Charge roller bias	[10]	Regulator blade bias

## 8.3.3 Cleaning mechanism

### (1) Cleaning operation

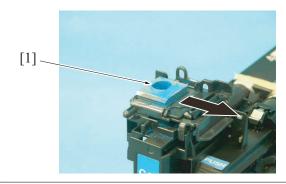
- 1. The cleaning blade is pressed against the surface of the photo conductor to remove toner left off the surface (fixed blade system).
- 2. The toner, which has been scraped off by the cleaning blade, is conveyed by the waste toner collecting screw and collected in the waste toner transport section.



[1]	Cleaning blade	[2]	Photo conductor
[3]	Cleaning blade	[4]	Waste toner collecting screw

### 8.3.4 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.



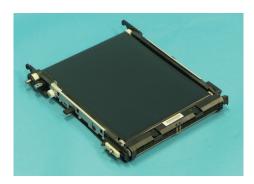
[1] Toner collecting port

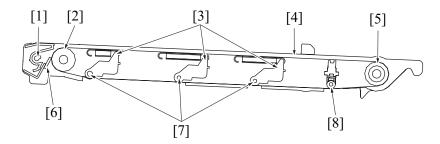
## 8.3.5 Image processing

- The following image stabilization functions are available as they relate to the imaging unit section (developing). For more details, see [Image stabilization control].
  Developing bias correction
- Control of the maximum amount of toner sticking to the transfer belt

# 9. TRANSFER SECTION (1st transfer)

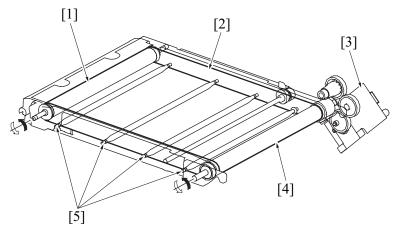
## 9.1 Composition





[1]	Waste toner collecting screw	[2]	Release lever/Y, M, C
[3]	Transfer belt	[4]	Transfer belt drive roller
[5]	Cleaning blade	[6]	Driven roller
[7]	1st transfer roller/Y, M, C	[8]	1st transfer roller/K

### 9.2 Drive



[1]	Driven roller	[2]	Transfer belt
[3]	Main motor (M2)	[4]	Transfer belt drive roller
[5]	1st transfer roller/Y, /M, /C, /K		

## 9.3 Operation

## 9.3.1 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

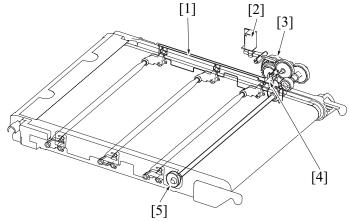
• During the 1st transfer in the color mode, the 1st transfer roller/Y, M, C is moved toward the photo conductor (pressed) so that transfer belt is pressed against the photo conductor.

#### (3) Others

· The transfer roller is moved (retracted) and the photo conductor is stopped in the ordinary standby state.

#### 9.3.2 1st transfer roller pressure/retraction control

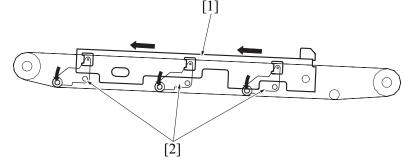
- To extend the service life of the photo conductor/Y, M, C, the pressure position of the 1st transfer roller is changed between the monochrome mode and the color mode.
- The 1st transfer roller/K is not provided with a retraction mechanism; the transfer belt is pressed against the photo conductor/K 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 release solenoid (SD1)
[3]	Pressure/retraction clutch	[4]	1st transfer release sensor (PS17)
[5]	Pressure cam		

### (1) 1st transfer roller pressure operation

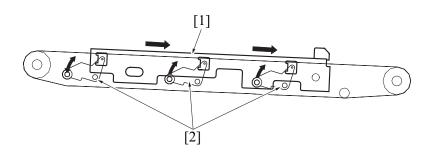
- 1. Rotation of the Transport motor is transmitted by a gear train to the pressure/release clutch.
- 2. Drive through the pressure/release clutch rotates the pressure cam a half turn, thus pushing back the sliding plate.
- 3. As the sliding plate is pushed back, the release lever turns.
- 4. As the release lever turns, the 1st transfer roller is pressed against the transfer belt.



[1]	Sliding plate	[2]	Release lever

#### (2) 1st transfer roller release operation

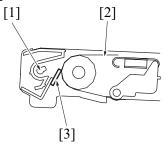
- 1. Rotation of the Transport motor is transmitted by a gear train to the pressure/release clutch.
- 2. Drive through the pressure/release clutch rotates the pressure cam a half turn, thus pushing the sliding plate.
- 3. As the sliding plate is pushed, the release lever turns.
- 4. As the release lever turns, the 1st transfer roller is released from the transfer belt.

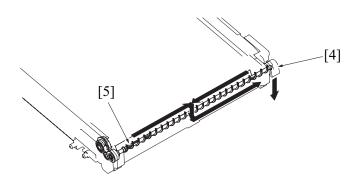


[1]	Sliding plate	[2]	Release lever
[[1]	Silding plate	[2]	Nelease level

### 9.3.3 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		

### 9.3.4 1st transfer belt backward rotation control

• To prevent media 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.

### 9.3.5 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.

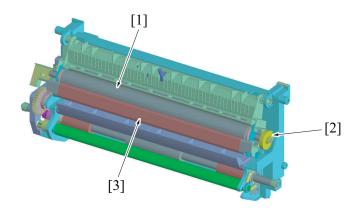


[1] Shutter

## 10. TRANSFER SECTION (2nd transfer)

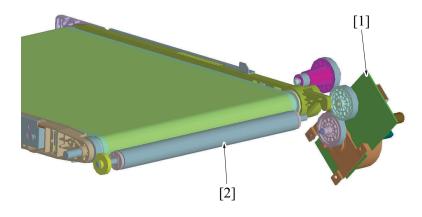
## 10.1 Composition





[1]	Retraction gear	[2]	2nd transfer roller
[3]	Pre-transfer guide plate		

## 10.2 Drive



_				
1	[1]	2nd transfer roller	[2]	Main motor (M2)

### 10.3 Operation

#### 10.3.1 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 release 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 media.

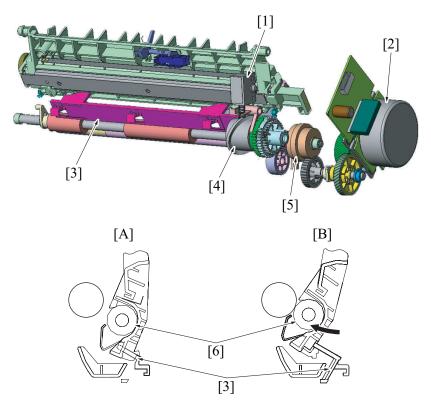
• The 2nd transfer roller is pressed against the transfer belt to allow the roller to be cleaned.

#### (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 release 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.
- When the registration clutch and the 2nd transfer release 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 release solenoid (SD2)	[2]	Main motor (M2)
[3]	Release slider	[4]	Release cam
[5]	Registration clutch(CL3)	[6]	2nd transfer roller
[A]	Release	[B]	Pressure

#### 10.3.2 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 media.
- · The transfer voltage is applied after the 2nd transfer roller has been pressed against the transfer belt.

### 10.3.3 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.

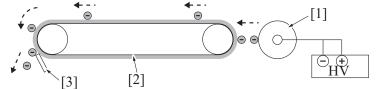
#### (2) Control

- 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.

### 10.3.4 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.



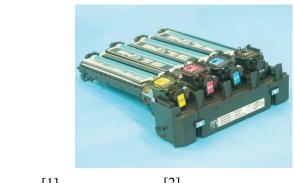
[1]	2nd transfer roller	[2]	Transfer belt
[3]	Cleaning blade		

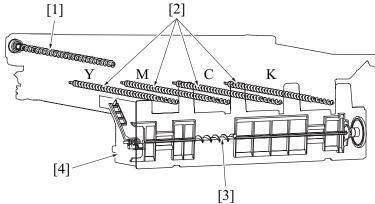
## (1) Operation timing

- The 2nd transfer roller cleaning sequence is carried out after the transfer belt has been cleaned during recovery from a media misfeed 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 media size error occurs.

# 11. WASTE TONER COLLECTING SECTION

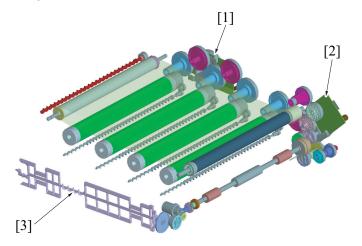
## 11.1 Composition





[1]	Waste toner collecting screw (Transfer belt)	[2]	Waste toner collecting screw (Imaging unit)
[3]	Waste toner bottle	[4]	Waste toner agitating blade

## 11.2 Drive

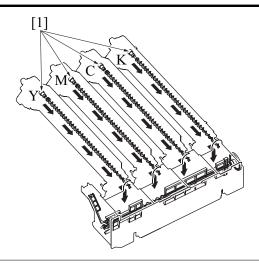


[1]	Color PC drum motor (M4)	[2]	Main motor (M2)
[3]	Waste toner agitating blade		

## 11.3 Operation

## 11.3.1 Toner flow at the imaging unit section

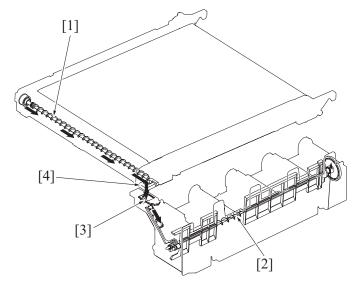
- 1. Toner scraped off by the cleaning blade in the imaging unit is conveyed to the waste toner discharge port by the toner collecting screw.
- 2. The toner conveyed is stored in the waste toner bottle.



[1] Waste toner collecting screw

### 11.3.2 Waste toner flow at transfer belt unit section/2nd transfer section

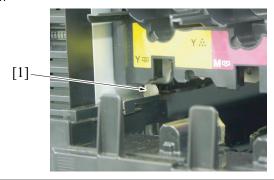
- 1. Toner scraped off by the cleaning blade provided in the transfer belt unit is collected onto the waste toner discharge port of the transfer belt unit by the toner collecting screw.
- 2. The waste toner collected is conveyed to the waste toner bottle by the waste toner agitating blade from the toner collecting port that is provided in the middle of the transfer belt unit.



[1]	Waste toner collecting screw	[2]	Waste toner discharge port
[3]	Waste toner collecting port	[4]	Waste toner agitating blade

### 11.3.3 Toner collecting port shutter mechanism

- A shutter mechanism is provided to prevent waste toner from being spilled from the 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

#### 11.3.4 Waste toner bottle-in-position detection mechanism

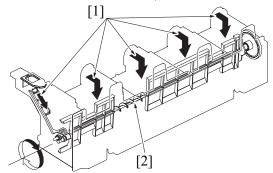
- The waste toner bottle set detection lever is provided to detect a waste toner bottle loaded in position.
- When the waste toner bottle is not loaded, the set detection lever is raised, so that the protrusion provided in the front door interferes with the set detection lever. Then, the front door cannot be closed.



[1] Set detection lever

#### 11.3.5 Waste toner flow in the waste toner bottle

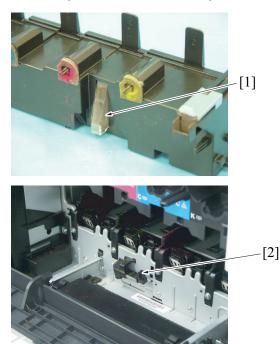
- Waste toner conveyed from the transfer belt and each of the imaging units is evened out in the waste toner bottle by the waste toner agitating blade.
- The waste toner bottle is provided with a detection window. The waste toner near full sensor is unblocked or blocked through the detection window to 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

#### 11.3.6 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 (Based on the Standard mode).



[1]	Detection window	[2]	Waste toner near full sensor (PS12)

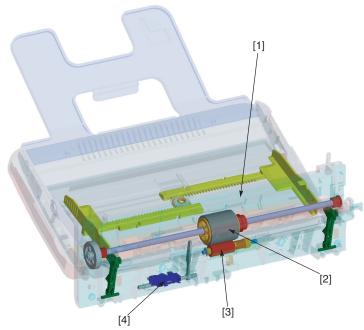
## 11.3.7 Waste toner full condition detection control

- The main body accepts no print job after the waste toner full condition has been detected.
- A waste toner full condition warning is given on the panel at this time.
  The waste toner full warning indication disappears when a new waste toner bottle is installed.

# 12. MEDIA FEED SECTION (Tray 1)

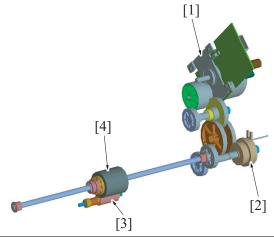
# 12.1 Composition





[1]	Media lift plate	[2]	Feed roller
[3]	Separation roller	[4]	Tray1 media empty sensor (PS3)

## 12.2 Drive



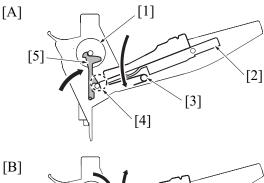
[1]	Main motor (M2)	[2]	Tray 1 media feed clutch (CL2)
[3]	Separation roller	[4]	Feed roller

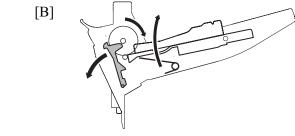
## 12.3 Operation

## 12.3.1 Media lift plate mechanism

• The media lift plate will be locked under the media lift plate lock lever by pressing it down (in which the media is loaded in position).

- The media feed clutch causes the feed roller shaft to rotate, which causes the media lift plate lock lever to follow the motion to thereby release the media lift plate.
- The media lift plate (media stack) is pressed against the feed roller.
- · The media lift plate (media stack) is pressed upward by the springs at all times.





[A]	LOCK POSITION	[B]	LOCK RELEASE POSITION
[1]	Feed roller	[2]	Media lift plate
[3]	Spring	[4]	Locked position
[5]	Media lift plate lock lever		

#### 12.3.2 Media separation mechanism

- · Rotation of the transport motor is transmitted through the media feed clutch to thereby drive the feed roller.
- The feed roller rotates to take up and feed media into the main body.
- · Double-feeding of media is prevented by the separation roller provided with a torque limiter.



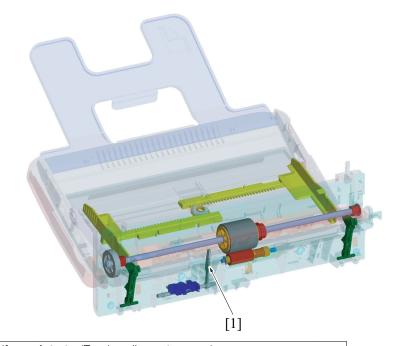
[1] Feed roller	[2] Separation roller
-----------------	-----------------------

## 12.3.3 Media feed control

- Rotation of the transport motor is transmitted through the media feed clutch to drive the feed roller to take up and feed the media.
- The media taken up and fed in is conveyed onto the registration roller.
- The media is pressed against the stationary registration roller so that a loop is formed in the media. The feed roller is then stopped. The loop thus formed in the media corrects any mechanical skew in the media.

#### 12.3.4 Media empty condition detection control

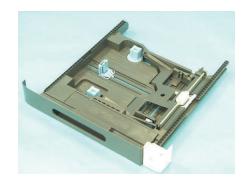
- · A media empty condition is detected when the empty sensor actuator blocks the media empty sensor.
- · No mechanism is provided for detecting a media near-empty condition. The media supply level indicator serves this purpose.

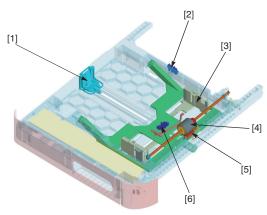


[1] Actuator (Tray1 media empty sensor)

# 13. MEDIA FEED SECTION (Tray 2)

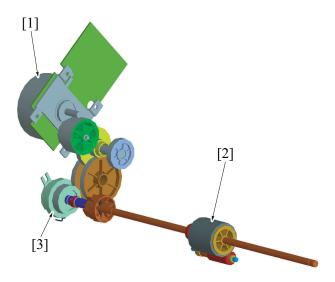
## 13.1 Composition





[1]	Trailing edge guide plate	[2]	Tray2 set sensor (PS1)
[3]	Edge guide plate	[4]	Feed roller
[5]	Separation roller	[6]	Tray2 media empty sensor (PS2)

## 13.2 **Drive**

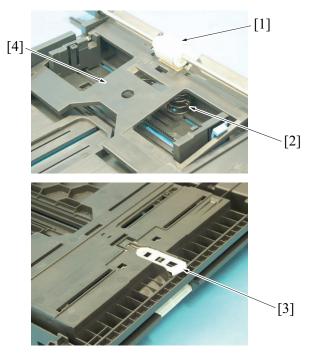


[1]	Main motor (M2)	[2]	Feed roller
[3]	Tray2 media feed clutch (CL1)		

## 13.3 Operation

## 13.3.1 Media lift plate mechanism

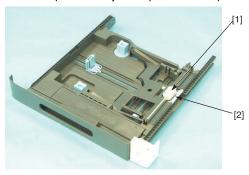
- The media lift plate is pressed down into the locked position (in which the media is loaded in position).
- · Load a media stack and then slide the tray into the main body. This causes the lock release lever to unlock the media lift plate.
- The media lift plate (media stack) is pressed against the feed roller.
- · The media lift plate (media stack) is pressed upward by the springs at all times.



[1]	Feed roller	[2]	Spring
[3]	Lock release lever	[4]	Media lift plate

#### 13.3.2 Media separation mechanism

- Rotation of the main motor is transmitted through the media feed clutch to thereby drive the feed roller.
- · The feed roller rotates to take up and feed media into the main body.
- · Double-feeding of media is prevented by the separation roller provided with a torque limiter.



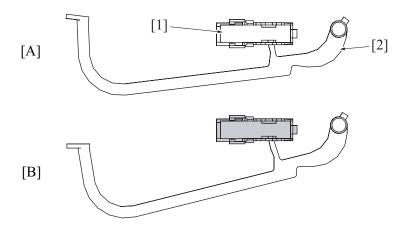
[4]	Food rollor	[2]	Congretion roller
[[1]	Feed roller	[4]	Separation roller

#### 13.3.3 Media feed control

- · Rotation of the main motor is transmitted through the media feed clutch to drive the feed roller to take up and feed the media.
- The media taken up and fed in is conveyed onto the registration roller.
- The media is pressed against the stationary registration roller so that a loop is formed in the media. The feed roller is then stopped. The loop thus formed in the media corrects any mechanical skew in the media.
- As the trailing edge of the media reaches a point immediately before the feed roller, the feed roller is stopped.

## 13.3.4 Media empty condition detection control

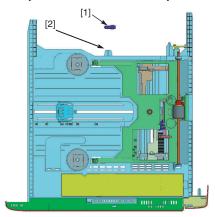
- The media empty message "PAPER EMPTY TRAY2" is displayed on the panel when the empty sensor actuator unblocks the media empty sensor
- No mechanism is provided for detecting a media near-empty condition.



[A]	When media is loaded	[B]	A media empty condition
[1]	Tray2 media empty sensor (PS2)	[2]	Empty sensor actuator

### 13.3.5 Tray open/close detection control

- The tray2 set sensor detects a tray in the open or closed position.
- The detection plate of tray 2 blocks or unblocks the tray2 set sensor, which allows the main body to determine that tray 2 is in place or not.



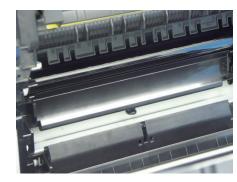
[1] Tray2 set sensor (PS1)	[2] Tray detection plate
----------------------------	--------------------------

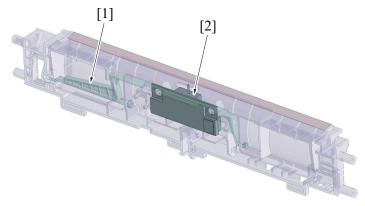
## 13.3.6 Media misfeed detection control

- If the registration sensor is not activated within a predetermined period of time after a media feed sequence has been started, the main body determines that there is a media misfeed. It then gives the message "PAPER EMPTY TRAY 2" on the panel. The media misfeed display can be reset by opening and closing any of the doors.

# 14. CONVEYANCE SECTION (IDC sensor)

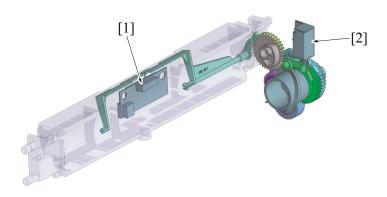
## 14.1 Composition





	[1]	IDC sensor lever	[2]	IDC sensor
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## 14.2 Drive

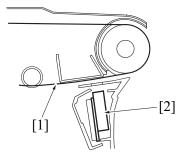


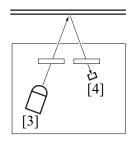
[1] IDC sensor [2] 2nd transfer release solenoid (SD2)
--

## 14.3 Operation

## 14.3.1 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.

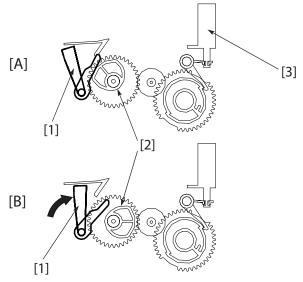
Amount of toner sticking	Intensity of light reflected	Output
Large	Small	Low
Small	Great	High

#### 14.3.2 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.

#### 14.3.3 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 release solenoid		

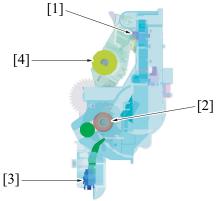
#### 14.3.4 Image processing

- The following image stabilization function is available as they relate to the imaging unit section (developing). For more details, see [Image stabilization control].
- IDC sensor output correction

# 15. CONVEYANCE SECTION (Registration roller)

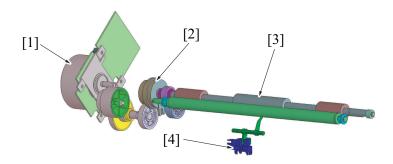
### 15.1 Composition





[1]	Loop detection sensor (PS6)	[2]	2nd transfer roller
[3]	Registration sensor (PS5)	[4]	Registration roller

### 15.2 **Drive**



[1]	Main motor (M2)	[2]	Registration clutch (CL3)
[3]	Registration roller	[4]	Registration sensor (PS5)

### 15.3 Operation

### 15.3.1 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 media type and print mode as detailed below.

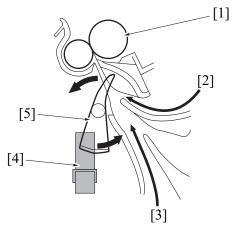
Media type/print mode	Conveyance speed		
Plain media	185 mm/s		
Thick paper, envelopes, postcards, label	92.5 mm/s		

#### 15.3.2 Registration roller control

- When the media taken up and fed in by the feed roller reaches the registration roller, a loop is formed in the media and media conveyance is temporarily stopped. Conveyance skew is corrected by this loop.
- The registration sensor detects whether or not the media has reached the registration roller.
- The media fed in is synchronized with the image before media conveyance is restarted.

#### (1) Media detection control

• When the media fed from the feed roller pushes up the actuator of the registration sensor, the sensor is unblocked. The main body then determines that the media has reached the registration roller.



[1]	Registration roller		Media (fed from duplex)
[3]	Media (from tray 1/2/3)	[4]	Actuator
[5]	Registration sensor (PS5)		

### 15.3.3 Control of loop formed before registration roller

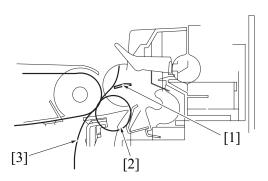
- Media conveyance is stopped after the lapse of a predetermined period of time after the leading edge of the media fed from the feed roller has reached the registration roller. This forms a loop in the media.
- · The loop in the media corrects skew in the media.



F43	D : ( ()	101	
[1]	Registration roller	[2]	Media

#### 15.3.4 Media neutralization

- The charge neutralizing cloth neutralizes any charge left in the media 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]	Media		

#### 15.3.5 Media size error detection control

· To prevent incorrect printed pages, the size of the media being conveyed is detected using the registration sensor and media feed sensor.

- The length of the media 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 media source.
- For the lower feeder unit, even if the media feed sensor does not detect a media size error, the downstream registration sensor makes an error check again.

Media source	Media length detection sensor	Starting point	Ending point	
Tray 1	Registration sensor (PS5)	Registration roller clutch CL3: ON	Registration sensor PS5: OFF	
Tray 2	Registration sensor (PS5)	Registration roller clutch CL3: ON	Registration sensor PS5: OFF	
Tray 3 (Lower feeder unit)	Media feed sensor (PS3: Tray 3)	Media feed sensor PS3: ON	Media feed sensor PS3: OFF	
Tray 5 (Lower reeder unit)	Registration sensor (PS5)	Registration roller clutch CL3: ON	Media feed sensor PS3: OFF	

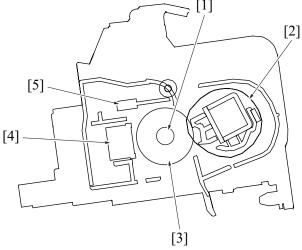
### 15.3.6 Temperature/humidity sensor

- 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.

### 16. FUSING SECTION

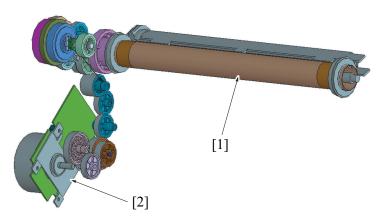
### 16.1 Composition





[1]	Fusing heater	[2]	Pressure belt
[3]	Thermistor 1/2	[4]	Thermostat
[5]	Fusing roller		

### **16.2 Drive**



_				
	[1]	Fusing roller	[2]	Main motor (M2)

### 16.3 Operation

### 16.3.1 Fusing roller drive control

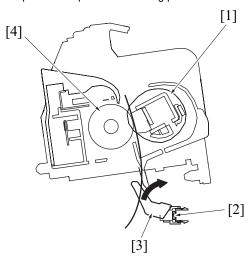
### (1) Fusing speed switching control

- The main motor provides drive for the fusing section.
  To prevent poor fusing performance, the conveyance speed is changed in two steps according to the media type.

	Plain paper (mm/s)	Thick paper, envelopes, postcards, label (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 media conveyance speed during image transfer is corrected.
- The loop detection sensor detects the length of the loop formed in the media between the 2nd transfer roller and the fusing pressure roller. The fusing speed is then varied according to the media type. By varying the fusing speed, media 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).



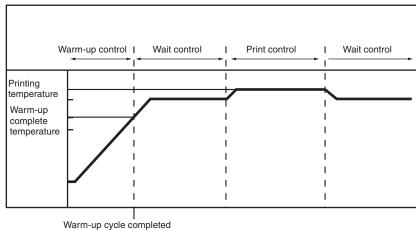
[1]	Pressure belt	[2]	Fusing roller
[3]	Loop detection sensor (PS6)	[4]	Actuator

#### (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 main motor is energized for a predetermined period of time.

#### 16.3.2 Fusing temperature control

- To fuse the toner image on the media (image yet to be permanently fixed) properly into the media, 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 media misfeed 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 media misfeed occurs.
- 3. Print control temperatures
  - The fusing roller temperature is set according to the type of media, main body interior temperature (as measured by the temperature/ humidity sensor), and warm-up start temperature.
  - For types of media 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.

#### 16.3.3 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.

### 16.3.4 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 media is then widened according to the length of the media and the fusing speed, thereby allowing the fusing pressure roller and fusing 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 media moves past) and the edges of the roller/belt (where no part of the media moves past). To inhibit this situation, the distance between sheets of media 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.

#### 16.3.5 Fusing unit new article detection

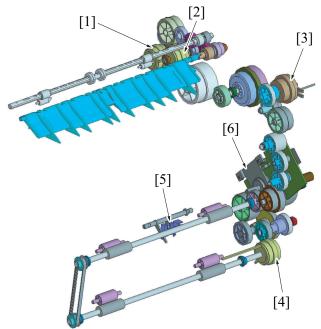
- The fusing unit is not provided with any new article detection mechanism.
- If the fusing unit is replaced with a new one, therefore, the counter needs to be reset by using the [Consumables Replace] function of the user mode or service mode.
- Reference (user mode): [Admin Settings] / [Maintenance Menu] / [Supplies] / [Consumables Replace] / [Fusing Unit] menu

• F	Reference (service mode): [SERVICE MODE] / [Supplies] / [Consumables Replace] / [Fusing Unit] menu					

# 17. DUPLEX SECTION

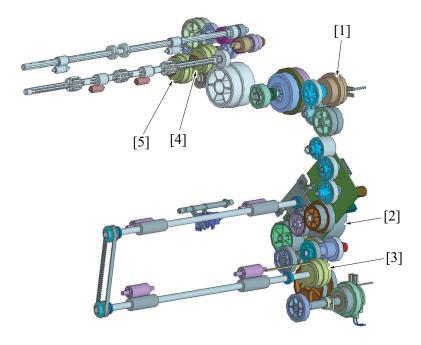
# 17.1 Composition





[1]	Switchback roller reverse clutch (CL12)	[2]	Switchback roller feed clutch (CL11)
[3]	Loop detection clutch (CL8)	[4]	Main motor (M2)
[5]	Duplex conveyance sensor (PS9)	[6]	Duplex conveyance roller clutch (CL13)

### 17.2 Drive



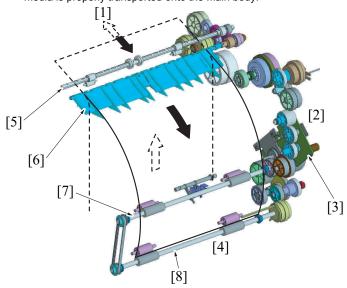
[1]	Loop detection clutch (CL8)	[2]	Switchback roller feed clutch (CL11)
[3]	Switchback roller reverse clutch (CL12)	[4]	Main motor (M2)
[5]	Duplex conveyance roller clutch (CL13)		

### 17.3 Operation

#### 17.3.1 Media transport control

#### 1. Media transport

- The main motor provides drive for media transport onto the duplex section.
- When the main motor is energized, the media exit roller, switchback roller, transport roller 1, and transport roller 2 are driven to transport media 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 media is moved and detect media misfeed or media 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 media is properly transported onto the main body.



[1]	Media switchback section	[2]	Drive section
[3]	Main motor (M2)	[4]	Re-feeding conveyance section
[5]	Switchback roller	[6]	Switchback guide
[7]	Transport roller 1	[8]	Transport roller 2

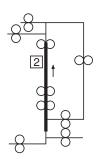
#### 2. Loop formation

- To correct skew in the media transported to the duplex section, a loop is formed in the media at the duplex section before the media 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 media has moved past the duplex conveyance sensor. A loop is thereby formed in the media at
  the duplex section.

### 17.3.2 Duplex print control

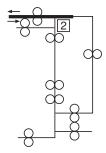
#### (1) 1 sheet operation

1. A sheet of paper is taken up and fed in and the image of the second page of the original is printed.

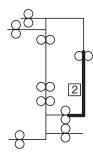


2. The switchback guide operates so as to transport the paper to the switchback section.

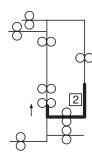
Immediately before the paper leaves the media exit roller, the direction of rotation of the switchback roller is reversed and the paper is transported toward and into the duplex section.



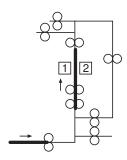
3. While passing through the duplex section, the paper stops temporarily at the re-feeding position.



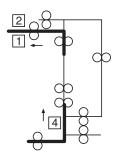
4. The paper is subject to skew correction at the registration roller section before being re-fed.



5. The image of the first page of the original is printed on the paper re-fed from the duplex section.



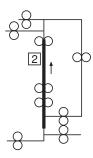
6. While the first sheet of paper is fed out, the second sheet of paper is taken up and fed in and the image of the fourth page of the original is printed.



· Steps 2 to 5 are repeated hereafter.

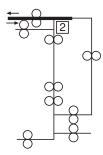
#### (2) 2 sheet operation

1. A sheet of paper is taken up and fed in and the image of the second page of the original is printed.

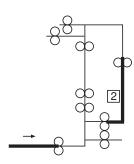


2. The switchback guide operates so as to transport the paper to the switchback section.

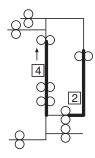
Immediately before the paper leaves the media switchback roller, the direction of rotation of the switchback roller is reversed and the paper is transported toward and into the duplex section.



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.

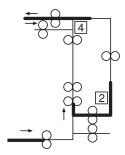


4. The second sheet of paper is taken up and fed in and the image of the fourth page of the original is printed. The first sheet of paper stops temporarily at the re-feeding position.



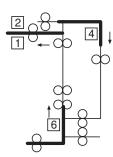
5. The first sheet of paper is subject to skew correction at the registration roller section before being re-fed.

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.

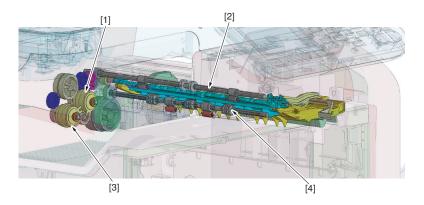


· Steps 4 to 7 are repeated hereafter.

# 18. MEDIA EXIT SECTION

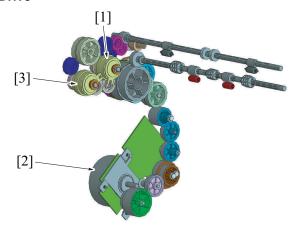
### 18.1 Composition





[1]	Switchback roller feed clutch (CL11)	[2]	Switchback roller reverse
[3]	Switchback roller reverse clutch (CL12)	[4]	Media exit roller

### 18.2 **Drive**



[1]	Switchback roller feed clutch (CL11)	[2]	Switchback roller reverse clutch (CL12)
[3]	Main motor (M2)		

# 18.3 Operation

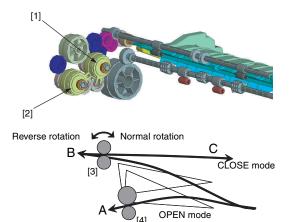
### 18.3.1 Transport control

### (1) Media exit switching mechanism

- The media 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 media 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.
- 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
В	Normal rotation	ON	OFF	OPEN

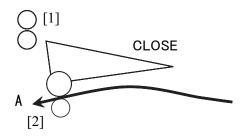
ı	•		0	011	01.00=
ı	(:	Reverse rotation	OFF	ON	CLOSE
1	O	TOVETSE TOTALISTI	O. 1	011	OLOGE



[1]	Switchback roller feed clutch (CL11)	[2]	Switchback roller reverse clutch (CL12)
[3]	Switchback roller	[4]	Media exit roller

### (2) <Single-side printing>

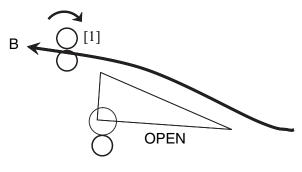
- · Media exits outside the machine with the switchback gate in CLOSE mode.
- · The switchback roller mode is stopping.



[1]	Switchback roller	[2]	Media exit roller
L ' J		[-]	

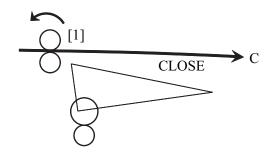
### (3) < Duplex printing>

- 1. The switchback guide turns to the OPEN mode and the media is transported to the direction of the switchback roller.
- 2. The switchback roller rotates forward.



[1] Switchback roller

3. The switchback guide becomes CLOSE mode after the back end of the media passes through the switchback roller, and the switchback roller starts rotating backward to send the media to the duplex unit direction.



[1] Switchback roller

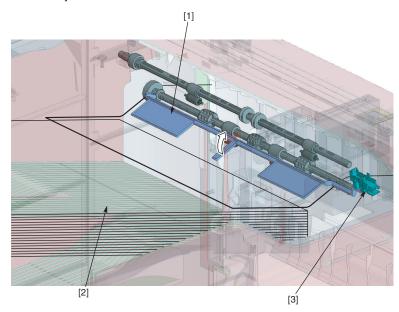
#### 18.3.2 Media full detection

- The media full sensor detects the load capacity of output media in the exit tray.

- When the media holding plate is low, the edge of the media holding plate shades the media full sensor.

  When printing starts, the output media pushes up the media holding plate and the edge of the plate unblocks the media full sensor.

  After all media is discharged, the media holding plate goes down and the edge of the plate shades the media full sensor. If the sensor is shaded, the printed media is judged to not have reached the maximum load capacity yet.
- After all media is discharged, if the output media in the exit tray keeps the media holding plate up and the media full sensor remains unblocked, the printed media is judged to have reached the maximum load capacity, and the operation panel displays the message.
- If the sensor detects that the exit tray is full, printing is stopped. When the tray is full



[1]	Actuator	[2]	Media
[3]	Tray media full sensor (PS7)		

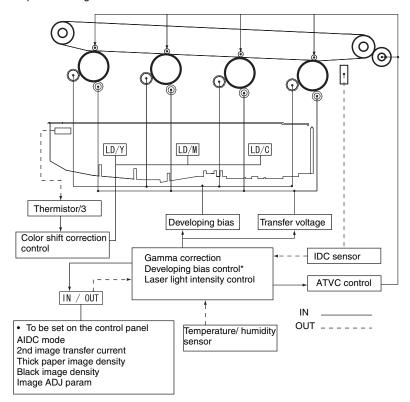
### 19. IMAGE STABILIZATION CONTROL

#### 19.1 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	IDC sensor output control     Developing bias 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	1st image transfer ATVC     2nd image transfer ATVC	Temperature/ humidity sensor

An explanation is given of the control for each section.



• \*: Developing bias control (control of the maximum amount of toner sticking to the transfer belt)

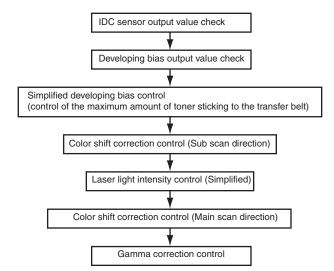
### 19.2 Operation sequence

#### 19.2.1 Operation sequence

- · Image stabilization control may be divided into three types according to the condition of the main body.
- Image stabilization control may be divided into three types: complete correction control, simplified correction control, and individual
  registration control. The following explain specific details of each type of control.

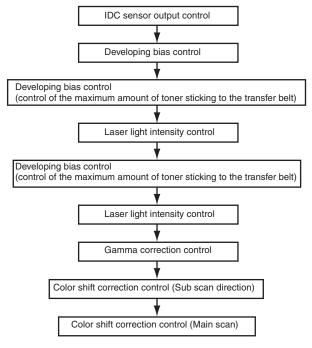
### 19.2.2 Simplified correction control

A comparison is made with the previous measurements and the simplified correction control is executed if any faulty measurement is noted.
 If the simplified correction control is not effective in making the necessary corrections, the complete correction control is executed.



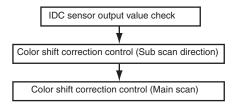
### 19.2.3 Complete correction control

• The complete correction control is executed if the simplified correction control is not effective in making the necessary corrections.



### 19.2.4 Individual registration control

 Incorrect color registration that occurs due to variations in parts of the main body used for regulating different drawing positions is detected and corrected.



#### 19.3 Control descriptions

#### 19.3.1 Simplified correction control

- The complete correction control is executed if the simplified correction control is not effective in making the necessary corrections.
- The simplified correction control is performed for a maximum of about 1 min., during which period "CALIBRATING" appears on the control
  panel.

	Control name	Purpose
1	IDC sensor output value check	To check the intensity of light (output value) of the IDC sensor relative to the clear surface of the transfer belt on which no toner sticks.  A comparison is made with the previous measurement and, if the output value falls outside a specified range, control is shifted to the complete correction.
2	Developing bias output value check	To measure the voltage value at which a leak is detected when a predetermined developing bias is outputted to the developing roller of each color. A comparison is made with the previous measurement and, if the output value falls outside a specified range, control is shifted to the complete correction.
3	Simplified developing bias control (control of the maximum amount of toner sticking to the transfer belt)	To detect the amount of toner sticking to the transfer belt using the IDC registration sensor by producing a simplified detection pattern on the transfer belt. With reference to the detected data and the environmental data obtained from the temperature/humidity sensor, the developing bias value with which the optimum maximum density is obtained is calculated and stored in memory.
4/6	Color shift correction control (Main scan/Sub scan direction)	In the tandem engine having an image forming process for each color, incorrect color registration, which occurs due to variations in parts used for regulating different drawing positions, tends to occur.  The incorrect color registration is automatically detected and corrected.
5	Laser light intensity control (Simplified)	To correct the target level of fluctuations in fine line reproduction and reverse image reproducibility that occur due to variations in photo conductor electrostatic characteristics, developing characteristics, and transfer characteristics (part-to-part variations, environment, durability).  A simplified detection pattern is produced on the surface of the transfer belt with a predetermined intensity of laser light and the output value of the IDC registration sensor is detected.  The laser light intensity is calculated from the output data detected of the IDC registration sensor.
7	Gamma correction control	To adjust the intensity of the laser light in order to correct changes in gradation characteristics caused by variations in the photo conductor sensitivity, developing characteristics, durability, environment, and part-to-part variations in manufacturing to a linear one.  A simplified gradation pattern is produced on the transfer belt and gradation characteristics outputted by the current printer is calculated using the IDC registration sensor.  The gamma correction data is calculated using the detected data of different gradation levels. The optimum laser light intensity is set for each of the different gradation levels.

### 19.3.2 Complete correction control

- The following controls 1 to 6 are collectively called the complete correction control.
- The complete correction control is performed for a maximum of about 2 min., during which period "CALIBRATING" appears on the control panel.

	Control name	Purpose	
1	IDC sensor output 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.	
2	Developing bias control	If the developing bias voltage (Vpp) is too high for the Ds distance in each imaging unit, a leak image (background leak, image area leak) results. If Vpp is excessively low, halftone reproducibility becomes poor. This control detects a Vpp range, in which no image failure occurs, to set the optimum Vpp.	
3/5	Developing bias control (control of the maximum amount of toner sticking to the transfer belt)	Control details are equivalent to those of the simplified correction control. Unlike the simplified correction control, however, an even more detailed detection pattern is transferred to calculate detailed output values.	
4/6	Laser light intensity control		
7	Gamma correction control	Control details are equivalent to those of the simplified correction control.	
8/9	Color shift correction control (Main scan/ Sub scan direction)		

### 19.3.3 Individual registration control

• The individual registration control is performed for a maximum of about 30 sec., during which period "CALIBRATIN" happears on the control panel.

	Control name	Purpose
1	IDC sensor output control	
2	Color shift correction control (Main scan/ Sub scan direction)	Control details are equivalent to those of the simplified correction control.

#### 19.3.4 Miscellaneous controls

- Cleaning and other processes are performed by interrupting a continuous printing cycle (about 100 printed pages) that may be run. If a miscellaneous control (cleaning) is performed, it is performed for a maximum of about 2 min., during which period "CALIBRATING" appears on the control panel.

	Description of cleaning	
1	The drum charge roller is energized and the discharge product is removed from the surface of the photoconductor drum.	
2	Aggregate substances are removed from the inside of the supply roller.	
3	If half speed driving continues, the developing section is driven at full speed to thereby prevent the developing section from being clogged with toner.	

### 19.4 Execution timing

#### 19.4.1 Predrive operation

· The following describe image stabilization controls performed when, for example, the main power switch is turned ON, the sleep mode is canceled, the door is closed, or a malfunction is reset.

<ul> <li>A new imaging unit is detected.</li> <li>A replacement imaging unit is detected.</li> <li>A change in environment is detected (there is a change in humidity or temperature of a predetermined value or more from the levels during the last stabilization sequence).</li> <li>There is a change in environment (temperature) of a predetermined value or more in PH during a multi-print cycle.</li> <li>A malfunction is reset.</li> <li>The simplified correction control is not effective in making a good correction.</li> <li>A change in environment is detected during the sleep mode (there is a change in humidity or temperature of a predetermined value or more from the levels during the last stabilization sequence).*1</li> <li>When the main power switch is turned ON, a period of 24 hours or more has elapsed since the last operation of power turning OFF.</li> <li>The count of the number of printed pages produced reaches a predetermined value as counted from the last stabilization sequence.</li> <li>The main body exits from the sleep mode that has lasted for a predetermined period of time or</li> </ul>	Operation conditions	Stabilization control type
<ul> <li>last operation of power turning OFF.</li> <li>The count of the number of printed pages produced reaches a predetermined value as counted from the last stabilization sequence.</li> <li>The main body exits from the sleep mode that has lasted for a predetermined period of time or</li> </ul>	<ul> <li>A replacement imaging unit is detected.</li> <li>A change in environment is detected (there is a change in humidity or temperature of a predetermined value or more from the levels during the last stabilization sequence).</li> <li>There is a change in environment (temperature) of a predetermined value or more in PH during a multi-print cycle.</li> <li>A malfunction is reset.</li> <li>The simplified correction control is not effective in making a good correction.</li> <li>A change in environment is detected during the sleep mode (there is a change in humidity or temperature of a predetermined value or more from the levels during the last stabilization</li> </ul>	Complete correction control
more.	<ul> <li>last operation of power turning OFF.</li> <li>The count of the number of printed pages produced reaches a predetermined value as counted from the last stabilization sequence.</li> </ul>	Simplified correction control
<ul> <li>There is a change in environment (temperature) of a predetermined value or more in PH.</li> <li>There is a change in environment (temperature) of a predetermined value or more in PH during the sleep mode.</li> </ul>	There is a change in environment (temperature) of a predetermined value or more in PH during	Individual registration control
• A continuous printing cycle (full speed/half speed) is run to produce about 100 printed pages.  Miscellaneous controls (cleaning)	A continuous printing cycle (full speed/half speed) is run to produce about 100 printed pages.	Miscellaneous controls (cleaning)

\*1: During the sleep mode, an environmental check is made every hour and the DC power supply fan motor is energized for several seconds for taking measurement.

### 19.4.2 During and after a print cycle

· The following describe image stabilization controls performed during and after a print cycle.

Operation conditions	Stabilization control type
A change in environment is detected (there is a change in humidity or temperature of a predetermined value or more from the levels during the last stabilization sequence)	Complete correction control
The count of the number of printed pages produced reaches a predetermined value as counted from the last stabilization sequence.	Simplified correction control
There is a change in environment (temperature) of a predetermined value or more in the PH.	Individual registration control

#### 19.4.3 When the AIDC mode is selected

· The following describe the stabilization controls executed using the AIDC menu available on the control panel.

At execution of the AIDC menu	Gamma correction control     Color shift correction control (Main scan/Sub scan direction)
	Color Still Correction Control (Main South Cab South direction)

# 20. POWER SUPPLY SECTION

### 20.1 Parts energized when the main power switch is turned ON

### 20.1.1 Configuration



[1] Main power switch

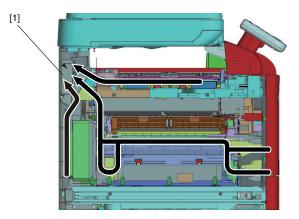
### 20.1.2 Operation

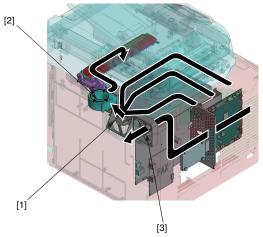
• When the main power switch is turned ON, power is supplied from the DC power supply to the following components.

Voltage	Power supplied to
24V	Printer control board
5V	MFP board
3.4V	MFP board

# 21. FAN CONTROL

# 21.1 Configuration





[1]	DC power supply fan motor (FM10)	[2]	Cooling fan motor (FM11)
[3]	MFP board cooling fan motor (FM12)		

## 21.2 Operation

### 21.2.1 Function

Motor name	Function (purpose)
DC power supply fan motor	<ul> <li>Discharges heat generated from the interior parts (including the DC power supply, transfer belt section, toner cartridges/C, M, Y, and motor drives) from the main body to prevent the interior temperature from rising inordinately.</li> </ul>
Cooling fan motor	<ul> <li>Discharges heat generated from the print head from the main body to prevent the print head temperature from becoming inordinately high.</li> <li>Removes ozone produced from the toner cartridges and charging section.</li> <li>Air passageway is formed on top of the DC power supply, in the duct inside the toner cartridge rail, and below the print head housing. No air flows through areas around the toner cartridges. This effectively prevents toner from scattering.</li> </ul>
MFP board cooling fan motor	Blows outside air against the MFP board to prevent the board temperature from rising.

### 21.2.2 Fan control

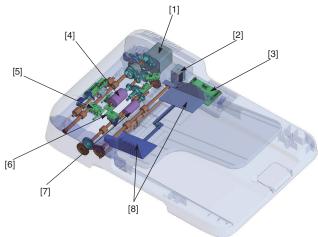
Motor name Control		Control conditions (outline)		
	ON (high speed)	During a print cycle, warm-up cycle (including door open/close), image stabilization sequence, or firmware upgrading, high temperature inside the PH		
DC power supply fan motor	ON (medium speed)	No control		
	ON (low speed)	Conditions other than those of ON (high speed)		
	OFF	Not turned OFF		
	ON (high speed)	During a two-sided print cycle, when the door is opened and closed, high temperature inside the PH		
Cooling fan motor	ON (medium speed)	No control		
	ON (low speed)	During a 1-sided print cycle		
	OFF	Conditions other than those of ON (high speed)		

	ON (high speed)	During a print cycle or firmware upgrading
	ON (medium speed)	No control
MFP board cooling fan motor	ON (low speed)	During transition to image stabilization mode or power save mode, when a malfunction occurs
	OFF	During a warm-up cycle or in standby state, when the door is opened

# 22. AUTOMATIC DOCUMENT FEEDER SECTION

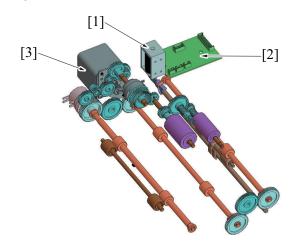
### 22.1 Composition





[1]	Transport motor (M100)	[2]	Release solenoid (SD101)
[3]	DF control board (DFCB)	[4]	Feed roller
[5]	Paper interval sensor (PS103)	[6]	Document sensor (PS102)
[7]	Pick-up roller	[8]	Document guide

### **22.2** Drive

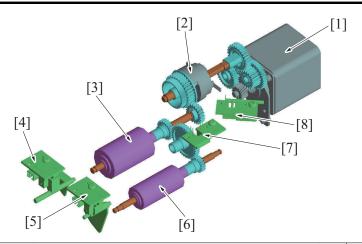


[1]	Release solenoid (SD101)	[2]	DF control board (DFCB)
[3]	Transport motor (M100)		

### 22.3 Operation

### 22.3.1 Document feed mechanism

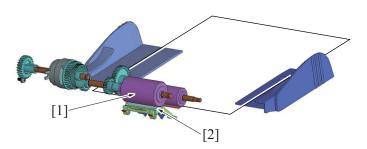
- The document sensor detects an original loaded in position.
- When the start key is pressed, the transport motor is driven and the pick-up roller is pushed down via the pick-up clutch.
- The pick-up roller and feed roller turn to take up and feed the original properly.
- The pick-up roller transports the original up to the feed roller.
- The transport motor (M100) drives the pick-up roller and feed roller through a gear train and the Pick-up clutch.



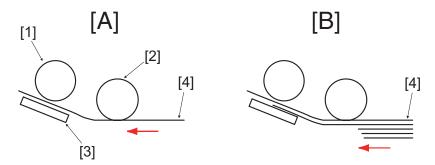
[1]	Transport motor (M100)	[2]	Pick-up clutch (CL100)
[3]	Feed roller	[4]	Paper interval sensor (PS103)
[5]	Document sensor (PS102)	[6]	Pick-up roller
[7]	Pick-up sensor (PS101)	[8]	ADF door sensor (PS100)

### 22.3.2 Document separation mechanism

• Double feeding of paper is prevented using coefficient of friction between the feed roller and separator pad.



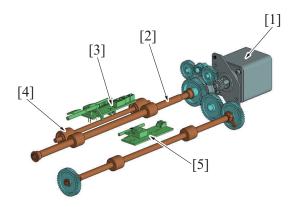
[1] Feed roller	[2] Separator pad		
Single sheet feeding	• The coefficient of friction on the front side of the paper fed between the feed roller and separator pad is equal to that on the backside of the paper. This allows the feed roller to transport the paper.		
Multiple sheet feeding	• The coefficient 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

### 22.3.3 Document transport mechanism

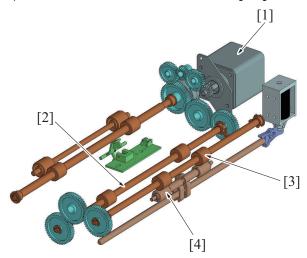
- · The transport roller turns to transport the original that has been taken up onto the document scanning position of the printer.
- The transport motor drives the registration roller through a gear train.
- When the original reaches the document scanning position, the registration sensor mounted on the relay board/1 is unblocked, which
  causes the main body to determine that there is an original.



[1]	Transport motor (M100)	[2]	Registration roller
[3]	Relay board/1	[4]	Registration roll
[5]	Relay board/2		

#### 22.3.4 Document exit mechanism

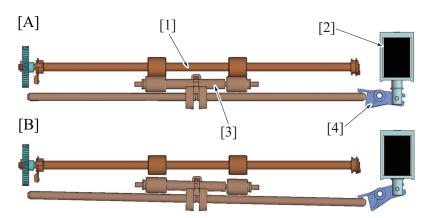
- · The original fed off by the transport roller is fed out into the document exit tray by the exit switch back roller.
- The transport motor turns the exit switch back roller through a gear train.



[1]	Transport motor (M100)	[2]	Transport roller
[3]	Exit switch back roller	[4]	Exit roll

### 22.3.5 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 retraction solenoid (SD1).
- · When the retraction solenoid (SD1) is energized, the arm is moved vertically to move the exit rolls away from the exit switch back roller.



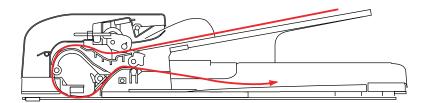
[A]	When the retraction solenoid is deenergized	[B]	When the retraction solenoid is energized
[1]	Exit switch back roller	[2]	Retraction solenoid(SD1)

101			
131	Exit roll	1141	Arm
[ ]	LAIL TOIL	וידון	Allii

### 22.4 Paper Path

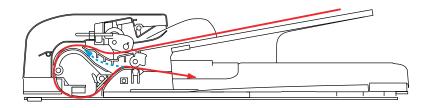
### 22.4.1 1-sided mode

- · When the start key is pressed, take-up and feeding of the original will be started by the transport motor and pick-up clutch.
- 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.

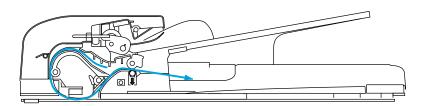


### 22.4.2 2-sided mode

- 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.



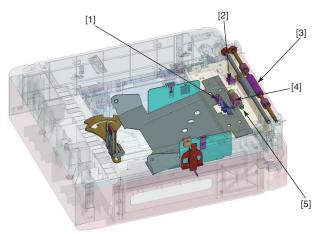
- 3. The original that has been taken up again from the exit tray is transported up to the document scanning position by way of the registration roller.
- 4. As soon as the original reaches the document scanning position, a read sequence of the second side of the original will be started.
- 5. The original that has been read is fed into the exit tray 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 fed out into the exit tray is taken up again and transported through the registration roller and exit switch back roller back into the exit tray.



# PA THEORY OF OPERATION PF-P08

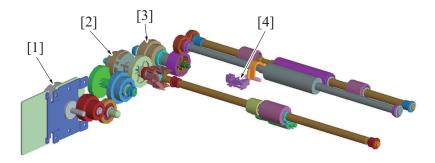
# 1. OVERALL COMPOSITION





[1]	Media empty sensor (PS1)	[2]	Media feed sensor (PS3)
[3]	Vertical transport roller	[4]	Feed roller
[5]	Separation roller		

# 2. DRIVE



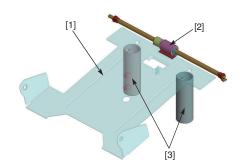
[1]	Media feed motor (M1)	[2]	Media feed clutch (CL1)
[3]	Conveyance clutch (CL2)	[4]	Media feed sensor (PS3)

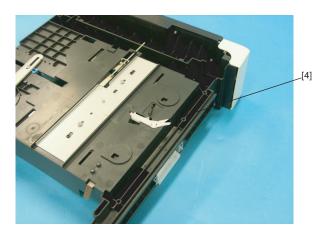
### 3. OPERATION

#### 3.1 Media feed control

#### 3.1.1 Media lift plate mechanism

- · The media lift plate is pressed down into the locked position (in which the media is loaded in position).
- · Load a media stack and then slide the tray into the main body. This unlocks the media lift plate.
- The media lift plate (media stack) is pressed against the feed roller.
- The media lift plate (media stack) is pressed upward by the springs at all times.

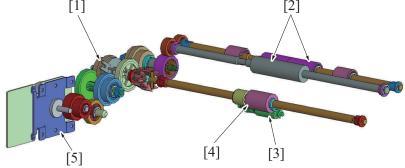




[1]	Media lift plate	[2]	Feed roller
[3]	Spring	[4]	Lock lever

#### 3.1.2 Feed roller/vertical transport roller control

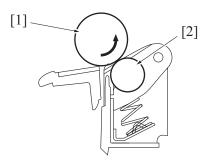
- The feed roller and vertical transport roller are rotated, which feeds media from the lower feeder unit and conveys it further into the inside of the main body.
- 1. The media feed motor is energized to turn the vertical transport roller.
- 2. The media feed clutch is energized to turn the feed roller.
- 3. The media is fed in by the feed roller.
- 4. The media fed in by the feed roller is conveyed onto the synchronizing roller of the main body by the vertical transport roller.
- 5. When the media feed sensor is activated and then the media is conveyed onto a predetermined point in the media path, the media feed clutch is de-energized, thus bringing the feed roller to a stop. The vertical transport roller thereafter takes charge of conveying media further.
- 6. When the trailing edge of the last sheet of media moves past the registration sensor, the media feed motor is de-energized to bring the vertical transport roller to a stop.



[1]	Media feed clutch (CL1)	[2]	Vertical transport roller
[3]	Media feed motor (M1)	[4]	Feed roller
[5]	Separation roller		

#### 3.1.3 Media separation mechanism

· A separation roller provided with a torque limiter is used to prevent double feeding of media.



[1] Feed roller	[2] Separation roller
-----------------	-----------------------

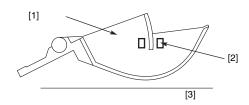
#### 3.1.4 Media detection mechanism

- · The media feed sensor detects the media fed in by the feed roller.
- When the media feed sensor actuator unblocks the media feed sensor, the main body considers that the media has reached the sensor position.

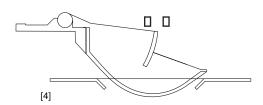
### 3.1.5 Media empty condition detection control

- The media empty message is displayed on the panel when the empty sensor actuator unblocks the media empty sensor.
- No mechanism is provided for detecting a media near empty condition.

#### When media is loaded



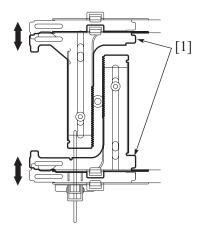
### A media empty condition



[1]	Actuator	[2]	Media empty sensor (PS1)
[3]	Media	[4]	Media lift plate

### 3.1.6 Edge guide plate

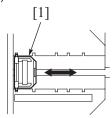
• The edge guide plate can be slid to the exact size in the width direction of the media to be loaded (A4, B5, 8/12).



[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 media to be loaded (14 inch, 13 inch, 12-7/10 inch, A4, 11 inch, 10-1/2 inch, B5).

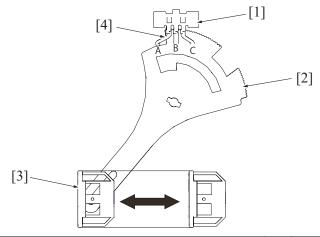


[1] Trailing edge guide plate

#### 3.1.8 Media size detection control

- The media size switch detects the length size (feed direction) of the media.
- 1. The size detection board turns as the trailing edge guide plate is moved.
- 2. When the tray is slid into the main body, the size detection board pushes the actuator of the media size switch installed to the main body frame, thus turning ON the switch.
- 3. The combination of ON/OFF positions of the sub-switches of the media size switch determines the specific media size that can be either one of the seven different sizes.

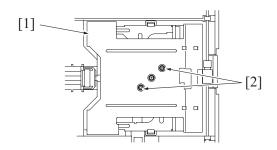
Lower feeder media size switch		witch	Media size	
А	В	С	ivieula size	
OFF	ON	ON	Legal (8.5" x 14")	
ON	ON	ON	Government legal letter plus	
ON	ON	OFF	A4	
ON	OFF	OFF	Letter (8.5" x 11")	
ON	OFF	ON	Executive	
OFF	ON	OFF	Custom Size	
OFF	OFF	ON	B5	
OFF	OFF	OFF	Lower feeder unit not installed	

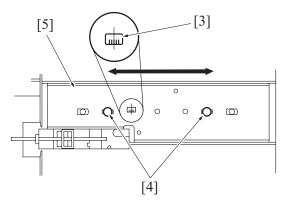


[1]	Media size switch (SW1)	[2]	Actuator
[3]	Size detection board	[4]	Trailing edge guide plate

#### 3.1.9 Media reference position adjustment mechanism

- The edge guide plate can be moved to allow the print start reference position for the media to be adjusted.
- 1. Through a hole in the media lift plate on top of the tray, loosen two screws that secure the edge guide plate.
- 2. Accessing the tray from its bottom surface, loosen two screws that secure the reference position adjusting plate.
- 3. Slide the reference position adjusting plate as necessary as indicated on the scale.
- 4. From the bottom surface of the tray, tighten the two screws that secure the reference position adjusting plate.
- 5. Through the hole in the media lift plate on top of the tray, tighten the two screws that secure the edge guide plate.





[1]	Media lift plate	[2]	Edge guide plate fixing screws
[3]	Reference position adjusting plate	[4]	Reference position adjusting plate fixing screws
[5]	Adjustment scale		

### 3.1.10 Media misfeed detection control

- If the media feed sensor is not activated within a predetermined period of time after a media feed sequence has been started, the main body determines that there is a media misfeed. It then displays a media misfeed message on the panel. The media misfeed display can be reset by opening and closing any door.

# Q PARTS GUIDE MANUAL (1st Edition)

### INFORMATION FOR PARTS GUIDE MANUAL

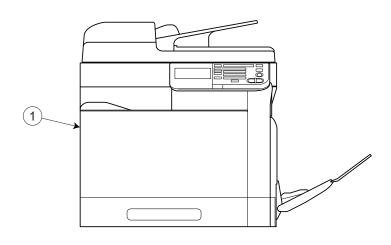
To find correct Parts No., refer to the "HOW TO MAKE THE BEST USE OF THIS MANUAL" in the following page. NOTICE

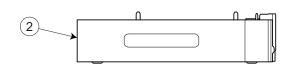
• This parts guide manual is 1st edition and will not be updated. Please ask your parts administrator about the newest parts information.

### 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.
- 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





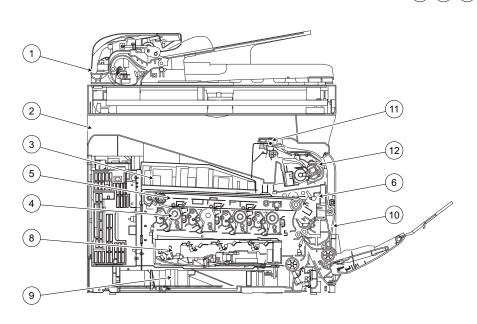
No.	Description	Model
1	DIGITAL MFP COLOR	bizhub C35
2	PAPER FEEDER	PF-P08

# 1. PRINTER COLOR (bizhub C35)

# **DIAGRAM OF MAIN PARTS SECTION**

REAR SIDE

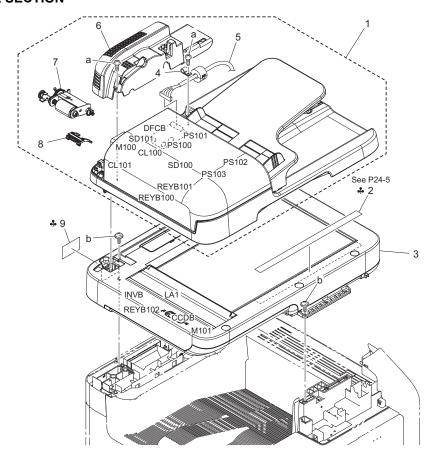
(7) (13) (14) (15)



[1]	ADF & IR SECTION	[2]	EXTERNAL PARTS
[3]	POWER SUPPLY SECTION	[4]	TONER BOTTLE DRIVE SECTION
[5]	TRANSFER BELT UNIT	[6]	TRANSFER GUIDE SECTION
[7]	HIGH VOLTAGE SECTION	[8]	PRINT HEAD SECTION
[9]	CASSETTE SECTION	[10]	VERTICAL CONVEYANCE SECTION
[11]	DUP RIVERSE DRIVE SECTION	[12]	FUSING SECTION
[13]	MAIN DRIVE SECTION	[14]	PAPER FEED DRIVE SECTION
[15]	ELECTRICAL COMPONENTS	[16]	WIRING
[17]	WIRING ACCESSORIES AND JIGS	[18]	ACCESSORY PARTS

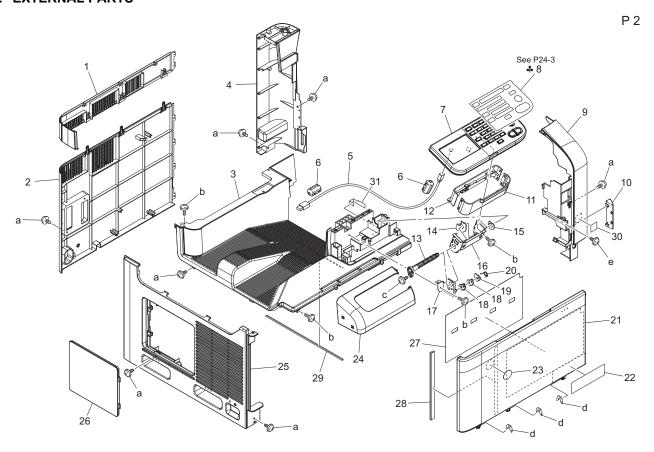
P 1

## 1.1 ADF & IR SECTION



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
1	1	A121270101	CONVEYANCE UNIT			С	1
1	2	A121944600	Label		A,A1	С	1
1	2	A121944700	Label Prohibit		B,F1,G2,H	С	1
1	3	A121260101	OPTICAL UNIT			С	1
1	4	A121PP0200	CABLE CLAMP			D	1
1	5	A121PP0100	WIRE HARNESS ASSY			D	1
1	6	A121PP0000	UPPER COVER/REAR			D	1
1	7	A0CRPP0100	Separator Roller Assy			С	1
1	8	A0CRPP0200	Separator Pad Assy			С	1
1	9	A121943900	Label CCFL		B,F1,G2,H	С	1
1	а	A121PP0300	SCREW			D	
1	b	V153041203	screw			V	

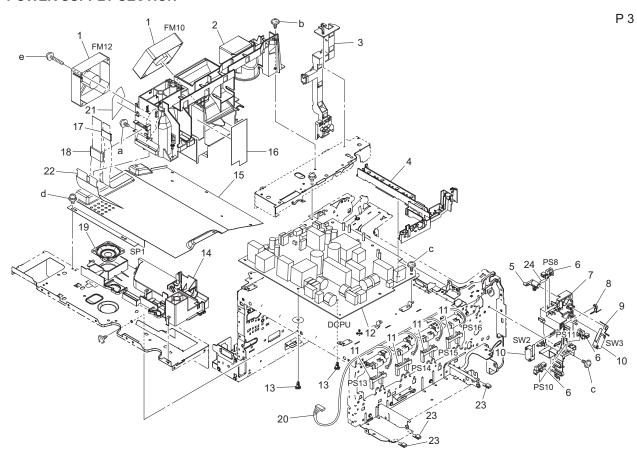
## 1.2 EXTERNAL PARTS



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
2	1	A121160801	Cover			D	1
2	2	A121160501	Cover /Rear			D	1
2	3	A121160903	Cover /Upper			D	1
2	4	A121160401	Cover /Right rear			D	1
2	5	A121N12000	Operation Relay harness			D	1
2	6	9326140021	FERRITE CORE			D	2
2	7	A121M71A02	Panel assembly			I	1
2	8	A121950100	Sheet English		B,D1,D3,F1,F2,G2,H,I,K	С	1
2	8	A121950600	Sheet Simplified Chinese		J	С	1
2	8	A121950800	Sheet		A,A1	С	1
2	8	A121950400	Sheet Traditional Chinese		H,(OPTION MK-727)	С	1
2	9	A121160302	Cover /Right front			D	1
2	10	A0VD166401	Cover			D	1
2	11	A121191000	Cover			D	1
2	12	A121191101	Cover			D	1
2	13	A121190600	Shaft			D	1
2	14	A121190301	Cam			D	1
2	15	A121191301	Brake Part			D	1
2	16	A121190201	Support Plate			D	1
2	17	A121G18000	Panel Support Stake			D	1
2	18	A121190400	Ratchet			D	2
2	19	A121190801	Ratchet			D	1
2	20	A121190701	Torsion Coil spring			D	1
2	21	A121160105	Cover /Front			С	1
2	22	A121942400	Label bizhub C35			С	1
2	23	A00J945500	Logo Mark			С	1
2	24	A121190900	Cover			D	1
2	25	A121160202	Cover /Left			D	1
2	26	A121130701	Cover			D	1

2	27	A0VD941801	Sheet	С	1
2	28	A121102000	Seal	С	1
2	29	A121102100	Seal	D	1
2	30	A011946200	Label Emperon	D	1
2	31	A121161400	Mounting Plate	D	1
2	а	V137030804	screw	V	
2	b	V153030804	screw	V	
2	С	V137030603	screw	V	
2	d	V218040086	E ring	V	
2	е	V137030803	screw	V	

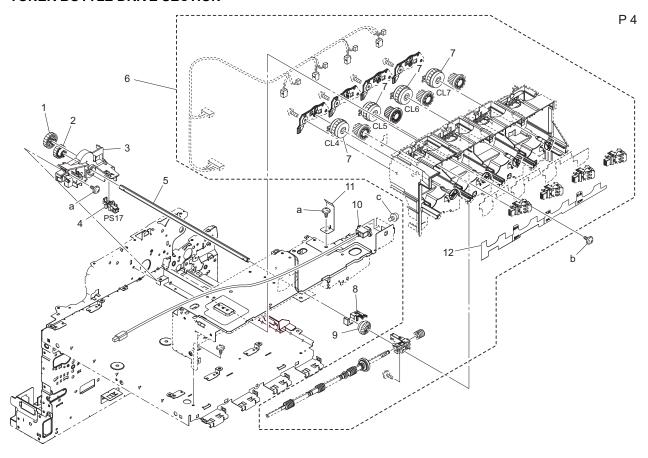
## 1.3 POWER SUPPLY SECTION



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
3	1	4139M10000	FAN MOTOR	DC power supply fan motor (FM10) MFP board cooling fan motor (FM12)		В	2
3	2	A121100102	Duct			D	1
3	3	A121137000	Holder			D	1
3	4	A121104101	Protection Cover			D	1
3	5	A0VD135500	Detecting Part			С	1
3	6	9335130061	PHOTO INTERRUPTER	Exit sensor (PS8) Front door sensor (PS10) Right door sensor (PS11)		В	3
3	7	A0VD135303	Hold Holder			D	1
3	8	A0VD135201	Adjusting Spring			D	1
3	9	A0VD135402	Torsion Coil spring			D	1
3	10	9J06M60100	MICRO SWITCH	Right door switch (SW3)		С	2
3	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
3	12	A121M40002	Power supply /100V	DC power supply (DCPU)	A,A1,B,F1,G2,H	I	1

3	12	A121M40102	Power supply /230V	DC power supply (DCPU)	C,D1,D3,F2,G1,I,J,K	I	1
3	13	V502010021	spacer			D	2
3	14	A121100400	Duct			D	1
3	15	A121131701	Cover			D	1
3	16	A121100300	Seal			D	1
3	17	A121M70100	Ferritecore			D	1
3	18	A121M70000	Ferritecore			D	1
3	19	A121M71500	Speaker	Speaker (SP1)		D	1
3	20	A121N10800	Toner Wiring /2			D	1
3	21	A121100200	Seal			D	1
3	22	A121132500	Insulating Sheet			D	1
3	23	A121102600	Seal			D	3
3	24	A0VD139700	Seal			D	1
3	а	V144030803	SCREW			V	
3	b	V137030803	screw			V	
3	С	V137030603	screw			V	
3	d	V116030603	Screw			V	
3	е	V153033003	screw			V	

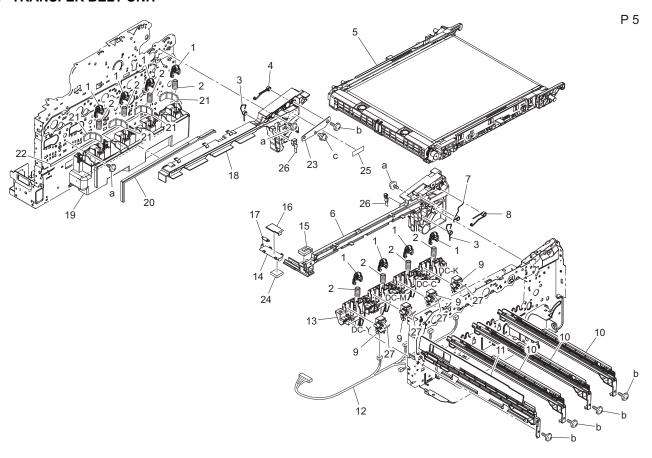
## 1.4 TONER BOTTLE DRIVE SECTION



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
4	1	A0VD236400	Gear 29T			D	1
4	2	A0VD236601	Gear 25T			D	1
4	3	A0VD236902	Drive Holder			D	1
4	4	9335130061	PHOTO INTERRUPTER	1st transfer release sensor (PS17)		В	1
4	5	A0VD236500	Shaft			D	1
4	6	A121R70000	Toner bottle Drive Assy			С	1
4	7	A0VDM20000	Clutch	Toner supply motor/Y (CL4) Toner supply motor/M (CL5) Toner supply motor/C (CL6) Toner supply motor/K (CL7)		С	4

4	8	A0VD237400	Stopper		D	1
4	9	A0VD237800	Gear 20T		D	1
4	10	A121N12101	Relay Wiring		D	1
4	11	A121191201	Ground Plate		D	1
4	12	A0VD490001	Label Position		С	1
4	а	V137030803	screw		V	
4	b	V137030603	screw		V	
4	С	V116030603	Screw		V	

## 1.5 TRANSFER BELT UNIT

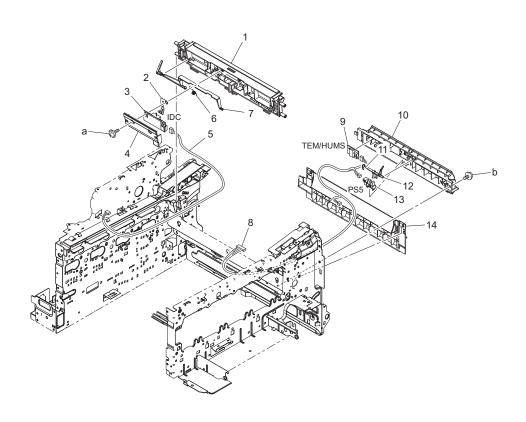


Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
5	1	A0VD111700	Holder			D	8
5	2	A0VD111600	Compressing Coil spring			D	8
5	3	A0VD114101	Torsion Coil spring			D	2
5	4	A0VD110500	Torsion Coil spring /Rear			D	1
5	5	A1480Y1	Transfer Unit			Α	1
5	6	A0VD110104	Rail /Front			D	1
5	7	A0VD136800	Contact			D	1
5	8	A0VD110400	Torsion Coil spring /Front			D	1
5	9	A0VD134102	Hold Holder /ASSY			D	4
5	10	A0VD111102	Rail			D	3
5	11	A0VD111203	Rail			D	1
5	12	A121N10A00	Photoconductor Wiring /1			D	1
5	13	A0VD111402	Holder /Front			D	1
5	14	A0VD362300	Shutter			D	1
5	15	A0VD362201	Seal			D	1
5	16	A0VD362400	Seal			D	1
5	17	A0VD362500	Pulling Coil spring			D	1
5	18	A0VD110205	Rail /Rear			D	1
5	19	A0VD111502	Duct			D	1
5	20	A0VD115100	Seal			D	1

					/
5	21	A0VD115301	Seal	D	4
5	22	A0VD115200	Seal	D	1
5	23	A0VD214700	Mounting Plate	D	1
5	24	A0VD363700	Seal	D	1
5	25	4129734500	Label	D	1
5	26	A0VD115400	Seal	D	2
5	27	A0VD134300	Protection Seal	D	4
5	а	V137030803	screw	V	
5	b	V116030603	Screw	V	
5	C	V153030803	Screw	V	

## 1.6 TRANSFER GUIDE SECTION

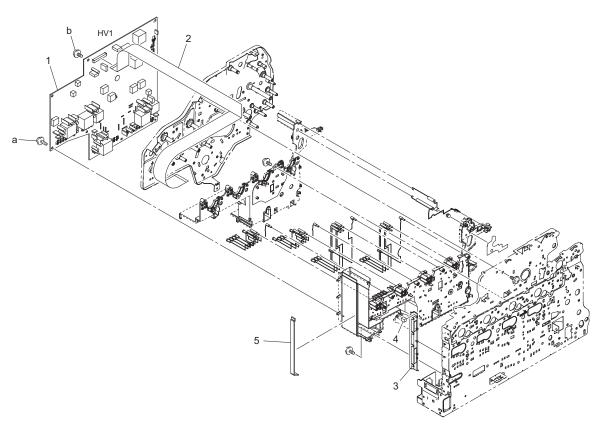
P 6



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas	Quan tity
6	1	A0VD706400	Guide			D	1
6	2	A0VD706300	Contact			D	1
6	3	A0VDM50000	Photo sensing	IDC sensor (IDC)		I	1
6	4	A0VD706500	Holder			D	1
6	5	A121N10600	Sensor Wiring /3			D	1
6	6	A0VD706201	Torsion Coil spring			D	1
6	7	A0VD706101	Cover			D	1
6	8	A121N10500	Sensor Wiring /2			D	1
6	9	A0VDM50100	Humidity sensor	Temperature/ humidity sensor (TEM/HUMS)		I	1
6	10	A0VD707303	Guide			D	1
6	11	A0VD707200	Torsion Coil spring			D	1
6	12	A0VD707101	Actuator			С	1
6	13	9335130061	PHOTO INTERRUPTER	Registration sensor (PS5)		В	1
6	14	A0VD707501	Guide			D	1
6	а	V153031203	screw			V	
6	b	V144030603	Screw			V	

## 1.7 HIGH VOLTAGE SECTION

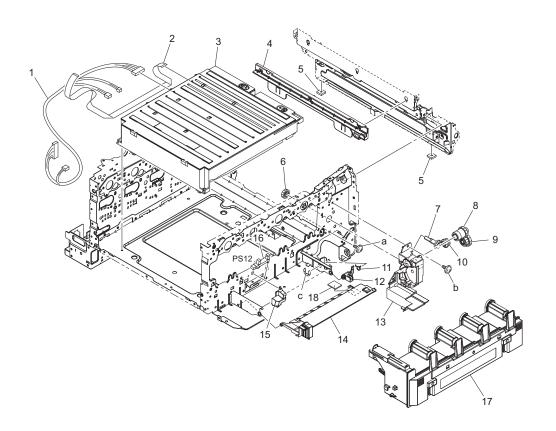




Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
7	1	A121M40200	High voltage unit	High voltage unit (HV1)		I	1
7	2	A121N10H01	HV Flatcable			С	1
7	3	A0VD139401	Duct /2			D	1
7	4	A121101300	Seal			D	1
7	5	A0VD139500	Seal			D	1
7	а	V149030803	screw			V	
7	b	V137030603	screw			٧	

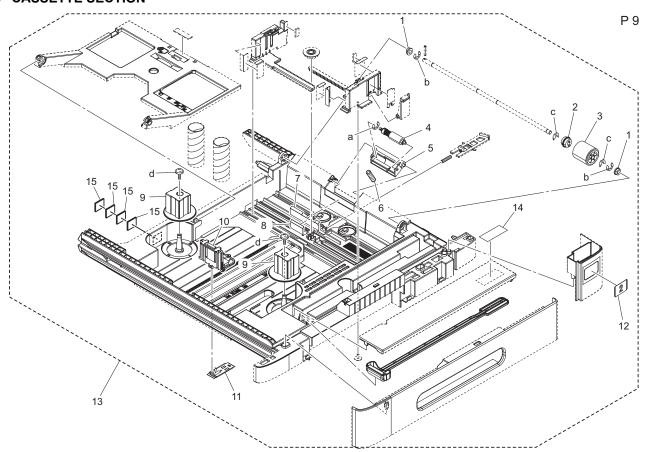
## 1.8 PRINT HEAD SECTION





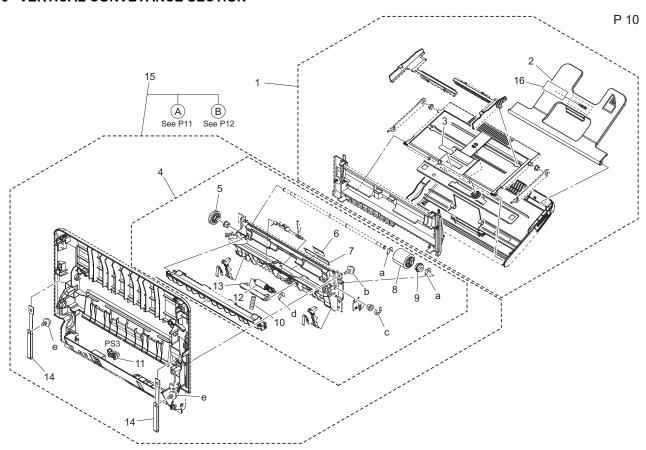
Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
8	1	A121N10G00	LD Wiring /1			D	1
8	2	A121N10J01	LD Flatcable /1			D	1
8	3	A1ARR70000	Print Head Assy			I	1
8	4	A0VD111302	Rail			D	1
8	5	A121101200	Rubber foot			С	2
8	6	A0VD235700	Gear 16T			С	1
8	7	A0VD235400	Gear 16T			D	1
8	8	A0VD235600	Gear 16/26T			D	1
8	9	A0VD235900	Gear 22/30T			D	1
8	10	A0VD235500	Gear 16/16T			D	1
8	11	A0VD362702	Torsion Coil spring			D	1
8	12	A0VD362602	Lever			D	1
8	13	A0VD235101	Drive Holder			D	1
8	14	A121108701	Cover			D	1
8	15	A0VD136701	Hold Holder			D	1
8	16	9335140051	SOLID STATE SWITCH	Waste toner near full sensor (PS12)		В	1
8	17	A1AU0Y1	Waste Toner Bottle			Α	1
8	18	A0VD109001	Spacer			С	1
8	а	V144030603	Screw			V	
8	b	V144030803	SCREW			V	
8	С	V217060001	E Ring			V	

## 1.9 CASSETTE SECTION

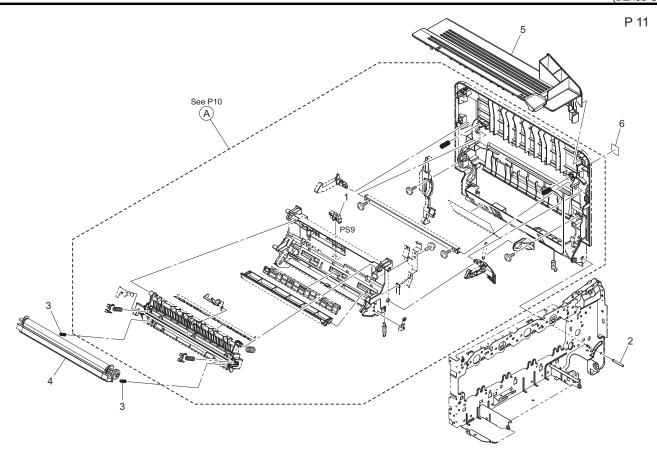


Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
9	1	4131300301	BUSHING			С	2
9	2	4030303401	CLUTCH			С	1
9	3	4138303202	ROLLER			В	1
9	4	4658015106	Roller Assy			Α	1
9	5	A0VD621100	Holder			D	1
9	6	4138325401	PRESSURE SPRING			С	1
9	7	4131305601	GUIDE PLATE			С	1
9	8	4131305702	GUIDE			С	1
9	9	A121620800	Regulating Part			D	2
9	10	A0VD623101	Regulating Plate			D	1
9	11	A0VD623200	Mounting Plate			D	1
9	12	A121943200	Label 2			С	1
9	13	A121R70100	Cassette Assy			D	1
9	14	4138731601	Label Prohibition inkjet media			D	1
9	15	A0VD109001	Spacer			С	4
9	а	V217030001	E Ring			V	
9	b	V217040001	E Ring			V	
9	С	V218040086	E ring			V	
9	d	V153030803	Screw			V	

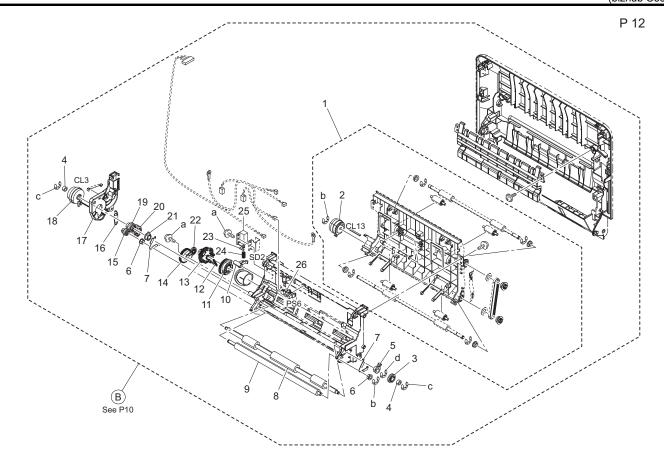
## 1.10 VERTICAL CONVEYANCE SECTION



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
10	1	A0VDR71600	Manual Feed Tray Unit			С	1
10	2	A0VD561700	Tray			С	1
10	3	4138325501	FRICTION SHEET			С	1
10	4	A0VDR71300	Manual Paper Feed Assy			С	1
10	5	A0VD561301	Gear 20T			D	1
10	6	4131305702	GUIDE			С	1
10	7	4131305601	GUIDE PLATE			С	1
10	8	4138303202	ROLLER			В	1
10	9	4030303401	CLUTCH			С	1
10	10	4138325401	PRESSURE SPRING			С	1
10	11	9335130061	PHOTO INTERRUPTER	Tray1 media empty sensor (PS3)		В	1
10	12	4658015106	Roller Assy			Α	1
10	13	A0VD621100	Holder			D	1
10	14	A0VD162300	Open/close Stopper			D	2
10	15	A121R70200	Vertical Conveyance Assy			D	1
10	16	4138731601	Label Prohibition inkjet media			D	1
10	а	V218040086	E ring			V	
10	b	V153030803	Screw			V	
10	С	V217040001	E Ring			V	
10	d	V218030086	E ring			V	
10	е	V137030803	screw			V	



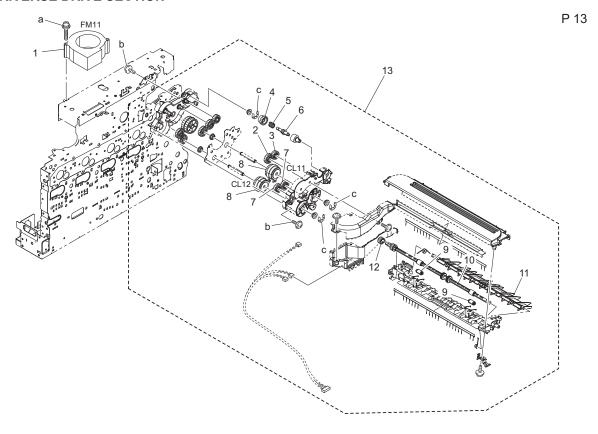
						Clas	Quan
Page	Key	Parts No.	Description	ServiceManual	Destinations	S	tity
11	1	9335130061	PHOTO INTERRUPTER	Duplex conveyance sensor (PS9)		В	1
11	2	A0VD162101	Shaft			D	1
11	3	A0VD701700	Compressing Spring			С	2
11	4	A1480Y2	2nd Transfer Roller			Α	1
11	5	A121160603	Cover			D	1
11	6	A121943100	Label 1			D	1



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas	Quan tity
12	1	A0VDR71700	DUP Transport Assy			C	1
12	2	A0VDM20201	Clutch	Duplex conveyance roller clutch (CL13)		С	1
12	3	A0VD235301	Gear 16T			С	1
12	4	4138352802	ROLL			С	2
12	5	A0VD702300	Bushing			D	1
12	6	4138353202	BUSHING			С	2
12	7	A0VD702501	Pulling Coil spring			D	2
12	8	A0VD702101	Roller			D	1
12	9	A0VD702902	Roller			D	1
12	10	A0VD704700	Lever			D	1
12	11	A0VD704400	Gear 32T			D	1
12	12	A034563800	Compressing Spring			D	1
12	13	A0VD704300	Gear 35/42T			D	1
12	14	A0VD705101	Gear 35T			D	1
12	15	A0VD703001	Gear 15T			D	1
12	16	A0VD703700	Pulling Coil spring			D	1
12	17	A0VD705303	Mounting Plate			D	1
12	18	A011M20000	CLUTCH	Registration clutch (CL3)		С	1
12	19	A0VD703501	Gear 20T			D	1
12	20	A0VD704900	Gear 28T			D	1
12	21	A0VD702400	Bushing			D	1
12	22	A0VD705200	Gear 18T			D	1
12	23	A034214000	Seal			D	1
12	24	A034213400	Compressing Spring			D	1
12	25	A034M20000	Paperfeed Solenoid	2nd transfer release solenoid (SD2)		С	1
12	26	9335130061	PHOTO INTERRUPTER	Loop detection sensor (PS6)		В	1
12	а	V153030803	Screw			V	
12	b	V217040001	E Ring			V	

12	С	V217030001	E Ring		V	i	
12	d	V217060001	E Ring		V		

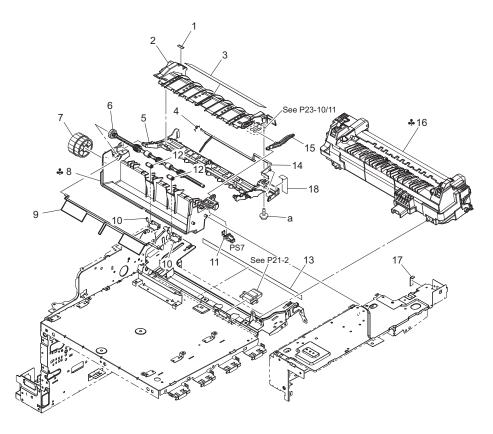
## 1.11 DUP RIVERSE DRIVE SECTION



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
13	1	9313130051	FAN MOTOR	Cooling fan motor (FM11)		В	1
13	2	A0VD822800	Gear 23T			D	1
13	3	A0VD822700	Gear 19T			D	1
13	4	A0VD823100	Gear 20T			D	1
13	5	A0VD823400	Torsion Coil spring			D	1
13	6	A0VD823200	Shaft			D	1
13	7	A0VD822400	Gear 18T	Switchback roller feed clutch (CL11)		D	2
13	8	A0VDM20000	Clutch	Switchback roller reverse clutch (CL12)		С	2
13	9	A0VD820200	Roll			С	2
13	10	A0VD820103	Reverse/exit Roller			D	1
13	11	A0VD825600	Guide			D	1
13	12	A0VD821100	Gear 14T			D	1
13	13	A121R70300	DUP Reverse Drive Assy			С	1
13	а	V116033503	Screw			V	
13	b	V153030803	Screw			V	
13	С	V217040003	E ring			V	

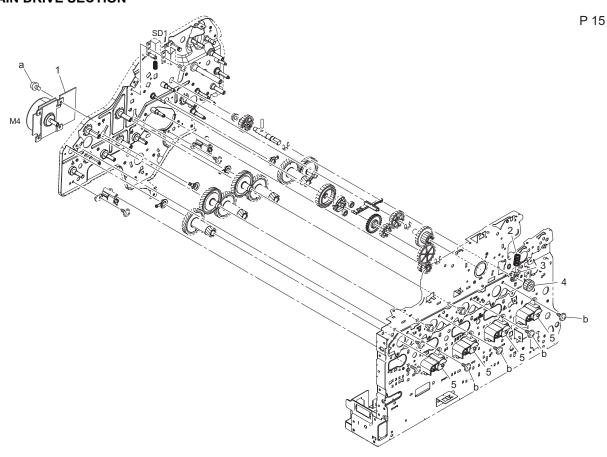
## 1.12 FUSING SECTION

P 14



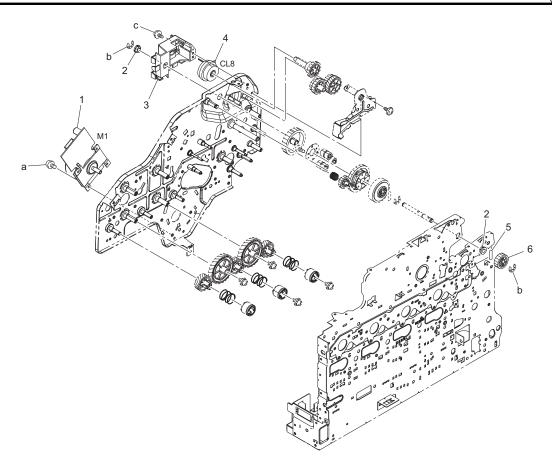
Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
14	1	A0VD949100	Label JAM			D	1
14	2	A121902500	Guide			D	1
14	3	A121948300	Label Caution /JAM			D	1
14	4	A0VD892400	Torsion Coil spring			D	1
14	5	A0VD908101	Guide			D	1
14	6	A0VD890102	Paper exit Roller			D	1
14	7	A0VD890800	Gear 38/40T			D	1
14	8	A121890302	Paper exit Holder		A,A1,B,F1,G2,H	D	1
14	8	A121895302	Paper exit Holder		C,D1,D3,F2,G1,I,J,K	D	1
14	9	A121891200	Actuator			D	1
14	10	A0VD890200	Spring			D	2
14	11	9335130061	PHOTO INTERRUPTER	Tray media full sensor (PS7)		В	1
14	12	A0VD890301	Paper exit Roll			С	2
14	13	A0VD103100	Seal			D	1
14	14	A0VD907300	Actuator			D	1
14	15	A121893002	Lever			С	1
14	16	A148001	Fusing Unit 100V		A,A1	Α	1
14	16	A148011	Fusing Unit 120V		B,F1,G2,H	Α	1
14	16	A148021	Fusing Unit 230V		C,D1,D3,F2,G1,I,J,K	Α	1
14	17	A121102600	Seal			D	1
14	18	A0VD907201	Seal			D	1
14	а	V153030803	Screw			V	

## 1.13 MAIN DRIVE SECTION



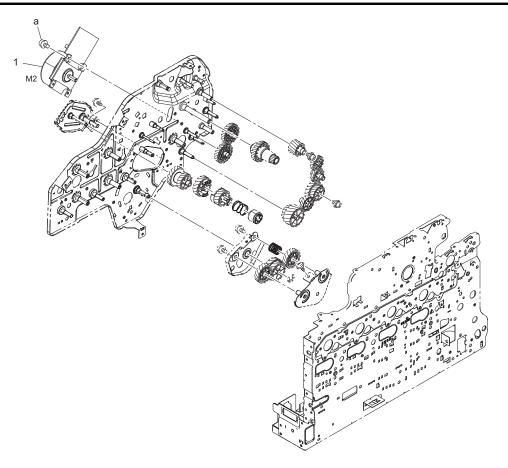
Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
15	1	A0VDM10000	Brushless motor	Color PC drum motor (M4)		С	1
15	2	A0VD220300	Compressing Coil spring			D	1
15	3	A0VD220201	Bushing			D	1
15	4	A0VD219800	Gear 20T			С	1
15	5	A0VD211303	Hold Plate			D	4
15	а	V116030503	Screw			V	
15	b	V137030803	screw			V	

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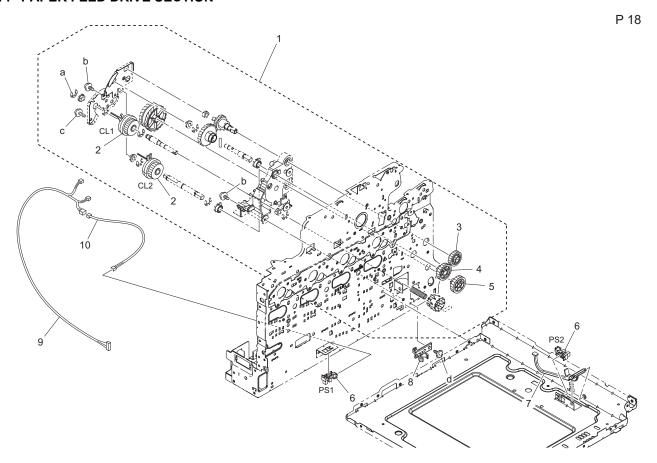
Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
16	1	A0VDM10200	Brushless motor	Developing motor (M1)		С	1
16	2	A00F213900	Bearing			С	2
16	3	A0VD248501	Mounting Plate /A			D	1
16	4	A011M20000	CLUTCH	Loop detection clutch (CL8)		С	1
16	5	4036301401	PIN			С	1
16	6	A0VD218301	Gear 21T			С	1
16	а	V116030503	Screw			V	
16	b	V217040001	E Ring			V	
16	C	V137030603	screw			V	





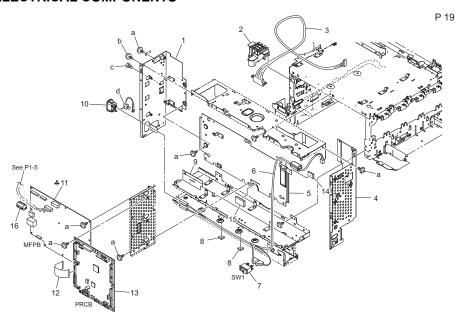
Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
17	1	A0VDM10200	Brushless motor	Main motor (M2)		С	1
17	а	V116030503	Screw			٧	

## 1.14 PAPER FEED DRIVE SECTION

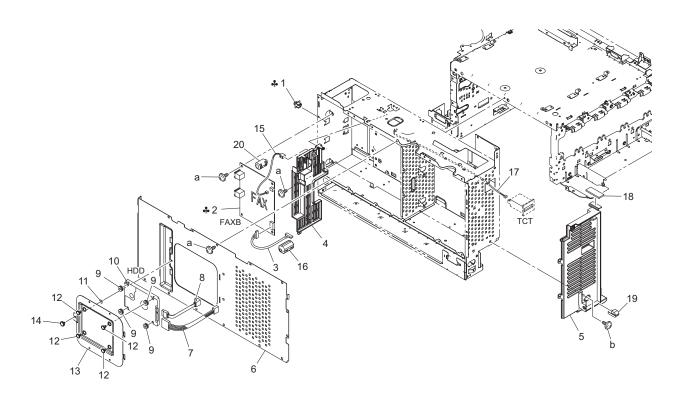


Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
18	1	A0VDR70111	Paper Feed Drive Assy			С	1
18	2	A02EM20000	Clutch	Tray 2 media feed clutch (CL1) Tray 1 media feed clutch (CL2)		С	2
18	3	A0VD231200	Gear 22T			D	1
18	4	A0VD230901	Gear 25T			С	1
18	5	A0VD233301	Gear 20T			С	1
18	6	9335130061	PHOTO INTERRUPTER	Tray2 set sensor (PS1) Tray2 media empty sensor (PS2)		В	2
18	7	A0VD624100	Lever			С	1
18	8	4002312303	HOLDER			D	1
18	9	A121N10D01	Paperfeed Wiring /1			D	1
18	10	A121N10300	Power supply Wiring /3			D	1
18	а	V217040001	E Ring			V	
18	b	V144030803	SCREW			V	
18	С	V153030803	Screw			V	
18	d	V137030603	screw			V	

## 1.15 ELECTRICAL COMPONENTS

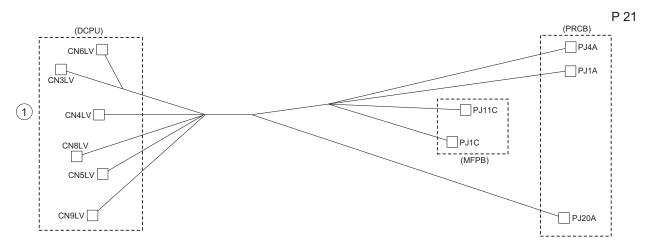


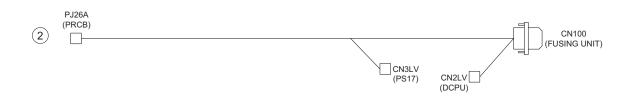
Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
19	1	A121130201	Mounting Plate			D	1
19	2	A0VD136100	Hold Holder			D	1
19	3	A121N10E01	Paperfeed Wiring /2			D	1
19	4	A121100701	Shield Case			D	1
19	5	A121131901	Shield Case			D	1
19	6	A121N10000	AC Wiring /2			D	1
19	7	A034M60200	Rocker switch	Power switch (SW1)		С	1
19	8	A121101200	Rubber foot			С	2
19	9	A121132401	Seal			D	1
19	10	A0VDN10001	AC Wiring /1			D	1
19	11	A121H01302	PWB Assembly (bizhub JP)	MFP board (MFPB)	A,A1	ı	1
19	11	A121H0120D	PWB Asssembly (bizhub)	MFP board (MFPB)	B, C, D1, D3, F1, F2, G1,G2, H, I, J, K	ı	1
19	12	A121N10K01	Controller Flatcable /1			С	1
19	13	A121H0010A	PWB-Assembly(PWB-Assy)	Printer control board (PRCB)		ı	1
19	14	A121102300	Seal			D	1
19	15	A121102400	Seal			D	1
19	16	9326191031	FERRITE CORE			D	1
19	а	V137030603	screw			V	
19	b	V144030603	Screw			V	
19	С	V111030603	screw			V	
19	d	V116040803	Screw			V	



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
20	1	V819300016	ACCESSORY CONNCTORS		C,G1	D	1
20	2	A121H01607	FAX Assembly (JP)	FAX board (FAXB)	A,A1	I	1
20	2	A121H01507	FAX Assembly (WW)	FAX board (FAXB)	B,C,D1,D3,F1,F2,G1,G2,H ,I,J,K	I	1
20	3	A121N12202	Relay Wiring			D	1
20	4	A121131501	Cover			D	1
20	5	A121101102	Cover			D	1
20	6	A121130801	Shield Plate			D	1
20	7	A0VDN12300	Relay harness			D	1
20	8	A0VDN12200	Relay harness			D	1
20	9	13KK73060	BASE PLATE SUPPORT RUBBER			С	4
20	10	A0VDM71600	HDD	Hard disk (HDD)		I	1
20	11	A0FD153200	Washer			D	1
20	12	A121132200	Shoulder screw			D	4
20	13	A121132100	Shield Plate			D	1
20	14	4139232801	SHOULDER SCREW			С	1
20	15	A121N12301	Relay Wiring			D	1
20	16	9326181021	FERRITE CORE			D	1
20	17	A121N10200	Power supply Wiring /2			D	1
20	18	A121102200	Seal			D	1
20	19	A121102500	Seal			D	1
20	20	A11PM70100	Ferritecore /1			D	1
20	а	V137030603	screw			V	
20	b	V137030804	screw			V	

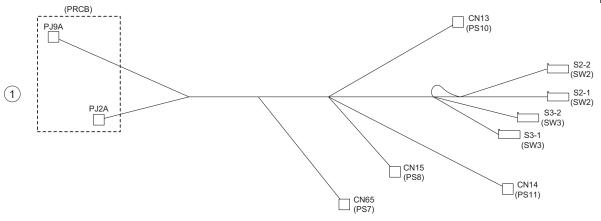
### **1.16 WIRING**

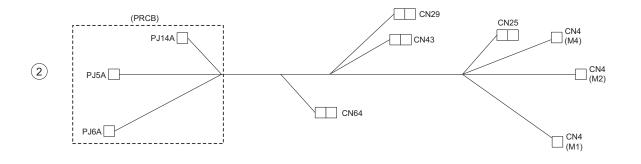




Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
21	1	A121N10100	Power supply Wiring /1			D	1
21	2	A121N10C00	Fixing Wiring /1			D	1

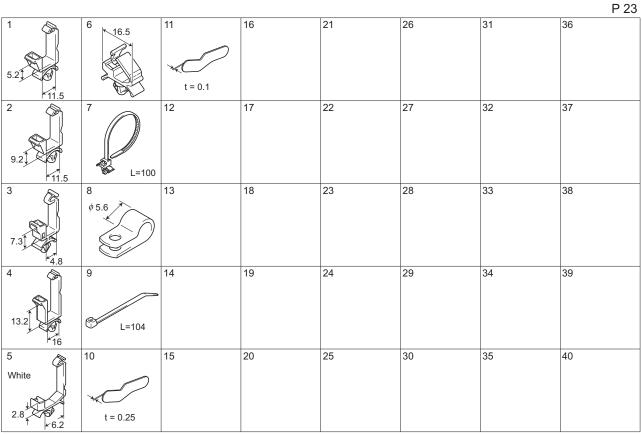
P 22





	Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
	22	1	A121N10401	Sensor Wiring /1			D	1
Γ	22	2	A121N10900	Drive Wiring /1			D	1

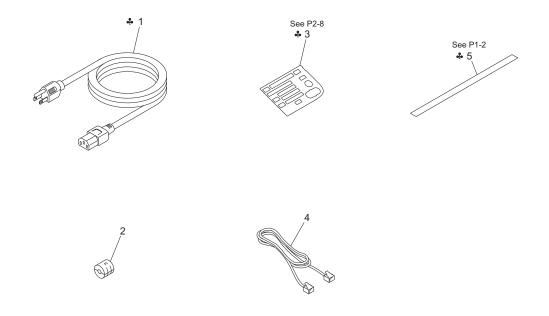
## 1.17 WIRING ACCESSORIES AND JIGS



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
23	1	V500010003	Saddle			D	
23	2	V500010005	saddle			D	
23	3	V500010020	Saddle			D	
23	4	V500010008	saddle			D	
23	5	V500010046	saddle			D	
23	6	V500010061	saddle			D	
23	7	V501010018	BAND			D	
23	8	V500020018	clamp			D	
23	9	V501010001	band			D	
23	10	A121893100	Spacer t=0.25			D	2
23	11	A121893200	Spacer t=0.1			D	2

## 1.18 ACCESSORY PARTS

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Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
24	1	A0VDN30200	Power code		A,A1	С	1
24	1	A0VDN30100	Power code		B,F1,G2,H	С	1
24	1	A0VDN30000	Power code		C,G1	С	1
24	1	9381430041	POWER CORD		D1,D3,F2,I,K	С	1
24	1	9381430031	POWER CORD		J	D	1
24	2	9326181051	FERRITE CORE			D	1
24	3	A121950100	Sheet English		J	С	1
24	3	A121950200	Sheet French		B,F1,G2,H	С	1
24	3	A121950300	Sheet Portuguese		B,F1,G2,H	С	1
24	3	A121950500	Sheet Spanish		B,F1,G2,H	С	1
24	3	A121950700	Sheet Korean		D1,D3,F2,I,K	С	1
24	4	4628680101	WIRE HARNESS ASSY			D	1
24	5	A121944700	Label Prohibit		C,D1,D3,F2,G1,I,J,K	С	1

## 1.19 MAINTENANCE LIST

The items with no Page/Key numbers are not handled as spare parts.

No.	Section	PM Parts Description	N	laintenance Cycle (K=1,000)	Parts No.	Destinations	Page/Key	Note
			QTY	Replace				
1 2 3 4	Processing section	Imaging unit (C,M,Y,K) Imaging unit (C,M,Y,K) Standard in-box toner cartridge (C,M,Y,K) High-capacity toner cartridge (C,M,Y,K)	1 1 1 1	30k 20k 2k 6k	-			Continuous printing 2P/J *1 Continuous printing Continuous printing
5 6 7 8	Image transfer section	Waste toner bottle (WB-P03) Waste toner bottle (WB-P03) Transfer roller (TF-P04)	1 1 1	36k 9k 100k 100k	A1AU0Y1 A1AU0Y1 A1480Y2 A1480Y1		P8-17 P8-17 P11-4 P5-5	(monochrome) Continuous printing (full color) Continuous printing

		Transfer belt unit (TF-P05)						2P/J *1 2P/J *1
9 10 11	Fusing section	Fuser unit (FU-P02) Fuser unit (FU-P02) Fuser unit (FU-P02)	1 1 1	100k 100k 100k	A148001 A148011 A148021	100V 120V 230V	P14-16 P14-16 P14-16	2P/J *1 2P/J *1 2P/J *1
12	Tray1 (Manual feed tray)	Tray1 feed roller	1	300K	4138303202		P10-8	
13	Tray2	Tray2 feed roller	1	300K	4138303202		P9-3	

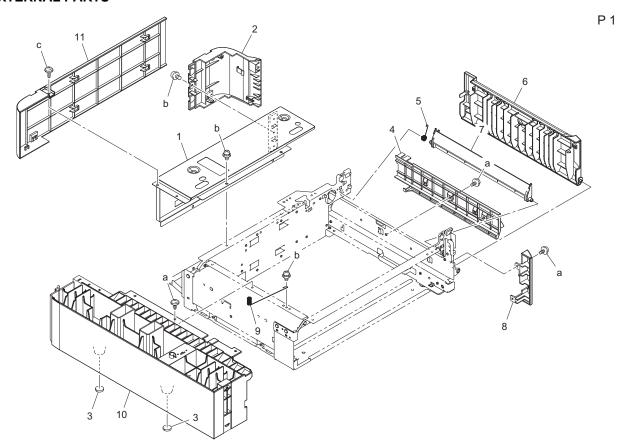
<sup>• \*1:2</sup>pages/job

## 1.20 DESTINATION

Destina	ation No.		Destinations	V	Hz	Model No.
^	A1	JAPAN		100	50/60	A121001
Α	A2	JAPAN				
	В	USA, CANAI	DA .	120	60	A121011
С		EUROPEAN	TYPE	220-240	50/60	A121021
D	D1	S.E ASIA TYPE	THAILAND,SRI LANKA,SINGAPORE,MALAYSIA,HONGKONG, PAKISTAN,INDIA,BANGLADESH,INDONESIA	220-240	50/60	A121041
113		OCEAINA TYPE	AUSTRALIA,NEW ZEALAND	220-240	50/60	A121041
	Ė	PHILIPPINE	S			
F	F1	SAUDI ARABIA			60	A121011
Г	F2	SAUDI ARA	BIA	220-240	50/60	A121041
G	G1	C.S AMERIC	CA CONTRACTOR CONTRACT	220-240	50/60	A121021
G	G2	C.S AMERIC	CA CA	120	60	A121011
	H	TAIWAN		110	60	A121011
I		CAMEROON	BANON, SYRIA, SOUTH AFRICA, IRAQ, IRAN, N.YEMEN, I, UAE, BAHRAIN, OMAN, QATAR, KUWAIT, KENYA, ORY COAST, MOROCCO	220-240	50/60	A121041
	J	CHINA		220-240	50/60	A121081
	K	KOREA		220-240	50/60	A121041

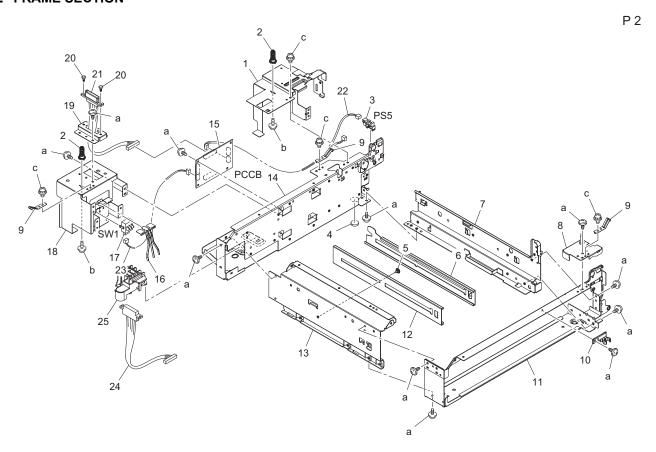
# 2. PAPER FEEDER (PF-P08)

## 2.1 EXTERNAL PARTS



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
1	1	A0WJ690201	Rea Cover			С	1
1	2	A0WJ690300	Right Rear Cover			С	1
1	3	4128201901	RUBBER FOOT			D	2
1	4	A0WJ682200	Guide			С	1
1	5	4537339701	TORSION SPRING			С	1
1	6	A0WJ682103	Conveyance Cover			С	1
1	7	4537338212	GUIDE			I	1
1	8	A0WJ685400	Right Front Cover			С	1
1	9	A0WJ692700	Compressing Coil spring			С	1
1	10	A0WJ690400	Left Cover			С	1
1	11	A0WJ690502	Cover /Rear			С	1
1	а	V144030603	Screw			V	
1	b	V116030603	Screw			V	
1	С	V153030803	Screw			V	

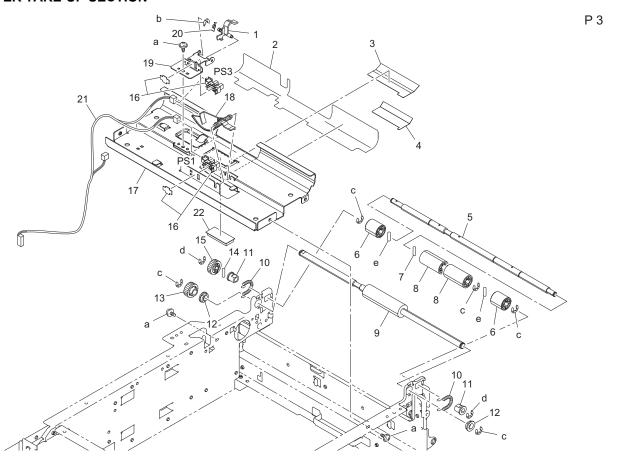
## 2.2 FRAME SECTION



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
2	1	A0WJ684701	Frame /Right rear			D	1
2	2	A0WJ683801	Positioning Pin			D	2
2	3	9335130061	PHOTO INTERRUPTER	Right door sensor (PS5)		В	1
2	4	4128201901	RUBBER FOOT			D	1
2	5	4139231901	SHOULDER SCREW			С	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			С	3
2	10	A0WJ684200	Holder			С	1
2	11	A0WJ683001	Frame /Front			D	1
2	12	A0WJ684601	Rail			D	1
2	13	A0WJ683401	Rail /Left			D	1
2	14	A0WJ690601	Frame /Rear			D	1
2	15	A0WJH00101	PWB-Assembly(PWB-A Assy)	PC control board (PCCB)		I	1
2	16	4537337701	PLATE SPRING			D	1
2	17	9332371011	SWITCH(DETECT)	Media size switch (SW1)		С	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	24	A0WJN10600	Paperfeed Wiring /2			D	1
2	25	A0VD136100	Hold Holder			D	1
2	а	V144030603	Screw			V	
2	b	V153031003	screw			V	

2	С	V116030603	Screw		V	

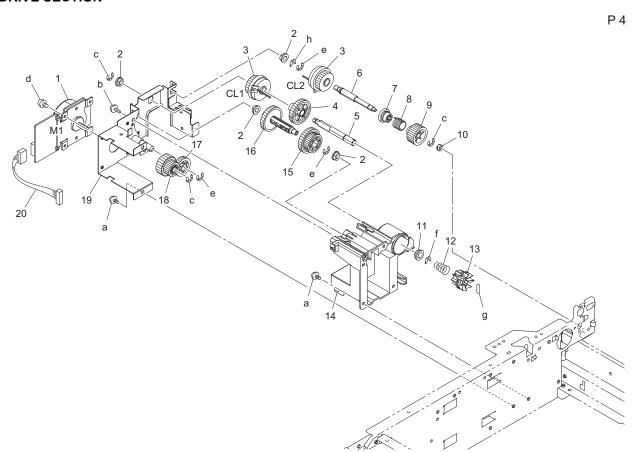
## 2.3 PAPER TAKE-UP SECTION



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
3	1	4537337003	ACTUATOR			С	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			С	2
3	7	1067250301	PIN			D	1
3	8	4537338802	ROLLER			С	2
3	9	4537338001	ROLLER			С	1
3	10	4537339201	TENSION SPRING			С	2
3	11	4517210100	BUSHING			С	2
3	12	4658351701	BUSHING			С	2
3	13	4537338601	GEAR 22T			С	1
3	14	4131253602	PIN			С	1
3	15	4537338701	GEAR 22T			С	1
3	16	4037090601	PHOTO INTERRUPTER	Media empty sensor (PS1) Media feed sensor (PS3)		В	2
3	17	4537337104	Guide Plate			D	1
3	18	4537337201	ACTUATOR			С	1
3	19	4537337401	BRACKET			D	1
3	20	4537336903	TORSION SPRING			С	1
3	21	A0WJN10300	Sensor Wiring /1			D	1
3	22	A0WJ682300	Brush /1			С	1
3	а	V144030603	Screw			V	
3	b	V218030086	E ring			V	
3	С	V217060050	E ring			V	
3	d	V217040001	E Ring			V	

3	е	V233201050	pin		V	

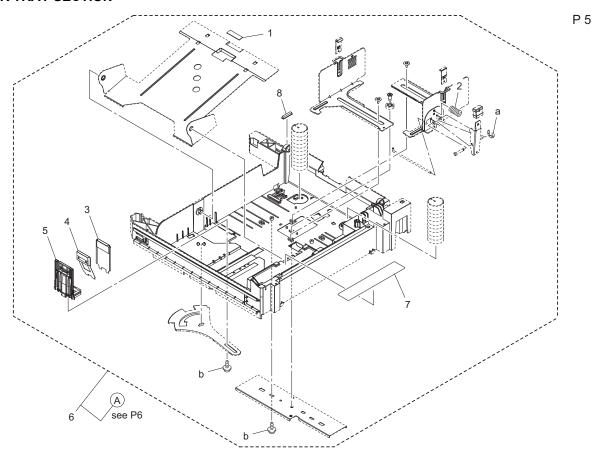
## 2.4 DRIVE SECTION



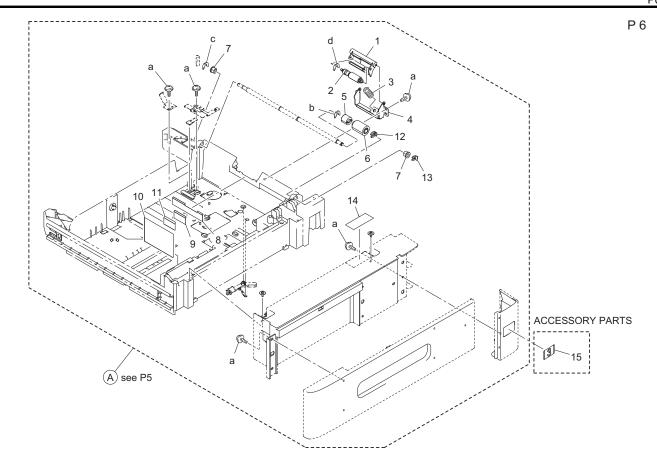
Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas	Quan
	,		·		200	s	tity
4	1	A0WJM10000	Brushless motor	Media feed motor (M1)		С	1
4	2	4131300301	BUSHING			С	4
4	3	A011M20000	CLUTCH	Media feed clutch (CL1) Conveyance clutch (CL2)		С	2
4	4	A0WJ687301	Gear 32T			С	1
4	5	A0WJ687500	Drive Shaft			D	1
4	6	A0WJ687900	Drive Shaft			D	1
4	7	A0WJ687401	Drive Pulley			С	1
4	8	4537333701	TORSION SPRING			С	1
4	9	4537336001	GEAR			С	1
4	10	4004533901	BUSHING			С	1
4	11	4131353202	BUSHING			С	1
4	12	1164300502	PRESSURE SPRING			С	1
4	13	1164300403	PAWL			С	1
4	14	A0WJ688102	Holder			D	1
4	15	A0WJ687200	Gear 24/32T			С	1
4	16	A0WJ687100	Gear 32T			С	1
4	17	4537336101	GEAR 24T			С	1
4	18	A0WJ687000	Gear 18/50T			С	1
4	19	A0WJG67100	Motor Mounting Plate Supporting Shaft			D	1
4	20	A0WJN10200	Drive Wiring /1			D	1
4	а	V144030603	Screw			V	
4	b	V153030803	Screw			V	
4	С	V217040001	E Ring			V	
4	d	V116030603	Screw			V	
4	е	V217060050	E ring			V	

4	f	V218060086	E ring		V	
4	g	V231301450	pin		V	
4	h	V218040086	E ring		V	

## 2.5 PAPER TRAY SECTION



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
5	1	978381101	FRICTION SHEET			С	1
5	2	4498382501	PRESSURE SPRING			С	1
5	3	4537331501	MEMBER			С	1
5	4	4537331401	PLATE SPRING			D	1
5	5	A00T651300	Regulating plate			С	1
5	6	A0WJR70200	Cassette Assy			S	1
5	7	A00T940500	Label			С	1
5	8	A0WJ682400	Brush /2			С	1
5	а	V217030001	E Ring			V	1
5	b	V153030803	Screw			V	13



Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
6	1	4138326103	Holder			D	1
6	2	4658015106	Roller Assy			Α	1
6	3	4138325401	PRESSURE SPRING			С	1
6	4	4537332501	BRACKET			D	1
6	5	4537332401	CLUTCH			С	1
6	6	4537621400	Roller			Α	1
6	7	4138324401	BUSHING			С	2
6	8	4658300501	GUIDE PLATE			С	1
6	9	4537639400	Guide			С	1
6	10	4537339601	GUIDE			I	1
6	11	4537639500	Guide			С	1
6	12	4658304601	STOP RING			С	1
6	13	1033440203	STOPPER RING			С	1
6	14	4138731601	Label Prohibition inkjet media			D	1
6	15	A0WJ943300	Label			С	1
6	а	V153030803	Screw			V	13
6	b	V218060086	E ring			V	1
6	С	V218040086	E ring			V	1
6	d	V218030086	E ring			V	1

## 2.6 WIRING ACCESSORIES AND JIGS

							P 7
1 10 5 1.3	6	11	16	21	26	31	36
2 11.5,	7	12	17	22	27	32	37
3 7.6 6.4 5.4	8	13	18	23	28	33	38
4 L=104	9	14		24	29		39
5	10	15	20	25	30	35	40

Page	Key	Parts No.	Description	ServiceManual	Destinations	Clas s	Quan tity
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	М	aintenance Cycle (K=1,000)	Parts No.	Destinations	Page/Key	Note
			QTY	Replace				
1	Paper Tray	Paper Take-up Roller	1	300k	4537621400		P6-6	

## 2.8 DESTINATION

Destina	ation No.		Destinations	V	Hz	Model No.
Α	A1	JAPAN		100	50/60	A0WJ-WY3
A	A2	JAPAN		200	50/60	
	В	USA, CANAI	DA	120	60	A0WJ-WY3
(	С	EUROPEAN	TYPE	220-240	50/60	A0WJ-WY3
D	D1	S.E ASIA TYPE	THAILAND,SRI LANKA,SINGAPORE,MALAYSIA,HONGKONG, PAKISTAN,INDIA,BANGLADESH,INDONESIA	220-240	50/60	A0WJ-WY3
	D3	OCEAINA TYPE	AUSTRALIA,NEW ZEALAND	220-240	50/60	A0WY-WY3
	Ė	PHILIPPINE	S	220-240	50/60	
F	F1	SAUDI ARAE	BIA	127	60	A0WJ-WY3
	F2	SAUDI ARAE	BIA	220-240	50/60	A0WJ-WY3
G	G1	C.S AMERIC	CA CONTRACTOR CONTRACT	220-240	50/60	A0WJ-WY3
6	G2	C.S AMERIC	CA CONTRACTOR CONTRACT	120	60	A0WJ-WY3
	H	TAIWAN		110	60	A0WJ-WY3

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	A0WJ-WY3
J	CHINA	220-240	50/60	A0WJ-WY3
K	KOREA	220-240	50/60	A0WJ-WY3

## R TROUBLESHOOTING GUIDE BASED ON REPORTS FROM THE FIELD

## 1. OPERATING NOISE

## 1.1 Fan noise in the standby state

### 1.1.1 Symptom

• The fan motor is operated at regular intervals, which causes the user to mistakenly perceive that the machine has received a fax message.

### 1.1.2 Cause

• The cooling fan is operated once every hour in the sleep mode (standby state) to measure environmental conditions (change in temperature and humidity). It is also operated once in 13 days to prevent the fusing roller from being deformed.

#### 1.1.3 Countermeasures

- To prohibit operation of the fan, apply the firmware with the following version or later.
   Note
  - · Image quality is not guaranteed if this setting to prohibit the operation of the fan is made.
- 1. Apply the firmware with the following version or later.
  - Firmware version: A121-50G1-1100-00(MR)
- 2. Please set the engine Dip SW newly added in the Service Mode.
  - 1. [Service Mode] -> [Engine Dip SW] -> [Engine Dip SW 21 to ON]
    - OFF: Default (Normal operation)
    - ON: Restrict fan operation during Sleep Mode (idle) to reduce fan noise.
  - 2. After the above setting has been made, turn OFF and ON the power to validate the setting.

## 2. TROUBLE CODE

## 2.1 C0094 error appearing 1

### 2.1.1 Symptom

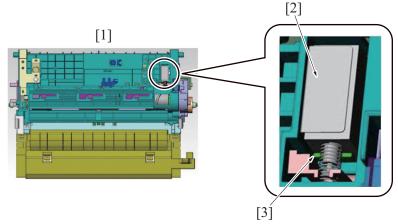
· C0094 error (2nd image transfer pressure / retraction failure) occurs when power ON or printing etc.

#### 2.1.2 Cause

• The sound-deadening seal (A034214000) of the paper feed solenoid (A034M20000) in the vertical transport assy is deteriorated and sticks to the lever, resulting in operation failure.

#### 2.1.3 Countermeasures

• Replace the existing sound-deadening seal of the paper feed solenoid with A034220100.



[1]	Vertical Transfer Assy	[2]	Paper Feed Solenoid
[3]	Seal (sound-deadening material) (A034220100)	-	-

### 2.2 C0094 error appearing 2

### 2.2.1 Symptom

• The C0094 error appears when power is turned ON, during a print cycle, or during operation of the machine such as a warm-up cycle.

### 2.2.2 Cause

- IDC Cover (A0VD7061) whose motion is linked to 2nd image transfer retraction does not move smoothly.
  - Insufficient tension of the torsion coil spring (A0VD7062) for operating the IDC cover.
  - · Burr on the IDC cover.

### 2.2.3 Countermeasures

· Please replace the torsion coil spring (A0VD706203).



[1] Torsion coil spring (A0VD706203)
--------------------------------------

- · Shave the burrs off on the cover with a cutter knife or similar tool.
  - Note
  - · Please use caution during work to prevent injury.



[1] Burrs on cover - -

· Please replace IDC cover with the countermeasure one.

### 2.3 0F5x Error (TE level sensor/x malfunction)

#### 2.3.1 Symptom

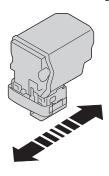
The 0F5x error (faulty toner empty sensor) occurs after the machine has been installed or the toner cartridge has been replaced with a new
one.

#### 2.3.2 Cause

· When toner stays unbalanced in the cartridge, toner cannot be supplied to PU. As a result 0F5x error occurs.

#### 2.3.3 Countermeasures

· Shake the toner cartridge well before installing it.



## 2.4 0502 Error (Thermistor open-circuit failure)

### 2.4.1 Symptom

· 0502 error (Thermistor open-circuit failure) occurs when the fuser unit is replaced or jam paper in the fuser unit is cleared.

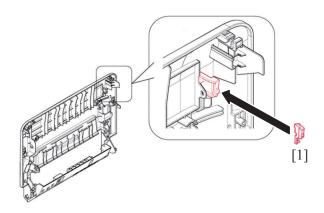
### 2.4.2 Cause

- Because of the fuser unit not installed in position in the machine (half lock), the heater lamp temperature increases, resulting in the thermistor being open-circuited.
- Air that flows in through the exit port cools the area around the thermistor, which causes the heater lamp temperature to be determined to be low. Thus the machine operates to increase the temperature and a resultant excessive rise in temperature operates the thermostat, resulting in C502 occurring.

### 2.4.3 Countermeasures

### Note

- Once the C502 error occurs, the fuser unit needs to be replaced with a new one regardless of the reason for the error.
- Check if the fuser unit is correctly installed in the machine after replacement. If the cause seems to be half lock, install the stopper (A0VD168200).



[1]	Stopper (A0VD168200)	-	-
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## 2.5 Scanner lock error

### 2.5.1 Symptom

• "Scanner lock error" appears when power is turned ON.

### 2.5.2 Cause

- 1. Because of the short detection time allowed for the scanner home sensor, the error occurs before the scanner reaches its home position.
- 2. Contact failure results from the flat cable terminal of the IR unit separating.

### 2.5.3 Countermeasures

•	No.	Check Item	Solution			
	1	Check the version of the scanner firmware.     Update the firmware if it is A121-230G0-0402-00 or earlier.	Update the scanner firmware to [A121-230G0-0403-00].  * Do not turn OFF the power of the machine during updating (a the MFPB may be damaged).			
	2	Check the scanner flat cable for proper connection.	Reconnect the scanner flat cable.			
	3	Check the scanner flat cable.     If the cable contacts are separated, correct separation of the cable contacts.	Correct separation of the cable contacts.     If the separation cannot be corrected, replace the scanner unit.			
	4	<ul> <li>Replace MFPB/1 with a new one and check for operation.</li> <li>If the problem is eliminated, go to solution.</li> <li>If the problem persists, perform solution of 5.</li> </ul>	Replace MFPB/1 with a new one.			
	5	If the problem persists even after the solutions of 1 to 4 have been performed.	Replace the scanner unit with a new one.			

### 3. ERROR MESSAGE/ABNORMAL DISPLAY

## 3.1 "Incorrect Toner" appearing

### 3.1.1 Symptom

 "Incorrect Toner" appears even when a genuine toner cartridge is installed. Message: "INCORRECT TONER"

### 3.1.2 Cause

• Foreign matter (e.g., oxide film) on the contact on the machine side causes a communication error to occur between the contact on the machine side and the toner cartridge.

### 3.1.3 Countermeasures

Update the firmware and replace the CSIC contact holder with a modified one.

The old and new CSIC contact holders are not interchangeable with each other. Install an old CSIC contact holder on the old toner cartridge drive assy and a new CSIC contact holder on the new toner cartridge drive assy. For details, see solution of paragraph 3.2.3.

## 3.2 Toner irrecognition error

#### 3.2.1 Symptom

"Toner Cartridge Missing x" (toner cartridge not recognized) appears.
 Message: "Toner Cartrige Missing x"

#### 3.2.2 Cause

- · The replacement toner cartridge is not recognized when mounted because of a defective CSIC part.
- The harness connected to the CSIC contact holder interferes with the cover, which causes an open circuit, resulting in the toner cartridge being not recognized.
- A bent ground plate of the CSIC contact holder causes the toner cartridge mounted in the machine to be not recognized.

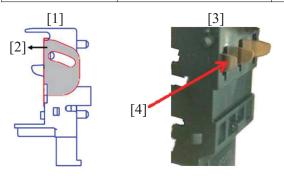
#### 3.2.3 Countermeasures

- Check the CSIC connection harness for torn jacket. Reinforce any torn jacket with insulating tape. If the harness is open-circuited, replace
  the harness with a good one.
- If the ground plate of the CSIC contact holder does not return to its original position when the toner cartridge is removed, replace the CSIC contact holder with a new one.

#### Note

 Old and new Toner Bottle Drive Assy and CSIC contact holders are not interchangeable with each other. Study the following combinations and make sure that correct combination is mounted.

TB Drive Assy	Contact Holder	Remark		
A0VD134202		If old contact holder is not available, replace with new TB Drive Assy and New Contact Holder.		
[New] A121R70011	[New] Contact Holder	-		



[1]	Earth Plate does not return	[2]	Does not return
[3]	Contact return failure	[4]	Contact does not return.

• If the above two points have been checked okay, replace the toner cartridge with a new one.

### 3.3 "Life End" message not disappearing even after imaging unit is replaced

#### 3.3.1 Symptom

· The life display does not show 100% or the "Life End" message does not disappear even when a new imaging unit is installed.

### 3.3.2 Cause

• The front lower frame is bent toward the inside of the machine, which does not allow the CSIC contact holder to come into contact with the imaging unit contact, resulting in the machine failing to be reset for a new imaging unit.

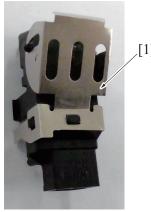


• Due to the CSIC contact ground plate failing to return or a bent contact pin, the imaging unit is unable to contact the CSIC.

## 3.3.3 Countermeasures

- Three imaging unit rails should be replaced with new ones for machine serial numbers before the modification. For the replacement procedure, see G.3.18 Imaging unit rail.

  Correct or replace the corresponding CSIC contact (Hold Holder Assy: A0VD134103).



[1]	Hold Holder Assy (A0VD134103)	-	-

### 4. OTHER

### 4.1 Change of consumables' life attention message

#### 4.1.1 Contents

• When a choice switch for changing the life attention messages for the imaging unit, transfer belt, transfer roller, and the fuser unit is selected, the panel messages are now as shown below. (Imaging unit: life display timing extended; other units: no life display available) Before Change

	Near Life			Life	Life Stop	
	Rate	Display on the panel	Rate	Display on the panel	Rate	Display on the panel
Imaging Unit CMYK	80%			Replace imaging unit X	150% *2	Need to replace Imaging unit
Transfer Belt Unit	Not available		100%	Replace image transfer belt	Not available	
Transfer Roller				Replace transfer roller unit		
Fuser Unit				Replace fusing unit		

### After Change

	Near Life		Life				Life Stop	
	Rate	Display on the panel	Rate	Display on the panel	Rate	Display on the panel	Rate	Display on the panel
Imaging Unit CMYK	80%	No Display *1			162%	Relace imaging unit X	167% *2	Need to replace Imaging unit
Transfer Belt Unit			100%	No message	·			
Transfer Roller	Not	available			Not	available	Not	available
Fuser Unit	nit							

<sup>• \*1:</sup> Imaging Unit Low: OFF \*2: Imaging Unit Yield Settings: Long

#### Note

The PSES/PSWC display is changed automatically according to changes of the panel display. (Different approaches apply
depending on the controller firmware. See the next page.)

#### Note

If this choice is enabled, each unit can be used even after its service life has been reached. The image quality after the service life
is not, however, guaranteed by KMI QA. Replace the unit at appropriate timing based on an evaluation of the user's expected
image quality made by the technical representative.

### 4.1.2 Application Method

1. Update the controller firmware and engine firmware.

This function operates differently depending on the firmware combination. Apply the latest possible firmware.

Controller FW	Engine FW	Life Display	Life Stop	PSES/PSWC Support	
A121-30G0-1303-05 (MR) and	A121-50G1-1100-00 (MR) and onward	145%	150%	Supported only	
onward	A121-50G1-1200-00 (MR) and onward	162%	167%	Imaging Unit.	

2. Set the following items in Service Mode.

Imaging Unit Yield Settings: Long

Imaging Unit Low: OFF

Soft Switch 11: bit5 = 1 (Input "32" on the operation panel.)

Note

• Setting "Engine DIP SW22" to "OFF" in changing the life attention display is not recommended. (See paragraph 4.2.)

## 4.2 Transportation procedure of Scanner Unit

#### 4.2.1 Symptom

• The scanner drive belt of the scanner unit comes unwound while the machine is being transported.

#### 4.2.2 Cause

· Because of the scanner unit in unlocked position, vibrations during transportation cause the scanner drive belt to come unwound.

## 4.2.3 Countermeasures

- Fix the scanner unit in position before turning OFF the machine.
   Procedure
  - 1. Check that the scanner is at its home position. Then, turn OFF the machine.

2. Lock the scanner lock lever.

### Note

• If the scanner unit does not return to its home position, tilt the scanner unit to bring it back to its home position.



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