KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub C200

This service manual is designed for machine with MAIN firmware ver. 21 and onward.

2008.12

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

FIELD SERVICE TOTAL CONTENTS

PC-105

PC-405

MB-502

AD-505

JS-505

SAFETY AND IMPORTANT WARNING ITEMS

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

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

In this Service Manual, each of three expressions "⚠ DANGER", "⚠ WARNING", and "⚠ 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.

⚠ **DANGER: Action having a high possibility of suffering death or serious injury**

⚠ **WARNING: Action having a possibility of suffering death or serious injury**

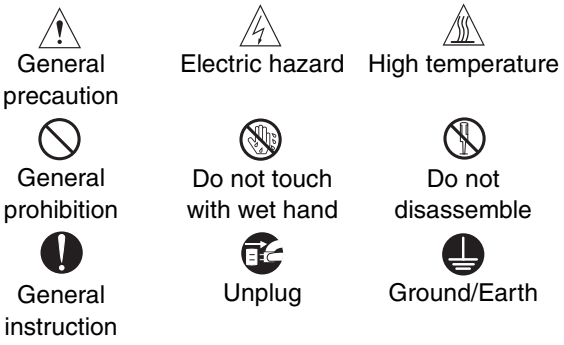
⚠ **CAUTION: Action having a possibility of suffering a slight wound, medium trouble, and property damage**

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

△ :Precaution when servicing the product.

⃠ :Prohibition when servicing the product.

● :Direction when servicing the product.



SAFETY WARNINGS

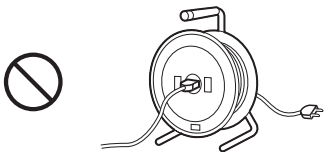
[1] MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

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.

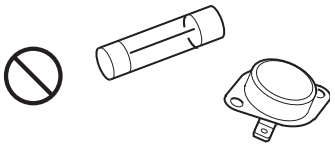
Prohibited Actions

⚠ DANGER

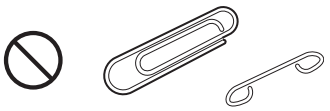
- Using any cables or power cord not specified by KMBT.



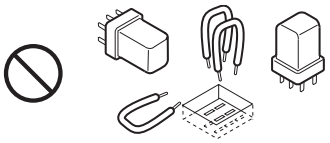
- Using any fuse or thermostat not specified by KMBT. Safety will not be assured, leading to a risk of fire and injury.



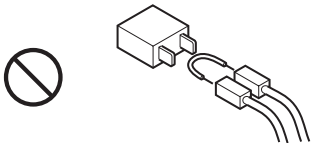
- Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object.



- Disabling relay functions (such as wedging paper between relay contacts)

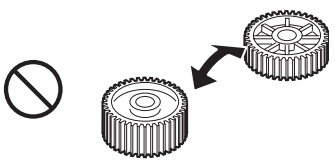


- Disabling safety functions (interlocks, safety circuits, etc.) Safety will not be assured, leading to a risk of fire and injury.



- Making any modification to the product unless instructed by KMBT

- Using parts not specified by KMBT



[2] POWER PLUG SELECTION

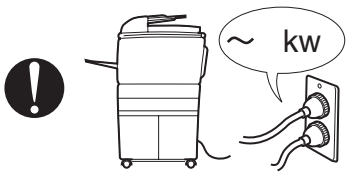
In some countries or areas, the power plug provided with the product may not fit wall outlet used in the area. In that case, it is obligation of customer engineer (hereafter called the CE) to attach appropriate power plug or power cord set in order to connect the product to the supply.

Power Cord Set or Power Plug

⚠ WARNING

- 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.

- 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] 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.

1. Power Supply

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.

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

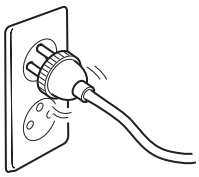
  If excessive current flows in the wall outlet, fire may result.

- 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.

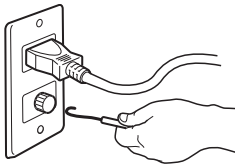
  Contact problems may lead to increased resistance, overheating, and the risk of fire.



- Check whether the product is grounded properly.

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

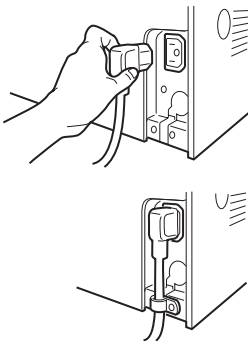
  Connect power plug to grounded wall outlet.



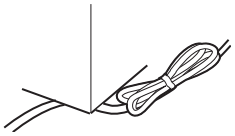
Power Plug and Cord

⚠ WARNING

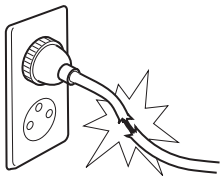
- When using the power cord set (inlet type) that came with this product, make sure the connector is securely inserted in the inlet of the product.
  When securing measure is provided, secure the cord with the fixture properly.
  If the power cord (inlet type) is not connected to the product securely,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



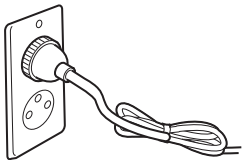
- Check whether the power cord is not stepped on or pinched by a table and so on.
  Overheating may occur there, leading to a risk of fire.



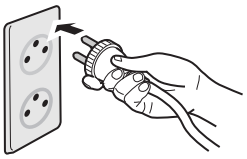
- Check whether the power cord is damaged. Check whether the sheath is damaged.
  If the power plug, cord, or sheath is damaged, replace with a new power cord (with plug and connector on each end) specified by KMBT. Using the damaged power cord may result in fire or electric shock.



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

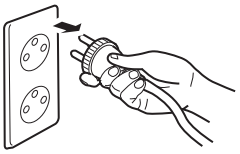


- Check whether dust is collected around the power plug and wall outlet.
  Using the power plug and wall outlet without removing dust may result in fire.



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

- 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.

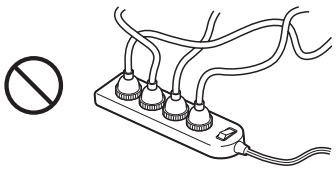


Wiring

⚠ WARNING

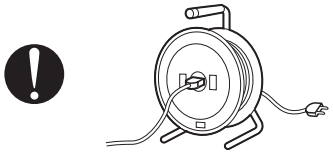
- Never use multi-plug adapters to plug multiple power cords in the same outlet.

  If used, the risk of fire exists.



- When an extension cord is required, use 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.



2. Installation Requirements

Prohibited Installation Places

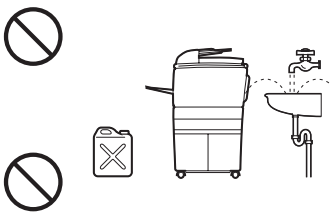
⚠ WARNING

- 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.

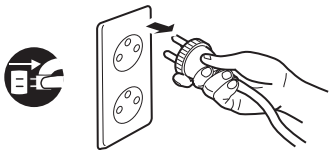


When not Using the Product for a long time

⚠ 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.



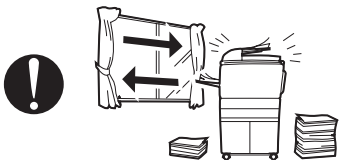
Ventilation

⚠ 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



Stability

⚠ CAUTION

- Be sure to lock the caster stoppers.

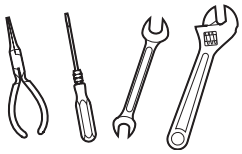
  In the case of an earthquake and so on, the product may slide, leading to a injury.

Inspection before Servicing

⚠ CAUTION

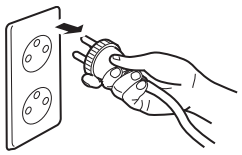
- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure in safety clothes, using only the prescribed tools. Do not make any adjustment not described in the documentation.

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



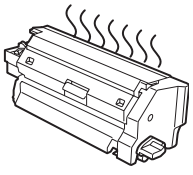
- Before conducting an inspection, be sure to disconnect the power plugs from the product and options.

  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.

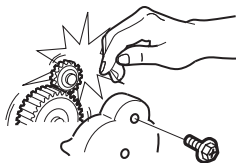


Work Performed with the Product Powered On

⚠ 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.

Safety Checkpoints

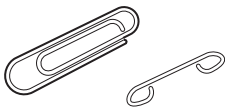
⚠ WARNING

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

  The user or CE may be injured.

- 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.

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

- Check high-voltage cables and sheaths for any damage.

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

Safety Checkpoints

⚠ WARNING

- 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.

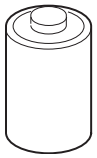
  The laser light can enter your eye, leading to a risk of loss of eyesight.

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

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

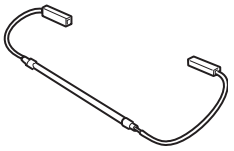
- When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.

  Improper replacement can cause explosion.



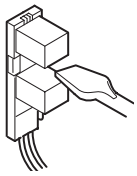
- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.

  A risk of fire exists.



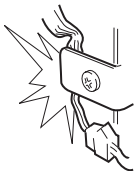
- Check the interlock switch and actuator for loosening and check whether the interlock functions properly.

  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.



Safety Checkpoints

⚠ WARNING

- 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.

Handling of Consumables

⚠ 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.

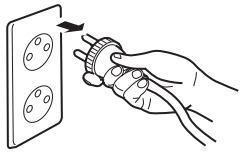
  You may be burned due to dust explosion.

Handling of Service Materials

⚠ CAUTION

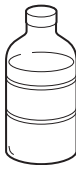
- Unplug the power cord from the wall outlet.

  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.

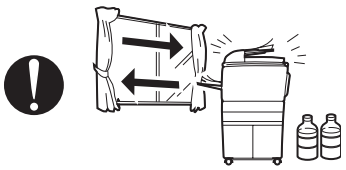


Handling of Service Materials

⚠ CAUTION

- 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] Used Batteries Precautions

ALL Areas

CAUTION

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

Germany

VORSICHT!

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

France

ATTENTION

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

Denmark

ADVARSEL!

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

Finland, Sweden

VAROITUS

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

VARNING

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

Norway

ADVARSEL

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

[5] Laser Safety

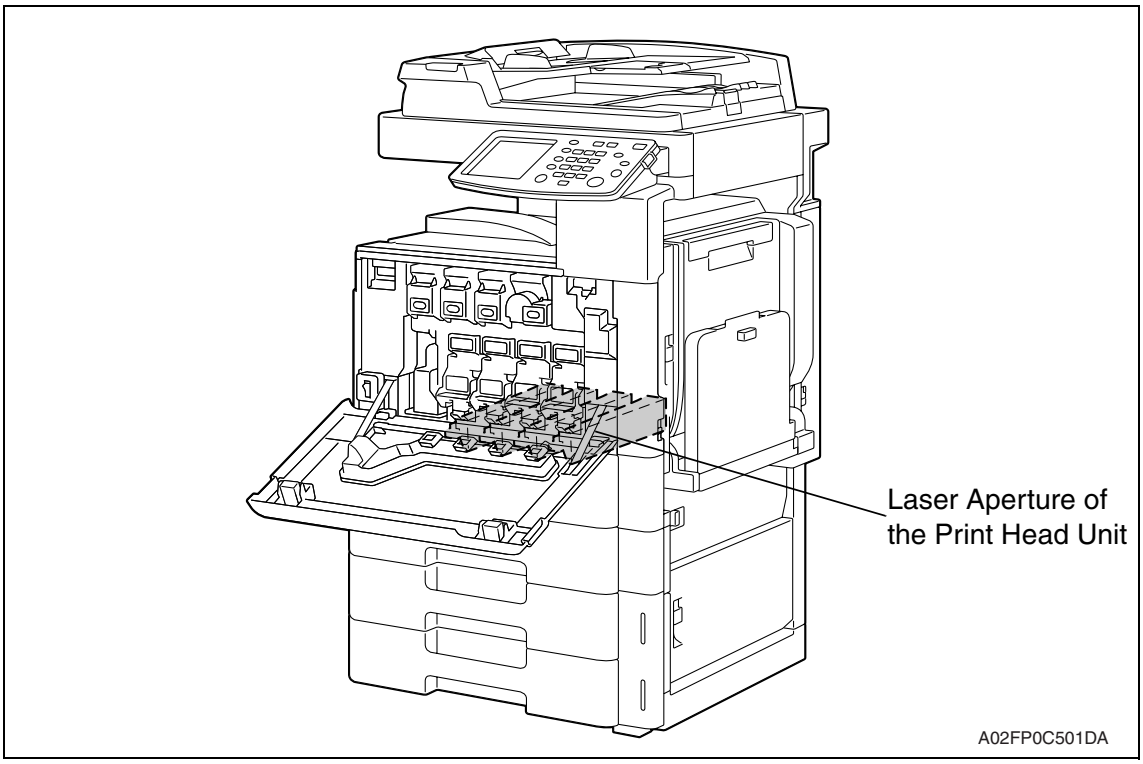
- This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

5.1 Internal Laser Radiation

semiconductor laser	
Maximum power of the laser diode	15 mW
Maximum average radiation power (*)	6.4 µW
Wavelength	770-800 nm

*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.



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

All Areas

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

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

Denmark

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

halvlederlaser	
Laserdiodens højeste styrke	15 mW
bølgelængden	770-800 nm

Finland, Sweden

LUOKAN 1 LASERLAITE
KLASS 1 LASER APPARAT

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

puolijohdelaser	
Laserdiodin suurin teho	15 mW
aallonpituus	770-800 nm

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

halvledarlaser	
Den maximala effekten för laserdioden	15 mW
våglängden	770-800 nm

VARO!
- **Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättomälle lasersäteilylle. Älä katso säteeseen.**

VARNING!
- **Osynlig laserstråining när denna del är öppnad och spärren är urkopplad. Betrakta ej stråien.**

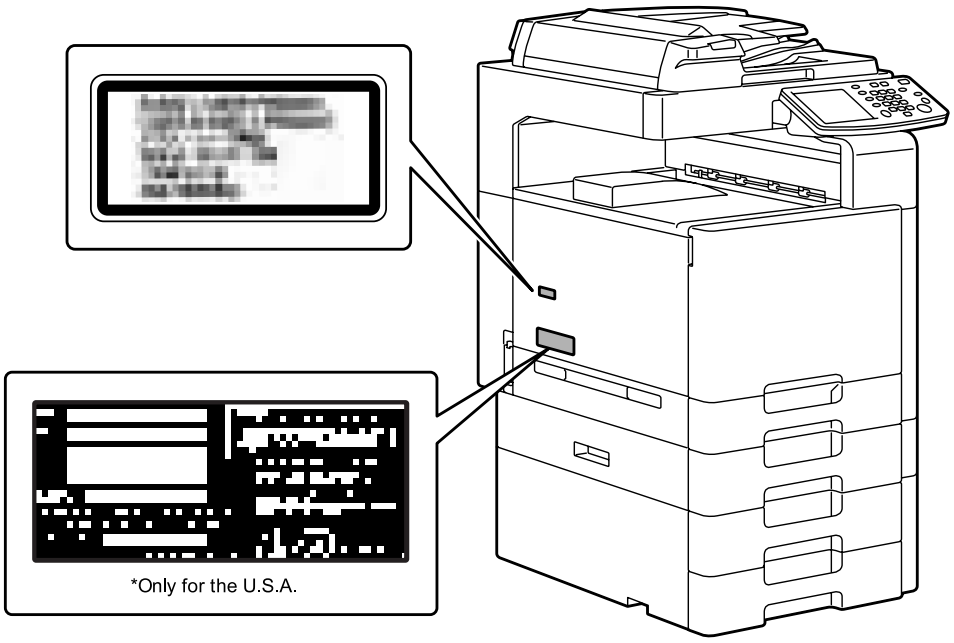
Norway

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

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

5.2 Laser Safety Label

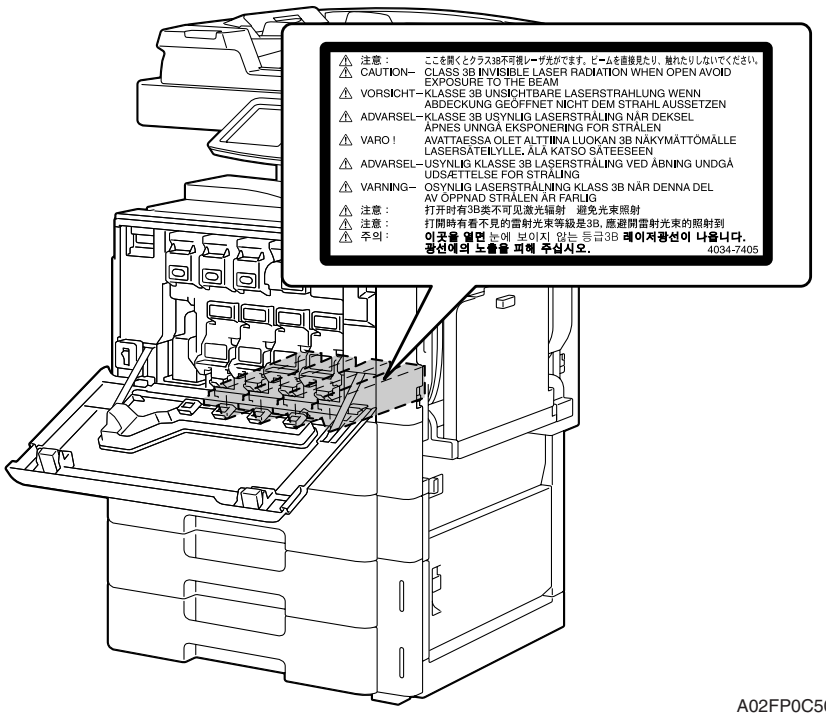
- A laser safety label is attached to the inside of the machine as shown below.



A02FP0E507DA

5.3 Laser Caution Label

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



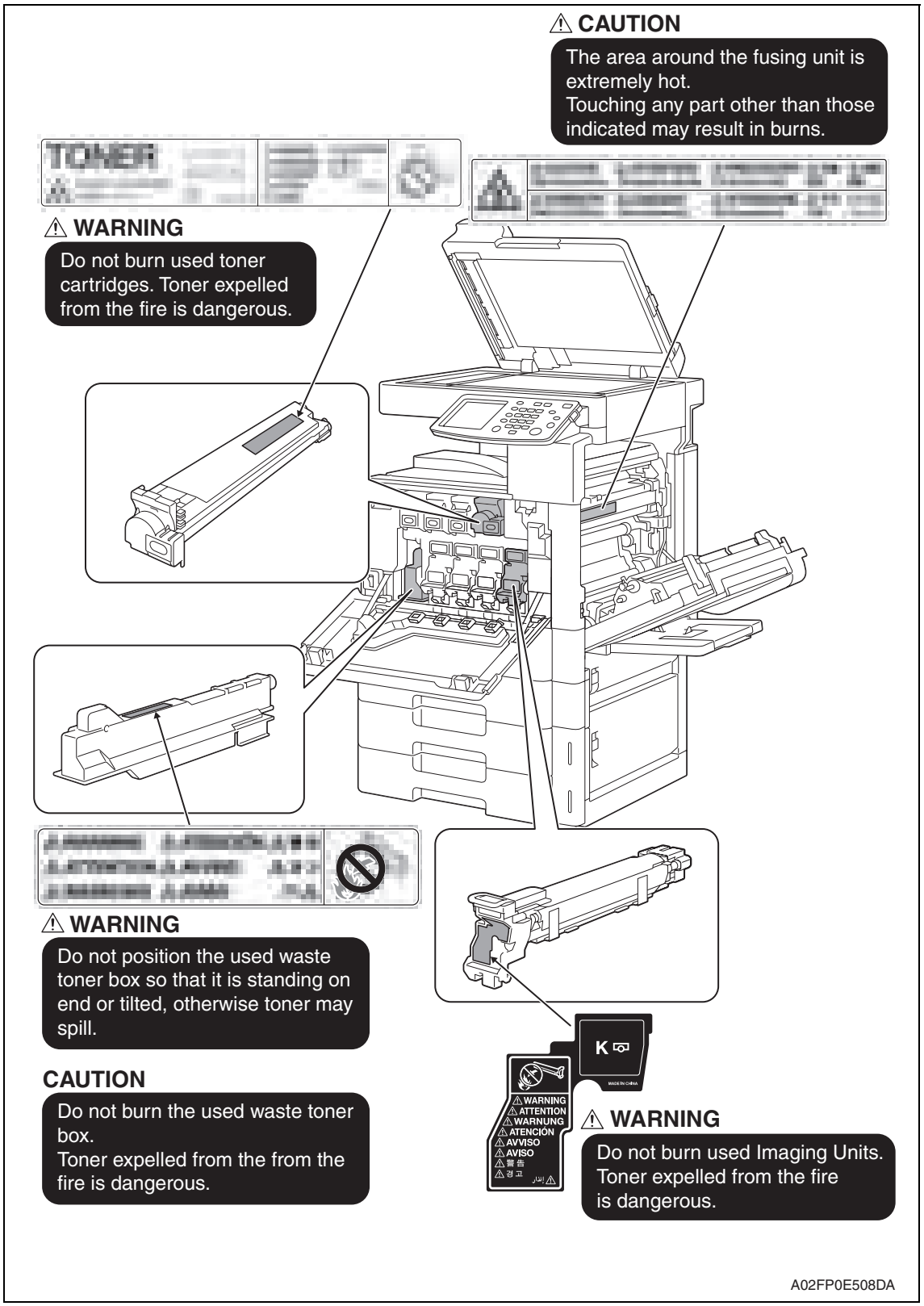
A02FP0C503DA

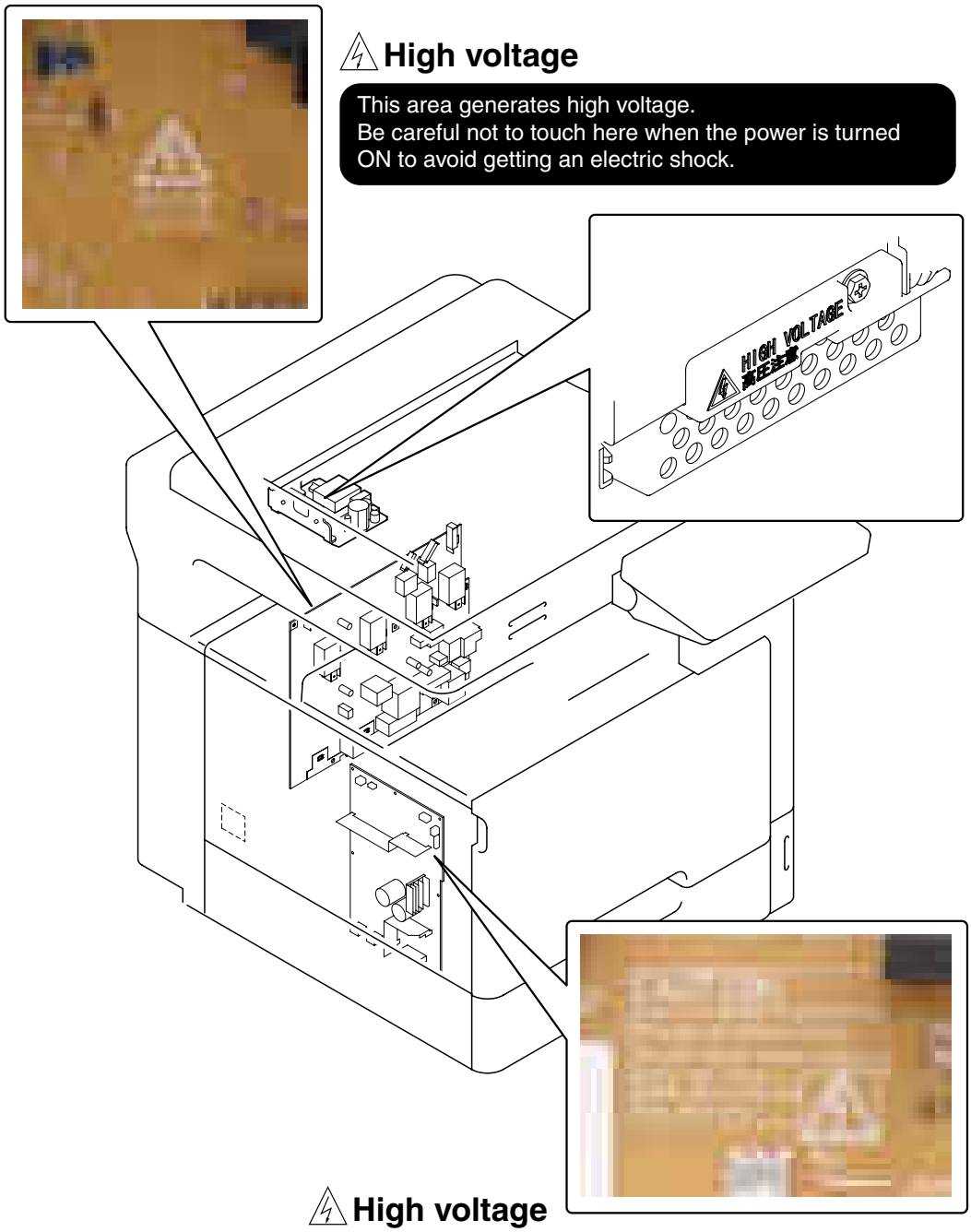
5.4 PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

- 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.
- The Print head is not to be disassembled or adjusted in the field. Replace the unit or Assembly including the control board. Therefore, remove the laser diode, and do not perform control board trimmer adjustment.

WARNING INDICATIONS ON THE MACHINE

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





⚠ CAUTION:

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

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.

Composition of the service manual

This service manual consists of Theory of Operation section and Field Service section to explain the main machine and its corresponding options.

Theory of Operation section gives, as information for the CE to get a full understanding of the product, a rough outline of the object and role of each function, the relationship between the electrical system and the mechanical system, and the timing of operation of each part.

Field Service section gives, as information required by the CE at the site (or at the customer's premise), a rough outline of the service schedule and its details, maintenance steps, the object and role of each adjustment, error codes and supplementary information.

The basic configuration of each section is as follows. However some options may not be applied to the following configuration.

<Theory of Operation section>

OUTLINE:	Explanation of system configuration, product specifications, unit configuration, and paper path
COMPOSITION/OPERATION:	Explanation of configuration of each unit, operating system, and control system

<Field Service section>

OUTLINE:	Explanation of system configuration, and product specifications
MAINTENANCE:	Explanation of service schedule, maintenance steps, service tools, removal/reinstallation methods of major parts, and firmware version up method etc.
ADJUSTMENT/SETTING:	Explanation of utility mode, service mode, and mechanical adjustment etc.
TROUBLESHOOTING:	Explanation of lists of jam codes and error codes, and their countermeasures etc.
APPENDIX:	Parts layout drawings, connector layout drawings, timing chart, overall layout drawing are attached.

Notation of the service manual

A. Product name

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

(1)	bizhub C200:	Main body
(2)	Microsoft Windows NT 4.0:	Windows NT 4.0 or Windows NT
	Microsoft Windows 2000:	Windows 2000
	Microsoft Windows XP:	Windows XP
	Microsoft Windows Vista:	Windows Vista
	When the description is made in combination of the OS's mentioned above:	
		Windows 98/Me
		Windows NT 4.0/2000
		Windows NT/2000/XP/Vista

B. Brand name

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

C. Feeding direction

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

<Sample notation>

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

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub C200
Main body

2008.12

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a specific section revised within text, 1 is shown at the left margin of the corresponding revised section.
  The number inside 1 represents the number of times the revision has been made.

- To indicate clearly a specific page that contains a revision or revisions, the page number appearing at the left or right bottom of the specific page is marked with 1 .
  The number inside 1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2010/09	2.03	▲	Error corrections
2009/08	2.02	▲	Error corrections
2009/02	2.01	▲	Error corrections
2008/12	2.0	1	Corresponded to a MAIN firmware version 21/ Error corrections
2008/06	1.0	—	Issue of the first edition

CONTENTS

bizhub C200 Main body

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Appendix

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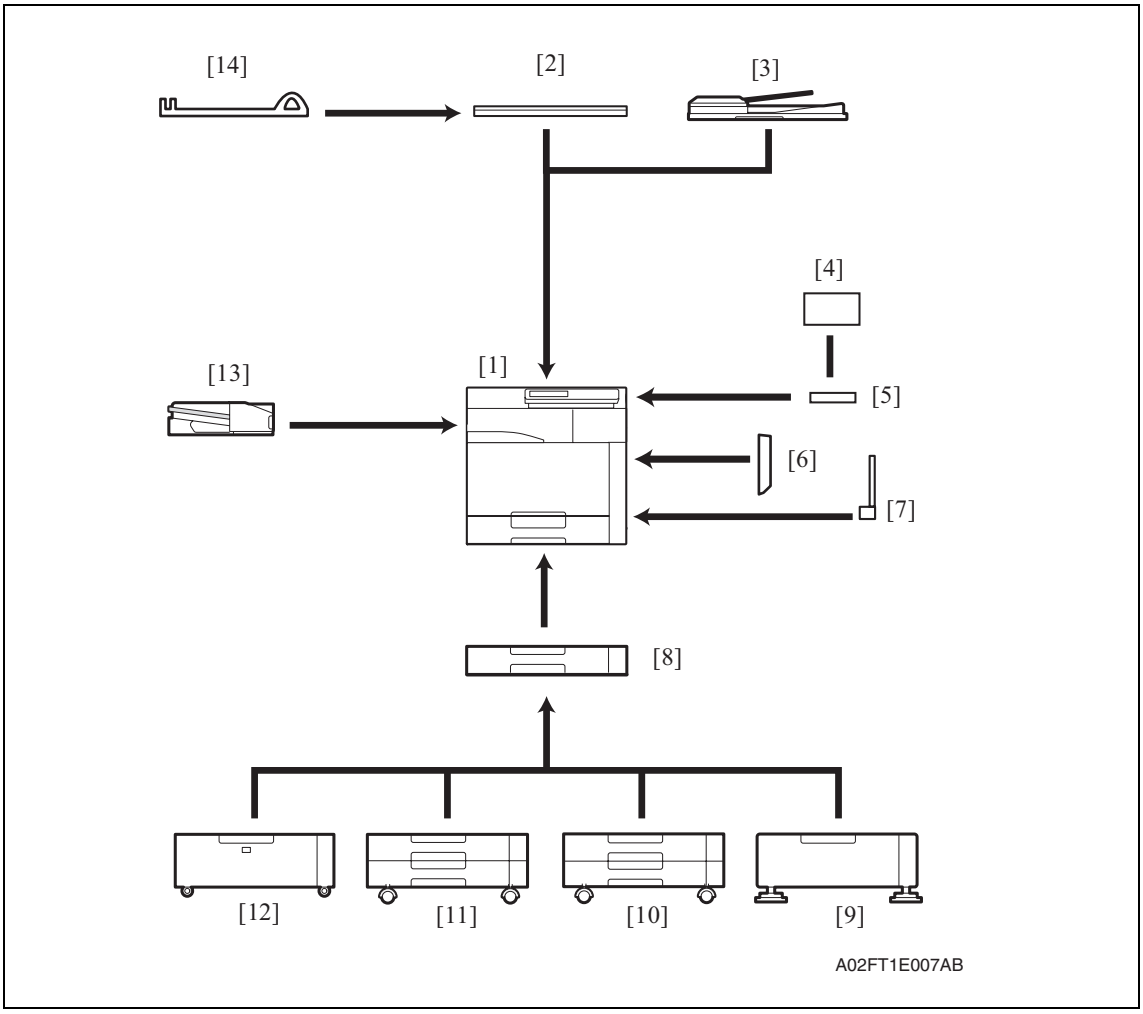
Outline

1. System configuration

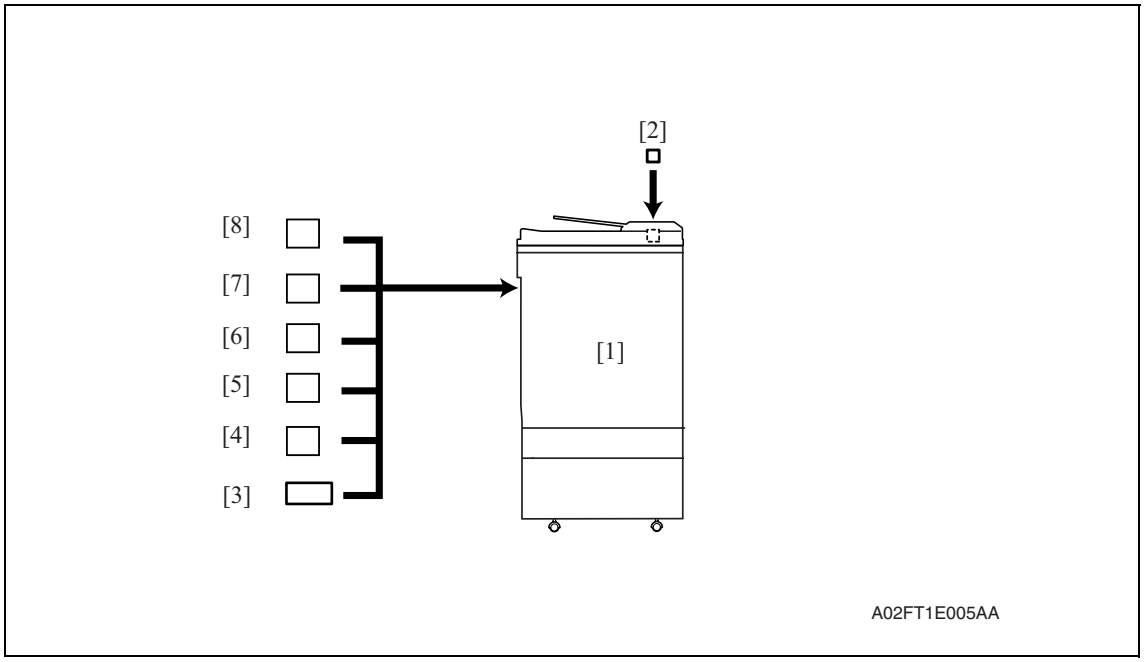
1/2 System front view



[1]	Main body		[8]	Paper feed cabinet (2nd)	PC-105
[2]	Original cover	OC-508	[9]	Desk	DK-504
[3]	Automatic document feeder	DF-612	[10]	Paper feed cabinet	PC-104
[4]	Key counter kit	KIT-1	[11]	Paper feed cabinet	PC-204
[5]	Working table	WT-503	[12]	Paper feed cabinet	PC-405
[6]	Automatic duplex unit	AD-505	[13]	Job separator	JS-505
[7]	Multi bypass tray	MB-502	[14]	Assist handle	AH-101 *1

*1: Option of OC-508

2/2 System rear view



[1]	Main body		[5]	Mount kit (Key counter)	MK-718
[2]	Stamp unit	SP-503	[6]	Mount kit (Vendor)	MK-723
[3]	Expanded memory unit	EM-310	[7]	Fax kit	FK-507
[4]	Mount kit (CSRC) *1	MK-712	[8]	Fax multi line	ML-504

*1: It is the standard setting for Europe.

2. Product specifications

A. Type

Type	Desktop/console *1 scanner/printer
Printing process	Laser electrostatic printing system
PC drum type	OPC drum: KM-12 (OPC with high mold releasability)
Scanning resolution	600 dpi
File memory	64 MB + 512 MB (Option)
Exposure lamp	White rare-gas fluorescent lamp
Platen	Stationary (Unit scan)
Original scanning	Unit scanning CCD optical system * Sheet through system when DF-612 is used
Registration	Rear left edge
Paper feeding separation system	Tray 1 : Small roller separation system with torque limiter
Exposure system	• Four-multi array PH unit system • Polygon mirror scan system
Exposure resolution	600 dpi × 600 dpi
Developing system	Dry 2 components developing method, HMT developing system
Charging system	DC comb electrode scorotron system
Neutralizing system	Red LED system
Image transfer system	Belt image transfer system (1st)/roller image transfer system (2nd)
Paper separating system	Combination of curvature, separating claws, and bias system
Fusing system	Belt fusing
Heating system	Halogen lamp

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

B. Functions

Types of original		Sheets, books, and three-dimensional objects	
Max. original size	Book scanner	A3 or 11 x 17	
Max. original weight	Book scanner	Max. 2 kg	
Multiple copies		1 to 999	
Warm-up time (at ambient temperature of 23 °C/73.4 °F and rated source voltage)	When the sub power switch is turned ON at any timing while the main power switch remains ON for a predetermined period of time or more: 37 sec. or less (Monochrome print) 40 sec. or less (Color print)		
	When the sub power switch is turned ON immediately after the main power switch is turned ON: 90 sec. or less (Without option: Monochrome print and Color print) 100 sec. or less (With option: Monochrome print and Color print)		
Image loss	Copy	Leading edge: 4.2 mm (3/16 inch), Trailing edge: 3 mm (1/8 inch), Rear edge: 3 mm (1/8 inch), Front edge: 3 mm (1/8 inch)	
	PC Print	Leading edge: 4.2 mm (3/16 inch), Trailing edge: 4.2 mm (3/16 inch), Rear edge: 4.2 mm (3/16 inch), Front edge: 4.2 mm (3/16 inch)	
First copy time (Tray1 A4 or 8 1/2 x 11, full size)	Monochrome print	10.0 sec. or less	
	Color print	13.5 sec. or less	
Processing speed	92.4 mm/s	Plain paper (monochrome, full color), OHP film	
	46.2 mm/s	Thick 1, Thick 2, Thick 3, Envelope, Label sheet	
Copying speed for multi-copy cycle	1-sided	20 copies/min (A4 or 8 1/2 x 11, plain paper)	
	2-sided	18 copies/min (A4 or 8 1/2 x 11, plain paper)	
Fixed zoom ratios	Full size	x1.000	
	Reduction	Metric area	x0.500, x0.707, x0.816, x0.866
		Inch area	x0.500, x0.647, x0.772, x0.785
	Enlargement	Metric area	x1.154, x1.224, x1.414, x2.000
		Inch area	x1.214, x1.294, x1.545, x2.000
	Zoom ratios memory	3 memories	
Variable zoom ratios	×0.250 to ×4.000 *1	in 0.001 increments	
Paper size	Tray 1	Metric area	B6S, A5, A5S, B5, B5S, A4, A4S, A3, A3 Wide, 8K, 16K, 16KS, FLS, A6S (Thick paper only)
		Inch area	5-1/2 x 8-1/2, 5-1/2 x 8-1/2S, 7-1/4 x 10-1/2, 7-1/4 x 10-1/2S, 8-1/2 x 11, 8-1/2 x 11S, 8-1/2 x 14, A3 Wide (12 x 18), 4 x 6 (Thick paper only)
Copy exit tray capacity	Plain paper	250 sheets	
	Thick paper	10 sheets	
	OHP film	1 sheet	

*1:In case that sizes are A3, B4, 11 x 17 and 8-1/2 x 14, variable zoom ratios is x0.250 to x3.000

C. Paper

Type		Paper source (maximum tray capacity)		
		Tray 1	Tray 2 (Option)	Multiple bypass (Option)
Copy paper type	Plain paper (60 to 90 g/m² / 16 to 24 lb)	250 sheets	500 sheets	100 sheets
	Thick paper 1 (91 to 150 g/m² / 24.2 to 40 lb)	20 sheets	150 sheets	20 sheets
	Thick paper 2 (151 to 209 g/m² / 40.2 to 55.6 lb)			
	Thick paper 3 (210 to 256 g/m² / 55.9 to 68.1 lb) *1			
	OHP film (crosswise feeding only) *2		—	
	Label sheets			
	Envelopes			10 sheets
	Postcards	—		—
	Translucent paper			
Copy paper dimensions	Width	90 to 311.1 mm 3.6 to 12.3 inch	139.7 to 297 mm 5.5 to 11.7 inch	90 to 311.1 mm 3.6 to 12.3 inch
	Length	139.7 to 457.2 mm 5.5 to 18 inch	182 to 431.8 mm 7.2 to 17 inch	139.7 to 457.2 mm 5.5 to 18 inch

*1: Image is not guaranteed when thick paper 3 is used.
*2: Monochrome print only.
Automatic duplex unit : Only the plain paper weighing 64 to 90 g/m² (17 to 24 lb) or thick paper weighing 91 to 256 g/m² (24.2 to 68 lb) are reliably fed.

D. Maintenance

No. of pages printed per month (average)	Color print	500 prints
	Monochrome print	2,300 prints
Standard copy mode	Color print	2 pages/job
	Monochrome print	2 pages/job
Standard original density	Color print	C, M, Y, K : 5%
	Monochrome print	K : 5%

E. Machine specifications

Power requirements	Voltage:	AC 100 V, 120 V, 220-240 V	
	Current:	100 V	12 A
		110 V	12 A
		120 V	11 A
		127 V	11 A
		230 V	6 A
	Frequency:	50/60 Hz ± 3 Hz	
Max power consumption		1,250 W or less	
Dimensions *2		620 *1 (W) x 688 (D) x 648 (H) mm 24.5 *1 (W) x 27.0 (D) x 25.5 (H) inch	
Space requirements		650 (W) x 688 (D) mm *2 25.6 (W) x 270 (D) inch *2 1117 (W) x 1061 (D) mm *3 44.0 (W) x 41.8 (D) inch *3	
Weight	Machine	Approx. 68 kg / 150 lb (without IU and TC)	
	IU and TC	Approx. 6.8 kg / 15 lb	

*1: Width when the manual bypass tray is closed
*2: Height up to the original glass
*3: The paper feed tray is slide out, and the upper right door is open.

F. Operating environment

Temperature	10 to 30 °C / 50 to 86 °F (with a fluctuation of 10 °C / 18 °F or less per hour)
Humidity	15 to 85% (Relative humidity with a fluctuation of 10%/h)
Levelness	Difference between front and back, right and left should be 1 degree or under.

G. Print functions

	Type	Built-in type controller	
1	Host interface	Ethernet (10Base-T or 100Base-TX), USB 2.0/1.1 (without MacOS)	
	Print speed	20 prints/min (color/monochrome, A4, 1-sided)	
	Resolution	600 dpi x 600 dpi	
1	Printer language	PCL5e/c emulation PCL XL Ver. 3 emulation PostScript 3 emulation (3015)	
	Network protocol	TCP/IP, LPD	
1	Support OS	Server	Windows 2000/2003 Windows 2003server x64 Edition
		Client	Windows 2000, Windows XP, Windows Vista Windows XP x64 Edition, Windows Vista x64 Edition Macintosh OS 9.x, Macintosh OS X Ver. 10.2 to 10.5, Macintosh Intel OS X 10.4 or 10.5
	Compatible paper size	Max. standard paper size A3 Wide	
	Fonts	PCL	Latin 80 fonts
		PS	Latin 136 fonts

- When the optional automatic duplex unit AD-505 is mounted, the optional expanded memory unit EM-310 is required for duplex printing from the PC.

H. Scan functions

	Type	Full-Colour Scanner	
1	Protocol	TCP/IP (SMTP, FTP, SMB)	
1	Output format	JPEG, PDF (V1.3 standards), TIFF (except color TIFF)	
1	Scan speed / DF-612	Monochrome (Resolution 200 /300 dpi)	40 pages/min : A4 40 pages/min : 8 $^1/_2$ x 11
1		Full color (Resolution 200 /300 dpi)	20 pages/min : A4 20 pages/min : 8 $^1/_2$ x 11
	Scannable range	Same as the copier (Max. A3)	
1	Functions	Scan to E-Mail, Scan to FTP, Scan to PC(SMB), Network TWAIN	
1	Resolution	Push: 200dpi/300dpi/400dpi/600dpi Pull: 100dpi/200dpi/300dpi/400dpi/600dpi	

NOTE

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

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Maintenance

3. Periodical check

3.1 Maintenance items

NOTE

- **Cleaning/replacement cycle for each maintenance item of main body/options can be evaluated with each life counter value of [Service mode] → [Counter] → [Life].**

3.1.1 Main body

A. Parts to be replaced by users (CRU)

No	Class	Parts to be replaced	Cycle	Clean	Replace	Descrip-tions
1	Processing sections	Imaging unit Y,M,C	45,000		●	*1
2		Imaging unit K	60,000		●	*1
3		Toner cartridge Y,M,C	18,500		●	*1
4		Toner cartridge K	24,000		●	*1
5	Image transfer section	Waste toner box	(50,000)		●	*1,2

*1: The parts can be replaced either by user or service engineer.
For details of setting, see [Unit Change] on “Adjustment/Setting.” See P.299

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

B. Maintenance call (per 30,000-sheet scan)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Scanner section	Original glass assy	—		●			

C. Maintenance call (per 60,000-print)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Conveyance section	Timing roller	—		●			
4	Image transfer section	Around waste toner port	—		●			
5	AD-505	Duplex transport roller	—		●			

D. Periodical parts replacement/cleaning 2 (per 120,000-print/-sheet scan)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Scanner section	Exposure lamp	—		●			
4		Each mirror and lens	—		●			
5	Image transfer section	Image transfer entrance guide	—		●			
6		IDC/registration sensor	—		●			
7		Transfer belt unit	1			●		
8		Transfer roller unit	1			●		
9	Processing sections	Ozone filter	1			●		

3.1.2 DF-612

A. Periodical parts replacement/cleaning 1 (per 30,000-original feed)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Feed section	Feed roller	—		●			
4		Separation roller	—		●			
5		Pick-up roller	—		●			
6	Transport section	Regist rollers	—		●			
7	Exit section	Exit rollers	—		●			

B. Periodical parts replacement/cleaning 2 (per 100,000-original feed)

No.	Class	Parts to be replaced	Qt.	Check	Clean	Replace	Lubri-cation	Descrip-tions
1	Overall	Paper feed and image conditions	—	●				
2		Appearance	—	●	●			
3	Feed section	Separation roller	1			●		

3.2 Maintenance parts

- To ensure that the machine produces good copies and to extend its service life, it is recommended that the maintenance jobs described in this schedule be carried out as instructed.
- Replace with reference to the numeric values displayed on the Life counter.
- Maintenance conditions are based on the case of A4 or 8 $^1/_2$ x 11, standard mode and low power mode OFF.

	Color	B/W
*Standard mode	2 pages per job	2 pages per job

3.2.1 Replacement parts

A. Main body

No.	Classification	Parts name	Qt.	Actual durable cycle *1	Parts No.	Descriptions	Ref. page
1	Processing section	Imaging unit Y,M,C	1	45,000	—		P.18
2		Imaging unit K	1	60,000	—		
3		Ozone filter	1	120,000	A02E R727 ##	*3	P.22
4		Toner cartridge Y,M,C	1	18,500	—		P.22
5		Toner cartridge K	1	24,000	—		
6	Image transfer section	Transfer roller unit	1	120,000 *4	A02E R713 ##		P.17
7		Transfer belt unit	1	120,000	A02E R730 ##		P.24
8		Waste toner box	1	(50,000)	A0DT WY0	*2	P.16

*1: Actual durable cycle is the life counter value.
*2: A waste toner full condition is detected with detecting the actual waste toner emissions.
*3: The ozone filter is furnished with the transfer belt unit so that all of them are replaced at one time.
*4: Because there is no life-counter for the transfer roller unit, substitute it by the life-counter of the transfer belt unit.

B. Option

No.	Classification	Parts name	Qt.	Actual durable cycle *1	Parts No.	Descriptions	Ref. Page
1	DF-612	Separation roller	1	100,000	A0EY PP47 ##		*2

*1: Actual durable cycle is the life counter value.
*2: See DF-612/SP-503/MS-501 service manual.

3.2.2 Cleaning parts

No.	Classification	Parts name	Actual cleaning cycle *1	Descriptions	Ref.Page
1	Scanner section	Original glass assy	30,000		P.27
2		Exposure lamp	120,000		P.28
3		Each mirror and lens	120,000		P.28
4	Conveyance section	Timing roller	Upon each call (60,000)		P.15
5	Image transfer section	Area around the waste toner collecting port	Upon each call (60,000)		P.15
6		Image transfer entrance guide	When transfer belt unit is replaced (120,000)		P.26
7		IDC/registration sensor			P.26
8	AD-505	Duplex transport roller	Upon each call (60,000)		*1
9	DF-612	Feed roller	30,000		*2
10		Separation roller	30,000		
11		Pick-up roller	30,000		
12		Regist rollers	30,000		
13		Exit rollers	30,000		

*1: See AD-505 service manual.
*2: See DF-612/SP-503/MS-501 service manual.

3.3 Concept of parts life

3.3.1 Life value of consumables and parts

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

	Description	Life value (Specification value)	Max. life value
Waste toner box	The waste toner full sensor detects the amount of toner accumulated in the waste toner box and sends a signal that determines the end of the waste toner box life.	50,000 *1,2	–
Transfer belt unit	Comparing the number of printed pages *6 with the number of printed pages calculated based on how long the transfer belt has run, the machine detects the end of unit life when either of them reaches the set value shown on the right. (However, to detect whether the unit reaches the max. life value, the machine uses only the number of printed pages calculated based on how long the transfer belt has run.)	120,000	150,000 *3
Imaging unit C,M,Y	Comparing the PC drum rotation time with the PC drum rotation time calculated based on the number of printed pages *6, the machine detects the end of unit life when either of them reaches the set value shown in the table below. * The PC drum rotation is calculated based on the distance the PC drum has run.	See the imaging unit life values in the table below.	
Imaging unit K			

<Imaging unit life value *4>

	Life value (Specification value)		Max. life value	
	Normal *5	Long *5	Normal *5	Long *5
Y,M,C	7,042 M	10,563 M	7,355 M	11,033 M
K	6,947 M	10,421 M	7,178 M	10,767 M

*1: A waste toner full condition is detected with detecting the actual waste toner emissions.
*2: Once the toner-full is detected, it has to be replaced with the new waste toner box in order to reset.
*3: The initiation of any new print cycle is inhibited when reaching the max. life value.
*4: The mark “M” is indicated the value of the number of distance through which the PC drum has run translated to a corresponding value of the number of hours and the value.
*5: “Normal” and “Long” are the settings provided in [Service Mode] → [System Input] → [FWD] → [IU Life Setting].

*6: The count condition is different according to the paper length of the sub scanning direction.

Paper length of sub scanning direction	Count value
Less than 216 mm	1 count
216 mm to 432 mm	2 counts
432 mm or more	3 counts

3.3.2 Conditions for life specifications values

Item		Description
Job type (standard mode)		Monochrome : Making 2 copies per job Color : Making 2 copies per job
Paper size		A4 or 8 $^1/_2$ x 11
PV/M		Black: 2,300 / Color: 500
Original density (Coverage)	Color	5 % for each color
	Monochrome	K 5 %
Low power mode		OFF
No. of operating days per month		20 days (main power switch turned ON and OFF 20 times per month)

3.3.3 Control causing inhibited printing for one part when an inhibited-printing event occurs in another part

- In order to reduce the maintenance call times: when printing prohibiting is reached for any of the following parts, make printing prohibited also for other parts whose life value is reached, and replace those parts at the same time.

Target parts: Fusing unit, transfer belt unit, imaging unit /C, imaging unit /M, imaging unit /Y, imaging unit /K

3.4 Maintenance procedure (periodical check parts)

NOTE

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

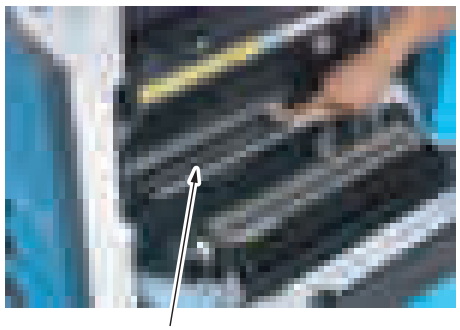
3.4.1 Cleaning of the timing roller

A. Periodically cleaning parts/cycle

- Timing roller: Every 60,000 prints (upon each call)

B. Procedure

1. Open the right door.



A02FF2C001DA

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

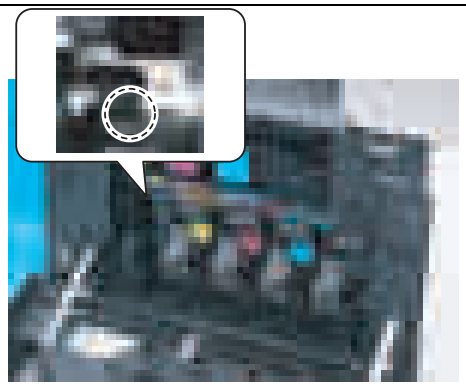
3.4.2 Cleaning of the area around the waste toner collecting port

A. Periodically cleaning parts/cycle

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

B. Procedure

1. Remove the waste toner box.
See P.16



A02FF2C002DA

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

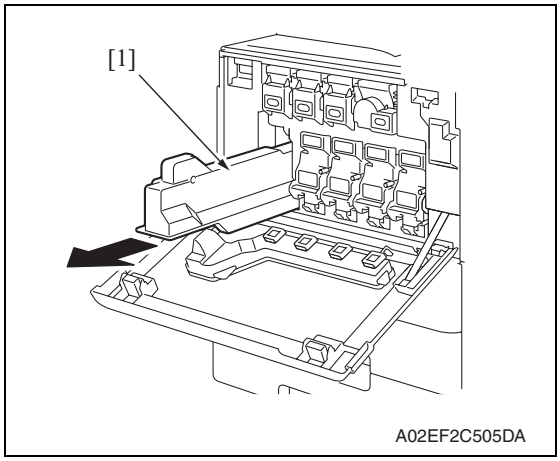
3.4.3 Replacing the waste toner box

A. Periodically replacing parts/cycle

- Waste toner box: Every 50,000 prints

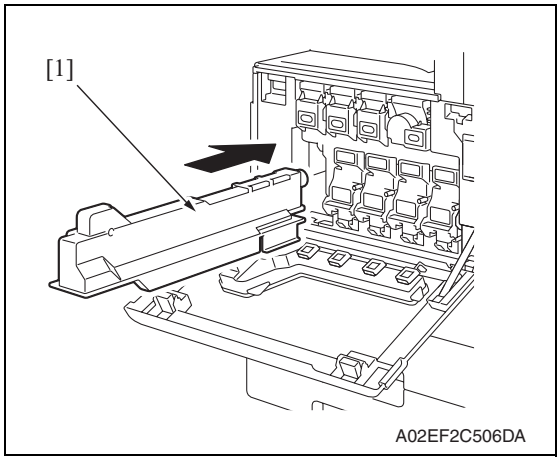
B. Removal procedure

1. Open the front door.



2. Raise the waste toner box [1] and remove it.
3. Clean the surface around the waste toner collecting port.
See P.15

C. Reinstall procedure



1. Remove a new waste toner box from its packaging and remove the packing material.
2. Place the waste toner box [1] in position.
3. Close the front door.

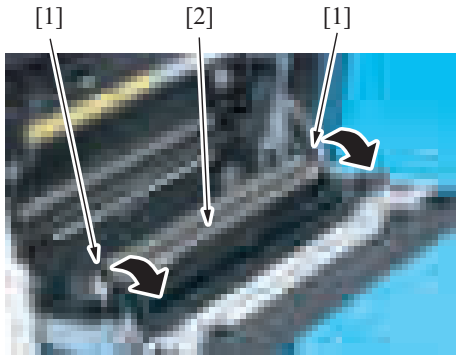
3.4.4 Replacing the transfer roller unit

A. Periodically replacing parts/cycle

- Transfer roller unit: Every 120,000 prints

B. Removal procedure

1. Open the right door.



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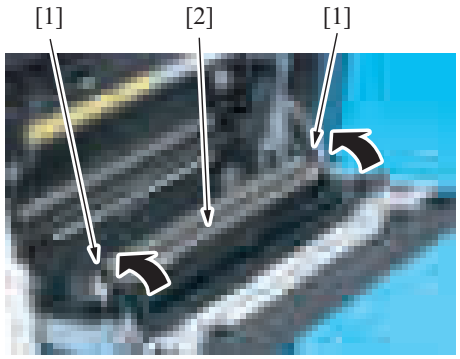
2. Unlock the lock levers [1] of the transfer roller unit (at two places).

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

C. Reinstall procedure



A02FF2C004DA

1. Holding onto the lock levers [1] (at two places), mount the new transfer roller unit [2].

2. Lock the lock levers [1] (at two places).

NOTE

- **Make sure that the levers are locked in position both at front and rear.**

3. Close the right door.

3.4.5 Replacing the imaging unit

A. Periodically replacing parts/cycle

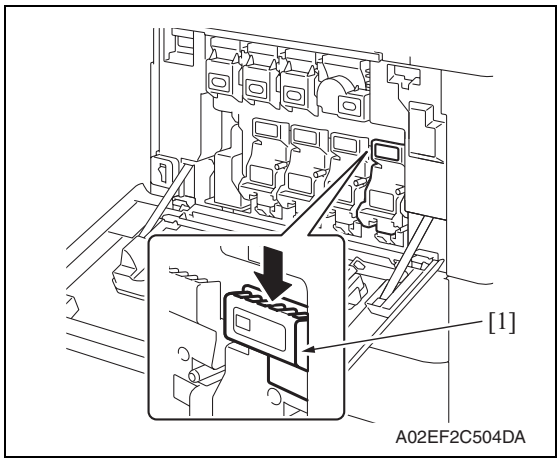
- Imaging unit Y,M,C : Every 45,000 prints
- Imaging unit K : Every 60,000 prints

NOTE

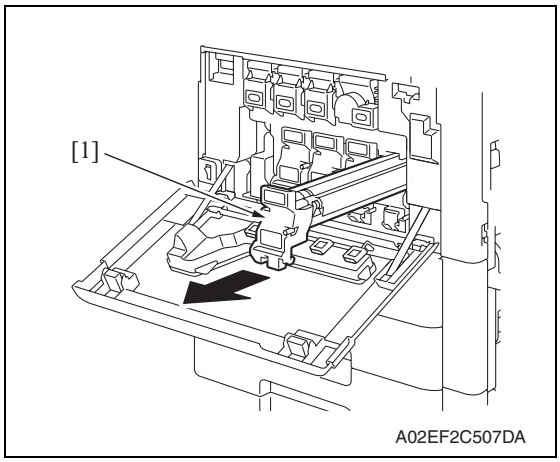
- **Although the procedure shown below is for the replacement of the imaging unit K, use the same procedure to replace other imaging units Y,M,C.**

B. Removal procedure

1. Open the front door.

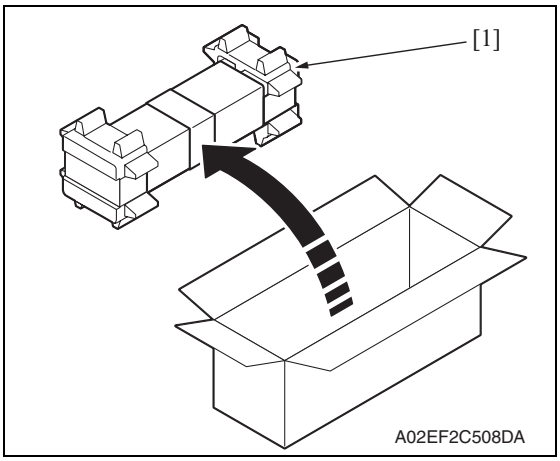


2. Press down to release the unlock lever [1] of the imaging unit to be replaced.

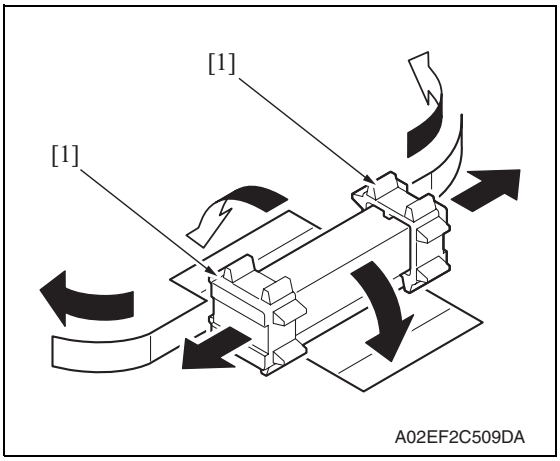


3. Remove the imaging unit [1].

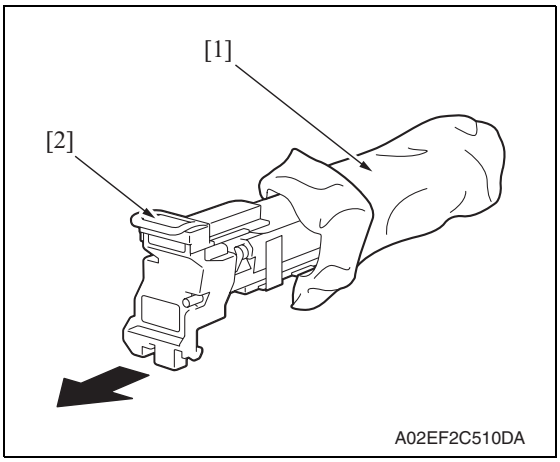
C. Reinstall procedure



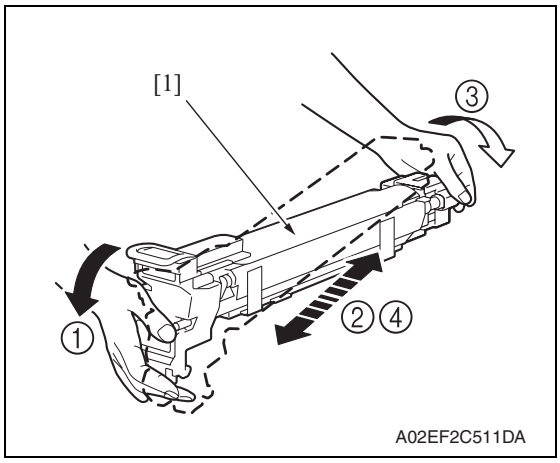
1. Remove the imaging unit [1] from its packaging.



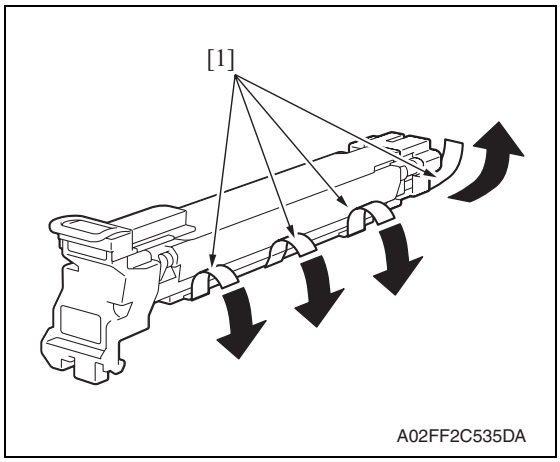
2. Peel off the tapes, and then remove the packing materials [1].



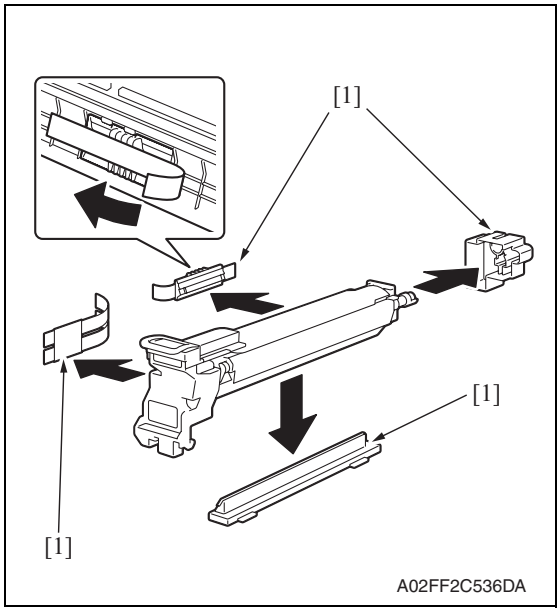
3. Remove the imaging unit [2] from the black protective bag [1].



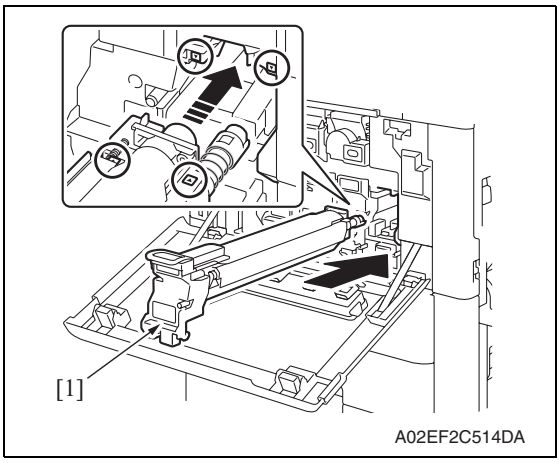
4. Tilt the imaging unit [1] to the left and shake it a little left to right twice. Then, tilt the imaging unit to the right and shake it a little right to left twice.



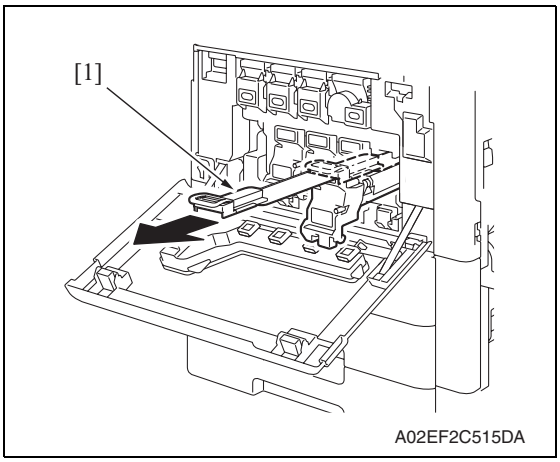
5. Peel off the tapes [1].



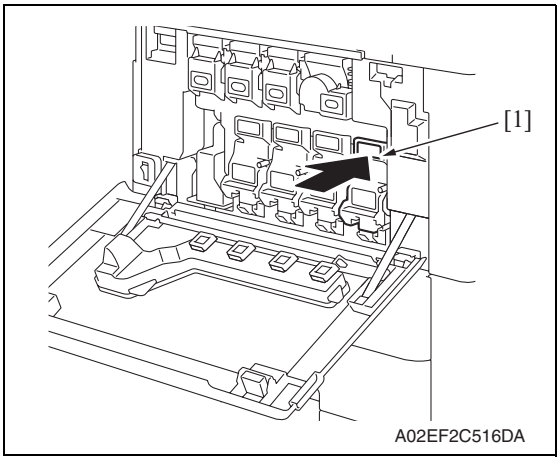
6. Remove the packing materials and securing materials [1].



7. Align the ▲ mark on the imaging unit with the ▼ mark on the main body. Install the imaging unit [1] into the main body.



8. To remove the protective sheet [1] which guards against PC drum damage, slowly pull its tab.



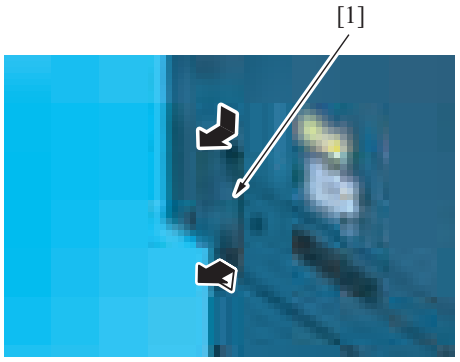
9. Insert the imaging unit [1] completely and close the front door.

3.4.6 Replacing the ozone filter

A. Periodically replacing parts/cycle

- Ozone filter: Every 120,000 prints

B. Procedure



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1. Grip the handle on the ozone filter [1] and slide it out of the main body.

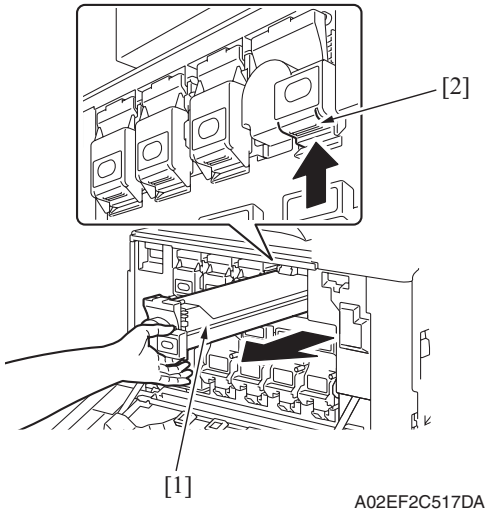
3.4.7 Replacing the toner cartridge

A. Periodically replacing parts/cycle

- Toner cartridge Y,M,C : Every 18,500 prints
- Toner cartridge K : Every 24,000 prints

B. Removal procedure

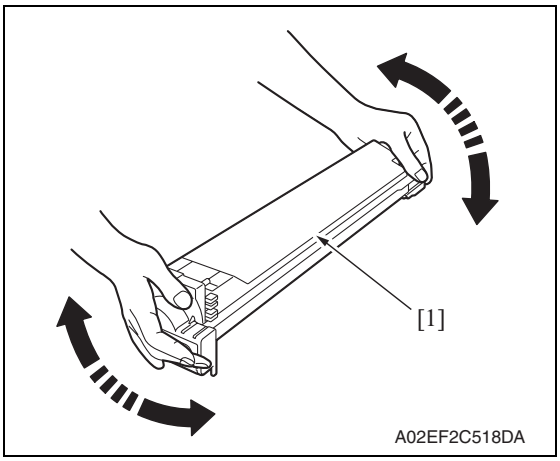
1. Open the front door.



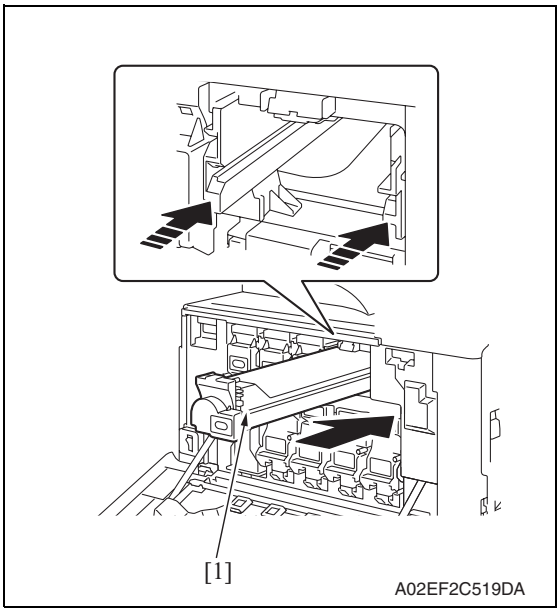
A02EF2C517DA

2. Pull up the locking tab [2] of the empty toner cartridge [1] to unlock it.
3. Pull out the toner cartridge [1] as far as possible, and then pull it up to remove it.

C. Reinstall procedure



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



2. Align the toner cartridge [1] with the slots in the machine, and then insert the cartridge until the locking tab locks into place.

3.4.8 Replacing the transfer belt unit

A. Periodically replacing parts/cycle

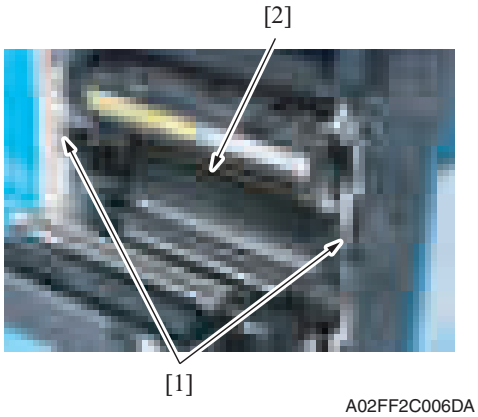
- Transfer belt unit: Every 120,000 prints

NOTE

- **Before replacement operations of the transfer belt unit, make sure to turn OFF the main power switch and the sub power switch.**

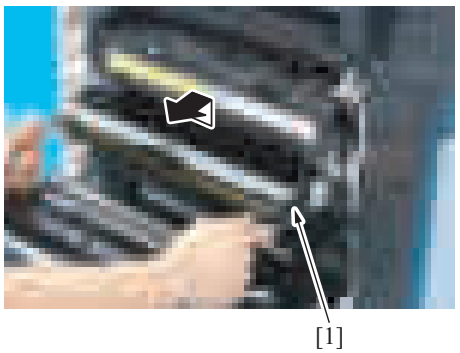
B. Removal procedure

1. Turn OFF the main power switch and the sub power switch.
2. Open the right door.



A02FF2C006DA

3. Remove two screws [1] and release the lock of the transfer belt unit [2].



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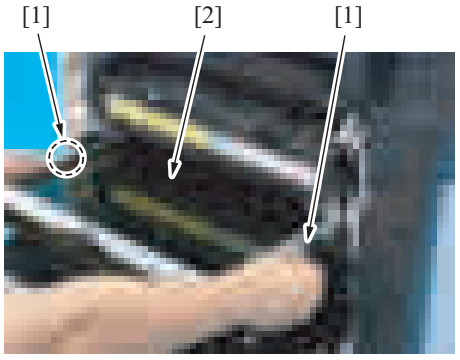
4. Hold the both sides and lift it to take out the transfer belt unit [1] a little.



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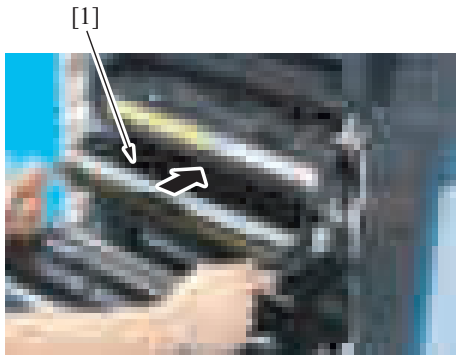
5. Hold the position [1] as shown in the left and remove the transfer belt unit [2].

NOTE

- **Do not touch the surface of the Image transfer belt unit.**
- **Cover the image transfer belt unit with something such shade cloth to protect its surface from dust or foreign matter.**

C. Reinstall procedure

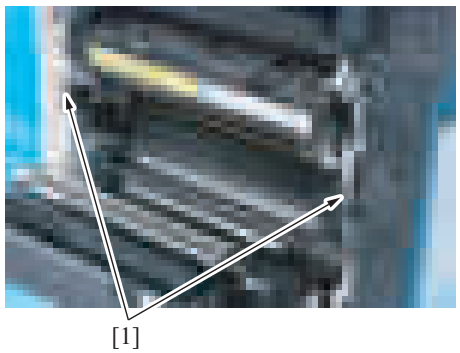


A02FF2C009DA

1. Insert the transfer belt unit [1].

NOTE

- **Insert the transfer belt unit with care not to allow its docking gear to be damaged by hitting it against the rail or associated part.**
- **Do not touch the surface of the image transfer belt unit.**
- **Cover the image transfer belt unit with something such shade cloth to protect its surface from dust or foreign matter.**



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2. Install the transfer belt unit with two screws [1].

NOTE

- **Replace the ozone filter, which is supplied with the transfer belt unit, at the same time.**

3. Close the right door.
4. Turn ON the main power switch.
5. Select [Service Mode] → [Imaging Process Adjustment] → [Gradation Adjust] and carry out gradation adjust.
See P.176

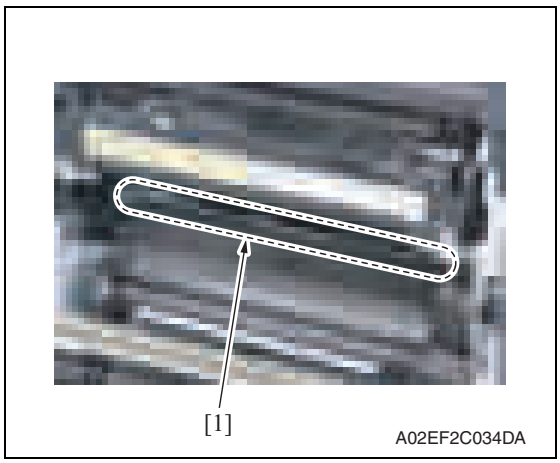
3.4.9 Cleaning of the image transfer entrance guide

A. Periodically cleaning parts/cycle

- Image transfer entrance guide: When the transfer belt unit is replaced (every 120,000 print)

B. Procedure

1. Remove the transfer belt unit.
See P.24



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

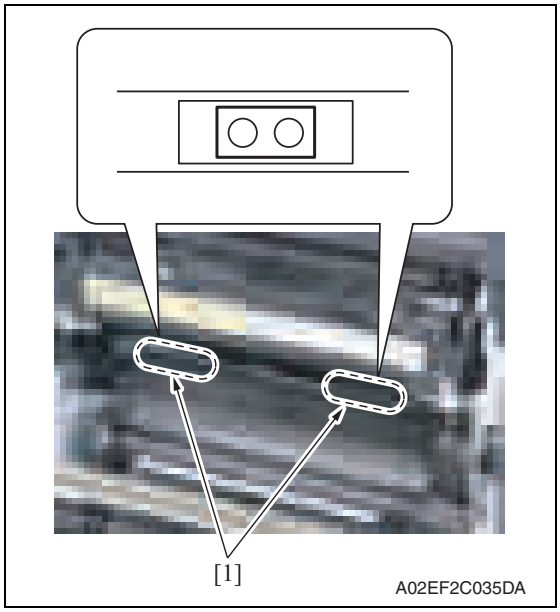
3.4.10 Cleaning of the IDC/registration sensor/MK,YC

A. Periodically cleaning parts/cycle

- IDC/registration sensor/MK,YC: When the transfer belt unit is replaced (every 120,000 print)

B. Procedure

1. Remove the transfer belt unit.
See P.24



2. Wipe the surface of the IDC/registration sensor/MK,YC [1] clean of spilled toner and dirt using a cotton bud.

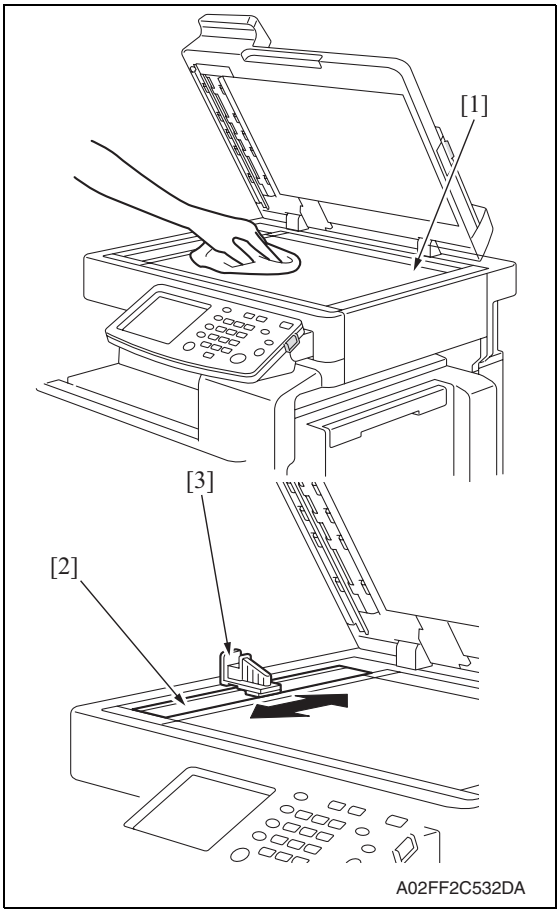
3.4.11 Cleaning of the original glass assy

A. Periodically cleaning parts/cycle

- original glass assy: Every 30,000 sheets scan

B. Procedure

1. Open the original cover or the ADF.



2. Clean the surface of the original glass [1] using a cleaning pad.

3. Clean the left partition glass [2] with the left partition glass cleaner [3].

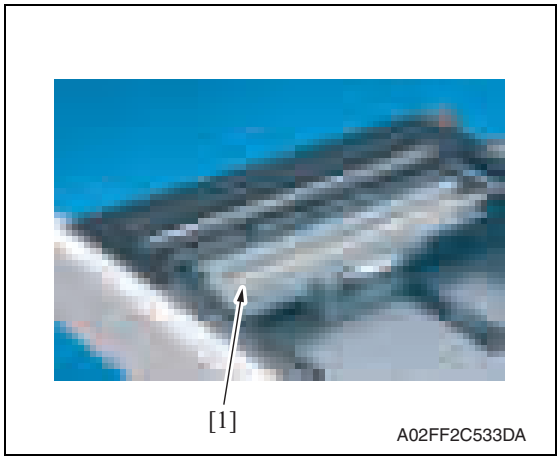
3.4.12 Cleaning of the exposure lamp

A. Periodically cleaning parts/cycle

- Exposure lamp: Every 120,000 sheets scan

B. Procedure

1. Remove the original glass assy.
See P.53



2. Wipe the exposure lamp [1] clean of dirt using a cleaning pad.

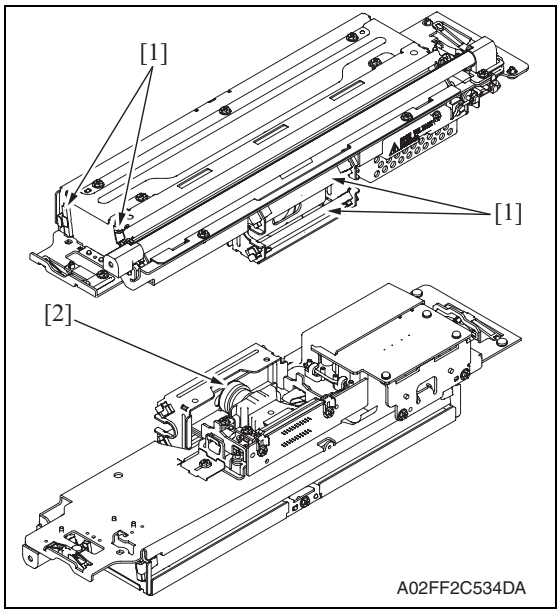
3.4.13 Cleaning of the each mirror and the lens

A. Periodically cleaning parts/cycle

- Each mirror and lens: Every 120,000 sheets scan

B. Procedure

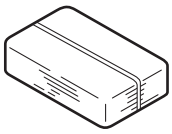
1. Remove the exposure unit.
See P.76



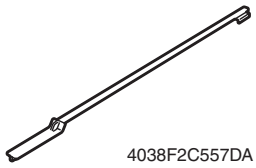
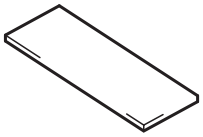
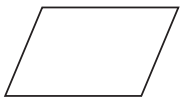
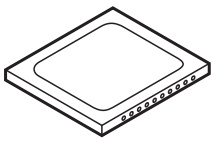
2. Wipe the each mirror [1] and the lens [2] clean of dirt using a cleaning pad.

4. Service tool

4.1 Service material list

Name	Shape	Material No.	Remarks
Cleaning pad	 A02EF2C526DA	000V-18-1	10pcs/1pack
Isopropyl alcohol	 A00KF2C506DA	—	

4.2 CE tool list

Tool name	Shape	Quantity	Parts No.	Remarks
PH window cleaning jig	 4038F2C557DA	1	4038 2083 ##	
PH window cleaning jig pad	 4038F2C558DA	1	4038 2084 ##	
Color chart	 A02EF2C520DA	1	9J06 PJP1 ##	A3
			9J06 PJP2 ##	11 x 17
Compact flash	 4037F2C601DA	1	V865400002 (blank)	*1

*1: Inquire of KMBT about the part number of compact flash in which the firmware data is written.

4.3 Copy materials

4.3.1 Imaging unit single parts (IU)

Parts name	Replacing period
Imaging unit K	60,000 prints
Imaging unit Y	45,000 prints
Imaging unit M	45,000 prints
Imaging unit C	45,000 prints

See P.13

4.3.2 Toner cartridge single parts (T/C)

Parts name	Replacing period *1
Toner cartridge K	24,000 prints *1
Toner cartridge Y	18,500 prints *1
Toner cartridge M	18,500 prints *1
Toner cartridge C	18,500 prints *1

*1: Life value that can be achieved with a probability of 90% even with product-to-product variations and fluctuating operating environmental conditions taken into consideration, when the T/C is used under the conditions of B/W ratio 5% for each color.

4.3.3 Waste toner box

Parts name	Replacing period *1
Waste toner box	50,000 prints *1

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

See P.13

4.3.4 Maintenance kit

There is no setting for the maintenance kit.

5. Firmware upgrade

NOTE
- Do NOT downgrade the firmware data from the MAIN firmware versions 21 or later to the MAIN firmware versions earlier than 21.

5.1 Firmware rewriting by the compact flash

5.1.1 Preparations for firmware rewriting

A. Items required
- Drive which enables writing/reading of compact flash
- Compact flash (service tool)

B. Writing data to compact flash

1. Prepare firmware data.

2. Format the compact flash on the PC.

NOTE
- **Use the FAT file format for formatting the compact flash.**
  The machine does not recognize any compact flash that has been formatted in FAT32 or other format.

3. Copy the firmware data to the compact flash.

NOTE
- **When copying the data to the compact flash, directly copy the files contained in the folder, instead of copying the folder.**
- **Copy only the data to be rewritten.**
- **Note that no display is given on the control panel if wrong firmware is copied.**
- **Be sure to take note of the checksum value of the firmware data.**

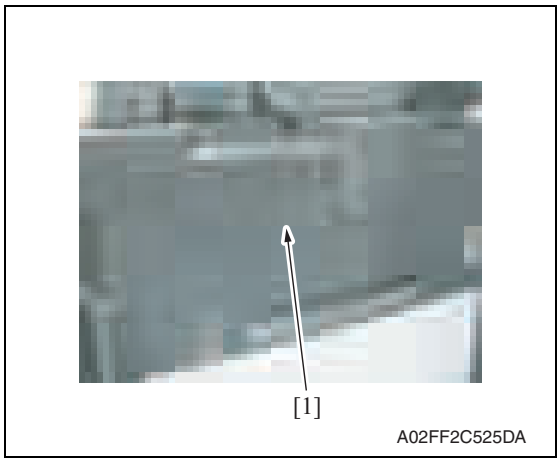
C. Checking version
- Before rewriting firmware, check the current ROM version.
  See P.153

5.1.2 Firmware rewriting procedures

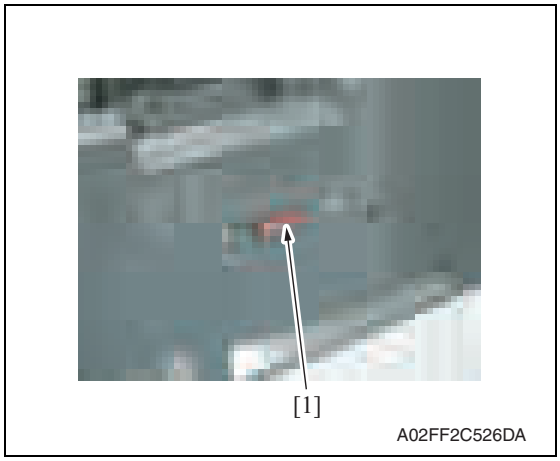
NOTE
- **NEVER remove or insert the compact flash card with the machine power turned ON.**
- **Confirm the current version before upgrading the firmware.**
- **Before upgrading the firmware, confirm that no jobs remain within the machine.**

A. Controller

1. Turn OFF the main power switch.



2. Remove the cover [1] from the compact flash insertion slot.



3. Insert the compact flash [1], to which the controller files to be rewritten are copied, into the slot.

NOTE

- **Do not copy engine, job separator, and other firmware to the compact flash.**

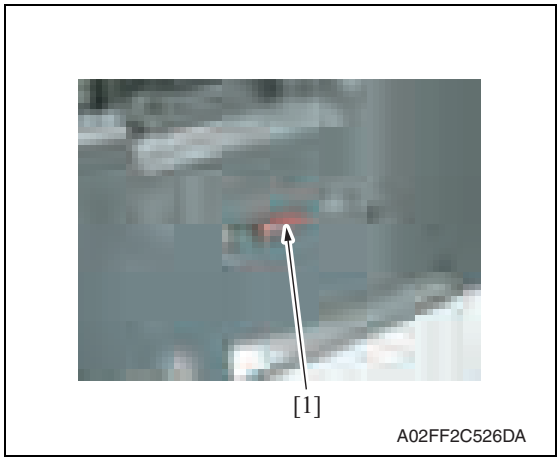
4. Turn ON the main power switch and the sub power switch.

5. The Flash ROM Setup screen is displayed on the control panel display, and upgrading starts.

6. When “FINISH” is displayed at the bottom of the control panel, upgrading of the firmware is completed.
Turn OFF the main power switch.

NOTE

- **NEVER turn OFF the main power switch until “FINISH” appears.**



7. Remove the compact flash card [1] from the slot.

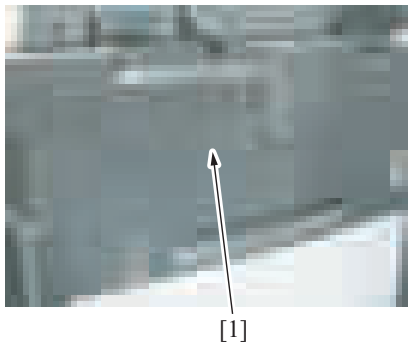
8. Reinstall the cover of the slot.
9. Turn ON the main power switch and the sub power switch.
10. Select [Admin.] → [Firmware Version].
11. Check that the firmware version has been updated.

B. Engine/job separator

NOTE

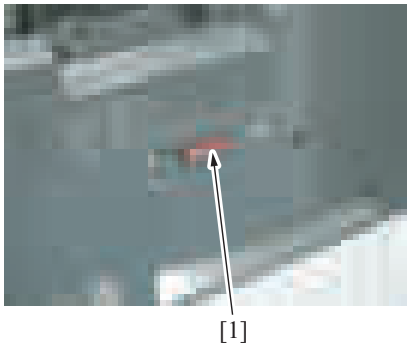
- **Make sure that the controller firmware is not copied to the compact flash.**
- **To rewrite both the engine and job separator firmware at the same time, copy both types of firmware to the compact flash.**
- **If wrong files are copied to the compact flash, no display is given on the control panel.**

1. Turn OFF the main power switch.



A02FF2C525DA

2. Remove the cover [1] from the compact flash insertion slot.



A02FF2C526DA

3. Insert the compact flash [1], to which the engine and job separator firmware data is copied, into the slot.

4. Turn ON the main power switch and the sub power switch.
5. Call the service mode to the screen.
See P.158

A02FF2E527DA

6. Touch [Download Firmware].

A02FF2E528DA

7. Select [Engine] and touch [OK].

NOTE

- **Touch [Job Sep.] also if the job separator firmware data is also to be rewritten.**

A02FF2E529DA

8. Check the message, then select [Yes].

A02FF2E530DA

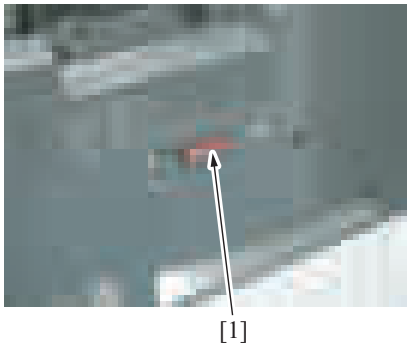
9. The screen on the left will appear as soon as downloading starts.

NOTE

- **While this screen is being displayed, which indicates that the firmware is being rewritten, never turn OFF the main power switch or sub power switch, unplug the power cord, open the cover, or otherwise perform action to hamper the rewriting procedure.**

A02FF2E531DA

10. The screen on the left appears when the rewriting sequence is completed.
11. Check the checksum value recorded against that shown on the screen and make sure that there is a match between the two values.
12. Turn OFF the main power switch.



A02FF2C526DA

13. Remove the compact flash card [1] from the slot.

14. Reinstall the cover of the slot.
15. Turn ON the main power switch.
16. Select [Admin.] → [Firmware Version].
17. Check that the firmware version has been updated.

5.2 Firmware rewriting by the Internet ISW

5.2.1 Outline

- [Internet ISW] is the system which gives the instruction for updating the firmware with the CS Remote Care, so the main body will automatically receive the firmware from the program server over a network for updating.

5.2.2 Service environment

The following conditions are necessary for using the Internet ISW function.

- The main body is connected to such a network environment that the firmware can be downloaded on the internet using the http protocol.

The “Internet ISW” will not operate under the following conditions.

- Main power switch is set to OFF.
- Sub power switch is set to OFF.
- The main body has the job currently performing.
- Modes other than normal mode are used.
- Machine has a paper jam.
- The version of firmware provided from the program server and MFBU board on the machine are not compatible with each other.

5.2.3 Preparations

- For using the Internet ISW, the network parameter, program server address as well as firewall address need to be set to the main body.
- For details of each setting item, refer to Adjustment/Setting “Internet ISW”.
See P.315

A. Internet ISW

1. Call the service mode to the screen.

2. Touch [Internet ISW]

A02FF2E540DA

3. Select [ON], and touch [OK].

NOTE

- **Settings such as server setting, etc. will be available by selecting “ON” on this setting.**

B. HTTP Setting

- It performs the setting concerning the http protocol for connecting to the Internet ISW.

(1) Setting procedure

Step	Connecting by http
0	Select [Internet ISW] which is available from [Service Mode].
1	Touch [HTTP Setting].
2	Touch [Connect Proxy]. • For connecting via proxy server, select [ON].
3	Touch [Proxy Server]. • For connection via proxy server, set a proxy server address, port number, and authentication related items. *1.* Select the [Server Address], and set the proxy server address. *2.* Select [Port Number], and set the port number for the proxy server from 1 through 65535. *3.* Select [Authentication Settings]. *4.* When Authentication is necessary for accessing to the proxy server, select [Authentication], and select [ON]. *5.* Select [Login Name], and enter the login name on the on-screen keyboard. *6.* Select [Password], and enter the password on the on-screen keyboard.
4	Touch [Connection Timeout]. • Set the time for the connection time out between 30 and 300 seconds.

C. Forwarding Access Setting

- To make the access setting for the program server which stores the firmware data.

1. Select [Internet ISW] which is available from [Service Mode].
2. Touch [Forwarding Access Setting].

A02FF2E541DA

3. Select [Login Name], and enter the login name which is necessary for connecting to the program server on the on-screen keyboard, and touch [OK].
4. Select [Password], and enter the password which is necessary for connecting to the program server on the on-screen keyboard, and touch [OK].
5. Select [URL], and enter the directory which stores the program server address and the firmware on the on-screen keyboard by URL method, and touch [OK].

NOTE

- **Enter the URL which matches to the protocol to be used.**
  When connecting to http http:///(host name or IP address)/directory name
  or https:///(host name or IP address)/directory name

6. Select [File Name], and enter the file name of the firmware data to be downloaded on the on-screen keyboard, and touch [OK].
7. Touch [OK] to finish setting.

5.2.4 Firmware rewriting procedure

- For the firmware update procedure using CS Remote Care, refer to CS Remote Care Center Manual.
- For detailed error information relating to CS Remote Care, refer to “Adjustment/Setting: CS Remote Care.”
See P.181

NOTE

- **Before updating firmware using Internet ISW, contact the administrator to get agreement.**
Do not update firmware via Internet ISW when a job is processed. Internet ISW does not function when a job is processed.

6. Other

6.1 Disassembly/adjustment prohibited items

A. 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.**

B. 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.**

C. Variable resistors on board

NOTE

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

D. Removal of PWBs

⚠ CAUTION

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

6.2 Disassembly/assembly/cleaning list (other parts)

6.2.1 Disassembly/assembly parts list

No.	Section	Part name	Ref. page
1	Exterior parts	Front door	P.42
2		Upper front cover	P.43
3		Right front cover	P.43
4		Left cover	P.44
5		Left shield cover	P.44
6		Rear left cover	P.45
7		Exit cover	P.45
8		IR rear cover	P.46
9		Paper exit rear cover	P.46
10		Rear cover	P.47
11		Rear right cover	P.47
12		Control panel assy	P.48
13		Exit tray	P.49
14		Tray 1	P.49
15		Front cover	P.50
16		IR upper front cover	P.52
17		IR left cover	P.52
18		IR right cover	P.53
19		Original glass assy	P.53
20		ADF glass assy	P.54
21	Rollers	Tray1 feed roller	P.54
22		Tray 1 separation roller assy	P.55
23	Units	Fusing unit	P.56
24		PH unit	P.57
25		Main drive unit	P.62
26		Transport drive unit	P.65
27		Fusing drive unit	P.69
28		Hopper drive unit (C/K, Y/M)	P.71
29		Right door assy	P.72
30		Scanner chassis	P.73
31		Exposure unit	P.76
32		Flat cable of the exposure unit	P.79
33	PWBs	PH relay board (REYB/PH)	P.81
34		DC power supply (DCPU)	P.83
35		Printer control board (PRCB)	P.84
36		Service EEPROM board (SVERB)	P.85
37		High voltage unit (HV)	P.87
38		Tray 1 paper FD size detect board (PSDTB/1)	P.87

No.	Section	Part name	Ref. page
39	PWBs	ADCU board (ADCUB)	P.88
40		MFBU board (MFBUB)	P.89
41		BCRU board (BCRUB)	P.91
42		Inverter board (INVB)	P.92
43	Motors	Transport motor (M1)	P.93
44		Color PC motor (M3)	P.94
45		Fusing motor (M2)	P.94
46		Fusing pressure roller retraction motor (M12)	P.95
47		Toner supply motor/CK (M7)	P.95
48		Toner supply motor/YM (M6)	P.96
49		Scanner motor (M201)	P.96
50	Clutches	Transfer belt pressure retraction clutch (CL3)	P.97
51		Developing clutch/K (CL4)	P.98
52		Tim. roller clutch (CL1)	P.99
53	etc.	IDC registration sensor/MK (IDCS/MK)	P.99
54		IDC registration sensor/YC (IDCS/YC)	P.99
55		Exposure lamp (FL201)	P.102
56		Scanner drive wires	P.104

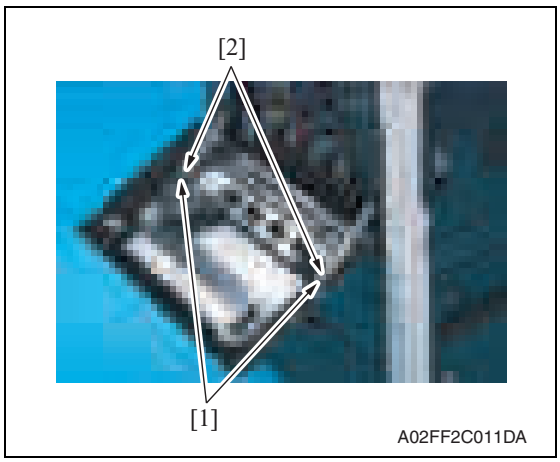
6.2.2 Cleaning parts list

No.	Section	Part name	Ref. page
1	Processing section	Transfer belt unit	P.109
2		PH window	P.109
3	Tray 1	Tray 1 feed roller	P.110
4		Tray 1 separation roller	P.110

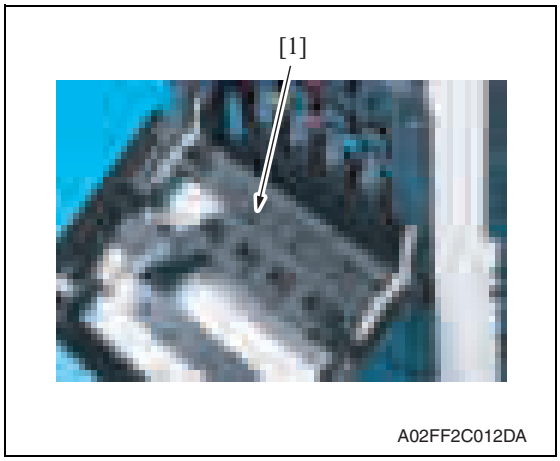
6.3 Disassembly/assembly procedure

6.3.1 Front door

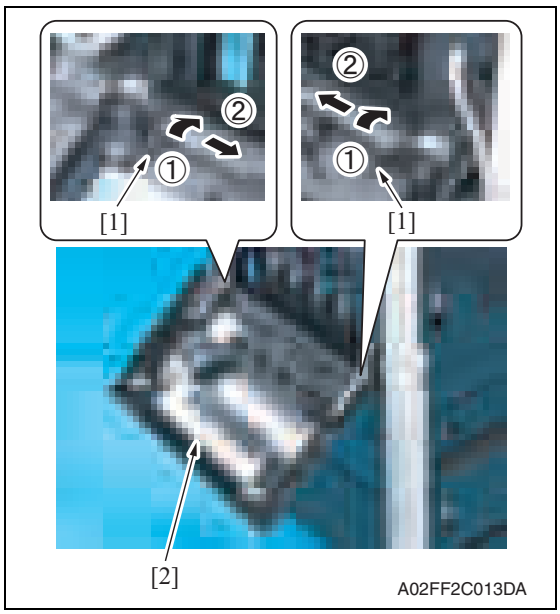
1. Open the front door.



2. Remove two screws [1] and the suppression plates [2].



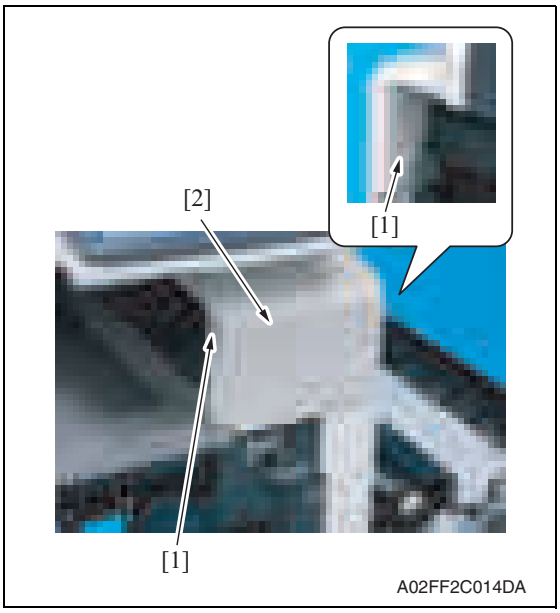
3. Remove the PH window cleaning jig [1].



4. Slide the pins [1] in the direction of the arrow and remove it.
5. Remove the front door [2].

6.3.2 Upper front cover

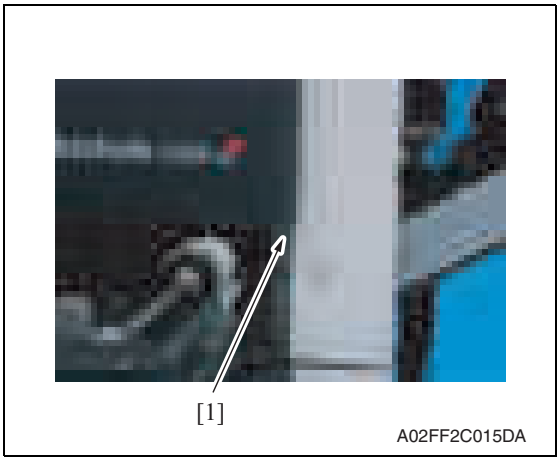
1. Open the front door.
2. Open the right door.



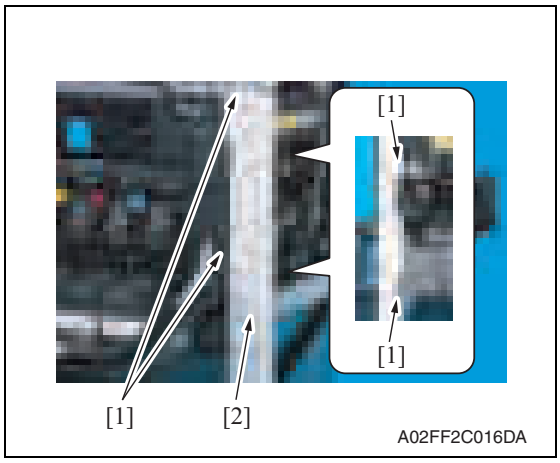
3. Remove two screws [1], and remove the upper front cover [2].

6.3.3 Right front cover

1. Remove the upper front cover.
See P.43
2. Slide out the tray 1.



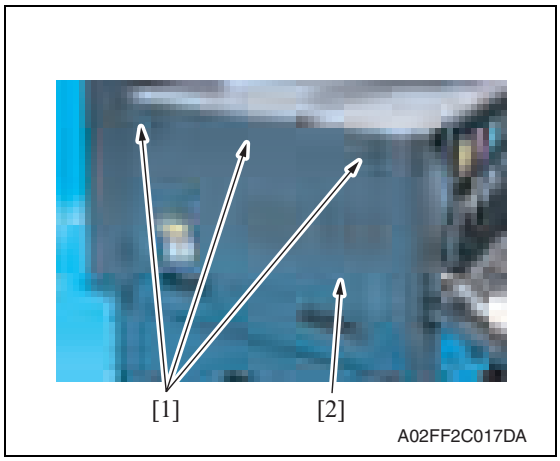
3. Temporarily close the front door and remove the screw [1].
4. Open the front door again.



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

6.3.4 Left cover

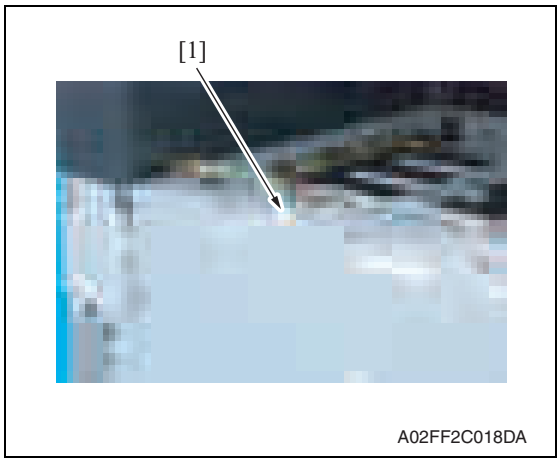
1. Open the front door.



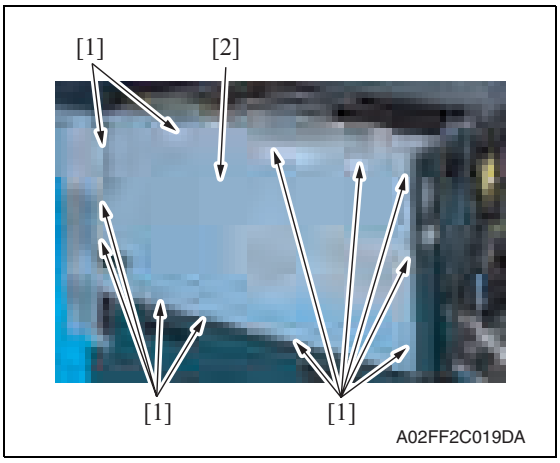
2. Remove three screws [1], and remove the left cover [2].

6.3.5 Left shield cover

1. Remove the exit tray.
See P.49
2. Remove the rear left cover.
See P.45



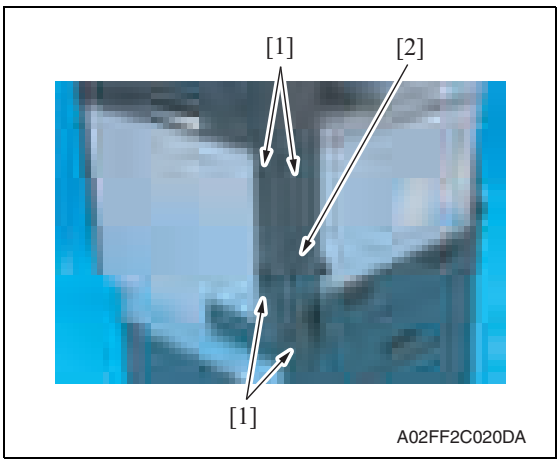
3. Disconnect the connector [1].



4. Remove twelve screws [1], and remove the left shield cover [2].

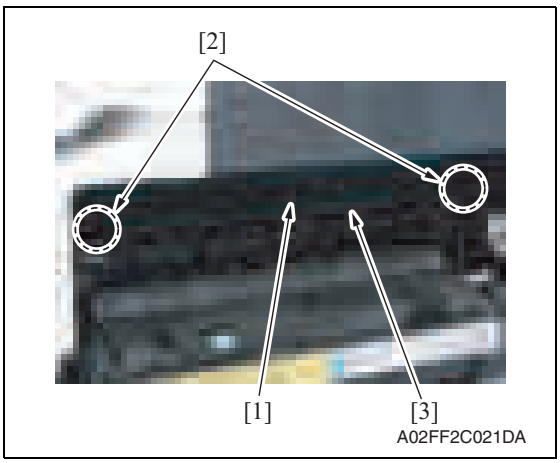
6.3.6 Rear left cover

1. Remove the ozone filter.
See P.22
2. Remove the left cover.
See P.44



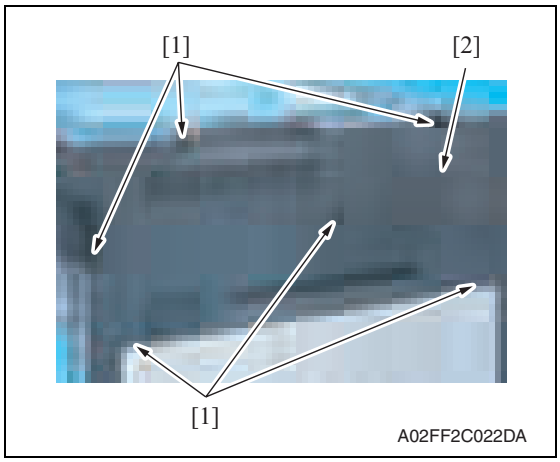
3. Remove four screws [1], and remove the rear left cover [2].

6.3.7 Exit cover



1. Remove the screw [1], unhook two tabs [2], and remove the paper exit cover [3].

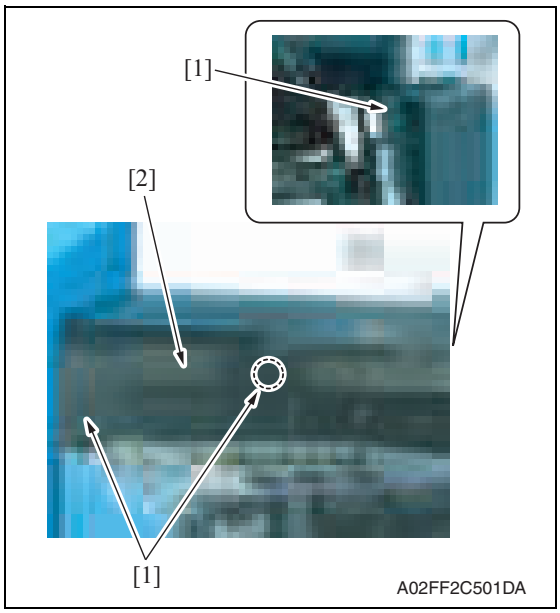
6.3.8 IR rear cover



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

6.3.9 Paper exit rear cover

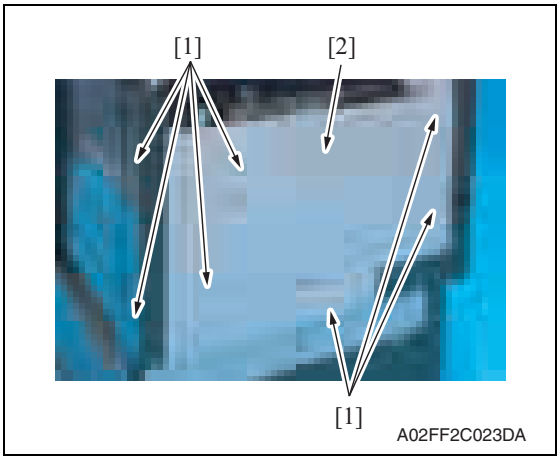
1. Remove the rear left cover.
See P.45
2. Remove the IR rear cover.
See P.46
3. Remove the exit tray.
See P.49
4. Remove the exit cover.
See P.45



5. Remove three screws [1], and remove the paper exit rear cover [2].

6.3.10 Rear cover

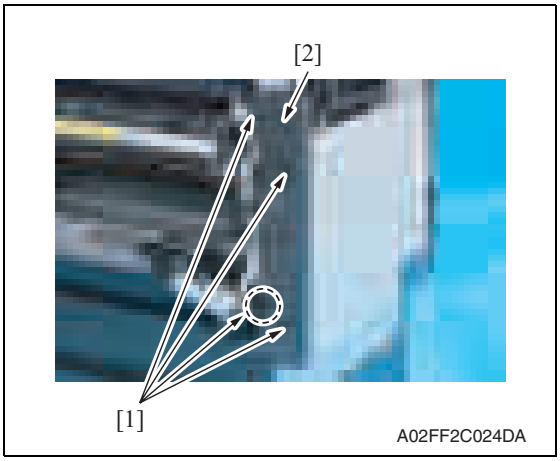
1. Remove the IR rear cover.
See P.46



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

6.3.11 Rear right cover

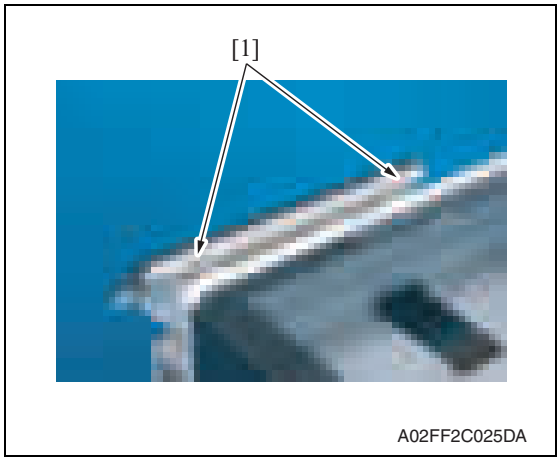
1. Open the right door.
2. Remove the IR rear cover.
See P.46



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

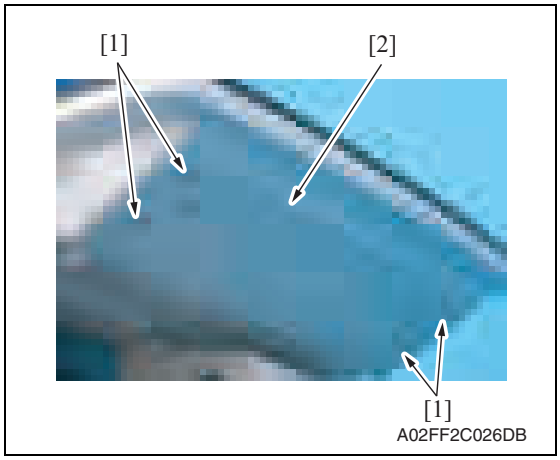
6.3.12 Control panel assy

1. Lower the control panel down to the bottommost position.

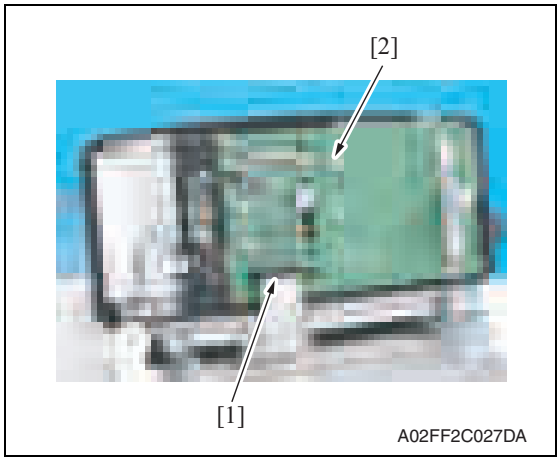


2. Remove two screws [1].

3. Raise the control panel to the topmost position.



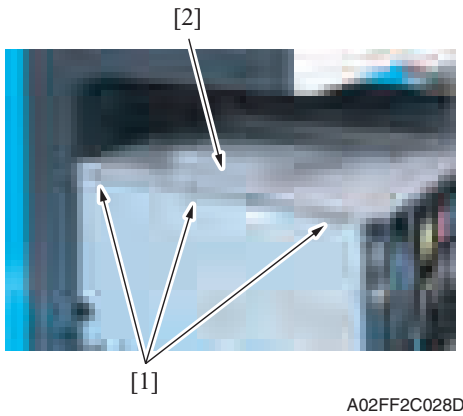
4. Remove four screws [1], and remove the control panel lower cover [2].



5. Disconnect the connector [1] of the flat cable, and remove the control panel assy [2].

6.3.13 Exit tray

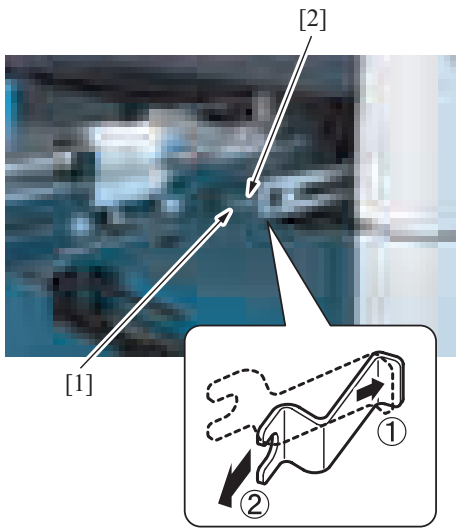
1. Open the front door.
2. Remove the left cover.
See P.44



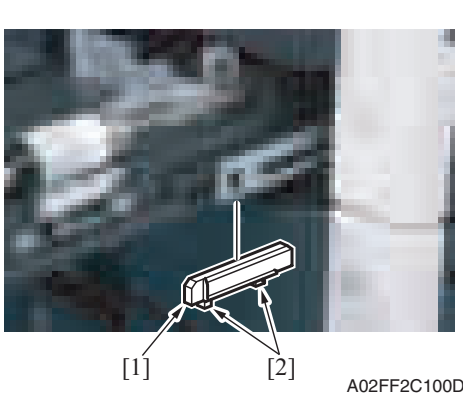
3. Remove three screws [1], and remove the exit tray [2].

6.3.14 Tray 1

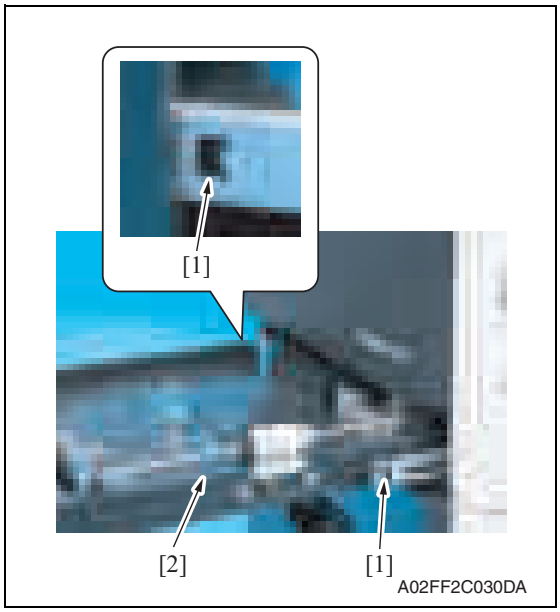
1. Slide out the tray 1.



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



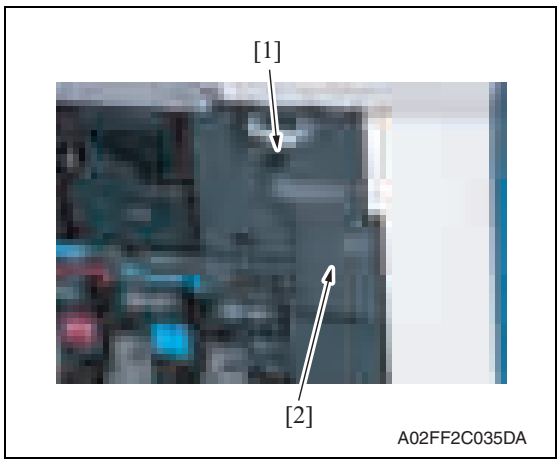
3. Hold two tabs [2], and remove the spacer [1].



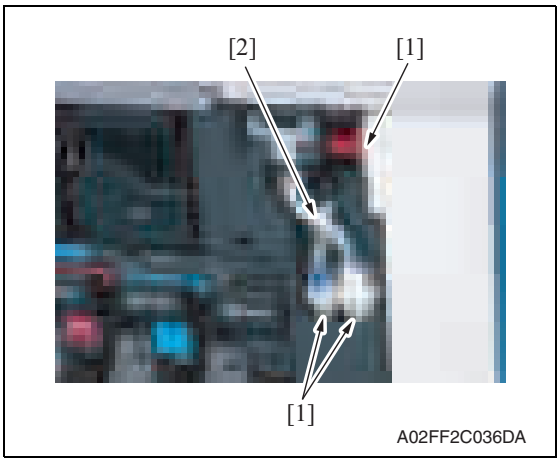
4. Pushing the slide locks [1] on both ends, remove the tray 1 [2].

6.3.15 Front cover

1. Slide out the tray 1.
2. Remove the front door.
See P.42
3. Remove the left cover.
See P.44
4. Remove the toner cartridges (C, M, Y, K).
See P.22
5. Remove the waste toner box.
See P.16
6. Remove the imaging units (C, M, Y, K).
See P.18

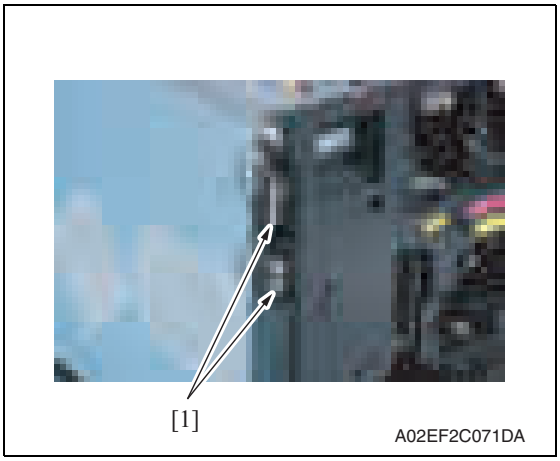


7. Remove the screw [1], and remove the connector protective cover [2].

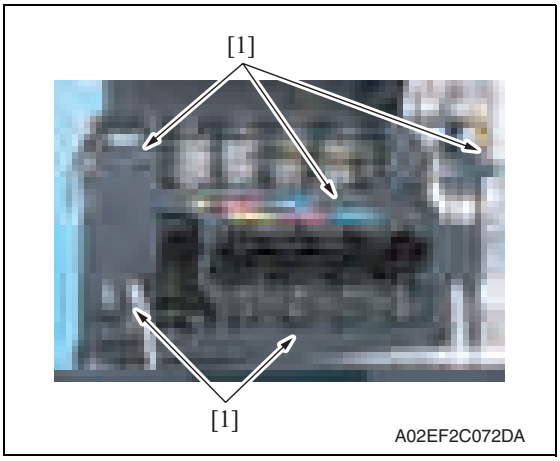


8. Disconnect three connectors [1], and remove the harness from the wire saddle [2].

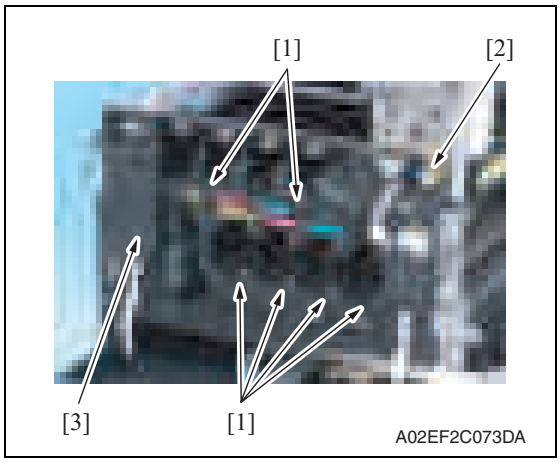
9. Remove the right front cover.
See P.43



10. Disconnect two connectors [1].

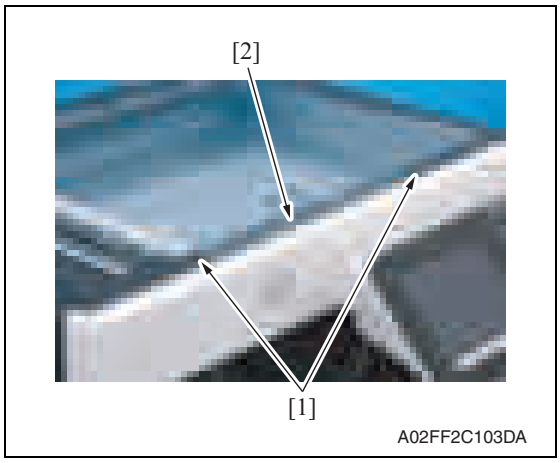


11. Remove five screws [1].



12. Unhook six tabs [1], and disconnect the connector [2] from the front cover.
13. Remove the front cover [3].

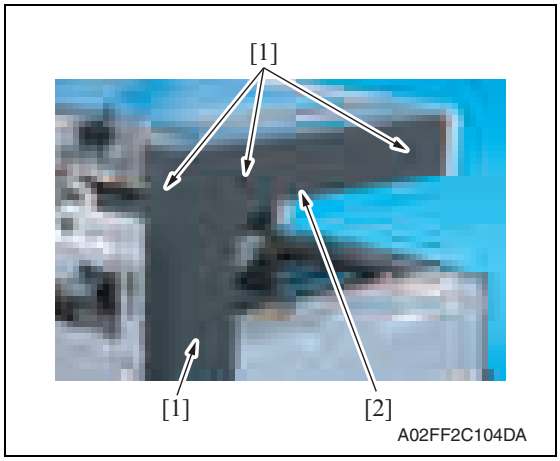
6.3.16 IR upper front cover



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

6.3.17 IR left cover

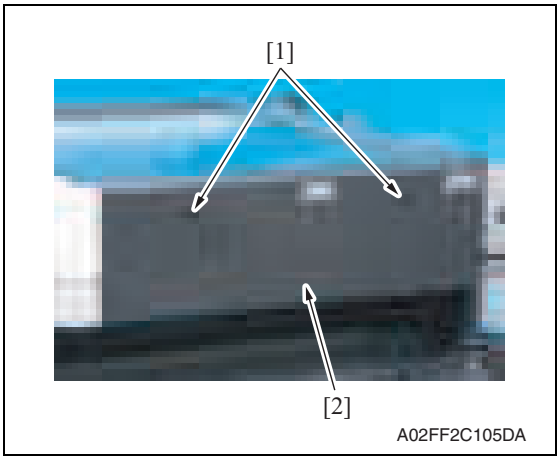
1. Remove the IR rear cover.
See P.46
2. Remove the exit tray.
See P.49



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

6.3.18 IR right cover

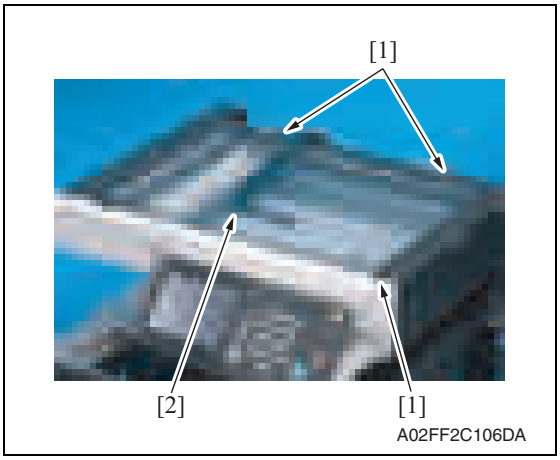
1. Remove the IR rear cover.
See P.46



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

6.3.19 Original glass assy

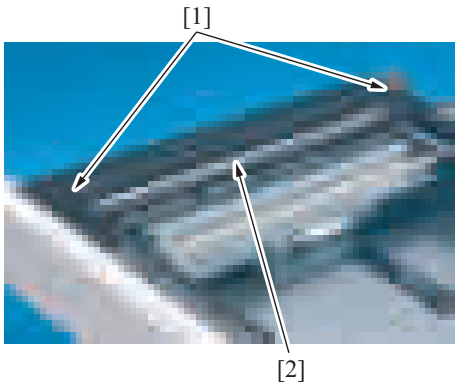
1. Remove the IR rear cover.
See P.46
2. Remove the IR upper front cover.
See P.52



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

6.3.20 ADF glass assy

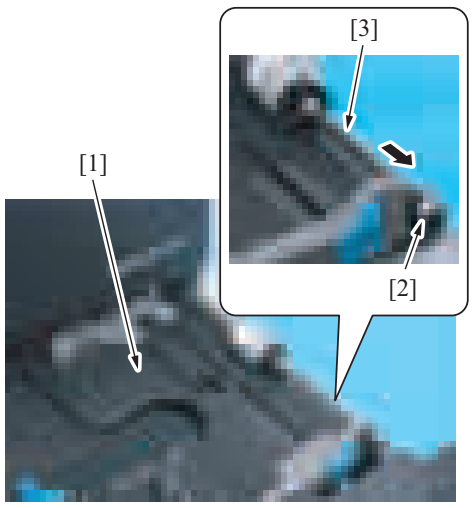
1. Remove the IR rear cover.
See P.46
2. Remove the IR left cover.
See P.52



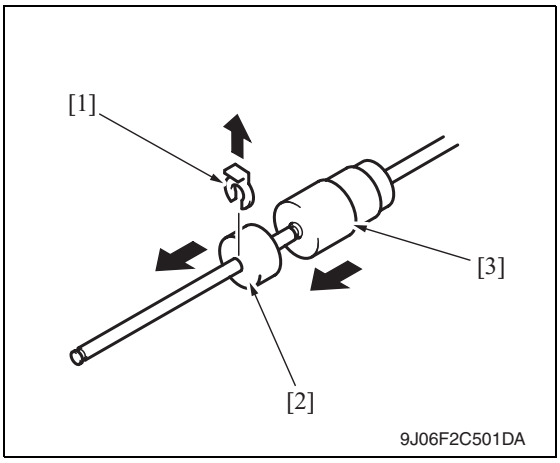
3. Remove two screws [1], and remove the ADF glass assy [2].

6.3.21 Tray 1 feed roller

1. Slide out the tray 1.



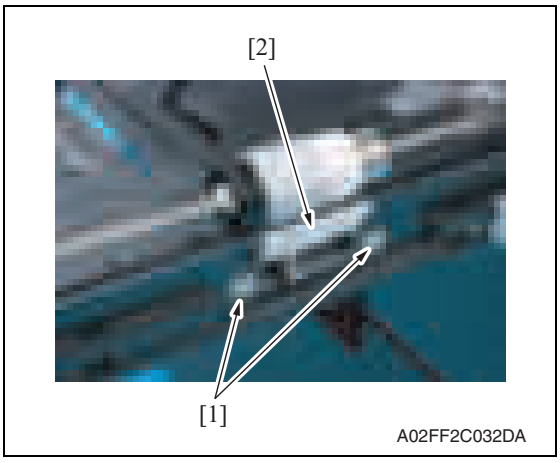
2. Lock the paper lifting plate [1] into position.
3. Snap off the C-clip [2].
4. Remove the shaft for the tray 1 feed roller assy [3] from the front bushing.



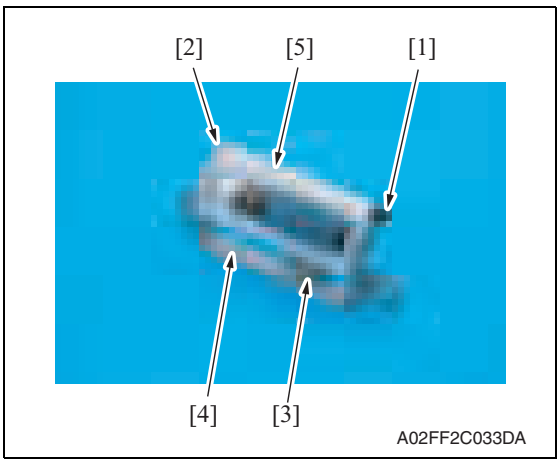
5. Remove the C-clip [1] and the collar [2], and remove the tray 1 feed roller [3].

6.3.22 Tray 1 separation roller assy

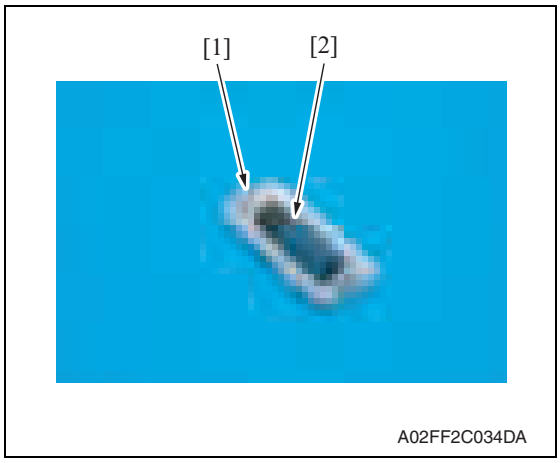
1. Slide out the tray 1.



2. Remove two screws [1], and remove the tray 1 separation roller fixing plate assy [2].



3. Take off the rubber stopper [1], shaft [2], spring [3], and guide plate [4] to remove the separation roller fixing bracket assy [5].



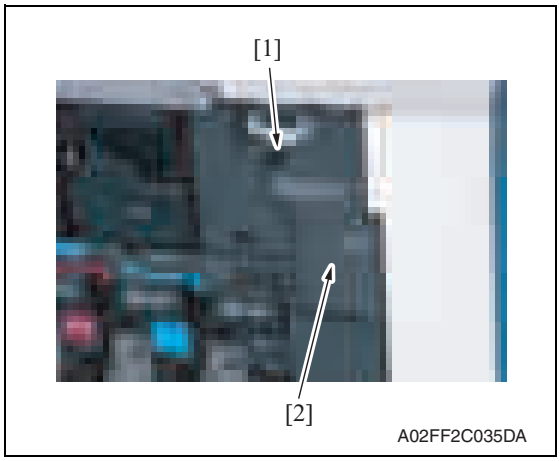
4. Snap off the E-ring [1] and the tray 1 separation roller assy [2].

6.3.23 Fusing unit

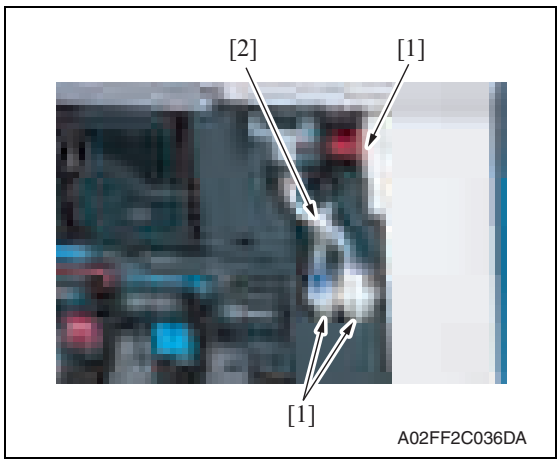
⚠ CAUTION

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

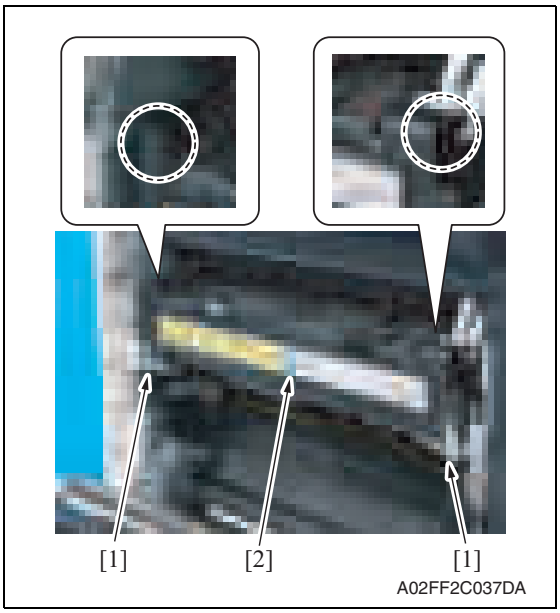
1. Open the front door.
2. Open the right door.



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



4. Disconnect three connectors [1].
5. Remove the harness from the wire saddle [2].



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

NOTE

- **When removing the fusing unit, hold the parts shown on the picture on the left so that it would not fall.**

6.3.24 PH unit

⚠ CAUTION	
⚠	• **Do not replace the printer head unit while the power is ON. Laser beam generated during the above mentioned activity may cause blindness.**
⊘	• **Do not disassemble or adjust the printer head unit. Laser beam generated during the above mentioned activity may cause blindness.**

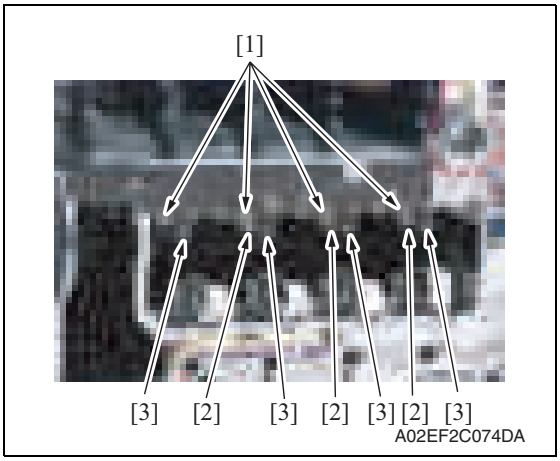
NOTE

- **When replace the PH unit, replace 4-color PH units at the same time.**

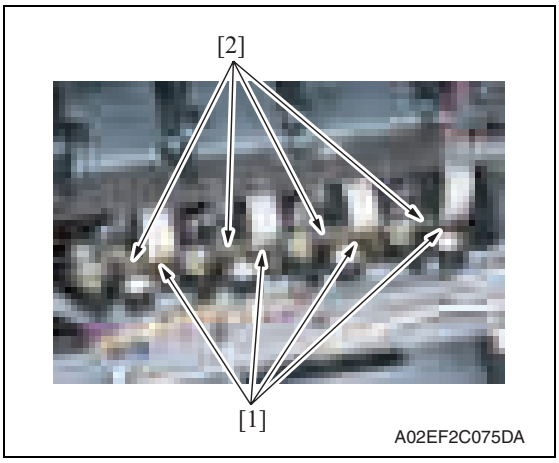
A. Removal procedure

1. Remove the front cover.
See P.50

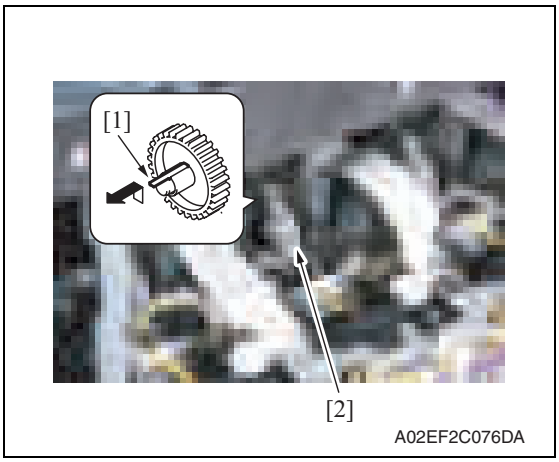
2. Remove the transfer belt unit.
See P.24



3. Remove four screws [1] and disconnect three connectors [2], and remove four imaging unit guide rails [3].



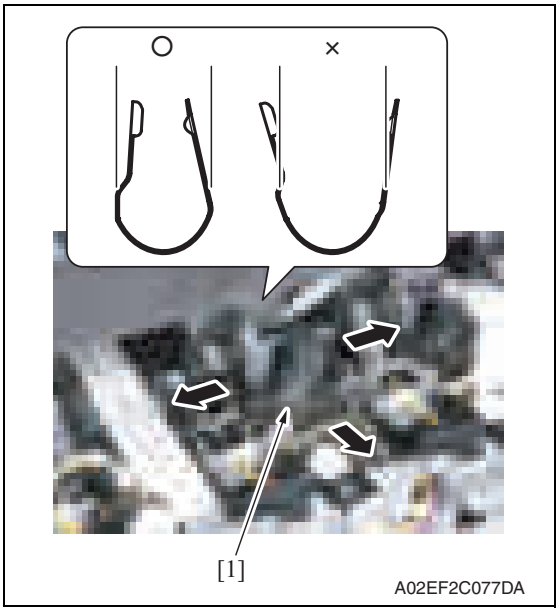
4. Disconnect four flat cables [1] and four connectors [2] of the PH unit.



5. Unhook the tab [1], and remove the gear [2] of the PH unit.

NOTE

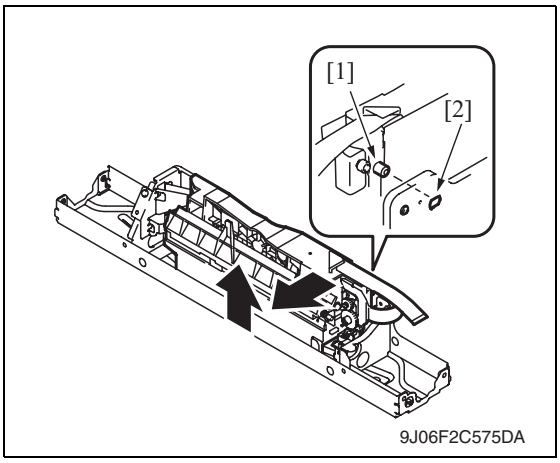
- **This step is not needed when removing PH unit (Black) that does not have a gear.**



6. Remove the stopper [1] of the PH unit.

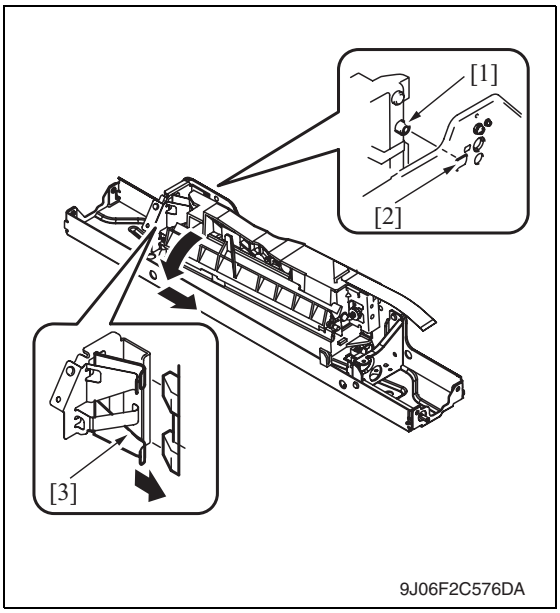
NOTE

- **When removing the stopper, use care so that both ends of the stopper will not open but stay parallel as shown on the left.**
  Keep using the stopper after once stretched out may cause uneven pitch or other image troubles.



7. Remove the PH unit.

Move the front side of the PH unit to left a little, and remove the boss [1] from the locating hole [2].
Lift up the front side of the PH unit a little.



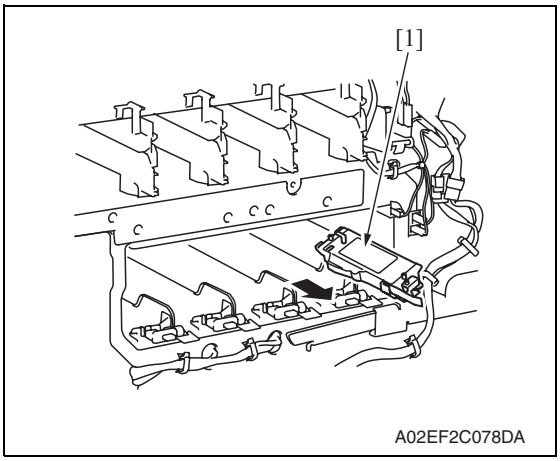
Remove the boss [1] at the rear side of the PH unit from the locating hole [2].

NOTE

- **Since the back of the PH unit is pushed to the right with the two plate springs [3], remove it by tilting the backside of the PH unit to the left as shown in the left illustration.**

⚠ CAUTION

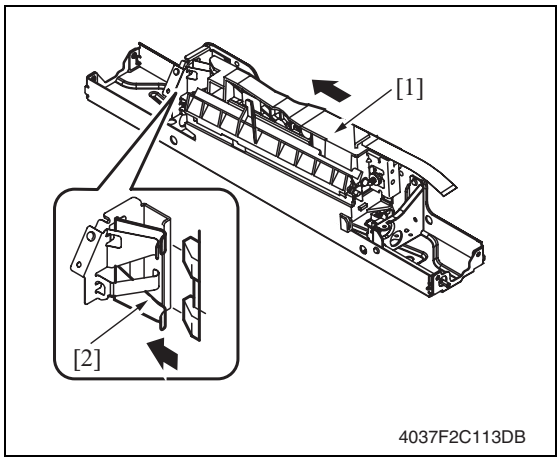
- **Be careful not to injure a hand by the plate springs.**



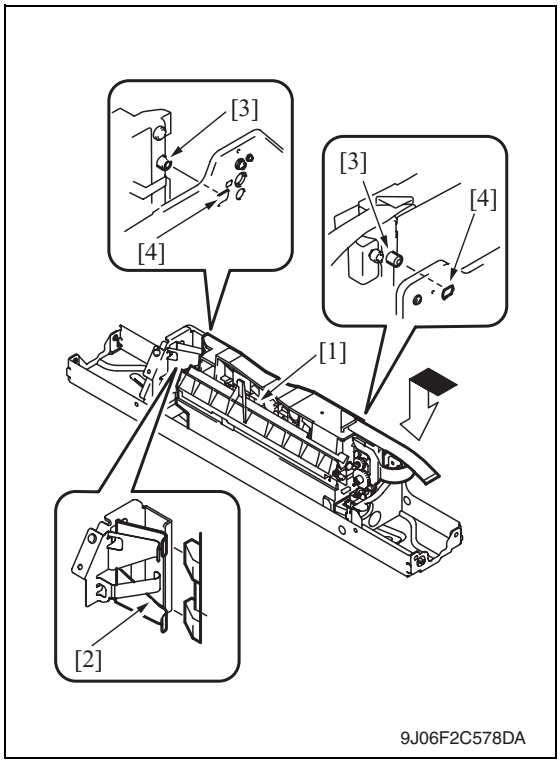
Remove the PH unit [1].

8. Follow the same procedures to remove all PH units.

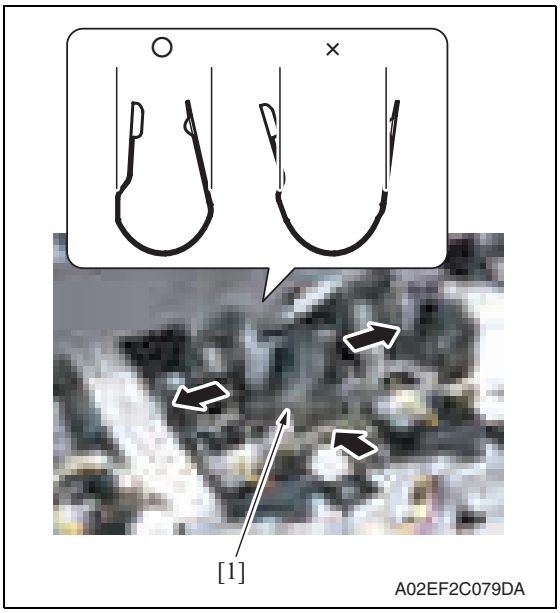
B. Reinstall procedure



1. Fit the back of the PH unit [1] into the plate spring [2] of installation plate.



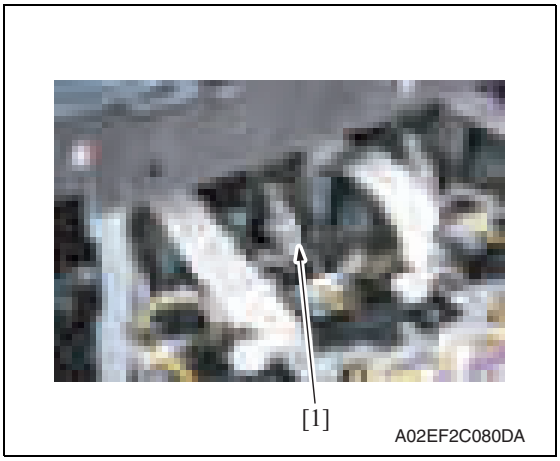
2. Push the PH unit [1] along the right side line of PH unit installation plate all the way and fit it into the plate spring [2].
3. Make sure that the two bosses [3] at front and rear side of the PH unit fit in the locating hole [4].



4. Reinstall the stopper [1].

NOTE

- **When reinstalling the stopper, use care so that both ends of the stopper will not open but stay parallel as shown on the left.**
  Keep using the stopper after once stretched out may cause uneven pitch or other image troubles.



5. Reinstall the gear [1].

NOTE

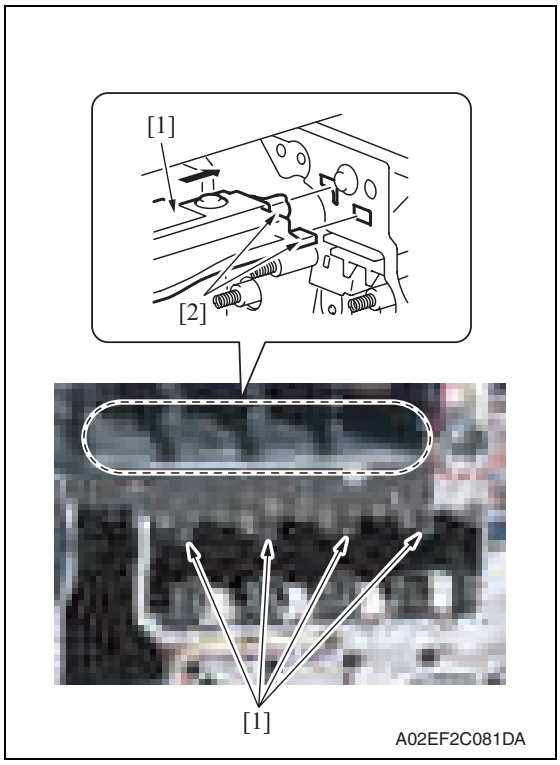
- **Make sure that the gear claw is fit in.**

6. Connect the connector and the flat cable.

NOTE

- **Make sure the harness is installed along with the harness guide.**

7. Follow the same procedures to install all the PH units.



8. Install the imaging unit guide rails [1].

NOTE

- **Make sure that the two claws [2] at rear end of the rail are fit in the locating hole on the main unit.**

9. Reinstall the Image transfer belt unit.

10. Reinstall the front cover.

11. Make skew adjustment of the PH unit.
See P.328

NOTE

- When replacing the PH unit, make sure to conduct PH unit skew adjustment.

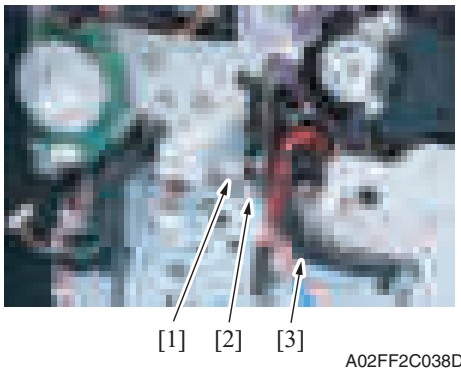
6.3.25 Main drive unit

1. Remove the transfer belt unit.
See P.24

2. Remove the high voltage unit.
See P.87

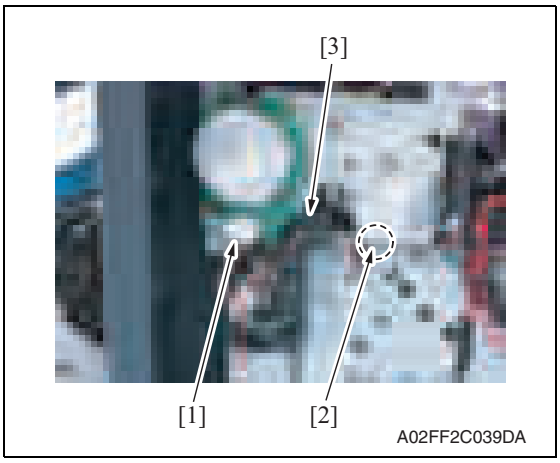
3. Remove the color PC motor.
See P.94

4. Remove the transport motor.
See P.93

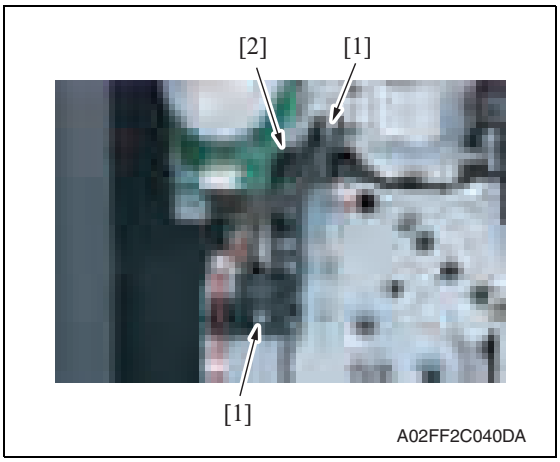


5. Disconnect the connector [1].

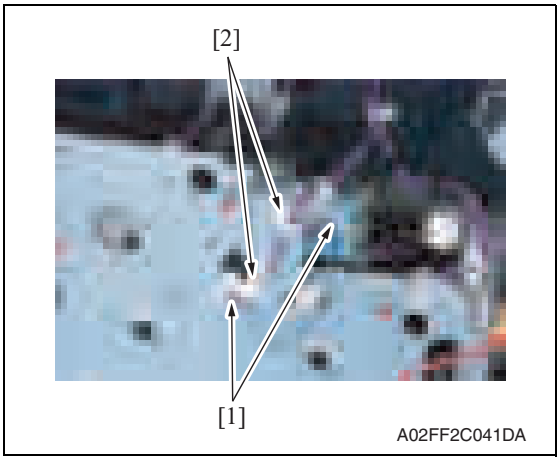
6. Remove the harness from the wire saddle [2] and the harness cover [3].



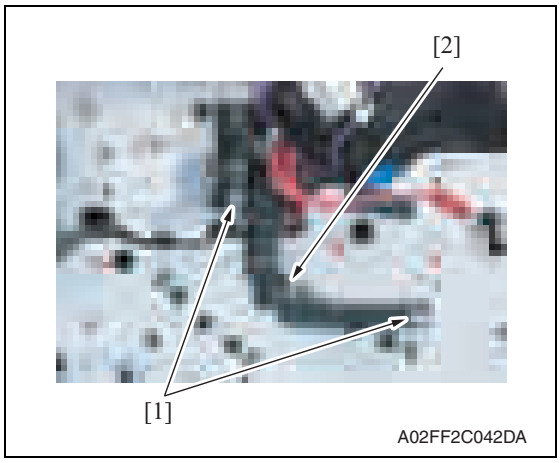
7. Disconnect the connector [1], and remove the harness from the wire saddle [2] and the harness guide [3].



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

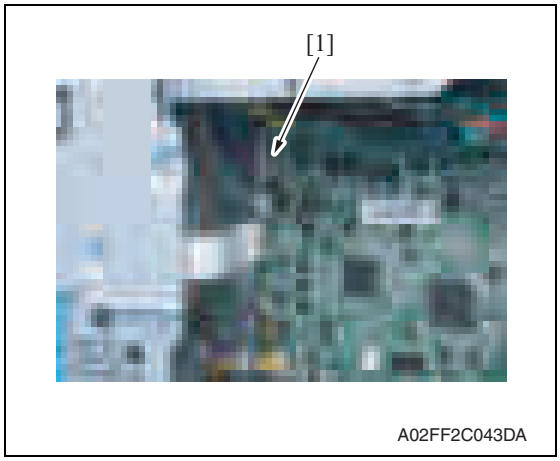


9. Disconnect two connectors [1], and remove the harness from two wire saddles [2].

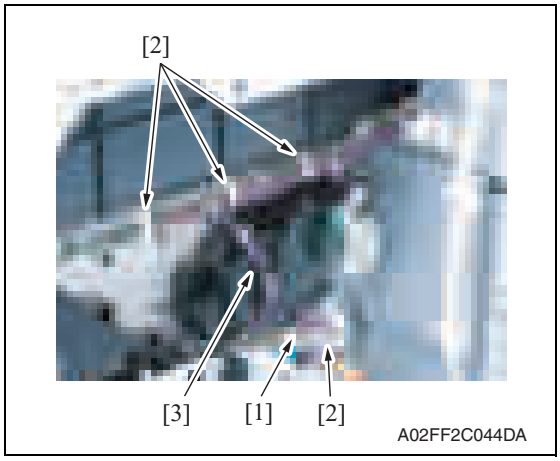


10. Remove two screws [1], and remove the harness guide [2].

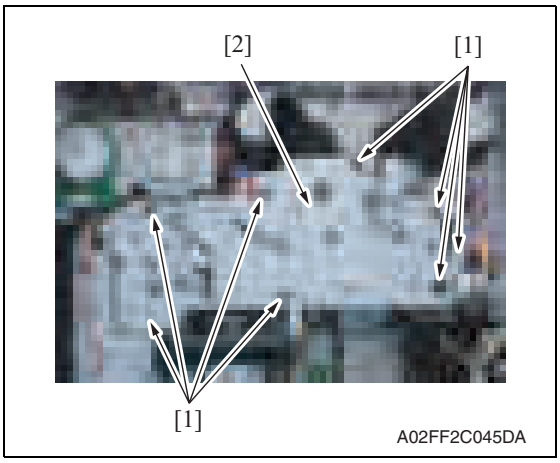
11. Remove the left shield cover.
See P.44



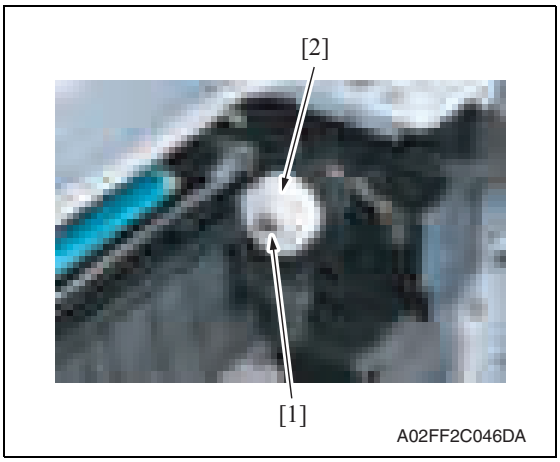
12. Disconnect the connector [1].



13. Disconnect the connector [1], and remove the harness from four wire saddles [2] and the harness guide [3].



14. Remove eight screws [1], and slide out the main drive unit [2].



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

NOTE

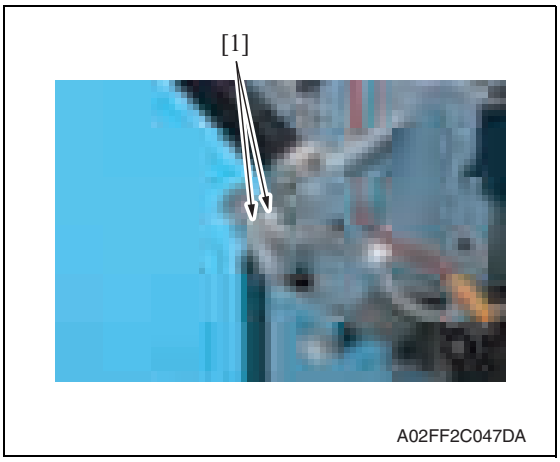
- **There is a pin, which fixes the gear to the shaft, installed inside the gear.**
  Use care not to let the pin drop off during the removal of the gear.

16. Remove the main drive unit.

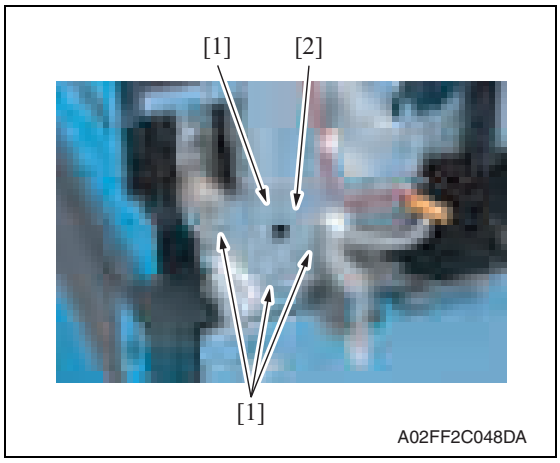
6.3.26 Transport drive unit

1. Remove the main drive unit.
See P.62

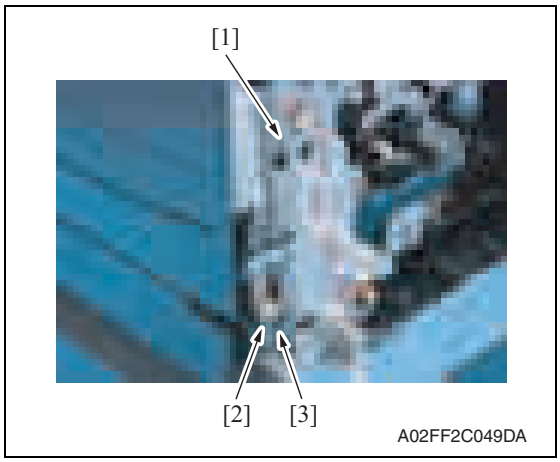
2. Remove the rear right cover.
See P.47



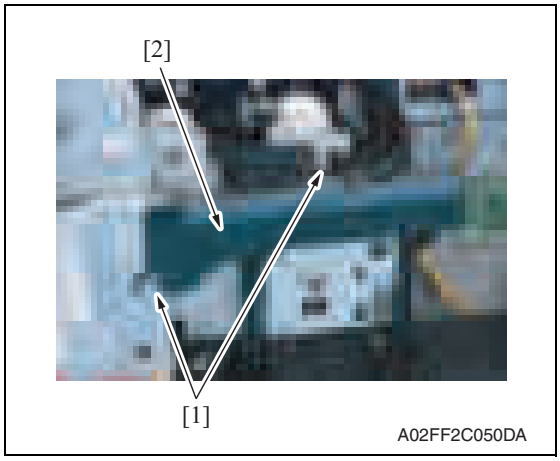
3. Disconnect two connectors [1].



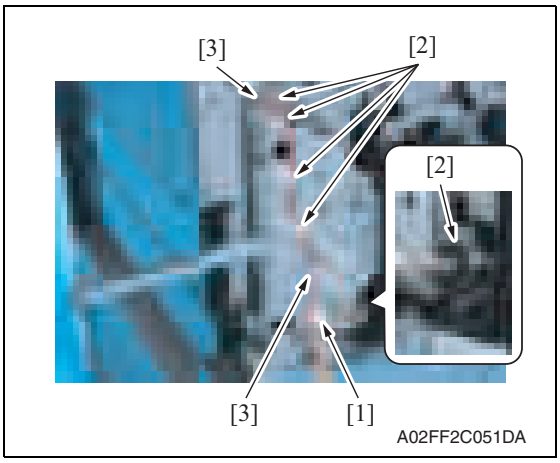
4. Close the right door.
5. Remove four screws [1], and remove the reinforcement plate [2] of the right door.



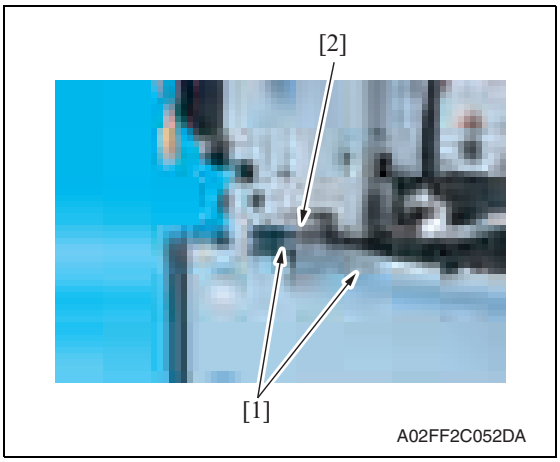
6. Remove the shoulder screw [1], the spring [2] and the collar [3].



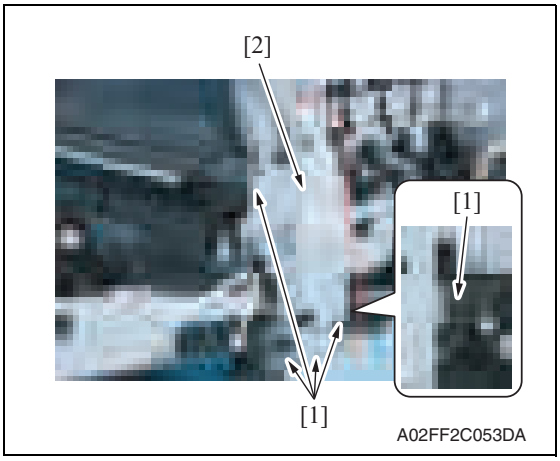
7. Remove two screws [1], and remove the rear handle cover [2].



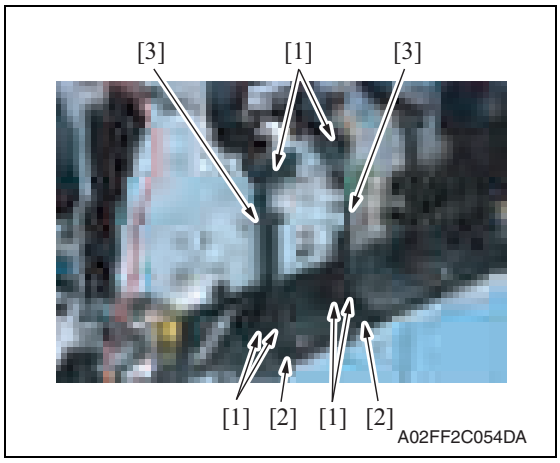
8. Remove the wire saddle [1].
9. Remove the harness from five wire saddles [2] and two edge covers [3].



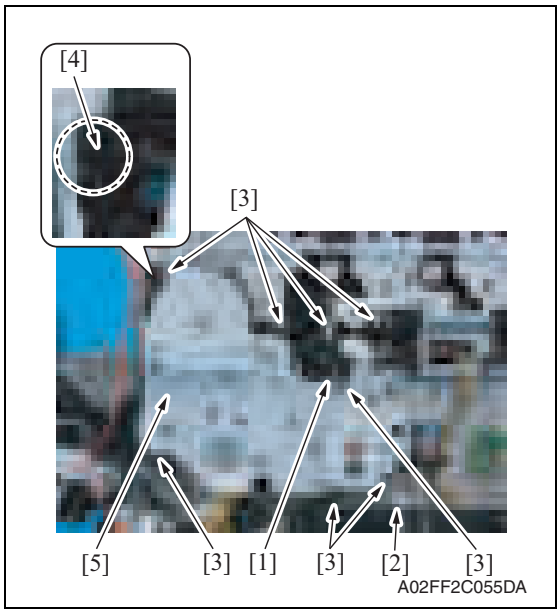
10. Remove two screws [1], and remove the cover [2].



11. Remove five screws [1], and remove the rear handle assy [2].



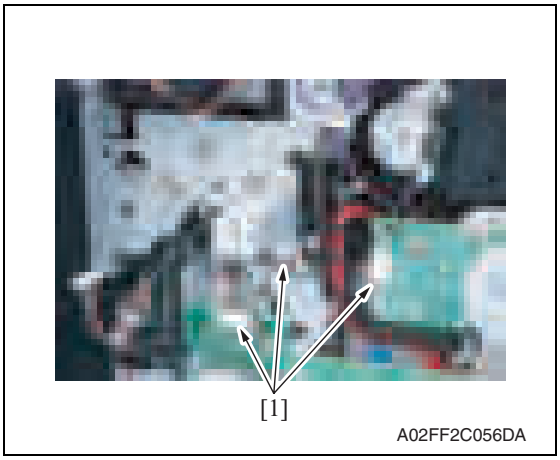
12. Remove each two tabs [1] and two hooks [2].
13. Remove two wire guides [3].



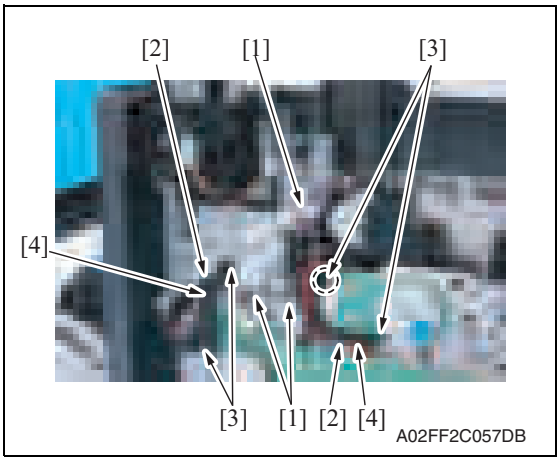
14. Remove the wire guide [1] and eight screws [3], and disconnect the connector [2].
15. Unhook the tab [4], and remove the transport drive unit [5].

6.3.27 Fusing drive unit

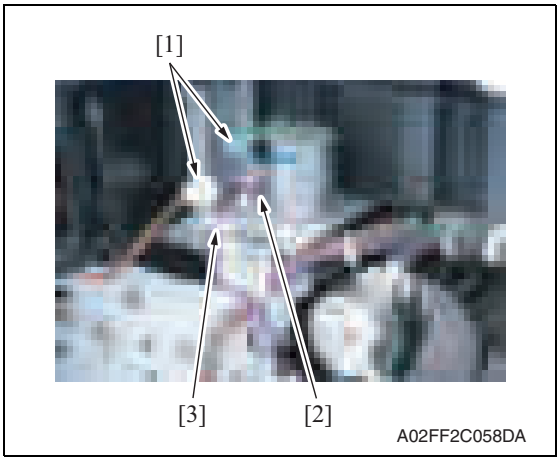
1. Remove the transfer belt unit.
See P.24
2. Remove the fusing unit.
See P.56
3. Remove the fusing motor.
See P.94



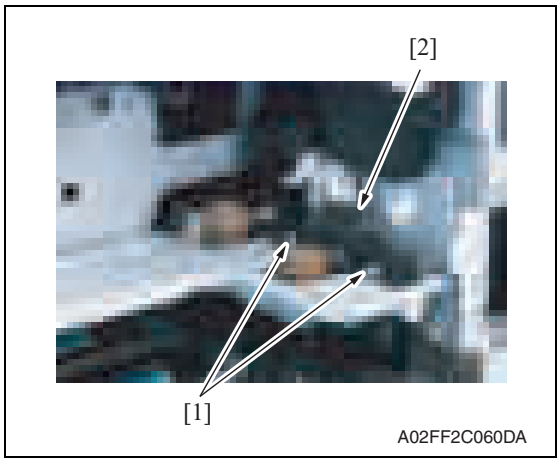
4. Disconnect three connectors [1].



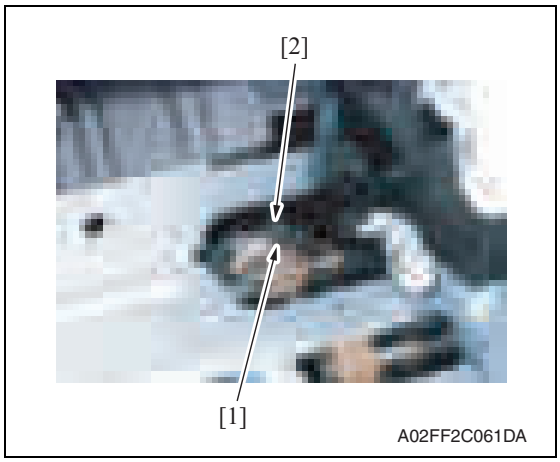
5. Remove the harness from three wire saddles [1] and two harness guides [2].
6. Remove four screws [3], and remove two harness guides [4].



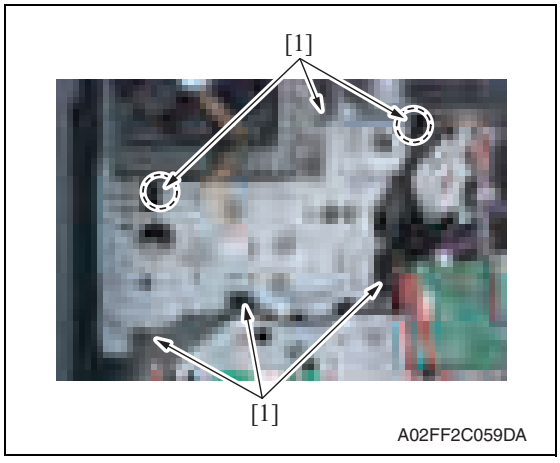
7. Disconnect two connectors [1], and remove the harness from the wire saddle [2].
8. Remove the harness from the edge cover [3].



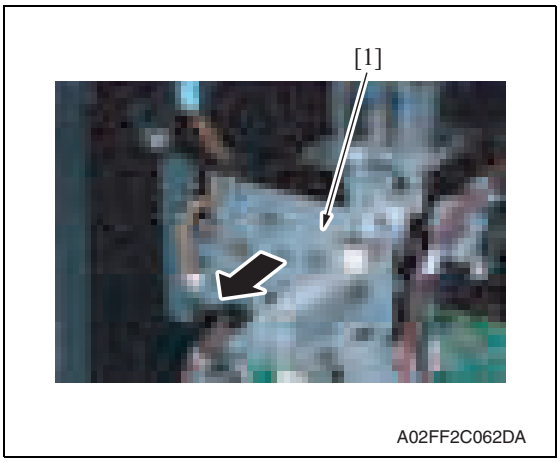
9. Remove two screws [1], and remove the fusing rear guide [2].



10. Remove the spring [1] from the protrusion [2].



11. Remove six screws [1] of the fusing drive unit.

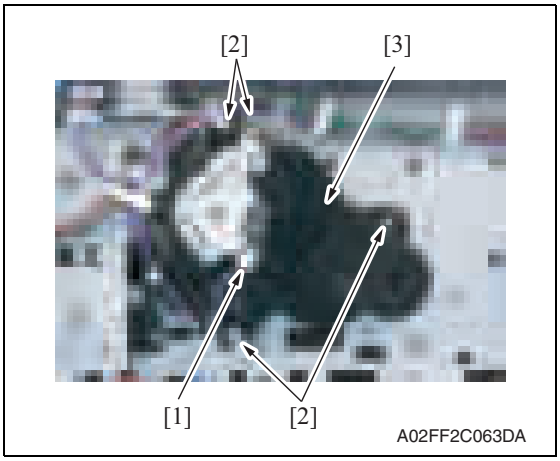


12. Pull the fusing drive unit [1] to the front and remove it.

6.3.28 Hopper drive unit (C/K, Y/M)

A. Hopper drive unit (C/K)

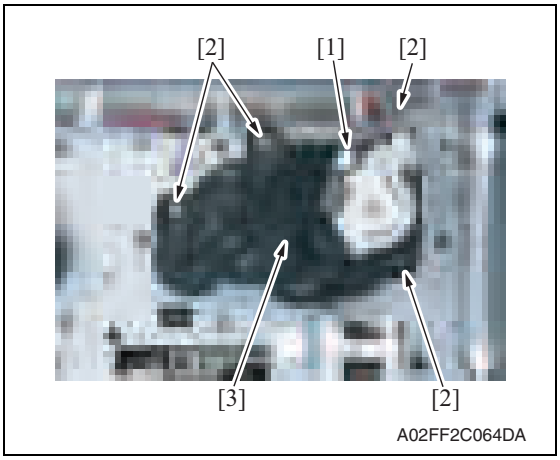
1. Remove the main drive unit.
See P.62



2. Disconnect the connector [1].
3. Remove four screws [2], and remove the hopper drive unit (C/K) [3].

B. Hopper drive unit (Y/M)

1. Remove the main drive unit.
See P.62



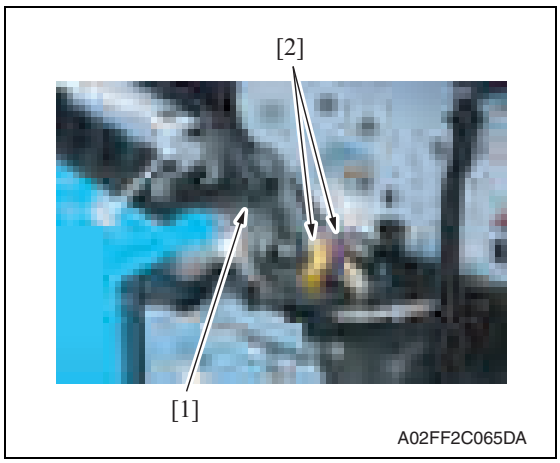
2. Disconnect the connector [1].
3. Remove four screws [2], and remove the hopper drive unit (Y/M) [3].

6.3.29 Right door assy

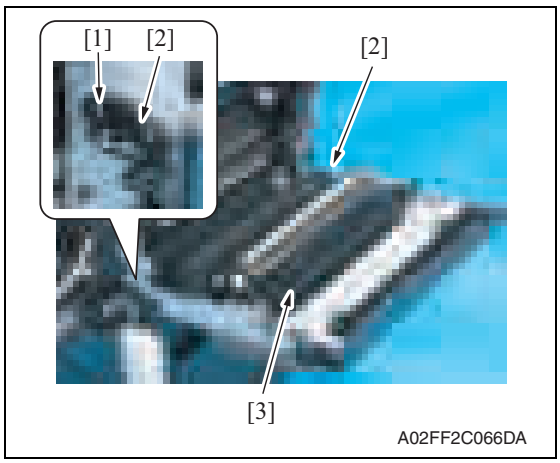
1. Remove the rear handle assy.

- See removal procedures 1 through 11 for the transport drive unit. (Do not, however, remove the main drive unit.)
See P.65

2. Slide out the tray 1.
3. Remove the right front cover.
See P.43



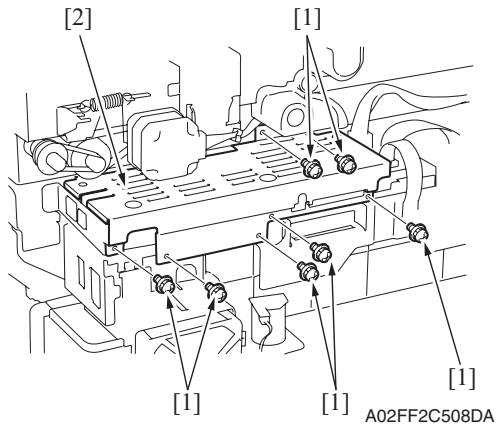
4. Remove the wire saddle [1] and two connectors [2].



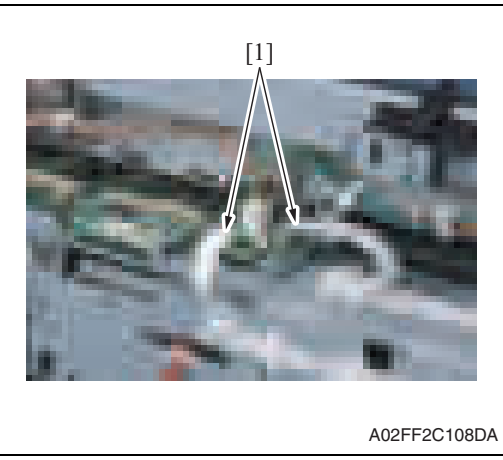
5. Remove the screw [1], and remove two shafts [2].
6. Remove the right door assy [3].

6.3.30 Scanner chassis

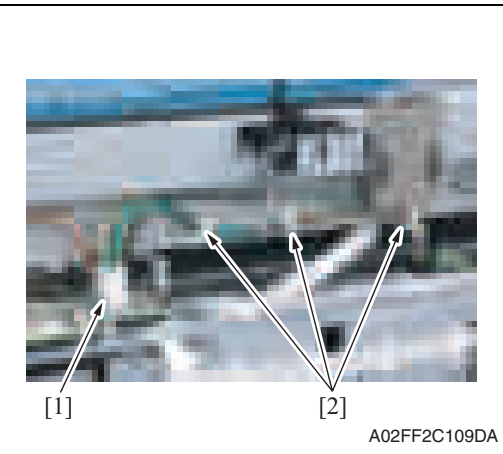
1. Remove the IR rear cover.
See P.46
2. Remove the IR left cover.
See P.52
3. Remove the IR right cover.
See P.53



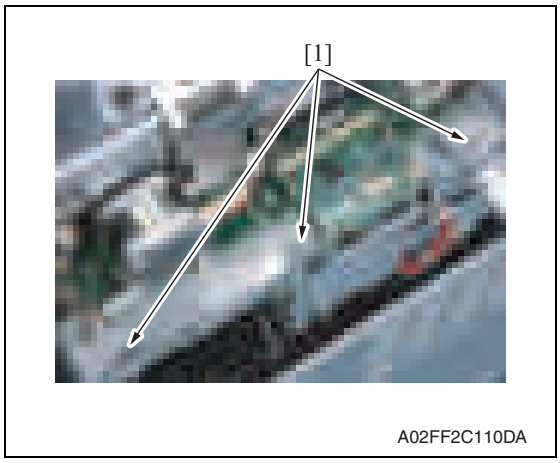
4. Remove seven screws [1], and remove the MFBU shield cover [2].



5. Disconnect two flat cables [1].

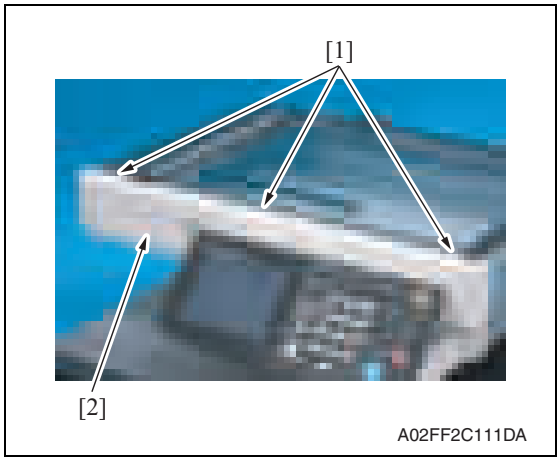


6. Disconnect the connector [1], and remove the harnesses from three wire saddles [2].

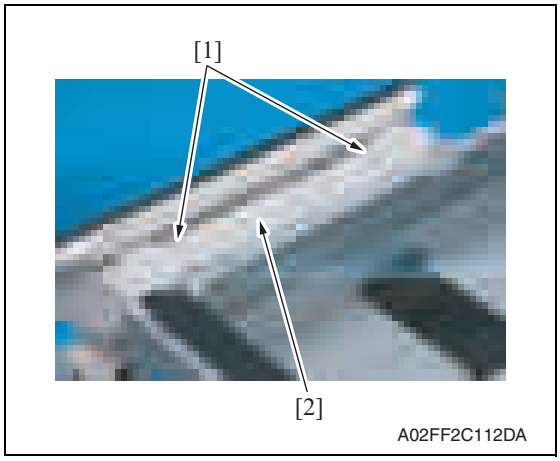


7. Remove three screws [1].

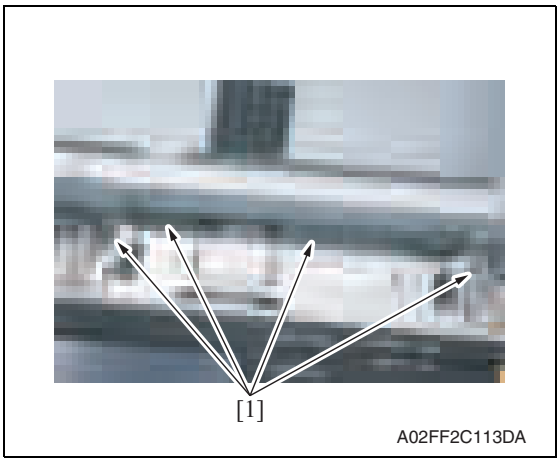
8. Remove the IR upper front cover.
See P.52



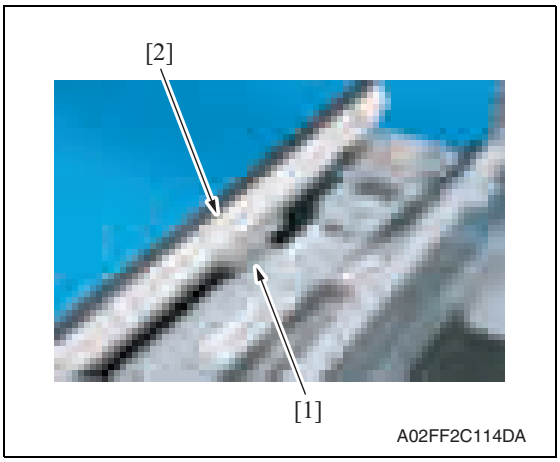
9. Remove three screws [1], and remove the IR front cover [2].



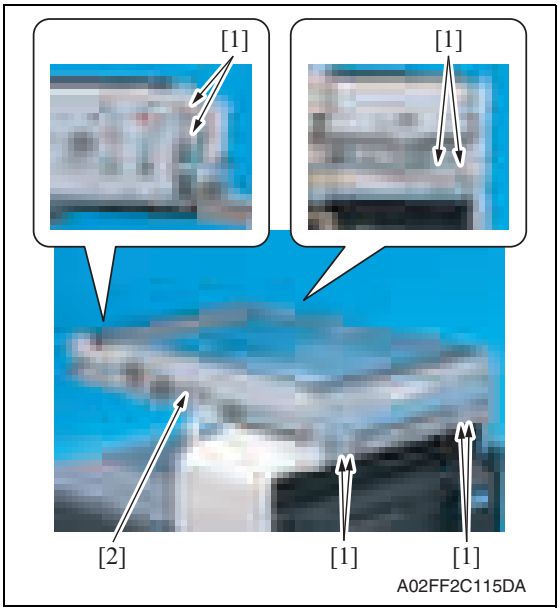
10. Remove two screws [1], and remove the control panel upper cover [2].



11. Remove four screws [1].



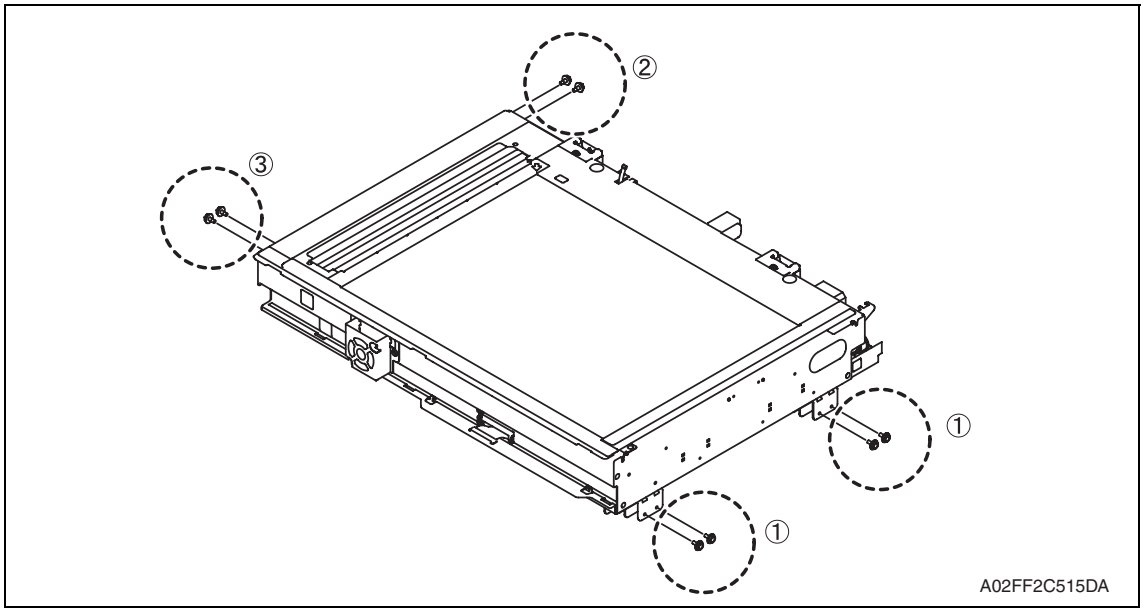
12. Disconnect the connector [1], and remove the control panel assy [2].



13. Remove eight screws [1], and remove the scanner chassis [2].

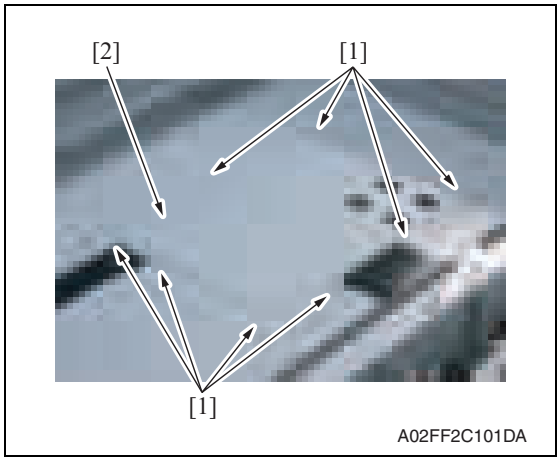
NOTE

- **When reinstalling the scanner chassis on the engine frame, tighten screws in the order shown below.**
  1. **Right side (4 screws)**
  2. **Rear side (2 screws)**
  3. **Left side (2 screws)**

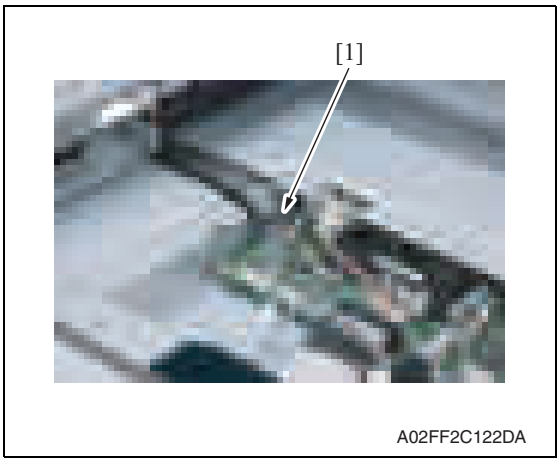


6.3.31 Exposure unit

1. Remove the original glass assy.
See P.53.
2. Remove the ADF glass assy.
See P.54

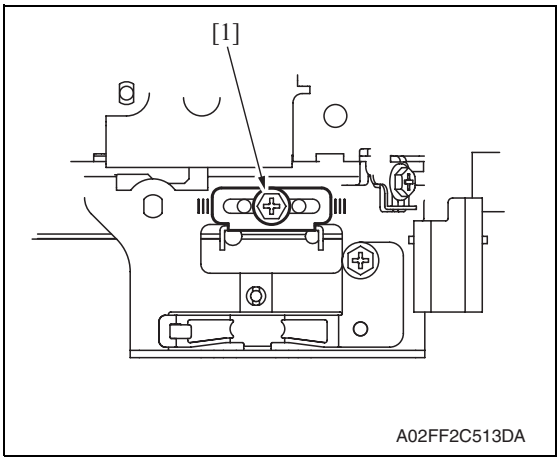


3. Remove eight screws [1], and remove the BCRU shield cover [2].

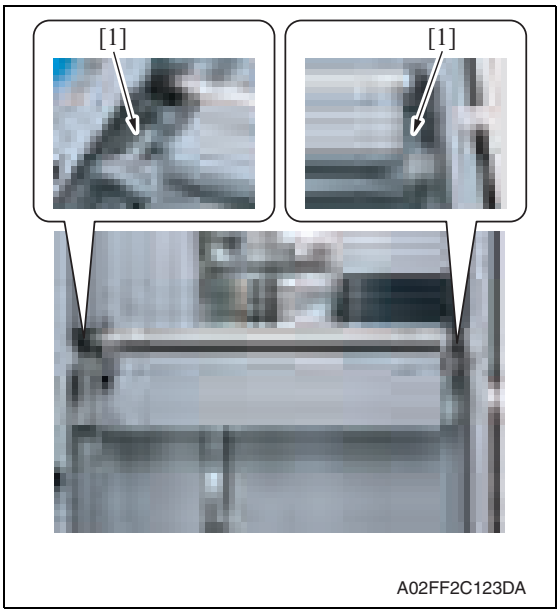


4. Disconnect the flat cable [1].

5. Move the exposure unit near the center of the scanner chassis.

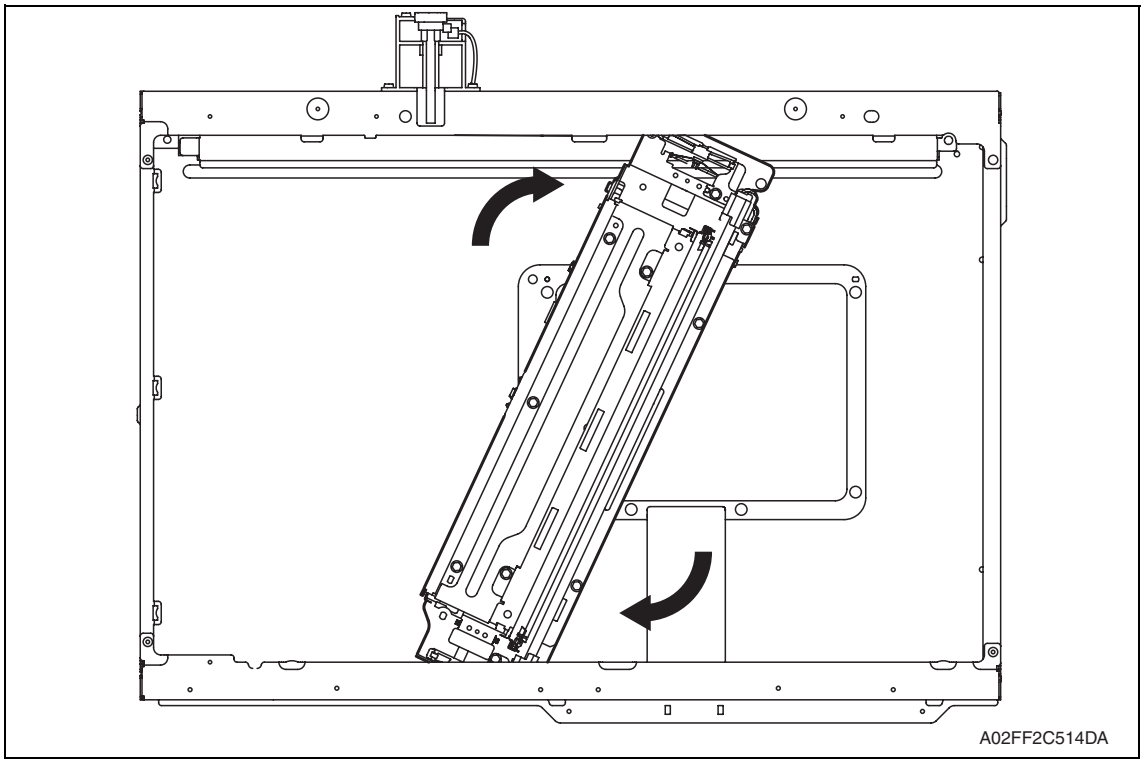


6. Confirm the fixing position [1] of the wire bracket at the front of the exposure unit.



7. Remove the screws [1] at the exposure unit rear/front, and lower the wire bracket to the bottom side of the exposure unit.

8. Move the exposure unit rightward, and remove the wire bracket from the exposure unit.
9. Rotate the exposure unit center clockwise toward the center, and remove from the scanner chassis.



NOTE
- **Take care not to damage or bend the flat cable while working.**

10. To reinstall, reverse the order of removal.

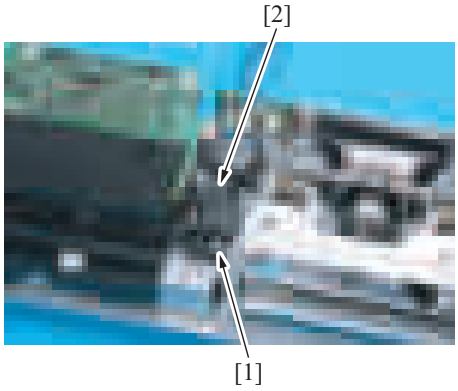
NOTE
- **When fixing the wire bracket at the unit front, align with the memory position when removing.**

11. After mounting, while taking copy images, adjust the wire bracket fixing position at the exposure unit front so as to prevent tilting.
12. After tilt adjustment, attach the screw lock to the wire bracket (front), and fix it.
13. If the leading edge or zoom ratio deviates, perform the following settings.
[Service Mode] → [Machine Adjustment] → [Scan Area] → [BK-S Adjustment]

6.3.32 Flat cable of the exposure unit

A. Removal procedure

1. Remove the exposure unit.
See P.76



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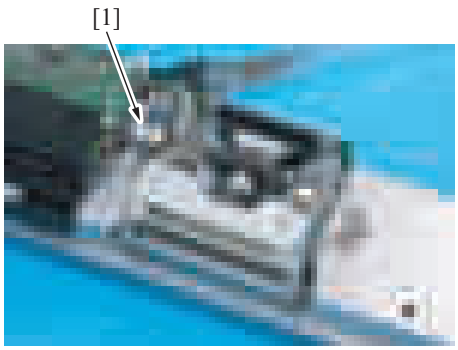
2. Remove the screw [1], and remove the cable guide [2].



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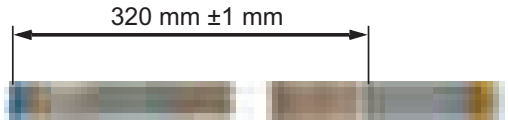
3. Disconnect the flat cable [1].

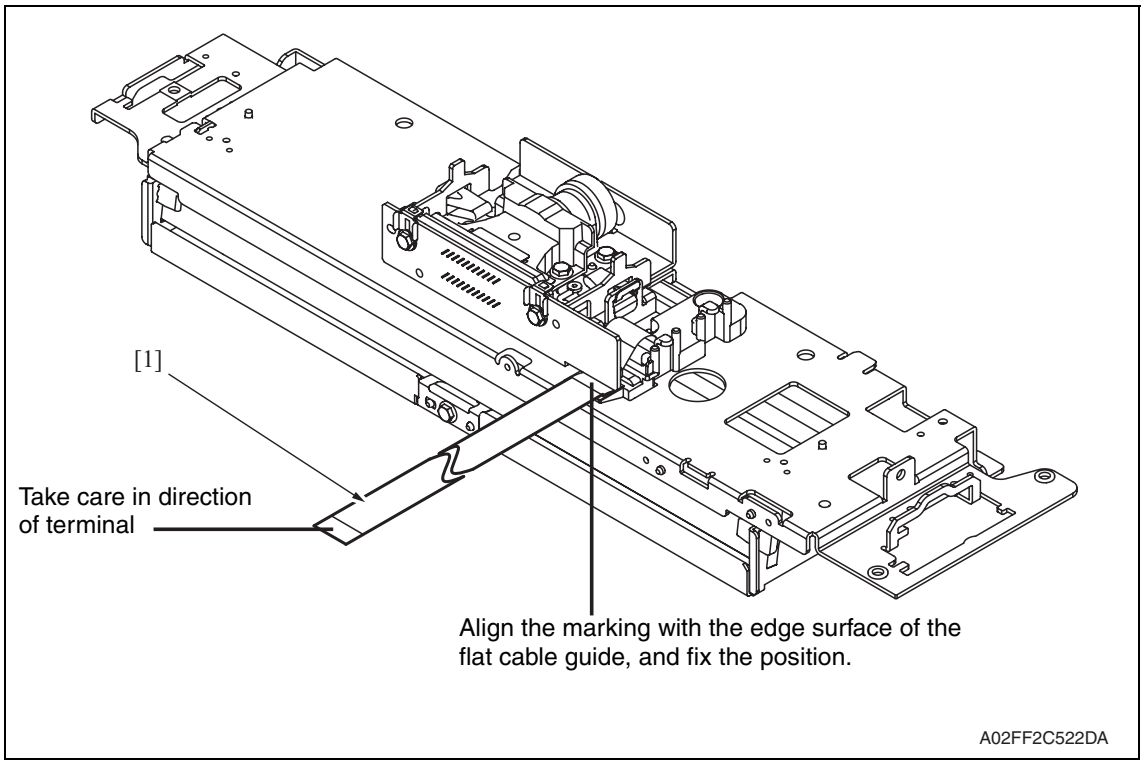
B. Reinstall procedure



A02FF2C523DA

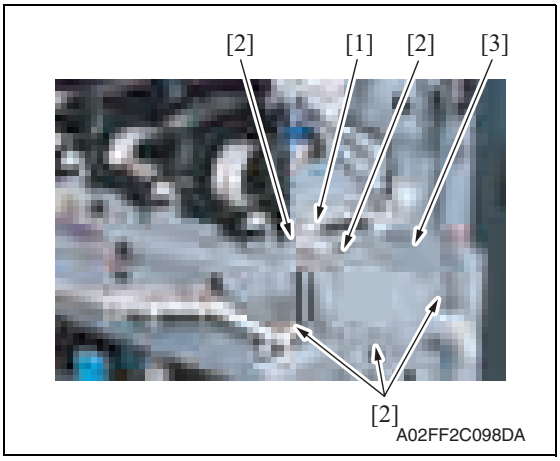
1. Mark the flat cable at the position as shown in the left illustration.

2. Connect the flat cable [1] to the exposure unit.
(Refer to the following illustration for the cable routing.)

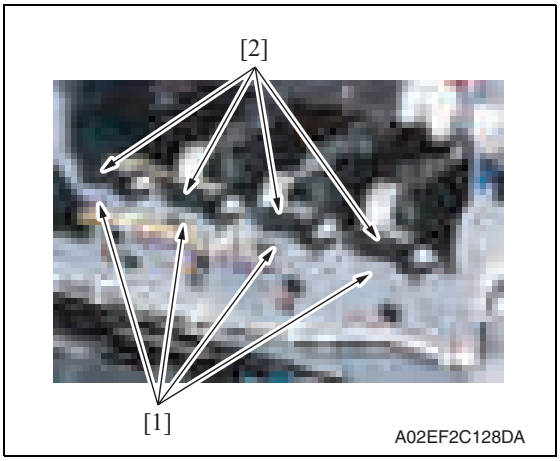


6.3.33 PH relay board (REYBPH)

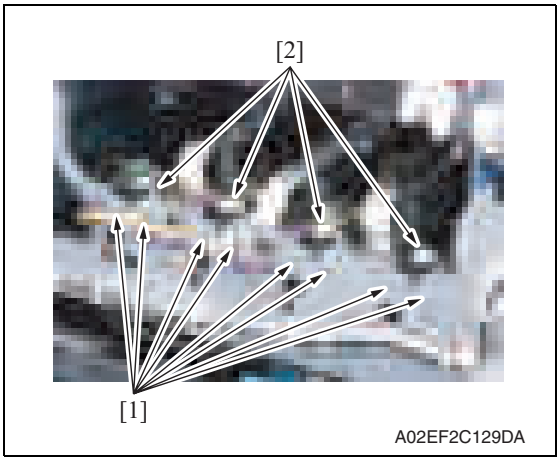
1. Remove the front cover.
See P.50
2. Remove the transfer belt unit.
See P.24



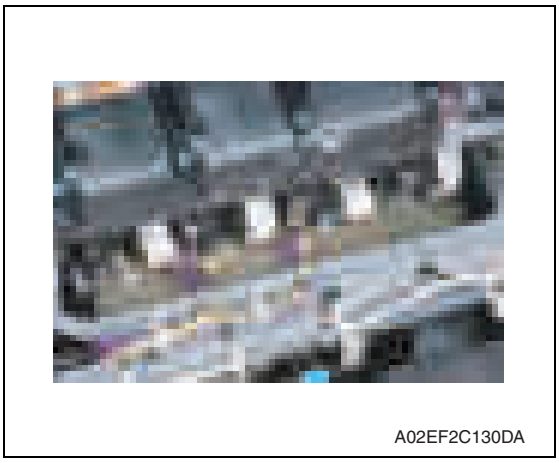
3. Remove the harness from the wire saddle [1].
4. Remove five screws [2], and remove the front handle assy [3].



5. Remove the screw [1] each, and remove the imaging unit contact assy [2] of each color.

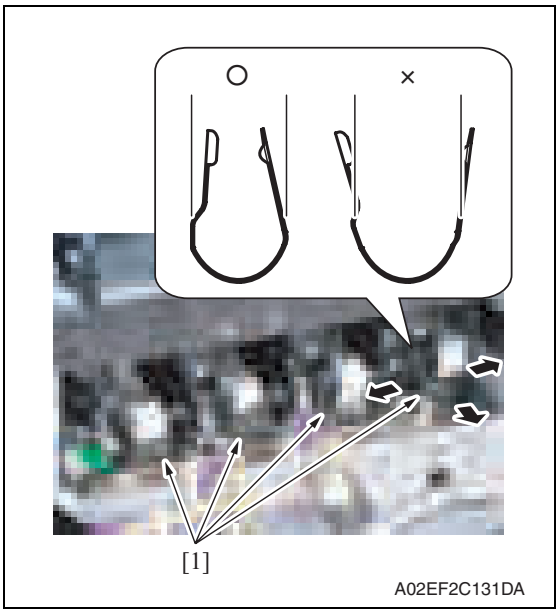


6. Remove two screws [1] each, and remove the imaging unit roll assy [2] of each color.



A02EF2C130DA

7. Remove all the connectors and the flat cables on the PH relay board.

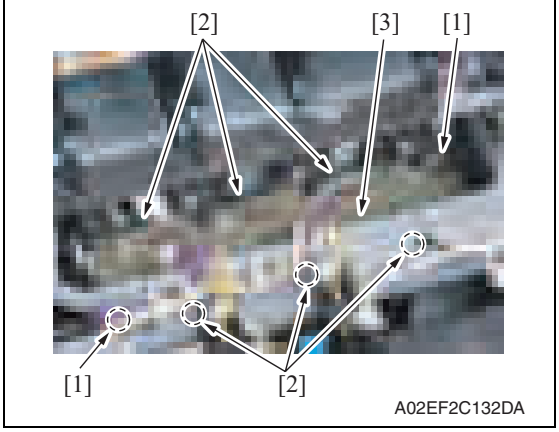


A02EF2C131DA

8. Remove the stopper [1] of the PH unit.

NOTE

- **When removing the stopper, use care so that both ends of the stopper will not open but stay parallel as shown on the left.**
  Keep using the stopper after once stretched out may cause uneven pitch or other image troubles.



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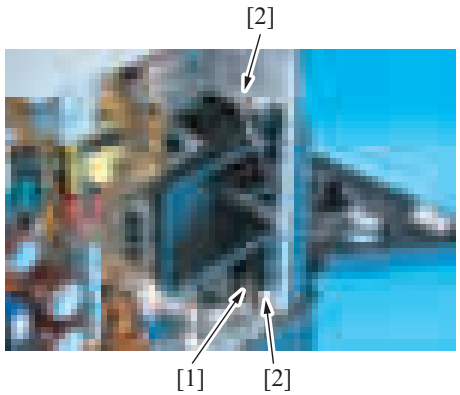
9. Remove two screws [1] and six tabs [2], and remove the PH relay board [3].

6.3.34 DC power supply (DCPU)

CAUTION

- **Remove the DC power supply after six minutes or more have passed since the power plug was disconnected.**

1. Remove the left shield cover.
See P.44



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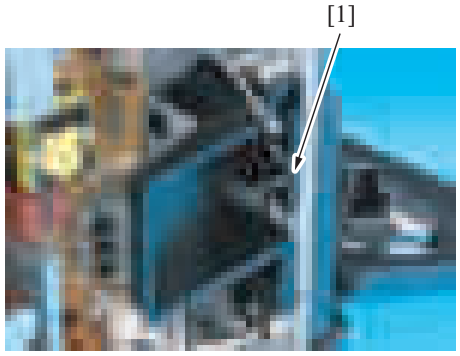
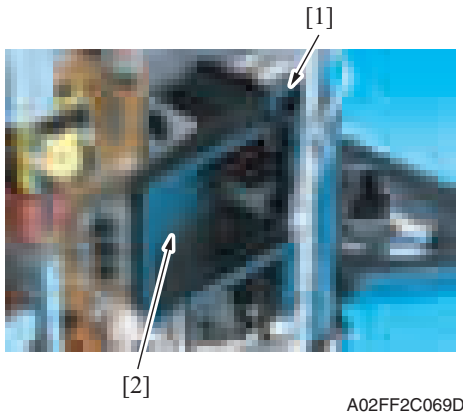
2. Disconnect the connector [1], and remove the harness from two wire saddles [2].



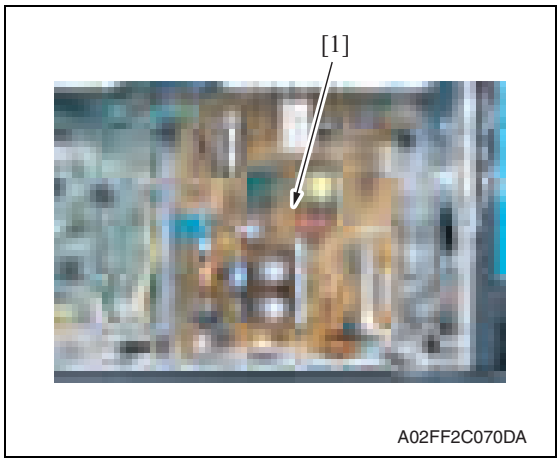
A02FF2C068DA

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

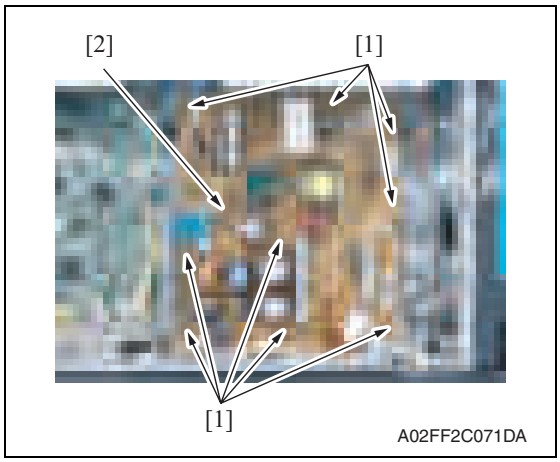


A02FF2C069DA

4. Remove the screw [1], and remove the duct [2] while moving it toward front.



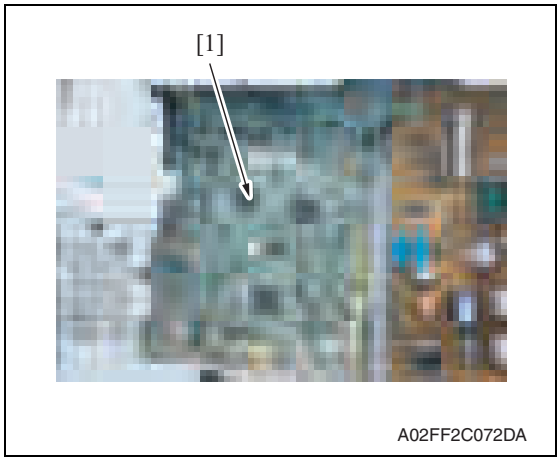
5. Remove all the connectors on the DC power supply [1].



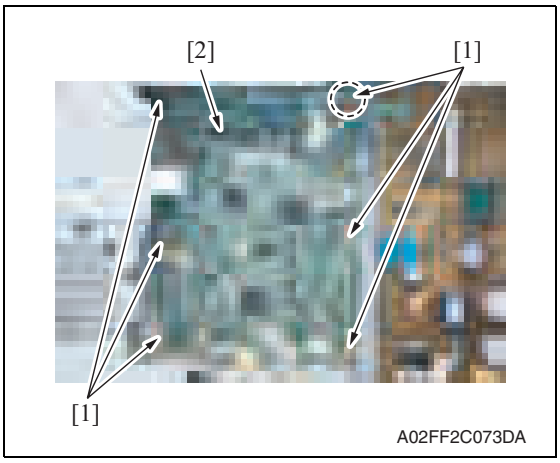
6. Remove nine screws [1], and remove the DC power supply [2].

6.3.35 Printer control board (PRCB)

1. Remove the left shield cover.
See P.44



2. Remove all the connectors on the printer control board [1].



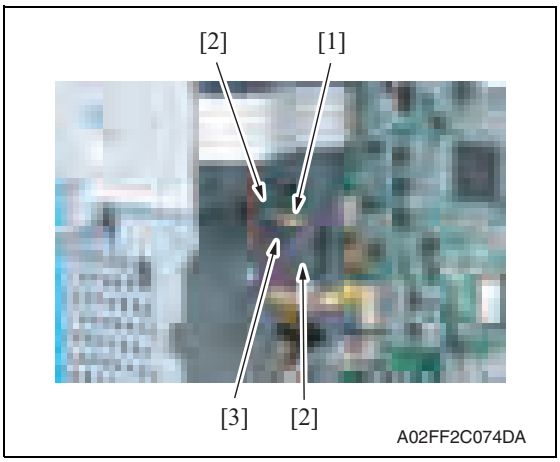
3. Remove six screws [1], and remove the printer control board [2].

NOTE

- **When the printer control board is to be replaced, rewriting the firmware to the latest one.**

6.3.36 Service EEPROM board (SVERB)

1. Remove the left shield cover.
See P.44



2. Remove two screws [2] and the connector [1], and take out the service EEPROM board [3].

NOTE

After replacing the service EEPROM board, all parts shown below are required to be replaced with new ones.

- **Imaging unit Y/M/C/K**
- **Toner cartridge Y/M/C/K**
- **Image transfer belt unit**
- **Fusing unit**

NOTE

- **When Service EEPROM is replaced, data of all adjustment settings stored in EEPROM disappear and the adjustment settings are returned to the default ones. After replacing the service EEPROM board, take the following steps to make readjustments.**

3. Open the front door and turn OFF and ON the main power switch and sub power switch.

4. Enter the Service mode. Make individual adjustments shown in the following table in the order listed, using the service call report that was output at the time of main body installation and maintenance.

NOTE

- **At this time, a front door must be an open state.**

Order	Items that require readjustment in the Service mode			Ref. page
1	Machine	Color Reg. Adjustment	Cyan	P.174
2			Magenta	
3			Yellow	
4	Imaging Process Adjustment	Background Voltage Margin		P.177
5		D Max Density		P.177
6		Dev. Bias Choice		P.180
7	Machine	Exhaust Fan Stop Delay		P.201
8	System	IU Life Setting		P.300

NOTE

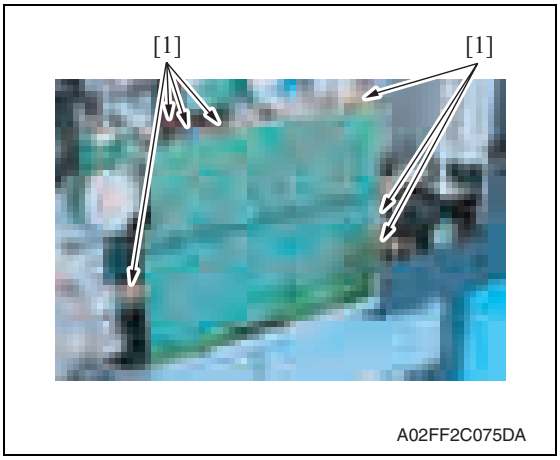
- **After replacing the service EEPROM board, be sure to make the above listed adjustments before the first warm-up is made.**

5. Turn OFF the main power switch and sub power switch.
6. Close the front door and turn ON the main power switch and sub power switch. Check to see that warm-up and image stabilization operations are completed normally.
7. Enter the Service mode again. Make individual adjustments shown in the following table in the order listed, using the service call report that was output at the time of main body installation and maintenance.

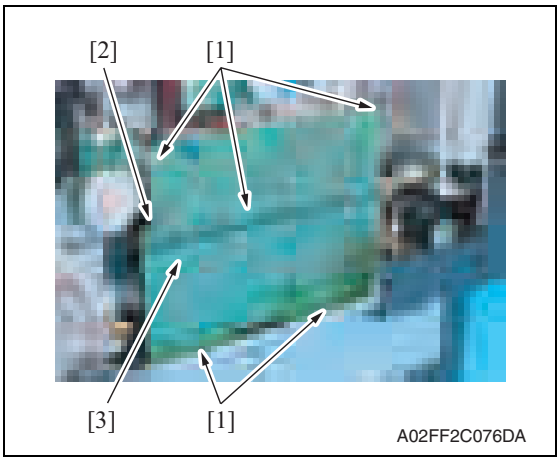
Order	Items that require readjustment in the Service mode			Ref. page
1	Machine	Manual Bypass Tray Adjustment		P.175
2		Printer Resist Loop		P.173
3		Fusing Temperature		P.162
4		Printer Area	Paper Feed Direction Adj.	P.164
5		Fusing Transport Speed		P.163
6		Printer Area	Centering	P.164
7			Centering (Duplex 2nd Side)	
8			Leading Edge Adjustment	
9	Imaging Process Adjustment	Transfer Output Fine Adjustment	Secondary transfer adj.	P.178
10			Primary transfer adj.	

6.3.37 High voltage unit (HV)

1. Remove the rear cover.
See P.47



2. Disconnect seven connectors [1].



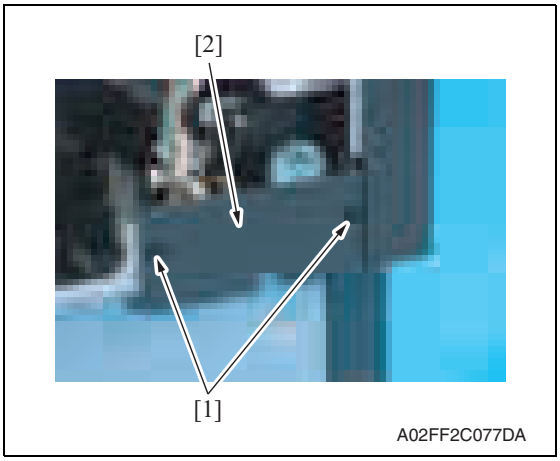
3. Remove five screws [1] and the tab [2], and remove the high voltage unit [3].

NOTE

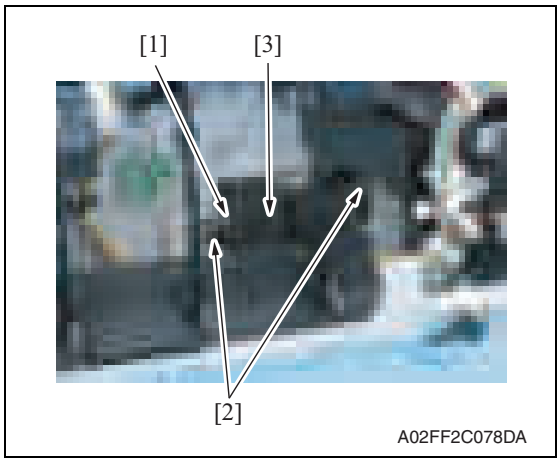
- **When reinstalling the high voltage unit, make sure that the terminal end surely contacts.**

6.3.38 Tray 1 FD paper size detect board (PSDTB/1)

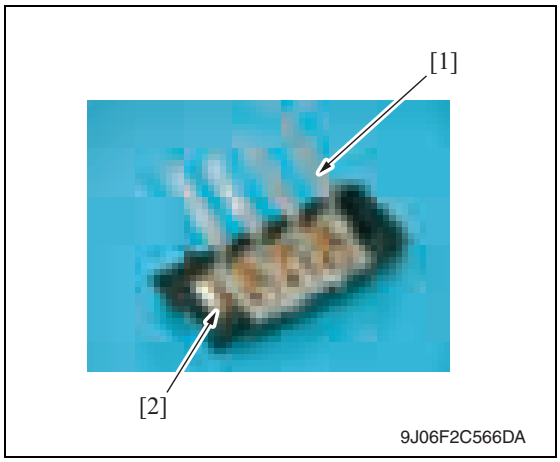
1. Slide out the tray 1.
2. Remove the high voltage unit.
See P.87



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



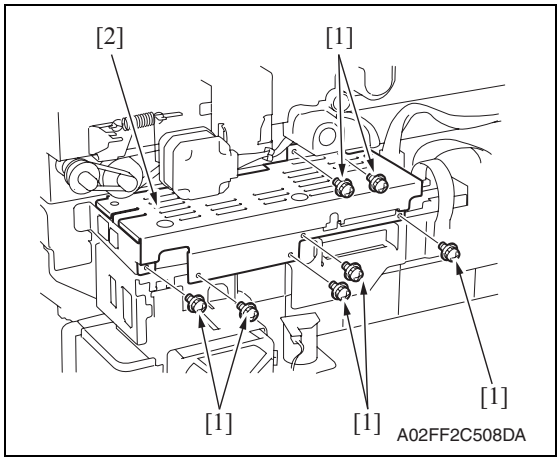
4. Disconnect the connector [1].
5. Remove two screws [2], and remove the tray 1 FD paper size detect board assy [3].



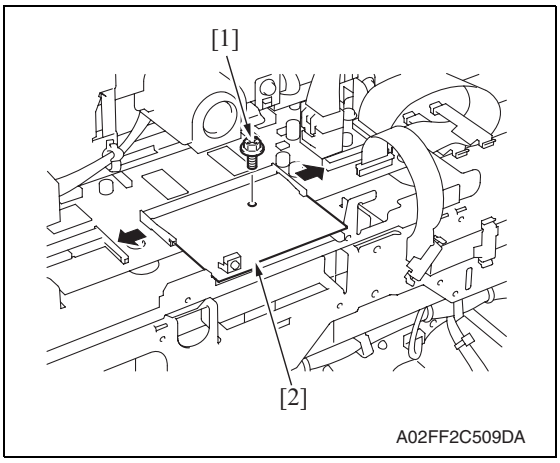
6. Remove the lever [1], and remove the tray 1 FD paper size detect board [2].

6.3.39 ADCU board (ADCUB)

1. Remove the IR rear cover.
See P.46



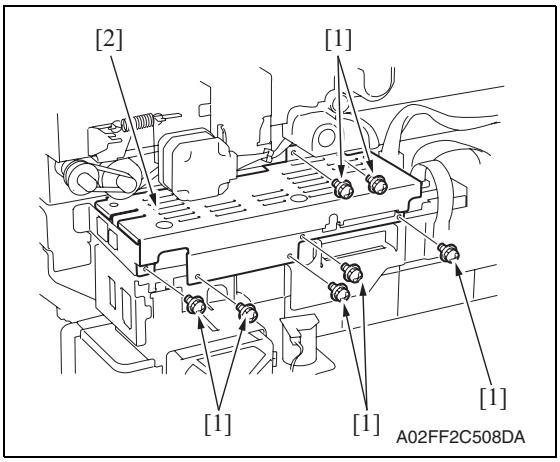
2. Remove seven screws [1], and remove the MFBU shield cover [2].



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

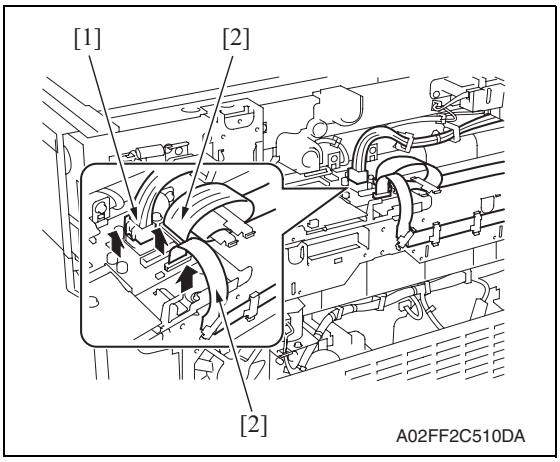
6.3.40 MFBU board (MFBUB)

1. Remove the IR rear cover.
See P.46

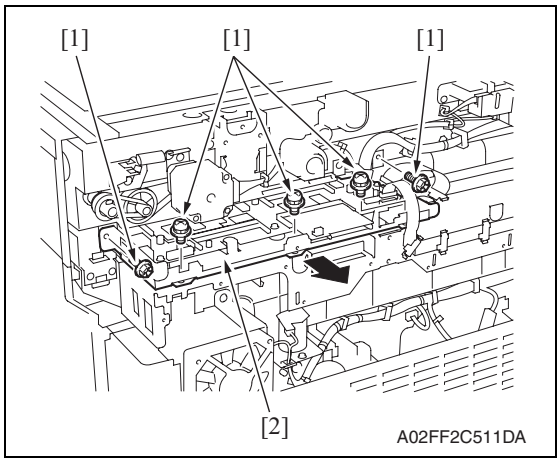


2. Remove seven screws [1], and remove the MFBU shield cover [2].

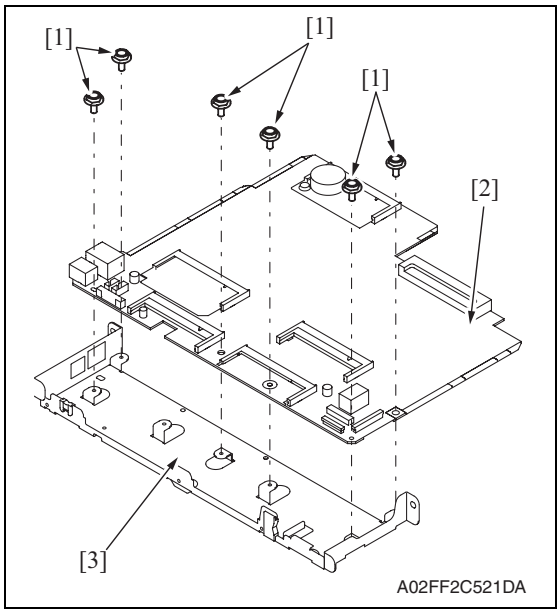
3. Remove the ADCU board.
See P.88



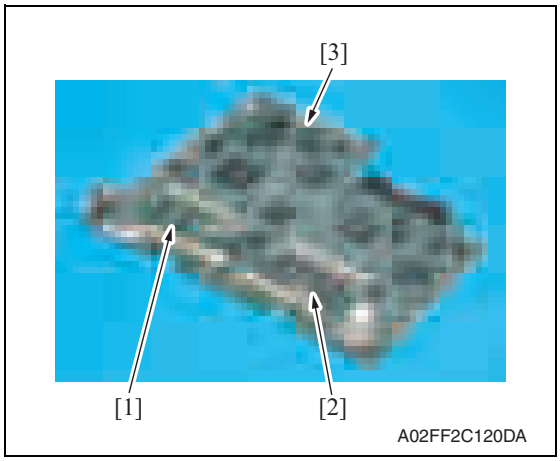
4. Disconnect the connector [1] and two flat cables [2].



5. Remove five screws [1], and remove the MFBU board assy [2].



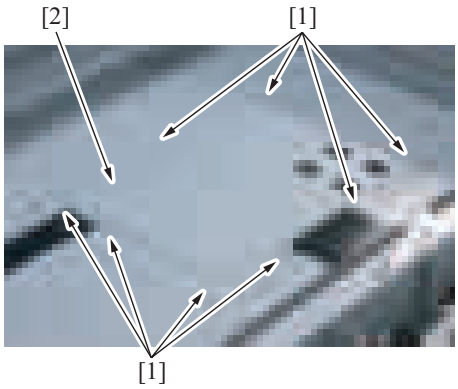
6. Remove six screws [1], and remove the MFBU board [2] from the MFBU bracket [3].



7. Remove the MEMU/1 [1], MEMU/2 [2] and RAMU board [3] on the MFBU board.

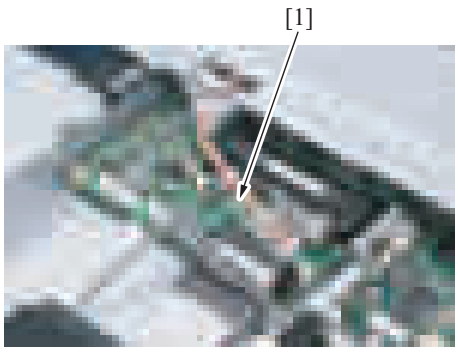
6.3.41 BCRU board (BCRUB)

1. Remove the original glass assy.
See P.53



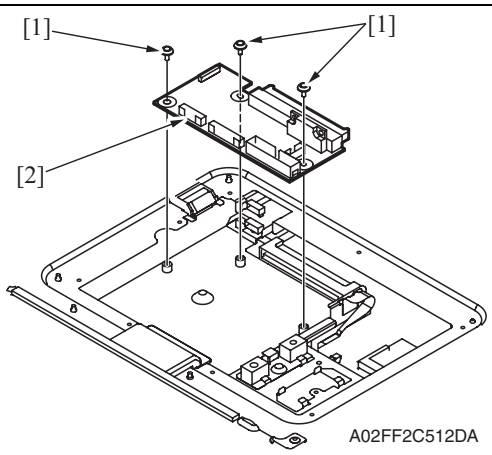
A02FF2C101DA

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



A02FF2C121DA

3. Disconnect all connectors and flat cables on the BCRU board [1].



A02FF2C512DA

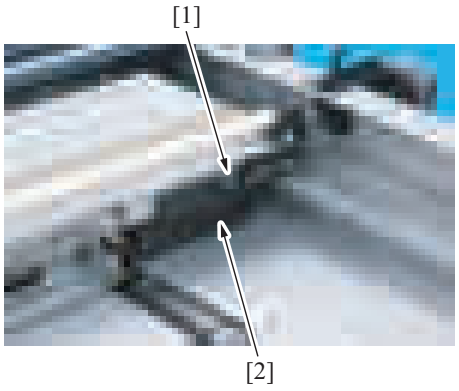
4. Remove three screws [1], and remove the BCRU board [2].

6.3.42 Inverter board (INVB)

⚠ CAUTION

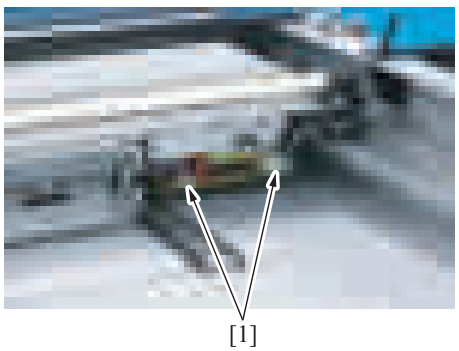
- **Always turn off the main power switch and disconnect the power code from an AC outlet when you remove the inverter board or exposure lamp.**
- **High voltage will be applied to inverter board while scanning a document. Never touch it while scanning to avoid electrical shocks.**
- **The exposure lamp may be very hot. Care should be taken not to burn your skin.**

1. Access [Carriage Move] in the following order and then, using [Carriage Move], move the exposure unit to a location, at which the subsequent steps can be performed: [Service Mode] → [Machine Adjustment] → [Scan Area] → [BK-S Adjustment] → [Carriage Move].
2. Turn OFF the main power switch.
3. Remove the original glass assy.
See P.53



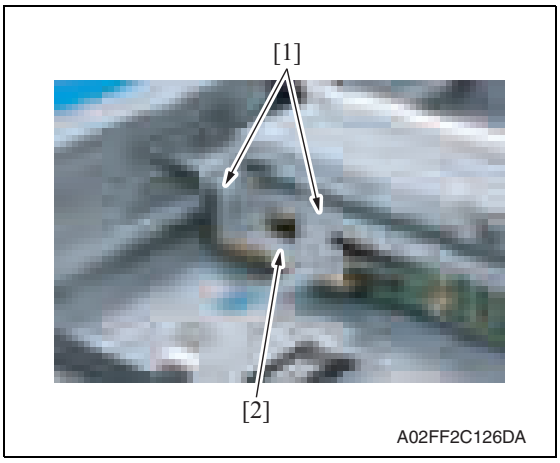
A02FF2C124DA

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

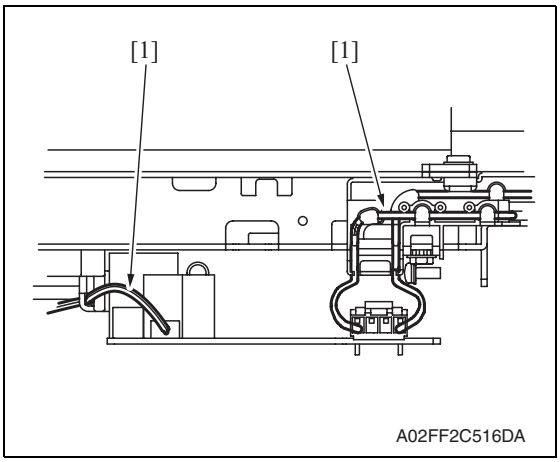


A02FF2C125DA

5. Disconnect two connectors [1].



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



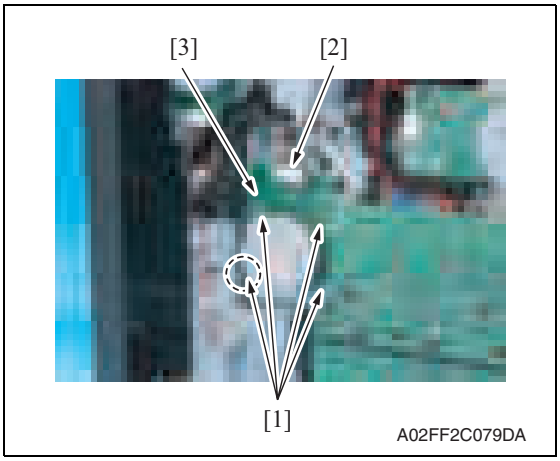
7. To reinstall, reverse the order of removal.

NOTE

- **Take note of the housing method of the two cables [1] of the inverter board.**

6.3.43 Transport motor (M1)

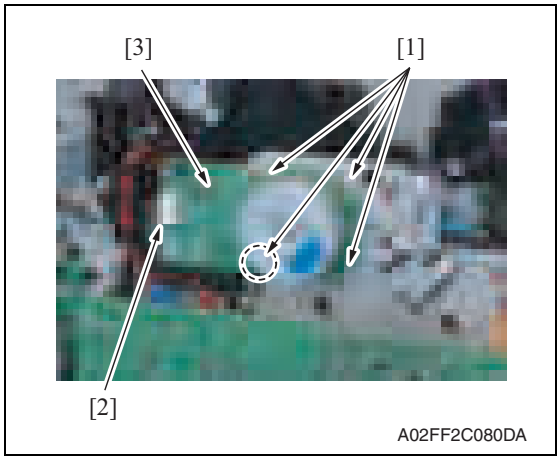
1. Remove the rear cover.
See P.47



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

6.3.44 Color PC motor (M3)

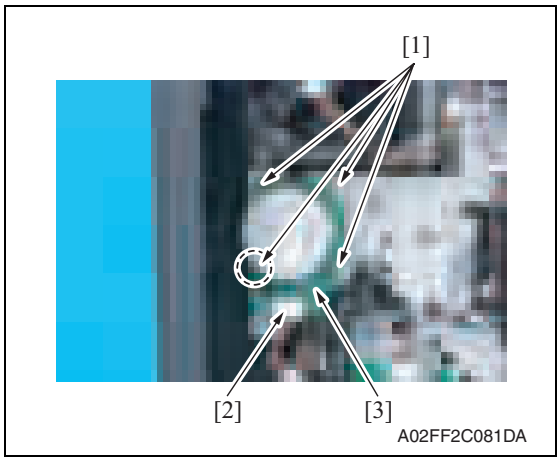
1. Remove the rear cover.
See P.47



2. Remove four screws [1], disconnect the connector [2], and remove the color PC motor [3].

6.3.45 Fusing motor (M2)

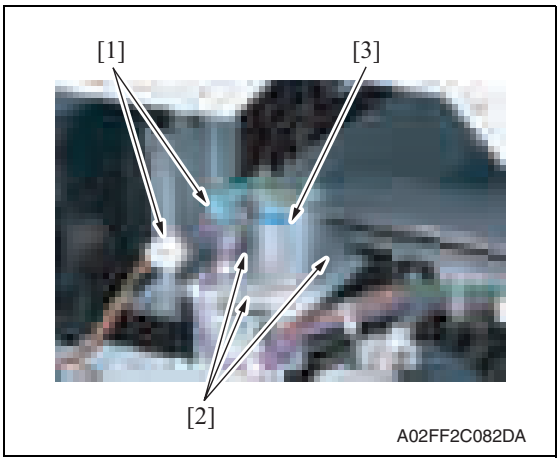
1. Remove the rear cover.
See P.47



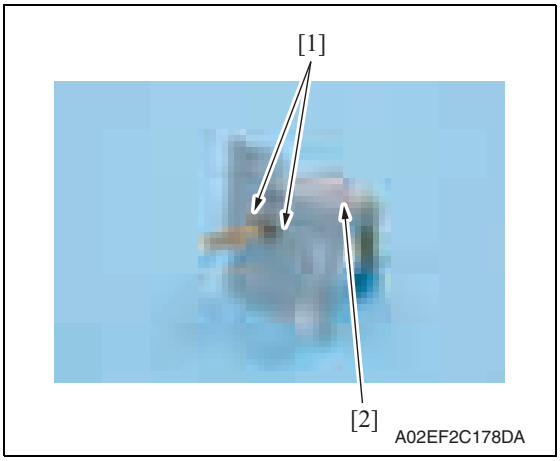
2. Remove four screws [1], disconnect the connector [2], and remove the fusing motor [3].

6.3.46 Fusing pressure roller retraction motor (M12)

1. Remove the paper exit rear cover.
See P.46
2. Remove the rear cover.
See P.47



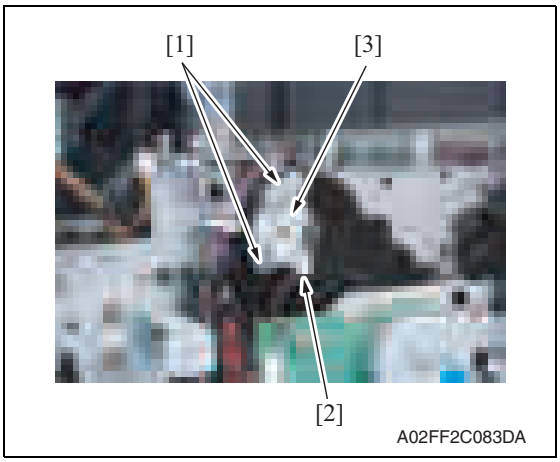
3. Disconnect two connectors [1].
4. Remove three screws [2], and remove the fusing pressure roller retraction motor assy [3].



5. Remove two screws [1], and remove the fusing pressure roller retraction motor [2].

6.3.47 Toner supply motor/CK (M7)

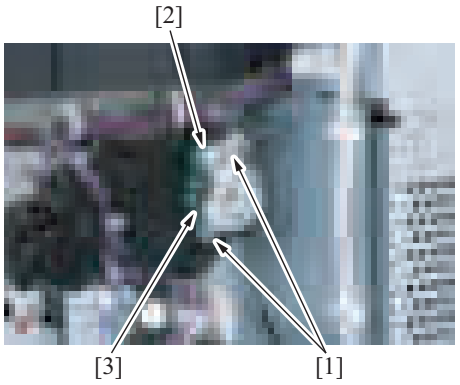
1. Remove the rear cover.
See P.47



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

6.3.48 Toner supply motor/YM (M6)

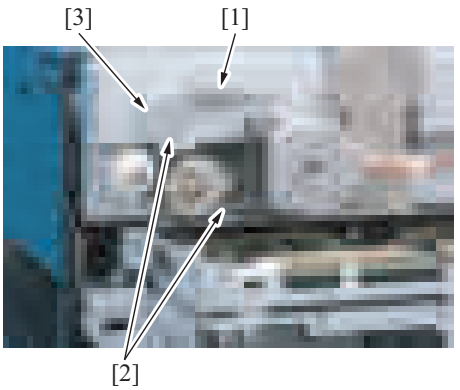
1. Remove the rear cover.
See P.47



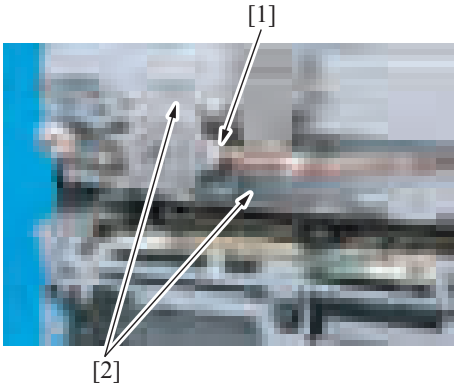
2. Disconnect the connector [2], remove two screws [1], and remove the toner supply motor/YM [3].

6.3.49 Scanner motor (M201)

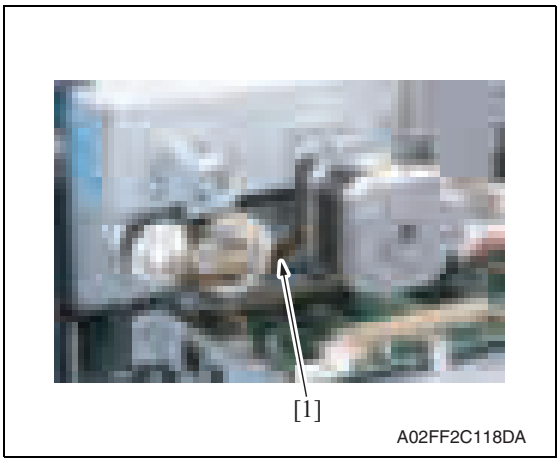
1. Remove the IR rear cover.
See P.46



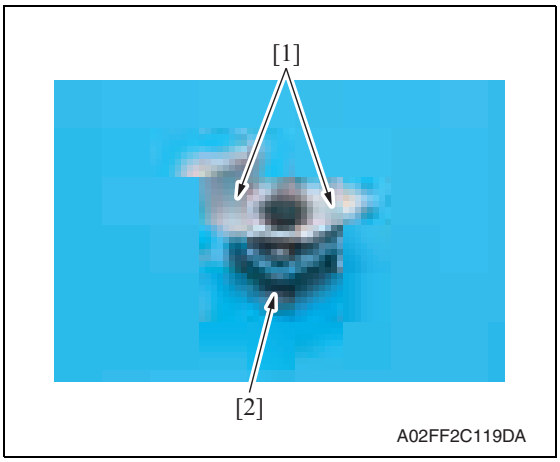
2. Remove the motor spring [1].
3. Loosen two screws [2] of the tension bracket [3].



4. Pull out the cable connector [1] connecting to the motor.
5. Remove two screws [2] which fix the motor bracket.



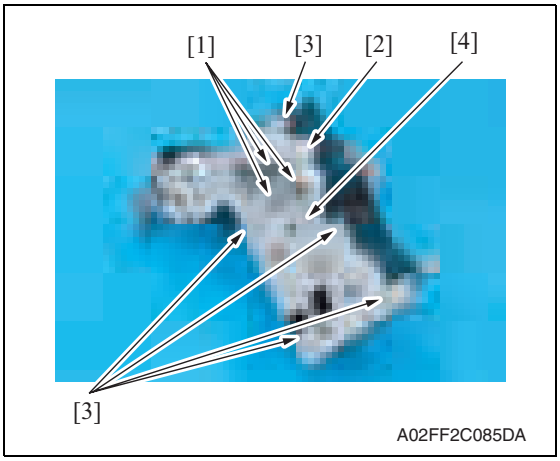
6. Remove the belt [1] hanging on the motor.



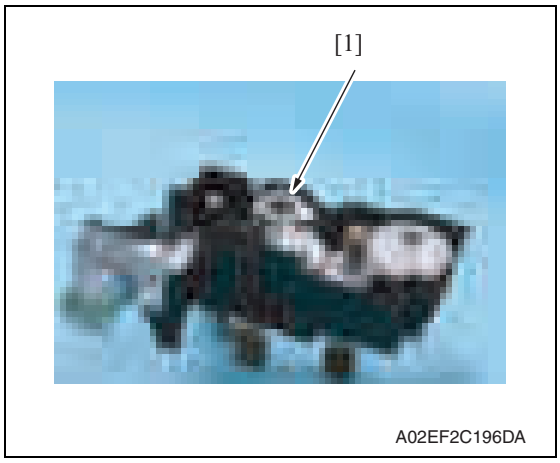
7. Remove two screws [1], and remove the scanner motor [2].

6.3.50 Transfer belt pressure retraction clutch (CL3)

1. Remove the fusing drive unit.
See P.69



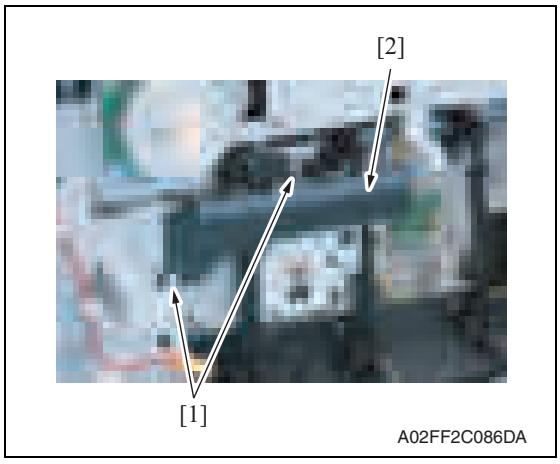
2. Disconnect the connector [2], remove three E-rings [1] and five screws [3], and remove the metal plate [4].



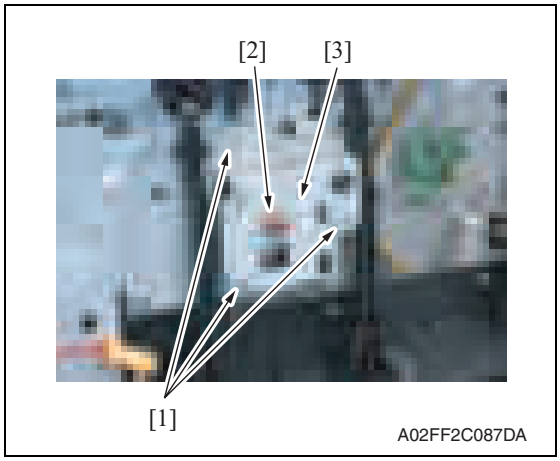
3. Remove the transfer belt pressure retraction clutch [1].

6.3.51 Developing clutch/K (CL4)

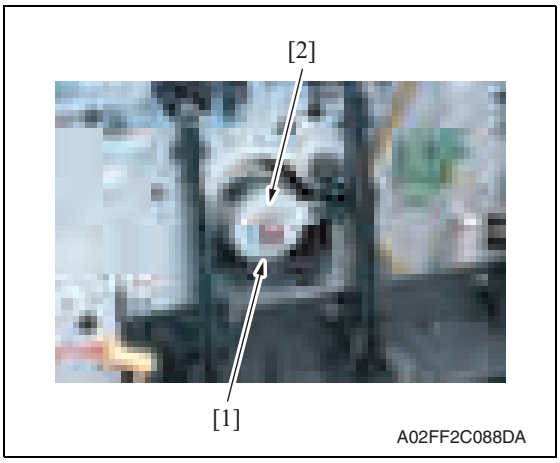
1. Remove the high voltage unit.
See P.87



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



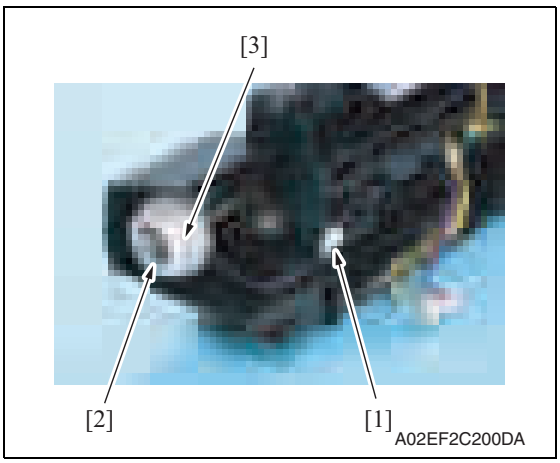
3. Remove three screws [1] and the E-ring [2], and remove the developing clutch/K cover [3].



4. Disconnect the connector [1], and remove the developing clutch/K [2].

6.3.52 Tim. roller clutch (CL1)

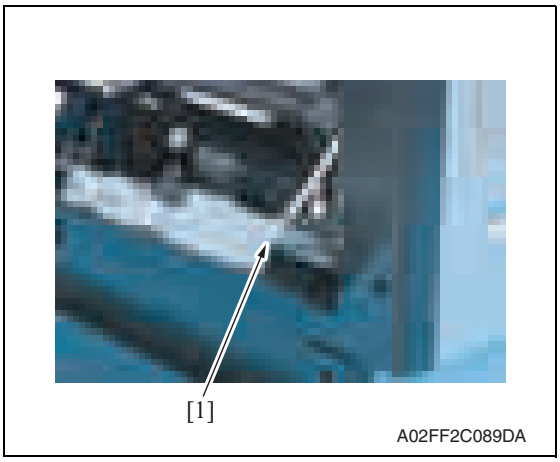
1. Remove the vertical transport unit.
See the steps 1 to 7 of IDC registration sensor removing procedure.
See P.99



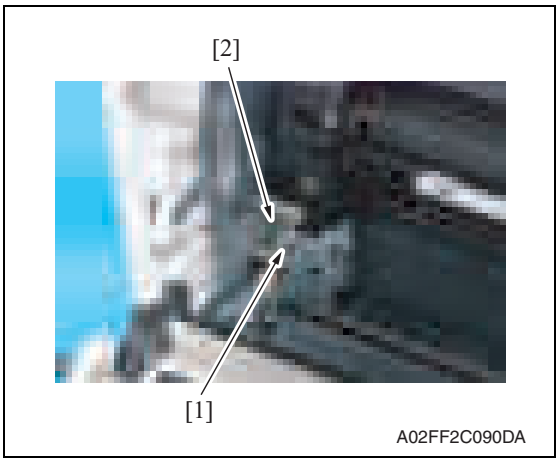
2. Disconnect the connector [1], remove the E-ring [2], and remove the tim. roller clutch [3].

6.3.53 IDC registration sensor/MK (IDCS/MK), IDC registration sensor/YC (IDCS/YC)

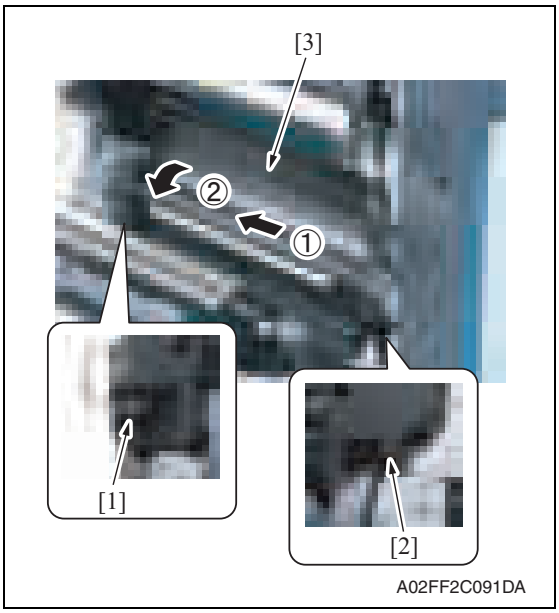
1. Remove the transfer belt unit.
See P.24



2. Remove the shoulder screw [1].



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

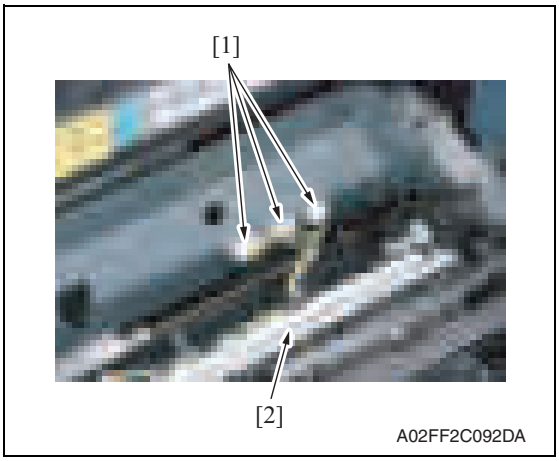


4. Remove the shoulder screw [1] and the screw [2].

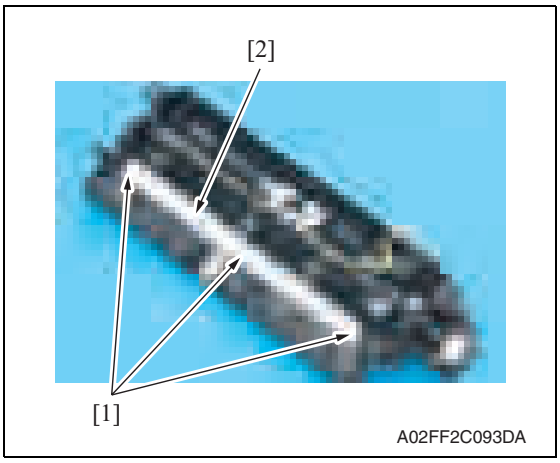
5. Remove the vertical transport unit [3] as shown in the left illustration.

NOTE

- **Since multiple connectors are connected to the backside of the vertical transport assy, do not pull it by force.**



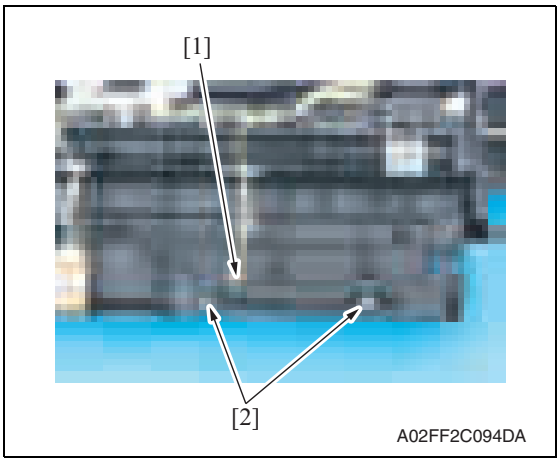
6. Disconnect three connectors [1], and remove the vertical transport unit [2].



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

NOTE

- **Both end screws has a spacer. Remove the screws, being careful not to drop the spacers.**



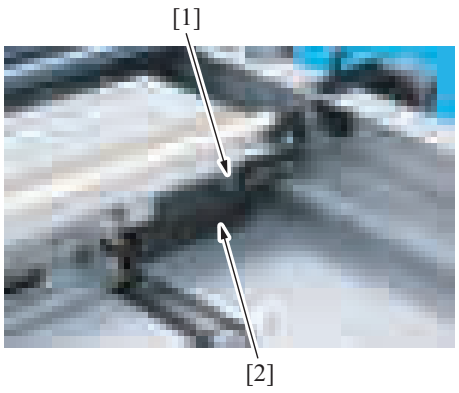
8. Disconnect the connector [1], remove two screws [2], and remove the IDC registration sensor/MK.
9. Repeat step 8 to remove IDC registration sensor/YC.

6.3.54 Exposure lamp (FL201)

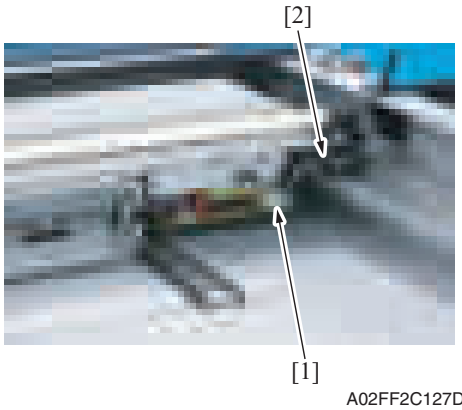
⚠ CAUTION

- **Always turn off the main power switch and disconnect the power code from an AC outlet when you remove the inverter board or exposure lamp.**
- **High voltage will be applied to inverter board while scanning a document. Never touch it while scanning to avoid electrical shocks.**
- **The exposure lamp may be very hot. Care should be taken not to burn your skin.**

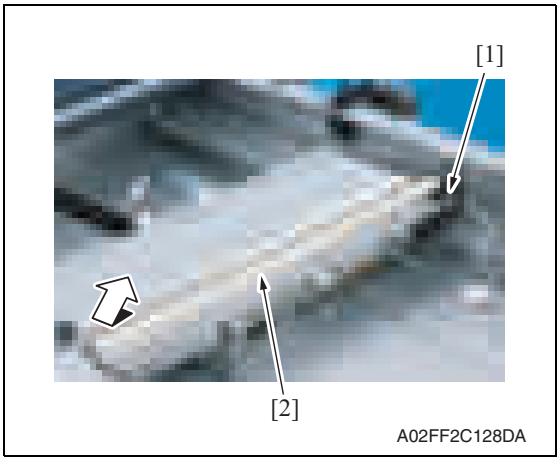
1. Access [Carriage Move] in the following order and then, using [Carriage Move], move the exposure unit to a location, at which the subsequent steps can be performed: [Service Mode] → [Machine Adjustment] → [Scan Area] → [BK-S Adjustment] → [Carriage Move].
2. Turn OFF the main power switch.
3. Remove the original glass assy.
See P.53



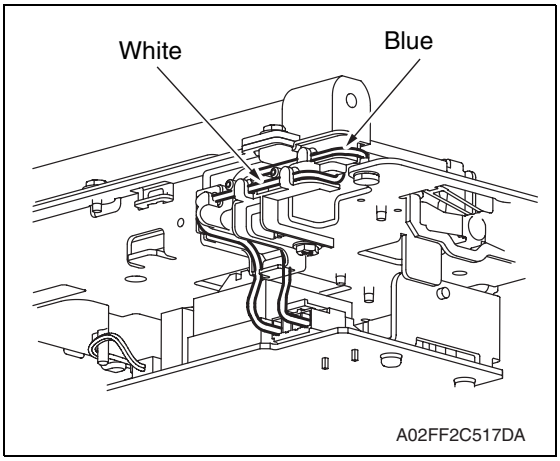
4. Remove the screw [1], and remove the inverter cover [2].



5. Disconnect the connector [1], and remove the harnesses from the harness guide [2].



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



7. To reinstall, reverse the order of removal.

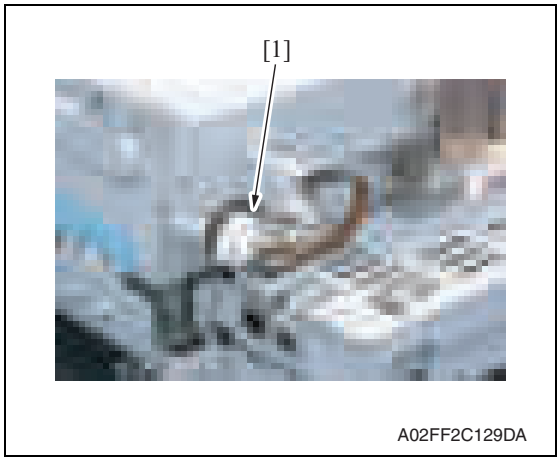
NOTE

- **Take care so as not to mistake the blue and white routing of the lamp cables.**

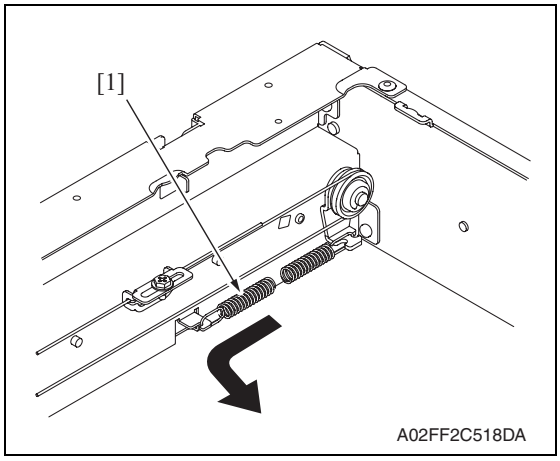
6.3.55 Scanner drive wires

A. Removal procedure

1. Remove the original glass assy.
See P.53
2. Remove the ADF glass assy.
See P.54
3. Remove the IR rear cover.
See P.46
4. Remove the IR left cover.
See P.52
5. Remove the IR right cover.
See P.53
6. Remove the exposure unit.
See P.76
7. Remove the scanner motor.
See P.96

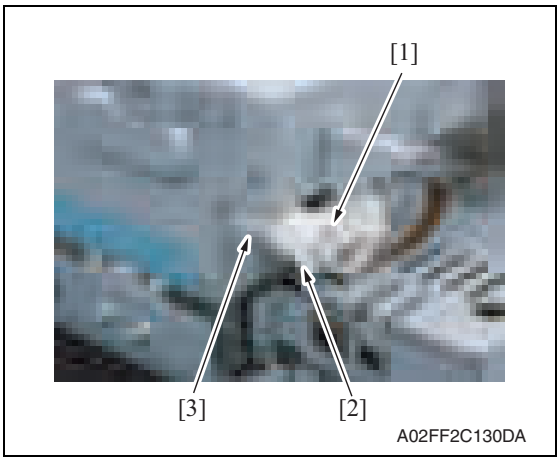


8. Remove the timing belt [1].



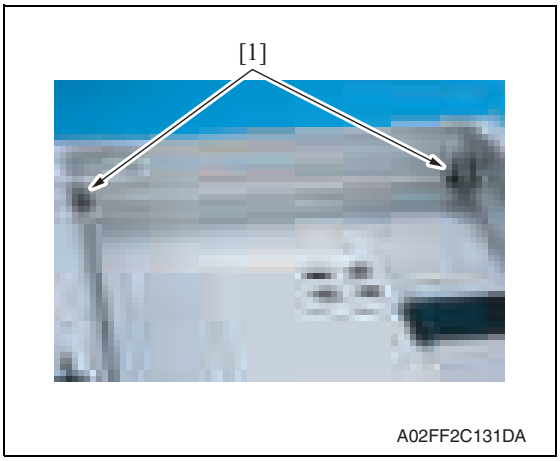
9. Remove the pulley springs [1] of the drive pulley (both front and rear).
10. Remove the scanner drive wires along the route.

B. Reinstall procedure



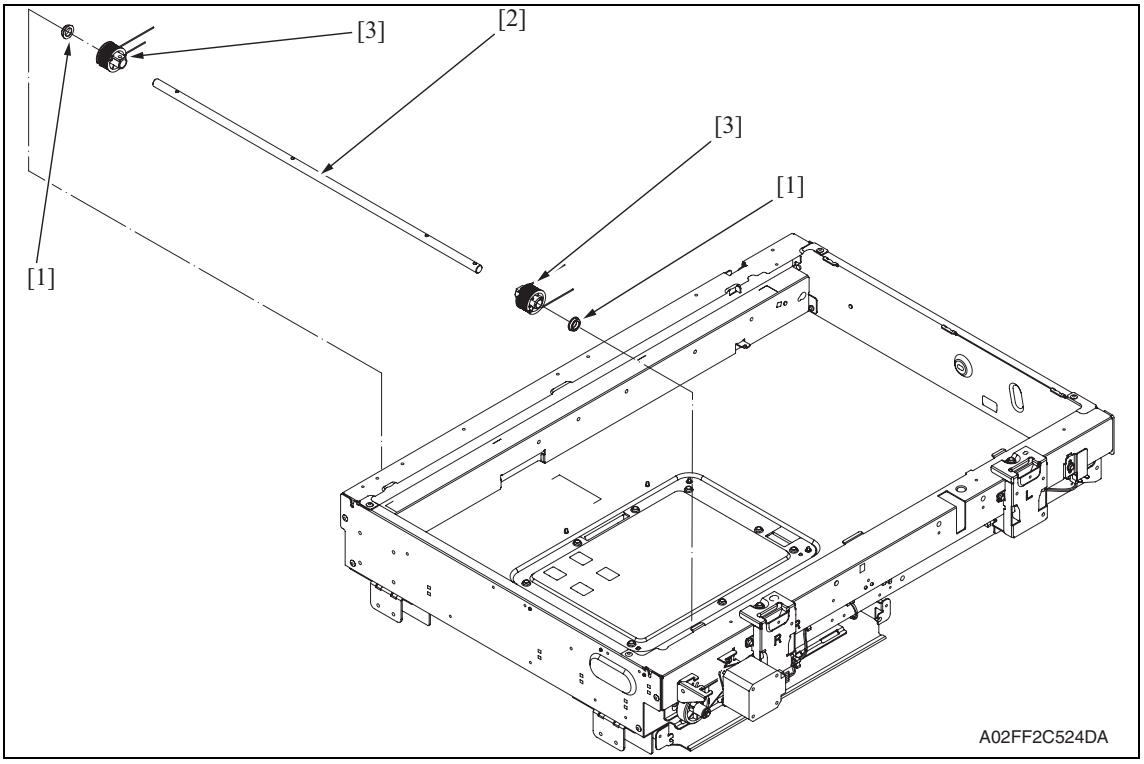
- Remove the pulleys and a pulley shaft before winding the scanner drive wires.

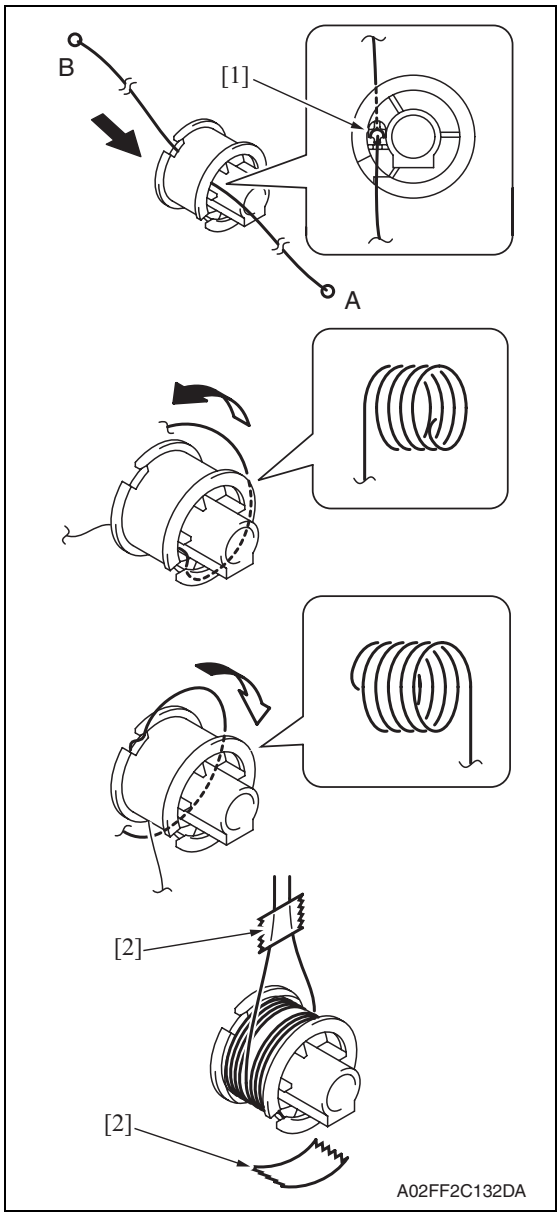
1. Remove the screw [1], and remove the pulley [2] and the spacer [3].



2. Remove two screws [1] fixing the pulley shaft.

3. Remove bearings [1] in the front and rear, pull out the pulley shaft [2], and pull out pulleys [3] and pulley shaft [2] from the inside of the scanner.





4. Insert the shorter side (A) of the scanner drive wire from the opposite of the pulley screw.
5. Then, fit the mid clamp [1] to the groove.
6. Wind a wire five turns from the outer rim of the pulley.

NOTE

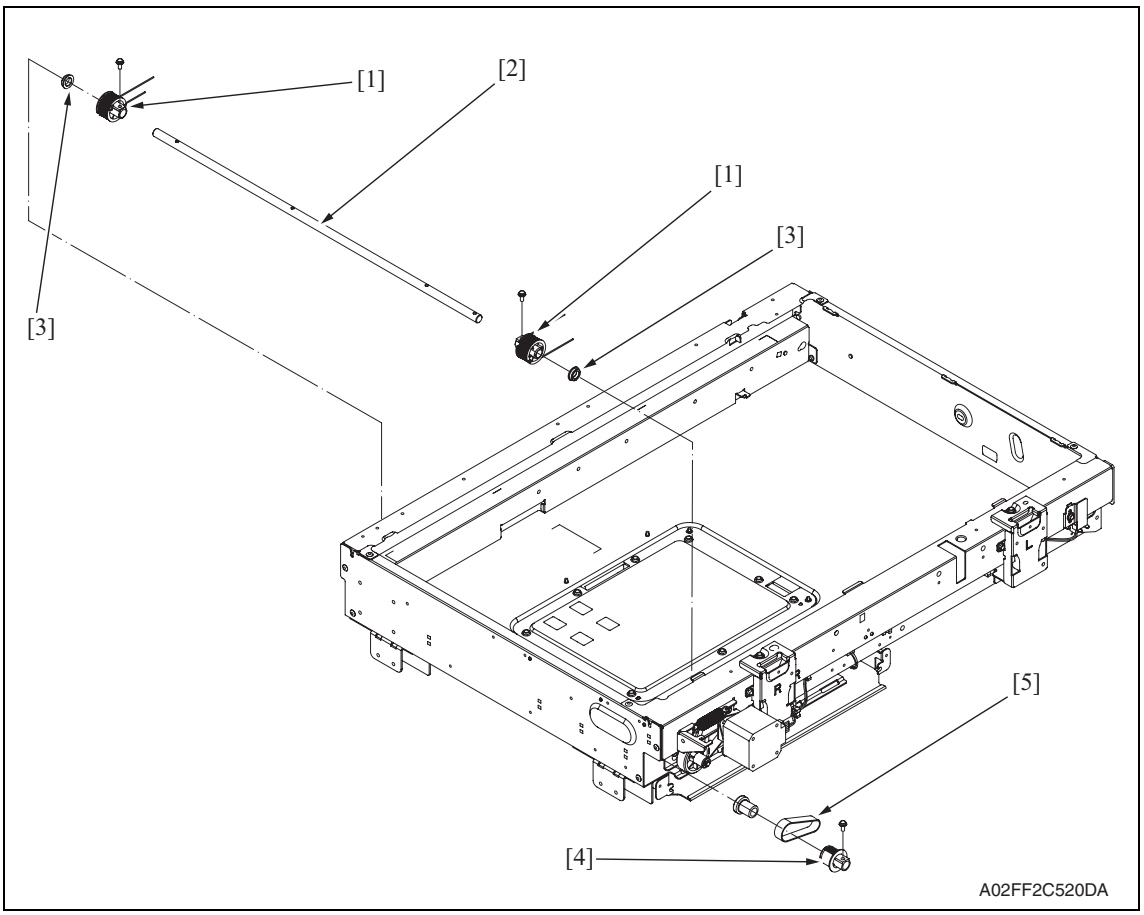
- **Perform the above steps both for the front and rear pulleys.**
- **After winding the scanner drive wire, fix it temporarily by drafting tape [2] so as not to break up.**

7. Insert the pulleys [1] around which the scanner drive wire was wound to the pulley shaft [2], and fix them with one screw each.

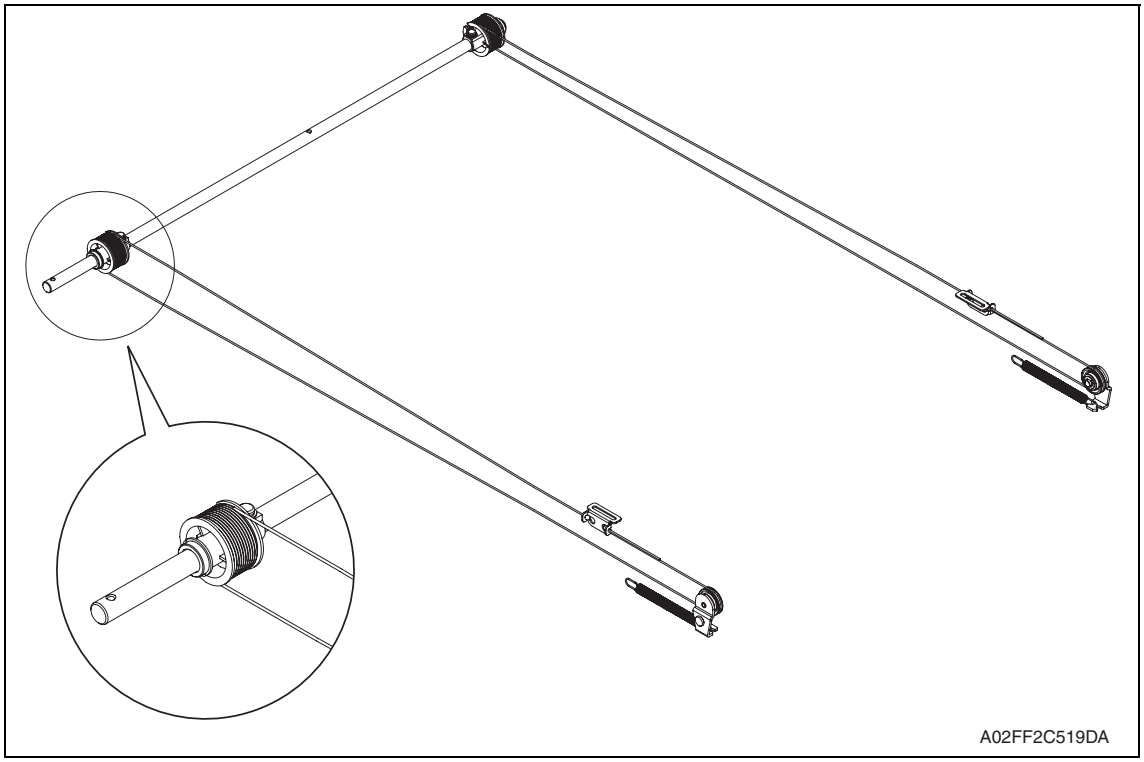
NOTE

- **Place the pulley marked (F) on the machine front and the pulley marked (R) on the machine rear.**

8. Insert a pulley shaft assy into the scanner and put bearings [3] on the edge. Reinstall pulley [4] and timing belt [5] in the reverse order of dismounting.



9. Route wires as shown below.



10. Reinstall the exposure unit.

NOTE

- **When fixing the wire bracket at the exposure unit front, align with the memory position when removing.**

11. After mounting, while taking copy images, adjust the wire bracket fixing position at the exposure unit front so as to prevent tilting.
12. After tilt adjustment, attach the screw lock to the wire bracket (front), and fix it.
13. If the leading edge or zoom ratio deviates, perform the following settings.
[Service Mode] → [Machine Adjustment] → [Scan Area] → [BK-S Adjustment]]

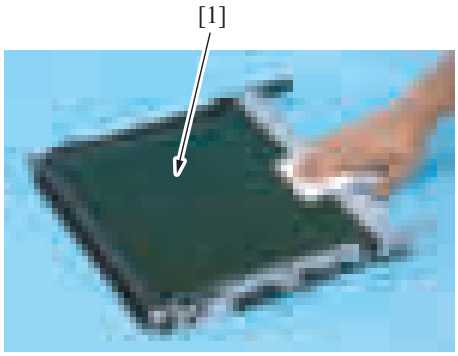
6.4 Cleaning procedure

NOTE

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

6.4.1 Transfer belt unit

1. Remove the transfer belt unit.
See P.24



A02EF2C207DA

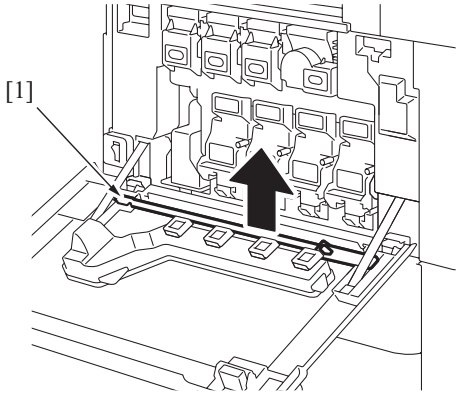
2. Using a cleaning pad, wipe the transfer belt [1].

NOTE

- **Do not wipe out with water.**
- **Do not wipe out with any solvents.**

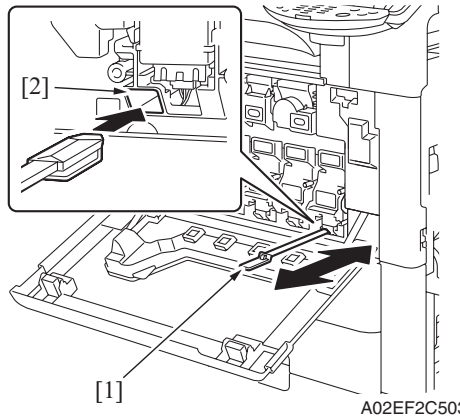
6.4.2 PH window Y,M,C,K

1. Open the front door.



A02EF2C502DA

2. Remove the PH window cleaning jig [1] from the front door.



A02EF2C503DA

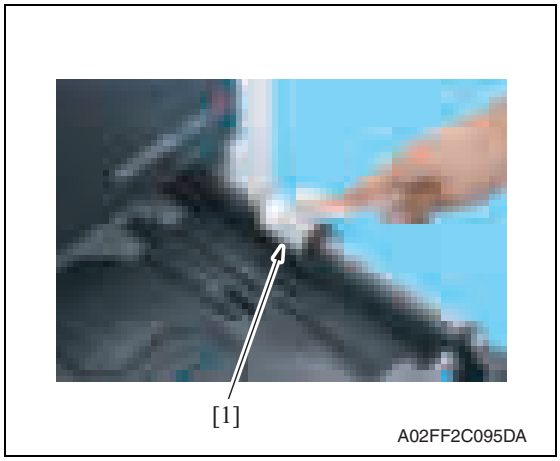
3. Insert the PH window cleaning jig [1] to the cleaning port [2] and clean it by putting the jig back and forth a couple times.

NOTE

- **Clean every PH window of Y,M,C,K.**

6.4.3 Tray 1 feed roller

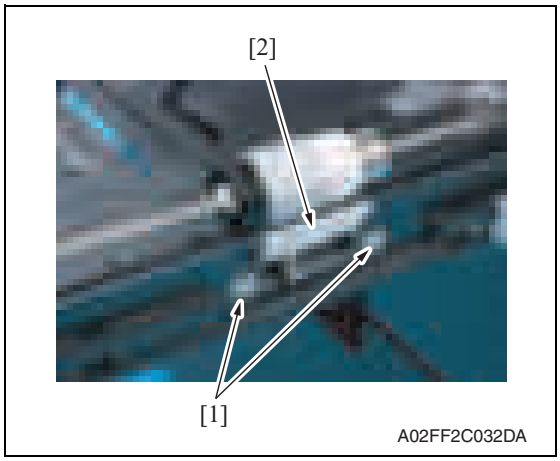
1. Slide out the tray 1.



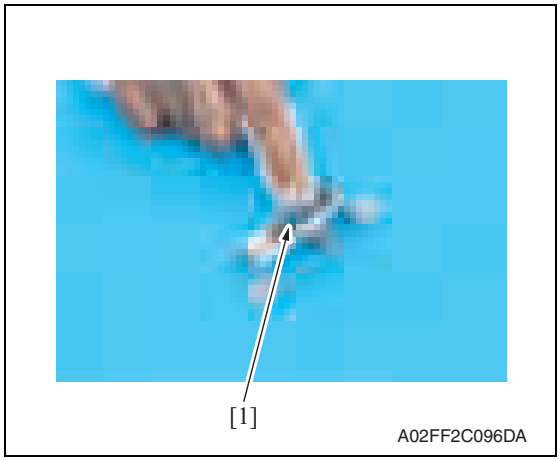
2. Using a cleaning pad dampened with alcohol, wipe the tray 1 feed roller [1] clean of dirt.

6.4.4 Tray 1 separation roller

1. Slide out the tray 1.



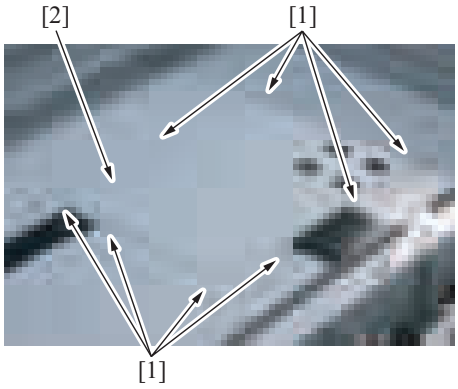
2. Remove two screws [1], and remove the tray 1 separation roller fixing plate assy [2].



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

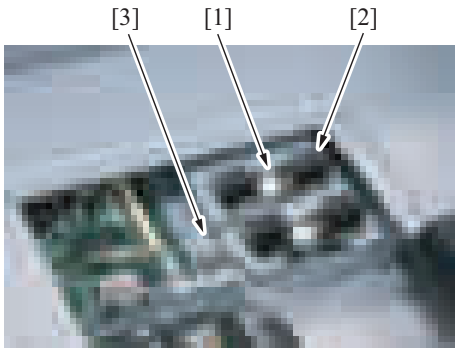
6.5 Mount the original size detection sensor/2 (PS204)

1. Remove the original glass assy.
See P.53



A02FF2C101DA

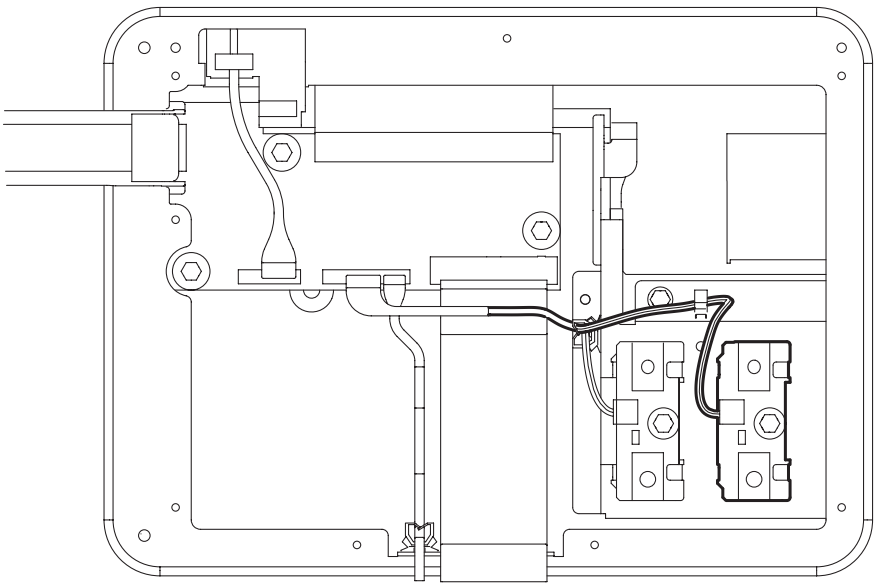
2. Remove eight screws [1], and remove the BCRU board protective shield [2].



A02FF2C102DA

3. Using the screw [1], mount the original size detection sensor/2 (PS204) [2] and fix it.
4. Remove the option cable [3] from the clamp, and connect it to the original size detection sensor/2 [2].
5. Reverse the order of removal procedure.

<How to set the harness>


A02FF2E507DA

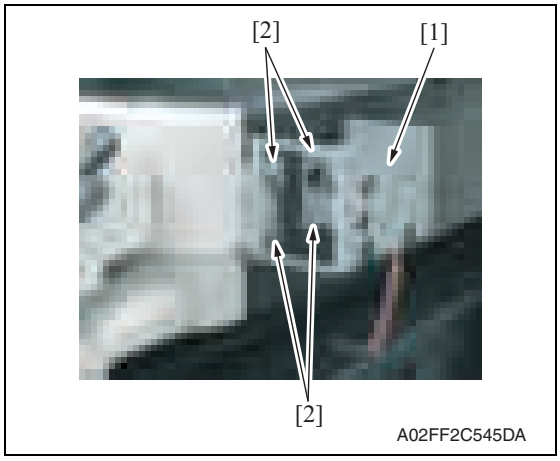
6. Call the service mode to the screen, and set “Bit 3 of Mode 423” of the soft switch to “0”.
7. Select [Service Mode] → [State Confirmation] → [Sensor Check (Scan)] → [Scanner], and check the state of the original size detection sensor/2 (Original Size Detection Opt.).

6.6 Option counter

6.6.1 Key counter

NOTE

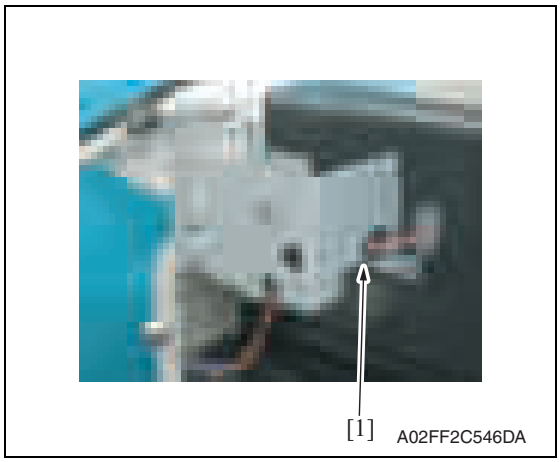
- **Before installing the key counter with the following instructions, attach the optional mount kit for key counter MK-718 to the main body.**



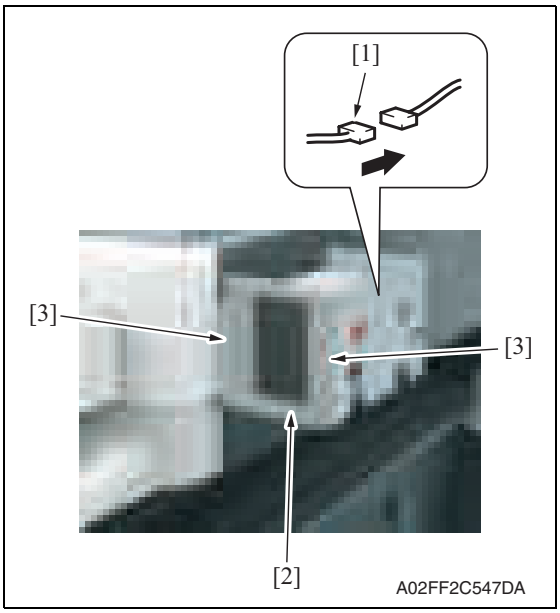
1. Attach the key counter mounting plate [1] with four screws [2].

NOTE

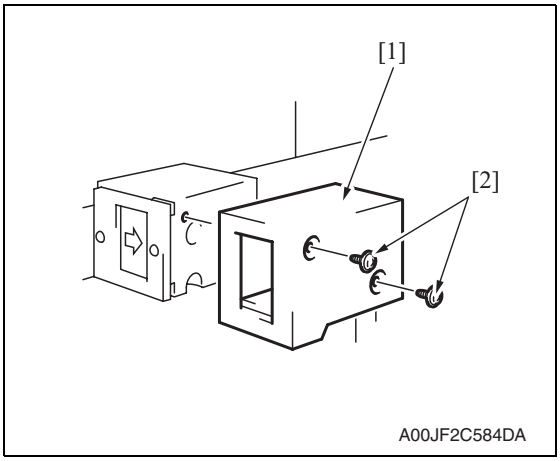
- **Put the relay harness connector into the mounting plate before attaching the plate.**
- **Use the four long screws (9646 0418 14: M4 x 18) in the key counter kit to secure the counter mounting bracket.**



2. Attach the edge cover [1] to the key counter mounting plate.
   Insert the harness into the edge cover.



3. Connect the key counter socket connector [1] to the relay harness connector.
4. Using two screws [3], secure the key counter socket [2].



5. Using two screws [2], secure the key counter cover [1].

6. Select [Service Mode] → [Billing Setting] → [Management Function Choice] → [Key Counter] or [Vendor (+ Key Counter)].
Set color and message.
For details on setting, see “Adjustment/Setting.”
See P.322

Blank Page

Adjustment/Setting

7. 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 " ".

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 fusing 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.**

8. Utility Mode

8.1 Utility Mode function tree

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

NOTE

- **Keys displayed on screens are different depending on the setting.**

Utility				Ref. page
User Settings	System Settings	Language Selection		P.121
		Measurement Unit Setting		P.121
		Paper Tray Setting	Priority Tray	P.121
			Auto Tray Switch ON/OFF	P.121
			No Matching Paper in Tray Setting	P.121
			Paper Type/Size Setting	P.122
		Auto Color Level Adjustment		P.122
		Dehumidify Scanner		P.122
	Display Settings	Default Screen		P.122
		Default E-Mail Screen		P.122
	Default Settings	Copy		P.123
		Fax/Scan	Default Scan/Fax Settings	P.123
			IP Relay Dest. Selection	P.123
			File Type	P.124
	Copier Settings	Small Originals		P.124
		Auto Zoom for Combine		P.124
		Auto Sort/Group Selection		P.124
	Printer Settings	Basic Settings	PDL Setting	P.125
			Number of Copies	P.125
			Original Direction	P.125
			A4/A3 <--> LTR/LGR Auto Switch	P.125
			Document Hold Time	P.125
		Paper Settings	Paper Tray	P.126
			Paper Size	P.126
			2-Sided Print	P.126
			Bind Position	P.126
		PCL Settings	Font #	P.126
			Symbol Set	P.127
			Font Size	P.127
			Line/Page	P.127
			CR/LF Mapping	P.127
		Print Reports	Configuration Page	P.127
			PCL Demo Page	
			PCL Font List	
			PS Font List	

Utility					Ref. page
User Settings	Account Track Registration	Password			P.128
		SMTP Authentication Password			P.128
		POP3 Password			P.128
User Management	Confirmation Beep				P.128
	Alarm Volume				P.128
	Line Monitor Sound				P.128
	Job Complete Beep				P.129
	Panel Cleaning				P.129
	Dehumidify				P.129
	POP3 RX				P.129
	Memory RX ON/OFF				P.129
One-Touch/ Box Reg.	One-Touch				P.129
	Index				P.130
	Domain Name				P.130
	Bulletin				P.130
Admin.	System Settings	Power Save Settings	Auto Reset		P.131
			Low Power Mode Settings		P.131
			Sleep Mode Settings		P.131
			LCD Back-Light OFF		P.131
			Enter Power Save Mode		P.132
		Output Settings	Print/Fax Output Setting	Printer	P.132
				Fax/E-Mail	
			Output Tray Setting	Copy	P.132
				Printer	
				Network	
				Fax (Port 1)	
				Fax (Port 2)	
		Language (I/O)			P.132
		Date & Time Setting	Date & Time Setting		P.133
			Time Zone		P.133
			Daylight Saving Time		P.133
		Expert Adjustment	AE Level Adjustment		P.133
			Density Adjustment	Thick Paper Image Density -Yellow	P.134
				Thick Paper Image Density -Magenta	
				Thick Paper Image Density -Cyan	
				Thick Paper Image Density -Black	
				Black Image Density	

Utility					Ref. page
Admin.	System Settings	Expert Adjustment	Image Stabilization	Initialize + Stabilization	P.134
				Image Stabilization	P.135
			Color Reg. Adjustment	Cyan	P.136
				Magenta	
				Yellow	
			Gradation Adjustment	Copy	P.137
				Printer (Gradation)	
				Printer (Resolution)	
1			Printer Adjust-ment	Media Adjustment	P.138
		Paper Size/Type Counter			P.138
1	One-Touch/Box Reg.	One-Touch			P.138
		Index			P.138
		Domain name			P.138
		Bulletin			P.138
	Administrator Settings	Administrator Password			P.139
		Activity Report E-Mail TX			P.139
1	Call Remote Center				P.139
	Account Track	Authentication Settings	Account Track		P.140
			Allow Print Without Auth.		P.140
		Account Track Settings	Account Track Registration		P.140
			All Counter Clear		P.140
	Document Management	TX Forwarding			P.141
		RX Document			
	Printer Settings	Timeout			P.141
	Fax Settings	Self-ID			P.141
		RX Functions	Reception Mode		
			Number of RX Call Rings		
		Password Communication			
		Self-Telephone # Information	Self-Telephone # 1		
			PBX Connect Mode 1		
			Dialing Method 1		
		Self-Telephone # Information 2	Self-Telephone # Info 2		
			PBX Connect Mode 2		
			Dialing Method 2		
	TX Settings	TSI Registration			P.141
		Redial	Number of Redials		
			redial Interval		
	RX Settings	Memory RX Timer Setting	Memory RX Time		P.141
			Memory Lock Password		
		Delete User Box			

Utility				Ref. page
Admin.	Report Settings	TX Report		P.141
		Activity Report		
	Print Lists	Setting List		P.141
1		TX Report		P.141
		RX Report		P.141
		Program List		P.141
		One-Touch List		P.141
		Bulletin List		P.141
	Network Settings	Basic Settings	DHCP	P.142
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Check Details	Copy			—
	Print			—
	Scan			—
	Others			—
Coverage Rate	Application			—
	Total			—

8.2 Utility Mode function setting procedure

8.2.1 Procedure

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

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8.2.2 Exiting

- Touch the [OK] key.

8.2.3 Changing the setting value in Utility Mode functions

- Use the [+] / [-] key to enter or change the setting value.
- Use the 10-key pad to enter the setting value.
  (To change the setting value, first press the Clear key before making an entry.)

8.3 User Settings

8.3.1 System Settings

A. Language Selection

Functions	• To select the language on the LCD display.
Use	• To change the language on the control panel to another language.
Setting/ Procedure	• The language options depend on the marketing area.

B. Measurement Unit Setting

Functions	• To select the unit displayed on the LCD display.
Use	• To change the unit displayed on the control panel.
Setting/ Procedure	• The default setting varies depending on the marketing area. mm inch (Num. Value) inch (Fraction)

C. Paper Tray Setting

(1) Priority Tray

Functions	• To set the tray for automatic selection when APS is being set.
Use	• To specify the tray to be used when APS is being set.
Setting/ Procedure	• Select the tray on the tray select screen.

(2) Auto Tray Switch ON/OFF

Functions	• To set whether to automatically switch to another tray with same size paper when the paper feed tray runs out of paper during printing.
Use	• To switch the paper feed tray automatically.
Setting/ Procedure	• The default setting is Restrict. Allow “Restrict”

(3) No Matching Paper in Tray Setting

Functions	• To set whether to switch to another tray automatically when the specified tray runs out of paper during printing. Tray Fixed : It stops printing when the specified tray runs out of paper. Tray Priority : To switch to another tray with the specified paper and print when the tray is out of paper
Use	
Setting/ Procedure	• The default setting is Tray Fixed. “Tray Fixed” Tray Priority

(4) Paper Type/Size Setting

⚠1 • It is displayed only when bit 0 for the mode 403 is set to "1" by the following setting: [Service Mode] → [System] → [Software Switch Setting].

Functions	• To set the paper type/size for each paper feed tray when the copy function is invalid. Sets the paper type/size for each paper feed tray.
Use	• To change the paper type/size when the copy function is invalid and they cannot be changed on the copy operation screen.
Setting/ Procedure	*1.* Select the key for the paper feed tray to be set. *2.* Touch [Change Settings]. *3.* Set the paper type and the size according to the instruction on the screen.

D. Auto Color Level Adjustment

Functions	• To set the criterion level to discriminate between a colored original and a black-and-white original in the auto color mode.
Use	• To change the criterion level for the partly colored image to be taken as a black-and-white original.
Setting/ Procedure	• Five levels are available to choose from and the default setting is 3. Black 1 2 "3" Standard 4 5 Full Color

E. Dehumidify Scanner

⚠1 • It is displayed only when bit 0 for the mode 478 is set to "0" by the following setting: [Service Mode] → [System] → [Software Switch Setting].

Functions	• To set the time to dehumidify the scanner.
Use	
Setting/ Procedure	*1.* Touch [Hour] and [Minute], and set the time using the 10-key pad.

8.3.2 Display Settings

A. Default Screen

Functions	• To set the screen which is preferentially displayed when being switched to the default screen such as when turning power ON or automatically resetting.
Use	
Setting/ Procedure	• The default setting is Copy. "Copy" Fax/Scan

B. Default E-Mail Screen (Default Fax Screen)

• When the optional FAX kit (FK-507) is mounted, [Default Fax Screen] will be displayed.

Functions	• To set the screen which is preferentially displayed when in scan mode.
Use	
Setting/ Procedure	• The default setting is One-Touch. "One-Touch" Search Direct Input Index

8.3.3 Default Settings

A. Copy

Functions	• To make default settings for the copy mode. * The machine is initialized at the following timings: • The main power switch is turned ON. • Panel is reset. • In an Interrupt mode. • Auto Reset • The password entry screen for account track is changed.
Use	• To change the Initial mode setting to meet the user's need.
Setting/ Procedure	<Current Setting> • The settings made on the control panel before entering the setting menu screens are registered as the default settings of copy functions. <Factory Default> • The settings made at the time of shipment from the factory are registered as the default settings of copy functions.

B. Fax/Scan

(1) Default Scan/Fax Settings

Functions	• To make default settings for the fax/scan mode. * The machine is initialized at the following timings: • The main power switch is turned ON. • Panel is reset. • In an Interrupt mode. • Auto Reset • The password entry screen for account track is changed.
Use	• To change the Initial mode setting to meet the user's need.
Setting/ Procedure	<Current Setting> • The settings made on the control panel before entering the setting menu screens are registered as the default settings of fax/scan functions. <Factory Default> • The settings made at the time of shipment from the factory are registered as the default settings of fax/scan functions.

(2) IP Relay Dest. Selection

△1 • It is displayed only when bit 0 for the mode 381 is set to "0" by the following setting: [Service Mode] → [System] → [Software Switch Setting].

Functions	• To set the priority for the relay destiny when several IP relay destinies are registered.
Use	
Setting/ Procedure	• Select the relay destiny which priority should be changed, and change the priority using ↑ and ↓ keys.

(3) File Type

Functions Use	• To set the file type which has the priority for each color mode when in fax/scan mode.
Setting/ Procedure	• The default setting is “PDF” for all modes. Full Color : “PDF” JPEG Gray Scale : “PDF” JPEG Black : TIFF “PDF”

8.3.4 Copier Settings

A. Small Originals

Functions	• To make the copy setting when the paper is undetectably small, or no original is being set.
Use	• To copy the original such as business cards with which the original detection is not effective. Copy : Forces to print. Size of the original here is recognized by the size selected with the priority tray. Prohibit Copy : Pressing the start key warns and displays the paper selection screen. Waits for the user to select the paper before printing.
Setting/ Procedure	• The default setting is Prohibit Copy. Copy “Prohibit Copy”

B. Auto Zoom for Combine

Functions Use	• To set whether to simultaneously use suggested zoom ratio or not when selecting 2 in 1 or 4 in 1 copy.
Setting/ Procedure	• The default setting is Recall. “Recall” Do Not Recall

C. Auto Sort/Group Selection

Functions Use	• Selects whether to use the auto sort/group selection function when a job has output of two or more sheets. Yes : Automatically disables the auto sort/group selection when a sheet of original is placed on the ADF and the start key is pressed. Automatically enables the Auto sort/group selection when two or more sheets of originals are placed on the ADF and the start key is pressed. No : Disable the auto sort/group selection.
Setting/ Procedure	• The default setting is ON. “ON” OFF

8.3.5 Printer Settings

A. Basic Settings

(1) PDL Setting

Functions	• To set the PDL (Page Description Language) for PC printing.
Use	• To fix the PDL as necessary. It usually switches automatically.
Setting/ Procedure	• The default setting is Auto. "Auto" PCL PS

(2) Number of Copies

Functions	• To set the number to be copied when not specified by the printer driver during PC printing.
Use	• To use when the number cannot be specified by the printer driver during printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is 1. "1" (1 to 999)

(3) Original Direction

Functions	• To set the default setting for the direction of the original during PC printing.
Use	
Setting/ Procedure	• The default setting is Portrait. "Portrait" Landscape

(4) A4/A3 ↔ LTR/LGR Auto Switch

Functions	• To set whether to switch between A4 and Letter (8 $^1/_2$ x 11) size paper, and A3 and Ledger (11 x 17) size paper in reading.
Use	• To output Letter (8 $^1/_2$ x 11) size document to A4 size, and Ledger (11 x 17) size document to A3 size. • To output A4 size document to Letter (8 $^1/_2$ x 11) size, and A3 size document to Ledger (11 x 17) size. **NOTE** • **When switching the size, the image will be printed in the same magnification.** • **The image will not be reduced when there is image deficiency.**
Setting/ Procedure	• The default setting is ON. "ON" OFF

(5) Document Hold Time

Functions	• To set the period of time until it deletes the corresponding data when the memory exceeds its capacity while spooling printed data.
Use	
Setting/ Procedure	• The default setting is 5 min. "5 M." (0 to 30 M.)

B. Paper Settings

(1) Paper Tray

Functions	• To set the paper feed tray when not specified by the printer driver during PC printing.
Use	• To use when paper feed tray cannot be specified by the printer driver when printing from Windows DOS, etc.
Setting/ Procedure	• The default setting is Auto Paper.

(2) Paper Size

Functions	• To set the paper size when not specified by the printer diver during printing.
Use	• To use when the paper size cannot be specified by the printer driver during printing from Windows DOS, etc.

(3) 2-Sided Print

Functions	• To set whether to carry out duplex print during PC printing when not specified by the printer driver.
Use	• To use when 2-sided printing cannot be specified by the printer driver while printing by Windows DOS, etc.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

(4) Bind Position

Functions	• To set the binding direction during duplex printing when not specified by the printer driver during PC printing.
Use	• To use when binding direction cannot be specified by the printer driver during printing by Windows DOS, etc.
Setting/ Procedure	• The default setting is Top Bind. “Top Bind” Left Bind Right Bind

C. PCL Settings

(1) Font

Functions	• To set the font when not specified by the printer driver during PC printing.
Use	• To use when the printer driver cannot specify the font during printing from Windows DOS, etc. • To set the arbitrary font number according to the PCL font list.
Setting/ Procedure	• The default setting is 0.

(2) Symbol Set

Functions	• To set the font symbol set when not specified by the printer driver during PC printing.
Use	• To use when the font symbol set cannot be specified by the printer driver during printing from Windows DOS, etc. • To set the arbitrary symbol set number according to the PCL font list.
Setting/ Procedure	• The default setting is PC-8, Code Page 437.

(3) Font Size

Functions	• To set the font size when not specified by the printer driver during PC printing.
Use	• To set the font size when it cannot be specified by the printer driver during printing from Windows DOS, etc. • To set scalable font (: Point) and bitmap font (: Pitch) respectively.
Setting/ Procedure	• The default setting is Scalable Font : 12.00 points Bitmap Font : 10.00 pitch

(4) Line/Page

Functions	• To set the number of lines per page for printing the text data.
Use	• To change the number of lines per page for printing the text data.
Setting/ Procedure	• Default setting value differs depending on the values by the following two different settings. "60 or 64 lines" (5 to 128)

(5) CR/LF Mapping

Functions	• To set the mode for replacing data when printing the text data.
Use	• To change the mode for replacing data when printing the text data. Mode 1 : CR → CR-LF LF=LF FF=FF Mode 2 : CR=CR LF→CR-LF FF→CR-FF Mode 3 : CR→CR-LF LF→CR-LF FF→CR-FF OFF : Does not replace
Setting/ Procedure	• The default setting is OFF. Mode 1 Mode 2 Mode 3 "OFF"

D. Print Reports

Functions	• To output the report or demo page concerning the print setting.
Use	• To check the setting concerning the printer. The types of report available for output are as follows. Configuration Page : The list of printer setting will be output. PCL Demo Page : The test page will be output. PCL Font List : PCL font list will be output. PS Font List : PS font list will be output.
Setting/ Procedure	*1.* Touch [User Setting] → [Printer Setting] → [Print Reports]. *2.* Select the report to be output. *3.* Select the feed tray. *4.* Select simplex or duplex print, and touch the Start key.

8.3.6 Account Track Registration

- It is displayed only when logging in with a registered account.

A. Password

Functions	• To register or change a password that is used for account track authentication.
Use	
Setting/ Procedure	• Enter a password with the keyboard on the screen. New password : Enter a new password. Confirm New password : Re-enter the new password.

B. SMTP Authentication password

Functions	• To register or change a SMTP authentication password that is used for account track authentication.
Use	
Setting/ Procedure	• Enter a SMTP authentication password with the keyboard on the screen. New password : Enter a new SMTP authentication password. Confirm New password : Re-enter the new SMTP authentication password.

C. POP3 Password

Functions	• To register or change a POP3 password that is used for account track authentication.
Use	
Setting/ Procedure	• Enter a POP3 password with the keyboard on the screen. New password : Enter a new POP3 password. Confirm New password : Re-enter the new POP3 password.

8.4 User Management

8.4.1 Confirmation Beep

Functions	• To set the sound when pressing the key on the control panel.
Use	• To change the volume of the key sound or to make no sound.
Setting/ Procedure	• The default setting is 3. 0 to 5

8.4.2 Alarm Volume

Functions	• To set the volume of the sound when alarm occurs or when the key operation is prohibited.
Use	• To change the volume of the alarm or to make no sound.
Setting/ Procedure	• The default setting is 3. 0 to 5

8.4.3 Line Monitor Sound

See P.15 of the FK-507 service manual.

8.4.4 Job Complete Beep

Functions	• To set the volume of the beep when the job is complete.
Use	• To change the volume of the beep for complete or to make no sound.
Setting/ Procedure	• The default setting is 3. 0 to 5

8.4.5 Panel Cleaning

Functions	• To temporarily invalid the key operation on the panel when cleaning the control panel. Enlarge Display key will stay valid.
Use	• To clean the control panel.
Setting/ Procedure	• Pressing [Reset] key cancels the panel cleaning screen.

8.4.6 Dehumidify

- It is not displayed when bit1 for the mode 478 is set to “0” by the following setting: [Service Mode] → [System] → [Software Switch Setting].

Functions	• To turn on the scanner exposure lamp for the set period of time (five minutes) to dehumidify the scanner.
Use	• To keep the image quality even when the scanner builds up condensation due to rapid temperature change or high humidity.
Setting/ Procedure	• Pressing [Dehumidify] button turns on the scanner exposure lamp to start dehumidifying.

8.4.7 POP3 RX

Functions	• To manually receive the internet fax.
Use	
Setting/ Procedure	• Pressing [POP3 RX] accesses to the server to receive an e-mail.

8.4.8 Memory RX ON/OFF

See P.15 of the FK-507 service manual.

8.5 One-Touch/Box Reg.

8.5.1 One-Touch

Functions	• To register an address for fax, etc. to one-touch.
Use	
Setting/ Procedure	*1.* Touch the One-Touch key into which an address is to be registered. *2.* Set One-Touch Name, Com.Mode, Destination, and the KeyWord.

8.5.2 Index

Functions Use	• To register the index which is displayed on the One-Touch screen for fax. • There are twenty indexes, and up to fifteen one-touches can be registered to each index.
Setting/ Procedure	*1.* Touch the index key into which the index is to be registered. *2.* Enter the index name.

8.5.3 Domain Name

Functions Use	• To register the part of the address (domain name) as a character string in order to make address input easy. • Up to six character strings can be registered.
Setting/ Procedure	*1.* Touch the key into which address is to be registered. *2.* Enter the character string (domain name) to be registered.

8.5.4 Bulletin

Functions Use	• To register the bulletin.
Setting/ Procedure	*1.* Touch the key into which the bulletin is to be registered. *2.* Set the Title, F-Code, F-Code Password, Remote Input Check, and the Remote Output Check.

8.6 Admin. (Administrator Management)

- The Admin. setting will be available by entering the administrator password (8 digits) set by the Admin. setting or Service Mode.
  (The administrator password is initially set to "12345678.")

8.6.1 System Settings

A. Power Save Settings

(1) Auto Reset

Functions	• To set the period of time until auto reset function starts after finished operating with keys.
Use	• To change the period of time until auto reset function starts. • Auto reset during alarm resets the setting value for the current operation. Alarm status as well as alarm display stay.
Setting/ Procedure	• The default setting is 1 min. OFF 30 second "1" to 240 M.

(2) Low Power Mode Settings

Functions	• To set the time until low power starts operating after the last key operation has been completed. • Low power: To turn LED and LCD OFF, and lower the power consumption.
Use	• To change the time until low power starts.
Setting/ Procedure	• Use the 10-key pad for setting. • The default setting is 10 min. "10 M." (1 to 240 M.)

(3) Sleep Mode Settings

Functions	• To set the time until sleep mode starts operating after the last key operation has been completed. • Turn all lines OFF except 5 V line for control. • "OFF" will only be displayed when "No Sleep" in Service Mode is set.
Use	• To change the time until the sleep mode starts.
Setting/ Procedure	• Use the 10-key pad for setting. • The default setting is 20 min. "20 M." (1 to 240 M.) / OFF

(4) LCD Back-Light OFF

Functions	• To set the period of time until the control panel turns off when operation with keys is finished.
Use	
Setting/ Procedure	• The default setting is 1 min. "1 M." (1 to 240 M.)

(5) Enter Power Save Mode

Functions	• To set whether to immediately switch to the power save mode after printing in case of receiving the fax or PC printing during power save mode.
Use	• To immediately switch to the power save mode after printing in case of receiving the fax or PC printing during power save mode. Normal : Switches to the power save mode according to the normal power save mode after the printing. Immediately : Switches to the power save mode immediately after the printing.
Setting/ Procedure	• The default setting is “Immediately.” Normal “Immediately”

B. Output Settings

(1) Print/Fax Output Settings

Functions	• To set the timing for printing for the PC print job or fax received.
Use	Batch Print : Starts printing when all data are received Page Print : Starts printing every time data for each page are received
Setting/ Procedure	<Printer> • The default setting is Batch Print. <Fax/E-Mail> • The default setting is Page Print. **NOTE** • **[Fax/E-Mail] will be displayed only when the optional expanded memory unit (EM-310) is mounted.**

(2) Output Tray Settings

Functions	• To set the priority output tray for each application (Copy print, Printer, Fax and Print Reports).
Use	• To change the prior output tray according to the application.
Setting/ Procedure	• The default settings are as follows. Copy : Tray 1 Printer : Tray 1 Network : Tray 2 Fax (Port 1) : Tray 2 Fax (Port 2) : Tray 2

C. Language (I/O)

Functions	• To set the language for input/output when entering letters on the touch panel.
Use	
Setting/ Procedure	• The language options depend on the marketing area.

D. Date & Time Settings

(1) Date & Time Setting

Functions	• To set Year, Month, Day, Hour, and Minute.
Use	
Setting/ Procedure	*1.* Touch Year, Month, Day, Hour, and Minute key to enter the values. *2.* Touch [OK] to finish setting.

(2) Time Zone

Functions	• To set the time zone.
Use	
Setting/ Procedure	• For time zone, set the time difference with the world standard time. • Setting range for the time zone: -12:00 to +13:00 (by 30 minutes)

(3) Daylight Saving Time

⚠1 • It is displayed only when bit 6 for the mode 486 is set to "0" by the following setting: [Service Mode] → [System] → [Software Switch Setting].

Functions	• To set the timing to switch to the summer time.
Use	• To set the summer time. TYPE A: Sets the timing to start/finish summer time with month/date/hour. TYPE B: Sets the timing to start/finish summer time with month/day of the week/ date/hour.
Setting/ Procedure	*1.* Touch [Type A] or [TYPE B] to set the timing to start/finish summer time. *2.* Touch [OK] to complete setting.

E. Expert Adjustment

(1) AE Level Adjustment

Functions	• To set the default setting for AE (Auto Exposure) the larger the value becomes the more emphasized the background will be.
Use	To make the background level foggier : Increase the setting value To make the background level less foggy : Decrease the setting value
Setting/ Procedure	• The default setting is 2. "2" (0 to 4)

(2) Density Adjustment

<Thick Paper Image Density-Yellow, Magenta, Cyan, Black>

Functions	• To fine-adjust density of printed images of each color for thick paper and OHP film. (Only black color adjustable for OHP film)
Use	• To change the density of the printed image for each color with thick paper and OHP transparencies
Adjustment Range	-5 to +5
Adjustment Instructions	Light color: Increase the setting value Dark color: Decrease the setting value
Adjustment Procedure	*1.* Call the Admin. to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Density Adjustment]. *3.* Select a color that need to be adjusted. *4.* Touch the [▼] / [▲] key to correct the image density.

<Black Image Density>

Functions	• To fine-adjust the density of the printed image for a black copy
Use	• To vary the density of the printed image of a black copy
Adjustment Range	-2 to +2
Adjustment Instructions	The black is light : Increase the setting value The black is dark : Decrease the setting value
Setting/ Procedure	*1.* Call the Admin. to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Density Adjustment] → [Black Image Density]. *3.* Touch the [▼] / [▲] key to correct the image density.

(3) Image Stabilization

<Initialize+Stabilization>

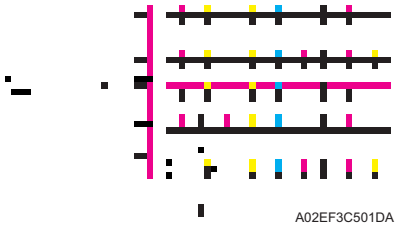
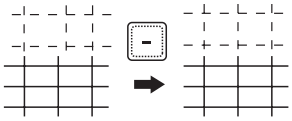
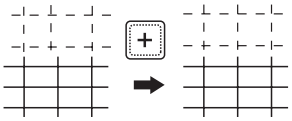
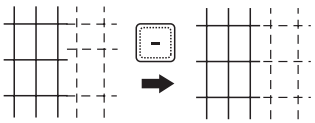
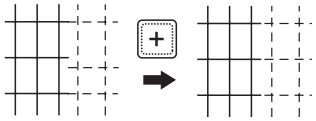
Functions	• To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized.
Use	• Use if an image problem persists even after [Gradation Adjustment] has been executed. • Use if tone reproduction and maximum density are faulty even after image stabilization has been executed.
Setting/ Procedure	*1.* Call the Admin. to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Image Stabilization] → [Initialize+Stabilization]. *3.* Press the Start key to start image stabilization. The Start key turns red and stays lit up red during the image stabilization sequence. *4.* Image stabilization is completed when the Start key turns blue.

<Image Stabilization>

Functions	• The image stabilization sequence is carried out without clearing the historical data of image stabilization control.
Use	• Use if an image problem persists even after [Gradation Adjustment] has been executed. • When [D Max Density] and [Background Voltage Margin] of Service Mode are changed.
Setting/ Procedure	*1.* Call the Admin. to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Image Stabilization] → [Image Stabilization]. *3.* Press the Start key to start image stabilization. The Start key turns red and stays lit up red during the image stabilization sequence. *4.* Image stabilization is completed when the Start key turns blue.

(4) Color Reg. Adjustment

<Color Reg. Adjustment (Yellow, Magenta, Cyan)>

Functions	• To adjust color shift if there is any when comparing the original with copy of the plain or thick paper.
Use	• To correct any color shift. • Able to make an individual adjustment for each paper type of plain paper, thick 1, thick 2 and thick 3.
Adjustment Range	"0" (-6 to +6 dot)
Adjustment Instructions	If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting.
Setting/ Procedure	*1.* Call the Admin. to the screen. *2.* Touch [System Settings] → [Expert Adjustment] → [Color Reg. Adjustment]. *3.* Load tray 1 with A3/11x17 or A4/8 $^{1}/_{2}$ x11 normal paper. *4.* Press the Start key. *5.* On the test pattern produced, check for deviation between the black line and the line of each color at positions X and Y. *6.* Select the color to be adjusted. *7.* Using the [+] / [-] key, change the setting value as necessary. (At this time, only the line of the selected color moves.) *8.* Produce another test pattern and make sure that there is no deviation. Check Procedure Check point X, Y  A02EF3C501DA Adjustment for X direction: Check point X If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting. Direction of A  A02EF3C502DA Direction of B  A02EF3C503DA Adjustment for Y direction: Check point Y If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting. Direction of A  A02EF3C504DA Direction of B  A02EF3C505DA

(5) Gradation Adjustment

- It will not be displayed when the following setting is set to "ON."
  [Service Mode] → [Imaging Process Adjustment] → [Dev. Bias Choice]

Functions	• To make an automatic adjustment of gradation based on the test pattern produced and the readings taken by the scanner.
Use	• Color reproduction performance becomes poor. • The IU has been replaced. • The image transfer belt unit has been replaced. • Printer (Gradation) : It gives the highest priority to gradation performance of the image as it adjusts. • Printer (Resolution) : It gives the highest priority to reproduction performance of letters and lines as it adjusts. • Copy : It gives the highest priority to increasing the number of images to be stored in the memory as it adjusts.
Adjustment Procedure	*1.* Perform image stabilization. **NOTE** • **Before executing gradation adjust, be sure to perform Image Stabilization.** *2.* Call the Admin. to the screen. *3.* Touch [System Settings] → [Expert Adjustment] → [Gradation Adjustment]. *4.* Select the appropriate mode for the gradation adjustment. *5.* Press the Start key to let the machine produce a test pattern. *6.* Place the test pattern produced on the original glass. *7.* Place ten blank sheets of A3/11 x 17 paper on the test pattern and lower the original cover. *8.* Press the Start key. (The machine will then start scanning the test pattern.) *9.* Touch [OK] and repeat steps from 2 through 7 twice (a total of three times). • If the image is faulty, perform the troubleshooting procedures for image problems.

(6) Printer Adjustment

<Media adjustment>

Functions	• Adjust the 2nd image transfer output (ATVC) on the 1st page and the 2nd page for each paper type. • This function is provided to open [Transfer Output Fine Adjustment] → [2nd Transfer Adjust] of Service Mode up to administrator and the fine-adjusted value is reflected in the Service Mode setting.
Use	• To use when the transfer failure at the trailing edge occurs.
Adjustment Specification	"0" (-8 to +7)
Adjustment Instructions	To increase the ATVC value (in the direction of a foggier image): increase the setting value in + direction. To decrease the ATVC value (in the direction of a less foggy image): increase the setting value in - direction.
Setting/ Procedure	*1.* Call the Admin. to the screen. *2.* Touch these keys in this order: [Expert Adjustment] → [Printer Adjustment] → [Media Adjustment]. *3.* Select the side of the image (Front side or Back side), on which the transfer failure at the trailing edge occurs. **NOTE** • **Only 1st side can be selected for Envelope and Transparency.** *4.* Select the paper type with the transfer failure at the trailing edge. *5.* Enter the new setting from the [+] / [-]. *6.* Touch [OK] to validate the adjustment value. *7.* Check the copy image for any image problem.

F. Paper Size/Type Counter

Functions Use	• To register the combination of the specific paper size and the type, and set the count. Also to display the count value for each combination which has been set.
Setting/ Procedure	*1.* Touch a key out of 1 to 10 registration keys. *2.* Touch [Change Settings]. *3.* Set the Paper Size/Paper Type, and touch [OK].

8.6.2 One-Touch/Box Reg.

- It is displayed only when bit 6 for the mode 477 is set to "1" by the following setting: [Service Mode] → [System] → [Software Switch Setting].

A. One-Touch

See P.129

B. Index

See P.130

C. Domain Name

See P.130

D. Bulletin

See P.130

8.6.3 Administrator Settings

A. Administrator Password

Functions	• To set/change the administrator password.
Use	• To change the administrator password.
Setting/ Procedure	• Enter the administrator password on the on-screen keyboard. Current Password : Enter the current administrator password New Password : Enter the new administrator password to be used Re-Input Password : Re-enter the new administrator password

B. Activity Report E-Mail TX

Functions	• To set the e-mail address for sending activity report e-mail for this machine.
Use	
Setting/ Procedure	*1.* Touch [Admin.] → [Activity Report E-Mail TX]. *2.* Enter the e-mail address on the screen keyboard.

8.6.4 Call Remote Center

• It will be displayed when the setup at the CS Remote Care center is complete.

Functions	• To call the CS Remote Care center from the administrator, when the CS Remote Care is connected.
Use	
Setting/ Procedure	• For details, see “CS Remote Care.” See P.181

8.6.5 Account Track

A. Authentication Settings

(1) Account Track

Functions	• To set whether to enable the account track function or not.
Use	• To enable the account track function.
Setting/ Procedure	• The default setting is OFF. "OFF" ON

(2) Allow Print Without Auth.

Functions	• To set whether to allow or restrict the print which account is not specified.
Use	• To allow or restrict printing which account is not specified. • When Allow is selected, pages printed by unidentified users are counted and included in the count of the public user.
Setting/ Procedure	• The default setting is Restrict. Allow "Restrict"

B. Account Track Settings

• The settings are available only when carrying out the account track.

(1) Account Track Registration

Functions	• To register and change the account. • To display the counter value of each account selected.
Use	• To register, change or delete the account for account track. • To check the status of each account.
Setting/ Procedure	*1.* Select account (000 to 049) and touch the key with the corresponding number. *2.* Enter the [Account Name] and [password].

(2) All Counter Clear

Functions Use	• To clear the counter for all accounts registered.
Setting/ Procedure	*1.* Touch [Admin.] → [Account Track] → [Account Track Settings] → [All Counter Clear]. *2.* Touch [Yes] to clear counter data.

8.6.6 Document Management

See P.16 of the FK-507 service manual.

8.6.7 Printer Settings

A. Timeout

Functions	• To set a period of time that elapses before input and output timeouts of communication are activated.
Use	• To set a period of time that elapses before input and output timeouts of communication are activated.
Setting/ Procedure	• The default setting is 60 seconds. "60 S" (10 to 1000 S)

8.6.8 Fax Settings

See P.17 of the FK-507 service manual.

8.6.9 TX Settings

See P.18 of the FK-507 service manual.

8.6.10 RX Settings

See P.18 of the FK-507 service manual.

8.6.11 Report Settings

See P.19 of the FK-507 service manual.

8.6.12 Print Lists

A. Setting List

Functions	• The list of machine settings can be printed.
Use	• To output the list of setting values of this machine to check it.
Setting/ Procedure	*1.* Touch [Admin.] → [Print List] → [Setting List]. *2.* Setting list is output.

⚠1 B. TX Report

See P.23 of the FK-507 service manual.

⚠1 C. RX Report

See P.23 of the FK-507 service manual.

⚠1 D. One-Touch List

See P.23 of the FK-507 service manual.

⚠1 E. Program List

See P.23 of the FK-507 service manual.

⚠1 F. Bulletin List

See P.23 of the FK-507 service manual.

8.6.13 Network Settings

A. Basic Settings

NOTE

- **When the settings are changed, turn off the main power switch and turn it on again more than 10 seconds after.**

(1) DHCP

Functions	• To set whether to automatically acquire IP address or not by DHCP function.
Use	
Setting/ Procedure	• The default setting is Auto Input. "Auto Input" IP Input

(2) IP Address

- This setting is available only when the following setting is in "IP Input" :
  [Admin.] → [Network Settings] → [Basic Settings] → [DHCP].

Functions	• To set the IP address of this machine.
Use	• Used to enter IP address when IP address is not automatically acquired by DHCP.
Setting/ Procedure	*1.* Touch [Network Settings] → [Basic Settings] → [IP Address]. *2.* Enter the IP address using the 10-key pad.

(3) Subnet Mask

- This setting is available only when the following setting is in "IP Input" :
  [Admin.] → [Network Settings] → [Basic Settings] → [DHCP].

Functions	• To set the subnet mask of this machine.
Use	
Setting/ Procedure	*1.* Touch [Network Settings] → [Basic Settings] → [Subnet Mask]. *2.* Enter the subnet mask using the 10-key pad.

(4) Gateway

- This setting is available only when the following setting is in "IP Input" :
  [Admin.] → [Network Settings] → [Basic Settings] → [DHCP].

Functions	• To set the gateway address.
Use	
Setting/ Procedure	*1.* Touch [Network Settings] → [Basic Settings] → [Gateway]. *2.* Enter the gateway address using the 10-key pad.

(5) Network Board Set

Functions	• To set the network board and to display the current operating status.
Use	• To change the network board setting to suit the network environment.
Setting/ Procedure	• The default setting is Auto. "Auto" 100M-Full 100M-Half 10M-Full 10M-Half

B. DNS Settings

Functions Use	• To set whether to use DNS function or not. • To set DNS host name, domain name, and the server address when set to “YES.”
Setting/ Procedure	• The default setting is NO. YES “NO”

(1) Host Name

Functions	• To set the DNS host name.
Use	• To enter the DNS host name.
Setting/ Procedure	*1.* Touch [Network Settings] → [DNS Settings] → [Host Name]. *2.* Enter the DNS host name on the screen key board or 10-key pad, and touch [OK].

(2) Domain Name

Functions Use	• To set the DNS domain name.
Setting/ Procedure	*1.* Touch [Network Settings] → [DNS Settings] → [Domain Name]. *2.* Enter DNS domain name on the 10-key pad or screen keyboard, and press [OK].

(3) Server Address

Functions Use	• To set the DNS server address. • Three server addresses (priority sever, substitute server 1 and 2) are available of setting.
Setting/ Procedure	*1.* Touch [Network Settings] → [DNS Settings] → [Server Address]. *2.* Touch one of the keys from DNS server address (1 to 3). *3.* Enter the DNS server address using 10-key pad, and touch [OK].

C. Machine Name

Functions Use	• Register the unit name of the main machine. • Registered machine name is used as the part of the title when communicating with internet fax or e-mails.
Setting/ Procedure	*1.* Touch [Network Settings] → [Machine Name]. *2.* Enter the unit name (with up to 16 English one-byte characters) on the 10-key pad or screen keyboard, and press [OK].

D. SMTP TX Settings

(1) SMTP Server Address

Functions	• To set the SMTP server address.
Use	• To enter the SMTP server address.
Setting/ Procedure	*1.* Touch [Network Settings] → [SMTP TX Settings] → [SMTP Server Address]. *2.* Enter the SMTP server address using 10-key pad. *3.* Touch [Port], and set the port number.

(2) E-Mail Address

Functions Use	• To set the e-mail address to be used for this machine.
Setting/ Procedure	*1.* Touch [Network Settings] → [SMTP TX Settings] → [E-Mail Address]. *2.* Enter the E-mail address on the screen key board or 10-key pad, and touch [OK].

(3) SMTP Authentication User Name

Functions Use	• To set the user name for authentication with SMTP server.
Setting/ Procedure	*1.* Touch [Network Settings] → [SMTP TX Settings] → [SMTP Authentication User Name]. *2.* Enter the user name on the screen key board or 10-key pad, and touch [OK].

(4) SMTP Authentication Password

Functions Use	• To set the password for authentication with SMTP server.
Setting/ Procedure	*1.* Touch [Network Settings] → [SMTP TX Settings] → [SMTP Authentication Password]. *2.* Touch [New Password]. *3.* Enter the new password on the 10-key pad or screen keyboard, and touch [OK]. *4.* Touch [Confirm New Password], and enter the password again for confirmation.

E. SMTP RX Settings

(1) Self-Domain Name

Functions	• To set the domain name for this machine.
Use	• To prevent receiving data from general public by cross checking domain names when receiving SMTP (IP address fax/IP relay). • IP address fax receives data only when [Self-Domain Name] on receiving side and [Self-Domain Name] on sending side match. • IP relay receives (relays) data only when [Self-Domain Name] on receiving (relay) side and [Domain Name] on sending side match. • When the receiver or the sender is not registered, it is considered to be matched.
Setting/ Procedure	*1.* Touch [Network Settings] → [SMTP RX Settings] → [Self-Domain Name]. *2.* Set the domain name on the 10-key pad or the screen keyboard, and touch [OK].

(2) SMTP Authentication User Name

Functions Use	• To set the SMTP authentication user name when using SMTP authentication function.
Setting/ Procedure	*1.* Touch [Network Settings] → [SMTP RX Settings] → [SMTP Authentication User Name]. *2.* Set the user name on the 10-key pad or the screen keyboard, and touch [OK].

(3) SMTP Authentication Password

Functions	• Sets the SMTP authentication password when using SMTP authentication function.
Use	
Setting/ Procedure	*1.* Touch [Network Settings] → [SMTP RX Settings] → [SMTP Authentication Password]. *2.* Set the password on the 10-key pad or the screen keyboard, and touch [OK].

(4) Exception Setting

Functions	• To set the IP address area which is exceptionally not authenticated for SMTP authentication.
Use	
Setting/ Procedure	*1.* Touch [Network Settings] → [SMTP RX Settings] → [Exception Setting]. *2.* Touch [1]. (When more than one exceptional settings are to be made, they can be set to [2] and [3].) *3.* Enter the IP address for start and finish using the 10-key pad, and touch [OK].

F. POP3 Settings

(1) POP3 Server Address

Functions	• To set the POP server address.
Use	• To enter the POP server address.
Setting/ Procedure	*1.* Touch [Network Settings] → [POP3 Settings] → [POP3 Server Address]. *2.* Enter the POP server address using 10-key pad. *3.* Touch [Port], and set the port number.

(2) POP3 User Name

Functions	• To set the user name for authentication with POP3 server.
Use	
Setting/ Procedure	*1.* Touch [Network Settings] → [POP3 Settings] → [POP3 User Name]. *2.* Enter the user name on the screen key board or 10-key pad, and touch [OK].

(3) POP3 Password

Functions	• To set the password for authentication with POP3 server.
Use	
Setting/ Procedure	*1.* Touch [Network Settings] → [POP3 Settings] → [POP3 Password]. *2.* Touch [New Password]. *3.* Enter the new password using the 10-key pad or the screen keyboard, and touch [OK]. *4.* Touch [Confirm New Password], and enter the password again for confirmation.

(4) Auto-RX Check

Functions	• To set the intervals for auto checking on receiving e-mails with POP3.
Use	
Setting/ Procedure	• The default setting is Check OFF. "Check OFF", 1 to 99 M.

G. Scanner Settings

(1) Activity Report

Functions Use	• To set whether to inform the receiving result for internet fax or not.
Setting/ Procedure	• The default setting is On. "On" Off

(2) RX Doc. Header Print

Functions Use	• To set whether to print the e-mail header on the first page or not when printing the document received by the internet fax.
Setting/ Procedure	• The default setting is Off. On "Off"

(3) E-Mail Header Text

Functions Use	• To set to insert text as the main text when sending e-mails or internet fax. Fixed Text : Inserts a fixed text stored in the main machine. Custom Text : Inserts the text which can be set as desired. Off : Does not enter text.
Setting/ Procedure	• The default setting is Fixed Text. "Fixed Text" Custom Text Off

(4) Subject Registration

Functions Use	• To register the title when sending an e-mail or internet fax. • Up to four titles can be registered to suit each content.
Setting/ Procedure	*1.* Touch [Network Settings] → [Scanner Settings] → [Subject Registration]. *2.* Touch the title number to be registered or changed. *3.* Enter the title using the 10-key pad or the screen keyboard.

(5) Division Setting

Functions Use	• To set whether to divide the mail to send it or not. Binary Division : Select [On] when dividing a mail to send it. Binary Division Size : Sets the size to dive it into when selecting [On] with Binary Division. **NOTE** • **This function may not be available with some mail software of the receiver.**
Setting/ Procedure	<Binary Division> • The default setting is Off. On "Off" <Binary Division Size> 16 to 2000 (KB)

(6) Gateway TX

Functions	• To set items concerning Gateway TX.
Use	• To set to [Allow] when using the main machine as the relay unit for IP relay, and set to [Restrict] when not using it as the relay unit for IP relay.
Setting/ Procedure	• The default setting is Allow. "Allow" Restrict

⚠1 H. LDAP Settings

Functions	• To set whether to enable or disable the LDAP function.
Use	• To use LDAP function.
Setting/ Procedure	• The default setting is No. Yes "No"

(1) Setting Up LDAP

- Registration and/or setting concerning the LDAP server can be conducted.
- Touch [Setting Up LDAP], and select the optional blank key to register and/or set.

<Server Name>

Functions	• Set the LDAP server name.
Use	
Setting/ Procedure	*1.* Touch [Server Name]. *2.* Enter the server name (up to 32 one-byte characters) on the on-screen keyboard, and touch [OK].

<Server Address>

Functions	• To set the LDAP server address.
Use	• To enter LDAP server address.
Setting/ Procedure	*1.* Touch [Server Address]. *2.* Select [Host Name] or [IP Input], and enter the server address.

<SSL Setting>

Functions	• To set whether to use SSL (data encryption) for connecting to LDAP server.
Use	• To use SSL (data encryption) for connecting to LDAP server.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

<Port Number>

Functions	• To set the LDAP server port number.
Use	• To enter the LDAP server port number.
Setting/ Procedure	*1.* Touch [Port Number]. *2.* Enter the port number between 1 and 65535 using the 10-key pad.

<Search Base>

Functions	• To set the directory path for LDAP server.
Use	• To enter the directory path for LDAP server.
Setting/ Procedure	*1.* Touch [Search Base]. *2.* Enter the search base (up to 255 characters) on the on-screen keyboard, and touch [OK].

<Auth. Type>

Functions	• To set the authentication method to logon to LDAP server.
Use	• To change the authentication method to logon to LDAP server. anonymous : User name and password are not necessary (Dynamic authentication will be invalid when anonymous is selected.) Simple : Simple method which needs the user name and the password Digest-MD5/CRAM-MD5 : Method available with normal LDAP server. When failing to authenticate with Digest-MD5, it automatically switches to CRAM-MD5. GSS-SPNEGO : Method available with Windows active directory (Kerberos authentication).
Setting/ Procedure	• The default setting is anonymous. “anonymous” Simple Digest-MD5 GSS-SPNEGO

<Login Name>

Functions	• To set the login name to connect to LDAP server.
Use	• To set the login name to connect to LDAP server.
Setting/ Procedure	*1.* Touch [Login name]. *2.* Enter the logon name (up to 255 characters) on the on-screen keyboard, and touch [OK]. **NOTE** • **The setting is not available when authentication method is set to anonymous.**

<Password>

Functions	• To set the password for connecting to LDAP server.
Use	• To set the password for connecting to LDAP server.
Setting/ Procedure	*1.* Touch [Password]. *2.* Enter the password (up to 63 characters) on the on-screen keyboard, and touch [OK]. **NOTE** • **The setting is not available when authentication method is set to anonymous.**

<Domain Name>

Functions	• To set the domain name for connecting to LDAP server.
Use	• To set the domain name for connecting to LDAP server.
Setting/ Procedure	*1.* Touch [Domain Name]. *2.* Enter the domain name (up to 64 characters) on the on-screen keyboard, and touch [OK].

<Maximum Search #>

Functions	• To set the max. results of address for LDAP search.
Use	• To change the max. results of address for LDAP search.
Setting/ Procedure	*1.* Touch [Maximum Search #]. *2.* Press the Clear key. *3.* Enter the max. search result numbers between 5 and 1000 using the 10-key pad.

<Timeout>

Functions	• To set the Max. timeout period for LDAP search.
Use	• To change the Max. timeout period for LDAP search.
Setting/ Procedure	*1.* Touch [Timeout]. *2.* Press the Clear key. *3.* Enter the timeout period between 5 and 300 using the 10-key pad.

<Check Connect.>

- It will not be displayed when [LDAP Settings] is set to “No.”

Functions	• To check the connection with the LDAP server which has been set.
Use	
Setting/ Procedure	*1.* Touch [Check Connect.]. *2.* Confirm a proper connection and touch [OK].

<Initial>

Functions	• To return the contents registered in the LDAP server to what they were prior to the shipping.
Use	
Setting/ Procedure	*1.* Touch [Initial]. *2.* Check the message and touch [Yes].

△1 (2) Search Default Setting

Functions	• To set the server to be used as the default when searching LDAP.
Use	
Setting/ Procedure	*1.* Touch [Search Default Setting]. *2.* Select the optional server.

△1 I. Frame Type Set

Functions	• To set the ethernet frame type.
Use	• To specify the frame type for transmission.
Setting/ Procedure	• The default setting is Auto Detect. “Auto Detect” 802.2 802.3 Ethernet II 802.3SNAP

J. IP Relay Settings

⚠1
- It is displayed only when bit 7 for the mode 381 is set to "0" by the following setting: [Service Mode] → [System] → [Software Switch Setting].

(1) IP Relay Settings

Functions Use	• To set whether to use the IP relay function or not.
Setting/ Procedure	• The default setting is Yes. "Yes" No

(2) IP Relay Destination Registration

Functions Use	• Registers the address for IP relay destination. • To enter self-domain name of the relay unit as the domain name when restricting receiving by the domain name at the time of IP relay.
Setting/ Procedure	*1.* Touch [Network Settings] → [IP Relay Settings] → [IP Relay Destination Registration]. *2.* Touch the number into which relay destination is to be registered. *3.* Touch [IP Relay Address]. *4.* Enter the address for IP relay destination, and touch [OK]. *5.* Touch [Domain Name]. *6.* Enter the domain name for IP relay destination, and touch [OK].

(3) Relay Result Port

Functions Use	• Sets the port number for receiving communication result for IP relay.
Setting/ Procedure	*1.* Touch [Network Settings] → [IP Relay Settings] → [Relay Result Port]. *2.* Enter the port number using the 10-key pad, and touch [OK].

K. RAW Port Number Settings

Functions Use	• Change the raw port number.
Setting/ Procedure	*1.* Touch [Network Settings] → [RAW Port Number Settings]. *2.* Enter the port number using the 10-key pad, and touch [OK]. *3.* Touch [Default] to default the port number.

8.6.14 Software Switch Setting

Functions Use	• To specify the value (mode, bit, HEX) for software DIPSW to suit the purpose of the use, and to change the machine status. • Only software DIPSW available of setting by the user (administrator) are described here. • For details of the software DIPSW as well as software DIPSW which can be set by CE, refer to the “Service mode” section or FK-507 service manual.
Setting/ Procedure	*1.* Touch [Software Switch Setting]. *2.* Touch [Mode Selection], and enter the mode number (three digit number) using the 10-key pad. *3.* Touch [Bit Selection]. *4.* Set the cursor using the [←] or [→] key to specify the bit with 0 or 1 on the 10-key pad. (When setting in hexadecimal, press [HEX Selection] to enter using the 10-key pad or A to F key.) *5.* Touch [Apply]. *6.* Touch [OK].

A. List of the software switch settings for administrator

(1) For network settings

	Mode	Setting item
	356	• Specifying settings concerning the SMTP transmission timeout
	357	• Specifying settings concerning the SMTP reception timeout
	358	• Specifying settings concerning the POP3 reception timeout
	361	• Specifying settings concerning Assistant tool for C200, SMTP transmission/reception and POP3 reception
	364	• Specifying the setting for the POP Before SMTP time
1	365	• Specifying settings concerning the timeout for a FTP connection
	367	• Specifying settings concerning the timeout for a DNS inquiry
	372	• Specifying settings concerning the transmission interval for divided e-mail messages
1	376	• Specifying settings concerning the AppleTalk protocol
1	378	• Specifying settings concerning the IPP printing
	380	• Specifying security settings for e-mail transmissions
	383	• Specifying security settings for e-mail receptions
	384	• Specifying settings concerning the network protocol
1	385	• Specifying settings concerning the SMB protocol
1	386	• Specifying settings concerning the TCP socket, NetWare
1	389	• Specifying settings concerning the encryption method for SSL and the SNMP protocol
1	390	• Specifying settings concerning the SNMP protocol
	470	• Specifying settings concerning Assistant tool for C200

(2) For scan/fax settings

Mode	Setting item
000	• Specifying settings concerning the position of the transmission source information and concerning password communications
001	• Specifying settings for inserting the recipient’s name in the original

Mode	Setting item
002	• Specifying printing of the memory clear report and the report for a broadcast transmission
004	• Specifying the storage time for failed transmission documents
016	• Specifying whether or not a received date report is added and its format
023	• Specifying settings for the TWAIN operation lock time and the image in the results report
024	• Specifying settings for administrator forwarding
025	• Specifying settings concerning transmission if the memory becomes full
028	• Specifying the maximum number of copies allowed with remote copying
030	• Specifying settings for fax reception functions
037	• Specifying the settings for selecting paper trays when faxes are received
043	• Specifying settings for general subscriber lines
249	• Specifying settings for the number of rings until automatic reception (port 2)
301	• Specifying settings for receiving long documents
302	• Specifying the setting for selecting paper when printing received documents
350	• Specifying settings concerning Internet faxing
351	• Specifying transmission source information for IP address fax transmissions and IP relay operations
352	• Specifying whether transmission source information is added when performing a IP relay operation, or when forwarding received documents
360	• Coding method for the receiver Internet fax capability (Network function, Mail mode)
363	• Specifying settings concerning the from address in MDN/DSN reports
366	• Specifying the default address input screen
368	• Specifying settings concerning IP relay operations appearing in the activity report
373	• Specifying settings concerning full mode functions with Internet faxing
381	• Specifying the default setting for the coding method
382	• Specifying settings concerning the communication results of IP relay operations
391	• File format, Coding format
473	• Specifying the Job list screen given priority
476	• Specifying settings concerning the direct input tab and broadcast transmissions
477	• Fax registration restriction and destination display, Setting confirmation screen for broadcast TX
478	• Specifying settings concerning the use of the button for deleting, the display when a one-touch dial button is touched, and the default communication mode
804	• Specifying settings for checked receiver transmissions

(3) For printer settings

Mode	Setting item
304	• Specifying the storage time for confidential documents

(4) For copy settings

Mode	Setting item
402	• Specifying settings for the main application
403	• Specifying settings for using copy mode operations
417	• Specifying whether or not the number of copies are limited
471	• Specifying how the screen for selecting an account appears in administrator mode
501	• Specifying settings for enlarge display mode
835	• Specifying the setting concerning public accounts

8.6.15 Ping

Functions	• To set the TCP/IP network diagnosis by Ping.
Use	• To check the condition of TCP/IP network.
Setting/ Procedure	*1.* Touch [Ping]. *2.* Select the destination to send the Ping. (When selecting [Ping IP Address], enter the IP address of the destination server.) *3.* Press the start key, and check that it is connected.

8.6.16 Firmware Version

Functions	• To display the firmware version of this machine.
Use	• To check the firmware version when trouble occurs while updating the firmware. • Types of firmware displayed are as follows. MAIN, Printer, LCT, Job Sep., Fax (Europe only)
Setting/ Procedure	*1.* Touch [Firmware Version]. *2.* Confirm the firmware version.

8.6.17 Security Settings

A. Function Mgmt Settings

(1) Usage Settings For Each Functions

• It is displayed only when the vendor or authentication device is installed.

Functions	• To set whether to use management function for each item of [Copy], [Scan/Fax] and [Print].
Use	• To make a usage setting for each machine function or to prohibit the use of each function. ON : Function is enabled when authentication is made or a coin is inserted. OFF : Function is always enabled regardless of authentication or coin insertion.
Setting/ Procedure	• The default setting is ON. "ON" OFF Prohibit

(2) Maximum Job Allowance

Functions Use	• To set the upper limit of the number of copy or PC print when management function has been set.
Setting/ Procedure	• The default setting is OFF. "OFF", 1 to 999

Blank Page

9. Adjustment item list

Adjustment/setting items			Replacement part/Service job	No	Replace paper feed roller	Replace separation roller assy	Change marketing area	Install LCT	Replace IU	Replace PH unit
Service Mode	Machine	Printer Area	Leading Edge Adjustment	1						(2)
			Centering	2				(2)		(3)
			Feed Direction Adjustment	3				(1)		
		Scan Area	ADF Adjustment: Zoom	4						
			ADF Adjustment: Feed	5						
			BK-S Adjustment: Zoom	6						
			BK-S Adjustment: Feed	7						
	Touch Panel Adjust			8						
	State Confirmation	Table Number		9						
	System	Re-entry of setting values		10						
		Serial Number		11						
	Counter	Life	Counter Clear	12	❍	❍				
	Image Process Adjustment		Gradation Adjust	13					❍	
Admin.	Firmware Version			14						
Re-entry of Utility settings				15						
Re-entry of Security Settings settings				16						
Positioning exposure unit				17						
PH skew adjustment				18						(1)
F/W upgrading				19			❍			
Remounting of RAMU board to the MFBU board				20						
Replace transfer belt unit				21						

- This table shows the adjustment items that are required when a part of the machine has been replaced. Priority order, if applicable, during the adjustment procedures is indicated by the corresponding number in the parentheses.

No	Wind scanner drive wires	Replace scanner motor	Replace exposure unit	Replace scanner home sensor	Replace printer control board	Replace MFBU board	Replace BCRU board	Replace original glass	Replace IDC/registration sensor/F,R	Execute memory clear	Execute add. option	Execute F/W update	Add fax board
1													
2													
3													
4			(4)										
5			(5)	❍									
6	(2)		(2)					(2)					
7		❍	(3)					(1)					
8										(6)			
9										(2)			
10										(4)			
11										(3)			
12													
13						(3)							
14											❍	❍	
15										(1)			
16										(5)			
17	(1)		(1)										
18													
19					❍	(2)	❍						❍
20						(1)							
21									❍				

10. Service Mode

10.1 Service Mode function setting 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.**

A. Procedure

1. Press the Utility/Counter key.
2. Touch [Check Details].
3. Press the following keys in this order; Stop → 0 → 0 → Stop → 0 → 1

NOTE

- **When selecting [CE Authentication] under [Security Settings] available from Service Mode, authentication by CE password is necessary.**
  Enter the 8 digits CE password, and touch [END].
  (The initial setting for CE password is "92729272.")
- **NEVER forget the CE password. When forgetting the CE password, it becomes necessary to replace the RAMU board with a new one and call responsible person of KMBT.**
- **The service code entered is displayed as "∗."**

4. The Service Mode menu will appear.

A02FF3E517DA

NOTE

- **Be sure to change the CE password from its default value.**
- **For the procedure to change the CE password, see the Security Settings.**
  See P.319

B. Exiting

- Touch the [OK] key.

NOTE

- **When changing the setting value in service mode, make sure to turn main power switch off once and turn it on again.**

C. Changing the setting value in Service Mode functions

- Use the [+] / [-] key to enter or change the setting value.
- Use the 10-key pad to enter the setting value. (To change the setting value, first press the Clear key before making an entry.)

10.2 Service Mode function tree

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

Service Mode				Ref. page
Machine Adjustment	Fusing Temperature	Heater Roller		P.162
		Pressure		
	Fusing Transport Speed			P.163
	Printer Area	Leading Edge Adjustment		P.164
		Centering		P.165
		Centering (Duplex 2nd Side)		P.166
		Feed Direction Adjustment		P.167
		Test Copy		P.167
	Scan Area	ADF Adjustment	Zoom	P.168
			Feed	
			Regist Loop	
			Erasure Width	
			Paper Passage	
		BK-S Adjustment	Zoom	P.168
			Feed	P.170
			Erasure Width	P.171
			Carriage Move	P.172
		Shading Position		P.172
		Test Copy		P.172
	Printer Regist Loop			P.173
	Color Reg. Adjust-ment	Cyan		P.174
		Magenta		
		Yellow		
	Manual Bypass Tray Adjustment			P.175
	Lead Edge Erase Adjustment			P.175
	Touch Panel Adjustment			P.175
Imaging Process Adjustment	Gradation Adjust	Gradation		P.176
		Resolution		
		High Compression Mode		
	D Max Density			P.177
	Background Voltage Margin			P.177
	Transfer Output Fine Adjustment	Secondary transfer adj.		P.178
		Primary transfer adj.		P.178
	Image Stabilization	Initialize + Stabilization		P.179
		Stabilization Only		P.179
	Thick Paper Density Adjustment			P.179
	Toner Supply			P.180
	Monochrome Density Adjustment			P.180
	Dev. Bias Choice			P.180
△1 CS Remote Care				P.181

Service Mode			Ref. page
System Input	Marketing Area		P.201
	Exhaust Fan Stop Delay		P.201
	Serial Number		P.202
	No Sleep		P.202
	Foolscap Size Setting		P.202
	Install Date		P.202
	Change Fixed Zoom		P.203
	File Display		P.203
	Memory Clear	System Data	P.203
		System Error	P.203
		Image Data	P.203
		Own Setting	P.204
		Fax dest.	P.204
		Activity	P.204
		Soft SW	P.204
	Software Switch Setting		P.205
	Consumable Life Reminder		P.298
	Unit Change		P.299
	Option Settings		P.299
	~~Center Erase Width~~		~~P.299~~
	IU Life Setting		P.300
Counter	Life		P.301
	Jam		P.302
	Service Call Counter		P.302
	Warning		P.302
	Maintenance		P.302
	Service Total		P.302
	Service Call History (Data)		P.303
	ADF Paper Pages		P.303
	Paper Jam History		P.303
	Fax Connection Error		P.303
List Output	Service Call Report		P.303
	Protocol Trace		P.303
	File Dump		P.304
State Confirmation	Sensor Check (Printer)		P.304
	Sensor Check (Scan)		
	Table Number		P.310
	Level History		P.310
	Temp. & Humidity		P.310
	Color Regist.		P.311
	IU Lot No.		P.311
	Machine Configuration		P.311

Service Mode		Ref. page
Test Mode	Gradation Pattern	P.312
	Halftone Pattern	P.313
	Lattice Pattern	P.313
	Color Reproduction	P.314
	Running Mode	P.314
Fax Settings	Self-Telephone #	P.314
⚠1 Internet ISW	Internet ISW Set	P.315
	HTTP Setting	P.315
	Forwarding Access Setting	P.316
Download Firmware	Engine	P.317
	Job Sep.	

10.3 Machine Adjustment

10.3.1 Fusing Temperature

Functions	• To adjust individually the temperature of the heating roller and the fusing pressure roller for each type of paper, thereby coping with varying fusing performance under changing environmental conditions.
Use	• When fusing performance is poor, or wax streak or offset occurs when the type of paper is changed or environmental conditions change. • Use when the curling of the paper due to the paper type or environmental change occurred, or when the paper jam, as well as stapling or folding position error occurred due to the curling of the paper. • By setting the temperature higher (+), gloss of print can be improved. • By setting the temperature lower (-), exit roller mark can be reduced.
Adjustment Range	

Paper type	Setting range	step
Plain	-20 °C to +5 °C	5 °C
Transparency	-20 °C to +5 °C	5 °C
Thick 1	-20 °C to +5 °C	5 °C
Thick 2	-20 °C to +5 °C	5 °C
Thick 3	-20 °C to +5 °C	5 °C
Enve.	-5 °C to +5 °C	5 °C

Adjustment Instructions	If fusing performance is poor, increase the setting. If wax streaks occur, decrease the setting. If offset is poor, decrease the setting. If curling of the paper occurs, decrease the setting.
Setting/ Procedure	**NOTE** • **To adjust the fusing temperature, adjust on the "Heater Roller" first. If the further adjustment is necessary, adjust on the "Pressure."** *1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine Adjustment] → [Fusing Temperature] → [Heater Roller]. *3.* Select the paper type. *4.* Enter the new setting from the / keys. *5.* Touch [OK] to validate the adjustment value. *6.* Return to the basic screen. *7.* Output two or three test printing and check to see whether the image has any problem. *8.* Make the adjustment for each type of paper.

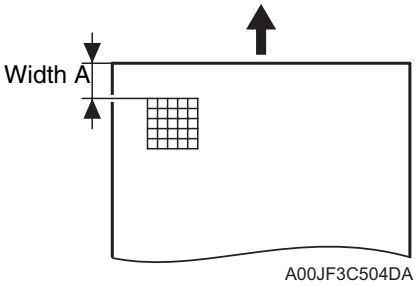
10.3.2 Fusing Transport Speed

Functions	• To adjust the speed of the fusing drive motor so as to match the fusing speed with transport speed.
Use	• Brush effect or blurred image is evident as a result of changes in environmental conditions or degraded durability.
Variable Range	-2.0 % to +2.0 % (in 1 increments)
Adjustment Instructions	If brush effect is evident, vary the setting value and check for image. If a blurred image occurs, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine Adjustment] → [Fusing Transport Speed]. *3.* Select the transport speed, at which the brush effect or blurred image has occurred. *4.* Enter the new setting from the [+]/[-] keys. *5.* Touch [OK] to validate the adjustment value. *6.* Return to the basic screen. *7.* Output two or three test printing and check to see whether the image has any problem.

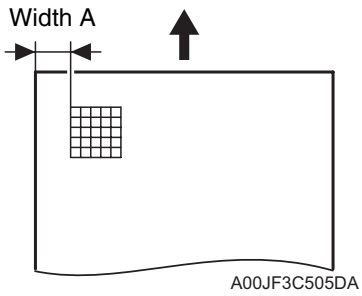
Transport speed	Paper Setting
92 mm/s	Plain paper: color/monochrome, OHF film
46 mm/s	Thick 1, Thick 2, Thick 3, envelope, postcard: monochrome/color

10.3.3 Printer Area

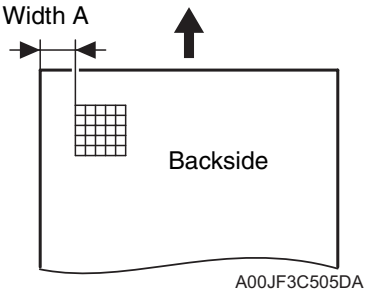
A. Leading Edge Adjustment

Functions	• To change and adjust the position to start printing in sub scan direction per paper type or per front or back page on the tray 1. (To adjust the timing where paper is sent out from the timing roller)
Use	• The PH unit has been replaced. • The paper type has been changed. • The image on the copy deviates in the sub scan direction. • A faint image occurs on the leading edge of the image. • This setting can be made independently for plain paper, thick 1, thick 2, thick 3, OHP film, and envelopes.
Adjustment Specification	 A00JF3C504DA Width A on the test pattern produced should fall within the following range. Specifications: 4.2 ± 0.5 mm Setting range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Place A3 or 11 x 17 paper on the tray1. *2.* Call the Service Mode to the screen. *3.* Touch [Machine Adjustment] → [Printer Area] → [Leading Edge Adjustment]. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the [▼]/[▲] keys. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch [OK]. *11.*Following the same procedure, adjust for thick 1 to 3, OHP film, and envelope.

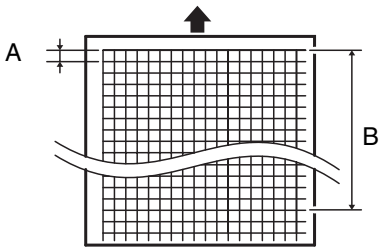
B. Centering

Functions	• To vary the print start position in the main scan direction for each paper source.
Use	• The PH unit has been replaced. • A paper feed unit has been added. • The image on the copy deviates in the main scan direction.
Adjustment Specification	 A00JF3C505DA Width A on the test pattern produced should fall within the following range. Specifications: 3.0 ± 1.0 mm Setting range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	If width A is longer than the specifications, make the setting value smaller than the current one. If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Machine] → [Printer Area] → [Centering]. *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the / keys. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch [OK]. *11.*Following the same procedure, adjust for all other paper sources.

C. Centering (Duplex 2nd Side)

Functions	• To vary the print start position in the main scan direction for each paper source in the 2-Sided mode.
Use	• The image on the backside of the 2-sided copy deviates in the main scan direction.
Adjustment Specification	 A00JF3C505DA •Width A on the test pattern produced should fall within the following range. •For measurement, use the image produced on the backside of the test pattern. Specifications: 3.0 ± 2.0 mm Setting range: -3.0 mm to +3.0 mm (in 0.2 mm increments)
Adjustment Instructions	• If width A is longer than the specifications, make the setting value smaller than the current one. • If width A is shorter than the specifications, make the setting value greater than the current one.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Machine Adjustment] → [Printer Area] → [Centering (Duplex 2nd Side)]. *3.* Select the paper source to be adjusted. *4.* Press the Start key to let the machine produce a test pattern. *5.* Check the dimension of width A on the test pattern. *6.* If width A falls outside the specified range, change the setting using the / keys. *7.* Press the Start key to let the machine produce a test pattern. *8.* Check the dimension of width A on the test pattern on the backside of the copy. *9.* If width A is outside the specified range, change the setting again and make a check again. *10.*If width A falls within the specified range, touch [OK]. *11.*Following the same procedure, adjust for all other paper sources.

D. Feed Direction Adjustment

Functions	• To synchronize the paper transport speed with the image writing speed.
Use	• Feed direction adjustment becomes necessary. • The print image on the copy distorts (stretched, shrunk). • When the print image on the copy is stretched in the sub scan direction. • This setting can be made independently for plain paper, thick 1, thick 2 and thick 3.
Adjustment Specification	 A00JF3C506DA Width A and width B on the test pattern produced should fall within the following ranges. Width A: equivalent to one grid Width B: equivalent to 48 grids Specifications A: 7.9 to 8.3 B: 389.1 to 392.1 Setting Range A, B: -7 to +7
Adjustment Instructions	If width A or B is longer than the specifications, make the setting value smaller than the current one. If width A or B is shorter than the specifications, make the setting value greater than the current one.
Adjustment Procedure	*1.* Place A3 or 11 x 17 paper on the tray1. *2.* Call the Service Mode to the screen. *3.* Touch [Test Mode] → [Lattice Pattern], and press the Start key to let the machine produce a test pattern. **NOTE** • **Do not adjust with the test pattern which can be output under the following setting: [Machine Adjustment] → [Printer Area] → [Feed Direction Adjustment].** *4.* Check width A (equivalent to one grid) and width B (equivalent to 48 grids) on the test pattern. *5.* Touch these keys in this order: [Machine] → [Printer Area] → [Feed Direction Adjustment]. *6.* If width of A or B falls outside the specified range, change the setting using the [+]/[-] keys. *7.* Press the Start key to let the machine produce a test pattern again. *8.* Check width A and width B on the test pattern. *9.* If width A or B falls outside the specified range, change the setting value and make a check again. *10.*If width A or B falls within the specified range, touch [OK]. *11.*Following the same procedure, adjust for thick paper.

E. Test Copy

Functions	• To carry out test copy used for adjustment.
Use	• To check the current status, effect, etc, when adjusting printer area.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Machine Adjustment] → [Printer Area] → [Test Copy]. *3.* Select proper item for Paper, Simplex/Duplex, Color and Mixed Original, and press the start key. *4.* Test copy is output.

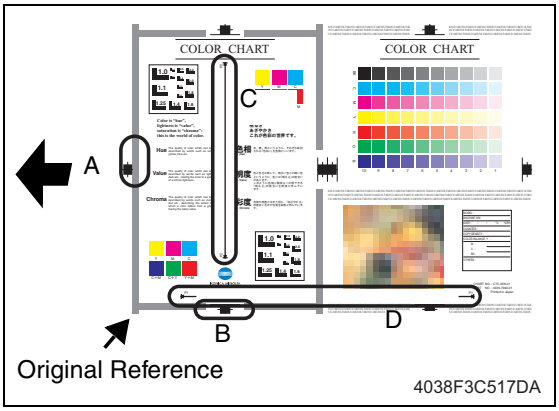
10.3.4 Scan Area

A. ADF Adjustment

See P.34 of the DF-612/SP-503/MS-501 service manual.

B. BK-S Adjustment

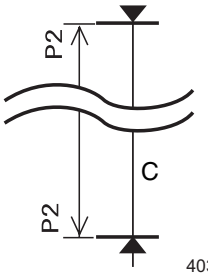
- Use the following color chart for the adjustment of the scanner section.
- If the color chart is not available, a scale may be used instead.



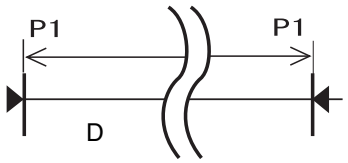
- A: Feed: Leading Edge
- B: Feed: Centering
- C: Zoom: Cross Direction Adjustment
- D: Zoom: Feed Direction Adjustment

(1) Zoom

- Cross Direction Adjustment

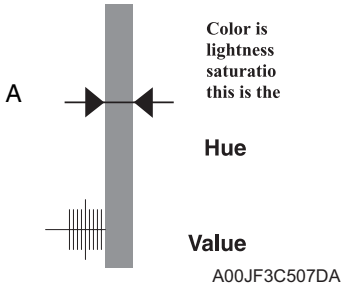
Functions	• To adjust the zoom ratio in the main scan direction for the scanner section.
Use	• The exposure unit is replaced.
Adjustment Specification	 4038F3C516DA •Measure C width on the color chart and on the sample copy, and adjust the gap to be within the following specification. •An adjustment must have been completed correctly of “Paper Feed Direction Adj.” of [Printer Area]. Specifications C: ± 1.0 mm Setting range 0.990 to 1.010 (in 0.001 increments) * When using a scale: Standard dimension: 200.0 mm
Adjustment Instructions	If the C width on the copy sample is less than one on color chart, increase the setting. If the C width on the copy sample exceeds one on color chart, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [BK-S Adjustment] → [Zoom] → [Cross Direction Adjustment]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the C width on the image of the copy. *6.* If the image falls outside the specified range, change the setting value. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

- Feed Direction Adjustment

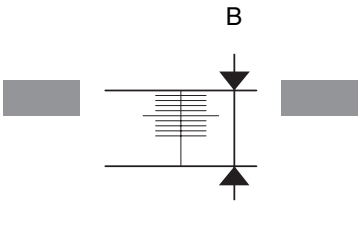
Functions	• To adjust the zoom ratio in the sub scan direction for the scanner section.
Use	• The exposure unit is replaced. • The scanner drive wires or the scanner drive wire pulley is replaced.
Adjustment Specification	 4038F3C518DA •Measure D width on the color chart and on the sample copy, and adjust the gap to be within the following specification. •An adjustment must have been completed correctly of “Paper Feed Direction Adj.” of [Printer Area]. Specifications D: ± 1.5 mm Setting range 0.990 to 1.010 (in 0.001 increments) * When using a scale: Standard dimension: 300.0 mm
Adjustment Instructions	If the D width on the copy sample is less than one on color chart, increase the setting. If the D width on the copy sample exceeds one on color chart, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [BK-S Adjustment] → [Zoom] → [Feed Direction Adjustment]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check the D width on the image of the copy. *6.* If the image falls outside the specified range, change the setting value. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

(2) Feed

- Leading Edge

Functions	• To adjust variations in mounting accuracy and sensitivity of the scanner home sensor and in mounting accuracy of the original width scale by varying the scan start position in the main scan direction.
Use	• When the original glass is replaced. • When the original width scale is replaced. • When the exposure unit is replaced.
Adjustment Specification	 A00JF3C507DA •B width on the color chart and one on the copy sample are measured and adjusted so that the difference of A width satisfies the specifications shown below. •An adjustment must have been completed correctly of [Leading Edge Adjustment] of [Printer Area]. Specifications A: ± 0.5 mm (10 ± 0.5 mm if a scale is used) Setting range -72 to +72 dot (in 1 dot increments)
Adjustment Instructions	If the copy image is less than the specified length, increase the setting value. If the copy image exceeds the specified length, decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [BK-S Adjustment] → [Feed] → [Leading Edge]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point A on the image of the copy. *6.* If width A on the copy falls outside the specified range, change the setting value. *7.* Press the Start key to make another copy. *8.* Check the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

- Centering

Functions	• To adjust part-to-part variations in accuracy of IR parts and their mounting accuracy by varying the scan start position in the main scan direction.
Use	• When the original glass is replaced. • When the original FD scale is replaced.
Adjustment Specification	 A00JF3C508DA •A width on the color chart and one on the copy sample are measured and adjusted so that the difference of B width satisfies the specifications shown below. •An adjustment must have been completed correctly of [Centering] of [Printer Area]. Specifications B: ± 1.0 mm Setting range -72 to +72 dot (in 1 dot increments)
Adjustment Instructions	If the copy image is less than the specified length, increase the setting value. If the copy image exceeds the specified length, decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [BK-S Adjustment] → [Feed] → [Centering]. *3.* Position the color chart correctly so that the original reference point is aligned with the scale. *4.* Press the Start key to make a copy. *5.* Check point B on the image of the copy. *6.* If the image falls outside the specified range, change the setting value. *7.* Press the Start key to make a copy. *8.* Check point B of the image on the copy to see if the specifications are met. *9.* Make adjustments until the specifications are met.

(3) Erasure Width

Functions	• To set the erasure width of the original when BS scanning.
Use	• To change and adjust the erasure width in order to erase the shade, etc, around the original created at BS scanning.
Setting/ Procedure	• The default setting is 1 mm. "1 mm" (0 to 3 mm : 1 mm increments)

(4) Carriage Move

Functions	• To move the exposure unit to the arbitrary position.
Use	• Used for scanner operation test. • Used when locking the scanner for transporting the main body.
Adjustment Specification	<Absolute Position> • Enter the shift distance (with unit of line) with home position sensor as reference to move the exposure unit. +838 to -10748 line (1 line increments) * Home position of the exposure unit is [-827 line]. <Relative Position> • Enter the shift distance (with unit of line) with the current exposure unit position as reference to move the exposure unit. -9999 to -9999 line (1 line increments) * It protects to avoid the exposure unit from collision when the result calculated by the current position and the entered value exceeds the absolute position area. <Lock Posi.> Pressing the [Lock Posi.] key moves the exposure unit to the lock position.
Adjustment Instructions	Enter the + value when moving to the left. Enter the - value when moving to the right.
Adjustment Procedure	*1.* Call the service mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [BK-S Adjustment] → [Carriage Move]. *3.* Select the function and enter the arbitrary shift distance if necessary, and press the start key. *4.* The exposure unit moves.

⚠1 C. Shading Position

Functions	• To set shading position.
Use	• The setting value is provided and adjusted for individual scanner units. Before replacing RAMU board, note down the setting value of shading position. Set the value after installing a new RAMU board. If the setting value is not appropriate to the scanner unit, streak may appear on scanned image.
Setting/ Procedure	*1.* Call the service mode to the screen. *2.* Touch these keys in this order: [Machine] → [Scan Area] → [Shading Position]. *3.* Select a setting value from 0, 1, or 2.

D. Test Copy

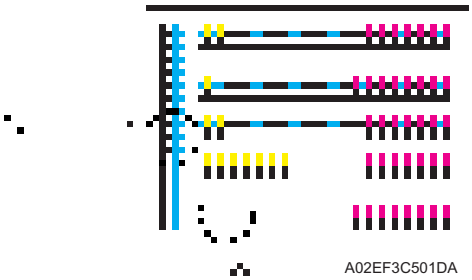
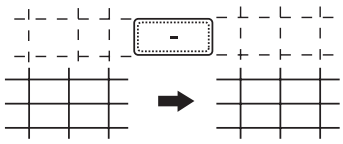
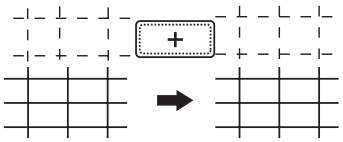
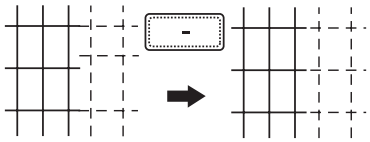
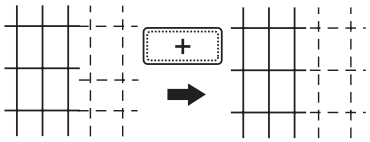
Functions	• To carry out test copy for adjustment.
Use	• To check the current status, effect, etc, when adjusting scanner area.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Machine Adjustment] → [Scan Area] → [Test Copy]. *3.* Select the proper item for Paper, Simplex/Duplex, Color and Mixed Original, and press the start key. *4.* The test copy is output.

10.3.5 Printer Resist Loop

<table>
<tr><td>Functions</td><td>• To set the correction value of the paper loop length for each process speed of tray 1, tray 2 to tray 4 / LCT, bypass, and duplex.
• To adjust the length of the loop formed in paper before the registration rollers.
• Use “Paper Passage” for paper passage check.</td></tr>
<tr><td>Use</td><td>When a paper skew occurs.
When a paper misfeed occurs.</td></tr>
<tr><td>Adjustment Instructions</td><td>To decrease the loop amount: Decrease the setting value
To increase the loop amount: Increase the setting value</td></tr>
<tr><td>Adjustment Range</td><td>• The adjustable range is different depending on paper source and processing speed.
<table>
<tr><th></th><th>Tray 1</th><th>Tray 2/3/4 LCT</th><th>Manual</th><th>Duplex</th></tr>
<tr><td>92 mm/sec</td><td>-10 to +10</td><td>-10 to +10</td><td>-10 to +10</td><td>-10 to +10</td></tr>
<tr><td>46 mm/sec</td><td>-15 to +15</td><td>-15 to +15</td><td>-15 to +15</td><td>-8 to +8</td></tr>
</table></td></tr>
<tr><td>Setting/ Procedure</td><td>1. Call the Service Mode to the screen.
2. Touch [Machine Adjustment] → [Printer Resist Loop].
3. Select a paper source and a processing speed where the settings are made by touching the corresponding keys.
4. Enter the new setting from the [+] / [-] keys and touch [OK].</td></tr>
</table>

10.3.6 Color Reg. Adjustment

A. Cyan, Magenta, Yellow

Functions	• To adjust color shift if there is any when comparing the original with copy of the plain or thick paper.
Use	• To correct any color shift. • This setting can be made independently for plain paper, thick 1, thick 2, and thick 3. Compensation for the main scan direction is made only for the plain paper.
Adjustment Range	"0" (-6 to +6 dot)
Adjustment Instructions	If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Machine Adjustment] → [Color Reg. Adjustment]. *3.* Set the paper with the paper type to be adjusted to the paper feed tray. *4.* Press the Start key. *5.* On the test pattern produced, check for deviation between the black line and the line of each color at positions X and Y. *6.* Select the color to be adjusted. *7.* Using the [+] / [-] key, change the setting value as necessary. (At this time, only the line of the selected color moves.) *8.* Produce another test pattern and make sure that there is no deviation. Check Procedure Check point X, Y  A02EF3C501DA Adjustment for X direction: Check point X If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting. Direction of A  A02FF3C512DA Direction of B  A02FF3C513DA Adjustment for Y direction: Check point Y If the cross deviates in the direction of A, increase the setting. If the cross deviates in the direction of B, decrease the setting. Direction of A  A02FF3C514DA Direction of B  A02FF3C515DA

10.3.7 Manual Bypass Tray Adjustment

See P.17 of the MB-502 service manual.

10.3.8 Lead Edge Erase Adjustment

Functions	• To set the leading edge erase amount of the paper.
Use	• Upon user requests, it is possible to specify the void area where image is not printed along the leading edge.
Setting/ Procedure	• The default setting is 4 mm. "4 mm" 5 mm 7 mm **NOTE** • **When "4 mm" is selected, 4.2 mm is the actual amount to be erased in print based on the control system of the machine.**

10.3.9 Touch Panel Adjustment

Functions	• To adjust the position of the touch panel display
Use	• Make this adjustment if the touch panel is slow to respond to a pressing action. • Use during the setup procedure.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Machine Adjustment] → [Touch panel Adjustment]. *3.* Press four [+] keys displayed on the screen with pen, etc, according to the arrow shown on the screen. • Use care not to damage the screen surface with the tip of the pen.  A02FF3E524DA **NOTE** • **When interrupting touch panel adjustment, press the Reset key or the Stop key before pressing four [+] keys.** **Interrupting adjustment returns the screen to the previous one without adjusting the position.**

10.4 Imaging Process Adjustment

10.4.1 Gradation Adjust

- It will not be displayed when the following setting is set to “ON”.
  [Service Mode] → [Image Process Adjustment] → [Dev. Bias Choice]

Functions	• To make an automatic adjustment of gradation based on the test pattern produced and the readings taken by the scanner.
Use	• Color reproduction performance becomes poor. • The IU has been replaced. • The image transfer belt unit has been replaced. • Stabilizer : Before gradation adjust, perform image stabilization. • Gradation Mode : It gives the highest priority to gradation performance of the image as it adjusts. • Resolution Mode : It gives the highest priority to reproduction performance of letters and lines as it adjusts. • High Compression Mode : It gives the highest priority to increasing the number of images to be stored in the memory as it adjusts.
Adjustment Specification	Dark : 0 ± 100 Highlight : 0 ± 60
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Carry out image stabilization by touching [Image Process Adjustment] → [Image stabilization]. **NOTE** • **Before executing Gradation adjust, be sure to perform Stabilizer.** *3.* Touch these keys in this order: [Image Process Adjustment] → [Gradation Adjust]. *4.* Select the appropriate mode for the gradation adjustment. *5.* Press the Start key to let the machine produce a test pattern. **NOTE** • **When the image stabilization performed in step 2 is NG, the Start key stops functioning.** *6.* Place the test pattern produced on the original glass. *7.* Place ten blank sheets of A3/11x17 paper on the test pattern and lower the original cover. *8.* Press the Start key. (The machine will then start scanning the test pattern.) *9.* Touch [OK] and repeat steps from 5 through 8 twice (a total of three times). • If a fault is detected, NG message will be displayed. In that case, after turning off the main power switch, turn it on again more than 10 seconds after and then make the gradation adjustment again. • If the image is faulty, perform the troubleshooting procedures for image problems.

10.4.2 D Max Density

Functions	• To adjust gradation, color, and image density to target reproduction levels by varying the maximum amount of toner sticking to paper through auxiliary manual fine-adjustment of gamma of each color after gradation adjust.
Use	• An image quality problem is not corrected even after gradation adjust has been run.
Adjustment Range	• The default setting is 0. -10 to +10 (step: 1 *) *: 1 step corresponds to 0.03 in density difference.
Adjustment Instructions	To increase the maximum amount of toner sticking, increase the setting value. To decrease the maximum amount of toner sticking, decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [D Max Density]. *3.* Select [COPY] or [Printer]. *4.* Select the color to be adjusted. *5.* Enter the new setting from the 10-key pad or [+]/[-] key. *6.* Touch [OK] to return to the [Imaging Process Adjustment] menu screen. *7.* Touch [Image Stabilization]. *8.* Touch [Stabilization Only]. *9.* Press the Start key to validate the adjustment value. *10.*Check the copy image for any image problem. **NOTE** • **If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.**

10.4.3 Background Voltage Margin

Functions	• To adjust the highlight portion (fog level) to the target reproduction level by making an auxiliary manual fine-adjustment of γ of each color after gradation adjust.
Use	• Use when a foggy background occurs due to a printer problem.
Adjustment Range	• The default setting is 0. -5 to +5 (step: 1)
Adjustment Instructions	To make the background level foggier, decrease the setting value. To make the background level less foggy, increase the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Background Voltage Margin]. *3.* Select the color to be adjusted. *4.* Enter the new setting from the 10-key pad or [+]/[-] key. *5.* Touch [OK] to return to the [Imaging Process Adjustment] menu screen. *6.* Touch [Image Stabilization]. *7.* Touch [Stabilization Only]. *8.* Press the Start key to validate the adjustment value. *9.* Check the copy image for any image problem. **NOTE** • **If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.**

10.4.4 Transfer Output Fine Adjustment

A. Secondary transfer adj.

Functions	• Adjust the 2nd image transfer output (ATVC) on the 1st page and the 2nd page for each paper type.
Use	• To use when the transfer failure at the trailing edge occurs.
Adjustment Range	• The default setting is 0. -8 to +7 (step: 1)
Adjustment Instructions	To increase the ATVC value (in the direction of a foggier image), increase the setting value. To decrease the ATVC value (in the direction of a less foggy image), decrease the setting value.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Transfer Output Fine Adjustment]. *3.* Select [Secondary transfer adj.]. *4.* Select the paper type and the side of the image (1st side or 2nd side), on which the transfer failure occurs. **NOTE** • **For envelopes, only first side can be selected.** *5.* Enter the new setting from the [+] / [-] keys. *6.* Touch [OK] to validate the adjustment value. *7.* Check the print image for any image problem.

B. Primary transfer adj.

Functions	• Adjust the output value for the 1st image transfer voltage.
Use	• To use when white spots appeared.
Adjustment Range	• The default setting is 0. -8 to +7 (step: 1)
Adjustment Instructions	Adjust the output value for the 1st image transfer voltage by; Increasing it: Increase the setting value (white spots will decrease) Decreasing it: Decrease the setting value
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Select [Test Mode] → [Halftone Pattern] to output the red or green test pattern. See P.313 *3.* When the test pattern image has white spots, adjust with the following procedure. *4.* Touch these keys in this order: [Imaging Process Adjustment] → [Transfer Output Fine Adjustment]. *5.* Select [Primary transfer adj.]. *6.* Select the color. *7.* Change the setting value using the [+] / [-] keys. *8.* Touch [OK] key to set the adjustment value. Gradually increase the adjustment value to the acceptable white spots level while checking the test pattern. **NOTE** • **PC Drum memory may occur by taking measure to white spots occurred by increasing the 1st image transfer voltage to adjust it.** **Check the image on the test print or the color chart when adjusting.**

10.4.5 Image Stabilization

A. Initialize+Stabilization

Functions	• To carry out an image stabilization sequence after the historical data of image stabilization control has been initialized.
Use	• Use if an image problem persists even after gradation adjustment has been executed. • Use if tone reproduction and maximum density are faulty even after Stabilizer Mode has been executed. • When color shift correction is needed again after the machine maintenance.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Image Stabilization]. *3.* Touch [Initialize+Stabilization]. *4.* Press the Start key to start image stabilization. The Start key turns red and stays lit up red during the image stabilization sequence. *5.* Image stabilization is completed when the Start key turns blue.

B. Stabilization Only

Functions	• The image stabilization sequence is carried out without clearing the historical data of image stabilization control.
Use	• Used before gradation adjustment. • Use if an image problem persists even after gradation adjustment has been executed. • When [D Max Density] and [Background Voltage Margin] of Service Mode are changed.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Image Stabilization]. *3.* Touch [Stabilization Only]. *4.* Press the Start key to start image stabilization. The Start key turns red and stays lit up red during the image stabilization sequence. *5.* Image stabilization is completed when the Start key turns blue.

10.4.6 Thick Paper Density Adjustment

Functions	• To fine-adjust density of printed images of each color for thick paper and OHP transparencies. (Only black color adjustable for OHP transparencies)
Use	• To change the density of the printed image for each color with thick paper and OHP transparencies.
Adjustment Range	• The default setting is 0. -5 to +5 (step: 1)
Adjustment Instructions	Light color: Touch [+]. Dark color: Touch [-].
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Thick Paper Density Adjustment]. *3.* Select the color. *4.* Change the setting value using the [+] / [-] keys.

10.4.7 Toner Supply

Functions	• To adjust the set T/C level by replenishing an auxiliary supply of toner when a low ID occurs due to a lowered T/C after large numbers of prints have been made of originals having a high image density.
Use	• When there is a drop in T/C.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Toner Supply]. *3.* Select the color, for which supply of toner is to be replenished. *4.* Pressing the Start key will let the machine detect the current toner density and; if the density is lower than a reference value, a toner replenishing sequence and then a developer agitation sequence are run. *5.* These sequences are repeated up to a maximum of four times until the toner density reaches the reference value. If the toner density is found to be higher than the reference value, only a developer agitation sequence is carried out.

10.4.8 Monochrome Density Adjustment

Functions	• To fine-adjust the density of the printed image for a black print.
Use	• To vary the density of the printed image of a black print.
Adjustment Range	• The default setting is 0. -2 to +2 (step: 1)
Adjustment Instructions	If the black is light, touch [+]. If the black is dark, touch [-].
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch these keys in this order: [Imaging Process Adjustment] → [Monochrome Density Adjustment]. *3.* Change the setting value using the [+] / [-] keys.

10.4.9 Dev. Bias Choice

Functions	• To change the setting of the developing bias voltage. • When this function is turned ON, it decreases the developing bias voltage, thereby preventing voltage leak from occurring.
Use	• Use when patches of white occur in the image in an ambience of low atmospheric pressure, such as in high altitudes. • If ON is set, the screen doesn't display [Service Mode] → [Imaging Process Adjustment] → [Gradation Adjust] and the Gradation Adjust is not allowed.
Setting/ Procedure	• The default setting is OFF. ON "OFF"

10.5 CS Remote Care

10.5.1 Outlines

- CS Remote Care enables the machine and the computer at CS Remote Care center to exchange data through telephone/fax line 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.
  a. Data which show the status of use of the machine such as total count, PM count.
  b. Data which show the abnormal situation on the machine such as where and how often errors occur.
  c. Data on adjustment
  d. Data on setting

10.5.2 Setting up the CS Remote Care

NOTE

- **For resetting up the machine which CS Remote Care has already been set up, clear the RAM for CS Remote Care before resetting.**
  See P.192
- **When using a telephone line modem for connection, use the data modem which is based on the ITU-T recommendations V.34/V.32 bis/V.32 and AT command.**

Step	Procedure		
	Using the telephone line modem	Using the Fax line modem *1	Using E-mail
0	Register the device ID to the application at CS Remote Care center. The initial connection is not available unless the device ID is registered.		
1	Connecting the modem Turn the power for the modem OFF. Connect the machine and the modem with a modem cable. Connect the modem and the wall jack with a modular cable. * For connecting the modular cable, see the manual for the modem.	Be sure to remove the telephone line modem when the fax line is used.	Be sure to remove the telephone line modem when e-mail is used.
2	Clearing the RAM *1.* Select [Service Mode] → [CS Remove Care], and touch [Detail Setting]. *2.* Touch [RAM Clear]. *3.* Select Set, and touch [OK]. See P.192		
3	Selecting the CS Remote Care function Select [Service Mode] → [CS Remove Care] → [System Selection], and touch [Modem].	Selecting the CS Remote Care function Select [Service Mode] → [CS Remove Care] → [System Selection], and touch [Fax].	Selecting the CS Remote Care function Select [Service Mode] → [CS Remote Care] → [System Setting], and touch [E-Mail].

Step	Procedure		
	Using the telephone line modem	Using the Fax line modem *1	Using E-mail
4	Inputting the ID Code *1.* Select [Service Mode] → [CS Remote Care] → [ID Code], and touch [ID Code]. *2.* Input the seven digits ID of the service person, and touch [ID Code] again. See P.191		
5	Setting the date and time for CS Remote Care *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [Date & Time Setting]. *3.* Input the date, time and the time zone using the 10-key pad, and touch [Set]. See P.191		
6	Setting the Center ID *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [Machine Setting] → [Center ID], and input the Center ID (five digits). See P.191		
7	Setting the telephone number of the Center *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [Machine Setting] → [Center Telephone Number]. *3.* Input the telephone number of the center using the 10-keys pad and [P], [T], [W], [-]. See P.191		Setting the Respond Timeout *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [Respond Timeout] and enter the response timeout using the 10-key pad. **NOTE** • **Under normal conditions, there is no need to change the default setting.** See P.191
8	Inputting the device telephone number *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [Machine Setting] → [Device Telephone Number]. *3.* Input the Device telephone number using the 10-key pad and [P], [T], [W], [-]. See P.191		Proceed to step 11.
9	Inputting the AT command for initializing the modem *1.* Select [Service Mode] → [CS Remote Care] → and touch [Detail Setting]. *2.* Touch [AT Command]. *3.* Input AT Command. **NOTE** • **Change this command only when it is necessary. (They do not need to be changed in normal condition.)** • **For details on AT command, see the manual for the modem.** See P.193	Proceed to step 12.	Setting the E-mail address *1.* Select [Service Mode] → [CS Remote Care], and touch [Server Set]. *2.* Touch [Server for RX], and set POP3 server address, POP3 login name, POP3 password and POP3 port number. See P.193 *3.* Press [Receive], and set the E-Mail address, Mail Check, Connection Time Out and APOP Authentication. See P.193 *4.* Touch [Send], and set the SMTP server address, SMTP port number, Connection Time Out, and APOP Authentication. See P.193 *5.* Touch [TX/RX Test], and press Start key to carry out a transmission/reception test. If it fails to exchange messages, see the error message to take necessary measure, and try again. See P.193

Step	Procedure		
	Using the telephone line modem	Using the Fax line modem *1	Using E-mail
10	Setting the DIPSW for CS Remote Care **NOTE** • **This setting is not normally necessary. Take this step only when necessary in a specific connecting condition.**		Proceed to step 13.
11	Executing the initial transmission *1.* Select [Service Mode] → [CS Remote Care], and touch [Detail Setting]. *2.* Touch [initial transmission] key on the right bottom of the screen to start initial transmission. *3.* When the machine is properly connected with the center, CS Remote Care setting screen will be displayed. **NOTE** • **The initial transmission key at the right bottom of the screen will be displayed only when the center ID, the device ID, Telephone number of the center and the device telephone number have been input.** See P.191		Receiving the initial connection E-mail message Sending the initial connection E-mail message from the center to the address of the copier. **NOTE** • **When receiving the initial connection E-mail message from the center while CS Remote Care-related screen is being displayed, the current setting information will be deleted, and CS Remote Care setting will be displayed.** • **For sending the initial connection E-mail, see the manual for CS Remote Care center.** • **Messages can be exchanged only between the center with initial connection and the copier.** • **The initial connection from the center will be carried out, and the E-mail address of the center will be stored in the copier.** • **When the initial registration is complete, the E-mail address of the center will be displayed by selecting [Service Mode] → [CS Remote Care] → [Detail Setting], [Basic Setting] → [E-Mail address].**

10.5.3 Software SW setting for CS Remote Care

NOTE

- **SW bits data are written into the RAMU board every time a change is made. In case you changed bit data by accident, be sure to restore the previous state.**

A. Input procedure

1. Select [Service Mode] → [CS Remote Care] → [Detail Setting], and touch [Software Switch Setting].
2. Touch [Switch No.], and input the switch number (two digits) using the 10-key pad.
3. Touch [Bit Assignment], and select switch bit number using the arrow keys, and input 0 or 1 using the 10-key pad.
   (For setting by hexadecimal numbers, touch [HEX Assignment] key, and input using the 10-key pad or A to F keys.)
4. Touch [Fix].

NOTE

- **About functions of each switch, see to "B. List of software SW for CS Remote Care."**

B. List of software SW for CS Remote Care

SW No.	Functions	Ref. Page
01	• Dial Mode, Line for send only	P.185
02	• Emergency transmission, Date specified transmission, Call parts replace date, Call drum replace date, Call regular service date(PM), Auto call on the IC Life, Auto call of the IR shortage, Auto call on the zero reset of the fixed parts replacement	P.185
03	• Auto call on the toner empty, Auto call on the waste toner bottle full	P.186
04	• CS Remote Care communication mode	P.186
05	• Modem redial interval	P.186
06	• Modem redial times	P.187
07	• Redial for response time out	P.187
08	• Retransmission interval on E-Mail delivery error	P.187
09	• Retransmission times on E-Mail delivery error	P.188
10	• Reserve	—
11	• Timer 1 RING reception → CONNECT reception	P.188
12	• Timer 2 Dial request completed → CONNECT reception	P.188
13	• Reserve	—
14	• Timer 4 Line connection → Start request telegram delivery	P.189
15	• Timer 5 Wait time for other side's response	P.189
16	• Reserve	—
17	• Reserve	—
18	• Attention display To set weather to give the alarm display when using the modem but the power for the modem is OFF.	P.189

SW No.	Functions	Ref. Page
19 : 40	• Reserve	—

C. Details of the software SW for CS Remote Care

NOTE

- **Do not change any bit not described on this table.**
- **Shaded portions denote default values.**

SW No.	Default		
01	Bit	7654 3210	HEX: 61
		0110 0001	

Bit	Functions	Logic		Description
		0	1	
3-2	Reservation			
1	Line for send only	Disable	Enable	
0	Dial Mode	Pulse	Tone	

SW No.	Default		
02	Bit	7654 3210	HEX: FF
		1111 1111	

Bit	Functions	Logic		Description
		0	1	
7	Auto call on the zero reset of the fixed parts replacement	Disable	Enable	
6	Auto call of the IR shortage	Disable	Enable	
5	Auto call on the IC Life	Disable	Enable	
4	Call regular service date(PM)	Disable	Enable	
3	Call drum replace date	Disable	Enable	
2	Call parts replace date	Disable	Enable	
1	Date specified transmission	Disable	Enable	
0	Emergency transmission	Disable	Enable	

SW No.	Default		
03	Bit	7654 3210	HEX: 0A
		0000 1010	

Bit	Functions	Logic		Description
		0	1	
7-4	Reservation			
3	Auto call on the waste toner bottle full	Disable	Enable	
2	Reservation			
1	Auto call on the toner empty	Disable	Enable	
0	Reservation			

SW No.	Default		
04	Bit	7654 3210	HEX: 02
		0000 0010	

Bit	Functions	Logic		Description
		0	1	
7-2	Reservation			
1-0	CS Remote Care communication mode	00		DATA
		01		FAX
		10		E-mail
		11		Not available

SW No.	Default		
05	Bit	7654 3210	HEX: 03
		0000 0011	

Bit	Functions	Logic		Description
		0	1	
7-5	Reservation			
4-0	Modem redial interval	00001		1 minute
		00010		2 minutes
		00011		3 minutes
		00100		4 minutes
		00101		5 minutes
		00110		6 minutes
		00111		7 minutes
		01000		8 minutes
		01001		9 minutes
		01010		10 minutes
		Others		Not available

SW No.	Default		
06	Bit	7654 3210	HEX: 0A
		0000 1010	

Bit	Functions	Logic		Description
		0	1	
7-0	Modem redial times	0000 0000		0 time
		0000 0001		1 time
		:		:
		0000 1010		10 times
		:		:
		0110 0010		98 times
		0110 0011		99 times
		Others		Not available

SW No.	Default		
07	Bit	7654 3210	HEX: 01
		0000 0001	

Bit	Functions	Logic		Description
		0	1	
7-0	Redial for response time out	0000 0000		0 time
		0000 0001		1 time
		Others		Not available

SW No.	Default		
08	Bit	7654 3210	HEX: 06
		0000 0110	

Bit	Functions	Logic		Description
		0	1	
7-0	Retransmission interval on E-mail delivery error	0000 0000		0 minute
		0000 0001		10 minutes
		:		:
		0000 0110		60 minutes
		:		:
		0000 1011		110 minutes
		0000 1100		120 minutes
		Others		Not available

SW No.	Default		
09	Bit	7654 3210	HEX: 0A
		0000 1010	

Bit	Functions	Logic		Description
		0	1	
7-0	Retransmission times on E-mail delivery error	0000 0000		0 time
		0000 0001		1 time
		:		:
		0000 1010		10 times
		:		:
		0110 0010		98 times
		0110 0011		99 times
		Others		Not available

SW No.	Default		
11	Bit	7654 3210	HEX: 20
		0010 0000	

Bit	Functions	Logic		Description
		0	1	
7-0	Timer 1 RING reception → CONNECT reception	0000 0000		Not available
		0000 0001		1 sec
		:		:
		0010 0000		32 sec
		:		:
		1111 1110		254 sec
		1111 1111		255 sec

SW No.	Default		
12	Bit	7654 3210	HEX: 40
		0100 0000	

Bit	Functions	Logic		Description
		0	1	
7-0	Timer 2 Dial request completed → CONNECT reception	0000 0000		Not available
		0000 0001		1 sec
		:		:
		0100 0000		64 sec
		:		:
		1111 1110		254 sec
		1111 1111		255 sec

SW No.	Default		
14	Bit	7654 3210	HEX: 20
		0010 0000	

Bit	Functions	Logic		Description
		0	1	
7-0	Timer 4 Line connection → Start request telegram delivery	0000 0001		100 msec
		:		:
		0010 0000		3,200 msec
		:		:
		1111 1110		25,400 msec
		1111 1111		25,500 msec

SW No.	Default		
15	Bit	7654 3210	HEX: 1E
		0001 1110	

Bit	Functions	Logic		Description
		0	1	
7-0	Timer 5 Wait time for other side's response	0000 0001		1 sec
		:		:
		0001 1110		30 sec
		:		:
		1111 1110		254 sec
		1111 1111		255 sec

SW No.	Default		
18	Bit	7654 3210	HEX: 01
		0000 0001	

Bit	Functions	Logic		Description
		0	1	
7-1	Reservation			
0	Attention display To set weather to give the alarm display when using the modem but the power for the modem is OFF.	OFF	ON	

10.5.4 Setup confirmation

- **Follow the steps below to make sure that CS Remote Care has been properly set up.**

1. Call the Service Mode to the screen.
2. Touch [CS Remote Care].
3. Check to make sure that only selected item is displayed.

10.5.5 Calling the maintenance

- When CE starts maintenance, inputting the ID code of CE (seven digits: numbers which CE can identify. They are controlled by the distributor.) will transmit the information to the Center side and tells that the maintenance has started. When the maintenance is finished, touching [Maintenance Complete] key will transmit the information to the center and tells that it is finished.

A. When starting the maintenance

1. Select Service Mode and touch [CS Remote Care].
2. Touch [ID Code], and input ID Code.
3. Touch [ID Coke].

* The Start key blinks while maintenance is being carried out.

B. When finishing the maintenance

1. Select Service Mode and touch [CS Remote Care].
2. Touch [Maintenance Complete].

10.5.6 Calling the center from the administrator

- When the CS Remote Care setup is complete, the administrator can call the CS Remote Care center.

1. Select [Administrator Settings], and touch [System Connection].
2. Touch [Admin. transmission].
3. Press the Start key.
   When the setup is not complete or another transmission is being carried out, the Admin. transmission key will not be displayed, and the transmission is not available.

NOTE

- **For transmitting data of the machine by calling the center on the specified date and time, refer to the manual for CS Remote Care center.**

10.5.7 Checking the transmission log

- The transmission log list will be output to be checked.

1. Select [Service Mode] → [CS Remote Care], and touch [Detail setting].
2. Touch [Communication Log Print].
3. Load tray 1 or bypass tray with A4S paper.
4. Press the Start key to output transmission log.

10.5.8 Detail on settings

A. System Selection

Functions	• To select the system type for remote diagnosis.
Use	• Use to newly build or change the system.
Setting/ Procedure	• Select E-Mail, Modem, or Fax. • Fax is available only when the optional fax kit is being installed. E-Mail Modem Fax

B. ID Code

Functions	• To register the service ID.
Use	• Use when registering and changing service ID.
Setting/ Procedure	• Enter a 7-digit code from the 10-key pad. (0000001 to 9999999) <Registration> • Touch ID code and enter the service ID. • Touch [ID code] to register the ID. • The [Detail Setting] will appear when the ID has been registered.

C. Detail Setting
(1) Basic Setting

Functions	• Execute the primary setting.
Use	• Use to change the set contents. • Use to register the machine to the CS Remote Care center.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [CS Remote Care]. *3.* Touching the [Detail Setting] will display the primary setting. <Center Setting> • Set the center ID, Device ID, and the phone No. • When e-mail is selected for system and all setup procedures are completed, e-mail address of the center is displayed. * When entering the phone number, 10-keys and keys on the screen have following meanings. [-] Pose : Waits to start transmitting after dialing [W] Wait : Detects the dial tone of the other end [T] Tone dial : Carry out tone dialing [P] Pulse dial : Carry out pulse dialing [*], [#] : To be used as necessary Initial Transmission • Touching the Initial Transmission key will sent the information to the CS Remote Care center to register the machine. (Only when the modem or fax is selected on the system Input.)

(2) Date & Time Setting

Functions	• To set the data and time-of-day.
Use	• Use to set or change the date and time-of-day.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [CS Remote Care]. *3.* Touch [Detail Setting] to access Date & Time Setting. *4.* Enter the date (month, day and year), time-of-day, and the time zone from the 10-key pad. *5.* Touch [SET] to start the clock.

(3) RAM Clear

Functions	• To clear the following data at the center ID Code, Primary Setting, Date/Time Input (Time Zone), Software SW Setting and AT Command.
Use	• To be used for setting CS Remote Care. • To be used for reset the every data of the center to default. **NOTE** • **If RAM clear is selected during transmission, RAM clear processing will be implemented at the time the transmission is completed regardless of whether it is done properly or not.**
Setting/ Procedure	• The default setting is “Unset.” Set “Unset”

(4) Communication Log Print

Functions	• To print out the communication log.
Use	• Use to output and use the communication log.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [CS Remote Care]. *3.* Touch [Detail Setting] to access communication log print. *4.* Load tray 1 or bypass tray with A4S or $8^1/_2$ x 11 paper. *5.* Press Start key to print out the communication log.

(5) Software Switch Setting

Functions	• To change the CS Remote Care settings.
Use	• To change the settings for CS Remote Care as necessary.
Setting/ Procedure	• Refer to “Software SW setting for CS Remote Care” for the setting. See P.184

(6) Response Time Out

Functions	• It sets the intervals for resending e-mails when transmission error occurred. • It can be set only when [E-Mail] is selected by System Setting.
Use	• To use when changing the intervals for resending e-mails when transmission error occurred.
Setting/ Procedure	• The default setting is 60 minute. “60 minute” (10 to 1440)

(7) AT Command

Functions	• To set the command to be issued at the time of modem initialization. • This setting is available only when [Modem] is selected for the system setting.
Use	• To set the command to be issued at the time of modem initialization.
Setting/ Procedure	• Enter the command and touch [SET] to register.

D. Server Setting

(1) Server for RX

<POP3 server address>

Functions	• To set the POP3 server address used for the CS Remote Care.
Use	• To set the address of the POP3 Server. • POP3 server address can be set with IP address or the domain name.
Setting/ Procedure	<Input IP Address> • IP address version 4 format [0 to 255].[0 to 255].[0 to 255].[0 to 255] <Input FQDN> • Enter the domain name.

<POP3 login name>

Functions	• To set the logon name for the POP3 server used for the CS Remote Care.
Use	• To set the logon name for the POP3 server.
Setting/ Procedure	• The default setting is No. • Up to 64 characters (alphanumeric characters and symbols) can be used.

<POP3 password>

Functions	• To set the logon password for the POP3 server used for the CS Remote Care.
Use	• To set the logon password for the POP3 server.
Setting/ Procedure	• The default setting is No. • Up to 15 characters (alphanumeric characters and symbols) can be used.

<POP3 port number>

Functions	• To set the POP3 port number used for the CS Remote Care.
Use	• To set the port number for the POP3 server.
Setting/ Procedure	• The default setting is 110. "110" (1 to 65535)

(2) Receive

<E-mail Address>

Functions	• To set the e-mail address used for the CS Remote Care.
Use	• To set the e-mail address.
Setting/ Procedure	• The default setting is No. • Up to 129 characters (alphanumeric characters and symbols) can be used.

<Mail Check>

Functions	• To set whether or not to use mail check and the time interval for the POP server used for the CS Remote Care.
Use	• To set whether or not to use mail check and the time interval for the POP server used for the CS Remote Care. • To change the time interval for mail check.
Setting/ Procedure	• The default setting is No. "No" (1 to120 min., No)

<Connection timeout>

Functions	• To set the timeout period for connection during reception.
Use	• To change the timeout period for connection during reception.
Setting/ Procedure	• The default setting is 60 Sec. "60 Sec" (30 to 300 Sec)

<APOP Authentication>

Functions	• To set whether or not to authenticate the APOP during reception.
Use	• To authenticate the APOP during reception.
Setting/ Procedure	• The default setting is No. Yes "No"

(3) Send

<SMTP server address>

Functions	• To set the SMTP sever address for transmission used for the CS Remote Care.
Use	• To set the SMTP server address. • SMTP server address can be set by the IP address or the domain name.
Setting/ Procedure	<Input IP Address> • IP address version 4 format [0 to 255].[0 to 255].[0 to 255].[0 to 255] <Input FQDN> • Enter the domain name.

<SMTP port number>

Functions	• To set the SMTP port number for transmission used for the CS Remote Care.
Use	• To set the Port Number of the SMTP Server.
Setting/ Procedure	• The default setting is 25. "25" (1 to 65535)

<SMTP Connection Time-out>

Functions	• To set the timeout period for transmission.
Use	• To change the timeout period for connection during transmission.
Setting/ Procedure	• The default setting is 60 Sec. "60 Sec" (30 to 300 Sec)

<Authentication Setting>

Functions	• To set whether or not to authenticate during transmission via SMTP server.
Use	• To use when authenticating during transmission. Available authentication mode: POP Before SMTP, SMTP authentication
Setting/ Procedure	<SMTP Authentication> • The default setting is ON. "ON" OFF <POP Before SMTP> • The default setting is OFF. 0 to 60 sec. "OFF" <Login Name> • Set the login name for the SMTP authentication. <Password> • Set the password for the SMTP authentication.

(4) TX/RX Test

Functions	• To determine the correct transmission and reception using CS Remote Care.
Use	• Use to determine the correct transmission and reception using CS Remote Care.
Setting/ Procedure	• Press the Start key to let the machine start the transmission and reception test. • The test procedure and result will be displayed on the screen.

(5) Data Initialization

Functions	• To initialize the contents for the sever setting.
Use	• Use to initialize the contents for the server setting.
Setting/ Procedure	• The default setting is No. Yes "No"

10.5.9 List of the CS Remote Care error code

A. When connecting by modem

Error code	Error	Solution
0001	The line is busy (Busy detection)	• Transmit again manually.
0002	Failure of the Modem default setting at transmitting (When the transmission completes with modem initial setting failed)	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0003	Timeout of CONNECT at transmitting (No response to ATD)	• Transmit again manually • Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0005	Timeout of CONNECT at receiving (No response to ATA)	• Check if the power of the modem is ON. • Check the connecting condition between the modem and the main body.
0006	Shut down of the data modem line (Host) (Carrier OFF is detected)	• No solution, because the line is shut down at the host side.
0008	Timeout of start request telegram delivery (Start request telegram is not delivered after line connection)	• Transmit again manually.
0009	Timeout of finish request telegram delivery (Finish request telegram is not delivered (Start of shut down).)	• Transmit again manually.
000A	Receiving rejection (Receiving is made when the main body is set to reject receiving.)	• Check the setting condition of the host side. • Check the setting condition of the main body side.
000B	RS232C driver over run (When the modem detects over run.)	• If the same error is detected several times, turn the modem power OFF and ON.
000C	If the same error is detected several times, turn the modem power OFF and ON.	• If the same error is detected several times, turn the modem power OFF and ON.
000D	Break Interrupt (BI) indicator (When the modem detects Break Interrupt (BI) indicator.)	• If the same error is detected several times, turn the modem power OFF and ON.
0011	Baud rate ERROR (When selected baud rate is out of the specification (9600 bps to 38400 bps).)	• Check the baud rate of the software DipSW.
0018	Machine ID has already been registered (Request telegram 2 (SET-UP) comes from the main body that has already registered machine ID.)	• Set the initial registrations again for all including the host side.
0019	Center ID error (Center ID of the host is not identical with the one of start request telegram.)	• Check center ID setting of the main body side. • Check center ID setting of the main body side.

Error code	Error	Solution
001A	Device ID inconsistency (Device ID of the host is not identical with the one of start request telegram.)	• Check device ID setting of the main body side. • Check the setting of the host side.
001B	Device ID unregistered (Request telegram 2 (Constant data transmitting, emergency call) comes from the main body that has not registered machine ID yet.)	• Check device ID setting of the main body side. • Check the setting of the host side.
001E	Impossible to change (during printing) (Setting cannot be changed because the setting change is made during the machine is printing or starts printing.)	• Try again when the machine is not printing.
0020	Timeout of telegram delivery (At waiting mode of telegram delivery the machine fails to receive the telegram in a given time.)	• Try communication again.
0027	Transmission / receiving collision (Receiving is detecting during transmitting processing)	• Try communication again.

NOTE

- **When a code other than the ones listed above is displayed, contact KMBT and inform the error code.**

B. When connecting by e-mails

Error code	Error	Solution
0001	Connection timeout during transmission	• Check the SMTP server on User side.
0###	Transmission error ***: SMTP responding code (hexadecimal)	• Check the SMTP server on User side.
0003	Connection timeout when receiving	• Check the POP3 server on User side.
0005	Receiving error	• Check the POP3 server on User side.
1030	Machine ID mismatching • Received an e-mail which tells that machine ID mismatches.	• Check the machine ID setting. • Check the machine ID setting on host side.
1062	Modifying not available due to the copy job currently performing • When informing the host that it cannot be modified due to the copy job currently performing.	• Ask the host to send another instruction mail for modifying.
1081	Frame No. error • The last frame has not been received. • There are missing frame No.	• Check the status of the machine registration on host side.
1084	Date expired • Expiration date for data modification command has passed.	• Ask the host to send another instruction mail for modifying.
1092	Received an error mail when center setup is not complete	• Check the status of the machine registration on host side.
2039	Socket is not connected. • LAN cable on the copier side is detached.	• Check the SMTP server and POP3 server on user side.
203E	Network is down. • LAN cable on the copier side is detached.	• Check the connection between the copier on the user's side and the network connector. • Check the network environment on the user's side.
3000	POP3_AUTHORIZATION_ERR	• Check the POP3 server environment on user's side.
3001	POP3_TRANSACTION_ERR	• Check the POP3 server environment on user's side.
3002	POP3_CONNECT_ERR	• Check the POP3 server environment on user's side.
3003	POP3_TIMEOUT_ERR	• Check the POP3 server environment on user's side.
3004	POP3_FORMAT_ERR	• Check the POP3 server environment on user's side.
3005	POP3_MEMORY_ERR	• Check the POP3 server environment on user's side.
3006	POP3_JOBID_ERR	• Check the POP3 server environment on user's side.
3007	POP3_NO_DATA_ERR	• Check the POP3 server environment on user's side.

Error code	Error	Solution
3008	POP3_DELETE_FAIL_ERR	• Check the POP3 server environment on user's side.
3009	POP3_MAILBOX_FULL	• Check the POP3 server environment on user's side.
4103	Not ready • Tried to transmit or receive an e-mail when the machine was not yet in the e-mail receiving status after power was turned ON.	• Wait for a while and try transmitting again.
4104	SMTP channel not ready	• Wait for a while and try transmitting again.
4105	POP3 channel not ready	• Wait for a while and try transmitting again.
4106	Not Ready other than the ones listed above.	• Wait for a while and try transmitting again.

NOTE

- **When a code other than the ones listed above is displayed, contact KMBT and inform the error code.**

C. When connecting by Fax modem

Error code	Error	Solution
T50	Host terminal ID not correct	• Check the telephone number set for host.
R80	Serial number received from the host not correct.	• Check the status of the Machine registration on host side.
R81	Disconnection of writing instruction from host during machine is running.	• Wait for a while and try transmitting again.
R82	Disconnection of FAX-CSRC instruction when FAX-CSRC is not allowed.	• Check the status of the Machine registration on host side.
R83	Host command error.	• Contact KMBT and inform the error code.
R84	NVRAM writing error.	• Contact KMBT and inform the error code.

NOTE

- **When a code other than the ones listed above is displayed, see the FK-502 Service Manual.**

10.5.10 Troubleshooting for CS Remote Care

If communication is not done properly, check the condition by following the procedures shown below.

1. Shift the screen in the order of [Service Mode] → [CS Remote Care] → [Detail Setting]. At this time, in the cases of initial transmitting / administrator transmitting / maintenance start transmitting / maintenance finish transmitting, the communication result will be displayed at the top of the screen.

* For the communication result, the following message will be displayed based on its success or failure.

Display of communication result	Cause	Solution
Communicating	—	—
Communication trouble with the center	Although the machine tries to communicate with the center, there is any trouble and the communication completes unsuccessfully.	• See the list of error message and confirm the corresponding point. See P.196
Complete successfully	—	—
Modem trouble	Although the machine tries to communicate with the center, there is any trouble in the modem.	• Check if the power of modem in ON. • Check if there is any problem in connection between the modem and the main body.
Busy line	Although the machine tries to communicate with the center, the line to the center is busy.	• Communicate with the center again.
No response	Although the machine tries to communicate with the center, there is no response from the center.	• Communicate with the center again. • Check the communication environment of the center side.

10.6 System Input

10.6.1 Marketing Area

Functions	• To make the various settings (language, paper size, fixed zoom ratios, etc.) according to the applicable marketing area.
Use	• Upon setup.
Setting/ Procedure	<Marketing Area> • Select the applicable marketing area and touch [END] to set the marketing area. • Depending on an installed firmware, the displayed choices are different. JAPAN US Europe Others1 Others2 Others3 Others4 ✻ These are the languages that can be selected on the Utility screen according to different marketing area settings: <table><tr><td>Japan</td><td>English, Japanese</td></tr><tr><td>US</td><td rowspan="6">English, Japanese, German, French, Italian, Spanish, Simplified Chinese, Korean, Dutch, Portuguese, Danish, Norwegian, Swedish, Finnish, Greek, Slovak, Czech, Turkish, Hungarian, Polish, Romanian, Russian</td></tr><tr><td>Europe</td></tr><tr><td>Others1</td></tr><tr><td>Others2</td></tr><tr><td>Others3</td></tr><tr><td>Others4</td></tr></table> <Fax Target> *1.* Touch the [Fax Target]. *2.* Select the applicable marketing area, and touch [OK].

10.6.2 Exhaust Fan Stop Delay

Functions	• To set the period of time before the exhaust fan motor stops.
Use	• At the completion of a print job/image stabilization or at jam/malfunction, the fan motor rotating at full speed comes to a stop. The period of time before the fan motor stops can be delayed so that ozone left around the PC drum can be discharged.
Setting/ Procedure	• 0 to 15 (minutes) can be entered with the ten-key pad. (Default is 0.) **NOTE** • **When this setting is set to 0 (minute), the fan motor runs for 5 seconds before it stops.**

10.6.3 Serial Number

Functions	• To register the serial numbers of the machine and options. • The numbers will be printed on the list output.
Use	• Upon setup. **NOTE** • **When main power switch was turned ON while the serial No. was not entered, the message to require entering the serial No. will be displayed.** • **Do not change the serial number registered in the machine. If memory data is lost and entering the serial number is required, enter the original correct serial number.** **Be careful to enter the correct serial number since characters other than alphanumeric can be also entered.**
Setting/ Procedure	• Type the serial numbers. Printer, ADF, LCT, Printout Opt, Duplex, Option Tray, Bypass Tray

10.6.4 No Sleep

Functions	• To display the option of “OFF” for the sleep mode setting screen available from Admin. setting.
Use	• To display the option of “OFF” for the sleep mode setting.
Setting/ Procedure	• The default setting is “Restrict.” Allow “Restrict”

10.6.5 Foolscap Size Setting

Functions	• To set the size for foolscap paper.
Use	• Upon setup. • To change the size for foolscap paper.
Setting/ Procedure	• Select the size from among the following five. 220 x 330 mm $8^1/_2$ x 13 $8^1/_4$ x 13 $8^1/_8$ x $13^1/_4$ 8 x 13

10.6.6 Install Date

Functions	• To register the date the main body was installed.
Use	• Upon setup.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [Install Date]. *3.* Enter the date (Year 4 digit, Month 2 digit, Day 2 digit) from the 10-key pad. *4.* Touch [OK] to set the date of installation.

10.6.7 Change Fixed Zoom

Functions	• To change the fixed zoom.
Use	• To change the fixed zoom from the default setting to the arbitrary value when necessary.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [Change Fixed Zoom]. *3.* Touch the key of which zoom is to be changed. *4.* Press the Clear key and enter the setting value using the 10-key pad. *5.* Press [Register], and set the fixed zoom.

10.6.8 File Display

Functions	• To specify and display the analysis file which can be output in the controller.
Use	• To be used to analyze troubles.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [File Display]. *3.* Enter the file name to be displayed. *4.* Press [ON] to display the file.

10.6.9 Memory Clear

A. System Data

Functions	• To clear the information on troubles, etc. • To default administration information or account information for the controller such as copy and fax, as well as to reset troubles, and to default size/media error. • It automatically restarts after default.
Use	
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [Memory Clear]. *3.* Select [System Data]. *4.* Press [OK] to clear the system data.

B. System Error

Functions	• To default back up information for the printer engine, as well as trouble information, or size/media error, in case the engine side stays in error status due to I/F mismatch between the printer engine and the controller.
Use	
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [Memory Clear]. *3.* Select [System Error]. *4.* Press [OK] to clear the system error.

C. Image Data

Functions	• To default image information stored in the file memory. • It automatically restarts after defaulting.
Use	
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [Memory Clear]. *3.* Select [Image Data]. *4.* Press [OK] to clear the image data.

D. Own Setting

Functions Use	• To default information (except destination address information) of the own unit registered to the unit.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [Memory Clear]. *3.* Select [Own Setting]. *4.* Press [OK] to clear data of the own station.

E. Fax dest.

Functions Use	• To default information concerning fax address (One-Touch, Program, Index).
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [Memory Clear]. *3.* Select [Fax dest.]. *4.* Press [OK] to clear the fax destination address.

F. Activity

Functions Use	• To default information on administration for sending/receiving document, as well as on sending administration report, and on receiving administration report. • It automatically restarts after defaulting.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [Memory Clear]. *3.* Select [Activity]. *4.* Press [OK] to clear the information on communication administration.

G. Soft SW

Functions Use	• To default the soft switch to the setting same as that of at shipping.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [Memory Clear]. *3.* Select [Soft SW]. *4.* Press [OK] to default the soft switch.

10.6.10 Software Switch Setting

Functions Use	• To change the status of each function by setting values (mode, bit, HEX) for soft switch of the machine as necessary. • Refer to the corresponding item on [Admin.] for the list of the soft switches available of setting by the user (administrator). See P.151 • For details of the software switch for fax settings, refer to the FK-507 service manual. See P.27 of the FK-507 service manual.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [Software Switch Setting]. *3.* Touch [Mode Selection], and enter the mode number (three digit number) using the 10-key pad. *4.* Touch [Bit Selection]. *5.* Set the cursor using [←] or [→] key, and set the bit with 0 or 1 on the 10-key pad. (When setting in hexadecimal, press [HEX Selection], and enter on the 10-key pad or A to F keys.) *6.* Touch [Apply]. *7.* Touch [OK].

A. Software Switch

Mode	• Each parameter is expressed as a three-digit number. Use the keypad to type in the value.
Bit	• The bits are the eight numbers that represent the parameter status. By specifying a binary number (0 or 1) for each of the bits (0 through 7), settings for each parameter can be specified.
HEX	• Specify a setting for each mode as a hexadecimal number (0 through 9 and A through F). Bit setting “0011 0000” is expressed as the hexadecimal setting “30.” • Specify the status of each parameter by using either bits or hexadecimal values.

B. List of the software switch settings

Mode	Setting item	Ref. page
000	• TSI, password, memory TX	—
001	• Dest. insert	—
002	• Report	—
003	• Broadcast TX result report	—
004	• Memory time	—
005	(Not used)	—
006	(Not used)	—
007	• G3-1 non-selectable cassette	—
008	• G3-2 non-selectable cassette	—
009	• Network non-selectable cassette	—
010	• Report non-selectable cassette	—
011	(Not used)	—
012	(Not used)	—
013	• Automatically switch destinations, operation when INBOX forward fails	—

Mode	Setting item	Ref. page
014	(Not used)	—
015	• Color, resolution, quality	—
016	• FLS-Legal switching, reception date printing	—
017	• Select initial value of TSI	—
018	• Density setting, background adjustment	—
019	(Not used)	—
020	• Display reports	—
1 021	(Not used)	—
022	• Batch TX, zoom ratio for TX	—
023	• TWAIN operation lock time, set merge for report image	P.216
024	• Forward function button, display caller ID, no receiving by other users	—
025	• Processing when memory overflow occurs	—
026	(Not used)	—
027	• Display ID, confidential comm., F-code, 2in1 TX	—
028	• Remote copy protocol, # of remote multi-copies	—
029	(Not used)	—
1 030	• Rotate TX, rotate print, 2-in-1 RX, print paper selection restriction, assign mixed mm/inch print papers	—
031	• Merge for multi-sheet report image, merge for output format of report image, binding for duplex TX	—
032	(Not used)	—
033	• 2-sided TX setting	—
034	• Overlap printing	—
035	• RX by memory	—
036	(Not used)	—
037	• Select FAX print paper cassette	—
1 038	• Memory RX ON/OFF	—
1 039	• Copy function that is talking on the telephone	—
040	• Binary coding, T.6 coding, JBIG, V34JBIG, external telephone	—
041	• ECM, Audio response	—
042	• Redialing interval	—
043	• # of resending doc., redialing non-answered call, No. of rings, TSI/CSI registration, PSTN port automatic selection, line type	—
044	• RTN sending error trace threshold, TX special processing, T4 timer, action against abnormal overseas communications, RTN reception processing, V.34 control channel retrain	—
045	• Number of redialing times	—
046	• Priority detection for DP automatic detection, PB/DP automatic detection priority order, line holding guard timer, symbol rate display, EQM value monitoring, probing information monitoring	—
047	• V.34 fallback tolerance	—
048	• Set up MODEM standard, redial interval for broadcast TX	—
049	• Transmission speed upper limit (TX)	—
050	• Transmission speed upper limit (RX)	—

Mode	Setting item	Ref. page
051	• Declare RX print paper size	—
052	(Not used)	—
053	• Document processing when F-CODE reception fails	—
054	• Silence detection time, history control of V.34 auto dialing, demodulation method	—
055	• Silence detection, silence detection level	—
056	• Select sending time of ANSam	—
057	• Time that ANSam TX starts after line is blocked	—
058 : 069	(Not used)	—
070	• Pseudo-ringer sound	—
071 : 076	(Not used)	—
077	• Hook monitoring adjustment times during ringer	—
078	(Not used)	—
079	(Not used)	—
080	• Line connection time (PSTN1)	—
081	(Not used)	—
082	• Detect busy tone, line monitoring, detect line disconnection (PSTN1)	—
083	• Hook monitoring cycle, hook detection voltage (PSTN1)	—
084	• PB sending level (PSTN1)	—
085	• TX level (PSTN1)	—
086	• RX attenuator (PSTN1), DP speed, PB/DP switching, internal/external line switching	—
087	• Detect continuous ringer, ringer detection frequency (PSTN1)	—
088	• Process to be carried out when 2nd dialing tone timeout is detected, 1,300 Hz reception sensitivity switching (PSTN1)	—
089	• Posed insertion, prefix # (PSTN1)	—
090	(Not used)	—
091	(Not used)	—
092	• Sending echo protection tone, switch carrier frequency (PSTN1)	—
093	• CED, Receive command echo (PSTN1)	—
094	• AGC lock (PSTN1)	—
095	• Digital TX/RX cable equalizer (PSTN1)	—
096	• CI signal sending time (PSTN1)	—
097	• TCF/NTCF sending level down (PSTN1)	—
098	• CM signal sending start time, EQM threshold value (PSTN1)	—
099	• V.34 symbol rate threshold value (PSTN1)	—
100 : 109	(Not used)	—
110	• Line connection time (PSTN2)	—

Mode	Setting item	Ref. page
111	(Not used)	—
112	• Detect busy tone, line monitoring, detect line disconnection (PSTN2)	—
113	(Not used)	—
114	• PB sending level (PSTN2)	—
115	• TX level (PSTN2)	—
116	• RX attenuator, DP speed, PB/DP switching, internal/external line switching (PSTN2)	—
117	• Detect continuous ringer, ringer detection frequency (PSTN2)	—
118	• Process to be carried out when 2nd dialing tone timeout is detected, 1,300 Hz reception sensitivity switching (PSTN2)	—
119	• Posed insertion, prefix # (PSTN2)	—
120	(Not used)	—
121	(Not used)	—
122	• Sending echo protection tone, switch carrier frequency (PSTN2)	—
123	• CED, Receive command echo (PSTN2)	—
124	• AGC lock (PSTN2)	—
125	• Digital TX/RX cable equalizer (PSTN2)	—
126	• CI signal sending time (PSTN2)	—
127	• TCF/NTCF sending level down, V.34 symbol rate (PSTN2)	—
128	• CM signal sending start time, EQM threshold value (PSTN2)	—
129	• V.34 symbol rate threshold value (PSTN2)	—
130 : 211	(Not used)	—
212	• DP make ratio (PSTN1)	—
213 : 231	(Not used)	—
232	• DP make ratio (PSTN2)	—
233 : 248	(Not used)	—
249	• Ringer detection counts (PSTN2)	—
250 : 287	(Not used)	—
288	• Insert dummy data before PIX	—
289 : 299	(Not used)	—
300	• Stamp, Trim print paper leading edge, Remote copy print order	P.217
301	• Print image reduction, division	—
302	• Print paper selection	—
303	(Not used)	—
304	• Confidential document holding time, print lamp lighting, etc.	P.218

Mode	Setting item	Ref. page
305	• ADF density adjustment, Output pin	P.219
306	(Not used)	—
307	(Not used)	—
308	• Specify Imaging unit life stop, Normal stabilization, Specify next print color mode operation, Take data for image stabilization	P.220
309	• Output tray setting	P.220
310	(Not used)	—
311	(Not used)	—
312	• Setting printing area for ADF front side leading edge 1 (A)	P.221
313	• Setting printing area for ADF front side leading edge 2 (B)	P.221
314	• Setting printing area for ADF front side posterior end 1 (C)	P.221
315	• Setting printing area for ADF front side posterior end 2 (D)	P.222
316	• ACS parameter setting for ADF front side leading edge (2)	P.222
317	• ACS parameter setting for ADF front side posterior end (3)	P.223
318	• ACS parameter setting (1) for ADF front side center (1)	P.223
319	• Setting printing area for ADF back side leading edge 1 (A)	P.224
320	• Setting printing area for ADF back side leading edge 2 (B)	P.224
321	• Setting printing area for ADF back side posterior end 1 (C)	P.224
322	• Setting printing area for ADF back side posterior end 2 (D)	P.225
323	• ACS parameter setting for ADF back side leading edge (2)	P.225
324	• ACS parameter setting for ADF back side posterior end (3)	P.226
325	• ACS parameter setting for ADF back side center (1)	P.226
326	• ACS Parameter setting for the book scanner	P.227
327	• Main scan direction size detection threshold	P.228
328	• Wait time after lamp lights until main scan direction size detection starts	P.228
329	• Main scan direction size detection threshold	P.228
330	• Wait time after cover closes until main scan direction size detection starts	P.229
331	• Scan minimum value when cover is closed	P.229
332	• Scan maximum value when cover is opened	P.229
333	• Re-shading interval (first time)	P.230
334	• Re-shading interval (since the second times)	P.230
335 : 349	(Not used)	—
350	• POP3 before SMTP TX, document width/line density upper limit	P.231
351	• Gateway transmission, IP address fax reception, SMTP reception	P.231
352	• Notification of result, add TSI for Gateway TX and forwarding	P.232
353	• Text insertion, header printing	P.233
354	• Time zone	P.233
355	• Switch 10M/100M, switch full-duplex/half-duplex, DHCP	P.234
356	• SMTP TX timeout	P.234
357	• SMTP receive timeout	P.235
358	• POP3 receiving timeout	P.235

Mode	Setting item	Ref. page
359	• Set re-trials for forwarding RX docs, forced priority TX	P.236
360	• Coding method for the receiver Internet fax capability (Network function, Mail mode)	P.237
361	• DNS function	P.237
362	• Intervals for calling on the network	P.238
363	• SMTP expansion prohibited, specify from address for DNS report	P.238
364	• POP before SMTP time	P.239
1 365	• FTP timeout	P.239
366	• Priority address input for scan, anonymous e-mail countermeasure, e-mail file name character restrict, file name year digit quantity	P.240
367	• Time of DNS inquiry timeout	P.240
368	• Activity report, activity report for scanner TX (TX), RX result management for IP relay sending machine	P.240
369	(Not used)	—
370	• Additional # of TX re-trials	P.241
371	• Interval of retrials to be set for additional # of TX re-trials, binary division, page division	P.241
372	• Transmission interval of size-divided e-mail file data	P.241
373	• Full mode function, MDN correspondence	P.242
374	• NOTIFY setting	P.243
375	(Not used)	—
1 376	• NetWare, NDS/Bindery, AppleTalk	P.243
1 377	• Printer number for Nprinter/Rprinter mode	P.244
1 378	• IPP setting	P.244
379	• Edit data when forwarding received documents	P.245
380	• APOP authentication, SMTP authentication, HTTP server, SSL	P.246
381	• IP relay function	P.247
382	• IP relay result timeout processing, default station	P.247
383	• SMTP authentication reception	P.248
384	• TCP/IP, LPD, RAW port, FTP, SNMP	P.248
1 385	• Scan setting, print setting	P.249
1 386	• TCP Socket, NetWare	P.249
387	• LDAP	P.250
388	• Ethernet frame type	P.250
389	• Coding method, allow write, allow discovery user	P.251
390	• Read security level, write security level, PDF profile reception limitation, JPEG compression method	P.251
391	• File format, coding format	P.252
392 : 399	(Not used)	—
400	• Priority doc. mixed mode, priority auto color level, priority color	P.252
401	• 2 colors, mono color	P.253

Mode	Setting item	Ref. page
402	• Average density, priority copy mode, automatic function priority mode, priority application, Neg./Pos. reverse	P.254
403	• Draft print zoom ratio, sorting, AMS setting for tray selection, copy function use	P.255
404	• Background adjustment, glossy copy	P.255
⚠1 405	• Character reproduction, document binding, frame erase	P.256
⚠1 406	• Erase position (book separation), binding margin	P.256
407	(Not used)	—
408	• Default tray (print paper)	P.257
409	• Default 4-in-1 print order, priority document quality, non-matching specified feed trays	P.257
410	(Not used)	—
411	(Not used)	—
412	• Priority sort mode, sort/group	P.258
413	• Copy density	P.258
414 : 416	(Not used)	—
417	• Set max # of copies	P.258
418 : 423	(Not used)	—
424	• Small doc.	P.259
425	• Select FLS size	P.259
⚠1 426	(Not used)	—
427	• Brightness for color quality adjustment	P.259
428	• Contrast for color quality adjustment	P.260
429	• Saturation for color quality adjustment	P.260
430	• Red for color quality adjustment	P.260
431	• Green for color quality adjustment	P.261
432	• Blue for color quality adjustment	P.261
433	• Yellow for color quality adjustment	P.261
434	• Magenta for color quality adjustment	P.262
435	• Cyan for color quality adjustment	P.262
436	• Black for color quality adjustment	P.262
437	• Sharpness for color quality adjustment	P.263
438	(Not used)	—
439	(Not used)	—
440	• Set PCL, paper size	P.264
441	• Paper tray, paper orientation	P.265
442	• # of copies (least significant 8 bits)	P.265
443	• Printing method, # of copies (most significant 2 bits)	P.266
444	• Language code	P.266
445	• Symbol set	P.269

Mode	Setting item	Ref. page
446	• # of lines	P.270
447	• Unit of font size	P.270
448	• Font size (Scalable) (least significant 8 bits)	P.271
449	• Font size (Scalable) (most significant 4 bits)	P.271
450	• Font size (Bitmap) (least significant 8 bits)	P.271
451	• Font size (Bitmap) (most significant 6 bits)	P.272
452	• Switch A4/Letter, feed cassette fixed/priority, CR/LF mapping, allow printing without account authentication	P.272
453	• Set PostScript error print	P.272
454	(Not used)	—
455	• Timeout set (least significant 8 bits)	P.273
456	• Timeout set (most significant 2 bits)	P.273
457	• Memory overflow waiting time	P.273
458	• PC print job deletion operation, PC-FAX job deletion operation	P.274
459 : 469	(Not used)	—
470	• Set export extension, simple format, PSDA use, auto logout time	P.274
471	• Set user's list screen display and default screen	P.275
472	(Not used)	—
473	• Set priority job list screen, use of # for destination entry	P.275
474	(Not used)	—
475	(Not used)	—
476	• Destination display screen, specify full-dial TX, specify broadcast TX	P.276
477	• Fax registration restriction and destination display, setting confirmation screen for broadcast TX	P.276
478	• Specify delete key operation, display when pressing one-touch, Comm. mode initial value, antidew processing, PB/DP auto detection key	P.277
479	(Not used)	—
480	• Display file forwarding key, sound patterns for alarm buzzer	P.277
481 : 484	(Not used)	—
485	• Year/Month/Day display order	P.278
486	• Daylight saving time activation switch	P.278
487	• No sleep	P.278
488	• Auto reset	P.278
489	• Low power mode	P.279
490	• Sleep mode	P.279
491	• LCD back-light OFF	P.279
492	• Sound volume setting (buzzer sound, alarm sound)	P.280
493	• Sound volume setting (monitor sound), priority application screen	P.280
494	• Sound volume setting (completion sound)	P.281

Mode	Setting item	Ref. page
495 : 499	(Not used)	—
500	• Enlarge sound volume	P.281
501	• Screen reverse, next screen display for enlarge display	P.281
502	• Key repeat starting time	P.282
503	• Key repeat interval	P.282
504	• Reservation completion screen display	P.282
505	• Buzzer sound	P.283
506	• Extend auto reset time	P.283
507 : 511	(Not used)	—
512	• Dial tone detection	—
513 : 517	(Not used)	—
518	• Setting the voice message	—
519	• Setting to allow/prohibit fax operation when detecting an error during voice message	—
520	• Counter number for the linger detection (PSTN1)	—
521 : 767	(Not used)	—
768	• Soft time adjustment value (V.17, V.27tar)	—
769	• Soft time adjustment value (V.29)	—
770	• CFR-PIX interval	—
771	• T1 timer for auto-TX	—
772	• T1 timer for auto-RX	—
773	• T1 timer for manual TX	—
774	• T1 timer for manual RX	—
775	• T1 timer for auto-TX of polling	—
776	• T1 timer for manual TX of polling	—
777	• PIX-post command interval	—
778 : 803	(Not used)	—
804	• SF/SSF communication, destination machine confirmation TX	—
805	• Special characters for destination machine confirmation TX	—
806 : 819	(Not used)	—
820	• Language code (for display)	P.284
821	• Language code (for input/output)	P.285
822	(Not used)	—

Mode	Setting item	Ref. page
823	• Language code (for input)	P.286
824 : 829	(Not used)	—
830	• Total counter count mode, Paper size considered as the large size	P.287
831	• Key counter	P.287
832	• Vendor + key counter, management device management setting	P.288
833	• Vendor message, PC print control with key counter	P.289
834	(Not used)	—
835	• Public account	P.289
836 : 879	(Not used)	—
880	• Unit change, consumable life reminder	P.289
881	(Not used)	—
882	• Warm-up mode	P.290
883	• Power save setting, LCT paper size, optional original size detection (book scanner)	P.290
884	• Fan control for the low-temperature warm-up	P.291
885 : 900	(Not used)	—
901	• CS Remote Care: Line for send only, Dial mode	P.291
902 : 903	(Not used)	—
904	• CS Remote Care transmission mode	P.291
905	• CS Remote Care modem redial interval	P.292
906	• CS Remote Care modem redial times	P.292
907	• CS Remote Care redial for response timeout	P.292
908	• CS Remote Care retransmission interval on E-mail error	P.293
909	• CS Remote Care retransmission times on E-mail error	P.293
910	• CS Remote Care time zone	P.293
911	• Ring reception → Connect reception timer	P.294
912	• Dial call end → Connect reception timer	P.294
913	(Not used)	—
914	• Line Connect → Send start-up message request time	P.294
915	• Opposite party signal answer wait time	P.295
916 : 917	(Not used)	—
918	• CS Remote Care ATTENTION display	P.295
919 : 929	(Not used)	—

	Mode	Setting item	Ref. page
⚠1	930	• CS Remote Care Authentication, SMTP authentication information	P.295
⚠1	931	• CS Remote Care POP before SMTP time	P.296
⚠1	932	• CS Remote Care SMTP timeout	P.296
⚠1	933	• CS Remote Care POP3 server auto connection interval	P.297
⚠1	934	• CS Remote Care POP3 timeout	P.297
⚠1	935	• CS Remote Care APOP setting	P.297
	936 : 940	(Not used)	—
⚠1	941	• FIFO trigger level	P.298
	942 : 944	(Not used)	—
⚠1	945	• CS Remote Care Unit of the timer for awaiting toner empty restoration	P.298
	946 : 999	(Not used)	—

C. Soft switch details

NOTE

- Specifications for soft switches other than fax are described here.
  For specifications on soft switch for the fax, refer to the FK-507 service manual.
- The items without direction are prohibited to be set. Do not change the initial setting.
- The parts in gray are initial settings.

Mode	Default value		
023	Bit	7654 3210	HEX: 38
	State	0011 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-4	Specify TWAIN operation lock time	0000		30 sec.
		0001		60 sec.
		0010		90 sec.
		0011		120 sec.
		0100		150 sec.
		0101		180 sec.
		0110		210 sec.
		0111		240 sec.
		1000		270 sec.
		1001		300 sec.
		others		Not available
3	Set merge for report image	No	Yes	Sets whether to merge the report with image merger.

Mode	Default value		
300	Bit	7654 3210	HEX: 41
	State	0100 0001	

Bit	Setting item	Setting value		Description	
		0	1		
7	Specify whether TX Stamp returns to ON or OFF after completing operations.	OFF	ON		
6	Select position of TX Stamp.	Top & Bottom of doc.	Bottom of doc.		
4-1	Select cut-off length of image data at leading edge of printing paper.	0000		0 mm	This switch is valid while RX printing.
		0001		2 mm	
		0010		4 mm	
		0011		6 mm	
		0100		8 mm	
		0101		10 mm	
		0110		12 mm	
		0111		14 mm	
		1000		16 mm	
		1001		18 mm	
		1010		20 mm	
		others		Not available	
0	Specify RX (remote copy) print order.	Start printing after receiving first page.	Start printing after receiving all pages.		

Mode	Default value		
304	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value 0	Setting value 1	Description
7-3	Secure print document hold time	00000		Not delete
		00001		1 hour
		00010		2 hours
		00011		3 hours
		00100		4 hours
		00101		5 hours
		00110		6 hours
		00111		7 hours
		01000		8 hours
		01001		9 hours
		01010		10 hours
		01011		11 hours
		01100		12 hours
		01101		13 hours
		01110		14 hours
		01111		15 hours
		10000		16 hours
		10001		17 hours
		10010		18 hours
		10011		19 hours
		10100		20 hours
		10101		21 hours
		10110		22 hours
		10111		23 hours
		11000		24 hours
1	Turn on print lamp when out-of-paper.	On when all cassettes are out of paper	On when at least one cassette is out of paper	
0	Sets the reduction ratio when reading 11x17 → 8 $^1/_2$ x 11.	64.7 %	77.2 %	

Mode	Default value		
305	Bit	7654 3210	HEX: 05
	State	0000 0101	

Bit	Setting item	Setting value		Description
		0	1	
7-4	ADF density adjustment	0000		0
		0001		+1
		0010		+2
		0011		+3
		0100		+4
		0101		+5
		0110		+6
		0111		+7
		1000		Not available
		1001		-1
		1010		-2
		1011		-3
		1100		-4
		1101		-5
		1110		-6
		1111		-7
2	Select copy output bin	tray 1	tray 2	Specify a bin to where copied document is delivered when the job separator has been attached.
1	Select FAX (G3-1) output bin.	tray 1	tray 2	Specify a bin to where faxed (G3-1) document is delivered when the job separator has been attached.
0	Select PC print output bin.	tray 1	tray 2	Specify a bin to where PC print is delivered when the job separator has been attached.

Mode	Default value		
308	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
4	Stop when the lifetime of imaging unit ends.	Stop	Not stop	Specify whether to stop or not stop print operation when the lifetime of drum cartridge ends.
2	Normal stabilization *: In order to make this setting valid, main power switch needs to be turned off and on twice.	Normal stabiliza-tion (short)	Normal stabiliza-tion	Automatically stabilize for opening/closing the front cover when power is ON, according to the requests from the engine.
1	Specify next print color mode operation	Black priority	Color priority	During engine printing, select the function, prioritizing cost or speed.
0	Collect data for image stabilization	OFF	ON	Sets whether to automatically collect data necessary for calculating image stabilization or not.

Mode	Default value		
309	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
1	Select a fax (G3-2) output bin.	tray 1	tray 2	Specify a bin to where a Fax (G3-2) document is delivered when the job separator has been attached.
0	Select a fax (network) output bin.	tray 1	tray 2	Specify a bin to where a fax (network) document is delivered when the job separator has been attached.

NOTE

- **For details on setting for ACS between [312] and [326], refer to [Setting the software switches on ACS].**
  See P.227

Mode	Default value		
312	Bit	7654 3210	HEX: 20
	State	0010 0000	

Bit	Setting item	Setting value		Description
		0	1	
5-0	Setting printing area for ADF front side leading edge 1 (A). Set so that the total with the value in mode 313 bit [5-0] becomes 80mm or under.	000000		0 mm
		000001		1 mm
		:		
		100000		32 mm
		:		
		111111		63 mm

Mode	Default value		
313	Bit	7654 3210	HEX: 07
	State	0000 0111	

Bit	Setting item	Setting value		Description
		0	1	
5-0	Setting printing area for ADF front side leading edge 2 (B). Set so that the total with the value in mode 312 bit [5-0] becomes 80mm or under.	000000		0 mm
		:		
		000111		7 mm
		:		
		111111		63 mm

Mode	Default value		
314	Bit	7654 3210	HEX: 21
	State	0010 0001	

Bit	Setting item	Setting value		Description
		0	1	
6-0	Setting printing area for ADF front side posterior end 1 (C). Set so that the value is the same as that in mode 315 bit [6-0] or over.	0000000		0 mm
		0000001		1 mm
		:		
		0100001		33 mm
		:		
		1000010		66 mm
		others		Not available

Mode	Default value		
315	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
6-0	Setting printing area for ADF front side posterior end 2 (D). Set so that the value is the same as that on mode 314 bit [6-0] or under.	0000000		0 mm
		0000001		1 mm
		:		
		1000010		66 mm
		others		Not available

Mode	Default value		
316	Bit	7654 3210	HEX: 80
	State	1000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-6	ACS parameter setting for ADF front side leading edge (2).	00		Parameter for center (closer to the full color)
		01		Parameter 1 closer to black
		10		Parameter 2 closer to black
		11		Parameter 3 closer to black (closer to black)

Mode	Default value		
317	Bit	7654 3210	HEX: 10
	State	0001 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-4	ACS parameter setting for ADF front side posterior end (3).	0000		Parameter for specifically detecting red (vermilion seal)
		0001		Parameter for specifically detecting bright red and blue
		0010		Parameter for specifically detecting green
		0011		Parameter for specifically detecting blue
		0100		Parameter for specifically detecting cyan
		0101		Parameter for specifically detecting magenta
		0110		Parameter for specifically detecting yellow
		0111		Parameter for center (closer to the full color)
		1000		Parameter 1 closer to black
		1001		Parameter 2 closer to black
		1010		Parameter 3 closer to black (closer to black)
		others		Not available

Mode	Default value		
318	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-6	ACS parameter setting for ADF front face center (1).	00		Parameter for center (closer to the full color)
		01		Parameter 1 closer to black
		10		Parameter 2 closer to black
		11		Parameter 3 closer to black (closer to black)

Mode	Default value		
319	Bit	7654 3210	HEX: 20
	State	0010 0000	

Bit	Setting item	Setting value		Description
		0	1	
5-0	Setting printing area for ADF back side leading edge 1 (A). Set so that the total of the value with mode 320 bit [5-0] becomes 80mm or under.	000000		0 mm
		000001		1 mm
		:		
		100000		32 mm
		:		
		111111		63 mm

Mode	Default value		
320	Bit	7654 3210	HEX: 07
	State	0000 0111	

Bit	Setting item	Setting value		Description
		0	1	
5-0	Setting printing area for ADF back side leading edge 2 (B). Set so that the total of the value with mode 312 bit [5-0] becomes 80mm or under.	000000		0 mm
		:		
		000111		7 mm
		:		
		111111		63 mm

Mode	Default value		
321	Bit	7654 3210	HEX: 21
	State	0010 0001	

Bit	Setting item	Setting value		Description
		0	1	
6-0	Setting printing area for ADF back side posterior end 1 (C). Set so that the value is same as that of mode 322 bit [6-0] or over.	0000000		0 mm
		0000001		1 mm
		:		
		0100001		33 mm
		:		
		1000010		66 mm
		others		Not available

Mode	Default value		
322	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
6-0	Setting printing area for ADF back side posterior end 2 (D). Set so that the value is less than that on mode 321 bit [6-0].	0000000		0 mm
		0000001		1 mm
		:		
		1000010		66 mm
		others		Not available

Mode	Default value		
323	Bit	7654 3210	HEX: 80
	State	1000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-6	ACS parameter setting for ADF back side leading edge (2).	00		Parameter for center (closer to the full color)
		01		Parameter 1 closer to black
		10		Parameter 2 closer to black
		11		Parameter 3 closer to black (closer to black)

Mode	Default value		
324	Bit	7654 3210	HEX: 10
	State	0001 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-4	ACS parameter setting for ADF back side posterior end (3).	0000		Parameter for specifically detecting red (vermilion seal)
		0001		Parameter for specifically detecting bright red and blue
		0010		Parameter for specifically detecting green
		0011		Parameter for specifically detecting blue
		0100		Parameter for specifically detecting cyan
		0101		Parameter for specifically detecting magenta
		0110		Parameter for specifically detecting yellow
		0111		Parameter for center (closer to the full color)
		1000		Parameter 1 closer to black
		1001		Parameter 2 closer to black
		1010		Parameter 3 closer to black (closer to black)
		others		Not available

Mode	Default value		
325	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-6	ACS parameter setting for ADF back side center (1).	00		Parameter for center (closer to the full color)
		01		Parameter 1 closer to black
		10		Parameter 2 closer to black
		11		Parameter 3 closer to black (closer to black)

Mode	Default value		
326	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-6	ACS parameter setting for the book scanner.	00		Parameter for center (closer to the full color)
		01		Parameter 1 closer to black
		10		Parameter 2 closer to black
		11		Parameter 3 closer to black (closer to black)

(1) Setting the software switches for ACS

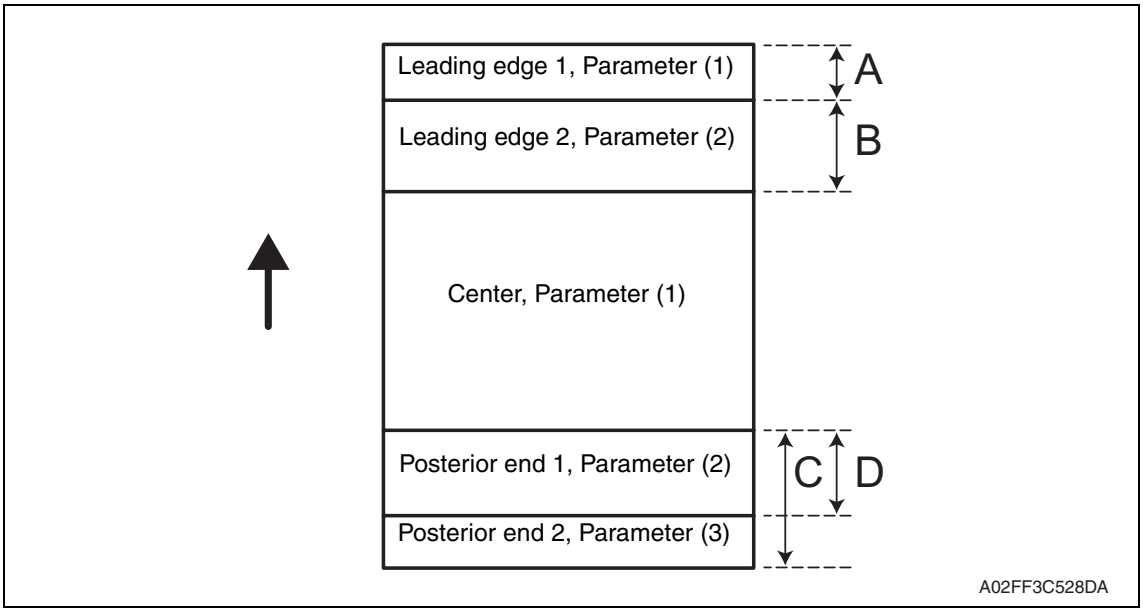
- When reading the original, misjudge in ACS mode may occur due to pitch unevenness, etc, caused by variation of reading characteristics for reading each area.
- With setting for software switch mode [312] to [336], printing area is set for each area, and the characteristic (to judge how far it is judged as black) is changed in order to prevent misjudgment.

<Definition for Area>

- With software switch mode [312] to [315], as well as [319] to [332], reading area is set. (A) to (D) which is applied to each setting item name corresponds to the area A to D shown below.

<Definition for ACS Parameter>

- With software switch mode [316] to [318] and [323] to [326], the reading characteristic parameter for each reading area is set.
- (1) to (3) applied to each setting item name corresponds to the area (1) to (3) shown below.



Mode	Default value		
327	Bit	7654 3210	HEX: 64
	State	0110 0100	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Main scan direction size detection value (when detecting difference)	00000000		0
		00000001		10 gradations
		:		
		01100100		1000 gradations
		:		
		11111010		2500 gradations
		others		Not available

Mode	Default value		
328	Bit	7654 3210	HEX: 03
	State	0000 0011	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Wait time from when lamp lights until main scan direction size detection starts	00000000		0
		00000001		10 msec
		:		
		00000011		30 msec
		:		
		01011010		90 msec
		others		Not available

Mode	Default value		
329	Bit	7654 3210	HEX: 19
	State	0001 1001	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Set main scan direction size detection value (for edge) for book scanner document size detection adjustment	00000000		0
		00000001		1 gradation
		:		
		00011001		19 gradations
		:		
		11111111		255 gradations

Mode	Default value		
330	Bit	7654 3210	HEX: 01
	State	0000 0001	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Wait time from when cover is closed until main scan direction size detection starts	00000000		0
		00000001		200 msec
		00000010		400 msec
		00000011		800 msec
		others		Not available

Mode	Default value		
331	Bit	7654 3210	HEX: 60
	State	0110 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-0	To prevent mis-detection: Minimum value for scanning when closing cover	00000000		0
		00000001		1 gradation
		:		
		01100000		96 gradations
		:		
		11111111		255 gradations

Mode	Default value		
332	Bit	7654 3210	HEX: 80
	State	1000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-0	To prevent mis-detection: Maximum value for scanning when opening cover	00000000		0
		00000001		1 gradation
		:		
		10000000		128 gradations
		:		
		11111111		255 gradations

Mode	Default value		
333	Bit	7654 3210	HEX: 1E
	State	0001 1110	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Re-shading interval (first time)	00000000		0
		00000001		1 sec.
		:		
		00011110		30 sec.
		:		
		11111111		255 sec.

Mode	Default value		
334	Bit	7654 3210	HEX: 3C
	State	0011 1100	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Re-shading interval (Since the second time)	00000000		0
		00000001		1 sec.
		:		
		00111100		60 sec.
		:		
		11111111		255 sec.

Mode	Default value		
350	Bit	7654 3210	HEX: 28
	State	0010 1000	

Bit	Setting item	Setting value		Description	
		0	1		
6	POP3 before SMTP	No	Yes		
5-4	Maximum width of document to be transmitted when the fax capability of the receiver is set to [Advanced] (Network function)	00		A4	Default value of maximum width of document to be transmitted
		01		B4	
		10		A3	
		11		Not available	
3-2	Maximum resolution to be used when the fax capability of the receiver is set to [Advanced] (Network function)	00		200 x 200 dpi	Default value of maximum resolution to be used
		01		400 x 400 dpi	
		10		600 x 600 dpi	
		11		Not available	

Mode	Default value		
351	Bit	7654 3210	HEX: 1C
	State	0001 1100	

Bit	Setting item	Setting value		Description
		0	1	
7	Gateway transmission (Network function)	Not allowed	Allowed	Specify allowed or not allowed for sending e-mail using gateway communications. If “Not allowed”, SMTP reception is executed, however gateway transmission is not executed, and received data is printed.
6-5	Outgoing port for gateway transmission (Network function) Specify an outgoing port for fax transfer (fax transfer of received e-mail file) through gateway transmission. (valid for G3 multi-port only) [See note.]	00		G3-1
		11		G3-2
		others		Not available
3	Gateway TSI	Normally not add	Normally add	

Bit	Setting item	Setting value		Description
		0	1	
2	Disable SMTP reception	Enable	Disable	Specify allowed or not allowed for SMTP reception. (for Internet fax(IP-TX), Internet fax (IP relay) reception)
1	TSI information for SMTP reception Specify whether to describe the machine name (or IP address if none) of the TSI in subject or to prioritize the IP address when forwarding documents received by Internet FAX (IP-TX). This setting is applied also for the priority order of display of destination name information of the RX activity report for Internet FAX (IP-TX) reception and IP relay reception.	Machine name priority	IIP address priority	

NOTE

- **For actually calling ports G3-1 and G3-2, see "Select PSTN port automatically (MODE 043 Bit 1)".**

Mode	Default value		
352	Bit	7654 3210	HEX: D0
	State	1101 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Notification of result (Network function)	No	Yes	Specify whether a communication error message is returned to the sender when a communication error occurs with code E6xxxx when e-mail is received.
6	Position for adding Gateway TSI	Outside of document	Inside of document	Specify where to add the TSI when forwarding through gateway trans mission (IP relay).
5	Specify whether to add TSI when forwarding	Not add	Add	Specify whether to add TSI when forwarding received documents.
4	Position for adding TSI when forwarding	Outside of document	Inside of document	Select where to add the TSI when forwarding received documents.

Mode	Default value		
353	Bit	7654 3210	HEX: 80 (for Europe) HEX: 88 (for U.S)
	State	1000 0000 (for Europe) 1000 1000 (for U.S)	

Bit	Setting item	Setting value		Description
		0	1	
7	Text insertion into document to send (Network function)	No	Yes	Specify whether to insert a preset text message at the head of a stored document image to be transmitted by e-mail. (not available for Scan to e-mail)
6	Header printing on received document (Network function)	No	Yes	Specify whether to print a header on documents received via e-mail.
4	Insert arbitrary text message	No	Yes	
3	Display arbitrary text message screen	No	Yes	

Mode	Default value		
354	Bit	7654 3210	HEX: 60 (for Europe) HEX: 38 (for U.S)
	State	0110 0000 (for Europe) 0011 1000 (for U.S)	

Bit	Setting item	Setting value		Description
		0	1	
7-2	Time zone settings: Set time zone for the date field of transmitted E-mail header (Network function)	000000		GMT-12:00 (-1200)
		000001		GMT-11:30 (-1130)
		:		
		011000		GMT
		:		
		101010		GMT+09:00 (+0900)
		:		
		101111		GMT+11:30 (+1130)
		110000		GMT+12:00 (+1200)
		110001		GMT+12:30 (+1230)
		110010		GMT+13:00 (+1300)
		others		Not available

Mode	Default value		
355	Bit	7654 3210	HEX: 30
	State	0011 0000	

Bit	Setting item	Setting value 0	Setting value 1	Description	
7-6	Switch 10M and 100M: Select communication rate of LAN adaptor (Network function)	00		Autonegotiation	Auto-negotiation: Determine the communication rate by identifying 10BASE-T or 100BASE-TX.
		01		Set to 100M	
		10		Set to 10M	
		11		Not available	
5	Switch full-duplex and half-duplex: Select packet transmit/receive when connecting to switching hub. (Network function)	Full-duplex	Half-duplex	This switch is valid when MODE 355 Bit 7 to 6 is set to “Set to 100M” or “Set to 10M.” • Full-duplex: Packets can be sent and received simultaneously. • Half-duplex: Packets can be sent or received separately. Valid after the power is turned off and on.	
4	Automatically obtain IP address (DHCP)	No	Yes		

Mode	Default value		
356	Bit	7654 3210	HEX: 20
	State	0010 0000	

Bit	Setting item	Setting value 0	Setting value 1	Description
7-4	SMTP transmission timeout (Network function) * Valid after turning main power off and turning it on again.	0001		30 sec.
		0010		60 sec.
		0011		90 sec.
		0100		120 sec.
		0101		150 sec.
		0110		180 sec.
		0111		210 sec.
		1000		240 sec.
		1001		270 sec.
		1010		300 sec.

Mode	Default value		
357	Bit	7654 3210	HEX: A0
	State	1010 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-4	SMTP transmission timeout (Network function) * Valid after turning main power off and turning it on again.	0001		30 sec.
		0010		60 sec.
		0011		90 sec.
		0100		120 sec.
		0101		150 sec.
		0110		180 sec.
		0111		210 sec.
		1000		240 sec.
		1001		270 sec.
		1010		300 sec.

Mode	Default value		
358	Bit	7654 3210	HEX: 20
	State	0010 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-4	POP3 receive timeout (Network function) * Valid after turning main power off and turning it on again.	0001		30 sec.
		0010		60 sec.
		0011		90 sec.
		0100		120 sec.
		0101		150 sec.
		0110		180 sec.
		0111		210 sec.
		1000		240 sec.
		1001		270 sec.
		1010		300 sec.

Mode	Default value		
35□	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value 0	Setting value 1	Description	
7	Number of times to retry when forwarding received documents (Network function) This function is available for only PC (e-mail), ~~PC (scanner),~~ and Internet FAX (IP-TX) communication modes when forwarding. When this switch is set to “Additional retry”, retry e-mail transmission according to MODE 370, 371 after retrying the number of times specified by the user.	Normal	Additional retry		
6-4	Scanner mode Transmission coding system when specifying extension (TIFF)	000		MH	Specifies the default for the coding system at the time of scanner transmission.
		001		MR	
		010		MMR	
		011		JBIG	
		others		Not available	
0	Forced priority transmission (Network function)	OFF	ON	Specify whether to forcibly perform priority transmission for awaiting documents.	

Mode	Default value		
360	Bit	7654 3210	HEX: 80
	State	1000 0000	

Bit	Setting item	Setting value		Description	
		0	1		
7	E-mail reception (Network function)	Prohib-ited	Permitted	Select either [Prohibited] or [Permitted] for E-mail reception (SMTP/POP3).	
6-4	Coding method for the receiver internet fax capability (Network function, mail mode)	000		MH	Sets the coding system default when specifying extension of the ability for forwarding destination at the time of e-mail transmission.
		001		MR	
		010		MMR	
		others		Not available	

Mode	Default value		
361	Bit	7654 3210	HEX: F8
	State	1111 1000	

Bit	Setting item	Setting value		Description
		0	1	
0	DNS function	Not available	Available	Sets valid/invalid of DNS function.

Mode	Default value		
362	Bit	7654 3210	HEX: 8A
	State	1000 1010	

Bit	Setting item	Setting value		Description	
		0	1		
5-1	Intervals for calling during network communication Applicable communication mode is PC (e-mail), one-touch document scan, IP address fax, internet fax, and IP relay (forwarding command).	00000		Not available	It is for network communication. Only the interval between the end of a communication and the end of the following communication is shortened.
		00001		1 sec.	
		:			
		00101		5 sec.	
		:			
		01010		10 sec.	
		others		Not available	

Mode	Default value		
363	Bit	7654 3210	HEX: 40
	State	0100 0000	

Bit	Setting item	Setting value		Description
		0	1	
6	SMTP expansion prohibited (Network function)	Permitted	Prohibited	Select either “Permitted” or “Prohibited” for SMTP expansion protocol. Valid after the power is turned off and on.
5	Specify From address for DSN report transmission (Network function)	Address specified	Address not specified	Chain mail can be prevented by specifying an address for DSN report on some systems.

Mode	Default value		
364	Bit	7654 3210	HEX: 05
	State	0000 0101	

Bit	Setting item	Setting value		Description
		0	1	
5-0	POP before SMTP duration	000000		0
		000001		1 sec.
		:		
		000101		5 sec.
		:		
		111100		60 sec.

Mode	Default value		
1 365	Bit	7654 3210	HEX: 02
	State	0000 0010	

Bit	Setting item	Setting value		Description	
		0	1		
7-0	FTP timeout	00000001		30 sec	Specify the period until timeout during no request by FTP command after FTP login is established. Timeout results in FTP logout forcibly.
		00000010		60 sec	
		00000011		90 sec	
		00000100		120 sec	
		00000101		150 sec	
		00000110		180 sec	
		00000111		210 sec	
		00001000		240 sec	
		00001001		270 sec	
		00001010		300 sec	
		others		Not available	

Mode	Default value		
366	Bit	7654 3210	HEX: 08
	State	0000 1000	

Bit	Setting item	Setting value		Description
		0	1	
6	Priority address input screen for preset scan	IP address input screen	Domain name input screen	
5	Anonymous E-mail counter measure	Enable	Disable	
4	Limit the number of characters to be used for E-mail file name	No	Yes	
3	Number of digits of the year of a file name	Last 2 digits	4 digits	

Mode	Default value		
367	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	DNS inquiry timeout	00000		1 sec.
		00001		20 sec.
		00010		40 sec.
		00011		80 sec.
		00100		160 sec.
		00101		320 sec.
		00110		640 sec.
		others		Not available

Mode	Default value		
368	Bit	7654 3210	HEX: 82
	State	1000 0010	

Bit	Setting item	Setting value		Description
		0	1	
7	Communication management report CSV output	Not out-put	Output	
1	Communication log (TX) for scanner trans-mission	Not print	Print	Sets whether to print logs in TX report, activity report.
0	Result of communication received from an IP Relay sending fax	Not print	Print	

Mode	Default value		
370	Bit	7654 3210	HEX: FF
	State	1111 1111	

Bit	Setting item	Setting value		Description	
		0	1		
7-0	Additional number of times to retry transmission (Network function) Specify additional retrial times after retrying the number of times specified by the user. "0" indicates no additional retrial following the current number of times specified by the user.	0000 0000		0	
		0000 0001		1	
		:			
		1111 1111		255	

Mode	Default value		
371	Bit	7654 3210	HEX: 40
	State	0100 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-5	Retry interval for "additional number of times to retry transmission" (Network function)	000		10 min.
		001		15 min.
		010		20 min.
		011		25 min.
		100		30 min.
		others		Not available
1	Binary division	No	Yes	Sets Yes/No for binary division during scan to e-mail.
0	Page division	No	Yes	Sets Yes/No for page division during Internet fax (e-mail), scan to e-mail.

Mode	Default value		
372	Bit	7654 3210	HEX: 0F
	State	0000 1111	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Specify transmission interval of size-divided e-mail file data	0000 0000		Not available
		0000 0001		1 sec.
		:		
		0000 1111		15 sec.
		:		
		1111 1111		255 sec.

Mode	Default value		
373	Bit	7654 3210	HEX: 08
	State	0000 1000	

Bit	Setting item	Setting value		Description	
		0	1		
7	Full-mode function *: When sending internet fax, it requests MDN/DSN in order to receive notice on communication result and receiving ability (paper size, resolution, encoding, etc.).	Not available	Available	Sets whether to use full-mode function* or not.	
6	Output of MDN/DSN text	No	Yes	Sets whether to add the mail message on MDN/DSN response report to be output or not when receiving it.	
3-0	Wait time for MDN response	0000		0 min.	When sending an internet fax including a result notification request (MDN request), sets the time to wait for the result notification (MDN) to be returned from the machine receiving the request. Set this to 0 min when immediately outputting a TX report.
		0001		5 min.	
		0010		10 min.	
		0011		15 min.	
		0100		20 min.	
		0101		30 min.	
		0110		50 min.	
		1000		1 hour	
		1001		2 hours	
		1010		3 hours	
		1011		4 hours	
		1100		5 hours	
		1101		6 hours	
		1110		7 hours	
		1111		8 hours	

Mode	Default value		
374	Bit	7654 3210	HEX: 50
	State	0101 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	NOTIFY (SUCCESS)	Not send	Send	Used when the mail server processed normally.
6	NOTIFY (FAILURE)	Not send	Send	Used when the mail server detected an error. Specifies DSN return transmission.
5	NOTIFY (DELAY)	Not send	Send	Used when the mail server cannot process immediately after receiving mail file. Specifies DSN return transmission.
4	Response to MDN request when receiving SMTP data	Respons e	No response	Sets whether to return MDN to the e-mail received with MDN request.

Mode	Default value		
376	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	NetWare operation mode	PServer	Nprinter/ Rprinter	
6	NDS/Bindery setting	NDS	NDS & Bindery	
5	AppleTalk setting	No	Yes	

Mode	Default value		
377	Bit	7654 3210	HEX: FF
	State	1111 1111	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Printer number for Nprinter/ Rprinter mode	0000 0000		0
		0000 0001		1
		:		
		11111110		254
		11111111		Auto

Mode	Default value		
378	Bit	7654 3210	HEX: FF
	State	1111 1111	

Bit	Setting item	Setting value		Description
		0	1	
7	Set IPP	No	Yes	Sets whether to use IPP protocol.
6	Allow IPP jobs	No	Yes	Sets whether to allow IPP jobs.
5	Print jobs	OFF	ON	Sets the response content as to whether the print job function is supported for IPP communication.
4	Cancel jobs	OFF	ON	Sets the response content as to whether the cancel job function is supported for IPP communication.
3	Acquire jobs	OFF	ON	Sets the response content as to whether the acquire jobs function is supported for IPP communication. When OFF, responds as not supported. When ON, does not respond.
2	Activate jobs	OFF	ON	Sets the response content as to whether the activate jobs function is supported for IPP communication. When OFF, responds as not supported. When ON, responds to communication.

Bit	Setting item	Setting value		Description
		0	1	
1	Acquire job properties	OFF	ON	Sets the response content as to whether the acquire job properties function is supported for IPP communication. When OFF, responds as not supported. When ON, does not respond.
0	Acquire printer properties	OFF	ON	Sets the response content as to whether the acquire job properties function is supported for IPP communication. When OFF, responds as not supported. When ON, responds to communication.

Mode	Default value		
379	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
3-2	Specify position for cutting off data when forwarding received documents Specify position for cutting off data for the main scan size from the original size to sending size when forwarding received documents.	00		Center
		01		Left side
		10		Not available
		11		Right side
1-0	Specify image editing when forwarding Specify whether to set the main scan width of received data to regular width or leave the stored data width as is when forwarding received documents.	00		Edit to regular size and forward
		01		Forward stored data as is
		others		Not available

Mode	Default value		
380	Bit	7654 3210	HEX: 3A
	State	0011 1010	

Bit	Setting item	Setting value		Description
		0	1	
7	Enable APOP authentication function	Not enable	Enable	Specify whether to enable the APOP function.
6	Enable SMTP authentication function	Not enable	Enable	Specify whether to enable the SMTP authentication function. (*1)
5	SMTP authentication: Allow CRAMMD5 authentication function	Allowed	Not allowed	Specify whether to enable the CRAM-MD5 authentication function for SMTP authentication. (*2)
4	SMTP authentication: Allow LOGIN authentication function	Allowed	Not allowed	Specify whether to enable the LOGIN authentication function for SMTP authentication. (*2)
3	SMTP authentication: Allow PLAIN authentication function	Allowed	Not allowed	Specify whether to enable the PLAIN authentication function for SMTP authentication. (*2)
2	Separate SMTP authentication ID/password and POP3 information	Not separate	Separate	Specify whether to share the SMTP authentication ID/password with POP3 information.
1	HTTP server setting	Not use	Use	Set whether to use HTTP server protocol.
0	Set to use SSL/TLS with HTTP	Not use	Use	Set whether to use SSL/TLS with HTTP.

NOTE

(*1) The SMTP authentication function is valid under the following conditions.

- **MODE 380 Bit 6 is set to "1."**
- **When the SMTP authentication user name and SMTP authentication password share the POP3 user name and POP3 password, and MODE 380 Bit 2 is set to "0." When the SMTP authentication user name and SMTP authentication password do not share the POP3 user name and POP3 password, MODE 380 Bit 2 is set to "1", and "SMTP AUTH User Name" and "SMTP AUTH Password" are set in Network Settings.**
- **MODE 380 Bit 5, 4, or 3 is set to "0."**

(*2) When all mail authentication functions are validated (MODE 380 Bits 5, 4, and 3 all are set to "0"), they are prioritized in the order "CRAM-MD5 authentication (Bit 5)" → "LOGIN authentication (Bit 4)" → "PLAIN authentication (Bit 3)."

Mode	Default value		
381	Bit	7654 3210	HEX: 80
	State	1000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Use IP relay function	Disable	Enable	
2-0	Set transmission coding method for IP relay/ internet fax (IP-TX) transmission	000		MH
		001		MR
		010		MMR
		others		Not available

Mode	Default value		
382	Bit	7654 3210	HEX: 40
	State	0100 0000	

Bit	Setting item	Setting value		Description	
		0	1		
7	IP Relay Process result timeout	Communication error	Communication completed	Specify the communication result when a timeout occurs for IP relay result waiting (sending machine).	
6-3	IP relay set result timeout	0000		0 min.	Specify the period of a timeout of IP relay result waiting (sending machine).
		0001		5 min.	
		0010		10 min.	
		0011		15 min.	
		0100		20 min.	
		0101		30 min.	
		0110		40 min.	
		0111		50 min.	
		1000		1 hour	
		1001		2 hours	
		1010		3 hours	
		1011		4 hours	
		1100		5 hours	
		1101		6 hours	
		1110		7 hours	
		1111		8 hours	

Bit	Setting item	Setting value		Description
		0	1	
2-0	Set default relay station for IP relay Set the default relay sending machine for IP relay (sending machine).	000		Relay station 1
		001		Relay station 2
		010		Relay station 3
		011		Relay station 4
		100		Relay station 5
		101		Relay station 6
		110		Relay station 7
		111		Relay station 8

Mode	Default value		
383	Bit	7654 3210	HEX: 38
	State	0011 1000	

Bit	Setting item	Setting value		Description
		0	1	
6	Mail RX authentication (SMTP).	Disable	Enable	(*1)
5	Restrict mail authentication (CRAM-MD5).	No	Yes	(*2)
4	Restrict mail authentication (LOGIN).	No	Yes	(*2)
3	Restrict mail authentication (PLAIN).	No	Yes	(*2)

NOTE

(*1) SMTP authentication is valid when the following conditions are met:

- **MODE 383 Bit 6 is set to "1."**
- **One of MODE 383 Bit 5, 4, 3 is set to "0."**

(*2) When all the mail authentications are enabled (Bit 5 to 3 are all "0"), priority is set as CRAM-MD5 (Bit 5) → LOGIN (Bit 4) → PLAIN (Bit 3)

Mode	Default value		
384	Bit	7654 3210	HEX: FF
	State	1111 1111	

Bit	Setting item	Setting value		Description
		0	1	
7	Set TCP/IP	Not use	Use	Specifies whether to use TCP/IP.
6	Set LPD	Not use	Use	Specifies whether to use LPD.
5	Set port (RAW port)	Not use	Use	Specifies whether to use RAW port.
4	Set SLP	Not use	Use	Specifies whether to use SLP protocol.

Bit	Setting item	Setting value 0	Setting value 1	Description
3	FTP client setting	Not use	Use	Specifies whether to use FTP client. Note that Scan to FTP function is available only when FTP client is enabled.
2	FTP server setting	Not use	Use	Specifies whether to use FTP server.
1	SNMP v1/v2c setting	Not use	Use	Specifies whether to use SNMP v1/v2c.
0	SNMP v3 setting	Not use	Use	Specifies whether to use SNMP v3 setting.

Mode		Default value	
385	Bit	7654 3210	HEX: C0
	State	1100 0000	

Bit	Setting item	Setting value 0	Setting value 1	Description
7	Scan setting	Not use	Use	Specifies whether to use SMB. Note that Scan to SMB function is available only when SMB client is enabled.
6	Print setting	Not use	Use	Specifies whether to use SMB printing.

Mode		Default value	
386	Bit	7654 3210	HEX: 30
	State	0011 0000	

Bit	Setting item	Setting value 0	Setting value 1	Description
5	TCP Socket setting	Not use	Use	Specifies whether to use TCP Socket.
4	NetWare setting	Not use	Use	Specifies whether to use NetWare.

Mode	Default value		
387	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
6	Set LDAP	Not use	Use	Set whether to enable LDAP searching.
5-3	Select default LDAP server Specify the default server for LDAP searching.	000		LDAP server 1
		001		LDAP server 2
		010		LDAP server 3
		011		LDAP server 4
		100		LDAP server 5
		others		Not available

Mode	Default value		
388	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-5	Select ethernet frame type	000		Auto detection
		001		Ethernet-II
		010		802.2
		011		802.3
		100		802.2SNAP
		others		Not available

Mode	Default value		
389	Bit	7654 3210	HEX: 0C
	State	0000 1100	

Bit	Setting item	Setting value		Description
		0	1	
5-4	Specify coding format Selects the coding method for SSL/TLS.	00		3DES_168bits/RC4_128 bits/DES_56 bits or RC4_40 bits
		01		RC4_128 bits/DES_56 bits or RC4_40 bits
		10		DES_56 bits or RC4_40 bits
		11		Not available
3	Enable Write function	Disable	Enable	Specifies whether to enable the Write function.
2	Enable Discovery User	Disable	Enable	Specifies whether to enable Discovery User.

Mode	Default value		
390	Bit	7654 3210	HEX: A4
	State	1010 0100	

Bit	Setting item	Setting value		Description
		0	1	
7-6	Read security level Selects the security level for Read User authentication.	00		Not authenticate
		01		auth-password
		10		auth-password/priv-password
		11		Not available
5-4	Write security level Selects the security level for Write User authentication.	00		Not authenticate
		01		auth-password
		10		auth-password/priv-password
		11		Not available
2	PDF profile reception restriction	Disable	Enable	Sets whether to receive no Profile, or Profile 4 or later.
1-0	JPEG compression method	00		Standard compression
		01		Low compression
		10		High compression
		11		Not available

Mode	Default value		
391	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value 0	Setting value 1	Description
7-6	File format (Full Color) Specifies the default file format for full color graphic images.	00		PDF
		01		Not available
		10		JPEG
		00		Not available
5	File format (Gray Scale)	PDF	JPEG	Specifies the default file format for gray-scale graphic images.
4	File format (Black)	PDF	TIFF	Specifies the default file format for black-and-white documents.
3	PDF coding method for network PC	MH	MMR	Specifies the PDF coding for network PCs.
2	TIFF coding method for network PC	MH	MMR	Specifies the TIFF coding for network PCs.

Mode	Default value		
400	Bit	7654 3210	HEX: 10
	State	0001 0000	

Bit	Setting item	Setting value 0	Setting value 1	Description	
6	Set priority doc mixed mode (Copy).	No	Yes	Selects priority doc mixed mode when power source is turned ON and panel reset key is ON.	
5-3	Priority auto color level	000		1	Sets the level for distinguishing color documents and monochrome documents.
		001		2	
		010		3	
		011		4	
		100		5	
		others		Not available	
2-0	Priority color	000		Auto color	Specifies the default color value for copying.
		001		Full color	
		010		Monochrome	
		011		1 color	
		100		Single color	
		others		Not available	

Mode	Default value		
401	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description	
		0	1		
7-5	2 colors	000		Red	Sets the default setting for two colors.
		001		Yellow	
		010		Green	
		011		Blue	
		100		Magenta	
		101		Cyan	
		others		Not available	
4-0	1 color	00000		Red	Sets the default setting for mono-color.
		00001		Emerald	
		00010		Blue	
		00011		Vermilion	
		00100		Green	
		00101		Violet	
		00110		Orange	
		00111		Yellow green	
		01000		Purple	
		01001		Camel	
		01010		Moss-green	
		01011		Wine red	
		01100		Brown	
		01101		Marine blue	
		01110		Pink	
		01111		Yellow	
		10000		Cyan	
		10001		Magenta	
		10010		Copper red	
		10011		Sepia 1	
		10100		Sepia 2	
		others		Not available	

Mode	Default value		
402	Bit	7654 3210	HEX: 04
	State	0000 0100	

Bit	Setting item	Setting value		Description
		0	1	
7	Average density (Copy) Relative luminosity • Difference of the color on original (visual difference) and the gray level are shown as monochromic density when copied. It can clearly copy the color of the marker, blue lines on graph paper, and red seals. Average density • Only gradation level is shown as monochromic density when copied regardless of the color on the original. It is useful when using monochromic color for magazine, newspaper, etc, which are printed with tones, or when removing the yellowing on the original.	Disable	Enable	Specifies average density / Relative luminous efficiency function.
6-5	Priority copy mode (Copy)	00		Simplex → Simplex
		01		Simplex → Duplex
		10		Duplex → Simplex
		11		Duplex → Duplex
4-3	Priority auto mode (Copy)	00		APS
		01		AMS
		10		Not available
		11		Manual
2	Primary application	Copying	Printing	Specifies the primary use of the machine.
1	Neg./Pos. reverse	Disable	Enable	Specifies the default value for Neg./Pos. reverse.

Mode	Default value		
403	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Auto zoom for combine (Copy) Specifies either arbitrary or fixed magnification for printing options, “2 in 1”, “4 in 1”, and “2 in 1 two-page separation.”	Arbitrary ratio	Fixed ratio	
2	Sorting (Copy)	Disable	Enable	
1	Auto cassette switching (Copy)	Disable	Enable	
0	Use copy function	Enable	Disable	Enables/Disables copy function.

Mode	Default value		
404	Bit	7654 3210	HEX: 4C
	State	0100 1100	

Bit	Setting item	Setting value		Description
		0	1	
7-5	Auto background adjustment (AE mode)	000		1 (Light)
		001		2
		010		3 (Standard)
		011		4
		100		5 (Dark)
		others		Not available
4-1	Manual background adjustment	0000		-6 (Light)
		:		
		0110		0 (Standard)
		:		
		1000		+2 (Dark)
		1001		Auto
		others		Not available
0	Glossy copying	Enable	Disable	Enables/Disables glossy copy function.

Mode	Default value		
405	Bit	7654 3210	HEX: 40
	State	0100 0000	

	Bit	Setting item	Setting value 0	Setting value 1	Description
	7-4	Character reproduction	0000		-4 (Lighter text)
			:		
			0100		0 (Standard)
			:		
			1000		+4 (Darker text)
			others		Not available
⚠1	3	Document binding	Left	Top	
⚠1	2	Document binding: position	Left	Top	
⚠1	1-0	Frame erase position	00		OFF
			01		Top
			10		Left
			11		Frame

	Mode	Default value		
⚠1	406	Bit	7654 3210	HEX: 00
		State	0000 0000	

Bit	Setting item	Setting value 0	Setting value 1	Description	
7-6	Erase position (book separation)	00		Frame	Set the erase position on the book separation mode
		01		Center	
		10		Frame + center	
		11		Not available	
5	Binding margin	No	Yes	Set whether to make binding margin.	

Mode	Default value		
408	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description	
		0	1		
7-4	Select feeder tray. (Paper)	0000		1st tray	Selects the priority feeder tray used when APS (auto paper select mode) or manual mode is selected.
		0001		2nd tray	
		0010		3rd tray	
		0011		4th tray	
		1010		Bypass tray	
		others		Not available	

Mode	Default value		
409	Bit	7654 3210	HEX: 04
	State	0000 0100	

Bit	Setting item	Setting value		Description
		0	1	
7	Priority 4in1 page order (Copy)	Horizontal	Vertical	Sets the layout order of four pages printed on one sheet of paper.
6	2in1/4in1 Copy	Disable	Enable	Enables/Disables to copy multiple pages onto one sheet of paper.
5	2in1/4in1 Copy type	2in1	4in1	Specifies either “2 in 1” or “4 in 1” when the above feature is enabled.
4-2	Priority document quality (Copy)	000		Text
		001		Text/Photo
		010		Photo
		011		Map
		100		Dot Matrix
		others		Not available
0	No matching paper in tray (Copy)	Tray Fixed	Tray Priority	Sets whether to switch paper trays when there is no matching paper in the specified paper tray.

Mode	Default value		
412	Bit	7654 3210	HEX: 08
	State	0000 1000	

Bit	Setting item	Setting value		Description
		0	1	
7	Select auto sort mode. (Copy)	Group	Sort	
3	Select sort on/off auto switch. (Copy)	No	Yes	Determines whether to switch “sort on → sort off” or “sort off → sort on” according to # of documents or the operation.

Mode	Default value		
413	Bit	7654 3210	HEX: 48
	State	0100 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	Copy density	00000		-9 (Lighter)
		:		
		01001		0 (Standard)
		:		
		10010		+9 (Darker)
		others		Not available

Mode	Default value		
417	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Restrict # of sheets of paper. (Copy)	No	Yes	Specifies whether to restrict # of copies.

Mode	Default value		
424	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
3	Print small size document. (Copy) Specifies whether to generate a warning when a document smaller than that detectable by document size sensors is loaded.	No	Yes	

Mode	Default value		
425	Bit	7654 3210	HEX: 10
	State	0001 0000	

Bit	Setting item	Setting value		Description	
		0	1		
6-4	Select FLS size. (Copy)	000		210 x 330	Specify size of FLS used within the machine.
		001		203 x 330	
		010		216 x 330	
		011		220 x 330	
		100		206 x 337	
		others		Not available	

Mode	Default value		
427	Bit	7654 3210	HEX: 48
	State	0100 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	Brightness for color quality adjustment	00000		-3 (-9)
		:		
		01001		0
		:		
		10010		+3 (+9)
		others		Not available

Mode	Default value		
428	Bit	7654 3210	HEX: 48
	State	0100 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	Contrast for color quality adjustment	00000		-3 (-9)
		:		
		01001		0
		:		
		10010		+3 (+9)
		others		Not available

Mode	Default value		
429	Bit	7654 3210	HEX: 48
	State	0100 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	Saturation for color quality adjustment	00000		-3 (-9)
		:		
		01001		0
		:		
		10010		+3 (+9)
		others		Not available

Mode	Default value		
430	Bit	7654 3210	HEX: 48
	State	0100 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	Red color for color quality adjustment	00000		-3 (-9)
		:		
		01001		0
		:		
		10010		+3 (+9)
		others		Not available

Mode	Default value		
431	Bit	7654 3210	HEX: 48
	State	0100 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	Green color for color quality adjustment	00000		-3 (-9)
		:		
		01001		0
		:		
		10010		+3 (+9)
		others		Not available

Mode	Default value		
432	Bit	7654 3210	HEX: 48
	State	0100 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	Blue color for color quality adjustment	00000		-3 (-9)
		:		
		01001		0
		:		
		10010		+3 (+9)
		others		Not available

Mode	Default value		
433	Bit	7654 3210	HEX: 48
	State	0100 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	Yellow color for color quality adjustment	00000		-3 (-9)
		:		
		01001		0
		:		
		10010		+3 (+9)
		others		Not available

Mode	Default value		
434	Bit	7654 3210	HEX: 48
	State	0100 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	Magenta color for color quality adjustment	00000		-3 (-9)
		:		
		01001		0
		:		
		10010		+3 (+9)
		others		Not available

Mode	Default value		
435	Bit	7654 3210	HEX: 48
	State	0100 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	Cyan color for color quality adjustment	00000		-3 (-9)
		:		
		01001		0
		:		
		10010		+3 (+9)
		others		Not available

Mode	Default value		
436	Bit	7654 3210	HEX: 48
	State	0100 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-3	Black for color quality adjustment	00000		-3 (-9)
		:		
		01001		0
		:		
		10010		+3 (+9)
		others		Not available

Mode	Default value		
437	Bit	7654 3210	HEX: 60
	State	0110 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-5	Sharpness for color quality adjustment	000		-3
		:		
		011		0
		:		
		110		+3
		others		Not available

Mode	Default value		
440	Bit	7654 3210	HEX: 01 (for Europe) HEX: 0B (for U.S)
	State	0000 0001 (for Europe) 0000 1011 (for U.S)	

Bit	Setting item	Setting value		Description
		0	1	
7-6	Set PCL (PC Printer)	00		Auto
		01		PCL
		10		PS
		11		Others
5-0	Set paper size (PC Printer)	000000		A3
		000001		A4
		000010		A5
		000011		A6
		000100		B4
		000101		B5
		000110		B6
		000111		12 x 18
		001000		12 1/4 x 18
		001001		11 x 17
		001010		8 1/2 x 14
		001011		8 1/2 x 11
		001100		8 x 13
		001101		8 1/2 x 13
		001110		8 1/4 x 13
		001111		8 1/8 x 13 1/4
		010000		7 1/4 x 10 1/2
		010001		5 1/2 x 8 1/2
		010010		220 x 330
		010011		8K
		010100		16K
		010101		Envelope B5
		010110		Envelope C5
		010111		Envelope DL
		011000		Monarch Envelope
		011001		Commercial #10
		011010		J-POST (Hagaki)
		011011		4 x 6 Postcard
		011100		A3 Wide
		011101		A4 Wide
		011110		A5 Wide

Bit	Setting item	Setting value		Description
		0	1	
5-0	Set paper size (PC Printer)	011111		B4 Wide
		100000		B5 Wide
		100001		11 x 17 Wide
		100010		8 1/2 x 11 Wide
		100011		5 1/2 x 8 1/2 Wide
		others		Not available

Mode	Default value		
441	Bit	7654 3210	HEX: 80
	State	1000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-4	Select a paper feeder cassette (PC printer function)	0000		1st cassette
		0001		2nd cassette
		0010		3rd cassette
		0011		4th cassette
		1000		Auto
		1010		Bypass
		1100		LCT
		others		Not available
3-2	Select a paper orientation (PC printer function)	00		Portrait
		01		Landscape
		others		Not available

Mode	Default value		
442	Bit	7654 3210	HEX: 01
	State	0000 0001	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Select # (last 8 bits) of copies (PC printer) Specify the number with bits 1-0 of Mode 443 and bits 7-0 of Mode 442.	0000 0000		Not available
		0000 0001		1
		:		
		1110 0111		999
		:		
		1111 1111		

Mode	Default value		
443	Bit	7654 3210	HEX: 20
	State	0010 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Set print method (Duplex/Simplex) (PC Printer)	Simplex	Duplex	
6-5	Set print method (binding direction) (PC Printer)	00		Top binding
		01		Left binding
		10		Right binding
		11		Not available
1-0	Select # (first 2 bits) of copies (PC printer)	00		1
		:		
		11		999

Mode	Default value		
444	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-1	Select a font # (PC printer function) Set font size when it is not specified for PCL printing.	0000000		Courier
		0000001		CG Times
		0000010		CG Times Bold
		0000011		CG Times Italic
		0000100		CG Times Bold Italic
		0000101		CG Omega
		0000110		CG Omega Bold
		0000111		CG Omega Italic
		0001000		CG Omega Bold Italic
		0001001		Coronet
		0001010		Clarendon Condensed
		0001011		Univers Medium
		0001100		Univers Bold
		0001101		Univers Medium Italic
		0001110		Univers Bold Italic
		0001111		Univers Condensed Medium
		0010000		Univers Condensed Bold
		0010001		Univers Condensed Medium Italic
		0010010		Univers Condensed Bold Italic

Bit	Setting item	Setting value		Description
		0	1	
7-1	Select a font # (PC printer function) Set font size when it is not specified for PCL printing.	0010011		Antique Olive
		0010100		Antique Olive Bold
		0010101		Antique Olive Italic
		0010110		Garamond Antiqua
		0010111		Garamond Halbfett
		0011000		Garamond Kursiv
		0011001		Garamond Kursiv Halbfett
		0011010		Marigold
		0011011		Albertus Medium
		0011100		Albertus Extra Bold
		0011101		Arial
		0011110		Arial Bold
		0011111		Arial Italic
		0100000		Arial Bold Italic
		0100001		Times New Roman
		0100010		Times New Roman Bold
		0100011		Times New Roman Italic
		0100100		Times New Roman Bold Italic
		0100101		Helvetica
		0100110		Helvetica Bold
		0100111		Helvetica Oblique
		0101000		Helvetica Bold Oblique
		0101001		Helvetica Narrow
		0101010		Helvetica Narrow Bold
		0101011		Helvetica Narrow Oblique
		0101100		Helvetica Narrow Bold Oblique
		0101101		Palatino Roman
		0101110		Palatino Bold
		0101111		Palatino Italic
		0110000		Palatino Bold Italic
		0110001		ITC Avant Garde Gothic Book
		0110010		ITC Avant Garde Gothic Demi
		0110011		ITC Avant Garde Gothic Book Oblique
		0110100		ITC Avant Garde Gothic Demi Oblique
		0110101		ITC Bookman Light
		0110110		ITC Bookman Demi
		0110111		ITC Bookman Light Italic

Bit	Setting item	Setting value		Description
		0	1	
7-1	Select a font # (PC printer function) Set font size when it is not specified for PCL printing.	0111000		ITC Bookman Demi Italic
		0111001		New Century Schoolbook Roman
		0111010		New Century Schoolbook Bold
		0111011		New Century Schoolbook Italic
		0111100		New Century Schoolbook Bold Italic
		0111101		Times Roman
		0111110		Times Bold
		0111111		Times Italic
		1000000		Times Bold Italic
		1000001		ITC Zapf Chancery
		1000010		Symbol
		1000011		SymbolPS
		1000100		Wingdings
		1000101		ITC Zapf Dingbats
		1000110		Courier Bold
		1000111		Courier Italic
		1001000		Courier Bold Italic
		1001001		Letter Gothic
		1001010		Letter Gothic Bold
		1001011		Letter Gothic Italic
		1001100		CourierPS
		1001101		CourierPS Bold
		1001110		CourierPS Oblique
		1001111		CourierPS Bold Oblique
		1010000		Line Printer
		others		Not available

Mode	Default value		
445	Bit	7654 3210	HEX: 4C (for Europe) HEX: 78 (For U.S)
	State	0100 1100 (for Europe) 0111 1000 (for U.S)	

Bit	Setting item	Setting value		Description
		0	1	
7-2	Select a font symbol set (PC Printer) Set font symbol set when it is not specified for PCL printing.	000000		DESKTOP
		000001		ISO4
		000010		ISO6
		000011		ISO11
		000100		ISO15
		000101		ISO17
		000110		ISO21
		000111		ISO60
		001000		ISO69
		001001		ISOL1
		001010		ISOL2
		001011		ISOL5
		001100		ISOL6
		001101		ISOL9
		001110		LEGAL
		001111		MATH8
		010000		MCTEXT
		010001		MSPUBL
		010010		PC775
		010011		PC8
		010100		PC850
		010101		PC852
		010110		PC858
		010111		PC866
		011000		PC8TK
		011001		PC8DN
		011010		PC1004
		011011		PIFONT
		011100		PSMATH
		011101		PSTEXT
		011110		ROMAN8
		011111		WIN30
		100000		WINBALT
		100001		WINL1
		100010		WINL2
		100011		WINL5
		100100		VNINTL

Bit	Setting item	Setting value		Description
		0	1	
7-2	Select a font symbol set (PC Printer) Set font symbol set when it is not specified for PCL printing.	100101		VNMATH
		100110		VNUS
		100111		WIN31J
		101000		Greek-8
		101001		PC-8 Greek
		101010		PC-851 Latin/Greek
		101011		ISO8859/7 Latin/Greek
		101100		Windows Latin/Greek
		101101		CP-862 Latin/Hebrew
		101110		HP Hebrew-7
		101111		HP Hebrew-8
		110000		ISO8859/8 Latin/Hebrew
		others		Not available

Mode	Default value		
446	Bit	7654 3210	HEX: 40 (for Europe) HEX: 3C (For U.S)
	State	0100 0000 (for Europe) 0011 1100 (for U.S)	

Bit	Setting item	Setting value		Description	
		0	1		
7-0	Select # of lines (PC printer function)	0000 0101		5	Set number of lines when it is not specified for PCL printing.
		:			
		0100 0000		64	
		:			
		1000 0000		128	
		others		Not available	

Mode	Default value		
447	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Select the unit of font size (PC printer function)	Pitch	Point	Specifies the default font-size unit for printing in PCL mode.

Mode	Default value		
448	Bit	7654 3210	HEX: 30
	State	0011 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Select font size (Scalable font size) (Last 8 bits) (PC printer function) Set font size when it is not specified for PCL printing. (Scalable font) Specify the font size together with Mode 449 bits 3-0. (Least significant 8 bits) Size cannot be set larger than 999.75 (3999).	0000 0000		
		0001 0000		4.00 (16)
		:		
		0011 0000		12.00 (48)
		:		
		1111 1111		

Mode	Default value		
449	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
3-0	Select a font size (Scalable font size) (First 4 bits) (PC printer function) Set font size when it is not specified for PCL printing. (Scalable font) Specify the font size together with Mode 448 bits 7-0. (Most significant 4 bits) Size cannot be set larger than 999.75 (3999).	0000		
		:		
		1111		999.75 (3999)

Mode	Default value		
450	Bit	7654 3210	HEX: E8
	State	1110 1000	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Select font size (Bitmap font size) (Last 8 bits) (PC printer function) Set font size when it is not specified for PCL printing. (Bitmap font) Specify the font size together with Mode 451. (Least significant 8 bits) Size cannot be set larger than 99.00 (9900).	0000 0000		
		0010 1100		0.44 (44)
		:		
		1110 1000		10.00 (1000)
		:		
		1010 1100		99.00 (9900)
		:		
		1111 1111		

Mode	Default value		
451	Bit	7654 3210	HEX: 03
	State	0000 0011	

Bit	Setting item	Setting value		Description
		0	1	
5-0	Select font size (Bitmap font size) (First 6 bits) (PC printer function) Set font size when it is not specified for PCL printing. (Bitmap font) Specify the font size together with Mode 450. (Most significant 6 bits) Size cannot be set larger than 99.00 (9900).	000000		
		:		
		000011		10.00 (1000)
		:		
		100110		99.0 (9900)

Mode	Default value		
452	Bit	7654 3210	HEX: 80
	State	1000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Change between A4 and Letter size (PC printer)	Not change	Change	Specifies whether to enable automatic switching between A4 and Letter media sizes.

Mode	Default value		
453	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Set OFF or ON of PostScript error printing (PC printer function)	OFF	ON	Specify whether to print error information when an error occurs during PS printing.

Mode	Default value		
455	Bit	7654 3210	HEX: 3C
	State	0011 1100	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Select timeout timer (last 8 bits) (PC printer) Specify together with Mode 456 bits 1-0. (Least significant 8 bits.) Value cannot be set larger than 1000 sec.)	0000 1010		10 sec.
		:		
		0000 1111		15 sec.
		:		
		0011 1100		60 sec.
		:		
		1111 1000		1000 sec.
		others		Not available

Mode	Default value		
456	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
1-0	Select timeout timer (first 2 bits) (PC printer) Specify together with Mode 455. (Most significant 2 bits.) Value cannot be set larger than 1000 sec.	00		0 sec
		01		300 sec.
		:		
		11		1000 sec.

Mode	Default value		
457	Bit	7654 3210	HEX: 05
	State	0000 0101	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Wait time (M) at full memory of PC print (Set range: 0, 1 to 30 minutes (1-minute steps) PC print job is deleted when the wait time at full memory expires. Specifies the time that the PC printer will wait before deleting print job files from the memory when it is full. The DMA transfer is temporarily suspended during the time. When the waiting time is over, a message of “full memory” is announced and the spooled print job files are deleted.	0000 0000		Immediately delete
		0000 0001		1 min.
		0000 0010		2 min.
		0000 0011		3 min.
		0000 0100		4 min.
		0000 0101		5 min.
		:		
		00011110		30 min.
		others		Not available

Mode	Default value		
458	Bit	7654 3210	HEX: 04
	State	0000 0100	

Bit	Setting item	Setting value		Description
		0	1	
3	PC print job deletion operation If a job is disposed of when printing a PC Print job, set whether to cut off the session with the PC or to read and delete the PDL data.	**Read and delete**	Suspend	
2	PC-FAX job deletion operation If a job is disposed of when printing a PC-FAX job, set whether to cut off the session with the PC or to read and delete the PDL data.	Read and delete	**Suspend**	

Mode	Default value		
470	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Set export extension Set the export file extension for the MFP Agent export function to CSV or TXT.	**TXT**	CSV	
3-1	Auto logout time	**000**		5 min.
		001		10 min.
		010		20 min.
		011		40 min.
		100		60 min.
		others		Not available

Mode	Default value		
471	Bit	7654 3210	HEX: 00 (for Europe) HEX: 01 (for U.S)
	State	0000 0000 (for Europe) 0000 0001 (for U.S)	

Bit	Setting item	Setting value		Description
		0	1	
2-1	Set whether to display the account list screen by default Specify whether to display the account list screen for machine authentication by default.	00		Not display list screen
		01		Not available
		10		Not available
		11		Display list screen by default
0	Display default for specifying scan range	mm	inch	

Mode	Default value		
473	Bit	7654 3210	HEX: 40
	State	0100 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Set priority job list screen	Display by status	Display by print order	Set whether to prioritize the print order display.
6	Specify treatment of # when entering destination Specifies the use of the pound key (#). Logic 0: Not used for abbreviated dialing. Merely used as a symbol key. Logic 1: Used for abbreviated dialing.	Use as # for full dialing	Use as abbreviated dialing	

Mode	Default value		
476	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
5-4	Select destination screen: Displays screen of destination when document is loaded in FAX mode.	00		One-touch 1st screen
		01		Not available
		10		Not available
		11		Not available
3	Specify full-dial sending By linking with Mode 477 bit 6, you can set so that data can be sent with only pre-decided one-touch keys.	Allowed	Not allowed	
2	Set broadcast transmission Enables/Disables broadcast transmission. This option is provided to avoid unintended fax transmission.	Enable	Disable	

Mode	Default value		
477	Bit	7654 3210	HEX: 01
	State	0000 0001	

Bit	Setting item	Setting value		Description
		0	1	
6	Set fax registration restriction and destination display Fax registration /report output restriction “Administrator only”: Fax registration and report output buttons move to the Admin. management menu.	Allow user	Administrator only	
5	Destination display Destination display “Display one-touch name”: Display registered onetouch names for destinations specified for onetouch keys, job list, destination names of result reports, and activity report (TX). (Do not display the tel. no./address of the destination.)	Display Tel. No./ Address	Display one-touch name	
1-0	Broadcast transmission setting confirmation window Specifies whether to display broadcast transmission setting confirmation window when the Start key is pressed to initiate fax transmission.	00		Not display
		01		Confirms settings at broadcast transmission
		10		Confirms settings (single destination/all destinations)
		11		Not available

Mode	Default value		
478	Bit	7654 3210	HEX: 02 (for Europe) HEX: 82 (for U.S)
	State	0000 0010 (for Europe) 1000 0010 (for U.S)	

Bit	Setting item	Setting value		Description
		0	1	
6	Display when touching One-touch Specifies whether destination name or additional information (such as phone number and email address) is displayed when a one-touch button is touched.	Destination information	One-touch name	
5-2	Communication mode default value Specifies the initial communication mode to which the machine is reset after each job. Some options require the use of optional components.	0000		G3-1
		0001		G3-2
		0010		Internet fax (E-mail)
		0011		Internet fax (IP-TX)
		0100		IP relay
		0101		Not available
		0110		PC Mail
		0111		Not available
		others		Not available
1	Anti-dew processing Enables/Disables dehumidifying operation from the touch panel. When this feature is disabled, neither manual nor automatic operation is available.	Disable	Enable	

Mode	Default value		
480	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
5	Select alarm buzzer pattern.	Pattern 0	Pattern 1	Specifies the alarm sound. Pattern 0: Three sets of combination tones of 2 kHz (0.5 sec) and 1 kHz (0.5 sec). Pattern 1: Three discontinuous beeps of 2 kHz (0.5 sec).

Mode	Default value		
485	Bit	7654 3210	HEX: 00 (for Europe) HEX: C0 (for U.S)
	State	0000 0000 (for Europe) 1100 0000 (for U.S)	

Bit	Setting item	Setting value		Description
		0	1	
7-6	Select order of displaying year to date. (Corresponding to each region) Order of displaying date in operation panel display	00		Year-Month-Date
		01		Not available
		10		Date-month-year
		11		Month-date-year

Mode	Default value		
486	Bit	7654 3210	HEX: 40
	State	0100 0000	

Bit	Setting item	Setting value		Description
		0	1	
6	Enables/Disables summer time mode.	Disable	Enable	

Mode	Default value		
487	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
1	Set “No sleep”	No	Yes	

Mode	Default value		
488	Bit	7654 3210	HEX: 01
	State	0000 0001	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Auto reset Select whether to carry out auto reset if there is no operation for a certain time, after copy or other operation. Also, select its time. Every 1 min.	0000 0000		0
		0000 0001		1 min.
		:		
		1111 0000		240 min.
		:		
		1111 1111		30 sec.
		others		Not available

Mode	Default value		
489	Bit	7654 3210	HEX: 0A
	State	0000 1010	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Select low power time. Select when to carry out low power if there is no operation for a certain time, after printing or other operation. Every 1 min.	0000 0000		Not available
		0000 0001		1 min.
		:		
		0000 1010		10 min.
		:		
		1111 0000		240 min.
		others		Not available

Mode	Default value		
490	Bit	7654 3210	HEX: 14
	State	0001 0100	

Bit	Setting item	Setting value		Description	
		0	1		
7-0	Select sleep time.	0000 0000		Disable	Select the time to wait until “Sleep” is executed.
		0000 0001		1 min.	
		0000 1111		15 min.	
		0001 0100		20 min.	
		0001 1110		30 min.	
		1111 0000		240 min.	
		others		Not available	

Mode	Default value		
491	Bit	7654 3210	HEX: 01
	State	0000 0001	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Set time before activating LCD Backlight Off. Select “LCD Back-light Off” period if no operation is executed for certain time after operation ends.	0000 0001		1 min.
		:		
		1111 0000		240 min.
		others		Not available

Mode	Default value		
492	Bit	7654 3210	HEX: 6C
	State	0110 1100	

Bit	Setting item	Setting value		Description
		0	1	
7-5	Select sound volume 1. (Buzzer) (Key) 6 stage adjustment of key buzzer	000		0 (No sound)
		001		1
		010		2
		011		3
		100		4
		101		5
		others		Not available
4-2	Select sound volume 2. (Alarm) 6 stage adjustment of key buzzer	000		0 (No sound)
		001		1
		010		2
		011		3
		100		4
		101		5
		others		Not available

Mode	Default value		
493	Bit	7654 3210	HEX: 68 (for Europe) HEX: 64 (for U.S)
	State	0110 1000 (for Europe) 0110 0100 (for U.S)	

Bit	Setting item	Setting value		Description
		0	1	
7-5	Monitor sound volume 6 stage adjustment of line monitor	000		0 (No sound)
		001		1
		010		2
		011		3
		100		4
		101		5
		others		Not available
1-0	Select priority application. (after auto clear and panel reset) Selects initial screen (Copy or Fax/Scan).	00		Copy
		01		Fax/Scan
		others		Not available

Mode	Default value		
494	Bit	7654 3210	HEX: 0C
	State	0000 1100	

Bit	Setting item	Setting value		Description
		0	1	
4-2	Sound volume setting 3 (Completion) 6 step adjustment Set the Completion sound volume.	000		0 (No sound)
		001		1
		010		2
		011		3
		100		4
		101		5
		others		Not available

Mode	Default value		
500	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Increase of sound level	Normal sound level mode	Increased sound level mode	Specifies either 5-level alarm volume (standard mode) or additional higher level.

Mode	Default value		
501	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Invert screen Specifies either black text on white background (“normal”) or white text on black background (“inverted”).	Normal	Inverted	
6	Displaying next screen when using enlarge display Specifies whether to retain the display magnification in zoom mode when moving to the next screen. Logic 0: Not retain. The magnification ratio is reset to 100%. Logic 1: Retains the magnification ratio to the next screen.	Wait for specification	Display upper-left screen	

Mode	Default value		
502	Bit	7654 3210	HEX: 03
	State	0000 0011	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Key repeat delay	0000 0001		1 x 100 ms
		:		
		0000 0011		3 x 100 ms
		:		
		0001 1110		30 x 100 ms
		others		Not available

Mode	Default value		
503	Bit	7654 3210	HEX: 01
	State	0000 0001	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Key repeat rate	0000 0001		1 x 100 ms
		:		
		0001 1110		30 x 100 ms
		others		Not available

Mode	Default value		
504	Bit	7654 3210	HEX: 03
	State	0000 0011	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Reception complete screen display time Specifies the display time of the transmission/copy completion message including document number and job ID. (The touch-sensitive panel provides only three options: 3, 10 and 60 sec)	0000 0000		Not disappear automatically
		0000 0001		1 sec.
		:		
		0000 0011		3 sec.
		:		
		1111 1111		255 sec.

Mode	Default value		
505	Bit	7654 3210	HEX: 40
	State	0100 0000	

Bit	Setting item	Setting value		Description
		0	1	
6-5	Sound level of buzzer	00		Low
		01		Normal
		10		High
		11		Not available

Mode	Default value		
506	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-0	Auto reset extension time Sets the period of time for the screen for checking to be displayed when reaching to the auto reset.	0000 0000		OFF
		0000 0011		30 sec.
		0000 0110		60 sec.
		0000 1001		90 sec.
		0000 1100		120 sec.
		others		Not available

Mode	Default value		
820	Bit	7654 3210	HEX: 04
	State	0000 0100	

Bit	Setting item	Setting value		Description
		0	1	
7-2	Language code (for display) • Selects the language for displaying operation panel/report.	000000		Japanese
		000001		English
		000010		German
		000011		French
		000100		Italian
		000101		Spanish
		000110		Chinese (simplified)
		000111		Korean
		001000		Taiwanese (Cantonese)
		001001		Dutch
		001010		Portuguese
		001011		Danish
		001100		Norwegian
		001101		Swedish
		001110		Finnish
		001111		Arabic
		010000		Not available
		010001		Ukrainian
		010010		Estonian
		010011		Greek
		010100		Croatian
		010101		Slovakian
		010110		Thai
		010111		Czech
		011000		Turkish
		011001		Hungarian
		011010		Polish
		011011		Not available
		011100		Latvian
		011101		Lithuanian
		011110		Romanian
		011111		Russian
		100000		Slovene
		100001		Persian
		100010		Hebrew
		100011		(Reserved)
		others		Not available

Mode	Default value		
821	Bit	7654 3210	HEX: 04
	State	0000 0100	

Bit	Setting item	Setting value		Description
		0	1	
7-2	Language code (for input/output) • Sets the language for import/export. • Internet fax, IP address fax and IP relay are switched with this language. This language code is also used for sending the file for communication administration data.	000000		Japanese
		000001		English
		000010		German
		000011		French
		000100		Italian
		000101		Spanish
		000110		Chinese (simplified)
		000111		Korean
		001000		Taiwanese (Cantonese)
		001001		Dutch
		001010		Portuguese
		001011		Danish
		001100		Norwegian
		001101		Swedish
		001110		Finnish
		001111		Arabic
		010000		Not available
		010001		Ukrainian
		010010		Estonian
		010011		Greek
		010100		Croatian
		010101		Slovakian
		010110		Thai
		010111		Czech
		011000		Turkish
		011001		Hungarian
		011010		Polish
		011011		Not available
		011100		Latvian
		011101		Lithuanian
		011110		Romanian
		011111		Russian
		100000		Slovene
		100001		Persian
		100010		Hebrew
		100011		(Reserved)
		others		Not available

Mode	Default value		
823	Bit	7654 3210	HEX: 04
	State	0000 0100	

Bit	Setting item	Setting value 0	Setting value 1	Description
7-2	Language code (for input) • Selects the keyboard and input letters for operation panel. Language code (for display) is linked with this switch. When changing the language code (for display), this switch should also be set to the same language. • For languages other than Japanese, English, German, French, Italian, Spanish, Chinese (simplified characters), Korean, and Taiwanese (Cantonese), English is selected for their language codes (for input) since there is no keyboard for input.	000000		Japanese
		000001		English
		000010		German
		000011		French
		000100		Italian
		000101		Spanish
		000110		Chinese (simplified)
		000111		Korean
		001000		Taiwanese (Cantonese)
		001001		Dutch
		001010		Portuguese
		001011		Danish
		001100		Norwegian
		001101		Swedish
		001110		Finnish
		001111		Arabic
		010000		Not available
		010001		Ukrainian
		010010		Estonian
		010011		Greek
		010100		Croatian
		010101		Slovakian
		010110		Thai
		010111		Czech
		011000		Turkish
		011001		Hungarian
		011010		Polish
		011011		Not available
		011100		Latvian
		011101		Lithuanian
		011110		Romanian
		011111		Russian
		100000		Slovene
		100001		Persian
		100010		Hebrew
		100011		(Reserved)
		others		Not available

Mode	Default value		
830	Bit	7654 3210	HEX: 60 (for Europe) HEX: 50 (for U.S)
	State	0110 0000 (for Europe) 0101 0000 (for U.S)	

Bit	Setting item	Setting value		Description
		0	1	
7	Coverage rate clear	No	Yes	
6	Total counter count mode	Mode 1	Mode 2	
5-4	Paper size which is considered to be a large size	00		No count
		01		A3/11 x 17
		10		A3/B4/11 x 17/8$^{1}/_{2}$ x 14
		11		A3/11 x 17/B4/8$^{1}/_{2}$ x 14/ Foolscap
3-2	Copy kit counter mode	00		Mode 1
		01		Mode 2
		10		Mode 3
		11		Mode 4

Mode	Default value		
831	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-5	Key counter color mode	000		Mode 1
		001		Mode 2
		010		Mode 3
		011		Mode 4
		100		Mode 5
		others		Not available
4-3	Key counter message	00		Mode 1
		01		Mode 2
		10		Mode 3
		11		Mode 4

Mode	Default value		
832	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value 0	Setting value 1	Description
7-5	Vendor + key counter color mode (key counter)	000		Mode 1
		001		Mode 2
		010		Mode 3
		011		Mode 4
		100		Mode 5
		others		Not available
4-3	Vendor + key counter message (key counter)	00		Mode 1
		01		Mode 2
		10		Mode 3
		11		Mode 4
2-1	Vendor + key counter message (vendor)	00		Mode 1
		01		Mode 2
		10		Mode 3
		11		Not available
0	Management device management setting	Mode 1	Mode 2	Select the Management Setting Mode Mode 1: Use contact type device (Logout with ID key is not allowed.) Mode 2: Use non-contact type device (Logout with ID key is allowed.)

Mode	Default value		
833	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Vendor message	Message 1	Message 2	
6	PC print control with key counter	Do not match with copy operation	Match with copy operation	

Mode	Default value		
835	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7	Public account	Disable	Enable	Sets whether to allow the Public category or not when administrating the account track.

Mode	Default value		
880	Bit	7654 3210	HEX: 10 (for Europe) HEX: 70 (for U.S)
	State	0001 0000 (for Europe) 0111 0000 (for U.S)	

Bit	Setting item	Setting value		Description
		0	1	
7	Unit change (Toner cartridge)	User	Service	Selects the one which unit is to be replaced.
6	Unit change (Imaging unit)	User	Service	
5	Unit change (Waste toner box)	User	Service	
4	Consumable life reminder	No	Yes	Sets whether to show alarm on the whole screen when the specific unit reaches its life.

Mode	Default value		
882	Bit	7654 3210	HEX: E0
	State	1110 0000	

Bit	Setting item	Setting value		Description
		0	1	
6	Color → B/W fallback function	OFF	ON	
5	Color Reception	Not allowed	Allowed	Sets whether to receive color data or not.
4	Test scan	Disable	Enable	
3	Calling port at the time of G3 fall back	G3-1	G3-2	
1-0	Warm-up mode *: In order to make this setting valid, main power switch needs to be turned off and on again twice.	00		Mode 1
		01		Mode 2
		10		Mode 3
		11		Mode 4

Mode	Default value		
883	Bit	7654 3210	HEX: 00 (for Europe) HEX: 04 (for U.S)
	State	0000 0000 (for Europe) 0000 0100 (for U.S)	

Bit	Setting item	Setting value		Description
		0	1	
3	Power save setting	Immedi-ately	Normal	Sets the method for shifting to the power save mode when operation is complete, in the case of recovering from lower power or sleep mode with recovering condition of no unit operation.
2	LCT paper size	A4	8 $^{1}/_{2}$x11	Sets the LCT paper size.
0	Optional original size detection sensor (BS)	No	Yes	Sets whether there is an optional original size detection sensor or not.

Mode	Default value		
884	Bit	7654 3210	HEX: 01
	State	0000 0001	

Bit	Setting item	Setting value		Description
		0	1	
0	Fan control for the low-temperature warm-up *: In order to make this setting valid, main power switch needs to be turned off and on twice.	Valid	Invalid	Sets the valid/invalid of the fan control function which further prevents the waviness of the paper when printing immediately after the warm-up in low temperature.

Mode	Default value		
901	Bit	7654 3210	HEX: 01
	State	0000 0001	

Bit	Setting item	Setting value		Description
		0	1	
1	CS Remote Care Line for send only	No	Yes	
0	CS Remote Care Dial mode	Pulse	Tone	

Mode	Default value		
904	Bit	7654 3210	HEX: 02
	State	0000 0010	

Bit	Setting item	Setting value	Description
1-0	CS Remote Care Transmission mode	00	DATA
		01	FAX
		10	E-mail
		11	Not available

Mode	Default value		
905	Bit	7654 3210	HEX: 03
	State	0000 0011	

Bit	Setting item	Setting value		Description
		0	1	
4-0	CS Remote Care Modem redial interval	00001		1 min.
		:		
		00011		3 min.
		:		
		01010		10 min.
		others		Not available

Mode	Default value		
906	Bit	7654 3210	HEX: 0A
	State	0000 1010	

Bit	Setting item	Setting value		Description
		0	1	
7-0	CS Remote Care Modem redial times	00000000		0
		:		
		00001010		10
		:		
		01100011		99
		others		Not available

Mode	Default value		
907	Bit	7654 3210	HEX: 01
	State	0000 0001	

Bit	Setting item	Setting value		Description
		0	1	
7-0	CS Remote Care Redial for response timeout	00000000		0
		00000001		1
		others		Not available

Mode	Default value		
908	Bit	7654 3210	HEX: 06
	State	0000 0110	

Bit	Setting item	Setting value		Description
		0	1	
7-0	CS Remote Care Retransmission interval on E-mail error	00000000		10 min.
		:		
		00000110		60 min.
		:		
		00001011		120 min.
		others		Not available

Mode	Default value		
909	Bit	7654 3210	HEX: 0A
	State	0000 1010	

Bit	Setting item	Setting value		Description
		0	1	
7-0	CS Remote Care Retransmission times on E-mail error	00000000		0
		:		
		00001010		10
		:		
		01100011		99
		others		Not available

Mode	Default value		
910	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-0	CS Remote Care Time zone	00000000		-12 h
		:		
		00001100		0 h
		:		
		00011001		13 h
		others		Not available

Mode	Default value		
911	Bit	7654 3210	HEX: 20
	State	0010 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-0	CS Remote Care Ring reception -> Connect reception timer	00000000		0 sec.
		:		
		00100000		32 sec.
		:		
		11111111		255 sec.

Mode	Default value		
912	Bit	7654 3210	HEX: 40
	State	0100 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-0	CS Remote Care Dial call end -> Connect reception timer	00000000		0 sec.
		:		
		01000000		64 sec.
		:		
		11111111		255 sec.

Mode	Default value		
914	Bit	7654 3210	HEX: 20
	State	0010 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-0	CS Remote Care Line Connect -> Send start-up message request time	00000000		0 msec
		:		
		00100000		3,200 msec
		:		
		11111111		25,500 msec

Mode	Default value		
915	Bit	7654 3210	HEX: 1E
	State	0001 1110	

Bit	Setting item	Setting value		Description
		0	1	
7-0	CS Remote Care Opposite party signal answer wait time	00000000		0 sec.
		:		
		00011110		30 sec.
		:		
		11111111		255 sec.

Mode	Default value		
918	Bit	7654 3210	HEX: 01
	State	0000 0001	

Bit	Setting item	Setting value		Description
		0	1	
0	CS Remote Care ATTENTION display	OFF	ON	

Mode	Default value		
930	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-6	CS Remote Care Authentication	00		OFF
		01		POP Before SMTP
		10		SMTP Authentication
		11		Not available
5	CS Remote Care SMTP authentication information	No	Yes	

Mode	Default value		
931	Bit	7654 3210	HEX: 05
	State	0000 0101	

Bit	Setting item	Setting value		Description
		0	1	
7-0	CS Remote Care POP before SMTP time	00000000		0 sec.
		:		
		00000101		5 sec.
		:		
		00111100		60 sec.
		others		Not available

Mode	Default value		
932	Bit	7654 3210	HEX: 20
	State	0010 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-4	CS Remote Care SMTP timeout	0000		Not available
		0001		30 sec.
		0010		60 sec.
		0011		90 sec.
		0100		120 sec.
		0101		150 sec.
		0110		180 sec.
		0111		210 sec.
		1000		240 sec.
		1001		270 sec.
		1010		300 sec.
		others		Not available

Mode	Default value		
933	Bit	7654 3210	HEX: 1E
	State	0001 1110	

Bit	Setting item	Setting value		Description
		0	1	
7-1	CS Remote Care POP3 server auto connection interval	0000000		Not available
		0000001		1 min.
		:		
		0001111		15 min.
		:		
		1100011		99 min.
		others		Not available
0	CS Remote Care POP3 server auto connection	No	yes	

Mode	Default value		
934	Bit	7654 3210	HEX: 20
	State	0010 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-4	CS Remote Care POP3 timeout	0000		Not available
		0001		30 sec.
		0010		60 sec.
		0011		90 sec.
		0100		120 sec.
		0101		150 sec.
		0110		180 sec.
		0111		210 sec.
		1000		240 sec.
		1001		270 sec.
		1010		300 sec.
		others		Not available

Mode	Default value		
935	Bit	7654 3210	HEX: 00
	State	0000 0000	

Bit	Setting item	Setting value		Description
		0	1	
1	CS Remote Care APOP setting	OFF	ON	

Mode	Default value		
941	Bit	7654 3210	HEX: F0
	State	1111 0000	

Bit	Setting item	Setting value		Description
		0	1	
7-6	CS Remote Care Rx FIFO trigger level	00		1 byte
		01		4 byte
		10		8 byte
		11		14 byte
5-4	CS Remote Care Tx FIFO trigger level	00		1 byte
		01		3 byte
		10		9 byte
		11		13 byte

Mode	Default value		
945	Bit	7654 3210	HEX: C1
	State	1100 0001	

Bit	Setting item	Setting value		Description
		0	1	
7-6	CS Remote Care Unit of the timer for awaiting toner empty restoration	00		second
		01		minute
		10		hour
		11		day

10.6.11 Consumable Life Reminder

Functions	• To select whether or not to give the display of PM parts lifetime PM parts lifetime display: An entire screen warning is given when the service life of a specific unit has been reached, prompting the user to replace the part. • Applicable units: Transfer belt unit, fusing unit, imaging unit (C, M, Y, K)
Use	• Use to select not to give the display of PM parts lifetime.
Setting/ Procedure	• The default setting is “Yes.” “Yes” No

10.6.12 Unit Change

Functions	• To select who is to replace a unit. • When the unit life arrives, the warning display is intended for the specific person who is going to replace the unit. When “User” is selected : Printing is inhibited. When “Service” is selected: Life warning.
Use	• Upon setup
Setting/ Procedure	<Unit Change> • The following are the default settings: US, Japan, Others 2 Europe, Others1,3,4 Toner Cartridge : “User” Service “User” Service Imaging Unit : User “Service” “User” Service Waste Toner Box : User “Service” “User” Service

10.6.13 Option Settings

Functions	• To set the status for the optional stamp unit SP-503.
Use	• To be used for setting up the stamp unit SP-503.
Setting/ Procedure	• The default setting is “No.” Yes “No”

~~10.6.14 Center Erase Width~~

~~Functions~~	~~• To set a default center shadow erase width in book copy mode.~~
~~Use~~	~~• To change the default center shadow erase width in order to meet user's needs.~~
~~Setting/ Procedure~~	~~• The default setting is “12.0 mm.”~~ ~~2.0 to 20.0 mm~~

10.6.15 IU Life Setting

Functions	• To set the life threshold for imaging units.
Use	• Use this setting when a gap appears between the actual life value of imaging unit and the life specification value due to the way * a machine is used. • Comparing the PC drum rotation time with the PC drum rotation time calculated based on the number of printed pages, the machine detects the end of unit life using the one that reaches the life specification value earlier. This setting aims to extend the life threshold for the PC drum rotation time and achieve a longer imaging unit life. Normal : detects the end of life when the life specification value is reached. Long : detects the end of life when a value greater (longer) than the life specification value is reached. *The product specification value is determined based on what types of printing are made on the machine. If the types of printing made on the machine are different from the specified printing conditions, the life value of the imaging unit tends to be different from the life specification value. See conditions for life specification values in the service manual “Maintenance” for more information on printing conditions. See P.13 **NOTE** • **When “Long” is selected, images printed after the life specification value is out of guarantee.** **The life counter value of imaging unit is accessed from [Service Mode] → [Counter] → [Life].** • **Before making this setting, be sure to check that the machine does not display any message that warns each of imaging units, fusing unit, or image transfer belt unit reaches their life value.**
Setting/ Procedure	• The default setting is Normal. “Normal” Long **NOTE** • **When the setting has been changed, turn off the sub power switch and turn it on again.**

10.7 Counter

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

10.7.1 Procedure

A. Checking the counter

1. Call the Service Mode to the screen.
2. Touch [Counter].
3. Touch [Check], and touch the key of the counter to be checked.

B. Clearing the individual counter

1. Call the Service Mode to the screen.
2. Touch [Counter].
3. Touch [Counter Reset], and select the key for the counter to be cleared.
4. Touch [Execute] to clear the counter value.

C. Collectively clearing the counter

1. Call the Service Mode to the screen.
2. Touch [Counter].
3. Select the key for the counter to be cleared, and press the Clear key.
   When clearing by mistake, press the interrupt key to recover.

10.7.2 Life

Functions	• To check the number of hours or times each of the different maintenance parts has been used. • To clear the count of each counter.
Use	• When each of the maintenance parts is replaced.
Setting/ Procedure	• If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation. • It is not possible to clear the count of the counters for the transfer belt unit and imaging unit, which are provided with a new unit detection function. <1/3> • Fusing Unit : Number of times a sheet of paper is fed through • Transfer Unit : Number of times a sheet of paper is fed through • Tray 1 : Number of sheets of paper fed from tray 1 • Tray 2 : Number of sheets of paper fed from tray 2 • Tray 3 : Number of sheets of paper fed from tray 3 • Tray 4 : Number of sheets of paper fed from tray 4 • Bypass Tray : Number of sheets of paper fed from the bypass
	<2/3> • Imaging Unit (C) : Period of time over which the cyan imaging unit has been used. • Imaging Unit (M) : Period of time over which the magenta imaging unit has been used. • Imaging Unit (Y) : Period of time over which the yellow imaging unit has been used. • Imaging Unit (K) : Period of time over which the black imaging unit has been used. • LCT Parts : Number of sheets of paper fed from the LCT • ADF Feed : Number of sheets of paper fed through the take-up section of the ADF • ADF Reverse : Number of sheets of paper fed through the turnover unit of the ADF
	<3/3> • Printout Opt : Number of times a sheet of paper is fed through

10.7.3 Jam

Functions	• To check the number of misfeeds that have occurred at different locations in the machine. • To clear the count of each counter.
Use	• To check the number of paper misfeeds that have occurred.

10.7.4 Service Call Counter

Functions	• To check the number of malfunctions that have occurred at different locations in the machine. • To clear the count of each counter.
Use	• To check the number of malfunctions that have occurred.

10.7.5 Warning

Functions	• To check the number of warning conditions detected according to the warming type • To clear the count of each counter.
Use	• To check the number of warning conditions that have been detected.
Setting/ Procedure	• When a warning condition occurs, an oil mark appears at the lower left corner of the basic screen. • Touching the maintenance key will display the warning code screen.

10.7.6 Maintenance

Functions	• To set a count value for maintenance of any given part.
Use	• When any given part is replaced.
Setting/ Procedure	Maint.-Set • Enter the maintenance counter value from the 10-key pad. • The default setting is “0.” 0 to 999999 Maint.-Count • Counts up when a sheet of paper is fed through the machine. • A warning message appears if the count reaches a preset value.

10.7.7 Service Total

A. Total

Functions	• To display the count value for the service total counter.
Use	• Use to check the total No. of printed pages including the ones printed by the Service Mode.
Setting/ Procedure	Service Total : No. of pages printed by user mode and Service Mode. Service Total (Duplex) : No. of pages printed by user mode and Service Mode in duplex.

B. Paper Size

Functions	• To display the count value for service total counter of each paper size.
Use	• To check the total number of printed pages including the one at Service Mode according to each paper size.

10.7.8 Service Call History (Data)

Functions	• To display the trouble history in chronological order.
Use	• Use to check the trouble history in chronological order.

10.7.9 ADF Paper Pages

Functions	• To display the No. of pages fed to the automatic document feeder.
Use	• Use to check the No. of pages fed to the automatic document feeder.

10.7.10 Paper Jam History

Functions	• To display the jam history in chronological order.
Use	• Use to check the jam history in chronological order. **NOTE** • **[Code] displayed on the screen of JAM history indicates JAM code. For details of JAM code, see "Trouble shooting."** See P.331

10.7.11 Fax Connection Error

Functions	• To display the No. of fax transmission errors occurred.
Use	• Use to check the No. of fax transmission errors occurred.

10.8 List Output

10.8.1 Service Call Report

Functions	• To print the service report such as on troubles occurred, unit types (options), or soft switch information, which are stored in the main machine.
Use	• To be used to see the status of the machine, and for the troubleshooting, etc.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [List Output] → [Service Call Report]. *3.* Press the start key to print the report.

10.8.2 Protocol Trace

See P.26 of the FK-507 service manual.

10.8.3 File Dump

Functions	• To specify the file for analysis which can be output inside the controller, and print it.
Use	• To analyze troubles.
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [List Output] → [File Dump]. *3.* Enter the file name of the file to be printed. *4.* Press the start key to print the file.

10.9 State Confirmation

10.9.1 Sensor Check (Printer)

10.9.2 Sensor Check (Scan)

Functions	• To display the states of the input ports of sensors and switches when the machine remains stationary.
Use	• Used for troubleshooting when a malfunction or a misfeed occurs.
Setting/ Procedure	• The operation of each of the switches and sensors can be checked on a real-time basis. • It can be checked as long as the 5-V power line remains intact even when a door is open.

A. Electrical components check procedure through input data check

- When a paper misfeed occurs in the paper feed section of the machine, the sensor in front of tim. roller is considered to be responsible for it.

1. Remove the sheet of paper misfed.
2. From the sensor check list that follows, check the panel display of the sensor in front of tim. roller. For the sensor in front of tim. roller, you check the data of “Timing Roller.”
3. Call the Service Mode to the screen.
4. Touch [State Confirmation] → [Sensor Check (Printer)] in this order, and select the sensor check screen which includes “Timing Roller.”
5. Check that the data for “Timing Roller” is “0” (sensor blocked).
6. Move the actuator to unblock the sensor in front of tim. roller.
7. Check that the data for “Timing Roller” changes from “0” to “1” on the screen.
8. If the input data is “0,” change the sensor.

10.9.3 Sensor check screens

- These are only typical screens which may be different from what are shown on each individual machine.

A. Sensor Check (Printer)

A02FF3E518DA

B. Sensor Check (Scan)

A02FF3E519DA

10.9.4 Sensor check list

A. Sensor Check

Symbol	Panel display	Part/signal name	Operation characteristics/ panel display	
			1	0
	Paper feed tray 1			
PS12	Device detection	Tray 1 device detection sensor	In position	Out of position
PS10	Paper Empty	Tray 1 paper empty sensor	Paper not present	Paper present
PS11	Paper Near Empty	Tray 1 near empty sensor	Near empty	Unblocked
	Paper feed tray 2			
PS2	Device detection	See P.24 of the PC-105 service manual.		
PS6	Paper Empty			
PS1	Paper Near Empty			
PS8	Vertical Transport			
PS9	Feed			
PS7	Raised (Lift-Up)			
	Paper feed tray 3			
PS112	Device detection	See P.19 of the PC-104/204 service manual.		
PS115	Paper Empty			
PS113	Paper Near Empty			
PS117	Vertical Transport			
PS116	Feed			
PS114	Raised (Lift-Up)			

Symbol	Panel display	Part/signal name	Operation characteristics/ panel display	
			1	0
	Paper feed tray 4			
PS121	Device detection	See P.19 of the PC-104/204 service manual.		
PS124	Paper Empty			
PS122	Paper Near Empty			
PS126	Vertical Transport			
PS125	Feed			
PS123	Raised (Lift-Up)			
	Bypass Tray			
PS20	Multi FD size 1	See P.12 of the MB-502 service manual.		
PS21	Multi FD size 2			
PS22	Multi FD size 3			
PS14	Lift-Up Position Sensor			
PS13	Paper Empty			
	Paper Path			
PS1	Timing Roller	Sensor in front of tim. Roller	Paper present	Paper not present
PS2	Exit	Paper exit sensor	Paper present	Paper not present
PS3	Fusing Loop Detect	Fusing loop detect sensor	Loop present	Loop not present
	PC Drive Detect			
PS15	Color PC Drive Main Sensor	Color PC drive main sensor	Blocked	Unblocked
PS17	Color PC Drive Sub Sensor	Color PC drive sub sensor	Blocked	Unblocked
PS16	Black PC Drive Main Sensor	Black PC drive main sensor	Blocked	Unblocked
PS18	Black PC Drive Sub Sensor	Black PC drive sub sensor	Blocked	Unblocked
	LCT			
PS4	Raised (Lift-Up)	See P.23 of the PC-405 service manual.		
PS13	Lowered (Lift UP)			
PS12	Shift Tray Home			
PS11	Shift Tray Stop			
PS1	Feed			
PS2	Vertical Transport			
PS3	Paper Empty			
MTPEB	Main Tray Empty			
PS9	Shift Tray Empty			
PS7	Lower Overrun			
MDCB	Manual Button Down			
PS14	Dividing Position			

Symbol	Panel display	Part/signal name	Operation characteristics/ panel display	
			1	0
PS5	Cassette Open	See P.23 of the PC-405 service manual.		
PS8	Shift Mtr Pulse			
PS10	Elev. Mtr Pulse			
	Duplex			
PS1	Set	See P.12 of the AD-505 service manual.		
—	Paper passage 1			
—	Paper passage 2			
	Secondary transfer			
PS36	Pressure welding alienation	2nd image transfer pressure welding alienation sensor	Not Retracted	Retracted
	Color Dev. Unit engaged position			
PS19	Clr Dev. Unit engaged position	Color dev. unit engaged position sensor	Engaged	Not engaged
	Transfer Belt			
PS6	Pressure welding alienation	Transfer belt retraction sensor	Not Retracted	Retracted
	Waste Toner			
PS8	Waste Toner full	Waste toner full sensor	Blocked	Unblocked
	Fusing Unit			
PS37	Roller Retraction	Fusing pressure retraction sensor	Not Retracted	Retracted
	Job Sep.			
PS1	Exit (Non-sort 1)	See P.18 of the JS-505 service manual.		
PS2	Exit (Non-sort 2)			
T1FDT B/LED	Full (Non-sort 1)			
T2FDT B/LED	Full (Non-sort 2)			
PS3	Front Cover			
PS4	Route Change home			
PS5	Retraction Home			
PS6	Home (Shift)			

B. Sensor Check (Scanner)

Symbol	Panel display	Part/signal name	Operation characteristics/ panel display	
			1	0
	ADF			
PS1	Empty	See P.39 of the DF-612/SP-503/MS-501 service manual.		
PS2	Width Sensor 1			
PS3	Width Sensor 2			
PS4	Width Sensor 3			
PS5	Length Sensor 4			
PS6	Length Sensor 5			
PS8	Regist			
PS7	Before Read			
PS9	Eject/Reverse			
PS10	Feed Open&Shut			
	BS			
PS201	Home Sensor	Home position sensor	Out of home	At home
PS205	Size reset S	Original cover sensor	Lowered	Raised
PS202	18 degree	18 degree sensor	Less than 18 degree	18 degree or more
PS203	Original Size Detection	Original size detection sensor/1	Original not loaded	Original loaded
PS204	Original Size Detection Opt.	Original size detection sensor/2	Original not loaded	Original loaded

10.9.5 Table Number

Functions	• When IDC is detected, for plain paper, Thick, and Black, the machine independently displays each Vg/Vdc output value that is calculated based on the density (toner amount stuck on the belt) of the test pattern created on the transfer belt. • Reference values: C, M, Y K Vdc: around 400 V, Vg: around 500 V
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• If the value is high, correct so that the image density becomes low. • If the value is low, correct so that the image density becomes high.

10.9.6 Level History

Functions	• To display TCR (T/C ratio), IDC/registration sensor output values, and fusing temperature.
Use	• Used for troubleshooting of image problems.
Setting/ Procedure	• TCR-C, -M, -Y, -K : Shows the T/C output reading taken last. • IDC1/IDC2 : Shows the latest IDC data. • Temp-Heat : Displays the latest temperature of the heating roller. • Temp-Press : Displays the latest temperature of the pressure roller. • IDC Sensor Adjust 1/2 : Shows the intensity adjustment value (0 to 255) of the IDC sensor. • ATVC-C, -M, -Y,- K : Shows the first image transfer electric current adjustment value (5 to 40 μA). • ATVC-2nd : Shows the second image transfer ATVC adjustment value (300 to 4800 V). “Reading taken last” means • Density of toner of the latest image. • When a test print is produced by pressing the Start key while level history 1 is being displayed.

10.9.7 Temp. & Humidity

Functions	• To display the temperature and humidity of a specific location (AIDC sensor portion) inside the machine and fusing temperature.
Use	• Used as reference information when a malfunction occurs.
Setting/ Procedure	• Temp-Inside : 0 to 100 °C in 1 °C increments • Temp-Heater : 0 to 260 °C in 1 °C increments • Temp-press. : 0 to 260 °C in 1 °C increments • Humidity : 0 to 100 % in 1 % increments • Absolute Humidity : 0 to 100 in 1 increments

10.9.8 Color Regist

Functions	• To check each of C, M, and Y for color shift amount. • The data is updated after a color shift correction has been made or color shift adjustment has been completed.
Use	• Use for check when color shift is evident. • Use for adjustment of PH skew.
Setting/ Procedure	• For each of C, M, and Y, the color shift amount (in X and Y directions) at two locations (one at the front and the other in the rear) and the difference in color shift amount between the front and rear (X and Y directions) are displayed. • Display unit: dots • The shift amounts is displayed with reference to K for C, M and Y, and that for K is displayed with reference to an ideal position.

10.9.9 IU Lot No.

Functions	• To display the 10-digit lot number for each of Cyan, Magenta, Yellow, and Black IUs. • The lot number data is stored in EEPROM of each IU.
Use	• Use for checking the IU Lot No.

10.9.10 Machine Configuration

Functions	• To display unit configuration information such as options on the main machine, etc.
Use	• To be used when checking the unit configuration information such as options on the main machine, etc.

10.10 Test Mode

- To check the image on the printer side by letting the machine produce various types of test pattern. It also tests the printing operation in running mode.
- The machine searches through the paper sources in the order of tray 1, tray 2, tray 3, and tray 4 for paper of the maximum size for printing.

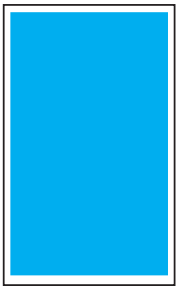
10.10.1 Procedure for test pattern output

1. Touch [Test Mode] to display the test mode menu.
2. Touch the desired test pattern key.
3. Set up the desired functions and press the Start key.

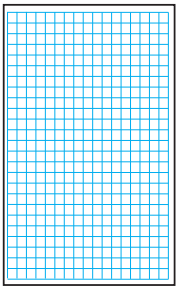
10.10.2 Gradation Pattern

Functions	• To produce a gradation pattern.
Use	• Used for checking gradation reproducibility.
Pattern	 SINGLE HYPER Gradation Cyan A02EF3C510DA
Setting/ Procedure	• Copies (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER”. • Select “Gradation” or Resolution if HYPER has been selected. • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), Black (1PC), CMYK, 8 Color • Black (4PC): Uses four colors. • Black (1PC): Uses one color of black.

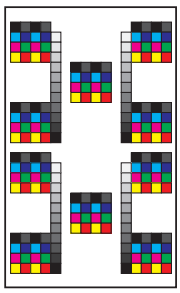
10.10.3 Halftone Pattern

Functions	• To produce a solid halftone pattern.
Use	• Used for checking uneven density and pitch noise.
Pattern	 SINGLE HYPER Gradation Cyan Density: 255 A02EF3C519DA
Setting/ Procedure	• Copies (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected. • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), Red, Green, Blue, CMYK, 3 Color, 4 Color, Black (1PC), MIX • Type the density level (0 to “255”).

10.10.4 Lattice Pattern

Functions	• To produce a lattice pattern.
Use	• Used for checking fine line reproducibility and uneven density. • A reverse pattern is also used to check for fine line reproducibility of white letters on a solid background.
Pattern	 SINGLE FEET Cyan CD Width: 5 FD Width: 5 Density: 255 Normal A02EF3C511DA
Setting/ Procedure	• Copies (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select “FEET” or HYPER. • Select Gradation or Resolution. (Only select HYPER) • Select the color mode. “Cyan”, Magenta, Yellow, Black (4PC), Red, Green, Blue, CMYK, 3 Color, 4 Color, Black (1PC) • Enter CD width and FD width (0 to 191 dots). • Type the density level (0 to “255”). • Select “Normal” or Reverse.

10.10.5 Color Reproduction

Functions	• To produce a color reproduction pattern.
Use	• To be used to check the color reproduction.
Pattern	 A02FF3C525DA SINGLE HYPER Gradation Density: 255
Setting/ Procedure	• Copies (“1” to 999) • Select “SINGLE” (single copy) or MULTI (multi copy). • Select FEET or “HYPER.” • Select “Gradation” or Resolution if HYPER has been selected.

10.10.6 Running Mode

Functions	• To test the printing operation in running mode.
Use	• Use to check the printing operation in running mode from each paper source.
Setting/ Procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Test Mode] → [Running Mode]. *3.* Select the paper tray. *4.* Select the paper type. *5.* Press the Start key to start the running mode. *6.* Pressing the Stop key will stop operation.

10.11 Fax Settings

1 See P.26 of the FK-507 service manual.

10.12 Internet ISW

- By using this setting, the firmware stored in the server can be downloaded over internet for upgrading.
- For details for upgrading the firmware, refer to “Firmware upgrade” in the Maintenance section.
See P.31

10.12.1 Internet ISW Set

Functions	• To set whether or not to enable each setting for Internet ISW.
Use	• To use when upgrading the firmware by Internet ISW. • Each setting such as Server setting will be valid by setting this to “ON”.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

10.12.2 HTTP Setting

- It will be available only when [Internet ISW Set] is set to “ON”.

A. Connect Proxy

Functions	• To set whether or not to connect via proxy server when accessing the server.
Use	• To use when accessing the server via proxy server.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

B. Proxy Server

Functions	• To set the address and the port number for the proxy server.
Use	• To use when accessing the server via proxy server.
Setting/ Procedure	**(1) Server Address** • Enter an address using FQDN format. **(2) Port Number** • Enter the value between 1 and 65535 using the 10-key pad. (The default setting is 80) **(3) Authentication Settings** <Authentication> • The default setting is OFF. ON “OFF” <Login Name> • Enter the login name (up to 32 one-byte characters) on the on-screen keyboard. <Password> • Enter the password (up to 32 one-byte characters) on the on-screen keyboard.

C. Connection Timeout

Functions	• To set the time for the timeout for accessing the server.
Use	• To use when changing the time for the timeout for accessing the server.
Setting/ Procedure	• The default setting is 60 sec. 30 to 300 sec.

10.12.3 Forwarding Access Setting

A. Login Name

Functions	• To register the login name for accessing the program server where firmware is to be stored.
Use	
Setting/ Procedure	*1.* Select [Login Name]. *2.* Enter the login name (up to 64 one-byte characters) on the on-screen keyboard.

B. Password

Functions	• To register the password for accessing the program server where firmware is to be stored.
Use	
Setting/ Procedure	*1.* Select [New Password]. *2.* Enter the password (up to 64 characters) on the on-screen keyboard, and touch [OK]. *3.* Select [Confirm New Password]. *4.* Enter the password (up to 64 characters) on the on-screen keyboard again, and touch [OK]. *5.* Touch [OK].

C. URL

Functions	• To register the address and directory of the program server where the firmware is to be stored in URL.
Use	
Setting/ Procedure	*1.* Select [URL]. *2.* Enter the URL (up to 256 one-byte characters) on the on-screen keyboard. **NOTE** • **Enter the URL which format suits the protocol to be used.** **http:// (Host name or IP address)/ directory name or** **https:// (Host name or IP address)/directory name.**

D. File Name

Functions	• To register the file name of the firmware data to be downloaded.
Use	
Setting/ Procedure	*1.* Select [FileName]. *2.* Enter the file name (up to 63 one-byte characters) on the on-screen keyboard.

10.13 Download Firmware

Functions	• To download and rewrite the engine firmware data.
Use	• Use to download and rewrite the engine firmware data of the main body or the job separator.
Setting/ Procedure	See P.31

11. Security Settings

11.1 Security settings function setting procedure

11.1.1 Procedure

1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   Stop → 0→ Clear
3. security Settings menu will appear.

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11.1.2 Exiting

- Touch the [OK].

11.2 Security Settings function tree

Service Mode		Ref. Page
Security Settings	CE Password	P.319
	CE Authentication	P.319
	Administrator Password	P.319

11.3 Settings in the Security Settings

11.3.1 CE Password

Functions	• To set and change the CE password.
Use	• Use to change the CE password.
Setting/ Procedure	• Enter the CE password (8 digits) on the on-screen keyboard. • The initial setting is “92729272.” Current Password : Enter the currently using CE password. New Password : Enter the new CE password. Re-Input Password : Enter the new CE password again. **NOTE** • **NEVER forget the CE password. When forgetting the CE password, it becomes necessary to replace the RAMU board with a new one and call responsible person of KMBT.**

11.3.2 CE Authentication

Functions	• To determine whether or not to authenticate CE password as entering Service Mode.
Use	• Use when authenticating CE password as entering Service Mode.
Setting/ Procedure	• The default setting is OFF. ON “OFF”

11.3.3 Administrator Password

Functions	• To set and change the administrator password.
Use	• Use to change the administrator password. • Use this function when the administrator forget the administrator password because a new password can be set without entering the current administrator password with this.
Setting/ Procedure	• Enter the administrator password (8 digits) on the on-screen keyboard. • The initial setting is “12345678.” New Password : Enter the new administrator password. Re-Input Password : Enter the new administrator password again.

12. Billing Setting

12.1 Billing Setting function setting procedure

12.1.1 Procedure

1. Call the Service Mode to the screen.
2. Press the following keys in this order.
   Stop → 9
3. Billing Setting menu will appear.

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12.1.2 Exiting

- Touch the [OK].

12.2 Billing Setting function tree

	Service Mode		Ref. Page
	Billing Setting	Counter Setting	P.321
1		Management Function Choice	P.322
1		Coverage Rate Clear	P.323

12.3 Settings in the Billing Setting

12.3.1 Counter Setting

Functions	• To set the counting method for the total counter and size counter. • To set the size regarded as the large size (2 counts.)
Use	• Use to change the counting method for the counters.
Setting/ Procedure	Total Counter Mode 1: 1 count per 1 copy cycle (Default: Japan) Mode 2: Large size is double counts (Default: US, Europe, Others1, Others2, Others3, Others4) **NOTE** • **The content of this setting is reflected in the count method with the key counter.**
	Size Counter • A3/11 x 17 : When it exceeds 279 mm in the main scan direction and 420 mm in the sub scan direction (exceeds 399 mm at fax scan), it is regarded as the large size. • A3/B4/11 x 17/8 1/2 x 14 : When it exceeds 215 mm in the main scan direction and 355 mm in the sub scan direction (exceeds 337 mm at fax scan), it is regarded as the large size. • A3/11 x 17/B4/8 1/2 x 14/Foolscap: When it exceeds 203 mm in the main scan direction and 330 mm in the sub scan direction (exceeds 313 mm at fax scan), it is regarded as the large size (However the size in the main scan direction changes according to the foolscap size setting.) • Not counted (Default: Japan) • A3 and 11 x 17 (Default: US) • A3, B4, 11 x 17, and 8 1/2 x 14 (Default: Europe, Others 1, Others 2, Others 3, Others 4) • A3, B4, Foolscap, 11 x 17, 11 x 14, and 8 1/2 x 14 ✻ Count-up table

Copying	1-Sided				2-Sided			
Size	Sizes other than those specified		Specified sizes		Sizes other than those specified		Specified sizes	
Mode	Mode		Mode		Mode		Mode	
	1	2	1	2	1	2	1	2
Total	1	1	1	2	2	2	2	4
Size	0	0	1	1	0	0	2	2
2-sided Total	0	0	0	0	1	1	1	1

0: No count; 1: 1 count; 2: 2 counts; 3: 3 counts; 4: 4 counts

12.3.2 Management Function Choice

- To set whether or not the following items are to be mounted.
  Key counter, management device or vendor

A. Management Device

Functions	• To set whether or not the management device is installed.
Use	• Set when the management device is mounted. • The management device cannot be used together with the key counter.
Setting/ Procedure	• When setting the mounting of management device, touch [Management Mode] to make a management setting. ✻ Management Setting • Select the Management Setting Mode Mode 1: Logout with ID key is not allowed. Mode 2: Logout with ID key is allowed.

B. Key Counter

Functions	• To set whether or not the key counter is installed.
Use	• Set when the key counter is mounted. • Select color mode and message when the key counter is mounted.
Setting/ Procedure	• When setting the mounting of key counter, touch [(Key Counter) Color Mode] and [(Key Counter) Message] to set color mode and message. ✻ Color Mode • When [Mode 1] is set on [Total Counter Mode] after selecting [Billing Setting] → [Counter setting]. Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle • When [Mode 2] is set on [Total Counter Mode] after selecting [Billing Setting] → [Counter setting] and large size is selected on [Large Size Counter Mode] Mode 1: 2 counts per 1 copy cycle Mode 2: 4 counts per 1 copy cycle Mode 3: 6 counts per 1 copy cycle Mode 4: 8 counts per 1 copy cycle Mode 5: 10 counts per 1 copy cycle • When [Mode 2] is set on [Total Counter Mode] after selecting [Billing Setting] → [Counter setting] and sizes other than large size are selected on [Large Size Counter Mode] Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle
Setting/ Procedure	✻ Message Select the message type when the administrative unit is mounted. Type 1: Message for key counter Type 2: Message for card scanning Type 3: Message for ID management Type 4: Message for remote SW

C. Vendor (+ Key Counter)

Functions	• To set whether or not the vendor is installed.
Use	• Set when the vendor is mounted. **NOTE** • **When using the vendor along with the key counter, inserting the key counter will set it to the "Key Counter Mode" and removing it will set it to the "Vendor Mode".**
Setting/ Procedure	• When using the vendor together with the key counter, select the same color mode and message as the key counter. (Only for key counter, the type of the color mode and message are same after mounting.) • When setting the mounting of vendor, touch [(vendor) Message] to set message. ✻ Message Type 1: Message for key counter Type 2: Message for card scanning Type 3: Message for ID management

12.3.3 Coverage Rate Clear

Functions	• To clear the coverage rate.
Use	• Use to clear the coverage rate.
Setting/ Procedure	• The default setting is Unset. Set "Unset" • Touching [OK] key will clear the coverage rate.

13. Procedure for resetting

13.1 Trouble resetting

Functions	• If the all troubles occur and the status would not be cleared by turning main power switch OFF and ON again, or opening and closing the front door, clear the status of the machine.
Use	• To be used when the status would not be cleared by turning main power switch OFF and ON again, or opening and closing the front door in case of a trouble.
Setting/ Procedure	*1.* Call the initial mode to the screen. See P.325 *2.* Touch [Memory Clear] → [Trouble Reset]. *3.* Touch [OK] to reset troubles. *4.* After turning off the main power switch, turn it on again more than 10 seconds after and check if the machine starts correctly.

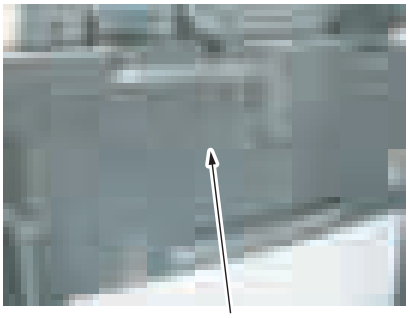
13.2 Contents to be cleared by reset function

Items for clearing / Contents to be cleared		Door open/close	Main power S/W OFF/ON	Memory Clear: Trouble Reset	System Error	System Data	Image Data	Own Setting	Fax dest.	Activity	Soft SW
Jam display		❍	—	—	❍	❍	—	—	—	—	—
Malfunction display	Rank A	—	—	❍	❍	❍	—	—	—	—	—
	Rank B	❍	—	❍	❍	❍	—	—	—	—	—
	Rank C	—	❍	❍	❍	❍	—	—	—	—	—
Erratic operation / display		—	❍	—	❍	❍	—	—	—	—	—
Setting information of the machine (fax/network)		—	—	—	—	❍	—	❍	—	—	—
Setting information of the machine stored in the MFBUB (Except for fax/network)		—	—	—	—	❍	—	—	—	—	—
Password information		—	—	—	—	❍	—	❍	—	—	—
Destination information		—	—	—	—	—	—	—	❍	—	—
Activity management information		—	—	—	—	—	❒	—	—	❍	—
Software switch setting		—	—	—	—	—	—	—	—	—	❍
Counter information		—	—	—	—	—	—	—	—	—	—

❍: Will be cleared (initialized)
❒: Some information will be cleared
—: Will not be cleared

14. Initial mode

14.1 Initial mode function setting procedure



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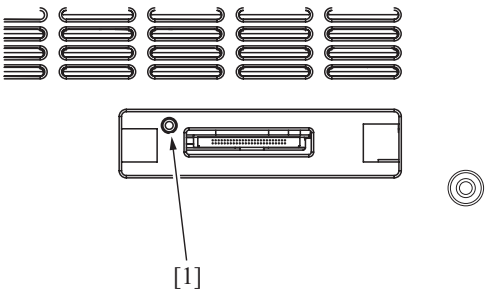
1. Remove the cover [1] from the compact flash insertion slot.



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2. Press the warm-restart switch [1].

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3. Enter “3” on the 10-key pad with “●” at the left center of the screen.

4. Initial mode screen will appear.

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14.2 Initial mode function tree

Initial mode		Ref. Page
Memory Clear	System Data	P.326
	System Error	
	Image Data	
	Own Setting	
	Fax dest.	
	Activity	
	Soft SW	
	Trouble Reset	
Touch Panel Adj.		P.327

14.3 Settings in the initial mode

14.3.1 Memory Clear

A. System Data
See P.203

B. System Error
See P.203

C. Image Data
See P.203

D. Own Setting
See P.204

E. Fax dest.
See P.204

F. Activity
See P.204

G. Soft SW

See P.204

H. Trouble Reset

Functions	• To default trouble information when the engine is in an error status due to I/F mismatch between the printer engine and the controller.
Use	• To release “A” rank trouble status.
Setting/ Procedure	*1.* Call the initial mode to the screen. *2.* Touch [Memory Clear]. *3.* Select [Trouble Reset]. *4.* Touch [OK] to reset troubles.

14.3.2 Touch Panel Adj.

See P.175

15. Mechanical adjustment

15.1 PH unit mechanical adjustment

15.1.1 Skew adjustment

This adjustment must be made in the following case:

- **When PH unit is replaced.**

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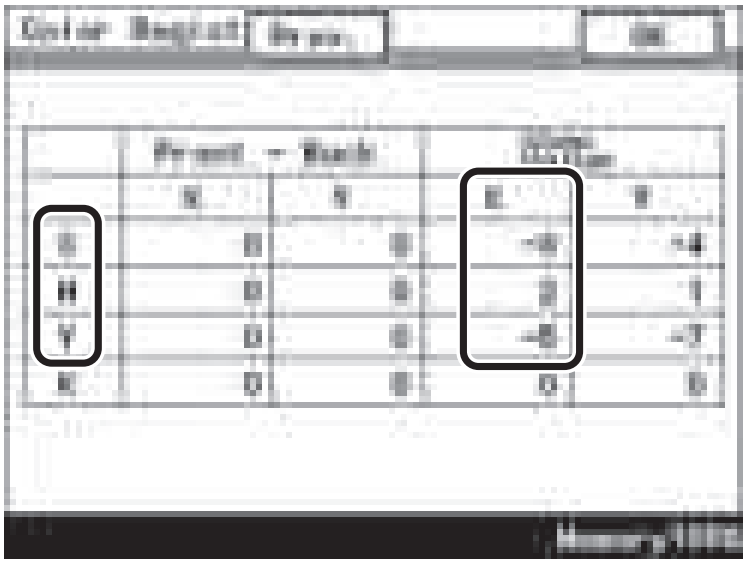
1. Turn ON the main power switch.
2. Select [Service Mode] → [Test Mode] → [Gradation Pattern] and output the test pattern with the following conditions.

Conditions: SINGLE, HYPER, Gradation, 8 Color

3. Using the output test pattern, check if each color of CMYK is printed in correct pattern.
   If the pattern is not correct, any troubles such as connecting failure in PH unit of the corresponding color may occur, which should be modified.
   If there is not any problem, proceed to step 4.
4. Touch [Service Mode] → [Imaging Process Adjustment] → [Stabilizer] → [Initialize + Image Stabilization].
5. After image stabilization is completed, display [Service Mode] → [State Confirmation] → [Color Regist] → [FWD] and check if the Step Value: X of each color C, M, Y, is within the specification.

Specification: within ± 4



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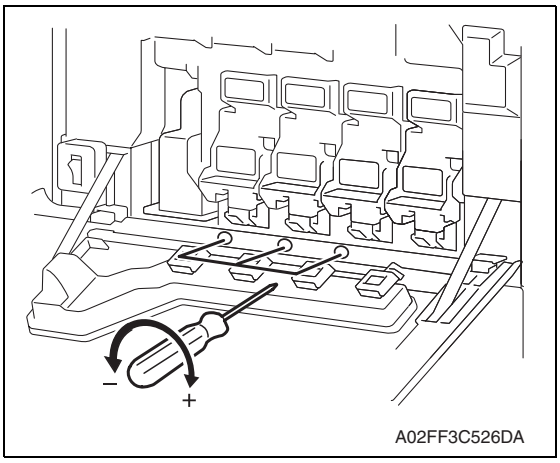


- If either value is out of the specification, follow the procedures shown below to adjust it to satisfy the specification.
- If the value of all color, C, M, Y satisfy the specification, proceed to step 10.

6. Open the front door.

7. Turn the skew adjustment dial of the corresponding PH with flathead screwdriver.

- To the left : When the step value goes - direction
- To the right : When the step value goes + direction

<Adjustment sample>

If the yellow value, among the step values confirmed in step 5, is [-5], which means out of the specification, turn the skew adjustment dial of PH (yellow) to the left (- direction) for 5 clicks.

NOTE

- **Do not execute the skew adjustment of black PH unit.**

8. Close the front door and touch [Imaging Process Adjustment] → [Stabilizer] → [Initialize + Image Stabilization].

9. After image stabilization is completed, display [Service mode] → [State Confirmation] → [Color Regist] → [FWD] again and check if the step value: X of each color C, M, Y is within the specification.

NOTE

- **Each color's step value displayed on [Color Regist] changes every time the image stabilization is conducted. Therefore the value may change even if skew adjustment is not made.**

- If either value is out of the specification, repeat step 6 to 9 to continue the adjustment until all C, M, Y colors satisfy the specification.

10. Exit the Service Mode.

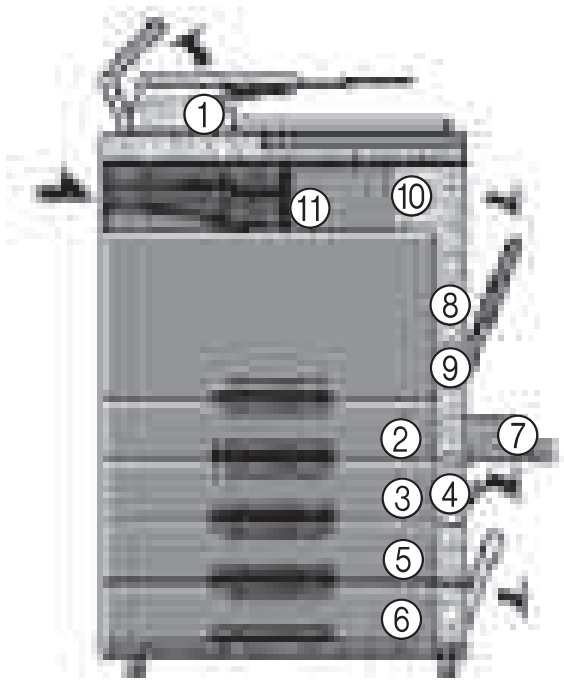
Blank Page

Troubleshooting

16. Jam display

16.1 Misfeed display

- When a paper misfeed occurs, the misfeed message, misfeed location, and paper location are displayed on the control panel of the machine.



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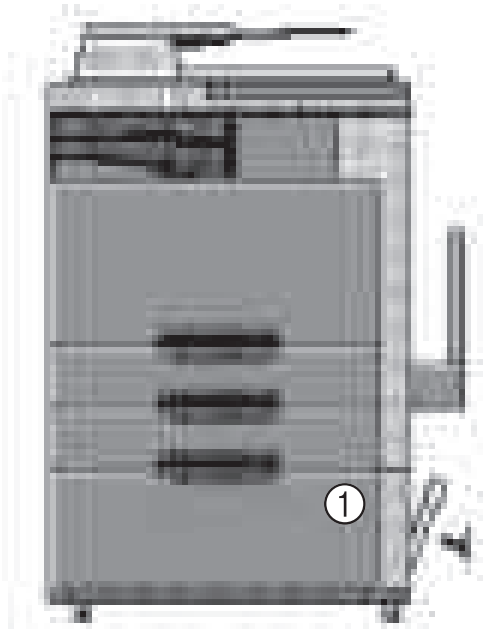
Display	Code *1	Jam type	Misfeed processing location	Action
[1]	6601	See P.43 of the DF-612/SP-503/MS-501 service manual.		
[1]	6602			
[1]	6603			
[1]	6604			
[1]	6605			
[2]	1101	Misfeed at tray 1 feed section	Right door	P.335
[3]	1201	See P.29 of the PC-105 service manual.		
[4]	2001			
[5]	1301	See P.23 of the PC-104/204 service manual.		
[4]	2001			
[6]	1401			
[7]	1001	See P.21 of the MB-502 service manual.		
[8]	9201	See P.15 of the AD-505 service manual.		
[8]	9301			
[9]	3001	Misfeed at 2nd image transfer section	Right door	P.336
[10]	3201	Misfeed at exit section	Right door	P.337
[11]	7216	See P.19 of the JS-505 service manual.		
—	9901	Controller jam	—	P.338

*1: JAM code is displayed at [Paper Jam History] under [Counter] available from Service Mode.
Regarding jam at paper exit options, jam codes are available by selecting [Service Mode] → [Counter] → [JAM]. To identify misfeed locations, use the jam codes and refer to the above list.



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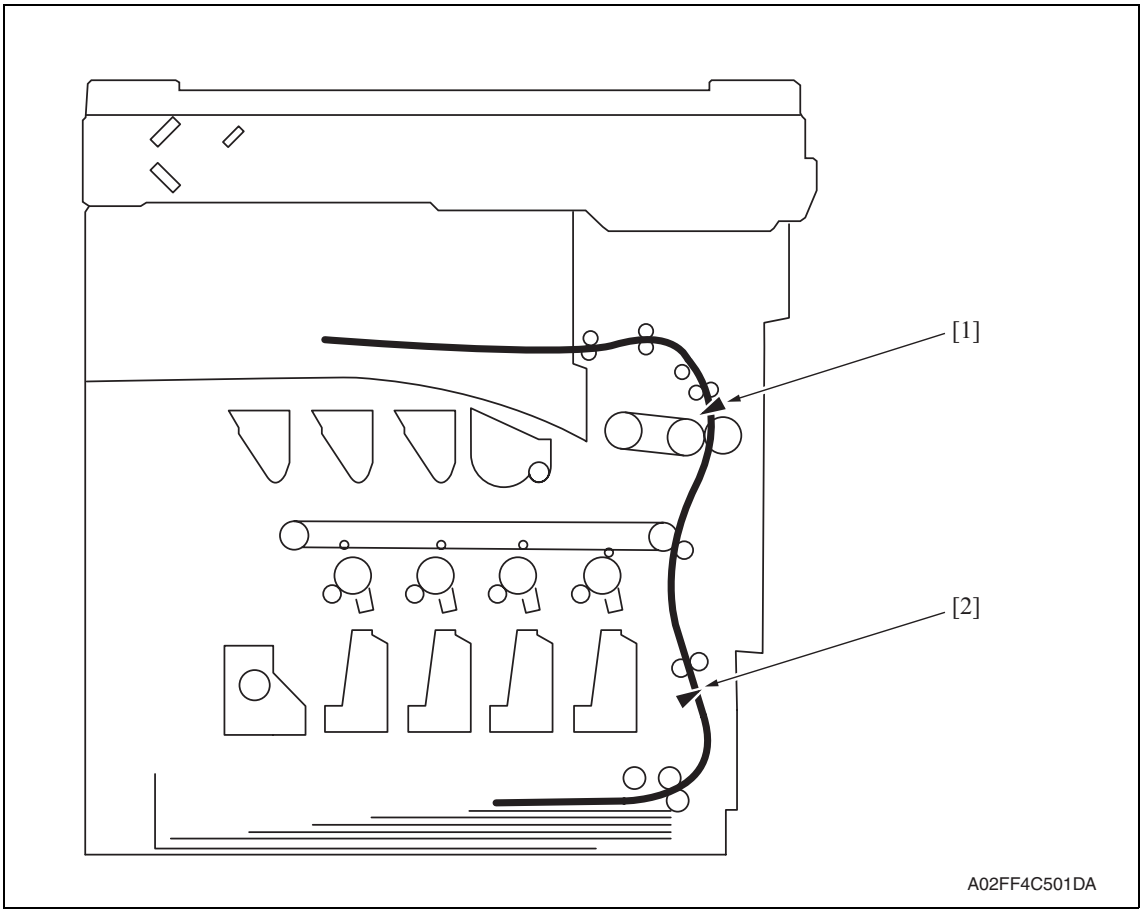
Display	Code *1	Jam type	Misfeed processing location	Action
[1]	1501	See P.29 of the PC-405 service manual.		
	2001			

*1: JAM code is displayed at [Paper Jam History] under [Counter] available from Service Mode.
Regarding jam at paper exit options, jam codes are available by selecting [Service Mode] → [Counter] → [JAM]. To identify misfeed locations, use the jam codes and refer to the above list.

16.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

16.2 Sensor layout



[1] Paper exit sensor (PS2)

[2] Sensor in front of tim. roller (PS1)

16.3 Solution

16.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper.
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.

16.3.2 Solution when paper curl occurs

Step	Check items/actions		
1	Turn over the stacked paper in the paper tray.	OK	—
		NG	Go to step 2.
2	Does paper curl occur just after a warm-up has been completed or the sleep mode has been turned OFF?	YES	Go to step 3.
	Does paper curl occur under normal conditions (under conditions other than those mentioned above)?	YES	Go to step 5.
3	*1.* Call the Service Mode to the screen. *2.* Touch [System] → [Software Switch Setting]. *3.* Touch [Mode Selection], enter the mode number “882” using 10-key pad. *4.* Touch [Bit Selection], and change the setting to [Mode 3]. See P.290 *5.* Touch [Apply]. *6.* Touch [OK].	OK	—
		NG	Go to step 4.
4	*1.* Call the Service Mode to the screen. *2.* Touch [System] → [Software Switch Setting]. *3.* Touch [Mode Selection], enter the mode number “882” using 10-key pad. *4.* Touch [Bit Selection], and change the setting to [Mode 4]. See P.290 *5.* Touch [Apply]. *6.* Touch [OK].	—	—
5	*1.* Call the Service Mode to the screen. *2.* Select [Machine Adjustment] → [Fusing Temperature] → [Heater Roller]. *3.* Select a paper type. *4.* Change the temperature of Heater Roller to [-10 °C]. See P.162	OK	—
		NG	Go to step 6
6	*1.* Call the Service Mode to the screen. *2.* Select [Machine Adjustment] → [Fusing Temperature] → [Pressure]. *3.* Select a paper type. *4.* Change the temperature of Heater Roller to [-20 °C]. See P.162	—	—

16.3.3 Misfeed at tray 1 feed section

A. Detection timing

Type	Description
Detection of misfeed at tray 1 feed section	• The leading edge of the paper does not turn ON the sensor in front of tim. roller (PS1) even after the lapse of a given period of time after the tray 1 starts to feed paper.
Tray 1 feed section loop registration reversing jam	• For paper fed from the tray 1, due to a delay in paper arrival, loop forming in front of the timing roller is not complete before the rise timing of the transport motor (M1).
Tray 1 feed section image write start signal permit waiting jam	• For paper fed from the tray1, the image write start signal permit continues to be disabled for a predetermined period of time after the timing of the image write start signal output.

B. Action

Relevant parts	
Transport motor (M1) Tray 1 paper feed clutch (CL2) Sensor in front of tim. roller (PS1)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS1 I/O check, sensor check	PRCB CN1-3 (ON)	C to D-19
3	CL2 operation check	PRCB CN5-18 (REM)	C to D-5
4	M1 operation check	PRCB CN27-14 (REM) PRCB CN28-2 (LOCK)	C to D-23
5	Change PRCB	—	—

16.3.4 Misfeed at 2nd image transfer section

A. Detection timing

Type	Description
Detection of misfeed at 2nd image transfer section	• A sheet of paper does not turn OFF the sensor in front of tim. roller (PS1) after a predetermined period of time has elapsed since the sheet has turned ON the PS1. • A sheet of paper does not turned ON the paper exit sensor (PS2) after a predetermined period of time has elapsed since the sheet has turned ON the sensor in front of tim. roller (PS1).
Detection of paper left in 2nd image transfer section	• The sensor in front of tim. roller (PS1) is turned ON when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
2nd image transfer section loop registration reversing jam	• For paper fed from the tray, loop forming has not been complete before a sheet enters the timing roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.

B. Action

Relevant parts	
Transport motor (M1) Fusing motor (M2) Tim. roller clutch (CL1) Sensor in front of tim. roller (PS1) Paper exit sensor (PS2)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS1 I/O check, sensor check	PRCB CN1-3 (ON)	C to D-19
3	PS2 I/O check, sensor check	—	—
4	CL1 operation check	PRCB CN1-5 (ON)	C to D-18
5	M1 operation check	PRCB CN27-14 (REM) PRCB CN28-2 (LOCK)	C to D-23
6	M2 operation check	PRCB CN27-4 (REM) PRCB CN27-7 (LOCK)	C to D-22
7	Change PRCB	—	—

16.3.5 Misfeed at exit section

A. Detection timing

Type	Description
Detection of misfeed at exit section	• The paper exit sensor (PS2) is not turned OFF even after the lapse of a given period of time after the paper has turned ON the PS2. • The paper exit sensor (PS2) is not turned ON even after the lapse of a given period of time after the switchback sequence is started. • The duplex paper passage sensor/1 is not turned ON even after the lapse of a given period of time after the switchback sequence is started.
Detection of paper left in exit section	• The paper exit sensor (PS2) is turned ON when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant parts	
Transport motor (M1) Fusing motor (M2) Duplex unit transport motor (M2) Paper exit sensor (PS2) Duplex paper passage sensor/1	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS2 I/O check, sensor check	—	—
3	Duplex paper passage sensor/1 I/O check, sensor check	—	E-3 (AD-505)
4	M1 operation check	PRCB CN27-14 (REM) PRCB CN28-2 (LOCK)	C to D-23
5	Fusing motor (M2) operation check	PRCB CN27-4 (REM) PRCB CN27-7 (LOCK)	C to D-22
6	Duplex unit transport motor (M2) operation check	DCB CN4-1 to 4	F-5 (AD-505)
7	Change PRCB	—	—

16.3.6 Controller jam

A. Detection timing

Type	Description
Controller jam	• A control erratic operation as it relates to the duplex unit occurs.
	• A stop command (a command to effect a forced stop) is received.
	• A media error (wrong type or size of paper) occurs during a 2-sided print cycle.

B. Action

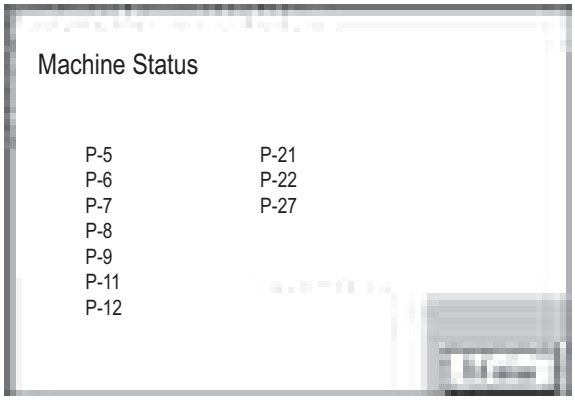
Relevant parts	
MFBU board (MFBUB)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	Check for the paper left in the machine.	—	—
3	Check to see if the size or type of the paper specified on the control panel or printer driver coincides with that of the paper actually loaded.	—	—
4	One possible cause is a control erratic operation. So, turn OFF and ON the main power switch and run the print cycle again.	—	—
5	Upgrade the firmware.	—	—
6	Change PRCB	—	—
7	Change MFBUB	—	—

17. Malfunction code

17.1 Alert code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding warning code and maintenance call mark on the control panel.



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17.1.1 Alert code list

- If an image stabilization fault occurs, the corresponding warning code appears.

Code	Item	Description
P-5	IDC sensor (front) failure	• When adjusting the IDC sensor, output voltage detected for all sample patterns are specified value or more. • When adjustment is complete, sensor's output voltage with selected light intensity is specified value or under. • During image stabilization (gamma correction control), detected output value for IDC sensor did not go below threshold (half the value of what is detected by IDC sensor on the belt surface) for three consecutive times (position of the pattern end is not detected). • During image stabilization (gamma correction control), sensor's output value of each color for hyper 0 gradation after the primary approximation is half the detection level on the belt surface or under
P-28	IDC sensor (rear) failure	
P-6	Cyan imaging unit failure	• All density readings taken from the density pattern produced on the transfer belt are 1.0 g/m^2 (IDC sensor photo receiver output) or less during max. density adjustment (Vg/Vdc adjustment).
P-7	Magenta imaging unit failure	
P-8	Yellow imaging unit failure	
P-9	Black imaging unit failure	
P-11	Color PC drive sensor malfunction	• The output from the color PC drive main and sub sensors remains unchanged for a continuous period of 1,000 ms while the color PC motor is turning stably and the lock signal is active (LOW-0).
P-12	Black PC drive sensor malfunction	• The output from the black PC drive main and sub sensors remains unchanged for a continuous period of 1,000 ms while the transport motor is turning stably and the lock signal is active (LOW-0).

Code	Item	Description
P-21	Color regist test pattern failure	• The number of points detected in the main scan direction is more or less than the specified value during main scan direction registration correction. • The number of points detected in the sub scan direction is more or less than the specified value during sub scan direction registration correction.
P-22	Color regist 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. • On the color shift test pattern, the maximum and minimum deviations detected in the main and sub scan directions go over the predetermined value.
P-27	Secondary transfer ATVC failure	• An abnormal average value is detected during an adjustment of the second image transfer ATVC value.

17.2 Solution

17.2.1 P-5: IDC sensor (front) failure

17.2.2 P-28 IDC sensor (rear) failure

Relevant parts	
IDC registration sensor/MK (IDCS/MK) IDC registration sensor/YC (IDCS/YC)	Printer control board (PRCB) High voltage unit (HV) Transfer belt unit

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 IDCS/MK or IDCS/YC, sensor shutter or connector, if it is installed or connected improperly.
4	Clean IDCS/MK or IDCS/YC if it is dirty.
5	Check the HV connector for proper connection and correct as necessary.
6	Open/close the front door, run an image stabilization sequence, and select [State Confirmation] → [Level History] to check the IDC value. IDC1: IDCS/MK, IDC2: IDCS/CY If the value is 1.0 V or less, change IDCS/MK or IDCS/CY.
7	Change PRCB.

17.2.3 P-6: Cyan imaging unit failure

17.2.4 P-7: Magenta imaging unit failure

17.2.5 P-8: Yellow imaging unit failure

17.2.6 P-9: Black imaging unit failure

Relevant parts	
Imaging unit /C Imaging unit /M Imaging unit /Y Imaging unit /K	Transfer belt unit High voltage unit (HV) Printer control board (PRCB)

Step	Action
1	Select [Imaging Process Adjustment] → [D Max Density] and, if the setting value is negative, readjust.
2	Check the drive transmission portion of the Imaging Unit and correct as necessary.
3	Clean the IDC registration sensor/MK (IDCS/MK) or IDC registration sensor/CY (IDCS/CY) window if dirty.
4	Clean the contact of the imaging unit connector if dirty.
5	Check the HV connector for proper connection and correct as necessary.
6	Check the flat cable for proper connection and correct as necessary.
7	Change imaging unit.
8	Change the transfer belt unit.
9	Change PRCB.

17.2.7 P-11: Color PC drive sensor malfunction

Relevant electrical parts	
Color PC drive main sensor (PS15) Color PC drive sub sensor (PS17)	Main drive unit Printer control board (PRCB)

Step	Action
1	Perform the faulty sensor check procedure. *1
2	Check the sensor, for which a faulty condition has been checked, for installed position and proper connector connection.
3	Wipe the sensor, for which a faulty condition has been checked, clean of dirt if any.
4	If P-11 occurs again, change the main drive unit.
5	Change PRCB.

*1: Faulty sensor check procedure

1. Open the front door and turn ON the main power switch of the machine.
2. Call the [Sensor Check] screen to the screen by way of Service Mode.
   For details how to display, see “Adjustment /Setting.”
   See P.304
3. Close the front door and start [Stabilization].
4. During the stabilization sequence, check to see if the values of the phase detection sensors (color PC drive main/sub sensors) change.
5. A sensor is faulty if its value does not change.

17.2.8 P-12: Black PC drive sensor malfunction

Relevant parts	
Black PC drive main sensor (PS16) Black PC drive sub sensor (PS18)	Main drive unit Printer control board (PRCB)

Step	Action
1	Perform the faulty sensor check procedure. *1
2	Check the sensor, for which a faulty condition has been checked, for installed position and proper connector connection.
3	Wipe the sensor, for which a faulty condition has been checked, clean of dirt if any.
4	If P-12 persists, change the main drive unit.
5	Change PRCB.

*1: Faulty sensor check procedure

1. Open the front door and turn ON the main power switch of the machine.
2. Call the [Sensor Check] screen to the screen by way of Service Mode.
   For details how to display, see “Adjustment /Setting.”
   See P.304
3. Close the front door and start [Stabilization].
4. During the stabilization sequence, check to see if the values of the phase detection sensors (black PC drive main/sub sensors) change.
5. A sensor is faulty if its value does not change.

17.2.9 P-21: Color regist test pattern failure

Relevant parts	
Transfer belt unit PH unit	Printer control board (PRCB)

Step	Action
1	Check the flat cable for proper connection and correct as necessary.
2	Wipe clean the surface of the transfer belt with a soft cloth, if it is dirty.
3	Change the image transfer belt unit if the transfer belt is damaged.
4	Change the PH unit.
5	Change PRCB.

17.2.10 P-22: Color regist adjust failure

Relevant parts	
IDC registration sensor /MK (IDCS/MK) IDC registration sensor/CY (IDCS/CY)	Printer control board (PRCB)

Step	Action
1	Slide out the imaging unit and reinstall it in position.
2	Reinstall or reconnect IDCS/MK or IDCS/CY if it is installed or connected improperly.
3	Check the vertical transport guide for installed position and correct as necessary.
4	Change PRCB.

17.2.11 P-27: Secondary transfer ATVC failure

Relevant parts	
High voltage unit (HV) Printer control board (PRCB)	Image transfer entrance guide 2nd image transfer assy Transfer belt unit

Step	Action
1	Check roller opposed to the 2nd image transfer roller is grounded. Clean the joint or correct if necessary.
2	Check the image transfer entrance guide for proper installation and correct if necessary.
3	Check that the spring does not come off during the pressure operation of the 2nd transfer roller and correct if necessary.
4	Check the contact at the joint of the 2nd image transfer assy and HV. Clean the joint or correct if necessary.
5	Change the transfer belt unit.
6	Change HV.
7	Change PRCB.

17.3 Trouble code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the control panel.

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17.3.1 Trouble code list

* For the details of the malfunction codes of the options, see the Service Manual for the corresponding option.

Code	Item	Detection timing	Rank
C0001	LCT connection failed	See P.33 of the PC-405 service manual.	C
C0204	Tray 2 feeder up/down abnormality	See P.33 of the PC-105 service manual.	B
C0206	Tray 3 feeder up/down abnormality	See P.28 of the PC-104/204 service manual.	B
C0208	Tray 4 feeder up/down abnormality		B
C0209	LCT elevator motor malfunction	See P.33 of the PC-405 service manual.	B
C0210	LCT ascent motion failure		B
C0211	Manual feed up/down abnormality	See P.24 of the MB-502 service manual.	B
C0212	LCT ejection failure	See P.33 of the PC-405 service manual.	B
C0213	LCT shift gate malfunction		B
C0214	LCT shifting failure		B
C0215	LCT shift motor malfunction		B
C0301	Suction fan motor's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	B
C1004	FNS communication error	See P.23 of the JS-505 service manual.	C
C1182	Shift motor mechanism failure		B
C11A1	Finishing option exit roller pressure/retraction failure		B
C11E0	Route switch malfunction		B

Code	Item	Detection timing	Rank
C2151	Secondary transfer roller pressure welding alienation	• During a retraction operation of the 2nd image transfer roller, the 2nd image transfer welding alienation sensor cannot detect the 2nd image transfer roller at its retracted position within a predetermined period of time after the 2nd image transfer retraction motor starts rotating. • During a pressure operation of the 2nd image transfer roller, the 2nd image transfer welding alienation sensor cannot detect the 2nd image transfer roller at its pressed position within a predetermined period of time after the 2nd image transfer retraction motor starts rotating.	B
C2152	Transfer belt pressure welding alienation	• During a retraction operation of the transfer belt, the transfer belt retraction sensor cannot detect the transfer belt at its retracted position within a predetermined period of time after the transfer belt retraction clutch is turned ON. • During a pressure operation of the transfer belt, the transfer belt retraction sensor cannot detect the transfer belt at its pressed position within a predetermined period of time after the transfer belt clutch is turned ON.	B
C2164	PC charge malfunction	• When electrostatic charge output is ON, electrostatic charge leak detection system continues to detect leaks for a predetermined period of time.	B
C2253	Color PC motor's failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor is turning.	B
C2254	Color PC motor's turning at abnormal timing	• The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.	B
C225D	Color dev. unit engagement/ disengagement failure	• The gears remain disengaged after the lapse of a predetermined period of time after the engagement operation is started by the color dev. unit engaged motor. • The gears remain engaged after the lapse of a predetermined period of time after the disengagement operation is started by the color dev. unit engaged motor.	B
C2451	Release new transfer belt unit	• A new installation is not detected when a new transfer cleaner unit (image transfer belt unit) is installed.	B
C2551	Abnormally low toner density detected cyan TCR sensor	• TC ratio in the developing machine, which is determined by toner replenishing amount control mechanism, is 4 % or less for a given number of times consecutively.	B
C2552	Abnormally high toner density detected cyan TCR sensor	• TC ratio in the developing machine, which is determined by Toner replenishing amount control mechanism, is 11 % or more for a given number of times consecutively. • When the connector of the TCR sensor is disconnected.	B

Code	Item	Detection timing	Rank
C2553	Abnormally low toner density detected magenta TCR sensor	• TC ratio in the developing machine, which is determined by toner replenishing amount control mechanism, is 4 % or less for a given number of times consecutively.	B
C2554	Abnormally high toner density detected magenta TCR sensor	• TC ratio in the developing machine, which is determined by toner replenishing amount control mechanism, is 11 % or more for a given number of times consecutively. • When the connector of the TCR sensor is disconnected.	B
C2555	Abnormally low toner density detected yellow TCR sensor	• TC ratio in the developing machine, which is determined by toner replenishing amount control mechanism, is 4 % or less for a given number of times consecutively.	B
C2556	Abnormally high toner density detected yellow TCR sensor	• TC ratio in the developing machine, which is determined by toner replenishing amount control mechanism, is 11 % or more for a given number of times consecutively. • When the connector of the TCR sensor is disconnected.	B
C2557	Abnormally low toner density detected black TCR sensor	• TC ratio in the developing machine, which is determined by toner replenishing amount control mechanism, is 4 % or less for a given number of times consecutively.	B
C2558	Abnormally high toner density detected black TCR sensor	• TC ratio in the developing machine, which is determined by toner replenishing amount control mechanism, is 11 % or more for a given number of times consecutively. • When the connector of the TCR sensor is disconnected.	B
C2559	Cyan TCR sensor adjustment failure	• TCR sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.	B
C255A	Magenta TCR sensor adjustment failure		B
C255B	Yellow TCR sensor adjustment failure		B
C255C	Black TCR sensor adjustment failure		B
C2650	Main backup media access error	• The re-written data, which has been read out, checked and founded as error, is read out again and found as error. • The error was found when reading out the counter value. • The machine detects that the service EEPROM board is not loaded in position.	C
C2651	EEPROM access error (IU C)	• An error was found when reading or writing data. • The error was found when reading out the counter value.	C
C2652	EEPROM access error (IU M)		C
C2653	EEPROM access error (IU Y)		C
C2654	EEPROM access error (IU K)		C

Code	Item	Detection timing	Rank
C2A01	EEPROM access error (TC C)	• An error was found when reading or writing data. • The error was found when reading out the counter value.	C
C2A02	EEPROM access error (TC M)		C
C2A03	EEPROM access error (TC Y)		C
C2A04	EEPROM access error (TC K)		C
C3101	Fusing roller separation failure	• With the fusing roller being retracted, the pulse of the fusing roller retraction sensor does not change even after the specified period of time has passed after the fusing retraction motor started rotating. • With the fusing roller being pressed, the pulse of the roller retraction sensor does not change even after the specified period of time has passed after the fusing retraction motor started rotating. • During a pressure operation of the fusing roller, the fusing roller is not at the pressed position even after the roller retraction sensor counts the specified number of pulses after the fusing retraction motor starts rotating.	B
C3201	Fusing motor failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	B
C3202	Fusing motor turning at abnormal timing	• The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.	B
C3301	Fusing cooling fan motor/1 failure to turn	• The fan motor lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	B
C3302	Fusing cooling fan motor/2,3 failure to turn	• The fan motor lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	B
C3421	Fusing heaters trouble (heating side)	• The temperature detected by the heating roller thermistor/C does not reach a predetermined level after the lapse of a predetermined period of time after the heating roller fusing heater lamp lights up. • The difference between the maximum and minimum temperatures detected by the heating roller thermistor/C within a predetermined period of time after the start of a warm-up cycle is below or above a predetermined value. • The temperature detected after a pressure level correction remains under a predetermined level even after the lapse of a predetermined period of time after the start of the temperature detection. • During a warm-up, a zero cross signal cannot be detected after the lapse of a predetermined period of time after the fusing heater is turned ON or OFF.	A
C3423	Fusing heaters trouble (pressurizing side)	• After warm-up operation starts, the fusing pressure roller thermistor does not detect a temperature as high as a predetermined one though a predetermined period of time has elapsed. • The temperature of the pressure roller remains lower than a predetermined level even after the lapse of a predetermined period of time after a temperature correction.	A

Code	Item	Detection timing	Rank
C3721	Fusing abnormally high temperature detection (heating side)	• The heating roller thermistor continues to detect a temperature higher than a predetermined one for a predetermined period of time. • Hard protection signal L is detected continuously over a predetermined period of time.	A
C3723	Fusing abnormally high temperature detection (pressurizing side)	• The temperature of the pressure roller continues to be higher than a predetermined level for a predetermined period of time after a temperature correction.	A
C3821	Fusing abnormally low temperature detection (heating side)	• The heating roller thermistor continues to detect a temperature lower than a predetermined one for a predetermined period of time. • In the states other than a warm-up operation, a zero cross signal cannot be detected after the lapse of a predetermined period of time after the fusing heater is turned ON or OFF. • The power supply frequency cannot be detected.	A
C3823	Fusing abnormally low temperature detection (pressurizing side)	• The temperature of the pressure roller continues to be lower than a predetermined level for a predetermined period of time after a temperature correction.	A
C4151	Polygon motor rotation trouble (C)	• The polygon motor fails to turn stably even after the lapse of a given period of time after activating the polygon motor. • Motor lock signal detects HIGH for a given period time consecutively during the polygon motor is rotating.	B
C4152	Polygon motor rotation trouble (M)		B
C4153	Polygon motor rotation trouble (Y)		B
C4154	Polygon motor rotation trouble (K)		B
C4551	Laser malfunction (C)	• SOS signal is not detected even after the lapse of a given period of time after staring the laser output. • SOS signal is not detected for a given period of time during printing or image stabilization adjustment.	B
C4552	Laser malfunction (M)		B
C4553	Laser malfunction (Y)		B
C4554	Laser malfunction (K)		B
C5102	Transport motor's failure to turn	• The motor lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	B
C5103	Transport motor's turning at abnormal timing	• The motor lock signal remains LOW for a predetermined continuous period of time while the motor remains stationary.	B
C5351	Power supply cooling fan motor/1's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	B
C5354	Exhaust fan motor's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	B
C5357	Cooling fan motor/1's failure to turn	• The fan lock signal remains HIGH for a predetermined continuous period of time while the motor remains stationary.	B
C6102	Drive system home sensor malfunction	• The home position sensor (PS201) is defective or the exposure unit operates erratically.	B
C6401	Other troubles of scanner	• The scan operation was terminated abnormally because of a reason except defined trouble.	B

Code	Item	Detection timing	Rank
C6704	Image input time out	• The scan motion is not completed even after the lapse of a predetermined period of time because of a hardware failure or other reason.	C
C6751	CCD clamp/gain adjustment failure	• The automatic gain control fails to converge when the main unit is started or a scan motion is started (the exposure unit does not move to the white reference position, or the automatic gain control is not properly completed as a result of a hardware failure).	B
C8001	• Not used.		
CC151	ROM contents error upon start-up	• A fault detected in a sequence of ROM contents check of the printer control board during starting.	C
CC155	Finisher ROM error	See P.23 of the JS-505 service manual.	C

- The machine displays an abort code on the control panel as it becomes unable to process tasks properly through its software control.
- When the system program is aborted, the machine attempts to restart it automatically. If it fails to restart the program, check or replace the electrical components, units, options, and connections related to the specific type of abort condition.

Code	Item	Relevant electrical components, units, and options
0x00000000 to 0x000fffff	OS processing system failure	• MFBUB
0x00100000 to 0x001fffff	Device control system failure	• MFBUB, FAXUB, MEMU/1, MEMU/2, job separator
0x00200000 to 0x002fffff	Copy control system failure	• MFBUB
0x00300000 to 0x003fffff	Operation system failure	• MFBUB, control panel
0x00500000 to 0x005fffff	Conversion processing system failure	• MFBUB
0x00600000 to 0x006fffff	Encoding processing system failure	• MFBUB, MEMU/1, MEMU/2
0x00700000 to 0x007fffff	File control system failure	• MFBUB, MEMU/1, MEMU/2
0x00800000 to 0x008fffff	G3 protocol processing system failure	• MFBUB, FAXUB, MEMU/1, MEMU/2
0x00900000 to 0x009fffff	G3 device control system failure	• MFBUB, FAXUB, MEMU/1, MEMU/2
0x00c00000 to 0x00c0ffff	Scanner control system failure	• MFBUB, BCRUB, INVB, ADF
0x00c10000 to 0x00c2ffff	Scanner control system failure	• MFBUB, BCRUB, INVB, ADF
0x00c30000 to 0x00c4ffff	Scanner control system failure	• MFBUB, BCRUB, INVB, ADF
0x00c50000 to 0x00c5ffff	Scanner control system failure	• MFBUB, BCRUB, INVB, ADF
0x00d00000 to 0x00d3ffff	Scanner device control system failure	• MFBUB, BCRUB, INVB
0x00d80000 to 0x00dbffff	Scanner device control system failure	• MFBUB, BCRUB, INVB, ADF
0x00dc0000 to 0x00dfffff	Scanner device control system failure	• MFBUB, home position sensor, scanner drive system, BCRUB
0x00e00000 to 0x00e000ff	Printer sequence system failure	• MFBUB, MEMU/1, MEMU/2
0x00e00100 to 0x00e001ff	Printer sequence system failure	• MFBUB, MEMU/1, MEMU/2
0x00e00200 to 0x00e002ff	Printer sequence system failure	• MFBUB, MEMU/1, MEMU/2
0x00e00300 to 0x00e003ff	Printer sequence system failure	• MFBUB, MEMU/1, MEMU/2
0x00e00400 to 0x00e004ff	Printer sequence system failure	• MFBUB, MEMU/1, MEMU/2
0x00f00000 to 0x00f0ffff	Printer system failure	• MFBUB, MEMU/1, MEMU/2
0x00f20000 to 0x00f2ffff	Counter sequence system failure	• MFBUB
0x01100000 to 0x011000ff	Other failures	• MFBUB
0x01100100 to 0x011001ff	Copy sequence system failure	• MFBUB
0x01100400 to 0x011004ff	Function sequence system failure	• MFBUB
0x02000000 to 0x020fffff	OS message processing system failure	• MFBUB, MEMU/1, MEMU/2
0x03000000 to 0x030fffff	Network processing system failure	• MFBUB, MEMU/1, MEMU/2

17.4 How to reset

- Different malfunction resetting procedures apply depending on the rank of the trouble code.

* List of malfunction resetting procedures

Trouble code rank	Resetting procedures
Rank A	• Trouble reset For details of trouble reset, see Adjustment/ Setting. See P.324
Rank B	• Opening/closing the front door
Rank C	• Turning main power switch OFF/ON

17.5 Solution

17.5.1 C0301: Suction fan motor's failure to turn

Relevant parts	
Suction fan motor (FM10)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM10 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM10 operation check	PRCB CN6-8 (REM) PRCB CN6-9 (LOCK)	C to D-8
4	Change the right door assy	—	—
5	Change PRCB	—	—

17.5.2 C2151: Secondary transfer roller pressure welding alienation

Relevant parts	
2nd image transfer pressure retraction motor (M5) 2nd image transfer welding alienation sensor (PS36)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M5 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M5 for proper drive coupling and correct as necessary.	—	—
3	PS36 I/O check, sensor check	PRCB CN6-15 (ON)	C to D-9
4	Change the right door assy	—	—
5	Change PRCB	—	—

17.5.3 C2152: Transfer belt pressure welding alienation

Relevant parts	
Fusing motor (M2) Transfer belt pressure retraction clutch (CL3) Transfer belt retraction sensor (PS6)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M5 connector for proper connection and correct as necessary.	—	—
2	PS6 I/O check, sensor check	PRCB CN33-15 (ON)	C to D-10
3	CL3 operation check	PRCB CN30-10 (ON)	C to D-24 to 25
4	M2 operation check	PRCB CN27-4 (REM) PRCB CN27-7 (LOCK)	C to D-22
5	Change CL3	—	—
6	Change M2	—	—
7	Change PRCB	—	—

17.5.4 C2164: PC charge malfunction

Relevant parts	
Imaging unit	High voltage unit (HV) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the imaging unit for proper connection and correct as necessary.	—	—
2	Check the HV connector for proper connection and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	Change IU	—	—
5	Change HV	—	—
6	Change PRCB	—	—

17.5.5 C2253: Color PC motor's failure to turn

17.5.6 C2254: Color PC motor's turning at abnormal timing

Relevant parts	
Color PC motor (M3)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M3 connector for proper connection and correct as necessary.	—	—
2	Check the M3 connector for proper drive coupling and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	M3 operation check	PRCB CN28-9 (REM) PRCB CN28-11 (LOCK)	C to D-23 to 24
5	Change M2	—	—
6	Change PRCB	—	—

17.5.7 C225D: Color dev. unit engagement/disengagement failure

Relevant parts	
Color dev. unit engaged motor (M4) Color dev. unit engaged position sensor (PS19)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M4 connector for proper connection and correct as necessary.	—	—
2	Check the M4 connector for proper drive coupling and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	PS19 I/O check, sensor check	PRCB CN33-18 (ON)	C to D-10
5	M4 operation check	PRCB CN33-20 (REM)	C to D-10
6	Change M4	—	—
7	Change PRCB	—	—

17.5.8 C2451: Release new transfer belt unit

Relevant parts	
Transfer belt unit	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Reinstall unit	—	—
2	Check there is a short circuit in the fuse of the transfer belt unit.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	Change PRCB	—	—

17.5.9 C2551: Abnormally low toner density detected cyan TCR sensor

17.5.10 C2553: Abnormally low toner density detected magenta TCR sensor

17.5.11 C2555: Abnormally low toner density detected yellow TCR sensor

Relevant parts	
Imaging unit /C Imaging unit /M Imaging unit /Y Toner cartridge /C Toner cartridge /M Toner cartridge /Y	Toner supply motor/CK (M7) Toner supply motor/YM (M6) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Reinstall imaging unit	—	—
2	Reinstall toner cartridge	—	—
3	M6 operation check (At this time, IU must be non-installation.)	PRCB CN30-5 to 8	C to D-24
4	M7 operation check (At this time, IU must be non-installation.)	PRCB CN30-1 to 4	C to D-24
5	Change imaging unit	—	—
6	Change PRCB.	—	—

17.5.12 C2552: Abnormally high toner density detected cyan TCR sensor

17.5.13 C2554: Abnormally high toner density detected magenta TCR sensor

17.5.14 C2556: Abnormally high toner density detected yellow TCR sensor

Relevant parts	
Imaging unit /C Imaging unit /M Imaging unit /Y Toner cartridge /C Toner cartridge /M Toner cartridge /Y	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Reinstall imaging unit	—	—
2	Reinstall toner cartridge	—	—
3	Change imaging unit	—	—
4	Change PRCB	—	—

17.5.15 C2557: Abnormally low toner density detected black TCR sensor

Relevant parts	
Imaging unit /K Toner cartridge /K	Toner supply motor/CK (M7) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	M7 operation check (At this time, IU must be non-installation.)	PRCB CN30-1 to 4	C to D-24
2	Reinstall imaging unit	—	—
3	Reinstall toner cartridge	—	—
4	Change imaging unit /K	—	—
5	Change PRCB.	—	—

17.5.16 C2558: Abnormally high toner density detected black TCR sensor

Relevant parts	
Imaging unit /K Toner cartridge /K	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Reinstall imaging unit	—	—
2	Reinstall toner cartridge	—	—
3	Change imaging unit/K	—	—
4	Change PRCB	—	—

17.5.17 C2559: Cyan TCR sensor adjustment failure

17.5.18 C255A: Magenta TCR sensor adjustment failure

17.5.19 C255B: Yellow TCR sensor adjustment failure

Relevant parts	
Imaging unit /C Imaging unit /M Imaging unit /Y	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Reinstall imaging unit	—	—
2	Change imaging unit	—	—
3	Change PRCB	—	—

17.5.20 C255C: Black TCR sensor adjustment failure

Relevant parts	
Imaging unit /K	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Reinstall imaging unit /K	—	—
2	Change imaging unit /K	—	—
3	Change PRCB	—	—

17.5.21 C2650: Main backup media access error

Relevant parts	
Service EEPROM board (SVERB)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the connector (CN36) on PRCB, the connector (CN1) on SVERB, and the harness between the boards for proper connection and correct as necessary.	—	—
2	Change PRCB *1.* Turn OFF the main power switch and replace the current PRCB with a new one. (When using a PRCB of another machine in service, be sure to use a PRCB installed in the same model.) See P.84 *2.* Update the PRCB firmware. *3.* After completing the firmware update, turn OFF and ON the main power switch and check to see that warm-up is started. Make sure that malfunction codes other than C2650 or improper IU/TC placement is not detected. *4.* When the trouble cannot be solved, reinstall the removed PRCB to the original board. **NOTE** • **When taking the above steps, check whether PRCB is defective or not without replacing the SVERB.**	—	—
3	Change SVERB *1.* Replace the current SVERB with a new one. See P.85 *2.* Turn ON the main power switch and check to see that warm-up is started. (One minute is spent to prepare the new SVERB for use. During the period, the control panel backlight stays off.) Make sure that malfunction codes other than C2650 or improper IU/TC placement is not detected. *3.* Make the specified readjustments. See P.85	—	—
4	If the above actions do not solve the problem, contact KMBT.	—	—

17.5.22 C2651: EEPROM access error (IU C)

17.5.23 C2652: EEPROM access error (IU M)

17.5.24 C2653: EEPROM access error (IU Y)

17.5.25 C2654: EEPROM access error (IU K)

Relevant parts	
Imaging unit /C Imaging unit /M Imaging unit /Y Imaging unit /K	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Clean the connection between the imaging unit and the machine if dirty	—	—
2	Reinstall imaging unit	—	—
3	Check the harness for proper connection and correct as necessary.	—	—
4	Change imaging unit	—	—
5	Change PRCB	—	—

17.5.26 C2A01: EEPROM access error (TC C)

17.5.27 C2A02: EEPROM access error (TC M)

17.5.28 C2A03: EEPROM access error (TC Y)

17.5.29 C2A04: EEPROM access error (TC K)

Relevant parts	
Toner cartridge /C Toner cartridge /M Toner cartridge /Y Toner cartridge /K	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Clean the connection between the toner cartridge and the machine if dirty.	—	—
2	Reinstall toner cartridge	—	—
3	Check the harness for proper connection and correct as necessary.	—	—
4	Change toner cartridge	—	—
5	Change PRCB	—	—

17.5.30 C3101: Fusing roller separation failure

Relevant parts	
Fusing pressure roller retraction motor (M12) Fusing pressure home sensor (PS38)	Printer control board (PRCB) Fusing unit

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M12 connector for proper connection and correct as necessary.	—	—
2	PS38 I/O check, sensor check	PRCB CN30-13 (ON)	C to D-25
3	M12 operation check	PRCB CN31-1 to 2	C to D-25
4	Change M12	—	—
5	Change fusing unit	—	—
6	Change PRCB	—	—

17.5.31 C3201: Fusing motor failure to turn

17.5.32 C3202: Fusing motor turning at abnormal timing

Relevant parts	
Fusing motor (M2)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M2 connector for proper connection and correct as necessary.	—	—
2	Check the loading status of the fusing unit drive, and correct the error as necessary.	—	—
3	Check the fusing unit, PRCB for proper connection and correct or change as necessary.	—	—
4	M2 operation check	PRCB CN27-4 (REM) PRCB CN27-7 (LOCK)	C to D-22
5	Change M2	—	—
6	Change PRCB	—	—

17.5.33 C3301: Fusing cooling fan motor/ 1 failure to turn

Relevant parts	
Fusing cooling fan motor (FM13)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM13 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM13 operation check	PRCB CN31-4 (REM) PRCB CN31-5 (LOCK)	C to D-26
4	Change FM13	—	—
5	Change PRCB	—	—

17.5.34 C3302: Fusing cooling fan motor/ 2,3 failure to turn

Relevant parts	
Fusing cover cooling fan motor (FM11)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM11 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM11 operation check	PRCB CN31-7 (REM) PRCB CN31-8 (LOCK)	C to D-26
4	Change FM11	—	—
5	Change PRCB	—	—

17.5.35 C3421: Fusing heaters trouble (heating side)

17.5.36 C3423: Fusing heaters trouble (pressurizing side)

Relevant parts	
Fusing unit	DC power supply (DCPU) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, PRCB and DCPU for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change PRCB	—	—
6	Change DCPU	—	—

17.5.37 C3721: Fusing abnormally high temperature detection (heating side)

17.5.38 C3723: Fusing abnormally high temperature detection (pressurizing side)

Relevant parts	
Fusing unit	DC power supply (DCPU) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, PRCB and DCPU for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change PRCB	—	—
6	Change DCPU	—	—

17.5.39 C3821: Fusing abnormally low temperature detection (heating side)

17.5.40 C3823: Fusing abnormally low temperature detection (pressurizing side)

Relevant parts	
Fusing unit	DC power supply (DCPU) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the fusing unit for correct installation (whether it is secured in position).	—	—
2	Check the open/close operation of the upper right door.	—	—
3	Check the fusing unit, PRCB and DCPU for proper connection and correct or change as necessary.	—	—
4	Change fusing unit	—	—
5	Change PRCB	—	—
6	Change DCPU	—	—

17.5.41 C4151: Polygon motor rotation trouble (C)

17.5.42 C4152: Polygon motor rotation trouble (M)

17.5.43 C4153: Polygon motor rotation trouble (Y)

17.5.44 C4154: Polygon motor rotation trouble (K)

Relevant parts	
PH unit	PH relay board (REYBPH) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the connector for proper connection and correct as necessary.	—	—
2	Change PH unit	—	—
3	Change REYB/PH	—	—
4	Change PRCB	—	—

17.5.45 C4551: Laser malfunction (C)

17.5.46 C4552: Laser malfunction (M)

17.5.47 C4553: Laser malfunction (Y)

17.5.48 C4554: Laser malfunction (K)

Relevant parts	
PH unit	PH relay board (REYBPH) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the connector for proper connection and correct as necessary.	—	—
2	Change PH unit	—	—
3	Change REYBPH	—	—
4	Change PRCB	—	—

17.5.49 C5102: Transport motor's failure to turn

17.5.50 C5103: Transport motor's turning at abnormal timing

Relevant parts	
Transport motor (M1)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M1 connector for proper connection and correct as necessary.	—	—
2	Check M1 for proper drive coupling and correct as necessary.	—	—
3	Check the PRCB connector for proper connection and correct as necessary.	—	—
4	M1 operation check	PRCB CN27-14 (REM) PRCB CN28-2 (LOCK)	C to D-23
5	Change M1	—	—
6	Change PRCB	—	—

17.5.51 C5351: Power supply cooling fan motor's failure to turn

Relevant parts	
Power supply cooling fan motor (FM8)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM8 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM8 operation check	PRCB CN22-8 (ON) PRCB CN22-9 (LOCK)	K-8
4	Change FM8	—	—
5	Change DCPU	—	—
6	Change PRCB	—	—

17.5.52 C5354: Exhaust fan motor's failure to turn

Relevant parts	
Exhaust fan motor (FM14)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM14 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM14 operation check	PRCB CN5-1 (REM) PRCB CN5-3 (LOCK)	C to D-3
4	Change FM14	—	—
5	Change PRCB	—	—

17.5.53 C5357: Cooling fan motor/1's failure to turn

Relevant parts	
Cooling fan motor/1 (FM16)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the FM16 connector for proper connection and correct as necessary.	—	—
2	Check the fan for possible overload and correct as necessary.	—	—
3	FM16 operation check	PRCB CN22-4 (ON) PRCB CN22-6 (LOCK)	K-7
4	Change FM16	—	—
5	Change PRCB	—	—

17.5.54 C6102: Drive system home sensor malfunction

Relevant parts	
Home position sensor (PS201) Scanner motor (M201)	BCRU board (BCRUB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Correct or change the scanner drive (wire, pulley, gear, belt) if it is faulty.	—	—
2	Correct the scanner motor set screw if loose.	—	—
3	Check the PS201, M201 and BCRUB connector for proper connection and correct as necessary.	—	—
4	PS201 I/O check, sensor check	BCRUB CN6-5 (CRG1SNS)	U-20 to 21
5	M201 operation check	BCRUB CN4-1 to 4	U-21
6	Change M201.	—	—
7	Change BCRUB.	—	—

17.5.55 C6401: Other troubles of scanner

Relevant parts	
BCRU board (BCRUB) Exposure unit	MFBU board (MFBUB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the connectors between BCRUB and MFBUB for proper connection and correct as necessary.	—	—
2	Change BCRUB	—	—
3	Change MFBUB	—	—
4	Change exposure unit	—	—

17.5.56 C6704: Image input time out

Relevant parts	
BCRU board (BCRUB) Exposure unit	MFBU board (MFBUB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the connectors between BCRUB and MFBUB for proper connection and correct as necessary.	—	—
2	Change BCRUB	—	—
3	Change MFBUB	—	—
4	Change exposure unit	—	—

17.5.57 C6751: CCD clamp/gain adjustment failure

Relevant parts	
Exposure unit	CCDU board (CCDUB) BCRU board (BCRUB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Correct the harness connection between CCDUB and BCRUB if faulty.	—	—
2	Check for possible extraneous light and correct as necessary.	—	—
3	Clean the lens, mirrors, CCD surface, and shading sheet if dirty	—	—
4	Correct reflective mirror of the scanner if faulty, or change scanner.	—	—
5	Change BCRUB	—	—
6	Change exposure unit	—	—

17.5.58 CC151: ROM contents error upon start-up

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Restart the machine.	—	—
2	Check the ROM version.	—	—
3	Rewrite the firmware.	—	—
4	Change PRCB	—	—

18. Power supply trouble

18.1 Machine is not energized at all (DCPU operation check)

Relevant parts	
Main power switch (SW1) Front door switch/1 (MS3) Front door switch/2 (MS4) Printer control board (PRCB)	DC power supply (DCPU)

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is a power voltage supplied across CN1_INP-1 and 2 on DCPU?	T-3	NO	Check the wiring from the wall outlet to SW1 to CN1_INP.
2	Are the fuses on DCPU conducting?	—	NO	Change DCPU.
3	Is DC24 V being output from CN_SIG-1 on DCPU?	R-3 to 4	NO	Change DCPU.
4	Is DC5 V being input to CN_MCB-5 and 7 on DCPU?	R-4 to 5	NO	Change DCPU.
5	Is DC5 V being input to CN26-4 on PRCB? (LED on PRCB does not blink.)	H to I-3 to 4	NO	Change DCPU.
			YES	Change PRCB.

18.2 Control panel indicators do not light.

Relevant parts	
BCRU board (BCRUB) OPEU board (OPEUB) LCD board (LCDB) LCD_INV board (LCDINVB)	MFBU board (MFBUB) DC power supply (DCPU)

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is the I/F cable between the scanner and engine connected properly?	—	NO	Reconnect or change the I/F cable.
2	Is a power voltage being applied across CN_SCN1-8 on DCPU?	R-3	NO	Check the wiring from the wall outlet to SW1 to CN_SCN1.
3	Is the fuse on DCPU conducting?	—	NO	Change DCPU.
4	Is CN12 on MFBUB to CN2 on BCRUB securely connected?	V-6 W-19	NO	Reconnect.
5	Is CN3 on BCRUB to CN1 on OPEUB securely connected?	W-17 to 18 U to V-17 to 18	NO	Reconnect.

18.3 Fusing heaters do not operate

Relevant parts	
Main power switch (SW1) Right door switch (MS5) Fusing unit	DC power supply (DCPU)

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is the power source voltage applied across CN_MCB-4 on DCPU? During this time, the right door should be closed.	R-4 to 5	NO	Check wiring from power outlet to SW1 to CN_MCB-4 to MS5.
2	Is the power source voltage applied across CN1FIX-1 to 3 or CN1FIX-2 to 3?	D-21	YES	Fusing unit
			NO	Change DCPU.

18.4 Power is not supplied to option

18.4.1 DF-612

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is CN13 on MFBUB to CN1 on DF-612 securely connected?	U to V-7 to 9	NO	Reconnect.
2	Is the fuse on DCPU conducting?	—	YES	Malfunction in DF-612.
			NO	Change DCPU.

18.4.2 PC-105/104/204/405

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC24 V being applied to hookup connector CN79-14?	K-22	NO	Malfunction in paper feed cabinet
2	Is DC24 V being output from CN_OPN-2 on DCPU?	R-5	NO	Check wiring from DCPU to CN_OPN to paper feed cabinet.
3	Is the fuse on DCPU conducting?	—	YES	Malfunction in paper feed cabinet
			NO	Change DCPU.

18.4.3 JS-505

Step	Check item	WIRING DIAGRAM (Location)	Result	Action
1	Are DC24 V being applied to CN86-1?	K-25	NO	Malfunction in JS-505.
2	Is DC24 V being output from CN_OPN-1 on DCPU?	R-5	NO	Check wiring from DCPU to JS-505.
3	Is the fuse on DCPU conducting?	—	YES	Malfunction in JS-505.
			NO	Change DCPU.

19. Image quality problem

19.1 How to read element date

- As part of troubleshooting procedures, the numeric values set for “State Confirmation” available from “Service Mode” can be used to isolate the cause of the image problem.

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19.1.1 Table number

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Vdc-C Vdc-M Vdc-Y Vdc-K	• Shows the developing bias value of each color of toner when an image is produced. • Standard values: around 100 to 800 V • A correction is made to make the image lighter when the numeric value is greater. • A correction is made to make the image darker when the numeric value is smaller. • Relevant components: Imaging unit, high voltage unit (HV)
Vg-C Vg-M Vg-Y Vg-K	• Shows the grid voltage value of each color of toner when an image is produced. • Standard values: around 300 to 1100 V • A correction is made to make the image lighter when the numeric value is greater. • A correction is made to make the image darker when the numeric value is smaller. • Relevant components: Imaging unit, high voltage unit (HV)

19.1.2 Level history

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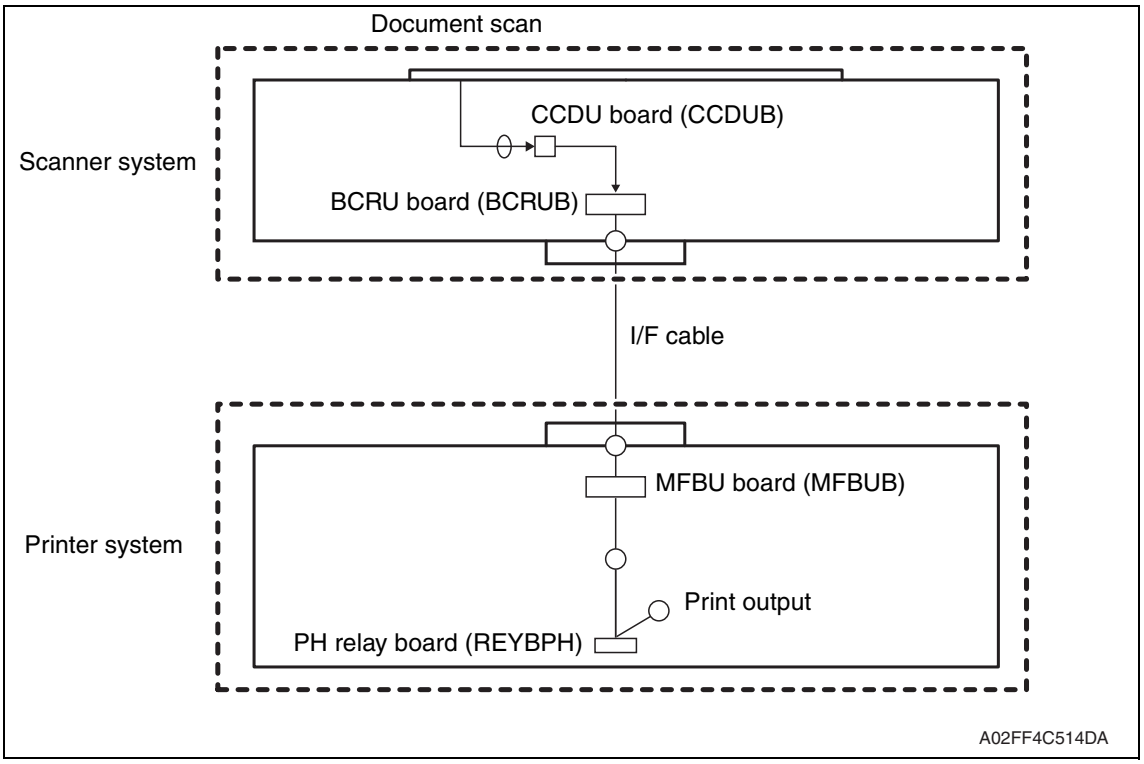
TCR-C TCR-M TCR-Y TCR-K	• Shows the T/C ratio reading taken last (in 0.01 % increments). • Standard value: 6 to 8 % • Relevant components: TCR sensor • “Reading taken last” means: Latest value When the Start key is pressed, the output value is displayed while a test print is being produced.
IDC1 IDC2	• Shows the IDC bare surface output reading taken last (in 0.01 V increments). • It should normally be around 4.3 V. • The output range is 0 V to 5 V. • “Reading taken last” means: Present value • Relevant components: IDC sensor, transfer belt unit
Temp-Heat Temp-Press	• Shows the temperature of the each part of the fusing unit (in 1 °C increments). • Relevant components: Fusing unit
IDC Sensor Adjust 1 IDC Sensor Adjust 2	• Shows the IDC intensity adjustment value. • It should normally be around 40 and can range from 0 to 255. • The value becomes greater as the transfer belt unit has been used more. • Relevant components: IDC sensor, transfer belt unit
ATVC -C ATVC -M ATVC -Y ATVC -K ATVC -2nd	• Shows the latest ATVC level (which varies according to the paper type). • 5 μA to 40 μA (ATVC-C/-M/-Y/-K) • 300 V to 4800 V (ATVC-2nd) • Relevant components: Transfer belt unit, High voltage unit (HV), 2nd transfer assy

19.2 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.”

19.2.1 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.

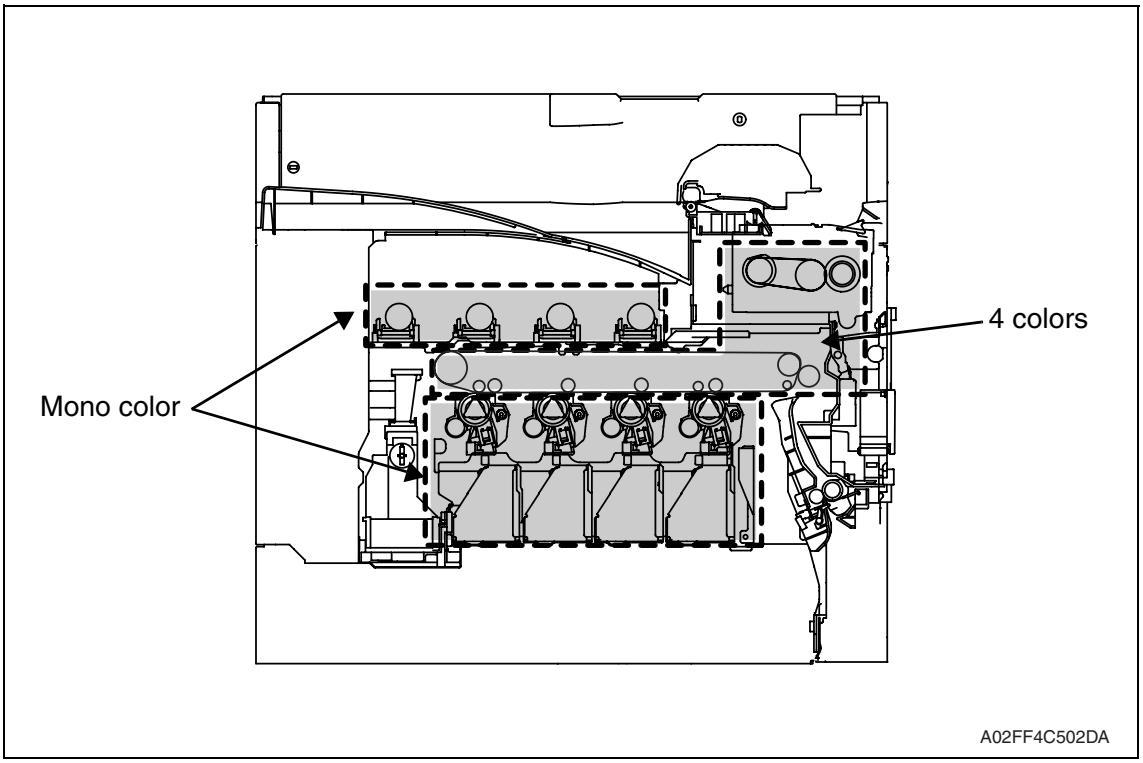


- Evaluation procedure

Image problem	Action	Result	Cause	Next step
Lines, bands	From [Service Mode], select [Test Mode] → [Halftone Pattern] → [SINGLE] → [HYPER] → [Gradation] → [Density 64] → [FWD] → [C→M→Y→K], and produce a test print. Is image problem evident?	YES	Printer	Initial check items 2
		NO	Scanner	P.375

A. 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

Image problem	Action	Result	Cause	Next step
Lines, bands	From [Service Mode], select [Test Mode] → [Halftone Pattern] → [SINGLE] → [HYPER] → [Gradation] → [Density 64] → [FWD] → [C→M→Y→K], and produce a test print. Is image problem evident in each of all four colors?	YES	Printer, 4 colors	P.404
		NO	Printer, single color	P.390

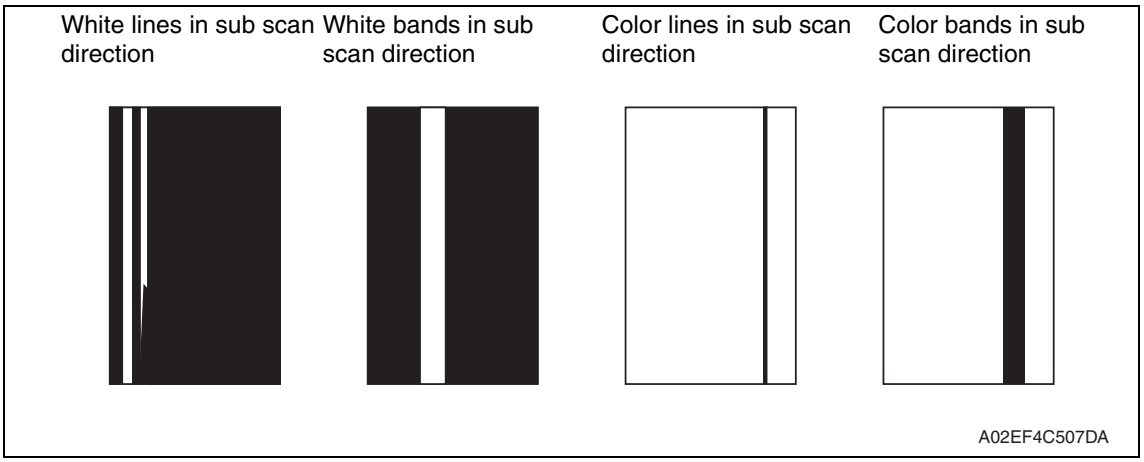
19.3 Solution

NOTE

- **Typical faulty image samples shown in the following are all printed with A4S setting.**

19.3.1 Scanner system: white lines, white bands, colored lines and colored bands in sub scan direction

A. Typical faulty images



B. Troubleshooting procedure

(1) When the original glass is used

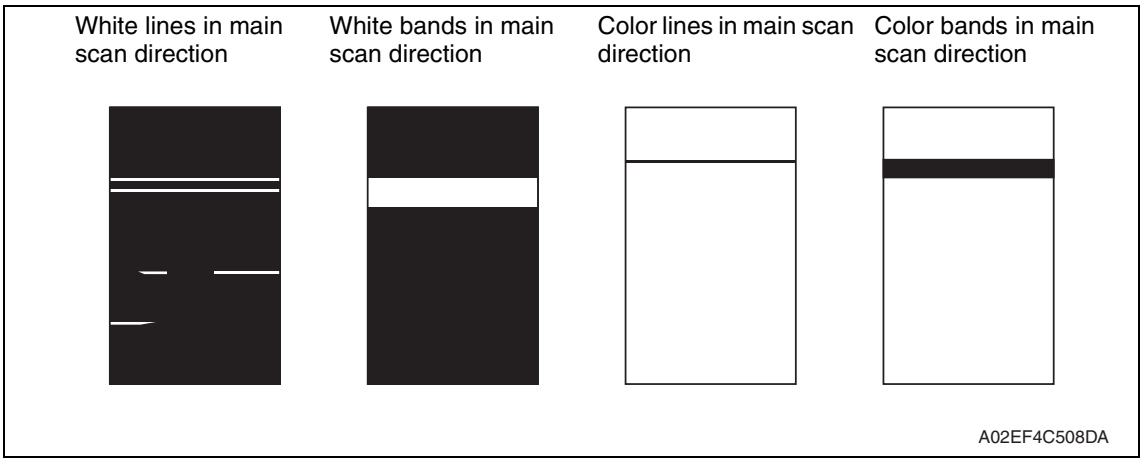
Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	Original cover	Original pad is dirty.	YES	Clean.
3	Original glass	Original glass is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
5	Mirror, lens, exposure lamp, and reflectors	Mirror is dirty	YES	Clean.
		Lens is dirty	YES	Clean.
		Exposure lamp is dirty	YES	Clean.
		Reflectors are dirty	YES	Clean.
6	Machine Adjustment → Scan Area → Feed adjustment (Service Mode)	The adjustment value for [Feed] falls within the specified range.	NO	Readjust.
7		The white lines/bands or colored lines/bands are blurry.	YES	Change exposure unit.

(2) When the ADF is used

Step	Section	Check item	Result	Action
1	Original	Original is damaged or dirty.	YES	Change original.
2	ADF reading section	Glass is dirty.	YES	Clean.
3	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
4	Mirror, lens, exposure lamp, and reflectors	Mirror is dirty	YES	Clean.
		Lens is dirty	YES	Clean.
		Exposure lamp is dirty	YES	Clean.
		Reflectors are dirty	YES	Clean.
5	Machine Adjustment → Scan Area → Feed adjustment (Service Mode)	The adjustment value for [Feed] falls within the specified range.	NO	Readjust.
6		The white lines/bands or colored lines/bands are blurry.	YES	Change exposure unit.

19.3.2 Scanner system: white lines, white bands, colored lines and colored bands in main scan direction

A. Typical faulty images



B. 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	Machine Adjustment → Scan Area → Feed adjustment (Service Mode)	The adjustment value for [Feed] falls within the specified range.	NO	Readjust.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change exposure unit.

19.3.3 Scanner system: color spots

A. Typical faulty images

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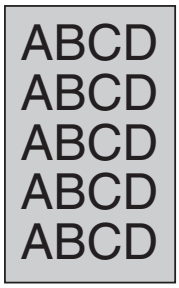
B. Troubleshooting procedure

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 exposure unit.

19.3.4 Scanner system: fog

A. Typical faulty images



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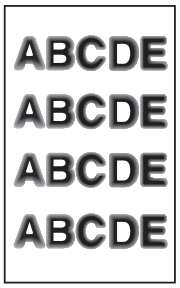
B. Troubleshooting procedure

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		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	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
6	Mirror, lens, exposure lamp, and reflectors	Mirror is dirty.	YES	Clean.
7		Lens is dirty.	YES	Clean.
8		Exposure lamp is dirty.	YES	Clean.
9		Reflectors are dirty.	YES	Clean.
10	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.
11		The problem has been eliminated through the checks of steps up to 10.	NO	Change exposure unit.

19.3.5 Scanner system: blurred image, blotchy image

A. Typical faulty images



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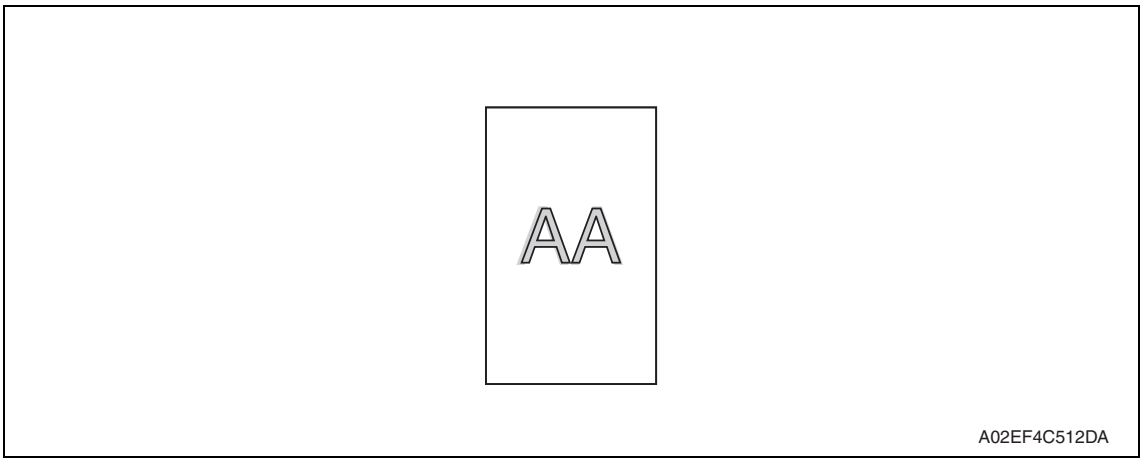
B. Troubleshooting procedure

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	Exposure unit	Exposure unit is not installed precisely.	YES	Reinstall.
5		The problem has been eliminated through the checks of steps up to 4.	NO	Change exposure unit.

19.3.6 Scanner system: incorrect color image registration, sync shift (lines in main scan direction)

A. Typical faulty images

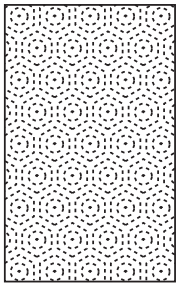


B. Troubleshooting procedure

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	Scanner rails	Foreign matter on rails.	YES	Clean and apply lubricant.
4	Scanner drive wires	Wire kinks or is damaged.	YES	Correct or change.
5	Exposure unit	Exposure unit moves smoothly.	NO	Adjust the scanner motor timing belt. → Change scanner motor. → Change BCRUB.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change exposure unit.

19.3.7 Scanner system: moire

A. Typical faulty images



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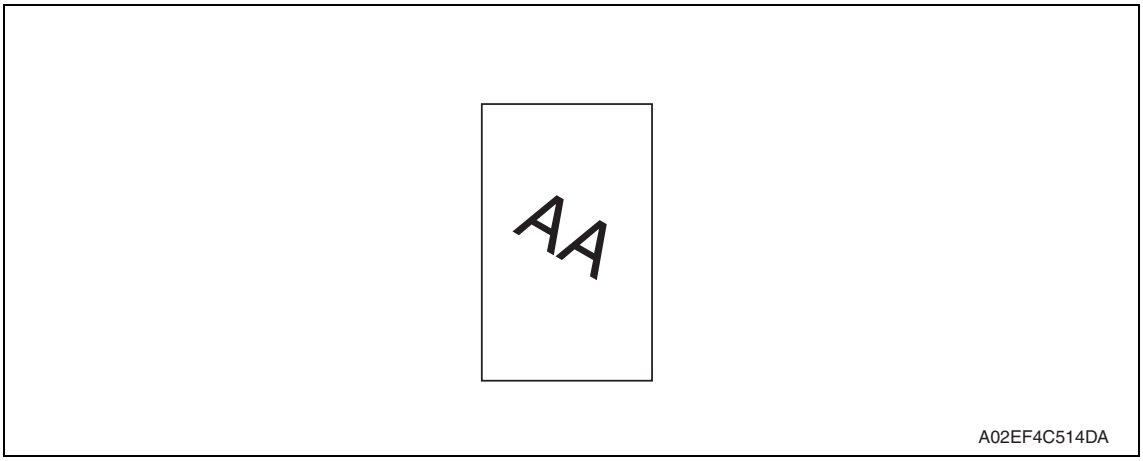
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original	Moire distortions recur even after the orientation of original has been changed.	NO	Change the original mode (select one other than that resulted in moire).
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.

19.3.8 Scanner system: skewed image

A. Typical faulty images

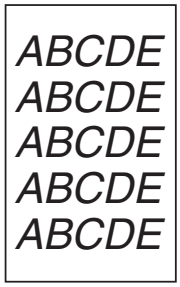


B. Troubleshooting procedure

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	Exposure unit	Exposure unit is not installed precisely.	YES	Reinstall.
4		The problem has been eliminated through the checks of steps up to 3.	NO	Change exposure unit.

19.3.9 Scanner system: distorted image

A. Typical faulty images



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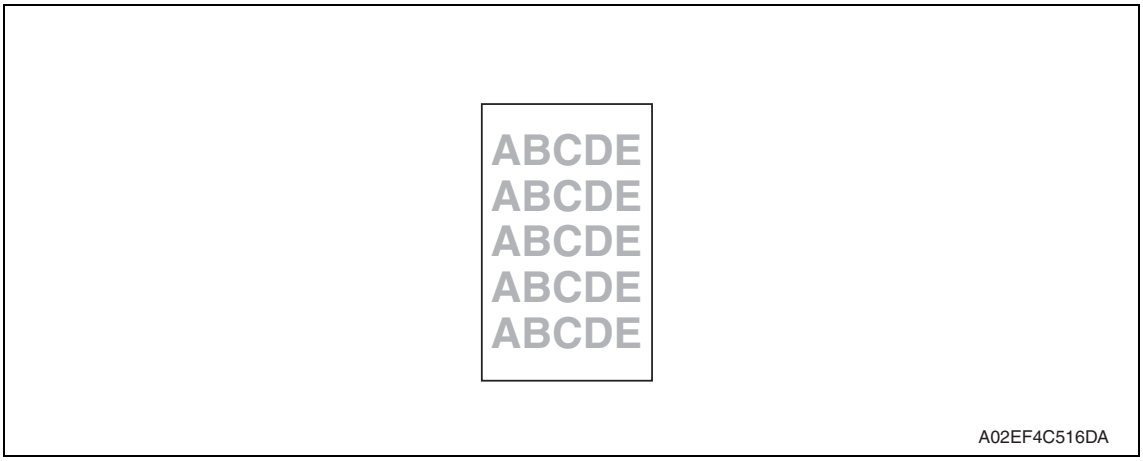
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Installation	Machine is installed on a level surface.	NO	Reinstall.
2	Exposure unit	Exposure unit is not installed precisely.	YES	Reinstall.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change exposure unit.

19.3.10 Scanner system: low image density, rough image

A. Typical faulty images

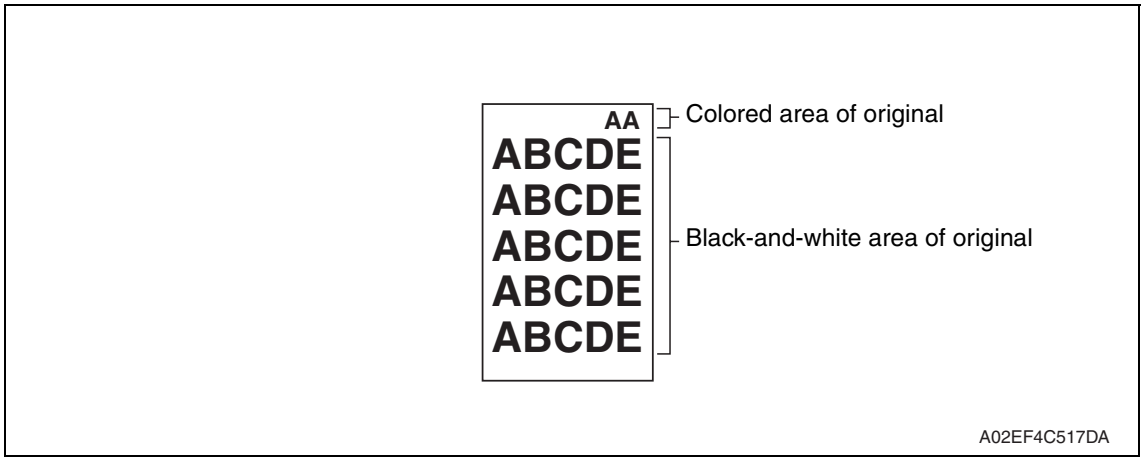


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Original glass	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
2	Shading sheet	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
3	Mirror, lens, exposure lamp, and reflectors	Mirror is dirty.	YES	Clean.
4		Lens is dirty.	YES	Clean.
5		Exposure lamp is dirty.	YES	Clean.
6		Reflectors are dirty.	YES	Clean.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Clean exposure lamp. → Change exposure unit.

19.3.11 Scanner system: defective ACS

A. Typical faulty images

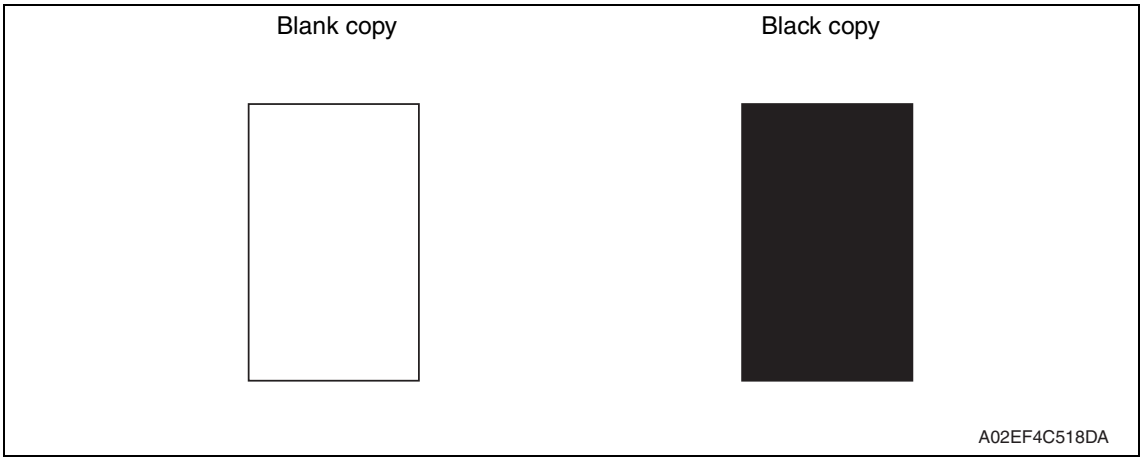


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Auto color level adjustment [Utility]	The problem persists even after the ACS determination level adjust function has been changed.	YES	Change the original loading direction. Make manual settings according to the type of original. (If the original contains a colored area in one of its corners, the machine may fail to properly detect the colored area.)

19.3.12 Scanner system: blank copy, black copy

A. Typical faulty images

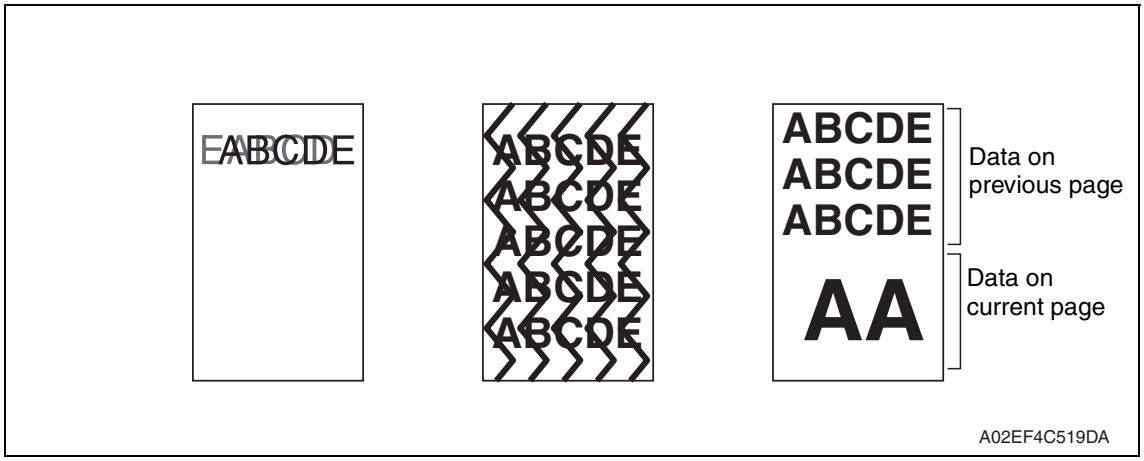


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Cable connecting scanner and printer	Connector is connected properly with no pins bent.	NO	Reconnect.
2	BCRU board (BCRUB)	Connectors on the BCRU board are connected properly.	NO	Reconnect.
3	CCDU board (CCDUB)	Connectors of the CCDU board are connected properly.	NO	Reconnect.
4	Test Mode [Service Mode]	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change I/F connection cable.
5	BCRU board (BCRUB)	The problem is eliminated after the I/F connection cable has been changed.	NO	Change BCRUB.

19.3.13 Scanner system: abnormal image

A. Typical faulty images

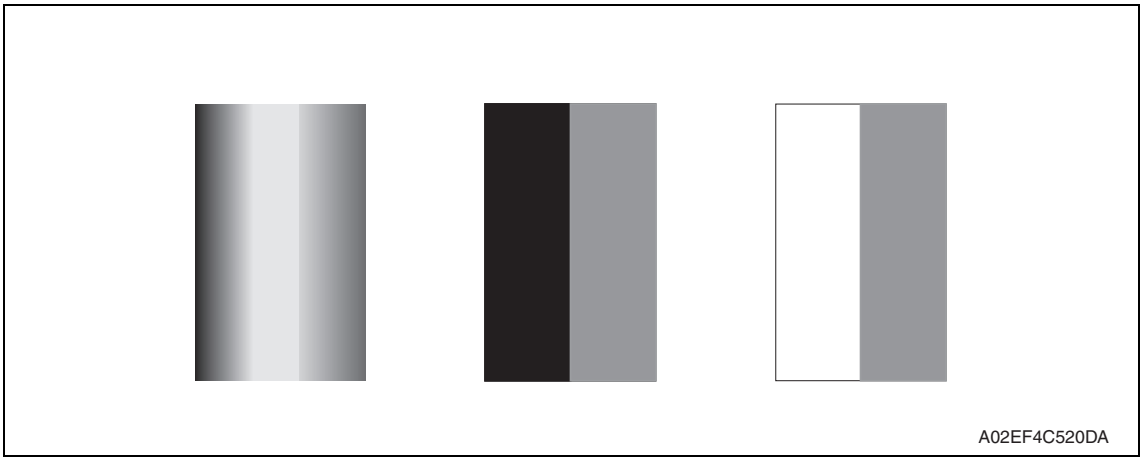


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Cable connecting scanner and printer	Connector is connected properly with no pins bent.	NO	Reconnect.
2	BCRU board (BCRUB)	Connectors on the BCRU board are connected properly.	NO	Reconnect.
3	MFBU board (MFBUB)	Data on previous page is mixed with data on current page.	NO	Reinstall the memory.
4	Test Mode [Service Mode]	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change interface connection cable.
5	BCRU board (BCRUB)	The problem is eliminated after the interface connection cable has been changed.	NO	Change BCRUB.
6	Printer control board (PRCB) PH relay board (REYB/PH)	Check the connection of connectors, harness, and flat cables between PRCB and REYB/PH, and correct if necessary.	NO	Change printer control board. Change PH relay board.
7	MFBU board (MFBUB)	The problem has been eliminated through the checks of steps up to 6.	NO	Change MFBUB.

19.3.14 Scanner system: uneven density

A. Typical faulty images

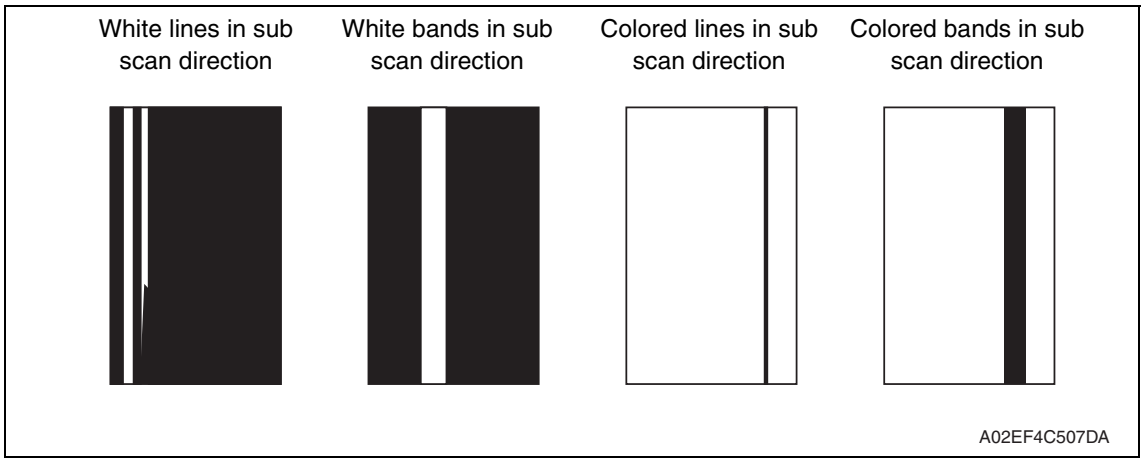


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Exposure unit	Exposure unit is not installed precisely.	YES	Reinstall.
2	Scanner motor	Scanner motor turns smoothly.	NO	Change timing belt. Change scanner motor.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change exposure unit.

19.3.15 Printer monocolor: white lines, white bands, colored lines and colored bands in sub scan direction

A. Typical faulty images

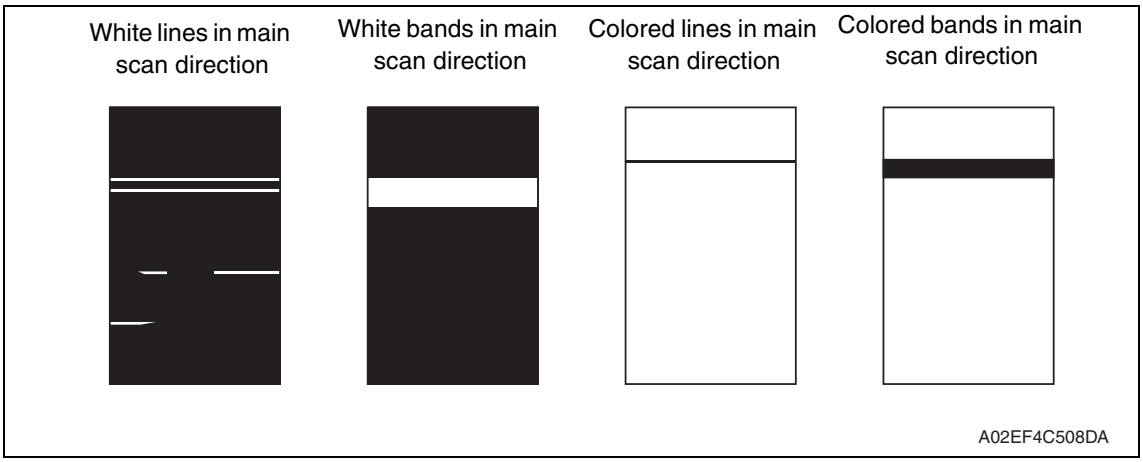


B. Troubleshooting procedure

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		Contact terminals make good connection between each IU and machine.	NO	Clean contact terminals.
4		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
5	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change imaging unit. → Change transfer belt unit. → Change PH unit.

19.3.16 Printer monocolor: white lines, white bands, colored lines and colored bands in main scan direction

A. Typical faulty images



B. Troubleshooting procedure

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		Contact terminals make good connection between each IU and machine.	NO	Clean contact terminals.
4		Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
5	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change imaging unit. → Change transfer belt unit. → Change PH unit.

19.3.17 Printer monocolor: uneven density in sub scan direction

A. Typical faulty images

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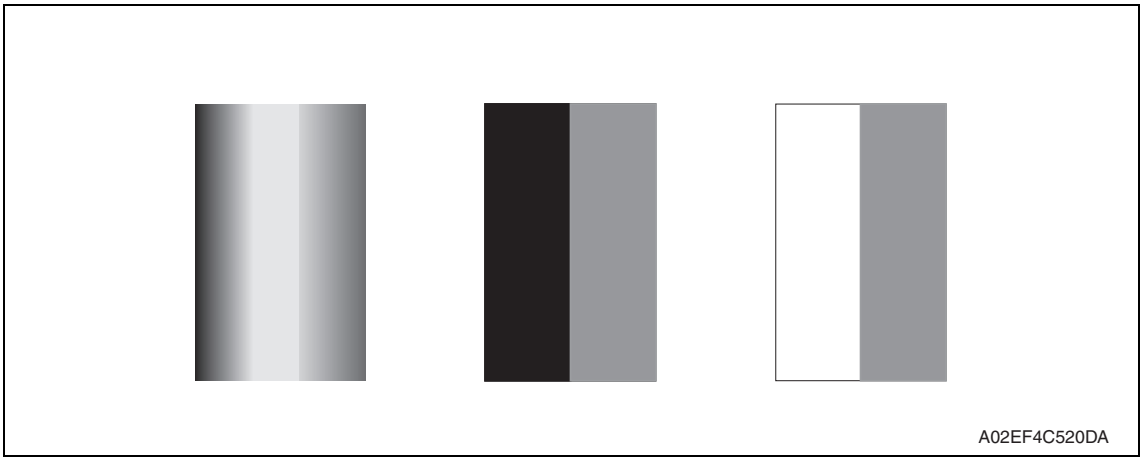
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	High image density original	Uneven density in sub scan direction occurs at a pitch of 40 mm to 50 mm when a multi-copy cycle is run using an original with high image density (50% or more).	YES	Feed 10 to 20 blank sheets of paper with no originals placed, as the IU fails to keep up with a high demand for toner.
2	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
3		Dirty on the outside.	YES	Clean.
4	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
5	Image transfer belt unit	Is abnormality found in the cam gear?	YES	Change transfer belt unit.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change IU. → Change PH unit. → Change printer control board → Change high voltage unit.

19.3.18 Printer monocolor: uneven density in main scan direction

A. Typical faulty images



B. Troubleshooting procedure

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 transfer belt unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change imaging unit. → Change PH unit. → Change high voltage unit.

19.3.19 Printer monocolor: low image density

A. Typical faulty images

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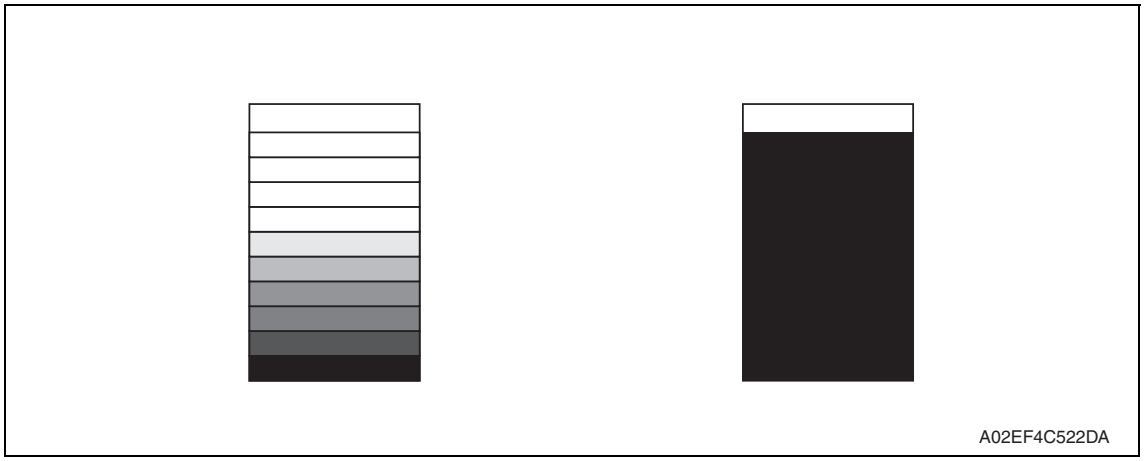
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Warning display	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the state confirm screen.
2	State Confirmation → Table Number (Service Mode)	Check data for Vg and Vdc. Color Vdc: around 400 V Vg : around 500 V Black Vdc: around 400 V Vg : around 500 V	—	Go to next step.
3	State Confirmation → Level History 1 (Service Mode)	Check TCR data. (specified rang: 6 to 8 %)	NO	Go to next step.
4		IDC output value is around 4.3 V.	NO	Clean IDC sensor and execute the image stabilization. Check image transfer belt for damage and correct as necessary.
5	Level history data check results	Low TCR and low Vg and Vdc	YES	Go to step 10.
6		Low TCR and high Vg and Vdc	YES	Go to step 14.
7		TCR falling within specified range and low Vg and Vdc	YES	Go to step 10.
8		TCR falling within specified range and high Vg and Vdc	YES	Go to step 14.
9		The situations other than the above-mentioned.	YES	Go to step 10.
10	Imaging unit	Dirty on the outside.	YES	Clean.
11	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
12	Transfer belt unit	Transfer belt unit makes positive contact with plates on rails.	NO	Check and correct contacts.
13		Is abnormality found in the cam gear?	YES	Change transfer belt unit.

Step	Section	Check item	Result	Action
14	Hopper unit	Connectors are loose.	YES	Reconnect.
15		Gear is cracked.	YES	Change gear.
16	Image Process Adjustment → Toner Supply (Service Mode)	Toner is properly supplied when toner supply is run.	NO	Go to next step.
17	Image Process Adjustment →Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through gradation adjust. Dark: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 20.
18	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.
19	Image Process Adjustment → Image Stabilization → Initialize + Image Stabilization (Service Mode)	After the Initialize + Image Stabilization sequence has been completed, run gradation adjust.	NO	Go to next step.
20		The problem has been eliminated through the checks of steps up to 19.	NO	Change imaging unit. → Change printer control board →Change PH unit. →Change high voltage unit.

19.3.20 Printer monocolor: gradation reproduction failure

A. Typical faulty images

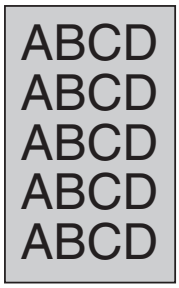


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Warning display	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the state confirm screen.
2	Photo/density	Original type and screen pattern are selected properly.	NO	Change screen pattern.
3	Imaging unit	Dirty on the outside.	YES	Clean.
4	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
5	State Confirmation → Level History 1 (Service Mode)	IDC output value is around 4.3 V.	NO	Clean IDC sensor and execute the image stabilization. Check transfer belt for damage and correct as necessary.
6	Image Process Adjustment →Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through gradation adjust. Dark: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 9.
7	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.
8	Image Process Adjustment → Image Stabilization → Initialize + Image Stabilization (Service Mode)	After the Initialize + Image Stabilization sequence has been completed, run gradation adjust;	NO	Go to next step.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change imaging unit. → Change printer control board → Change PH unit. → Change high voltage unit.

19.3.21 Printer monocolor: foggy background

A. Typical faulty images



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B. Troubleshooting procedure

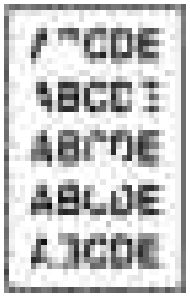
Step	Section	Check item	Result	Action
1	Warning display	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the state confirm screen.
2	State Confirmation → Table Number (Service Mode)	Check data for Vg and Vdc. Color Vdc: around 400 V Vg : around 500 V Black Vdc: around 400 V Vg : around 500 V	NO	Go to next step.
3	State Confirmation → Level History 1 (Service Mode)	Check TCR data. (specified rang: 6 to 8 %)	NO	Go to next step.
4		IDC output value is around 4.3 V.	NO	Clean IDC sensor and execute the image stabilization. Check transfer belt for damage and correct as necessary.
5	Level history data check results	Low TCR and low Vg and Vdc	YES	Go to step 10.
6		Low TCR and high Vg and Vdc	YES	Go to step 12.
7		TCR falling within specified range and low Vg and Vdc	YES	Go to step 10.
8		TCR falling within specified range and high Vg and Vdc	YES	Go to step 12.
9		The situations other than the above-mentioned.	YES	Go to step 10.
10	Imaging unit	Dirty on the outside.	YES	Clean.
11	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
12	Image Process Adjustment → Background Voltage Margin (Service Mode)	The problem is eliminated after background voltage margin has been adjusted.	NO	Go to next step.

Step	Section	Check item	Result	Action
13	Image Process Adjustment →Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through gradation adjust. Dark: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 17.
14	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max.	NO	Go to next step.
15	Image Process Adjustment → Image Stabilization → Initialize + Image Stabilization (Service Mode)	After the Initialize + Image Stabilization sequence has been completed, run gradation adjust.	NO	Go to next step.
16	Printer control board (PRCB) PH relay board (REYB/PH)	Check the connection of connectors, harness, and flat cables between PRCB and REYB/PH, and correct if necessary.	NO	Change printer control board. Change PH relay board.
17		The problem has been eliminated through the checks of steps up to 16.	NO	Change imaging unit. → Change PH unit. → Change high voltage unit.

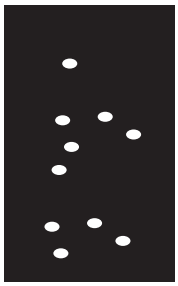
19.3.22 Printer monocolor: void areas, white spots

A. Typical faulty images

Void areas



White spots



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B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image Check	There are void areas at the front side or high density section.	YES	See P.394
2		There is void area at the rear side section.	YES	Perform [Transfer Adjust] of [Image Process Adjustment] under Service Mode.
3	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
4		Dirty on the outside.	YES	Clean.
5	Toner cartridge	Foreign matter or caked toner in the toner cartridge.	YES	Remove foreign matter.
6	Installation environment	Is the atmospheric pressure at the installation site low?	YES	Make the following adjustment: [Service Mode] → [Image Process Adjustment] → [Dev. Bias Choice].

19.3.23 Printer monocolor: colored spots

A. Typical faulty images

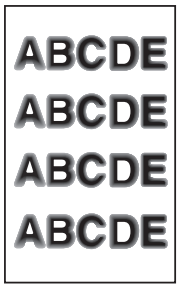
A02EF4C524DA

B. 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.

19.3.24 Printer monocolor: blurred image

A. Typical faulty images



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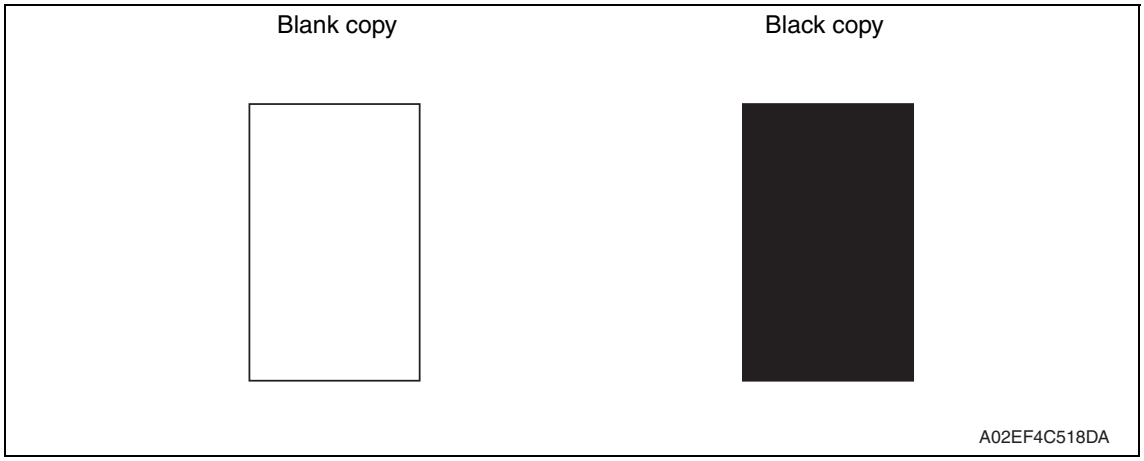
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	PH unit	The surface of the PH window is dirty.	YES	Clean with cleaning jig.
2	Imaging unit	Dirty on the outside.	YES	Clean.
3		The problem has been eliminated through the checks of steps up to 2.	NO	Change imaging unit. → Change PH unit.

19.3.25 Printer monocolor: blank copy, black copy

A. Typical faulty images

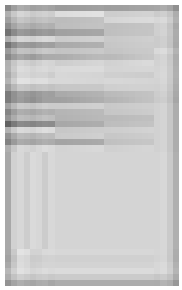


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	A blank copy occurs.	YES	Check PH unit connector for proper connection.
2	Imaging unit	Coupling of IU drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling. Change IU.
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.

19.3.26 Printer monocolor: uneven image

A. Typical faulty images



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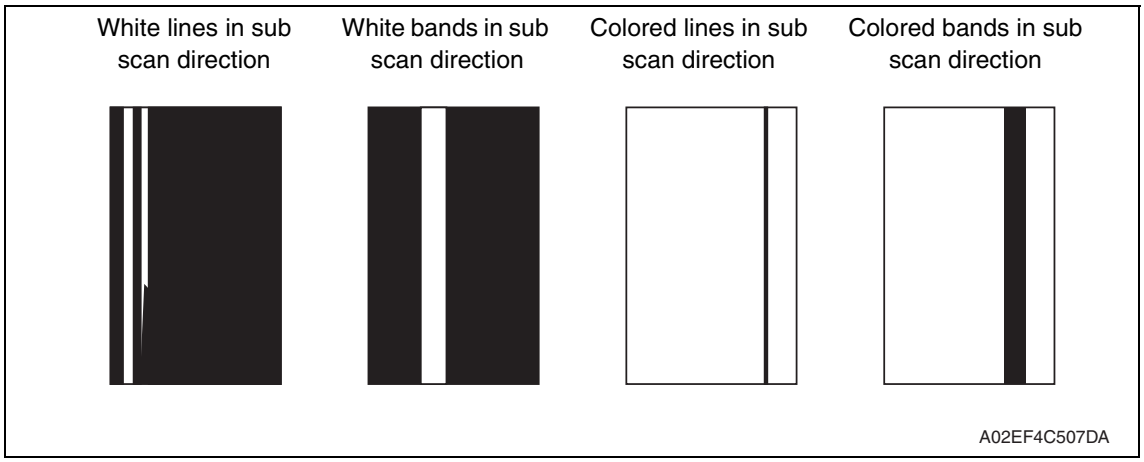
B. Troubleshooting procedure

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	Fusing unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fusing unit.	YES	Replace the fusing unit.
7		The problem has been eliminated through the check of step 6.	NO	Replace the transfer belt unit.

19.3.27 Printer 4-color: white lines, white bands, colored lines and colored bands in sub scan direction

A. Typical faulty images

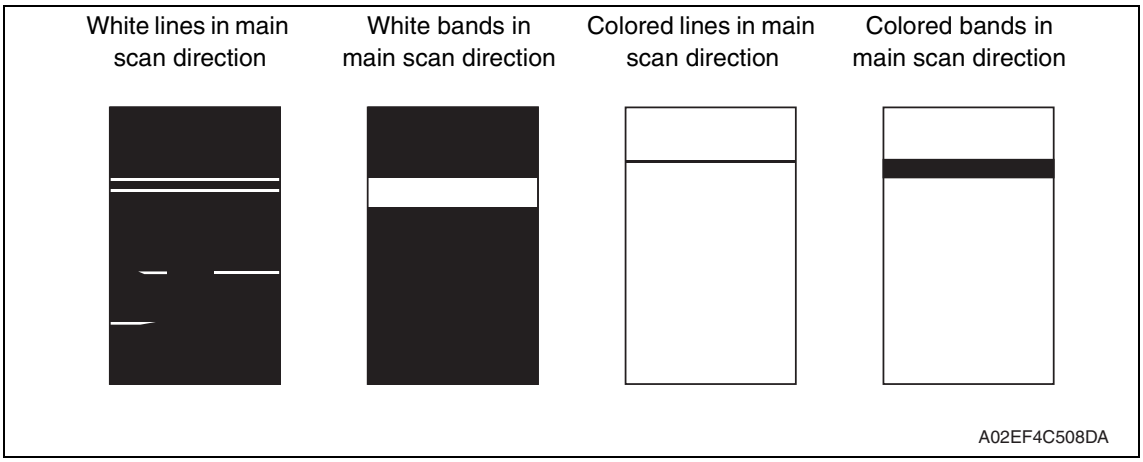


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean.
2		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
3		Cleaning blade is not effective in removing toner completely.	YES	Clean cleaning blade. Change transfer belt unit.
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		Image transfer paper separator fingers are damaged or dirty.	YES	Clean or change.
7	Fusing unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean. Change fusing unit.
8		Fusing paper separator fingers are dirty.	YES	Clean.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change printer control board

19.3.28 Printer 4-color: white lines, white bands, colored lines and colored bands in main scan direction

A. Typical faulty images

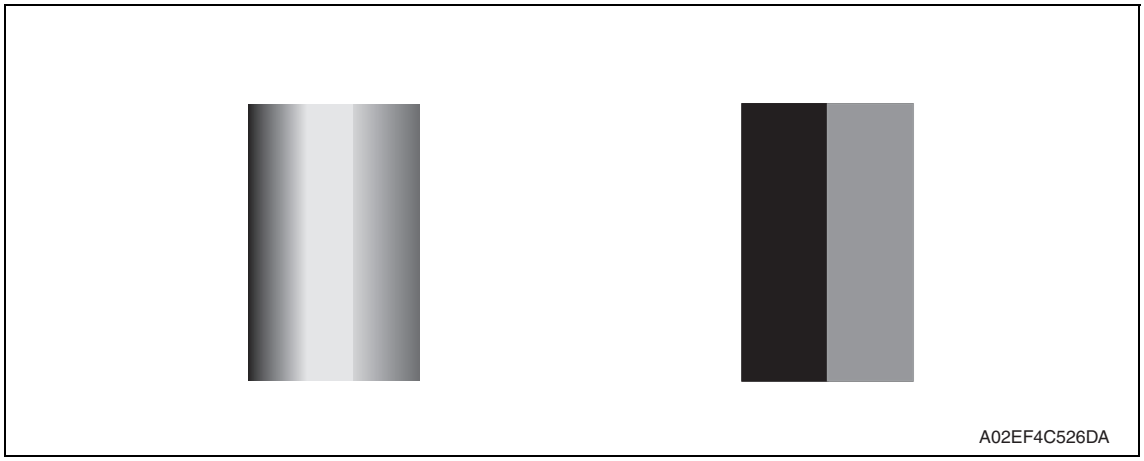


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean.
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	Fusing unit	Fusing entrance guide plate is dirty or damaged.	YES	Clean. Change fusing unit.
7		Fusing paper separator fingers are dirty.	YES	Clean.
8	Neutralizing brush	The resistance values between the neutralizing brush and the ground terminal is not ∞.	NO	Check the contact modify. Change neutralizing brush.
9		The problem has been eliminated through the checks of steps up to 9.	NO	Change printer control board

19.3.29 Printer 4-color: uneven density in sub scan direction

A. Typical faulty images

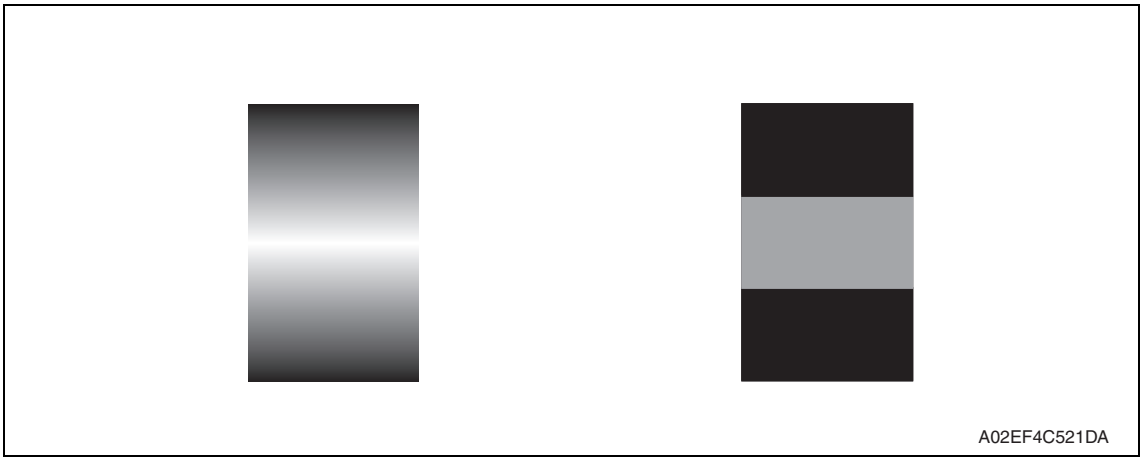


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean.
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.

19.3.30 Printer 4-color: uneven density in main scan direction

A. Typical faulty images



B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean.
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.

19.3.31 Printer 4-color: low image density

A. Typical faulty images

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B. 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		Transfer roller is dirty or scratched.	NO	Change transfer roller unit.
5	IDC sensor	Sensor is dirty.	YES	Clean IDC sensor and execute the image stabilization.
6	Image Process Adjustment →Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through gradation adjust. Dark: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 9.
7	Image Process Adjustment → D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max Density.	NO	Go to next step.
8	Image Process Adjustment → Image Stabilization → Initialize + Image Stabilization (Service Mode)	After the Initialize + Image Stabilization sequence has been completed, run gradation adjust.	NO	Go to next step.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change image transfer belt unit. → Change printer control board → Change high voltage unit.

19.3.32 Printer 4-color: poor color reproduction

A. Typical faulty images

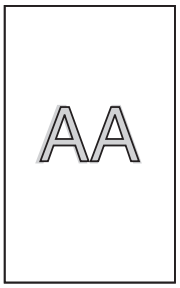
A02EF4C527DA

B. 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		Transfer roller is dirty or scratched.	NO	Change transfer roller unit.
5	IDC sensor	Sensor is dirty.	YES	Clean IDC sensor and execute the image stabilization.
6	Image Process Adjustment → Gradation Adjust (Service Mode)	"Conv. Value" falls within the specified range as checked through gradation adjust. Dark: 0 ± 100 Highlight: 0 ± 60	YES	Go to step 9.
7	Image Process Adjustment →D Max Density (Service Mode)	The problem has been eliminated through the adjust of D Max Density.	NO	Go to next step.
8	Image Process Adjustment → Image Stabilization → Initialize + Image Stabilization (Service Mode)	After the Initialize + Image Stabilization sequence has been completed, run gradation adjust.	NO	Go to next step.
9		The problem has been eliminated through the checks of steps up to 8.	NO	Change image transfer belt unit. → Change printer control board → Change high voltage unit.

19.3.33 Printer 4-color: incorrect color image registration

A. Typical faulty images



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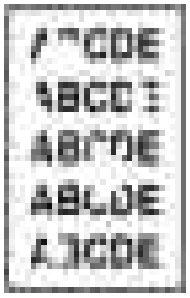
B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Warning display	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the state confirm screen.
2	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.
3	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean.
4		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
5		Drive coupling to the machine is dirty.	YES	Clean.
6	Imaging unit	The surface of the PC drum is scratched.	YES	Change imaging unit.
7	Transfer roller unit	Transfer roller is installed properly.	NO	Reinstall.
8		Transfer roller is dirty or scratched.	YES	Change transfer roller unit.
9	Machine → Fusing Transport Speed (Service Mode)	Brush effect or blurred image occurs.	YES	Readjust fusing transport speed.
10	Machine → Color registration Adjustment (Service Mode)	Check the specific color in which color shift occurs.	YES	Perform “Color registration Adjustment.” If color shift is not corrected even with a correction of ± 1 dot, go to next step.
11		The problem has been eliminated through the checks of steps up to 10.	NO	Change transfer belt unit. → Change printer control board

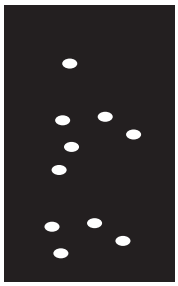
19.3.34 Printer 4-color: void areas, white spots

A. Typical faulty images

Void areas



White spots



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B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Image check	There are void areas at the front side or high density section.	YES	P.409
2		There are void areas in the trailing edge.	YES	Perform [Transfer Adjust] of [Image Process Adjustment] under Service Mode.
3	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean.
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 2nd image transfer roller unit.
6		Charge neutralizing cloth 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.

19.3.35 Printer 4-color: colored spots

A. Typical faulty images

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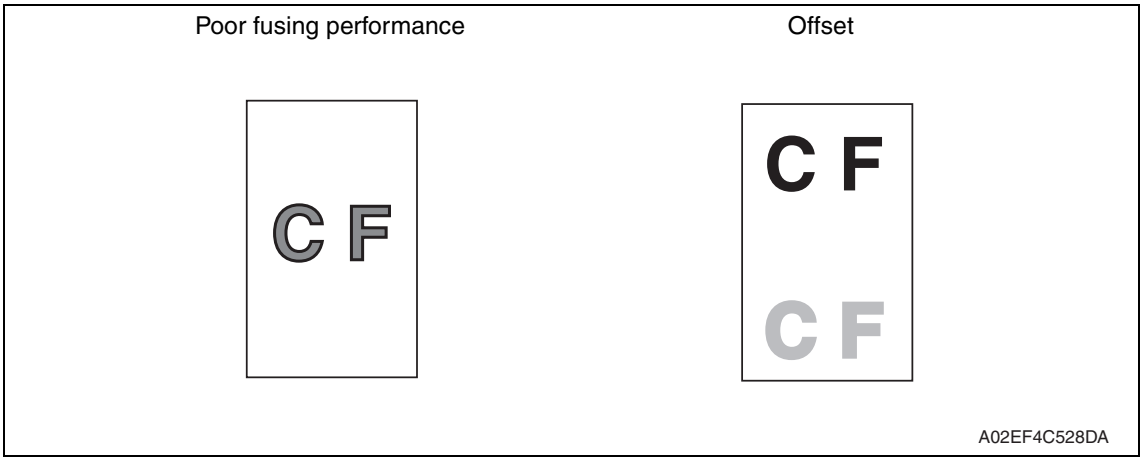
B. Troubleshooting procedure

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.	YES	Clean.
3		Transfer belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change transfer belt unit if belt is damaged.
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	Fusing unit	Fusing belt is dirty or scratched.	YES	Change fusing unit.
7		The problem has been eliminated through the checks of steps up to 6.	NO	Change transfer belt unit.

19.3.36 Printer 4-color: poor fusing performance, offset

A. Typical faulty images

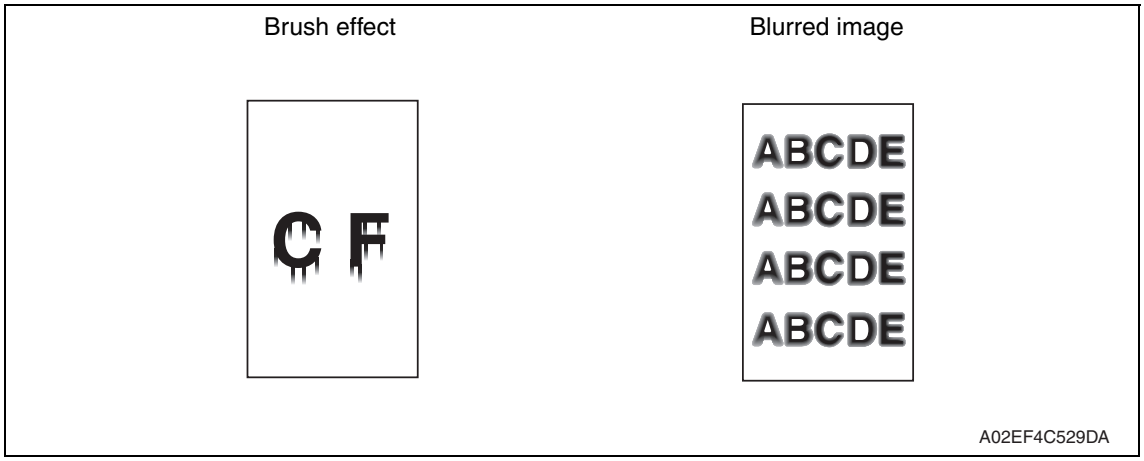


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper type does not match.	YES	Change the setting.
2	Machine→ Fusing Temperature (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 fusing unit.

19.3.37 Printer 4-color: brush effect, blurred image

A. Typical faulty images

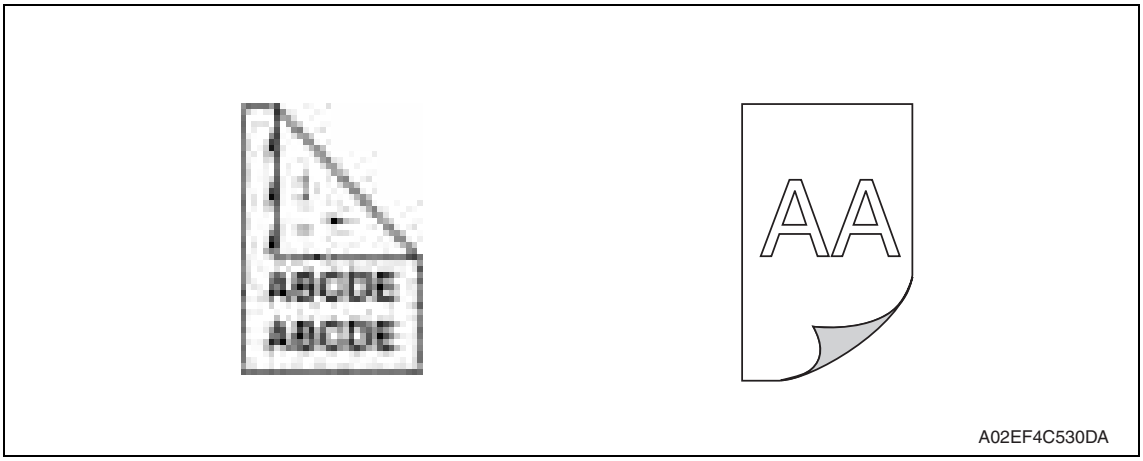


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	Paper	Paper is damp.	YES	Change paper to one just unwrapped from its package.
2		Paper type does not match.	YES	Change the setting.
3	Fusing unit	Fusing unit is installed properly.	NO	Reinstall.
4		Fusing entrance guide plate is dirty.	YES	Clean.
5		Fusing belt is dirty or scratched.	YES	Change fusing unit.
6	Machine → Fusing Transport Speed (Service Mode)	Changing fusing speed eliminates the problem of brush effect and blurred image.	YES	Readjust fusing transport speed.

19.3.38 Printer 4-color: back marking

A. Typical faulty images

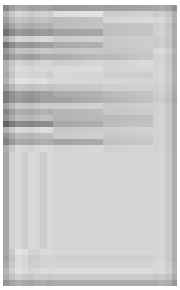


B. Troubleshooting procedure

Step	Section	Check item	Result	Action
1	2nd image transfer roller unit	Image 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	Fusing unit	Fusing entrance guide plate is scratched or dirty.	YES	Clean or change.
4		Lower fusing roller is scratched or dirty.	YES	Change fusing unit.
5	Transfer belt unit	Fingerprints, oil, or other foreign matter is evident on the transfer belt.	YES	Clean.
6		The problem has been eliminated through the checks of steps up to 5.	NO	Change transfer belt unit. → Change high voltage unit.

19.3.39 Printer 4-color: uneven image

A. Typical faulty images



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B. Troubleshooting procedure

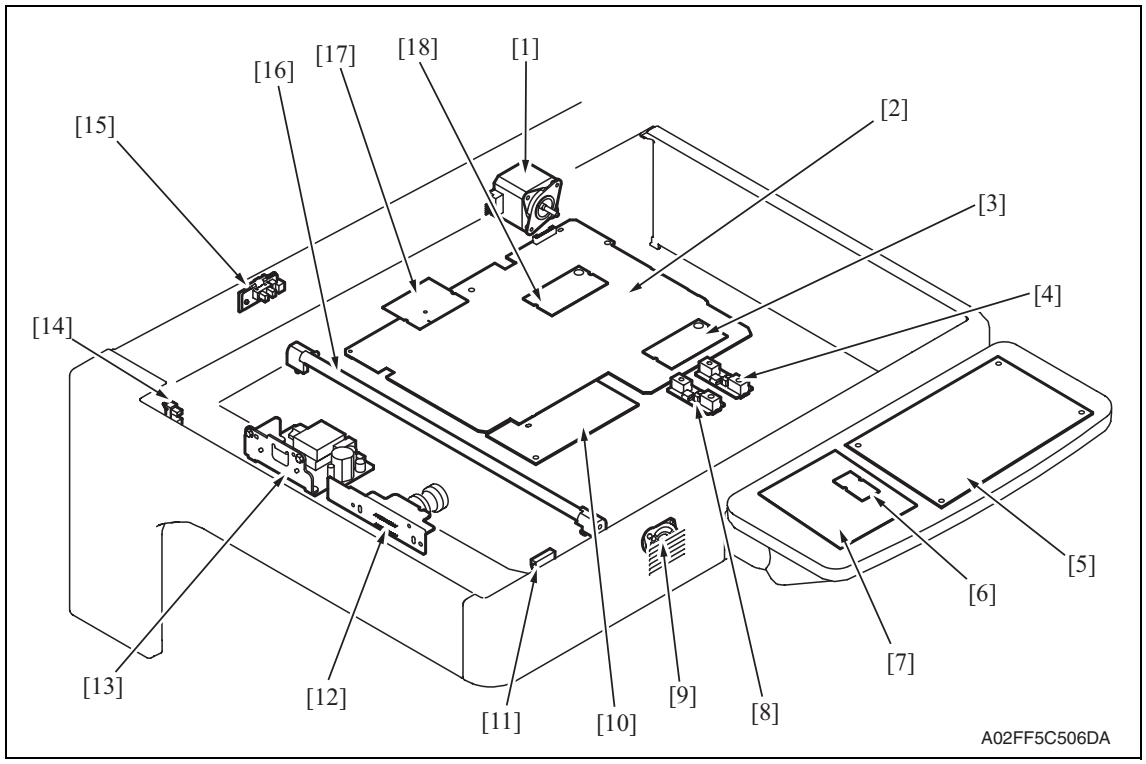
Step	Section	Check item	Result	Action
1	Toner cartridge	The toner cartridge of every color is surely installed.	NO	Re-install it.
2	PH unit	The PH unit is surely installed.	NO	Re-install it.
3	Toner cartridge	There is any stain or breakage on the drive section of the toner cartridge.	YES	Clean/replace 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 unit	There is any stain, damage, deformation or abrasion on the transfer roller.	YES	Replace the transfer roller unit.
6	Fusing unit	There is any stain, damage, deformation or abrasion on the roller and drive section of the fusing unit.	YES	Replace the fusing unit.
7		The problem has been eliminated through the check of step 6.	NO	Replace the transfer belt unit.

Appendix

20. Parts layout drawing

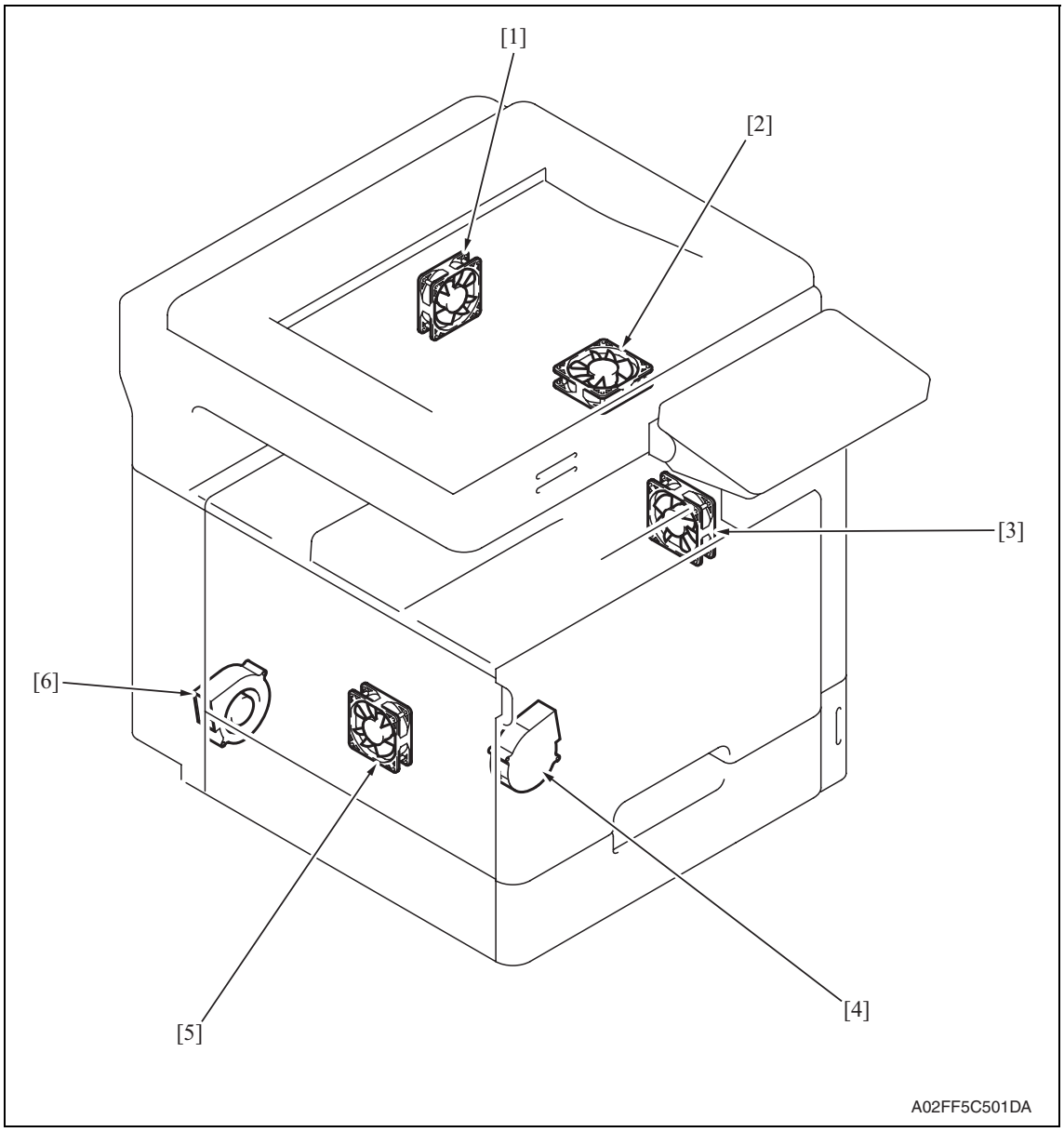
20.1 Main body

20.1.1 Scanner section

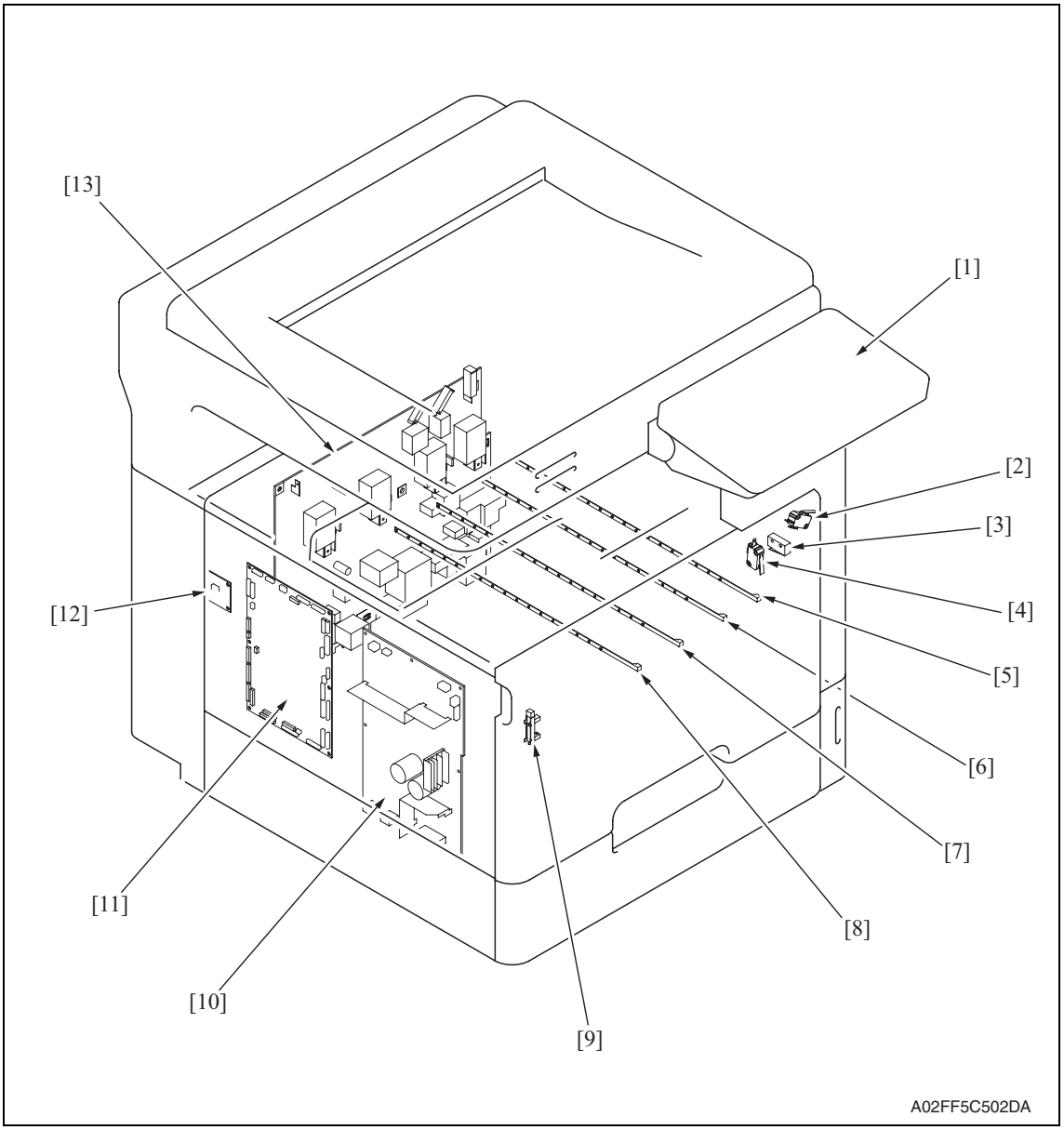


[1] Scanner motor (M201)
[2] MFBU board (MFBUB)
[3] RAMU board (RAMUB)
[4] Original size detection sensor/2 (PS204)
[5] OPEU board (OPEUB)
[6] LCD_INV board (LCDINVB)
[7] LCD board (LCDB)
[8] Original size detection sensor/1 (PS203)
[9] Speaker (SP)
[10] BCRU board (BCRUB)
[11] Original cover sensor (PS205)
[12] CCDU board (CCDUB)
[13] Inverter board (INVB)
[14] Home position sensor (PS201)
[15] 18 degree sensor (PS202)
[16] Exposure lamp (FL201)
[17] ADCU board (ADCUB)
[18] MEMU/1 (MEMU/1)

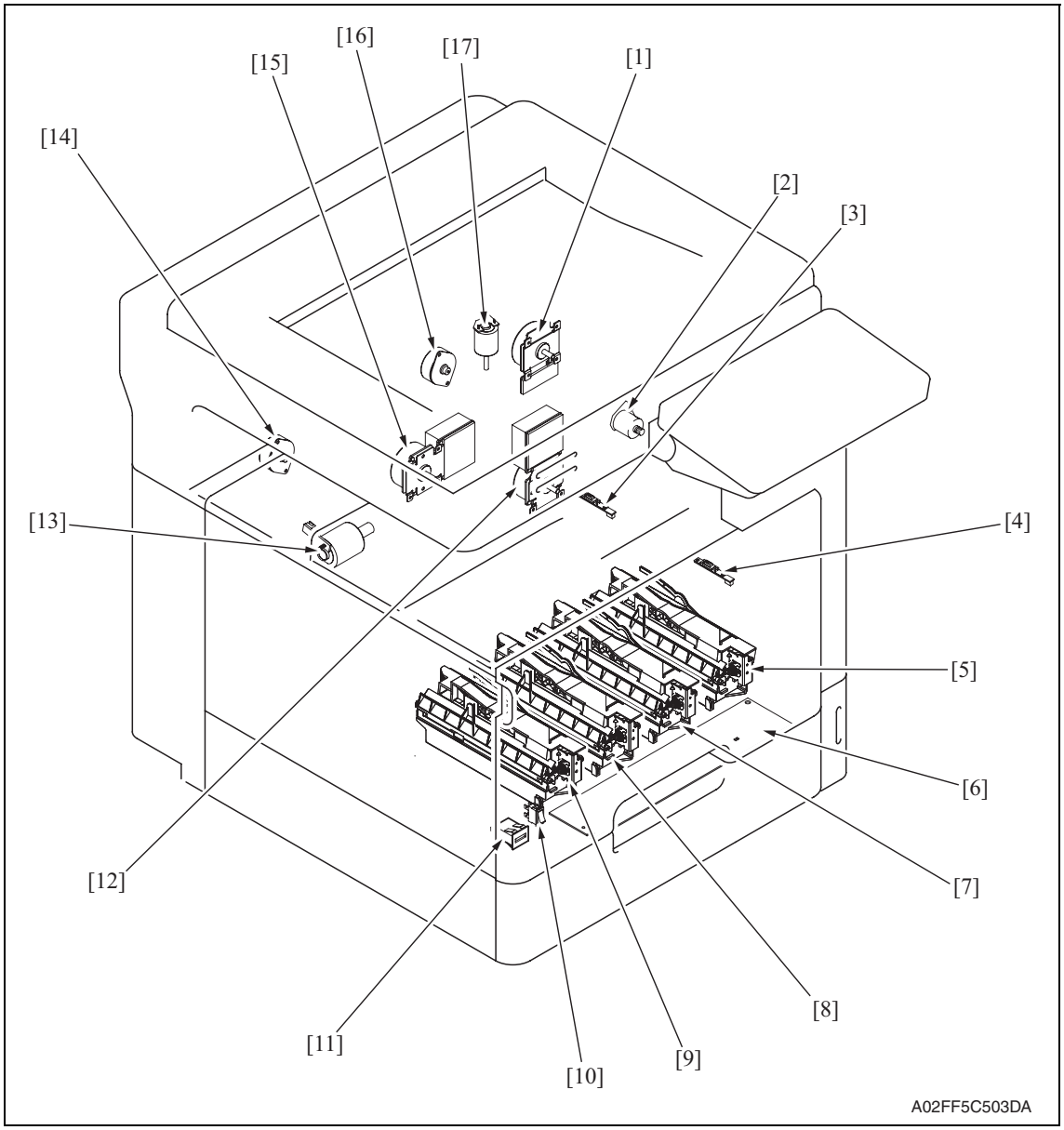
20.1.2 Engine section



[1] Fusing cooling fan motor (FM13)
[2] Fusing cover cooling fan motor (FM11)
[3] Suction fan motor (FM10)
[4] Cooling fan motor/1 (FM16)
[5] Power supply cooling fan motor (FM8)
[6] Exhaust fan motor (FM14)



[1] Control panel
[2] Right door switch (MS5)
[3] Front door switch/1 (MS3)
[4] Front door switch/2 (MS4)
[5] Erase lamp/K (EL/K)
[6] Erase lamp/C (EL/C)
[7] Erase lamp/M (EL/M)
[8] Erase lamp/Y (EL/Y)
[9] Waste toner full sensor (PS8)
[10] DC power supply (DCPU)
[11] Printer control board (PRCB)
[12] Service EEPROM board (SVERB)
[13] High voltage unit (HV)



[1] Fusing motor (M2)

[2] 2nd image transfer pressure retraction motor (M5)

[3] IDC registration sensor/YC (IDCS/YC)

[4] IDC registration sensor/MK (IDCS/MK)

[5] PH unit/K

[6] PH relay board (REYBPH)

[7] PH unit/C

[8] PH unit/M

[9] PH unit/Y

[10] Main power switch (SW1)

[11] Total counter (TCT)

[12] Transport motor (M1)

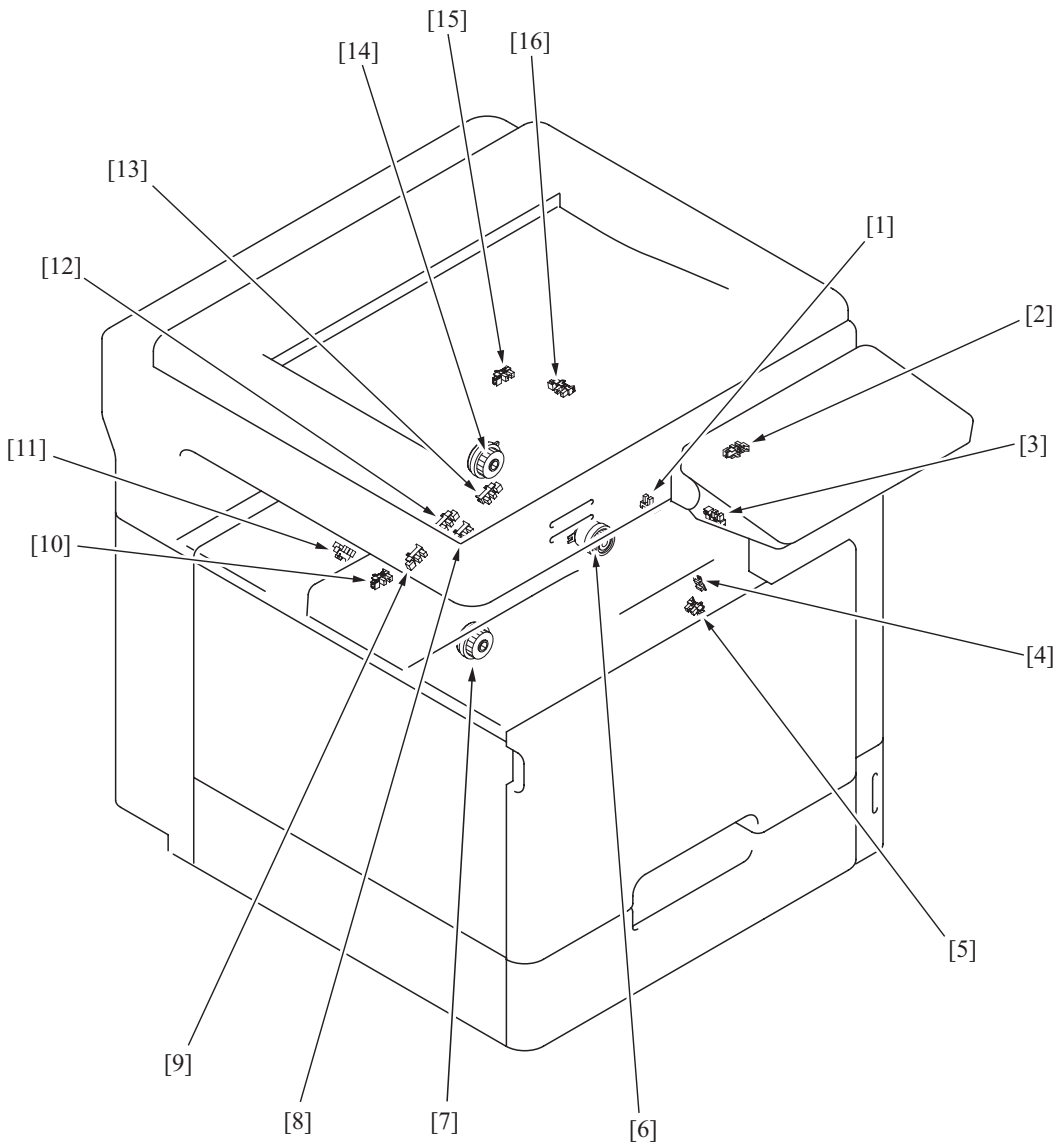
[13] Color dev. unit engaged motor (M4)

[14] Toner supply motor/YM (M6)

[15] Color PC motor (M3)

[16] Toner supply motor/CK (M7)

[17] Fusing pressure roller retraction motor (M12)



[1] 2nd image transfer welding alienation sensor (PS36)

[2] Fusing pressure retraction sensor (PS37)

[3] Fusing loop detect sensor (PS3)

[4] Temperature/humidity sensor (TEM/HUM)

[5] Sensor in front of tim. roller (PS1)

[6] ~~Developing clutch/K (CL4)~~
Tim. roller clutch (CL1)

[7] ~~Black PC drive main sensor (PS16)~~
Developing clutch/K (CL4)

[8] ~~Color PC drive main sensor (PS15)~~
Black PC drive main sensor (PS16)

[9] ~~Transfer belt pressure retraction clutch (CL3)~~
Color PC drive main sensor (PS15)

[10] Transfer belt retraction sensor (PS6)

[11] Color dev. unit engaged position sensor (PS19)

[12] Color PC drive sub sensor (PS17)

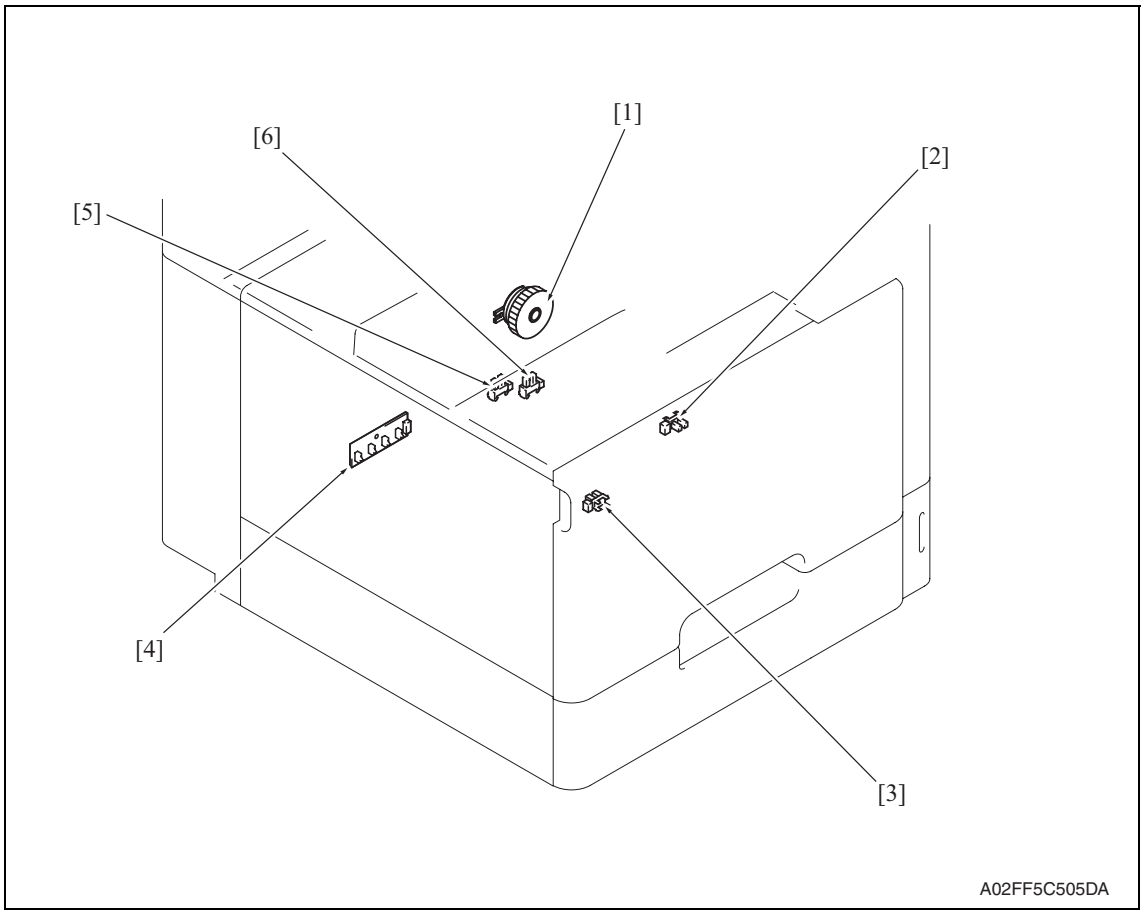
[13] Black PC drive sub sensor (PS18)

[14] ~~Tim. roller clutch (CL1)~~
Transfer belt pressure retraction clutch (CL3)

[15] Fusing pressure home sensor (PS38)

[16] Paper exit sensor (PS2)

20.1.3 Tray 1



[1] Tray 1 paper feed clutch (CL2)

[2] Tray 1 paper empty sensor (PS10)

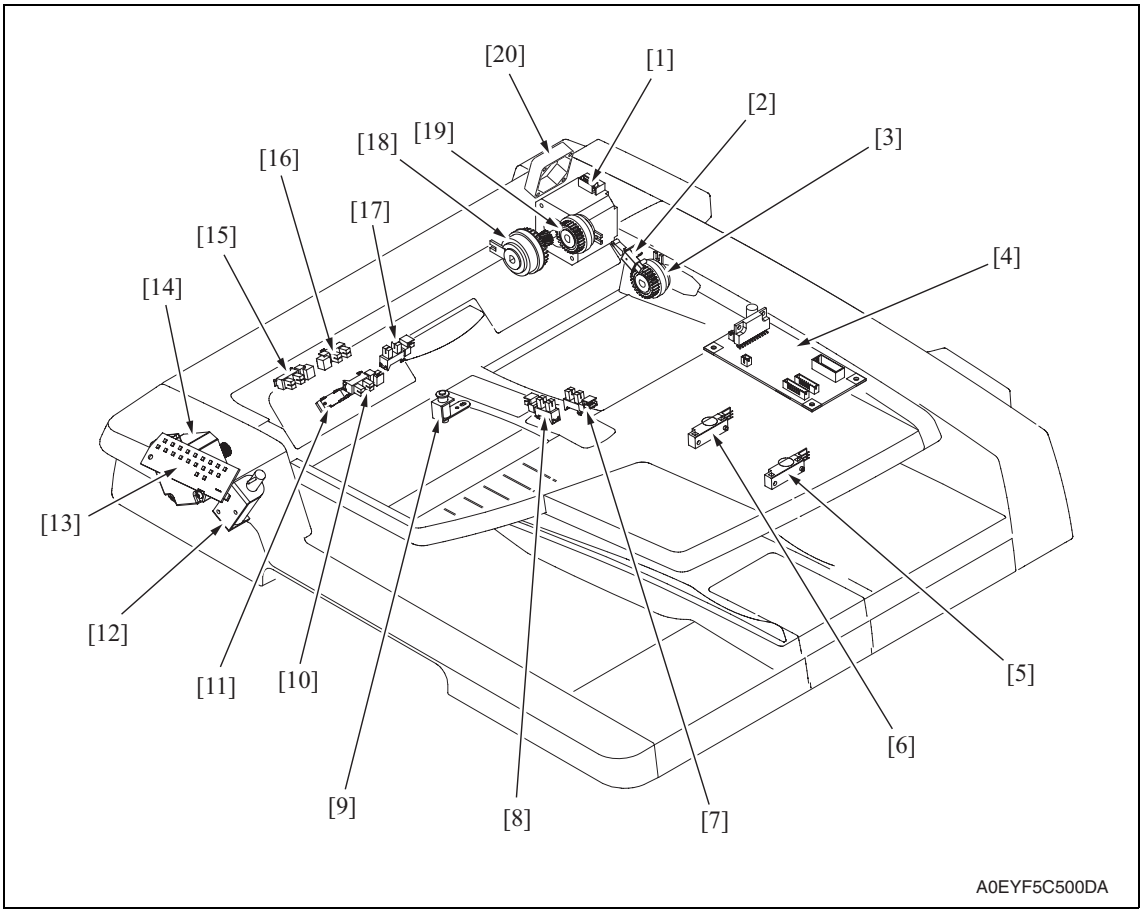
[3] Tray 1 CD size detect sensor (PS9)

[4] Tray 1 FD paper size detect board (PSDTB/1)

[5] Tray 1 near empty sensor (PS11)

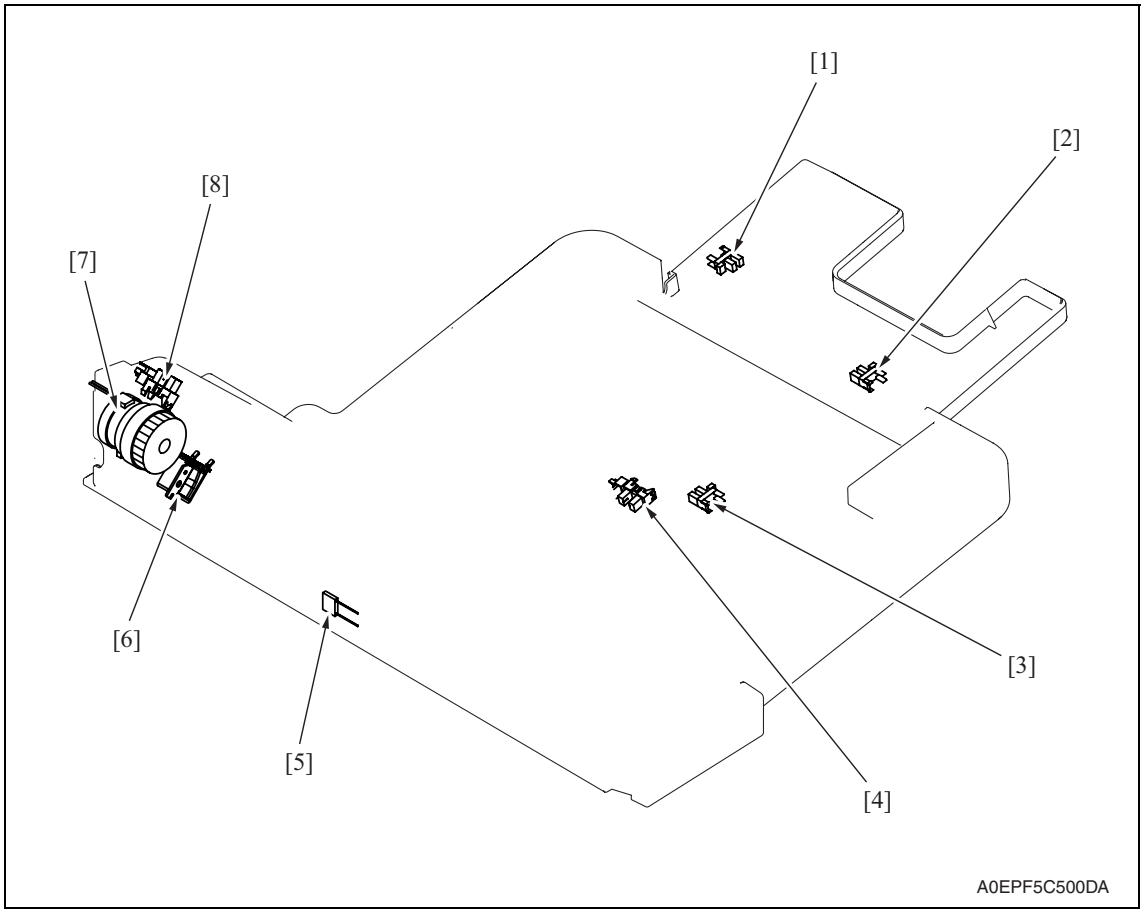
[6] Tray 1 device detection sensor (PS12)

20.2 DF-612 (option)



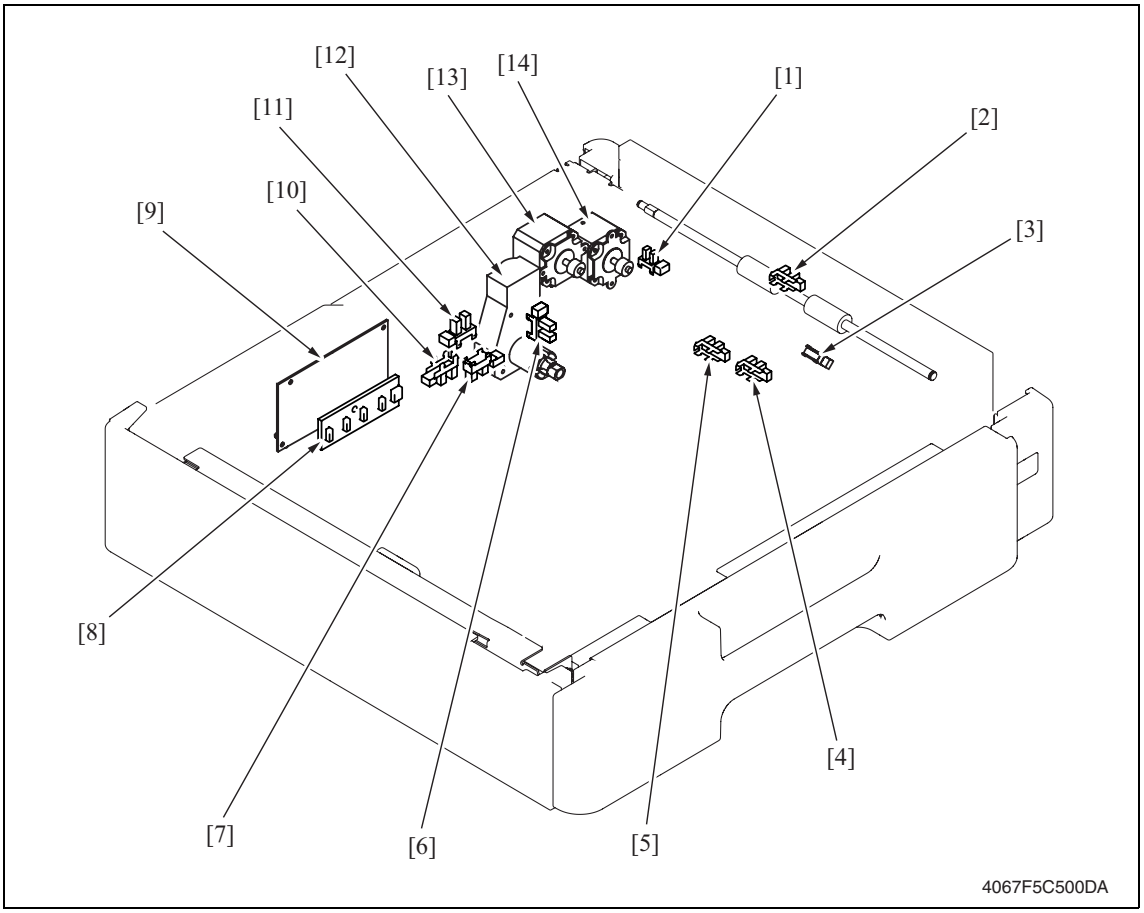
[1] Take-up motor (M1)
[2] Door open/close sensor (PS10)
[3] Exit/turnover clutch (CL3)
[4] DF control board (DFCB)
[5] Document length sensor/2 (PS6)
[6] Document length sensor/1 (PS5)
[7] Document width sensor/3 (PS4)
[8] Document width sensor/2 (PS3)
[9] Stamp solenoid (SD2)
[10] Exit/turnover sensor (PS9)
[11] Registration sensor (PS8)
[12] Exit roller retraction solenoid (SD1)
[13] Print lamp board (PLB)
[14] Transport motor (M2)
[15] Document width sensor/1 (PS2)
[16] Document empty sensor (PS1)
[17] Transport sensor (PS7)
[18] Registration clutch (CL2)
[19] Take-up clutch (CL1)
[20] Cooling fan (FM1)

20.3 MB-502 (option)



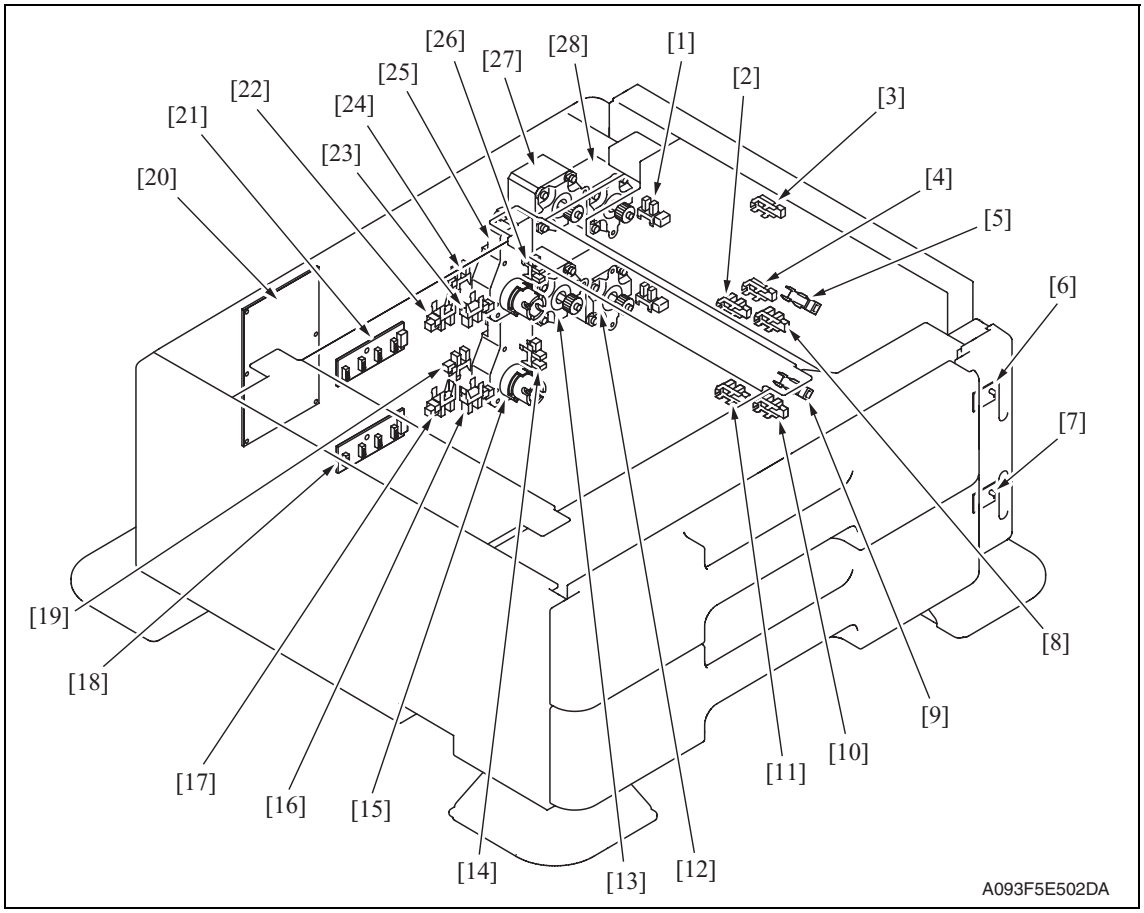
[1] FD size sensor/3 (PS22)
[2] FD size sensor/2 (PS21)
[3] FD size sensor/1 (PS20)
[4] Paper empty sensor (PS13)
[5] Paper width detection resistor (VR1)
[6] Manual pick-up solenoid (SD2)
[7] Paper feed clutch (CL5)
[8] Lift-up position sensor (PS14)

20.4 PC-105 (option)



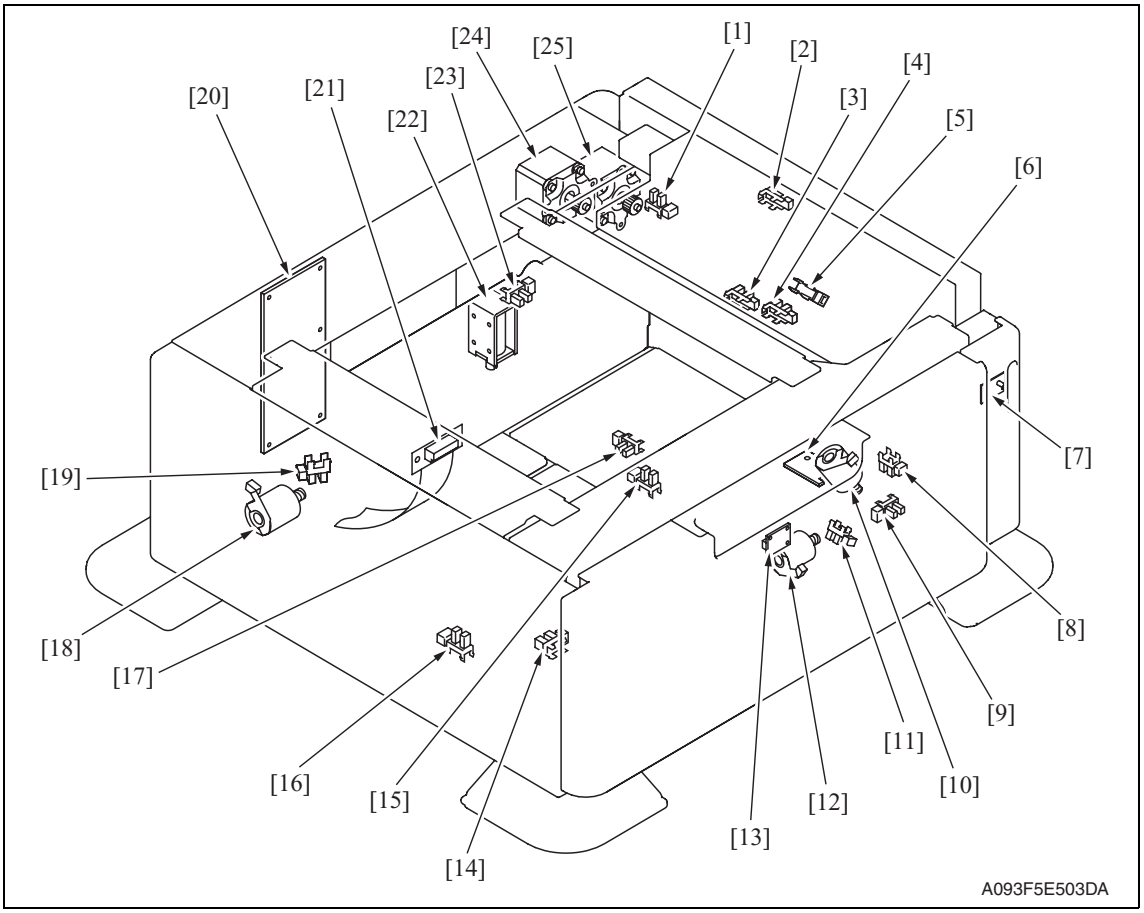
[1] Door set sensor (PS5)
[2] Vertical transport sensor (PS8)
[3] Paper take-up sensor (PS9)
[4] Paper empty sensor (PS6)
[5] Lift-up limit sensor (PS7)
[6] Paper near-empty sensor (PS1)
[7] CD size detect sensor/1 (PS4)
[8] Paper size detect board (PSDTB)
[9] PC control board (PCCB)
[10] CD size detect sensor/2 (PS3)
[11] Set sensor (PS2)
[12] Lift-up motor (M3)
[13] Paper feed motor (M1)
[14] Vertical transport motor (M2)

20.5 PC-104/204 (option)



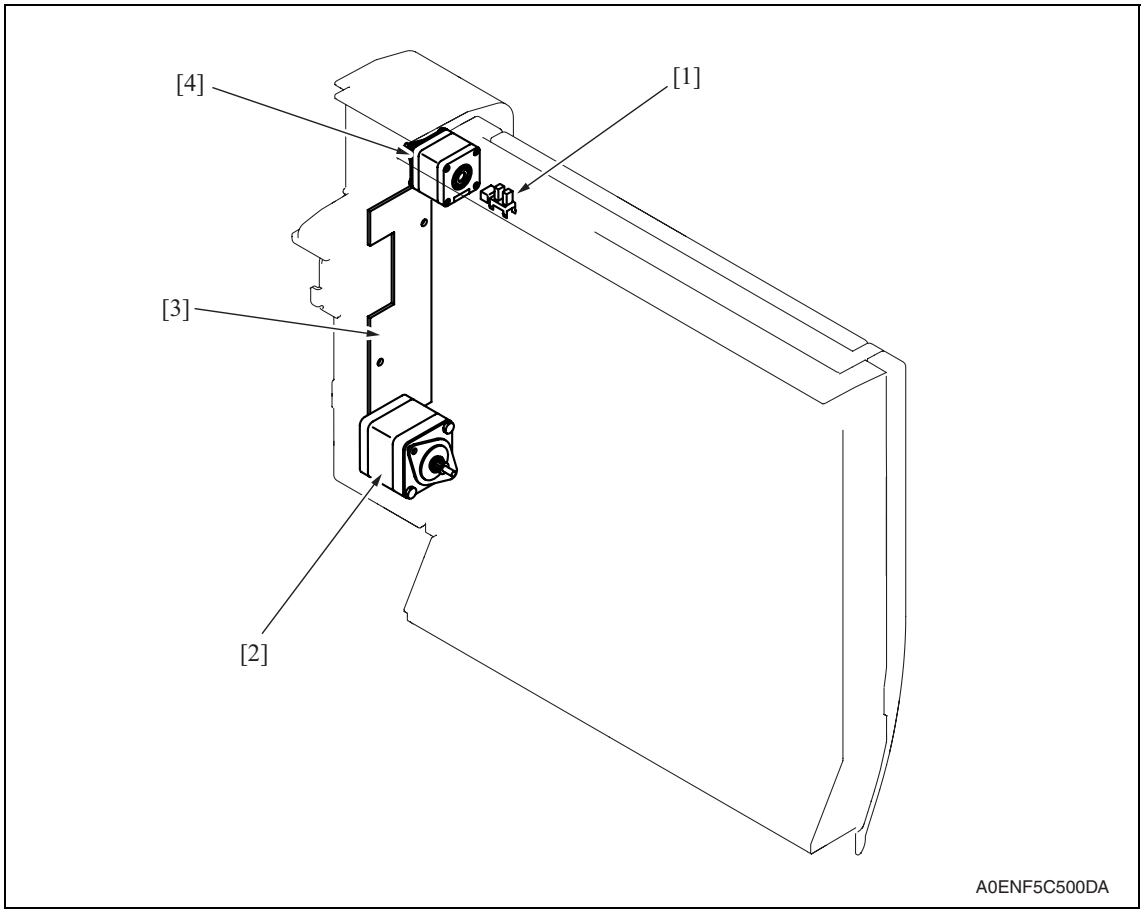
[1] Tray3 door set sensor (PS111)
[2] Tray3 upper limit sensor (PS114)
[3] Tray3 vertical transport sensor (PS117)
[4] Tray4 vertical transport sensor (PS126)
[5] Tray3 paper feed sensor (PS116)
[6] Paper feed tray3 paper empty indicator board (PEIB/1)
[7] Paper feed tray4 paper empty indicator board (PEIB/2)
[8] Tray3 empty sensor (PS115)
[9] Tray4 paper feed sensor (PS125)
[10] Tray4 empty sensor (PS124)
[11] Tray4 upper limit sensor (PS123)
[12] Tray4 vertical transport motor (M121)
[13] Tray4 paper feed motor (M123)
[14] Tray4 near empty sensor (PS122)
[15] Tray4 lift-up motor (M125)
[16] Tray4 CD paper size sensor/2 (PS128)
[17] Tray4 CD paper size sensor/1 (PS127)
[18] Tray4 paper size detect board/2 (PSDTB/2)
[19] Tray4 device detection sensor (PS121)
[20] PC Control board (PCCB)
[21] Tray3 paper size detect board/1 (PSDTB/1)
[22] Tray3 CD paper size sensor/1 (PS118)
[23] Tray3 CD paper size sensor/2 (PS119)
[24] Tray3 device detection sensor (PS112)
[25] Tray3 lift-up motor (M124)
[26] Tray3 near empty sensor (PS113)
[27] Tray3 paper feed motor (M122)
[28] Tray3 vertical transport motor (M120)

20.6 PC-405 (option)



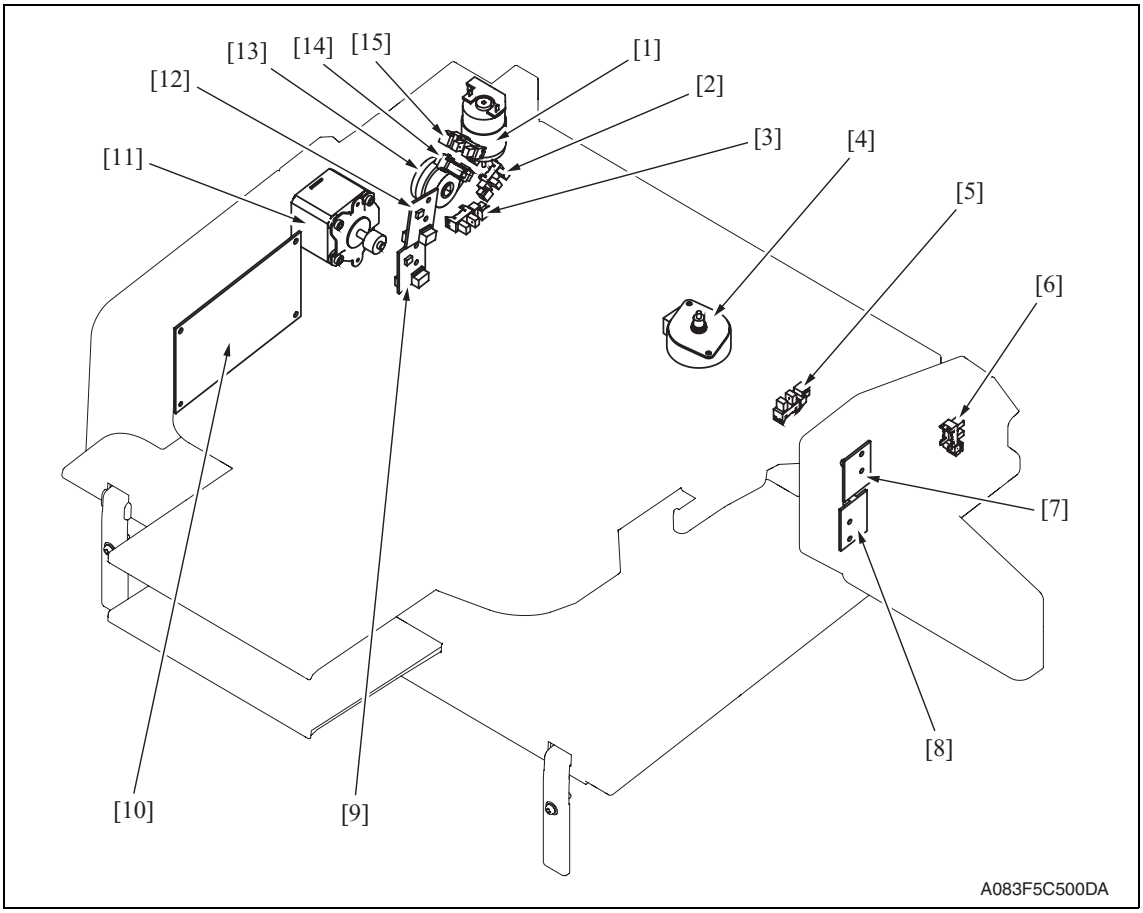
[1] Door sensor (PS5)
[2] Vertical transport sensor (PS2)
[3] Lift-up upper sensor (PS4)
[4] Paper empty sensor (PS3)
[5] Paper feed sensor (PS1)
[6] Main tray paper empty board (MTPEB)
[7] Paper feed tray3 paper empty indicator board (PEIB/1)
[8] Elevator motor pulse sensor (PS10)
[9] Lower over run sensor (PS7)
[10] Elevator motor (M5)
[11] Shift motor pulse sensor (PS8)
[12] Shift motor (M4)
[13] Manual down control board (MDCB)
[14] Shift tray empty sensor (PS9)
[15] Shift tray stop sensor (PS11)
[16] Shift tray home sensor (PS12)
[17] Lift-up lower sensor (PS13)
[18] Division board position motor (M3)
[19] Division board position sensor (PS14)
[20] PC control board (PCCB)
[21] Relay board (REYB)
[22] Tray lock solenoid (SD1)
[23] Cassette open sensor (PS6)
[24] Paper feed motor (M1)
[25] Vertical transport motor (M2)

20.7 AD-505



[1] Duplex unit set sensor (PS1)
[2] Duplex unit transport motor (M2)
[3] Duplex unit control board (DCB)
[4] Switchback motor (M1)

20.8 JS-505 (option)



[1] Route change motor (M3)

[2] Route change home sensor (PS4)

[3] Pressure/retraction home sensor (PS5)

[4] Shift motor (M2)

[5] Shift home sensor (PS6)

[6] Front door sensor (PS3)

[7] Upper tray paper full detect board/LED (T2FDTB/LED)

[8] Lower tray paper full detect board/LED (T1FDTB/LED)

[9] Lower tray paper full detect board/PR (T1FDTB/PR)

[10] JS control board (JSCB)

[11] Transport Motor (M1)

[12] Upper tray paper full detect board/PR (T2FDTB/PR)

[13] Roller pressure/retraction clutch (CL1)

[14] Lower tray exit sensor (PS1)

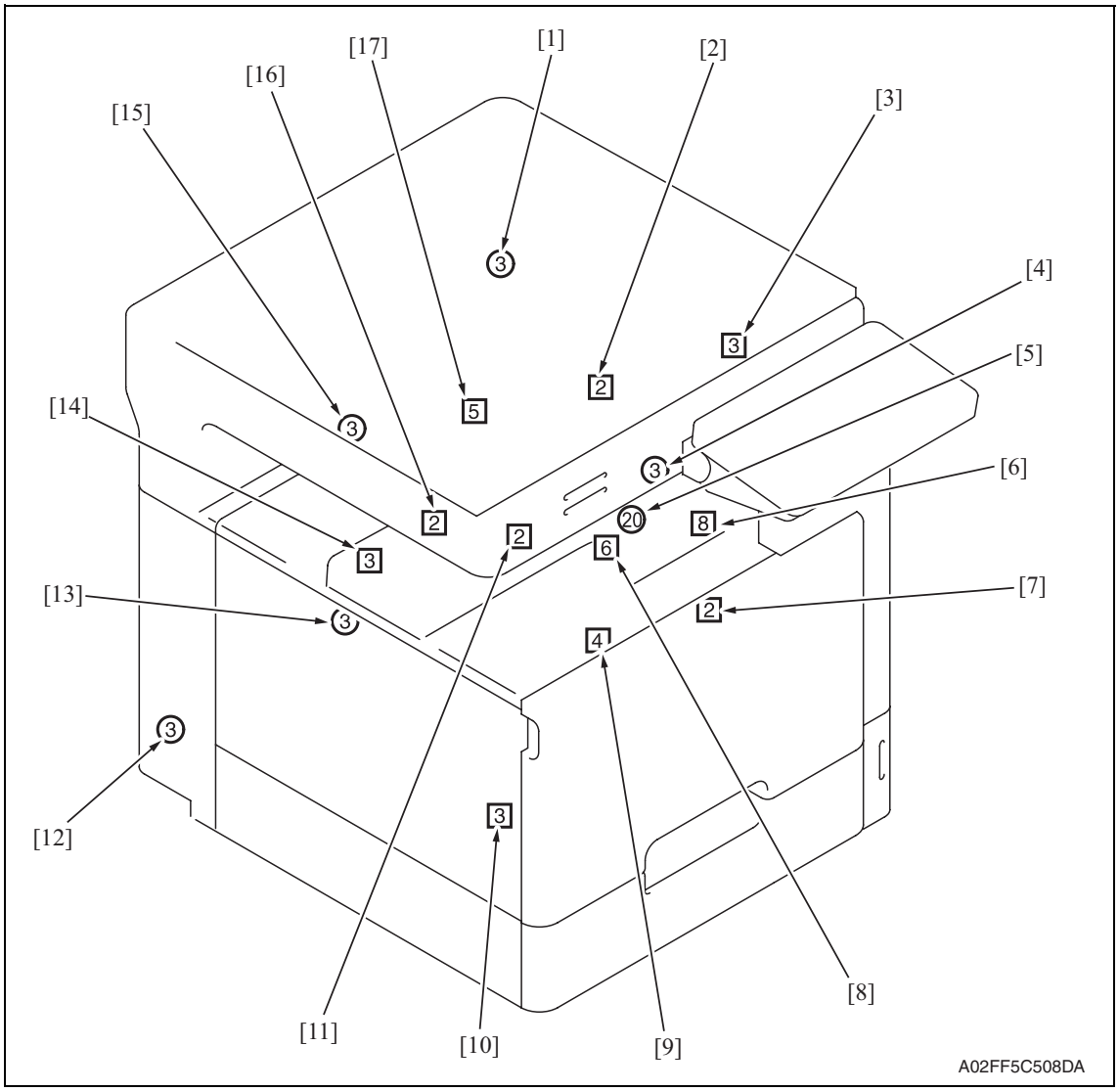
[15] Upper tray exit sensor (PS2)

21. Connector layout drawing

Description

Number of pin → ① Possible to confirm by removing external cover.

→ [1] Not possible to confirm by removing external cover.

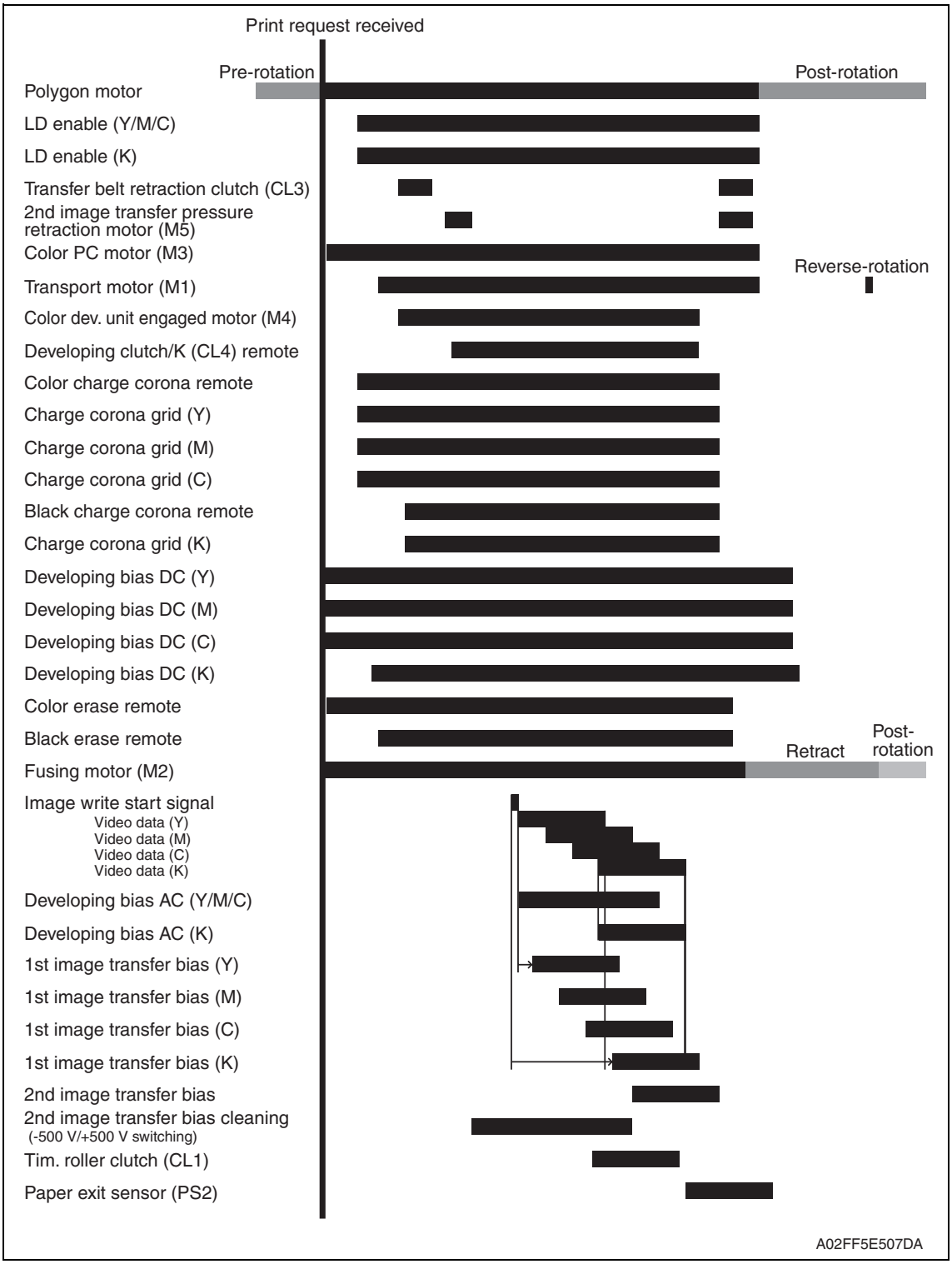


No.	CN No.	Location	No.	CN No.	Location
[1]	CN34	D-26	[10]	CN72	J-7
[2]	CN7	E-5	[11]	CN8	E-5
[3]	CN36	D-26	[12]	CN3	D-3
[4]	CN21	D-8	[13]	CN135	J-8
[5]	CN82	J-21 to 22	[14]	CN87	D-10
[6]	CN141	D-19	[15]	CN35	E-26
[7]	CN74	D-18	[16]	CN47	D-25
[8]	CN73	E-3	[17]	CN69	D-18
[9]	CN75	D-20			

22. Timing chart

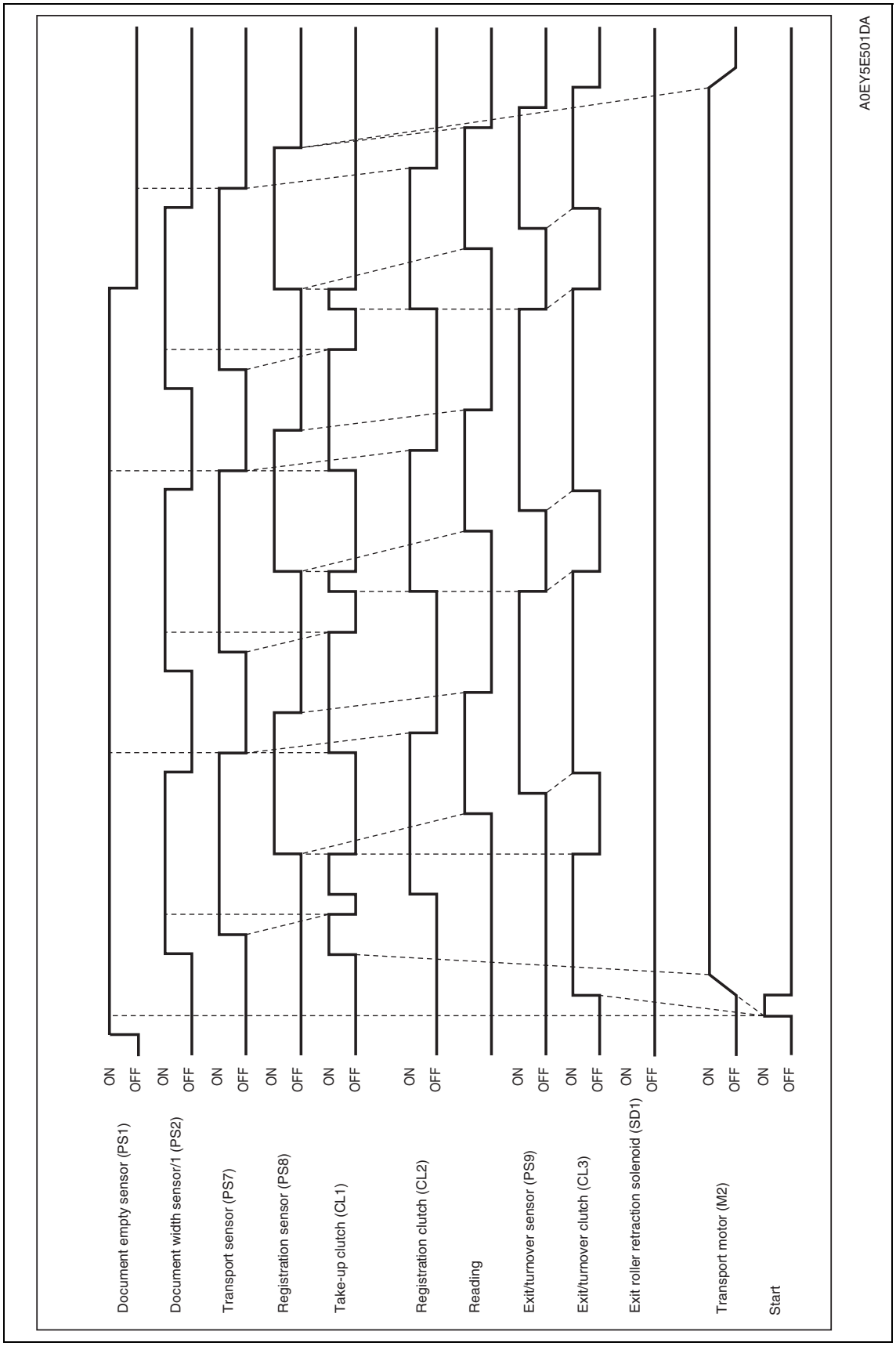
22.1 Main body

Color mode/A4 or 8 $^1/_2$ x 11/tray1

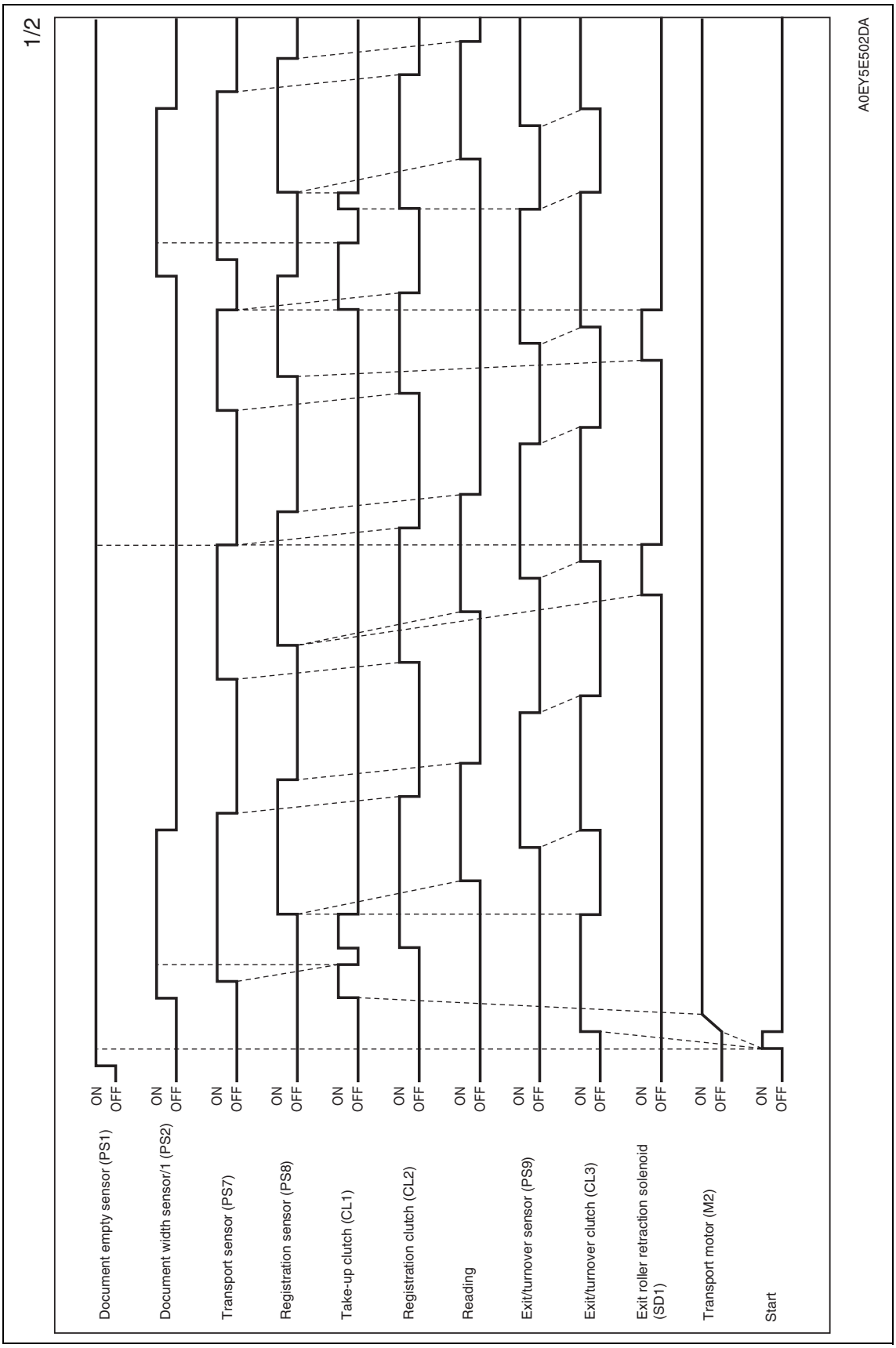


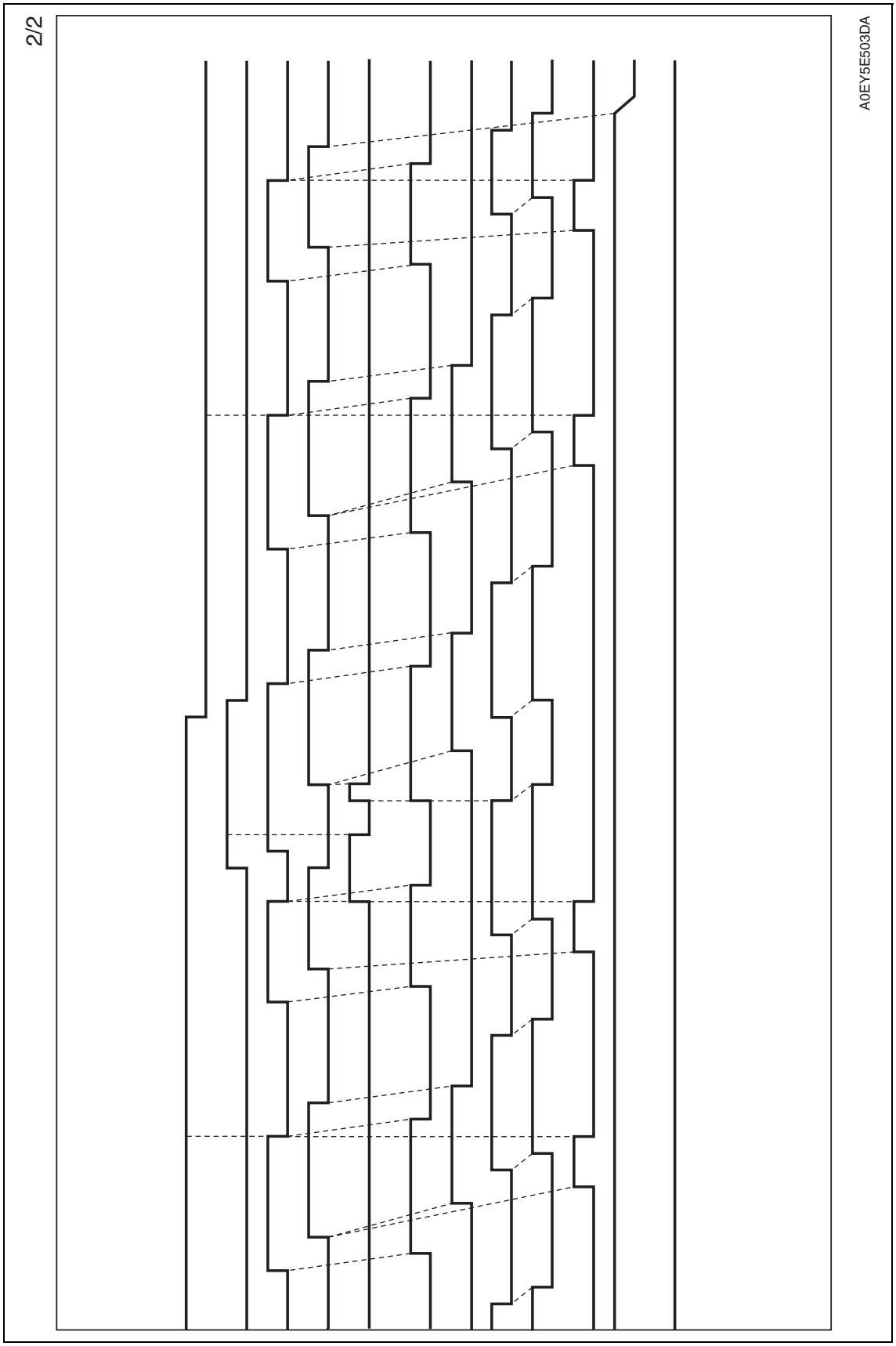
22.2 DF-612

22.2.1 1-sided mode (A4 three sheets feeding)



22.2.2 2-sided mode (A4 three sheets feeding)





KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub C200 Standard controller

2008.12

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a specific section revised within text, △1 is shown at the left margin of the corresponding revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a specific page that contains a revision or revisions, the page number appearing at the left or right bottom of the specific page is marked with ▲1 .
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2008/12	2.0	△1	Corresponded to a MAIN firmware version 21
2008/06	1.0	—	Issue of the first edition

CONTENTS

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Outline

1. Controller specifications

1.1 Type

Type	Built-in type controller	
Power requirements	Common with the main body	
RAM	64 MB	
Interface	Ethernet (10Base-T or 100Base-TX) USB 2.0/1.1	
Main compatible protocols	TCP/IP (IPv4), BOOTP, ARP, ICMP, DHCP, AutoIP, LPR/LPD, RAW Socket, HTTP, POP, SMTP, SSL, Ping, DNS	
Printer language	PCL5e/5c Emulation PCL XL ver 2.1 Emulation PostScript 3 Emulation (3015)	
Operating environment conditions	Temperature 10 °C to 30 °C (50 °F to 86 °F) Humidity 15% to 85% RH	
Print resolution	1800 dpi equivalent x 600 dpi	
Printer fonts	PCL	Latin 80 fonts
	Postscript 3	Latin 136 fonts
Compatible computers	IBM PC or compatible Macintosh (PowerPC or Intel Processor: Intel Processor is Mac OS X 10.4 only)	
Supported paper sizes	Maximum Standard Size	
Print speed	20 prints/min (color/monochrome, A4, 1-sided)	
Printer driver	Konica Minolta PCL Driver (PCL driver)	• Windows 2000 Professional /Server (Service Pack 3 or later) • Windows XP Home Edition/Windows XP Professional, Windows XP Professional x64 Edition • Windows Vista Home Basic/Home Premium/Ultimate/Business/ Enterprise, Windows Vista Home Basic/Home Premium/Ultimate/Business/ Enterprise x64 Edition • Windows Server 2003 Standard Edition, Windows Server 2003 x64 Edition
	Konica Minolta PostScript Driver (PS driver)	• Windows 2000 Professional /Server (Service Pack 3 or later) • Windows XP Home Edition/Windows XP Professional, Windows XP Professional x64 Edition • Windows Vista Home Basic/Home Premium/Ultimate/Business/ Enterprise, Windows Vista Home Basic/Home Premium/Ultimate/Business/ Enterprise x64 Edition • Windows Server 2003 Standard Edition, Windows Server 2003 x64 Edition
	PostScript PPD driver (PS-PPD)	• Mac OS 9.2 or later • Mac OS X 10.2.8, Mac OS X 10.3, or Mac OS X 10.4

Printer driver	Fax driver	• Windows 2000 Professional /Server (Service Pack 3 or later) • Windows XP Home Edition/Windows XP Professional, Windows XP Professional x64 Edition • Windows Vista Home Basic/Home Premium/Ultimate/Business/ Enterprise, Windows Vista Home Basic/Home Premium/Ultimate/Business/ Enterprise x64 Edition • Windows Server 2003 Standard Edition, Windows Server 2003 x64 Edition
Utility	Assistant tool for C200	
	System requirements	Compatible Web browsers With Windows 2000: Microsoft Internet Explorer 5 or later, or Netscape Navigator 7.0 or later With Windows XP: Microsoft Internet Explorer 6 or later, or Netscape Navigator 7.0 or later With Windows Server 2003: Microsoft Internet Explorer 6 or later, or Netscape Navigator 7.0 or later With Windows Vista: Microsoft Internet Explorer 7 or later, or Netscape Navigator 7.0 or later

NOTE

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

Maintenance

2. Firmware upgrade

⚠1 NOTE

- **Do NOT downgrade the firmware data from the MAIN firmware versions 21 or later to the MAIN firmware versions earlier than 21.**

⚠1 2.1 Firmware rewriting by the compact flash

2.1.1 Preparations for firmware rewriting

A. Items required

- Drive which enables writing/reading of compact flash
- Compact flash (service tool)

B. Writing data to compact flash

1. Prepare firmware data.

2. Format the compact flash on the PC.

NOTE

- **Use the FAT file format for formatting the compact flash.**
  The machine does not recognize any compact flash that has been formatted in FAT32 or other format.

3. Copy the firmware data to the compact flash.

NOTE

- **When copying the data to the compact flash, directly copy the files contained in the folder, instead of copying the folder.**
- **Copy only the data to be rewritten.**
- **Note that no display is given on the control panel if wrong firmware is copied.**
- **Be sure to take note of the checksum value of the firmware data.**

C. Checking version

- Before rewriting firmware, check the current ROM version.
  See P.153

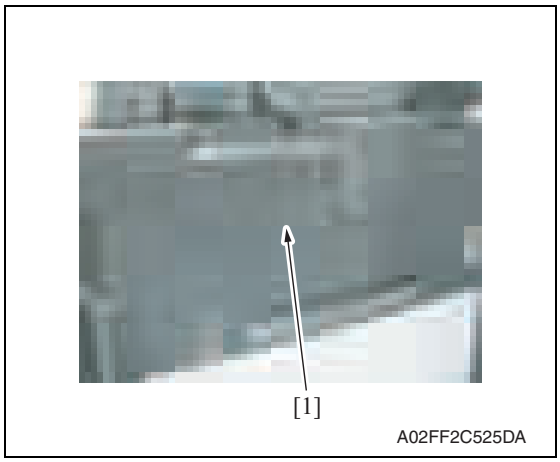
2.1.2 Firmware rewriting procedures

NOTE

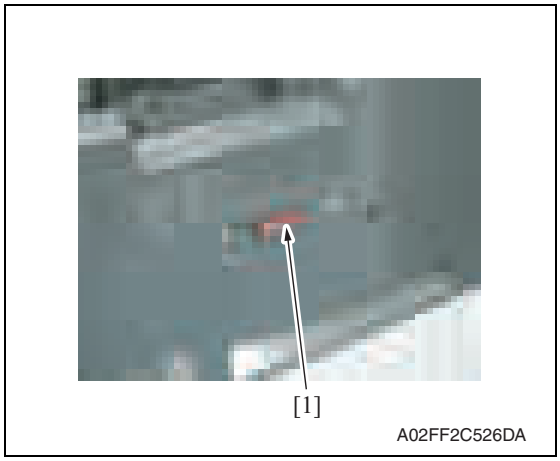
- **NEVER remove or insert the compact flash card with the machine power turned ON.**
- **Confirm the current version before upgrading the firmware.**
- **Before upgrading the firmware, confirm that no jobs remain within the machine.**

A. Controller

1. Turn OFF the main power switch.



2. Remove the cover [1] from the compact flash insertion slot.



3. Insert the compact flash [1], to which the controller files to be rewritten are copied, into the slot.

NOTE

- **Do not copy engine, job separator, and other firmware to the compact flash.**

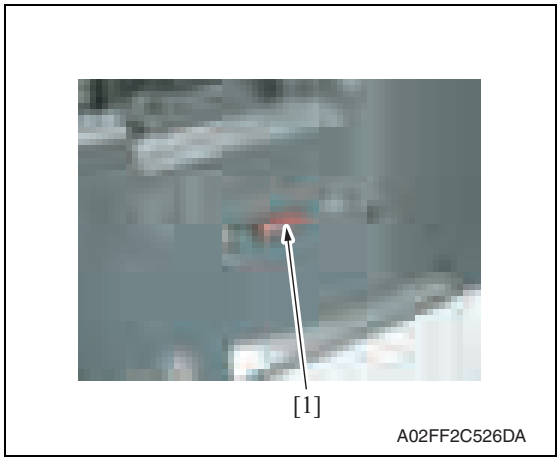
4. Turn ON the main power switch and the sub power switch.

5. The Flash ROM Setup screen is displayed on the control panel display, and upgrading starts.

6. When “FINISH” is displayed at the bottom of the control panel, upgrading of the firmware is completed.
Turn OFF the main power switch.

NOTE

- **NEVER turn OFF the main power switch until “FINISH” appears.**



7. Remove the compact flash card [1] from the slot.

8. Reinstall the cover of the slot.
9. Turn ON the main power switch and the sub power switch.
10. Select [Admin.] → [Firmware Version].
11. Check that the firmware version has been updated.

⚠1 2.2 Firmware rewriting by the Internet ISW

2.2.1 Outline

- [Internet ISW] is the system which gives the instruction for updating the firmware with the CS Remote Care, so the main body will automatically receive the firmware from the program server over a network for updating.

2.2.2 Service environment

The following conditions are necessary for using the Internet ISW function.
- The main body is connected to such a network environment that the firmware can be downloaded on the internet using the http protocol.

The “Internet ISW” will not operate under the following conditions.
- Main power switch is set to OFF.
- Sub power switch is set to OFF.
- The main body has the job currently performing.
- Modes other than normal mode are used.
- Machine has a paper jam.
- The version of firmware provided from the program server and MFBU board on the machine are not compatible with each other.

2.2.3 Preparations

- For using the Internet ISW, the network parameter, program server address as well as firewall address need to be set to the main body.
- For details of each setting item, refer to Adjustment/Setting “Internet ISW”.
See P.315 of the main body service manual.

A. Internet ISW
1. Call the service mode to the screen.
2. Touch [Internet ISW]

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3. Select [ON], and touch [OK].

NOTE

- **Settings such as server setting, etc. will be available by selecting "ON" on this setting.**

B. HTTP Setting

- It performs the setting concerning the http protocol for connecting to the Internet ISW.

(1) Setting procedure

Step	Connecting by http
0	Select [Internet ISW] which is available from [Service Mode].
1	Touch [HTTP Setting].
2	Touch [Connect Proxy]. • For connecting via proxy server, select [ON].
3	Touch [Proxy Server]. • For connection via proxy server, set a proxy server address, port number, and authentication related items. *1.* Select the [Server Address], and set the proxy server address. *2.* Select [Port Number], and set the port number for the proxy server from 1 through 65535. *3.* Select [Authentication Settings]. *4.* When Authentication is necessary for accessing to the proxy server, select [Authentication], and select [ON]. *5.* Select [Login Name], and enter the login name on the on-screen keyboard. *6.* Select [Password], and enter the password on the on-screen keyboard.
4	Touch [Connection Timeout]. • Set the time for the connection time out between 30 and 300 seconds.

C. Forwarding Access Setting

- To make the access setting for the program server which stores the firmware data.

1. Select [Internet ISW] which is available from [Service Mode].
2. Touch [Forwarding Access Setting].

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3. Select [Login Name], and enter the login name which is necessary for connecting to the program server on the on-screen keyboard, and touch [OK].
4. Select [Password], and enter the password which is necessary for connecting to the program server on the on-screen keyboard, and touch [OK].
5. Select [URL], and enter the directory which stores the program server address and the firmware on the on-screen keyboard by URL method, and touch [OK].

NOTE

- **Enter the URL which matches to the protocol to be used.**
  When connecting to http http:///(host name or IP address)/directory name
  or https:///(host name or IP address)/directory name

6. Select [File Name], and enter the file name of the firmware data to be downloaded on the on-screen keyboard, and touch [OK].
7. Touch [OK] to finish setting.

2.2.4 Firmware rewriting procedure

- For the firmware update procedure using CS Remote Care, refer to CS Remote Care Center Manual.
- For detailed error information relating to CS Remote Care, refer to “Adjustment/Setting: CS Remote Care.”
  See P.181 of the main body service manual.

NOTE

- **Before updating firmware using Internet ISW, contact the administrator to get agreement.**
  Do not update firmware via Internet ISW when a job is processed. Internet ISW does not function when a job is processed.

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Troubleshooting

3. Troubleshooting of network functions

3.1 Troubleshooting by condition

A. Error indications (icons): POP3 reception anomalies

No.	Condition	Possible cause	Action to be taken
1	When the icon is displayed at the bottom of the operation screen.	Failed to receive a document using POP3.	• Confirm that the POP3 user name, POP3 password, and POP3 server address are correctly specified in [Admin.] → [Network Settings].

B. Document forwarding/archive distribution

No.	Condition	Possible cause	Action to be taken
1	Transmission of mail distribution fails.	The E-mail address of the account to which the mail is to be distributed, has not been registered.	• Set an E-mail address for mail distribution. Register the E-mail address of the account whose mail distribution has been set.
2	The mail has been distributed from the machine, but has not been received by the transfer destination.	The address of the transfer destination is incorrect.	• Check the mail address of the one-touch key to which mails are to be transferred.
		Other unknown causes.	• An error mail may be returned to the E-mail address of the account, to which mail distribution has been set. Check the details.

C. IP relay

No.	Condition	Possible cause	Action to be taken
1	This machine does not receive the data.	Required software settings are not set completely.	• Make the required network settings.
		Transmission data is too large to be transmitted and the fax has not been received because of restriction of a server.	• Make data size small by reducing the number of pages, and retransmit.
2	Fax is not transmitted from this machine.	Communication mode of the gateway transmission is not set correctly.	• Touch [Allow] for gateway TX and set communication mode correctly.

D. Assistant tool for C200

No.	Condition	Possible cause	Action to be taken
1	The Assistant tool for C200 cannot be connected.	No IP address is set to the machine.	• Set an IP address.
		The wrong URL setting in browser.	• Enter the IP address of the machine in URL.
		The wrong settings in browser.	• For some network configurations, connection settings may be required to access the machine. For more information, consult with the network administrator.
		If proxy setting is done in browser and the proxy server does not identify the IP address of this machine, Assistant tool for C200 screen cannot be displayed.	• In the proxy setting of the browser, add the IP address of this machine in the exception column not using the proxy server.
		The LAN cable is broken.	• Replace the LAN cable.
2	Login fails.	Login operation was previously done by using a different user name and password and the previous login credentials are cached by the browser.	• Some browsers hold the user name and password once login succeeds. Close the browser and start it again.
3	Screen is not displayed properly.	The browser size is too small.	• Increase the browser size.
		Font size is wrong.	• Set proper font sizes for PC and browser.
4	Items not included in device configuration are displayed.	Items not included in device configuration will become invalid at registration. This does not affect the actual registration.	–
5	Half-sized dots are displayed on the screen.	Some browsers display them.	–
6	Part of deleted characters remains on the screen.	Operations may be different for some browsers.	• Update the display or reload it in the browser.
7	Digits of the input/display area and available number of characters are different.	For some browsers, the input area can be scrolled. If not, it does not affect the actual registration.	–
8	Some characters cannot be registered or displayed.	Some OS cannot register or display certain characters.	–
9	The Assistant tool for C200 cannot register or display the space character.	Space entered at the end of a word may become invalid.	–

No.	Condition	Possible cause	Action to be taken
10	Input data is cleared when a registration error occurs.	For some browsers, items displayed with "*" such as password may be cleared.	–
11	Entered data is cleared when a registration error occurs	Depending on the browser, items displayed with "*" including passwords may be cleared.	–
12	When clicking [Apply] or [Log-out], the page is not refreshed, however "Cannot open page." is displayed	Depending on the browser settings, it may be displayed.	• If using Internet Explorer, click [Tools] → [Internet Options] → [General], and set "Temporary Internet Files" to [Confirm Pages].
13	When refreshing the browser display, although you have not logged out, "Administrator is logged in" is displayed.	Depending on the browser settings, it may be displayed.	• If using Internet Explorer, click [Tools] → [Internet Options] → [General], and set "Temporary Internet Files" to [Confirm Pages].

E. Others (Network Device Related)

No.	Condition	Possible cause	Action to be taken
1	When the power switch is on, "ERROR!!" displays on the control panel screen.	Failure in connection	• Reattach MEMU/1 board or MEMU/2 board.
			• Replace MEMU/1 board or MEMU/2 board.
2	"Registering in network. Other operations halted. Please wait". is displayed.	Administrator is logging in from the Assistant tool for C200.	• Wait until the administrator finishes the operation and logs out. • In case that the administrator has closed the browser without logout operation, ask the administrator to log out from the Assistant tool for C200.

F. Sharing an E-mail address with other E-mail software

No.	Condition	Possible cause	Action to be taken
1	An E-mail with a TIFF attachment is returned as undelivered.	These error notices occur when the E-mail is undeliverable.	• Check that the receiver's E-mail address is correct.
2	Mail cannot be received	Mail is set to be deleted from the server after being received.	• Set the mail software being used so as not to delete mail from the server.

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

FK-507

2008.12

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a specific section revised within text, ⚠1 is shown at the left margin of the corresponding revised section.
  The number inside ⚠1 represents the number of times the revision has been made.

- To indicate clearly a specific page that contains a revision or revisions, the page number appearing at the left or right bottom of the specific page is marked with ⚠1 .
  The number inside ⚠1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2008/12	2.0	⚠1	Corresponded to a MAIN firmware version 21/ Error corrections
2008/06	1.0	—	Issue of the first edition

CONTENTS

FK-507

Outline

Maintenance

Adjustment/Setting

Troubleshooting

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Outline

1. Product specifications

A. Type

Memory capacity	64 MB	
Communication mode	G3/ECM	
Scanning resolution (main line x feed line)	8 x 3.85 line/mm 8 x 7.7 line/mm 8 x 15.4 line/mm 16 x 15.4 line/mm	
Data transmission rate	G3 / ECM: 2.4 Kbps to 33.6 Kbps	
Transmission rate	G3 / ECM: Image signal - 3 sec approx. (A4, V.34, 33.6 Kbps, JBIG)	
△1 Coding method	MH / MR / MMR / JBIG	
Applicable network	G3/ECM	Phone line, FAX communication network
Options	Stamp unit SP-503 Fax multi line ML-504	

B. List of functions

Function		bizhub C200
Speed	High speed scanning	○
	High speed printout	○ (20 ppm/A4)
	ECM mode	○ (3 sec approx./Std document)
	High speed half tone	○
Resolution	Super fine mode	○
	Half tone transmission	○
	Auto retransmission after error	○ (ECM)
	Brightness control	○
	Smoothing	○
	Mixed mode (Text + Photo)	○
Operability	One-touch dialing	○ (300 destinations)
	One-touch program dialing	○ (30 destinations, # of one-touch dialing numbers)
	Auto re-dialing	○
	Transmission booking	○ (64 destinations)
	Broadcast destination	○ (210 destinations)
	Origination selecting	○ (8 types)
	Destination retrieval	○
	LCD display	○ (320 x 240)
	Operation	○ (Analog touch panel)
	Disable copy function	○
	Universal design	○
	Enlarge display Specify display location	○
	Toner front access	○
Power source saving & utility functions	2-in-1 printout	○
	2-in-1 page transmission	○
	TX marker	○ (Option)
	Automatic document feed (ADF)	○ (70 sheets)
	Automatic selection of print paper size	○
	Password communication	○
	Quick scan transmission	○
	Priority transmission	○
	Insert destination	○
	Automatic pause for PSTN number	○
	Display communication result	○
	Record TSI information	○
	ID display/record	○ (Received date and time record)
	Power source saving mode	○
	Print lamp	○
	Sound volume	○ (Setup on screen; OFF/5 steps)
	ADF 2 sided transmission	○

Function		bizhub C200
Report functions	Activity report (TX/RX)	O
	Transmission report	O
	Incompleted transmission report	O (with document merge)
	Serial broadcast report	O (with document merge)
	Account list	O
	One-touch list	O
	Fax program list	O
	Bulletin board list	O
	Setting list	O
Memory functions	Multi access	O (Interrupt key exists)
	Transmission booking document number	O (64 destinations)
	Retransmission	O (Destination changeable)
	Document retransmission	O
	Reception by memory	O
	Transmission management document number	O (48)
	Memory polling transmission	O
	Confidential transmission Confidential print	O (F code)
	Serial broadcast	O (210 destinations; Full dial broadcast 12 (Included number))
	Relay broadcast	O (F code)
	Automatic destination switching	O
△1	Color → Black and White Fallback	O
	Multi copy	O (Sorting function)
△1	Remote copy	O (F code)
	Quick memory transmission	O
	File backup	O (1H)
	Rotated Rx	O
System configuration	Extra telephone	O (PB forwarding reception possible)* *PSTN (Port 1 only)
	Account track mode	O (50 accounts)
	Chain dialing	O
	Multi-port	O (Option)
	Inch/mm conversion	O
	Memory	O (File memory 512 MB)
	Paper feed cassette	O (3100 sheets max.)
	PC print	O
Mutual connectivity	ITU-T G3/ECM	O

	Function		bizhub C200
1	Maintenance	Remote diagnostics (CSRC)	○ (Terminal Dispatch)
		Self diagnostics	○
		Counter per application	○
		In-file image data transmission	○
		Switch display of communication error code	○
		Change standard zoom ratio	○
		Adjust touch panel registration	○
		Adjust ADF zoom ratio (main/sub)	○
		Adjust ADF registration (main/sub)	○
		Adjust BS zoom ratio (main/sub)	○
		Adjust BS registration (main/sub)	○
		Check sensors	○
		Adjust document size sensor	○
		Adjust registration of printer engine (main/sub)	○
		Adjust mask of printer engine (main/sub)	○
		Adjust feeder loop of printer engine (main/sub)	○
		Test printing	○
		Paper through test	○
		Lock position	○
1	Network function	Internet Fax	○
1		IP address Fax	○ (B/W only)
1		Scan to E-mail	○
1		Scan to FTP	○
1		Scan to SMB	○
		Document forwarding / Archive distribution	○
1		IP relay	○
1		LDAP search	○
		Assistant tool for C200	○
1		Printer controller	○

Maintenance

2. Other

2.1 Disassembly/adjustment prohibited items

A. 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.**

B. 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.**

C. Variable resistors on board

NOTE

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

D. Removal of PWBs

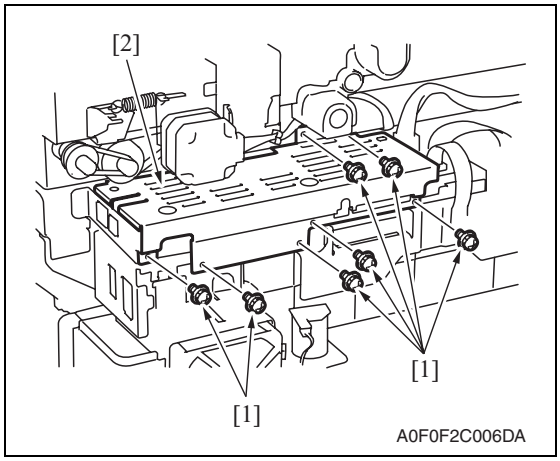
⚠ CAUTION

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

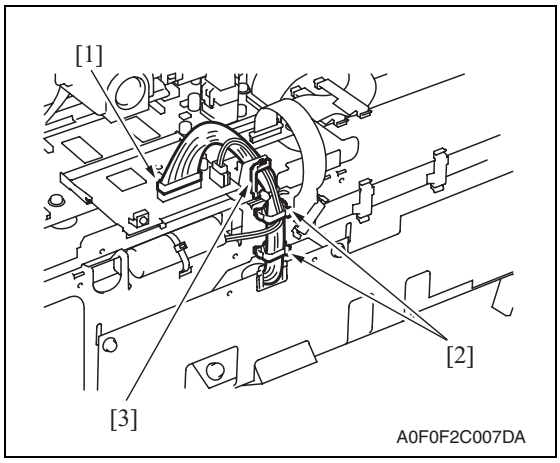
3. Disassembly/assembly

3.1 FAXU board (with G3 multi port option)

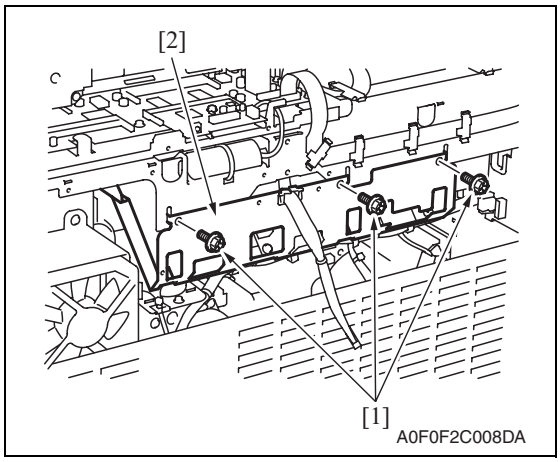
1. Remove the IR rear cover.
See P.46 of the main body service manual.



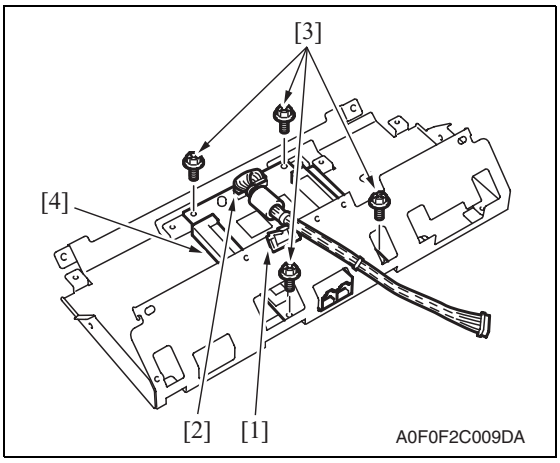
2. Remove seven screws [1], and remove the MFBU shield cover [2].



3. Disconnect the connector [1], and remove the cable from two wire saddles [2] and the edge cover [3].



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



5. Remove the cable from the edge cover [1] of the FAX mounting plate.
6. Disconnect the connector [2], remove four screws [3], and remove the FAXU board [4].

NOTE

- **Connect the connector located on the ferrite core side to the FAXU board.**

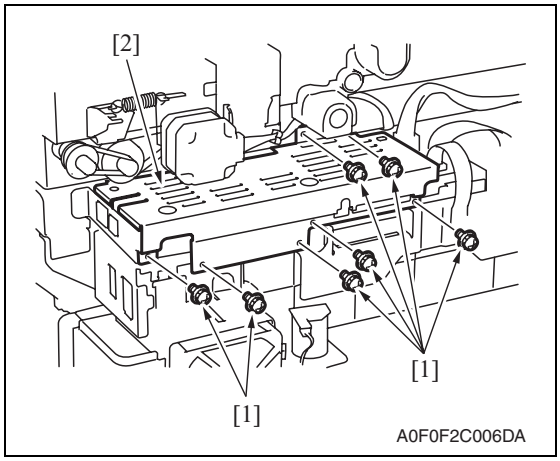
3.2 Ni-MH battery replacement

1. Check on the screen that the memory capacity still available for use reads 100%.

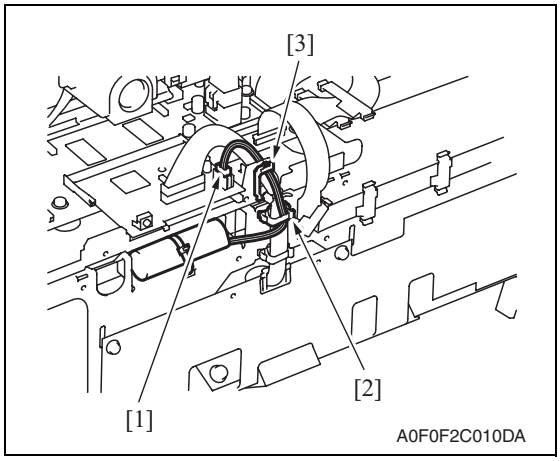
NOTE

- **If the memory capacity does not read 100%, let the machine output contents of the memory or wait until the machine completes transmission.**

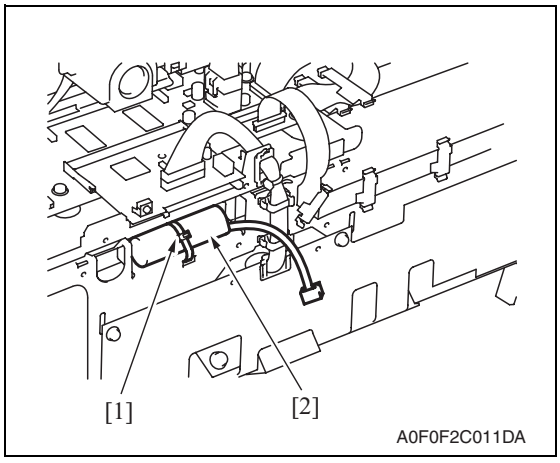
2. Turn OFF the main power switch.
3. Remove the IR rear cover.
See P.46 of the main body service manual.



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



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



6. Tie band [1] is cut with nippers, and the Ni-MH battery [2] is replace.

7. Turn ON the main power switch.

NOTE

- **After the Ni-MH battery has been replaced with a new one, be sure to turn ON the main power switch.**
- **Discard the used battery in accordance with the corresponding local regulations and NEVER discard it or let it discharge on the user's premises.**

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Adjustment/Setting

4. 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 " ".

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 fusing 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.**

5. Utility Mode

5.1 Utility Mode function tree

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

NOTE

- **The following function tree shows only the fax-related functions.**
- **Keys displayed on screens are different depending on the setting.**

Utility					Ref. page
User Settings	Display Settings	Default Screen			*
		Default Fax Screen			P.15
	Default Settings	Fax/Scan	Default Scan/Fax Settings		*
			File Type		*
User Management	Line Monitor Sound				P.15
	Memory RX ON/OFF				P.15
One-Touch/ Box Reg.	One-Touch				*
	Index				*
	Domain Name				*
	Bulletin				*
Admin.	System Settings	Output Settings	Print/Fax Output Setting	Printer	*
				Fax/E-Mail	*
	One-Touch/ Box Reg.	One-Touch			*
		Index			*
		Domain Name			*
		Bulletin			*
	Document Management	TX Forwarding			P.16
		RX Document	All Other Docs.	Password	P.16
				RX Doc. Settings	
				Forwarding Dest.	
			Network/G3	Password	P.16
				RX Doc. Settings	
				Forwarding Dest.	
			Reception user box	User Box Name	P.17
				Type	
				Number	
				Password	
				RX Doc. Settings	
				Forwarding Dest.	
				Remote Input Check	
	Fax Settings	Self-ID			P.17
		RX Functions	Reception Mode		P.17
			Numbers of RX Call Rings		P.17
		Password Communication			P.17

Utility				Ref. page
Admin.	Fax Settings	Self-Telephone # Information 1	Self-Telephone # 1	P.18
			PBX Connect. Mode 1	
			Dialing Method 1	
		Self-Telephone # Information 2	Self-Telephone # Info 2	
			PBX Connect. Mode 2	
			Dialing Method 2	
	TX Settings	TSI Registration		P.18
	RX Settings	Memory RX Timer Setting	Memory RX Time	P.18
			Memory Lock Password	P.18
		Delete User Box		P.19
	Report Settings	TX Report		P.19
		Activity Report		P.19
	Print Lists	Setting List		*
	Software Switch Setting			P.20
△1 Print Lists	TX Report			P.23
	RX Report			P.23
	Bulletin List			P.23
	One-Touch List			P.23
	Program List			P.23

*: For details, see the main body service manual.

5.2 Utility Mode function setting procedure

5.2.1 Procedure

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

A02FF3E516DA

5.2.2 Exiting

- Touch the [OK] key.

5.2.3 Changing the setting value in Utility Mode functions

- Use the [+] / [-] key to enter or change the setting value.
- Use the 10-key pad to enter the setting value.
  (To change the setting value, first press the Clear key before making an entry.)

5.3 Settings in the User Settings

5.3.1 Display Settings

A. Default Fax Screen

Functions Use	• To set the screen which is preferentially displayed when in fax mode.
Setting/ Procedure	• The default setting is “One-Touch”. “One-Touch” Search Direct Input Index

5.4 Settings in the User Management

5.4.1 Line Monitor Sound

Functions Use	• To set the volume of the line monitor sound that can be heard from the monitor speaker during fax transmission.
Setting/ Procedure	• The default setting is “3”. 0 (mute) to 5

5.4.2 Memory RX ON/OFF

Functions Use	• To allow the machine to produce a print temporarily even in the off mode. • A print control password is necessary to print data.
Setting/ Procedure	*1.* Touch [Memory RX ON/OFF]. *2.* If a password has been specified, enter the password for “Memory Lock Password” and touch [OK]. *3.* Touch [Lock OFF]. *4.* To halt the print cycle, touch [Lock ON] while the print cycle is being run. *5.* Touch [Temporarily Print] to resume the print cycle.

5.5 Settings in the Admin. (Administrator Management)

- The Admin. setting will be available by entering the administrator password (8 digits) set by the Admin. setting or Service Mode.
  (The administrator password is initially set to “12345678.”)

5.5.1 Document Management

A. TX Forwarding

Functions	• To set to forward received text to a destination that has been set by the administrator.
Use	• When forwarding received text to a destination that has been set by the administrator.
Setting/ Procedure	*1.* Touch [Document Management]. *2.* Touch [TX Forwarding]. *3.* Select the forwarding communication mode, and touch [Next]. *4.* Specify the forwarding destination, and touch [Next]. *5.* Check the forwarding destination, and touch [OK].

B. RX Document

(1) All Other Docs.

Functions	• Specify the reception method for documents that were received normally.
Use	
Setting/ Procedure	*1.* Touch [RX Document]. *2.* Touch [All Other Docs.]. *3.* Touch [Password] and register the password. New Password: Enter the new password to be used Confirm New Password: Re-enter the new password *4.* Touch [RX Doc. Settings], then select the desired processing type and touch [OK]. * If [Forward] or [Print & Forward] is selected, set the forwarding destination.

(2) Network/G3

Functions	• A different reception method can be specified for each line.
Use	
Setting/ Procedure	*1.* Touch [RX Document]. *2.* Touch [Network], [G3-1] or [G3-2]. *3.* If [YES] is selected for document management, set how the received document is to be handled. *4.* Touch [Password] and register the password. New Password: Enter the new password to be used Confirm New Password: Re-enter the new password *5.* Touch [RX Doc. Settings], then select the desired processing type and touch [OK]. * If [Forward] or [Print & Forward] is selected, set the forwarding destination.

(3) Reception user box

Functions Use	• A reception user box specifically for documents containing special information, such as Fcodes, can be created, and the reception method can be specified.
Setting/ Procedure	*1.* Touch the [RX Document]. *2.* Touch the button of the user box to be specified. *3.* Touch [User Box Name] and enter the user box name from the 10-key pad. (A maximum of 8 characters can be entered.) *4.* Touch [Type] and select the reception management type. *5.* Touch [Number] and enter in the number appropriate for the reception type from the 10-key pad. *6.* Touch [Password] and register the password. New Password: Enter the new password to be used Confirm New Password: Re-enter the new password *7.* Touch [RX Doc. Settings], then select the desired processing type and touch [OK]. * If [Forward] or [Print & Forward] is selected, set the forwarding destination. *8.* If F-codes are used, touch [Remote Input Check] and select whether remote input checking is enabled or disabled.

5.5.2 Fax Settings

A. Self-ID

Functions	• To register the name, telephone number, and other information of the local machine as an ID.
Use	• When the registered information is to be printed on journals and displayed on the panel of the fax machine on the receiving end.
Setting/ Procedure	*1.* Touch the [Self-ID]. *2.* Enter the local machine ID (up to 12 characters) and touch [OK].

B. RX Functions

(1) Reception Mode

Functions	• To set the reception mode of faxes.
Use	• When changing the reception mode of faxes.
Setting/ Procedure	• The default setting is “Auto”. “Auto” Manual

(2) Numbers of RX Call Rings

Functions	• To set the number of call rings heard before automatic reception is activated.
Use	• When changing the number of call rings heard before automatic reception is activated.
Setting/ Procedure	• The default setting is “1x”. 1 to 20

C. Password Communication

Functions	• To allow a fax to be received only when there is a match in the password that has previously been registered on the transmitter and receiver ends.
Use	• When using password reception.
Setting/ Procedure	• The default setting is “00”. “00” (Disabled) 01 to 99 (Enabled)

D. Self-Telephone # information

Functions	• To register information required for fax communication, including the telephone number of the local fax machine, whether or not a PBX is available, and the type of line.
Use	
Setting/ Procedure	*1.* Touch the [Self-Telephone # information]. *2.* Touch [Self-telephone #] and enter the telephone number. *3.* Touch the [PBX Connect. Mode]. [Extension]: If a connection is made via the PBX to the ordinary fixed line [Outside]: If a connection is made directly to the ordinary fixed line * If [Extension] is selected, enter the Outside Line. *4.* Touch the [Dialing Method]. [DP20]: 20 pps pulse dialing line [DP10]: 10 pps pulse dialing line [PB]: Tone dialing line

5.5.3 TX Settings

A. TSI Registration

Functions	• To set the name (of the sending party) to be notified to the recipient.
Use	• When changing the name (of the sending party) to be notified to the recipient.
Setting/ Procedure	• Up to eight different names can be registered. *1.* Touch the [TSI Registration]. *2.* Select the number, for which the sending party is to be registered. *3.* Enter the name of the sending party and touch [OK].

5.5.4 RX Settings

A. Memory RX Timer Setting

(1) Memory RX Time

Functions	• To set the time of day and the day of the week, at which printing of the received fax is to be started or stopped.
Use	• When a received fax is to be printed at a specific time specified without allowing it to be printed on the spot.
Setting/ Procedure	*1.* Touch the [Memory RX Timer Setting]. *2.* Touch the [Memory RX Time]. *3.* Make the necessary settings and touch [OK]. * Touch [OFF] if no settings are to be made.

(2) Memory Lock Password

Functions	• To set a password used for printing a fax received at a time not specified.
Use	
Setting/ Procedure	*1.* Touch the [Memory RX Timer Setting]. *2.* Touch the [Memory Lock Password]. *3.* Touch [New Password], then enter the password and touch [OK]. *4.* Touch [Confirm New Password], then enter the password a second time and touch [OK].

B. Delete User Box

Functions	• To delete a user box that has previously been registered.
Use	
Setting/ Procedure	*1.* Touch the [Delete User Box]. *2.* Select the private box to be deleted. *3.* Touch the [Yes].

5.5.5 Report Settings

A. TX Report

Functions	• To set the mode of output of the report used for confirming results of transmission.
Use	• When changing the mode of output of the report used for confirming results of transmission. • Setting is made individually for a single destination and two or more destinations.
Setting/ Procedure	<Single Dest> ON “If TX Fails” OFF <Broadcasting> ON “If TX Fails” OFF

B. Activity Report

Functions	• To select whether or not to print the activity report for every 50 transactions automatically.
Use	• When printing the activity report for every 50 transactions automatically.
Setting/ Procedure	• The default setting is “ON”. “ON” OFF

5.5.6 Software Switch Setting

Functions Use	• To specify the value (mode, bit, HEX) for software DIPSW to suit the purpose of the use, and to change the machine status. • Only software DIPSW available of setting by the user (administrator) are described here. • For details of the software DIPSW as well as software DIPSW which can be set by CE, refer to the “Service mode” or main body service manual.
Setting/ Procedure	*1.* Touch [Software Switch Setting]. *2.* Touch [Mode Selection], and enter the mode number (three digit number) using the 10-key pad. *3.* Touch [Bit Selection]. *4.* Set the cursor using the [←] or [→] key to specify the bit with 0 or 1 on the 10-key pad. (When setting in hexadecimal, press [HEX Selection] to enter using the 10-key pad or A to F key.) *5.* Touch [Apply]. *6.* Touch [OK].

A. List of the software switch settings for administrator

(1) For network settings

Mode	Setting item
356	• Specifying settings concerning the SMTP transmission timeout
357	• Specifying settings concerning the SMTP reception timeout
358	• Specifying settings concerning the POP3 reception timeout
361	• Specifying settings concerning Assistant tool for C200, SMTP transmission/reception and POP3 reception
364	• Specifying the setting for the POP Before SMTP time
△1 365	• Specifying settings concerning the timeout for a FTP connection
367	• Specifying settings concerning the timeout for a DNS inquiry
372	• Specifying settings concerning the transmission interval for divided e-mail messages
△1 376	• Specifying settings concerning the AppleTalk protocol
△1 378	• Specifying settings concerning the IPP printing
380	• Specifying security settings for e-mail transmissions
383	• Specifying security settings for e-mail receptions
384	• Specifying settings concerning the network protocol
△1 385	• Specifying settings concerning the SMB protocol
△1 386	• Specifying settings concerning the TCP socket, NetWare
△1 389	• Specifying settings concerning the encryption method for SSL and the SNMP protocol
△1 390	• Specifying settings concerning the SNMP protocol
470	• Specifying settings concerning Assistant tool for C200

(2) For scan/fax settings

Mode	Setting item
000	• Specifying settings concerning the position of the transmission source information and concerning password communications
001	• Specifying settings for inserting the recipient's name in the original
002	• Specifying printing of the memory clear report and the report for a broadcast transmission
004	• Specifying the storage time for failed transmission documents
016	• Specifying whether or not a received date report is added and its format
⚠1 023	• Specifying settings for the TWAIN operation lock time and the image in the results report
024	• Specifying settings for administrator forwarding
025	• Specifying settings concerning transmission if the memory becomes full
028	• Specifying the maximum number of copies allowed with remote copying
030	• Specifying settings for fax reception functions
037	• Specifying the settings for selecting paper trays when faxes are received
043	• Specifying settings for general subscriber lines
⚠1 249	• Specifying settings for the number of rings until automatic reception (port 2)
301	• Specifying settings for receiving long documents
302	• Specifying the setting for selecting paper when printing received documents
350	• Specifying settings concerning Internet faxing
351	• Specifying transmission source information for IP address fax transmissions and IP relay operations
352	• Specifying whether transmission source information is added when performing a IP relay operation, or when forwarding received documents
⚠1 360	• Coding method for the receiver Internet fax capability (Network function, Mail mode)
363	• Specifying settings concerning the from address in MDN/DSN reports
366	• Specifying the default address input screen
368	• Specifying settings concerning IP relay operations appearing in the activity report
373	• Specifying settings concerning full mode functions with Internet faxing
381	• Specifying the default setting for the coding method
382	• Specifying settings concerning the communication results of IP relay operations
⚠1 391	• File format, Coding format
473	• Specifying the Job list screen given priority
476	• Specifying settings concerning the direct input tab and broadcast transmissions
⚠1 477	• Fax registration restriction and destination display, Setting confirmation screen for broadcast TX
478	• Specifying settings concerning the use of the button for deleting, the display when a one-touch dial button is touched, and the default communication mode
804	• Specifying settings for checked receiver transmissions

(3) For printer settings

Mode	Setting item
304	• Specifying the storage time for confidential documents

(4) For copy settings

Mode	Setting item
402	• Specifying settings for the main application
403	• Specifying settings for using copy mode operations
417	• Specifying whether or not the number of copies are limited
471	• Specifying how the screen for selecting an account appears in administrator mode
501	• Specifying settings for enlarge display mode
835	• Specifying the setting concerning public accounts

5.6 Settings in the Print Lists

5.6.1 TX Report

Functions	• The TX report can be printed.
Use	• To output the report provided a record of transmission jobs such as document number, start time, time, destination, mode, page, size to check it.
Setting/ Procedure	*1.* Touch [Print Lists]. *2.* Touch [TX Report]. *3.* TX report is output.

5.6.2 RX Report

Functions	• The RX report can be printed.
Use	• To output the report provided a record of reception jobs such as document number, start time, time, destination, mode, page, size to check it.
Setting/ Procedure	*1.* Touch [Print Lists]. *2.* Touch [RX Report]. *3.* RX report is output.

5.6.3 Bulletin List

Functions	• The bulletin list can be printed.
Use	• To output the document list registered on the bulletin boards to check it.
Setting/ Procedure	*1.* Touch [Print Lists]. *2.* Touch [Bulletin List]. *3.* Bulletin list is output.

5.6.4 One-Touch List

Functions	• The one-touch list can be printed.
Use	• To output the registered one-touch list to check it.
Setting/ Procedure	*1.* Touch [Print Lists]. *2.* Touch [One-Touch List]. *3.* One-touch list is output.

5.6.5 Program List

Functions	• The program list can be printed.
Use	• To output the selected program content to check it.
Setting/ Procedure	*1.* Touch [Print Lists]. *2.* Touch [Program List]. *3.* Touch the fax program that wants to output. *4.* Program list is output.

6. Service Mode

6.1 Service Mode function setting 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.**

A. Procedure

1. Press the Utility/Counter key.
2. Touch [Check Details].
3. Press the following keys in this order.
   Stop → 0 → 0 → Stop → 0 → 1

NOTE

- **When selecting [CE Authentication] under [Security Settings] available from Service Mode, authentication by CE password is necessary.**
  Enter the 8 digits CE password, and touch [END].
  (The initial setting for CE password is "92729272.")
- **NEVER forget the CE password. When forgetting the CE password, it becomes necessary to replace the RAMU board with a new one and call responsible person of KMBT.**
- **The service code entered is displayed as "*."**

4. The Service Mode menu will appear.

A02FF3E517DA

NOTE

- **Be sure to change the CE password from its default value.**
- **For the procedure to change the CE password, see the Security Settings.**

B. Exiting

- Touch the [OK] key.

NOTE

- **When changing the setting value in service mode, make sure to turn main power switch off once and turn it on again.**

C. Changing the setting value in Service Mode functions

- Use the [+] / [-] key to enter or change the setting value.
- Use the 10-key pad to enter the setting value.
  (To change the setting value, first press the Clear key before making an entry.)

6.2 Service Mode function tree

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

NOTE

- **The following function tree shows only the fax-related functions.**
- **Keys displayed on screens are different depending on the setting.**

Service Mode		Ref. page
System Input	Memory Clear	*
	Software Switch Setting	P.25 P.27
Counter	Fax Connection Error	*
List Output	Protocol Trace	P.26
State Confirmation	Machine Configuration	*
Fax Settings	Self-Telephone #	P.26

*: For details, see the main body service manual.

6.3 Settings in the System Input

6.3.1 Software Switch Setting

Functions Use	• To change the status of each function by setting values (mode, bit, HEX) for soft switch of the machine as necessary. • Refer to the corresponding item on [Admin.] for the list of the soft switches available of setting by the user (administrator). See P.20
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [System Input] → [Software Switch Setting]. *3.* Touch [Mode Selection], and enter the mode number (three digit number) using the 10-key pad. *4.* Touch [Bit Selection]. *5.* Set the cursor using [←] or [→] key, and set the bit with 0 or 1 on the 10-key pad. (When setting in hexadecimal, press [HEX Selection], and enter on the 10-key pad or A to F keys.) *6.* Touch [Apply]. *7.* Touch [OK].

A. Software Switch

Mode	• Each parameter is expressed as a three-digit number. Use the keypad to type in the value.
Bit	• The bits are the eight numbers that represent the parameter status. By specifying a binary number (0 or 1) for each of the bits (0 through 7), settings for each parameter can be specified.
HEX	• Specify a setting for each mode as a hexadecimal number (0 through 9 and A through F). Bit setting “0011 0000” is expressed as the hexadecimal setting “30.” • Specify the status of each parameter by using either bits or hexadecimal values.

6.4 Settings in the List Output

6.4.1 Protocol Trace

Functions	• To produce an output of a protocol information during fax transmission.
Use	
Setting/ Procedure	*1.* Call the Service Mode on the screen. *2.* Touch [List Output] → [Protocol Trace]. *3.* Press the start key to print the report.

6.5 Settings in the FAX Settings

6.5.1 Self-Telephone

- It is displayed only when bit2 for the mode 043 is set to “1” by the following setting: [Service Mode] → [System] → [Software Switch Setting].

Functions	• To register the telephone number of the local fax machine.
Use	
Setting/ Procedure	*1.* Touch [Self-Telephone #]. *2.* Select the key for the self-telephone # to be regist. *3.* Enter the self-telephone # from the 10-key pad, and touch [OK].

7. Soft Switch

7.1 Soft Switches Disclosed to Users (Screen Setting)

Utility					Mode	bit
User Settings	System Settings	Language Selection			820	7 to 2
		Measurement Unit Setting				
		Paper Tray Setting	Priority Tray		408	7 to 4
			Auto Tray Switch ON/OFF		403	1
			No Matching Paper in Tray Setting		409	0
			Paper Type/Size Setting			
		Auto Color Level Adjustment			400	5 to 3
		Dehumidify Scanner				
	Display Settings	Default Screen			493	1, 0
		Default Fax Screen			476	5, 4
	Default Settings	Copy				
		Fax/Scan	Default Scan/Fax Settings			
			IP Relay Dest. Selection		382	2 to 0
			File Type	Full Color	391	7, 6
				Gray Scale	391	5
				Black	391	4
	Copier Settings	Small Originals			424	3
		Auto Zoom for Combine			403	7
		Auto Sort/Group Selection			412	3
	Printer Settings	Basic Settings	PDL Setting		440	7, 6
			Number of Copies		442	7 to 0
			Original Direction		441	3, 2
			A4/A3 <--> LTR/LGR Auto Switch			
			Document Hold Time		457	7 to 0
		Paper Settings	Paper Tray		441	7 to 4
			Paper Size		440	5 to 0
			2-Sided Print		443	7
			Bind Position		443	6, 5
		PCL Settings	Font #		444	7 to 1
			Symbol Set		445	7 to 2
			Font Size		447 448 449 450 451	7 7 to 0 3 to 0 7 to 0 5 to 0
			Line/Page		446	7 to 0
			CR/LF Mapping			
		Print Reports	Configuration Page			
			PCL Demo Page			
			PCL Font List			

Utility					Mode	bit
User Settings	Printer Settings	Print Reports	PS Font List			
User Management	Confirmation Beep				492	7 to 5
	Alarm Volume				492	4 to 2
	Line Monitor Sound				493	7 to 5
	Job Complete Beep				494	4 to 2
	Panel Cleaning					
	Dehumidify					
	POP3 RX					
	Memory RX ON/OFF				038	1
One-Touch/ Box Reg.	One-Touch					
	Index					
	Domain Name					
	Bulletin					
Admin.	System Settings	Power Save Settings	Auto Reset		448	7 to 0
			Low Power Mode Settings		489	7 to 0
			Sleep Mode Settings		490	7 to 0
			LCD Back-Light OFF		491	7 to 0
			Enter Power Save Mode		883	3
		Output Settings	Print/Fax Output Setting	Printer		
				Fax/E-Mail	301	0
			Output Tray Setting	Copy	305	2
				Printer	305	0
				Network	309	0
				Fax (Port 1)	305	1
				Fax (Port 2)	309	1
		Language (I/O)			821	7 to 2
		Date & Time Setting	Date & Time Setting			
			Time Zone		354	7 to 2
			Daylight Saving Time			
		Expert Adjustment	AE Level Adjustment		400	5 to 3
			Density Adjustment	Thick Paper Image Density -Yellow		
				Thick Paper Image Density -Magenta		
				Thick Paper Image Density -Cyan		
				Thick Paper Image Density -Black		
				Black Image Density		

Utility					Mode	bit
Admin.	System Settings	Expert Adjustment	Image Stabilization	Initialize + Stabilization		
				Image Stabilization		
			Color Reg. Adjustment	Cyan		
				Magenta		
				Yellow		
			Gradation Adjustment	Copy		
				Printer (Gradation)		
				Printer (Resolution)		
1			Printer Adjustment	Media Adjustment		
		Paper Size/Type Counter				
1	One-Touch/Box Reg.	One-Touch				
		Index				
		Domain Name				
		Bulletin				
	Administrator Settings	Administrator Password				
		Activity Report E-Mail TX				
1	Call Remote Center					
	Account Track	Authentication Settings	Account Track			
			Allow Print Without Auth.			
		Account Track Settings	Account Track Registration			
			All Counter Clear			
	Document Management	TX Forwarding				
		RX Document				
	Printer Settings	Timeout			455 456	7 to 0 1, 0
	Fax Settings	Self-ID				
		RX Functions	Reception Mode			
			Number of RX Call Rings			
		Password Communication				
		Self-Telephone # Information	Self-Telephone # 1			
			PBX Connect Mode 1		086	2
			Dialing Method 1		086	5, 4, 3
		Self-Telephone # Information 2	Self-Telephone # Info 2			
			PBX Connect Mode 2		116	2
			Dialing Method 2		116	5, 4, 3
1	TX Settings	TSI Registration				
	RX Settings	Memory RX Timer Setting	Memory RX Time		038	1, 0
			Memory Lock Password			
		Delete User Box				
	Report Settings	TX Report			002	6, 5
		Activity Report			002	7

Utility					Mode	bit
Admin.	Print Lists	Setting List				
	Network Settings	Basic Settings	DHCP		355	4
			IP Address			
			Subnet Mask			
			Gateway			
			Network Board Set		355	7, 6, 5
		DNS Settings			361	0
		Machine Name				
		SMTP TX Settings				
		SMTP RX Settings				
		POP3 Settings				
		Scanner Settings	Activity Report		352	7
			RX Doc. Header Print		353	6
			E-Mail Header Text		353	7, 4
			Subject Registration			
			Division Settings	Binary Division	371	1
				Binary Division Size	351	7
			Gateway TX			
		LDAP Settings	Setting Up LDAP			
			Search Default Setting		387	5 to 3
		Frame Type Set				
		IP Relay Settings				
		RAW Port Number Settings				
	Software Switch Setting					
	Ping					
	Firmware Version					
	Security Settings	Function Mgmt Settings	Maximun Job Allowance			

7.2 List of Defaults

MODE	HEX (For U.S.)	HEX (For Europe)	Remark
000	30	20	TSI, Password, Memory TX *
001	00	00	Dest. insert
002	A8	A8	Reports *
003	43	43	Broadcast TX result report *
004	06	06	Memory time *
005	04	08	(Undefined)
006	00	00	(Undefined)
007	F0	F0	G3-1 non-selectable cassette
008	F0	F0	G3-2 non-selectable cassette
009	F0	F0	Network non-selectable cassette
010	F0	F0	Reports non-selectable cassette
011	00	00	(Undefined)
012	00	00	(Undefined)
013	05	01	Automatically switch destinations, Operation when INBOX forward fails
014	00	00	(Undefined)
015	8A	8A	Color, Resolution, Quality *
016	11	11	FLS-Legal switching, Reception date printing *
017	00	00	Select initial value of TSI *
018	46	46	Density setting, Background adjustment *
019	00	00	(Undefined)
020	40	40	Display reports
021	80	80	(Undefined)
022	00	00	Zoom ratio for TX *
023	38	38	TWAIN operation lock time, Set merge for report image *
024	D1	D1	Forward function button, Display caller ID, No receiving by other users *
025	40	40	Processing when memory overflow occurs
026	00	00	(Undefined)
027	04	04	Display ID, Secured comm., F code, 2in1 TX
028	63	63	Remote copy protocol, # of remote multi-copies *
029	00	00	(Undefined)
△1 030	D1	D0	Rotate TX, Rotate print, 2in1 RX, Print paper selection restriction, assign mixed mm/inch print papers *
031	A0	A0	Merge for multi-sheet report image, Merge for output format of report image, Binding for duplex TX *
032	00	00	(Undefined)
033	00	00	2-sided TX setting *
034	02	02	Overlap printing
035	03	03	RX by memory
036	00	00	(Undefined)

MODE	HEX (For U.S.)	HEX (For Europe)	Remark
037	F8	F8	Select FAX print paper cassette *
038	0A	0A	Setting stop/start printing *
039	00	00	(Undefined)
040	FE	FE	Binary coding, T.6 coding, JBIG, V.34JBIG
041	40	40	ECM mode, Audio response
042	3F	3F	Redialing interval
043	83	83	# of resending doc., Redialing non-answered call, No. of rings, TSI/CSI registration, PSTN port automatic selection *
044	82	82	RTN sending error trace threshold, TX special processing, T4 timer, Action against abnormal overseas communications, RTN reception processing, V.34 control channel retrain
045	10	20	Number of redialing times
046	28	28	Line holding guard timer, Symbol rate display, EQM value monitoring, Probing information monitoring
047	88	88	V.34 fallback tolerance
048	C7	C7	Set up MODEM standard, Redialing interval for broadcast TX
049	0D	0D	Transmission speed upper limit (TX)
050	0D	0D	Transmission speed upper limit (RX)
051	21	21	Declare RX print paper size
052	00	00	(Undefined)
053	48	48	Document processing when F-CODE reception fails
054	7A	7A	Silence detection time, History control of V.34 auto dialing, Demodulation method
055	02	02	Silence detection, Silence detection level
056	0C	0C	Select sending time of ANSam
057	19	19	Time that ANSam TX starts after line is blocked
058 | 069	3C | 1A	3C | 1A	(Undefined)
070	14	14	Pseudo-ringer sound
071 | 076	00 | 14	00 | 14	(Undefined)
077	60	60	Hook monitoring adjustment times during ringer
078	00	00	(Undefined)
079	02	02	(Undefined)
080	23	6E	Line connection time (PSTN1)
081	00	00	(Undefined)
082	34	34	Detect busy tone, Line monitoring, Detect line disconnection (PSTN1)
083	50	50	Hook monitoring cycle, Hook detection voltage (PSTN1)
084	14	28	PB sending lever (PSTN1)
085	90	C0	TX level (PSTN1)

MODE	HEX (For U.S.)	HEX (For Europe)	Remark
086	4C	4C	RX attenuator (PSTN1), DP speed, PB/DP switching, Internal/external line switching
087	90	90	Detect continuous ringer, Ringer detection frequency (PSTN1)
088	C0	C0	Process to be carried out when 2nd dialing tone timeout is detected, 1300 Hz reception sensitivity switching (PSTN1)
089	00	00	Posed insertion, Prefix # (PSTN1) *
090	00	00	(Undefined)
091	00	00	(Undefined)
092	70	70	Sending echo protection tone, Switch carrier frequency (PSTN1)
093	88	40	CED, Receive command echo (PSTN1)
094	0C	0C	AGC lock (PSTN1)
095	20	20	Digital TX/RX cable equalizer (PSTN1)
096	14	14	CI signal sending time (PSTN1)
097	14	14	TCF/NTCF sending level down, V.34 symbol rate (PSTN1)
098	46	46	CM signal sending start time, EQM threshold value (PSTN1)
099	88	88	V.34 symbol rate threshold value (PSTN1)
100 | 109	00 | 00	00 | 00	(Undefined)
110	23	6E	Line connection time (PSTN2)
111	00	00	(Undefined)
112	24	24	Detect busy tone, Detect line disconnection (PSTN2)
113	50	50	(Undefined)
114	14	28	PB sending lever (PSTN2)
115	90	C0	TX level (PSTN2)
116	4C	4C	RX attenuator, DP speed, PB/DP switching, Internal/external line switching (PSTN2)
117	90	90	Detect continuous ringer, Ringer detection frequency (PSTN2)
118	C0	C0	Process to be carried out when 2nd dialing tone timeout is detected, 1300 Hz reception sensitivity switching (PSTN2)
119	00	00	Posed insertion, Prefix # (PSTN2) *
120	00	00	(Undefined)
121	00	00	(Undefined)
122	70	70	Sending echo protection tone, Switch carrier frequency (PSTN2)
123	88	40	CED, Receive command echo (PSTN2)
124	0C	0C	AGC lock (PSTN2)
125	20	20	Digital TX/RX cable equalizer (PSTN2)
126	14	14	CI signal sending time (PSTN2)
127	14	14	TCF/NTCF sending level down, V.34 symbol rate (PSTN2)
128	46	46	CM signal sending start time, EQM threshold value (PSTN2)
129	88	88	V.34 symbol rate threshold value (PSTN2)

	MODE	HEX (For U.S.)	HEX (For Europe)	Remark
	130 | 211	00 | 02	00 | 02	(Undefined)
	212	40	00	DP make rate (PSTN1)
	213 | 231	00 | 05	00 | 02	(Undefined)
	232	40	00	DP make rate (PSTN2)
	233 | 248	00 | 51	00 | 51	(Undefined)
	249	08	08	Ringer detection counts (PSTN2) *
	250 | 287	08 | FF	08 | FF	(Undefined)
	288	FF	FF	Insert dummy data before PIX
	289 | 299	FF | 00	FF | 00	(Undefined)
	300	41	41	Stamp, Trim print paper leading edge, Remote copy print order
	301	19	15	Print image reduction, Division *
	302	00	00	Print paper selection *
	303	00	00	(Undefined)
	304	00	00	Confidential document holding time, Print lamp lighting, etc. *
	305	05	05	ADF density adjustment, Output pin *
	306	00	00	(Undefined)
	307	00	00	(Undefined)
	308	00	00	Specify Imaging unit life stop, Normal stabilization, Specify next print color mode operation, Take data for image stabilization
	309	00	00	Output tray setting *
	310	00	00	(Undefined)
	311	00	00	(Undefined)
⚠1	312	20	20	Setting printing area for ADF front side leading edge 1 (A)
⚠1	313	07	07	Setting printing area for ADF front side leading edge 2 (B)
	314	21	21	Setting printing area for ADF front side posterior end 1 (C)
	315	00	00	Setting printing area for ADF front side posterior end 2 (D)
⚠1	316	80	80	ACS parameter setting for ADF front side leading edge (2) *
	317	10	10	ACS parameter setting for ADF front side posterior end (3) *
	318	00	00	ACS parameter setting (1) for ADF front side center (1) *
⚠1	319	20	20	Setting printing area for ADF back side leading edge 1 (A)
⚠1	320	07	07	Setting printing area for ADF back side leading edge 2 (B)
	321	21	21	Setting printing area for ADF back side posterior end 1 (C)
	322	00	00	Setting printing area for ADF back side posterior end 2 (D)

	MODE	HEX (For U.S.)	HEX (For Europe)	Remark
1	323	80	80	ACS parameter setting for ADF back side leading edge (2) *
	324	10	10	ACS parameter setting for ADF back side posterior end (3) *
	325	00	00	ACS parameter setting for ADF back side center (1) *
	326	00	00	ACS Parameter setting for the book scanner *
	327	64	64	Main scan direction size detection threshold
	328	03	03	Wait time after lamp lights until main scan direction size detection starts
	329	19	19	Main scan direction size detection threshold
1	330	01	01	Wait time after cover closes until main scan direction size detection starts
1	331	60	60	Scan minimum value when cover is closed
1	332	80	80	Scan maximum value when cover is opened
	333	1E	1E	Re-shading interval (first time)
	334	3C	3C	Re-shading interval (since the second times)
	335 | 349	00 | 00	00 | 00	(Undefined)
	350	28	28	POP3 before SMTP TX, Document width/line density upper limit *
	351	1C	1C	Gateway transmission, IP address fax reception, SMTP reception *
	352	D0	D0	Notification of result, Add TSI for Gateway TX and forwarding *
	353	88	80	Text insertion, Header printing *
	354	38	60	Time zone *
	355	30	30	Switch 10M/100M, Switch full-duplex/half-duplex, DHCP *
	356	20	20	SMTP TX timeout *
	357	A0	A0	SMTP receive timeout *
	358	20	20	POP3 receiving timeout *
	359	00	00	Set re-trials for forwarding RX docs, Forced priority TX
1	360	80	80	Coding method for the receiver Internet fax capability (Network function, Mail mode) *
	361	F8	F8	DNS function *
	362	8A	8A	Intervals for calling on the network *
	363	40	40	SMTP expansion prohibited, Specify from address for DNS report *
	364	05	05	POP before SMTP time *
1	365	02	02	FTP timeout
	366	08	08	Priority address input for scan, Anonymous e-mail countermeasure, E-mail file name character restrict, File name year digit quantity *
1	367	00	00	Time of DNS inquiry timeout *
	368	82	82	Activity report, Activity report for scanner TX (TX), RX result management for IP relay sending machine *
	369	00	00	(Undefined)
	370	FF	FF	Additional # of TX re-trials
	371	40	40	Interval of retrials to be set for additional # of TX re-trials, Binary division, Page division *
	372	0F	0F	Transmission interval of size-divided e-mail file data *

	MODE	HEX (For U.S.)	HEX (For Europe)	Remark
	373	08	08	Full mode function, MDN correspondence *
	374	50	50	NOTIFY setting
	375	00	00	(Undefined)
1	376	00	00	NetWare, NDS/Bindery, AppleTalk *
1	377	FF	FF	Printer number for Nprinter/Rprinter mode *
1	378	FF	FF	IPP setting *
	379	00	00	Edit data when forwarding received documents
	380	3A	3A	APOP authentication, SMTP authentication, HTTP server, SSL *
	381	80	80	IP relay function *
	382	40	40	IP relay result timeout processing, Default station *
	383	38	38	SMTP authentication reception *
	384	FF	FF	TCP/IP, LPD, RAW port, FTP, SNMP *
1	385	C0	C0	Scan setting, print setting *
1	386	30	30	TCP Socket, NetWare *
	387	00	00	LDAP
	388	00	00	Ethernet frame type *
	389	0C	0C	Coding method, Allow write, Allow discovery user *
	390	A4	A4	Read security level, Write security level, PDF profile reception limitation, JPEG compression method *
	391	00	00	File format, Coding format *
	392 | 399	00 | 00	00 | 00	(Undefined)
	400	10	10	Priority doc. mixed mode, Priority auto color level, Priority color *
	401	00	00	2 colors, Mono color
	402	04	04	Average density, Priority copy mode, Automatic function priority mode, Priority application, Neg./Pos. reverse *
	403	00	00	Draft print zoom ratio, Sorting, AMS setting for tray selection, Copy function use *
	404	4C	4C	Background adjustment, Glossy copy *
1	405	40	40	Character reproduction, document binding, frame erase *
1	406	00	00	Erase position (book separation), binding margin
	407	00	00	(Undefined)
	408	00	00	Default tray (print paper) *
	409	04	04	Default 4-in-1 print order, Priority document quality, Non-matching specified feed trays *
	410	00	00	(Undefined)
	411	00	00	(Undefined)
	412	08	08	Priority sort mode, Sort/group *
	413	48	48	Copy density *
	414 | 416	70 | 00	70 | 00	(Undefined)

	MODE	HEX (For U.S.)	HEX (For Europe)	Remark
	417	00	00	Set max # of copies *
	418 | 423	00 | 00	00 | 00	(Undefined)
	424	00	00	Small doc. *
	425	10	10	Select FLS size
	426	10	00	(Undefined)
	427	48	48	Brightness for color quality adjustment *
	428	48	48	Contrast for color quality adjustment *
	429	48	48	Saturation for color quality adjustment *
	430	48	48	Red for color quality adjustment *
	431	48	48	Green for color quality adjustment *
	432	48	48	Blue for color quality adjustment *
	433	48	48	Yellow for color quality adjustment *
	434	48	48	Magenta for color quality adjustment *
	435	48	48	Cyan for color quality adjustment *
	436	48	48	Black for color quality adjustment *
	437	60	60	Sharpness for color quality adjustment *
	438	00	00	(Undefined)
	439	00	00	(Undefined)
	440	0B	01	Set PCL, Paper size *
	441	80	80	Paper tray, Paper orientation *
	442	01	01	# of copies (least significant 8 bits) *
1	443	20	20	Printing method, # of copies (most significant 2 bits) *
	444	00	00	Language code *
	445	78	4C	Symbol set *
	446	3C	40	# of lines *
	447	00	00	Unit of font size *
	448	30	30	Font size (Scalable) (least significant 8 bits) *
	449	00	00	Font size (Scalable) (most significant 4 bits) *
	450	E8	E8	Font size (Bitmap) (least significant 8 bits) *
	451	03	03	Font size (Bitmap) (most significant 6 bits) *
1	452	80	80	Switch A4/Letter, feed cassette fixed/priority, CR/LF mapping, allow printing without account authentication *
	453	00	00	Set PostScript error print *
	454	03	03	(Undefined)
	455	3C	3C	Timeout set (least significant 8 bits) *
	456	00	00	Timeout set (most significant 2 bits) *
	457	05	05	Memory overflow waiting time *
	458	04	04	PC print job deletion operation, PC-FAX job deletion operation *

MODE	HEX (For U.S.)	HEX (For Europe)	Remark
459 | 469	00 | 00	00 | 00	(Undefined)
470	00	00	Set export extension, Simple format, PSDA use, Auto logout time *
471	01	00	Set user's list screen display and default screen *
472	00	00	(Undefined)
473	40	40	Set priority job list screen, Use of # for destination entry *
474	00	00	(Undefined)
475	00	00	(Undefined)
476	00	00	Destination display screen, Specify full-dial TX, Specify broadcast TX *
477	01	01	Fax registration restriction and destination display, Setting confirmation screen for broadcast TX *
478	82	02	Specify delete key operation, Display when pressing one-touch, Comm. mode initial value, Antidew processing, PB/DP auto detection key *
479	00	00	(Undefined)
480	00	00	Display file forwarding key, Sound patterns for alarm buzzer
481 | 484	00 | 00	00 | 00	(Undefined)
485	C0	00	Year/Month/Day display order
486	40	40	Daylight saving time activation switch
487	00	00	No sleep
488	01	01	Auto reset *
489	0A	0A	Low power mode *
490	14	14	Sleep mode *
491	01	01	LCD back-light OFF *
492	6C	6C	Sound volume setting (buzzer sound, alarm sound) *
493	64	68	Sound volume setting (monitor sound), Priority application screen *
494	0C	0C	Sound volume setting (completion sound) *
495 | 499	00 | 00	00 | 00	(Undefined)
500	00	00	Enlarge sound volume *
501	00	00	Screen reverse, Next screen display for enlarge display *
502	03	03	Key repeat starting time *
503	01	01	Key repeat interval *
504	03	03	Reservation completion screen display *
505	40	40	Buzzer sound *
506	00	00	Extend auto reset time *
507 | 511	00 | 00	00 | 00	(Undefined)
512	80	80	Dial tone detection

MODE	HEX (For U.S.)	HEX (For Europe)	Remark
513 | 517	64 | 01	64 | 0A	(Undefined)
518	D4	D4	Setting the voice message
519	00	00	Setting to allow/prohibit fax operation when detecting an error during voice message
520	01	01	Ringer detection counts (PSTN1)
521 | 767	1E | 0A	1E | 14	(Undefined)
768	0C	0C	Soft time adjustment value (V.17, V.27 ter)
769	07	07	Soft time adjustment value (V.29)
770	1C	C2	CFR-PIX interval
771	23	23	T1 timer for auto-TX
772	23	23	T1 timer for auto-RX
773	23	23	T1 timer for manual TX
774	23	23	T1 timer for manual RX
775	23	23	T1 timer for auto-TX of polling
776	23	23	T1 timer for manual TX of polling
777	07	07	PIX-Post command interval
778 | 803	00 | 01	00 | 02	(Undefined)
804	04	04	SF/SSF communication, Destination machine confirmation TX *
805	53	53	Special characters for destination machine confirmation TX
806 | 819	00 | 00	00 | 00	(Undefined)
820	04	04	Language code (for display)
821	04	04	Language code (for input/output)
822	00	00	(Undefined)
823	04	04	Language code (for input)
824 | 829	80 | 00	80 | 00	(Undefined)
830	50	60	Total counter count mode, Paper size considered as the large size
831	00	00	Key counter
832	00	00	Vendor + key counter, management device management setting
833	00	00	Vendor message, PC print control with key counter
834	00	00	(Undefined)
835	00	00	Public account *
836 | 879	00 | 00	00 | 00	(Undefined)

	MODE	HEX (For U.S.)	HEX (For Europe)	Remark
	880	70	10	Unit change, Consumable life reminder
	881	00	00	(Undefined)
	882	E0	E0	Warm-up mode *
	883	04	00	Power save setting, LCT paper size, Optional original size detection (Book scanner)
1	884	01	01	Fan control for the low-temperature warm-up
	885 | 900	E0 | 00	E0 | 00	(Undefined)
1	901	01	01	CS Remote Care: Line for send only, Dial mode
1	902	73	73	(Undefined)
1	903	0A	0A	(Undefined)
1	904	02	02	CS Remote Care transmission mode
1	905	03	03	CS Remote Care modem redial interval
1	906	0A	0A	CS Remote Care modem redial times
1	907	01	01	CS Remote Care redial for response timeout
1	908	06	06	CS Remote Care retransmission interval on E-mail error
1	909	0A	0A	CS Remote Care retransmission times on E-mail error
1	910	00	00	CS Remote Care time zone
1	911	20	20	Ring reception → Connect reception timer
1	912	40	40	Dial call end → Connect reception timer
1	913	00	00	(Undefined)
1	914	20	20	Line Connect → Send start-up message request time
1	915	1E	1E	Opposite party signal answer wait time
1	916	00	00	(Undefined)
1	917	00	00	(Undefined)
1	918	01	01	CS Remote Care ATTENTION display
1	919 | 929	00 | 00	00 | 00	(Undefined)
1	930	00	00	CS Remote Care Authentication, SMTP authentication information
1	931	05	05	CS Remote Care POP before SMTP time
1	932	20	20	CS Remote Care SMTP timeout
1	933	1E	1E	CS Remote Care POP3 server auto connection interval
1	934	20	20	CS Remote Care POP3 timeout
1	935	00	00	CS Remote Care APOP setting
1	936 | 940	00 | 00	00 | 00	(Undefined)
1	941	F0	F0	FIFO trigger level

	MODE	HEX (For U.S.)	HEX (For Europe)	Remark
△1	942 | 944	00 | 00	00 | 00	(Undefined)
△1	945	C1	C1	CS Remote Care Unit of the timer for awaiting toner empty restoration
△1	946 | 999	00 | 00	00 | 00	(Undefined)

7.3 List of Soft Switches

NOTE

- **If no bit settings are given in the soft switch list that follows, the factory settings for those particular bits are fixed and should never be changed.**

: Default settings of U.S.

: Default settings of Europe

: Default settings are common

MODE	Factory setting bit	
000	Bit: 7 6 5 4 3 2 1 0 0 0 1 1 0 0 0 0	HEX: 30 (For U.S.) HEX: 20 (For Europe)

Bit	Feature	Logic		Description
		0	1	
5	Specifies whether printing TSI on transmitted document is returned to ON or OFF after completing operations. <*>	OFF	**ON**	
4	Select position of TSI. <*>	**Out of Doc.**	**On the Doc.**	
3	Specifies whether confirming communication password at TX is returned to ON or OFF after completing operations. <*>	**OFF**	ON	
2	Confirm communication password at RX. <*>	**No**	Yes	
1	Specifies which TX method is returned to ON, memory-stored TX or quick scan TX, after completing operations. *	**Memory-stored**	Quick scan	Memory-stored TX includes quick memory TX.

NOTE

- **The features with (*) are settable by users. *: Screen setting <*>: Soft switch setting**

MODE	Factory setting bit	
001	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0	HEX: 00

Bit	Feature	Logic		Description
		0	1	
0	Specify whether to insert a destination name on document to send.	**No**	Yes	

MODE	Factory setting bit	
002	Bit: 7 6 5 4 3 2 1 0 1 0 1 0 1 0 0 0	HEX: A8

Bit	Feature	Logic		Description	
		0	1		
7	Print communication activity report automatically for every 50 activities. *	No	**Yes**	"No" means manual print.	
6	Select when a result report should be printed. *	Bit 6-5: 00		No print	Specifies result reports for TX, incomplete TX, or broadcasting TX.
5		**01**		**Print for incomplete TX**	
		10		Always print	
		11		Not available	
3	Print memory clear report. <*>	No	**Yes**		
2	Log management of broadcast transmissions. <*>	**All together**	Individual		

NOTE

- **The features with (*) are settable by users. *: Screen setting <*>: Soft switch setting**

MODE	Factory setting bit	
003	Bit: 7 6 5 4 3 2 1 0 0 1 0 0 0 0 1 1	HEX: 43

Bit	Feature	Logic		Description	
		0	1		
7	Result report of broadcast transmissions. *	Bit 7-6: 00		No output	
6		**01**		**Output for incomplete TX**	
		10		Always output	
		11		Not available	

NOTE

- **The features with (*) are settable by users. *: Screen setting**

MODE	Factory setting bit	
004	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 1 1 0	HEX: 06

Bit	Feature	Logic		Description	
		0	1		
3 2 1	Selects holding time of incompleted TX document in memory. <*>	Bit 3-0:	0000	0 Delete file from memory immediately (No redialing function)	
0			0001	10 min	
			0010	20 min	
			0011	30 min	
			0100	40 min	
			0101	50 min	IC memory device
			0110	**1 hr**	
			0111	2 hr	
			1000	4 hr	
			1001	8 hr	
			1010	12 hr	
			1011	24 hr	
			1100	72 hr	
			Others	Not available	

NOTE

- **The features with (*) are settable by users. <*>: Soft switch setting**

MODE	Factory setting bit	
007	Bit: 7 6 5 4 3 2 1 0 1 1 1 1 0 0 0 0	HEX: F0

Bit	Feature	Logic		Description
		0	1	
7	Cassette-specified printing (G3-1: Tray 1)	Cannot print	**Can print**	
6	Cassette-specified printing (G3-1: Tray 2)	Cannot print	**Can print**	
5	Cassette-specified printing (G3-1: Tray 3)	Cannot print	**Can print**	
4	Cassette-specified printing (G3-1: Tray 4)	Cannot print	**Can print**	
3	Cassette-specified printing (G3-1: Bypass tray)	**Cannot print**	Can print	
0	Cassette selection per reception port	**Disable**	Enable	

MODE	Factory setting bit	
008	Bit: 7 6 5 4 3 2 1 0 1 1 1 1 0 0 0 0	HEX: F0

Bit	Feature	Logic		Description
		0	1	
7	Cassette-specified printing (G3-2: Tray 1)	Cannot print	**Can print**	
6	Cassette-specified printing (G3-2: Tray 2)	Cannot print	**Can print**	
5	Cassette-specified printing (G3-2: Tray 3)	Cannot print	**Can print**	
4	Cassette-specified printing (G3-2: Tray 4)	Cannot print	**Can print**	
3	Cassette-specified printing (G3-2: Bypass tray)	**Cannot print**	Can print	

MODE	Factory setting bit	
009	Bit: 7 6 5 4 3 2 1 0 1 1 1 1 0 0 0 0	HEX: F0

Bit	Feature	Logic		Description
		0	1	
7	Cassette-specified printing (Network: Tray 1)	Cannot print	**Can print**	
6	Cassette-specified printing (Network: Tray 2)	Cannot print	**Can print**	
5	Cassette-specified printing (Network: Tray 3)	Cannot print	**Can print**	
4	Cassette-specified printing (Network: Tray 4)	Cannot print	**Can print**	
3	Cassette-specified printing (Network: Bypass tray)	**Cannot print**	Can print	

MODE	Factory setting bit	
010	Bit: 7 6 5 4 3 2 1 0 1 1 1 1 0 0 0 0	HEX: F0

Bit	Feature	Logic		Description
		0	1	
7	Cassette-specified printing (Report: Tray 1)	Cannot print	**Can print**	
6	Cassette-specified printing (Report: Tray 2)	Cannot print	**Can print**	
5	Cassette-specified printing (Report: Tray 3)	Cannot print	**Can print**	
4	Cassette-specified printing (Report: Tray 4)	Cannot print	**Can print**	
3	Cassette-specified printing (Report: Bypass tray)	**Cannot print**	Can print	

MODE	Factory setting bit	
013	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 1 0 1	HEX: 05 (For U.S.) HEX: 01 (For Europe)

Bit	Feature	Logic		Description
		0	1	
2	Automatically switch destinations.	**OFF**	**ON**	You can register main addresses and 2ndary addresses with onetouch. You can send to 2ndary addresses when communication with main addresses is abnormal.
0	Select operation when INBOX forward failed.	Destroy document immediately	**Destroy document after printing**	Specify the action to be taken when INBOX forwarding has failed. (Failed means communications cannot be delivered. Communications means communication via FAX and E-mail.)

MODE	Factory setting bit	
015	Bit: 7 6 5 4 3 2 1 0 1 0 0 0 1 0 1 0	HEX: 8A

Bit	Feature	Logic		Description	
		0	1		
7	Color default value *	Bit 7-6:	00	Black	Specify default value of color when transmitting.
6			01	Gray scale	
			10	**Full color**	
			11	Not available	
5	Resolution default value *	Bit 5-3:	000	200 x 100 dpi	Specify default value of resolution when transmitting.
4			**001**	**200 dpi**	
3			010	300 dpi	
			011	400 dpi	
			100	600 dpi	
			Others	Not available	
2	Quality default value *	Bit 2-0:	000	Text	Specify default value of quality when transmitting.
1			001	Photo	
0			**010**	**Text/Photo**	
			011	Dot matrix	
			100	Map	
			Others	Not available	

NOTE

- **The features with (*) are settable by users. *: Screen setting**

MODE	Factory setting bit	
016	Bit: 7 6 5 4 3 2 1 0 0 0 0 1 0 0 0 1	HEX: 11

Bit	Feature	Logic		Description
		0	1	
7	Switch FLS-Legal	**FLS**	Legal	Switches the detected size.
5	Mail mode: Print date & time received <*>	**No**	Yes	
4	Mail mode: Position of printing date & time received <*>	Outside of document	**Inside of document**	Available when bit 5 of mode 016 is set to “Yes”
1	RX time stamp: Print date & time received <*>	**No**	Yes	
0	RX time stamp: Position of printing date & time received <*>	Outside of document	**Inside of document**	Available when bit 1 of mode 016 is set to “Yes” Used for G3 communications.

NOTE

- **The features with (*) are settable by users. <*>: Soft switch setting**

MODE	Factory setting bit	
017	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0	HEX: 00

Bit	Feature	Logic		Description
		0	1	
3	Select initial value of TSI *	Bit 3-0:	**0000**	**TSI 1**
2			0001	TSI 2
1			0010	TSI 3
0			0011	TSI 4
			0100	TSI 5
			0101	TSI 6
			0110	TSI 7
			0111	TSI 8
			Others	Not available

NOTE

- **The features with (*) are settable by users. *: Screen setting**

MODE	Factory setting bit	
018	Bit: 7 6 5 4 3 2 1 0 0 1 0 0 0 1 1 0	HEX: 46

Bit	Feature	Logic		Description	
		0	1		
7	Density *	Bit 7-4:	0000	1 (Light)	Specify default value of density.
6			0001	2	
5			0010	3	
4			0011	4	
			0100	**5 (Standard)**	
			0101	6	
			0110	7	
			0111	8	
			1000	9 (Dark)	
			Others	Not available	
3	Background adjustment *	Bit 3-0:	0000	-6 (Light)	Specify default value of background adjustment.
2			0001	-5	
1			0010	-4	
0			0011	-3	
			0100	-2	
			0101	-1	
			0110	**0 (Standard)**	
			0111	+1	
			1000	+2 (Dark)	
			1001	Auto	
			Others	Not available	

NOTE

- **The features with (*) are settable by users. *: Screen setting**

MODE	Factory setting bit	
020	Bit: 7 6 5 4 3 2 1 0 0 1 0 0 0 0 0 0	HEX:40

Bit	Feature	Logic		Description
		0	1	
7	Displays # of reports.	**No**	Yes	"Yes" displays # of pages on phone line in addition to ordinary # of papers.
6	Trace protocol.	No	**Yes**	"Yes" prints result of protocol trace after completing communication. If next communication is proceeded before this printing, information on previous communication protocol will be deleted.
5	Display number of error lines/transmission speed.	**No**	Yes	"Yes" displays # of error lines/transmission speed on touch panel and outputs port for auto checking.
4	Select monitor interval for line.	**Phase A**	All phases	Specifies interval for monitoring phone lines for G3 communication.
3	Display error codes. (Reports)	**No**	Yes	"Yes" displays error codes (6 digits) in reports.

MODE	Factory setting bit	
022	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0	HEX: 00

Bit	Feature	Logic		Description
		0	1	
5	Zoom setting default value for TX *	**Auto zoom**	No reduction	

NOTE

- **The features with (*) are settable by users. *: Screen setting**

MODE	Factory setting bit	
024	Bit: 7 6 5 4 3 2 1 0 1 1 0 1 0 0 0 1	HEX: D1

Bit	Feature	Logic		Description	
		0	1		
7	TX forwarding to administrator. <*>	Disable	**Enable**		
6	TX forwarding of scanner function to administrator. <*>	Disable	**Enable**	Valid when Mode 024 Bit 7 is set to "Enable."	
5	Report output when TX forwarding to administrator is set. <*>	Bit 5-4: 00		Not output	
4		**01**		**Output when TX fails**	
		10		Always output	
		11		Not available	
2	Select ID display order when receiving.	Bit 2-1:	**00**	**Expansion ID → TSI**	Determine the subject data priority displayed in the subject line for gateway transmission (*) when Report, Screen display and Network options are set to Yes. (*) When forward is specified in the user's "Document management" settings, and received facsimile is broadcast via E-mail.
1			01	TSI	
			Others	Not available	
0	Receive by memory.	No	**Yes**		

NOTE

- **The features with (*) are settable by users. <*>: Soft switch setting**

MODE	Factory setting bit	
025	Bit: 7 6 5 4 3 2 1 0 0 1 0 0 0 0 0 0	HEX: 40

Bit	Feature	Logic		Description
		0	1	
7	Memory overflow transmission mode	Bit 7-6: 00		Quit transmission
6		**01**		**Inquire (Quit TX for non-response and quick memory TX)**
		10		Inquire (Continue TX for non-response and quick memory TX)
		11		Not available

MODE	Factory setting bit	
027	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 1 0 0	HEX: 04

Bit	Feature	Logic		Description
		0	1	
7	Select ID display order: Specifies priority order of destination IDs for printing report/displaying on screen. Secure comm. with N-method	Bit 7-5:	**000**	**Pattern 1: 1→2→3→4**
6			001	Pattern 2: 3→4→1→2
5			010	Pattern 3: 3→1→2→4
			011	"CSI" → "called destination #" display order
			100	Pattern 4: 2→1→4
			Others	Not available
				1: Name registered in one-touch button or phone # of destination dialed (full dialing) 2: Destination phone # 3: Extended ID 4: Standard ID (# of TSI/CIG)
3	Secure comm. with N-method	**No**	Yes	
2	F code function	Disable	**Enable**	Used for G3 communications.
1	Assign non-reduction TX for 2in1 scan.	**No**	Yes	Specify whether 2in1 TX will be sent by A4 always or by size appropriate to receiver's capability.
0	Specify 2in1 TX	**No**	Yes	

MODE	Factory setting bit	
028	Bit: 7 6 5 4 3 2 1 0 0 1 1 0 0 0 1 1	HEX: 63

Bit	Feature	Logic		Description	
		0	1		
7	Select remote copy protocol.	**F code**	N method		
6	Select restricted number of prints of remote copy. <*>	Bit 6-0:	0000000	Not available (Same as 1 copy)	
5					
4			0000001	1 copy	
3			|		
2			**1100011**	**99 copies**	
1			Others	Not available (Same as 99 copies)	
0					

NOTE

- **The features with (*) are settable by users. <*>: Soft switch setting**

MODE	Factory setting bit	
030	Bit: 7 6 5 4 3 2 1 0 1 1 0 1 0 0 0 1	HEX: D1 (For U.S.) HEX: D0 (For Europe)

Bit	Feature	Logic		Description
		0	1	
7	Rotation TX *	No	**Yes**	
6	Rotate print of FAX RX. <*>	No rotate print	**Rotate print**	
4	Receive 2in1 page. (Valid for RX print) <*>	No	**Yes**	
3 2	Restrict print paper selection: Specifies unselectable print paper (including orientation) for FAX.	Bit 3-2:	**00**	**No B5S, A5S, and postcard**
		01		No A5S and postcard
		10		No postcard
		11		Not available
1 0	Assign mixed mm/inch print papers. (Priority set) (Valid for RX printing or report printing)	Bit 1-0:	**00**	**Select mm only**
		01		**Select inch only**
		10		Select both
		11		Not available

NOTE

- **The features with (*) are settable by users. *: Screen setting <*>: Soft switch setting**

MODE	Factory setting bit	
031	Bit: 7 6 5 4 3 2 1 0 1 0 1 0 0 0 0 0	HEX: A0

Bit	Feature	Logic		Description
		0	1	
7	Margin process for multiple copies of report with image merge.	No	**Yes**	Valid when “Set marge for report image. (MODE 023 Bit 3)” is set to “Yes.”
6	Assign output format for image marge report.	**Same as regular report**	Always A5 forma	1: Always output with A5 format regardless of the set status of print paper. This is valid when a cassette has A4 print paper and not A4S print paper.
5	Margin layout for 2-sided TX *	Top margin	**Left margin**	

NOTE

- **The features with (*) are settable by users. *: Screen setting**

MODE	Factory setting bit	
033	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0	HEX: 00

Bit	Feature	Logic		Description
		0	1	
6	Initial setting of 2-sided TX *	**No 2-sided-TX mode**	2-sided TX mode	

NOTE

- **The features with (*) are settable by users. *: Screen setting**

MODE	Factory setting bit	
034	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 0 1 0	HEX: 02

Bit	Feature	Logic		Description
		0	1	
1	Overlap printing.	No	**Yes**	Valid only at RX printing. Overlapped print is fixed to 4 mm regardless of line density.

MODE	Factory setting bit	
035	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 0 1 1	HEX: 03

Bit	Feature	Logic		Description
		0	1	
1	RX by memory when reaching I/C lifetime.	No	**Yes**	
0	RX by memory when reaching toner empty.	No	**Yes**	

MODE	Factory setting bit	
037	Bit: 7 6 5 4 3 2 1 0 1 1 1 1 1 0 0 0	HEX: F8

Bit	Feature	Logic		Description
		0	1	
7	Select FAX paper cassette (1st cassette). <*>	No	**Yes**	
6	Select FAX paper cassette (2nd cassette). <*>	No	**Yes**	
5	Select FAX paper cassette (3rd cassette). <*>	No	**Yes**	
4	Select FAX paper cassette (4th cassette). <*>	No	**Yes**	
2	Select FAX paper cassette (Bypath). <*>	**No**	Yes	

NOTE

- **The features with (*) are settable by users. <*>: Soft switch setting**
- **If bits 7-4 and bit 2 all are set to "No," 1st cassette is forcibly selected.**

MODE	Factory setting bit	
038	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 1 0 1 0	HEX: 0A

Bit	Feature	Logic		Description	
		0	1		
3	Print restart timer after stopping.	Bit 3-2: 00		3 min	
2		01		5 min	
		10		**10 min**	
		11		20 min	
1	Manual setting of print stop/start. *	Stop	**Start**		
0	Print stop/start timer. *	**Does not function**	Function		

NOTE

- **The features with (*) are settable by users. *: Screen setting**

MODE	Factory setting bit	
040	Bit: 7 6 5 4 3 2 1 0 1 1 1 1 1 1 1 0	HEX: FE

Bit	Feature	Logic		Description
		0	1	
7	2-dim coding at TX. (Valid for G3 communication)	No	**Yes**	"No": MH "Yes": MH + MR
6	T.6 coding. (Valid for G3 communication)	No	**Yes**	"Yes": MH + MR + MMR Valid only when "2-dim coding at TM. (MODE 040 Bit 7)" is set to "Yes."
5	JBIG communication. (Valid for ECM communication)	No	**Yes**	
4	Third party's JBIG (ITU-T) communication. (Valid for ECM communication)	No	**Yes**	Valid only when "JBIG communication. (MODE 040 Bit 5)" is set to "Yes."
3	Proprietary JBIG (ITU-T) communication. (Valid for ECM communication)	No	**Yes**	Valid only when "JBIG communication. (MODE 040 Bit 5)" is set to "Yes."
1	JBIG capability at V.34 communication. (G3)	No	**Yes**	Valid only when "JBIG communication. (MODE 040 Bit 5)" is set to "Yes."

MODE	Factory setting bit	
041	Bit: 7 6 5 4 3 2 1 0 0 1 0 0 0 0 0 0	HEX:40

Bit	Feature	Logic		Description
		0	1	
6	ECM mode	No	**Yes**	"No": G3 "Yes": G3 + ECM
1	Audio response	**Disable**	Enable	

MODE	Factory setting bit	
042	Bit: 7 6 5 4 3 2 1 0 0 0 1 1 1 1 1 1	HEX: 3F

Bit	Feature	Logic		Description
		0	1	
7	Select redialing interval 1.	Bit 7-4: 0000		Not available
6		0001		1 min
5		0010		2 min
4		**0011**		**3 min**
		0100		4 min
		0101		5 min
		0110		6 min
		0111		7 min
		1000		8 min
		1001		9 min
		1010		10 min
		1011		11 min
		1100		12 min
		1101		13 min
		1110		14 min
		1111		15 min
3	Select redialing interval 2.	Bit 3-0: 0000		Not available
2		0001		1 min
1		0010		2 min
0		0011		3 min
		0100		4 min
		0101		5 min
		0110		6 min
		0111		7 min
		1000		8 min
		1001		9 min
		1010		10 min
		1011		11 min
		1100		12 min
		1101		13 min
		1110		14 min
		1111		**15 min**

MODE	Factory setting bit	
043	Bit: 7 6 5 4 3 2 1 0 1 0 0 0 0 0 1 1	HEX: 83

Bit	Feature	Logic		Description	
		0	1		
7	# of document resendings.	Bit 7-6: 00		0	
6		01		1	
		10		**2**	
		11		3	
4	Redialing when line is connected but no answer.	**No**	Yes		
3	No. of rings until transmission.	**Not restrict (0 to 20 times)**	Restrict (2 to 4 times)	Number of times for automatic reception calls.	
2	TCI/CSI registration screen.	**User setting**	Service mode setting	Set self-telephone # information.	
1	Select PSTN port automatically. Specify how to dial standard phone lines. <**>	No	**Yes**	When the system has 2 PSTN lines and one of them is used, you can use the other line by selecting “Yes.” If you have only 1 PSTN line or wish to use 2 lines for the extension and the external lines separately, select “No.”	

NOTE

- **The features with (*) are settable by users. <*>: Soft switch setting**
  The feature with (**) is available only in a machine with a multi-port option.

MODE	Factory setting bit	
044	Bit: 7 6 5 4 3 2 1 0 1 0 0 0 0 0 1 0	HEX: 82

Bit	Feature	Logic		Description
		0	1	
7	Select threshold value for RTN sending error trace.	32 lines or more	**64 lines or more**	Specifies # of error lines as reference of sending RTN: • “32 lines or more”: MCF if error lines are 0 to 31 RTN if error lines are 32 or more • “64 lines or more”: MCF if error lines are 0 to 31 RTP if error lines are 32 to 63 RTN if error lines are 64 or more
6	Process TCF sending specially.	**No**	Yes	
4	Select T4 timer. (Action against line delay)	**3 sec**	4.5 sec	
3	Take an action against communication error from overseas. (Action against LMCD-OFF)	**No**	Yes	Select “No” unless bad line is experienced.
2	Take an action against communication error from overseas. (Action for fall back)	**No**	Yes	Select “No” unless bad line is experienced.
1	Process RTN RX failure.	No (discard as error)	**Yes (not as error)**	Changes high-speed signal sending timing: 0: DCF/TCF 80 ms, CFR/PIX 450 ms 1: DCF/TCF 250 ms, CFR/PIX 600 ms
0	Retrain V. 34 control channel.	**No (discard as error)**	Yes (answer)	

MODE	Factory setting bit	
045	Bit: 7 6 5 4 3 2 1 0 0 0 0 1 0 0 0 0	HEX: 10 (For U.S.) HEX: 20 (For Europe)

Bit	Feature	Logic		Description
		0	1	
7 6 5 4	Select number of redialings 1. (Number of auto redialing at 1st stage)	Bit 7-4:	0000	0
			0001	**1**
			0010	**2**
			0011	3
			0100	4
			0101	5
			0110	6
			0111	7
			1000	8
			1001	9
			1010	10
			1011	11
			1100	12
			1101	13
			1110	14
			1111	15
				Specifies the number of redialing with the interval specified by “Select redialing interval 1 (MODE 042 Bit 7 to 4).”
3 2 1 0	Select number of redialings 2. (Number of auto redialing at the 2nd stage)	Bit 3-0:	**0000**	**0**
			0001	1
			0010	2
			0011	3
			0100	4
			0101	5
			0110	6
			0111	7
			1000	8
			1001	9
			1010	10
			1011	11
			1100	12
			1101	13
			1110	14
			1111	15
				Once redialing set by “Select number of redialing 1 (MODE 045 Bit 7 to 4)”, the system redials the number of times specified by this soft switch. Redialing interval follows “Select redialing interval 2 (MODE 042 Bit 3 to 0)” at the first time, and then follows “Select redialing interval 1 (MODE 042 Bit 7 to 4)” from the second time.

NOTE

- **If the first stage has been set [0000], the system proceeds to the second stage after 10 minutes without carrying out the first stage.**
- **If the first and the second stages have been set [0000], the auto redialing process will not be is carried out.**

MODE	Factory setting bit	
046	Bit: 7 6 5 4 3 2 1 0 0 0 1 0 1 0 0 0	HEX: 28

Bit	Feature	Logic		Description	
		0	1		
4	Call hold guard timer.	Bit 4-3:	00	1 hr	
3			**01**	**10 hr**	
			10	24 hr	
			11	72 hr	
2	Display symbol rate.	**No**	Yes	Symbol rates are 2400/2743/2800/3000/3200/3429. Rate of 2743 is not actually used.	
1	Observe EQM: Check modem & line statuses	**No**	Yes	Do not change the set value.	
0	Observe probing information. Check modem & line statuses.	**No**	Yes	Do not change the set value.	

MODE	Factory setting bit	
047	Bit: 7 6 5 4 3 2 1 0 1 0 0 0 1 0 0 0	HEX: 88

Bit	Feature	Logic		Description	
		0	1		
7	Select V. 34 fall back tolerance. (TX)	Bit 7-5:	000	0	
6			001	1	
5			010	2	
			011	3	
			100	**4**	
			Others	Not available	
4	Select V. 34 fall back tolerance. (RX)	Bit 4-2:	000	0	
3			001	1	
2			**010**	**2**	
			011	3	
			100	4	
			Others	Not available	

MODE	Factory setting bit	
048	Bit: 7 6 5 4 3 2 1 0 1 1 0 0 0 1 1 1	HEX: C7

Bit	Feature	Logic		Description	
		0	1		
7	Select modem capabilities.	Bit 7-6:	00	V.27 ter & V.29	Sets MODEM's function
6			01	V.33	
			10	V.17 & V.33	
			11	**V.17 & V.33 & V.34**	
5	Redial interval when resending document.	Bit 5-3:	**000**	**10 sec**	
4			001	30 sec	
3			010	60 sec	
			011	120 sec	
			100	180 sec	
			Others	Not available	
2	Allow V.34.	No	**Yes**	Set the same as "Allow V.8 (MODE 048 Bit 1)"	
1	Allow V. 8.	No	**Yes**	Set the same as "Allow V.8 (MODE 048 Bit 2)"	
0	Allow V.34 communication for extensions.	V.17	**V.34**	• Invalid, when MODE 048 Bit 2 is "0." • Invalid, when MODE 048 Bit 1 is "0."	

MODE	Factory setting bit	
049	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 1 1 0 1	HEX: 0D

Bit	Feature	Logic		Description	
		0	1		
4	Select upper limit of transmission speed. (TX)	Bit 4-0:	00000	2400 bps	• Need to disable “Allow V.34 (MODE 048 Bit 2)” by setting “No” for 2400 bps. • 16.8 kbps or faster are valid only when “Allow V.34. (MODE 048 Bit 2)” is enabled (Yes).
3			00001	4800 bps	
2			00010	7200 bps	
1			00011	9600 bps	
0			00100	12.0 kbps	
			00101	14.4 kbps	
			00110	16.8 kbps	
			00111	19.2 kbps	
			01000	21.6 kbps	
			01001	24.0 kbps	
			01010	26.4 kbps	
			01011	28.8 kbps	
			01100	31.2 kbps	
			01101	**33.6 kbps**	
			Others	Not available	

MODE	Factory setting bit	
050	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 1 1 0 1	HEX: 0D

Bit	Feature	Logic		Description	
		0	1		
4	Select upper limit of transmission speed. (RX)	Bit 4-0:	00000	2400 bps	• Need to disable “Allow V.34 (MODE 048 Bit 2)” by setting “No” for 2400 bps. • 16.8 kbps or faster are valid only when “Allow V.34 (MODE 048 Bit 2)” is enabled (Yes).
3			00001	4800 bps	
2			00010	7200 bps	
1			00011	9600 bps	
0			00100	12.0 kbps	
			00101	14.4 kbps	
			00110	16.8 kbps	
			00111	19.2 kbps	
			01000	21.6 kbps	
			01001	24.0 kbps	
			01010	26.4 kbps	
			01011	28.8 kbps	
			01100	31.2 kbps	
			01101	**33.6 kbps**	
			Others	Not available	

MODE	Factory setting bit	
051	Bit: 7 6 5 4 3 2 1 0 0 0 1 0 0 0 0 1	HEX: 21

Bit	Feature	Logic		Description	
		0	1		
7	Declare size of print paper for received document.	Bit 7-5: 000		Not available	Specifies declaration value of printing function for RX. "Auto" selects max size of printing paper, max size of loaded cassette, or max size of the last printing paper. "Auto including rotation" is equivalent to A4S (Letter S) set even if A4 (Letter) is selected by MODE 302 Bit 7.
6			**001**	**Auto**	
5			010	A4/Letter	
			011	B4/Legal	
			100	A3/11×17	
			101	Auto including rotation	
			Others	Not available	

MODE	Factory setting bit	
053	Bit: 7 6 5 4 3 2 1 0 0 1 0 0 1 0 0 0	HEX: 48

Bit	Feature	Logic		Description
		0	1	
6	Select received document operation when F code receiving has failed.	Do not destroy	**Destroy**	

MODE	Factory setting bit	
054	Bit: 7 6 5 4 3 2 1 0 0 1 1 1 1 0 1 0	HEX: 7A

Bit	Feature	Logic		Description	
		0	1		
7	Time to be detected as no sound.	Bit 7-4:	0000	Not available	
6			0001	1 sec	
5			I		
4			**0111**	**7 sec**	
			I		
			1010	10 sec	
			Others	Not available	
3	Control history of V.34 auto dialing.	No	**Yes**	Valid only when a receiver system has V.34 modulation.	
2	Modulation method for V.34 manual, quick scan TX.	**V.17**	V.34		
1	Modulation method for V.34 polling TX document.	V.17	**V.34**		
0	Modulation method for V.34 manual RX.	**V.17**	V.34		

MODE	Factory setting bit	
055	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 0 1 0	HEX: 02

Bit	Feature	Logic		Description	
		0	1		
6	Silence detection	**Do not detect**	Detect		
5	Silence detection level (cut-off frequency)	Bit 5-0:	000000	950 Hz	
4			000001	1000 Hz	
3			**000010**	**1050 Hz**	
2			000011	1100 Hz	
1			000100	1150 Hz	
0			000101	1200 Hz	
			Others	Not available	

MODE	Factory setting bit	
056	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 1 1 0 0	HEX: 0C

Bit	Feature	Logic		Description	
		0	1		
2	Select sending time of ANSam.	Bit 2-0:	000	2.0 sec	
1			001	2.5 sec	
0			010	3.0 sec	
			011	3.5 sec	
			100	**4.0 sec**	
			101	5.0 sec	
			110	6.0 sec	
			111	Not available	

MODE	Factory setting bit	
057	Bit: 7 6 5 4 3 2 1 0 0 0 0 1 1 0 0 1	HEX: 19

Bit	Feature	Logic		Description	
		0	1		
7	Select the time from when line is blocked to when ANSam (modified answer tone) TX starts.	Bit 7-0:	00000000	Not available	Specify the time from when line is blocked to when ANSam TX starts.
6			00000001	100 msec	
5			|		
4			**00011001**	**2500 msec**	
3			|		
2			11111111	25500 msec	
1					
0					

MODE	Factory setting bit	
070	Bit: 7 6 5 4 3 2 1 0 0 0 0 1 0 1 0 0	HEX: 14

Bit	Feature	Logic		Description
		0	1	
7	Pseudo-ringer sound (when optional FAX/TEL switch board & handset is installed)	Bit 7-0:	00001010	10 sec
6			|	
5			**00010100**	**20 sec**
4			|	
3			00111100	60 sec
2			Others	Not available
1				
0				

MODE	Factory setting bit	
077	Bit: 7 6 5 4 3 2 1 0 0 1 1 0 0 0 0 0	HEX: 60

Bit	Feature	Logic		Description
		0	1	
4	# of times of hooking monitoring during ringing	Bit 4-3:	**00**	**3 times**
3			01	5 times
			10	8 times
			11	12 times

MODE	Factory setting bit	
080 (PSTN1) 110 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 0 0 1 0 0 0 1 1	HEX: 23 (For U.S.) HEX: 6E (For Europe)

Bit	Feature	Logic		Description
		0	1	
7	Select time expected for line connection	Bit 7-0:	00000000	0 sec
6			00000001	0.5 sec
5			|	
4			**00100011**	**17.5 sec**
3			|	
2			**01101110**	**55 sec**
1			|	
0			01111000	60 sec
			Others	Not available

MODE	Factory setting bit	
082 (PSTN1)	Bit: 7 6 5 4 3 2 1 0 0 0 1 1 0 1 0 0	HEX: 34
112 (PSTN2)		HEX: 24

Bit	Feature	Logic		Description
		0	1	
5	Detect busy tone.	No	**Yes**	
4	Monitor line.	No	**Yes**	
3	Detect line disconnection. (inverted polarity)	**No**	Yes	

MODE	Factory setting bit	
083 (PSTN1)	Bit: 7 6 5 4 3 2 1 0 0 1 0 1 0 0 0 0	HEX: 50

Bit	Feature	Logic		Description	
		0	1		
7 6	Monitoring cycle of hooking	Bit 7-6:	00	12 msec	
			01	**24 msec**	
			10	36 msec	
			11	48 msec	
5 4 3	Select upper limit of detecting as hooking (Adjustment of voltage detected as hooking)	Bit 5-3:	000	8 V	
			001	11 V	
			010	**14 V**	
			011	19 V	
			100	25 V	
			101	31 V	
			110	36 V	
			111	42 V	
2 1 0	Select lower limit of detecting as hooking (Adjustment of voltage detected as hooking)	Bit 2-0:	**000**	**3 V**	
			001	5 V	
			010	8 V	
			011	11 V	
			100	14 V	
			101	17 V	
			110	19 V	
			111	22 V	

NOTE

- **The upper limit (Bit 5 to 3) must be higher than the lower limit (Bit 2 to 0).**

MODE	Factory setting bit	
084 (PSTN1) 114 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 0 0 0 1 0 1 0 0	HEX:14 (For U.S.) HEX: 28 (For Europe)

Bit	Feature	Logic		Description	
		0	1		
5	Select PB sending level.	Bit 5-2:	0000	-1 dBm	
4			0001	-2 dBm	
3			0010	-3 dBm	
2			0011	-4 dBm	
			0100	-5 dBm	
			0101	**-6 dBm**	
			0110	-7 dBm	
			0111	-8 dBm	
			1000	-9 dBm	
			1001	-10 dBm	
			1010	**-11 dBm**	
			1011	-12 dBm	
			1100	-13 dBm	
			1101	-14 dBm	
			1110	-15 dBm	
			1111	-16 dBm	

MODE	Factory setting bit	
085 (PSTN1) 115 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 1 0 0 1 0 0 0 0	HEX: 90 (For U.S.) HEX: C0 (For Europe)

Bit	Feature	Logic		Description	
		0	1		
7	Select TX level.	Bit 7-4:	1000	-9 dBm	Specifies TX signal levels other than PB.
6			**1001**	**-10 dBm**	
5			1010	-11 dBm	
4			1011	-12 dBm	
			1100	**-13 dBm**	
			1101	-14 dBm	
			1110	-15 dBm	
			1110	-16 dBm	
			Others	Not available	

MODE	Factory setting bit	
086 (PSTN1) 116 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 0 1 0 0 1 1 0 0	HEX: 4C

Bit	Feature	Logic		Description	
		0	1		
7 6	Select RX attenuator.	Bit 7-6: 00		0 dB (-48 dBm)	• Signals controlled by this soft switch are 1300 Hz detection, PB tone detection, V29 & V27 ter, V21 signal detection, and all tonal signals. • Numbers within parentheses represent the minimum receiving sensitivity.
		01		**5 dB (-43 dBm)**	
		10		10 dB (-38 dBm)	
		11		15 dB (-33 dBm)	
5 4	Select dial line speed (DP speed).	Bit 7-6:	**00**	**10 pps**	This is valid only when MODE 006 Bit5 set to "DP."
			01	20 pps	
			10	16 pps	
			Others	Not available	
3	Select a line type (tone or pulse) for calling (switch PB/DP).	DP	**PB**	This feature is only available on PSTN 1.	
2	Select standard phone line connected with the system (extension/external line connection).	Extension connection	**External line connection**	This feature is only available on PSTN 1.	

MODE	Factory setting bit	
087 (PSTN1) 117 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 1 0 0 1 0 0 0 0	HEX: 90

Bit	Feature	Logic		Description	
		0	1		
7 6	Select detection time of continuous ringer.	Bit 7-6: 00		No detection	This feature is only available on PSTN 1.
		01		1.8 sec	
		10		**3.0 sec**	
		11		10 sec	
5 4 3	Select frequency for ringer detection.	Bit 5-3: 000		10 to 27.5 Hz	This feature is only available on PSTN 1.
		001		10 to 75 Hz	
		010		**10 to 90 Hz**	
		011		10 to 200 Hz	
		Others		Not available	

MODE	Factory setting bit	
088 (PSTN1) 118 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 1 1 0 0 0 0 0 0	HEX: C0

Bit	Feature	Logic		Description
		0	1	
6	Select process mode at detection time out of 2nd dial tone.	Continues same operation as before detection even after time out	**Generates TX error at time out**	In logic “0,” the machine waits a few seconds before dialing a number, regardless of the presence of a 2nd dial tone. In logic “1,” the machine waits a maximum of 46 seconds for a 2nd dial tone to dial a number. If the dial tone is not detected, TX error is generated at time out. This feature is only available on PSTN1.
3	1300 Hz reception sensitivity switching.	**-28 dBm**	-36 dBm	When it is not possible to receive it by -28 dB, it changes to -36 dB.

MODE	Factory setting bit	
089 (PSTN1) 119 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0	HEX: 00

Bit	Feature	Logic		Description	
		0	1		
7	Posed insertion	**Insert pause after prefix for external lines**	Insert pause after 1st dial		
6	Select method of detecting dial prefix for external lines.	**Dial # search method**	Pause search method		
5	Select prefix # for external lines. *	Bit 5-2:	**0000**	**0**	Valid only when “Select method of detecting dial prefix for external lines (MODE 089 Bit 6)” is set to “Dial # search method.”
4			0001	1	
3			0010	2	
2			0011	3	
			0100	4	
			0101	5	
			0110	6	
			0111	7	
			1000	8	
			1001	9	
			Others	Not available	

NOTE

- **The features with (*) are settable by users. *: Screen setting**

MODE	Factory setting bit	
092 (PSTN1) 122 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 0 1 1 1 0 0 0 0	HEX: 70

Bit	Feature	Logic		Description	
		0	1		
7	Send V.29 echo protection tone.	**No**	Yes		
6	Send V.17 echo protection tone.	No	**Yes**		
5	Send V.33 echo protection tone.	No	**Yes**		
4	Select V.17 and V.33 carrier frequency.	Bit 4-3:	00	1800 Hz	
3			01	1700 Hz	
			10	**1800 + 1700 Hz**	
			11	Not available	

MODE	Factory setting bit	
093 (PSTN1) 123 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 1 0 0 0 1 0 0 0	HEX: 88 (For U.S.) HEX: 40 (For Europe)

Bit	Feature	Logic		Description	
		0	1		
7	Select timing for starting CED sending.	Bit 7-6:	00	0 msec	Specifies time interval from line connection to starting sending CED. (7 sec is provided for the second dial.)
6			**01**	**2000 msec**	
			10	**2500 msec**	
			11	7 sec	
5	Select CED frequency.	Bit 5-4:	**00**	**2100 Hz**	Specifies CED frequency, or to prohibit CED TX.
4			01	1080 Hz	
			10	1300 Hz	
			11	Not available	
3	Process CED echo.	**No**	**Yes**	Specifies whether to process CED echo at the intervals of 500 ms between CED and initial identification.	
2	Process incoming command echo.	**No**	Yes	Specifies whether to process incoming echo at the intervals of 500 ms between when receiving an initial identification and when sending the incoming command.	
1	Control channel data rate.	Bit 1-0:	**00**	**1200 bps symmetry**	
0			01	1200 bps asymmetry	
			10	2400 bps symmetry	
			11	2400 bps asymmetry	

MODE	Factory setting bit	
094 (PSTN1) 124 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 1 1 0 0	HEX: 0C

Bit	Feature	Logic		Description
		0	1	
3	Lock AGC in V.33 mode.	No	**Yes**	
2	Lock AGC in V.17 mode.	No	**Yes**	
1	Lock AGC in V.29 mode.	**No**	Yes	
0	Lock AGC in V.27 ter mode.	**No**	Yes	

MODE	Factory setting bit	
095 (PSTN1) 125 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 0 0 1 0 0 0 0 0	HEX: 20

Bit	Feature	Logic		Description	
		0	1		
7	Adjust digital TX cable equalizer.	Bit 7-6:	**00**	**0 dB**	
6			01	4 dB	
			10	8 dB	
			11	12 dB	
5	Adjust digital RX cable equalizer.	Bit 5-4:	00	0 dB	For V.29, actual value will be the sum of 4 dB and the specified value.
4			01	4 dB	
			10	**8 dB**	
			11	12 dB	

MODE	Factory setting bit	
096 (PSTN1) 126 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 0 0 0 1 0 1 0 0	HEX: 14

Bit	Feature	Logic		Description	
		0	1		
5	Select time for setting CI signal sending to ON.	Bit 5-4: 00		0.5 sec	Use this soft switch for error in V8 sequence.
4		**01**		**1.0 sec**	
		10		1.5 sec	
		11		2.0 sec	
3	Select time for setting CI signal sending to OFF.	Bit 3-1: 000		0.4 sec	Use this soft switch for error in V8 sequence.
2		001		0.8 sec	
1		**010**		**1.0 sec**	
		011		1.2 sec	
		100		1.6 sec	
		101		2.0 sec	
		Others		Not available	

MODE	Factory setting bit	
097 (PSTN1) 127 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 0 0 0 1 0 1 0 0	HEX: 14

Bit	Feature	Logic		Description	
		0	1		
7	Attenuate TCF/NTCF sending level.	**No**	Yes 3 dB	Specifies whether to attenuate sending level of TCF by 3 dbm, with the level of attenuation that is determined by MODE 085 Bit 7 to 4 (PSTN 1) or MODE 115 Bit 7 to 4 (PSTN 2).	
4	Select V.34 symbol rate.	Bit 4-2: 000		2400 Sym/S	
3		001		Not available	
2		010		2800 Sym/S	
		011		3000 Sym/S	
		100		3200 Sym/S	
		101		**3429 Sym/S**	
		Others		Not available	

MODE	Factory setting bit	
098 (PSTN1) 128 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 0 1 0 0 0 1 1 0	HEX: 46

Bit	Feature	Logic		Description	
		0	1		
7	Select start time of sending CM signal.	Bit 7-6:	00	0 sec	Use this soft switch for error in V8 sequence.
6			**01**	**1 sec**	
			10	2 sec	
			11	3 sec	
3	Select EQM threshold value.	Bit 3-0:	0000	-6	
2			0001	-5	
1			0010	-4	
0			0011	-3	
			0100	-2	
			0101	-1	
			0110	**0**	
			0111	1	
			1000	2	
			1001	3	
			1010	4	
			1011	5	
			1100	6	
			Others	Not available	

MODE	Factory setting bit	
099 (PSTN1) 129 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 1 0 0 0 1 0 0 0	HEX: 88

Bit	Feature	Logic		Description	
		0	1		
7	Select threshold value 1 for V.34 symbol rate.	Bit 7-4:	0000	-8	Specifies range of tolerance for V. 34 line characteristic distortion.
6			0001	-7	
5			0010	-6	
4			0011	-5	
			0100	-4	
			0101	-3	
			0110	-2	
			0111	-1	
			1000	**0**	
			1001	1	
			1010	2	
			1011	3	
			1100	4	
			1101	5	
			Others	Not available	
3	Select threshold value 2 for V.34 symbol rate.	Bit 3-0:	0000	-8	Specifies minimum tolerance level of S/N ratio in V.34.
2			0001	-7	
1			0010	-6	
0			0011	-5	
			0100	-4	
			0101	-3	
			0110	-2	
			0111	-1	
			1000	**0**	
			1001	1	
			1010	2	
			1011	3	
			1100	4	
			1101	5	
			Others	Not available	

MODE	Factory setting bit	
212 (PSTN1) 232 (PSTN2)	Bit: 7 6 5 4 3 2 1 0 0 1 0 0 0 0 0 0	HEX: 40 (For U.S.) HEX: 00 (For Europe)

Bit	Feature	Logic		Description	
		0	1		
7	DP make rate	Bit 7-6:	**00**	**33 %**	Specify the DP signal make ratio.
6			**01**	**40 %**	
			Others	Not available	

MODE	Factory setting bit	
249	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 1 0 0 0	HEX: 08

Bit	Feature	Logic		Description	
		0	1		
7	Specify the ringing count of auto receiving call (PSTN2) <*>	Bit 7-3:	00000	0	Specify the PSTN2 ringing detection count. The ringing count is the number of rings until the machine automatically starts receiving a call.
6			**00001**	**1**	
5			I		
4			10100	20	
3			Others	Not available	

NOTE

- **The features with (*) are settable by users. <*>: Soft switch setting**
- **Some machines cannot receive calls.**
  Care must be taken when you set the ringing count to 10 or more.
- **For PSTN1, refer to MODE 520.**

MODE	Factory setting bit	
288	Bit: 7 6 5 4 3 2 1 0 1 1 1 1 1 1 1 1	HEX: FF

Bit	Feature	Logic		Description	
		0	1		
7	Insert dummy data before PIX.	Bit 7-0:	00000000	Add 200 ms	• Specify period to transmit dummy data before transmitting PIX. • Add the period specified here to the first flag (EMC) and FILL (G3) of the image signal.
6			00000001	Add 300 ms (200 ms + 100 ms)	
5					
4					
3			00000011	Add 900 ms (200 ms +700 ms)	
2					
1					
0			**11111111**	**Add 200 ms**	
			Others	Not available	

MODE	Factory setting bit	
301	Bit: 7 6 5 4 3 2 1 0 0 0 0 1 1 0 0 1	HEX: 19 (For U.S.) HEX: 15 (For Europe)

Bit	Feature	Logic		Description	
		0	1		
7 6 5	Select upper limit of cut-off length after printing: When a received document is longer than the print paper and if the excess length is shorter than that specified here, it is cut off. If it is longer than that value specified with these bits, it is split into multiple pages. This feature is enabled when the following 2 conditions are satisfied: • When printing a received document • When bit 1 of this mode is 1 <*>	Bit 7-5:	**000**	**0 mm**	If the excess length is longer than specified here: <For reduction> • If Bit 1 is set to 0, it is reduced when fitting within the reduction percent range specified with Bits 4 to 2. <For division> • If Bit 1 is set to 0, it is divided when not fitting within the reduction ratio range specified with Bits 4 to 2. • If Bit 1 is set to 1, the excess length portion is divided.
			001	8 mm	
			010	12 mm	
			011	14 mm	
			100	18 mm	
			101	20 mm	
			110	24 mm	
			111	Not available	
4 3 2	Select upper limit of reduction ratio of received document: When a received document is longer that the print paper, it will be reduced to fit the paper with the upper limit specified with these bits. This feature is enabled when the following 2 conditions are satisfied: • When printing a received document • When bit 1 of this mode is 0 Example: The reduction is 100 to 90% when “90%” is specified. If the document will not fit within a printable range at the maximum reduction ratio specified here, the excess length portion is divided. <*>	Bit 4-2:	000	100 %	Reduction will not be proceeded if a received document is still longer than the print paper for a specified reduction.
			001	95 %	
			010	90 %	
			011	85 %	
			100	80 %	
			101	**65 %**	
			110	**60 %**	
			111	Not available	
1	Select cut off/reduction of received document: This bit specifies cutting off or reducing a received document that is longer than the print paper. (This feature is enabled when printing a received document.) <*>	**Reduction**	Cut off	This bit determines that the received document will be cut off with “Select upper limit of cut off length after printing (Bit 7 to 5)” or reduced with “Select upper limit of reduction ratio of received document (Bit 4 to 2).”	

Bit	Feature	Logic		Description
		0	1	
0	Printing specification of received document.	Start printing after receiving first page.	**Start printing after receiv-ing all pages.**	

NOTE

- **The features with (*) are settable by users. <*>: Soft switch setting**

MODE	Factory setting bit	
302	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 0	HEX: 00

Bit	Feature	Logic		Description	
		0	1		
7	Specify how to detect print paper. (Valid only when printing a received document) <*>	**From print paper**	From tray	"From print paper" detects print paper from actual print papers while "From tray" indicates print paper with a tray size or the last information on print paper regardless of actual print paper.	
6 5 4 3	Select size of print paper for received document. (Valid only when printing a received document) <*>	Bit 6-3:	**0000**	**Std method 1**	"Std method" determines an appropriate print paper for the length and the width of a print image. Method 1: Same width and no reduction. Method 2: Same width and minimum margin. Method 3: No reduction without considering width of paper. Method 4: Minimum margin without considering width of paper. "No wider width" will not take printer papers wider than the print image. No Wider Width 1: Same width and no reduction. Width 2: Same width and minimum margin. Width 3: No reduction without considering width of paper. Width 4: Minimum margin without considering width of paper. "Same width only" selects paper with the same width as the print image. Note. • Margin means the non-printed area. • Methods 2 to 4 are unavailable to users.
			0001	Std method 2	
			0010	Std method 3	
			0011	Std method 4	
			0100	No wider width 1	
			0101	No wider width 2	
			0110	No wider width 3	
			0111	No wider width 4	
			1000	Same width only	
			Others	Not available	

NOTE

- **The features with (*) are settable by users. <*>: Soft switch setting**

MODE	Factory setting bit	
512	Bit: 7 6 5 4 3 2 1 0 1 0 0 0 0 0 0 0	HEX: 80

Bit	Feature	Logic		Description
		0	1	
7	Detect dial tone (DT)	No	**Yes**	

MODE	Factory setting bit	
520	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 0 0 1	HEX: 01

Bit	Feature	Logic		Description	
		0	1		
4	Specify the ringing count of auto receiving call (PSTN1)	Bit 4-0: 00000		0	Specify the PSTN1 ringing detection count. The ringing count is the number of rings until the machine automatically starts receiving a call.
3			**00001**	**1**	
2			I		
1		10100		20	
0		Others		Not available	

Note:

- **Some machines cannot receive calls.**
  Care must be taken when you set the ringing count to 10 or more.
- **For PSTN2, refer to MODE 249.**

MODE	Factory setting bit	
768	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 1 1 0 0	HEX: 0C

Bit	Feature	Logic		Description	
		0	1		
7	Soft timer adjustment value between DCS and TCF in V.17 and V.27 ter	Bit 7-0: 00000000		Not available	
6			00000001	5 msec	
5			I		
4			**00001100**	**60 msec**	
3			I		
2			11111111	1275 msec	
1					
0					

MODE	Factory setting bit	
769	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 1 1 1	HEX: 07

Bit	Feature	Logic		Description	
		0	1		
7	Soft timer adjustment value between DCS and TCF in V.29	Bit 7-0:	00000000	Not available	
6			00000001	5 msec	
5			I		
4			**00000111**	**35 msec**	
3			I		
2			11111111	1275 msec	
1					
0					

MODE	Factory setting bit	
770	Bit: 7 6 5 4 3 2 1 0 0 0 0 1 1 1 0 0	HEX: 1C (For U.S.) HEX: C2 (For Europe)

Bit	Feature	Logic		Description	
		0	1		
7	Interval between CFR and PIX	Bit 7-0:	00000000	Not available	
6			00000001	5 msec	
5			I		
4			**00011100**	**140 msec**	
3			I		
2			**00011100**	**970 msec**	
1			I		
0			11111111	1275 msec	

MODE	Factory setting bit	
771	Bit: 7 6 5 4 3 2 1 0 0 0 1 0 0 0 1 1	HEX: 23

Bit	Feature	Logic		Description	
		0	1		
7	T1 timer for automatically sending packets	Bit 7-0:	00000000	Not available	
6			00000001	1 sec	
5			|		
4			**00100011**	**35 sec**	
3			|		
2			11111111	255 sec	
1					
0					

MODE	Factory setting bit	
772	Bit: 7 6 5 4 3 2 1 0 0 0 1 0 0 0 1 1	HEX: 23

Bit	Feature	Logic		Description	
		0	1		
7	T1 timer for automatically receiving packets	Bit 7-0:	00000000	Not available	
6			00000001	1 sec	
5			|		
4			**00100011**	**35 sec**	
3			|		
2			11111111	255 sec	
1					
0					

MODE	Factory setting bit	
773	Bit: 7 6 5 4 3 2 1 0 0 0 1 0 0 0 1 1	HEX: 23

Bit	Feature	Logic		Description	
		0	1		
7	T1 timer for manually sending packets	Bit 7-0:	00000000	Not available	
6			00000001	1 sec	
5			|		
4			**00100011**	**35 sec**	
3			|		
2			11111111	255 sec	
1					
0					

MODE	Factory setting bit	
774	Bit: 7 6 5 4 3 2 1 0 0 0 1 0 0 0 1 1	HEX: 23

Bit	Feature	Logic		Description	
		0	1		
7	T1 timer for manually receiving packets	Bit 7-0:	00000000	Not available	
6			00000001	1 sec	
5			|		
4			**00100011**	**35 sec**	
3			|		
2			11111111	255 sec	
1					
0					

MODE	Factory setting bit	
775	Bit: 7 6 5 4 3 2 1 0 0 0 1 0 0 0 1 1	HEX: 23

Bit	Feature	Logic		Description	
		0	1		
7	T1 timer for automatically sending polling packets	Bit 7-0:	00000000	Not available	
6			00000001	1 sec	
5			I		
4			**00100011**	**35 sec**	
3			I		
2			11111111	255 sec	
1					
0					

MODE	Factory setting bit	
776	Bit: 7 6 5 4 3 2 1 0 0 0 1 0 0 0 1 1	HEX: 23

Bit	Feature	Logic		Description	
		0	1		
7	T1 timer for manually sending polling packets	Bit 7-0:	00000000	Not available	
6			00000001	1 sec	
5			I		
4			**00100011**	**35 sec**	
3			I		
2			11111111	255 sec	
1					
0					

MODE	Factory setting bit	
777	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 1 1 1	HEX:07

Bit	Feature	Logic		Description	
		0	1		
7	Interval between PIX and post command	Bit 7-0:	00000000	Not available	
6			00000001	45 msec	
5			I		
4			**00000111**	**75 msec**	
3			I		
2			11111111	1315 msec	
1					
0					

MODE	Factory setting bit	
804	Bit: 7 6 5 4 3 2 1 0 0 0 0 0 0 1 0 0	HEX: 04

Bit	Feature	Logic		Description
		0	1	
7	Restrict SF/SSF communication (TX).	**No**	Yes	Enables/Disables TTC high resolution transmission and SF/SSF transmission function. When this feature is disabled, the calling machine sends - DCS stating that it does not provide SF in response to DIS from called terminal in the outside network, or - NSS stating that it does not provide SF in response to NSF from called terminal in the internal company network.
6	Restrict SF/SSF communication (RX from other company's system).	**No**	Yes	Enables/Disables TTC high resolution reception. When this feature is disabled, the called machine sends - 32-bit DIS stating that it does not support SF, or - NSF stating that it supports SF. (This makes SF communication possible between the calling party in the internal company network.)
4	Destination machine confirmation transmission. <*>	**Not confirm**	Confirm	Set whether the machine is to execute destination machine confirmation transmission if a destination machine confirmation transmission-use special character string is not included in the dialed number.

Bit	Feature	Logic		Description	
		0	1		
3	Destination machine confirmation transmission CSI comparison digits. <*>	Bit 3-0:	0000	Not available	• If the dialed number does not match the digit quantity specified with this setting, compare with all digits of the dialed number. • If comparing with the verification number, compare with all digits of the verification number regardless of this setting.
2			0001	1 digit	
1			0010	2 digits	
0			0011	3 digits	
			0100	**4 digits**	
			0101	5 digits	
			0110	6 digits	
			0111	7 digits	
			1000	8 digits	
			1001	9 digits	
			1010	10 digits	
			Others	Not available	

Note

- **The features with (*) are settable by users. <*>: Software switch setting**
- **Explanation of destination machine confirmation transmission**

Bit 7 setting	Special character existence/absence	Confirmation subject dial number
"0" Not confirm	Exists (S)	Dial number
	Exists (SS)	(no function)
	Exists (S) + verification number	Verification number
	Absent	(no function)
"1" Confirm	Exists (S)	Dial number
	Exists (SS)	(no function)
	Exists (S) + verification number	Verification number
	Absent	Dial number

Note

- **Special character is within ( ).**

MODE	Factory setting bit	
805	Bit: 7 6 5 4 3 2 1 0 0 1 0 1 0 0 1 1	HEX: 53

Bit	Feature	Logic		Description	
		0	1		
7	Destination machine confirmation transmission special characters	Bit 7-0:	01000001	A	“H,” “P,” and “T” are unavailable.
6			01000010	B	
5			I		
4			01000110	F	
3			01000111	G	
2			01001001	I	
1			01001010	J	
0			I		
			01001110	N	
			01001111	O	
			01010001	Q	
			01010010	R	
			01010011	**S**	
			01010101	U	
			01010110	V	
			I		
			01011001	Y	
			01011010	Z	
			Others	Not available	

Troubleshooting

8. Troubleshooting

8.1 Diagnosis by alarm code

- This section shows diagnoses of system troubles by alarm codes and their remedies.
- The default setting for diagnostic codes is “Do not display codes.” If you experience errors frequently, setup the soft switch (MODE 020) to display diagnostic codes. Then follow communication error codes tables for troubleshooting.
- Communication error codes tables shows communication error codes. Each of them is displayed in 6 digits on reports.
  Codes 00 to B4 indicate the upper 2 digits. Adding internal 4 digits to them to display 6 digits on the panel and a report.
  Communication reports (TX and RX) print out diagnostic codes for up to 50 activities. Any codes older than those activities cannot be printed.

NOTE

- **Before you proceed with a remedy according to the tables, make sure that the power source cable and the connectors are connected properly.**

- Setting up diagnostic code display

MODE 020	
Bit3	Meaning
0	Do not display codes.
1	Displays codes.

NOTE

- **See section “Soft Switch List” for setting up soft switches.**

8.2 Communication error codes

NOTE

- **Cause - Re: Remote, Li: Line, Lo: Local**

8.2.1 Errors in operations

Code	Description	Cause	Re	Li	Lo	Remedy
00	• Received DIS but no document in local terminal • Polling Reception is requested • Software failure at time of connection	Error in operation			O	Reload a document and retry TX.
		Error in operation at remote end	O			Ask to reload a document and retry TX.
01	• Document pulled out during transmission. • Document size was too small	Error in operation			O	Reload a correct document and retry TX.
02	• Illegal dialing operation (Example; dialing * or # with DP setting)	Error in setting up			O	Check the soft switch (MODE 086 Bit5 & MODE 116 Bit 5).
		Error in registration			O	Check the registered one-touch dialing number.
03	• Mismatched TX password	Sender's password and receiver's are not matched.	O		O	Check the group password of both sides.
04	• Mismatched RX password	Sender's password and receiver's are not matched.	O		O	Check the group password of both sides.
05	• Mismatched password while polling	Incorrect password was entered for setting up polling.			O	Check the status of the remote machine and the local password.
06	• Remote system has no relay function	Failure in remote machine	O			Check the status of the remote machine.
07	• Remote system has no confidential communication function	Failure in remote machine	O			Check the status of the remote machine.
09	• Incompatibility (Example; no document in local system while polling RX) • TX failure due to mismatch of communication type and/or transmission speed	Error in operation on remote side	O			Ask the remote end to reload the document again.
		Transmission speeds are set to 4800/2400 bps. Remote machine has only V.29.	O		O	Check the soft switch (MODE 049 Bit 4 to 0).
						Check the maximum transmission speed for each one-touch dialing (only for registration in maintenance features).
10	• Error in F code TX	Failure in remote machine	O			Check the status of the remote machine.
11	• Error in F code RX	Failure in remote machine	O			Check the status of the remote machine.

8.2.2 Terminal alarm

Code	Description	Cause	Re	Li	Lo	Remedy
45	• Memory overflow or nearly full	Memory overflows or nearly full			O	Reset the terminal alarm and ask the remote end for resending.
46	• Document jamming	Feeding is not working continuously.			O	Reload a document.
		Jamming in a long document or in the middle of a page (Feeding is not completed even if feeding exceeds 1 m.)			O	Reload a document.
47	• "No print paper" or "Side cover opened" were detected	Out of print paper			O	Load print paper.
		Side cover was opened while RX			O	Close the side cover.

8.2.3 Communication errors (TX)

Code	Description	Cause	Re	Li	Lo	Remedy
33	• Protocol failure in V.34 sequence	Failure in remote machine	O			Try another remote machine.
		Line failure		O		Try another line.
70	• Busy tone while waiting for initial identification signal • Timeout or modem failure while detecting 2nd dialing tone • Cannot dial due to dialing/ringing conflict • T1 timeout while waiting for initial identification signal when FAX signal is not detected	Failure in remote machine	O			Try another remote machine.
		Line failure		O		Try another line.
71	• T1 timeout while waiting for initial identification signal after FAX signal is detected • Detected reverse polarity while waiting for initial identification signal	Failure in remote machine	O			Try another remote machine.
		Line failure		O		Try BACK to BACK communication.
72	• Received DCN in phase B while waiting for commands other than DCN	Interruption or failure in remote machine	O			Check the remote system and retry TX.

Code	Description	Cause	Re	Li	Lo	Remedy
74	• Received DIS or DTC 3 times while waiting for response to TCF • No response even after sending TSI/DCS and TCF 3 times • Received FTT twice even TCF has lowest speed	Failure in remote machine	O			Try another remote machine.
		Line failure		O		Try another line.
		Failure in FAXU board			O	Replace FAXU board
		Failure in MFBU board			O	Replace MFBU board
76	• Reverse polarity while waiting for signal other than initial identification	Failure in remote machine	O			Check the remote system and retry TX.
		Line failure		O		If same error is experienced several times, set the soft switch to (MODE 082 Bit 3) 0.
77	• No response to post message (T4 timeout) • 5 minute timeout in RNR, RR sequence (T5 timeout)	Failure in remote machine	O			Try another remote machine.
		No RTC detection in remote machine (line failure)		O		Try another line.
78	• Received DCN while waiting for response to post message	Interruption or failure in remote machine	O			Check the status of the remote machine and retry TX.
79	• Received PIP for post message (For response to EOP or PPS-EOP, communication is normal even though error code is displayed)	Failure in remote machine	O			Check the status of the remote machine.
7A	• Received RTN for post message (where RTN reception is regarded as communication failure) • Retry out of resending error • PPR frame error	Failure in remote machine	O			Check the status of the remote machine.
		Line failure		O		Check the line.
		Failure in TX level			O	Check TX level.
7C	• Received CRP 3 times for TCF • Received CRP 3 times for post message • Received CRP 3 times for DTC of polling reception	Failure in remote machine	O			Try another remote machine.
		Line failure		O		Try another line.
7D	• RX command error (without cutting off carrier)	Failure in remote machine	O			Check the status of the remote machine.
7F	• No remote machine response after changing mode (T1 timeout)	Failure in remote machine	O			Check the status of the remote machine.
8F	• Received PIN for post message	Failure in remote machine	O			Check the status of the remote machine.

8.2.4 Communication errors (RX)

Code	Description	Cause	Re	Li	Lo	Remedy
33	• Protocol failure in V.34 sequence	Failure in remote machine	O			Try another remote machine.
		Line failure		O		Try another line.
91	• T1 timeout while waiting for initial identification signal	Failure in remote machine	O			Try another remote machine.
		Line failure		O		Try another line.
92	• Received DCN while waiting for commands other than DCN in phase B	Interruption or failure in remote machine	O			Check the status of the remote machine and retry TX.
95	• Detected low speed flag followed by 10 sec. time-out while waiting for detection of image signal carrier (HMCD ON)	Failure in remote machine	O			Try another remote system.
		Line failure		O		Try another line.
96	• Carrier disconnected for 15 seconds while receiving G3 image signal	Error in remote machine	O			Ask for resending.
		Failure in remote machine	O			Try another remote machine.
		Line failure		O		Try another line.
97	• T2 timeout while waiting for post message • T2 timeout while waiting for DCN after receiving last page • No response from remote system after changing mode (T2 timeout)	Error in remote machine	O			Try another remote machine.
		Accidental RTC detection (line failure)		O		Try another line.
98	• Received DCN while waiting for command other than DCN in phase D	Interruption or failure in remote machine	O			Ask for resending.
99	• Received PRI-Q as post message (Communication is regarded as normal even with error message)	Failure in remote machine	O			Check the status of the remote machine.
9A	• Cannot decode line correctly for 35 seconds while receiving ECM image signal	Failure in remote machine	O			Try another remote machine.
		Line failure		O		Try another line.
		Failure in FAXU board			O	Replace FAXU board
		Failure in MFBU board			O	Replace MFBU board
9C	• Received CRP 3 times while waiting for initial identification signal	Failure in remote machine	O			Try another remote machine.
		Failure in FAXU board			O	Replace FAXU board
		Failure in MFBU board			O	Replace MFBU board
		Line failure		O		Try another line.

Code	Description	Cause	Re	Li	Lo	Remedy
9D	• RX command error (without cutting off carrier)	Failure in remote machine	O			Check the status of the remote machine.
9F	• Interrupted page reception by EOR-Q or EOR-PRI-Q signal from sender in ECM procedure (next page may be received completely because ECM procedure runs continuously)	Failure in remote machine	O			Try another remote machine.
		Line failure		O		Reduce the initial transmission speed and try resending.

8.2.5 Malfunction

Code	Description	Cause	Re	Li	Lo	Remedy
B0	• Power source off	Power source switch was turned off			O	None.
		Power source failure			O	None.
		Defective power source supply unit			O	Replace the power source supply unit.
B2	• System failure (Examples; image data conversion failure and error in sequence timing)	Warm restart switch was pressed			O	None.
		Failure in FAXU board			O	Replace FAXU board
		Failure in MFBU board			O	Replace MFBU board
		Line failure		O		Check line noise and reception level.
B4	• Modem failure	Document was not loaded for polling reception in V.34 mode	O			Check the document loaded in the remote side.
		Line failure		O		Check line noise and reception level.
		Failure in FAXU board			O	Replace FAXU board
		Failure in MFBU board			O	Replace MFBU board
B5	• Modem failure (modem failure in V.8 sequence at RX)	Line failure		O		Check line noise and reception level.
		Failure in FAXU board			O	Replace FAXU board
		Failure in MFBU board			O	Replace MFBU board
B6	• Modem failure (modem failure in V.8 sequence at RX)	Line failure		O		Check line noise and reception level.
		Failure in FAXU board			O	Replace FAXU board
		Failure in MFBU board			O	Replace MFBU board
B7	• System failure (Examples; image data conversion failure, error in sequence timing)	Warm restart switch was pressed			O	None.
		Failure in FAXU board			O	Replace FAXU board
		Failure in MFBU board			O	Replace MFBU board
		Line failure		O		Check line noise and reception level.

8.2.6 Internet Fax transmission / Scan to E-mail

Error code	Possible cause	Action to be taken
E4DXXX	The machine cannot connect to a mail server as the SMTP server address has not been set.	Set an SMTP server address.
E5AXXX	The machine cannot transmit the document as the DNS settings are incorrect.	Check the DNS settings.
E5DXXX	The machine cannot transmit the document with the E-mail address or the destination E-mail address because it has not been specified or is incorrect.	Check the settings and the destination E-mail address.
E6FXXX	Transmission was attempted and data was too large to be transmitted.	The document may not be transmitted even if the loading of data is successful. Set the quality to Fine or Standard and try again.
E7XXXX	SMTP authentication failed.	Confirm SMTP authentication account and password.
EAXXXX	A LAN cable has not been connected, or you failed to communicate with the SMTP server. You tried to transmit the document to an incorrect destination address. (The protocol error on SMTP)	Check if the LAN cable has been correctly connected, if the SMTP server is ready for communication, if the network settings such as subnet mask setting are correct, or if the E-mail address of the destination is correct.
EAX212	SMTP authentication required.	Enable SMTP authentication settings.
EABF4F	The machine has invalid settings for POP3 before SMTP.	Check the POP server settings for administrator maintenance.
EABF50	The machine failed to authenticate POP3 before SMTP.	Check the account and the password of POP3.

8.2.7 Internet Fax reception

Error code	Possible cause	Action to be taken
E40XXX	The machine cannot connect to a mail server as the POP3 server address has not been set correctly. The machine cannot connect to a mail server as the server has failed.	Check the POP3 server address. Check that the POP3 server is operating normally.
E50XXX E51XXX E52XXX	The machine cannot receive a document as the POP3 User Name or Password has not been set or is incorrect.	Check the settings.
E60XXX E61XXX	The data received in POP3 cannot be printed. A mail with an attached file whose format is not TIFF-F, a mail whose text contains a line exceeding 1000 characters, or mail of large data size is received. A mail with no data is received.	Confirm with the sender.
E7XXXX	APOP authentication failed.	Confirm POP3 account and password.
ECXXXX	A LAN cable has not been connected, or failed to communicate with the POP3 server. The User Name or Password has not been registered in the server. They are different from the settings in the machine. (The protocol error on POP)	Check if the LAN cable has been correctly connected. Check if the POP3 server settings are correct.

8.2.8 IP address Fax transmission

Error code	Possible cause	Action to be taken
E5AXXX	The machine cannot transmit the document as the DNS settings are incorrect.	Check the DNS settings.
E6FXXX	Transmission was attempted and data was too large to be transmitted.	The document may not be transmitted even if the loading of data is successful. Set the quality to Fine or Standard and try again.
E7XXXX	SMTP authentication failed.	Confirm SMTP authentication account and password.
EAXXXX	A LAN cable has not been connected, or you failed to communicate with the SMTP server. You tried to transmit the document to an incorrect destination address.	Check if the LAN cable has been correctly connected, if the SMTP server is ready for communication, if the network settings such as subnet mask setting are correct, or if the E-mail address of the destination is correct.
EAX212	SMTP authentication required.	Enable SMTP authentication settings.

8.2.9 IP Relay

Error code	Possible cause	Action to be taken
E4FFFE	The fixed time passed without confirmation of transmission by the relay machine. (Result notification was not received from the IP relay machine within the fixed time.)	Confirm whether the other party received.
E53XXX	The machine cannot transmit the document by gateway transmission because the destination E-mail address is incorrect.	Confirm with the sender.
E65XXX	The data that could not be sent by gateway transmission was going to be sent. A mail with an attached file whose format is not TIFF-F, a mail whose text contains a line exceeding 1000 characters, or mail of large data size was going to be sent.	Confirm with the sender.
E7XXXX	SMTP authentication failed.	Confirm the IP relay settings.
EBXXXX	The machine could not receive the transmitted data for the gateway transmission.	Check whether the mail server is in the state that it can communicate. Check the network settings.
FFF003	Awaiting result notification of IP relay.	Wait until the IP relay machine completes transmission.

8.2.10 Full mode communication

Error code	Possible cause	Action to be taken
E4FFFC	The fixed time passed without confirmation of reception by the destination machine. (MDN response was not received within the fixed time.)	Confirm whether the other party received.
E4FFFD	The administrative quantity for awaiting results has been exceeded.	Confirm whether the other party received.
E4FFFF	An abnormality was notified by the MDN/ DSN response.	Resend the document.
FFF001	The destination machine correctly received. (Received MDN response.)	Unnecessary

8.2.11 Scan to FTP transmission

Error code	Possible cause	Action to be taken
ED0101	User name length error.	Confirm whether the length of the user name is at least one character and not greater than the maximum length.
ED0102	Password length error.	Confirm whether the length of the password is at least one character and not greater than the maximum length.
ED0103	Server address is illegal.	Confirm whether the IP address of the FTP server is at least one character.
ED0201	Socket generation error.	Confirm the settings.
ED0202	Connection timeout.	Confirm whether the machine can be connected.
ED0203	DNS error.	Confirm the DNS settings.
ED0204	Server cannot be used.	Confirm whether the FTP server at the TX destination is started.
ED0205	Other timeout.	Confirm the connection status and settings.
ED0301	TX error.	Confirm the settings.
ED0302	RX error.	Confirm the settings.
ED0303	Communication timeout.	Confirm whether the connection is disconnected.
ED0304	Other socket communication error.	Confirm the settings.
ED0401	Render malfunction.	
ED0501	Suspension due to suspension request.	Re-send the suspended job.
EDFFFF	Other malfunction.	Confirm the connection status and settings.

8.2.12 Scan to SMB Transmission

Error code	Possible cause	Action to be taken
EE09C6	No response by destination PC.	Confirm the address, server existence, and network condition.
EE09C7	Login failed.	Confirm whether the user name and password are correct.
EE09C8	No destination folder.	Confirm whether the specified folder is correct.
EE09C9	Disk is full.	Confirm whether capacity is available on the disk of the TX destination (SMB).
EE09CA	Command timeout.	Re-send.
EE09CB	No access authority.	Confirm whether the TX destination folder is shared.
EE09CF	Lower module is not initialized.	Re-start the machine.
EE0AC0	Render error.	

8.3 Diagnosis by symptoms

- Possible causes of various problems and their remedies are shown below. Carry out troubleshooting according to this table.

Symptom	Item No.	Cause	Remedy	
Received image is stretched with ADF	1	Printed image is excessively stretched in the copy mode? **NOTE** • **The following causes may be possible (improper document handling): special paper such as very thick paper, non-carbon print paper, carbon print paper.**	YES	Go to item 2.
			NO	Failure in remote terminal (improper document handling, error in the transmission unit of the remote terminal).
	2	Is an image received from the service center also stretched?	YES	Go to item 3.
			NO	Go to item 5.
	3	Any improvement after replacing MFBU board?	YES	Replace MFBS board.
			NO	Go to item 4.
	4	Any improvement after replacing the printer control board?	YES	Replace the printer control board.
			NO	Go to item 5.
	5	Is the contact of feed roller gears OK?	YES	Go to item 6.
			NO	Replace the feed roller gear unit.
	6	Any paper dust on feed rollers or pick-up rollers?	YES	Clean up rollers.
			NO	Go to item 7.
	7	Is the pulling out force of feed rollers normal?	YES	Replace the machine.
			NO	Replace the leaf spring.
Received image is shrunk too much.	1	Printed image is excessively shrunk in the copy mode?	YES	Go to item 2.
			NO	Failure in the remote terminal (improper document handling, error in the transmission unit of the remote terminal).
	2	Is an image from the service center also shrunk?	YES	Go to item 4.
			NO	Go to item 3.
	3	Any improvement after checking the reading unit?	YES	END
			NO	Go to item 4.
	4	Any improvement after replacing MFBU board?	YES	Replace MFBU board.
			NO	Go to item 5.
	5	Any improvement after replacing the printer control board?	YES	Replace the printer control board.
			NO	Replace the machine.
Received image is too light or faded.	1	Is copied image or a test image also too light or faded? **NOTE** • **The following causes may be possible (improper setting of document contrast): a document with small blue characters or file lines**	YES	Go to item 2.
			NO	Failure in the remote side (improper setting of document contrast, improper document handling, poor line condition, and error in the transmission unit of the remote terminal).

Symptom	Item No.	Cause	Remedy	
Received image is too light or faded.	2	Any improvement after replacing the imaging unit?	YES	Replace the imaging unit.
			NO	For details see main service manual “Image quality problem”.
Received image is squeezed	1	Are characters of copied image or a test image also squeezed? Improper setting of document contrast: Received image of small characters or blue copies with “contrast” switch set “Darker”. Error in remote machine: The following causes are possible: A. Failure in board of scanner unit B. Improper adjustment of optical focus C. Dew on optical lenses (Proceed antidew procedure.)	YES	Failure in the remote side (improper setting of document contrast, and error in the transmission unit of the remote terminal).
			NO	Go to item 2.
	2	Any improvement after replacing the imaging unit?	YES	Replace the imaging unit.
			NO	For details see main service manual “Image quality problem”.
Clock malfunctions	1	Improper operation?	YES	Refer User’s Guide for operation.
			NO	Go to item 2.
	2	Any improvement after replacing RAMU board?	YES	Replace RAMU board.
			NO	Go to item 3.
	3	Any improvement after replacing MFBU board?	YES	Replace MFBU board.
			NO	Replace the machine.
Neither “Sending” nor “Receiving” are displayed.	1	Is an alarm message on screen?	YES	Correct the failure and reset the alarm.
			NO	Go to item 2.
	2	Is the external telephone on hook?	YES	Go to item 3.
			NO	Set the external telephone off-hook then press the communication switch.
	3	Are you printing something such as report?	YES	Proceed to communication after completing print jobs.
			NO	Go to item 4.
	4	Any improvement after replacing operating panel?	YES	Replace operating panel.
			NO	Go to item 5.
	5	Any improvement after replacing the cable between operating panel and BCRU board?	YES	Replace the cable between operating panel and BCRU board.
			NO	Go to item 6.
	6	Any improvement after replacing FAXU board?	YES	Replace FAXU board.
			NO	Go to item 7.
	7	Any improvement after replacing MFBU board?	YES	Replace MFBU board.
			NO	Replace the machine.

Symptom	Item No.	Cause	Remedy	
Cannot go to “Sending” nor “Receiving” modes	1	Is the password checked?	YES	Go to item 2
			NO	Go to item 3.
	2	Is the password correct?	YES	Disable password check and Go to item 3.
			NO	Match the password.
	3	Try to communicate with the service center. Same problem? Possible causes: A. Fax/Scan button is not pressed. B. Both systems are in the transmission (or reception) mode.	YES	Go to item 4.
			NO	END Possible causes are line trouble, trouble or improper operation in the remote terminal, or the remote FAX is not connected.
	4	Are the transmission level and equalizer of the service center set properly?	YES	Go to item 5.
			NO	Set them properly.
	5	Did you check the mode (TX or RX) of the remote side?	YES	Go to item 6.
			NO	Confirm it by phone.
	6	Any improvement after replacing MFBU - FAX cable?	YES	Replace MFBU - FAX cable.
			NO	Go to item 7.
	7	Any improvement after replacing FAXU board?	YES	Replace FAXU board.
			NO	Go to item 8.
	8	Any improvement after replacing MFBU board?	YES	Replace MFBU board.
			NO	Go to item 9.
	9	Any improvement after replacing operating panel?	YES	Replace operating panel.
			NO	Go to item 10.
	10	Any improvement after replacing the cable between operating panel and MFBU board?	YES	Replace the cable between operating panel and MFBU board.
			NO	Replace the machine.
Automatic reception disabled	1	Did you select the automatic reception mode?	YES	Go to item 2
			NO	Select the automatic reception mode.
	2	Is the external telephone in on-hook status?	YES	Go to item 3.
			NO	Set the external telephone on-hook.
	3	Any improvement after replacing MFBU - FAX cable?	YES	Replace MFBU - FAX cable.
			NO	Go to item 4.
	4	Any improvement after replacing FAXU board?	YES	Replace FAXU board.
			NO	Go to item 5.
	5	Any improvement after replacing MFBU board?	YES	Replace MFBU board.
			NO	Go to item 6.
	6	Any improvement after replacing operating panel?	YES	Replace operating panel.
			NO	Go to item 7.
	7	Any improvement after replacing the cable between operating panel and BCRU board?	YES	Replace the cable between operating panel and BCRU board.
			NO	Replace the machine.

Symptom	Item No.	Cause	Remedy	
Cannot send dial number from 10 key pad	1	Is the external telephone in on-hook status?	YES	Go to item 2
			NO	Set the handset on-hook.
	2	Is the line type specified correctly?	YES	Go to item 3.
			NO	Specify the line type (MF, 10, 20 PPS) correctly.
	3	Did you enter by 10-key full dialing?	YES	Go to item 5.
			NO	Go to item 4.
	4	Did you register the phone number?	YES	Go to item 5.
			NO	Register the phone number.
	5	Any improvement after replacing MFBU - FAX cable?	YES	Replace the MFBU - FAX cable.
			NO	Go to item 6.
	6	Any improvement after replacing FAXU board?	YES	Replace FAXU board.
			NO	Go to item 7.
	7	Any improvement after replacing MFBU board?	YES	Replace MFBU board.
			NO	Go to item 8.
	8	Any improvement after replacing operating panel?	YES	Replace operating panel.
			NO	Go to item 9.
	9	Any improvement after replacing the cable between operating panel and BCRU board?	YES	Replace the cable between operating panel and BCRU board.
			NO	Replace the machine.
Cannot monitor communication	1	Is the sound volume switch OFF?	YES	Select a sound volume switch other than OFF.
			NO	Go to item 2
	2	Is S/W SW set line monitoring?	YES	Go to item 3.
			NO	Set S/W SW.
	3	Any improvement after replacing the speaker?	YES	Replace the speaker.
			NO	Go to item 4.
	4	Any improvement after replacing FAXU board?	YES	Replace FAXU board.
			NO	Go to item 5.
	5	Any improvement after replacing MFBU board?	YES	Replace MFBU board.
			NO	Go to item 6.
	6	Any improvement after replacing operating panel?	YES	Replace operating panel.
			NO	Go to item 7.
	7	Any improvement after replacing the cable between speaker and BCRU board?	YES	Replace the cable between speaker and BCRU board.
			NO	Replace the machine.

Symptom	Item No.	Cause	Remedy	
Image memory (memory stored for TX image) is not backed up.	1	Proceed to the following procedure. Is the image memory backed up? A. TX: Disconnect the line cable and proceed a quick memory transmission. Turn OFF the power switch while waiting for the answer. Turn ON the power and check if data is stored in the image memory. B. RX: Turn OFF the power switch while proceeding memory reception without printing paper. Turn ON the power again and check if data is stored in the image memory.	YES	Normal
			NO	Go to item 2
	2	Is the connector of BCRU board connected?	YES	Go to item 3.
			NO	Connect the connector.
	3	Is the battery voltage appropriate? (1.2 V or more)	YES	Go to item 6.
			NO	Go to item 4.
	4	Is the battery full charged? (Approx. 24 hr)	YES	Go to item 5.
			NO	Charge the battery.
	5	Any improvement after replacing the battery?	YES	Replace the battery.
			NO	Go to item 6.
	6	Any improvement after replacing MFBU board?	YES	Replace MFBU board.
			NO	Go to item 7.
	7	Any improvement after replacing RAMU board?	YES	Replace RAMU board.
			NO	Replace the machine.

8.4 Troubleshooting of network function

8.4.1 Error indications (Icons): POP3 reception anomalies

Item No.	Condition	Possible cause	Action to be taken
1	When the icon is displayed at the bottom of the operation screen.	Failed to receive a document using POP3.	Confirm that the POP3 user name, POP3 password, and POP3 server address are correctly specified in [Admin.] - [Network Setting].

1 8.4.2 Internet Fax Transmission / Scan to E-mail

Item No.	Condition	Possible cause	Action to be taken
1	Transmission is unsuccessful.	The connection has some defects.	Check the LAN cable. (whether it is Category 5 type) Check the LED indicator and connection at the network hub or switch.
		The user tried to transmit a document, even though the E-mail address has not been registered yet.	Register the E-mail address.
		The required settings have not been registered in the machine.	Make the required network settings.
		The LAN cable is disconnected.	Replace the LAN cable.
		Other unknown causes.	Check the error details in the [Type] menu of [Job List], and refer to the error code.
2	The document can be transmitted, but the image is not displayed on the terminal unit or PC at the destination.	The destination machine does not support the function for processing the transmitted image.	Retry the transmission using a size/ quality/coding system supported by the destination machine.
		The document was transmitted without inserting a transmission document text.	Depending on the mailing software, it may not be possible to view the attached file when a mail with only the attached file and no text is received. In such a case, insert text into the document to be transmitted and retry.
		1 The TX mode is mistakenly set to PC E-mail.	Change the TX mode to internet fax.
3	Transmission cancellation has failed.	It may take some time to cancel an internet facsimile transmission.	Wait for a while until it is canceled.

8.4.3 IP address Fax Transmission

Item No.	Condition	Possible cause	Action to be taken
1	Transmission is unsuccessful.	The connection has some defects.	Check the LED indicator and connection at the network hub or switch.
		The volume of the image data is so large that the recipient is timed out.	• Ask the recipient to delay the time until the time-out occurs. • Reduce the volume of the image data and retry.
		The required settings have not been registered in the machine.	Make the required network settings.
		The LAN cable is disconnected.	Replace the LAN cable.
		Other unknown causes.	Check the error details in the [Type] menu of [Job List] and refer to the error code.
2	Cannot receive.	Domain is not set correctly.	Confirm “DNS Settings” of “Network Settings”.

8.4.4 Internet Fax reception

Item No.	Condition	Possible cause	Action to be taken
1	The reception function does not work.	The connection has some defects.	Check the LED indicator and connection at the network hub or switch.
		The automatic check for receipt is set to OFF.	Set an interval between automatic checks.
		The required settings have not been registered in the machine.	Make the required network settings.
		The same POP3 User Name is used for another E-mail software or for another user.	The same POP3 User Name should not be used elsewhere, or for other E-mail software.
		The LAN cable is disconnected.	Replace the LAN cable.
2	Documents are received but not printed out.	Data that is not supported is attached, or a mail with no data is received.	Ask the sender to send the document in TIFF-F or text file format.
		The printing of the received document was not specified.	To print a received document, specify Print in received document handling process.
		Memory full	Print the stored documents to reduce the memory usage, and then ask the sender to retransmit.
		Other unknown causes	Check the error details in the [Type] menu of [Job List] and refer to the error code.
3	The machine receives (print) data in binary code.	Data in a format other than MIME is attached or a mail is received via a server that does not support MIME format.	When the format of the attached data is other than MIME, binary codes are printed out as they are in the text. (This is not a machine failure.) Ask the sender to send the data in the MIME format.

Item No.	Condition	Possible cause	Action to be taken
4	The machine receives the same document repeatedly.	The size of the mail is so large that the connection with the server is timed out before the document reception is completed.	• Delete the mail in question from the server by receiving it alternatively via a PC. • Ask the sender to reduce the mail size and retry.
5	Transmission cancellation has failed.	It may take some time to cancel an internet facsimile reception.	Wait for a while until it is canceled.

8.4.5 IP Relay

Item No.	Condition	Possible cause	Action to be taken
1	This machine does not receive the data.	Required software settings are not set completely.	Make the required network settings.
		Transmission data is too large to be transmitted and the fax has not been received because of restriction of a server.	Make data size small by reducing the number of pages, and retransmit.
2	Fax is not transmitted from this machine.	Communication mode of the gateway transmission is not set correctly.	Touch [Allow] for Gateway TX and set communication mode correctly.

8.4.6 Scan to FTP

Item No.	Condition	Possible cause	Action to be taken
1	Cannot send with Scan to FTP.	Refer to communication error codes.	Check the details of the communication error in the [Type] menu of [Job List] and refer to error codes.
		The LAN cable is broken.	Replace the LAN cable.
		No destination directory.	Create the directory.
		User Name or Password is incorrect.	Confirm the settings.

8.4.7 Scan to SMB

Item No.	Condition	Possible cause	Action to be taken
1	Cannot send with Scan to SMB.	Refer to communication error codes.	Check the details of the communication error in the [Type] menu of [Job List] and refer to error codes.
		The LAN cable is broken.	Replace the LAN cable.
		No destination directory.	Create the directory.
		Read-only directory.	Make it writable.
		User Name or Password is incorrect.	Confirm the settings.
		The access is limited by the firewall.	A Windows PC may be set with a firewall. Change the setting.

8.4.8 Assistant tool for C200

Item No.	Condition	Possible cause	Action to be taken
1	The Assistant tool for C200 cannot be connected.	No IP address is set to the machine.	Set an IP address.
		The wrong URL setting in browser.	Enter the IP address of the machine in URL.
		The wrong settings in browser.	For some network configurations, connection settings may be required to access the machine. For more information, consult with the network administrator.
		If proxy setting is done in browser and the proxy server does not identify the IP address of this machine, Assistant tool for C200 screen cannot be displayed.	In the proxy setting of the browser, add the IP address of this machine in the exception column not using the proxy server.
		The LAN cable is disconnected.	Replace the LAN cable.
2	Login fails.	Login operation was previously done by using a different user name and password and the previous login credentials are cached by the browser.	Some browsers hold the user name and password once login succeeds. Close the browser and start it again.
3	Screen is not displayed properly.	The browser size is too small.	Increase the browser size.
		Font size is wrong.	Set proper font sizes for PC and browser.
4	Items not included in device configuration are displayed.	Items not included in device configuration will become invalid at registration. This does not affect the actual registration.	–
5	Half-sized dots are displayed on the screen.	Some browsers display them.	–
6	Part of deleted characters remains on the screen.	Operations may be different for some browsers.	Update the display or reload it in the browser.
7	Digits of the input/display area and available number of characters are different.	For some browsers, the input area can be scrolled. If not, it does not affect the actual registration.	–
8	Some characters cannot be registered or displayed.	Some OS cannot register or display certain characters.	–
9	The Assistant tool for C200 cannot register or display the space character.	Space entered at the end of a word may become invalid.	–

Item No.	Condition	Possible cause	Action to be taken
10	Input data is cleared when a registration error occurs.	For some browsers, items displayed with “*” such as password may be cleared.	–
11	Entered data is cleared when a registration error occurs	Depending on the browser, items displayed with “*” including passwords may be cleared.	–
12	When clicking [Apply] or [Log-out], the page is not refreshed, however “Cannot open page.” is displayed	Depending on the browser settings, it may be displayed.	If using Internet Explorer, click [Tools] - [Internet Options] - [General], and set “Temporary Internet Files” to [Confirm Pages].
13	When refreshing the browser display, although you have not logged out, “Administrator is logged in” is displayed.	Depending on the browser settings, it may be displayed.	If using Internet Explorer, click [Tools] - [Internet Options] - [General], and set “Temporary Internet Files” to [Confirm Pages].

8.4.9 Others (Network device related)

Item No.	Condition	Possible cause	Action to be taken
1	When the power switch is on, [ERROR!!] displays on the touch panel screen.	Failure in PKG connection Unit error	Reattach MEMU/1 or MEMU/2. Replace MEMU/1 or MEMU/2.
2	“Registering in network. Other operations halted. Please wait”. is displayed.	Administrator is logging in from the Assistant tool for C200.	Wait until the administrator finishes the operation and logs out. In case that the administrator has closed the browser without logout operation, ask the administrator to log out from the Assistant tool for C200.

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

DF-612/SP-503 /MS-501

2008.06

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2008/06	1.0	—	Issue of the first edition

CONTENTS

DF-612/SP-503/MS-501

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specification

A. Type

Name	Reverse automatic document feeder	
Type	Image reading section	Sheet-through system
	Turnover section	Switchback system
	Exit section	Straight exit system
Installation	Screw cramp to the main unit	
Document alignment	Center	
Document loading	Face up	

B. Functions

Mode	Standard mode, Mixed original detection mode, FAX mode	
Document feed speed	Copy	1-sided mode: 20 pages/min
		2-sided mode: 10 pages/min
	Color scan (300 dpi)	1-sided mode: 20 pages/min
		2-sided mode: 10 pages/min
	Monochrome scan (300 dpi)	1-sided mode: 40 pages/min
		2-sided mode: 20 pages/min

C. Paper type

Type of document	Standard mode Plain paper	1-sided mode 38 to 128 g/m² (10 to 34 lb)
		2-sided mode 50 to 128 g/m² (13.25 to 34 lb)
	Mixed original detection mode Plain paper	1-sided / 2-sided mode 50 to 128 g/m² (13.25 to 34 lb)
	FAX mode Plain paper	1-sided mode 38 to 128 g/m² (10 to 34 lb)
		2-sided mode 50 to 128 g/m² (13.25 to 34 lb)
Detectable document size*1 (Standard mode, FAX mode)	Metric area	A5, A5S, B5, B5S, A4, A4S, B4, A3, 5 1/2 x 8 1/2, 5 1/2 x 8 1/2 S, FLS (China only: 8K, 16K, 16KS)
	Inch area	5 1/2 x 8 1/2 S, 8 1/2 x 11, 8 1/2 x 11S, 8 1/2 x 14, 11 x 17, A4
Capacity	70 sheets (80 g/m²)	

*1: For the combined original detection mode, refer to the mixed original detection enabled size combination table.

D. Paper feed prohibited originals

- If fed, trouble occurrence will be highly possible.

Type of original	Possible trouble
Sheets stapled or clipped together	Paper feed failure, damaged sheet, defective drive mechanism due to jammed staples or clips
Book original	Paper feed failure, damaged sheet
Sheets glued together	Paper feed failure, damaged sheet
Sheets clipped or notched	Damaged sheet, transport failure
Sheets patched	Patched part folded or torn sheet
Sheets folded, torn or wrinkled	Paper feed failure, damaged sheet, transport failure
Original weighing less than 38 g/m^2 (10 lb) or 128 g/m^2 (34 lb) or more	Paper feed failure, transport failure
Sheets severely curled (15 mm or more)	Sheets misfed due to being dog-eared or fed in askew
OHP film (Transparency film)	Paper feed failure, transport failure
Label paper	Paper feed failure, transport failure
Glossy photographic paper or glossy enamel paper	Transport failure, damaged sheet

E. Paper feed not guaranteed originals

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

Type of Original	Possible Trouble
Sheets lightly curled (Curled amount: 10 to 15 mm)	Dog-eared, exit failure, transport failure
Heat sensitive paper	Edge folded, exit failure, transport failure
Intermediate paper	Paper feed failure, transport failure
Paper immediately after paper exit from the main unit	Paper feed failure, transport failure
Paper with many punched holes (e.g., loose leaf) limited to vertical feeding	Multi-page feed due to flashes from holes
Sheets two-folded or Z-folded	Transport failure, image deformation
Sheets with 2 to 4 holes	Transport failure
Ink jet paper	Paper feed failure, transport failure
Sheets with smooth surface (Coated paper)	Paper feed failure, transport failure
Sheets with rough surface (e.g., letterhead)	Paper feed failure

F. Mixed original feed chart

For metric

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

For inch

	Max. original size	11		8 1/2			5 1/2
Mixed original size		11 x 17	8 1/2 x 11	8 1/2 x 14	8 1/2 x 11S	5 1/2 x 8 1/2	5 1/2 x 8 1/2S
11	11 x 17	OK	OK	-	-	-	-
	8 1/2 x 11	OK	OK	-	-	-	-
8 1/2	8 1/2 x 14	x	x	OK	OK	OK	-
	8 1/2 x 11S	x	x	OK	OK	OK	-
	5 1/2 x 8 1/2	x	x	OK	OK	OK	-
5 1/2	5 1/2 x 8 1/2S	x	x	x	x	x	OK

OK	Mixed original feed available
x	No. mixed original feed
-	Can not set original

G. Machine specifications

Power requirements	DC 24 V (supplied from the main unit)
Max. power consumption	55 W or less
Dimensions	551 mm (W) x 511 mm (D) x 118 mm (H) 21.7 inch (W) x 20.1 inch (D) x 4.7 inch (H)
Weight	8.1 kg (17.85 lb)

H. Operating environment

Conforms to the operating environment of the main unit.

NOTE

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

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Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

NOTE

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

2.1.1 Separation roller

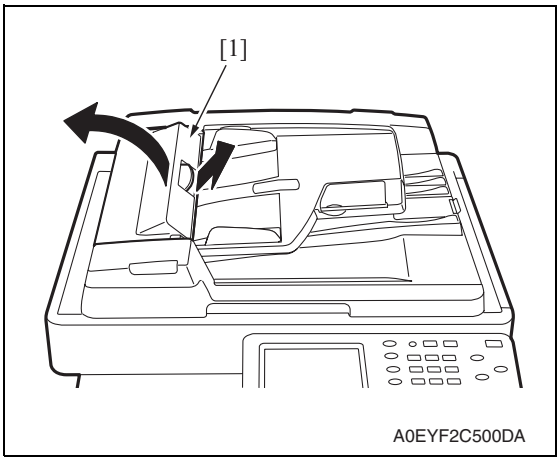
A. Periodically cleaning parts/cycle

- Separation roller: Every 30,000 originals feed

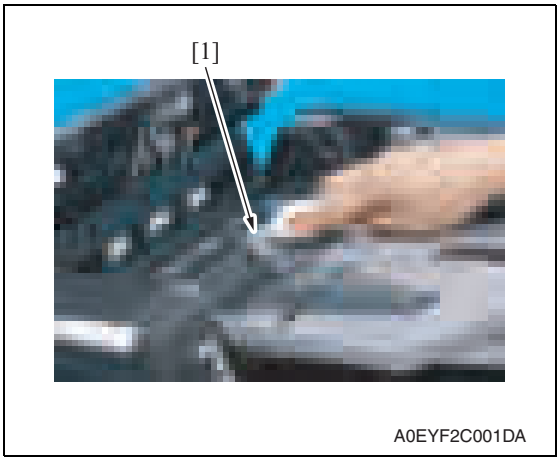
B. Periodically replaced parts/cycle

- Separation roller: Every 100,000 originals feed

C. Cleaning procedure

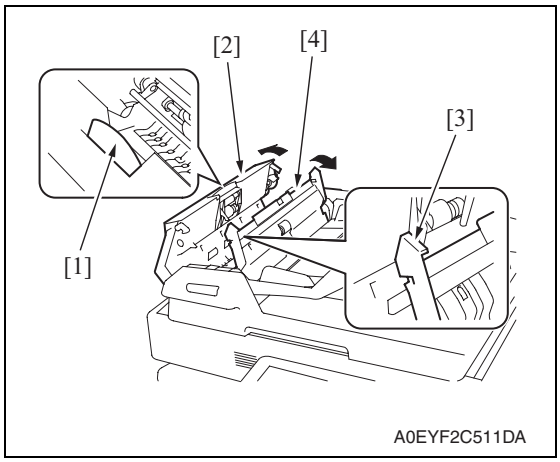


1. Open the feed cover [1].

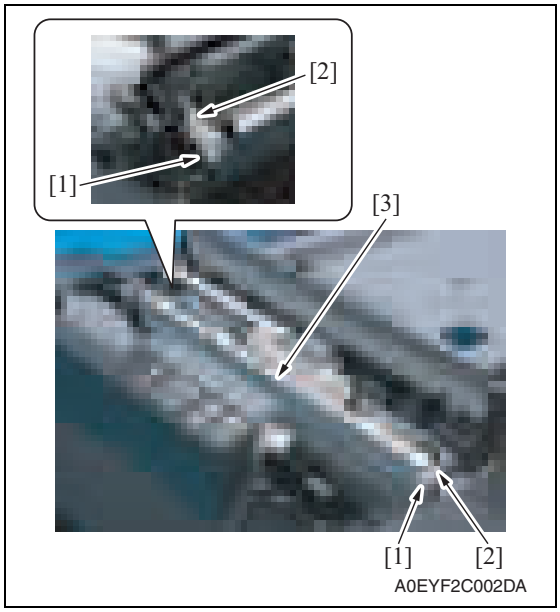


2. Using a cleaning pad dampened with alcohol, wipe the separation roller [1] clean of dirt.

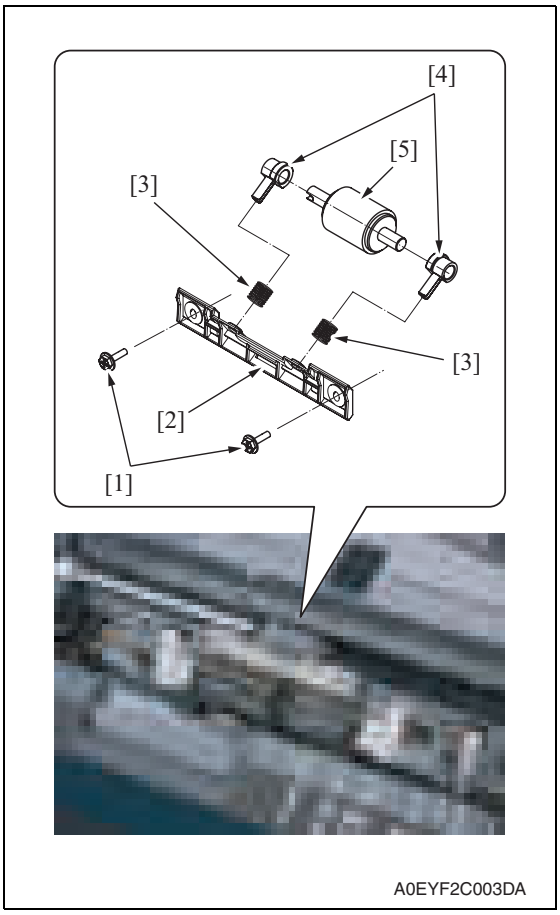
D. Replacing procedure



1. Pull the lever [1] to open the feed cover [2].
2. Raise the knob [3] and open the document guide [4].



3. Unhook the tab [1] and remove the two arms [2].
4. Open the frame [3].



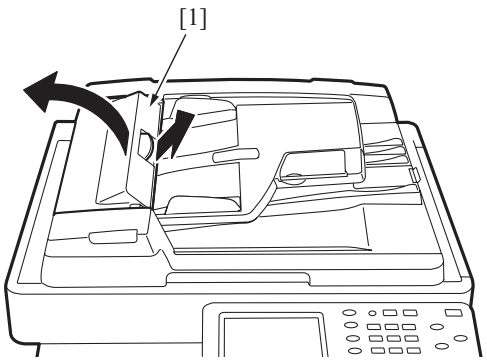
5. Remove two screws [1] and the plate [2].
6. Remove two springs [3], two bearing splits [4], and the separator roller [5].

2.1.2 Feed roller/pick-up roller

A. Periodically cleaning parts/cycle

- Feed roller: Every 30,000 originals feed
- Pick-up roller: Every 30,000 originals feed

B. Cleaning procedure



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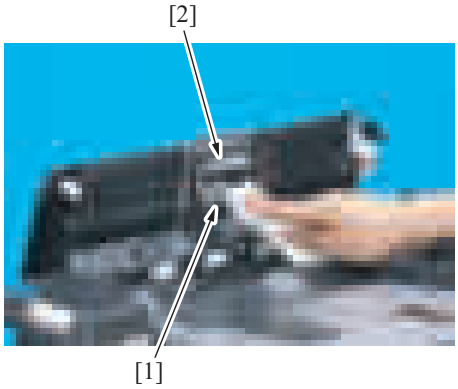
1. Open the feed cover [1].



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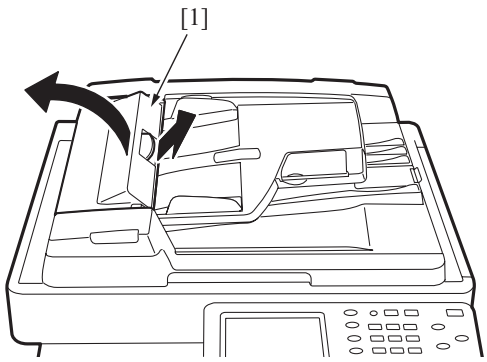
2. Using a cleaning pad dampened with alcohol, wipe the feed roller [1]/pick-up roller [2] clean of dirt.

2.1.3 Regist rollers/exit rollers

A. Periodically cleaning parts/cycle

- Regist rollers: Every 30,000 originals feed
- Exit rollers: Every 30,000 originals feed

B. Cleaning procedure



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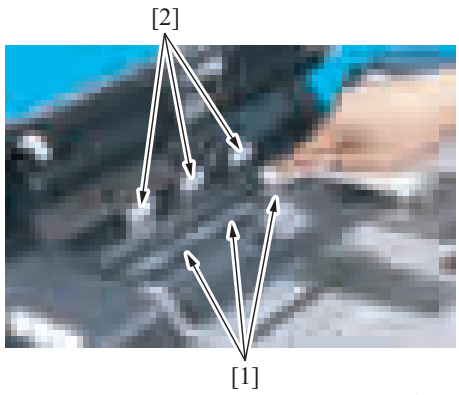
1. Open the feed cover [1].



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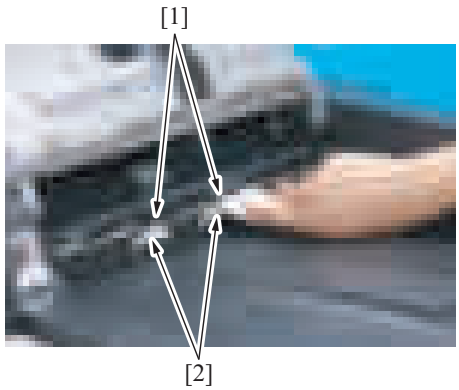
2. Using a cleaning pad dampened with alcohol, wipe three regist rollers [1] and three rolls [2] clean of dirt.

3. Lift up the document feed tray.



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4. Using a cleaning pad dampened with alcohol, wipe two exit rollers [1] and two rolls [2] clean of dirt.

3. Other

3.1 Disassembly/adjustment prohibited items

A. 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.**

B. 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.**

C. Variable resistors on board

NOTE

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

D. Removal of PWBs

⚠ CAUTION

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

3.2 Disassembly/Assembly/Cleaning list (other parts)

3.2.1 Disassembly/Assembly parts list

No.	Section	Part name	Ref. page
1	Exterior parts	Front cover	P.12
2		Rear cover/Rear left cover/Rear lower cover	P.13
3		Document feed tray rear cover	P.14
4	Units	Auto document feeder unit	P.15
5		Document feed tray	P.16
6		ADF scanner assy	P.17
7	Rollers	Feed roller/Pick-up roller	P.19
8		Transport roller 1, 2	P.23
9	PWBs	DF control board (DFCB)	P.24
10		Print lamp board (PLB)	P.24
11	Others	Take-up motor (M1)	P.25
12		Transport motor (M2)	P.25
13		Cooling fan (FM1)	P.27
14		SP-503 Stamp unit	P.28
15		MS-501 Spare TX Marker Stamp 2	P.29

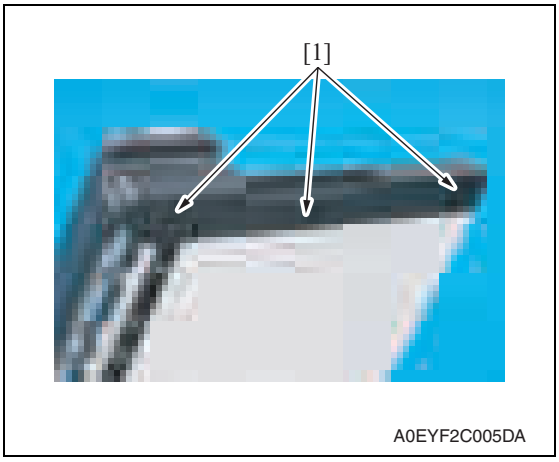
3.2.2 Cleaning parts list

No.	Section	Part name	Ref. page
1	Transport section	White sheet	P.30
2		Registration sensor	P.30
3		Black sheet (ADF glass assy)	P.31

3.3 Disassembly/Assembly procedure

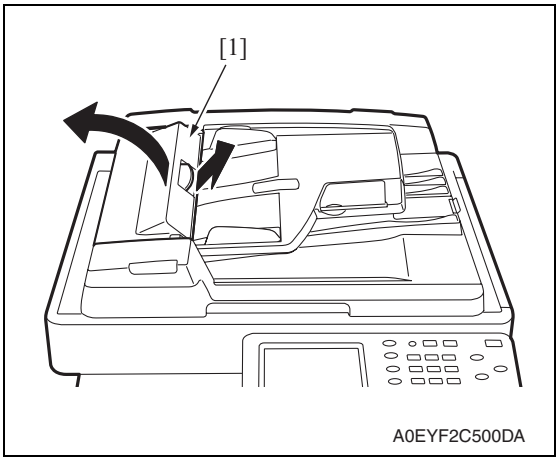
3.3.1 Front cover

1. Open the auto document feeder unit.

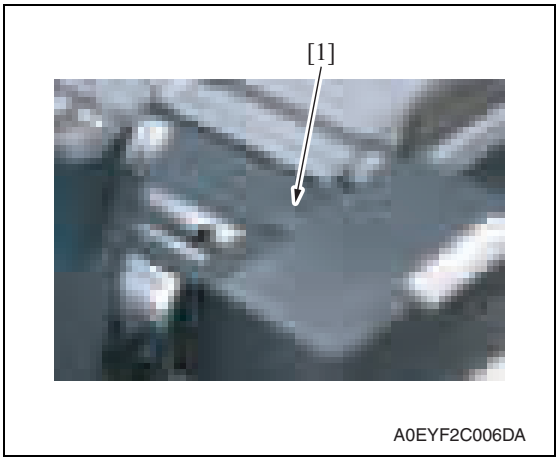


2. Remove three screws [1].

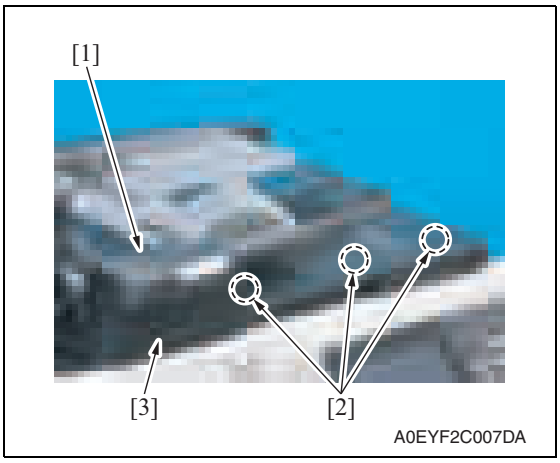
3. Close the auto document feeder unit.



4. Open the feed cover [1].

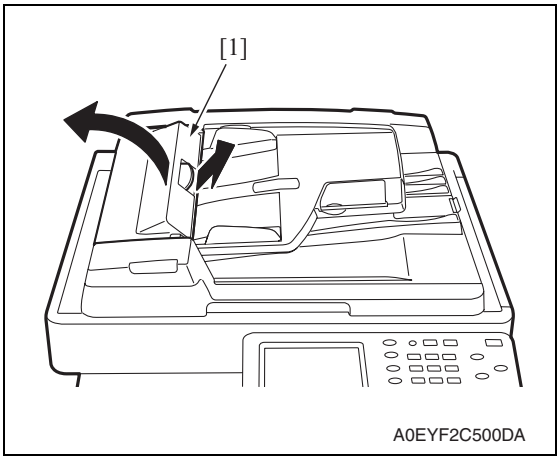


5. Remove the rubber cover [1].

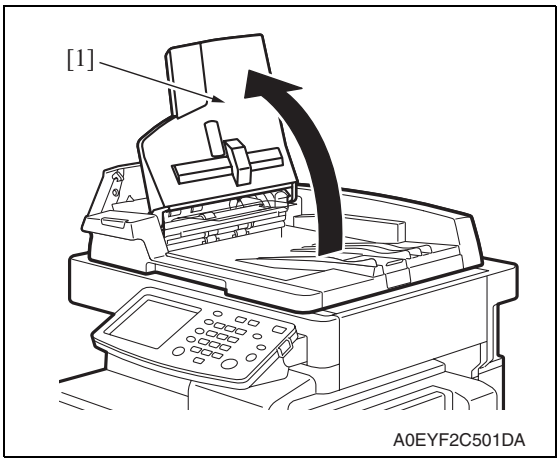


6. Remove the screw [1].
7. Push to remove the three tabs [2] and then remove the front cover [3].

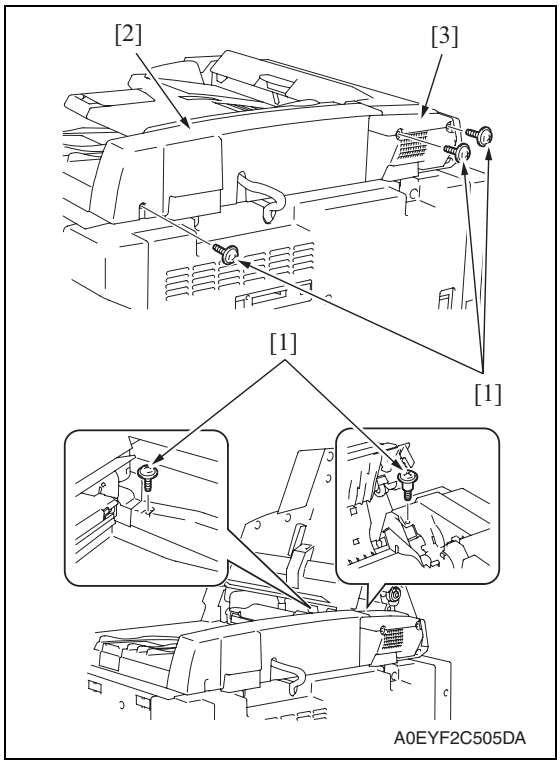
3.3.2 Rear cover/Rear left cover/Rear lower cover



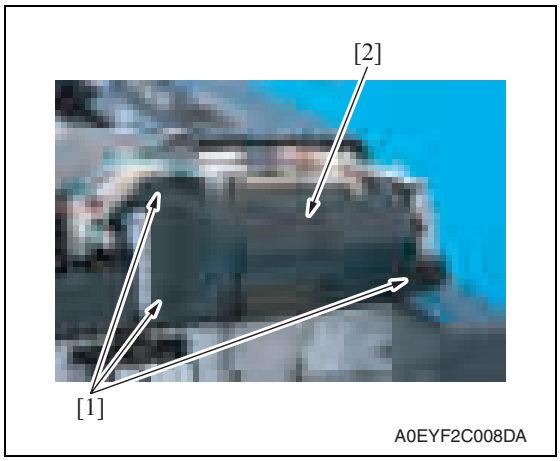
1. Open the feed cover [1].



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



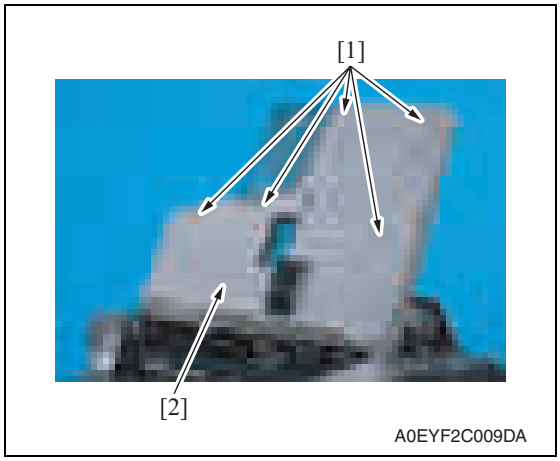
3. Remove five screws [1], and remove the rear cover [2]/rear left cover [3].



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

3.3.3 Document feed tray rear cover

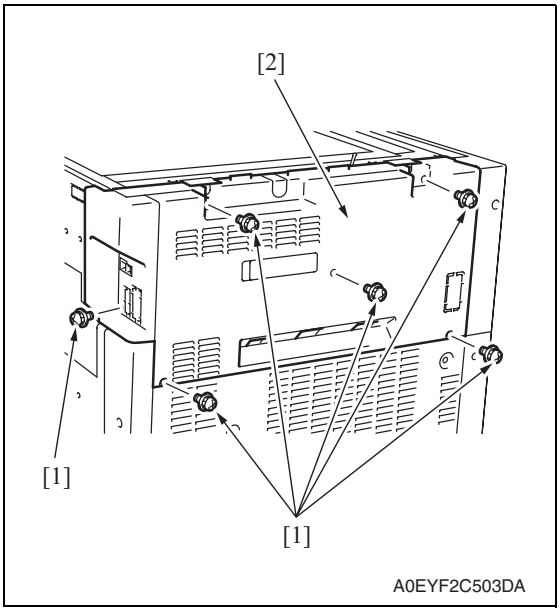
1. Lift up the document feed tray.



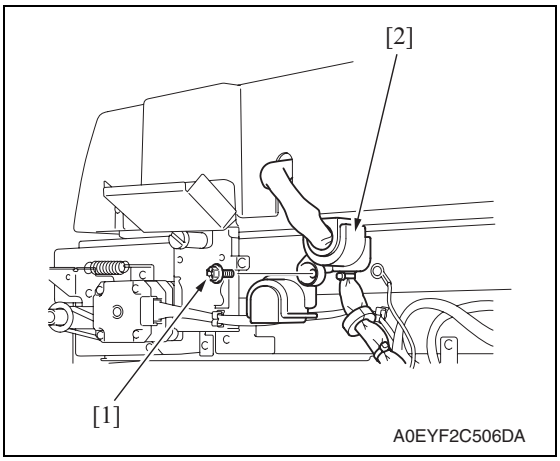
2. Remove five screws [1], and remove document feed tray rear cover [2].

3.3.4 Auto document feeder tray

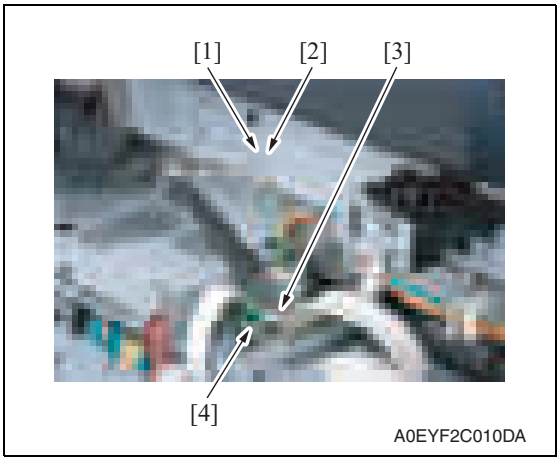
1. Open the auto document feeder unit.



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



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

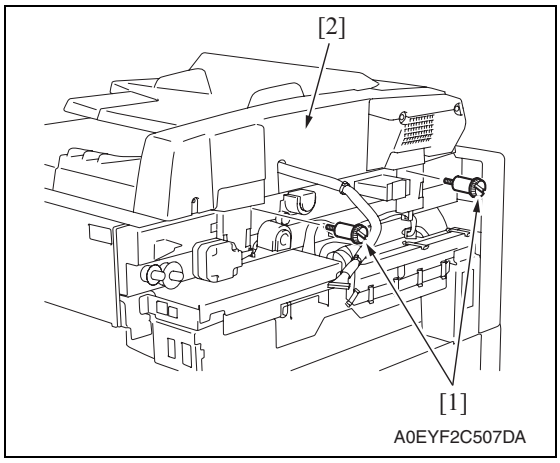


4. Remove the screw [1], and remove the ground terminal [2].

5. Disconnect the connector [3].

NOTE

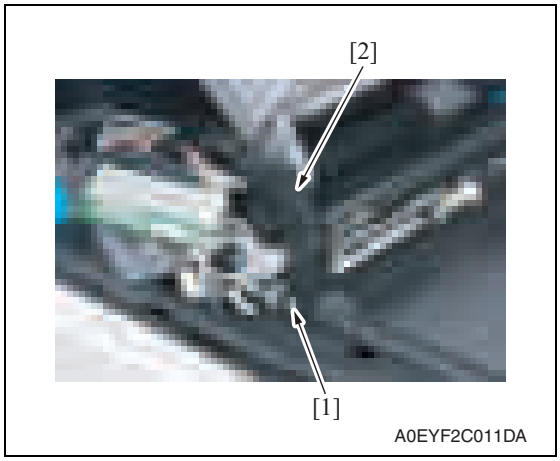
- **When disconnecting the connector [3], use care not to allow the flat cable [4] to be disconnected and, after the connector [3] has been disconnected, make sure that the flat cable [4] is not disconnected.**



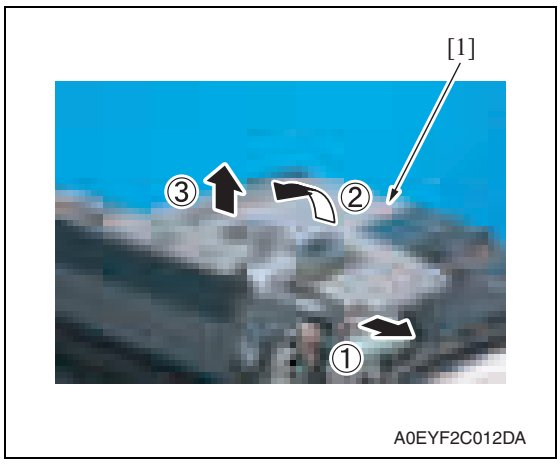
6. Remove two screws [1], and remove the auto document feeder unit [2].

3.3.5 Document feed tray

1. Remove the front cover.
See P.12
2. Remove the rear cover/rear left cover.
See P.13



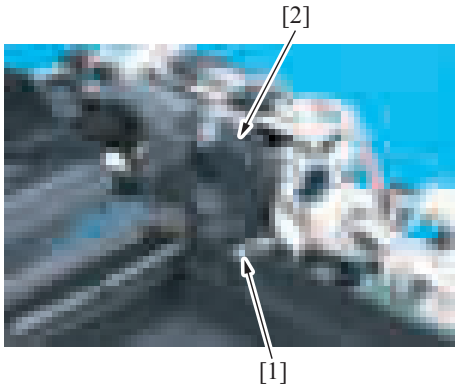
3. Remove the screw [1], and remove the cover blind (front) [2].



4. Remove the document feed tray [1] as illustrated.

3.3.6 ADF scanner assy

1. Remove the front cover.
See P.12
2. Remove the rear cover/rear left cover/ rear lower cover.
See P.13
3. Remove the document feed tray.
See P.16
4. Remove the cooling fan.
See P.27



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5. Remove the screw [1], and remove the cover blind (rear) [2].


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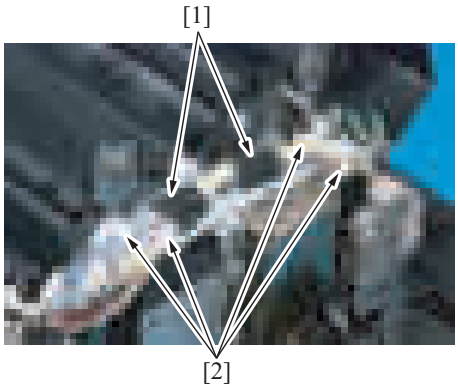
6. Disconnect all connectors but CN1 from the DF control board.



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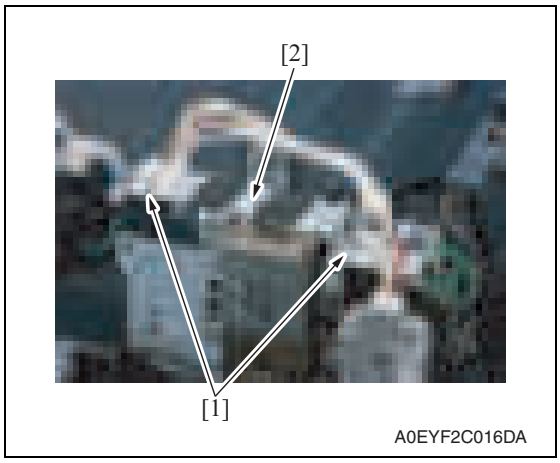
7. Peel off two tapes [1] and remove the harness from four wiring saddles [2].

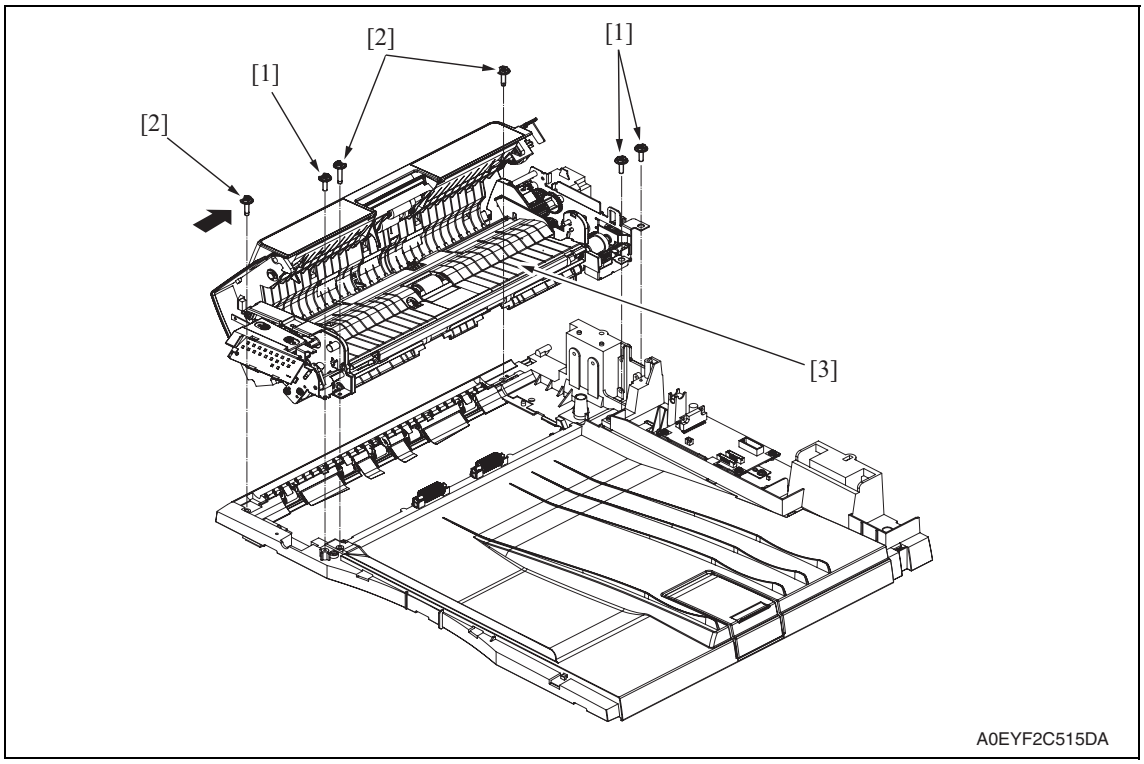


8. Remove two screws [1] and the bracket support [2].

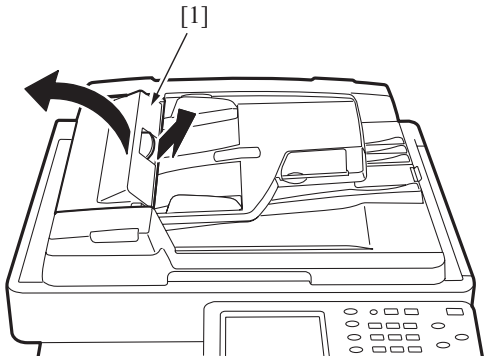
9. Remove three shoulder screws [1], three screws [2], and the ADF scanner assy [3].

NOTE

- **At reinstallation, note that the screw [2] (M3x14) at the position indicated by the arrow differs from the other two screws (M3x16).**



3.3.7 Feed roller/pick-up roller



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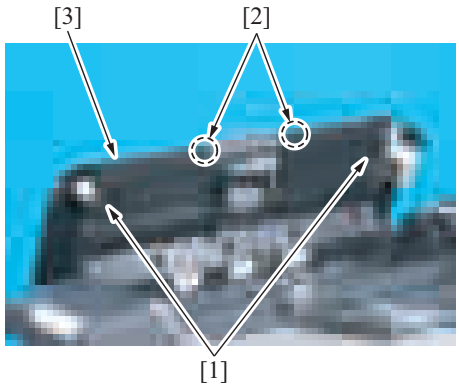
1. Open the feed cover [1].



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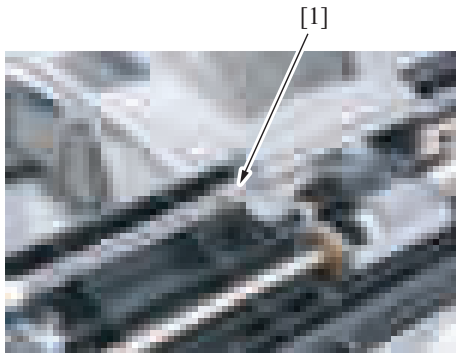
2. Remove two screws [1].
3. Unhook two tabs [2], remove the feed cover [3].



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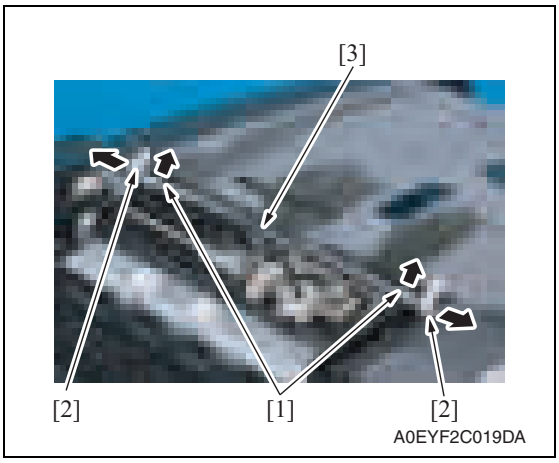
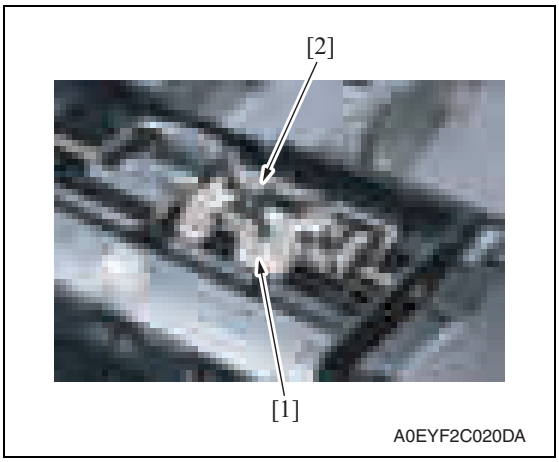
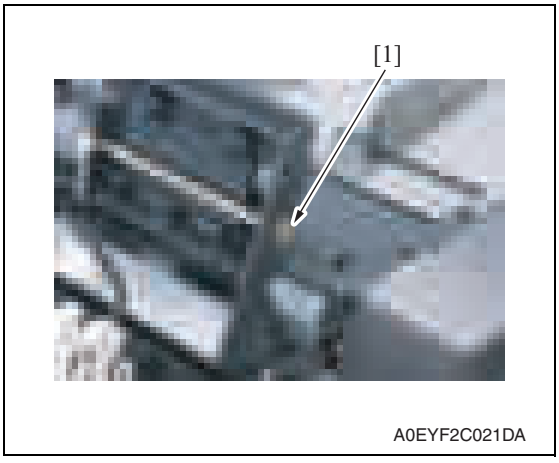
4. Unhook the spring [1].



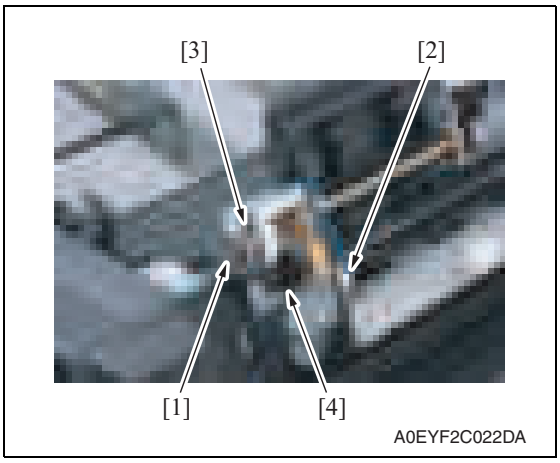
5. Unhook two tabs [1], and remove two lock levers [2].
6. Remove the knob [3].



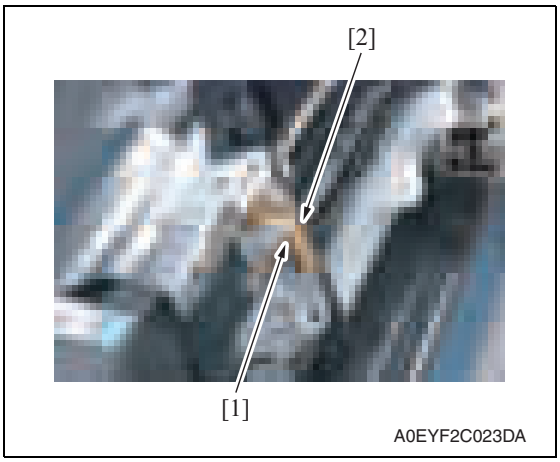
7. Remove the screw [1], and remove the sensor holder [2].



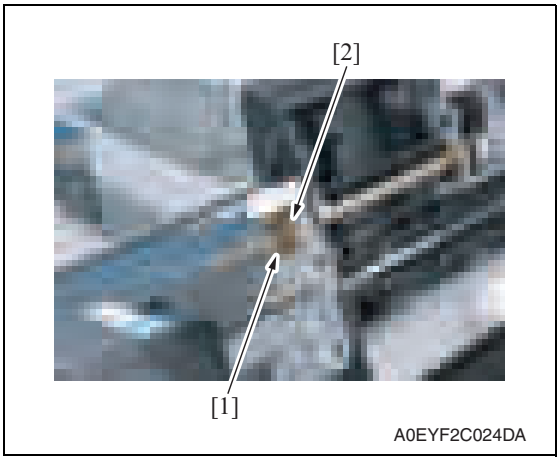
8. Snap off the E-ring [1] at the front.



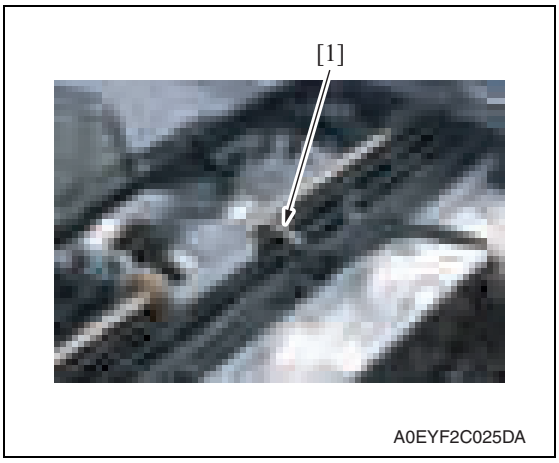
9. Snap off the E-ring [1] in the rear.
10. Disconnect the connector [2], remove the clutch [3] and gear [4].



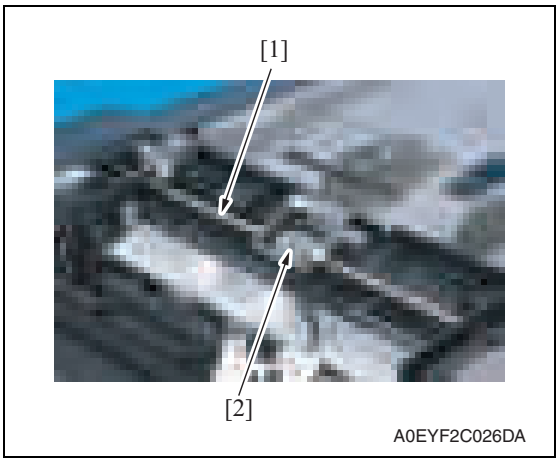
11. Remove the screw [1], and remove the ground terminal [2].



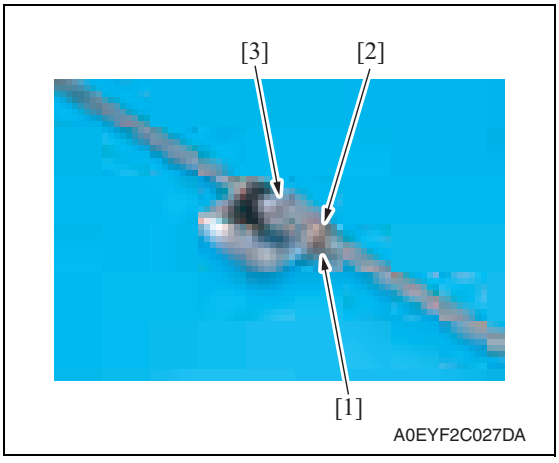
12. Snap off the E-ring [1] and remove the bushing [2] at the rear.



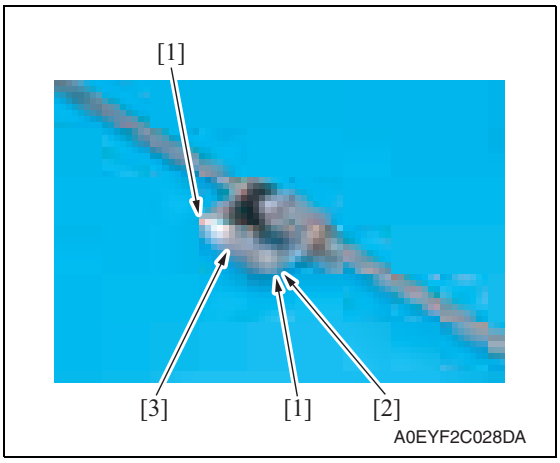
13. Remove the spring [1].



14. Slide the shaft [1] toward the rear and then slide it to the front. Then, remove the feed roller/pick-up roller assy [2] from the frame top.



15. Snap off the E-ring [1] and remove the bushing [2] and feed roller [3].



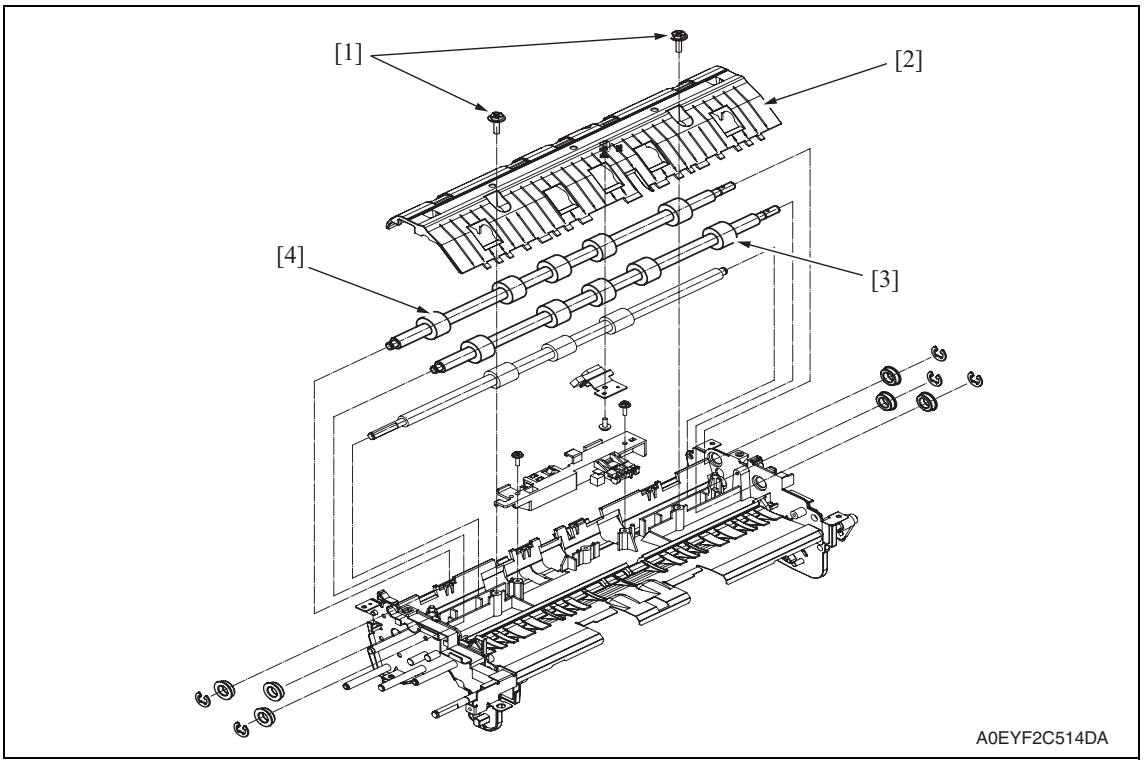
16. Remove two E-rings [1], and remove the shaft [2], and remove the pick-up roller [3].

3.3.8 Transport roller 1, 2

1. Remove the ADF scanner assy.
See P.17
2. Remove two screws [1], and remove the bottom cover [2].
3. Referring to the illustration shown below, perform the disassembly procedure to remove the transport roller 1 [3] and transport roller 2 [4].

NOTE

- **Be sure to replace the transport roller 1 [3] and transport roller 2 [4] with new ones at the same time, because dissimilar roller outside diameters cause such problems as the document being taut or slack at the image read position, resulting in color shift in the image.**



3.3.9 DF control board (DFCB)

1. Remove the rear cover.
See P.13

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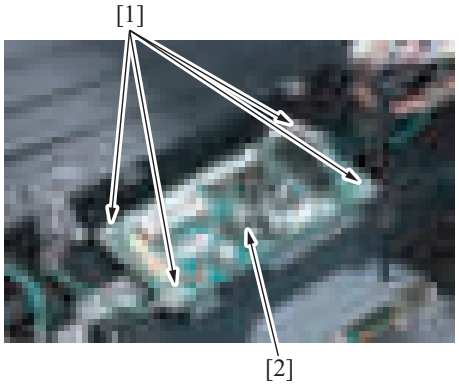
2. Disconnect ten connectors.



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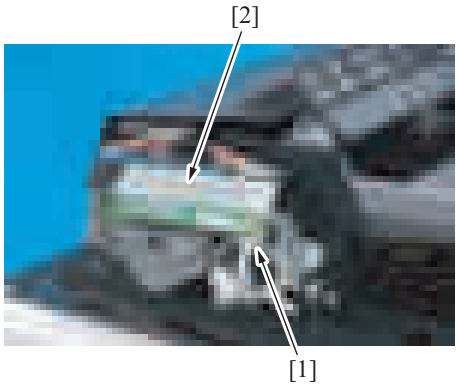
3. Remove four screws [1], and remove the DF control board [2].

3.3.10 Print lamp board (PLB)

1. Remove the front cover.
See P.12



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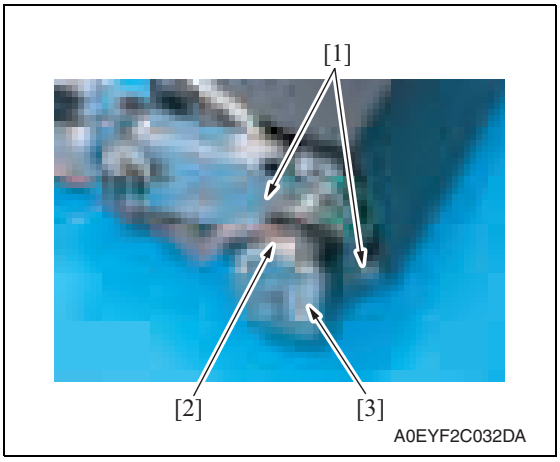
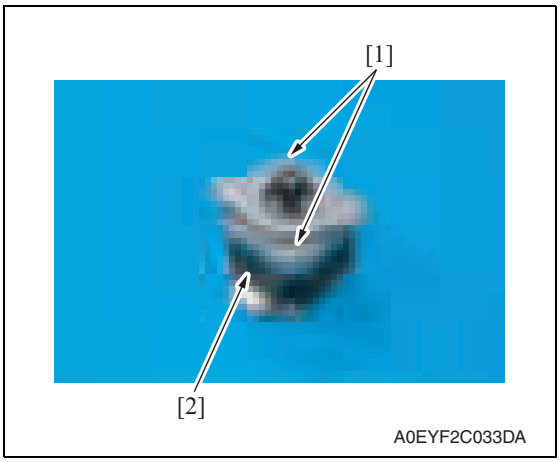
2. Disconnect the connector [1], and remove the print lamp board [2].

3.3.11 Take-up motor (M1)

1. Remove the ADF scanner assy.
See P.17



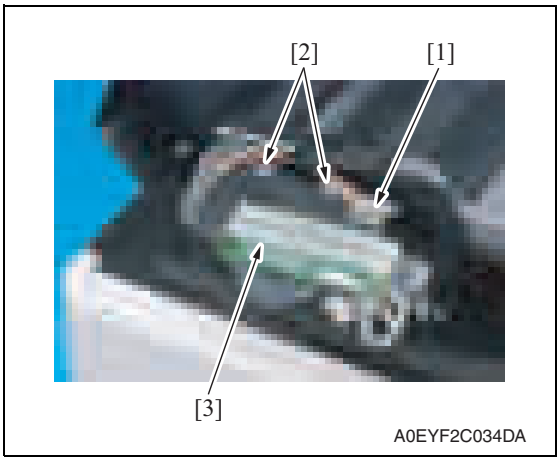
2. Remove two screws [1], disconnect the connector [2] and remove the take-up motor assy [3].



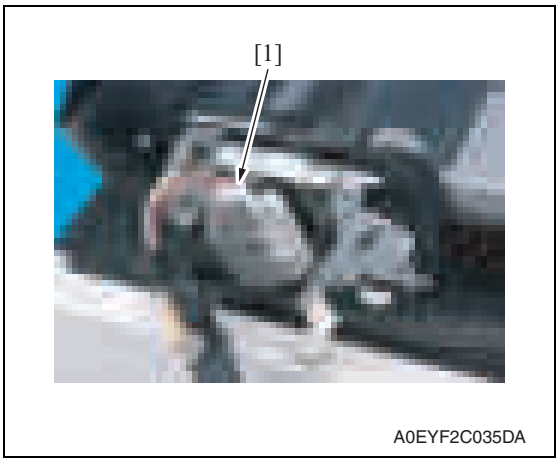
3. Remove two screws [1], and remove the take-up motor [2].

3.3.12 Transport motor (M2)

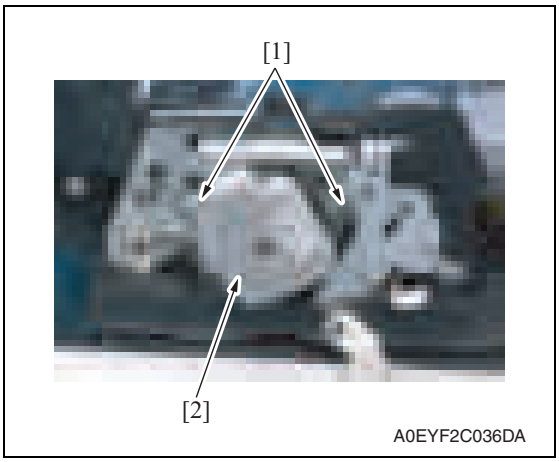
1. Remove the front cover.
See P.12



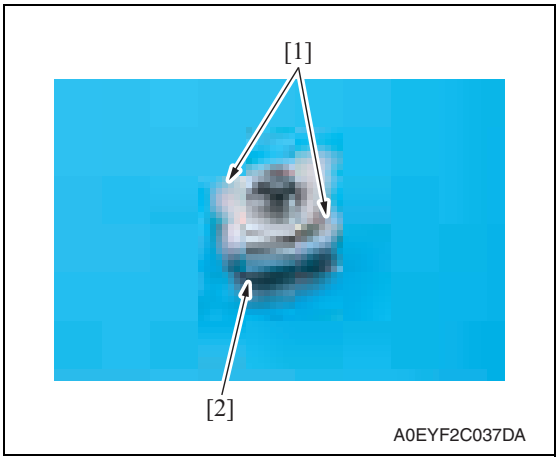
2. Disconnect the connector [1] and remove two screws [2], and remove the print lamp board mounting plate [3].



3. Disconnect the connector [1].



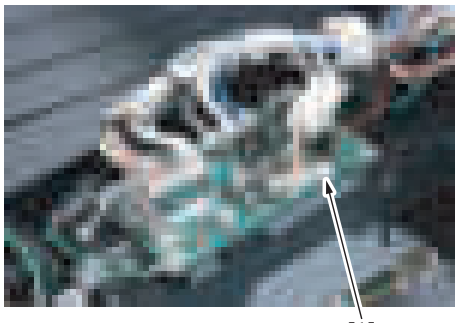
4. Remove two screws [1], and remove the transport motor assy [2].



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

3.3.13 Cooling fan (FM1)

1. Remove the rear cover/rear left cover/ rear lower cover.
See P.13



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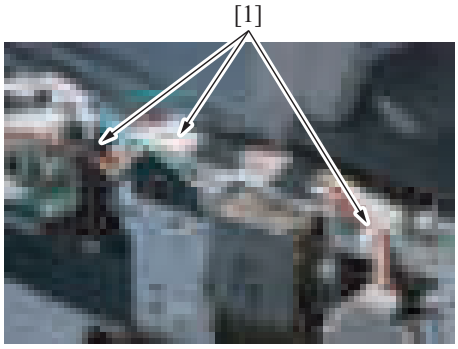
2. Disconnect the connector (CN10) [1] of the DF control board.



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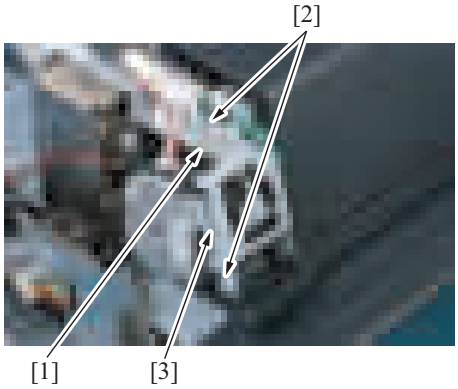
3. Remove the harness from three wire saddles [1].



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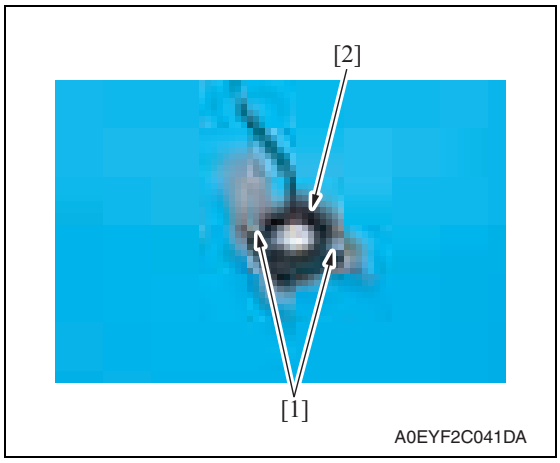
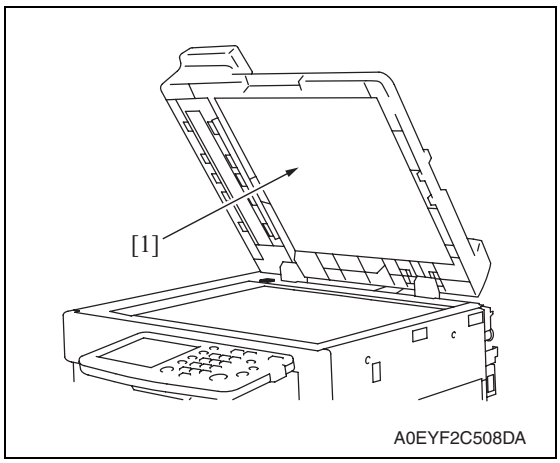
4. Remove the screw [1], and remove the ground terminal.
5. Remove two screws [2], and remove the bracket [3].



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

3.3.14 Stamp unit

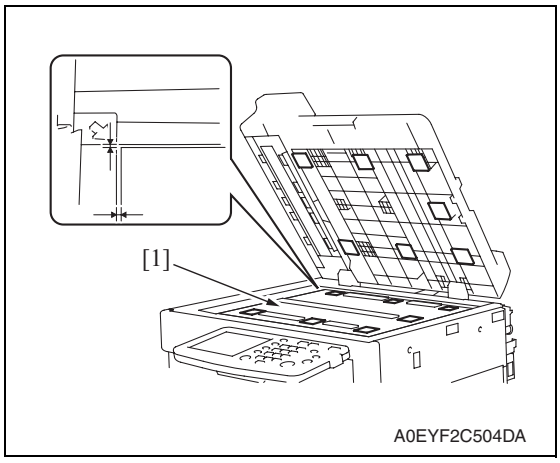
1. Open the auto document feeder unit.



2. Peel off the document pad [1] from the auto document feeder unit.

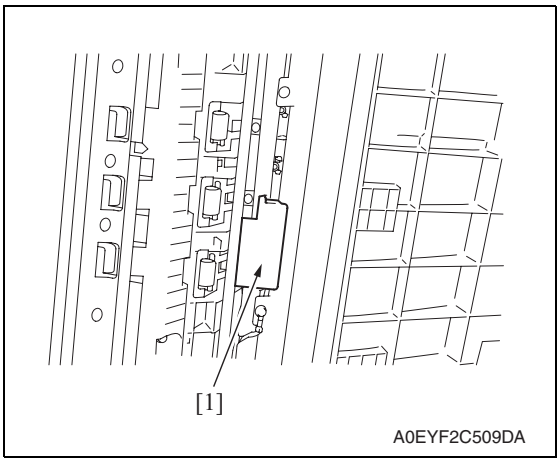
NOTE

- **Use care not to dirty the document pad [1] that has been peeled off from the feeder unit.**

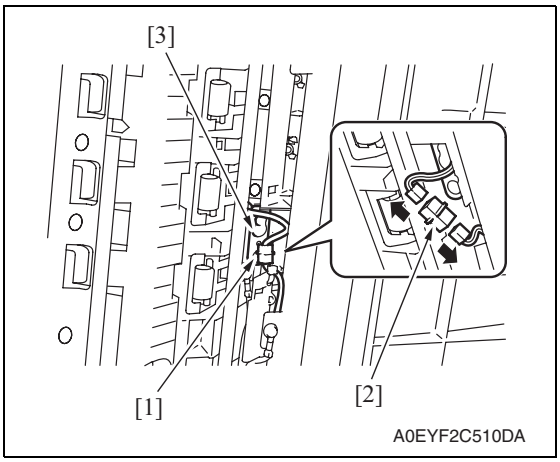


NOTE

- **When reinstalling the document pad [1], place it on the original glass, leaving an edge margin of 1mm each from the left edge and the rear edge of the original glass. Then, slowly lower the auto document feeder unit so that the pad is affixed to the feeder unit.**

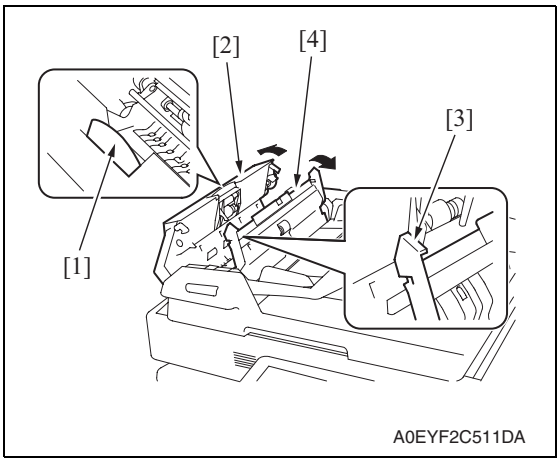


3. Remove the cover [1].

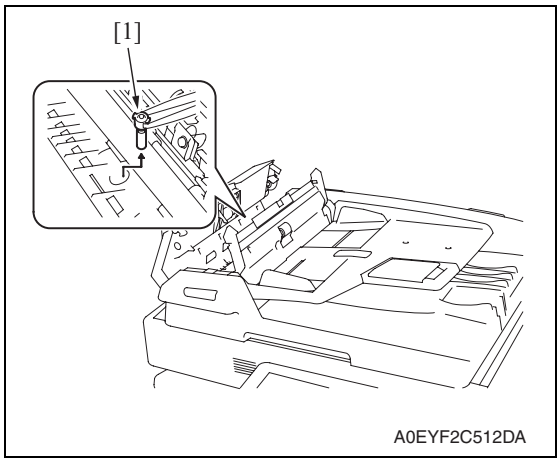


4. Remove the screw [1], disconnect the hookup connector [2] and remove the stamp unit [3].

3.3.15 Spare TX Marker Stamp 2



1. Pull the lever [1] to open the feed cover [2].
2. Raise the knob [3] and open the document guide [4].



3. Using tweezers, remove the stamp cartridge [1].

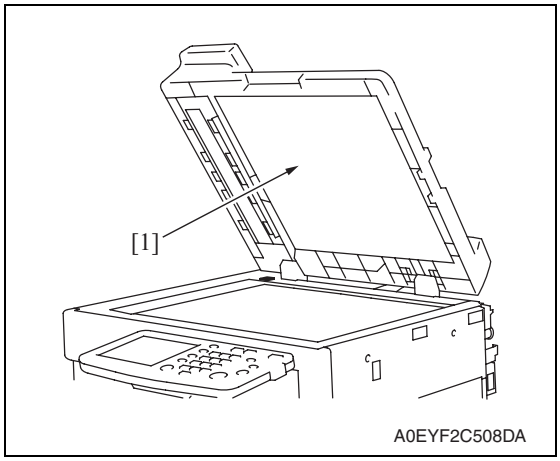
3.4 Cleaning procedure

NOTE

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

3.4.1 White sheet

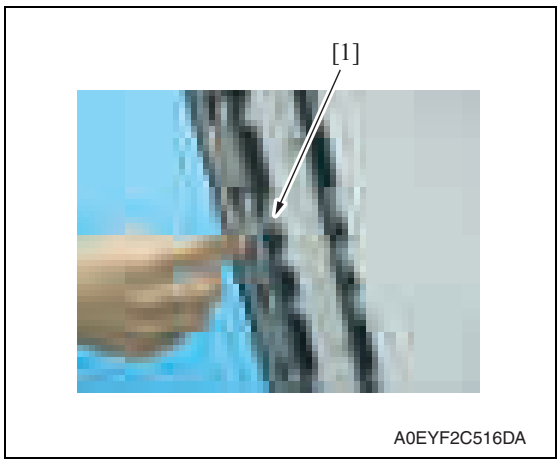
1. Open the auto document feeder unit.



2. Clean the white sheet [1].

3.4.2 Registration sensor

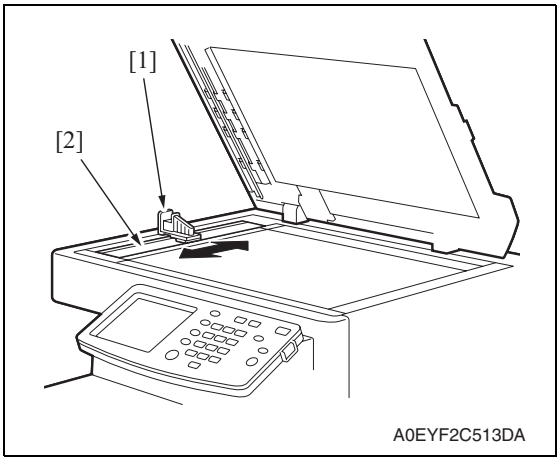
1. Open the auto document feeder unit.



2. Using a cotton swab or rod-shaped cloth, wipe the registration sensor [1] clean of dirt.

3.4.3 Black sheet (ADF glass assy)

1. Open the auto document feeder unit.



2. Clean the black sheet [2] with the cleaner [1].

Blank Page

Adjustment/Setting

4. 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 “ ”.

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 fusing 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.**

5. Service Mode

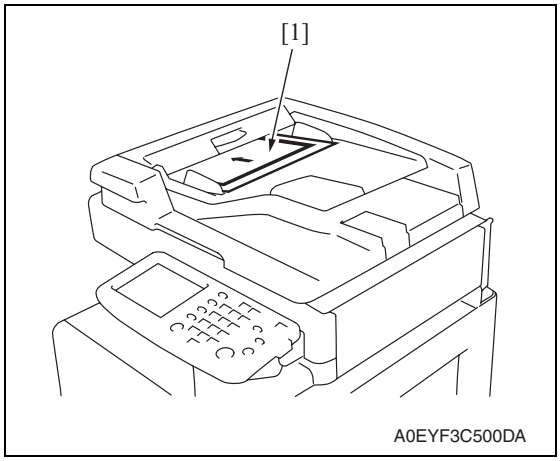
5.1 Service Mode setting procedure

See P.158 of the main body service manual.

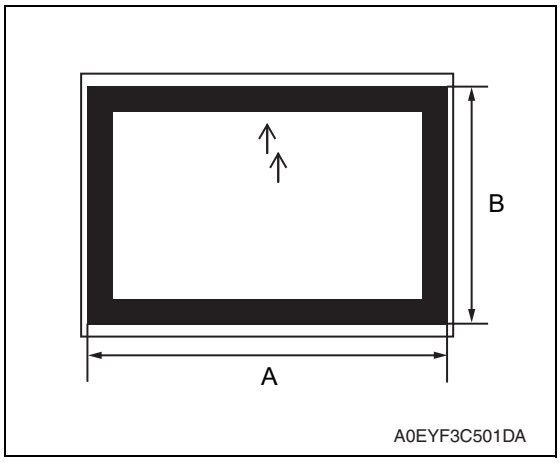
5.2 ADF Adjustment

5.2.1 Zoom

Functions	• To set the zoom ratio in the main and sub scan directions of the ADF.
Use	• When ADF has been replaced.
Adjustment specification	• A (Main scan direction): 287 ± 1.4 mm (± 0.5 %) • B (Sub scan direction): 190 ± 1.0 mm (± 0.5 %)
Adjustment range	• x 0.990 to x 1.010 [Cross Direction Adjustment] • x 0.980 to x 1.020 [Feed Direction Adjustment]



1. Load the test chart [1] in the ADF.
2. Call the Service Mode to the screen.
See P.158 of the main body service manual.
3. Touch [Machine Adjustment] → [Scan Area] → [Test Copy].
4. Touch [1 > 1] for simplex/duplex and [OFF] for mixed original and then press the start key.



5. Check that the lengths of the reference lines reproduced on the copy, A (Main scan direction) and B (Sub scan direction), meet the following specifications.
6. If the reference line lengths A and B are not within the specifications, make the following adjustment.
7. Touch [OK].
8. Touch [ADF Adjustment] → [Zoom].

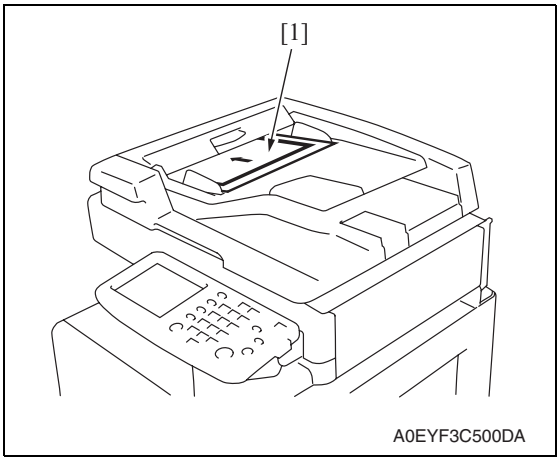
9. Touch [Cross Direction Adjustment] or [Feed Direction Adjustment].
- Cross Direction Adjustment: A (Main scan direction)
- Feed Direction Adjustment: B (Sub scan direction)

10. Press the Clear key, and then enter the numeric value from the 10-Key Pad.
- If the line is longer than the specifications, adjust toward the reduction side.
- If the line is shorter than the specifications, adjust toward the enlargement side.

11. Touch [OK].
12. Press the Reset key.
13. Repeat steps 3 to 12 until the reference line lengths comply with the specifications.
14. Touch [OK] on the Service Mode screen.
15. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

5.2.2 Feed

Functions	• To adjust the scan start positions in the main and sub scan directions of the ADF.
Use	• Use upon setting up the ADF.
Adjustment specification	• Width A (Leading edge misalignment): 0 ± 2.0 mm • Width B (Lateral edge misalignment): 0 ± 2.0 mm
Adjustment range	[Leading Edge]: -4.0 to +4.0 [Centering]: -72 to +72 (x 0.04 mm) [Leading (2nd)]: -5.0 to +5.0 [Centering (2nd)]: -72 to +72 (x 0.04 mm) [Leading (3rd)]: -6.0 to +6.0 [Centering (3rd)]: -72 to +72 (x 0.04 mm)

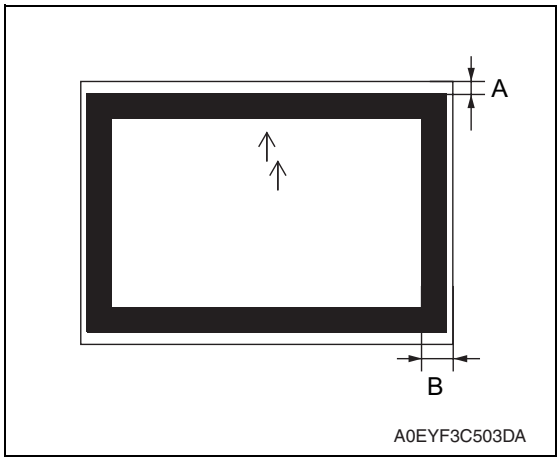


1. Load the test chart [1] in the ADF.

2. Call the Service Mode to the screen.
See P.158 of the main body service manual.
3. Touch [Machine Adjustment] → [Scan Area] → [Test Copy].

4. Select the appropriate function according to what needs to be checked and adjusted.

- <1st side>
  Original placement: Printed side up, arrow pointing to the leading edge
  Simplex/Duplex: [1 > 1]
- <2nd side>
  Original placement: Printed side down, arrow pointing to the trailing edge
  Simplex/Duplex: [2 > 2]
- <3rd side>
  Original placement: Printed side up, arrow pointing to the leading edge
  Simplex/Duplex: [2 > 2]
  Mixed Original: [ON]
  * Copy paper A4S or letterS, auto zoom, mixed original

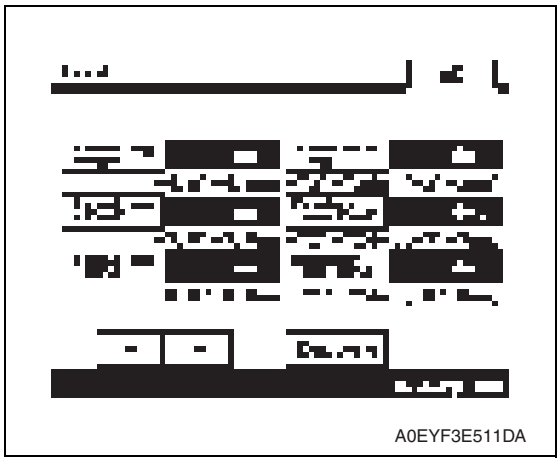


5. Measure width A and width B on the test chart and the copy to determine if the difference in the width falls within the specified range.

6. If the difference in the width of a falls outside the specified range, make the following adjustment.

7. Touch [OK].

8. Touch [ADF Adjustment] → [Feed].



9. Touch the function to be adjusted and touch either [+] or [-] whichever is applicable. Then, enter the numeric data from the 10-key pad.

- If the width A on the copy is longer than that on the chart, enter a positive value using + key.
- If the width B on the copy is longer than that on the chart, enter a positive value using + key.

10. Touch [OK].

11. Press the Reset key.

12. Repeat steps 3 to 11 until the difference in the width falls within the specified range.

13. Touch [OK] on the Service Mode screen.

14. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

5.2.3 Regist Loop

Functions	• To adjust the length of the loop to be formed in paper before the registration rollers.
Use	• When an original misfeed or skew occurs.
Adjustment instructions	• The loop value increases by the entered + value and decreases by the entered - value.
Adjustment range	• [1-Sided]: -5 to +5 mm • [2-Sided]: -5 to +5 mm
Setting/ procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Scan Area]. *3.* Touch [ADF Adjustment]. *4.* Touch [Regist Loop]. *5.* Select either [1-Side] or [2-Sided] for the adjustment. *6.* Press the clear key and change the setting value using the 10-key pad. (Press the [+/-] key to change the +/- code.) *7.* Touch [OK]. *8.* Press the Reset key. *9.* Touch [OK] on the Service Mode screen. *10.* Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

5.2.4 Erasure Width

Functions	• To set the erase width of the ADF.
Use	• Use when changing the width of the area not to be printed on the leading and side edges of the image.
Adjustment range	• 0 to 3 mm
Setting/ procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Scan Area]. *3.* Touch [ADF Adjustment]. *4.* Touch [Erasure Width]. *5.* Enter the numeric value from the 10-key pad and touch [OK]. *6.* Press the Reset key. *7.* Touch [OK] on the Service Mode screen. *8.* Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

5.2.5 Paper Passage

Functions	• To check for paper passage through the ADF in each of the ADF modes.
Use	• Used for checking the document path for any abnormal condition when a document misfeed occurs.
Setting/ procedure	*1.* Call the Service Mode to the screen. *2.* Touch [Scan Area]. *3.* Touch [ADF Adjustment]. *4.* Touch [Paper Passage]. *5.* Select a paper passage mode to be tested from [1-Sided No Detect], [1-Sided Mixed Org.] or [2-Sided]. *6.* Set the original in the feed tray. *7.* The Start key color changes from orange to blue. *8.* Press the Start key. The operation starts. **NOTE** **• After starting the operation by pressing the Start key, if the Start key is pressed during the operation, the operation will be suspended. Then, if the Start key is pressed again during the suspension, the operation will be resumed.** **• If the Stop key is pressed during the test operation, the test will be forced to end.** **• If there is no original set in the feed tray, the Start key will not work.** **• All originals set in the feed tray are passed through. Upon the completion of all originals passed through, the paper through test ends.**

5.3 Sensor Check (Scan)

5.3.1 ADF

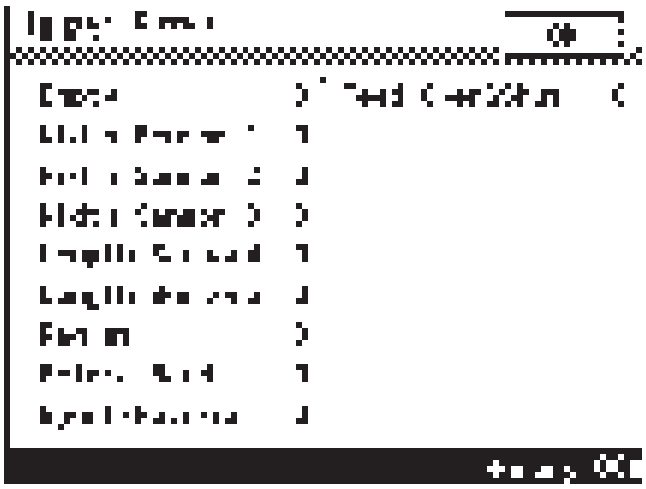
Functions	• To check sensors on the paper path.
Use	• When a document misfeed occurs.

A. Procedure

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check (Scan)].
4. Touch [ADF].
5. Operate the sensor to check by using paper or the like, and check the screen display. (Paper detected: 1, No paper detected: 0)

B. Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



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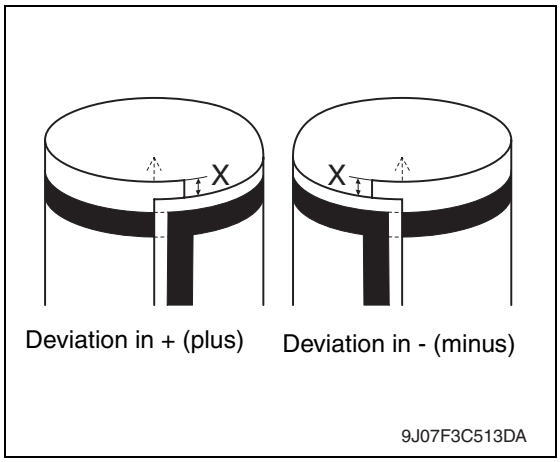
C. Sensor check list

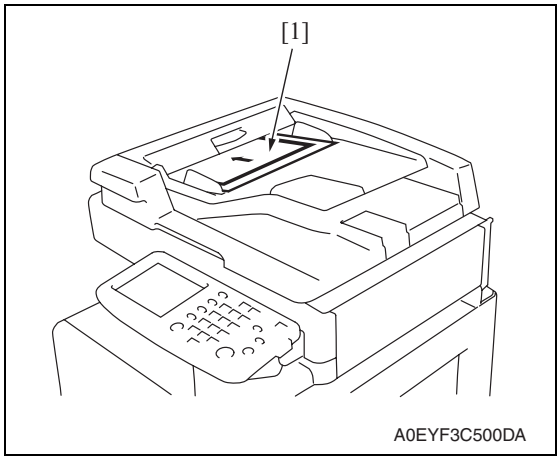
Symbol	Panel display	Part/Signal name	Operation characteristics/ panel display	
			1	0
PS1	Empty	Document empty sensor	Paper present	Paper not present
PS2	Width Sensor 1	Document width sensor/1	Paper present	Paper not present
PS3	Width Sensor 2	Document width sensor/2	Blocked	Unblocked
PS4	Width Sensor 3	Document width sensor/3	Blocked	Unblocked
PS5	Length sensor 4	Document length sensor/1	Paper present	Paper not present
PS6	Length sensor 5	Document length sensor/2	Paper present	Paper not present
PS7	Regist	Transport sensor	Paper present	Paper not present
PS8	Before Read	Registration sensor	Paper present	Paper not present
PS9	Eject/Reverse	Exit/turnover sensor	Paper present	Paper not present
PS10	Feed Open&Shut	Door open/close sensor	Open	Close

6. Mechanical adjustment

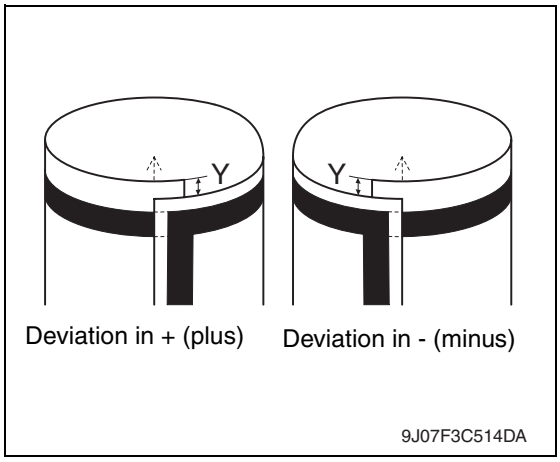
6.1 Adjusting skew feed



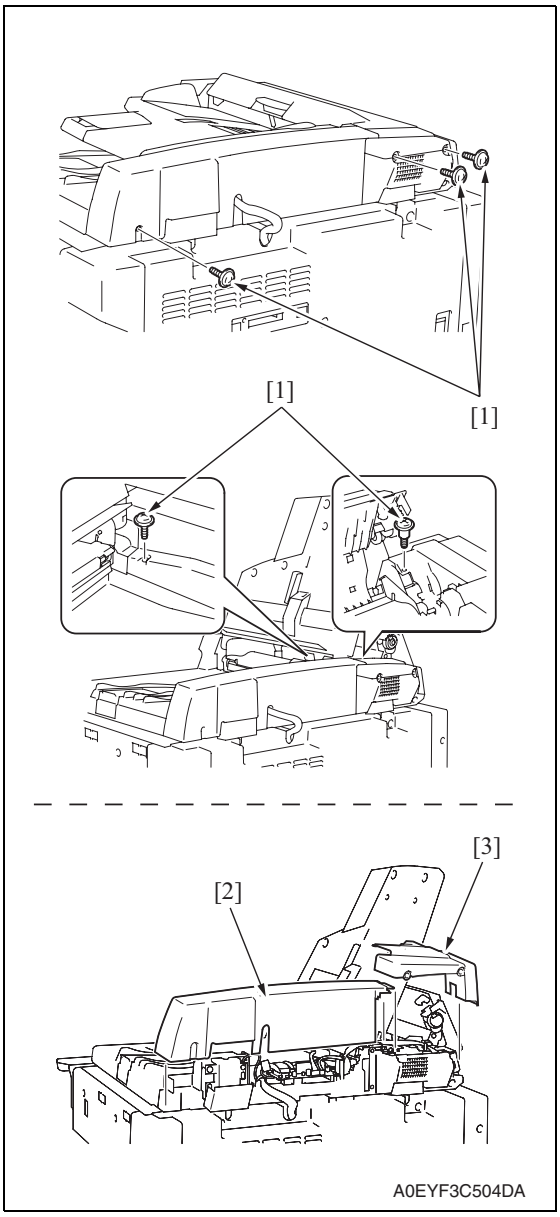
1. Check how the edges of the chart are misaligned.
   The amount of the deviation of the chart will be X.



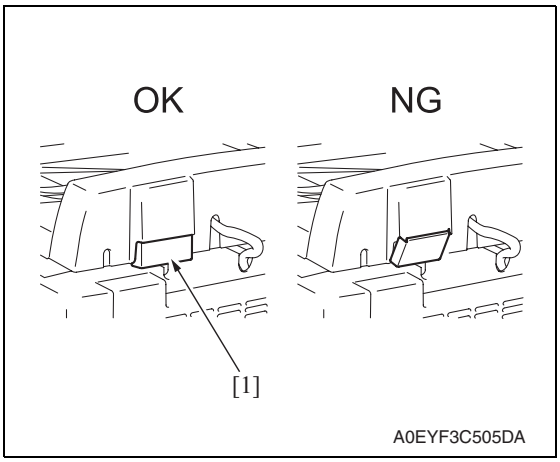
2. Place the chart [1] in the document feed tray (with the side having an arrow facing up).



3. Make copies 5 times repeatedly in single side mode.
4. Fold all 5 sample copies as illustrated and check for any deviation.
   Deviation on the sample will be Y.
5. Obtain the difference between the deviation of the chart and the deviation of the sample.
   Difference of the deviation = Y - X
   Specifications: 0 ± 2 mm
6. If the difference of the deviation does not fall within the specified range, perform the following adjustment.

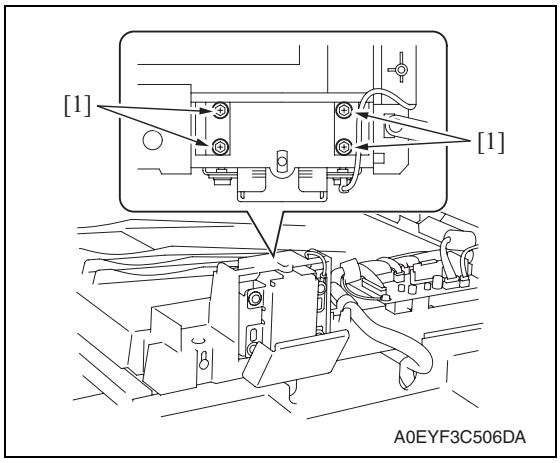


7. Remove five screws [1], rear cover [2], and rear left cover [3].

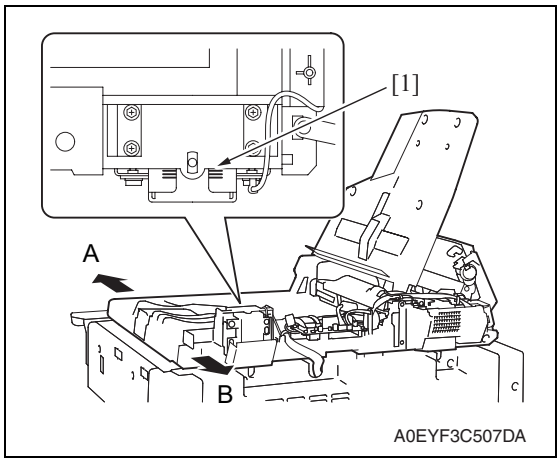


NOTE

- **When installing the rear cover and rear left cover, be sure to place the protective film [1] in the cover.**



8. Loosen the four mounting screws [1] of the left hinge as viewed from the rear.



9. Move the reverse automatic document feeder in either direction shown by the arrows and select an appropriate graduation line [1].

- When the amount of deviation is a positive value, move it in the direction A.
- When the amount of deviation is a negative value, move it in the direction B.

10. After the adjustment, tighten the four screws that hold the hinges.

Troubleshooting

7. Jam display

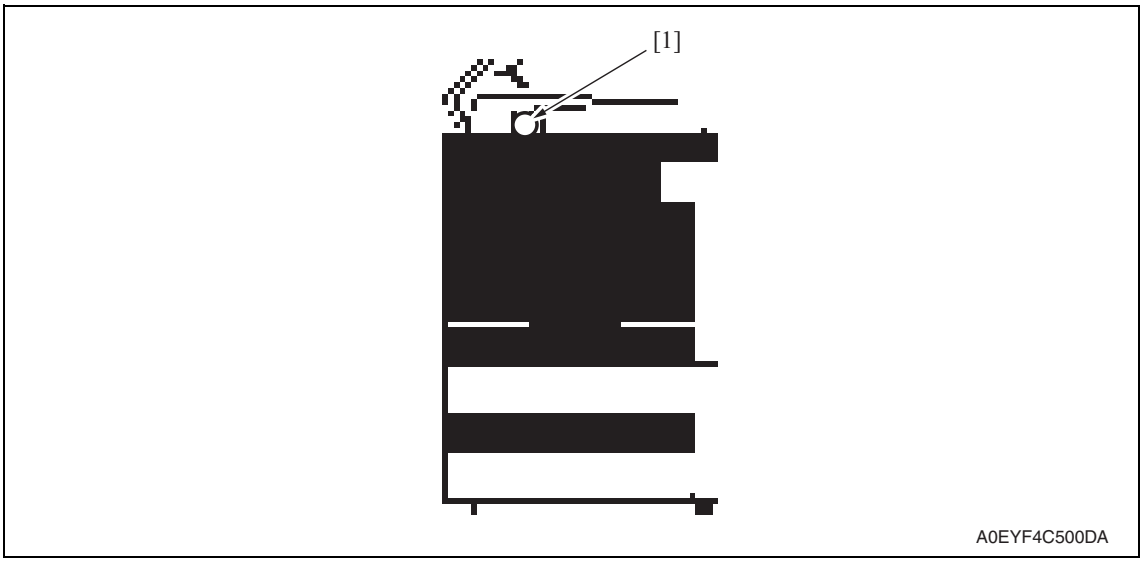
7.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp?	Change the paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change 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 found operational when checked for correct operation?	Correct or change the defective actuator.

7.2 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main body.

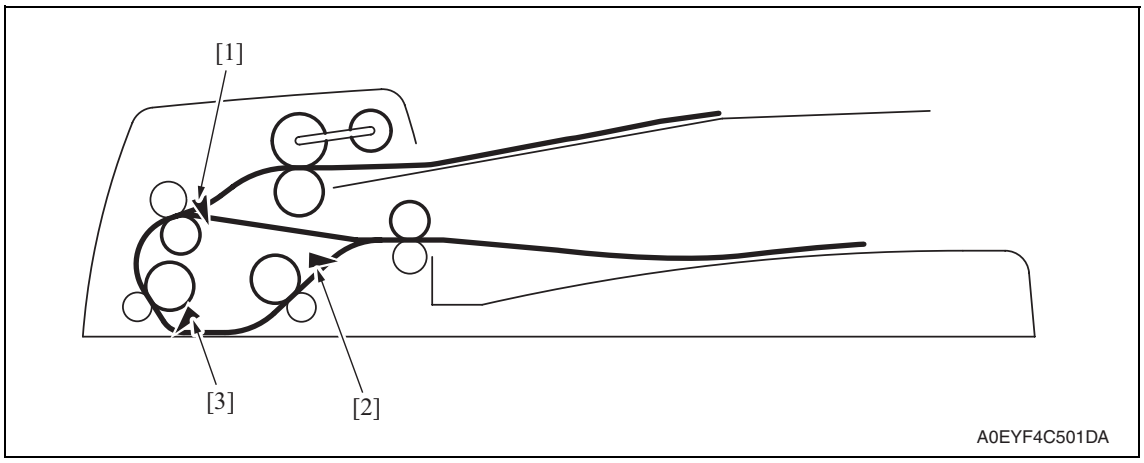


Display	Code	Misfeed location	Misfeed processing location	Action
[1]	6601	Turnover section misfeed	Feed cover	P.44
	6602	Paper feed section misfeed		P.45
	6603	Transport section misfeed		P.45
	6604	Paper exit section misfeed		P.46
	6605	Image reading section misfeed		P.46

7.2.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

7.3 Sensor layout



[1] Transport sensor (PS7)
[2] Exit/turnover sensor (PS9)
[3] Registration sensor (PS8)

7.4 Solution

7.4.1 Turnover section misfeed

A. Detection timing

Type	Description
Detection of misfeed at turnover section	• The transport sensor (PS7) is not turned ON by the passage of paper after a lapse of predefined time after the exit/turnover clutch (CL3) is turned OFF.

B. Action

Relevant electrical parts	
Transport sensor (PS7) Exit/turnover clutch (CL3)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS7 I/O check, sensor check	DFCB CN6-3 (ON)	DF-612 F to G-6
3	CL3 operation check	DFCB CN2-5 to 6	DF-612 F to G-2
4	Change DFCB	—	—

7.4.2 Paper feed section misfeed

A. Detection timing

Type	Description
Detection of misfeed at paper feed section	• The transport sensor (PS7) is not turned ON by the passage of paper after a lapse of predefined time after the take-up clutch (CL1) is turned ON.

B. Action

Relevant electrical parts	
Transport sensor (PS7) Take-up clutch (CL1)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS7 I/O check, sensor check	DFCB CN6-3 (ON)	DF-612 F to G-6
3	CL1 operation check	DFCB CN2-1 to 2	DF-612 F to G-1
4	Change DFCB	—	—

7.4.3 Transport section misfeed

A. Detection timing

Type	Description
Detection of misfeed at transport section	• The registration sensor (PS8) is not turned ON by the passage of paper after a lapse of predefined time after the registration clutch (CL2) is turned ON. • The exit/turnover sensor (PS9) is not turned ON after a lapse of predefined time after the registration sensor (PS8) is turned ON by the passage of paper.

B. Action

Relevant electrical parts	
Registration sensor (PS8) Exit/turnover sensor (PS9) Registration clutch (CL2)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS8 I/O check, sensor check	DFCB CN5-10 (ON)	DF-612 F to G-5
3	PS9 I/O check, sensor check	DFCB CN6-4 (ON)	DF-612 F to G-5
4	CL2 operation check	DFCB CN2-1 to 2	DF-612 F to G-1
5	Change DFCB	—	—

7.4.4 Paper exit section misfeed

A. Detection timing

Type	Description
Detection of misfeed at paper exit section	• The exit/turnover sensor (PS9) is not turned OFF after a lapse of pre-defined time after the registration sensor (PS8) is turned OFF by the passage of paper.

B. Action

Relevant electrical parts	
Registration sensor (PS8) Exit/turnover sensor (PS9)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS8 I/O check, sensor check	DFCB CN5-10 (ON)	DF-612 F to G-5
3	PS9 I/O check, sensor check	DFCB CN6-4 (ON)	DF-612 F to G-5
4	Change DFCB	—	—

7.4.5 Image reading section misfeed

A. Detection timing

Type	Description
Short length misfeed	• The original being fed through the unit has a length shorter than the shortest length of the original supported by the unit. The paper deactivates the registration sensor (PS8) at timing earlier than the end of a predetermined period of time after the sensor has been activated.
Long length misfeed	• The original being fed through the unit has a length longer than the longest length of the original supported by the unit. The paper does not deactivate the registration sensor (PS8) even after the lapse of a predetermined period of time after the sensor has been activated.

B. Action

Relevant electrical parts	
Registration sensor (PS8)	DF control board (DFCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS8 I/O check, sensor check	DFCB CN5-10 (ON)	DF-612 F to G-5
3	Change DFCB	—	—

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

PC-104/204

2008.06

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2008/06	1.0	—	Issue of the first edition

CONTENTS

PC-104/204

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specifications

A. Type

Name	2 way paper feed cabinet
Type	Front loading type 2 way paper feed device
Installation	Desk type
Document alignment	Center

B. Paper

Type	Size	Capacity	
		Tray 3	Tray 4
Plain paper (60 to 90 g/m², 16 to 24 lb)	A5S (Metric area only), B5, B5S, A4, A4S, B4, A3, 5-1/2 x 8-1/2S (Inch area only), 8-1/2 x 11, 8-1/2 x 11S, 8-1/2 x 14, 11 x 17 8K, 16K	500 sheets	500 sheets
Thick paper 1 (91 to 150 g/m², 24.25 to 40 lb)		150 sheets	150 sheets
Thick paper 2 (151 to 209 g/m², 40 to 55.5 lb)			
Thick paper 3 *1 (210 to 256 g/m², 55.75 to 68 lb)			
Copy paper dimensions	Width	139.7 to 297 mm 5.5 to 11.7 inch	
	Length	182 to 431.8 mm 7.2 to 17 inch	

*1: Image is not guaranteed when thick paper 3 is used.

C. Machine specifications

Power requirements	DC 24 V ± 10 % (supplied from the main body)
	DC 5 V ± 5 %
Max. power consumption	15 W or less
Dimensions	600 mm (W) x 578 mm (D) x 301 mm (H) 23.7 inch (W) x 22.8 inch (D) x 11.9 inch (H)
Weight	PC-104: 24.0 kg (53 lb) PC-204: 28.0 kg (61.8 lb)

D. Operating environment

Conforms to the operating environment of the main body.

NOTE

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

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Maintenance

2. Other

2.1 Disassembly/Adjustment prohibited items

A. 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.**

B. 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.**

C. Variable resistors on board

NOTE

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

D. Removal of PWBs

⚠ CAUTION

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

2.2 Disassembly/Assembly/Cleaning list (other parts)

2.2.1 Disassembly/Assembly parts list

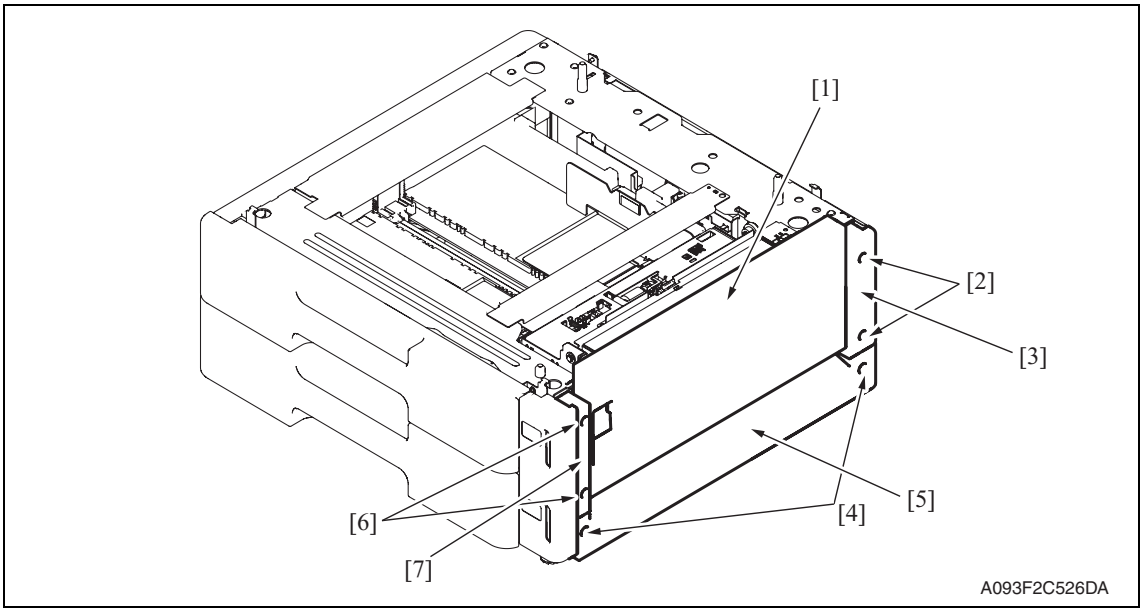
No.	Section	Part name	Ref. page
1	Exterior parts	Right door	P.5
2		Rear right cover	P.5
3		Lower right cover	P.5
4		Front right cover	P.5
5		Rear cover	P.5
6		Left cover	P.5
7	Rollers	Separation roller assy	P.6
8		Feed roller	P.8
9		Pick-up roller	P.11

2.2.2 Cleaning parts list

No.	Section	Part name	Ref. page
1	Feed section	Separation roller	P.13
2		Feed roller	P.14
3		Pick-up roller	P.14
4	Transport section	Vertical transport roller	P.15

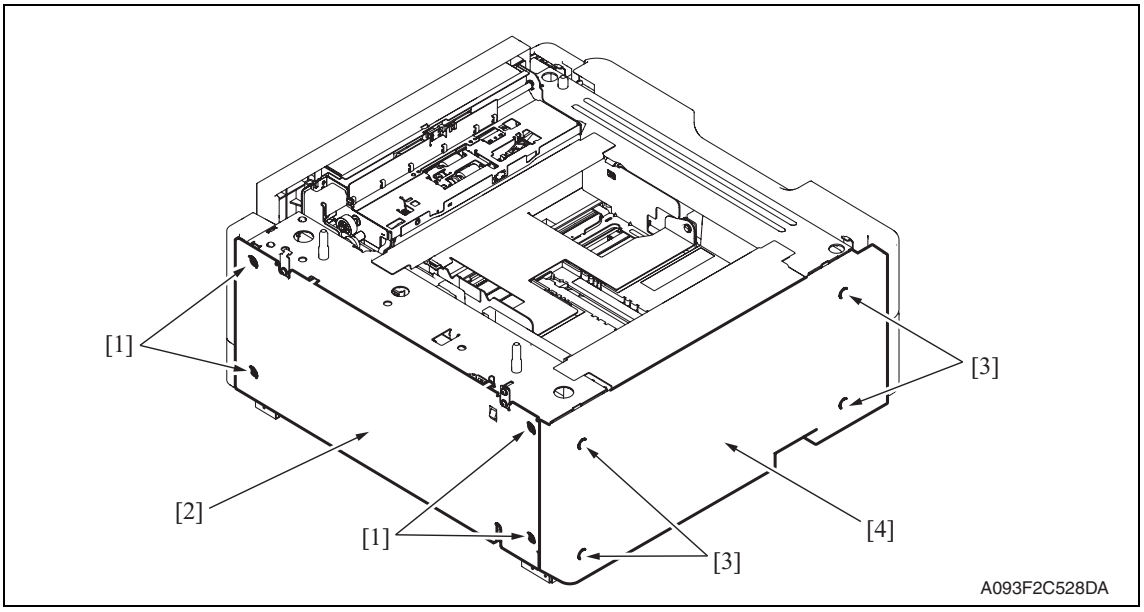
2.3 Disassembly/Assembly procedure

2.3.1 Right door/Rear right cover/Lower right cover/Front right cover



1. Open the right door [1].
2. Remove the right door [1].
3. Remove two screws [2] and remove the rear right cover [3].
4. Remove two screws [4] and remove the lower right cover [5].
5. Remove two screws [6] and remove the front right cover [7].

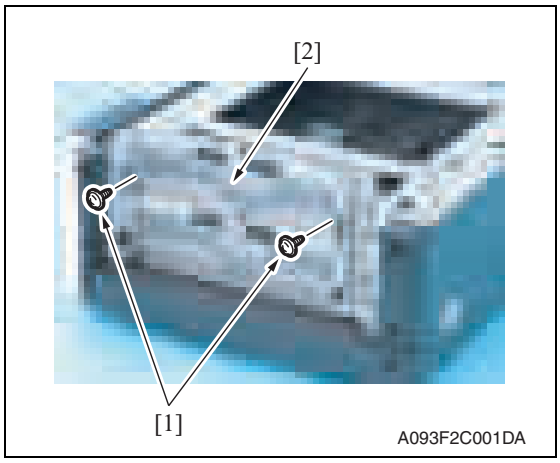
2.3.2 Rear cover/Left cover



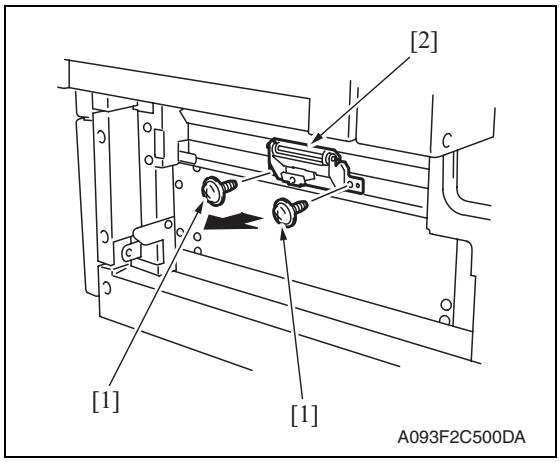
1. Remove four screws [1] and remove the rear cover [2].
2. Remove four screws [3] and remove the left cover [4].

2.3.3 Separation roller assy

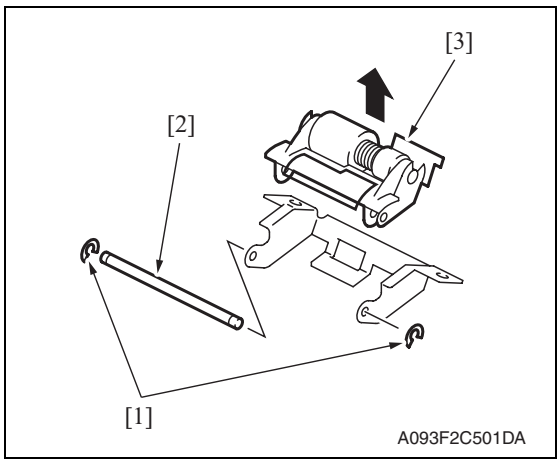
1. Remove the right door.
See P.5



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



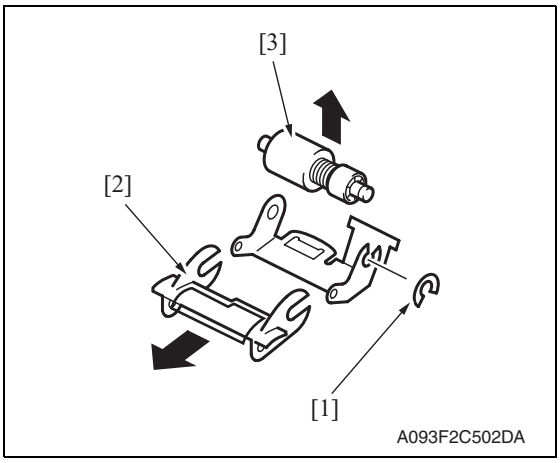
3. Remove two screws [1] and remove the paper separation roller mounting bracket assy [2].



4. Remove two C-rings [1] and the shaft [2], and remove the paper separation roller fixing bracket assy [3].

NOTE

- **Be careful not to lose spring at this time.**

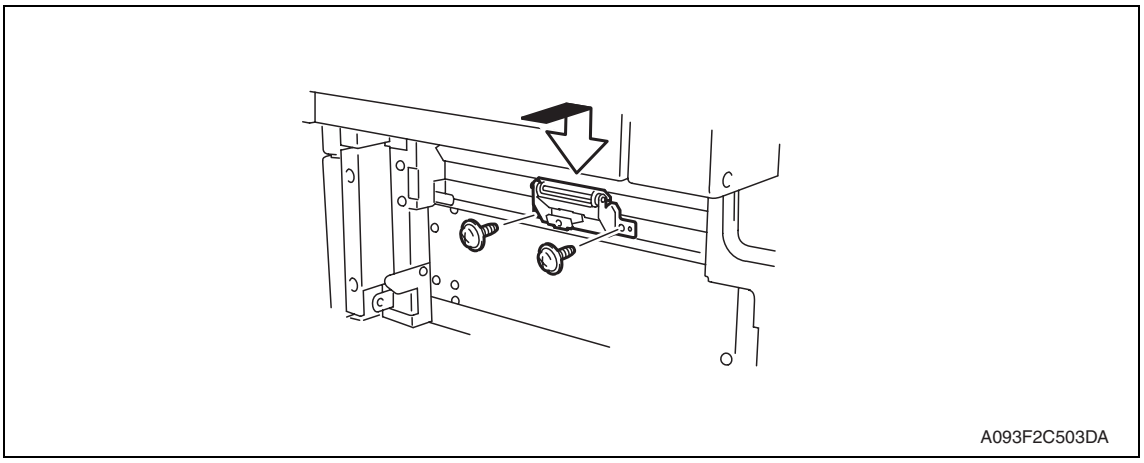


5. Remove the C-ring [1], the guide [2], and remove the separation roller assy [3].

6. Repeat steps 1 to 5 similarly for the 4th drawer.

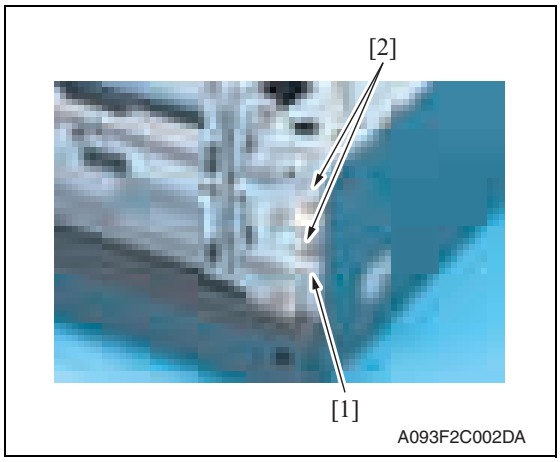
NOTE

- **Install the separation roller assy while pressing the holder down so that it aligns to the metal bracket of the machine.**
- **Make sure that the separation roller assy is not tilted to the right or left when installed.**

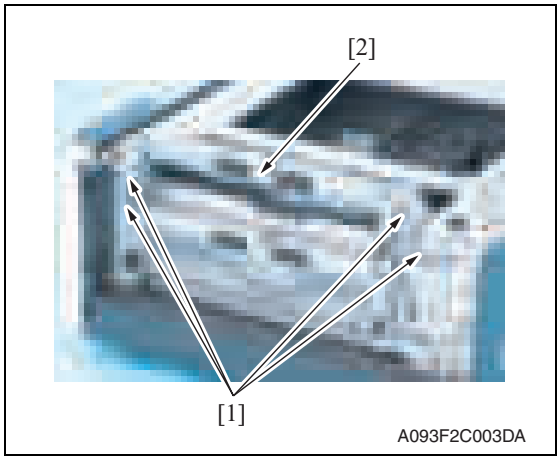


2.3.4 Feed roller

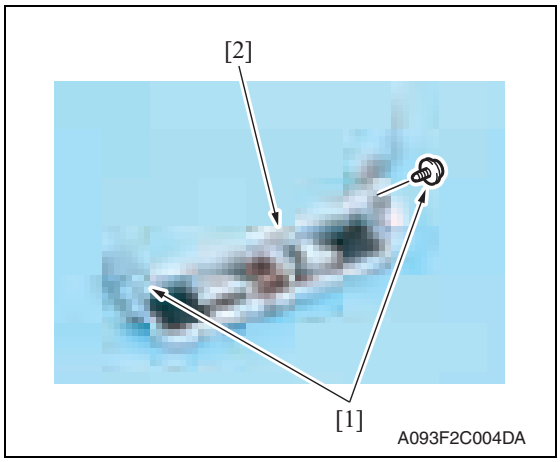
1. Remove the rear right cover. (Remove the right lower cover for 4th row.)
See P.5
2. Remove the tray3. (Remove the tray4 from 4th row.)
3. Remove the paper separation roller mounting bracket assy.
See the procedures 1 to 3 in P.6 “Separation roller assy.”



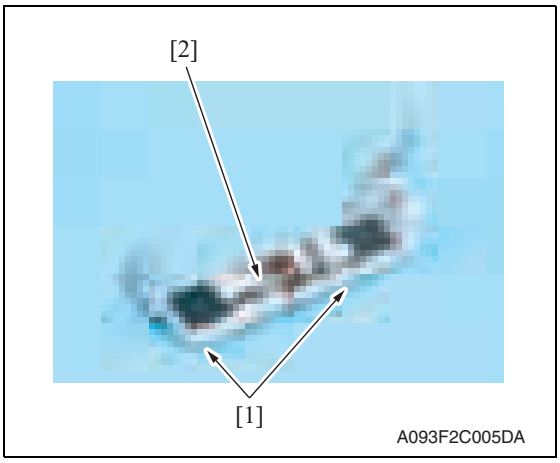
4. Disconnect the connector [1] and remove the harness from two wire saddles [2].



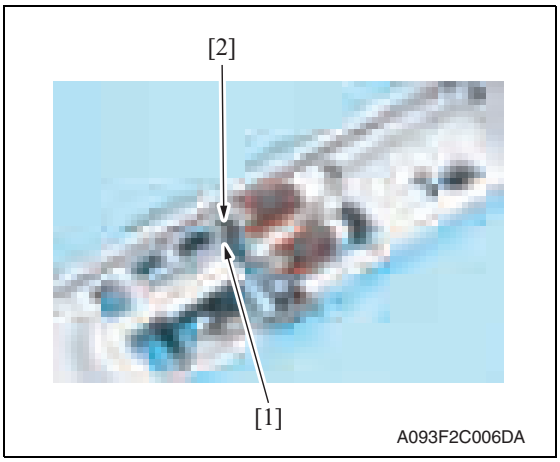
5. Remove four screws [1] and remove the feed unit [2].



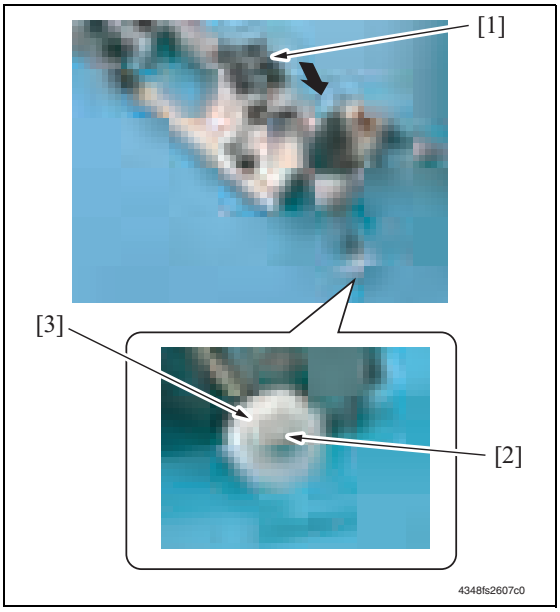
6. Remove two screws [1] and remove the mounting frame [2] for the paper separation roller mounting bracket assy.



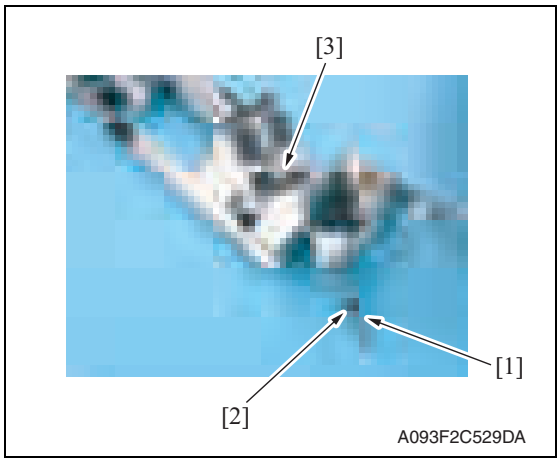
7. Remove two screws [1] and remove the feed roller cover [2].



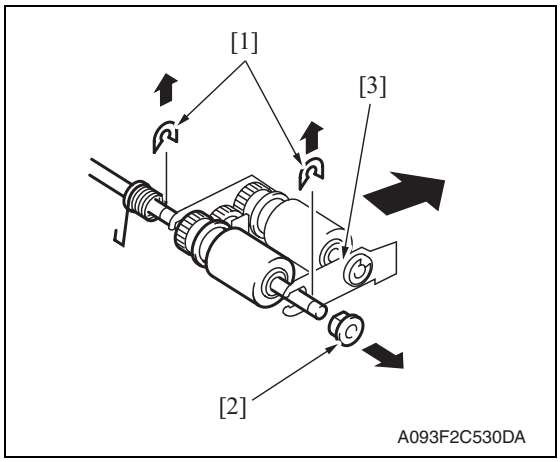
8. Remove the C-ring [1] and remove the bushing [2].



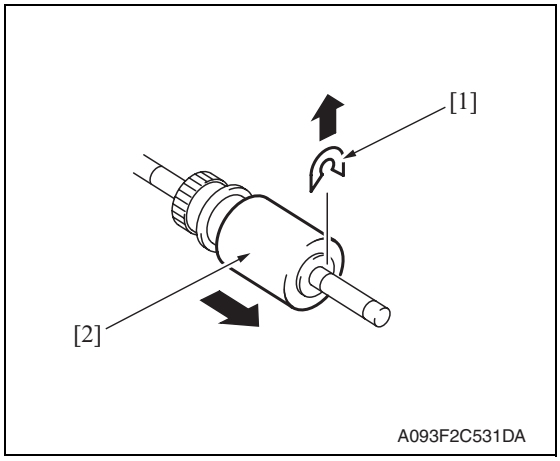
9. Shift the shaft assy [1] in the orientation as shown on the left, and remove the C-ring [2] and the gear [3].



10. Remove the C-ring [1], the bushing [2], and remove the shaft assy [3].



11. Remove two E-rings [1] and the bushing [2], and remove the pick-up roller fixing bracket assy [3].

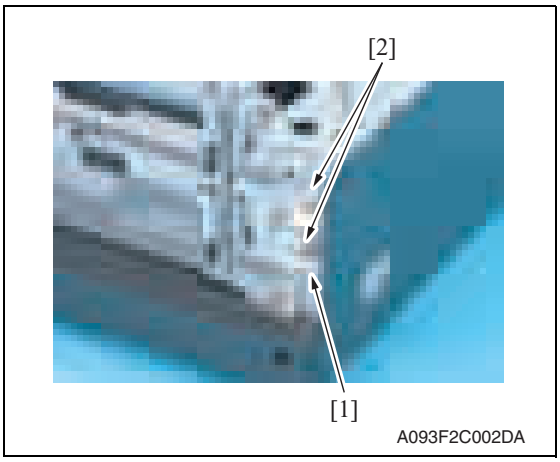


12. Remove the C-ring [1] and remove the feed roller [2].

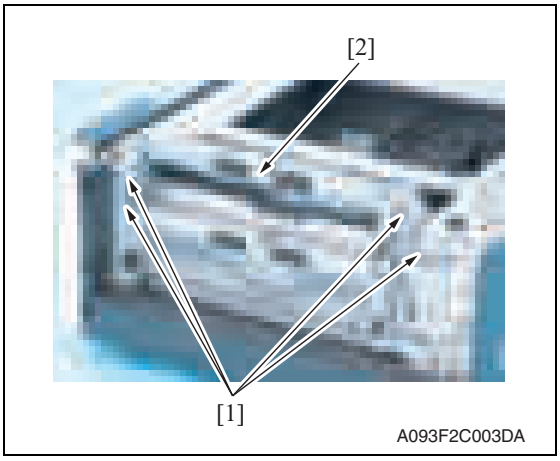
13. Repeat steps 1 to 12 similarly for the 4th drawer.

2.3.5 Pick-up roller

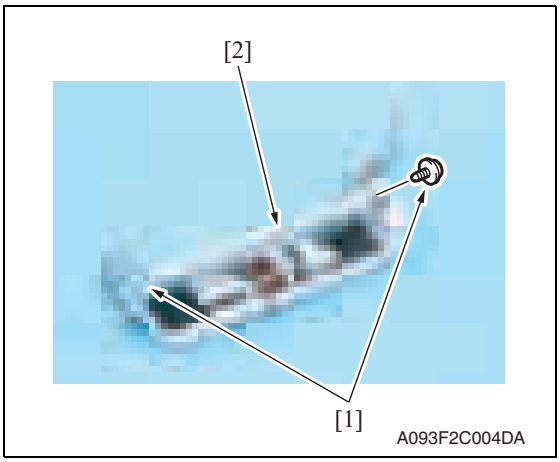
1. Remove the rear right cover. (Remove the right lower cover for 4th row.)
See P.5
2. Remove the tray3. (Remove the tray4 from 4th row.)
3. Remove the separation roller mounting bracket assy.
See the procedures 1 to 3 in P.6 “Separation roller assy.”



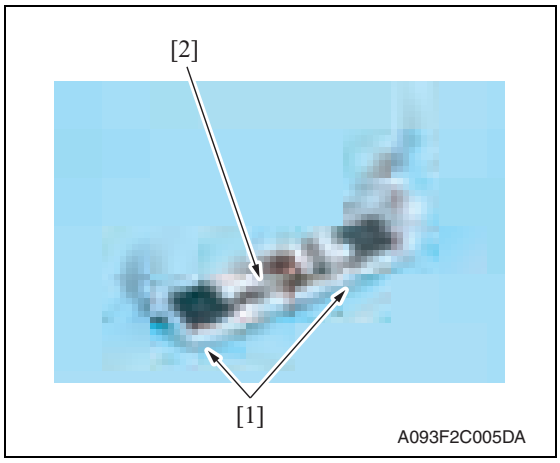
4. Disconnect the connector [1] and remove the harness from two wire saddles [2].



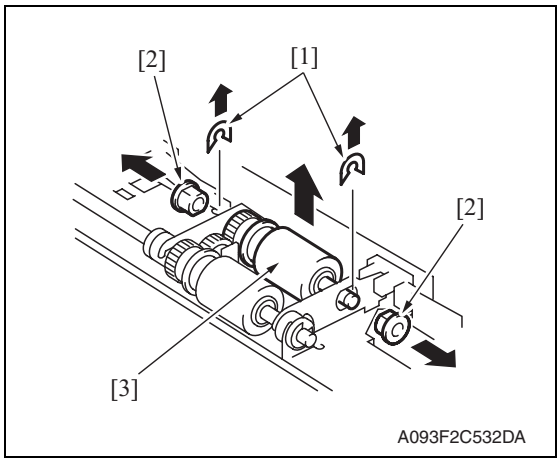
5. Remove four screws [1] and remove the feed unit [2].



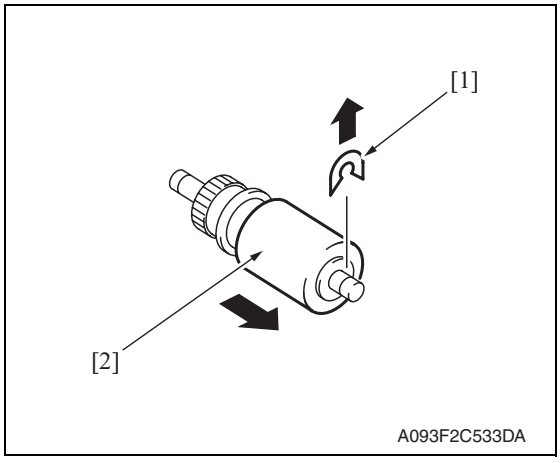
6. Remove two screws [1] and remove the mounting frame [2] for the paper separation roller mounting bracket assy.



7. Remove two screws [1] and remove the feed roller cover [2].



8. Remove two C-rings [1], two bushings [2], and remove the pick-up roller assy [3].



9. Remove the C-ring [1] and remove the pick-up roller [2].

10. Repeat steps 1 to 9 similarly for the 4th drawer.

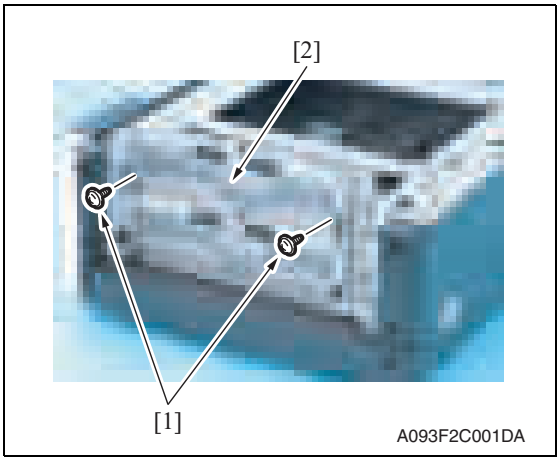
2.4 Cleaning procedure

NOTE

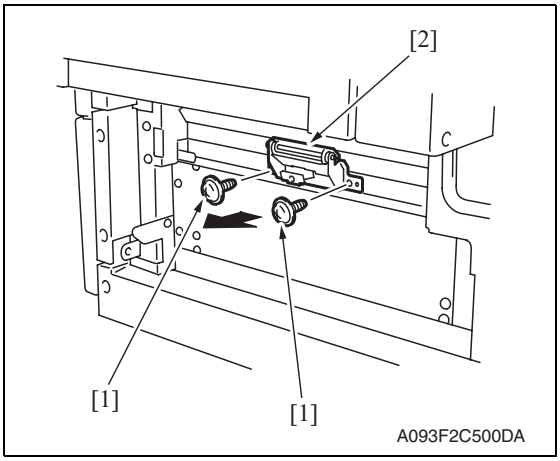
- **The alcohol described in the cleaning procedure represents the isopropyl alcohol.**

2.4.1 Separation roller

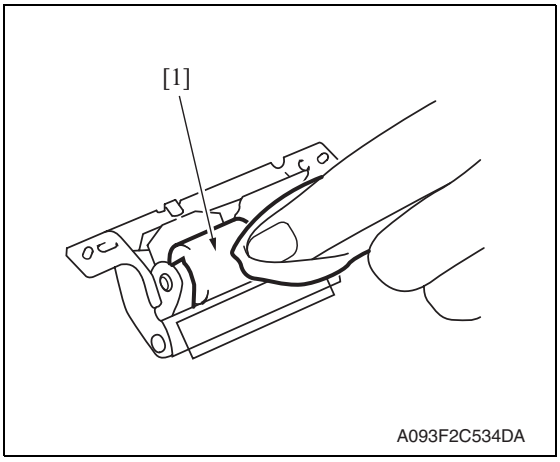
1. Remove the right door.
See P.5



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



3. Remove two screws [1] and remove the separation roller mounting bracket assy [2].

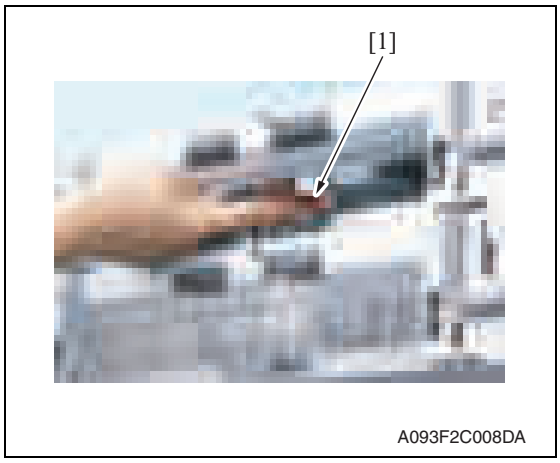


4. Using a cleaning pad dampened with alcohol, wipe the separation roller [1] clean of dirt.

5. Repeat steps 1 to 4 similarly for the 4th drawer.

2.4.2 Feed roller

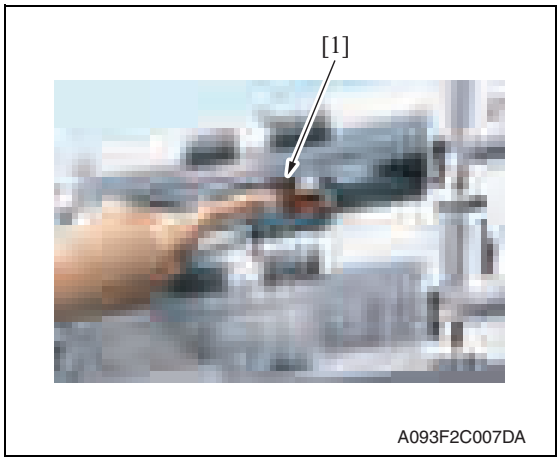
1. Remove the tray3. (remove the tray4 from 4th row.)
2. Remove the separation roller mounting bracket assy.
See the procedures 1 to 3 in P.13 “Cleaning of the separation roller.”



3. Using a cleaning pad dampened with alcohol, wipe the feed roller [1] clean of dirt.
4. Repeat steps 1 to 3 similarly for the 4th drawer.

2.4.3 Pick-up roller

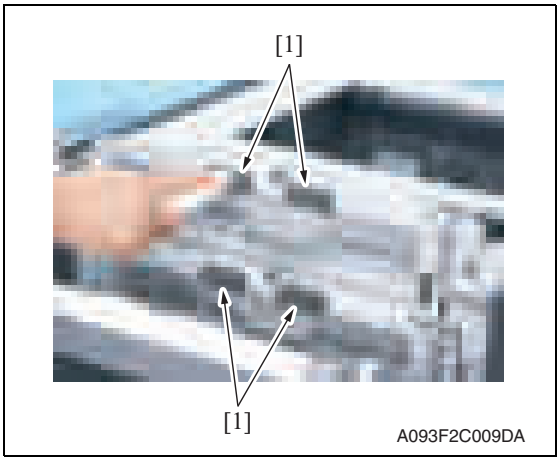
1. Remove the tray3. (remove the tray4 from 4th row.)
2. Remove the separation roller mounting bracket assy.
See the procedures 1 to 3 in P.13 “Cleaning of the separation roller.”



3. Using a cleaning pad dampened with alcohol, wipe the pick-up roller [1] clean of dirt.
4. Repeat steps 1 to 3 similarly for the 4th drawer.

2.4.4 Vertical transport roller

1. Open the right door.



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

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Adjustment/Setting

3. 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 “ ”.

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

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **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.**

4. State Confirmation

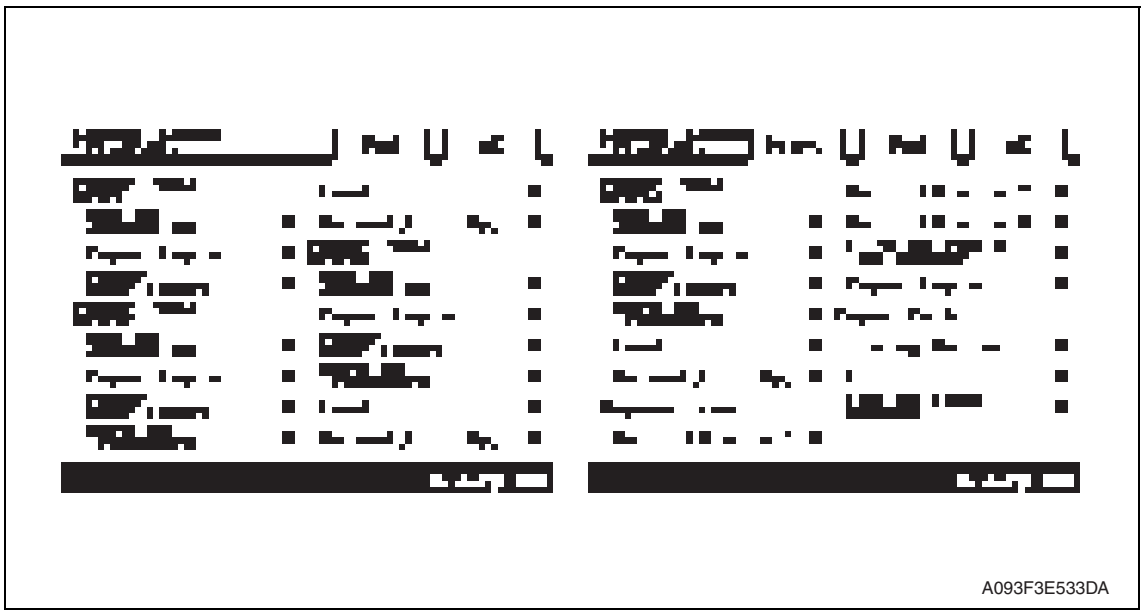
4.1 Check procedure

A. Procedure

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check (Printer)].

4.2 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



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4.3 Sensor check list

Symbol	Panel display		Part/Signal name	Operation characteristics/Panel display	
				1	0
PS112	Paper feed tray3	Device detection	Tray3 device detection sensor	Set	Out of position
PS115		Paper Empty	Tray3 empty sensor	Paper not present	Paper present
PS113		Paper Near Empty	Tray3 near empty sensor	Blocked	Unblocked
PS117		Vertical Transport	Tray3 vertical transport sensor	Paper present	Paper not present
PS116		Feed	Tray3 paper feed sensor	Paper present	Paper not present
PS114		Raised (Lift-Up)	Tray3 upper limit sensor	Raised Position	Not raised
PS121	Paper feed tray4	Device detection	Tray4 device detection sensor	Set	Out of position
PS124		Paper Empty	Tray4 empty sensor	Paper not present	Paper present
PS122		Paper Near Empty	Tray4 near empty sensor	Blocked	Unblocked
PS126		Vertical Transport	Tray4 vertical transport sensor	Paper present	Paper not present
PS125		Feed	Tray4 paper feed sensor	Paper present	Paper not present
PS123		Raised (Lift-Up)	Tray4 upper limit sensor	Raised Position	Not raised

5. Mechanical adjustment

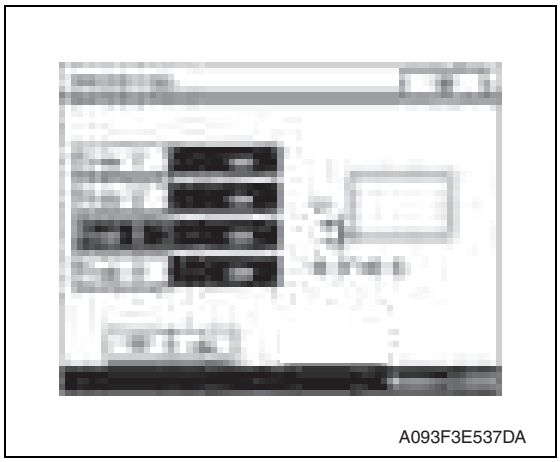
5.1 Adjusting the paper reference position

NOTE

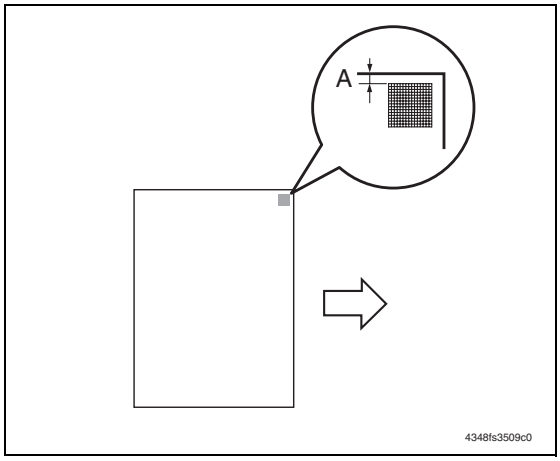
- **Make this adjustment after any of the following procedures has been performed.**
  When the PH unit has been replaced.
  When the image on the print is offset in the main scan direction.

5.1.1 Centering

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [Machine Adjustment] → [Printer Area] → [Centering].



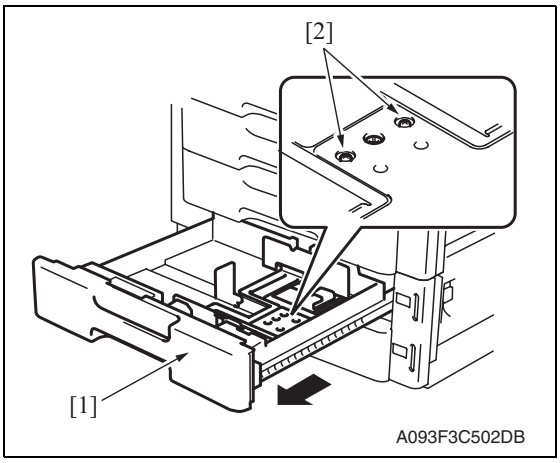
3. Touch [Tray 3].
4. Press the Start key to let the machine produce a test print.
5. Touch [OK].



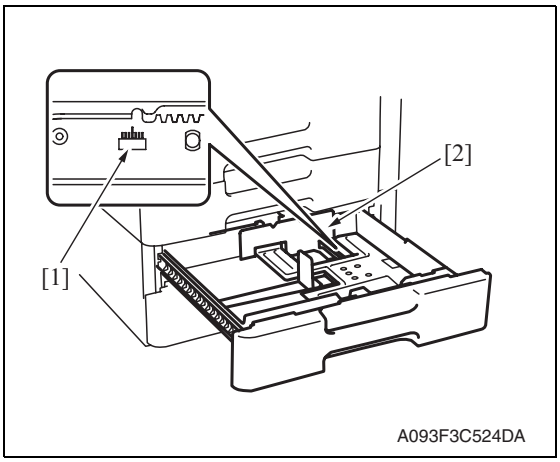
6. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
7. If the measured width A falls outside the specified range, enter the correction value using the [▼] or [▲] key.
8. Produce another test print and check to see if width A falls within the specified range.

NOTE

- **If the use of the [▼] or [▲] key does not allow the measurement to fall within the specified range, perform the following steps.**



9. Slide out the drawer [1] and unload paper from it.
10. Loosen two screws [2] at the center of the paper lifting plate.



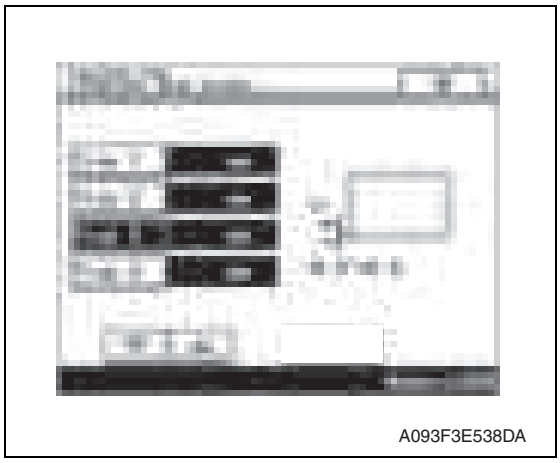
11. Watching the graduations [1] provided in the drawer, move the edge guide [2] in the rear.

- If width A is greater than the specified value, move the edge guide toward the front.
- If width A is smaller than the specified value, move the edge guide toward the rear.

12. Perform another test print and check the reference deviation.
13. Repeat the adjustment until the reference line falls within the specified range.
14. Tighten the adjustment screw.
15. Repeat steps 1 to 14 similarly for the tray 4.
16. Touch [OK].
17. Touch [OK] on the Service Mode screen.
18. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

5.1.2 Centering (Duplex 2nd Side)

1. Call the Service Mode to the screen.
See P.158 of the main body service manual.
2. Touch [Machine Adjustment] → [Printer Area] → [Centering (Duplex 2nd Side)].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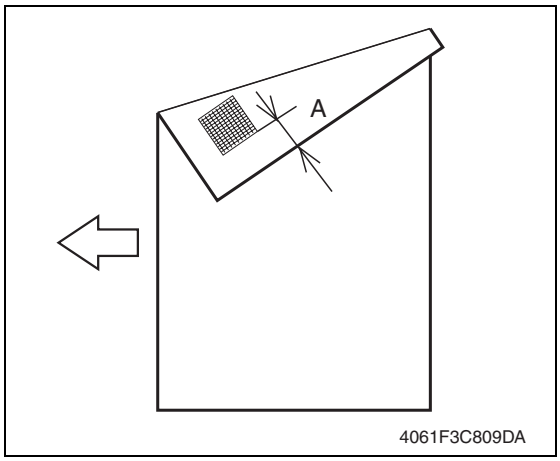
3. Touch [Tray 3].
4. Press the Start key to let the machine produce a test print.
5. Touch [OK].



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6. Measure the width of printed reference line A.
Specification: 3.0 mm ± 2.0 mm
7. If the measured width A falls outside the specified range, enter the correction value using the [ ] or [ ] key.

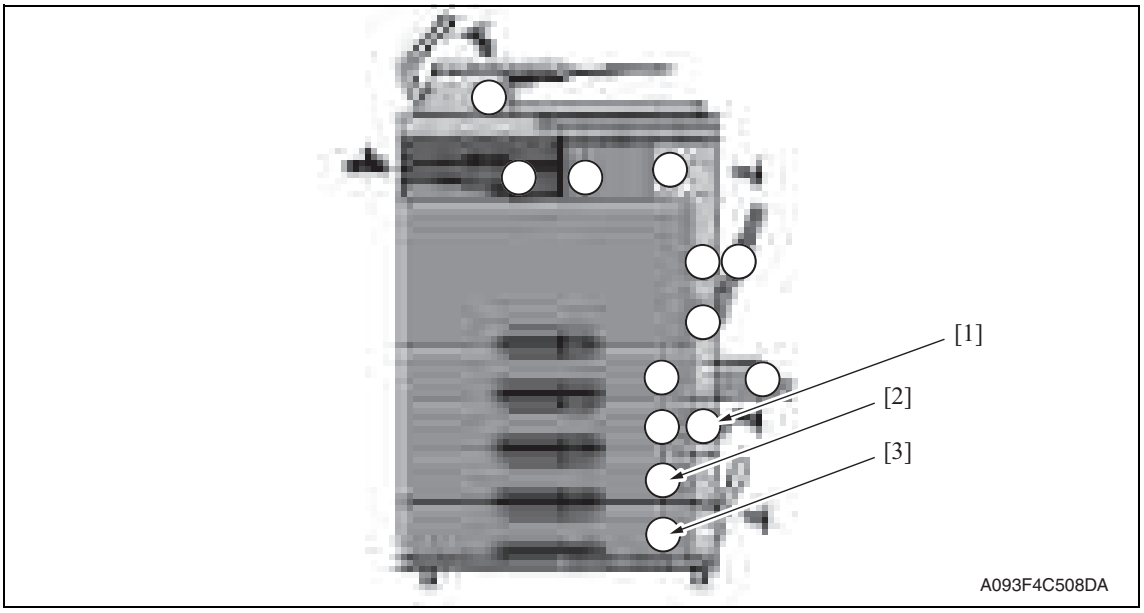
8. Produce another test print and check to see if width A falls within the specified range.
9. Repeat steps 1 to 8 similarly for the tray 4.
10. Touch [OK].
11. Touch [OK] on the Service Mode screen.
12. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

Troubleshooting

6. Jam display

6.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main body.

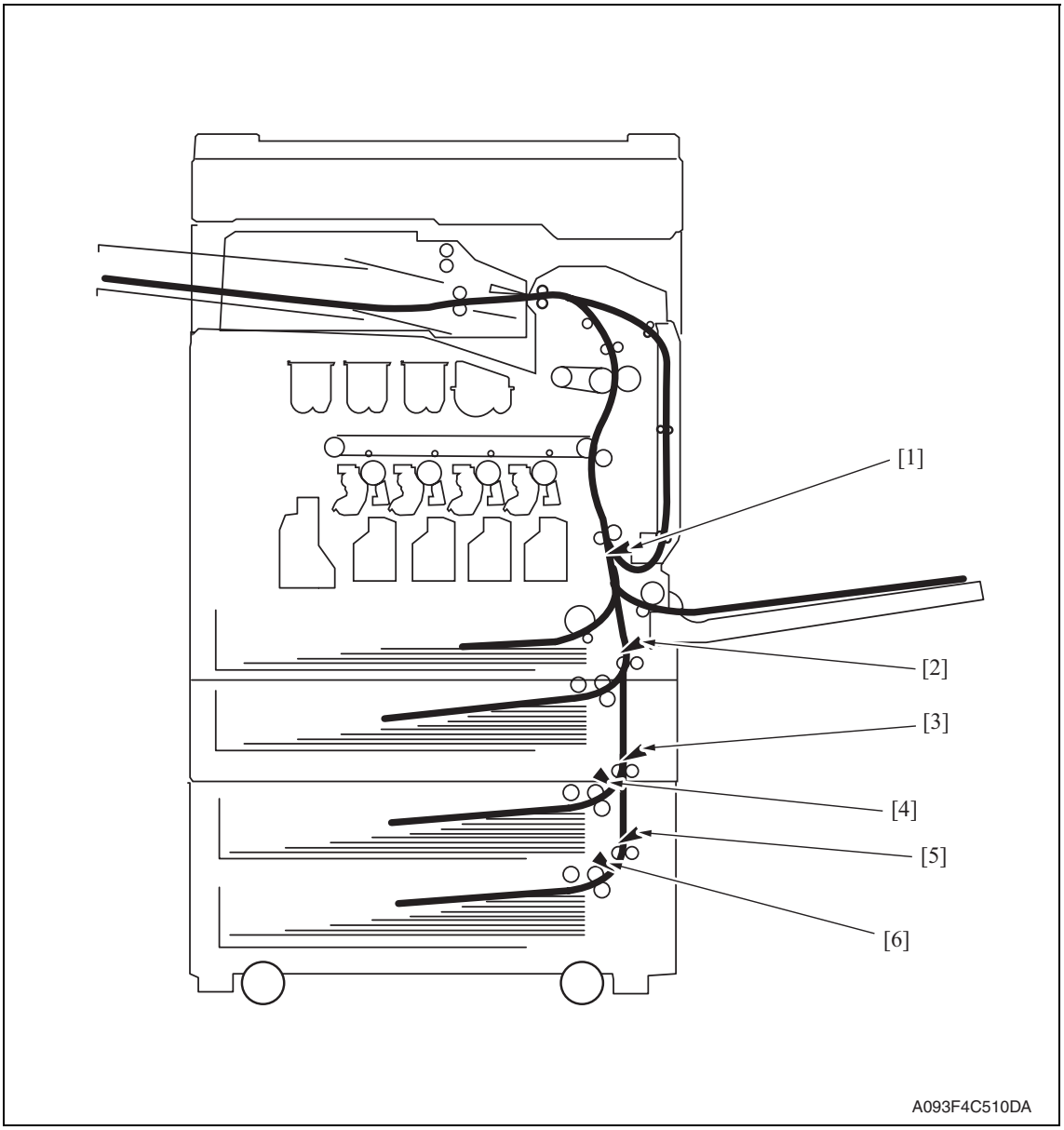


No.	Code	Misfeed location	Misfeed access location	Action
[2]	1301	Tray 3 feed section	Right door	P.26
[1]	2001	Tray 3 paper vertical transport section	Vertical transport door	
[3]	1401	Tray 4 feed section	Right door	P.27
[1]	2001	Tray 4 paper vertical transport section	Vertical transport door	

6.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

6.2 Sensor layout



[1] Sensor in front of tim. roller (PS1)
[2] Vertical transport sensor (PS8)
[3] Tray3 vertical transport sensor (PS117)
[4] Tray3 paper feed sensor (PS116)
[5] Tray4 vertical transport sensor (PS126)
[6] Tray4 paper feed sensor (PS125)

6.3 Solution

6.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
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.

6.3.2 Tray3 feed section/vertical transport section misfeed (PC-104/204)

A. Detection timing

Type	Description
Tray3 feed section/ vertical transport section misfeed detection	• The leading edge of the paper does not block the tray3 vertical transport sensor (PS117) even after the set period of time has elapsed after the tray3 paper feed motor (M122) is energized. • The vertical transport sensor (PS8) is not blocked even after the lapse of a given period of time after the tray3 vertical transport sensor (PS117) has been blocked by a paper.
Tray 3 vertical transport section loop registration reversing jam	• Rise timing of load for registration is earlier than the one for making the loop at front of the registration roller at tray 3 paper feed.
Tray3 detection of paper remaining	• The tray3 vertical transport sensor (PS117) is blocked when the main power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset. • The tray3 paper feed sensor (PS116) is blocked when the main power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	• The tray3 vertical transport sensor (PS117) is not unblocked even after the lapse of a given period of time after PS117 has been blocked by a paper.
Tray3 feed section image write start signal permit waiting jam	• For paper fed from the tray3, image write start signal permit continues to be disabled for a predetermined period of time after the timing of image write start signal output.

B. Action

Relevant electrical parts	
Tray3 paper feed sensor (PS116) Tray3 vertical transport sensor (PS117) Vertical transport sensor (PS8) Tray3 paper feed motor (M122) Sensor in front of tim. roller (PS1)	PC control board (PCCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS1 I/O check, sensor check	PRCB CN1-3 (ON)	bizhub C200 C to D-19
3	PS116 I/O check, sensor check	PCCB PJ6-8 (ON)	PC-104, PC-204 B-2
4	PS117 I/O check, sensor check	PCCB PJ6-11 (ON)	PC-104, PC-204 B-2
5	PS8 I/O check, sensor check	PCCB PJ6-11 (ON)	PC-105 G-4
6	M122 operation check	PCCB PJ5-1 to 4	PC-104, PC-204 B-3
7	PCCB replacement	—	—

6.3.3 Tray4 feed section/vertical transport section misfeed (PC-204)

A. Detection timing

Type	Description
Tray4 feed section/ vertical transport section misfeed detection	• The leading edge of the paper does not block the tray4 vertical transport sensor (PS126) even after the set period of time has elapsed after the tray4 paper feed motor (M123) is energized. • The tray3 vertical transport sensor (PS117) is not blocked even after the lapse of a given period of time after the tray4 vertical transport sensor (PS126) has been blocked by a paper.
Tray 4 vertical transport section loop registration reversing jam	• Rise timing of load for registration is earlier than the one for making the loop at front of the timing roller at tray 4 paper feed.
Tray4 detection of paper remaining	• The tray4 vertical transport sensor (PS126) is blocked when the main power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset. • The tray4 paper feed sensor (PS125) is blocked when the main power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	• The tray4 vertical transport sensor (PS126) is not unblocked even after the lapse of a given period of time after PS126 has been blocked by a paper.
Tray4 feed section image write start signal permit waiting jam	• For paper fed from the tray4, image write start signal permit continues to be disabled for a predetermined period of time after the timing of image write start signal output.

B. Action

Relevant electrical parts	
Tray4 paper feed sensor (PS125) Tray4 vertical transport sensor (PS126) Tray3 vertical transport sensor (PS117) Tray4 paper feed motor (M123) Sensor in front of tim. roller (PS1)	PC control board (PCCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS1 I/O check, sensor check	PRCB CN1-3 (ON)	bizhub C200 C to D-19
3	PS125 I/O check, sensor check	PCCB PJ10-8 (ON)	PC-204 G-5
4	PS126 I/O check, sensor check	PCCB PJ11-2 (ON)	PC-204 G-5 to 6
5	PS117 I/O check, sensor check	PCCB PJ6-11 (ON)	PC-104, PC-204 B-2
6	M123 operation check	PCCB PJ9-1 to 4	PC-204 G-6
7	PCCB replacement	—	—

7. Trouble code

7.1 Trouble code

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the touch panel.

Code	Item	Description
C0206	Tray3 lift-up failure	• The lift-up upper sensor is not blocked even after the set period of time has elapsed after the paper lift-up operation for the drawer began.
C0208	Tray4 lift-up failure	

- Open and close the front door, or turn OFF the main power switch. Then, wait for 10 sec. or more and turn ON the main power switch to reset the malfunction display.

7.2 Solution

7.2.1 C0206: Tray3 lift-up failure
C0208: Tray4 lift-up failure

Relevant electrical parts	
Tray3 lift-up motor (M124) Tray4 lift-up motor (M125) Tray3 upper limit sensor (PS114) Tray4 upper limit sensor (PS123)	PC control board (PCCB) MFP board (MFPB) DC power supply (DCPU)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	Check the DCPU connector for proper connection, and correct as necessary.	—	—
4	PS114 I/O check, sensor check	PCCB PJ6-3 (ON)	PC-104, PC-204 B-1
5	PS123 I/O check, sensor check	PRCB CN1-3 (ON)	PC-204 G-4
6	M124 operation check	PCCB PJ4-4 to 5	PC-104, PC-204 B-4
7	M125 operation check	PCCB PJ8-12 to 13	PC-204 G-1
8	PCCB replacement	—	—
9	MFPB replacement	—	—
10	DCPU replacement	—	—

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

PC-105

2008.06

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2008/06	1.0	—	Issue of the first edition

CONTENTS

PC-105

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specifications

A. Type

Name	Paper Take-up cabinet
Type	Front loading type 1 way paper take-up device
Installation	Desk type
Document Alignment	Center

B. Paper

Type	Size	Capacity
Plain paper (60 to 90 g/m², 16 to 24 lb)	A5S (Metric area only), B5, B5S, A4, A4S, B4, A3, 5-1/2 x 8-1/2S (Inch area only), 8-1/2 x 11, 8-1/2 x 11S, 8-1/2 x 14, 11 x 17 8K, 16K	500 sheets
Thick paper 1 (91 to 150 g/m², 24.2 to 40 lb)		150 sheets
Thick paper 2 (151 to 209 g/m², 40.2 to 55.6 lb)		
Thick paper 3 *1 (210 to 256 g/m², 55.9 to 68.1 lb)		
Copy paper dimensions	Width	139.7 to 297 mm 5.5 to 11.7 inch
	Length	182 to 431.8 mm 7.2 to 17 inch

*1: Image is not guaranteed when thick paper 3 is used

C. Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main body)
	DC 5 V ± 5 %
Max. Power Consumption	16 W or less
Dimensions	600 mm (W) × 578 mm (D) × 168 mm (H) 23.7 inch (W) × 22.8 inch (D) × 6.7 inch (H)
Weight	14.7 kg (32.5 lb)

D. Operating environment

Conforms to the operating environment of the main body.

NOTE

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

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Maintenance

2. Other

2.1 Disassembly/Adjustment prohibited items

A. 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.**

B. 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.**

C. Variable resistors on board

NOTE

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

D. Removal of PWBs

⚠ CAUTION

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

2.2 Disassembly/Assembly/Cleaning list (other parts)

2.2.1 Disassembly/Assembly parts list

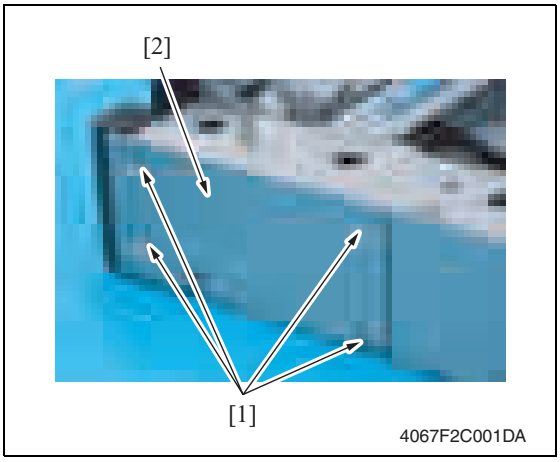
No.	Section	Part name	Ref. page
1	Exterior parts	Rear right cover	P.5
2		Rear left cover	P.5
3		Right rear cover	P.5
4	Rollers	Separation roller	P.6
5		Feed roller	P.7
6		Pick-up roller	P.11
7	Boards	PC control board (PCCB)	P.13
8		Paper size detect board (PSDTB)	P.14
9	Motors	Lift-up motor (M3)	P.15
10		Paper feed motor (M1)	P.16
11		Vertical transport motor (M2)	P.17

2.2.2 Cleaning parts list

No.	Section	Part name	Ref. page
1	Feed section	Feed roller	P.18
2		Pick-up roller	P.18
3		Separation roller	P.20
4	Transport section	Vertical transport roller	P.21

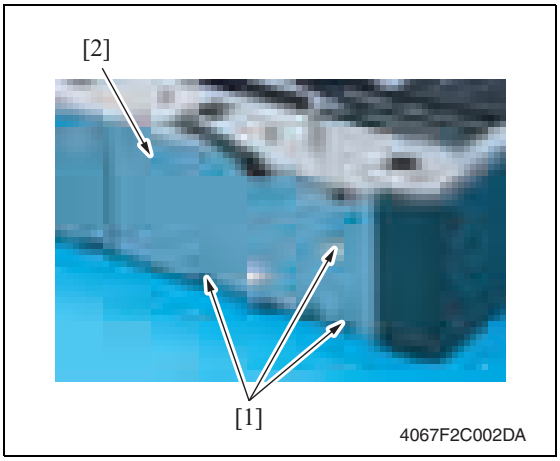
2.3 Disassembly/Assembly procedure

2.3.1 Rear right cover



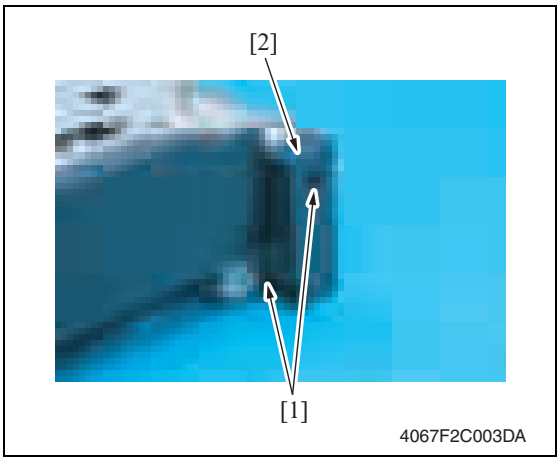
1. Remove four screws [1] and remove the rear right cover [2].

2.3.2 Rear left cover



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

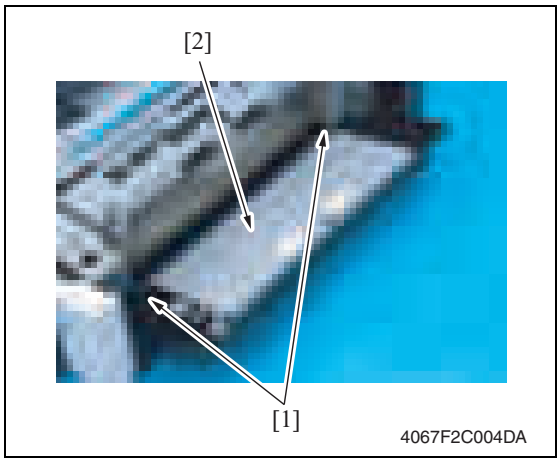
2.3.3 Right rear cover



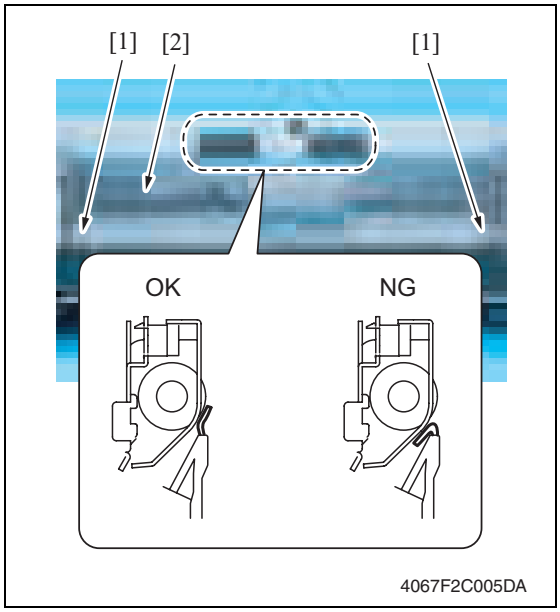
1. Remove two screws [1] and remove the right rear cover [2].

2.3.4 Separation roller

1. Remove the right rear cover.
See P.5
2. Slide out the tray 2.
3. Open the vertical transport door.



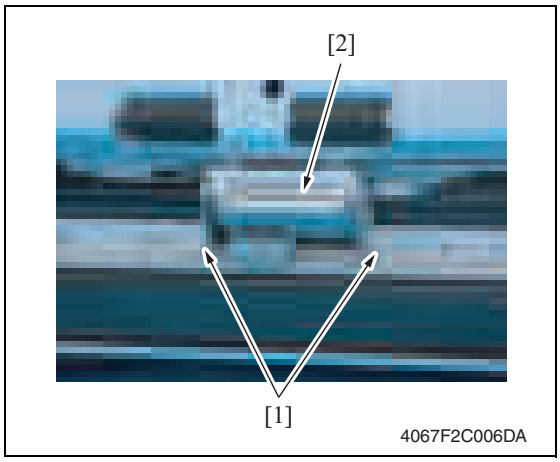
4. Remove two claws [1], and remove the vertical transport door [2].



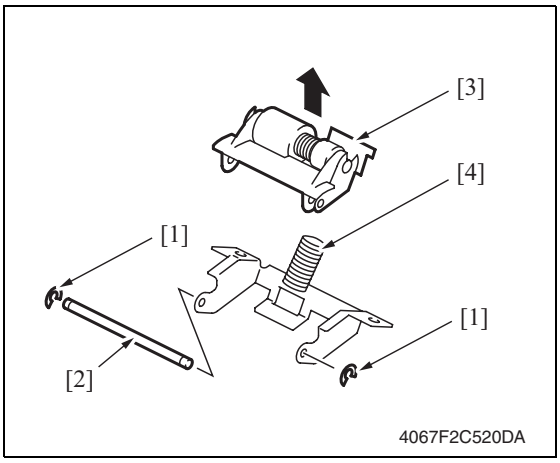
5. Remove two screws [1], and remove the jam processing cover [2].

NOTE

- **Make sure the position of the mylar when installing the jam processing cover.**



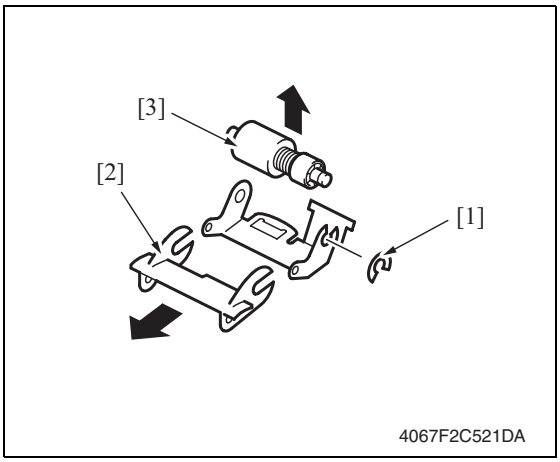
6. Remove two screws [1] and the separation roller installation plate assy [2].



7. Remove two C-rings [1] and the shaft [2], and remove the separation roller fixing plate assy [3].

NOTE

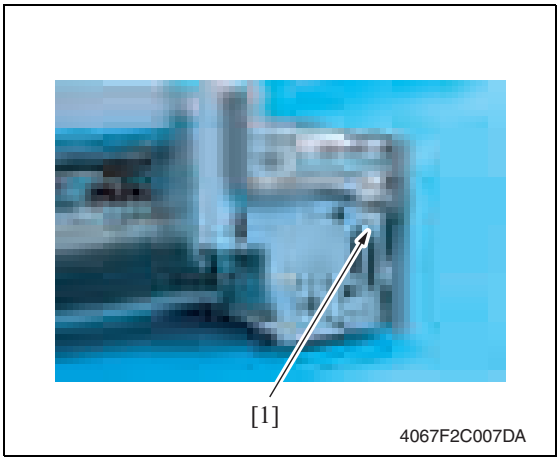
- **Use care not to miss the Spring [4].**



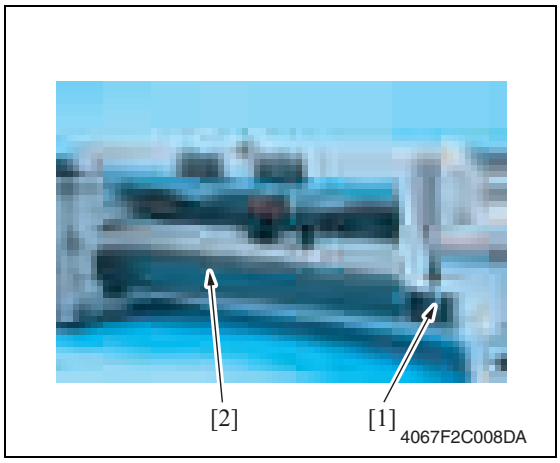
8. Remove the C-ring [1] and guide [2], and remove the separation roller assy [3].

2.3.5 Feed roller

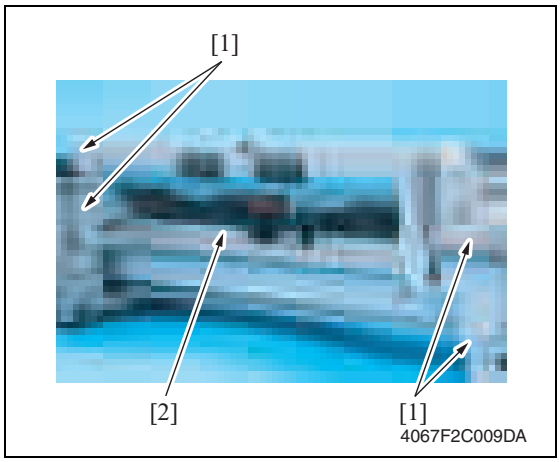
1. Remove the separation roller installation plate assy.
See the procedures 1 to 6 in P.6 “Separation roller.”



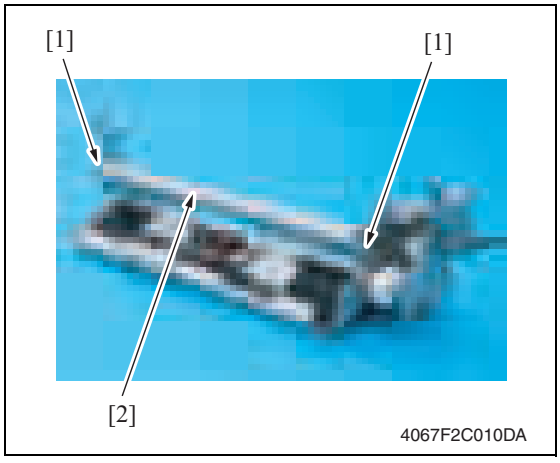
2. Disconnect the connector [1].



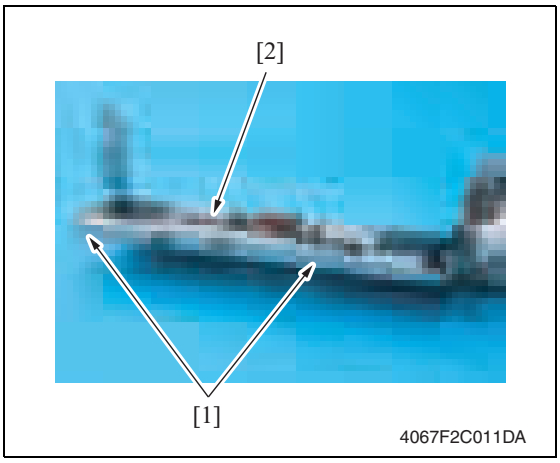
3. Remove the screws [1], and remove the reinforcement plate [2].



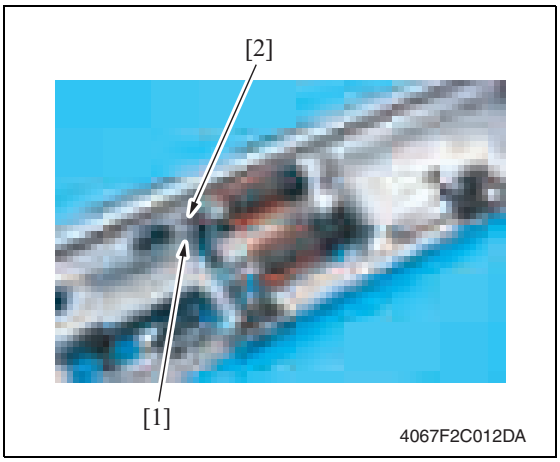
4. Remove four screws [1], and remove the feed roller assy [2].



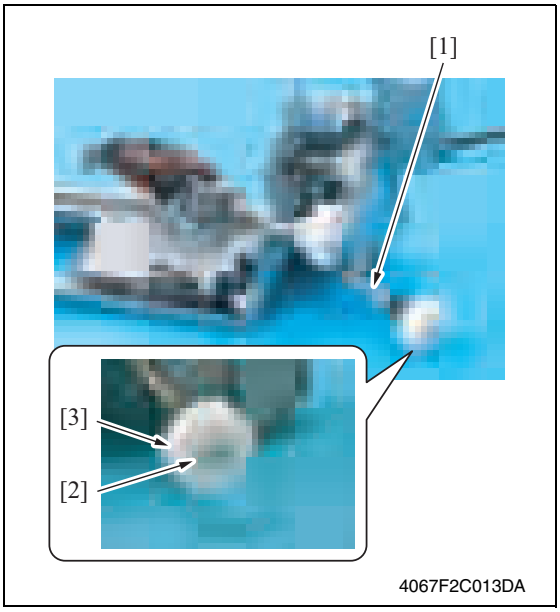
5. Remove two screws [1], and remove the mounting frame [2] for the paper separation roller mounting bracket assy.



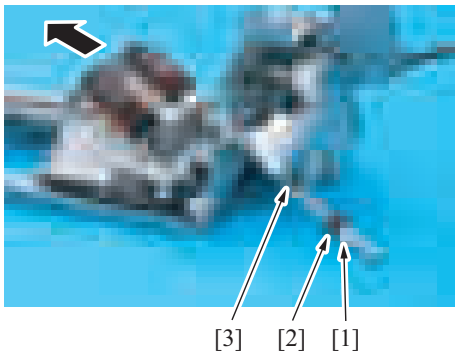
6. Remove two screws [1], and remove the feed roller cover [2].



7. Remove the C-ring [1] and the bushing [2].



8. Shift the shaft assy [1] in the orientation as shown on the left, and remove the C-ring [2] and the gear [3].



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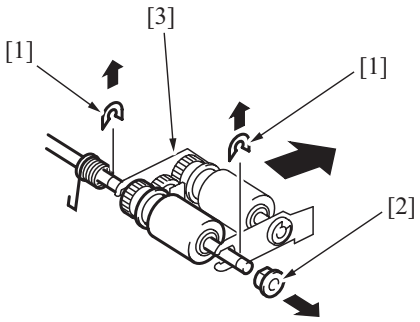
9. Remove the C-ring [1], the bushing [2], and remove the shaft assy [3].



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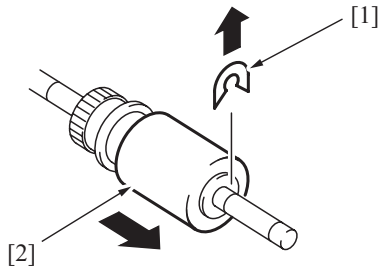
10. Remove two E-rings [1] and the bushing [2], and remove the pick-up roller fixing bracket assy [3].



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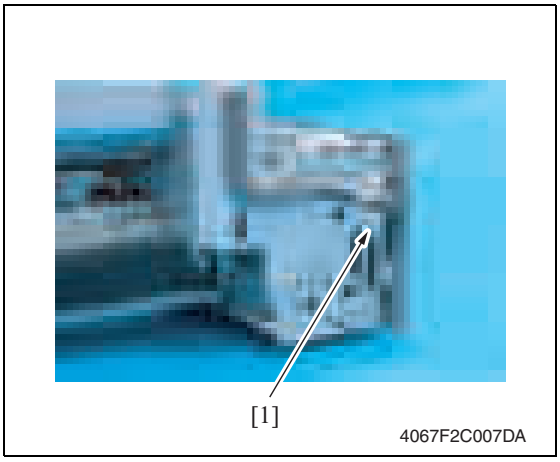
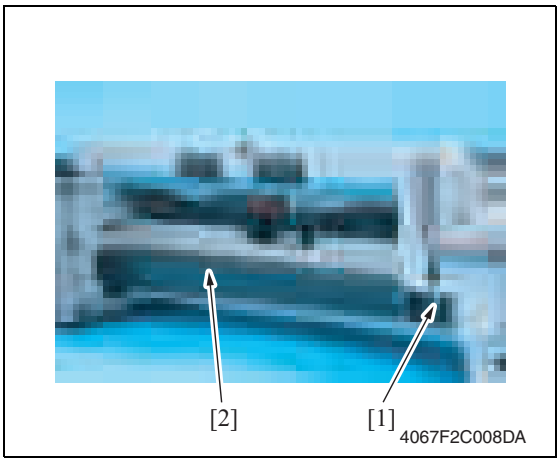
11. Remove the C-ring [1], and remove the feed roller [2].

2.3.6 Pick-up roller

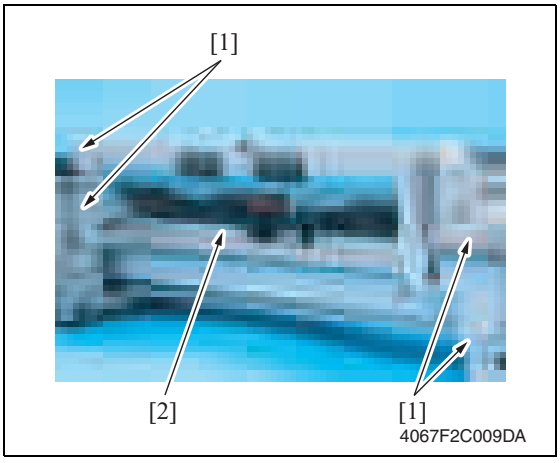
1. Remove the separation roller mounting bracket assy.
See the procedures 1 to 6 in P.6 “Separation roller.”



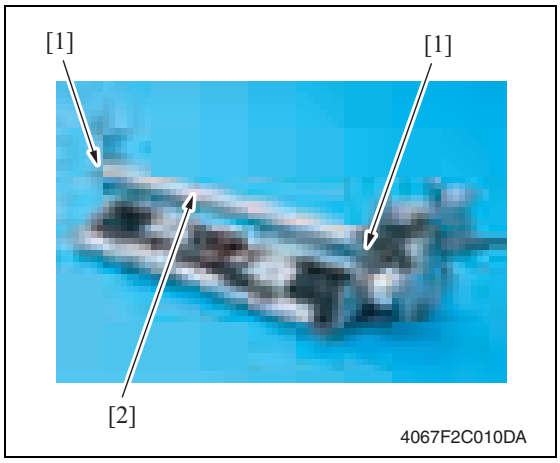
2. Disconnect the connector [1].



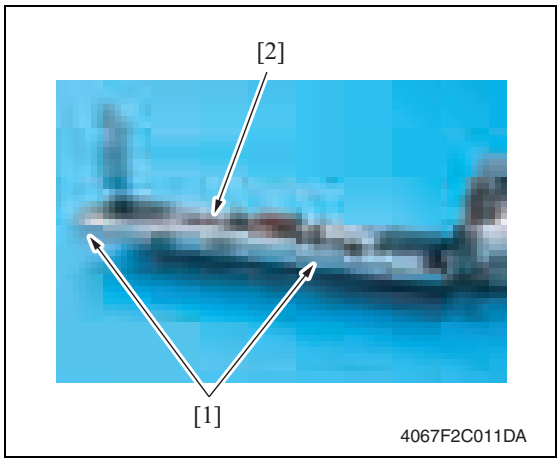
3. Remove the screw [1], and remove the reinforcement plate [2].



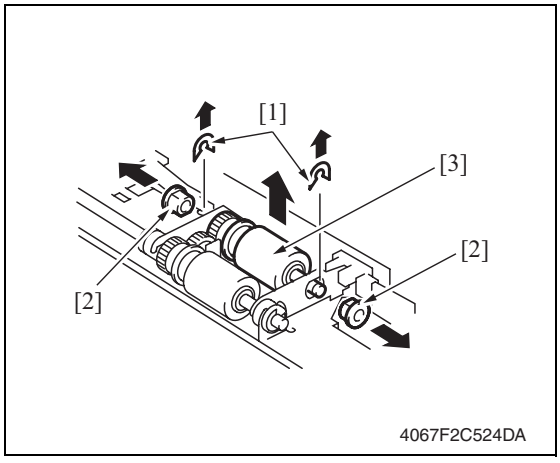
4. Remove four screws [1], and remove the feed roller assy [2].



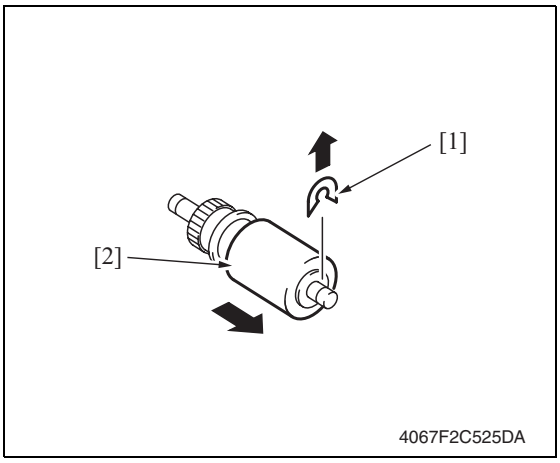
5. Remove two screws [1], and remove the mounting frame [2] for the paper separation roller mounting bracket assy.



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



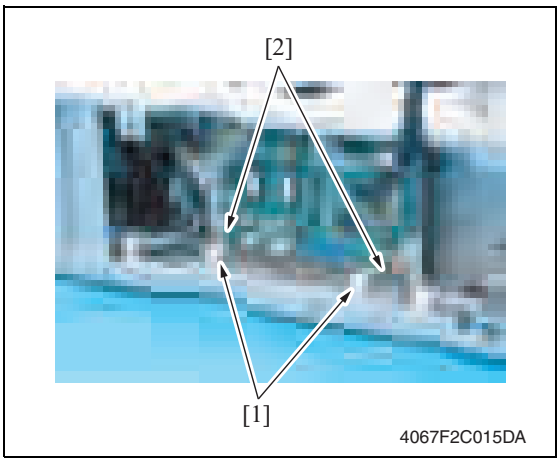
7. Remove two C-rings [1], two bushings [2], and remove the pick-up roller assy [3].



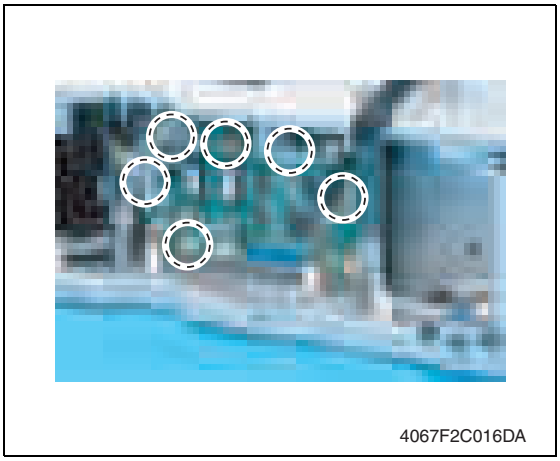
8. Remove the C-ring [1], and remove the pick-up roller [2].

2.3.7 PC control board (PCCB)

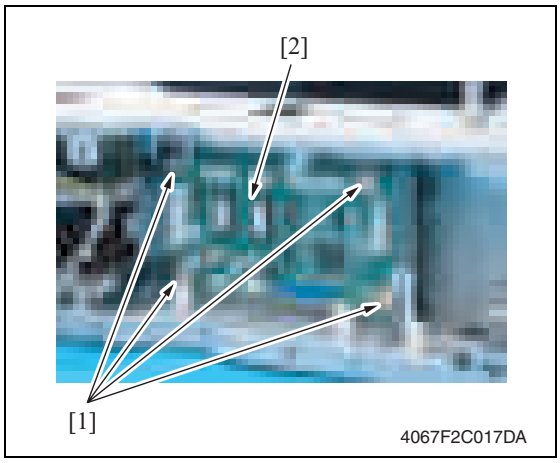
1. Remove the rear left cover.
See P.5



2. Remove the harness [2] for two wire saddles [1].



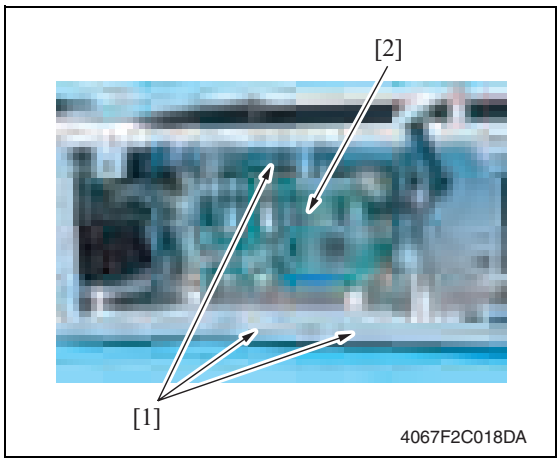
3. Remove all six connectors from the PC control board.



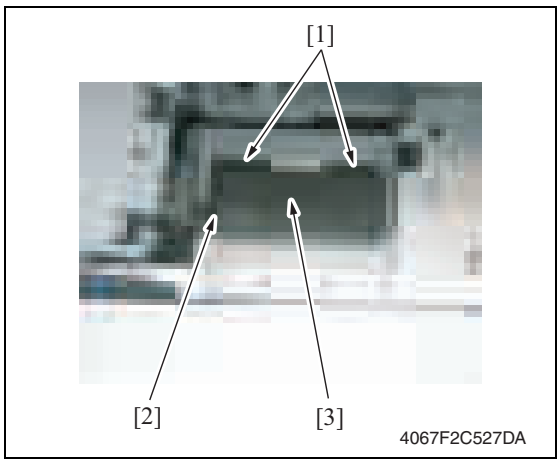
4. Remove four screws [1], and remove the PC control board [2].

2.3.8 Paper size detect board (PSDTB)

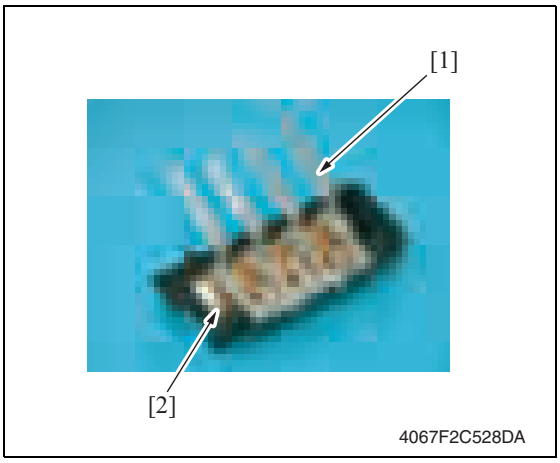
1. Remove the rear left cover.
See P.5



2. Remove three screws [1], and remove the PC control board assy [2].



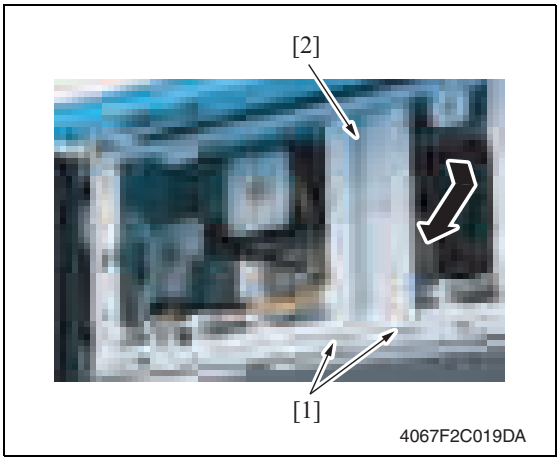
3. Remove two claws [1] and the connector [2], and remove the paper size detect board assy [3].



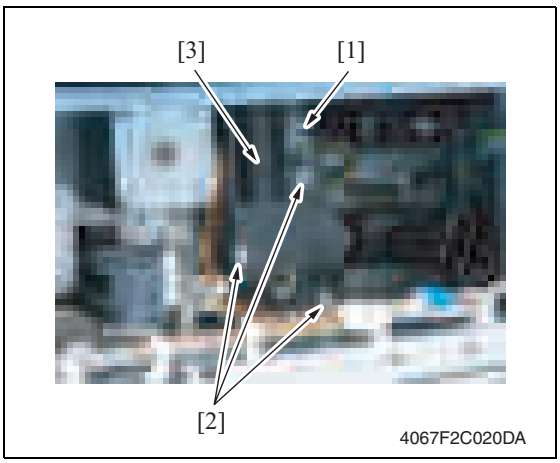
4. Remove the lever [1], and remove the paper size detect board [2].

2.3.9 Lift-up motor (M3)

1. Slide out the tray 2.
2. Remove the rear right cover.
See P.5
3. Remove the paper feed options if any is mounted.



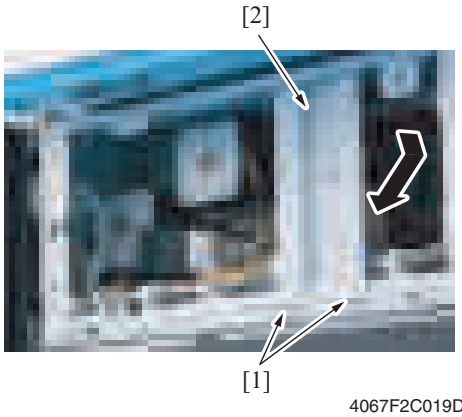
4. Remove two screws [1], and remove the reinforcement plate [2].



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

2.3.10 Paper feed motor (M1)

1. Slide out the tray 2.
2. Remove the rear right cover.
See P.5
3. Remove the rear left cover.
See P.5



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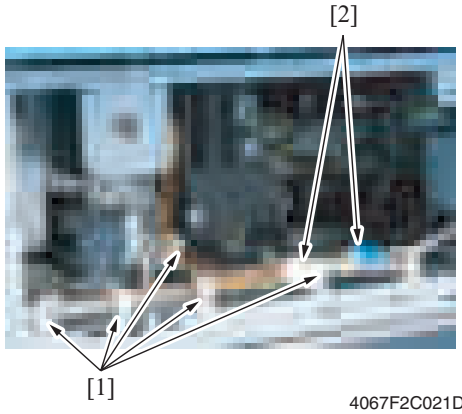
4. Remove two screws [1], and remove the reinforcement plate [2].



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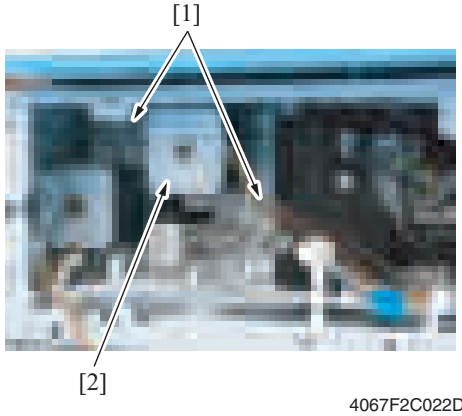
5. Remove the motor assy harness from the five wiring saddles [1].
6. Disconnect two connectors [2].



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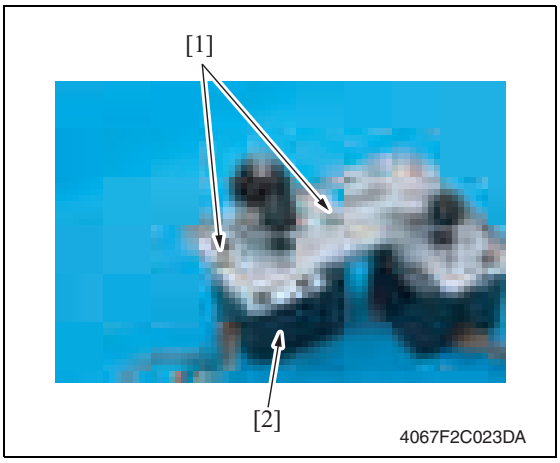
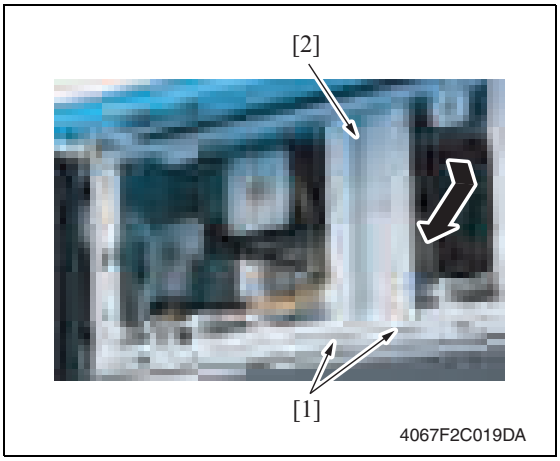
7. Remove two screws [1], and remove the motor assy [2].



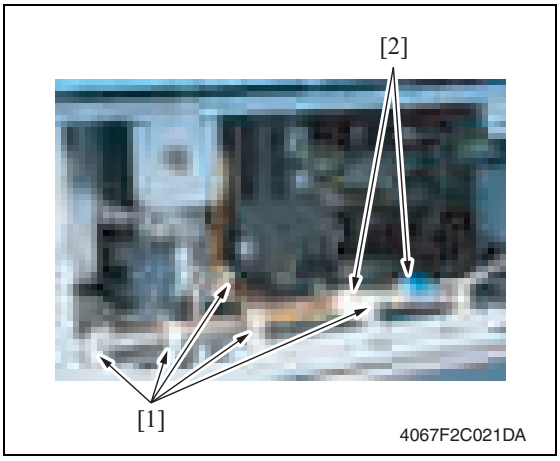
8. Remove two screws [1], and remove the paper feed motor [2].

2.3.11 Vertical transport motor (M2)

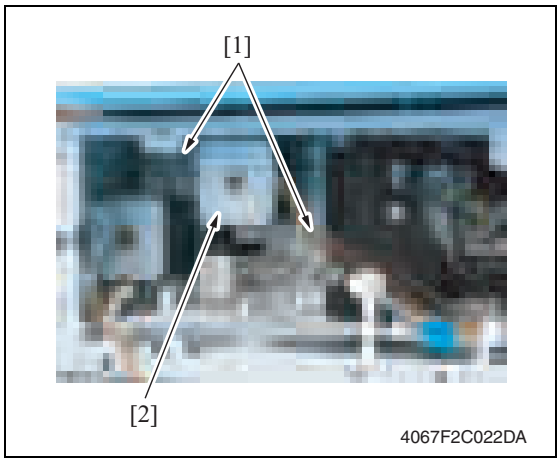
1. Slide out the tray 2.
2. Remove the rear right cover.
See P.5
3. Remove the rear left cover.
See P.5



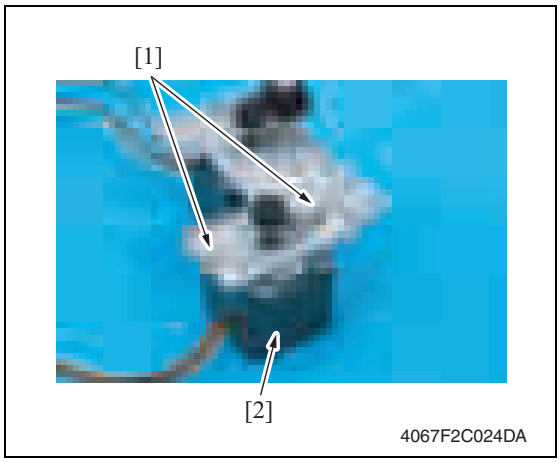
4. Remove two screws [1], and remove the reinforcement plate [2].



5. Remove the motor assy harness from the five wiring saddles [1].
6. Disconnect two connectors [2].



7. Remove two screws [1], and remove the motor assy [2].



8. Remove two screws [1], and remove the vertical transport motor [2].

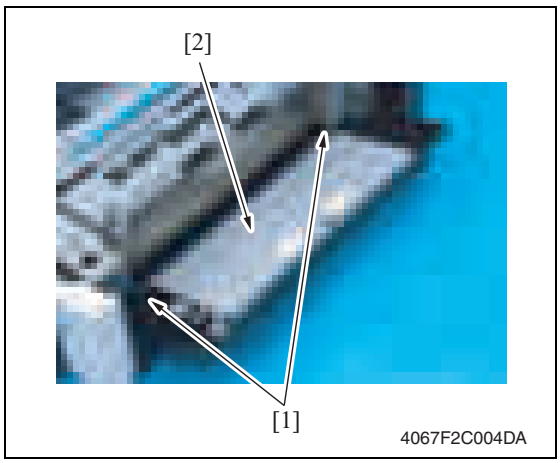
2.4 Cleaning procedure

NOTE

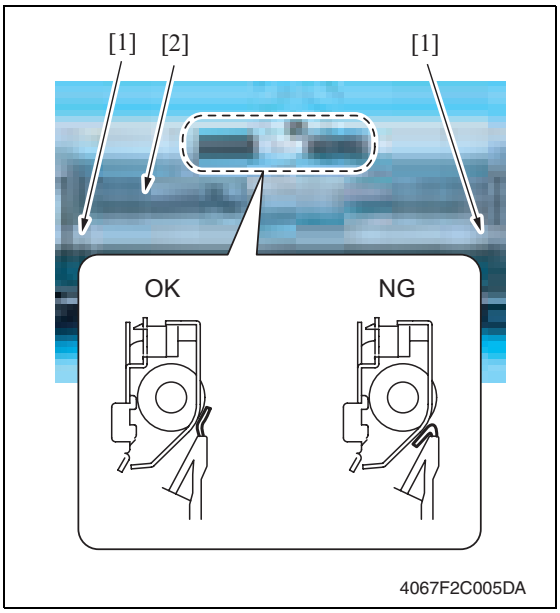
- **The alcohol described in the cleaning procedure represents the isopropyl alcohol.**

2.4.1 Feed roller / pick-up roller

1. Remove the right rear cover.
See P.5
2. Slide out the tray 2.
3. Open the vertical transport door.



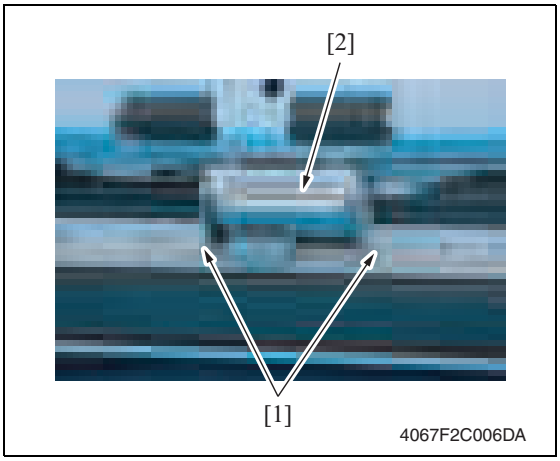
4. Remove two claws [1], and remove the vertical transport door [2].



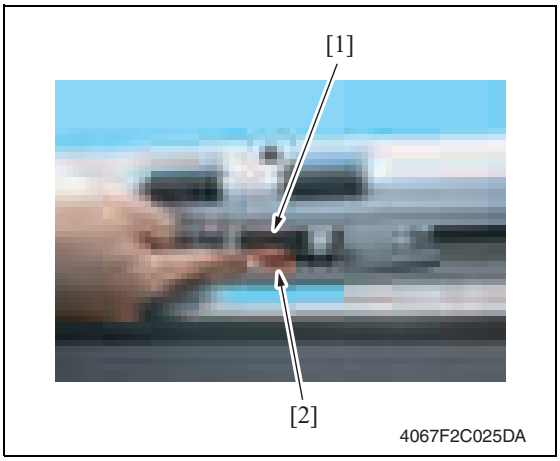
5. Remove two screws [1], and remove the jam processing cover [2].

NOTE

- **Make sure the position of the mylar when installing the jam processing cover.**



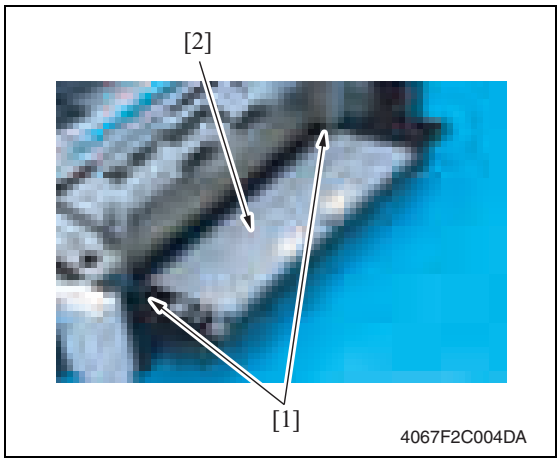
6. Remove two screws [1] and the separation roller installation plate assy [2].



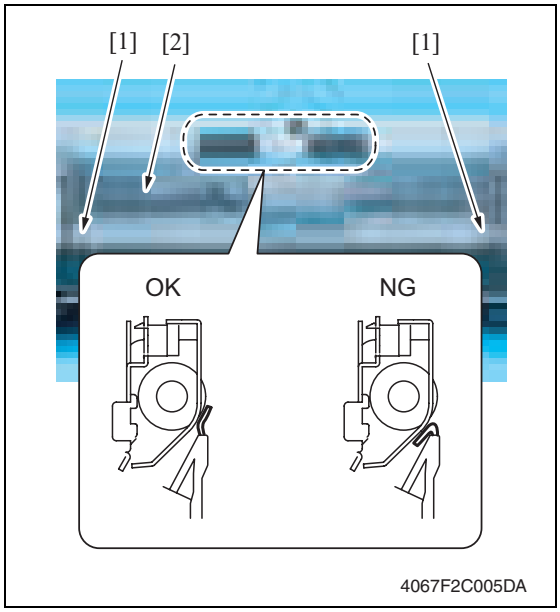
7. Using a cleaning pad dampened with alcohol, wipe the feed roller [1] and the pick-up roller [2] clean of dirt.

2.4.2 Separation roller

1. Remove the right rear cover.
See P.5
2. Slide out the tray 2.
3. Open the vertical transport door.



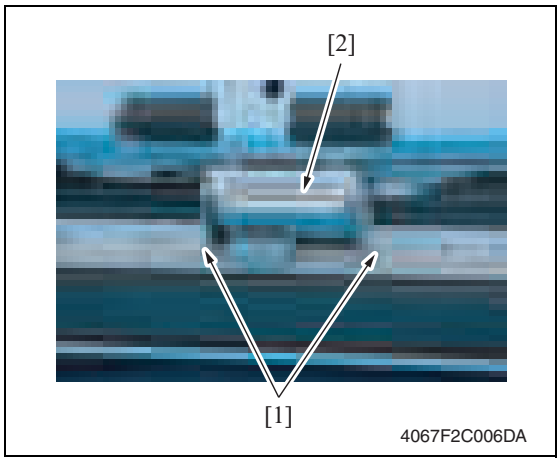
4. Remove two claws [1], and remove the vertical transport door [2].



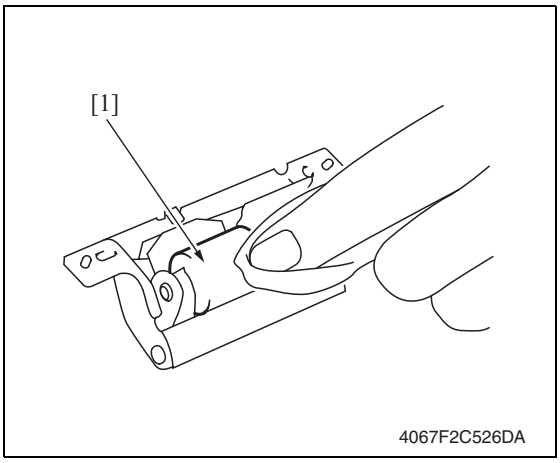
5. Remove two screws [1], and remove the jam processing cover [2].

NOTE

- **Make sure the position of the mylar when installing the jam processing cover.**



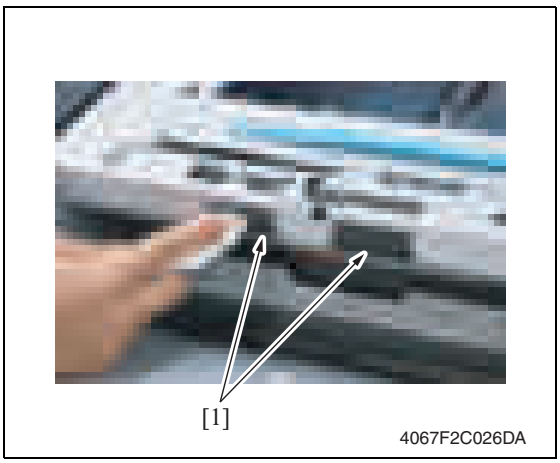
6. Remove two screws [1] and the separation roller installation plate assy [2].



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

2.4.3 Vertical transport roller

1. Open the vertical transport door.



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

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Adjustment/Setting

3. 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 “ ”.

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

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **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.**

4. State Confirmation

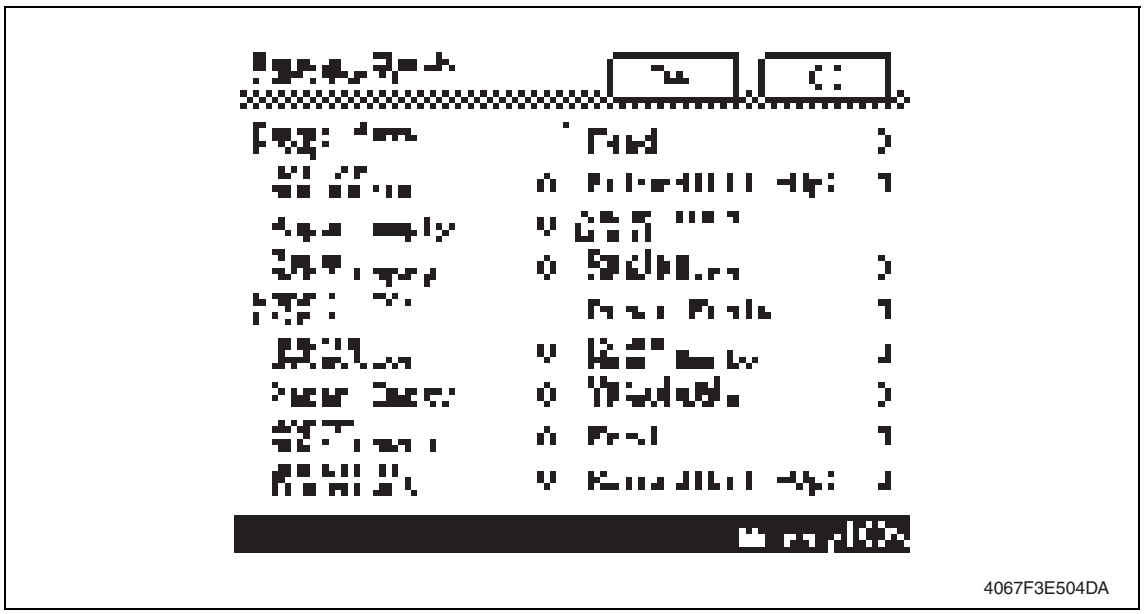
4.1 Check procedure

A. Procedure

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check (Printer)].

4.2 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



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4.3 Sensor check list

Symbol	Panel display		Part/Signal name	Operation characteristics/Panel display	
				1	0
PS2	Paper feed tray2	Device detection	Set sensor	Set	Out of position
PS6		Paper Empty	Paper empty sensor	Paper not present	Paper present
PS1		Paper Near Empty	Paper near-empty sensor	Blocked	Unblocked
PS8		Vertical Transport	Vertical transport sensor	Paper present	Paper not present
PS9		Feed	Paper take-up sensor	Paper present	Paper not present
PS7		Raised (Lift-Up)	Lift-up limit sensor	Raised Position	Not raised

5. Mechanical adjustment

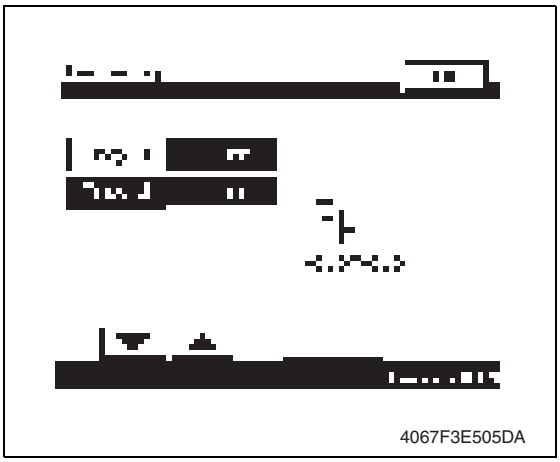
5.1 Adjusting the paper reference position

NOTE

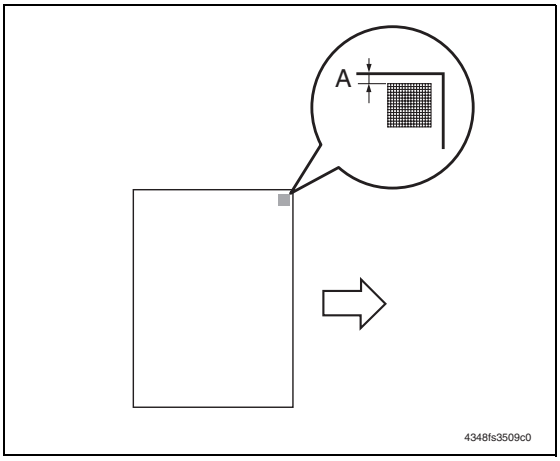
- **Make this adjustment after any of the following procedures has been performed.**
  When the PH unit has been replaced.
  When the image on the print is offset in the main scan direction.

5.1.1 Centering

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [Machine Adjustment] → [Printer Area] → [Centering].



3. Touch [Tray 2].
4. Press the Start key to let the machine produce a test print.
5. Touch [OK].

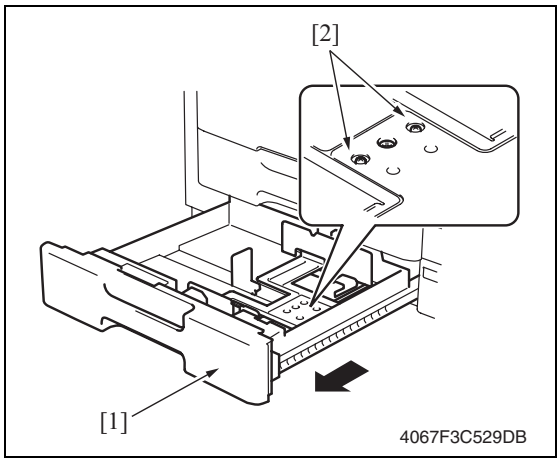


6. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
7. If the measured width A falls outside the specified range, enter the correction value using the [▼] or [▲] key.

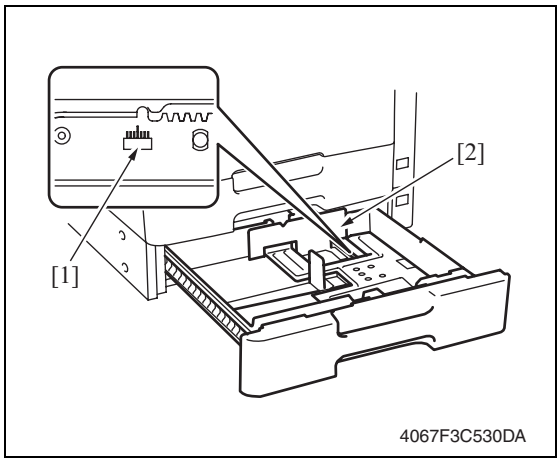
8. Produce another test print and check to see if width A falls within the specified range.

NOTE

- **If the use of the [▼] or [▲] key does not allow the measurement to fall within the specified range, perform the following steps.**



9. Slide out the drawer [1] and unload paper from it.
10. Loosen two screws [2] at the center of the paper lifting plate.



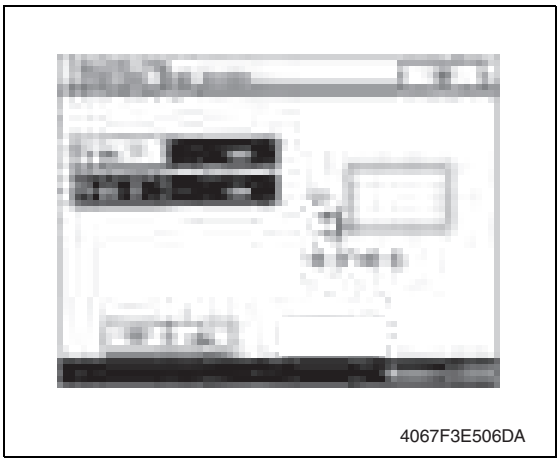
11. Watching the graduations [1] provided in the drawer, move the edge guide [2] in the rear.

- If width A is greater than the specified value, move the edge guide toward the front.
- If width A is smaller than the specified value, move the edge guide toward the rear.

12. Perform another test print and check the reference deviation.
13. Repeat the adjustment until the reference line falls within the specified range.
14. Tighten the adjustment screw.
15. Touch [OK].
16. Touch [OK] on the Service Mode screen.
17. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

5.1.2 Centering (Duplex 2nd Side)

1. Call the Service Mode to the screen.
See P.158 of the main body service manual.
2. Touch [Machine Adjustment] → [Printer Area] → [Centering (Duplex 2nd Side)].



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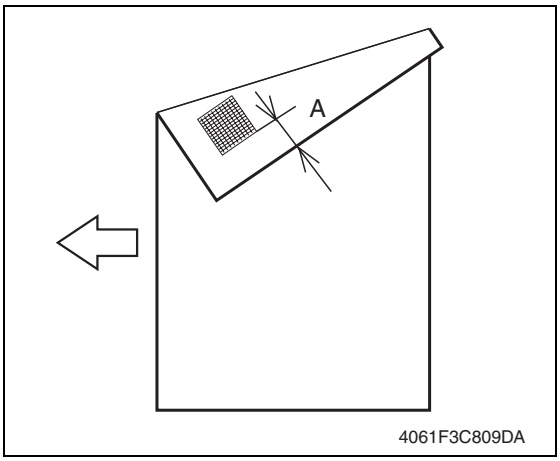
3. Touch [Tray 2].
4. Press the Start key to let the machine produce a test print.
5. Touch [OK].



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6. Measure the width of printed reference line A.
Specification: 3.0 mm ± 2.0 mm
7. If the measured width A falls outside the specified range, enter the correction value using the [▼] or [▲] key.
8. Produce another test print and check to see if width A falls within the specified range.
9. Touch [OK].
10. Touch [OK] on the Service Mode screen.
11. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

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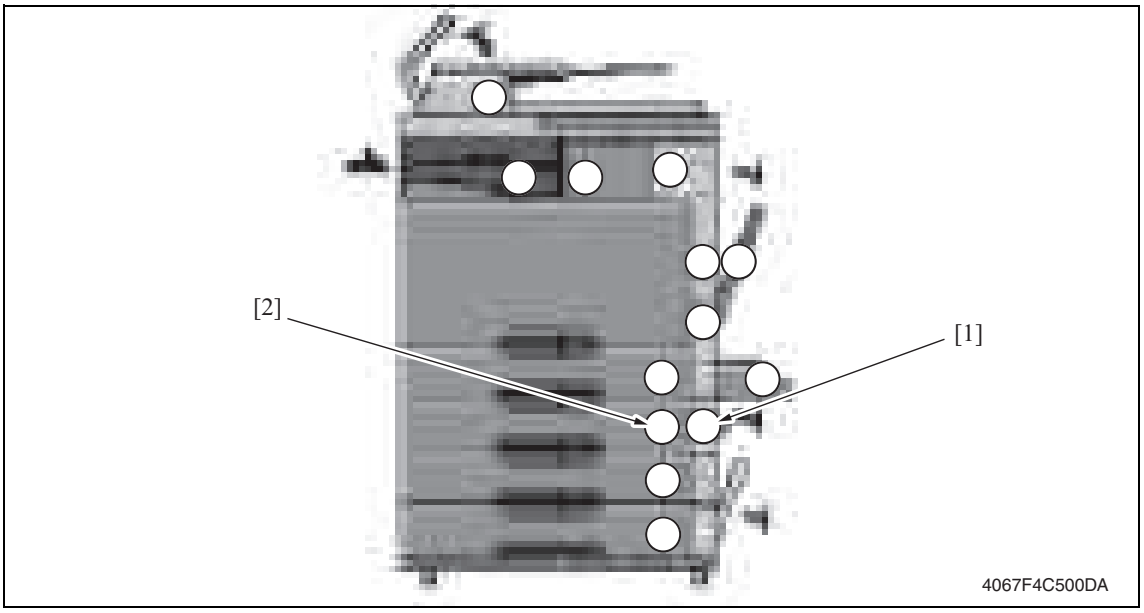
Troubleshooting

6. Jam display

6.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main body.

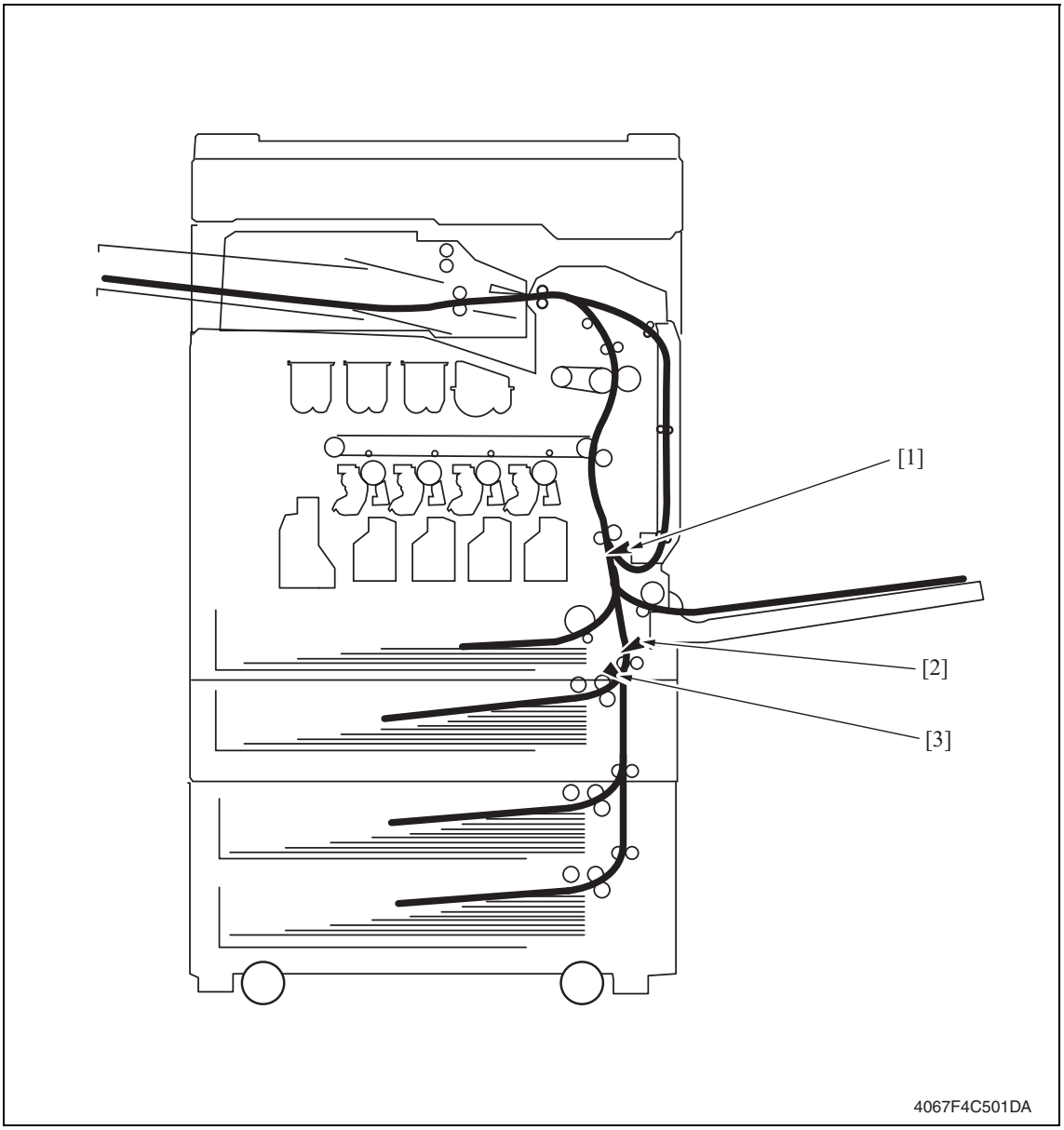


No.	Code	Misfeed location	Misfeed access location	Action
[2]	1201	Tray 2 feed section	Right door	P.32
[1]	2001	Tray 2 paper vertical transport section	Vertical transport door	

6.2 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

6.3 Sensor layout



[1] Sensor in front of tim. roller (PS1)
[2] Vertical transport sensor (PS8)
[3] Paper take-up sensor (PS9)

6.4 Solution

6.4.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
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.

6.4.2 Tray2 feed section/vertical transport section misfeed

A. Detection timing

Type	Description
Tray2 feed section/ section misfeed detection	• The leading edge of the paper does not block the vertical transport sensor (PS8) even after the set period of time has elapsed after the Paper feed motor (M1) is energized.
Tray2 vertical transport section misfeed detection	• The sensor in front of tim. Roller (PS1) is not blocked even after the lapse of a given period of time after the vertical transport sensor (PS8) has been blocked by a paper. • The vertical transport sensor (PS8) is not unblocked even after the lapse of a given period of time after the vertical transport sensor (PS8) has been blocked by a paper.
Tray2 vertical transport section loop registration reversing jam	• Rise timing of load for registration is earlier than the one for making the loop at front of the registration roller at tray2 paper feed.
Detection of paper left in tray 2	• The vertical transport sensor (PS8) is blocked when the main power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset. • The paper take-up sensor (PS9) is blocked when the main power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Tray2 feed section image write start signal permit waiting jam	• For paper fed from the tray2, image write start signal permit continues to be disabled for a predetermined period of time after the timing of image write start signal output.

B. Action

Relevant electrical parts	
Paper take-up sensor (PS9) Vertical transport sensor (PS8) Sensor in front of tim. Roller (PS1) Paper feed motor (M1)	PC control board (PCCB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS9 I/O check, sensor check	PCCB PJ6-8 (ON)	PC-105 G-4
3	PS8 I/O check, sensor check	PCCB PJ6-11 (ON)	PC-105 G-4
4	PS1 I/O check, sensor check	PRCB CN1-3 (ON)	bizhub C200 C to D-19
5	M1 operation check	PCCB PJ5-1 to 4	PC-105 B-3
6	PCCB replacement	—	—
7	PRCB replacement	—	—

7. Trouble code

7.1 Trouble code

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the touch panel.

Code	Item	Description
C0204	Tray2 lift-up failure	• The lift-up limit sensor (PS7) is not blocked even after the set period of time has elapsed after the paper lift-up operation for the drawer began.

- Open and close the front door, or turn OFF the main power switch. Then, wait for 10 sec. or more and turn ON the main power switch to reset the malfunction display.

7.2 Solution

7.2.1 C0204: Tray2 lift-up failure

Relevant electrical parts	
Lift-up motor (M3) Lift-up limit sensor (PS7)	PC control board (PCCB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of each motor for proper drive coupling, and correct as necessary.	—	—
3	Check the DCPU connector for proper connection, and correct as necessary.	—	—
4	PS7 I/O check, sensor check	PCCB PJ6-3 (ON)	PC-105 G-3
5	M3 operation check	PCCB PJ4-4 to 5	PC-105 B-6
6	PCCB replacement	—	—
7	PRCB replacement	—	—

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

PC-405

2008.12

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2008/12	2.0	△1	Error corrections
2008/06	1.0	—	Issue of the first edition

CONTENTS

PC-405

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specification

A. Type

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

B. Paper

Type	Size	Capacity
Plain paper (60 to 90 g/m² (16 to 24 lb))	Metric area: A4, Inch area: 8 $^{1}/_{2}$ x 11	2,500 sheets
Thick paper 1 (91 to 150 g/m² (24.25 to 40 lb))		1,000 sheets
Thick paper 2 (151 to 209 g/m² (40 to 55.5 lb))		
Thick paper 3 *1 (210 to 256 g/m² (55.75 to 68 lb))		

*1: Image is not guaranteed when thick paper 3 is used.

C. Machine specifications

Power requirements	DC 24 V ± 10% (supplied from the main body)
	DC 5 V ± 5%
Max. power consumption	45 W or less
Dimensions	600 mm (W) x 578 mm (D) x 301 mm (H) 23.7 inch (W) x 22.8 inch (D) x 11.9 inch (H)
Weight	28.0 kg (61.8 lb)

D. Operating environment

Conforms to the operating environment of the main body.

NOTE

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

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Maintenance

2. Other

2.1 Disassembly/adjustment prohibited items

A. 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.**

B. 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.**

C. Variable resistors on board

NOTE

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

D. Removal of PWBs

⚠ CAUTION

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

2.2 Disassembly/Assembly/Cleaning list (Other parts)

2.2.1 Disassembly/Assembly parts list

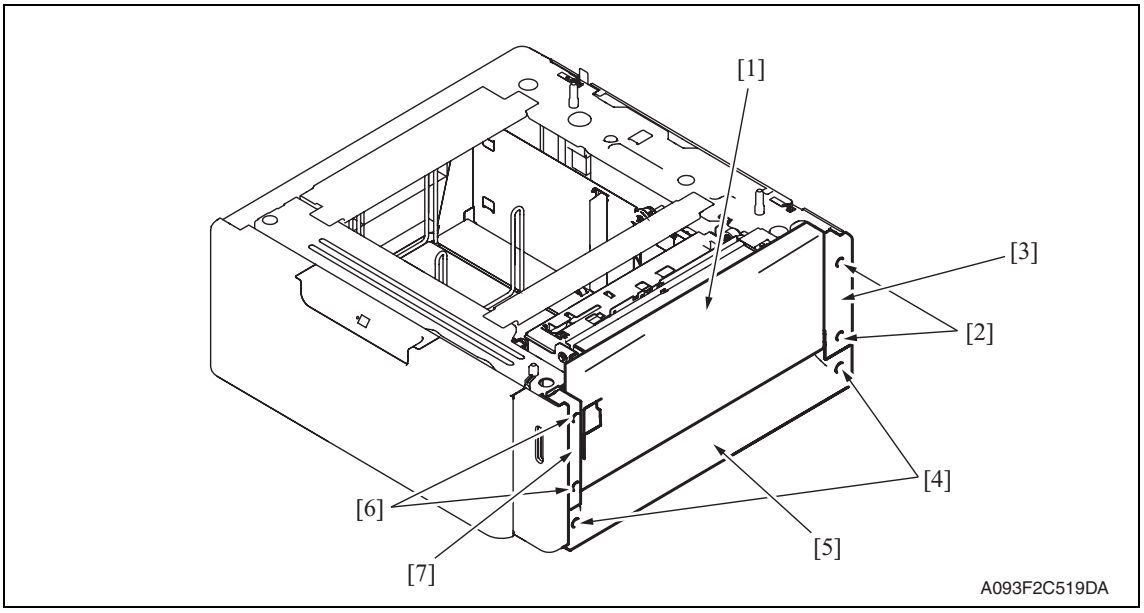
No.	Section	Part name	Ref. page
1	Exterior parts	Right door	P.5
2		Rear right cover	P.5
3		Lower right cover	P.5
4		Front right cover	P.5
5		Rear cover	P.5
6		Left cover	P.5
7	Rollers	Separation roller assy	P.6
8		Feed roller	P.7
9		Pick-up roller	P.10
10	Units	Drawer	P.12
11		Wire	P.14

2.2.2 Cleaning parts list

No.	Section	Part name	Ref. page
1	Feed section	Separation roller	P.18
2		Feed roller	P.18
3		Pick-up roller	P.19
4	Transport section	Vertical transport roller	P.20

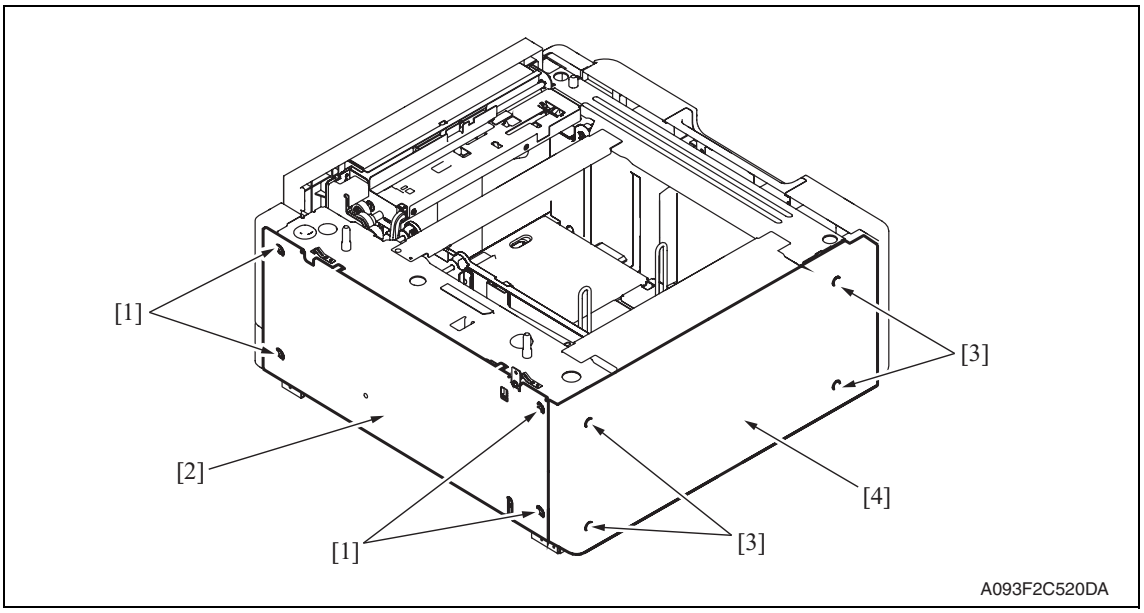
2.3 Disassembly/Assembly procedure

2.3.1 Right door/Rear right cover/Lower right cover/Front right cover



1. Open the right door [1].
2. Remove the right door [1].
3. Remove two screws [2] and remove the rear right cover [3].
4. Remove two screws [4] and remove the lower right cover [5].
5. Remove two screws [6] and remove the front right cover [7].

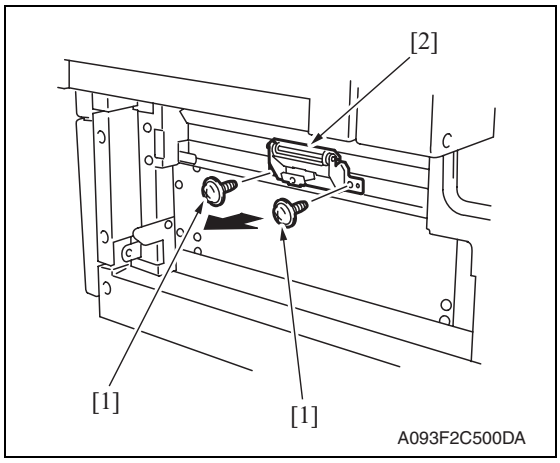
2.3.2 Rear cover/Left cover



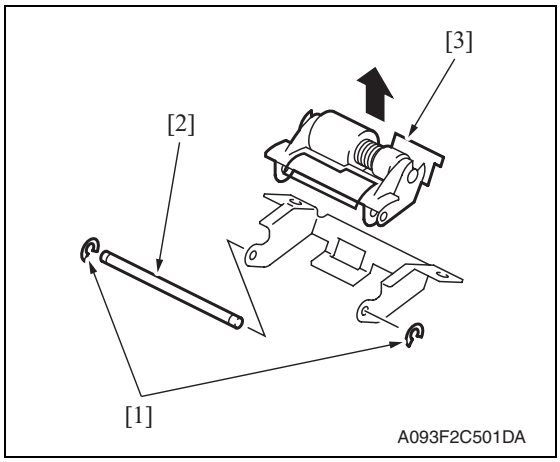
1. Remove four screws [1] and remove the rear cover [2].
2. Remove four screws [3] and remove the left cover [4].

2.3.3 Separation roller assy

1. Remove the right door.
See P.5



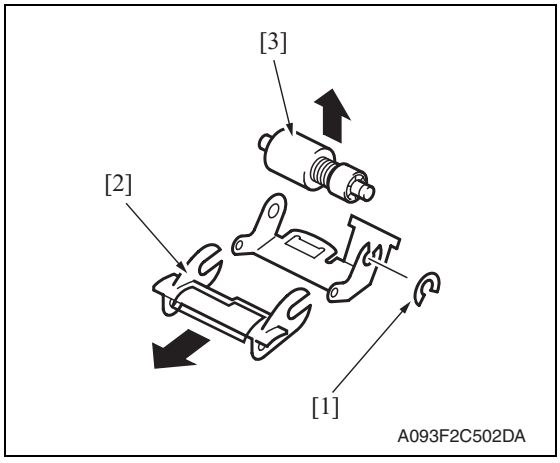
2. Remove two screws [1] and remove the separation roller mounting bracket assy [2].



3. Remove two C-rings [1] and the shaft [2], and remove the separation roller fixing bracket assy [3].

NOTE

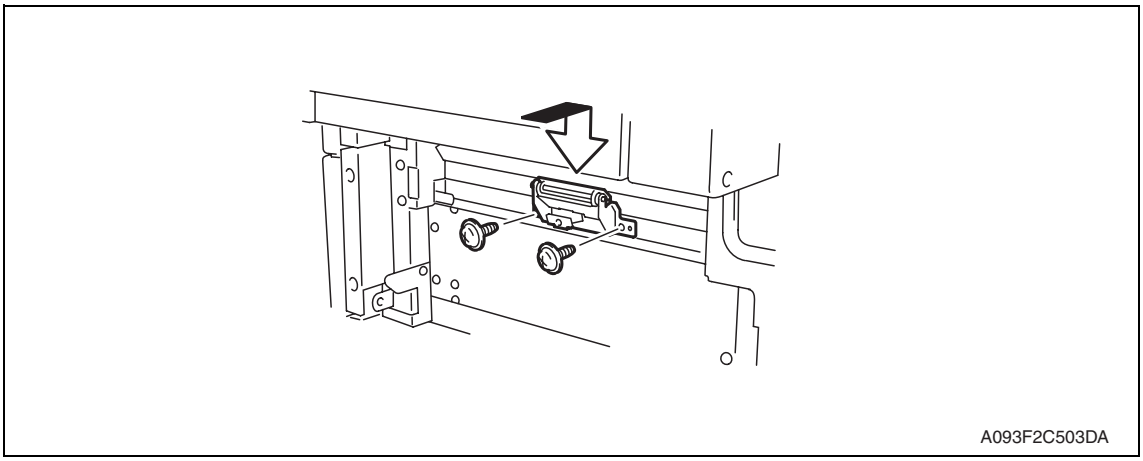
- **Be careful not to lose spring at this time.**



4. Remove the C-ring [1], the guide [2], and remove the separation roller assy [3].

NOTE

- **Install the separation roller assy while pressing the holder down so that it aligns to the metal bracket of the machine.**
- **Make sure that the separation roller assy is not tilted to the right or left when installed.**



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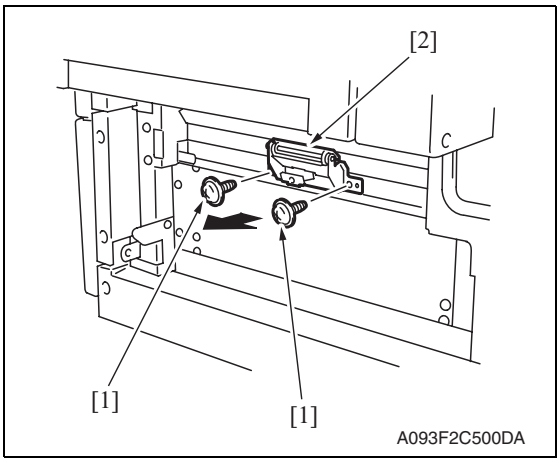
2.3.4 Feed roller

1. Remove the right door.
See P.5
2. Remove the rear cover and the rear right cover.
See P.5



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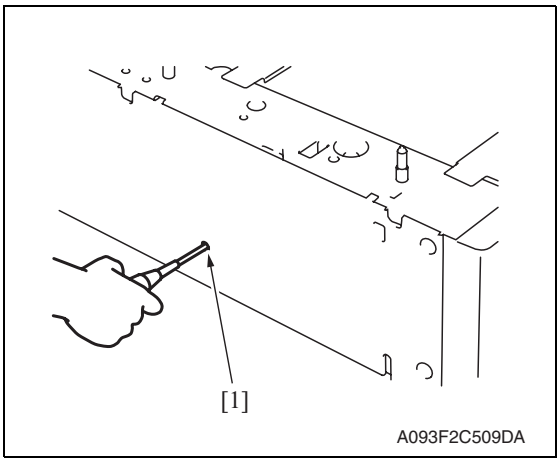
3. Remove two screws [1] and separation roller mounting bracket assy [2].



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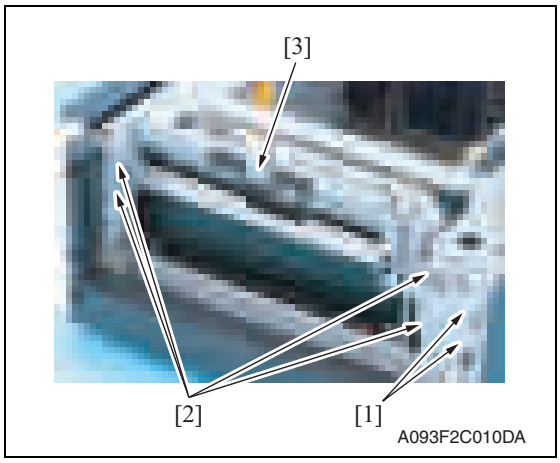
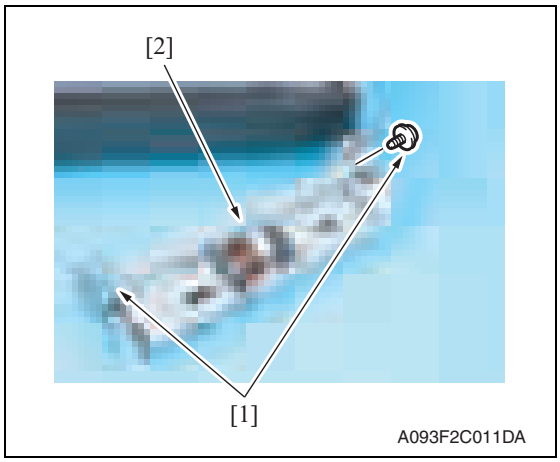
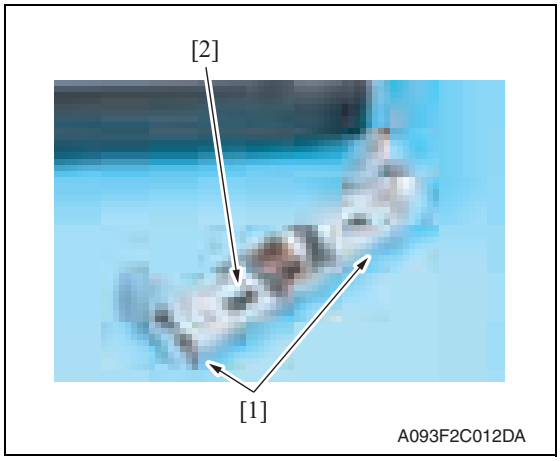
4. Insert a driver into the hole [1] at the back of the feed tray and pull out the paper feed tray.



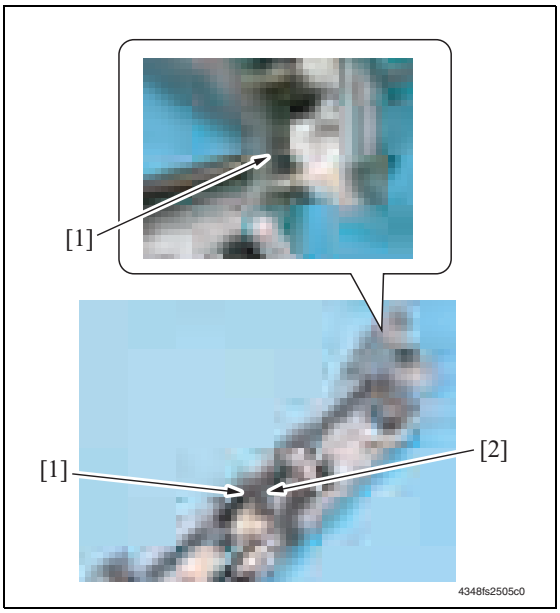
5. Remove two wire saddles [1] and four screws [2], and remove the paper feed unit [3].



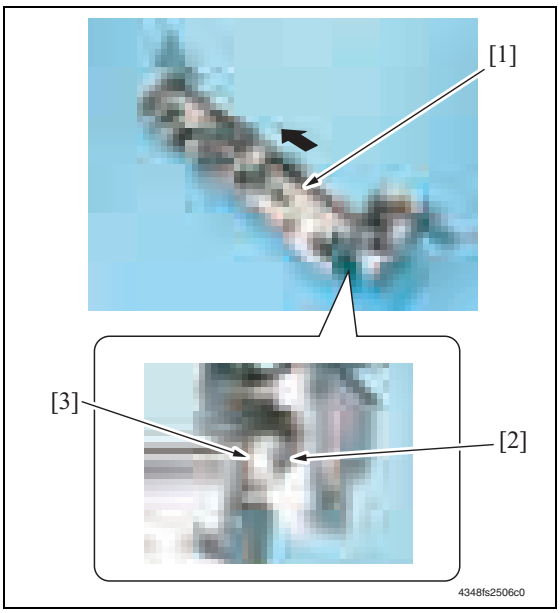
6. Remove two screws [1] and remove the mounting frame [2] for the separation roller mounting bracket assy.



7. Remove two screws [1] and remove the paper feed roller cover [2].

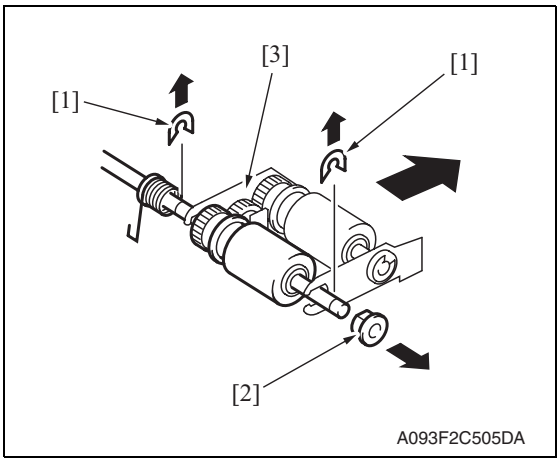


8. Remove two C-rings [1] and remove the bushing [2].

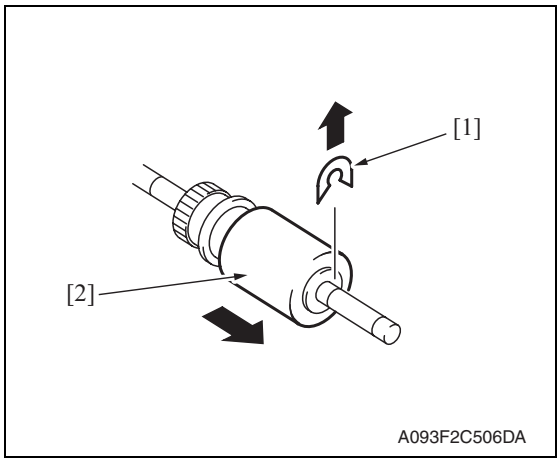


9. Shift the shaft assy [1] in the orientation as shown on the left, and remove the C-ring [2] and the gear [3].

10. Remove the shaft assy [1].



11. Remove two E-rings [1] and the bushing [2], and remove the pick-up roller fixing bracket assy [3].

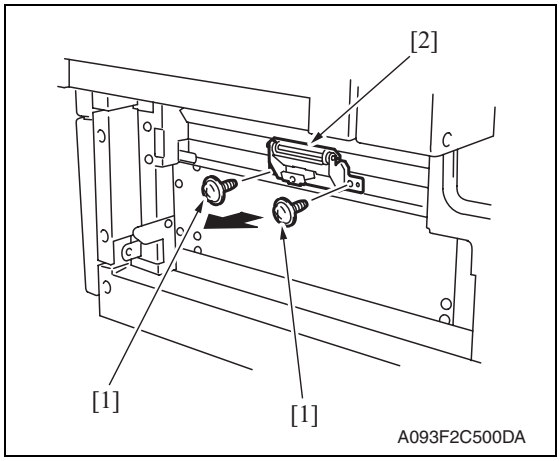


12. Remove the C-ring [1] and remove the feed roller [2].

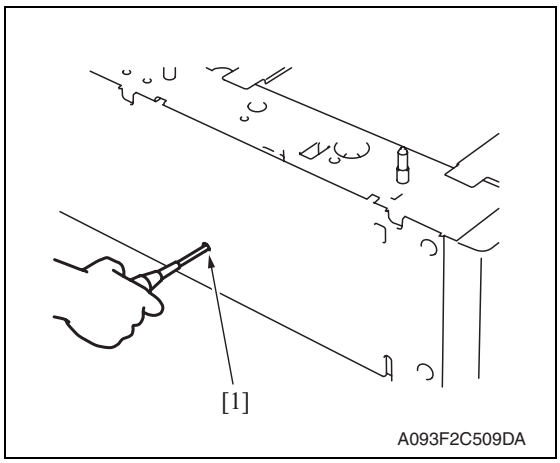
2.3.5 Pick-up roller

1. Remove the right door.
See P.5

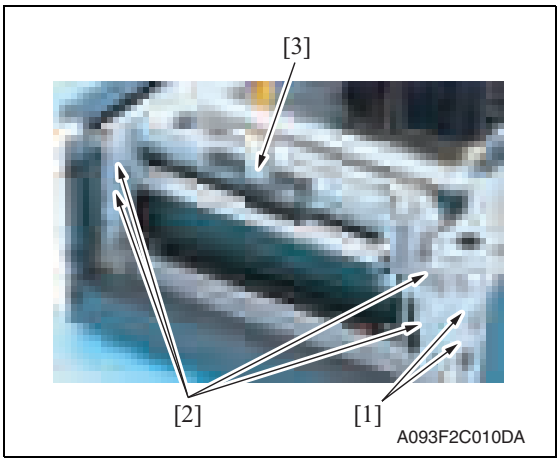
2. Remove the rear cover and the rear right cover.
See P.5



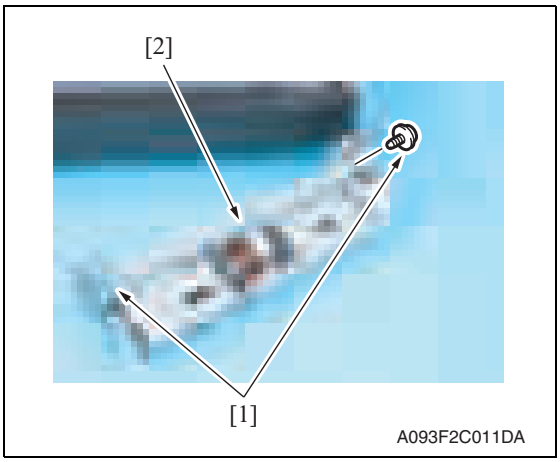
3. Remove two screws [1] and separation roller mounting bracket assy [2].



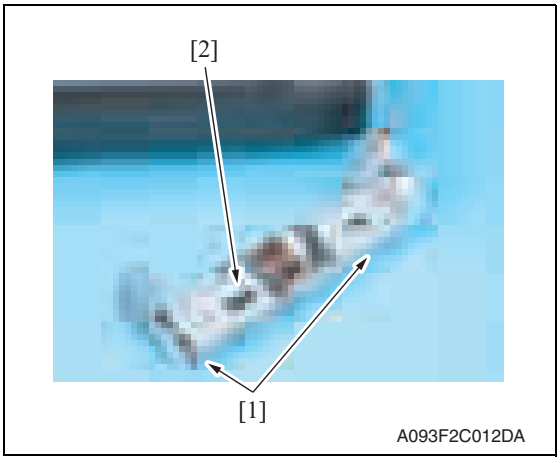
4. Insert a driver into the hole [1] at the back of the feed tray and pull out the paper feed tray.



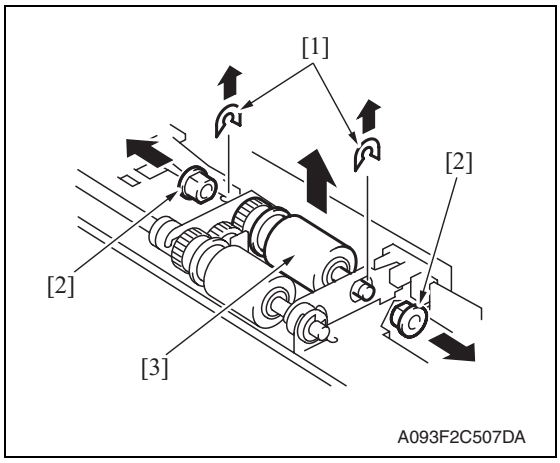
5. Remove two wire saddles [1] and four screws [2], and remove the paper feed unit [3].



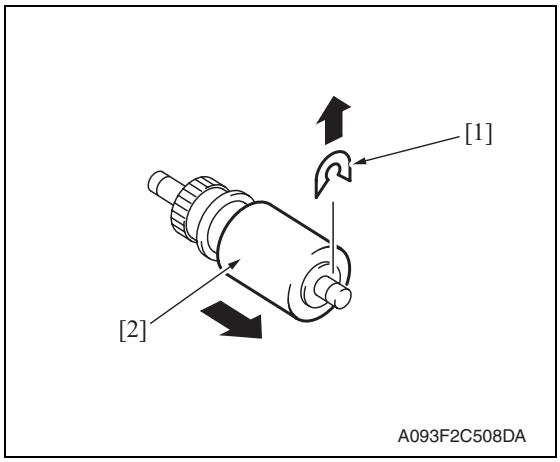
6. Remove two screws [1] and remove the mounting frame [2] for the separation roller mounting bracket assy.



7. Remove two screws [1] and remove the paper feed roller cover [2].

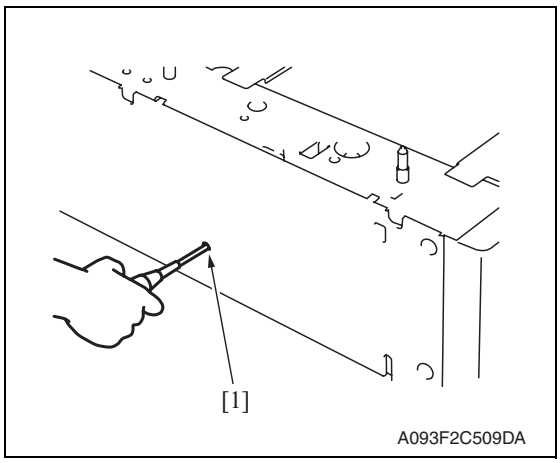


8. Remove two C-rings [1], two bushings [2], and the pick-up roller assy [3].



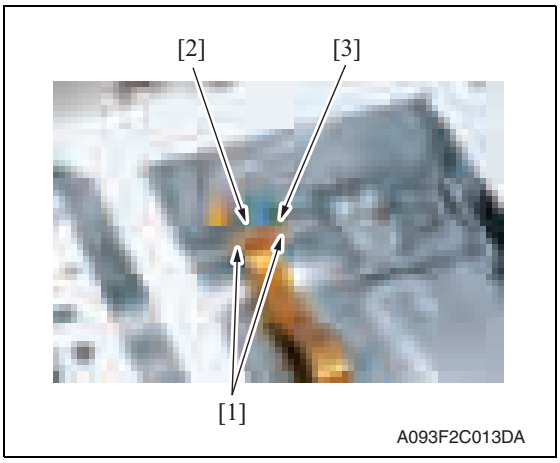
9. Remove the C-ring [1] and remove the pick-up roller [2].

2.3.6 Drawer

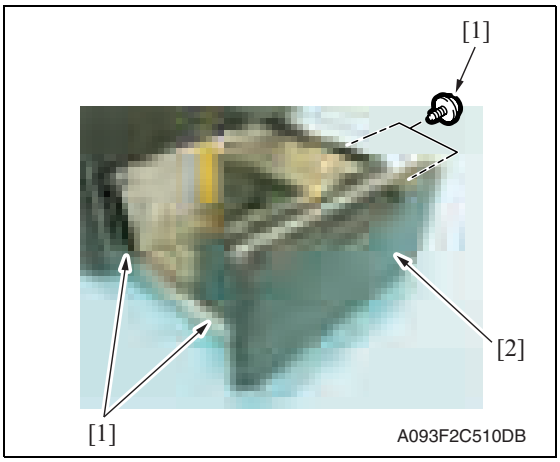


1. Insert a driver into the hole [1] at the back of the feed tray and pull out the paper feed tray.

2. Remove the paper.



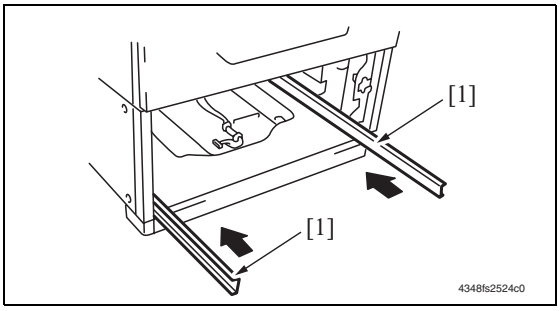
3. Remove two screws [1], the connector [2], and remove the connector board [3].



4. Remove four screws [1] and remove the drawer [2].

NOTE

- **When removing the drawer, be careful not to drop the drawer from the guide rails.**

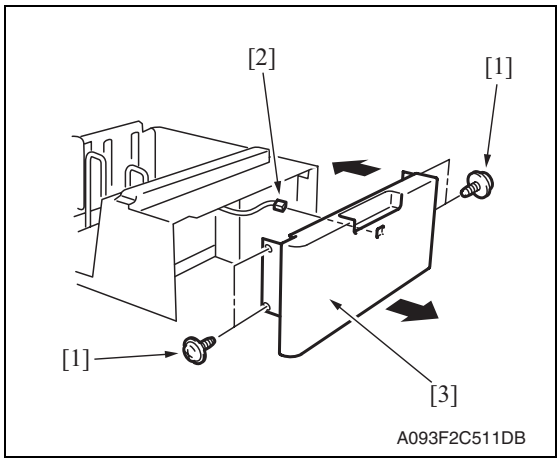


⚠ CAUTION

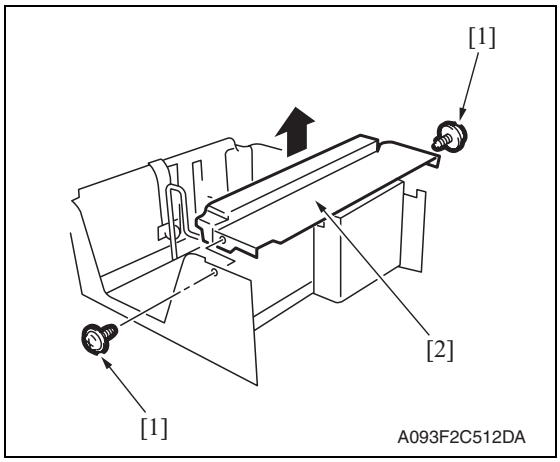
- **To prevent injuries, slide the guide rail [1] into the machine.**

2.3.7 Wire

1. Remove the drawer.
See P.12



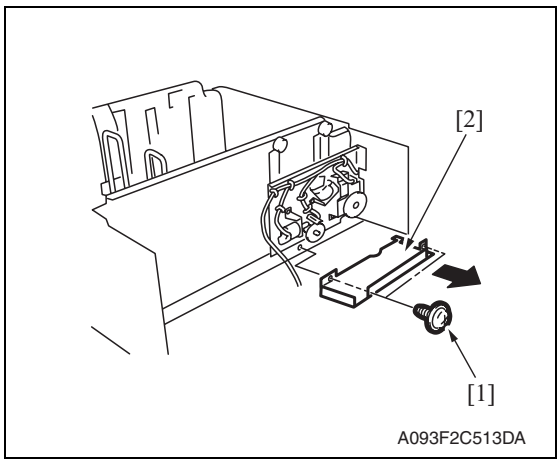
2. Remove four screws [1] and disconnect the connector [2], and remove the front cover assy [3].



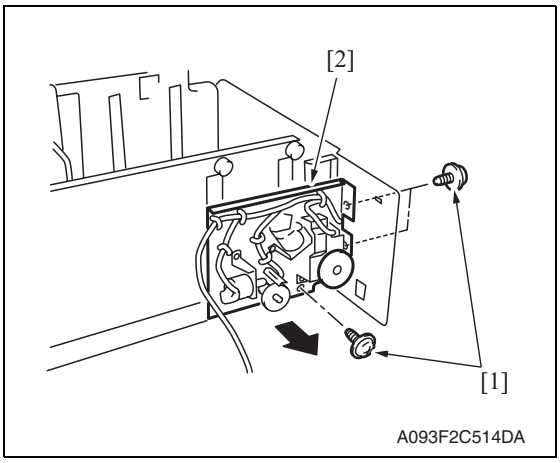
3. Remove two screws [1] and the inner cover assy [2].

NOTE

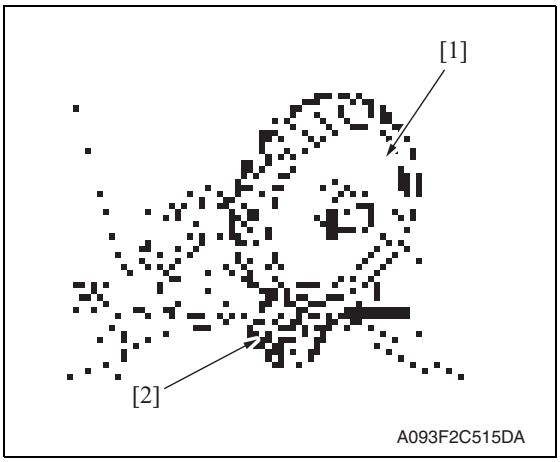
- **Do not peel off pulley protective mylar sheet.**



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

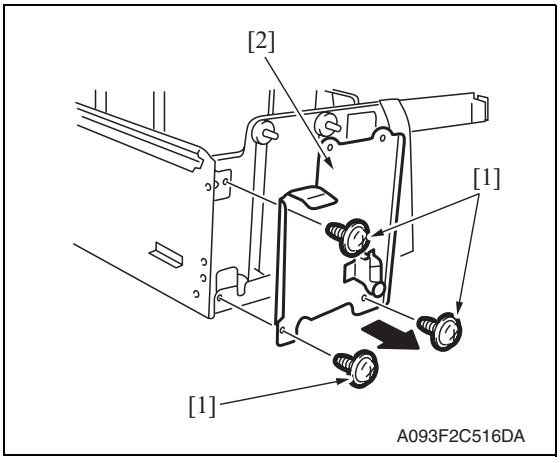


5. Remove three screws [1] and remove the driver mounting plate assy [2].

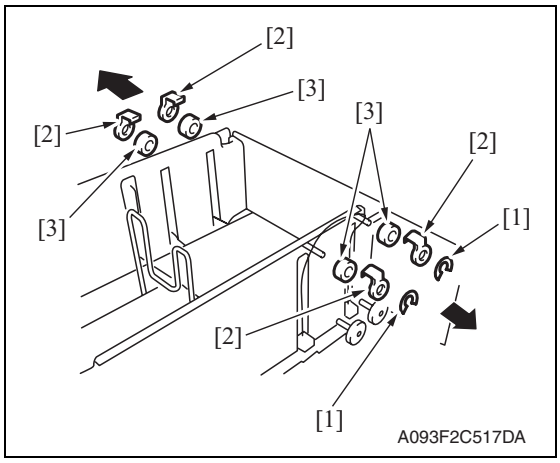


NOTE

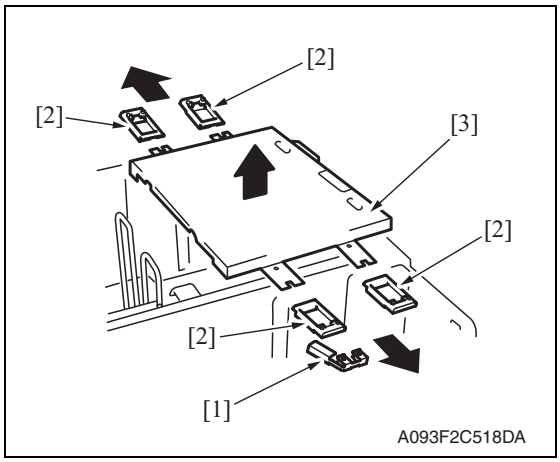
- **When assembling, be sure to engage rib of gear 1 [1] with convex section of gear 2 [2].**



6. Remove three screws [1] and remove the reinforcement bracket assy [2].



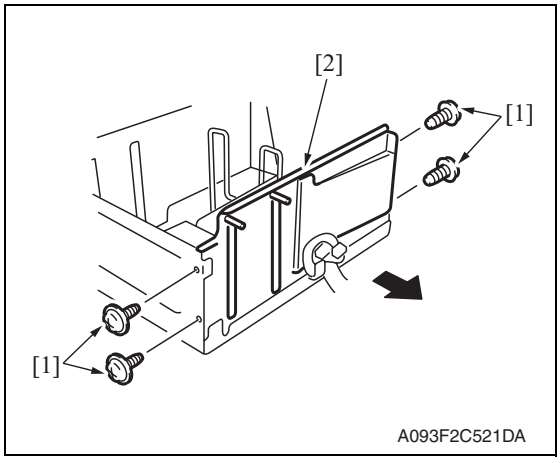
7. Remove two C-clips [1].
8. Remove four pulley covers [2].
9. Unhook four pulleys [3].



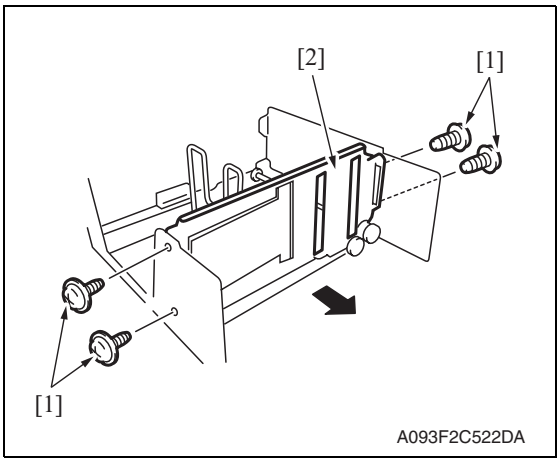
10. Remove the ground plate [1].
11. Remove four cable holding jigs [2] and remove the main drawer [3].

NOTE

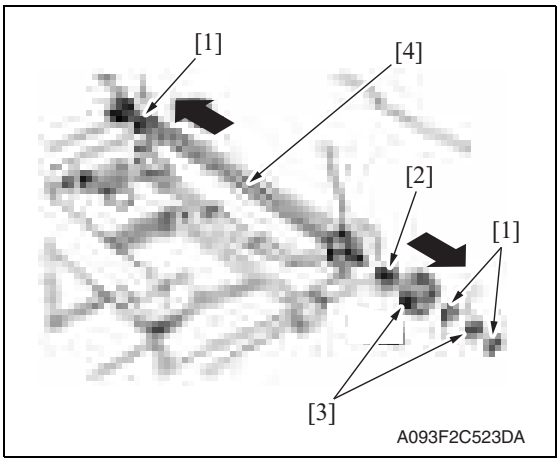
- **Use care not to bend the wires.**



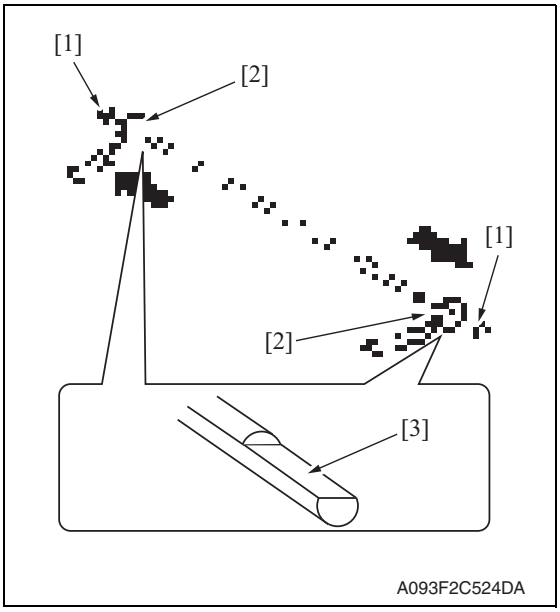
12. Remove four screws [1] and remove the rear trailing edge assy [2].



13. Remove four screws [1] and remove the front trailing edge assy [2].



14. Remove three C-rings [1], the bushing [2], and two gears [3].
15. Remove the feed drum assy [4].



16. Remove two C-rings [1] and two feed drums [2].

NOTE

- **Take care not to lose fixing pins.**
- **When reinstalling the feed drums, check that the direction of the wire coming from both feed drums are the same.**
- **Install so that cut parts [3] at both ends of shaft face up.**

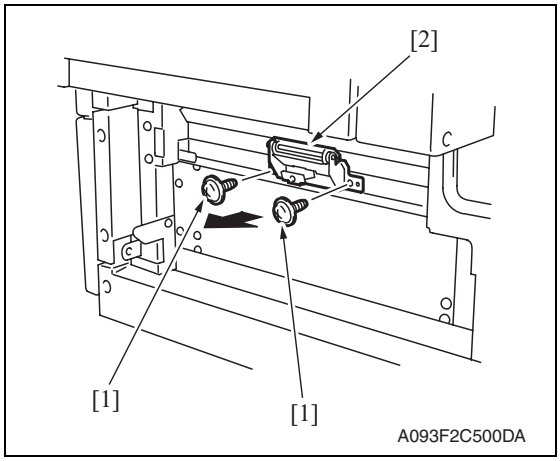
2.4 Cleaning procedure

NOTE

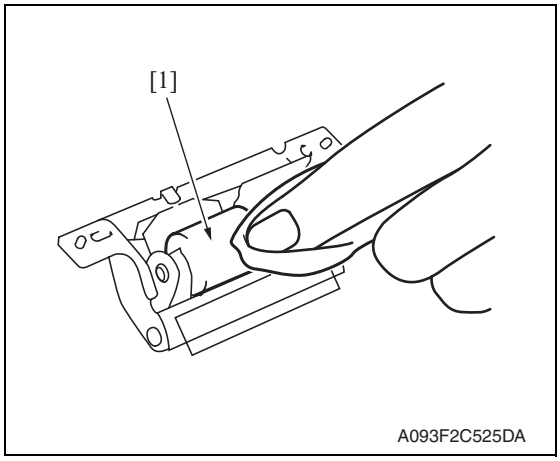
- **The alcohol described in the cleaning procedure represents the isopropyl alcohol.**

2.4.1 Separation roller

1. Remove the right door.
See P.5

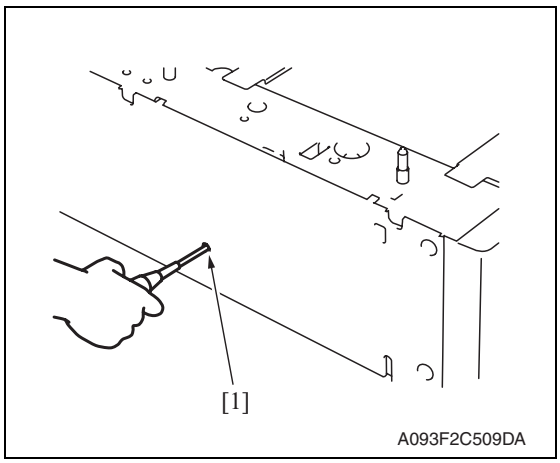


2. Remove two screws [1] and separation roller mounting bracket assy [2].

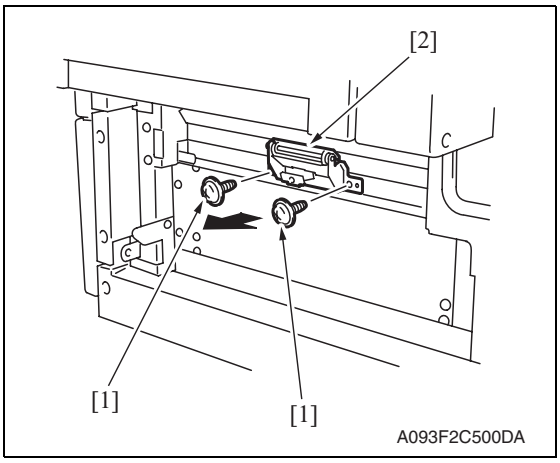


3. Using a cleaning pad dampened with alcohol, wipe the separation roller [1] clean of dirt.

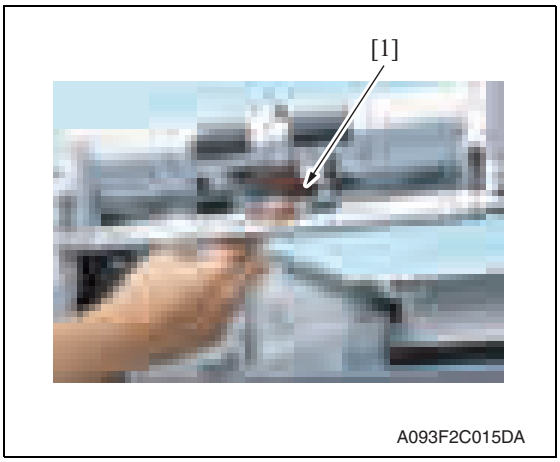
2.4.2 Feed roller



1. Insert a driver into the hole [1] at the back of the feed tray and pull out the paper feed tray.

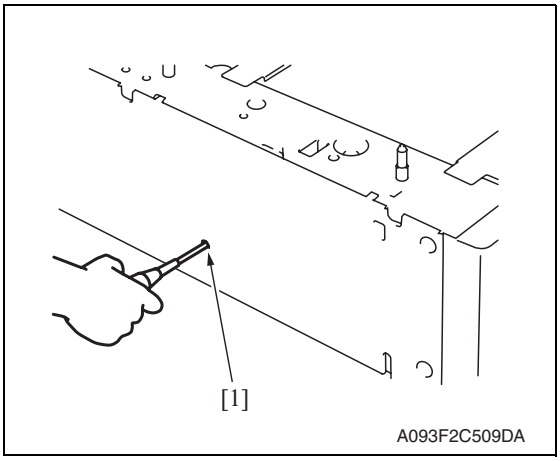


2. Remove two screws [1] and separation roller mounting bracket assy [2].

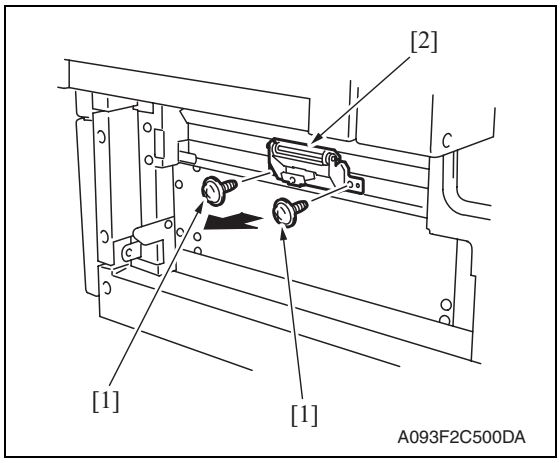


3. Using a cleaning pad dampened with alcohol, wipe the feed roller [1] clean of dirt.

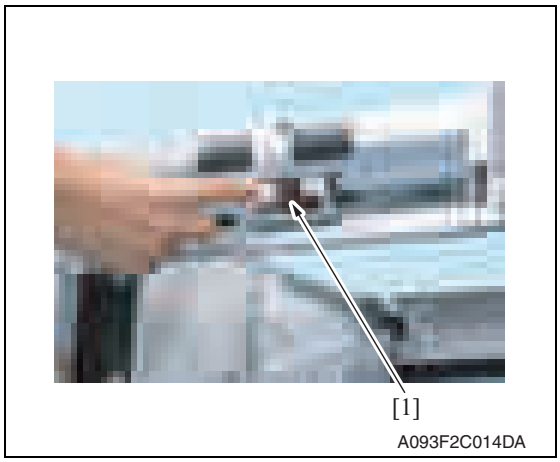
2.4.3 Pick-up roller



1. Insert a driver into the hole [1] at the back of the feed tray and pull out the paper feed tray.



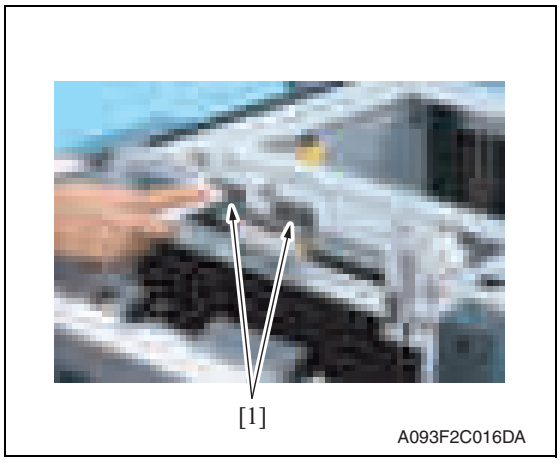
2. Remove two screws [1] and separation roller mounting bracket assy [2].



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

2.4.4 Vertical transport roller

1. Open the right door.



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

Adjustment/Setting

3. 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 “ ”.

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

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **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.**

4. State Confirmation

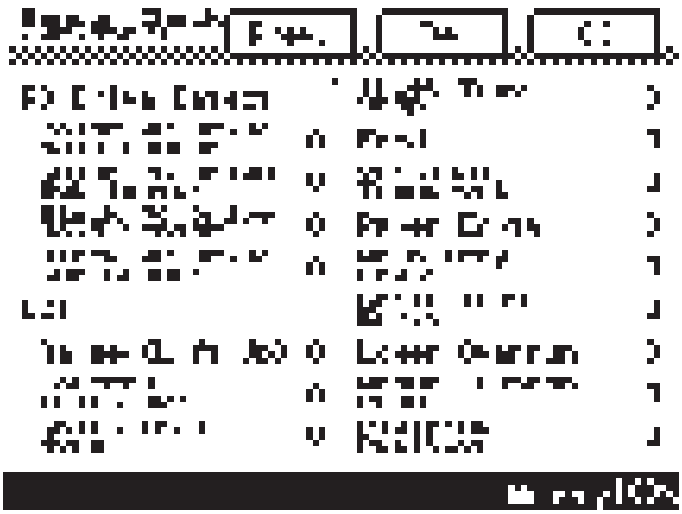
4.1 Sensor check procedure

A. Procedure

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check (Printer)].
4. Touch two times [Fwd].

4.2 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



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4.3 Sensor check list

Symbol	Panel display		Part/Signal name	Operation characteristics/ panel display	
				1	0
PS4	LCT	Raised (Lift-Up)	Lift-up upper sensor	Raised Position	Not raised
PS13		Lowered (Lift up)	Lift-up lower sensor	Lowered Position	Not lowered
PS12		Shift Tray Home	Shift tray home sensor	At home	Not at home
PS11		Shift Tray Stop	Shift tray stop sensor	Return position	Not at return position
PS1		Feed	Paper feed sensor	Paper present	Paper not present
PS2		Vertical Transport	Vertical transport sensor	Paper present	Paper not present
PS3		Paper Empty	Paper empty sensor	Paper present	Paper not present
MTPEB		Main Tray Empty	Main tray paper empty board	Paper present	Paper not present
PS9		Shift Tray Empty	Shift tray empty sensor	Paper present	Paper not present
PS7		Lower Overrun	Lower over run sensor	malfunction	operational
MDCB		Manual Button Down	Manual down control board	ON	OFF
PS14		Dividing Position	Division board position sensor	At home	Not at home
PS6		Cassette Open	Cassette open sensor	Set	Out of position
PS8		Shift Mtr Pulse	Shift motor pulse sensor	Blocked	Unblocked
PS10		Elev. Mtr Pulse	Elevator motor pulse sensor	Blocked	Unblocked

5. Mechanical adjustment

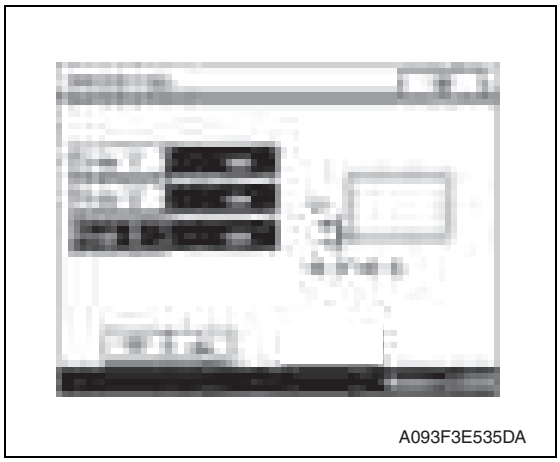
5.1 Adjusting the paper reference position

NOTE

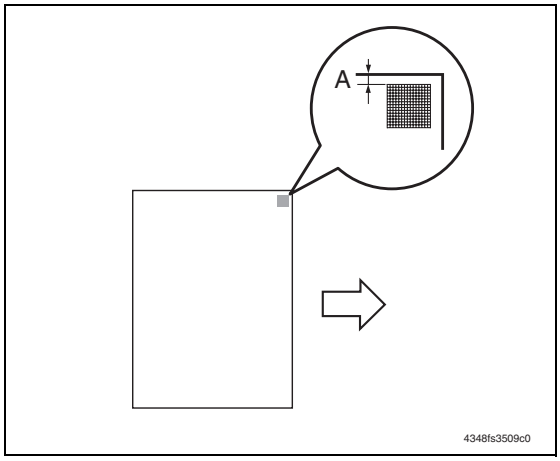
- **Make this adjustment after any of the following procedures has been performed.**
  When the PH unit has been replaced.
  When the image on the print is offset in the main scan direction.

5.1.1 Centering

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [Machine Adjustment] → [Printer Area] → [Centering].



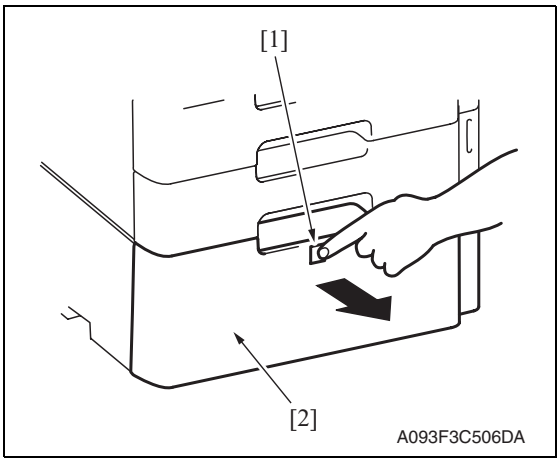
3. Touch [Tray 3].
4. Press the Start key to let the machine produce a test print.
5. Touch [OK].



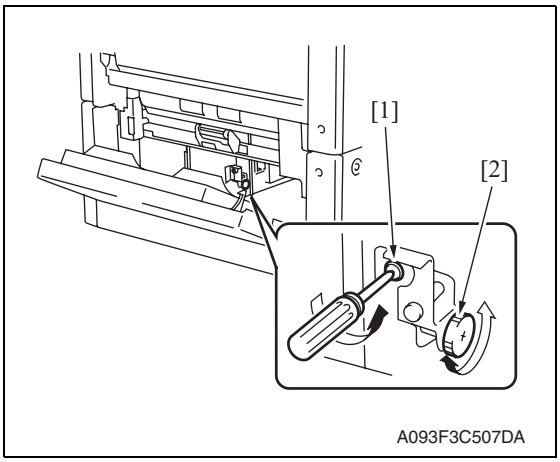
6. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
7. If the measured width A falls outside the specified range, enter the correction value using the [▼] or [▲] key.
8. Produce another test print and check to see if width A falls within the specified range.

NOTE

- **If the use of the [▼] or [▲] key does not allow the measurement to fall within the specified range, perform the following steps.**



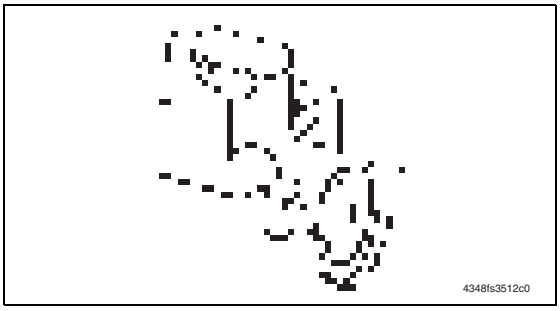
9. Press the drawer release button [1] and then slide out the drawer [2] from the paper feed cabinet.



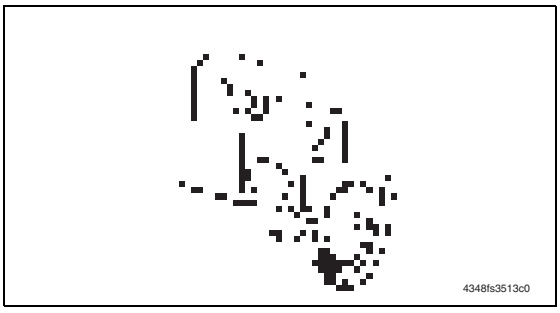
10. Open the right door.
11. Loosen the adjustment screw [1] and turn screw [2] to make the adjustment.

NOTE

- **Do not damage the passage surface of the right door.**



- If width A is greater than the specified value:
  Turn screw counterclockwise.

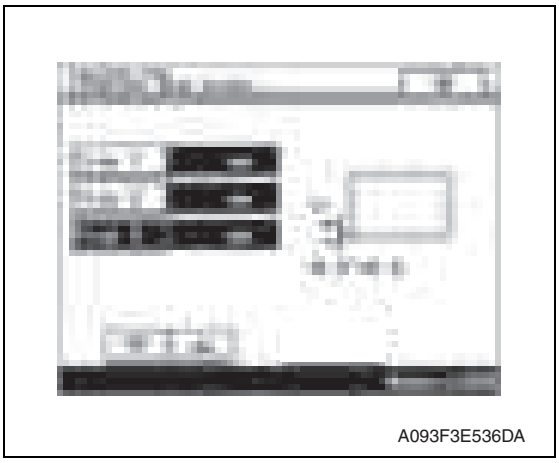


- If width A is smaller than the specified value:
  Turn screw clockwise.

12. Perform another test print and check the reference deviation.
13. Repeat the adjustment until the reference line falls within the specified range.
14. Tighten the adjustment screw.
15. Touch [OK].
16. Touch [OK] on the Service Mode screen.
17. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

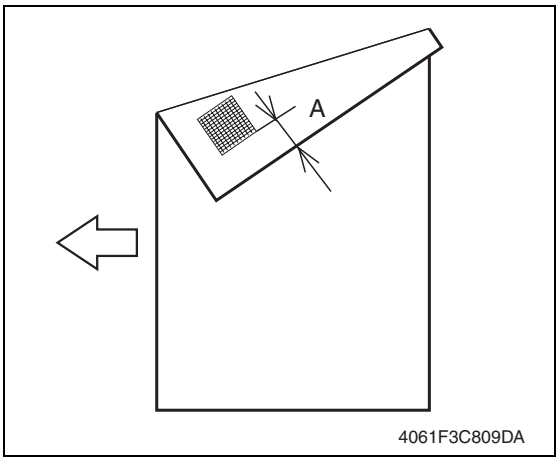
5.1.2 Centering (Duplex 2nd Side)

1. Call the Service Mode to the screen.
See P.158 of the main body service manual.
2. Touch [Machine Adjustment] → [Printer Area] → [Centering (Duplex 2nd Side)].



A093F3E536DA

3. Touch [Tray 3].
4. Press the Start key to let the machine produce a test print.
5. Touch [OK].

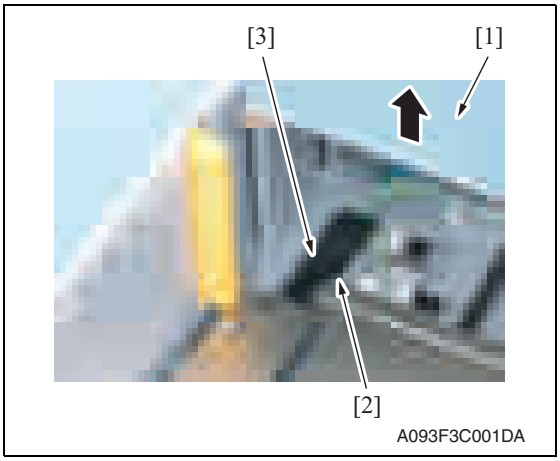


4061F3C809DA

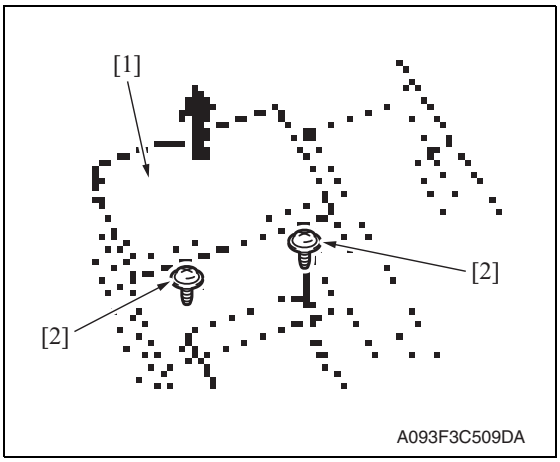
6. Measure the width of printed reference line A.
Specification: 3.0 mm ± 2.0 mm
7. If the measured width A falls outside the specified range, enter the correction value using the [▼] or [▲] key.
8. Produce another test print and check to see if width A falls within the specified range.
9. Touch [OK].
10. Touch [OK] on the Service Mode screen.
11. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

5.2 Shifter movement timing belt adjustment

1. Remove the drawer.
See P.12



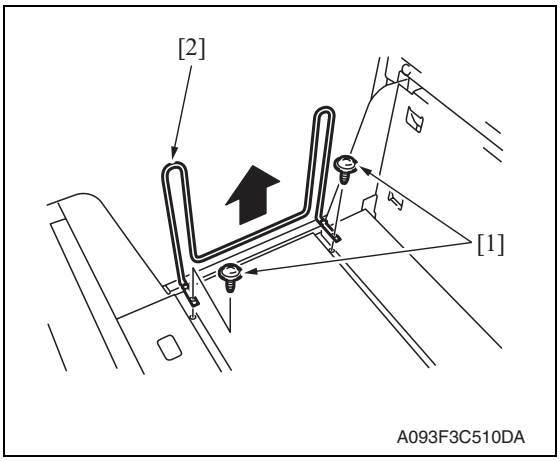
2. While raising the main tray [1], remove the screw [2] and the connector cover [3].



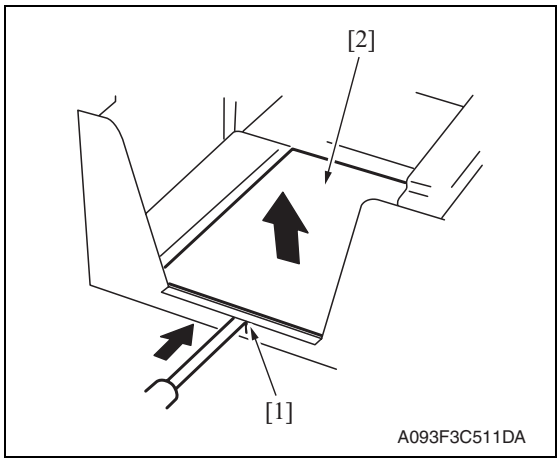
3. While raising the main tray [1], remove two screws [2] that hold the shift tray in position.

NOTE

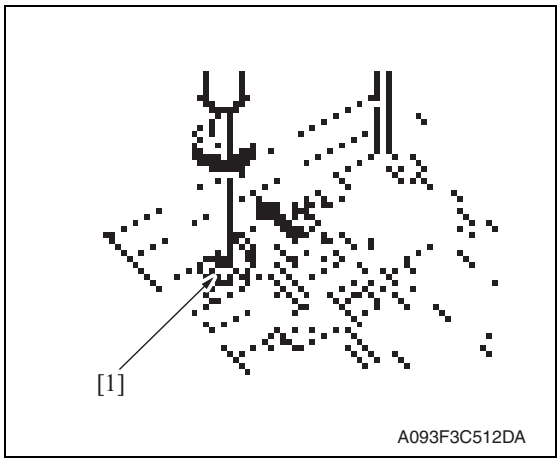
- **When reinstalling, use caution because the wire of the main tray [1] comes off easily.**



4. Remove two screws [1] and remove the shifter [2].



5. Push the tab [1] of the shift tray [2] as shown on the left and release the lock.
6. Remove the shift tray [2].



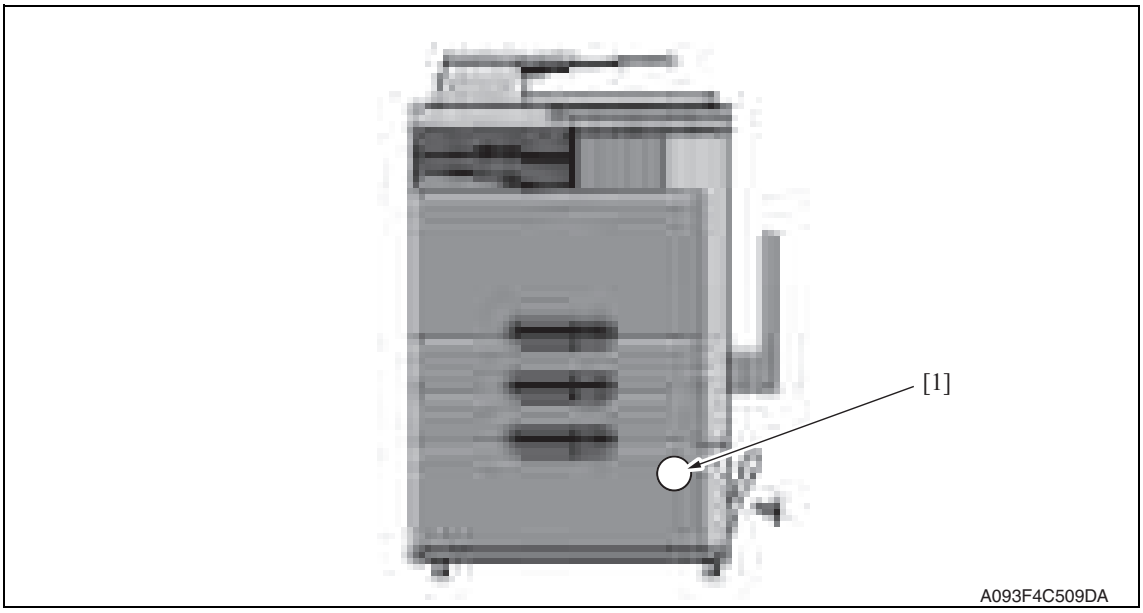
7. Loosen the screw [1] fixing the tension pulley assy as shown on the left and move it in the direction of the arrow.
8. After moving the shifter, tighten the fixing screw [1].

Troubleshooting

6. Jam display

6.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main body.

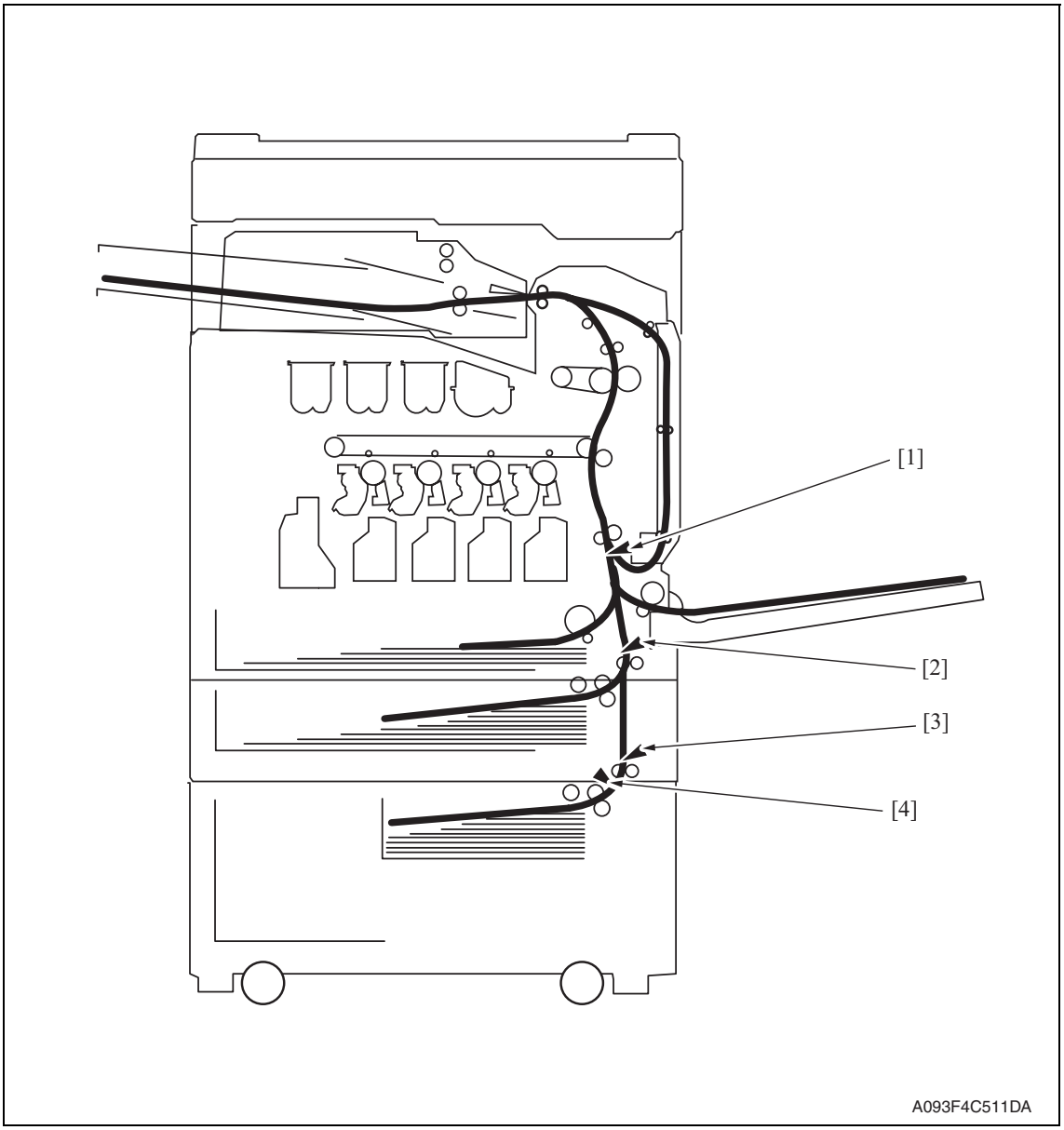


No.	Code	Misfeed location	Misfeed access location	Action
[1]	1501	LCT paper feed section	Right door	P.32
	2001	LCT paper vertical transport section	Vertical transport door	

6.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

6.2 Sensor layout



[1] Sensor in front of tim. roller (PS1)
[2] Vertical transport sensor (PS8)
[3] Vertical transport sensor (PS2)
[4] Paper feed sensor (PS1)

6.3 Solution

6.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
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.

6.3.2 LCT paper feed section/vertical transport section misfeed

A. Detection timing

Type	Description
LCT paper feed section misfeed detection	• The leading edge of the paper does not block the paper feed sensor (PS1) or the vertical transport sensor (PS2) even after the set period of time has elapsed after the paper feed motor (M1) is energized.
LCT vertical transport section misfeed detection	• The paper feed tray 2 vertical transport sensor (PS8) is not blocked even after the lapse of a given period of time after the vertical transport sensor (PS2) has been blocked by a paper.
LCT vertical transport section loop registration reversing jam	• Rise timing of load for registration is earlier than the one for making the loop at front of the timing roller at LCT paper feed.
LCT detection of paper remaining	• The vertical transport sensor (PS2) is blocked when the main power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset. • The paper feed sensor (PS1) is blocked when the main power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
Misfeed detected as a result of delayed deactivation of sensor	• The paper feed sensor (PS1) is not unblocked even after the lapse of a given period of time after PS1 has been blocked by a paper. • The vertical transport sensor (PS2) is not unblocked even after the lapse of a given period of time after PS2 has been blocked by a paper.
LCT feed section image write start signal permit waiting jam	• For paper fed from the LCT, image write start signal permit continues to be disabled for a predetermined period of time after the timing of image write start signal output.

B. Action

Relevant electrical parts	
Paper feed sensor (PS1) Vertical transport sensor (PS2) The paper feed tray 2 vertical transport sensor (PS8) Paper feed motor (M1) Sensor in front of tim. roller (PS1)	PC control board (PCCB) MFP board (MFPB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS1 I/O check, sensor check	PRCB CN1-3 (ON)	bizhub C200 C to D-19
3	PS1 I/O check, sensor check	PCCB PJ5-2 (ON)	PC-405 F-9
4	PS2 I/O check, sensor check	PCCB PJ5-5 (ON)	PC-405 F-9
5	PS8 I/O check, sensor check	PCCB PJ6-11 (ON)	PC-105 G-4
6	M1 operation check	PCCB PJ6-1 to 4	PC-405 F-10
7	PCCB replacement	—	—
8	MFPB replacement	—	—

7. Trouble code

7.1 Trouble code

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the touch panel.

Code	Item	Description
C0001	LCT communication error	• Due to a software malfunction, etc., the time on the watchdog timer has run out and a reset is performed.
C0209	LCT elevator motor failure	• The elevator motor pulse sensor (PS10) cannot detect both edges of H/L even after the set period of time has elapsed while the elevator motor (M5) is turning backward/forward (raise/lower).
C0210	LCT lift failure	• The lift-up upper sensor (PS4) is not blocked even after the set period of time has elapsed after the paper lift-up operation began. • The lift-up upper sensor (PS4) is not blocked even after the set pulse is detected by the elevator motor pulse sensor (PS10) after the paper lift-up operation began. • The lift-up lower sensor (PS13) is not unblocked even after the set pulse is detected by the elevator motor pulse sensor (PS10) after the paper lift-up operation began. • The lift-up upper sensor (PS4) is not blocked even after the set period of time has elapsed after the paper lift-up operating. • The lift-up lower sensor (PS13) is not blocked even after the set period of time has elapsed after the paper lift-down operation began. • The lift-up lower sensor (PS13) is not blocked even after the set pulse is detected by the elevator motor pulse sensor (PS10) after the paper lift-down operation began. • The lift-up upper sensor (PS4) is not unblocked even after the set pulse is detected by the elevator motor pulse sensor (PS10) after the paper lift-down operation began. • The lower over run sensor (PS7) is blocked while the paper lift-down operating.
C0212	LCT ejection failure	• The drawer cannot be determined to be out of position even after the set period of time has elapsed after the tray lock solenoid (SD1) is energized after the lowering operation is finished.
C0213	LCT shift gate malfunction	• The division board position sensor (PS14) cannot be set to L even after the set period of time has elapsed after the operation of the division board position motor (M3) began with the division board position sensor (PS14) set to L.

Code	Item	Description
C0214	LCT shifting failure	• The shift tray stop sensor (PS11) is not blocked even after the set period of time has elapsed after the shift operation began (shift to the right). • The shift tray stop sensor (PS11) is not blocked even after the set pulse is detected by the shift motor pulse sensor (PS8) after the shift operation began (shift to the right). • The shift tray home sensor (PS12) is not unblocked even after the set pulse is detected by the shift motor pulse sensor (PS8) after the shift operation began (shift to the right). • The shift tray home sensor (PS12) is not blocked even after the set period of time has elapsed after the return operation began (shift to the left). • The shift tray home sensor (PS12) is not blocked even after the set pulse is detected by the shift motor pulse sensor (PS8) after the return operation began (shift to the left). • The shift tray stop sensor (PS11) is not unblocked even after the set pulse is detected by the shift motor pulse sensor (PS8) after the return operation began (shift to the left).
C0215	LCT shift motor malfunction	• The shift motor pulse sensor (PS8) cannot detect both edges of H/L even after the set period of time has elapsed while the shift motor (M4) is turning backward/forward (raise/lower).

- Open and close the front door, or turn OFF the main power switch. Then, wait for 10 sec. or more and turn ON the main power switch to reset the malfunction display.

7.2 Solution

7.2.1 C0001: LCT communication error

Relevant electrical parts	
PC control board (PCCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	PCCB replacement	—	—

7.2.2 C0209: LCT elevator motor failure

Relevant electrical parts	
Elevator motor (M5) Elevator motor pulse sensor (PS10)	Relay board (REYB) PC control board (PCCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PS10 I/O check, sensor check	REYB PJ2<A>-5 (ON)	PC-405 K-5
4	M5 operation check	REYB PJ2<B>-6 to 7	PC-405 K-7
5	REYB replacement	—	—
6	PCCB replacement	—	—

7.2.3 C0210: LCT lift failure

Relevant electrical parts	
Lift-up upper sensor (PS4) Lift-up lower sensor (PS13) Elevator motor pulse sensor (PS10) Lower over run sensor (PS7)	PC control board (PCCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PS4 I/O check, sensor check	PCCB PJ5-12 (ON)	PC-405 F-8
3	PS13 I/O check, sensor check	REYB PJ2<A>-9 (ON)	PC-405 K-3
4	PS10 I/O check, sensor check	REYB PJ2<A>-5 (ON)	PC-405 K-5
5	PS7 I/O check, sensor check	REYB PJ2<A>-2 (ON)	PC-405 K-6
6	PCCB replacement	—	—

7.2.4 C0212: LCT lock release failure

Relevant electrical parts	
Tray lock solenoid (SD1)	PC control board (PCCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the SD1 connector for proper connection, and correct as necessary.	—	—
2	SD1 operation check	PCCB PJ7-4 (ON)	PC-405 F-10
3	PCCB replacement	—	—

7.2.5 C0213: LCT shift gate operation failure

Relevant electrical parts	
Division board position sensor (PS14) Division board position motor (M3)	PC control board (PCCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PS14 I/O check, sensor check	REYB PJ2<B>-1 (ON)	PC-405 K-7 to 8
4	M3 operation check	REYB PJ2<B>-2 to 3	PC-405 K-7
5	PCCB replacement	—	—

7.2.6 C0214: LCT shift failure

Relevant electrical parts	
Shift motor pulse sensor (PS8) Shift tray stop sensor (PS11) Shift tray home sensor (PS12)	PC control board (PCCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the sensor connectors for proper connection, and correct as necessary.	—	—
2	PS8 I/O check, sensor check	REYB PJ2<A>-3 (ON)	PC-405 K-6
3	PS11 I/O check, sensor check	REYB PJ2<A>-7 (ON)	PC-405 K-4
4	PS12 I/O check, sensor check	REYB PJ2<A>-8 (ON)	PC-405 K-4
5	PCCB replacement	—	—

7.2.7 C0215: LCT shift motor failure

Relevant electrical parts	
Shift motor (M4) Shift motor pulse sensor (PS8)	PC control board (PCCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the motor and sensor connectors for proper connection, and correct as necessary.	—	—
2	Check the connector of motor for proper drive coupling, and correct as necessary.	—	—
3	PS8 I/O check, sensor check	REYB PJ2<A>-3 (ON)	PC-405 K-6
4	M4 operation check	REYB PJ2<B>-4 to 5	PC-405 K-7
5	PCCB replacement	—	—

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

MB-502

2008.06

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2008/06	1.0	—	Issue of the first edition

CONTENTS

MB-502

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specifications

A. Type

Name	Multiple Bypass Tray
Installation	Screwed to the copier
Registration	Center

B. Paper

Type		Paper source (maximum tray capacity)
Copy paper type	Plain paper (60 to 90 g/m², 16 to 24 lb)	100 sheets
	Thick paper 1 (91 to 150 g/m², 24.2 to 40 lb)	20 sheets
	Thick paper 2 (151 to 209 g/m², 40.2 to 55.6 lb)	
	Thick paper 3 (210 to 256 g/m², 55.9 to 68.1 lb) *1	
	OHP film (crosswise feeding only) *2	
	Label sheets	
	Envelopes	10 sheets
	Postcards	—
	Translucent paper	
Paper size	Metric area	A6S, B6S, A5, A5S, B5, B5S, A4, A4S, A3, A3 Wide, FLS 8-1/2 x 11, 8-1/2 x 14, 11 x 17
	Inch area	B6S, A4, A3, FLS 5-1/2 x 8-1/2, 5-1/2 x 8-1/2S, 7-1/4 x 10-1/2, 7-1/4 x 10-1/2S, 8-1/2 x 11, 8-1/2 x 11S, 8-1/2 x 14, 11 x 17, 12 x 18
Copy paper dimensions	Width	90 to 311.1 mm 3.6 to 12.3 inch
	Length	139.7 to 432 mm 5.5 to 17 inch

*1: Image is not guaranteed when thick paper 3 is used

*2: Monochrome print only.

C. Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main body)
	DC 5 V ± 5 %
Max. Power Consumption	27 W or less
Dimensions	472 mm (W) × 456 mm (D) × 102 mm (H) 18.6 inch (W) × 18.0 inch (D) × 4.0 inch (H)
Weight	2.9 kg (6.4 lb)

D. Operating environment

Conforms to the operating environment of the main body.

NOTE

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

Maintenance

2. Other

2.1 Disassembly/Adjustment prohibited items

A. 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.**

B. 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.**

C. Variable resistors on board

NOTE

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

D. Removal of PWBs

⚠ CAUTION

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

2.2 Disassembly/Assembly/Cleaning list (other parts)

2.2.1 Disassembly/Assembly parts list

No.	Section	Part name	Ref. page
1	Rollers	Manual bypass tray feed roller	P.4
2		Manual bypass tray separation roller	P.6
3	Exterior parts	Manual bypass tray left cover	P.7
4		Manual bypass tray right cover	P.7
5		Manual bypass tray upper cover	P.7
6	Unit	Manual bypass tray unit	P.8

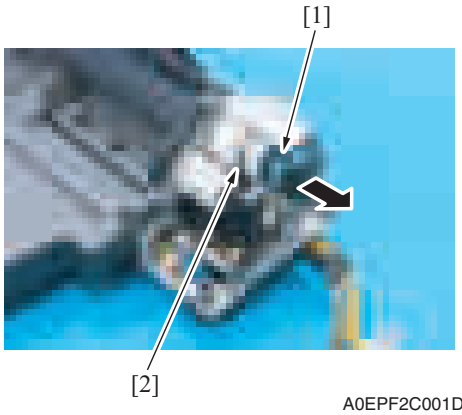
2.2.2 Cleaning parts list

No.	Section	Part name	Ref. page
1	Feed section	Manual bypass tray feed roller	P.10
2		Manual bypass tray separation roller	P.10

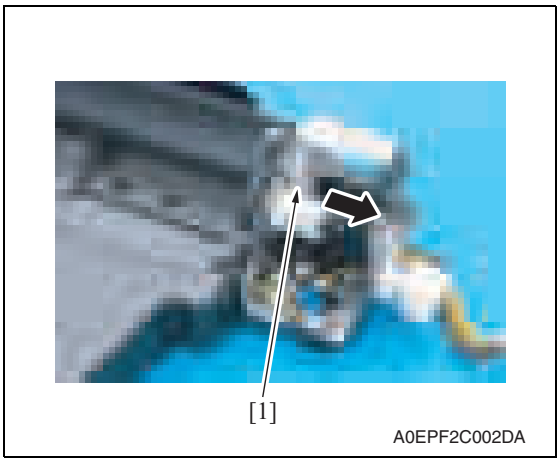
2.3 Disassembly/Assembly procedure

2.3.1 Manual bypass tray feed roller

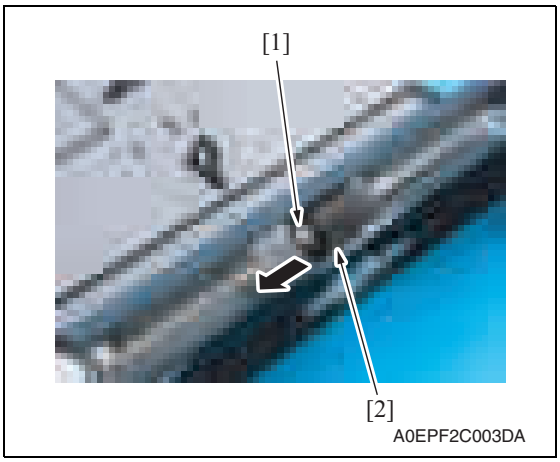
1. Remove the manual bypass tray unit.
See P.8



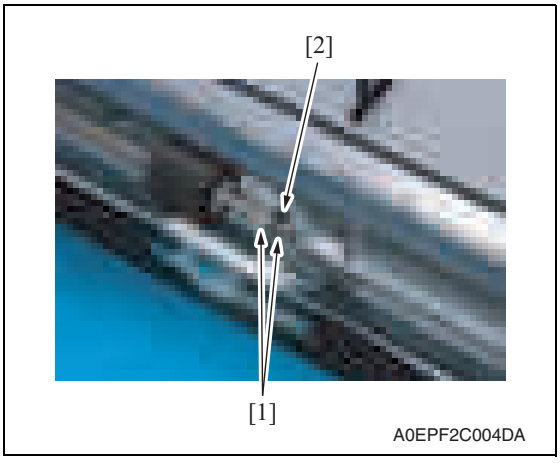
2. Remove the E-ring [1], and remove the paper feed clutch [2].



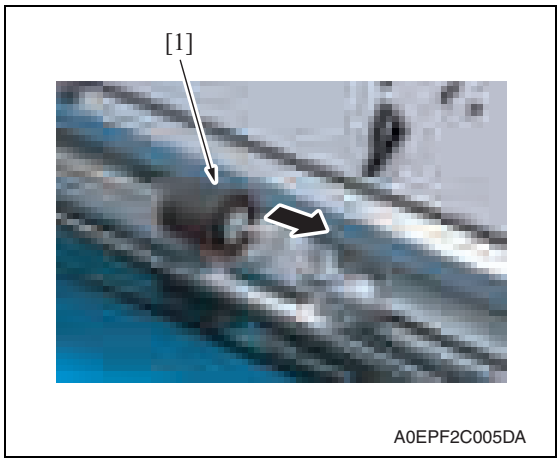
3. Remove the gear [1].



4. Snap off the C-clip [1] and slide the manual bypass feed roller [2] in the direction of the arrow.



5. Remove two C-lings [1] and the bearing [2].

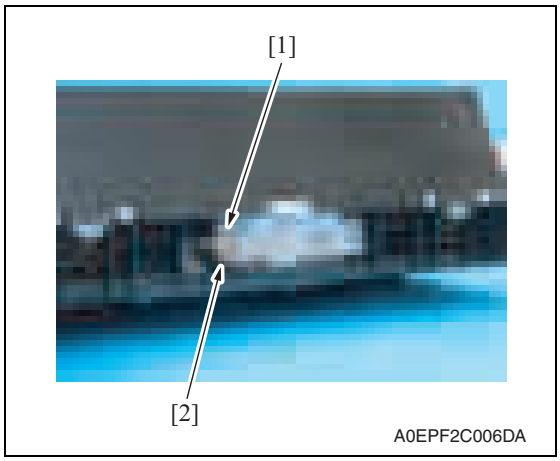


6. Remove the manual bypass tray feed roller [1].

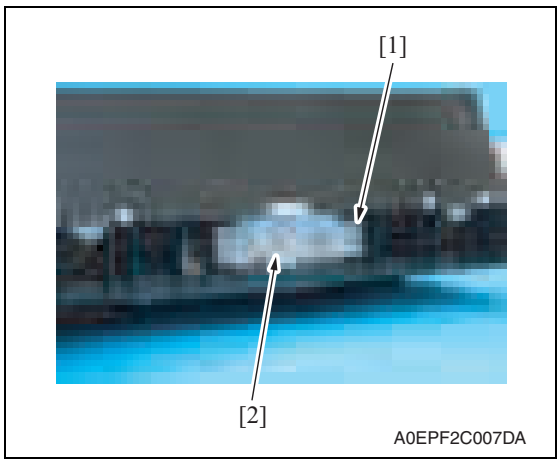
7. To reinstall, reverse the order of removal.

2.3.2 Manual bypass tray separation roller

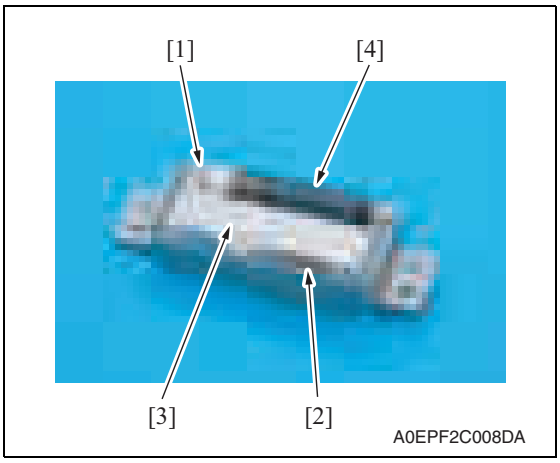
1. Remove the manual bypass tray unit.
See P.8



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



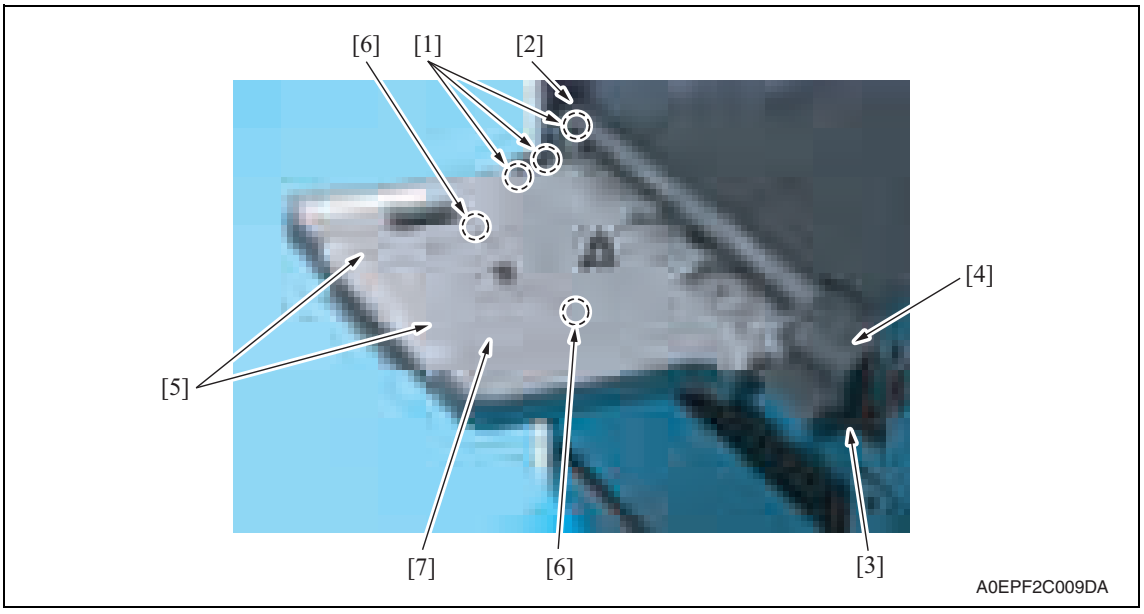
3. Remove the screw [1], and remove the manual bypass tray separation roller assy [2].



4. Snap off the C-ling [1], and remove the spring [2] and the guide plate [3]. Remove the manual bypass tray separation roller [4].

5. To reinstall, reverse the order of removal.

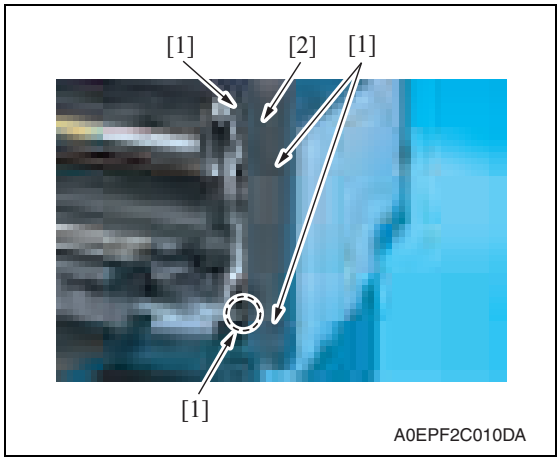
2.3.3 Manual bypass tray left cover / Manual bypass tray right cover / Manual bypass tray upper cover



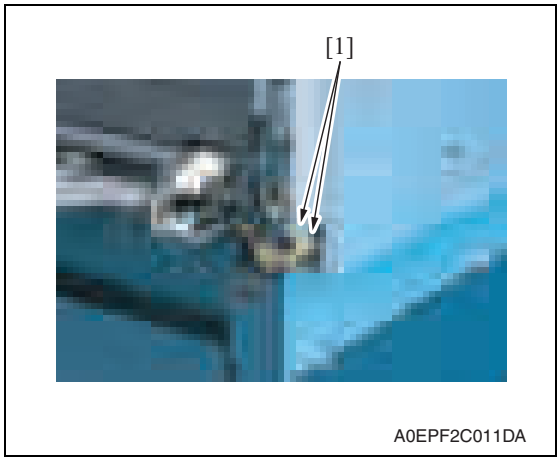
1. Unhook three tabs [1], and remove the manual bypass tray left cover [2].
2. Remove the screw [3], and remove the manual bypass tray right cover [4].
3. Remove two screws [5] and unhook two tabs [6], and remove the manual bypass tray upper cover [7].

2.3.4 Manual bypass tray unit

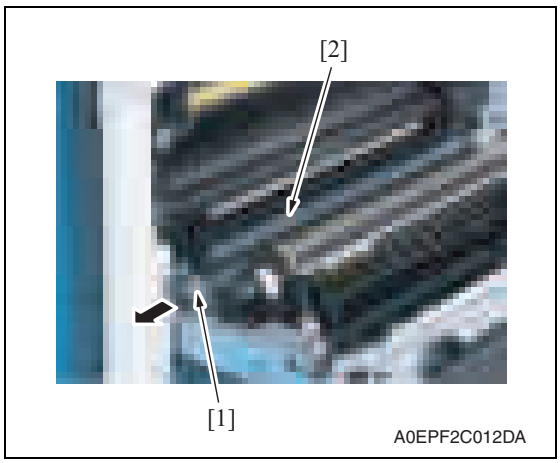
1. Open the right door.



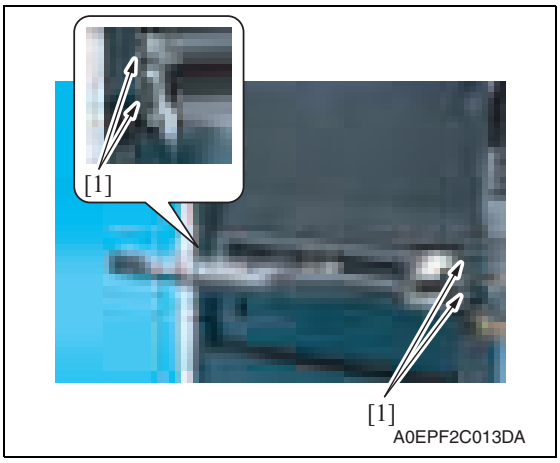
2. Remove four screws [1], and remove the right rear cover [2] of the main body.
3. Close the right door.
4. Remove the manual bypass tray right cover and manual bypass tray left cover. See P.7



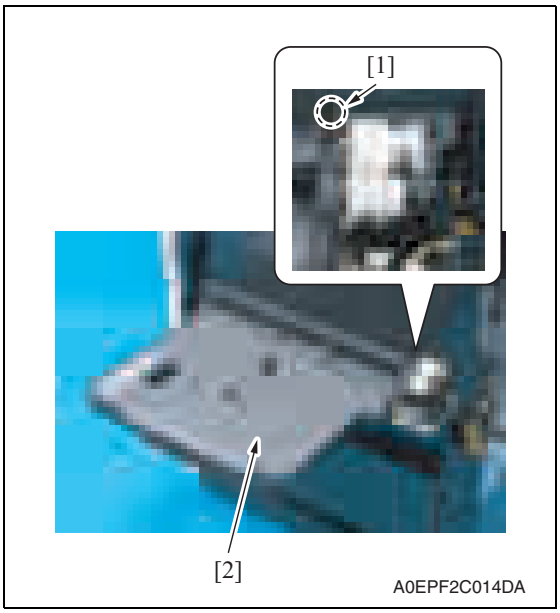
5. Disconnect two connectors [1].



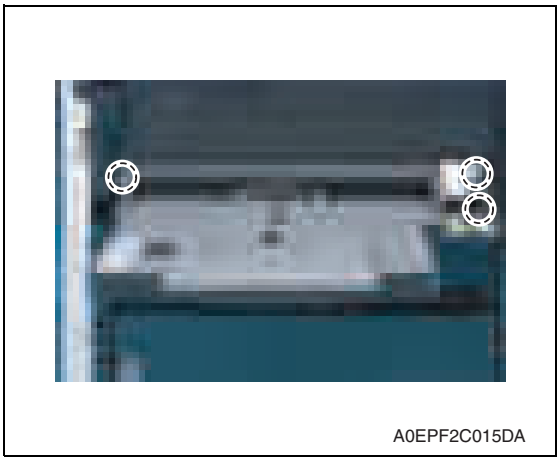
6. Pull off the lever [1] and remove the guide [2].



7. Remove four screws [1].



8. Loosen the screw [1], and remove the manual bypass tray unit [2].



NOTE

- **When installing the multi bypass unit, fit the position of dowel shown in the left illustration.**

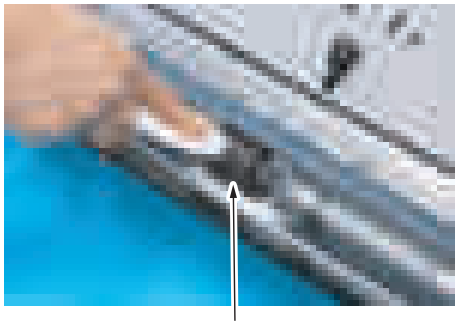
2.4 Cleaning procedure

NOTE

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

2.4.1 Manual bypass tray feed roller

1. Remove the manual bypass tray unit.
See P.8



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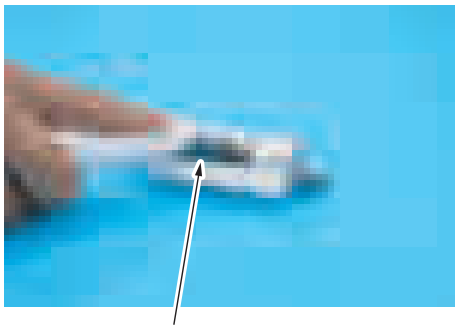
2. Using a cleaning pad dampened with alcohol, wipe the manual bypass tray feed roller [1] clean of dirt.

2.4.2 Manual bypass tray separation roller

1. Remove the manual bypass tray unit.
See P.8
2. Remove the manual bypass tray separation roller assy.
See the procedures 1 to 3 in P.6 “Manual bypass tray separation roller.”



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

Adjustment/Setting

3. 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 “ ”.

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

- **Be sure to unplug the power cord of the machine before starting the service job procedures.**
- **If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the scanner cables or gears of the exposure unit.**
- **Special care should be used when handling the fusing unit which can be extremely hot.**
- **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.**

4. State Confirmation

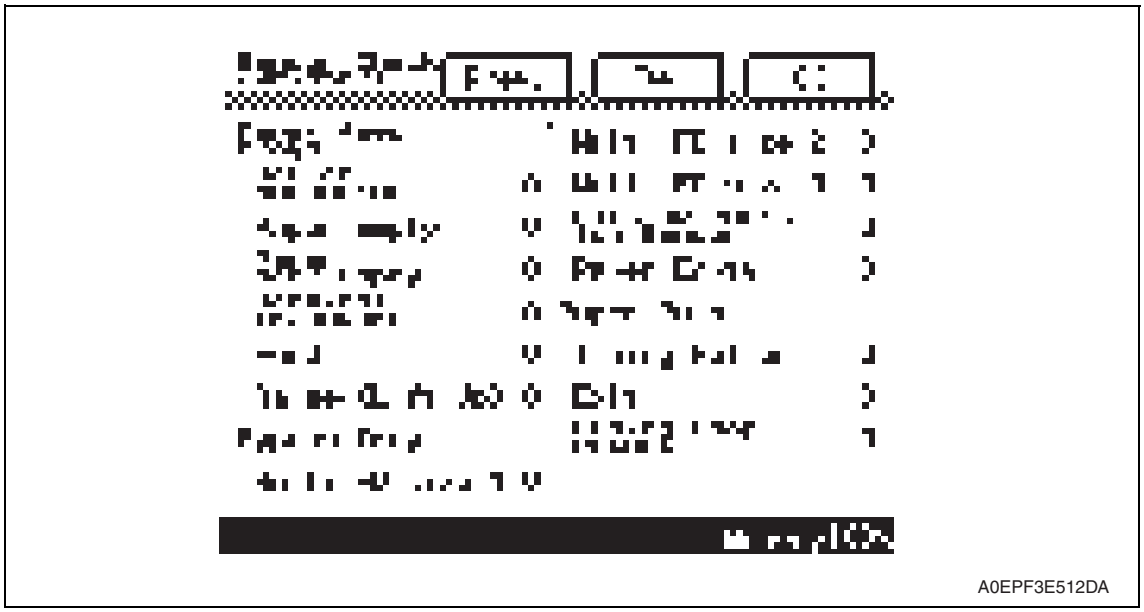
4.1 Check procedure

A. Procedure

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check (Printer)].
4. Touch [Fwd].

4.2 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



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4.3 Sensor check list

Symbol	Panel display		Part/Signal name	Operation characteristics/Panel display	
				1	0
PS20	Bypass Tray	Multi FD size 1	FD size sensor/1	ON	OFF
PS21		Multi FD size 2	FD size sensor/2	ON	OFF
PS22		Multi FD size 3	FD size sensor/3	ON	OFF
PS14		Lift-Up Position Sensor	Lift-up position sensor	Raised Position	Not raised
PS13		Paper Empty	Paper empty sensor	Paper not present	Paper present

5. Machine Adjustment

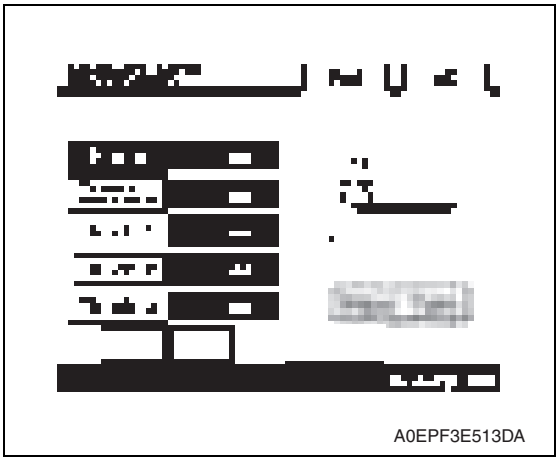
5.1 Printer Area

5.1.1 Leading Edge Adjustment

NOTE

- **Make this adjustment after any of the following procedures has been performed.**
  When the PH unit has been replaced.
  When the image on the print is offset in the sub scan direction.
  A faint image occurs on the leading edge of the image.

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [Machine Adjustment] → [Printer Area] → [Leading Edge Adjustment].



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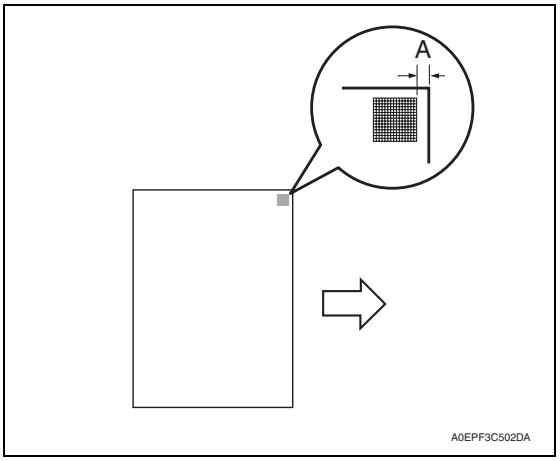
3. Touch [Plain].
4. Press the Start key to let the machine produce a test print.
5. Touch [OK].



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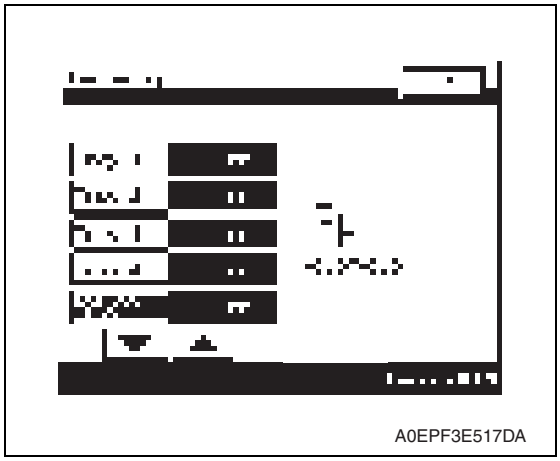
6. Measure the width of printed reference line A.
   Specification: 4.2 mm ± 0.5 mm
7. If the measured width A falls outside the specified range, enter the correction value using the [▼] or [▲] key.
8. Produce another test print and check to see if width A falls within the specified range.
9. Following the same procedure, adjust for transparency, thick 1 to 3, and envelope.
10. Touch [OK].
11. Touch [OK] on the Service Mode screen.
12. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

5.1.2 Centering

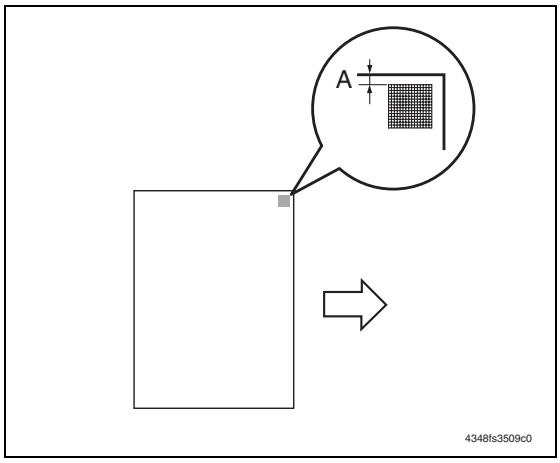
NOTE

- **Make this adjustment after any of the following procedures has been performed.**
  When the PH unit has been replaced.
  When the image on the print is offset in the main scan direction.

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [Machine Adjustment] → [Printer Area] → [Centering].



3. Touch [Bypass Tray].
4. Press the Start key to let the machine produce a test print.
5. Touch [OK].

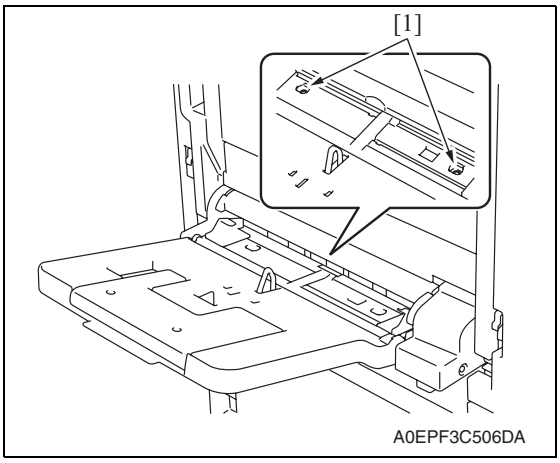


6. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 1.0 mm
7. If the measured width A falls outside the specified range, enter the correction value using the [▼] or [▲] key.

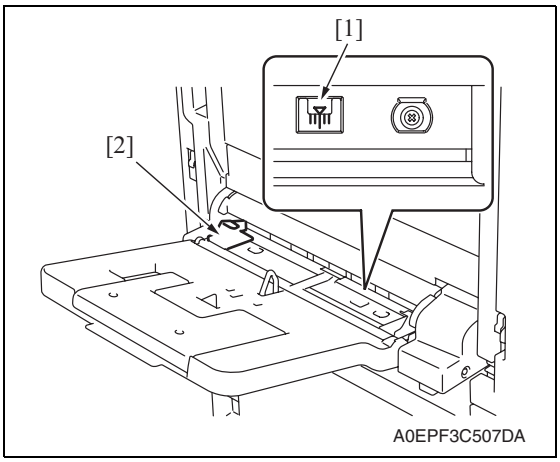
8. Produce another test print and check to see if width A falls within the specified range.

NOTE

- **If the use of the [▼] or [▲] key does not allow the measurement to fall within the specified range, perform the following steps.**



9. Loosen two screws [1].



10. Watching the gradations [1] provided in the multi bypass tray, move the edge guide [2] position.

- If width A is greater than the specified value, move the edge guide toward the right.
- If width A is smaller than the specified value, move the edge guide toward the left.

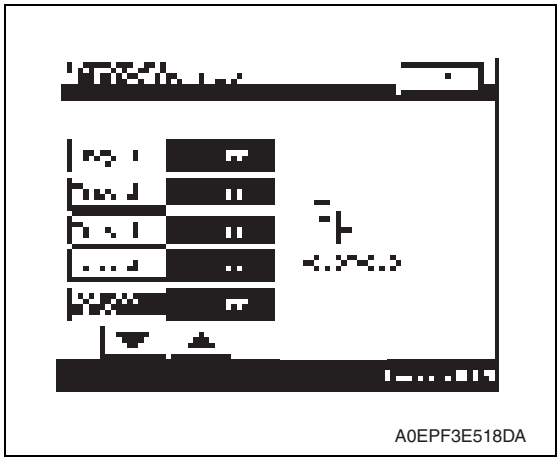
11. Perform another test print and check the reference deviation.
12. Repeat the adjustment until the reference line falls within the specified range.
13. Tighten the adjustment screw.
14. Touch [OK].
15. Touch [OK] on the Service Mode screen.
16. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

5.1.3 Centering (Duplex 2nd side)

NOTE

- **Make this adjustment after any of the following procedures has been performed.**
  When the PH unit has been replaced.
  The image on the backside of the 2-sided copy deviates in the main scan direction.

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [Machine Adjustment] → [Printer Area] → [Centering (Duplex 2nd side)].



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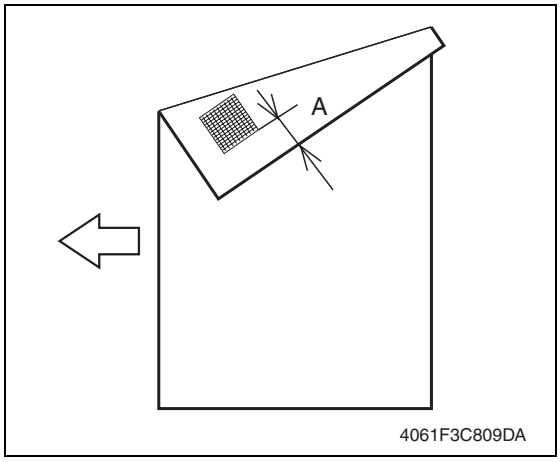
3. Touch [Bypass Tray].
4. Press the Start key to let the machine produce a test print.
5. Touch [OK].



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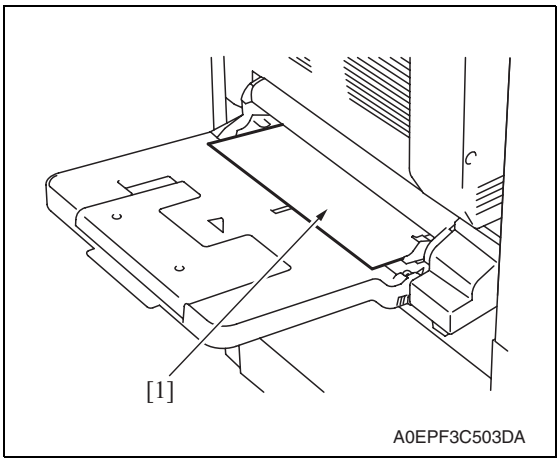
6. Measure the width of printed reference line A.
   Specification: 3.0 mm ± 2.0 mm
7. If the measured width A falls outside the specified range, enter the correction value using the [▼] or [▲] key.
8. Produce another test print and check to see if width A falls within the specified range.
9. Touch [OK].
10. Touch [OK] on the Service Mode screen.
11. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

5.2 Manual Bypass Tray Adjustment

NOTE
Make this adjustment after any of the following procedures has been performed.
Upon setup of the Manual bypass tray unit.
Use when the manual bypass paper size unit of the manual bypass guide has been changed.
Use when a false paper size is displayed when the manual bypass is used.

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [Machine Adjustment] → [Manual Bypass Tray Adjustment].
3. Touch [Max. Width].



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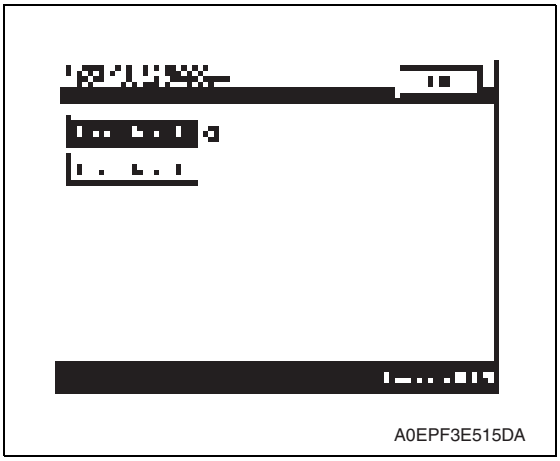
4. Place the adjustment sheet (width: 297 mm) [1] on the manual bypass tray as illustrated.
5. Press the Start key.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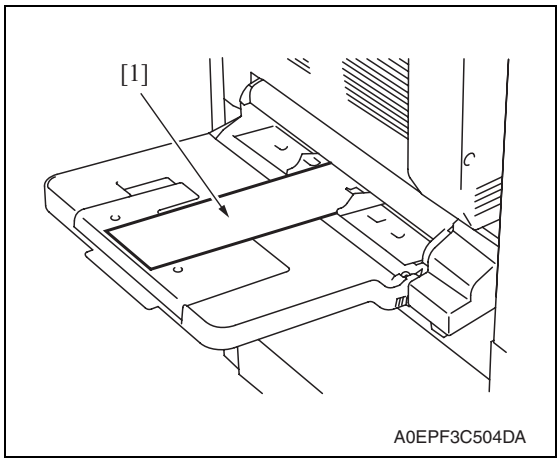
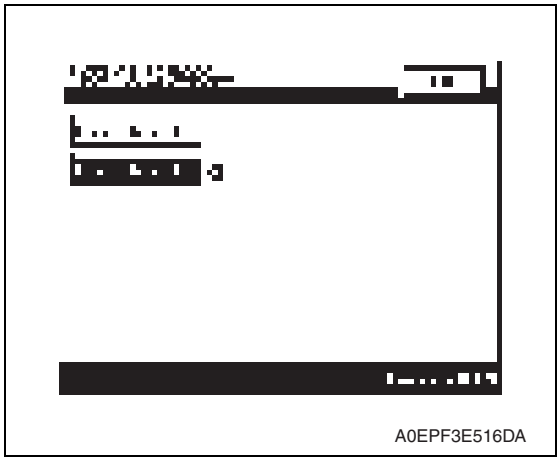
6. Check that “OK” appears beside [Max. Width].

NOTE
- **Make the adjustment again if the results are “NG”.**

7. Touch [Min. Width].



8. Place the adjustment sheet (width: 100 mm) [1] on the manual bypass tray as illustrated.
9. Press the Start key.



10. Check that “OK” appears beside [Min. Width].

NOTE

- **Make the adjustment again if the results are “NG”.**

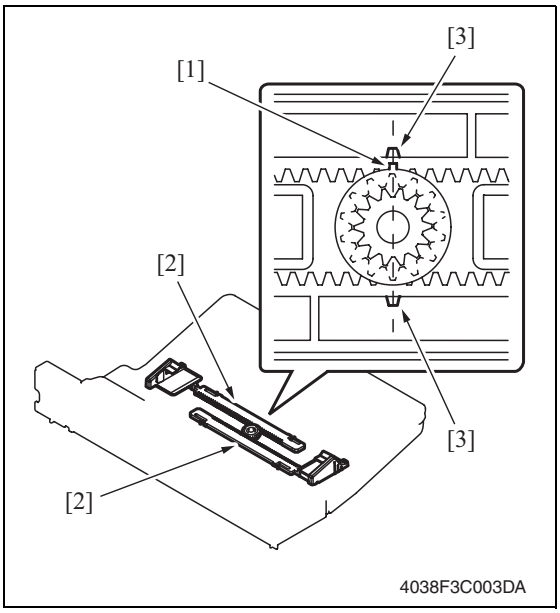
11. Press the Start key.
12. Touch [OK].
13. Touch [OK] on the Service Mode screen.
14. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

6. Mechanical adjustment

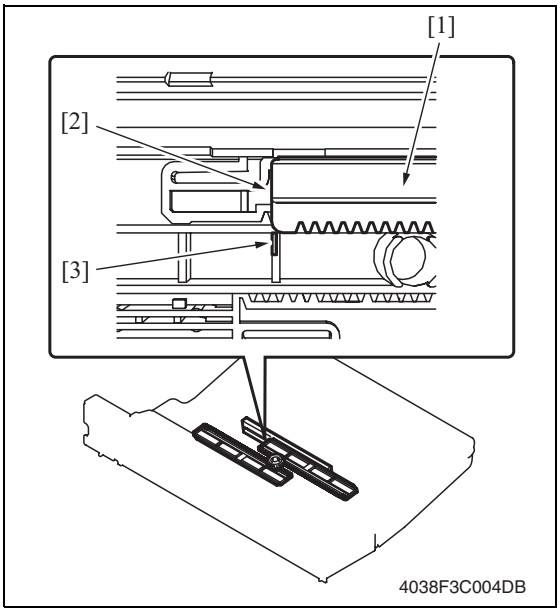
6.1 Adjustment of the bypass paper size unit

NOTE

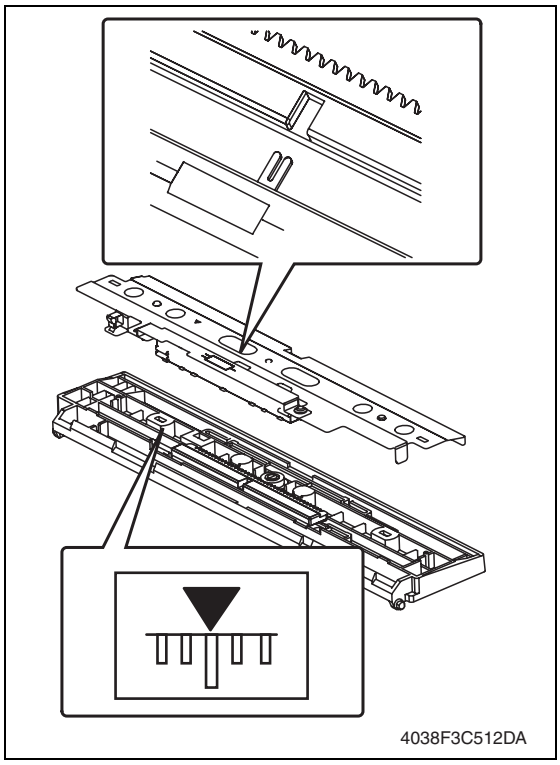
- **This adjustment must be made in the following case:**
  The bypass paper size unit has been removed.



1. Install the gear so that the protrusion of the gear [1] and the mark [3] on the bypass guide rack gear [2] are aligned in a straight line.



2. Install the bypass unit cover so that part A (edge) [2] of the rack gear [1] for the bypass paper size unit and part B [3] of the bypass unit cover are aligned in a straight line.



3. When the bypass paper size unit base is mounted, align the lever position of the bypass paper size unit with the tab at the center in a straight line.

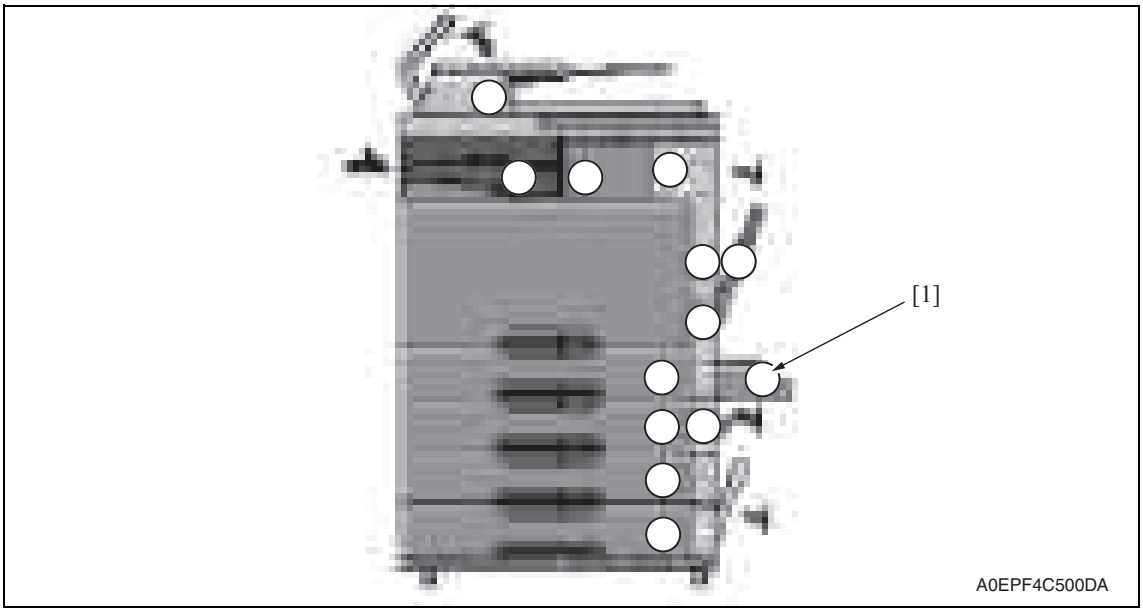
4. After the bypass paper size unit base has been mounted, check that the lever of the bypass paper size unit moves smoothly in a manner operatively connected to the bypass guide.
5. Call the Service Mode to the screen and select [Machine] → [Manual Bypass Tray Adjustment]. Then, carry out manual bypass tray adjustment.
See P.17

Troubleshooting

7. Jam display

7.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main body.

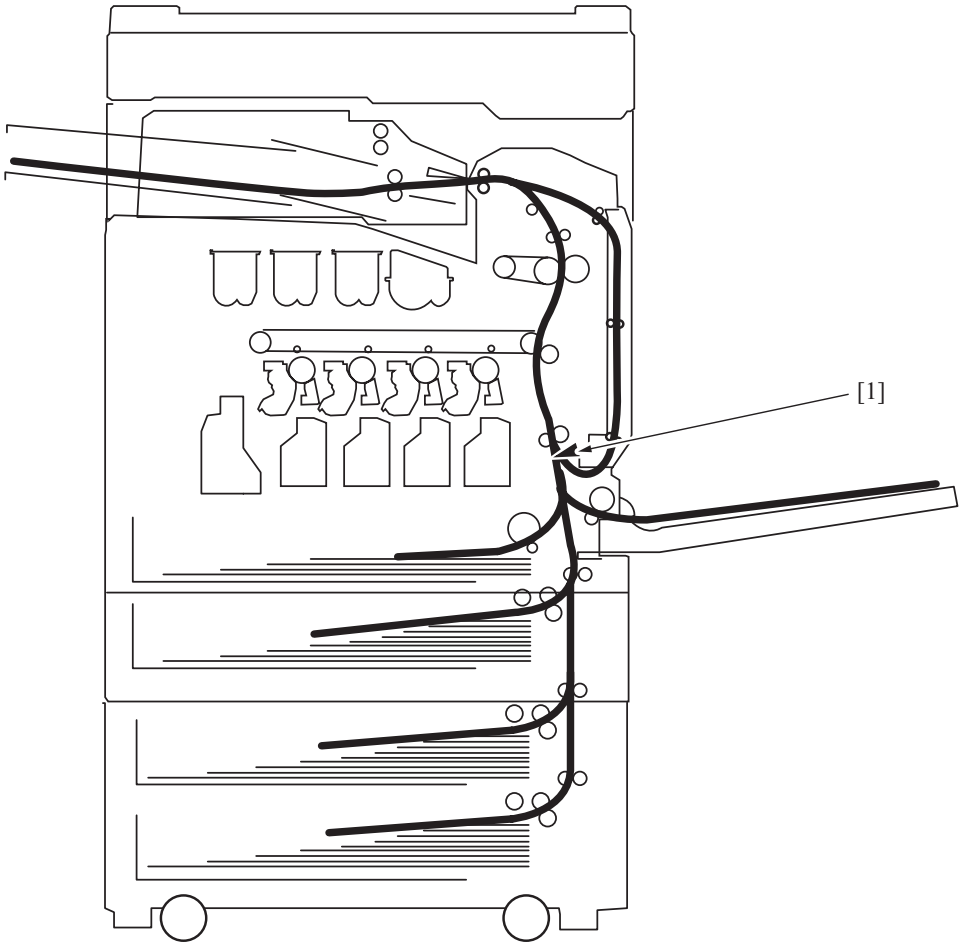


No.	Code	Misfeed location	Misfeed access location	Action
[1]	1001	Misfeed at manual bypass feed section	Right door	P.23

7.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

7.2 Sensor layout



[1] Sensor in front of tim. roller (PS1)

7.3 Solution

7.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
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.

7.3.2 Misfeed at manual bypass feed section

A. Detection timing

Type	Description
Detection of misfeed at manual bypass feed section	• The leading edge of the paper does not block the sensor in front of tim. roller (PC1) even after the lapse of a given period of time after the paper feed clutch (CL5) has been energized.
Manual bypass feed section loop registration reversing jam	• Rise timing of load for registration is earlier than the one for making the loop at front of the registration roller at bypass feed.
Manual bypass feed section TOD permit waiting jam	• For paper fed from the manual bypass, TOD permit continues to be disabled for a predetermined period of time after the timing of TOD output.

B. Action

Relevant electrical parts	
Sensor in front of tim. roller (PS1) Paper feed clutch (CL5)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial check items	—	—
2	PS1 I/O check, sensor check	PRCB CN1-3 (ON)	bizhub C200 C to D-19
3	CL5 operation check	PRCB CN11-2 (ON)	MB-502 D-2 to 3
4	PRCB replacement	—	—

8. Trouble code

8.1 Trouble code

- The main unit's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the touch panel.

Code	Item	Description
C0211	Manual feed up/down abnormality	• The lift-up position sensor (PS14) is not unblocked even when the transport motor has turned for a given number of pulses after the sequence to move the paper lifting plate from the standby position to the feed position was started. • The lift-up position sensor (PS14) is not blocked even when the transport motor has turned for a given number of pulses after the sequence to move the paper lifting plate from the feed position to the standby position was started.

- Open and close the front door, or turn OFF the main power switch. Then, wait for 10 sec. or more and turn ON the main power switch to reset the malfunction display.

8.2 Solution

8.2.1 C0211: Manual feed up/down abnormality

Relevant electrical parts	
Transport motor (M1) Manual pick-up solenoid (SD2) Lift-up position sensor (PS14)	Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Check the M1 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M1 for proper drive coupling and correct as necessary.	—	—
3	PS14 I/O check, sensor check	PRCB CN10-15 (ON)	MB-502 D-5
4	SD2 operation check	PRCB CN11-4 (ON)	MB-502 D-3
5	M1 operation check	PRCB CN-27-11 to 15	bizhub C200 C to D-23
6	SD2 replacement	—	—
7	M1 replacement	—	—
8	PRCB replacement	—	—

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

AD-505

2008.12

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 2.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2008/12	2.0	△1	Error corrections
2008/06	1.0	—	Issue of the first edition

CONTENTS

AD-505

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specification

A. Type

Name	Duplex Unit
Type	Switchback and Circulating Duplex Unit
Installation	Mounted on the right side door of main body
Document Alignment	Center

- When the optional automatic duplex unit AD-505 is mounted, the optional expanded memory unit EM-310 is required for duplex printing from the PC.

B. Paper

Type	Size	Capacity
Plain paper (64 to 90 g/m², 17 to 24 lb)	Metric area : A5S, B5, B5S, A4, A4S, A3 8K, 16K, 16KS, FLS Inch area : 5-1/2 x 8-1/2S, 7-1/4 x 10-1/2, 7-1/4 x 10-1/2S, 8-1/2 x 11, 8-1/2 x 11S, 8-1/2 x 14, 11 x 17	
Thick paper 1 (91 to 150 g/m², 24.2 to 40 lb)		
Thick paper 2 (151 to 209 g/m², 40.2 to 55.6 lb)		
Thick paper 3 *1 (210 to 256 g/m², 55.9 to 68.1 lb)		
Copy paper dimensions	Width	139.7 to 311.1 mm 5.5 to 12.3 inch
	Length	176 to 457.2 mm 7.0 to 18 inch

*1: Image is not guaranteed when thick paper 3 is used.

C. Machine specifications

Power Requirements	DC 24 V ± 10 % (supplied from the main body)
	DC 5 V ± 5 %
Max. Power Consumption	31 W or less
Dimensions	156 mm (W) × 438 mm (D) × 343 mm (H) 6.2 inch (W) × 17.3 inch (D) × 13.5 inch (H)
Weight	3.2 kg / 7.1 lb

D. Operating environment

Conforms to the operating environment of the main body.

NOTE

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

Blank Page

Maintenance

2. Other

2.1 Disassembly/adjustment prohibited items

A. 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.**

B. 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.**

C. Variable resistors on board

NOTE

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

D. Removal of PWBs

⚠ CAUTION

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

2.2 Disassembly/Assembly/Cleaning list (other parts)

2.2.1 Disassembly/Assembly parts list

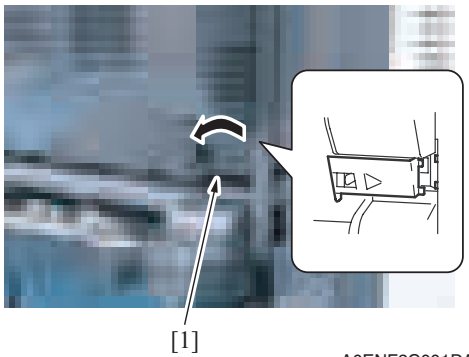
No.	Section	Part name	Ref. page
1	Unit	Duplex unit	P.4
2	Exterior parts	Right cover	P.5
3	PWBs	Duplex unit control board (DCB)	P.6
4	Motors	Switchback motor (M1)	P.7
5		Duplex unit transport motor (M2)	P.8

2.2.2 Cleaning parts list

No.	Section	Part name	Ref. page
1	Transport section	Transport roller / roll 1	P.9
2		Transport roller / roll 2	P.9
3		Transport roller / roll 3	P.10
4	Other	Ventilation section	P.10

2.3 Disassembly/Assembly procedure

2.3.1 Duplex unit



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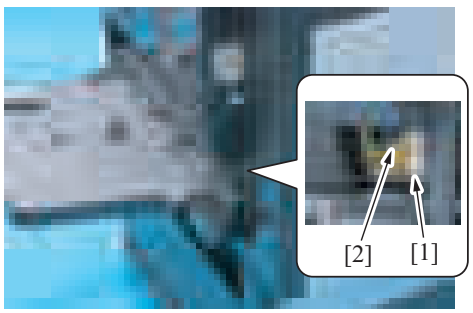
1. Release the tab, and remove the connector cover [1].



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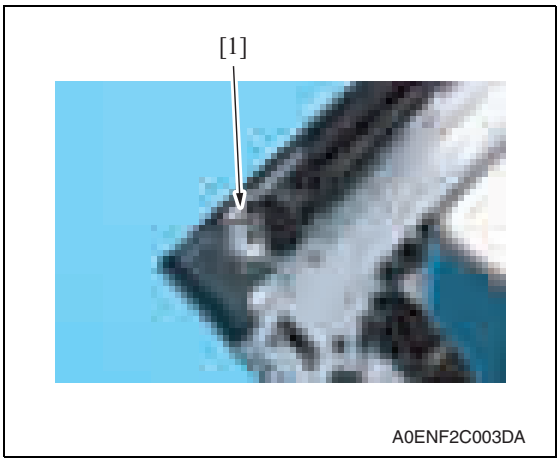
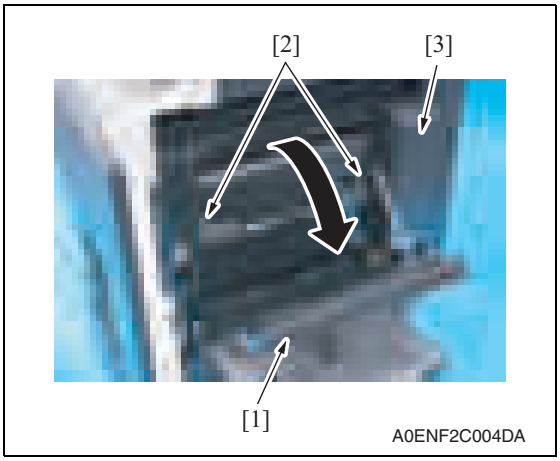
2. Disconnect the connector [1].
3. Remove the screw [2] and remove the ground wire.

4. Open the right door.

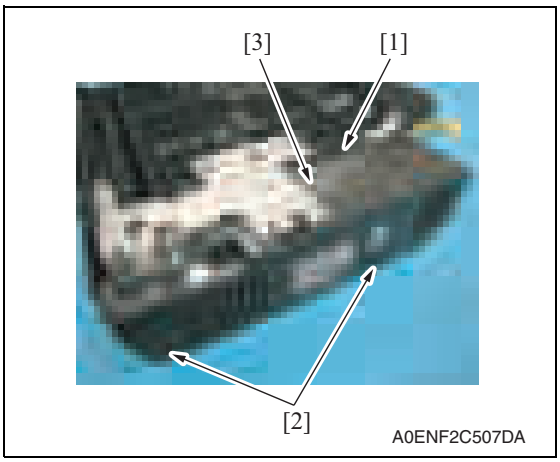


5. Remove the screw [1].



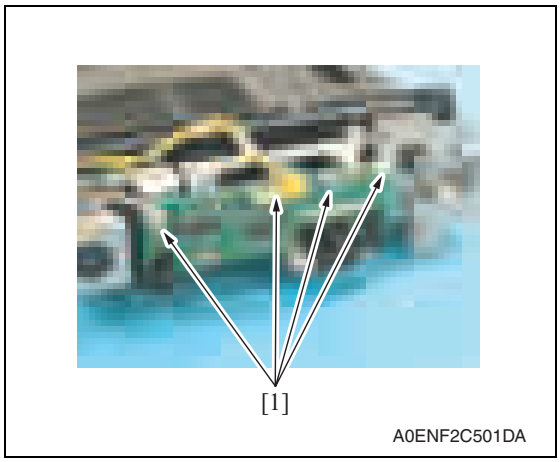
6. Open the duplex unit door [1].
7. Remove two shoulder screws [2], and remove the duplex unit [3].

2.3.2 Right cover

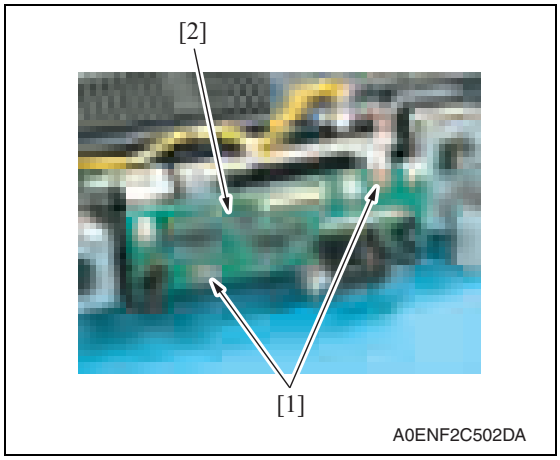


1. Loosen the screw [1], and remove two screws [2], and remove the right cover [3].

2.3.3 Duplex unit control board (DCB)



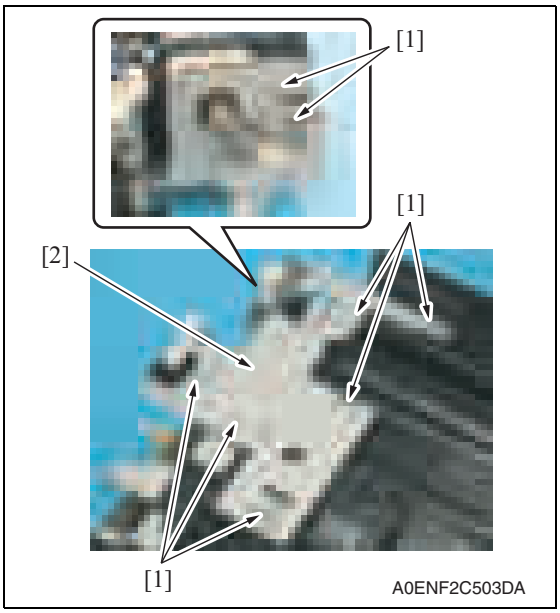
1. Disconnect four connectors [1].



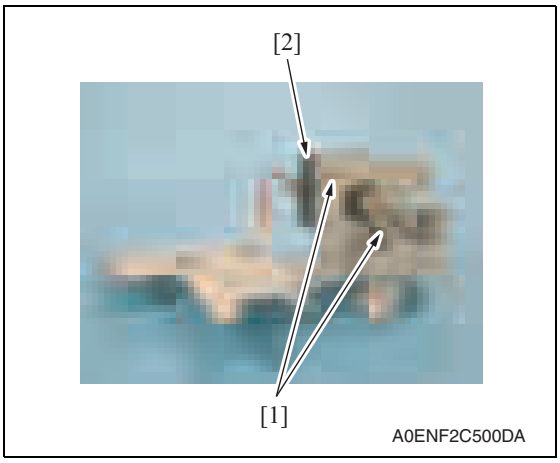
2. Remove two screws [1], and remove the duplex unit control board [2].

2.3.4 Switchback motor (M1)

1. Remove the right cover.
See P.5
2. Remove the duplex unit control board.
See P.6



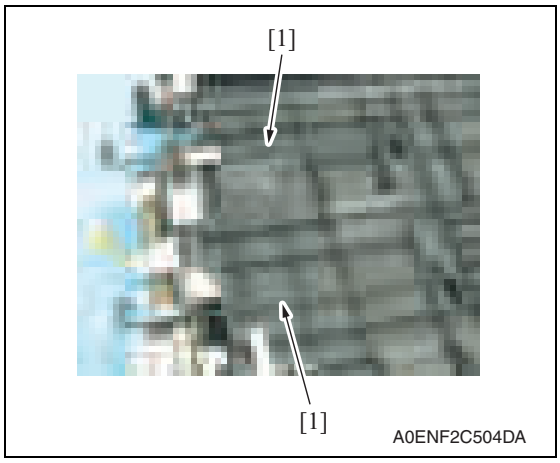
3. Remove eight screws [1], and remove the switchback motor assy [2].



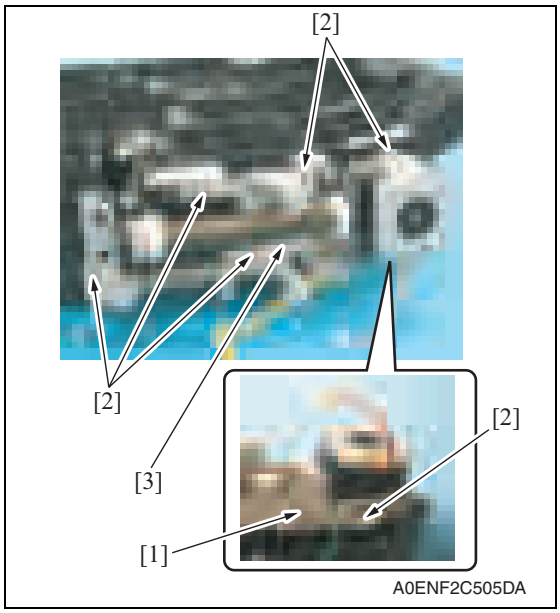
4. Remove two screws [1], and remove the switchback motor [2].

2.3.5 Duplex unit transport motor (M2)

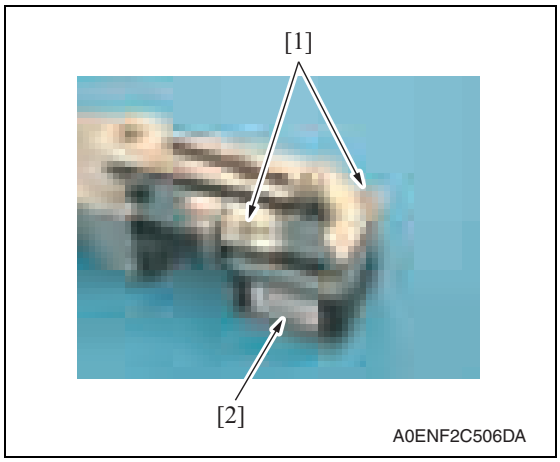
1. Remove the switchback motor assy.
See the procedures 1 to 3 in P.7 “Switch back motor (M1)”.



2. Remove two actuators [1].



3. Remove the screw [1] and remove the ground wire.
4. Remove six screws [2], and remove duplex unit transport motor assy [3].



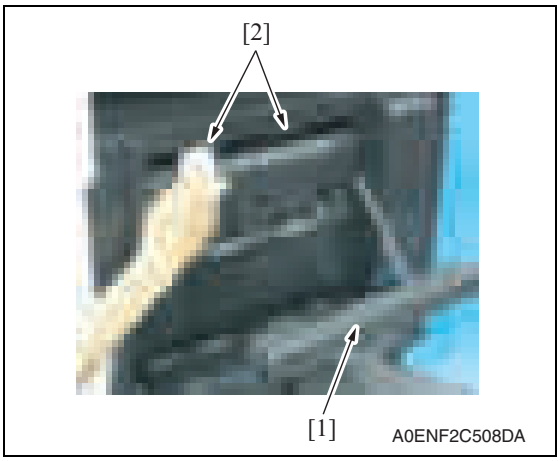
5. Remove two screws [1], and remove the duplex unit transport motor [2].

2.4 Cleaning procedure

NOTE

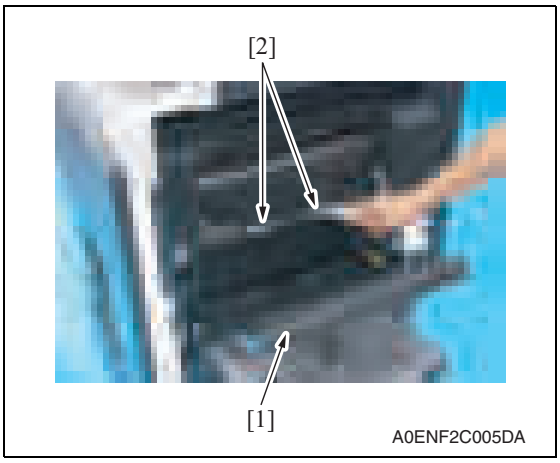
- **The alcohol described in the cleaning procedure represents the isopropyl alcohol.**

2.4.1 Transport roller / roll 1



1. Open the duplex unit door [1].
2. Using a cleaning pad dampened with alcohol, wipe the transport roller / roll 1 [2] clean of dirt.

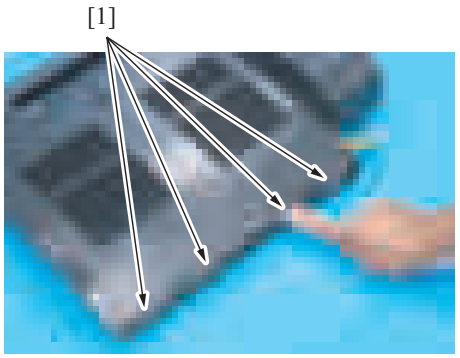
2.4.2 Transport roller / roll 2



1. Open the duplex unit door [1].
2. Using a cleaning pad dampened with alcohol, wipe the transport roller / roll 2 [2] clean of dirt.

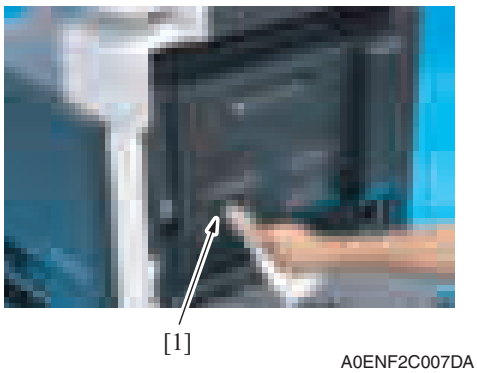
2.4.3 Transport roller / roll 3

1. Remove the duplex unit.
See P.4

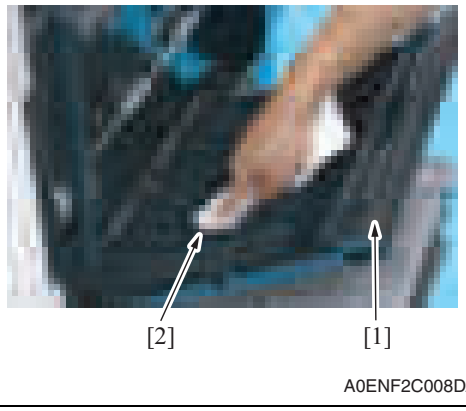


2. Using a cleaning pad dampened with alcohol, wipe the transport roller / roll 3 [1] clean of dirt.

2.4.4 Ventilation section



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



2. Open the duplex unit door [1].
3. Using a cleaning pad dampened with alcohol, wipe the inside of the ventilation section [2] clean of dirt.

Adjustment/Setting

3. 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 " ".

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 fusing 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.**

4. State Confirmation

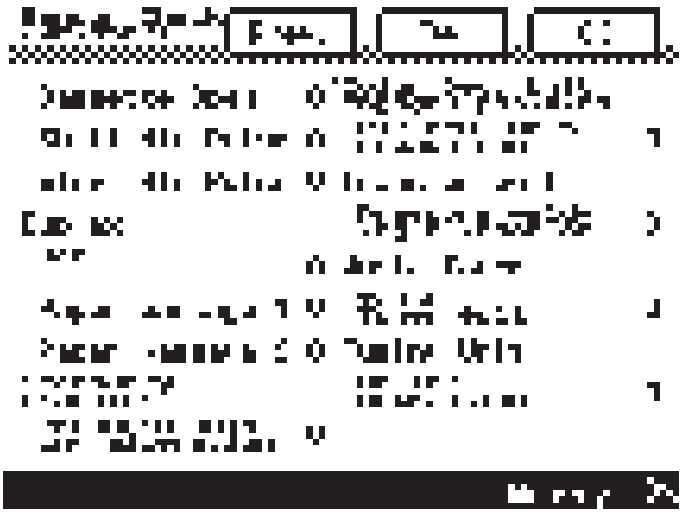
4.1 Sensor check procedure

A. Procedure

1. Display the Service Mode screen.
   See P.158 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check (Printer)].
4. Touch three times [Fwd].

4.2 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



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4.3 Sensor check list

Symbol	Panel display		Part/Signal name	Operation characteristics/Panel display	
				1	0
PS1	Duplex	Set	Duplex unit set sensor	Open	Close
—		Paper passage 1	Duplex paper passage sensor/1	Paper present	Paper not present
—		Paper passage 2	Duplex paper passage sensor/2	Paper present	Paper not present

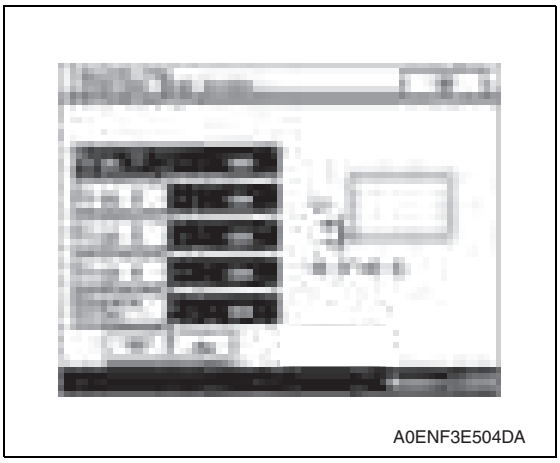
5. Machine Adjustment

5.1 Printer Area

5.1.1 Centering (Duplex 2nd Side)

NOTE
Make this adjustment after any of the following procedures has been performed.
The image on the backside of the 2-sided copy deviates in the main scan direction.

1. Call the Service Mode to the screen.
See P.158 of the main body service manual.
2. Touch [Machine Adjustment] → [Printer Area] → [Centering (Duplex 2nd Side)].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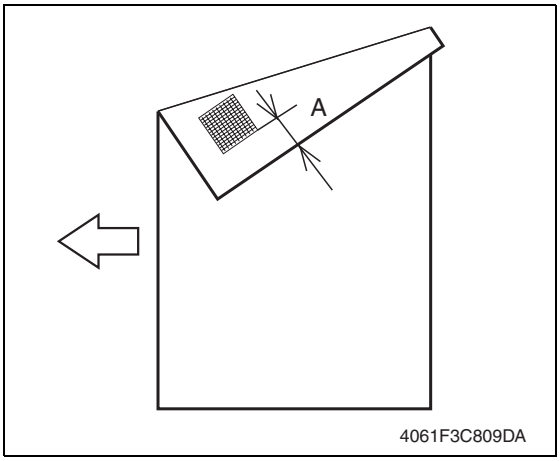
3. Touch [Tray 1].
4. Press the Start key to let the machine produce a test print.
5. Touch [OK].



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6. Measure the width of printed reference line A.
Specification: 3.0 mm ± 2.0 mm
7. If the measured width A falls outside the specified range, enter the correction value using the [▼] or [▲] key.
8. Produce another test print and check to see if width A falls within the specified range.
9. Perform the same check and adjustment procedures for the subsequent drawers.
10. Touch [OK].
11. Touch [OK] on the Service Mode screen.
12. Turn OFF the main power switch, then wait for 10 sec. or more and turn ON the main power switch.

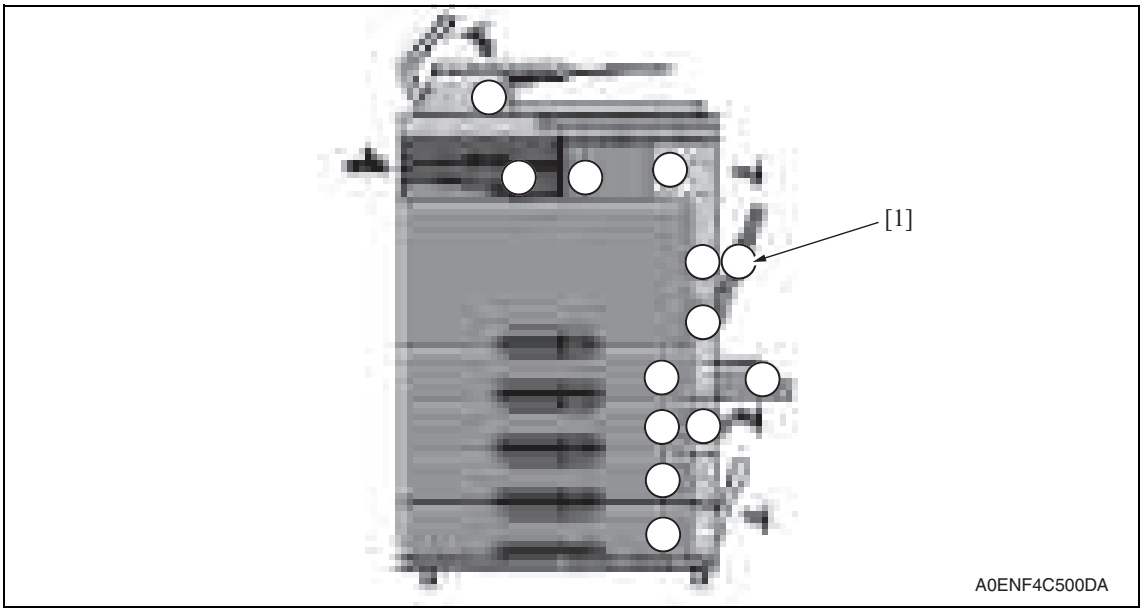
Blank Page

Troubleshooting

6. Jam display

6.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main body.

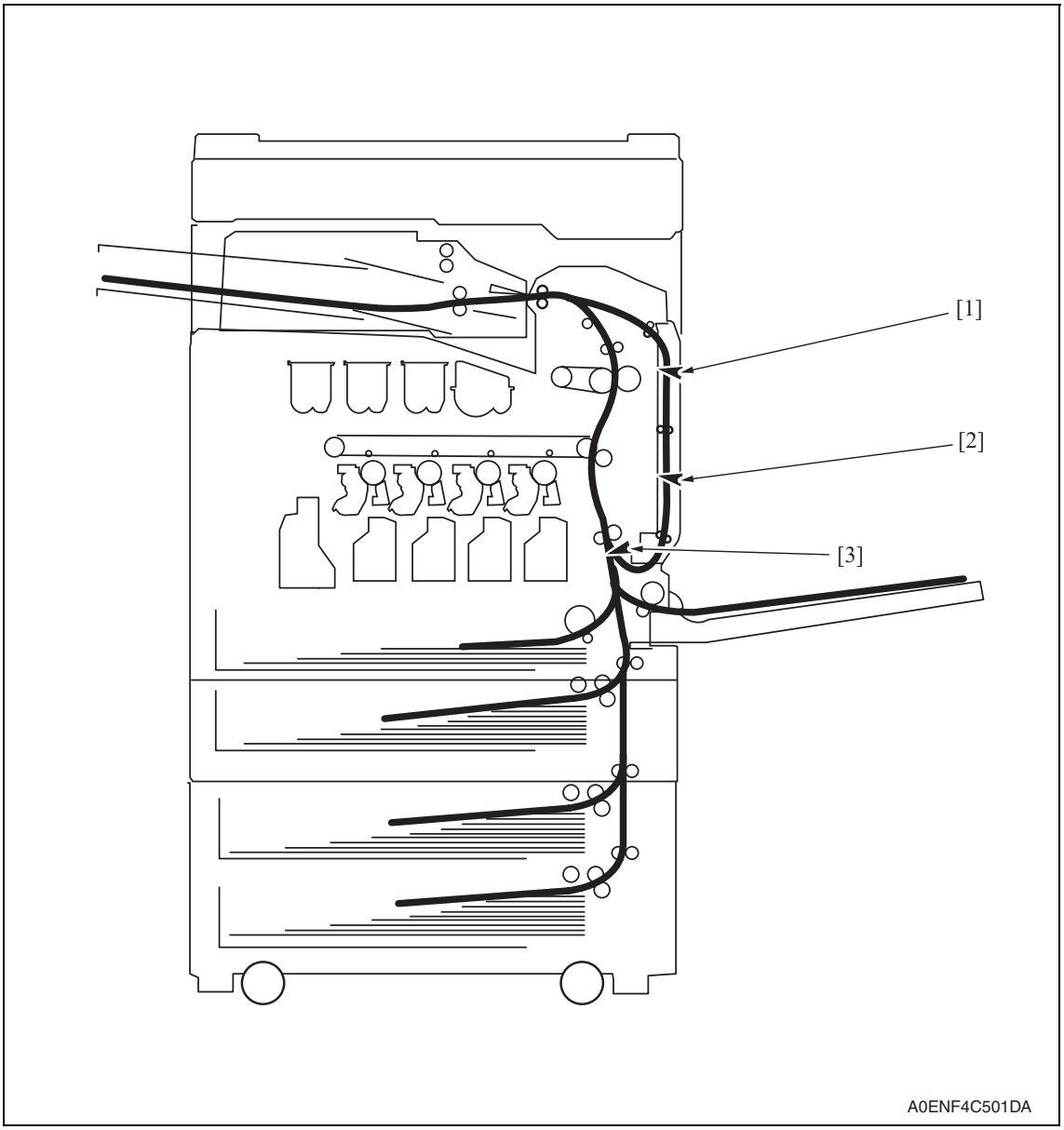


Display	Code	Misfeed location	Misfeed processing location	Action
[1]	9201	Duplex unit pre-registration section misfeed	Duplex unit door	P.17
	9301	Duplex unit transport section misfeed		P.17

6.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

6.2 Sensor layout



[1] Duplex paper passage sensor/1
[2] Duplex paper passage sensor/2
[3] Sensor in front of tim. roller (PS1)

6.3 Solution

6.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp?	Change the paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change 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 found operational when checked for correct operation?	Correct or change the defective actuator.

6.3.2 Duplex unit pre-registration section misfeed

A. Detection timing

Type	Description
Detection of misfeed at Duplex pre-registration section	• The leading edge of the paper does not turn ON the sensor in front of tim. roller (PS1) even after the lapse of a given period of time after a duplex paper feed sequence has been started.
Duplex pre-registration section loop registration reversing jam detection	• For the second-side feed of paper in the duplex mode, loop forming has not been complete before the second side of a sheet enters the timing roller because the rise timing of load to perform registration is earlier than the rise timing of load to form a loop.
Duplex pre-registration section image write start signal permit waiting jam	• For the second-side feed of paper in the duplex mode, image write start signal permit continues to be disabled for a predetermined period of time after the timing of image write start signal output.

B. Action

Relevant electrical parts	
Duplex unit transport motor (M2) Sensor in front of tim. roller (PS1)	Duplex unit control board (DCB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	PS1 I/O check, sensor check	PRCB CN1-3 (ON)	bizhub C200 C to D-19
3	M2 operation check	DCB CN4-1 to 4	AD-505 F-4
4	Change DCB	—	—
5	Change PRCB	—	—

6.3.3 Duplex unit transport section misfeed

A. Detection timing

Type	Description
Detection of misfeed at duplex transport section	• A sheet of paper does not unblock the duplex paper passage sensor/2 after a predetermined period of time has elapsed since the sheet blocks the duplex paper passage sensor/1.
	• A sheet of paper does not unblock the duplex paper passage sensor/1 after a predetermined period of time has elapsed since the sheet blocks the duplex paper passage sensor/1.
	• A sheet of paper does not block the duplex paper passage sensor/2 after a predetermined period of time has elapsed since the sheet unblocks the duplex paper passage sensor/2.
Detection of paper left in duplex transport section	• The duplex paper passage sensor/1 is blocked, or the duplex paper passage sensor/2 is unblocked when the main power switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Duplex paper passage sensor/1 Duplex paper passage sensor/2 Duplex unit transport motor (M2) Switchback motor (M1)	Duplex unit control board (DCB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Initial check items	—	—
2	Duplex paper passage sensor/1 I/O check, sensor check	—	AD-505 E-3
3	Duplex paper passage sensor/2 I/O check, sensor check	—	AD-505 E-3 to 4
4	M1 operation check	DCB CN2-1 to 4	AD-505 F-4
5	M2 operation check	DCB CN4-1 to 4	AD-505 F-4
6	Change DCB	—	—
7	Change PRCB	—	—

KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

JS-505

2008.06

KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 1.0

Revision history

After publication of this service manual, the parts and mechanism may be subject to change for improvement of their performance.
Therefore, the descriptions given in this service manual may not coincide with the actual machine.

When any change has been made to the descriptions in the service manual, a revised version will be issued with a revision mark added as required.

Revision mark:

- To indicate clearly a section revised, △1 is shown at the left margin of the revised section.
  The number inside △1 represents the number of times the revision has been made.

- To indicate clearly a page that contains the revision, ▲1 is shown near the page number of the corresponding page.
  The number inside ▲1 represents the number of times the revision has been made.

NOTE

Revision marks shown in a page are restricted only to the latest ones with the old ones deleted.

- When a page revised in Ver. 2.0 has been changed in Ver. 3.0:
  The revision marks for Ver. 3.0 only are shown with those for Ver. 2.0 deleted.
- When a page revised in Ver. 2.0 has not been changed in Ver. 3.0:
  The revision marks for Ver. 2.0 are left as they are.

Date	Service manual Ver.	Revision mark	Descriptions of revision
2008/06	1.0	—	Issue of the first edition

CONTENTS

JS-505

Outline

Maintenance

Adjustment/Setting

Troubleshooting

Outline

1. Product specification

A. Type

Type	Built-in type 2-bin stacker
Installation	Installed in main body
Document align-ment	Center

B. Functions

Modes	Sort, Group, Sort offset, Group offset

C. Paper

Exit tray	Size	Type		Capacity
Upper tray	A5S, B5S, B5, A4S, A4, B4, A3 8-1/2 X 11S, 8-1/2 X 11, 8-1/2 X 14, 11 X 17 Max.: 297 mm X 457.2 mm 11.75 inch X 18 inch Min.: 148 mm X 210 mm 5.9 inch X 8.3 inch	Plain paper (60 to 90 g/m²) (16 to 24 lb)		50 sheets
Lower tray	A6S, A5S, A5, B6S, B5S, B5, A4S, A4, B4, A3, A3 Wide, 5-1/2 X 8-1/2S, 5-1/2 X 8-1/2, 8-1/2 X 11S, 8-1/2 X 11, 8-1/2 X 14, 11 X 17, 12-1/4 X 18 Max.: 311.1 mm X 457.2 mm 12.25 inch X 18 inch Min.: 90 mm X 139.7 mm 3.5 inch X 5.5 inch	Plain paper (60 to 90 g/m²) (16 to 24 lb)		150 sheets
		Special paper	Thick paper 1 (91 to 150 g/m²) (24.25 to 40 lb)	20 sheets
			Thick paper 2 (151 to 209 g/m²) (40.25 to 55.5 lb)	
			Thick paper 3 (210 to 256 g/m²) (55.75 to 68 lb)	
			OHP film	
			Label sheet	
			Envelope	10 sheets

D. Offset function

Exit tray	Lower tray
Shift amount	30 mm
Types of paper to be used	Plain paper, Thick paper 1/2/3
Size	B5S, B5, A4S, A4, B4, A3 8-1/2 X 11S, 8-1/2 X 11, 8-1/2 X 14, 11 X 17

E. Machine specifications

Power requirements	DC 24 V ± 10 % (supplied from the main body)
	DC5 V ± 5 %
Max. power consumption	40 W or less
Dimensions	423 mm (W) X 477 mm (D) X 130 mm (H) 16.75 inch (W) X 18.75 inch (D) X 5 inch (H) 543 mm (W) X 477 mm (D) X 130 mm (H) *1 21.5 inch (W) X 18.75 inch (D) X 5 inch (H) *1
Weight	5.0 kg (11 lb)

*1: Size when the paper exit tray is pulled out

F. Operating environment

- Conforms to the operating environment of the main body.

NOTE

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

Maintenance

2. Other

2.1 Disassembly/adjustment prohibited items

A. 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.**

B. 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.**

C. Variable resistors on board

NOTE

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

D. Removal of PWBs

⚠ CAUTION

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

2.2 Disassembly/Assembly/Cleaning list (other parts)

2.2.1 Disassembly/Assembly parts list

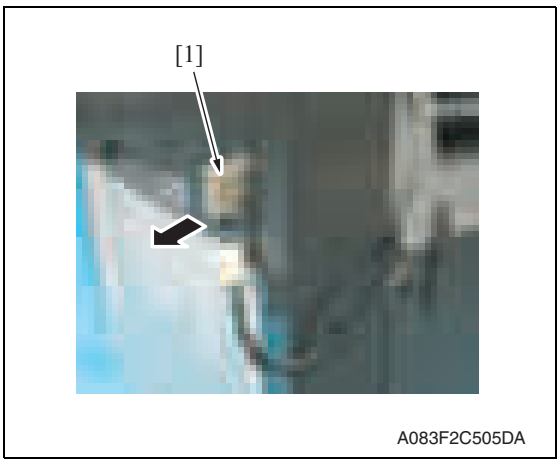
No.	Section	Part name	Ref. page
1	Unit	Separator	P.5
2	Exterior parts	Front cover	P.6
3		Rear left cover	P.6
4		Rear right cover	P.7
5		Upper tray	P.7
6		Paper guide plate	P.8
7	Board	JS control board (JSCB)	P.9
8	Motors	Transport motor (M1)	P.9
9		Route change motor (M3)	P.10
10		Shift motor (M2)	P.11
11	Clutch	Roller pressure/retraction clutch (CL1)	P.14

2.2.2 Disassembly/Assembly parts list

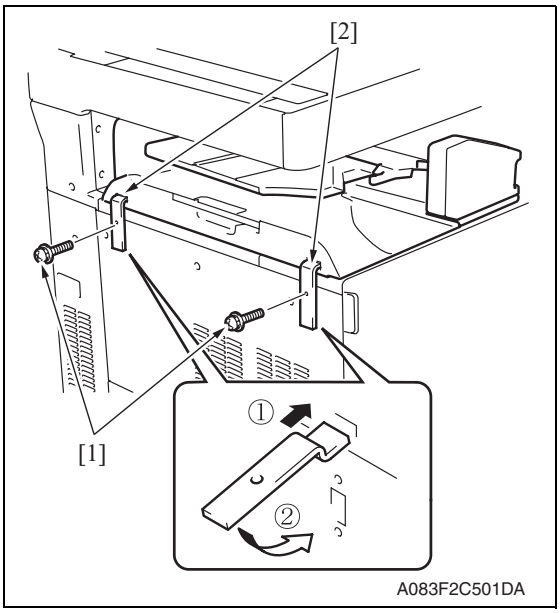
No.	Section	Part name	Ref. page
1	Transport section	Roller and roll	P.15

2.3 Disassembly/Assembly procedure

2.3.1 Separator



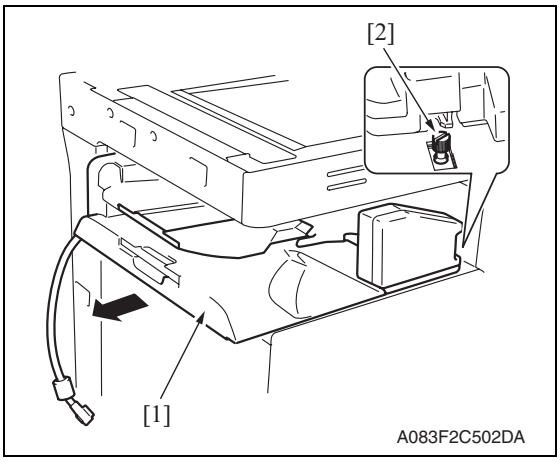
1. Remove the relay connector [1].



2. Remove two screws [1] and remove two fixtures [2].

NOTE

- **When installing the attachment plates [2], the attachment plate A with pieces of metal is required to be attached to the left.**
- **Install the attachment plates as shown in the illustration. Press them downward and secure them with one screw each.**



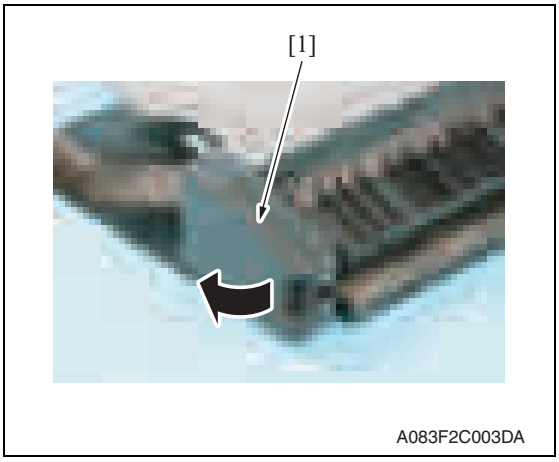
3. Remove the separator [1].

NOTE

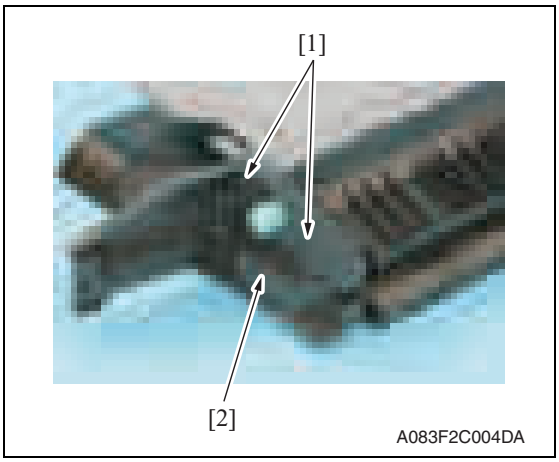
- **When installing the job separator, align the U-groove on the job separator with the shoulder screw [2].**

2.3.2 Front cover

1. Remove the separator.
See P.5



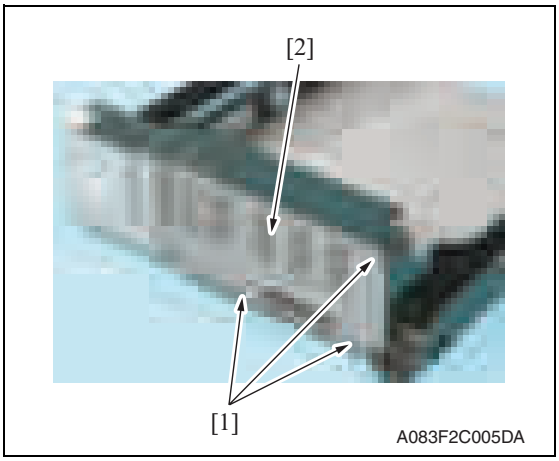
2. Open the misfeed clearing cover [1].



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

2.3.3 Rear left cover

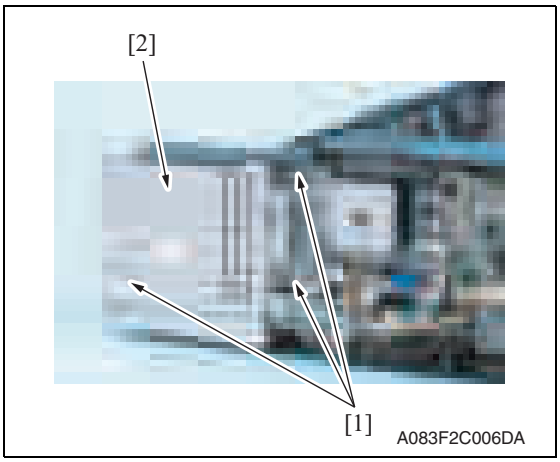
1. Remove the separator.
See P.5



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

2.3.4 Rear right cover

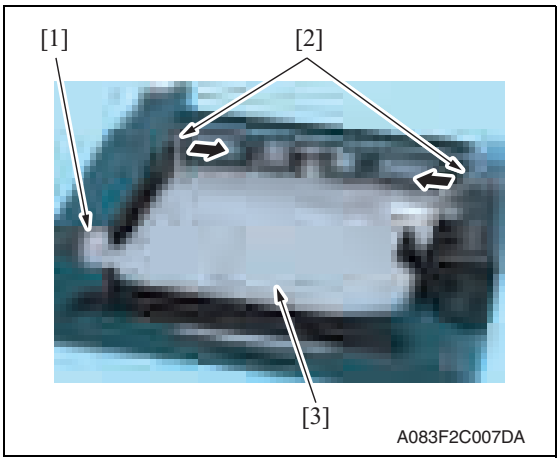
1. Remove the separator.
See P.5
2. Remove the rear left cover.
See P.6



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

2.3.5 Upper tray

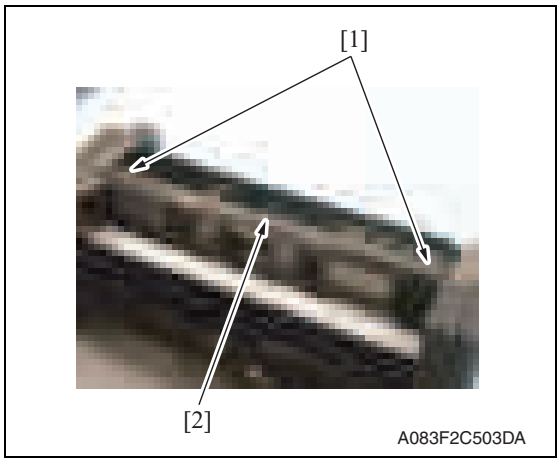
1. Remove the separator.
See P.5



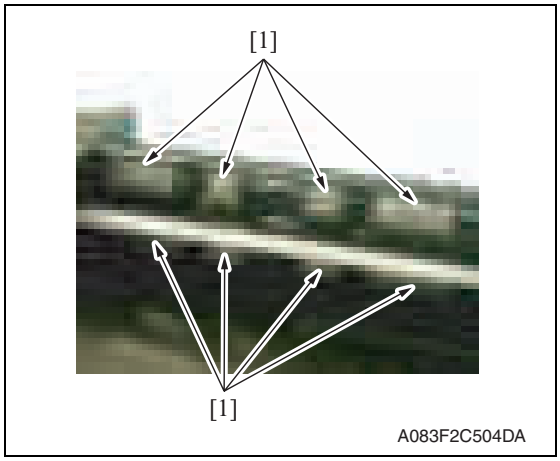
2. Remove the screw [1]. Push two protrusions [2] in the directions of the arrows and remove the upper tray [3].

2.3.6 Paper guide plate

1. Remove the separator.
See P.5
2. Remove the upper tray.
See P.7



3. Remove two screws [1] and remove the paper guide plate cover [2].



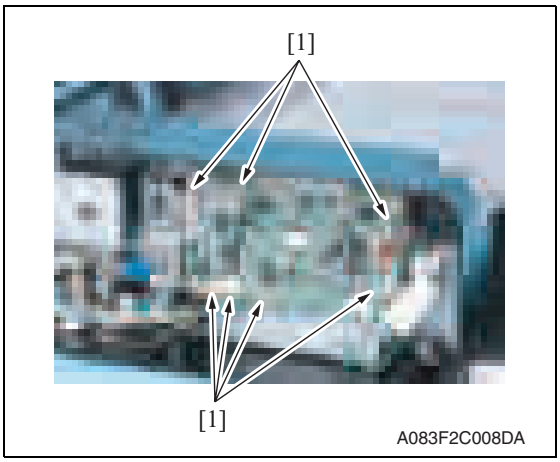
4. Remove eight paper guide plates [1].

NOTE

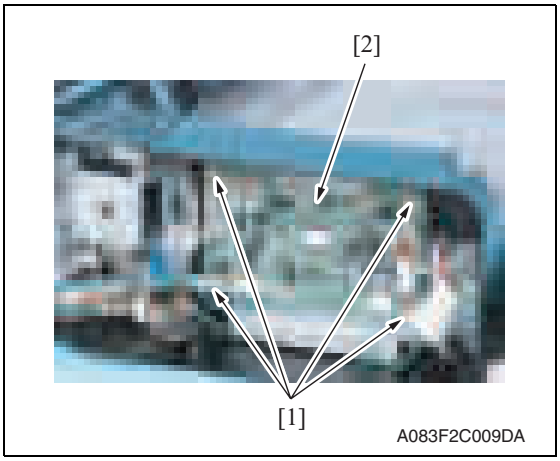
- **When reinstalling the paper guide plates [1], make sure that the film side must face the roller.**

2.3.7 JS control board (JSCB)

1. Remove the separator.
See P.5
2. Remove the rear left cover.
See P.6



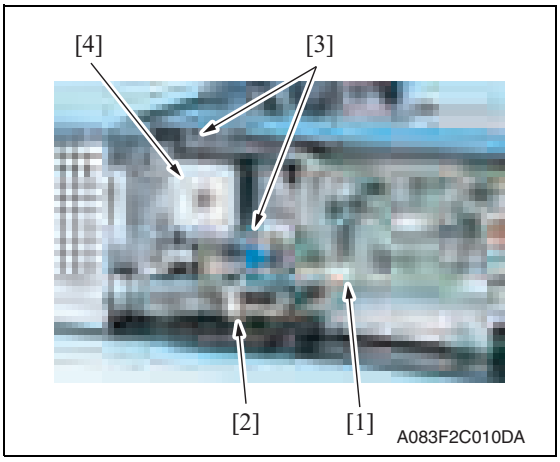
3. Remove all seven connectors [1] from the JS control board.



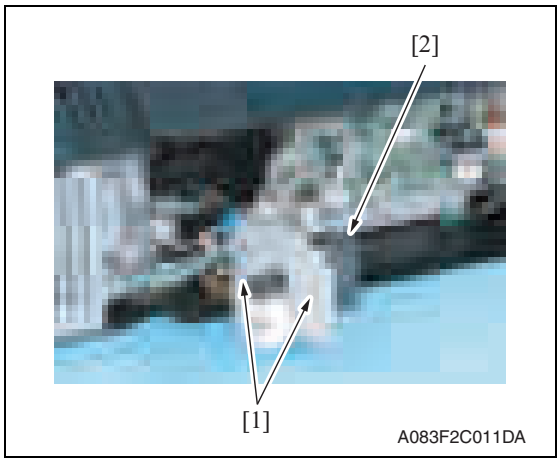
4. Remove four screws [1] and remove the JS control board [2].

2.3.8 Transport motor (M1)

1. Remove the separator.
See P.5
2. Remove the rear left cover.
See P.6



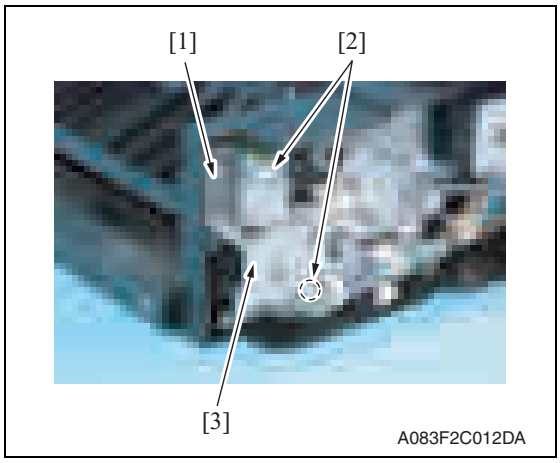
3. Disconnect the connector [1] and remove the wire saddle [2].
4. Remove two screws [3] and remove the transport motor assy [4].



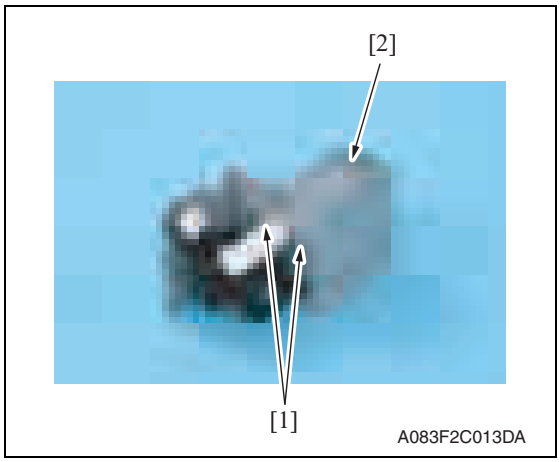
5. Remove two screws [1] and remove the transport motor [2].

2.3.9 Route change motor (M3)

1. Remove the separator.
See P.5
2. Remove the rear left cover.
See P.6
3. Remove the rear right cover.
See P.7



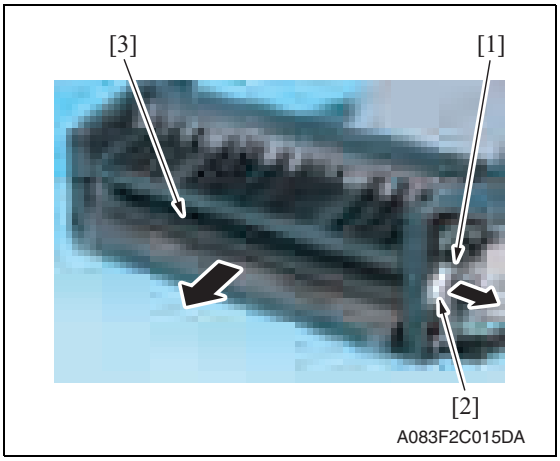
4. Remove the screw [1] and disconnect two connectors [2], and remove the route change motor assy [3].



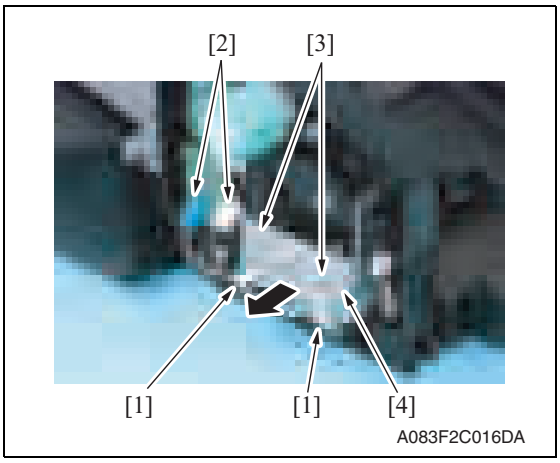
5. Remove two screws [1] and remove the route change motor [2].

2.3.10 Shift motor (M2)

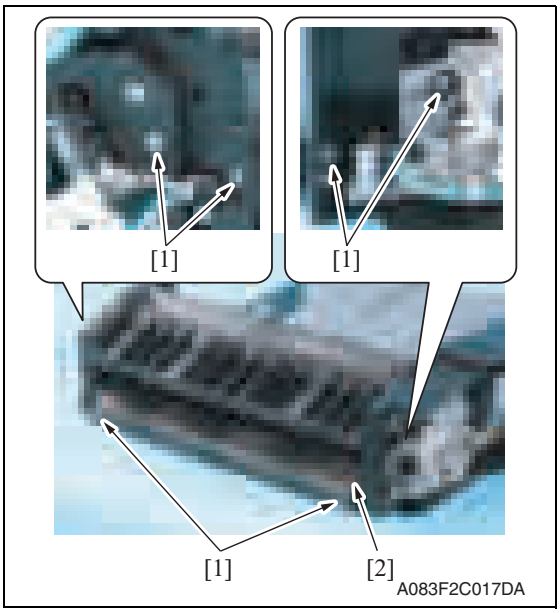
1. Remove the separator.
See P.5
2. Remove the front cover.
See P.6
3. Remove the route change motor.
See P.10



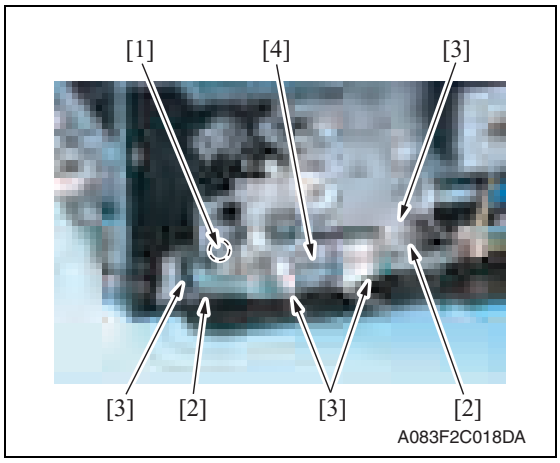
4. Remove the C-clip [1] and the lever [2], and remove the route change guide [3].



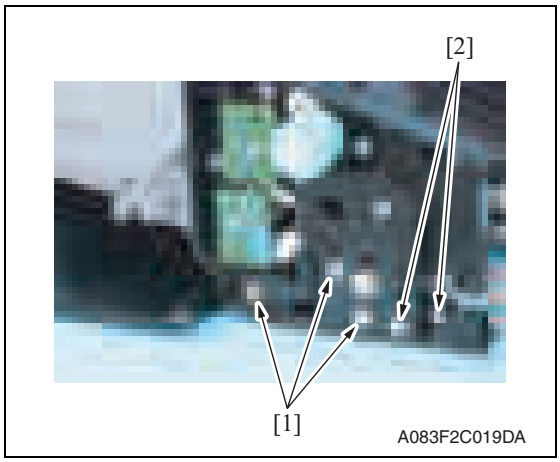
5. Remove two wire saddles [1], disconnect two connectors [2], and remove two screws [3]. Pull out the sensor assy [4] in the direction of the arrow.



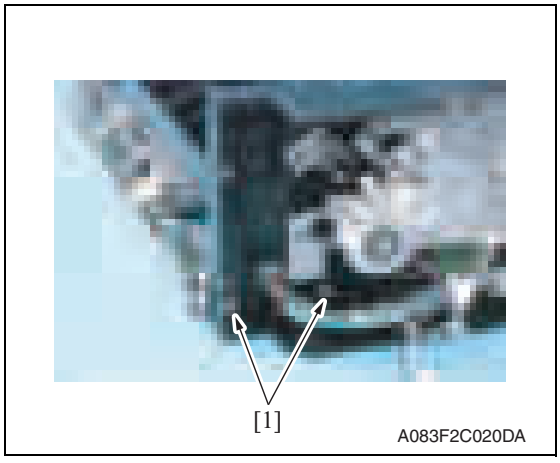
6. Remove six screws [1] and remove the transport guide/lower [2].



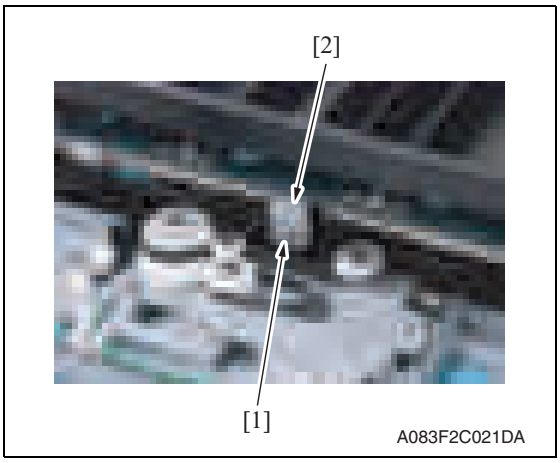
7. Disconnect the connector [1], remove two screws [2], and remove the harness from four wire saddles [3]. Remove the sensor mounting plate assy [4].



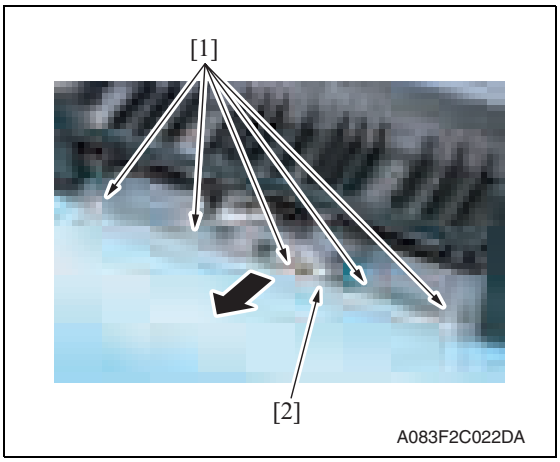
8. Remove three screws [1] and two shoulder screws [2].



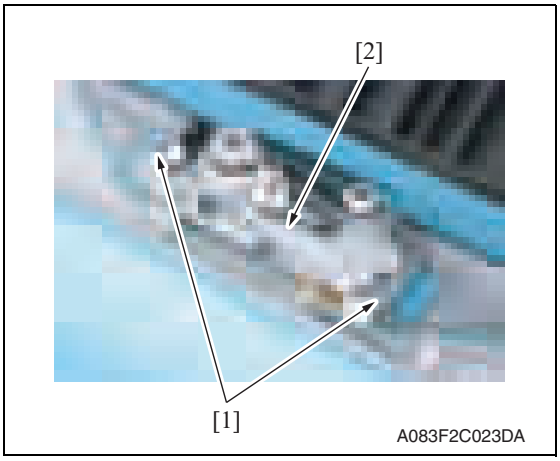
9. Remove two screws [1].



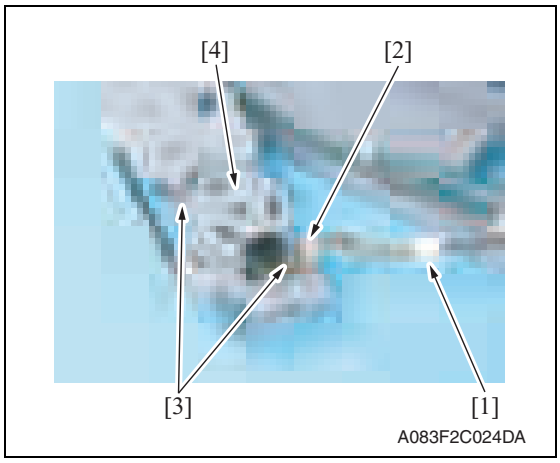
10. Remove the screw [1] and remove the belt fixed plate [2].



11. Remove five wire saddles [1] and pull out the shift drive section assy [2] in the direction of the arrow.



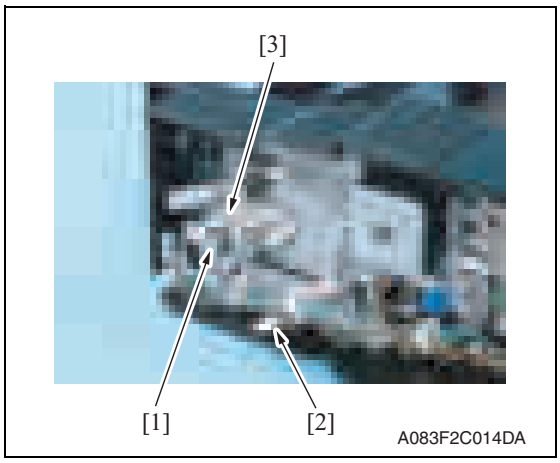
12. Remove two screws [1] and remove the shift motor assy [2].



13. Disconnect the connector [1], remove wire saddle [2] and two screws [3], and remove the shift motor [4].

2.3.11 Roller pressure/retraction clutch (CL1)

1. Remove the route change motor.
See P.10



2. Remove the E-ring [1] and disconnect the connector [2], and remove the roller pressure/retraction clutch [3].

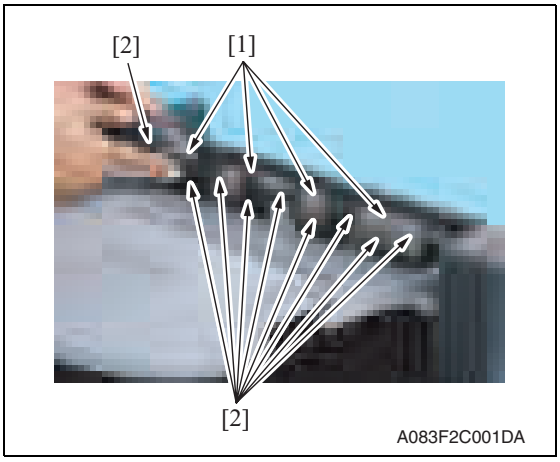
2.4 Cleaning procedure

NOTE

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

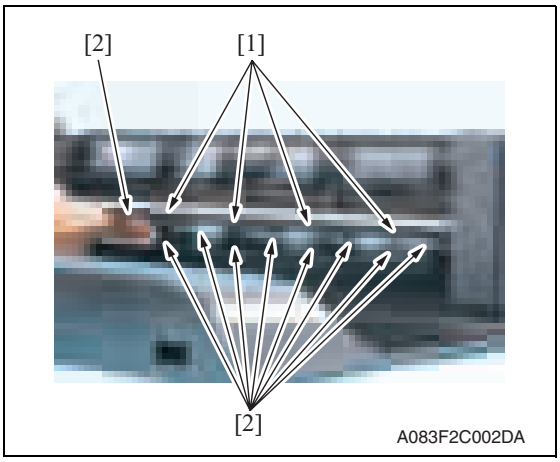
2.4.1 Cleaning of the roller and roll

1. Remove the separator.
See P.5



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

3. Remove the upper tray.
See P.7



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

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Adjustment/Setting

3. 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 “ ”.

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 fusing 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.**

4. State Confirmation

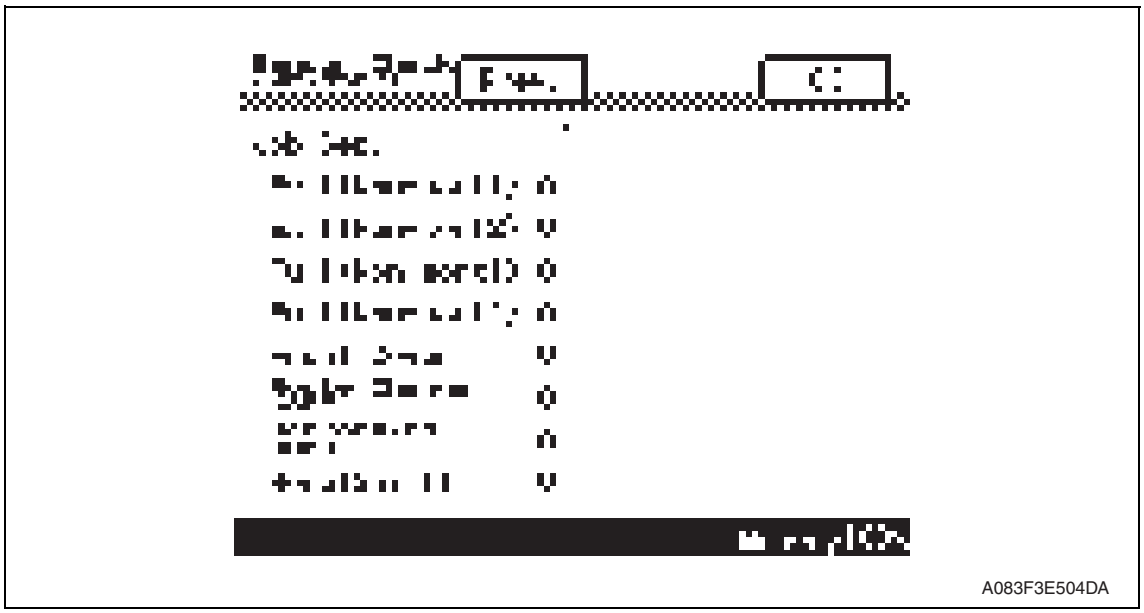
4.1 Sensor check procedure

A. Procedure

1. Call the Service Mode to the screen.
   See P.158 of the main body service manual.
2. Touch [State Confirmation].
3. Touch [Sensor Check (Printer)].
4. Touch four times [Fwd].

4.2 Sensor check screen

- This is only typical screen which may be different from what are shown on each individual main body.



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4.2.1 Sensor check list

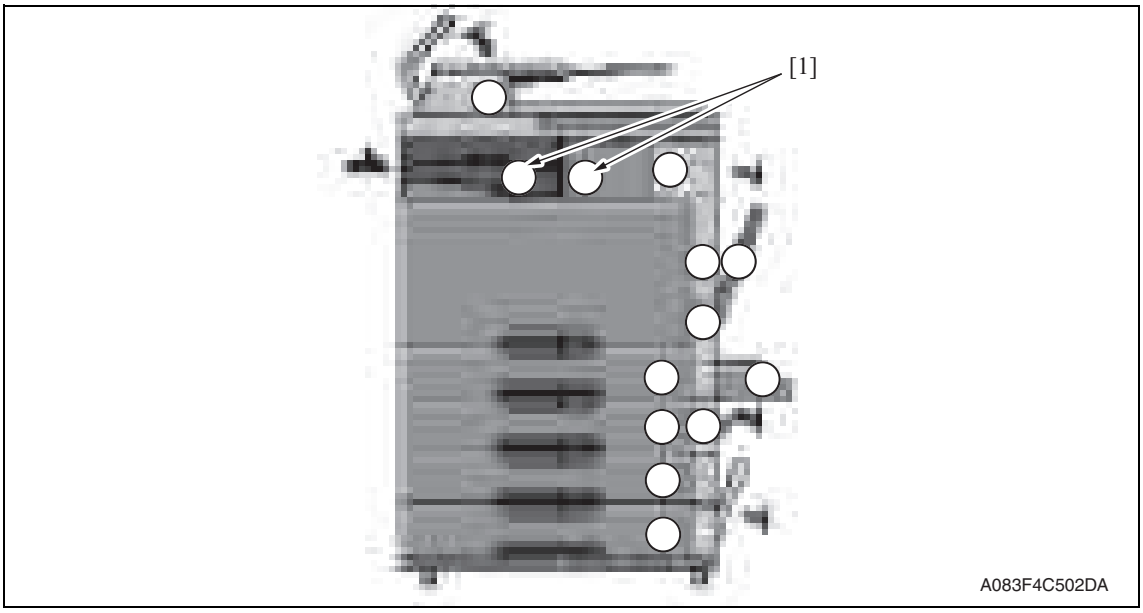
Symbol	Panel display	Part/Signal name	Operation characteristics/ panel display	
			1	0
PS1	Exit (Non-sort1)	Lower tray exit sensor	Paper present	Paper not present
PS2	Exit (Non-sort2)	Upper tray exit sensor	Paper present	Paper not present
T1FDTB/LED	Full (Non-sort1)	Lower tray paper full detect board/LED	Full	Other than full
T2FDTB/LED	Full (Non-sort2)	Upper tray paper full detect board/LED	Full	Other than full
PS3	Front Cover	Front door sensor	Closed	Open
PS4	Route Change home	Route change home sensor	Blocked	Unblocked
PS5	Retraction Home	Pressure/retraction home sensor	Blocked	Unblocked
PS6	Home (Shift)	Shift home sensor	Blocked	Unblocked

Troubleshooting

5. Jam display

5.1 Misfeed display

- When misfeed occurs, message, misfeed location “Blinking” and paper location “Lighting” are displayed on the touch panel of the main body.

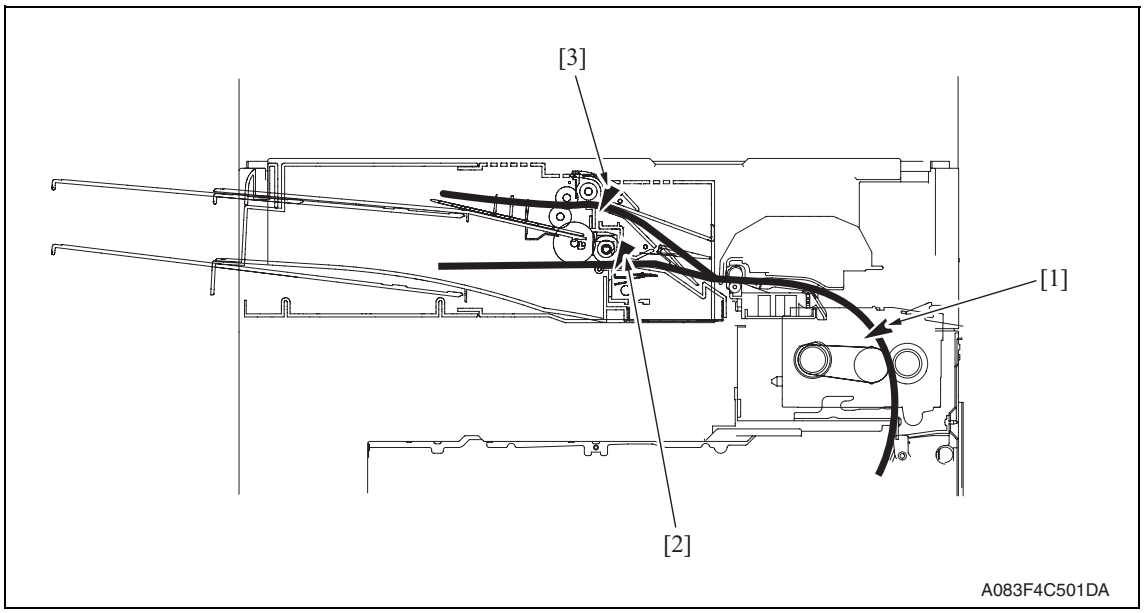


Display	Code	Misfeed location	Misfeed access location	Action
[1]	7216	Job separator transport section	Front cover	P.22

5.1.1 Misfeed display resetting procedure

- Open the corresponding door, clear the sheet of paper misfed, and close the door.

5.2 Sensor layout



[1] Paper exit sensor (PS2)

[2] Lower tray exit sensor (PS1)

[3] Upper tray exit sensor (PS2)

5.3 Solution

5.3.1 Initial check items

- When a paper misfeed occurs, first perform the following initial check items.

Check Item	Action
Does the paper meet product specifications?	Change the paper.
Is paper curled, wavy, or damp?	Change the paper. See “Solution when paper curl occurs” on P.21.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Clean or change the paper path.
Are the rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the actuators found operational when checked for correct operation?	Correct or change the defective actuator.

5.3.2 Solution when paper curl occurs

Step	Check items/actions		
1	Turn over the stacked paper in the paper tray.	OK	—
		NG	Go to step 2.
2	Does paper curl occur just after a warm-up has been completed or the sleep mode has been turned OFF?	YES	Go to step 3.
	Does paper curl occur under normal conditions (under conditions other than those mentioned above)?	YES	Go to step 5.
3	*1.* Call the Service Mode to the screen. *2.* Touch [System] → [Software Switch Setting]. *3.* Touch [Mode Selection], enter the mode number “882” using 10-key pad. *4.* Touch [Bit Selection], and change the setting to [Mode 3]. See P.290 of the main body service manual. *5.* Touch [Apply]. *6.* Touch [OK].	OK	—
		NG	Go to step 4.
4	*1.* Call the Service Mode to the screen. *2.* Touch [System] → [Software Switch Setting]. *3.* Touch [Mode Selection], enter the mode number “882” using 10-key pad. *4.* Touch [Bit Selection], and change the setting to [Mode 4]. See P.290 of the main body service manual. *5.* Touch [Apply]. *6.* Touch [OK].	—	—
5	*1.* Call the Service Mode to the screen. *2.* Select [Machine Adjustment] → [Fusing Temperature] → [Heater Roller]. *3.* Select a paper type. *4.* Change the temperature of Heater Roller to [-10 °C]. See P.162 of the main body service manual.	OK	—
		NG	Go to step 6.
6	*1.* Call the Service Mode to the screen. *2.* Select [Machine Adjustment] → [Fusing Temperature] → [Pressure]. *3.* Select a paper type. *4.* Change the temperature of Heater Roller to [-20 °C]. See P.162 of the main body service manual.	—	—

5.3.3 Job separator transport section misfeed

A. Detection timing

Type	Description
Transport section misfeed detection	The lower tray exit sensor (PS1) is not turned ON even after the set period of time has elapsed after the copier's paper exit sensor (PS2) is turned ON by the paper.
	The upper tray exit sensor (PS2) is not turned ON even after the set period of time has elapsed after the copier's paper exit sensor (PS2) is turned ON by the paper.
	The lower tray exit sensor (PS1) is not turned OFF even after the set period of time has elapsed after the copier's paper exit sensor (PS2) is turned OFF by the paper.
	The upper tray exit sensor (PS2) is not turned OFF even after the set period of time has elapsed after the copier's paper exit sensor (PS2) is turned OFF by the paper.
	The paper exit sensor (PS25) is not turned ON even after the set period of time has elapsed after the copier's paper exit sensor (PS2) is turned ON by the paper.
Detection of paper remaining in the transport section	The lower tray exit sensor (PS1) is turned ON when the power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The upper tray exit sensor (PS2) is turned ON when the power switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

B. Action

Relevant electrical parts	
Paper exit sensor (PS2) Lower tray exit sensor (PS1) Upper tray exit sensor (PS2)	JS control board (JSCB) Printer control board (PRCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical components)
1	Initial checks	—	—
2	PS2 (paper exit sensor) I/O check, sensor check	—	—
3	PS1 I/O check, sensor check	JSCB PJ7-6 (ON)	JS-505 F-4 to 5
4	PS2 (Upper tray exit sensor) I/O check, sensor check	JSCB PJ7-9 (ON)	JS-505 F-4
5	JSCB replacement	—	—
6	PRCB replacement	—	—

6. Malfunction code

6.1 Trouble code

- The machine's CPU performs a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code and maintenance call mark on the touch panel.

Code	Description	Detection timing
C1004	FNS communication error	• When the JS control board (JSCB) is receiving data, a communication error is detected.
C1182	Shift motor drive failure	• The shift home sensor (PS6) is not blocked after the set period of time has elapsed after the shift motor (M2) is turned ON (start of moving to the home position.) • The shift home sensor (PS6) is not unblocked twice in a row after the set period of time has elapsed after the shift motor (M2) is turned ON (start of moving to the shift position.)
C11A1	Exit roller pressure/ retraction failure	• The pressure/retraction home sensor (PS5) is not blocked after the set period of time has elapsed after the roller pressure/retraction clutch (CL1) is turned ON (start of a pressure operation.) • The pressure/retraction home sensor (PS5) is not unblocked after the set period of time has elapsed after the roller pressure/retraction clutch (CL1) is turned ON (start of a retraction operation.)
C11E0	Finisher route change failure	• The route change home sensor (PS4) is not blocked after the set period of time has elapsed after the route change motor (M3) is turned ON (start of shifting to the lower tray route.) • The route change home sensor (PS4) is not unblocked after the set period of time has elapsed after the route change motor (M3) is turned ON (start of shifting to the upper tray route.)
CC155	Finisher ROM failure	• Data of flash ROM of the finishing options is determined to be faulty when the power is turned ON.

6.2 Solution

6.2.1 C1004: FNS communication error

Relevant electrical parts	
JS control board (JSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	Change JSCB	—	—

6.2.2 C1182: Shift motor drive failure

Relevant electrical parts	
Shift motor (M2) Shift home sensor (PS6)	JS control board (JSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M2 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M2 for proper drive coupling and correct as necessary.	—	—
3	PS6 I/O check, sensor check	JSCB PJ7-18 (ON)	JS-505 F-3
4	M2 operation check	JSCB PJ4-1 to 4	JS-505 F-6
5	Change JSCB	—	—

6.2.3 C11A1: Exit roller pressure/retraction failure

Relevant electrical parts	
Roller pressure/retraction clutch (CL1) Pressure/retraction home sensor (PS5)	JS control board (JSCB)

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the CL1 connector for proper connection and correct as necessary.	—	—
2	Check the connector of CL1 for proper drive coupling and correct as necessary.	—	—
3	PS5 I/O check, sensor check	JSCB PJ7-12 (ON)	JS-505 F-4
4	CL1 operation check	JSCB PJ6-4 (ON)	JS-505 F-5
5	Change JSCB	—	—

6.2.4 C11E0: Finisher route change failure

Relevant electrical parts	
Route change motor (M3) Route change home sensor (PS4)	JS control board (JSCB)

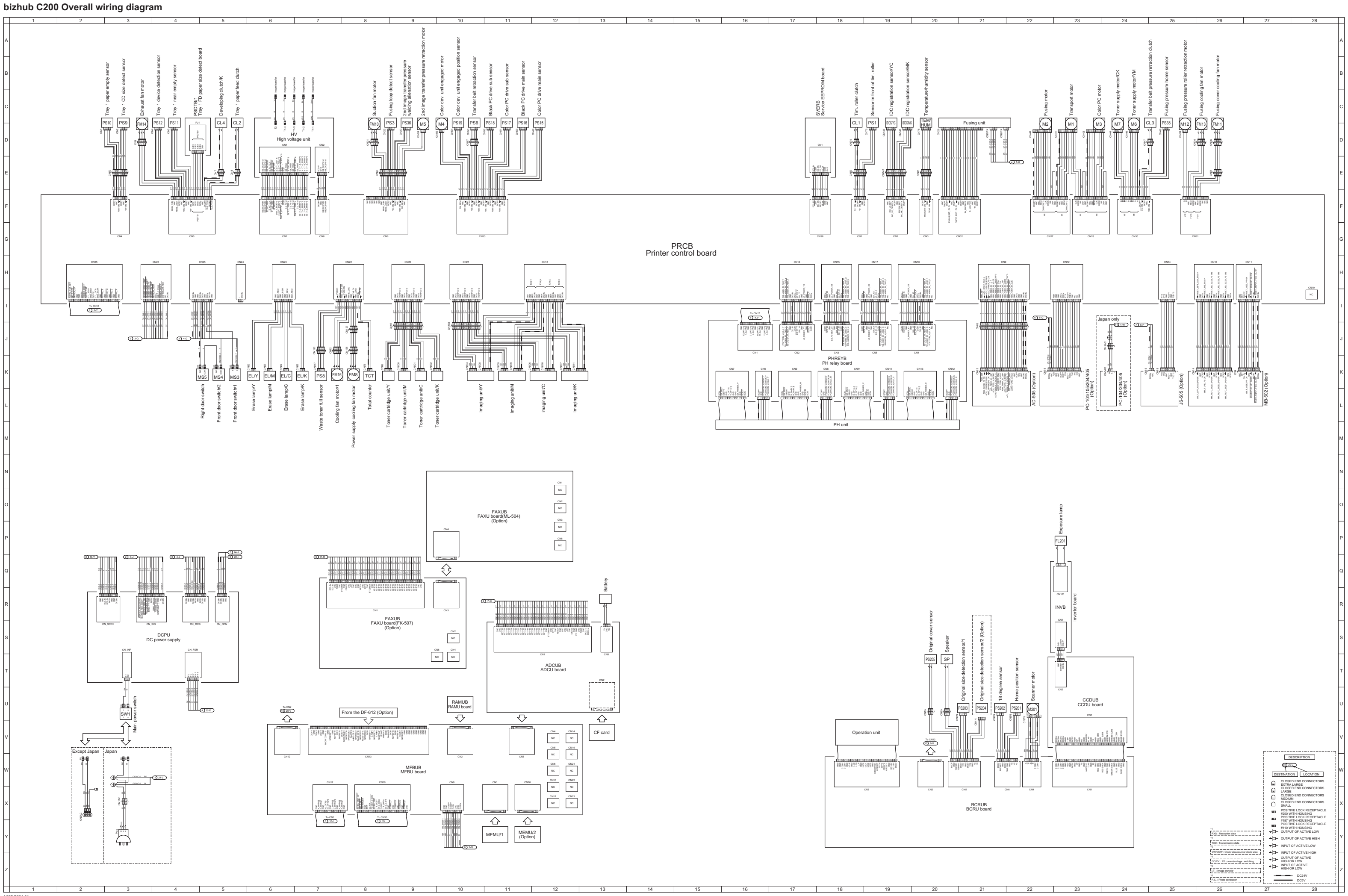
Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Check the M3 connector for proper connection and correct as necessary.	—	—
2	Check the connector of M3 for proper drive coupling and correct as necessary.	—	—
3	PS4 I/O check, sensor check	JSCB PJ7-12 (ON)	JS-505 F-4
4	M3 operation check	JSCB PJ6-4 (ON)	JS-505 F-5
5	Change JSCB	—	—

6.2.5 CC155: Finisher ROM failure

Relevant electrical parts	
JS control board (JSCB)	

Step	Action	WIRING DIAGRAM	
		Control signal	Location (Electrical component)
1	Disconnect and then connect the power cord. Turn OFF the main power switch, wait for 10 sec. or more, and turn ON the main power switch.	—	—
2	Rewrite firmware using the compact flash card.	—	—
3	Change JSCB	—	—

bizhub C200 Overall wiring diagram



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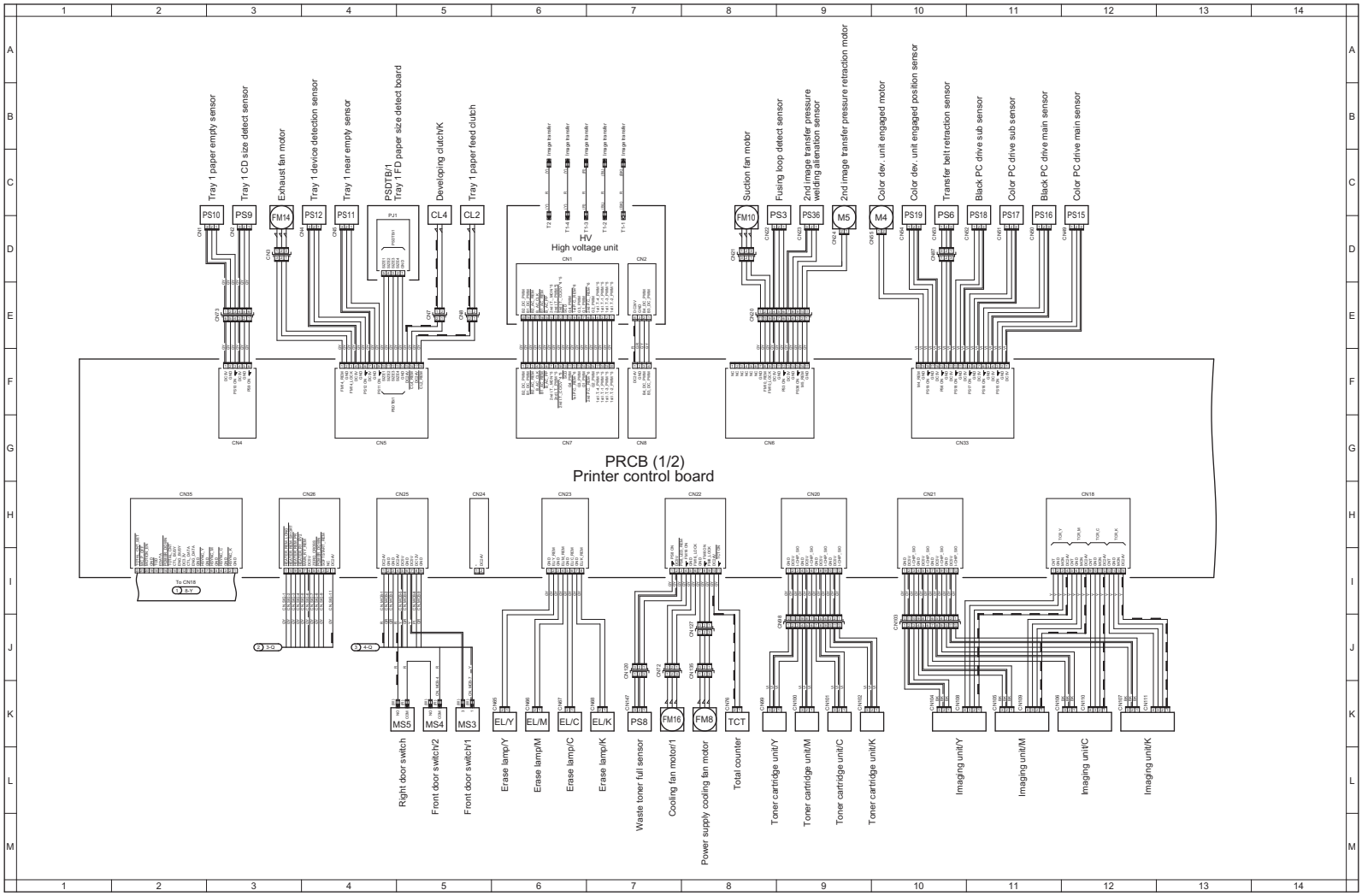
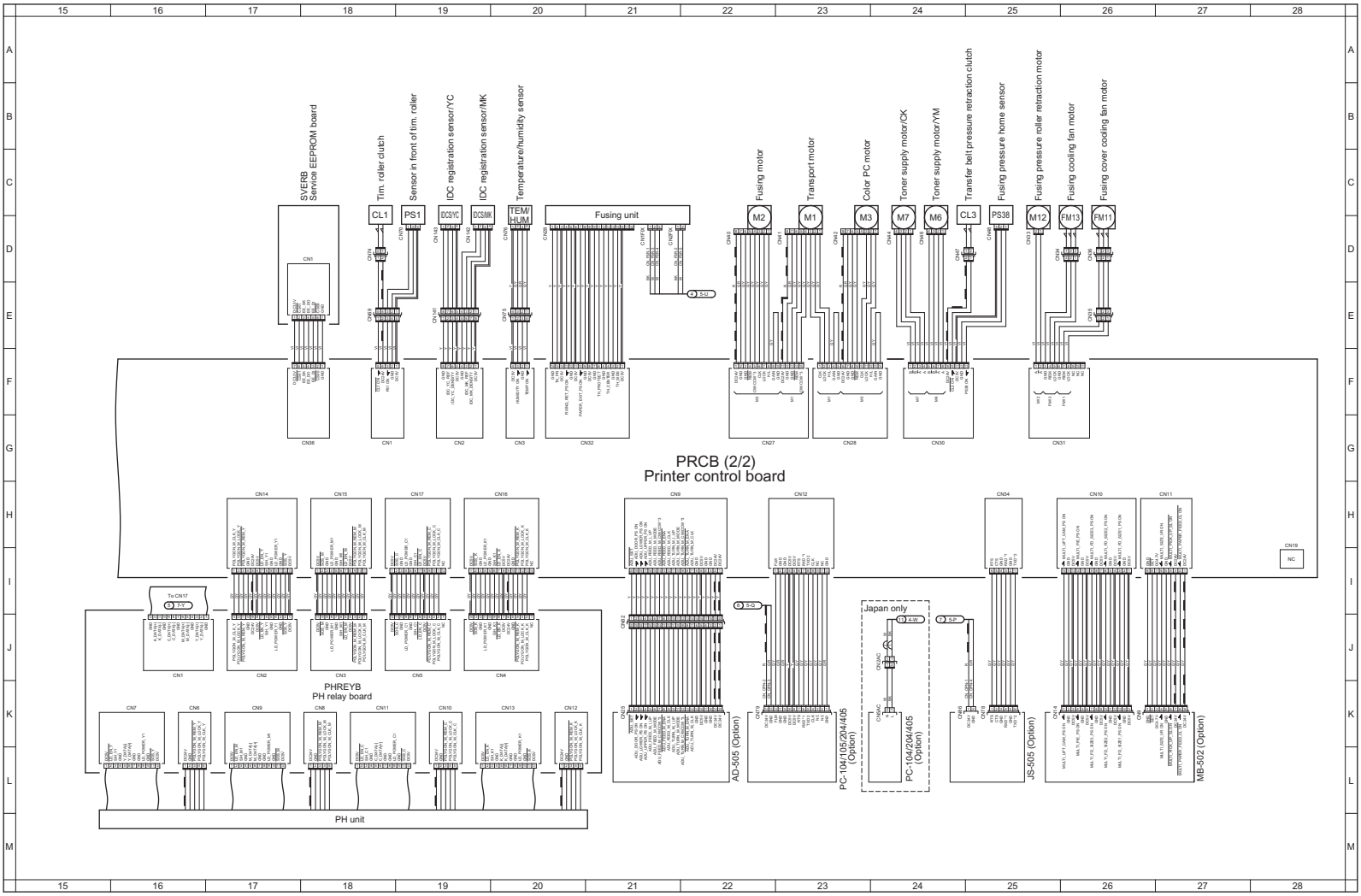
Jun.2006

bizhub C200 Overall wiring diagram 1/4

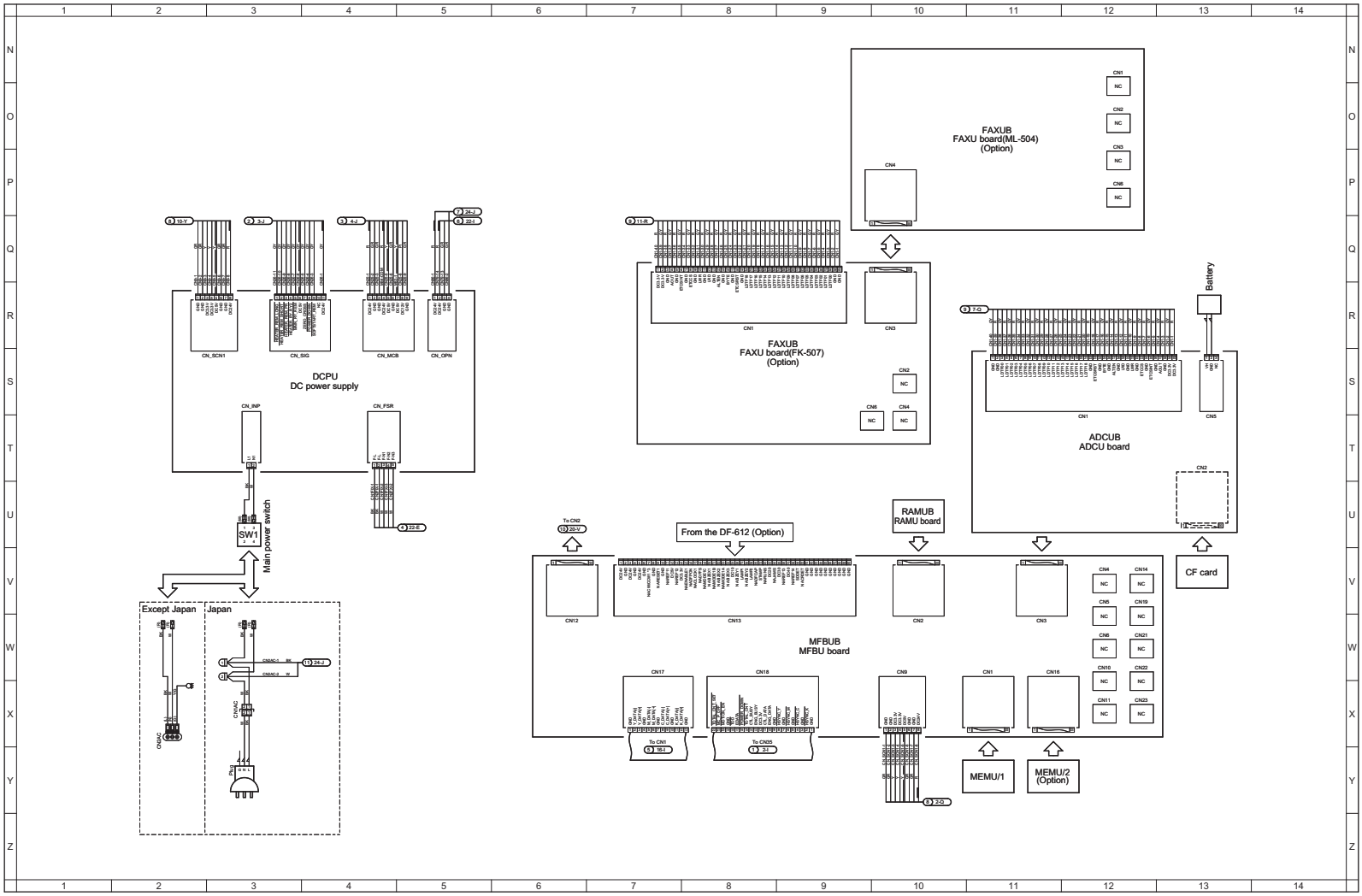


A02F-B001-0A 1/4
Jun.2008

bizhub C200 Overall wiring diagram 2/4



bizhub C200 Overall wiring diagram 3/4



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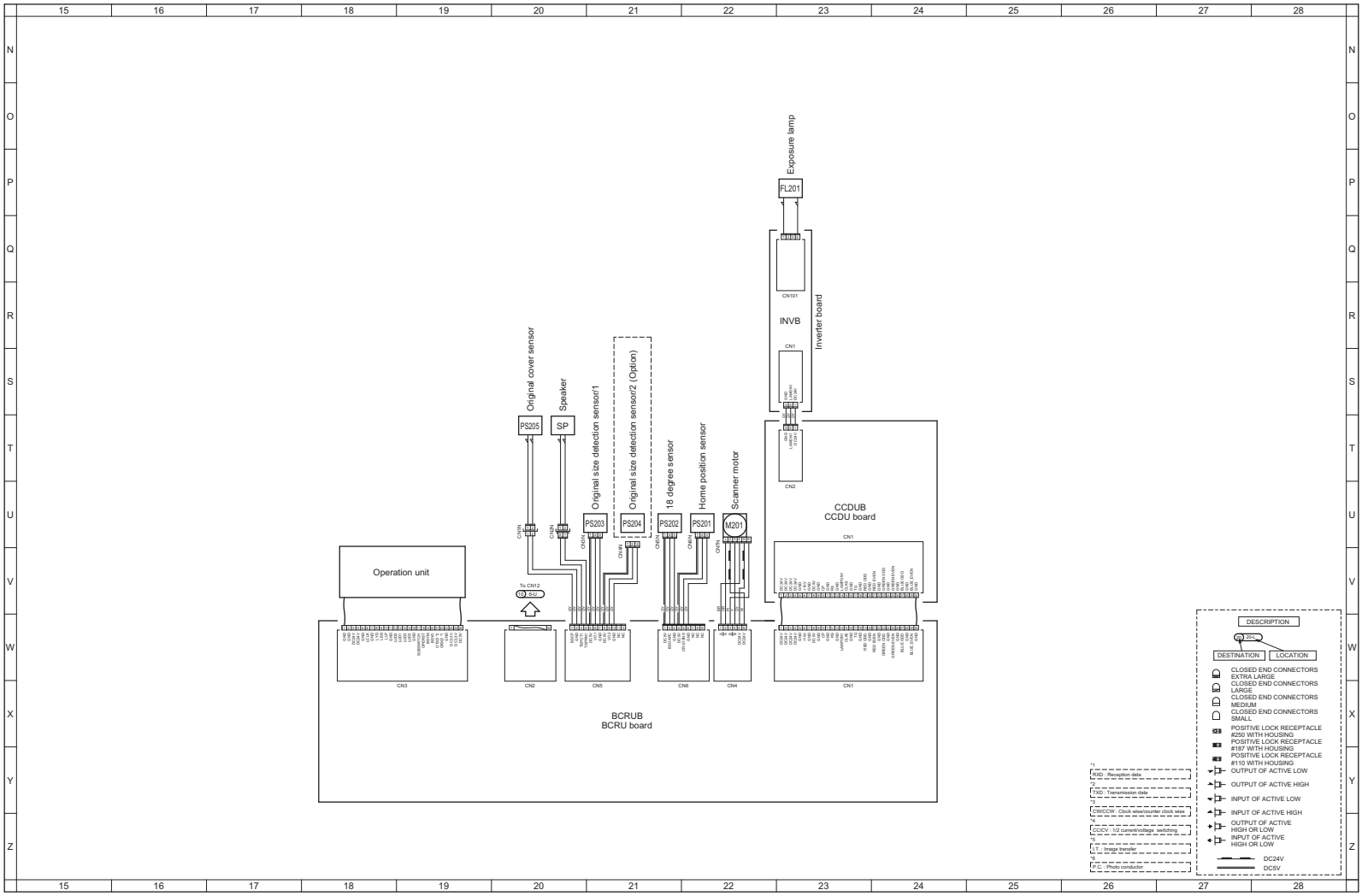
bizhub C200 Overall wiring diagram 4/4



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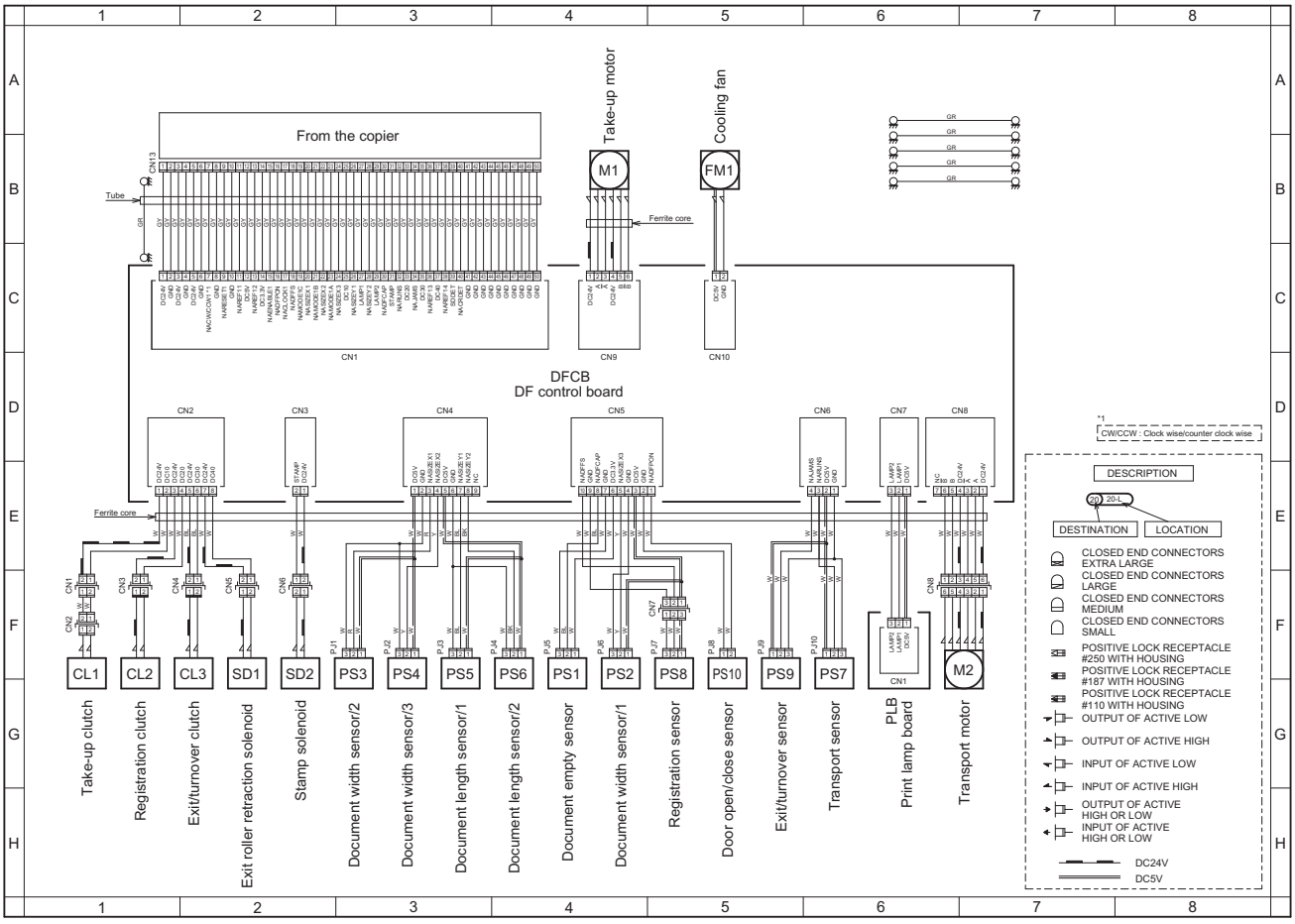
DF-612 Overall wiring diagram



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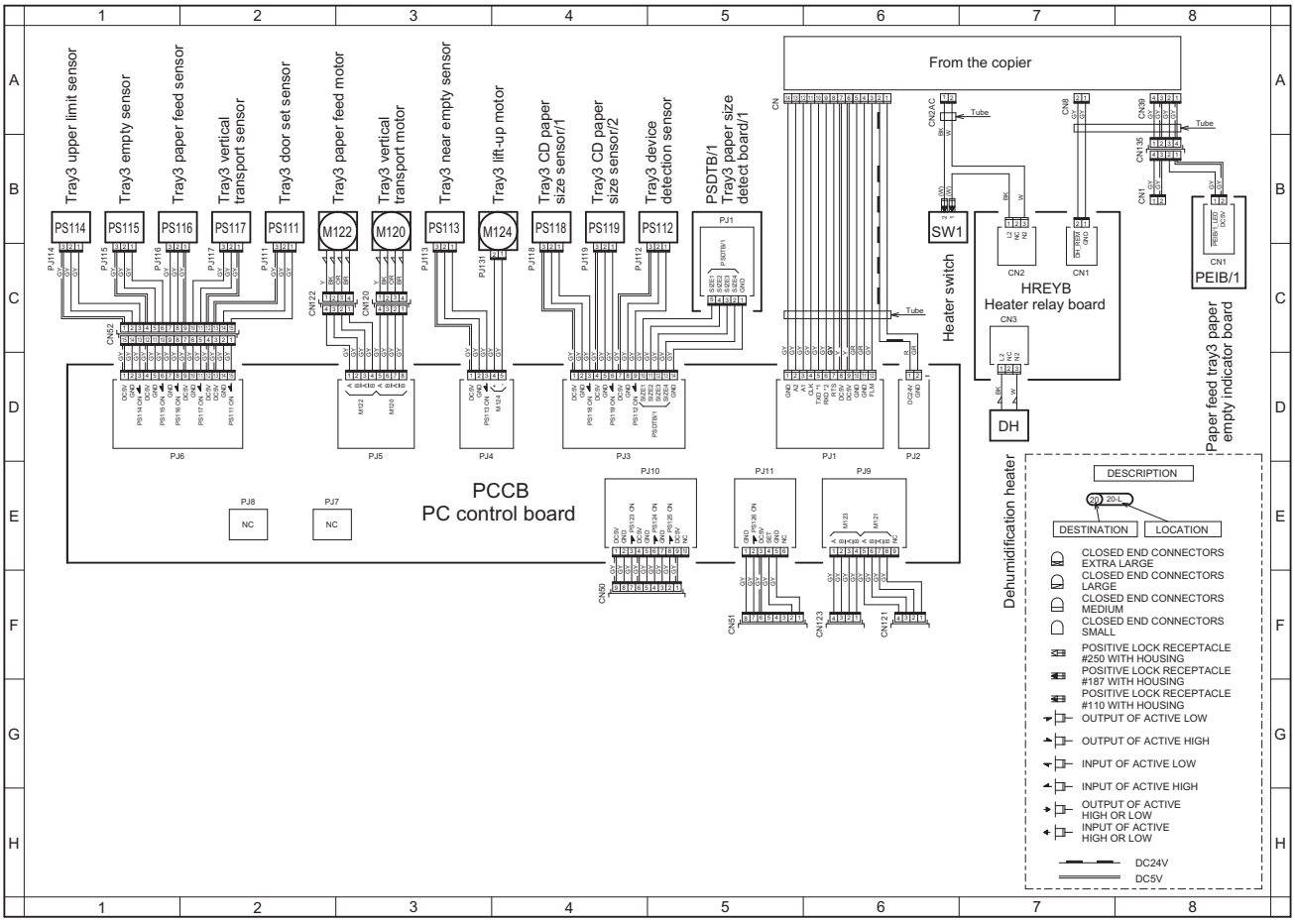
PC-104 Overall wiring diagram



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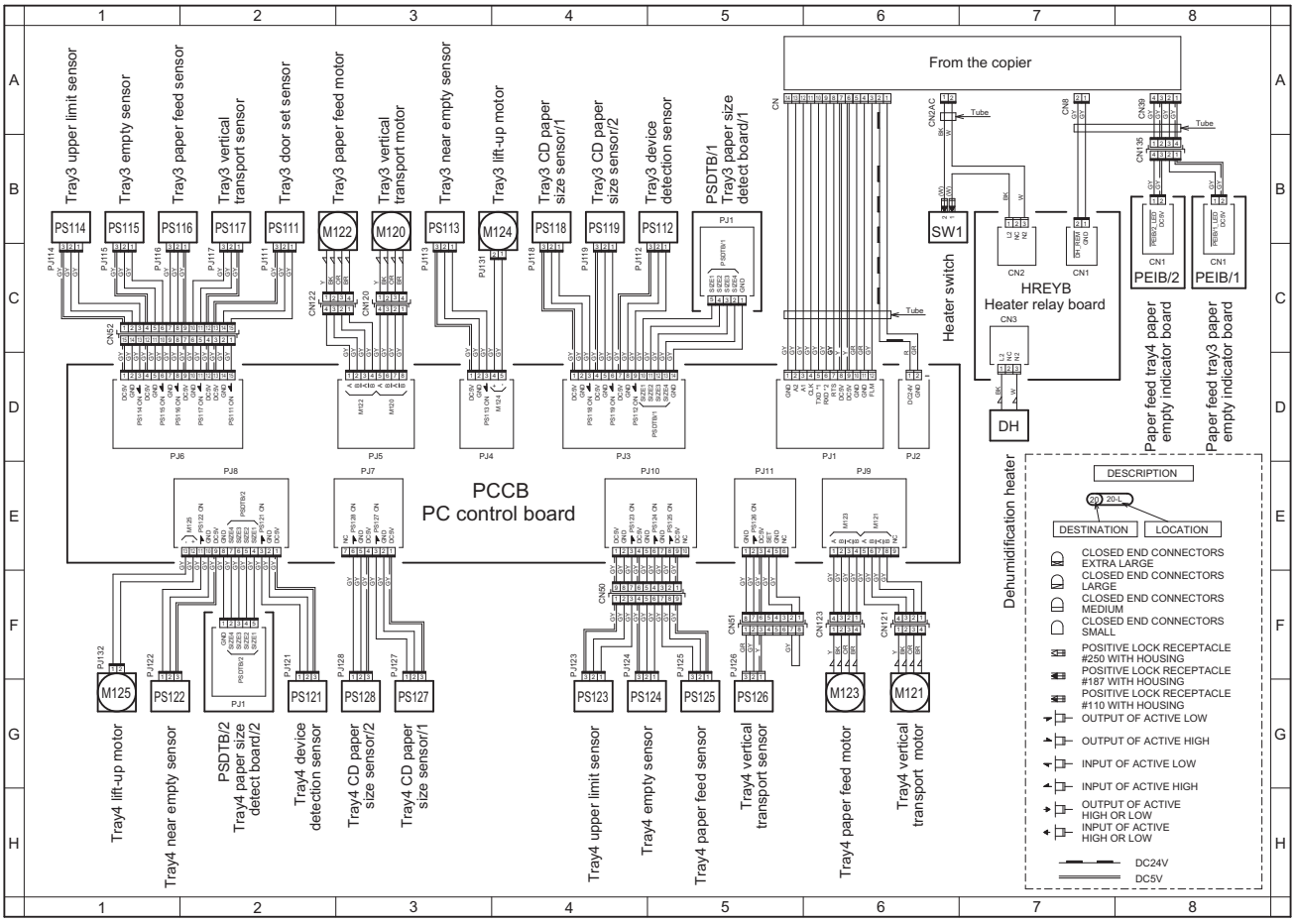
PC-204 Overall wiring diagram



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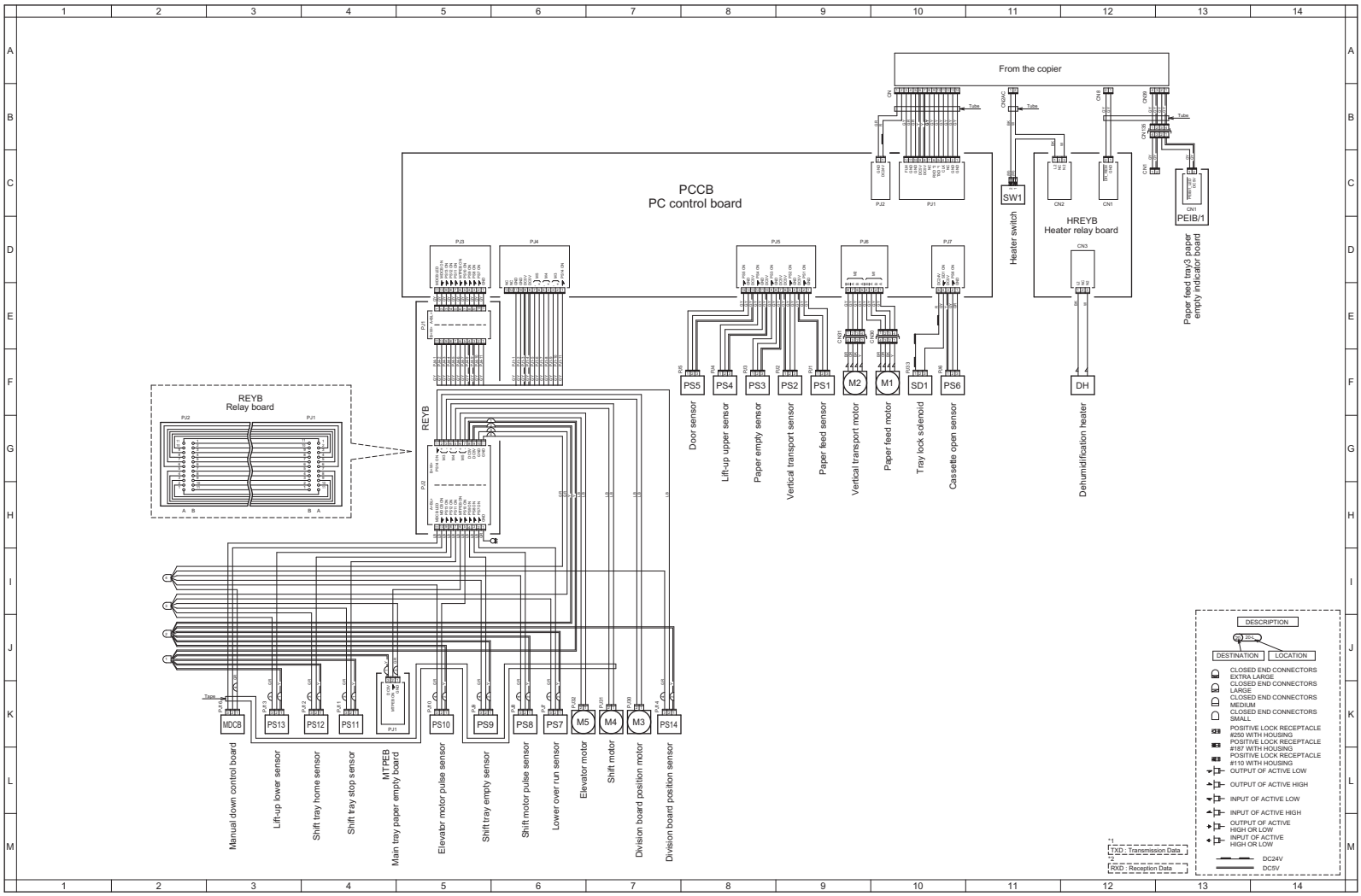
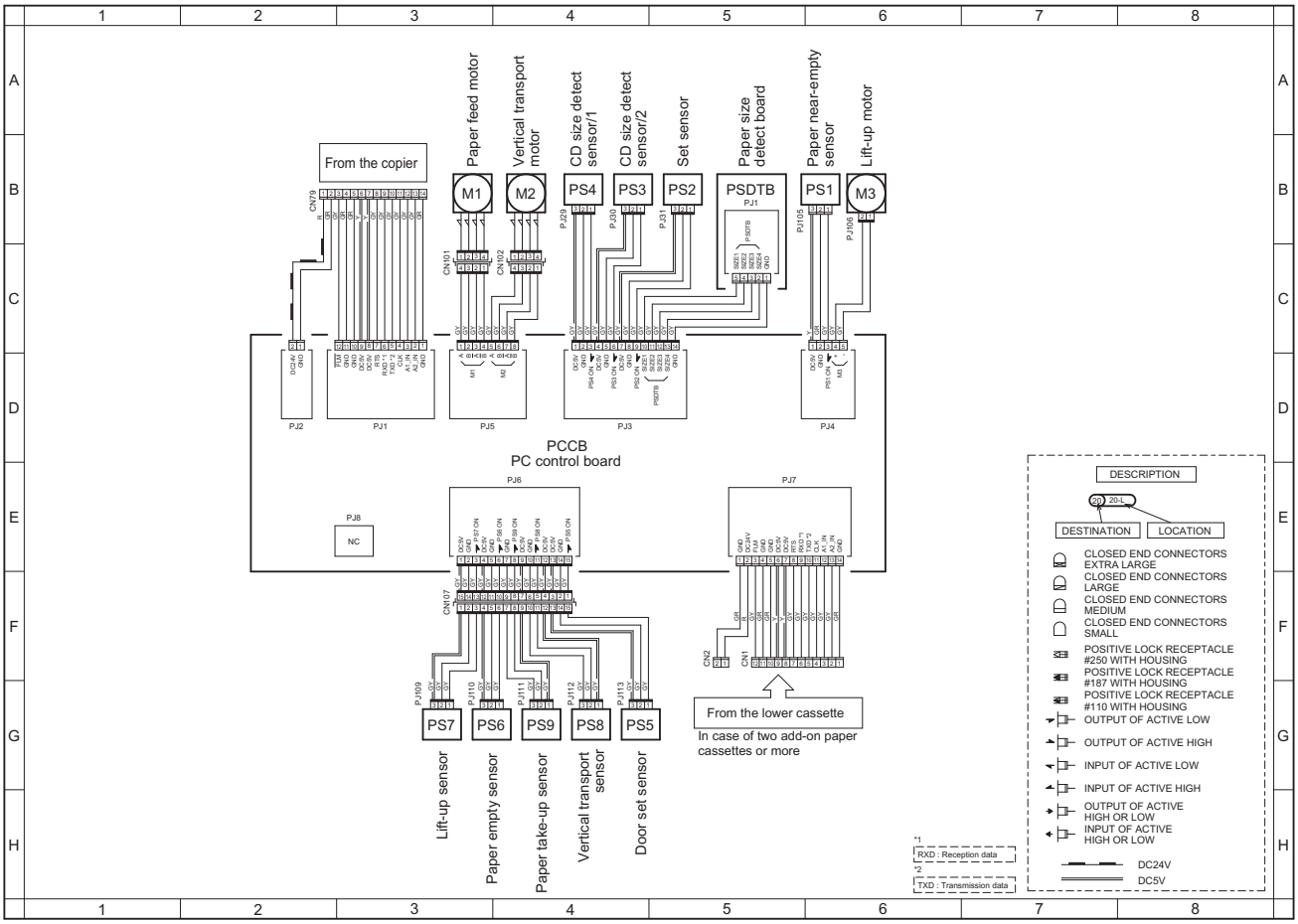
PC-405 Overall wiring diagram



PC-105 Overall wiring diagram



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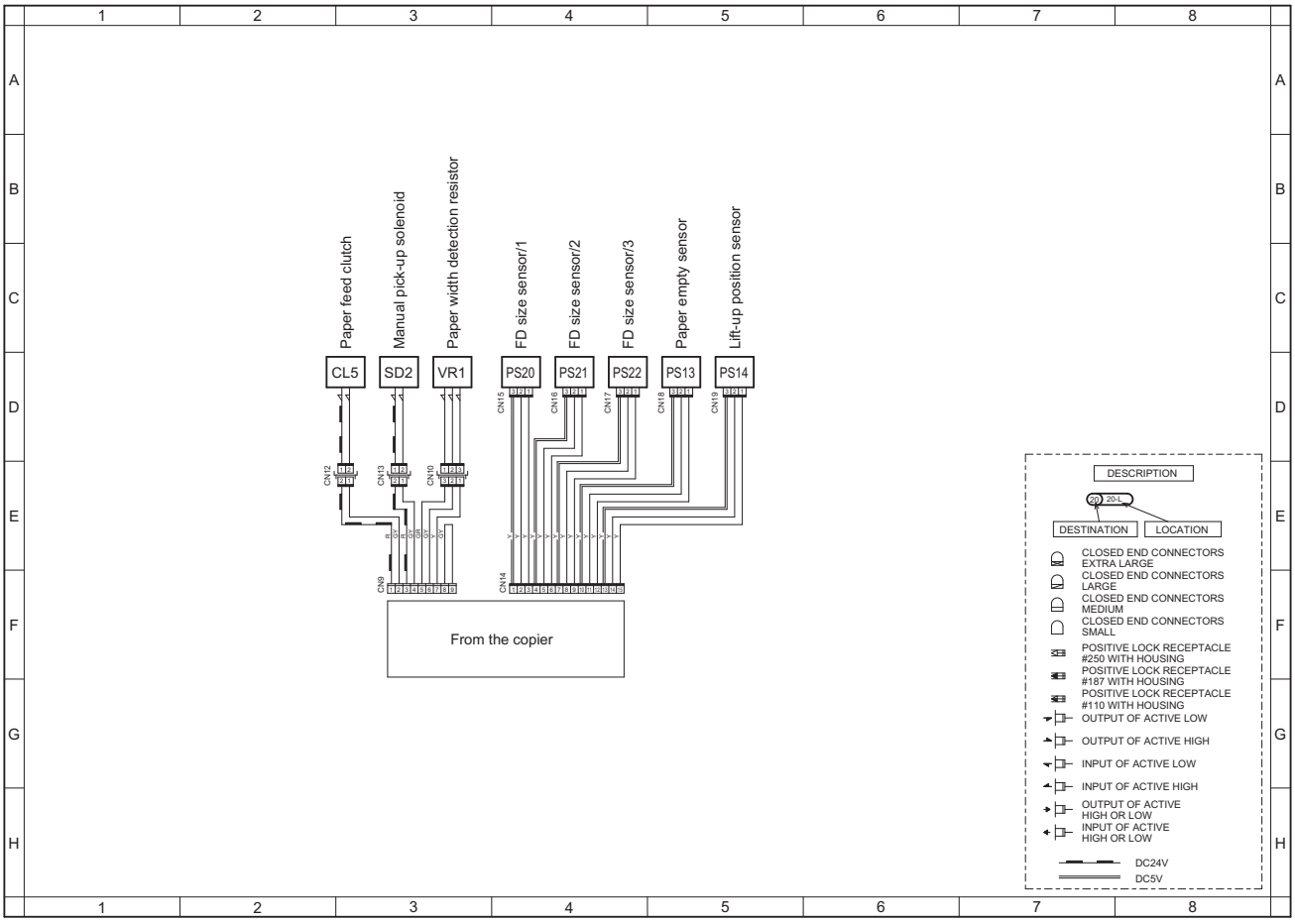
MB-502 Overall wiring diagram



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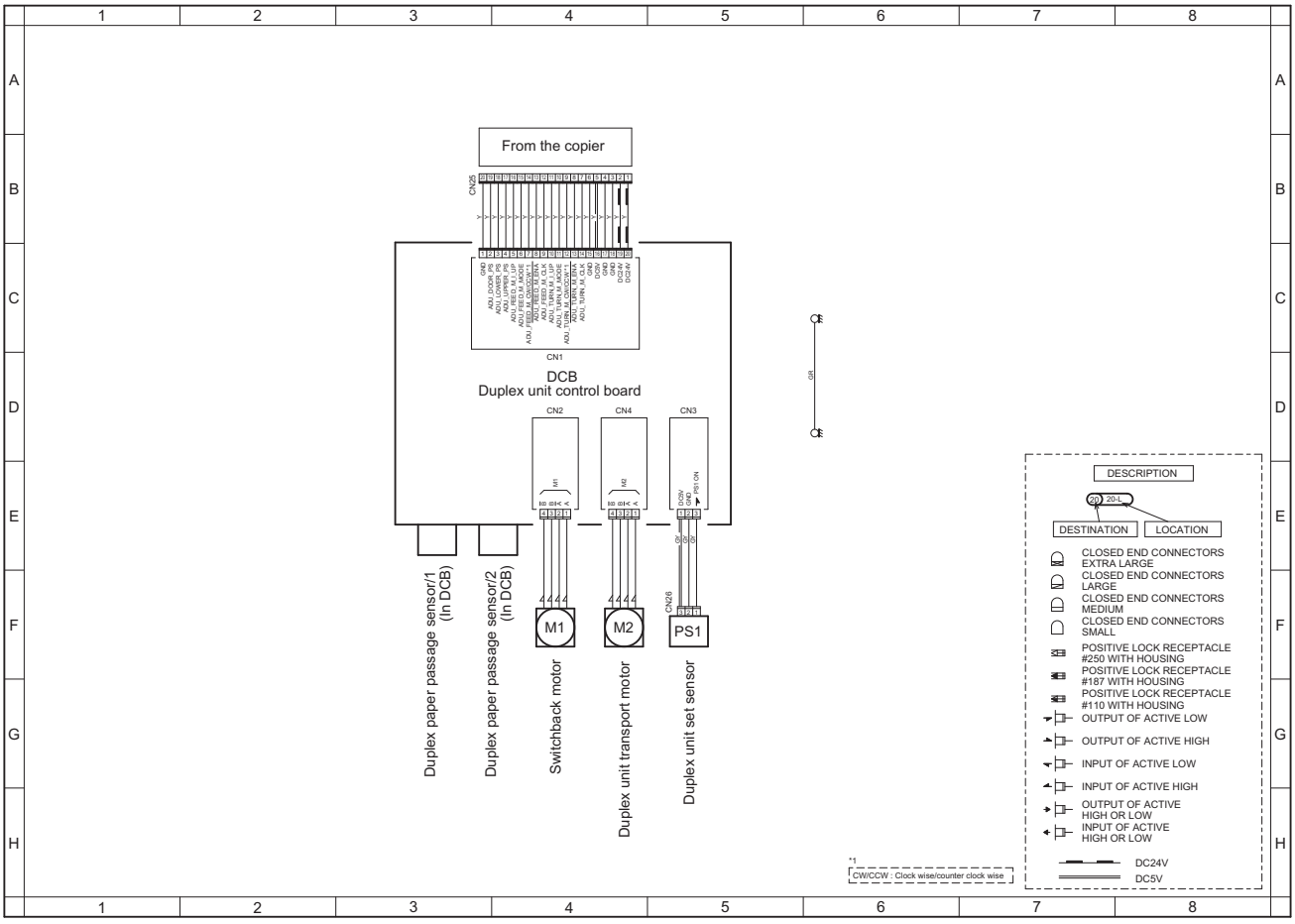
AD-505 Overall wiring diagram



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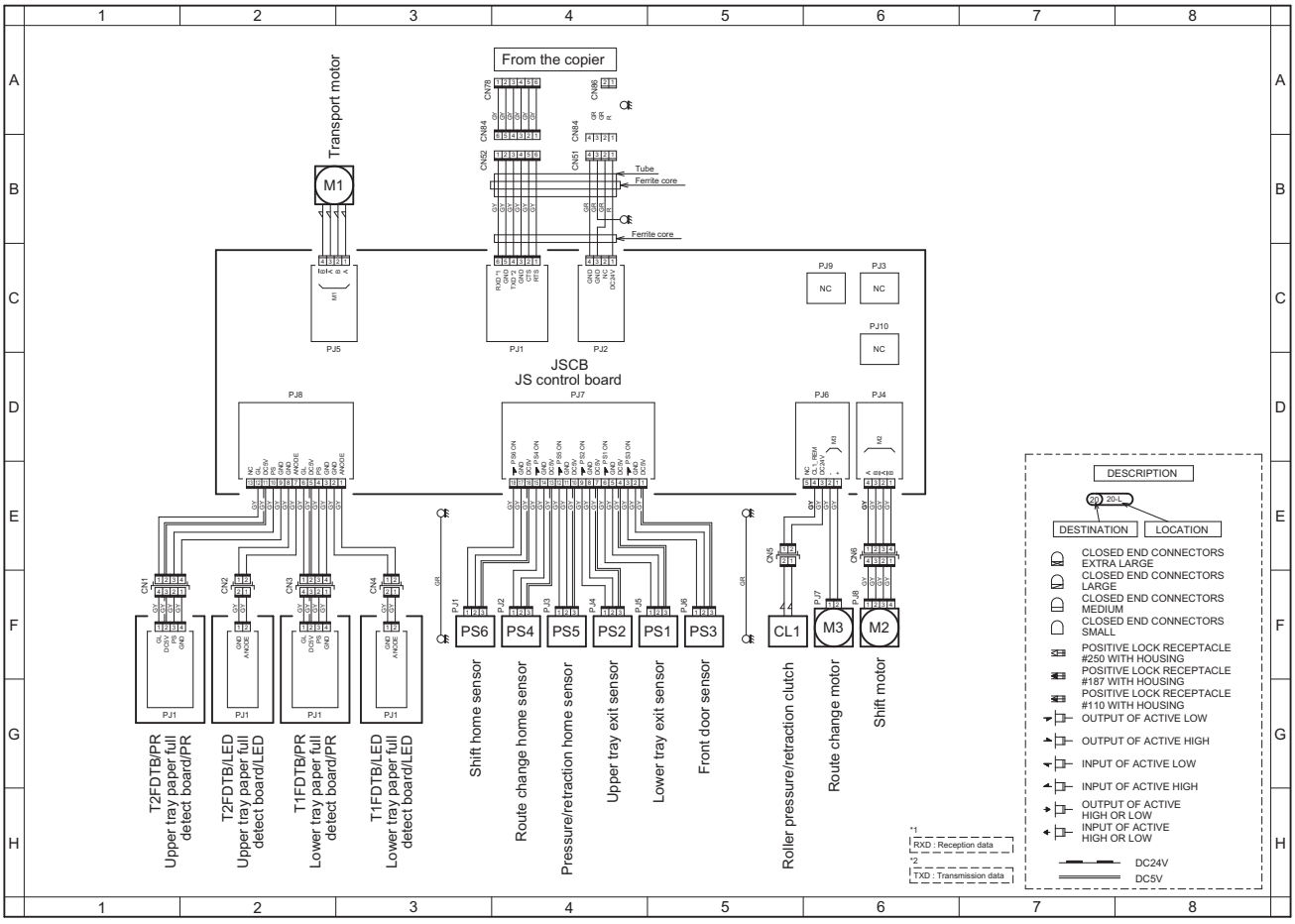
JS-505 (For bizhub C200) Overall wiring diagram



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