



KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub 162

bizhub 210

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

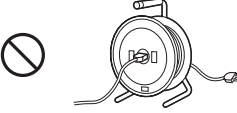
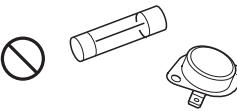
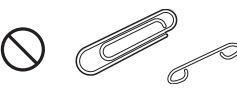
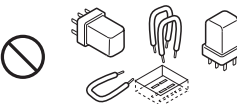
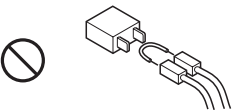

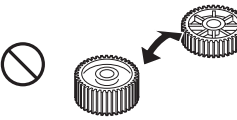
SAFETY WARNINGS

[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

<ul style="list-style-type: none"> Using any cables or power cord not specified by KMBT. 	
<ul style="list-style-type: none"> Using any fuse or thermostat not specified by KMBT. Safety will not be assured, leading to a risk of fire and injury. 	
<ul style="list-style-type: none"> Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object. 	
<ul style="list-style-type: none"> Disabling relay functions (such as wedging paper between relay contacts) 	
<ul style="list-style-type: none"> Disabling safety functions (interlocks, safety circuits, etc.) Safety will not be assured, leading to a risk of fire and injury. 	
<ul style="list-style-type: none"> Making any modification to the product unless instructed by KMBT 	
<ul style="list-style-type: none"> 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, advise 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.



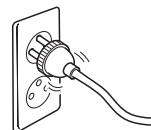
- If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.

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



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

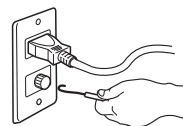
Contact problems may lead to increased resistance, overheating, and the risk of fire.



- 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.



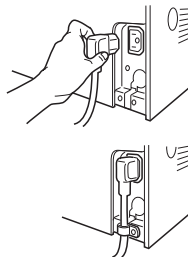
Power Plug and Cord

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.

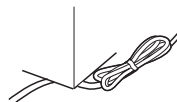
When securing measure is provided, secure the cord with the fixture properly.

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.



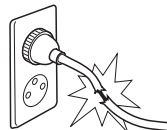
- Check whether the power cord is not stepped on or pinched by a table and so on.

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



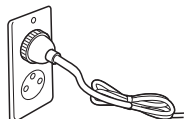
- Check whether the power cord is damaged. Check whether the sheath is damaged.

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.



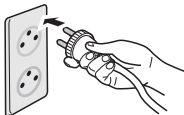
- Do not bundle or tie the power cord.

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.



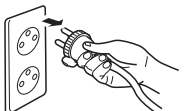
- Do not insert the power plug into the wall outlet with a wet hand.

The risk of electric shock exists.



- When unplugging the power cord, grasp the plug, not the cable.

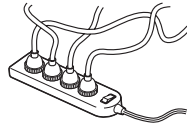
The cable may be broken, leading to a risk of fire and electric shock.



Wiring**⚠ WARNING**

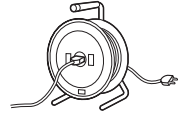
- Never use multi-plug adapters to plug multiple power cords in the same outlet.

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.



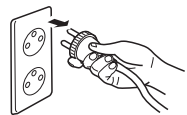
- Do not place the product in a place exposed to water such as rain.

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.

- When the product is used in a poorly ventilated room
- When taking a lot of copies
- 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

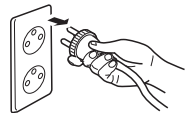
- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure, using only the prescribed tools. Do not make any adjustment not described in the documentation.

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



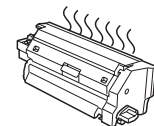
- Before conducting an inspection, be sure to disconnect the power plugs from the product and options.

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

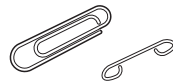
- Take every care when making adjustments or performing an operation check with the product powered.
If you make adjustments or perform an operation check with the external cover detached, you may touch live or high-voltage parts or you may be caught in moving gears or the timing belt, leading to a risk 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.



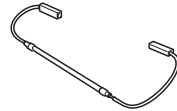
- When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.

Improper replacement can cause explosion.



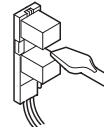
- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.

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.)



× pcs?



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] Laser Safety

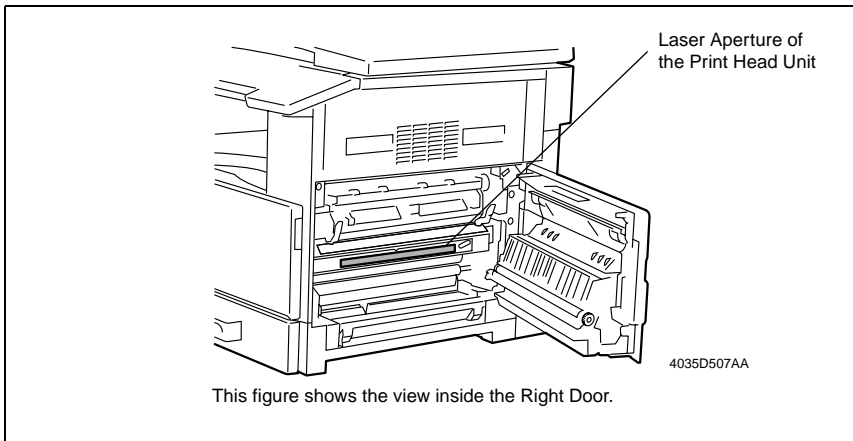
- This is a digital machine certified as a Class 1 laser product. There is no possibility of danger from a laser, provided the machine is serviced according to the instruction in this manual.

4.1 Internal Laser Radiation

semiconductor laser	
Maximum power of the laser diode	5 mW
Maximum average radiation power (*)	6.32 μ W
Wavelength	770-795 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	5 mW
Wavelength	770-795 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	5 mW
Wavelength	770-795 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	5 mW
bølgelængden	770-795 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 laser säteilylle.

puolijohdelaser	
Laserdiodin suurin teho	5 mW
aallonpituus	770-795 nm

WARNING!

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

halvledarlasar	
Den maximala effekten för laserdioden	5 mW
våglängden	770-795 nm

VARO!

- Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle laser säteilylle. Älä katso säteeseen.

WARNING!

- Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

Norway

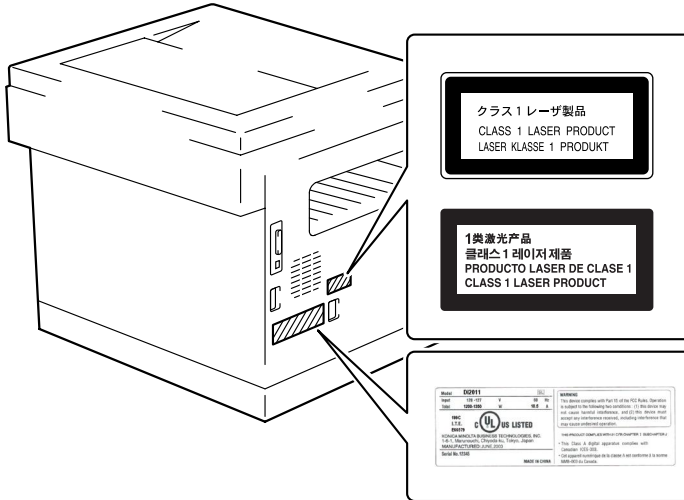
ADVERSEL

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

halvleder laser	
Maksimal effekt till laserdioden	5 mW
bølgelengde	770-795 nm

4.2 Laser Safety Label

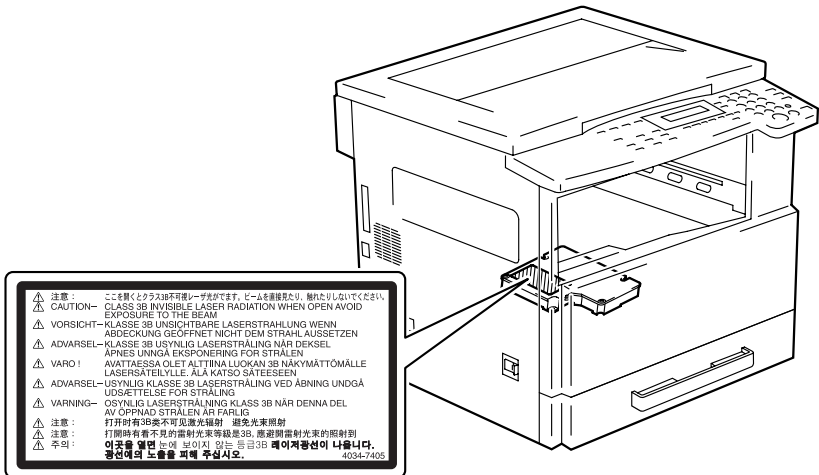
- A laser safety label is attached to the inside of the machine as shown below.



4035D510CA

4.3 Laser Caution Label

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



4035D509AA

4.4 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.

4.5 OTHER PRECAUTIONS

CAUTION

Double pole / neutral fusing

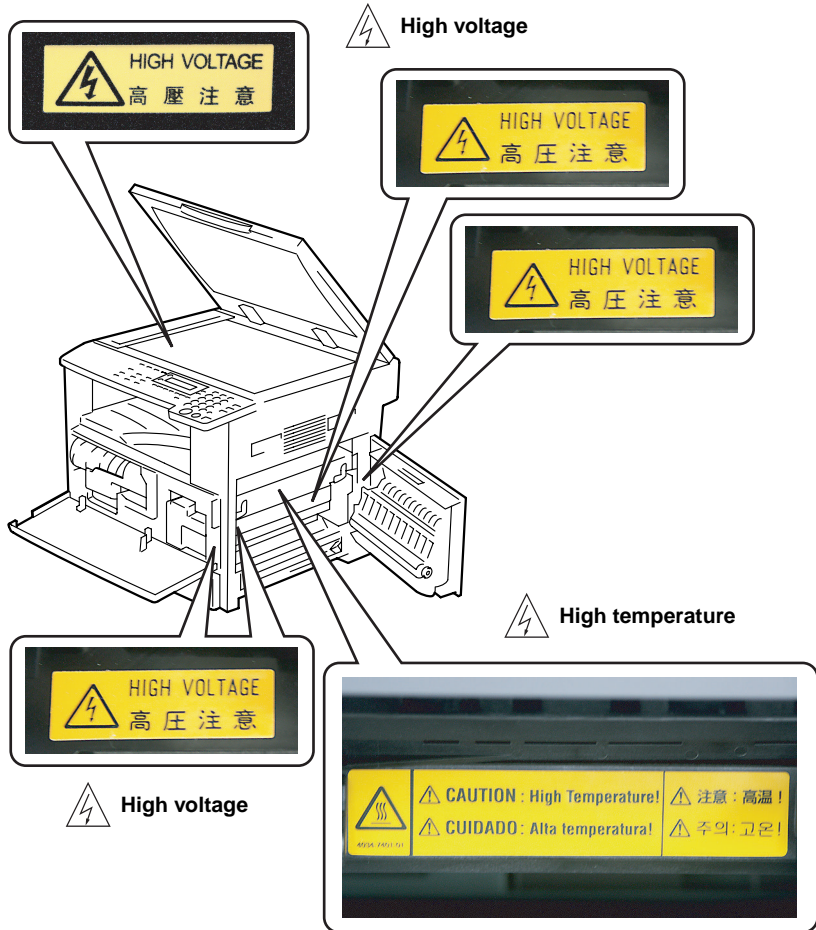
ATTENTION

Double pôle / fusible sur le neutre.

- * A fuse is installed in each of both L and N lines of the power source of this machine. If the machine is brought to a stop as a result of the fuse on the N line having been blown for some reason, there is still the power source voltage being applied to the primary circuit of the machine. To prevent an electric shock, be sure to unplug the power cord of the machine before attempting to service the machine.

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.



4034PJ501DA

⚠ 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 become dirty and therefore the caution cannot be read, contact our Service Office.



KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE

bizhub 162

bizhub 210





Main Unit

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, show  to the left of the revised section.
A number within  represents the number of times the revision has been made.
- To indicate clearly a section revised, show  in the lower outside section of the corresponding page.
A number within  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.

2005/04	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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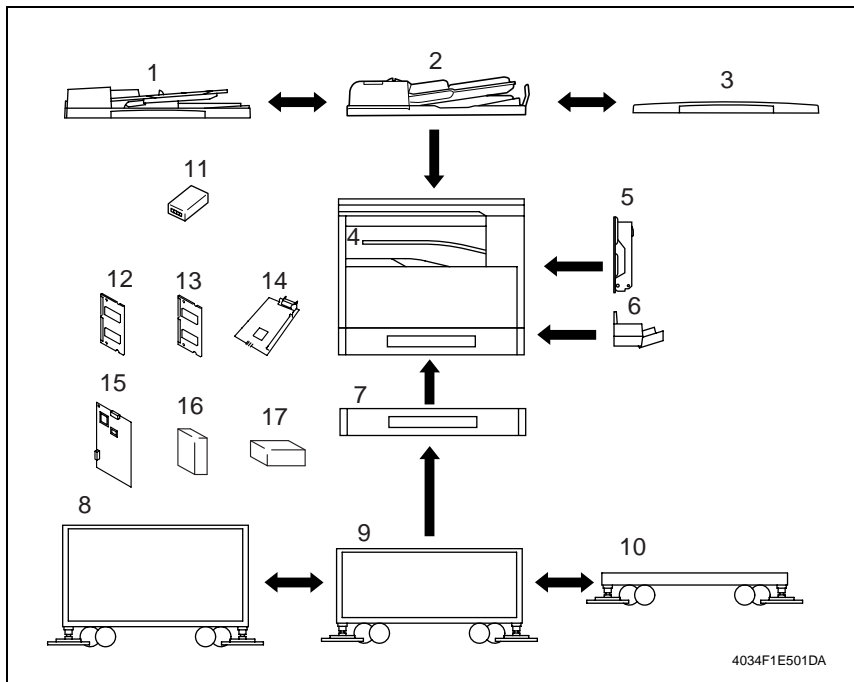
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General

1. System configuration

1.1 bizhub 210



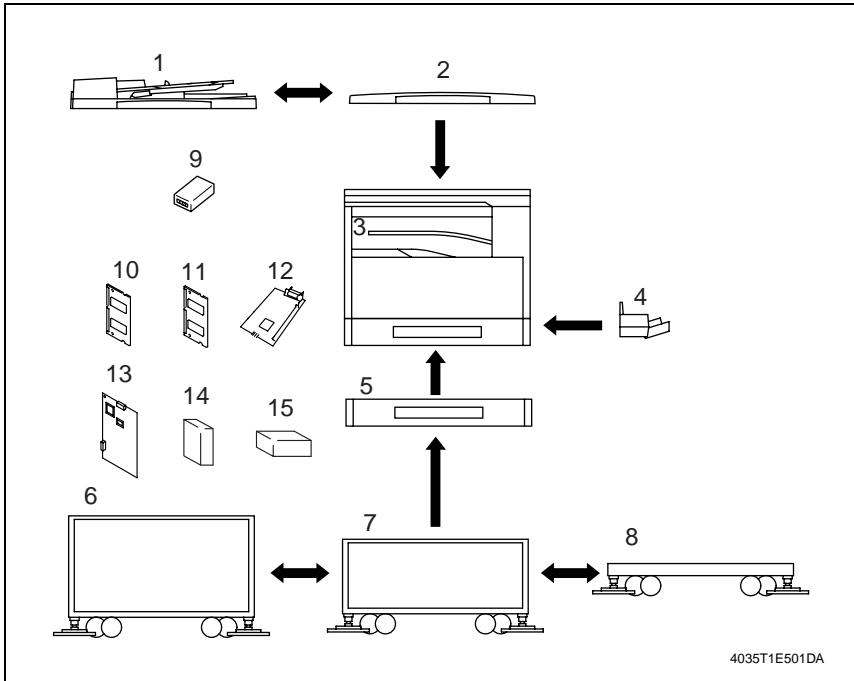
- | | |
|--|---|
| [1] Automatic Document Feeder (DF-502) | [10] Copy Table (DK-703)*3 |
| [2] Duplexing Document Feeder (DF-605) | [11] Key Counter Kit |
| [3] Original Cover Kit (OC-504)*1 | [12] 32MB Memory (EM-101) |
| [4] Job Separator (JS-503) | [13] 64MB Memory (EM-102) |
| [5] Duplex Unit (AD-504) | [14] Printer Controller (IC-205) |
| [6] Multiple Bypass (MB-501) | [15] Network Interface Card (NC-502) |
| [7] Paper Feed Unit (PF-502)*2 | [16] Internet Fax & Network Scan Kit (SU-502) |
| [8] Copy Desk (DK-701)*3 | [17] Fax Kit (FK-505) |
| [9] Copy Desk (DK-702)*3 | [18] Shifting Unit (SF-501) (Illustration none) |

*1: Standard for the Chinese market

*2: One drawer PF-502 is standard for the Chinese market.

*3: 3rd area only

1.2 bizhub 162



- | | |
|--|---|
| [1] Automatic Document Feeder (DF-502) | [9] Key Counter Kit |
| [2] Original Cover Kit (OC-504)*1 | [10] 32MB Memory (EM-101) |
| [3] Job Separator (JS-503) | [11] 64MB Memory (EM-102) |
| [4] Multiple Bypass (MB-501) | [12] Printer Controller (IC-205) |
| [5] Paper Feed Unit (PF-502)*2 | [13] Network Interface Card (NC-502) |
| [6] Copy Desk (DK-701)*3 | [14] Internet Fax & Network Scan Kit (SU-502) |
| [7] Copy Desk (DK-702)*4 | [15] Fax Kit (FK-505) |
| [8] Copy Table (DK-703)*4 | [16] Shifting Unit (SF-501) (Illustration none) |

*1: Standard

*2: One drawer PF-502 is standard for the Chinese market.

*3: 3rd area only

*4: Optional by dealer

2. Product specification

2.1 Copier

Type	Console/Desktop Type
Platen	Stationary
Original Scanning System	CCD Line Sensor
Photoconductor	Organic Photoconductor
Copying System	Electrostatic Dry Powdered Image Transfer to Plain Paper with a Laser
Resolution	600 x 600 dpi
Paper Feeding System	Max. Six-way System
Exposure System	Mirror Scanning
Developing System	HMT System
Charging System	Comb Electrode (1) DC Negative Corona with Scorotron System
Image Transfer System	Roller Image Transfer
Paper Separating System	Paper Separator Fingers and Charge Neutralizing Plate
Fusing System	Heat Roller
Paper Discharging System	Charge Neutralizing Brush
Max. Original Size	A3

Copy Medium

		Paper Feed Tray/1	Manual Bypass
Type	Plain Paper (60 to 90 g/m ²)	○	○
	Transparencies	○	○
	Thick Paper (91 to 157 g/m ²)	○	○
	Postcards, Labels, and Envelopes	○	○
	Recycled Paper (60 to 90 g/m ²)	○	○
Size	Width	90 x 297 mm*	90 x 297 mm
	Length	140 x 432 mm*	140 x 432 mm

* If the width set 297 mm, the max. length is to 420 mm.

If the length set 432 mm, the max. width is to 279 mm.

Multiple Copies	1 to 99
Warm-up Time	bizhub 210: 15 sec. or less (23 °C, Rated Voltage) bizhub 162: 30 sec. or less (23 °C, Rated Voltage)
First Copy Time	7 sec. or less (A4/Letter, Paper Feed Tray/1, full size mode)

Continuous Copy Speed (copies/min)

Zoom ratio $\times 1.000$, Paper Feed Tray/1

Size	Speed	
	bizhub 210	bizhub 162
A3	12	10
A4 R	16	13
A4	21	16
B4	13	11
B5	23	18
B5 R	18	15
Letter	20	16
Letter R	17	14
11 x 17	11	10
Legal	14	12
11 x 14	14	12

Zoom Ratios

Fixed	Full Size	$\times 1.00$
	Reduction	$\times 0.81$
		$\times 0.70$
		$\times 0.50$
		$\times 0.25$
	Enlargement	$\times 1.15$
$\times 1.41$		
$\times 2.00$		
$\times 4.00$		
Variable	$\times 0.25$ to $\times 4.00$ (in $\times 0.01$ increments)	

Lens	Through Lens
Exposure Lamp	Rare Gas Fluorescent Lamp

Power/Current Consumption

Max. Current Consumption (full system)	1250 W (bizhub 210: 200 V area) 1200 W (bizhub 210: 120 V area) 1050 W (bizhub 162: 200 V area) 1000 W (bizhub 162: 120 V area)
Current Consumption (full system)	5.5 A (bizhub 210: 200 V area) 10 A (bizhub 210: 120 V area) 4.5 A (bizhub 162: 200 V area) 8.5 A (bizhub 162: 120 V area)
Power Requirements	110 V, 120 V, 127 V, 220 V to 240 V, 50/60 Hz

Environmental Conditions

Temperature	10 to 30 °C with a fluctuation of 10 °C or less per hour
Humidity	15 to 85 % RH with a fluctuation of 20 % RH or less per hour
Ambient Illumination	3000 lux or less
Levelness	1° or less
Copier Dimensions	Width = 599 mm, Depth = 620 mm, Height = 487 mm (Copier Only)
Copier Mass	38 kg

<GDI Printer Functions>

Printing Speed	bizhub 210: 21 printed pages/min (A4, 300 dpi) 12 printed pages/min (A4, 600 dpi)
	bizhub 162: 16 printed pages/min (A4, 300 dpi) 12 printed pages/min (A4, 600 dpi)
Memory	Shared with the copier
Interface	IEEE 1284 (parallel), USB Revision 1.1 (except for Windows 95 and Windows NT)
Printer Language	GDI
Font	Windows
Complying OS	Windows XP (SP1 or later), Windows 2000 (SP3 or later), Windows NT Workstation Version 4.0 (SP6a or later), Windows ME, Windows 98 (SP1), Windows 98 SE, and Windows 95 OSR2.5
Web Browser	Internet Explorer 4.0 or later

2.2 Fax Kit (FK-505): (Option)

General

Compatibility	G3
---------------	----

Scanning Resolution

TX Mode	Resolution	CD direction (dpi)	FD direction (dpi)
Memory TX	STD	204	98
	FINE	204	196
	S_FINE	204	392
Non memory TX	STD	204	98
	FINE	204	196
	S_FINE	408	392

Line	PSTN/ PBX
Data Transmission Rate	33.6 kbps (V.34 JBIG)
Coding Method	MH/ MR/ MMR/ JBIG
Document Size	CCD Scanning - A3/11 × 17 (297 mm) Sheet Through Scanning - STD/FINE: Max. 297 mm width × 1,000 mm - Super Fine: Max. 297 mm width × 900 mm
Internet fax	Enable when the optional Internet Fax & Network Scan Kit SU-502 and Network Interface Card NC-502 are installed.

Dialing

One touch dial	27 keys
Speed dial	200 fax numbers
Group dial	27 groups (50 destination/group)
Program dial	4 keys (No. 24 ~ 27)
Other dialing	On-hook dial, Automatic redial, Manual redial, Chain dial, Combination dial

Transmission

Transmission mode	ADF TX, Memory TX, Batch TX, Broadcast TX, Manual TX, Polling TX, Quick Memory TX, Book TX, Relay initiate TX, Timer TX, Relay Broadcast
-------------------	--

Receiving

Receiving mode	Mailbox RX, Manual RX, Memory RX, Substitute RX, Polling RX
RX resolution	204 dpi × 98 dpi, 204 dpi × 196 dpi, 204 dpi × 392 dpi
Max. recording paper size	A3/ 11 × 17

Maintenance

3. Periodical check

3.1 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.

3.1.1 Replacement parts

A. Main unit

No.	Classification	Parts name	Quantity	Actual durable cycle *1	Parts No.	Descriptions	Ref. Page in this manual
1	Paper take-up section	Feed Roller	1	150 K	4034-3012-XX		10
2		Separation Roller Assy	1	150 K	4034-0151-XX		10
3	Transport section	Paper Dust Remover	1	40 K	4034-0756-XX		11
4	Imaging Unit section	PC Drum	1	40 K	-		13
5		Ozone Filter	1	150 K	1156-4118-XX		14
6		PC Drum Charge Corona Assy	1	40 K	4021-0306-XX		14
7		Cleaning Blade	1	40 K	4034-5622-XX		14
8		Developer	1	40 K	-		16
9	Image transfer section	Image Transfer Roller Assy	1	150 K	4034-0755-XX		18
10	Fusing section	Fusing Unit	1	150 K	4035-0751-XX *2 4035-0752-XX *3 4035-0754-XX *4		19

*1: Actual durable cycle is the Life counter value.

*2: 110 V/120 V/127 V areas only.

*3: 220-240 V areas only.

*4: European area.

B. Option

No.	Classification	Parts name	Quantity	Actual durable cycle *1	Pats No.	Descriptions	Ref. Page in this manual
1	DF-502	Pick-up Roller	1	120 K	4688-3032-XX	Replace those three parts at the same time.	See each Option Service Manual.
2		Paper Take-up Roller	1	120 K	4688-3033-XX		
3		Separation Roller	1	120 K	4688-3034-XX		
4	DF-605 *2	Pick-up Roller	2	200 K	4344-5003-XX	Replace those three parts at the same time.	
5		Paper Take-up Roller	1	200 K	4582-3014-XX		
6		Separation Roller	1	200 K	4582-3047-XX		
7	PF-502	Feed Roller	2	150 K	4686-3371-XX		
8	MB-501	Paper Take-up Roller	1	150 K	4687-3012-XX		
9		Separation Roller Assy	1	150 K	4034-0151-XX		

*1: Actual durable cycle is the Life counter value.

*2: bizhub 210 only

3.1.2 Cleaning parts

No.	Classification	Parts name	Actual cleaning cycle *1	Descriptions	Ref. Page in this manual
1	IR section	Original Glass	80 K		19
2	DF-502	Pick-up Roller	30 K		See each Option Service Manual.
3		Paper Take-up Roller	30 K		
4		Separation Roller	30 K		
5		Registration Roller	30 K		
6		Registration Roll	30 K		
7		Exit Roller	30 K		
8		Exit Roll	30 K		
9		Transport Roll	30 K		
10		Length Size Detection Sensor (PC7/AF)	30 K		
11		DF-605 *2	Pick-up Roller	50 K	
12	Paper Take-up Roller		50 K		
13	Separation Roller		50 K		
14	Rollers and rolls		50 K		
15	Scanning Guide		50 K		
16	Reflective Sensor Section		50 K		

*1: Actual cleaning cycle is the Life counter value.

*2: bizhub 210 only

3.2 Concept of parts life

	Description	Life value (Specification value)	New Copy/Print Cycle Inhibited
PC Drum	The distance traveled by the PC Drum is converted to a corresponding number of printed pages of A4 paper at 2P/J.	40 K	Not inhibited *1
Cleaning Blade		40 K	
PC Drum Charge Corona		40 K	
Developer		40 K	
Image Transfer Assy	The number of sheets of paper fed out of the copier is counted.	150 K	Not applicable
Paper Dust Remover Assy		40 K	Not applicable
Fusing Unit		150 K	Not applicable

K = 1,000 copies

*1: The Service mode can be used to set either enable or disable the initiation of a new copy/print cycle.

A. Conditions for Life Specifications Values

- The life value represents the number of copies made in the conditions specified in the table shown below, or a value translated to a corresponding number of copies made. It may therefore vary depending on the conditions, in which the copiers are used among different users.

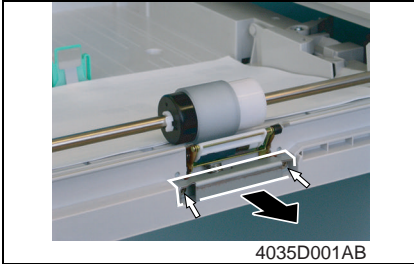
Item	Description
Copying type	2P/J
Paper size	A4
Original density	B/W 6%

3.3 Maintenance procedure (Periodical check parts)

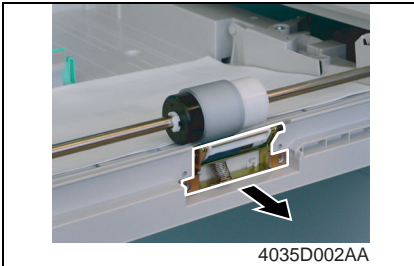
NOTE

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

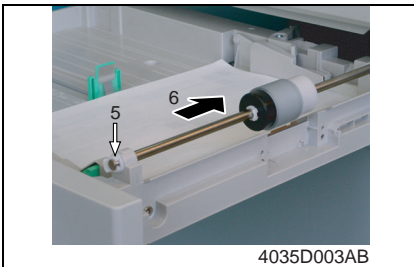
3.3.1 Replacing the Separation Roller Assy and Feed Roller



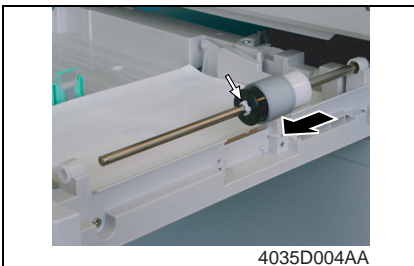
1. Slide out the Paper Feed Tray/1.
2. Remove two screws and the mounting bracket.



3. Remove the Separation Roller Assy.



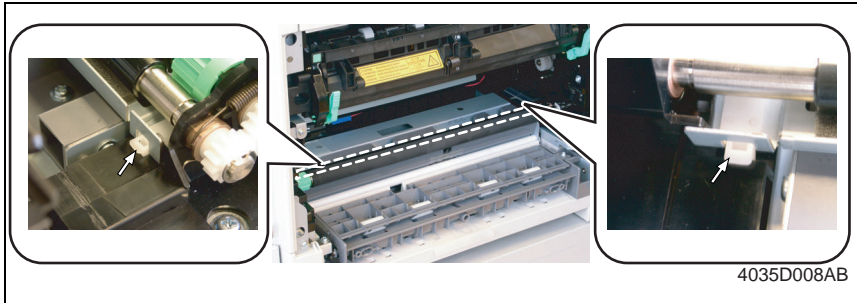
4. Press down the Paper Lifting Plate.
5. Snap off one C-clip from the Feed Roller Assy.
6. Slide the Feed Roller Assy to the rear and pull it off the Bearing at the front.



7. Snap off one C-clip and remove the Feed Roller.

3.3.2 Replacing the Paper Dust Remover Assy

1. Open the Right Door.
2. Remove the Imaging Unit.
3. Unhook the two tabs and remove the Paper Dust Remover Assy.



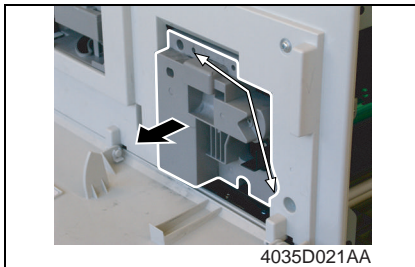
3.3.3 Replacing the Imaging Unit (IU)

NOTE

- When the developer is to be changed, it is necessary that toner in the Recycled Toner Recycling Duct and Toner Conveying Duct be fed into the Developer Mixing Chamber. To do that, remove the Toner Bottle and run "ATDC Auto Adjust" twice.

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1. Open the Front Door.
2. Open the Right Door.

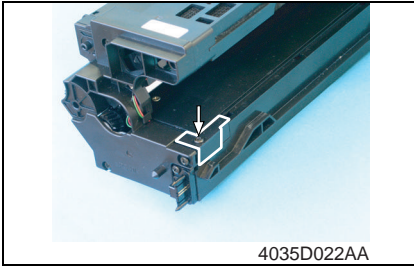


3. Remove two screws and the IU.

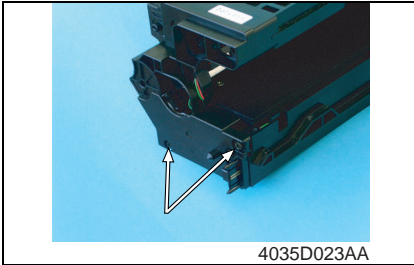
Precautions for Installation of the IU

- When installing the IU, use care not to damage the PC Drum.
- Before attempting to install the IU, be sure to fully open the Right Door. Take care that, if the IU is installed with the Right Door locked halfway, it may interfere with the transfer roller.
- When inserting the IU, do that slowly and, when you are sure that the drum gear contacts the mating part, push the IU all the way into position. If this step is done all at once, the drum gear could be damaged.

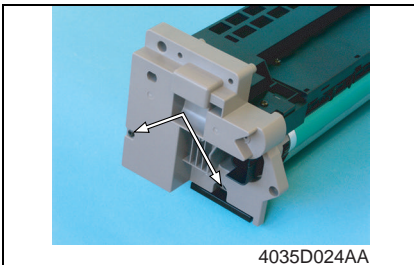
3.3.4 Disassembly of the IU



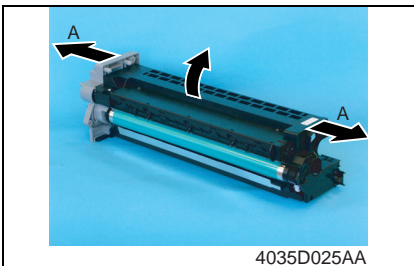
1. Remove one screw in the rear of the IU and remove the harness cover.



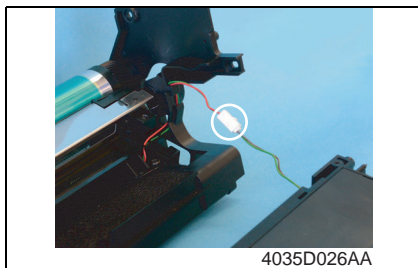
2. Remove two screws in the rear of the IU.



3. Remove two screws at the front of the IU.



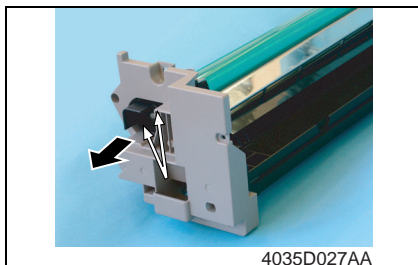
4. Widen flaps on both ends (marked with A in the photo on the left) of the Drum Assy in the direction of the arrow and turn to take off the Developing Assy.



4035D026AA

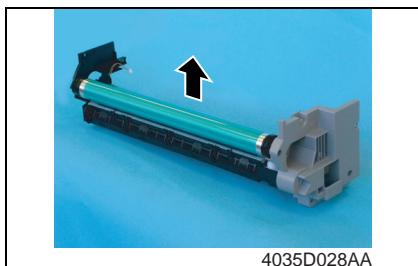
5. Unplug one connector of the Main Erase.

3.3.5 Replacing the PC Drum



4035D027AA

1. Remove two screws and the pivot shaft.



4035D028AA

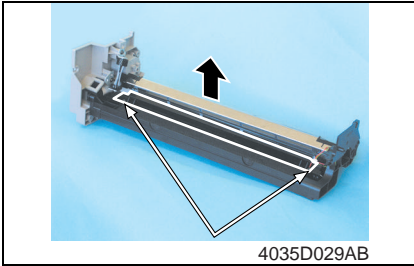
2. Remove the PC Drum.

NOTE

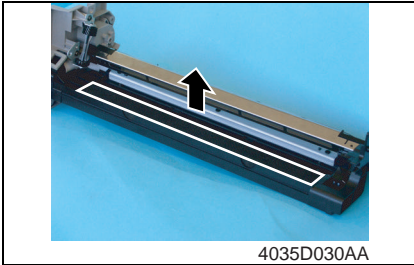
- Protect the PC Drum that has been removed with a protective cloth.
- If the PC Drum has been replaced with a new one, apply a coat of toner to the surface of the new PC Drum.

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3.3.6 Replacing the Ozone Filter

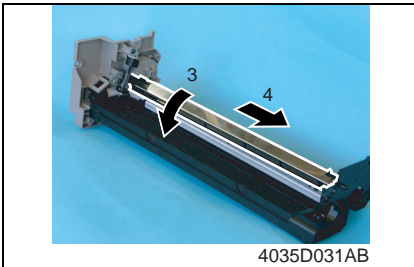


1. Remove two screws and the Main Erase.



2. Remove the Ozone Filter.

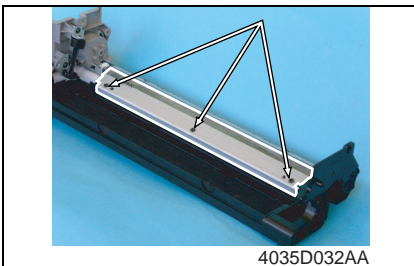
3.3.7 Replacing the PC Drum Charge Corona Assy



1. Remove the PC Drum.
2. Remove the Main Erase.
3. Turn the holder in the rear in the direction of the arrow to remove it from the side bracket.
4. Slide out the PC Drum Charge Corona in the direction of the arrow.

3.3.8 Replacing the Cleaning Blade

1. Remove the PC Drum Charge Corona Assy.

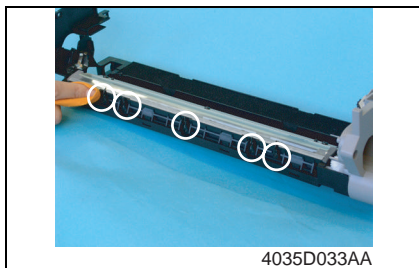


2. Remove three screws and the Cleaning Blade.

NOTE

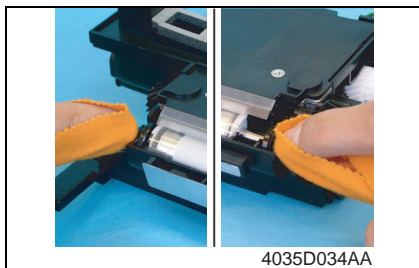
- When securing the Cleaning Blade, tighten screws in the order of one on one edge, one at the center, and one on the other edge.
- When the Cleaning Blade has been replaced, apply a coat of toner to the surface of the PC Drum.

3.3.9 Cleaning of the PC Drum Paper Separator Fingers



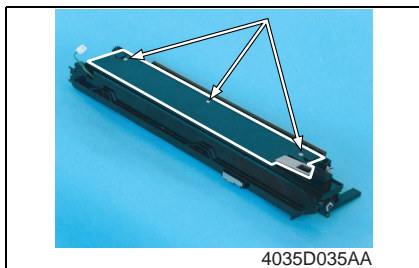
1. Using a soft cloth dampened with alcohol, wipe the five Paper Separator Fingers clean of dirt.

3.3.10 Cleaning of the Ds Collars



1. Using a soft cloth dampened with alcohol, wipe the two Ds Collars clean of dirt.

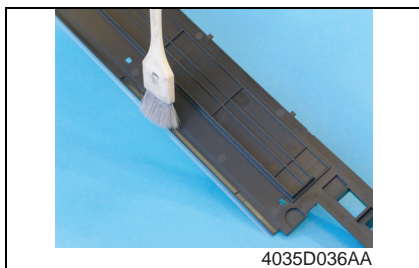
3.3.11 Cleaning of the Developer Scattering Prevention Plate



1. Remove three screws and the Developer Scattering Prevention Plate.

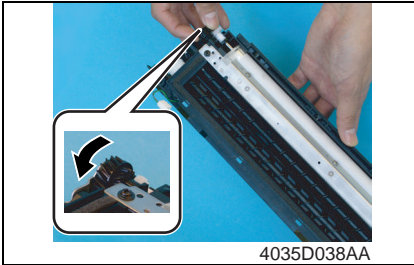
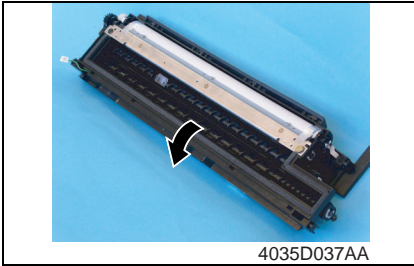
Precautions for Installation of the Developer Scattering Prevention Plate

- When securing the Developer Scattering Prevention Plate, tighten screws in the order of one on one edge, one at the center, and one on the other edge.



2. Using a brush, whisk dust and dirt off the surface of the Developer Scattering Prevention Plate.

3.3.12 Replacing the Developer



1. Dump the developer.

<<How to Dump Developer>>

- Dump developer on the surface of the Sleeve Roller by turning the gear in the direction of the arrow with the Developing Unit tilted as shown.

NOTE

- **Turning the gear backward at this time could damage the Mylar for cleaning the ATDC Sensor.**
- Dump developer until almost no developer sticks to the Sleeve Roller.

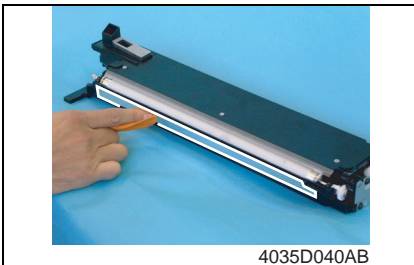
2. Pour one packet of developer.

NOTE

- **Shake the packet of developer well before pouring.**
- **When the developer has been changed, make the ATDC AUTO ADJUST and enter the adjustment value on the Adjust Label.**

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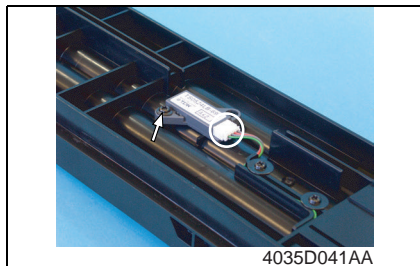
3.3.13 Cleaning of the Pre-Image Transfer Guide Plate



1. Using a soft cloth dampened with alcohol, wipe the Pre-image Transfer Upper Guide Plate clean of dirt.

3.3.14 Replacing the ATDC Sensor

1. Separate the IU into the Drum Assy and Developing Assy.
- ④ 12
2. Remove the Developer Scattering Prevention Plate.
3. Dump developer.



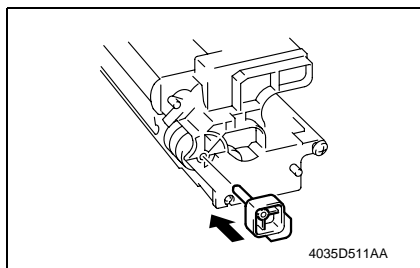
4. Unplug one connector, and remove one screw and the ATDC Sensor.

5. Install the ATDC Sensor and the Developer Scattering Prevention Plate.
6. Assemble the Drum Assy to the Developing Assy to reconstruct the IU.
7. Install the IU in the copier and run "ATDC Auto Adjust" of the Service mode.
- ④ 103
8. Enter the adjustment value on the Adjust Label.

3.3.15 Application of Toner

NOTE

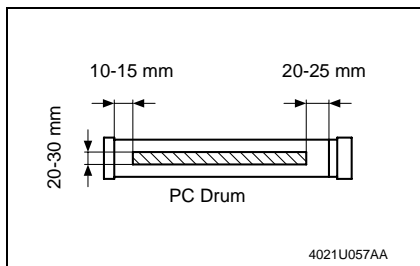
- Perform these steps when the PC Drum and/or Cleaning Blade have been replaced.



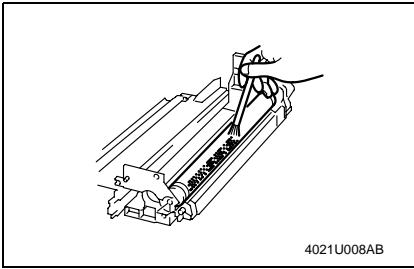
1. With the IU divided into the Drum Assy and Developing Assy, install the PC Positioning Jig in the rear of the Developing Assy.

NOTE

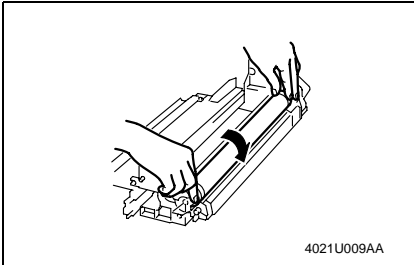
- Ready the PC Positioning Jig (Pivot Shaft) separately. (See the Parts Manual.)



<<Area to which toner is to be applied>>

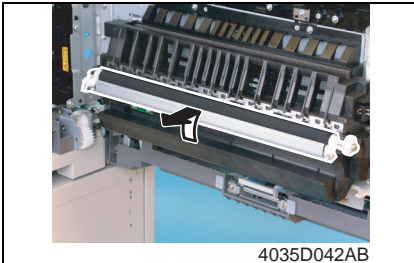


- Using a brush, apply a light coat of toner to the surface of the PC Drum.



- Hold both ends of the PC Drum with your both hands and turn the PC Drum a half turn in the direction of the arrow.

3.3.16 Replacing the Image Transfer Roller Assy



- Remove the Image Transfer Roller Assy.

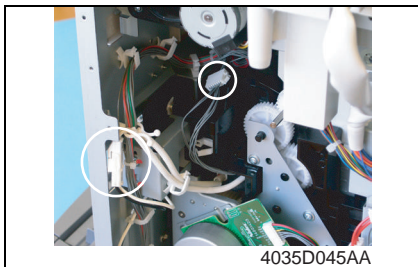
NOTE

- Indentations or dirt on the surface of the Image Transfer Roller adversely affect the printed image. Do not therefore touch or dirty with toner the surface of the Image Transfer Roller.
- When handling the Image Transfer Roller, hold onto the shaft or Bearings of the roller.
- Do not place a new Image Transfer Roller directly on the floor.

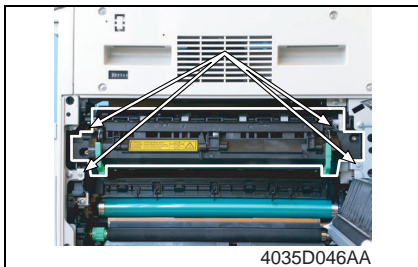
3.3.17 Replacing the Fusing Unit

1. Remove the Rear Cover and Rear Right Cover.

ES 31



2. Unplug two connectors of the Fusing Unit.



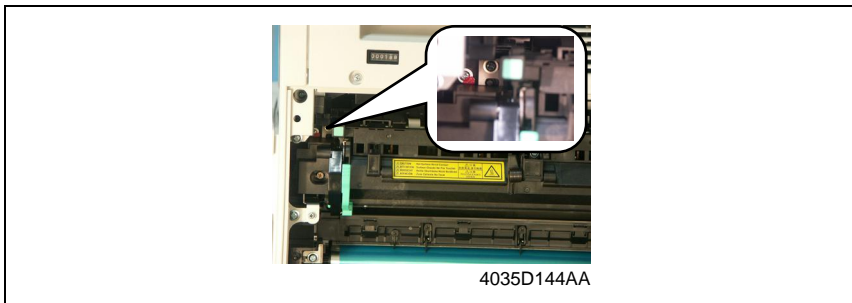
3. Open the Right Door.
4. Remove four screws and the Fusing Unit.

NOTE

When removing the Fusing Unit, make sure of the correct type of screws that must be removed.

NOTE

When removing the Fusing Unit, take care not to confuse the types of screw.



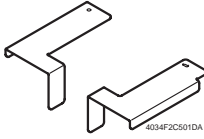
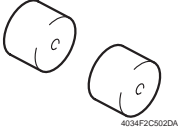
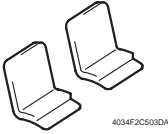
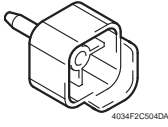
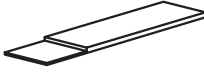
3.3.18 Cleaning of the Original Glass and Original Scanning Glass



1. Using a soft cloth dampened with alcohol, wipe the Original Glass and Original Scanning Glass clean of dirt.

4. Service tool

4.1 CE Tool list

Tool name	Shape	Parts No.	Personnel	Remarks
Scanner/Mirrors Carriage Positioning Jigs		4034-7901-XX 4034-7902-XX	1 for each	
Ds Collar Positioning Jigs		4021-7903-XX	2	
Db Gap Adjusting Jigs		4021-7904-XX	2	
PC Positioning Jig		4021-4362-XX	2	
Gauge		1144-7910-XX	2	

5. Firmware upgrade

5.1 Preparations for Firmware rewriting

5.1.1 Installing the Driver

NOTE

- **Since USB is used to upgrade the firmware, the host computer must be run on an OS of Windows 98 or later.**
- **The TWAIN driver must previously be installed in the host computer that is used to upgrade the firmware.**
- **If the TWAIN driver has not been installed, use the procedure below to install it.**
- **If the TWAIN driver has already been installed, proceed with the section on “Firmware rewriting” to upgrade the firmware.**

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A. Plug and Play Installation of the GDI Printer/TWAIN Driver

<For Windows XP>

1. Start the host computer.
2. Turn on the power switch of copier.
3. Use a USB cable to connect the copier to host computer.
4. In the “Found New Hardware Wizard” dialog box, choose “Install from a list or specific location (Advanced)”, and then click [Next].
5. Under “Search for the best driver in these locations”, choose “Include this location in the search”, and then click [Browse].
6. Specify “\ (name of any given language)\WinXP” in the folder in which the TWAIN driver is stored, and then click [OK].
7. Click [Next] and then [Finish].
8. The “Found New Hardware Wizard” dialog box will appear again: Repeat steps 4~7 to install all drivers.

<For Windows 2000>

1. Prepare the files necessary for upgrading the firmware, and copy them to PC.
2. Start the host computer.
3. Turn on the power switch of copier.
4. Use a USB cable to connect the copier to host computer.
The “Found New Hardware Wizard” dialog box will appear.
5. In the “Install Hardware Device Printers” dialog box, choose “Search for a suitable driver for my device (recommended)”, and then click [Next].
6. In the “Locate Driver Files” dialog box, choose “Specify a location”, and then click [Next].
7. Click [Browse], specify “\ (name of any given language)\Win2000” in the folder in which the TWAIN driver is stored, and then click [OK].
8. Click [OK]. Then, continue following the instructions in the dialog boxes that will appear until the “Completing the Found New Hardware Wizard” dialog box appears.
9. Click [Finish].
10. The “Found New Hardware Wizard” dialog box will appear again: Repeat steps 4~8 to install all drivers.

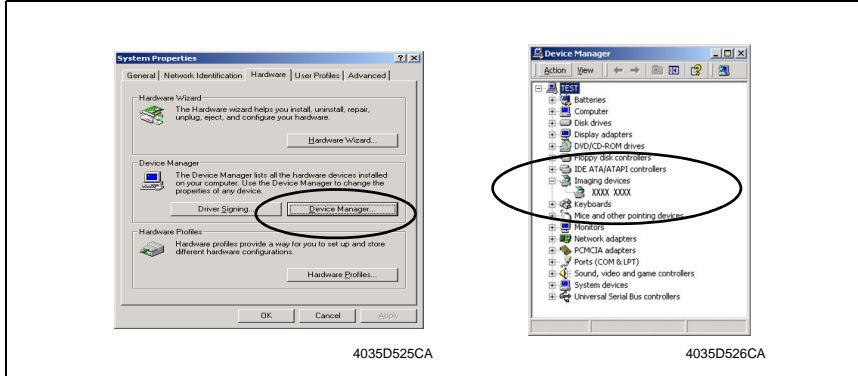
<For Windows Me/98>

1. Prepare the files necessary for upgrading the firmware, and copy them to PC.
2. Start the host computer.
3. Turn on the power switch of copier.
4. Use a USB cable to connect the copier to host computer.
The "Add New Hardware Wizard" dialog box will appear.
5. With Windows Me, choose "Specify the location of the driver (Advanced)", and then click [Next].
With Windows 98, click [Next]. Then, in the dialog box that will then appear, choose "Search for the best driver for your device (recommended)", and then click [Next].
6. Choose "Specify a location", and then click [Browse].
7. Specify "\\(name of any given language)Win9X" in the folder in which the TWAIN driver is stored, and then click [OK].
8. Click [Next]. Then, continue following the instructions in the dialog boxes that will appear until the "Finish" button appears.
9. Click [Finish].
10. The "Add New Hardware Wizard" dialog box will appear again: Repeat steps 4-8 to install all drivers.

5.2 Firmware rewriting

5.2.1 Updating method

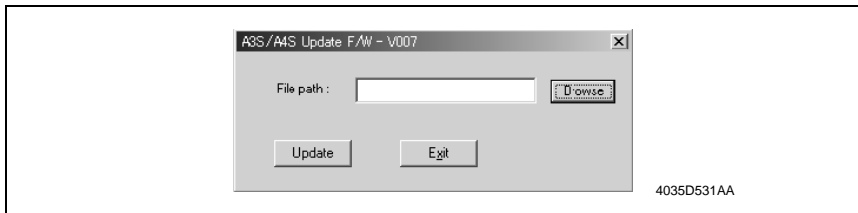
1. Turn ON the Power Switch of the copier.
2. Start the host computer.
3. Copy the "Update Software" folder and "Update" file to drive C. (Copy them into the highest directory on drive C.)
4. Connect the copier to the host computer using a USB cable. (Wait until the hardware is detected.)
5. Open "Properties" of "My Computer." Then select System Properties/Hardware/Device Manager/Imaging devices to check that the "XXXXXXXXXX" (Model Name) icon has been added.



6. Double-click the "Update" file in the "Update Software" folder. The "A3S/A4S Update F/W-VXXX" screen will appear.



7. Click the [Browse] button. Then, select the "Update" file that has been copied onto drive C in step 3.



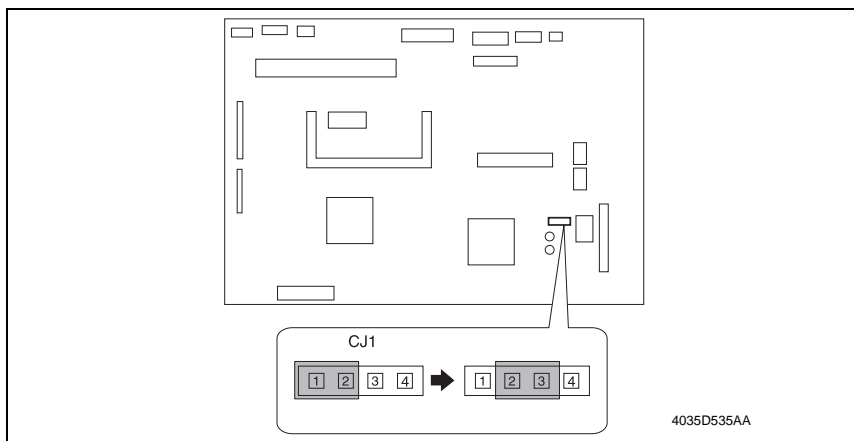
8. Click the [Update] button to start the transfer of the firmware data. (Wait until data transfer is completed.)

5.2.2 Procedure when Upgrading the Firmware has failed

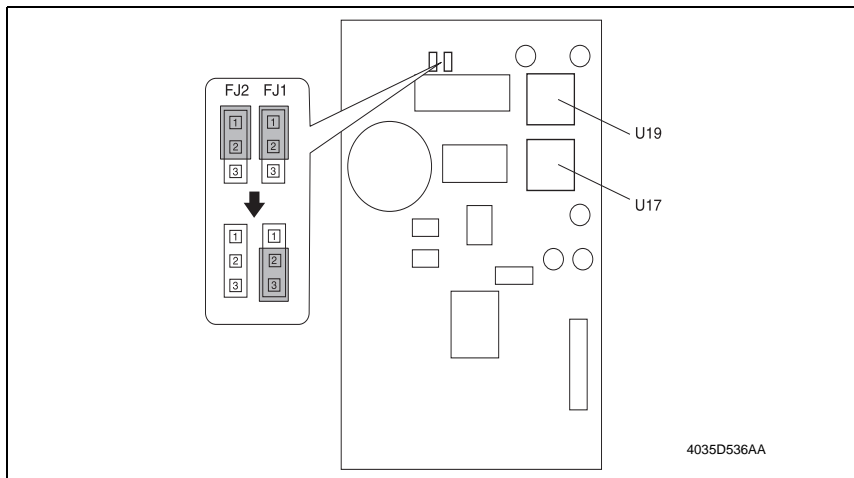
NOTE

- Perform upgrading using BIOS only when upgrading from PC using ordinary USB connection has failed and the PC has not started properly.
- To perform this procedure, you need the Fax board, BIOS ROMs (U17, U19) and the TWAIN Driver dedicated to this specific purpose.

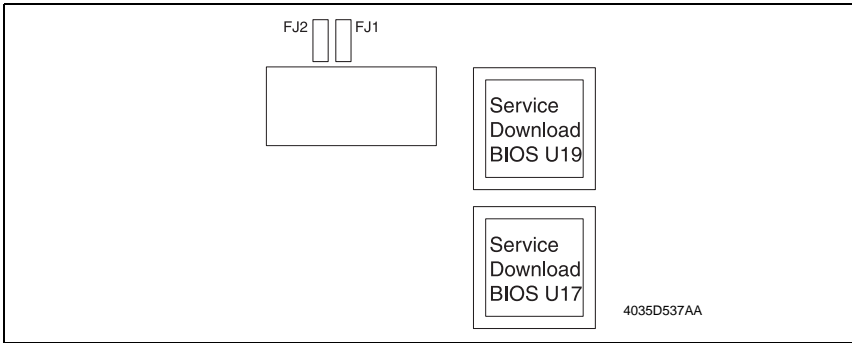
1. Turn off the power switch of copier.
2. Disconnect the USB cable from the copier and host computer.
3. Remove the rear cover.
- 31
4. Disconnect jumper [CJ1] on the Control board (PWB-C/C) from 1-2 and connect it to 2-3.



5. Disconnect jumper [FJ1] on the Fax board from 1-2 and connect it to 2-3.
6. Disconnect jumper [FJ2] on the Fax board.



7. Install the BIOS ROMs (U17, U19) on the Fax board.



8. Attach the Fax board to Control board (PWB-C/C).
9. Turn on the power switch of copier. Following message will appear on message panel and copier waits for file data.



10. Perform steps 4~12 in the firmware upgrading procedure to upgrade the firmware.
11. Turn power off.
12. Remove the Fax board.
13. Disconnect jumper [CJ1] on the Control board (PWB-C/C) from 2-3 and connect it to 1-2.
14. Disconnect jumper [FJ1] on the Fax board from 2-3 and connect it to 1-2.
15. Connect jumper [FJ2] to 1-2 on the Fax board.

6. Other

6.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.

B. Red Painted Screws

NOTES

- When the screws are removed, the red paint is coated on the points where readjustment is required.
- Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with 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.

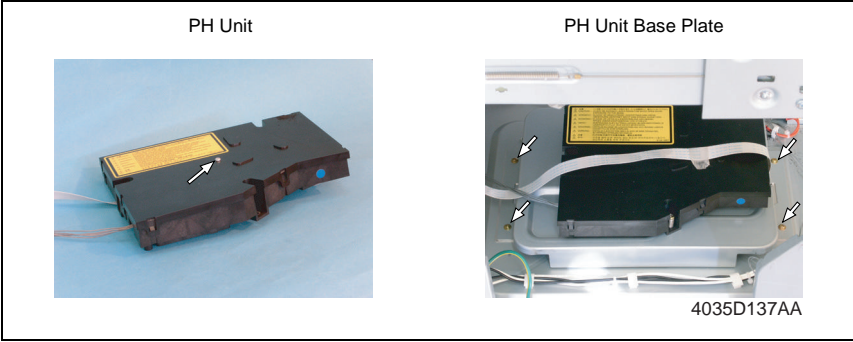
D. Removal of PWBs

NOTES

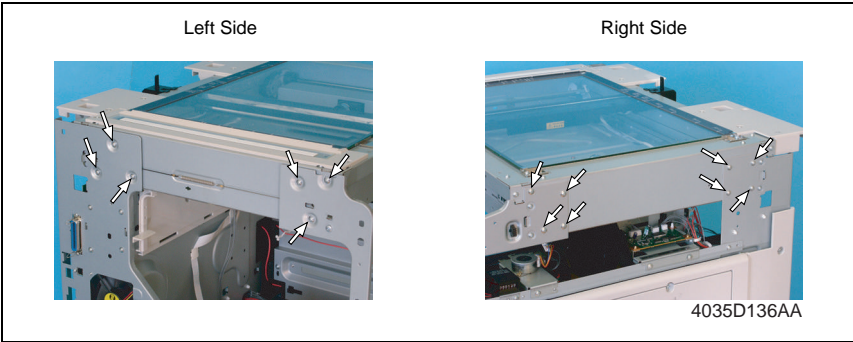
- When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.
- The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.
- Where it is absolutely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

E. Other Screws not Marked with Red Paint

(1) PH Unit Section



(2) IR Unit Section



6.2 Disassembly/Assembly/Cleaning list (Other parts)

6.2.1 Disassembly/Assembly parts list

No.	Section	Part name	Ref. Page
1	Exterior parts	Original Glass	☞ 31
2		Control Panel	☞ 31
3		Control Panel Left Cover	☞ 31
4		Front Cover	☞ 31
5		Paper Exit Cover	☞ 31
6		Front Door	☞ 31
7		Tray 1	☞ 31
8		Left Cover	☞ 31
9		Paper Exit Tray	☞ 31
10		Rear Inside Cover	☞ 31
11		Original Scanning Glass	☞ 31
12		Right Rear Cover	☞ 31
13		Left Rear Cover	☞ 31
14		Upper Rear Cover	☞ 31
15		Rear Cover	☞ 31
16		Rear Right Cover	☞ 31
17		Right Cover	☞ 31
18	Board and etc.	Master Board	☞ 33
19		Control Board	☞ 33
20		High Voltage Unit	☞ 35
21		Power Supply Unit	☞ 35
22		Paper Size Detecting Board	☞ 36
23		Heater Relay Board	☞ 37
24		Pre-image Transfer Board	☞ 37
25	Unit	Manual Bypass	☞ 38
26		Manual Bypass (Duplex Unit)	☞ 38
27		Toner Hopper Unit	☞ 38
28		PH Unit	☞ 39
29		Disassembly of the Fusing Unit	☞ 40
30	IR	CCD Unit	☞ 43
31		Scanner, Exposure Lamp, and Inverter Board	☞ 44
32		Scanner Motor	☞ 45
33		Scanner Drive Cables	☞ 46

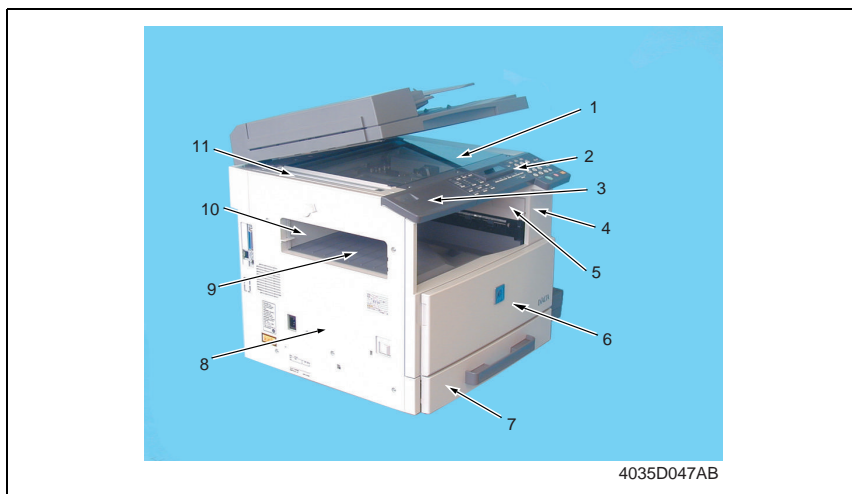
No.	Section	Part name	Ref. Page
34	Others	Main Motor	☞ 54
35		Power Unit Cooling Fan Motor	☞ 55
36		Fusing Cooling Fan Motor	☞ 55
37		Paper Size Sensor Assy	☞ 56
38		Fusing Unit Interlock Switch	☞ 57
39		Inch/Metric Sensor/1 Assy	☞ 59
40		Flickerless Resistor	☞ 59
41		Separation Roller	☞ 60
42		Feed Roller	☞ 60
43		Upper/Lower Synchronizing Rollers	☞ 60
44		Paper Dust Remover	☞ 61
45		Bypass Transport Roller/Roll	☞ 61

6.2.2 Cleaning parts list

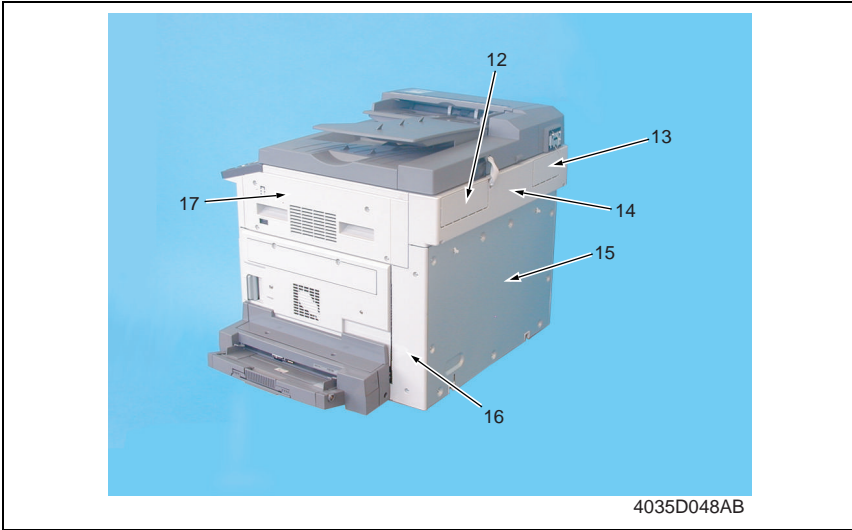
No.	Section	Part name	Ref. Page
1	IU	PC Drum Paper Separator Fingers	☞ 15
2		Ds Collars	☞ 15
3		Developer Scattering Prevention Plate	☞ 15
4		Pre-Image Transfer Guide Plate	☞ 16
5	IR	Mirrors	☞ 62
6		Lens	☞ 62
7		CCD Sensor	☞ 62
8		Scanner Rails/Bearings	☞ 63
9	PH	PH Window	☞ 63
10	Image transfer section	Pre-Image Transfer Lower Guide Plate	☞ 63
11		Charge Neutralizing Plate	☞ 64

6.3 Disassembly/Assembly procedure

6.3.1 Exterior Parts



No.	Part Name	Removal Procedure
1	Original Glass	Remove the Original Scanning Glass. → Remove one screw. → Remove the holding bracket. → Remove the Original Glass.
2	Control Panel	Remove the Control Panel Left Cover. → Remove two screws. → Remove one flat cable and unplug one connector. → Remove the Control Panel.
3	Control Panel Left Cover	Remove one screw. → Remove the Control Panel Left Cover.
4	Front Cover	Remove the Control Panel. → Slide out the Paper Feed Tray/1. → Open the Front Door. → Remove six screws. → Remove the Front Cover.
5	Paper Exit Cover	Remove the Front Cover. → Remove one screw. → Remove the Paper Exit Cover.
6	Front Door	Open the Front Door. → Snap off one C-clip. → Slide the Front Door to the right and pull it off.
7	Tray 1	Slide out Tray/1. → Remove two screws. → Remove the fixing brackets on the right and left ends of Tray/1. → Remove Tray/1.
8	Left Cover	Remove the Front Cover. → Remove five screws. → Remove the Left Cover.
9	Paper Exit Tray	Remove the Front Cover. → Remove two screws. → Remove the Paper Exit Tray.
10	Rear Inside Cover	Remove the Left Cover. → Remove the Paper Exit Tray. → Remove two screws. → Remove the Rear Inside Cover.
11	Original Scanning Glass	Remove the Left Cover. → Remove two screws. → Remove the Original Scanning Glass.

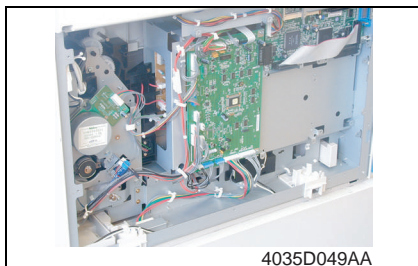


No.	Part Name	Removal Procedure
12	Right Rear Cover	Remove the Upper Rear Cover. → Remove three screws. → Remove the Right Rear Cover.
13	Left Rear Cover	Remove the Upper Rear Cover. → Remove four screws. → Remove the Left Rear Cover.
14	Upper Rear Cover	Remove four screws. → Remove the Upper Rear Cover.
15	Rear Cover	Remove nine screws. → Remove the Rear Cover. NOTE When the Rear Cover is to be installed, make sure of type of screw. (9735-0306-14 x 8 Screw, 9770-0308-14 x 1 Screw)
16	Rear Right Cover	Remove two screws. → Remove the Rear Right Cover.
17	Right Cover	Remove the Upper Rear Cover. → Remove the Front Cover. → Remove four screws. → Remove the Right Cover.

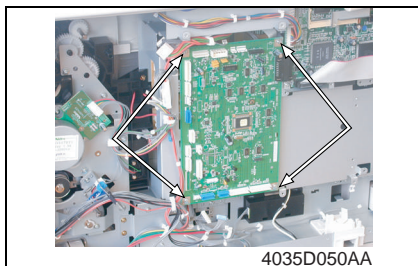
6.3.2 Master Board (PWB-A)

1. Remove the Rear Cover.

 31



2. Unplug all connectors from the Master Board.



3. Remove four screws and the Master Board.

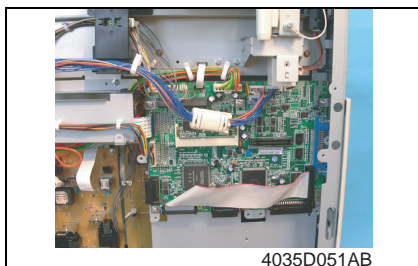
6.3.3 Control Board (PWB-C/C)

1. Remove the Rear Cover and Upper Rear Cover.

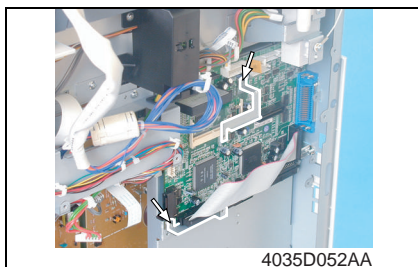
 31

2. Remove the Master Board.

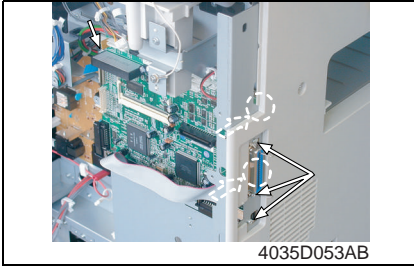
 33



3. Unplug all connectors from the Control Board.



4. Remove two screws and two holders.

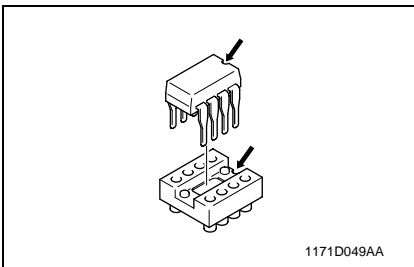
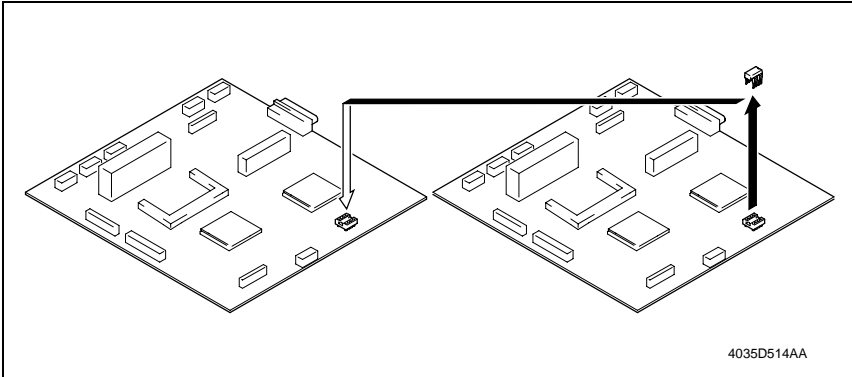


- Remove six screws and the Control Board.

Cautions in replacing the Control Board:

- When the Control Board (PWB-C/C) is replaced with a new one, Parameter Chip (U16) must be demounted from the old PWB-C/C and remounted on the new PWB-C/C.

Mount the Parameter Chip (U16) of the old PWB-C/C on the new PWB-C/C.

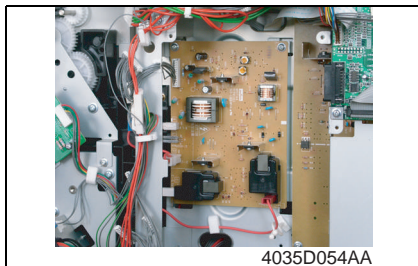


NOTE

- Note the alignment notch marked with A on the Parameter Chip (U16) when mounting the IC.

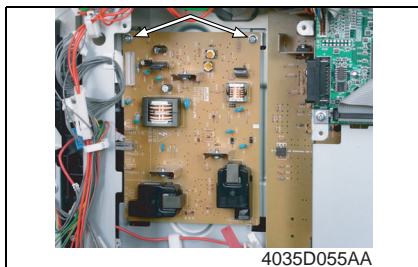
6.3.4 High Voltage Unit (HV1)

1. Remove the Rear Cover.
☞ 31
2. Remove the Master Board.
☞ 33



4035D054AA

3. Unplug all connectors from the High Voltage Unit.

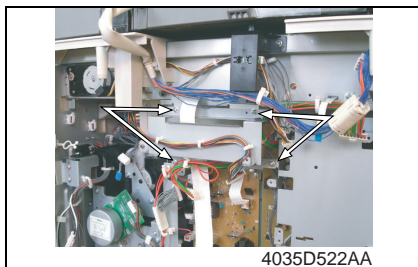


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4. Remove two screws and the High Voltage Unit.

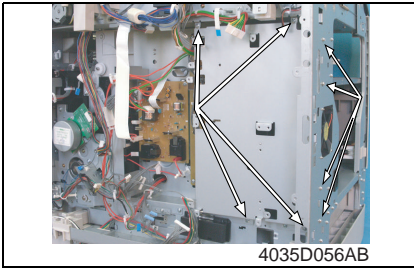
6.3.5 Power Supply Unit (PU1)

1. Remove the Left Cover, Rear Cover, and Upper Rear Cover.
☞ 31
2. Remove the Master Board.
3. Remove the Control Board.
☞ 33

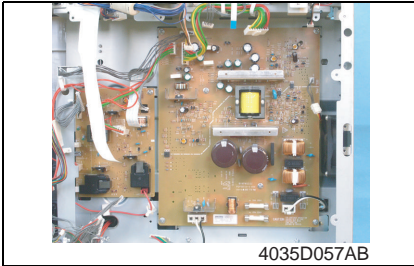


4035D522AA

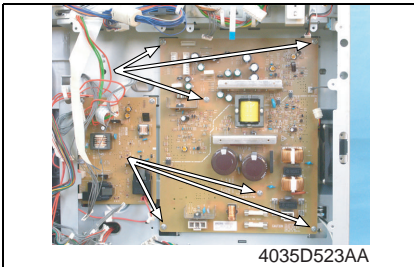
4. Remove the harness from four wiring saddles and one edge cover.
5. Remove four screws and protective cover 1.



- Remove eight screws and protective cover 2.



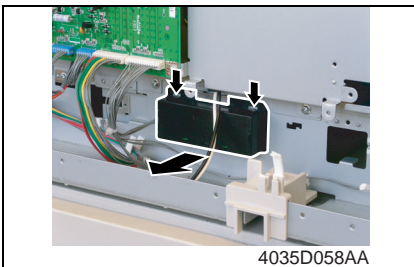
- Unplug all connectors from the Power Supply Unit.



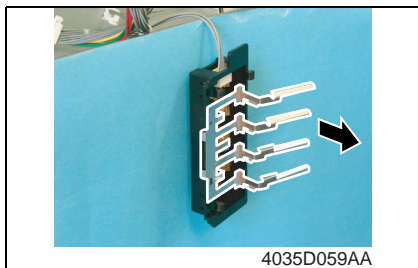
- Remove six screws and the Power Supply Unit.

6.3.6 Paper Size Detecting Board (PWB-I)

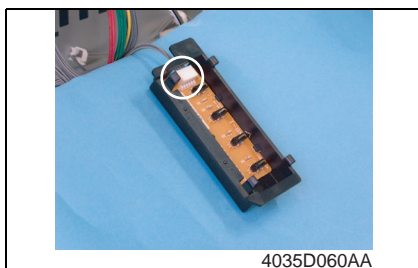
- Remove the Rear Cover.
- Slide out the Paper Feed Tray/1.



- Unhook two tabs and remove the holder.



4. Remove the lever.

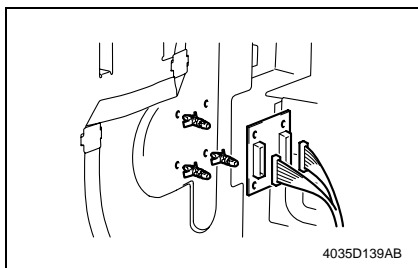


5. Unplug one connector and remove the Paper Size Detecting Board.

6.3.7 Heater Relay Board (PWB-RY): 200 V area only

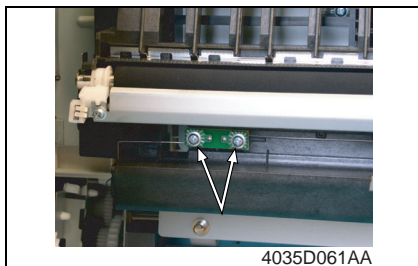
1. Remove the Front Cover and Left Cover.

EST 31




2. Unplug two connectors and remove three PWB supports and the Heater Relay Board.

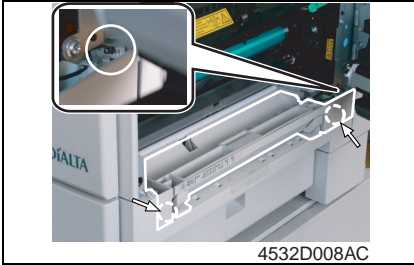
6.3.8 Pre-image Transfer Board (PWB-R2)



1. Open the Right Door.
2. Remove two screws and the Pre-image Transfer Board.


6.3.9 Manual Bypass

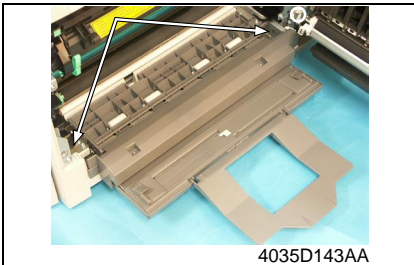
1. Remove the Rear Right Cover.
 31
2. Open the Right Door.



3. Remove two screws, unplug one connector, and remove the Manual Bypass.


6.3.10 Manual Bypass (Duplex Unit)

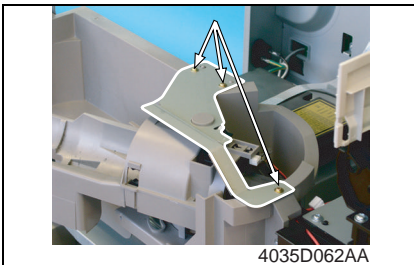
1. Remove the Rear Right Cover.
 31
2. Open the Right Door.



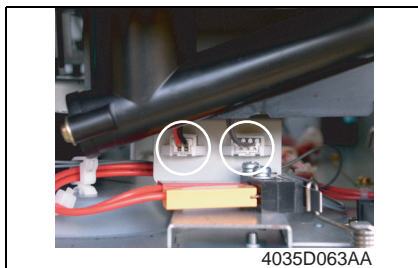
3. Remove two screws, unplug one connector, and remove the Manual Bypass.

6.3.11 Toner Hopper Unit

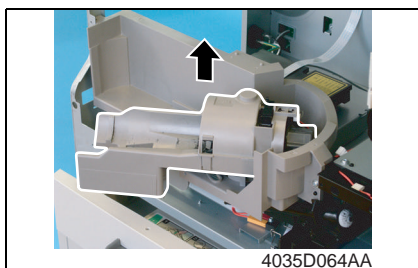
1. Remove the Front Door, Front Cover, Left Cover, and Paper Exit Tray.
 31
2. Remove the Toner Bottle.



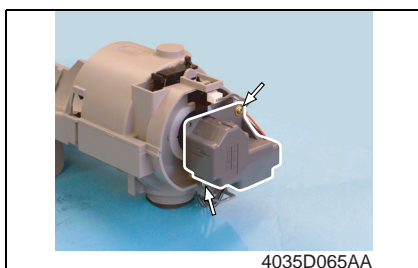
3. Remove three screws and the unit cover.



4. Unplug two connectors.



5. Remove the Toner Hopper Unit.

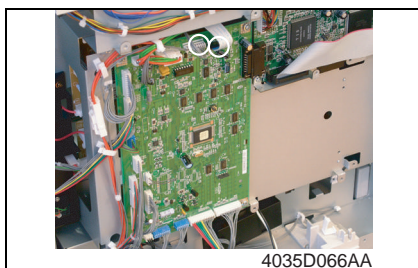


6. Remove two screws and the Toner Replenishing Motor.

6.3.12 PH Unit

1. Remove the Front Cover, Left Cover, Rear Cover, Paper Exit Tray, and Rear Inside Cover.

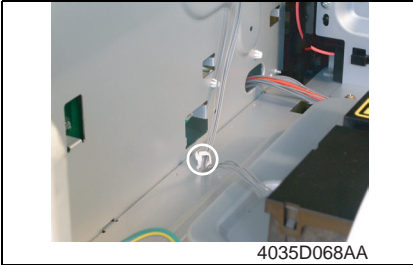
31



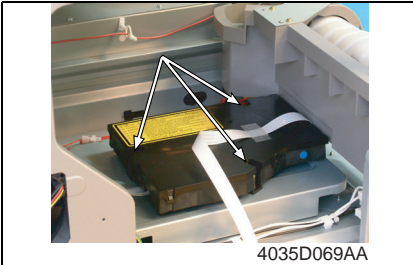
2. Disconnect one flat cable and one connector from the Master Board.



3. Remove two cable holders of the flat cable.



4. Remove the harness from one wiring saddle.



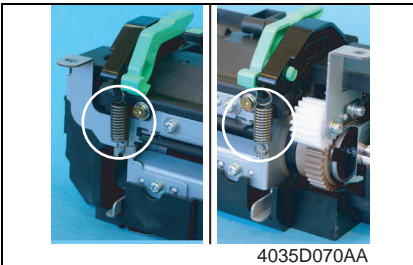
5. Remove three screws (with springs) and the PH Unit.

6.3.13 Disassembly of the Fusing Unit

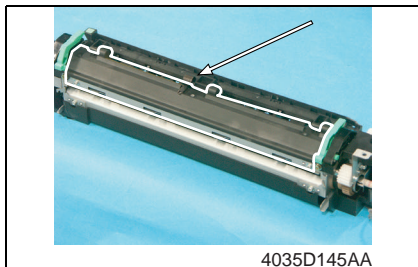
A. Removal of the Thermistor and Paper Separator Fingers

1. Remove the Fusing Unit.

19

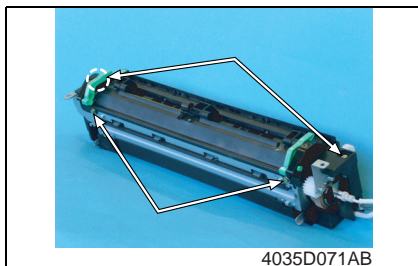


2. Remove the pressure springs on both ends of the unit.



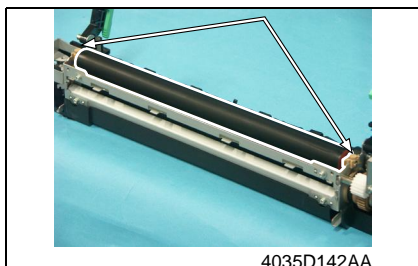
4035D145AA

3. Remove the torsion coil spring and the Movable Guide Assy.



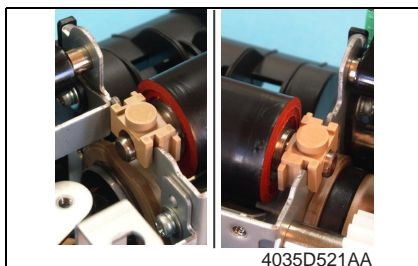
4035D071AB

4. Remove four shoulder screws, two washers, and the Fusing Roller/rt Cover.



4035D142AA

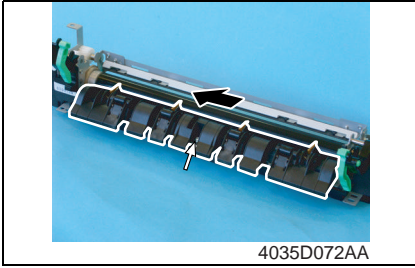
5. Remove two Bearings and the Fusing Roller/rt.



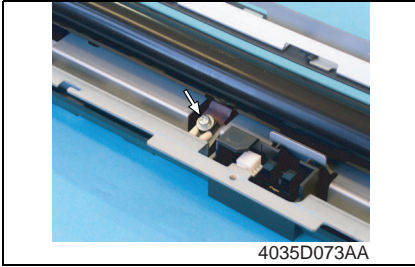
4035D521AA

Precautions for Installation of the Fusing Roller/rt

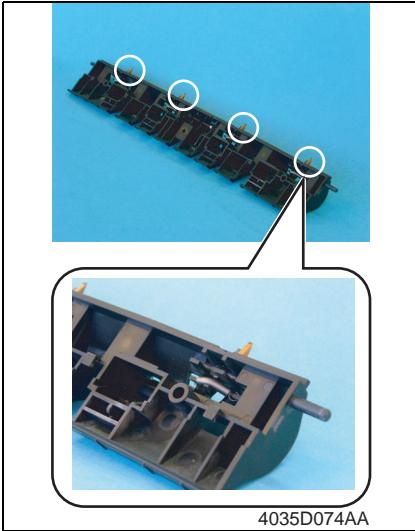
- Install the right and left Bearings in the directions shown in the photo on the left.



6. Remove one screw. Then, slide the Paper Separator Finger Assy in the direction of the arrow and take it off.




7. Remove one screw and the Ther-mistor.

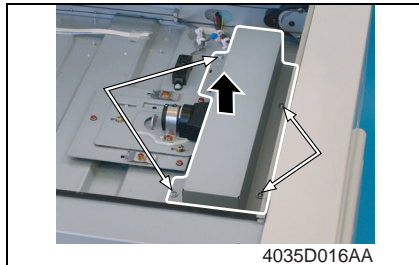


8. Unhook springs and remove the four Paper Separator Fingers.

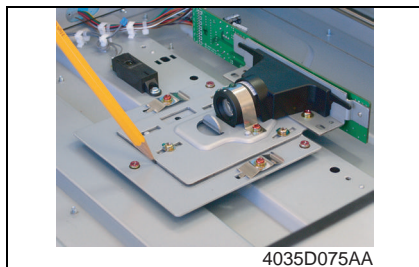
6.3.14 CCD Unit

A. Removal Procedure

1. Remove the Original Glass.
 31



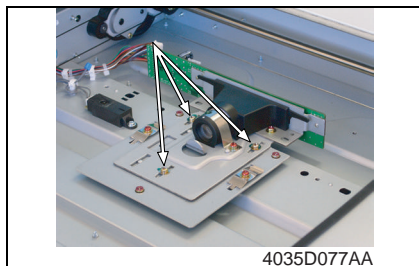
2. Remove four screws and the CCD Unit Cover.



3. Mark a line along the profile of the CCD Unit mounting bracket as shown on the left.



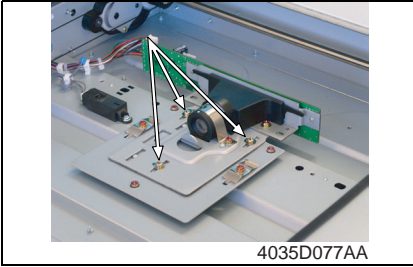
4. Unplug one connector.



5. Remove three screws (to which green paint has been applied) and the CCD Unit.

NOTE

- When removing the CCD Unit, loosen or remove only these specified screws.

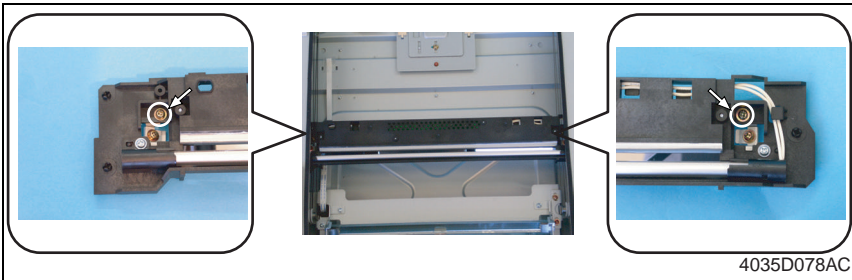
**B. Reinstallation Procedure**

1. Position the CCD Unit along the marking line. Then, temporarily secure three screws at the center of each of the screw slots.
2. Adjust the position of the CCD Unit.

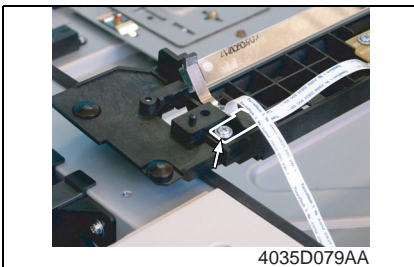
ES 111

6.3.15 Scanner, Exposure Lamp, and Inverter Board (PU2)

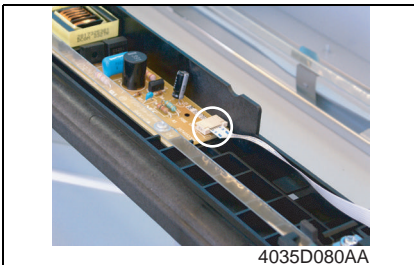
1. Remove the Original Glass and Original Scanning Glass.
ES 31
2. Remove two screws (to which no red paint has been applied). Then, remove the Scanner Assy from the Scanner Drive Cables.

**NOTE**

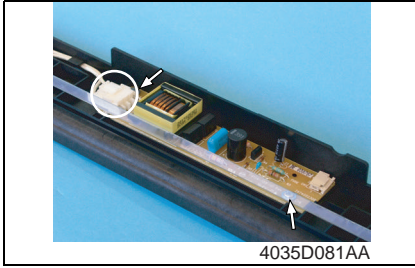
- Removal of the Scanner Assy leaves the front and rear Scanner Drive Cables attached with the fixing brackets.



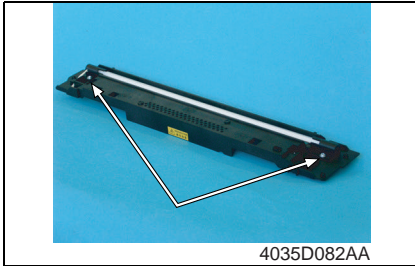
3. Remove one screw and the cable holder.



4. Remove one flat cable and the Scanner Assy.



5. Remove two screws, unplug one connector, and remove the Inverter Board.

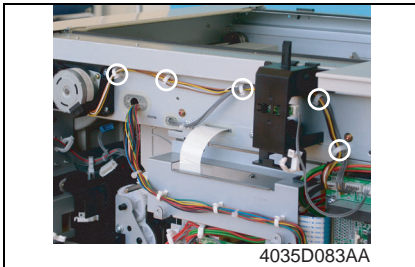


6. Remove two screws and the Exposure Lamp.

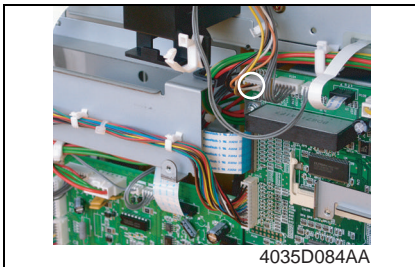
6.3.16 Scanner Motor

1. Remove the Right Rear Cover.

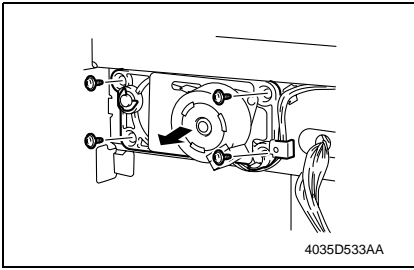
ES 31



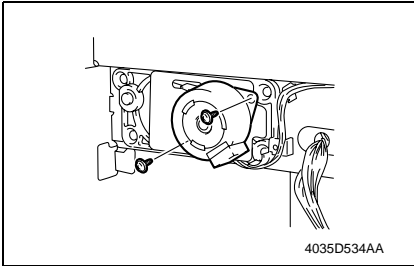
2. Remove the Scanner Motor harness from the five wiring saddles.



3. Unplug one connector from the Control Board.



4. Snap off one C-ring.
5. Loosen four screws and remove the Scanner Motor harness from the gear case assy.



6. Remove two screws and the Scanner Motor.

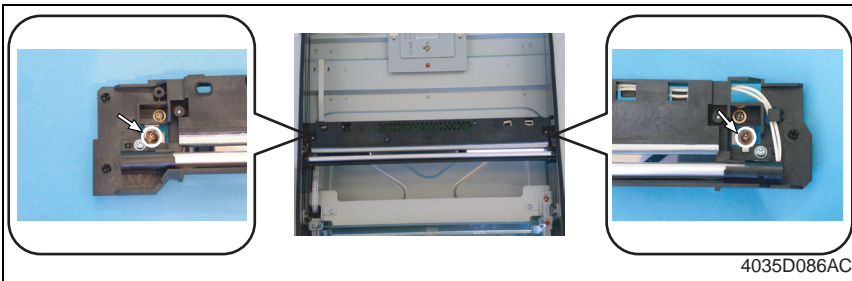
6.3.17 Scanner Drive Cables

A. Removal Procedure

1. Remove the Left Cover, Front Cover, Rear Cover, Upper Rear Cover, Right Rear Cover, Original Glass, and Original Scanning Glass.

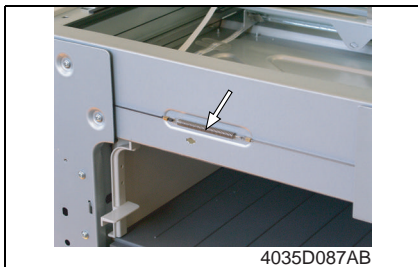
31

2. Loosen two screws (to which red paint has been applied) and remove the Scanner Assy.

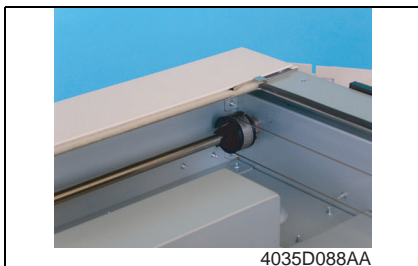


NOTE

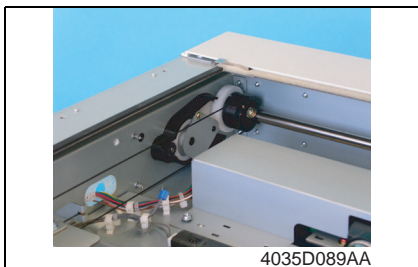
- Loosen the two red painted screws to remove the Scanner Assy in this step, which differs from the removal procedure for the Scanner Assy as a single unit.



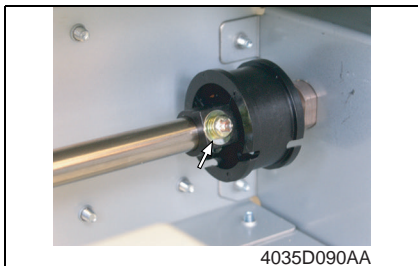
- 3. Unhook the springs from the cable hooks at the front and rear.



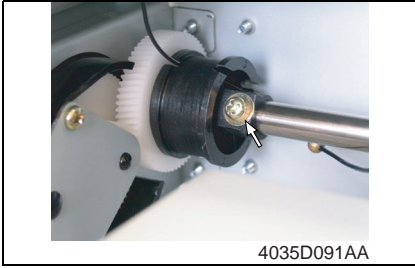
- 4. Remove the front cable from the cable pulley.



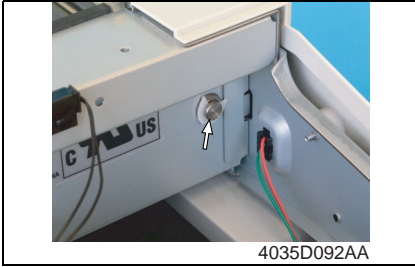
- 5. Remove the rear cable from the cable pulley.



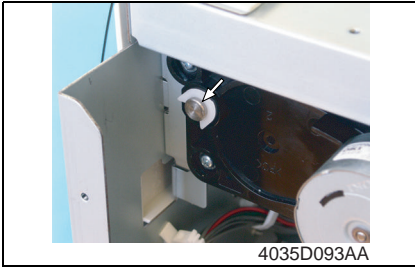
- 6. Remove one screw from the front cable pulley.



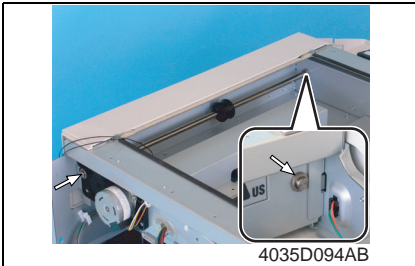
7. Remove one screw from the rear cable pulley.



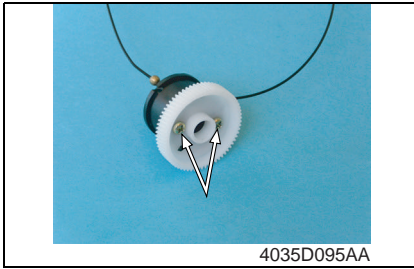
8. Snap off one C-ring from the front side of the Pulley Assy.



9. Snap off one C-ring from the rear side of the Pulley Assy.



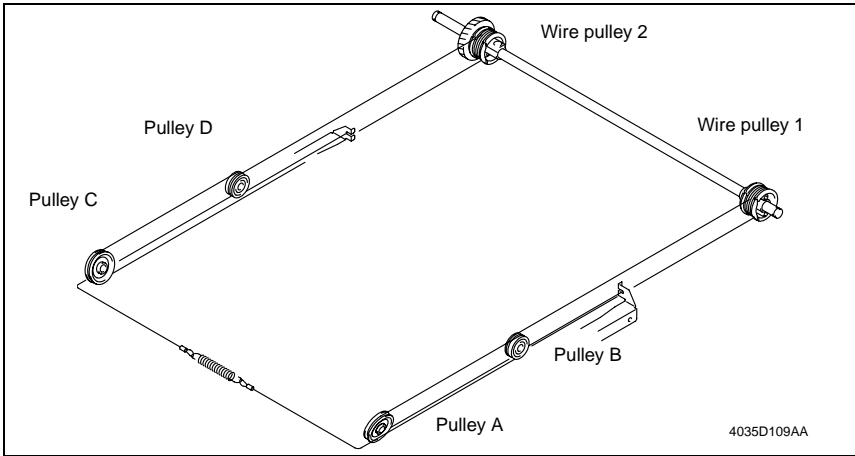
10. Pull out the shaft and two Bearings.



11. Remove two screws from the rear side of the Pulley Assy and remove the gear.
12. Remove the cable from the cable pulley.

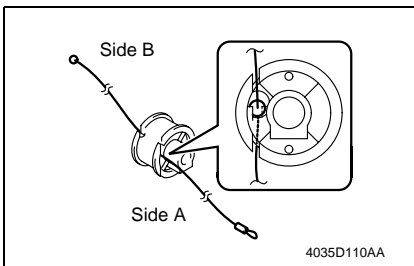
B. Reinstallation Procedure

<Overall View>

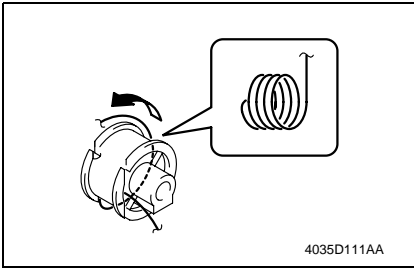


NOTE

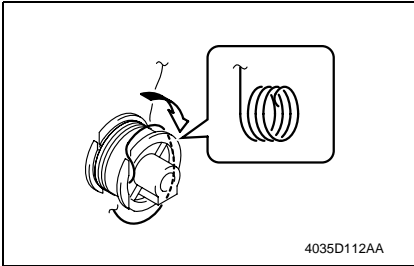
- The cables are color-coded and differ in type from each other: the front cable is silver, while the rear cable is black.
- Make sure that no part of the cable rides on the other.



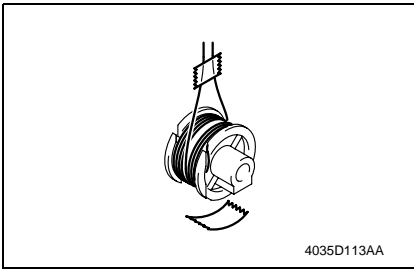
1. Pass the cable (black) through wire pulley 2.



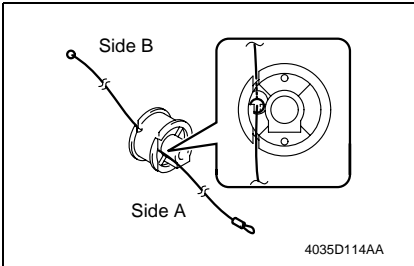
2. Wind the cable on side B around wire pulley 2 four turns counterclockwise, starting with the slit at the bottom in the rear left of the pulley.



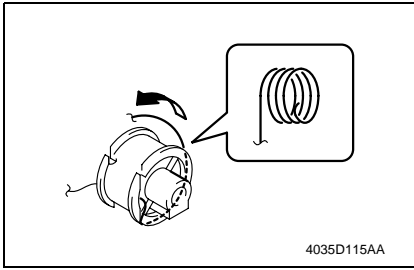
3. Wind the cable on side A around wire pulley 2 four turns clockwise, starting with the slit at the top in the front left of the pulley.



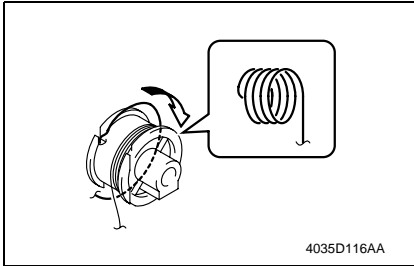
4. Affix tape to secure the cable to wire pulley 2.



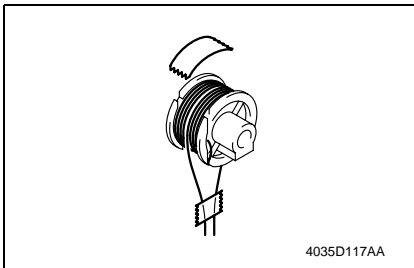
5. Pass the cable (silver) through wire pulley 1.



6. Wind the cable on side A around wire pulley 1 four turns counterclockwise, starting with the slit at the bottom in the front left of the pulley.



7. Wind the cable on side B around wire pulley 1 four turns clockwise, starting with the slit at the top in the rear left of the pulley.



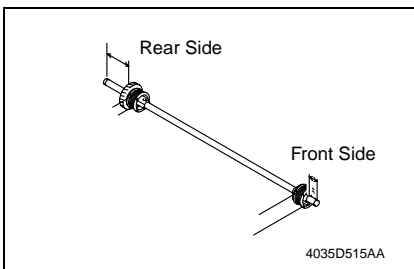
8. Affix tape to secure the cable to wire pulley 1.

9. Use the two screws to secure the gear to wire pulley 2.

NOTE

- **Make sure that the cable pulley is doweled to the gear.**

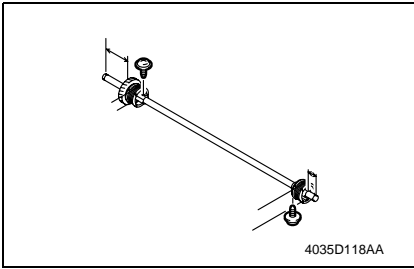
10. Mount the front and rear cable pulleys onto the shaft and install the shaft to the copier.



NOTE

- Install the shaft as shown on the left.

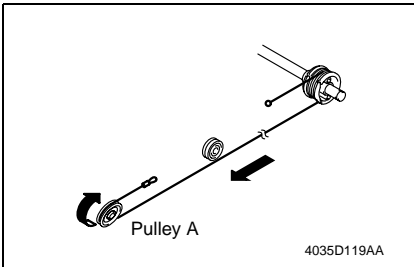
11. Fit two Bearings and snap on two C-rings.



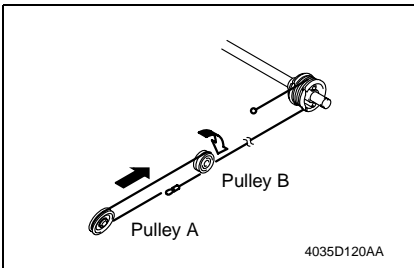
12. Secure the front and rear cable pulleys to the shaft using one screw each.

NOTE

- The direction in which the screw is installed differs between the front and rear. Note the correct direction.



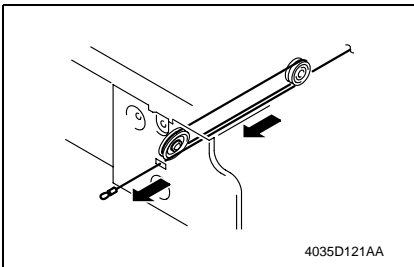
13. Wind the lower cable of wire pulley 1 around pulley A.



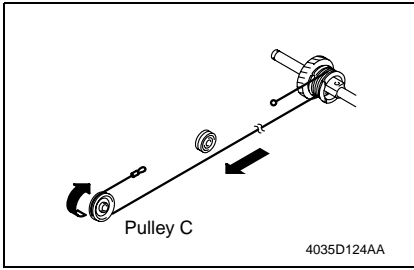
14. Wind the cable from pulley A around pulley B.

NOTE

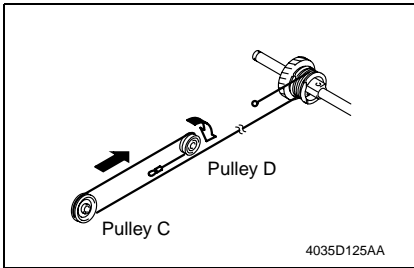
- Wind the cable around the outer groove in pulley B.



15. Pass the cable from pulley B into the hole in the IR frame.



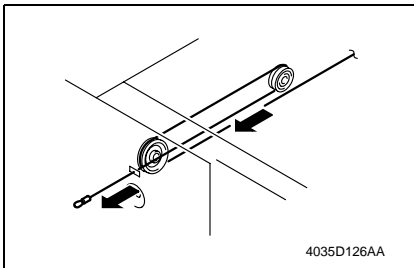
16. Wind the lower cable of wire pulley 2 around pulley C.



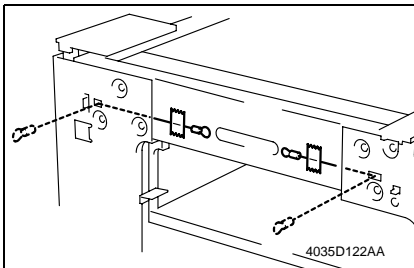
17. Wind the cable from pulley C around pulley D.

NOTE

- Wind the cable around the outer groove in pulley D.

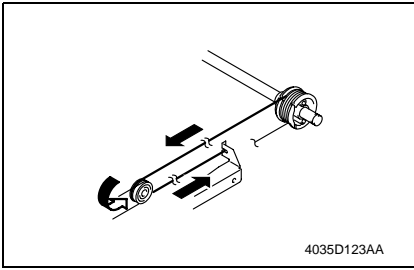


18. Pass the cable from pulley D into the hole in the IR frame.



19. Pass the leading edge of each of the front and rear cables into the space between the IR frame and copier frame.

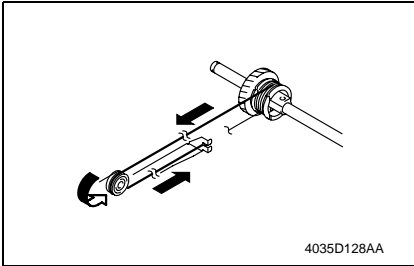
20. Affix tape to temporarily secure the cables to the copier frame.



21. Wind the upper cable of wire pulley 1 around pulley B and hook it onto the hook.

NOTE

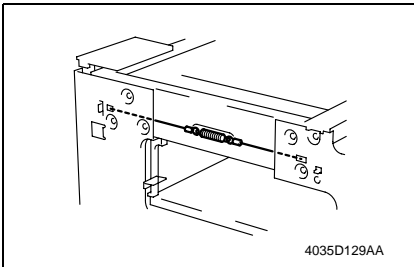
Wind the cable around the inner groove in pulley B.



22. Wind the upper cable of wire pulley 2 around pulley D and hook it onto the hook.

NOTE

• **Wind the cable around the inner groove in pulley D.**



23. Peel off the pieces of tape that secure the front and rear cable pulleys.
24. Peel off the tape used to temporarily secure the cables to the copier frame. Hook a spring to the leading edges of the front and rear cables.

25. Temporarily secure the Scanner to the front and rear cables.

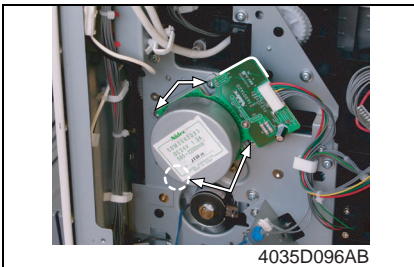
26. Adjust the position of the Scanner and the 2nd/3rd Mirrors Carriage.

☞ 110

6.3.18 Main Motor

1. Remove the Rear Cover.

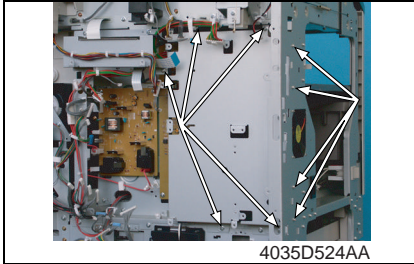
☞ 31



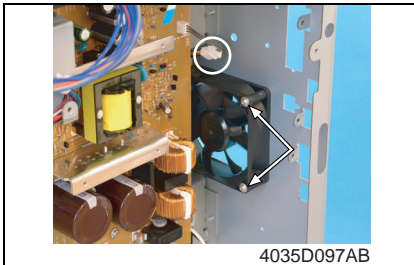
2. Remove four screws, unplug one connector, and remove the Main Motor.

6.3.19 Power Unit Cooling Fan Motor

1. Remove the Left Cover, Rear Cover, and Upper Rear Cover.
☞ 31
2. Remove the Master Board.
3. Remove the Control Board.
☞ 33



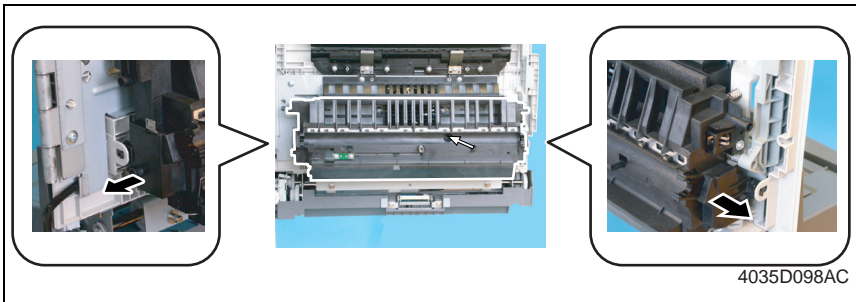
4. Remove nine screws and the protective cover.



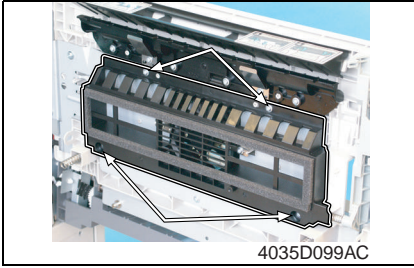
5. Remove two screws, unplug one connector, and remove the Power Unit Cooling Fan Motor.

6.3.20 Fusing Cooling Fan Motor

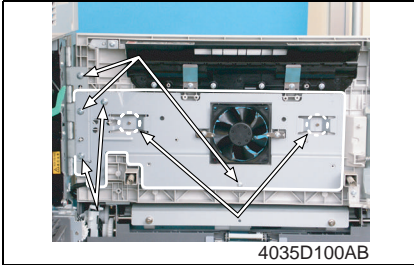
1. Remove the Rear Right Cover.
☞ 31
2. Open the Right Door.
3. Remove the Image Transfer Roller Assy.
☞ 18
4. Remove one screw and the Transport Unit Assy.

**NOTE**

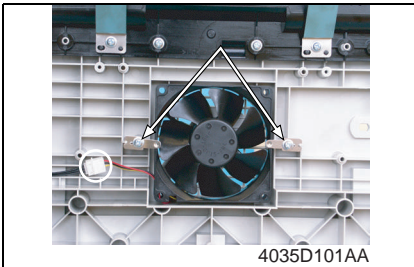
- Use care not to lose the two springs.



5. Remove four screws and the Duct Assy.



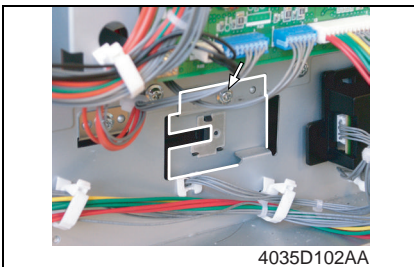
6. Remove seven screws and the mounting bracket.



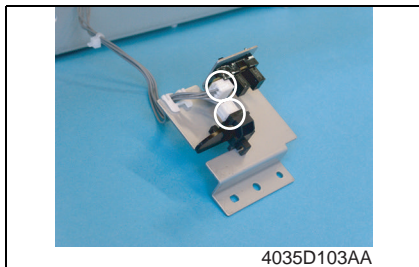
7. Remove two screws, unplug one connector, and remove the Fusing Cooling Fan Motor.

6.3.21 Paper Size Sensor Assy

1. Remove the Rear Cover.
2. Slide out the Paper Feed Tray/1.



3. Remove one screw.



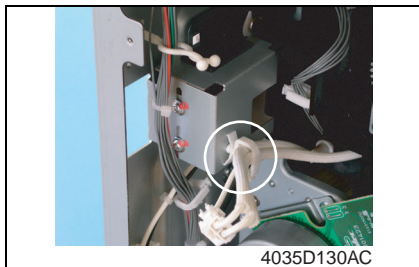
4035D103AA

4. Unplug two connectors and remove the Paper Size Sensor Assy.

6.3.22 Fusing Unit Interlock Switch

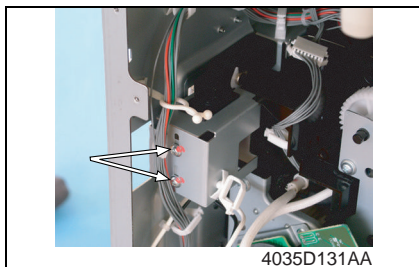
1. Remove the Rear Cover.

ES 31



4035D130AC

2. Remove the harness from one wiring saddle.



4035D131AA

3. Remove two screws (to which red paint has been applied).

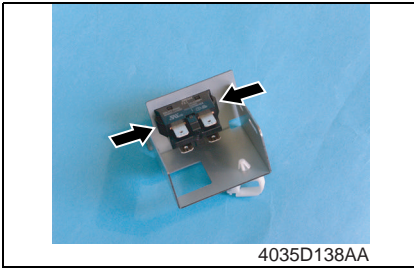


4035D132AA

4. Unplug four connectors and remove the Fusing Unit Interlock Switch Assy.

NOTE

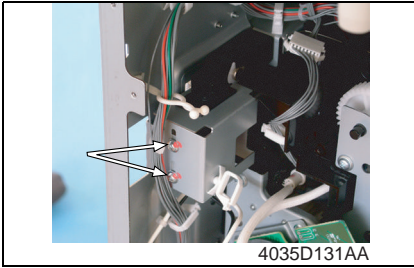
- When installing the Fusing Unit Interlock Switch Assy, make sure that the connectors are connected properly.



5. Unhook two tabs and remove the Fusing Unit Interlock Switch.

<Fusing Unit Interlock Switch Reinstallation Procedure>

1. Fit the switch holder to the Fusing Unit Interlock Switch.
2. Connect the four connectors to the Fusing Unit Interlock Switch Assy.

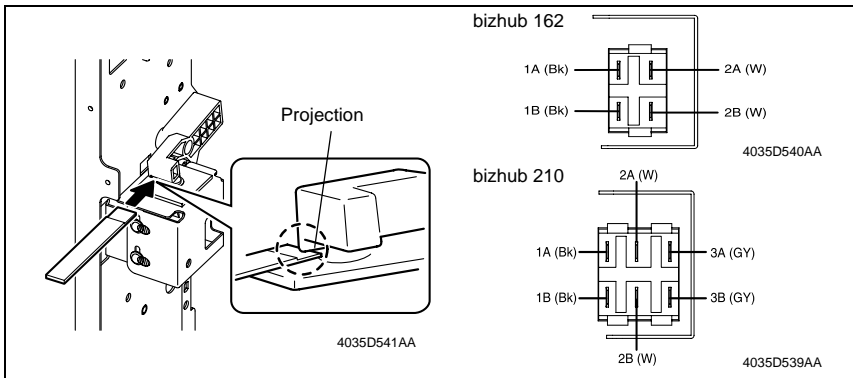


3. Temporarily secure the Fusing Unit Interlock Switch using two screws (to which red paint has been applied).

4. With the right door closed, insert the gauge between the projection of lever and the top surface of Fusing Unit Interlock Switch, and then secure the switch holder so that the gap is 0.5 mm.

NOTE

- Use the 0.5 mm thick portion of gauge.
- Insert the gauge between the rear side (projection) of lever and the top surface of Fusing Unit Interlock Switch.



for bizhub 162

5. Close the right door, and then use a tester to make sure that the Fusing Unit Interlock Switch is conducting between 2A and 2B.
6. Open the right door, and then use a tester to make sure that the Fusing Unit Interlock Switch is not conducting between 2A and 2B.

for bizhub 210

7. Close the right door, and then use a tester to make sure that the Fusing Unit Interlock Switch is conducting between 2A and 2B, 3A and 3B.
8. Open the right door, and then use a tester to make sure that the Fusing Unit Interlock Switch is not conducting between 2A and 2B, 3A and 3B.

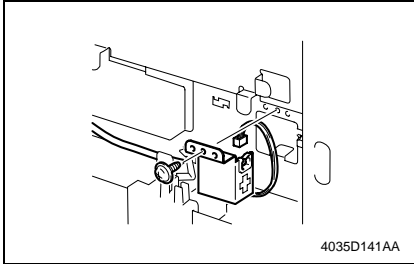
NOTE

If there is any abnormality in conducting check, repeat adjustment again from step 4.

6.3.23 Inch/Metric Sensor/1 Assy (3rd area Only)

1. Remove the Rear Cover.

☞ 31



2. Remove one screw, unplug one connector, and remove the Inch/Metric Sensor/1 Assy.

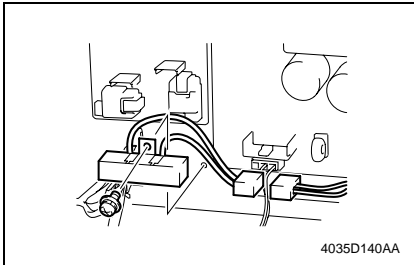
6.3.24 Flickerless Resistor (Only for 200 V area of bizhub 162)

1. Remove the Rear Cover.

☞ 31

2. Remove the Master Board.

☞ 33



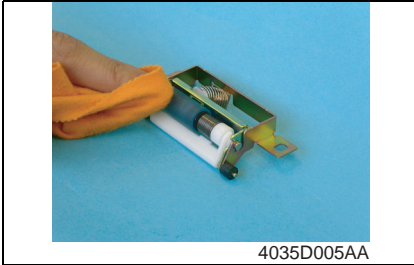
3. Remove the harness from one wiring saddle.
4. Remove one screw, unplug one connector, and remove the Flickerless Resistor.

6.4 Cleaning procedure

NOTE

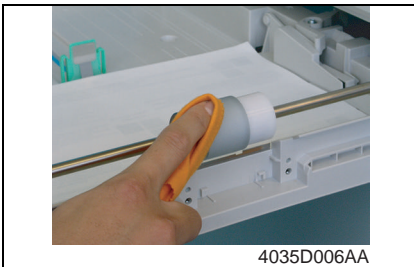
- The alcohol described in the cleaning procedure represents the isopropyl alcohol.

6.4.1 Separation Roller



1. Remove the Separation Roller Assy.
2. Using a soft cloth dampened with alcohol, wipe the Separation Roller clean of dirt.

6.4.2 Feed Roller

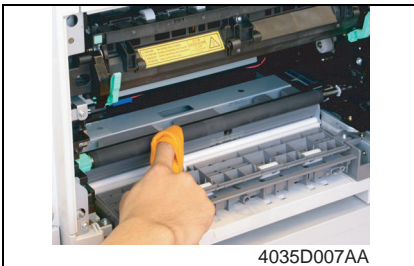


1. Remove the Separation Roller Assy.
2. Using a soft cloth dampened with alcohol, wipe the Feed Roller clean of dirt.

6.4.3 Upper/Lower Synchronizing Rollers

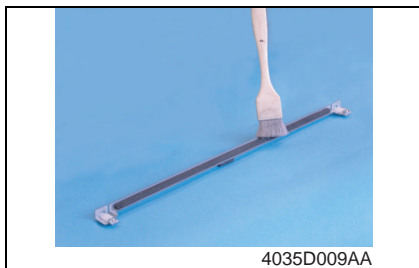
1. Open the Right Door.
2. Remove the Imaging Unit.

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3. Using a soft cloth dampened with alcohol, wipe the Upper and Lower Synchronizing Rollers clean of dirt.

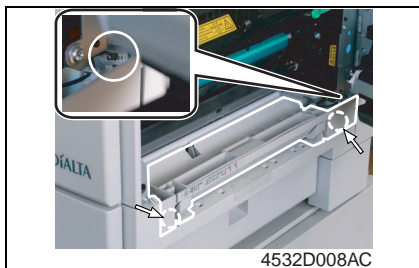
6.4.4 Paper Dust Remover



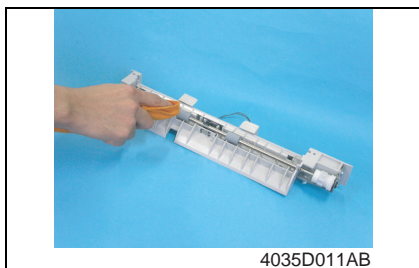
1. Remove the Paper Dust Remover Assy.
2. Using a brush, whisk dust and dirt off the Paper Dust Remover.

6.4.5 Bypass Transport Roller/Roll

1. Remove the Rear Right Cover.
31
2. Open the Right Door.



3. Remove two screws, unplug one connector, and remove the Manual Bypass Assy.



4. Using a soft cloth dampened with alcohol, wipe the Bypass Transport Roller clean of dirt.



5. Using a soft cloth dampened with alcohol, wipe the Bypass Transport Roll clean of dirt.

6.4.6 Mirrors



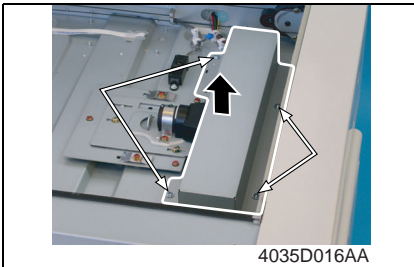
1. Remove the Original Glass.
31
2. Using a soft cloth dampened with alcohol, wipe the mirrors clean of dirt.

6.4.7 Lens

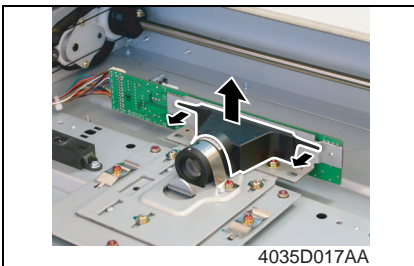


1. Remove the Original Glass.
31
2. Using a soft cloth dampened with alcohol, wipe the Lens clean of dirt.

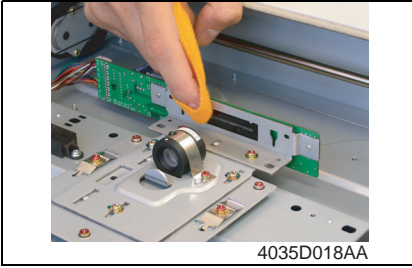
6.4.8 CCD Sensor



1. Remove the Original Glass.
31
2. Remove four screws and the CCD Unit Cover.

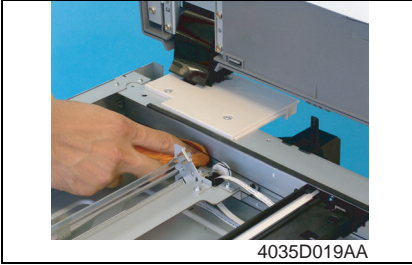


3. Pulling the tabs on both sides of the Lens Cover, remove the Lens Cover.



- Using a soft cloth dampened with alcohol, wipe the CCD Sensor clean of dirt.

6.4.9 Scanner Rails/Bearings



- Remove the Original Glass.
31
- Using a soft cloth dampened with alcohol, wipe the Scanner rails and Bearings clean of dirt.

NOTE

- After the Scanner rails and Bearings have been cleaned, apply oil (copier lubricant A or FLOIL 947P).

6.4.10 PH Window

- Remove the Front Cover, Left Cover, and Exit Tray.
31



- Using a soft cloth dampened with alcohol, wipe the PH window clean of dirt.

6.4.11 Pre-Image Transfer Lower Guide Plate



- Open the Right Door.
- Using a soft cloth dampened with alcohol, wipe the Pre-image Transfer Lower Guide Plate clean of dirt.

6.4.12 Charge Neutralizing Plate



1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Charge Neutralizing Plate clean of dirt.

NOTE

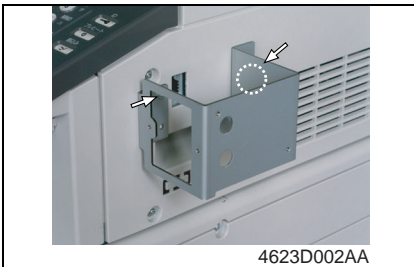
- Use care not to allow the Image Transfer Roller to be touched with alcohol.
- Do not allow the soft cloth to be caught by the tip of the Charge Neutralizing Plate.

6.5 Option counter

6.5.1 Installation of the Key Counter



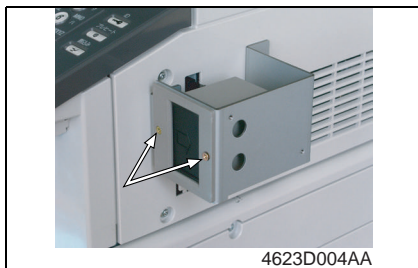
1. Cut out the knockout from the Right Cover.



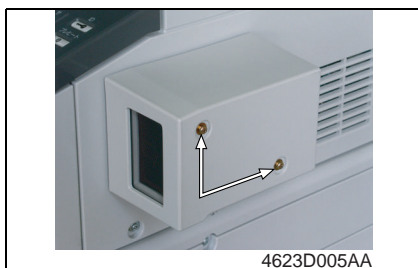
2. Using two screws, secure the counter mounting bracket.



3. Connect the Key Counter Socket connector.



4. Using two screws, secure the Key Counter Socket.



5. Using two screws, secure the Key Counter cover.



6. Plug in the Key Counter.

NOTE

- When the Key Counter is mounted, set "Machine Counter Copying" of the Security mode to "Disabled."

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Maintenance

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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 “ ”.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:
 1. The power supply voltage meets the specifications.
 2. The power supply is properly grounded.
 3. 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).
 4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
 5. The original has a problem that may cause a defective image.
 6. The density is properly selected.
 7. The Original Glass, slit glass, or related part is dirty.
 8. Correct paper is being used for printing.
 9. 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.
 10. Toner is not running out.

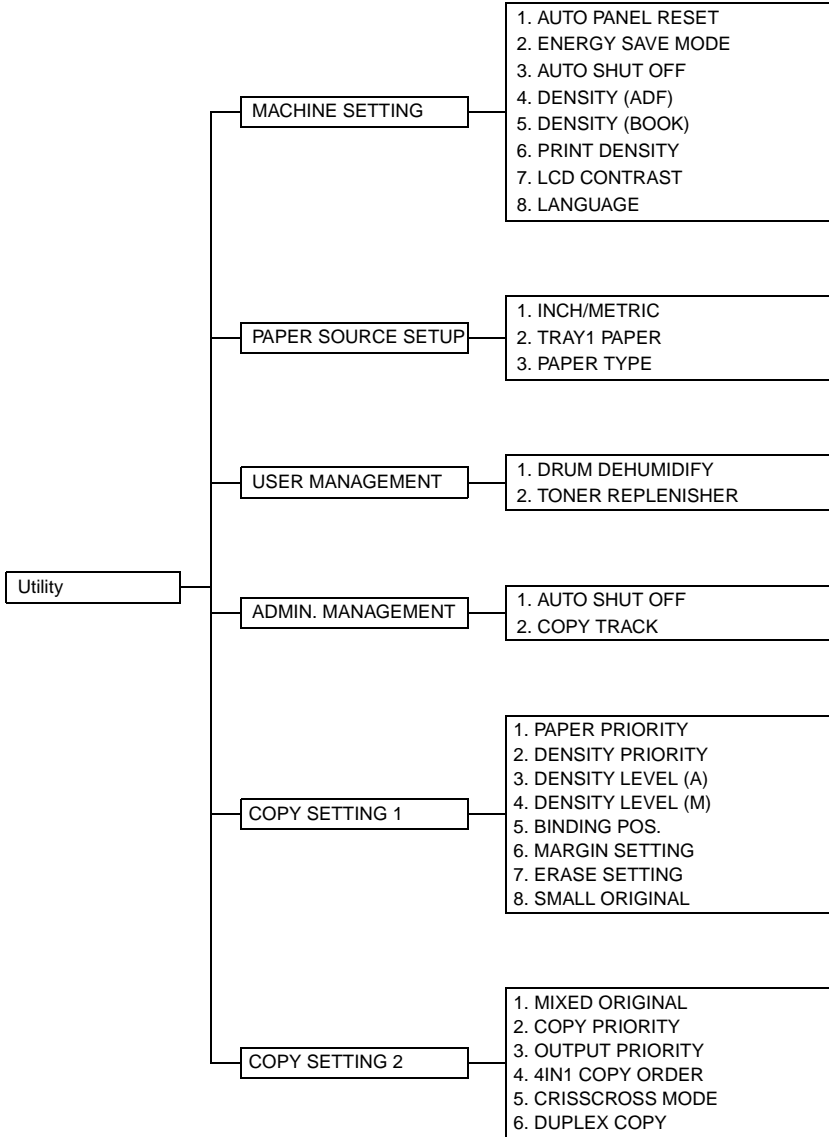
B. Precautions for Service Jobs

1. To unplug the power cord of the machine before starting the service job procedures.
2. 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.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

8. Utility Mode

- Utility mode is used to make settings for the utility functions.

8.1 Utility Mode function tree



8.2 Utility Mode function setting procedure

8.2.1 Procedure

1. Press the Utility key.
2. The Utility mode screen will appear.

8.2.2 Exiting

- Press the Panel Reset key.

8.2.3 Changing the setting value in Utility Mode functions

- Select the appropriate item using [▲ / ▼] key, [< / >] key, or the 10-Key Pad.
- Select the setting value using [▲ / ▼] key, [< / >] key, or the 10-Key Pad.
 1. Validate the selected setting value using the [Yes] key.
 2. To go back to the previous screen, press the [No] key.

8.3 Setting in the Utility Mode

8.3.1 MACHINE SETTING

- MACHINE SETTING is used to set the operating environment.

A. AUTO PANEL RESET

Purpose/Use	To set the time it takes the Auto Panel Reset function, which resets the panel settings when the set period of time elapses after a copy cycle has been completed or the last key operated, to be activated.
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "1 min." <p>OFF ON : 0.5 "1" 2 3 4 5</p>

B. ENERGY SAVE MODE

Purpose/Use	To set the time it takes the copier to enter the Energy Saver mode after a copy cycle has been completed or the last key operated.
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "15 min." <p>Setting range: 1 to 240 min.</p>

C. AUTO SHUT OFF

Purpose/Use	To set the time it takes the Auto Shut OFF function, which shuts down the copier when the set period of time elapses after a copy cycle has been completed or the last key operated, to be activated.
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "OFF." <p>"OFF" ON Setting range: 15 to 240 min.</p>

D. DENSITY (ADF)

Purpose/Use	To set the reading image density level when the Automatic Document Feeder is used. NOTE • The low image density is set as the default value to prevent a dirty copy from being produced.
Setting/ Procedure	• The default setting is "MODE1." "MODE1": To lower the image density to prevent a dirty copy from being produced. MODE2 : To produce a copy having an image density equivalent to that of the original.

E. DENSITY (BOOK)

Purpose/Use	To set the reading image density level when the Original Glass is used.
Setting/ Procedure	• The default setting is "MODE1." "MODE1": To produce a copy having an image density equivalent to that of the original. MODE2 : To lower the image density to prevent a dirty copy from being produced.

F. PRINT DENSITY

Purpose/Use	To set the print density.
Setting/ Procedure	• The default setting is "0." Setting range: -2 (LIGHT) to +2 (DARK)

G. LCD CONTRAST

Purpose/Use	To set the brightness of the LCD display.
Setting/ Procedure	• The default setting is "0." Setting range: -1 (LIGHT) to +2 (DARK)

H. LANGUAGE

Purpose/Use	To select the language displayed on the control panel.
Setting/ Procedure	• Select the desired language and touch [OK] to set the language.

8.3.2 PAPER SOURCE SETUP

- PAPER SOURCE SETUP is used to make the various settings for the paper source.

A. INCH/METRIC

Purpose/Use	To select the paper size type for each paper source for automatic paper size detection.
Setting/ Procedure	• The default setting is "METRIC." <Step> 1. Select the tray. TRAY1 TRAY2 2. Select the appropriate paper size type. INCH "METRIC"

B. TRAY1 PAPER

Purpose/Use	To set the type and size of the paper loaded in Paper Feed Tray/1.
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "PLAIN" and "AUTO." <p><Step></p> <ol style="list-style-type: none"> Select the type of paper. "PLAIN" OHP CARD ENVELOP Select the paper size. "AUTO" SIZE INPUT Setting range: 140 to 432 mm (X) 90 to 297 mm (Y)

C. PAPER TYPE

Purpose/Use	To set the type of paper for the paper source.
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "PLAIN." <p><Step></p> <ol style="list-style-type: none"> Select the paper source. TRAY1 TRAY2 BYPASS Select the type of paper. "PLAIN" RECYCLE SPECIAL 1-SIDE*

* appears only when the AD-504 (bizhub 210 only) is installed.

8.3.3 USER MANAGEMENT

A. DRUM DEHUMIDIFY

Purpose/Use	<p>To run a drum dry sequence.</p> <p>* The drum dry sequence is run when an image problem occurs due to condensation formed on the surface of the PC Drum as a result of a sudden change in temperature or an increased humidity.</p>
Setting/ Procedure	<p><Step></p> <ol style="list-style-type: none"> Select "DRUM DEHUMIDIFY" and press the [Yes] key. The drum dry sequence is automatically terminated after the lapse of a predetermined period of time and the initial screen reappears.

B. TONER REPLENISHER

Purpose/Use	To forcedly replenish the supply of toner when ID drops as a result of a reduced T/C ratio after a large number of copies have been made from an original having a high image density, thereby achieving the set T/C level.
Setting/ Procedure	<ul style="list-style-type: none"> When "TONER REPLENISHER" is executed, the copier first detects the current toner density. If it is found that the density is lower than the reference value, supply of toner is replenished and then toner is agitated. If the density is found to be higher than the reference value, the copier simply agitates toner to complete the sequence. <p><Step></p> <ol style="list-style-type: none"> Select "TONER REPLENISHER" and press the [Yes] key. The toner replenisher sequence is automatically terminated after a given period of time or when the specified toner density is recovered. Then, the initial screen reappears.

8.3.4 ADMIN. MANAGEMENT

- ADMIN. MANAGEMENT is used to make various settings after the administrator number set using the Service mode has been entered.

<Admin. Management Mode Setting Procedure>

1. Press the Utility key.
2. Select "ADMIN. MANAGEMENT."
3. Type the 6-digit administrator number and press the [Yes] key.

A. AUTO SHUT OFF

Purpose/Use	To enable or disable the setting of Auto Shut OFF.
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "ENABLE." <p style="text-align: center;">DISABLE "ENABLE"</p>

B. COPY TRACK

<COPY TRACK MODE>

Purpose/Use	To select whether to turn ON or OFF the copy track function.
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "OFF" (copy track function is not used). <p>ON : Use the copy track function. "OFF" : Not use the copy track function.</p>

<ACCESS NO. REG. ?>

Purpose/Use	To register a 3-digit (001 to 999) access number used for the copy track function, or to change or delete a previously set access number.
Setting/ Procedure	<p><Registration Procedure></p> <ol style="list-style-type: none"> 1. Type any access number from the 10-Key Pad. 2. Press the [Yes] key to validate the entry of the access number. 3. To continue registering access numbers, repeat steps 1 and 2. (Up to 20 different accounts can be set.) 4. When the registration procedure is completed, quit the function by pressing the [No] key. <p><Change/Delete Procedure></p> <ol style="list-style-type: none"> 1. Type the access number to be changed or deleted from the 10-Key Pad and press the [Yes] key. 2. When you are prompted to determine whether to retain the data or not, press the [No] key. 3. Select "EDIT" or "DELETE" and press the [Yes] key. <ul style="list-style-type: none"> * If "EDIT" is selected, a screen appears allowing you to change the access number. (To step 4) If "DELETE" is selected, the current access number is deleted. 4. Type the new access number from the 10-Key Pad and press the [Yes] key. 5. To continue changing or deleting new access numbers, repeat steps 1 to 4. 6. When the EDIT/DELETE procedure is completed, quit the function by pressing the [No] key.

<COPY TRACK DATA?>

Purpose/Use	<ul style="list-style-type: none"> To display or clear the total count value of a specific account. To clear the total count values of all accounts under control.
Setting/ Procedure	<p><Display/Clear Procedure></p> <ol style="list-style-type: none"> Select "DISPLAY" and press the [Yes] key. Select the access number, for which the count is to be checked, and press the [Yes] key. The total count value of the access number selected will be displayed. * To clear the count value, press the [No] key. (To step 4) To quit the function without clearing the count value, press the [Yes] key. Press the [No] key to clear the count value. When the count value has been cleared, quit the function by pressing the [Yes] key. <p><All Clear Procedure></p> <ol style="list-style-type: none"> Select "CLEAR" and press the [Yes] key. When you are prompted to confirm if all count values are to be cleared, press the [Yes] key.

8.3.5 COPY SETTING 1

- COPY SETTING 1 is used to set the default values for different copy functions.

A. PAPER PRIORITY

Purpose/Use	To set the priority paper source.
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "1ST" <p>"1ST" 2ND 3RD 4TH 5TH BYPASS</p>

B. DENSITY PRIORITY

Purpose/Use	To set the priority image quality mode and density that are selected when the Power Switch is turned ON or the Panel Reset key is pressed.
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "TEXT/P" and "AUTO." <p>Image quality mode: TEXT PHOTO "TEXT/P"</p> <p>Density: "AUTO" MANUAL</p> <p>* "TEXT/P" means "TEXT/PHOTO."</p>

C. DENSITY LEVEL (A)

Purpose/Use	To set the density level when the Auto density is selected.
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "0." <p>Setting range: -1 (LIGHT) to +1 (DARK)</p>

D. DENSITY LEVEL (M)

Purpose/Use	To set the density level when the Manual density is selected.
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "0." <p>Setting range: -4 (LIGHT) to +4 (DARK)</p>

E. BINDING POS.

Purpose/Use	To set the first page to be scanned when copies are made from a book, whether it is on the left or on the right.	
Setting/ Procedure	LEFT	RIGHT

F. MARGIN SETTING

Purpose/Use	To set the file margin width when making copies with a file margin.	
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "10 mm." Setting range: 0 to 20 mm	

G. ERASE SETTING

Purpose/Use	To set the erase width when making erase copies.	
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "LEFT" and "10 mm." <Step> 1. Select the erase position. "LEFT" UPPER FRAME 2. Set the erase width. Setting range: 5 to 20 mm	

H. SMALL ORIGINAL

Purpose/Use	To set whether to enable or disable copying when an original of a size smaller than the detectable one is loaded in the Auto Paper mode.	
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "DISABLE." "DISABLE" ENABLE	

8.3.6 COPY SETTING 2

- COPY SETTING 2 is used to set the default values for different copy functions.

A. MIXED ORIGINAL

Purpose/Use	To set whether or not to select the Mixed Original mode when the Power Switch is turned ON or Panel Reset key is pressed.	
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "OFF." ON "OFF"	

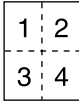
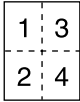
B. COPY PRIORITY

Purpose/Use	To set the priority mode, either Auto Paper, Auto Size, or Manual, selected when the Power Switch is turned ON or Panel Reset key is pressed.	
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "APS." "APS" AS MANUAL	

C. OUTPUT PRIORITY

Purpose/Use	To set the priority finishing function, either Non-Sort, Sort, or Group.
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "NON." <p style="text-align: center;">"NON" SORT GROUP</p>

D. 4IN1 COPY ORDER

Purpose/Use	To set the layout of copy images in 4in1 copies.
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "PATTERN1." <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>PATTERN1</p>  <p>4035S501AA</p> </div> <div style="text-align: center;"> <p>PATTERN2</p>  <p>4035S502AA</p> </div> </div>

E. CRISSCROSS MODE

Purpose/Use	To select the crisscross function.
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "ON." <p style="text-align: center;">"ON" OFF</p>

F. DUPLEX COPY

* appears only when the AD-504 (bizhub 210 only) is installed.

Purpose/Use	To select whether to enable or disable 2-sided copying.
Setting/ Procedure	* This function should not be used.*

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Adjustment / Setting

9. Adjustment item list

Replacement Part/Service Job		No	Tray1		Replace Paper Dust Remover Assy	Cleaning Scanner Rail/Bushing	Replace PC Drum	Replace PC Drum Charge Corona Assy	Replace Developer	Replace Cleaning Blade
			Replace Paper Take-up Roller	Replace Paper Separator Roll Assy						
Adjustment/Setting Items	Service's Choice	ID Adjust	1				3*		5*	
		VG Adjust	2				4*	1*		
		Leading Edge Erase	3							
		Trailing Edge Erase	4							
		Vertical Edge Erase	5							
		Loop Adjust (Tray1)	6	3*	3*					
		Fuser Temp	7							
		CCD APS Size	8							
	Adjust	PRN Main Regist	9							
		PRN Sub Regist	10							
		CCD Main Zoom	11							
		CCD Sub Zoom	12							
		CCD Main Regist	13							
		CCD Sub Regist	14							
		ADF Sub Zoom	15							
		ADF Main Regist	16							
		ADF Sub Regist 1	17							
		ADF Sub Regist 2	18							
	Clear Data	PM Counter	19	1	1	1				
		Supplies Life Count.	20				2	2	3	2
	Function	Paper Feed Test	21	2	2					
		ATDC Auto Adjust	22							1, 4
		Print Test Pattern	23				5	3	6	
		ADF Feed Test	24							
		Scan Test	25				2			
	Mechanical	Focus-Positioning of Scanner and 2nd/3rd Mirrors Carriage	26							
		CCD Unit Position Adjustment	27							
	Others	Utility Mode	28							
		Service Mode	29							
		Parameter Chip (U16)	30							
		FW Update	31							
		Application of Toner to PC Drum	32					1		1
		Application of Lubricant	33					1		
		Change of Developer	34						2	

*: Check when setting is changed.

* This table shows the list of adjustment items when replacing a part. Items are numbered by the priority if there is any.

No	Replace Image Transfer Roller Assy	Replace Fusing Unit	Replace Ozone Filter	Replace CCD Assy	Replace PWB-C/C Board	Replace ATDC Sensor	Replace PH	Memory Clear	Install Scanner Drive Cable	Add Original Size Sensor	DF-605			DF-502			PF-502		MB-501	
											Replace Pick-Up Roller	Replace Take-Up Roller	Replace Separator Roller	Replace Pick-Up Roller	Replace Take-Up Roller	Replace Separator Roller	Replace Take-Up Roller	Replace Take-Up Roller	Replace Separator Roller Assy	
1						4*														
2																				
3							11													
4							12													
5							13													
6																	3*	3*	3*	
7		2*																		
8									1											
9							1													
10							2													
11				2			3													
12							4	3												
13				3			5													
14							6	4												
15							7													
16				4			8													
17							9													
18							10													
19	1	1	1								1	1	1	1	1	1	1	1	1	1
20																				
21																	2	2	2	
22						1, 3														
23																				
24											2	2	2	2	2	2				
25								2												
26									1											
27				1																
28								1												
29								2												
30						1														
31						2														
32																				
33																				
34						2														

*: Check when setting is changed.

NOTE

- Before executing a Memory Clear, be sure to take notes of the settings and adjustment data of Utility, Tech. Rep., Security, and Adjust modes. After the Memory Clear has been executed, re-enter those data.
- The following data of "Adjust" are indicated at the factory on the Adjust Label located inside the Front Door (The other side of the Toner Replacement Label). (PRN Main Regist/PRN Sub Regist/CCD Main Zoom/CCD Sub Zoom/CCD Main Regist/CCD Sub Regist)
- The ATDC value at the time of setting up of the PC Drum Unit is also entered on the Adjust Label at installation.
- The setting value after ATDC Adjustment is written down in a Adjust Label.

10. Service Mode

- The Service mode is used to check, set, adjust, or register the various service functions.

10.1 Service Mode function setting procedure

NOTE

- **Care must be used to ensure that only the personnel who are involved in service jobs know the procedure to enter the Service mode.**

10.1.1 Procedure

1. Press the Utility key.
2. Press the following keys in this order.
3. Stop → 0 → 0 → Stop → 0 → 1
4. The Service mode menu screen will appear.

10.1.2 Exiting

- Press the Panel Reset key as many times as it is required to display the initial screen.

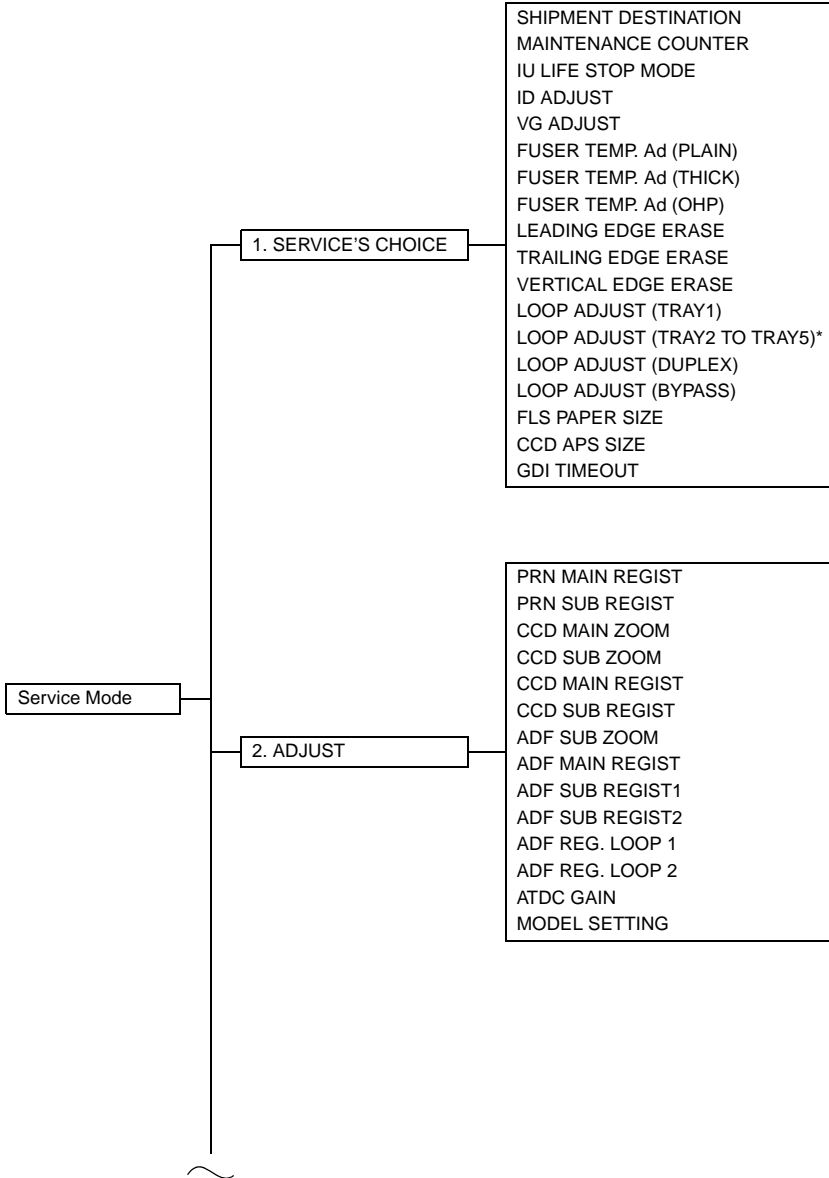
10.1.3 Changing the Setting Value in Service Mode Functions

1. Select the desired item using [▲ / ▼] key.
2. Select the setting value using [▲ / ▼] key, [< / >] key, or the 10-Key Pad.
3. Validate the selection by pressing the [Yes] key.
4. To go back to previous screen, press the [No] key.

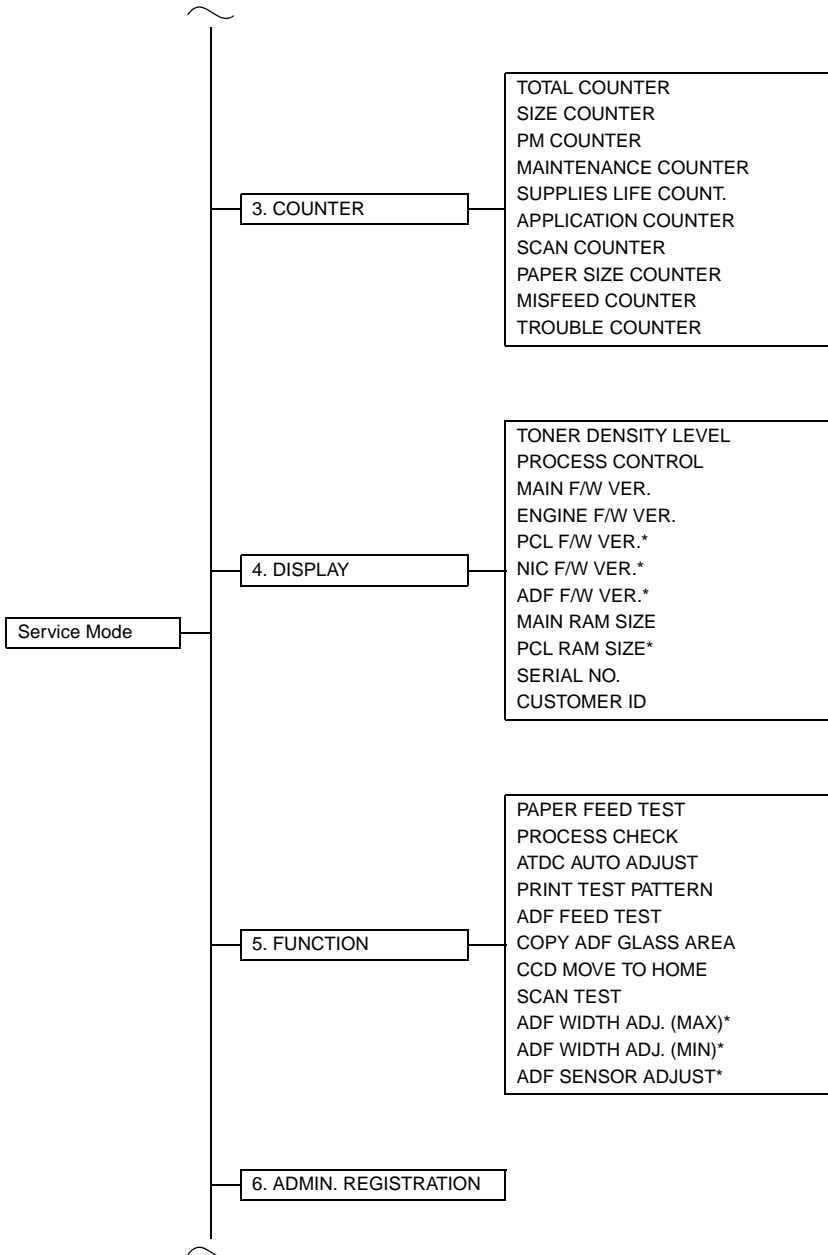
10.2 Service Mode function tree

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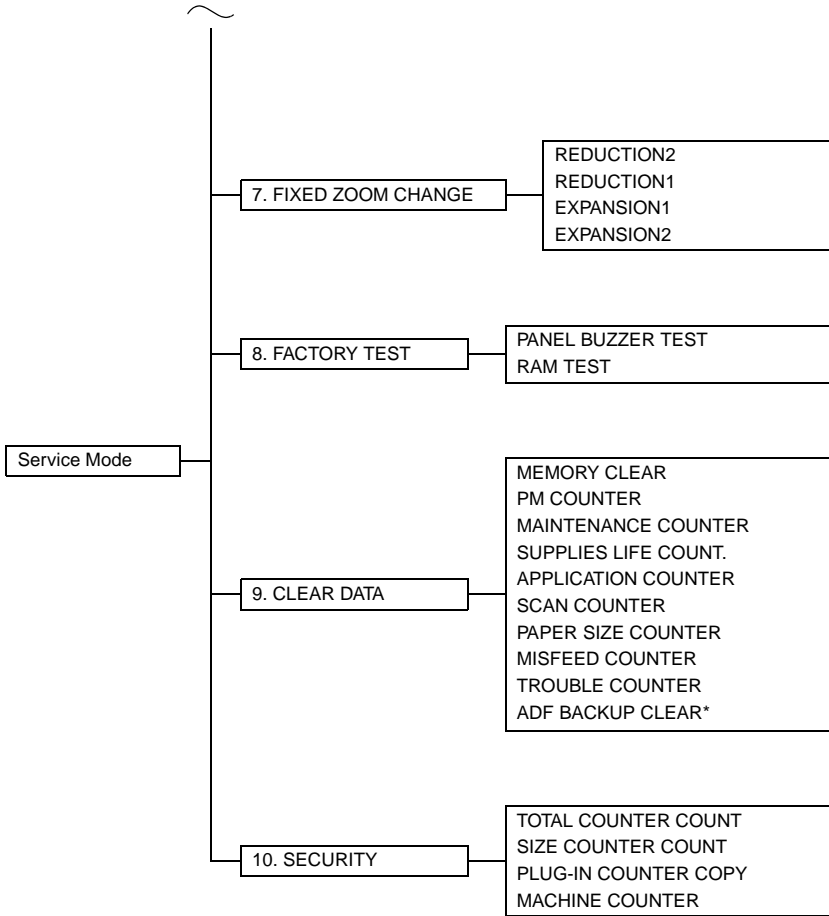
Adjustment / Setting



*: Displayed when options are mounted.



*: Displayed when options are mounted.



*: Displayed when options are mounted.

10.3 Setting in the Service Mode

10.3.1 SERVICE'S CHOICE

- SERVICE'S CHOICE is used to make the various service settings.

A. SHIPMENT DESTINATION

Purpose/Use	To select the display of the fixed zoom ratios and paper sizes according to the applicable marketing area.
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "METRIC." <p>"METRIC" INCH JAPAN CHINA L. AMERICA (METRIC) L. AMERICA (INCH)</p>

B. MAINTENANCE COUNTER

Purpose/Use	To enter an appropriate counter value (0 to 999999) as the tentative maintenance time. Specify the setting on maintenance counter to "1" or "2": If the maintenance life is reached, the maintenance call (M1) or Tech. Rep. call [Call Service (M1)] will appear.
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "0." <p>"0" : Not counted 1 : Counted (The maintenance call display is given when the counter reaches 0.) 2 : Counted (The Tech. Rep. call display is given and the initiation of any new copy cycle is inhibited when the counter reaches 0.)</p> <p>* When "1" or "2" is selected, a screen will then appear to allow the counter value to be entered.</p> <p>NOTE</p> <ul style="list-style-type: none"> • The counter value is decremented until it reaches -999999 even after it has counted 0.

C. IU LIFE STOP MODE

Purpose/Use	When the Supplies Life Count. reaches the life value, the IU life will be detected. The mode when the IU life is reached, is specified by this setting.
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "CONTINUOUS." <p>"CONTINUOUS": Enables copying. Maintenance call display is given. STOP : Disables copying. Tech. Rep. call display is given and the initiation of any new copy cycle is inhibited.</p> <p>NOTE</p> <ul style="list-style-type: none"> • The counter value is decremented until it reaches -999999 even after it has counted 0. In this case, however, no image quality is guaranteed.

D. ID ADJUST

Purpose/Use	To set the image density by varying Vg and Vb on the engine side. * Used when the image density is high or low.
Setting/ Procedure	• The default setting is "0." Setting range: -3 to +3

E. VG ADJUST

Purpose/Use	To adjust image density by varying Vg with changing sensitivities as the PC Drum is used for an extended period of time. * When image problems (fog, void) occur * When the PC Drum Unit has been replaced
Setting/ Procedure	• The default setting is "0." Increase the setting value to eliminate void. Decrease the setting value to eliminate fog. Setting range: -2 to +2

F. FUSER TEMP. Ad (PLAIN)

Purpose/Use	To set the temperature of the Fusing Roller for each type of paper, thereby making up for fusing performance that changes with the operating environment or type of paper. * When fusing failure occurs * When the type of paper is changed
Setting/ Procedure	• The default setting is "0." Setting range: -1 to +2

<Temperature table for adjusting fusing temperature for plain paper>

For bizhub 162

Setting value	Paper width		Mode selected in Service's Choice	
			Mode 1	Mode 3
	CD	FD	Fusing Heater Lamp temperature	
2	251 mm or more	361 mm or more	200 °C	190 °C
		360 mm or less	200 °C	190 °C
	250 mm or less	–	200 °C	185 °C
1	251 mm or more	361 mm or more	200 °C	180 °C
		360 mm or less	200 °C	180 °C
	250 mm or less	–	190 °C	175 °C
0 (default value)	251 mm or more	361 mm or more	190 °C	170 °C
		360 mm or less	190 °C	170 °C
	250 mm or less	–	180 °C	165 °C
-1	251 mm or more	361 mm or more	180 °C	160 °C
		360 mm or less	180 °C	160 °C
	250 mm or less	–	170 °C	155 °C

For bizhub 210

Setting value	Paper width	Mode selected in Service's Choice	
		Mode 1	Mode 3
		Fusing Heater Lamp temperature (main/sub)	
2	221 mm or more	200 °C	
	220 mm or less		
1	221 mm or more	190 °C	
	220 mm or less		
0 (default value)	221 mm or more	180 °C	
	220 mm or less		
-1	221 mm or more	170 °C	
	220 mm or less		

G. FUSER TEMP. Ad (THICK)

Purpose/Use	To set the fusing temperature when thick paper is used. * When fusing failure occurs
Setting/Procedure	• The default setting is "0." Setting range: -1 to +1

<Temperature table for adjusting fusing temperature for special paper>

For bizhub 162

Setting value	Paper width	Mode selected in Service's Choice	
		Mode 1	Mode 3
		Fusing Heater Lamp temperature	
1	251 mm or more	210 °C	200 °C
	250 mm or less	210 °C	200 °C
0 (default value)	251 mm or more	210 °C	190 °C
	250 mm or less	200 °C	190 °C
-1	251 mm or more	200 °C	180 °C
	250 mm or less	190 °C	180 °C

For bizhub 210

Setting value	Mode selected in Service's Choice	
	Mode 1	Mode 3
	Fusing Heater Lamp temperature (main/sub)	
1	210 °C	
0 (default value)	200 °C	
-1	190 °C	

H. FUSER TEMP. Ad (OHP)

Purpose/Use	To set the fusing temperature when OHP film are used. * When fusing failure occurs
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "0." Setting range: -1 to +1

<Temperature table for adjusting fusing temperature for OHP film>

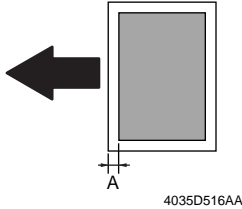
For bizhub 162

Setting value	Paper width	Mode selected in Service's Choice	
		Mode 1	Mode 3
	CD	Fusing Heater Lamp temperature	
1	251 mm or more	180 °C	175 °C
	250 mm or less	165 °C	165 °C
0 (default value)	251 mm or more	180 °C	165 °C
	250 mm or less	155 °C	155 °C
-1	251 mm or more	170 °C	155 °C
	250 mm or less	145 °C	145 °C

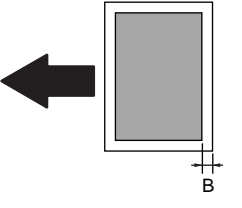
For bizhub 210

Setting value	Mode selected in Service's Choice	
	Mode 1	Mode 3
	Fusing Heater Lamp temperature (main/sub)	
1	175 °C	
0 (default value)	165 °C	
-1	155 °C	

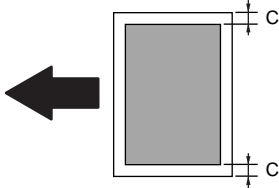
I. LEADING EDGE ERASE

Purpose/Use	To adjust the erase width on the leading edge of the image by varying the laser emission timing. * When the PH Unit has been replaced
Setting/ Procedure	• The default setting is "4 mm." 0 mm 1 mm 2 mm 3 mm "4 mm" 5 mm
Adjustment Procedure	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  <p>4035D516AA</p> </div> <div style="text-align: right;"> <p>Set the erase width on the leading edge of the paper (width A).</p> </div> </div> <ol style="list-style-type: none"> 1. Call Service's Choice of Service Mode to the screen. 2. Select "Leading Edge Erase" and press the [Yes] key. 3. Using [▲ / ▼] key, select the desired setting value. 4. Press the [Yes] key to validate the setting value selected in step 3. <p>Adjustment Instructions To make the erase width smaller, decrease the setting value. To make the erase width greater, increase the setting value.</p>

J. TRAILING EDGE ERASE

Purpose/Use	To adjust the erase width on the trailing edge of the image by varying the laser emission timing. * When the PH Unit has been replaced
Setting/ Procedure	• The default setting is "4 mm." 0 mm 1 mm 2 mm 3 mm "4 mm" 5 mm
Adjustment Procedure	<div style="display: flex; justify-content: space-between;"> <div style="text-align: center;">  <p>4035D517AA</p> </div> <div style="text-align: right;"> <p>Set the erase width on the trailing edge of the paper (width B).</p> </div> </div> <ol style="list-style-type: none"> 1. Call Service's Choice of Service Mode to the screen. 2. Select "Trailing Edge Erase" and press the [Yes] key. 3. Using [▲ / ▼] key, select the desired setting value. 4. Press the [Yes] key to validate the setting value selected in step 3. <p>Adjustment Instructions To make the erase width smaller, decrease the setting value. To make the erase width greater, increase the setting value.</p>

K. VERTICAL EDGE ERASE

Purpose/Use	To adjust the erase width on both edges of the image (in CD direction) by varying the laser emission timing. * When the PH Unit has been replaced
Setting/Procedure	Select the erase width value in the CD direction. (The default setting is "4 mm.") 0 mm 1 mm 2 mm 3 mm "4 mm" 5 mm
Adjustment Procedure	 <p>Set the erase width on both edges of the paper (width C).</p> <p>4035D518AA</p> <ol style="list-style-type: none"> 1. Call Service's Choice of Service Mode to the screen. 2. Select "Vertical Edge Erase" and press the [Yes] key. 3. Using [▲ / ▼] key, select the desired setting value. 4. Press the [Yes] key to validate the setting value selected in step 3. <p>Adjustment Instructions</p> <p>To make the erase width smaller, decrease the setting value. To make the erase width greater, increase the setting value.</p>

L. LOOP ADJUST (TRAY1)

Purpose/Use	To adjust the length of the loop formed in the paper before the Synchronizing Roller. * When a skew feed, fold, or misfeed of paper occurs * When variations in the amount of void on the leading edge occurs
Setting/Procedure	Setting range: -3.9 to 3.9 mm (1 step: 0.6 mm)
Adjustment Procedure	<ol style="list-style-type: none"> 1. Call Service's Choice of Service Mode to the screen. 2. Select "Loop Adjust (Tray1)" and press the [Yes] key. 3. Using [▲ / ▼] key, select the desired setting value. 4. Press the [Yes] key to validate the setting value selected in step 3. <p>Adjustment Instructions</p> <ul style="list-style-type: none"> • Try a different setting value until there are no variations in the amount of void on the leading edge, and paper skew, fold, or misfeed.

M. LOOP ADJUST (TRAY2 TO TRAY5)

Purpose/Use	To adjust the length of the loop formed in the paper before the Synchronizing Roller when the optional Paper Feed Unit is used. * When a skew feed, fold, or misfeed of paper occurs * When variations in the amount of void on the leading edge occurs
Setting/Procedure	* Refer to the option service manual (PF-502) for details.

N. LOOP ADJUST (DUPLEX): bizhub 210 only

Purpose/Use	To adjust the length of the loop formed in the paper before the Synchronizing Roller. * When a skew feed, fold, or misfeed of paper occurs * When variations in the amount of void on the leading edge occurs
Setting/ Procedure	* Refer to the option service manual (AD-504) for details.

O. LOOP ADJUST (BYPASS)

Purpose/Use	To adjust the length of the loop formed in the paper before the Synchronizing Roller when the Manual Bypass is used. * When a skew feed, fold, or misfeed of paper occurs * When variations in the amount of void on the leading edge occurs
Setting/ Procedure	Setting range: -3.9 to 3.9 mm (1 step: 0.6 mm)
Adjustment Procedure	1. Call Service's Choice of Service Mode to the screen. 2. Select "Loop Adjust (Bypass)" and press the [Yes] key. 3. Using [▲ / ▼] key, select the desired setting value. 4. Press the [Yes] key to validate the setting value selected in step 3. Adjustment Instructions • Try a different setting value until there are no variations in the amount of void on the leading edge, and paper skew, fold, or misfeed.

P. FLS PAPER SIZE

Purpose/Use	To select the paper size for FLS. * When the FLS paper size is changed * At setup
Setting/ Procedure	• The default setting is "330*210." 330*203 "330*210" 330*216 330*220 337*206

Q. CCD APS SIZE

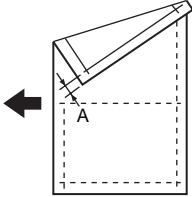
Purpose/Use	To set the automatic paper size detection function for CCD scan.
Setting/ Procedure	• The default setting is "PATTERN1." "PATTERN1" PATTERN2

R. GDI TIMEOUT

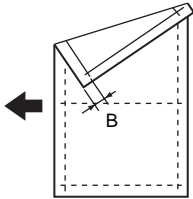
Purpose/Use	To specify the time for timeout when data from PC is interrupted during GDI printing.
Setting/ Procedure	• The default setting is "6." 0 (5 sec.) 1 (10 sec.) 2 (20 sec.) 3 (30 sec.) 4 (40 sec.) 5 (50 sec.) "6 (60 sec.)"

10.3.2 ADJUST

A. PRN MAIN REGIST

Function	Test Copy	Adjust
Purpose/Use	To adjust by varying the starting position of image writing in the main scanning direction. * When the image on the copy deviates in the CD direction * When the PH Unit has been replaced	
Setting/Procedure	Press the Start key to start a test copy cycle.	Setting range: 60 to 140 (1 step: 0.1 mm)
Adjustment Procedure	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Adjust so that width A on the test pattern produced falls within the specified range.</p> <p>Specifications 20 ± 2.0 mm</p> </div> </div> <p style="text-align: center;">4035D519AA</p> <ol style="list-style-type: none"> 1. Load the Paper Feed Tray/1 with A4 crosswise paper. 2. Enter Function of the Service mode. 3. Select "Print Test Pattern" and then "Test Pattern1." Then, press the Start key. * This will produce a test pattern. 4. Check to see if width A on the test pattern falls within the specified range. If width A falls outside the specified range, perform the following steps to make an adjustment. 5. Select "Adjust" of "PRN Main Regist." 6. Using [▲ / ▼] key, select the appropriate setting value. 7. Press the [Yes] key to validate the setting value selected in step 6. <p>Adjustment Instructions</p> <p>If width A on the test pattern is longer than the specifications, decrease the setting value.</p> <p>If width A on the test pattern is shorter than the specifications, increase the setting value.</p> <p>If a single adjustment procedure does not successfully bring width A into the specified range, repeat steps 5 through 7.</p>	

B. PRN SUB REGIST

Function	Test Copy	Adjust
Purpose/Use	To adjust by varying the starting position of image writing in the sub scanning direction. * When the image on the copy deviates in the FD direction * When the PH Unit has been replaced	
Setting/Procedure	Press the Start key to start a test copy cycle.	Setting range: 84 to 116 (1 step: 0.37 mm)
Adjustment Procedure	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Adjust so that width B on the test pattern produced falls within the specified range.</p> <p>Specifications 10 ± 1.5 mm</p> </div> </div> <p style="text-align: center; margin-top: 10px;">4035D520AA</p> <ol style="list-style-type: none"> 1. Load the Paper Feed Tray/1 with A4 crosswise paper. 2. Enter Function of the Service mode. 3. Select "Print Test Pattern" and then "Test Pattern1." Then, press the Start key. * This will produce a test pattern. 4. Check to see if width B on the test pattern falls within the specified range. If width B falls outside the specified range, perform the following steps to make an adjustment. 5. Select "Adjust" of "PRN Sub Regist." 6. Using [▲ / ▼] key, select the appropriate setting value. 7. Press the [Yes] key to validate the setting value selected in step 6. <p>Adjustment Instructions</p> <p>If width B on the test pattern is longer than the specifications, decrease the setting value.</p> <p>If width B on the test pattern is shorter than the specifications, increase the setting value.</p> <p>If a single adjustment procedure does not successfully bring width B into the specified range, repeat steps 5 through 7.</p>	

C. CCD MAIN ZOOM

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different IR parts by varying the scanning zoom ratio in the main scanning direction. * When the CCD Unit has been replaced (After the CCD Unit has been adjusted for correct position)	
Setting/Procedure	Press the Start key to start a test copy cycle.	<ul style="list-style-type: none"> The default setting is "100." Setting range: 95 to 105 (1 step: 0.4%)
Adjustment Procedure	<ul style="list-style-type: none"> Adjust so that the amount of error falls within $\pm 1.0\%$ of the length to be measured. Adjust so that the following specifications are met when the length of the scale is 200 mm. Zoom Ratio/Specifications Zoom Ratio: Full size ($\times 1.00$) Specifications: 200 ± 2.0 mm <ol style="list-style-type: none"> Place a scale on the Original Glass in parallel with the Original Width Scale and make a copy. <div data-bbox="303 603 512 794" data-label="Image"> </div> Measure the length of the scale on the copy. If the amount of error falls outside the specified range, perform the following steps to make an adjustment. <div data-bbox="460 799 540 815" data-label="Caption">4030D528AA</div> Enter Adjust of the Service mode. Select "Adjust" of "CCD Main Zoom." Using [▲ / ▼] key, select the appropriate setting value. Press the [Yes] key to validate the setting value selected in step 5. <p>Adjustment Instructions</p> <p>If the length on the copy is longer than the actual one, decrease the setting value. If the length on the copy is shorter than the actual one, increase the setting value. If a single adjustment procedure does not successfully bring the amount of error into the specified range, repeat steps 3 through 6. </p>	

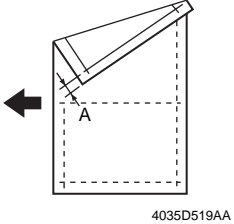
D. CCD SUB ZOOM

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different IR parts by varying the scanning zoom ratio in the sub scanning direction. * When the Scanner Drive Cables have been replaced	
Setting/ Procedure	Press the Start key to start a test copy cycle.	<ul style="list-style-type: none"> The default setting is "100." Setting range: 95 to 105 (1 step: 0.4%)
Adjustment Procedure	<ul style="list-style-type: none"> Adjust so that the amount of error falls within $\pm 1.0\%$ of the length to be measured. Adjust so that the following specifications are met when the length of the scale is 300 mm. <p>Zoom Ratio/Specifications Zoom Ratio: Full size ($\times 1.00$) Specifications: 300 ± 3.0 mm</p> <ol style="list-style-type: none"> Place a scale so that it is at right angles to the original width scale, and copy it. <div data-bbox="325 555 554 746" style="text-align: center;"> </div> <p style="text-align: center;">4030D529AA</p> <ol style="list-style-type: none"> Measure the length of the scale on the copy. If the amount of error falls outside the specified range, perform the following steps to make an adjustment. Enter Adjust of the Service mode. Select "Adjust" of "CCD Sub Zoom." Using [▲ / ▼] key, select the appropriate setting value. Press the [Yes] key to validate the setting value selected in step 5. <p>Adjustment Instructions If the length on the copy is longer than the actual one, decrease the setting value. If the length on the copy is shorter than the actual one, increase the setting value. If a single adjustment procedure does not successfully bring the amount of error into the specified range, repeat steps 3 through 6. </p>	

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Adjustment / Setting

E. CCD MAIN REGIST

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different IR parts by varying the starting position of image scanning in the main scanning direction. * When the PH Unit has been replaced (After PRN Main Regist, PRN Sub Regist, and CCD Main Zoom have been adjusted) * When the CCD Unit has been replaced (After the CCD Unit has been adjusted for correct position)	
Setting/Procedure	Press the Start key to start a test copy cycle.	Setting range: 20 to 180 (1 step: 0.1 mm)
Adjustment Procedure	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p>Adjust so that deviation between width A on the test pattern produced and that on the copy produced falls within the specified range.</p> <p>Specifications 0 ± 2.0 mm</p> </div> </div> <ol style="list-style-type: none"> 1. Load the Paper Feed Tray/1 with A4 crosswise paper. 2. Enter Function of the Service mode. 3. Select "Print Test Pattern" and then "Test Pattern1." Then, press the Start key. * This will produce a test pattern. 4. Place the test pattern produced in step 3 on the Original Glass and make a copy of it. 5. Place the test pattern (original) on top of the copy and check for deviation in width A. If the deviation in width A falls outside the specified range, perform the following steps to make an adjustment. 6. Select "Adjust" of "CCD Main Regist." 7. Using [▲ / ▼] key, select the appropriate setting value. 8. Press the [Yes] key to validate the setting value selected in step 7. <p>Adjustment Instructions</p> <p>If the deviation is longer than the specifications, increase the setting value. If the deviation is shorter than the specifications, decrease the setting value. If a single adjustment procedure does not successfully bring the deviation into the specified range, repeat steps 5 through 7.</p>	

F. CCD SUB REGIST

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different IR parts by varying the starting position of image scanning in the sub scanning direction. * When the PH Unit has been replaced (After PRN Main Regist, PRN Sub Regist, and CCD Main Zoom have been adjusted) * When the CCD Unit has been replaced (After the CCD Unit has been adjusted for correct position)	
Setting/ Procedure	Press the Start key to start a test copy cycle.	Setting range: 60 to 140 (1 step: 0.1 mm)
Adjustment Procedure	<div style="display: flex; align-items: flex-start;"> <div style="border: 1px solid black; padding: 5px; margin-right: 10px;"> <p style="text-align: center; font-size: small;">4035D520AA</p> </div> <div> <p>Adjust so that deviation between width B on the test pattern produced and that on the copy produced falls within the specified range.</p> <p>Specifications 0 ± 1.5 mm</p> </div> </div> <ol style="list-style-type: none"> 1. Load the Paper Feed Tray/1 with A4 crosswise paper. 2. Enter Function of the Service mode. 3. Select "Print Test Pattern" and then "Test Pattern1." Then, press the Start key. * This will produce a test pattern. 4. Place the test pattern produced in step 3 on the Original Glass and make a copy of it. 5. Place the test pattern (original) on top of the copy and check for deviation in width B. If the deviation in width B falls outside the specified range, perform the following steps to make an adjustment. 6. Select "Adjust" of "CCD Sub Regist." 7. Using [▲ / ▼] key, select the appropriate setting value. 8. Press the [Yes] key to validate the setting value selected in step 7. Adjustment Instructions If the deviation is longer than the specifications, increase the setting value. If the deviation is shorter than the specifications, decrease the setting value. If a single adjustment procedure does not successfully bring the deviation into the specified range, repeat steps 5 through 7. 	

G. ADF SUB ZOOM

* appears only when the Automatic Document Feeder (DF-502) or Duplexing Document Feeder (DF-605: bizhub 210 only) is installed

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different parts by varying the scanning zoom ratio in the sub scanning direction when the Automatic Document Feeder is used.	
Setting/ Procedure	* Refer to the option service manual (DF-502, DF-605) for details.	

H. ADF MAIN REGIST

* appears only when the Automatic Document Feeder (DF-502) or Duplexing Document Feeder (DF-605: bizhub 210 only) is installed

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different parts by varying the scanning start position in the main scanning direction when the Automatic Document Feeder is used.	
Setting/Procedure	* Refer to the option service manual (DF-502, DF-605) for details.	

I. ADF SUB REGIST1

* appears only when the Automatic Document Feeder (DF-502) or Duplexing Document Feeder (DF-605: bizhub 210 only) is installed

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different parts by varying the scanning start position in the sub scanning direction when the Automatic Document Feeder is used.	
	NOTE • This adjustment should be made after the ADF Sub Zoom adjustment.	
Setting/Procedure	* Refer to the option service manual (DF-502, DF-605) for details.	

J. ADF SUB REGIST2

* appears only when the Duplexing Document Feeder (DF-605: bizhub 210 only) is installed

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different parts by varying the scanning start position in the sub scanning direction when the Automatic Document Feeder is used.	
	NOTE • This adjustment should be made after the ADF Sub Zoom adjustment.	
Setting/Procedure	* Refer to the option service manual (DF-605) for details.	

K. ADF REG. LOOP1

* appears only when the Duplexing Document Feeder (DF-605: bizhub 210 only) is installed

Purpose/Use	To adjust the length of loop formed in the original before the Registration Roller.	
	* When a skew feed, fold, or misfeed of the original occurs	
Setting/Procedure	* Refer to the option service manual (DF-605) for details.	

L. ADF REG. LOOP2

- * appears only when the Duplexing Document Feeder (DF-605: bizhub 210 only) is installed

Purpose/Use	To adjust the length of loop formed in the original before the Registration Roller. * When a skew feed, fold, or misfeed of the original occurs
Setting/ Procedure	* Refer to the option service manual (DF-605) for details.

M. ATDC GAIN

Purpose/Use	To manually adjust the ATDC Sensor voltage.
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "155." Setting range: 123 to 186 * The adjusted value of the ATDC Auto Adjust is the setting value.

N. MODEL SETTING

Purpose/Use	NOTE Never change this setting. If it is changed, the Tech. Rep. call (C03FF) will appear.
Setting/ Procedure	* Default setting depend on the marketing area setting. 20 ppm 18 ppm 16 ppm

10.3.3 COUNTER

- COUNTER displays the counts of various counters.

A. TOTAL COUNTER

Purpose/Use	To display the total count value of the selected mode.
Setting/ Procedure	1: COPY 2: COPY DUPLEX 3: PRINT 4: PRINT DUPLEX


B. SIZE COUNTER

Purpose/Use	To display the count of the Size Counter.
Setting/ Procedure	<ul style="list-style-type: none"> To clear the count, use "Clear Data" of the Service mode.

C. PM COUNTER

Purpose/Use	<ul style="list-style-type: none"> To display the count of the number of times each of different parts of the copier has been used. The count should be cleared when the corresponding PM part is replaced.
Setting/ Procedure	1: BYPASS 2: TRAY1 3: TRAY2 4: TRAY3 (should not be used) 5: TRAY4 6: TRAY5 7: ADF (FEED) 8: ADF (REVERSE) 9: IR 10: OZONE 11: CLEANING <ul style="list-style-type: none"> To clear the count, use "Clear Data" of the Service mode.

D. MAINTENANCE COUNTER

Purpose/Use	To display the count of the Maintenance Counter. When the counter reaches "0", maintenance call M1 or the Tech. Rep. call will appear, according to the setting on maintenance counter of service choice.  83
Setting/ Procedure	<ul style="list-style-type: none"> To clear the count, use "Clear Data" of the Service mode.

E. SUPPLIES LIFE COUNT.

Purpose/Use	To display the count of the Supplies Life Counter. When the counter reaches "0", life 1 will be detected and maintenance call M2 will appear. The initial value is 40000, and the countdown system is used.
Setting/ Procedure	<ul style="list-style-type: none"> To clear the count, use "Clear Data" of the Service mode.

F. APPLICATION COUNTER

Purpose/Use	To display the count of the number of sheets of paper used for each of different applications.
Setting/ Procedure	COPY PRINT: Number of copies made FAX RX PRINT: (Only when Fax is used) REPORT PRINT: (Only when Fax is used) PC PRINT: Number of printed pages produced from PC FAX TX PAGE: (Only when Fax is used) MAIL TX PAGE: (Used only when SU-502 is mounted) <ul style="list-style-type: none"> To clear the count, use "Clear Data" of the Service mode.

G. SCAN COUNTER

Purpose/Use	To display the count of the Scan Counter.
Setting/ Procedure	<ul style="list-style-type: none"> • The number of scan motions carried out for copying is not counted. • To clear the count, use "Clear Data" of the Service mode.

H. PAPER SIZE COUNTER

Purpose/Use	To display the count of the number of sheets of paper used for each size and type.
Setting/ Procedure	1: A3 2: B4 3: A4 L 4: A4 C 5: B5 6: A5 7: FLS 8: LEDGER 9: 11 x 14 10: LEGAL 11: LETTER L 12: LETTER C 13: INVOICE 14: OTHER 15: PLAIN PAPER 16: RECYCLE PAPER 17: SPECIAL PAPER 18: 1-SIDE PAPER (should not be used only for bizhub 162) 19: OHP 20: THICK PAPER 21: ENVELOPE <ul style="list-style-type: none"> • To clear the count, use "Clear Data" of the Service mode.

I. MISFEED COUNTER

Purpose/Use	To display the count of the number of paper misfeeds that have occurred at different parts of the copier.
Setting/ Procedure	1: BYPASS 2: TRAY1 3: TRAY2 4: TRAY3 5: TRAY4 6: TRAY5 7: PICK-UP/TSPT. 8: DUPLEX (ENTRANCE) (should not be used only for bizhub 162) 9: DUPLEX (FEED) (should not be used only for bizhub 162) 10: FUSER 11: SEPARATOR 12: ADF (PICK-UP) 13: ADF (TSPT.) 14: ADF (EXIT) 15: ADF (REVERSE) (should not be used only for bizhub 162) <ul style="list-style-type: none"> • To clear the count, use "Clear Data" of the Service mode.

J. TROUBLE COUNTER

Purpose/Use	To display the count of the number of malfunctions detected according to the malfunction code.
Setting/ Procedure	<p>C0000: Main Motor malfunction C0044: ADF Cooling Fan failure (should not be used only for bizhub 210) C0045: Fusing Cooling Fan Motor malfunction C004E: Power Unit Cooling Fan Motor malfunction C0070: Toner Replenishing Motor malfunction C0210: Abnormal image transfer voltage C0500: Warm-up failure C0501: Warm-up failure 2 (should not be used only for bizhub 210) C0510: Fusing failure (abnormally low temperature) C0511: Fusing failure (abnormally low temperature 2) (should not be used only for bizhub 210) C0520: Fusing failure (abnormally high temperature) C0521: Fusing failure (abnormally high temperature 2) (should not be used only for bizhub 210) C0650: Faulty Scanner Home Position Sensor C0B60: Bin Switching Motor malfunction C0B80: Shift Motor malfunction C0F32: Faulty ATDC Sensor C0F33: Improperly adjusted ATDC Sensor C1038: Engine connection failure C1200: Faulty ASIC/memory C1300: Polygon Motor malfunction C133B: Communication with option error C133C: Modem fault (should not be used only for bizhub 210) C133D: ROM checksum error C13F0: Faulty HSYNC C1468: Faulty Parameter Chip C14A3: IR fluorescent lamp fault</p> <ul style="list-style-type: none"> • To clear the count, use "Clear Data" of the Service mode.

10.3.4 DISPLAY

- DISPLAY displays various types of information.

A. TONER DENSITY LEVEL

Purpose/Use	To display the current output value of ATDC sensor. Refer to the following table for actual T/C values. * Used to check the T/C ratio when the image density is defective.
-------------	--

Display	T/C
⋮	⋮
80	8.0%~8.4%
⋮	⋮
100	10.0%~10.4%
⋮	⋮
130	13.0%~13.4%
135	13.5%~13.9%
140	14.0%~14.4%
145	14.5%~14.9%
⋮	⋮

B. PROCESS CONTROL

Purpose/Use	To display the Vg and Vb values.
-------------	----------------------------------

Display	Vb (V)	Vg (V)
-5	-300	-450
0	-400	-550
+5	-500	-650

C. MAIN F/W VER. (PWB-C/C)

Purpose/Use	To display the main firmware version information.
-------------	---

D. ENGINE F/W VER. (PWB-A)

Purpose/Use	To display the engine firmware version information.
-------------	---

E. PCL F/W VER.

Purpose/Use	To display the PCL firmware version information. * Only when the optional Printer Controller (Pi2001e) is mounted
-------------	--

F. NIC F/W VER.

Purpose/Use	To display the NIC firmware version information. * Only when the optional Network Interface Card (NC-502) is mounted
-------------	---

G. ADF F/W VER.

Purpose/Use	To display the ADF firmware version information. * Only when the optional Duplexing Document Feeder (DF-605) is mounted
-------------	--

H. MAIN RAM SIZE

Purpose/Use	To display the main memory size.
-------------	----------------------------------

I. PCL RAM SIZE

Purpose/Use	To display the PCL memory size. * Only when the optional Printer Controller (Pi2001e) is mounted
-------------	---

J. SERIAL NO.

Purpose/Use	To display the serial number of the copier.
-------------	---

K. CUSTOMER ID

Purpose/Use	To display the customer ID of the copier.
-------------	---

10.3.5 FUNCTION

- FUNCTION allows the various service functions (paper feed test, image printing) to be checked and adjustments to be made.

A. PAPER FEED TEST

Purpose/Use	<ul style="list-style-type: none"> • To check for correct paper passage of the paper take-up and transport system by letting the copier consecutively take up and feed paper without involving actual printing action. • Here are the details of operation involved in the paper passage motion. <ul style="list-style-type: none"> • The Scanner does not make any scan motion. • Paper is fed until the corresponding paper source runs out of paper. • This test cannot be run with the Manual Bypass or Multiple Bypass (option). • No counters are activated. <p>* When a paper misfeed occurs</p>
Setting/ Procedure	<p><Step></p> <ol style="list-style-type: none"> 1. Select the paper source. TRAY1 TRAY2 2. Press the Start key to start the paper feed test. <p>* Press the Stop key to stop the paper feed test.</p>

B. PROCESS CHECK

Purpose/Use	HV output (for factory setting only) *Should not be used
-------------	--

C. ATDC AUTO ADJUST

Purpose/Use	To make an automatic adjustment of the ATDC Sensor. * At setup * When developer has been changed * When IU has been replaced
Setting/ Procedure	<Step> 1. Press the [Yes] key to start the adjustment. 2. The adjustment sequence automatically stops as soon as the adjustment is made. * The sequence may be interrupted using the Stop key.

D. PRINT TEST PATTERN

<PATTERN1>

Purpose/Use	To produce a test pattern for image adjustments. * When skew, registration, or zoom ratio has been adjusted
Setting/ Procedure	<Step> 1. Select the paper source. TRAY1 TRAY2 2. Select the type of test pattern. 3. Press the Start key to let the copier produce the test pattern.

<PATTERN2>

Purpose/Use	To produce halftone and gradation test patterns. * When checking for uneven density or uneven pitch * When checking for gradation reproducibility
Setting/ Procedure	<Step> 1. Select the paper source. TRAY1 TRAY2 2. Select the type of test pattern. 3. Press the Start key to let the copier produce the test pattern.

E. ADF FEED TEST

Purpose/Use	<ul style="list-style-type: none"> • To check for correct paper passage of the paper take-up and transport system in the Automatic (Duplexing) Document Feeder alone as a single unit. • Here are the details of operation involved in the paper passage motion. <ul style="list-style-type: none"> • The Scanner does not make any scan motion. • Paper passage operation continues until all pages of the document loaded in the unit have been fed in. * When a paper misfeed of originals occurs
Setting/ Procedure	* Refer to the option service manual (DF-502, DF-605) for details.

F. COPY ADF GLASS AREA

Purpose/Use	To check for scratches and dirt on the Original Scanning Glass. * When a dirty image occurs
Setting/ Procedure	* Refer to the option service manual (DF-502, DF-605) for details.

G. CCD MOVE TO HOME

Purpose/Use	To move the Scanner to its home position and fix it at the home position. * When transporting the copier
Setting/ Procedure	<ul style="list-style-type: none"> • Pressing the Start key will move the Scanner toward the left from its standby position. <Step> 1. Press the Start key to move the Scanner from the standby position to the home position. * Pressing the Stop key will bring the Scanner back to its original position.

H. SCAN TEST

Purpose/Use	To check that the Exposure Lamp turns ON properly and the Scanner moves properly. * When the scan motion is faulty
Setting/ Procedure	<Step> 1. Press the Start key to start the scan test. * Pressing the Stop key will stop the scan test.

I. ADF WIDTH ADJ. (MAX)

Purpose/Use	To adjust the Original size detection VR. * When PBA-VR board is replace * When PBA-CONT board is replace
Setting/ Procedure	* Refer to the option service manual (DF-605) for details.

J. ADF WIDTH ADJ. (MIN)

Purpose/Use	To adjust the original size detection VR. * When the scan motion is faulty * When PBA-CONT board is replace
Setting/ Procedure	* Refer to the option service manual (DF-605) for details.

K. ADF SENSOR ADJUST

Purpose/Use	To automatically adjust the detection level of original path sensor. * When each sensor is replaced * When original size detection error occurs
Setting/ Procedure	* Refer to the option service manual (DF-605) for details.

10.3.6 ADMIN. REGISTRATION

- ADMINISTRATOR NUMBER REGISTRATION is used to register or change the administrator number required when entering the Admin. Management function of the Utility mode.

<Step>

- Using the 10-Key Pad, type the 6-digit administrator number (000000 to 999999) to be registered or changed.
- Press the [Yes] key to register the administrator number.

10.3.7 FIXED ZOOM CHANGE

- FIXED ZOOM CHANGE is used to change the fixed zoom ratios.

<Step>

- Select the particular fixed zoom ratio to be changed.
- Using the 10-Key Pad, enter the desired fixed zoom ratio.

Default Values and Setting Range of Fixed Zoom Ratios

A. Japan

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	70%	51% to 70%
REDUCTION1	81%	71% to 99%
EXPANSION1	122%	101% to 140%
EXPANSION2	141%	141% to 199%

B. Metric

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	70%	51% to 70%
REDUCTION1	81%	71% to 99%
EXPANSION1	115%	101% to 140%
EXPANSION2	141%	141% to 199%

C. Inch

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	64%	51% to 64%
REDUCTION1	78%	65% to 99%
EXPANSION1	121%	101% to 128%
EXPANSION2	129%	129% to 199%

D. China

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	70%	51% to 70%
REDUCTION1	81%	71% to 99%
EXPANSION1	115%	101% to 140%
EXPANSION2	141%	141% to 199%

E. Latin America (Metric)

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	70%	51% to 70%
REDUCTION1	78%	71% to 99%
EXPANSION1	115%	101% to 140%
EXPANSION2	141%	141% to 199%

F. Latin America (Inch)

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	64%	51% to 64%
REDUCTION1	78%	65% to 99%
EXPANSION1	121%	101% to 128%
EXPANSION2	129%	129% to 199%

G. OEM1 US

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	64%	51% to 64%
REDUCTION1	77%	65% to 99%
EXPANSION1	129%	101% to 154%
EXPANSION2	155%	155% to 199%

10.3.8 FACTORY TEST**A. PANEL BUZZER TEST**

Purpose/Use	To test LEDs and keys on control panel
Setting/ Procedure	PANEL LED TEST <ul style="list-style-type: none"> • Make sure that all LEDs on control panel light (for 5 seconds). PANEL SWITCH TEST <ul style="list-style-type: none"> • Press the control keys and numeric keys, and make sure that the names of switches appear in the LCD display. * To release the test, press the panel reset key twice: The initial screen will be restored.

B. RAM TEST

Purpose/Use	Write or read data to/from RAM memory to make sure of normal operation.
Setting/ Procedure	1. Pressing the YES key will start the check. 2. After approx. 30 seconds, "RAM Chip is OK" will appear.

10.3.9 CLEAR DATA

- CLEAR DATA is used to clear data of various types.

A. MEMORY CLEAR

Purpose/Use	To clear the setting values listed on the right, resetting them to the default values.
Setting/ Procedure	<ul style="list-style-type: none"> • Settings of the Utility mode • Settings of Service's Choice of the Service mode • Settings of Adjust of the Service mode • Setting of Administrator Number Registration of the Service mode • Settings of Fixed Zoom Change of the Service mode • Settings of Security of the Service mode • Settings of copy programs <p>NOTE</p> <ul style="list-style-type: none"> • After Memory Clear has been executed, be sure to turn OFF and ON the Power Switch.

B. PM COUNTER

Purpose/Use	To clear each of the counts of the PM Counter.
-------------	--

C. MAINTENANCE COUNTER

Purpose/Use	To clear the count of the Maintenance Counter.
-------------	--

D. SUPPLIES LIFE COUNT.

Purpose/Use	To clear the count of the Supplies Life Counter.
-------------	--

E. APPLICATION COUNTER

Purpose/Use	To clear each of the counts of the Application Counter.
-------------	---

F. SCAN COUNTER

Purpose/Use	To clear the count of the Scan Counter.
-------------	---

G. PAPER SIZE COUNTER

Purpose/Use	To clear each of the counts of the Paper Size Counter.
-------------	--

H. MISFEED COUNTER

Purpose/Use	To clear each of the counts of the Misfeed Counter.
-------------	---

I. TROUBLE COUNTER

Purpose/Use	To clear each of the counts of the Trouble Counter.
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J. ADF BACKUP CLEAR (bizhub 210 only)

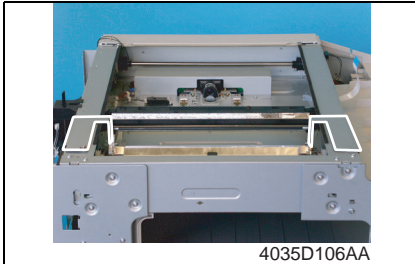
Purpose/Use	To clear the values adjusted with ADF SENSOR ADJUST and the values adjusted with Org. Width Detect. * When PBA-CONT board has been replaced. * When PBA-VR board has been replaced.
Setting/ Procedure	* Refer to the option service manual (DF-605) for details.

12. Mechanical adjustment

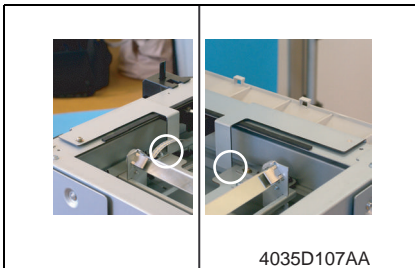
12.1 Adjustment of the Position of the Scanner and 2nd/3rd Mirrors Carriage

NOTE

- This adjustment is to be made when the Scanner Drive Cables has been replaced or rewound.

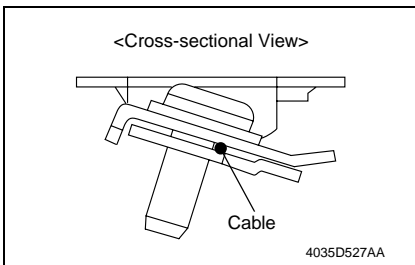
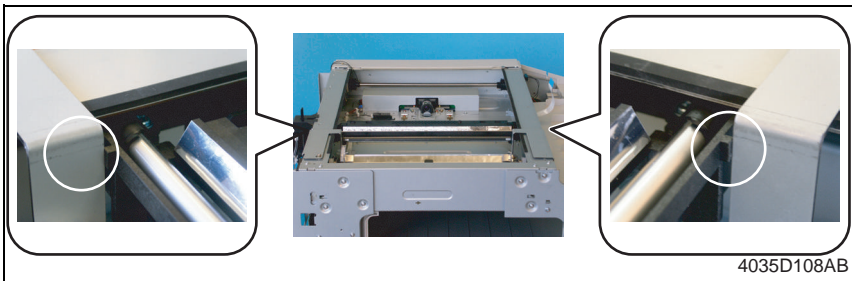


1. Remove the Original Glass.
E33 31
2. Fit the Scanner/Mirrors Carriage Positioning Jigs in position. Then, press the 2nd/3rd Mirrors Carriage up against the jigs.



3. Loosen the fixing screws and adjust as necessary so that there is no clearance between the 2nd/3rd Mirrors Carriage and the jigs.

4. Press the Scanner up against the jigs and tighten the fixing screws.



NOTE

- When the Scanner Assy is secured to the Scanner Drive Cables using the fixing brackets, make sure that the cables are located as shown on the left. If the cables are not positioned properly, the Scanner Assy can move askew, resulting an image problem.

12.2 CCD Unit Position Adjustment

NOTE

- This adjustment is to be made when the CCD Unit has been replaced.

<Adjustment Standard>

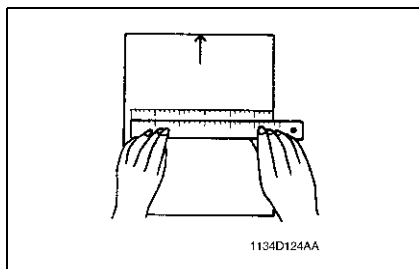
- Adjust so that the amount of error falls within $\pm 1.0\%$ of the length to be measured.
- Adjust so that the following specifications are met when the length of the scale is 200 mm.

Zoom Ratio/Specifications

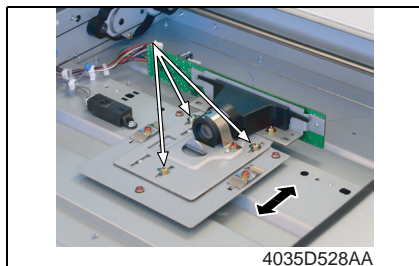
Zoom Ratio: Full size ($\times 1.00$)

Specifications: 200 ± 2.0 mm

1. Place a scale on the Original Glass in parallel with the Original Width Scale and make a copy.



2. Measure the length of the scale on the copy. If the amount of error falls outside the specified range, perform the following steps to make an adjustment.



3. Loosen the three CCD Unit mounting screws (painted in green), slide the CCD Unit to the right or left, and secure it in position.

Adjustment Instructions

If the length on the copy is longer than the actual one, move the CCD Unit to the right.

If the length on the copy is shorter than the actual one, move the CCD Unit to the left.

If a single adjustment procedure does not successfully bring the amount of error into the specified range, repeat steps 1 through 3.

12.3 Adjustment of the Gap between the Doctor Blade and Sleeve Roller (Db Adjustment)

NOTE

- This adjustment is to be made when an image problem (uneven density, low ID, gradation reproducibility failure, etc.) occurs.

<Adjustment Standard>

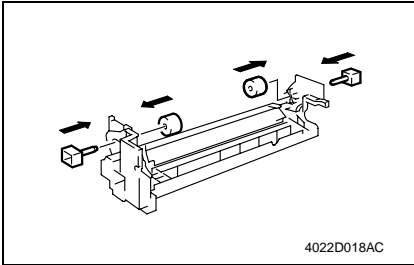
- The gap between the Doctor Blade and the Sleeve Roller should meet the following specifications.

Specifications

0.39 ± 0.04 mm (as set using the jigs)

1. Remove the Imaging Unit.
2. Separate the Imaging Unit into the Drum Assy and Developing Assy.
3. Remove the PC Drum, Main Erase, PC Drum Charge Corona Assy, and Ozone Filter.

13



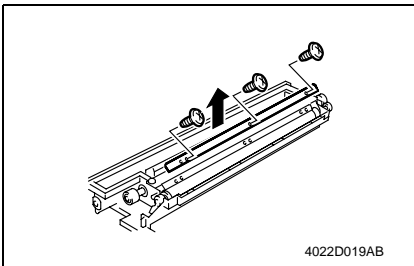
4. Install the Ds Collar Positioning Jigs.

NOTE

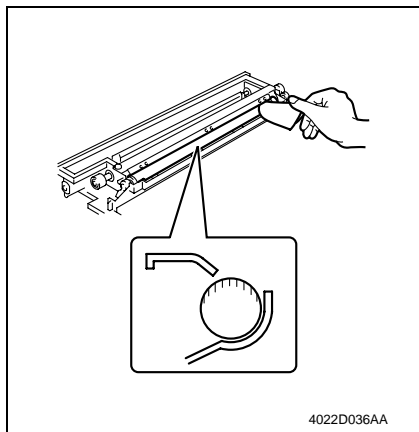
- Ready one PC Positioning Jig (Pivot Shaft) separately. (For details, see the Parts Manual.)

5. Remove the Developer Scattering Prevention Plate.

15

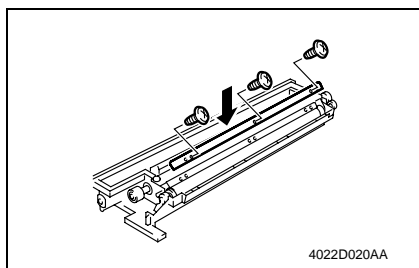


6. Remove three screws and the Doctor Blade.



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7. Using a small piece of paper, remove developer from the shaded area on the surface of the Sleeve Roller and put it in the Developer Mixing Chamber.
8. Remove the developer left on the surface of the Sleeve Roller.

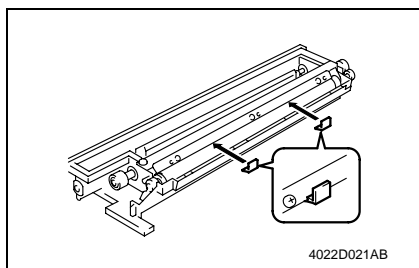


4022D020AA

9. Temporarily secure the Doctor Blade using three new screws.

NOTE

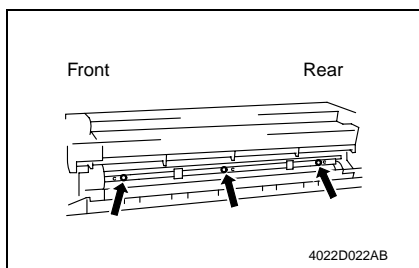
- Whenever a Db adjustment is made, use new screws (to which lock paint has been applied).



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10. Install the Db Gap Adjusting Jigs in a space between the Sleeve Roller and Doctor Blade.

11. Put the Developing Assy and Drum Assy together.



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12. Press the Doctor Blade tightly up against the Db Gap Adjusting Jigs and tighten the screws in the order of (1) at the front, (2) at the center, and (3) in the rear.

NOTE

- The Doctor Blade mounting screws have been coated with lock paint and the job must be completed within 30 min. If the job extends more than that time, change the screws for new ones.

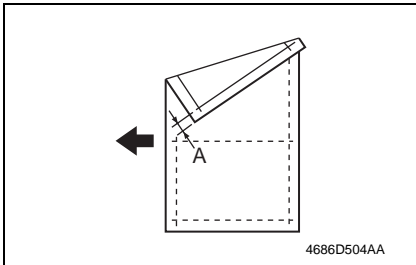
12.4 Manual Bypass (for the optional AD-504) CD Registration Adjustment *bizhub 210 only

NOTE

- This adjustment is to be made when the PH Unit has been replaced.

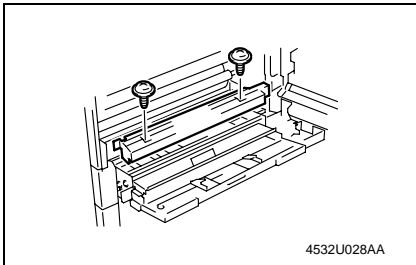
<Adjustment Procedure>

1. Load the Paper Feed Tray/1 with A4 crosswise paper.
2. Enter Function of the Service mode.
3. Select "Print Test Pattern" and then "Test Pattern1." Then, press the Start key.
* This will produce a test pattern.
4. Place the test pattern produced on the Original Glass.
5. Load A4 crosswise paper in the Manual Bypass and make a test copy.

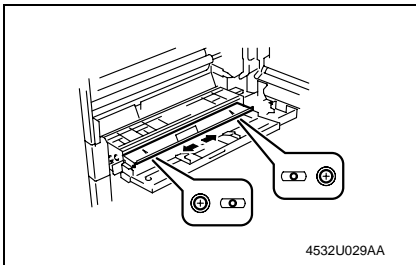


6. Check width A on the copy of the test pattern.
If width A falls outside the specified range, perform the following steps to make an adjustment.

Specifications
 20 ± 2.0 mm



7. Open the Right Door.
8. Remove two screws and the Manual Bypass Cover.



9. Loosen two screws on the Manual Bypass and adjust the position of the Manual Bypass.

Adjustment Instructions

If width A on the copy is smaller than width A on the test pattern, move the Manual Bypass toward the rear of the copier.

If width A on the copy is greater than width A on the test pattern, move the Manual Bypass toward the front of the copier.

10. Make another copy of the test pattern and check for any error in width A.

Troubleshooting

13. Introduction

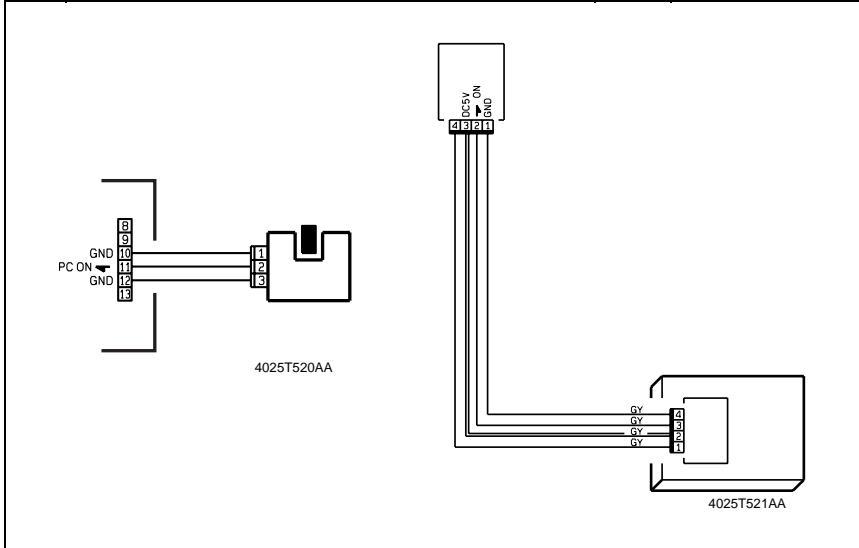
- Information required for troubleshooting and steps that must be performed are described in this chapter.

13.1 Electrical Components Check Procedure

- If a paper misfeed or malfunction occurs, perform the following operations to check the condition of the electrical components.

13.1.1 Sensor

Step	Check	Result	Action
1	Does the input signal of the control board change when the sensor light is interrupted? (H → L, L → H)	NO	Replace the sensor.
		YES	Replace the control board.



13.1.2 Switch

Step	Check	Result	Action
1	Does the input signal (NO) of the control board change from L to H when the switch is activated?	NO	Replace the switch.
		YES	Replace the control board.

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13.1.3 Solenoid

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the solenoid is activated?	NO	Replace the control board.
		YES	Replace the solenoid.

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13.1.4 Clutch

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the clutch is activated?	NO	Replace the control board.
		YES	Replace the clutch.

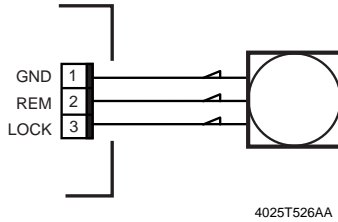
4025T528AA

bizhub 162
bizhub 210

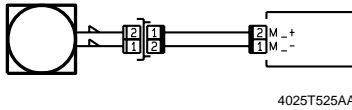
Troubleshooting

13.1.5 Motor

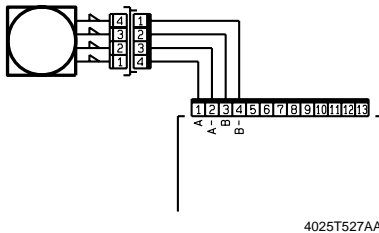
Step	Check	Result	Action
1	Does the LOCK signal switch to H when the machine goes into standby?	NO	Replace the control board. Replace the motor.
2	Does the REM signal of the master board change from H to L when the motor is turned on?	YES	Replace the motor.
		NO	Replace the control board.



Step	Check	Result	Action
1	Does the input signal of the master board change from H to L when the motor is turned on? (The input signal differs depending on the rotation direction.)	YES	Replace the motor.
		NO	Replace the control board.



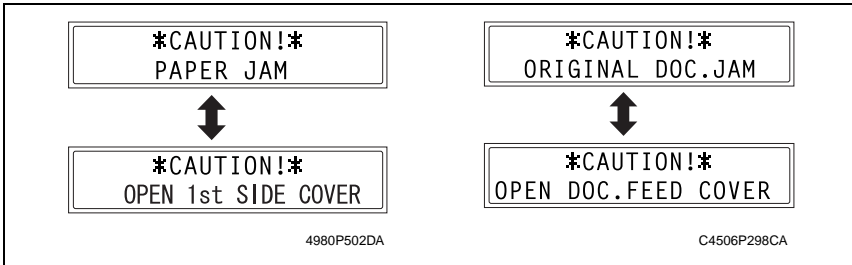
Step	Check	Result	Action
1	Are the relay connector of the motor and the print jack of the control board correctly connected?	YES	Replace the motor or the control board.
		NO	Connect the connector or the print jack.



14. Jam Display

14.1 Misfeed Display

- When a paper misfeed occurs, the Error indicator lights up steadily and the Display gives a corresponding message.



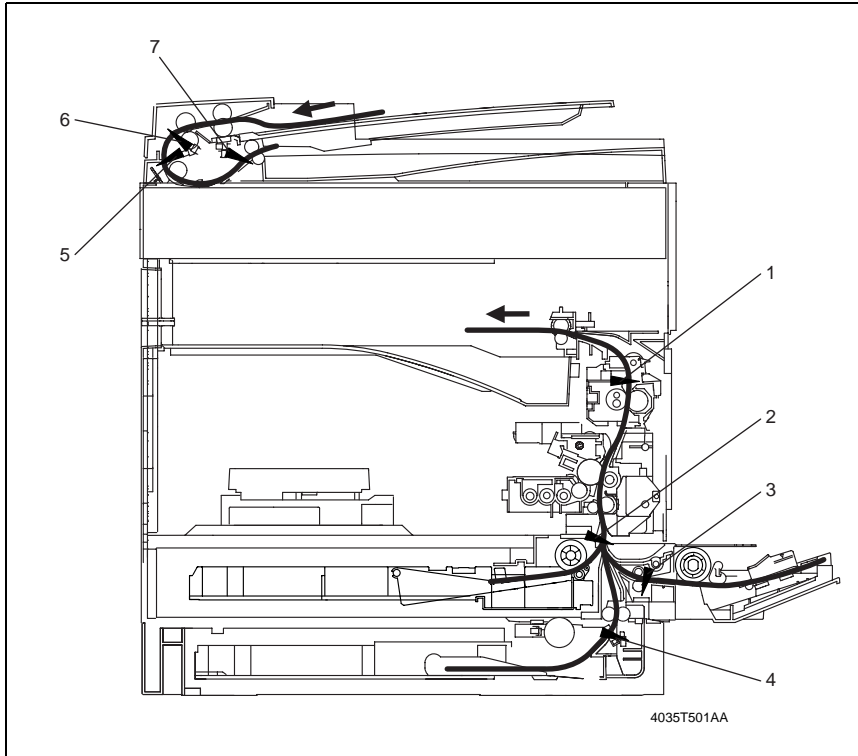
Display Message	Misfeed/Paper Location	Ref. Page
OPEN 1st SIDE COVER	Paper take-up section of the Paper Feed Tray/1	☞ 121
	Paper take-up section of the Manual Bypass	☞ 122
	Paper take-up section of the Multiple Bypass	☞ 123
	Paper separating section	☞ 125
	Fusing/paper exit section	☞ 126
OPEN 2nd SIDE COVER	Paper take-up/vertical transport section of the Paper Feed Unit	☞ 124
OPEN DOC. FEED COVER	Document take-up section	☞ 127
	Document transport section	☞ 128
	Document exit section	☞ 129

14.1.1 Display Resetting Procedure

- Open the corresponding cover, clear the sheet of paper misfed, and close the cover.

14.2 Sensor layout

14.2.1 System Mounted with DF-502, PF-502 and MB-501.



- | | |
|---------------------------------------|----------------------------------|
| [1] Exit Paper Sensor (PC3) | [5] Registration Sensor (PC3/AF) |
| [2] Synchronizing Roller Sensor (PC1) | [6] Separator Sensor (PC4/AF) |
| [3] Paper Set Sensor/Bypass (PC2) | [7] Paper Exit Sensor (PC5/AF) |
| [4] Paper Take-Up Sensor (PC12/PF) | |

14.3 Solution

14.3.1 Initial Check Items

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

Check Item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. 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 Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
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 operational and checked for correct operation?	Correct or replace the defective actuator.

14.3.2 Misfeed at the Paper Feed Tray/1 Paper Take-up Section

A. Detection Timing

Type	Description
Paper Take-Up Section misfeed detection	<ul style="list-style-type: none"> The leading edge of the paper does not unblock the Synchronizing Roller Sensor (PC1) even after the lapse of a given period of time after the Paper Take-up Solenoid/1 (SL1) has been energized.
Size error detection	<ul style="list-style-type: none"> The Synchronizing Roller Sensor (PC1) is not blocked even after the lapse of a given period of time after the paper has unblocked the Synchronizing Roller Sensor (PC1). The Synchronizing Roller Sensor (PC1) is blocked before the lapse of a given period of time.

B. Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) Paper Take-up Solenoid/1 (SL1)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1 sensor check	ESP 115	PWB-A PJ17A-3 (ON)	
3	SL1 operation check	ESP 116	PWB-A PJ9A-2 (REM)	
4	Replace PWB-A	—	—	—

14.3.3 Misfeed at the Manual Bypass Paper Take-up Section

A. Detection Timing

Type	Description
Manual Bypass paper take-up section misfeed detection	<ul style="list-style-type: none"> The leading edge of the paper does not unblock the Synchronizing Roller Sensor (PC1) even after the lapse of a given period of time after the Paper Take-up Solenoid/Bypass (SL2) has been energized.
Size error detection	<ul style="list-style-type: none"> The Synchronizing Roller Sensor (PC1) is not blocked even after the lapse of a given period of time after the paper has unblocked the Synchronizing Roller Sensor (PC1). The Synchronizing Roller Sensor (PC1) is blocked before the lapse of a given period of time.
Paper left at the Manual Bypass paper take-up section	<ul style="list-style-type: none"> The Paper Set Sensor/Bypass (PC2) is blocked at timing when the Power Switch is turned ON, the cover is opened and closed, or a paper misfeed or malfunction is reset.

B. Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) Paper Take-up Solenoid/Bypass	Paper Set Sensor/Bypass (PC2) Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1 sensor check	ES ² 115	PWB-A PJ17A-3 (ON)	
3	SL2 operation check	ES ² 116	PWB-A PJ12A-2 (REM)	
4	PC2 sensor check	ES ² 115	PWB-A PJ12A-5 (ON)	
5	Replace PWB-A	—	—	—

**14.3.4 Misfeed at the Multiple Bypass Paper Take-up Section
(When the optional Multiple Bypass MB-501 is mounted)**

A. Detection Timing

Type	Description
Paper take-up section misfeed detection	<ul style="list-style-type: none"> The leading edge of the paper does not unblock the Synchronizing Roller Sensor (PC1) even after the lapse of a given period of time after the Paper Take-up Solenoid (SL21/MB) has been energized.
Size error detection	<ul style="list-style-type: none"> The Synchronizing Roller Sensor (PC1) is not blocked even after the lapse of a given period of time after the paper has unblocked the Synchronizing Roller Sensor (PC1). The Synchronizing Roller Sensor (PC1) is blocked before the lapse of a given period of time.

B. Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) Paper Take-up Solenoid (SL21/MB)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1 sensor check	☞ 115	PWB-A PJ17A-3 (ON)	
3	SL21/MB operation check	☞ 116	PWB-A PJ12A-2 (REM)	
4	Replace PWB-A	—	—	—

14.3.5 Misfeed at the Paper Feed Unit Paper Take-up/Vertical Transport Section (When the optional Paper Feed Unit PF-502 is mounted)

A. Detection Timing

Type	Description
Paper take-up/ vertical transport section misfeed detection	<ul style="list-style-type: none"> The leading edge of the paper does not unblock the Synchronizing Roller Sensor (PC1) even after the lapse of a given period of time after the Paper Take-up Solenoid (SL11/PF) has been energized.
Size error detection	<ul style="list-style-type: none"> The Synchronizing Roller Sensor (PC1) is not blocked even after the lapse of a given period of time after the paper has unblocked the Synchronizing Roller Sensor (PC1). The Synchronizing Roller Sensor (PC1) is blocked before the lapse of a given period of time.
Paper left at the paper take-up/ vertical transport section	<ul style="list-style-type: none"> The Paper Take-up Sensor (PC12/PF) is blocked at timing when the Power Switch is turned ON, the cover is opened and closed, or a paper misfeed or malfunction is reset.

B. Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) Paper Take-Up Solenoid (SL11/PF)	Paper Take-Up Sensor (PC12/PF) Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1 sensor check	ES ¹ 115	PWB-A PJ17A-3 (ON)	F-8
3	SL11/PF operation check	ES ¹ 116	PWB-A/PF PJ3A/PF-1A (ON)	
4	PC12/PF sensor check	ES ¹ 115	PWB-A/PF PJ3A/PF-2B (ON)	
5	Replace PWB-A	—	—	—

14.3.6 Misfeed at the Paper Separating Section

A. Detection Timing

Type	Description
Paper separating section misfeed detection	• The Exit Paper Sensor (PC3) is not blocked even after the lapse of a given period of time after the paper has unblocked the Synchronizing Roller Sensor (PC1).
	• The Synchronizing Roller Sensor (PC1) is not blocked even after the lapse of a given period of time after the paper has unblocked the Synchronizing Roller Sensor (PC1).
	• The Synchronizing Roller Sensor (PC1) is blocked before the lapse of a given period of time after the paper has unblocked the Synchronizing Roller Sensor (PC1).
Paper left at the paper separating section	• The Synchronizing Roller Sensor (PC1) is unblocked at timing when the Power Switch is turned ON, the cover is opened and closed, or a paper misfeed or malfunction is reset.

B. Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) Exit Paper Sensor (PC3)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	–	–	–
2	PC1 sensor check	☞ 115	PWB-A PJ17A-3 (ON)	
3	PC3 sensor check	☞ 115	PWB-A PJ15A-3 (ON)	
4	Replace PWB-A	–	–	–

14.3.7 Misfeed at the Fusing/Exit Section

A. Detection Timing

Type	Description
Fusing/exit section misfeed detection	<ul style="list-style-type: none"> The Exit Paper Sensor (PC3) is not unblocked even after the lapse of a given period of time after the Synchronizing Roller Sensor (PC1) has been blocked.
Paper left at the fusing/exit section	<ul style="list-style-type: none"> The Exit Paper Sensor (PC3) is blocked at timing when the Power Switch is turned ON, the cover is opened and closed, or a paper misfeed or malfunction is reset.

B. Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) Exit Paper Sensor	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	–	–	–
2	PC1 sensor check	115	PWB-A PJ17A-3 (ON)	
3	PC3 sensor check	115	PWB-A PJ15A-3 (ON)	
4	Replace PWB-A	–	–	–

14.3.8 Misfeed at the Document Take-up Section (When the optional Automatic Document Feeder DF-502 is mounted)

A. Detection Timing

Type	Description
Document take-up section misfeed detection	• The Separator Sensor (PC4/AF) is not blocked even after the lapse of a given period of time after the Main Motor (M1/AF) has been energized.
Document left in the document take-up section	• The Separator Sensor (PC4/AF) is blocked at timing when the Power Switch is turned ON, the cover is opened and closed, or a paper misfeed or malfunction is reset.

B. Action

Relevant Electrical Components	
Main Motor (M1/AF) Separator Sensor (PC4/AF)	Interface Board (PWB/AF)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	M1/AF operation check	☞ 117	—	—
3	PC4/AF sensor check	☞ 115	PWB/AF CN2/AF-9 (ON)	—
4	Replace PWB/AF	—	—	—

14.3.9 Misfeed at the Document Transport Section (When the optional Automatic Document Feeder DF-502 is mounted)

A. Detection Timing

Type	Description
Document transport section misfeed detection	<ul style="list-style-type: none"> The Registration Sensor (PC3/AF) is not blocked even after the lapse of a given period of time after the Main Motor (M1/AF) has been energized.
Document left in the document transport section	<ul style="list-style-type: none"> The Registration Sensor (PC3/AF) is blocked at timing when the Power Switch is turned ON, the cover is opened and closed, or a paper misfeed or malfunction is reset.

B. Action

Relevant Electrical Components	
Main Motor (M1/AF) Registration Sensor (PC3/AF)	Interface Board (PWB/AF)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	M1/AF operation check	ES 117	—	—
3	PC3/AF sensor check	ES 115	PWB/AF CN2/AF-6 (ON)	—
4	Replace PWB/AF	—	—	—

14.3.10 Misfeed at the Document Exit Section (When the optional Automatic Document Feeder DF-502 is mounted)

A. Detection Timing

Type	Description
Document exit section misfeed detection	<ul style="list-style-type: none"> The Paper Exit Sensor (PC5/AF) is not blocked even after the lapse of a given period of time after the Main Motor (M1/AF) has been energized.
Document left in the document exit section	<ul style="list-style-type: none"> The Paper Exit Sensor (PC5/AF) is blocked at timing when the Power Switch is turned ON, the cover is opened and closed, or a paper misfeed or malfunction is reset.

B. Action

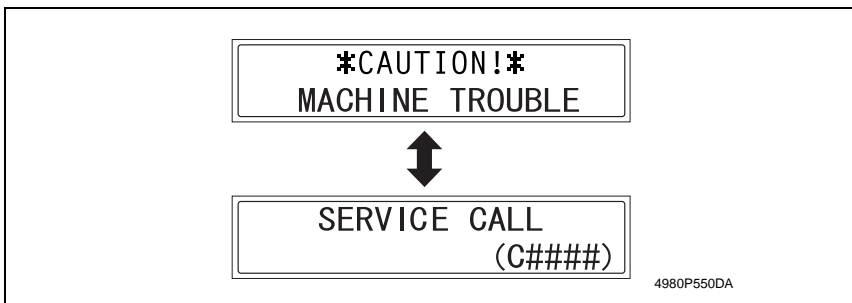
Relevant Electrical Components	
Main Motor (M1/AF) Paper Exit Sensor (PC5/AF)	Interface Board (PWB/AF)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	M1/AF operation check	☞ 117	—	—
3	PC5/AF sensor check	☞ 115	PWB/AF CN2/AF-12 (ON)	—
4	Replace PWB/AF	—	—	—

15. Malfunction code

15.1 Trouble code

- The copier'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.



15.1.1 Trouble code list

NOTE

Error codes having no prefix "C" are for the Fax machine. See the Fax Service Manual for these.

Code	Item	Description
C0000	Main Motor malfunction	<ul style="list-style-type: none"> The Main Motor (M1) Lock signal remains HIGH for a continuous 1-sec. period at any time 1 sec. after the Main Motor has started turning.
C0044	ADF Cooling Fan Failure (Only when the optional DF-605 is mounted)	<ul style="list-style-type: none"> Refer to the option service manual (DF-605) for details.
C0045	Fusing Cooling Fan Motor malfunction	<ul style="list-style-type: none"> The Fusing Cooling Fan Motor (M3) Lock signal remains HIGH for a continuous 1-sec. period while the Fusing Cooling Fan Motor is turning at full speed or decelerated speed.
C004E	Power Supply Cooling Fan Motor malfunction	<ul style="list-style-type: none"> The Power Supply Cooling Fan Motor (M4) Lock signal remains HIGH for a continuous 1-sec. period while the Power Supply Cooling Fan Motor Remote signal remains ON (for full-speed rotation) or OFF (for decelerated-speed rotation).
C0070	Toner Replenishing Motor malfunction	<ul style="list-style-type: none"> The Toner Bottle Home Position Sensor (PC7) outputs a HIGH signal for a continuous 3.5-sec. period while the Toner Bottle is turning. The Toner Bottle Home Position Sensor (PC7) outputs a LOW signal for a continuous 2-sec. period while the Toner Bottle is turning.
C0210	Abnormal image transfer voltage	<ul style="list-style-type: none"> The image transfer voltage remains more than 100 V continuously for a given period of time while the PC Drum remains stationary.
C03FF	Faulty Model Setting	<ul style="list-style-type: none"> "Model Setting" of "Adjust" available from the Service mode is incorrectly set.

Code	Item	Description
C0500	Warm-up failure	<ul style="list-style-type: none"> The surface temperature of the Fusing Roller does not reach a given level even after the lapse of a given period of time during a warm-up cycle. <p>From room temperature to 100°C : 35 sec. From 100°C to 140°C : 25 sec. From 140°C to the completion of the warm-up cycle : 20 sec.</p>
C0500	Warm-up failure (for the model having two Fusing Roller Heater Lamps) *bizhub 210 only	<ul style="list-style-type: none"> The Fusing Roller Thermistor does not detect a predetermined temperature within 30 sec. after a warm-up cycle has been started and thus the warm-up cycle is not completed. The surface temperature of the Fusing Roller does not reach a given level even after the lapse of a given period of time during a warm-up cycle. <p>From room temperature to 60°C : 4 sec. From 60°C to 100°C : 2 sec. From 100°C to 130°C : 1 sec. From 130°C to 155°C : 0.5 sec.</p>
C0501	Warm-up failure 2 (for the model having two Fusing Roller Heater Lamps) *bizhub 210 only	<ul style="list-style-type: none"> The Fusing Roller Sub Thermistor does not detect a predetermined temperature within 30 sec. after a warm-up cycle has been started and thus the warm-up cycle is not completed. The surface temperature of the Fusing Roller does not reach a given level even after the lapse of a given period of time during a warm-up cycle. <p>From room temperature to 60°C : 7 sec. From 60°C to 100°C : 2 sec. From 100°C to 130°C : 1 sec. From 130°C to 155°C : 0.5 sec.</p>
C0510	Fusing failure (abnormally low fusing temperature)	<ul style="list-style-type: none"> The temperature detected by the Fusing Roller Thermistor remains lower than 120°C (105°C for the model having two Fusing Roller Heater Lamps) for a given period of time during the standby state. The temperature detected by the Fusing Roller Thermistor remains lower than 120°C (105°C for the model having two Fusing Roller Heater Lamps) for a given period of time during a print cycle.
C0511	Fusing failure (abnormally low fusing temperature 2) *bizhub 210 only	<ul style="list-style-type: none"> The temperature detected by the Fusing Roller Sub Thermistor remains lower than 105°C for a given period of time during the standby state. The temperature detected by the Fusing Roller Sub Thermistor remains lower than 105°C for a given period of time during a print cycle.
C0520	Fusing failure (abnormally high fusing temperature)	<ul style="list-style-type: none"> The temperature detected by the Fusing Roller Thermistor remains higher than 240°C for a given period of time.
C0521	Fusing failure (abnormally high fusing temperature 2) *bizhub 210 only	<ul style="list-style-type: none"> The temperature detected by the Fusing Roller Sub Thermistor remains higher than 240°C for a given period of time.

Code	Item	Description
C0650	Faulty Scanner Home Position Sensor	<ul style="list-style-type: none"> The Scanner Home Position Sensor (PC10) does not go from HIGH to LOW when the Scanner Motor (M5) is energized for a given number of steps after the sequence to bring the Scanner back to its home position has been started at the end of a scan motion and during re-shading. The Scanner Home Position Sensor (PC10) does not go from LOW to HIGH when the Scanner Motor (M5) is energized for a given number of steps after a scan motion has been started at the end of a Scanner Home Position Sensor home check scan motion and during re-shading.
C0B60	Bin Switching Motor malfunction (Only when the optional JS-503 is mounted)	* Refer to the option service manual (JS-503) for details.
C0B80	Shift Motor malfunction (Only when the optional SF-501 is mounted)	* Refer to the option service manual (SF-501) for details.
C0F32	Faulty ATDC Sensor	<ul style="list-style-type: none"> The measurement taken by the ATDC Sensor (UN1) at a time 2.0 sec. after the Main Motor (M1) has started turning is less than 5% (greater than 4.63 V). The measurement taken by the ATDC Sensor (UN1) at a time 2.0 sec. after the Main Motor (M1) has started turning is 19% or more (1.41 V or less).
C0F33	Improperly adjusted ATDC Sensor	<ul style="list-style-type: none"> The adjustment of the ATDC control voltage is not completed within 1 sec. after sampling has started of the ATDC Sensor (UN1) as part of an operation of ATDC Sensor Automatic Adjustment. The ATDC Sensor control voltage falls outside the range of 5.39 V to 8.15 V during an operation of ATDC Sensor Automatic Adjustment.
C1038	Engine connection failure	<p>Master Board (PWB-A) to Control Board (PWB-C/C) connection failure</p> <ul style="list-style-type: none"> There is no acknowledge signal transmitted from the Master Board (PWB-A) to Control Board (PWB-C/C) for 1.5 sec. or more. An error command signal is transmitted from the Control Board (PWB-C/C) to Master Board (PWB-A). An error status signal is transmitted from the Master Board (PWB-A) to Control Board (PWB-C/C).
C1200	Faulty ASIC/memory	<p>ASIC/memory (for image and control) fault</p> <ul style="list-style-type: none"> A write or read error occurs with SRAM on the Control Board (PWB-C/C).

Code	Item	Description
C1300	Polygon Motor malfunction	Startup failure <ul style="list-style-type: none"> A LOW Polygon Motor (M2) Lock signal is not detected within a given period of time that begins 1 sec. after the Polygon Motor has started turning.
		Lock signal fault: Unstable after the first Lock signal has been detected <ul style="list-style-type: none"> For a period of 1 sec. after the first LOW Polygon Motor (M2) Lock signal (first Lock) has been detected, the next LOW Polygon Motor Lock signal is not detected.
		Lock signal fault: Lock signal out-of-timing <ul style="list-style-type: none"> A LOW Polygon Motor (M2) Lock signal is not detected for a continuous given period of time while the rotation of the Polygon Motor remains stabilized.
		Faulty Lock signal <ul style="list-style-type: none"> A LOW Polygon Motor (M2) Lock signal is detected for a given period of time or more when the Polygon Motor remains deenergized.
C133B	Communication with option error	<ul style="list-style-type: none"> It is not possible to communicate with the Printer Board within a predetermined period of time during a print cycle.
C133D	ROM check error	<ul style="list-style-type: none"> An error is detected of the flash ROM chip on the Fax Board when the Power Switch is turned ON.
C13F0	Faulty HSYNC	<p>Laser scanning system malfunction</p> <ul style="list-style-type: none"> The SOS Sensor does not detect a rising edge of SOS within a given period of time after the Polygon Motor (M2) has started turning and a laser output has been started. The SOS Sensor detects no rising edges of SOS while VIA (image area control) is ON.
C1468	Faulty Parameter Chip	<p>Parameter Chip fault</p> <ul style="list-style-type: none"> Data cannot be written in Parameter Chip. Data stored in Parameter Chip is wrong.
C14A3	IR fluorescent lamp fault	<ul style="list-style-type: none"> The Exposure Lamp (LA2) of the Scanner fails to turn ON. The intensity of the Exposure Lamp is a predetermined value or less during shading and re-shading.

15.2 How to reset

Code	Description	Procedure
C0000	Main Motor malfunction	<ul style="list-style-type: none"> • Turn OFF and ON the Power Switch.
C0044	ADF Cooling Fan Failure	
C0045	Fusing Cooling Fan Motor malfunction	
C004E	Power Supply Cooling Fan Motor malfunction	
C0070	Toner Replenishing Motor malfunction	
C0210	Abnormal image transfer voltage	
C03FF	Faulty Model Setting	<ul style="list-style-type: none"> • Make the correct setting for "Model Setting" of "Adjust" available from the Service mode. P. 97
C0500	Warm-up failure	<ul style="list-style-type: none"> • Turn ON the Power Switch with the Stop key held down.
C0501	Warm-up failure 2	
C0510	Fusing failure (abnormally low fusing temperature)	
C0511	Fusing failure (abnormally low fusing temperature 2)	
C0520	Fusing failure (abnormally high fusing temperature)	
C0521	Fusing failure (abnormally high fusing temperature 2)	
C0650	Faulty Scanner Home Position Sensor	<ul style="list-style-type: none"> • Turn OFF and ON the Power Switch.
C0B60	Bin Switching Motor malfunction	
C0B80	Shift Motor malfunction	
C0F32	Faulty ATDC Sensor	
C0F33	Improperly adjusted ATDC Sensor	
C1038	Engine connection failure	
C1200	Faulty ASIC/memory	
C1300	Polygon Motor malfunction	
C133B	Communication with option error	
C133D	ROM check error	
C13F0	Faulty HSYNC	
C1468	Faulty Parameter Chip	
C14A3	IR fluorescent lamp fault	

15.3 Solution

15.3.1 C0000: Main Motor malfunction

A. Detection Timing

Trouble Code	Description
C0000	<ul style="list-style-type: none"> The Main Motor (M1) Lock signal remains HIGH for a continuous 1-sec. period at any time 1 sec. after the Main Motor has started turning.

B. Action

Relevant Electrical Components	
Main Motor (M1)	Master Board (PWB-A) Power Supply Unit (PU1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check M1 connectors for proper connection and correct as necessary.	–	–	–
2	Check M1 for correct drive coupling and correct as necessary.	–	–	–
3	M1 operation check.	117	–	I-14
4	Change PWB-A.	–	–	–
5	Change PU1.	–	–	–

15.3.2 C0044: ADF Cooling Fan Failure (When the optional Duplexing Document Feeder DF-605 is mounted)

A. Detection Timing

Trouble Code	Description
C0044	<ul style="list-style-type: none"> The ADF Fan Motor Lock signal remains set to H for a set period of time while the EDH Fan Motor is turning.

B. Action

Relevant Electrical Components	
Cooling Fan Motor (M3-ADF)	Main Control Board (PBA-CONT)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the motor connectors for paper connection, and correct as necessary.	–	–	–
2	Check the fan for possible overload, and correct as necessary.	–	–	–
3	M3-ADF operation check.	ESP 117	PBA-CONT CN9CONT-2 (REM)	E-5 (DF-605)
4	Replace PBA-CONT.	–	–	–

15.3.3 C0045: Fusing Cooling Fan Motor Malfunction

A. Detection Timing

Trouble Code	Description
C0045	<ul style="list-style-type: none"> The Fusing Cooling Fan Motor (M3) Lock signal remains HIGH for a continuous 1-sec. period while the Fusing Cooling Fan Motor is turning at full speed or decelerated speed.

B. Action

Relevant Electrical Components	
Fusing Cooling Fan Motor (M3)	Master Board (PWB-A) Power Supply Unit (PU1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check M3 connectors for proper connection and correct as necessary.	—	—	—
2	Check the fan for possible overload and correct as necessary.	—	—	—
3	M3 operation check	ESP 117	PWB-A PJ22A-1 (REM)	C-2
4	Change PWB-A.	—	—	—
5	Change PU1.	—	—	—

15.3.4 C004E: Power Supply Cooling Fan Motor Malfunction**A. Detection Timing**

Trouble Code	Description
C004E	<ul style="list-style-type: none"> The Power Supply Cooling Fan Motor (M4) Lock signal remains HIGH for a continuous 1-sec. period while the Power Supply Cooling Fan Motor Remote signal remains ON (for full-speed rotation) or OFF (for decelerated-speed rotation).

B. Action

Relevant Electrical Components	
Power Unit Cooling Fan Motor (M4)	Master Board (PWB-A) Power Supply Unit (PU1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check M4 connectors for proper connection and correct as necessary.	—	—	—
2	Check the fan for possible overload and correct as necessary.	—	—	—
3	M4 operation check	ES ³ 117	PU1 CN7PU1-1 (REM)	F-12
4	Change PWB-A.	—	—	—
5	Change PU1.	—	—	—

15.3.5 C0070: Toner Replenishing Motor Malfunction**A. Detection Timing**

Trouble Code	Description
C0070	<ul style="list-style-type: none"> The Toner Bottle Home Position Sensor (PC7) outputs a HIGH signal for a continuous 3.5-sec. period while the Toner Bottle is turning. The Toner Bottle Home Position Sensor (PC7) outputs a LOW signal for a continuous 2-sec. period while the Toner Bottle is turning.

B. Action

Relevant Electrical Components	
Toner Replenishing Motor (M6) Toner Bottle Home Position Sensor (PC7)	Master Board (PWB-A) Power Supply Unit (PU1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check M6 connectors for proper connection and correct as necessary.	–	–	–
2	Check M6 for correct drive coupling and correct as necessary.	–	–	–
3	M6 operation check	☞ 117	PWB-A PJ16A-1 (REM)	B-8
4	PC7 sensor check	☞ 115	PWB-A PJ16A-5 (ON)	B-8
5	Change PWB-A.	–	–	–
6	Change PU1.	–	–	–

15.3.6 C0210: Abnormal Image Transfer Voltage**A. Detection Timing**

Trouble Code	Description
C0210	<ul style="list-style-type: none"> The image transfer voltage remains more than 100 V for a continuous given period of time while the PC Drum remains stationary.

B. Action

Relevant Electrical Components	
Image Transfer Roller High Voltage Unit (HV1)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the Image Transfer Roller for installation.	-	-	-
2	Change HV1.	-	-	-
3	Change PWB-A.	-	-	-

- 15.3.7 C0500: Warm-up Failure**
- 15.3.8 C0501: Warm-up Failure 2 (bizhub 210 Only)**
- 15.3.9 C0510: Fusing Failure (Abnormally Low Fusing Temperature)**
- 15.3.10 C0511: Fusing Failure (Abnormally Low Fusing Temperature 2) (bizhub 210 Only)**
- 15.3.11 C0520: Fusing Failure (Abnormally High Fusing Temperature)**
- 15.3.12 C0521: Fusing Failure (Abnormally High Fusing Temperature 2) (bizhub 210 Only)**

A. Detection Timing

Trouble Code	Description								
C0500	<ul style="list-style-type: none"> • The surface temperature of the Fusing Roller does not reach a given level even after the lapse of a given period of time during a warm-up cycle. <table style="margin-left: 20px; border: none;"> <tr> <td>From room temperature to 100°C</td> <td style="text-align: right;">: 35 sec.</td> </tr> <tr> <td>From 100°C to 140°C</td> <td style="text-align: right;">: 25 sec.</td> </tr> <tr> <td>From 140°C to the completion of the warm-up cycle</td> <td style="text-align: right;">: 20 sec.</td> </tr> </table> 	From room temperature to 100°C	: 35 sec.	From 100°C to 140°C	: 25 sec.	From 140°C to the completion of the warm-up cycle	: 20 sec.		
From room temperature to 100°C	: 35 sec.								
From 100°C to 140°C	: 25 sec.								
From 140°C to the completion of the warm-up cycle	: 20 sec.								
C0500	<ul style="list-style-type: none"> • The Fusing Roller Thermistor does not detect a predetermined temperature within 30 sec. after a warm-up cycle has been started and thus the warm-up cycle is not completed. • The surface temperature of the Fusing Roller does not reach a given level even after the lapse of a given period of time during a warm-up cycle. <table style="margin-left: 20px; border: none;"> <tr> <td>From room temperature to 60°C</td> <td style="text-align: right;">: 4 sec.</td> </tr> <tr> <td>From 60°C to 100°C</td> <td style="text-align: right;">: 2 sec.</td> </tr> <tr> <td>From 100°C to 130°C</td> <td style="text-align: right;">: 1 sec.</td> </tr> <tr> <td>From 130°C to 155°C</td> <td style="text-align: right;">: 0.5 sec.</td> </tr> </table> 	From room temperature to 60°C	: 4 sec.	From 60°C to 100°C	: 2 sec.	From 100°C to 130°C	: 1 sec.	From 130°C to 155°C	: 0.5 sec.
From room temperature to 60°C	: 4 sec.								
From 60°C to 100°C	: 2 sec.								
From 100°C to 130°C	: 1 sec.								
From 130°C to 155°C	: 0.5 sec.								
C0501	<ul style="list-style-type: none"> • The Fusing Roller Sub Thermistor does not detect a predetermined temperature within 30 sec. after a warm-up cycle has been started and thus the warm-up cycle is not completed. • The surface temperature of the Fusing Roller does not reach a given level even after the lapse of a given period of time during a warm-up cycle. <table style="margin-left: 20px; border: none;"> <tr> <td>From room temperature to 60°C</td> <td style="text-align: right;">: 7 sec.</td> </tr> <tr> <td>From 60°C to 100°C</td> <td style="text-align: right;">: 2 sec.</td> </tr> <tr> <td>From 100°C to 130°C</td> <td style="text-align: right;">: 1 sec.</td> </tr> <tr> <td>From 130°C to 155°C</td> <td style="text-align: right;">: 0.5 sec.</td> </tr> </table> 	From room temperature to 60°C	: 7 sec.	From 60°C to 100°C	: 2 sec.	From 100°C to 130°C	: 1 sec.	From 130°C to 155°C	: 0.5 sec.
From room temperature to 60°C	: 7 sec.								
From 60°C to 100°C	: 2 sec.								
From 100°C to 130°C	: 1 sec.								
From 130°C to 155°C	: 0.5 sec.								
C0510	<ul style="list-style-type: none"> • The surface temperature of the Fusing Roller remains lower than 120°C (105°C for the model having two Fusing Roller Heater Lamps) for a given period of time during the standby state. • The surface temperature of the Fusing Roller remains lower than 120°C (105°C for the model having two Fusing Roller Heater Lamps) for a given period of time during a print cycle. 								
C0511	<ul style="list-style-type: none"> • The temperature detected by the Fusing Roller Sub Thermistor remains lower than 105°C for a given period of time during the standby state. • The temperature detected by the Fusing Roller Sub Thermistor remains lower than 105°C for a given period of time during a print cycle. 								
C0520	<ul style="list-style-type: none"> • The temperature detected by the Fusing Roller Thermistor remains higher than 240°C for a given period of time. 								
C0521	<ul style="list-style-type: none"> • The temperature detected by the Fusing Roller Sub Thermistor remains higher than 240°C for a given period of time. 								

B. Detection Timing

Relevant Electrical Components	
Fusing Roller Heater Lamp (H1) Fusing Roller Sub Heater Lamp (H2) Fusing Roller Thermistor Fusing Roller Sub Thermistor (TH2)	Fusing Roller Thermostat (TS1) Fusing Unit Interlock Switch (S2) Power Supply Unit (PU1) Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check that the Fusing Roller Heater Lamp (H1) turns ON when the Power Switch is turned ON and correct or replace the lamp as necessary.	-	-	-
2	Check that the Fusing Roller Sub Heater Lamp (H2) turns ON when the Power Switch is turned ON and correct or replace the lamp as necessary.	-	-	-
3	Check the Fusing Roller Thermostat (TS1) for operation. <Check procedure> Check the resistance of TS1. TS1 is open-circuited if its resistance is infinity.	-	-	F-2
4	Check the Fusing Unit Interlock Switch (S2) for operation. <Check procedure> Check continuity across the following terminals when S2 is ON. <ul style="list-style-type: none"> • Across S2-1A and S2-1B • Across S2-2A and S2-2B 	-	-	E-16
5	Check the Fusing Roller Thermistor (TH1) and Fusing Roller Sub Thermistor (TH2) for installation and correct or clean as necessary.	-	-	-
6	Check the Fusing Roller Thermistor (TH1) for operation. <Check procedure> Disconnect CN15 (4P) and check the resistance across CN15-2 and 3 on the Thermistor side. TH1 is open-circuited if the resistance is infinity.	-	-	D-2
7	Check the Fusing Roller Sub Thermistor (TH2) for operation. <Check procedure> Disconnect CN22 (4P) and check the resistance across CN22-2 and 3 on the Thermistor side. TH2 is open-circuited if the resistance is infinity.	-	-	D-2

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
8	Check the Fusing Roller Heater Lamp (H1) for continuity and correct or replace as necessary.	–	–	–
9	Check the Fusing Roller Sub Heater Lamp (H2) for continuity and correct or replace as necessary.	–	–	–
10	Change PU1.	–	–	–
11	Change PWB-A.	–	–	–

15.3.13 C0650: Faulty Scanner Home Position Sensor**A. Detection Timing**

Trouble Code	Description
C0650	<ul style="list-style-type: none"> The Scanner Home Position Sensor (PC10) does not go from HIGH to LOW when the Scanner Motor (M5) is energized for a given number of steps after the sequence to bring the Scanner back to its home position has been started at the end of a scan motion and during re-shading. The Scanner Home Position Sensor (PC10) does not go from LOW to HIGH when the Scanner Motor (M5) is energized for a given number of steps after a scan motion has been started at the end of a Scanner Home Position Sensor home check scan motion and during re-shading.

B. Action

Relevant Electrical Components	
Scanner Motor (M5) Scanner Home Position Sensor (PC10)	Control Board (PWB-C/C)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check M5 connectors for proper connection and correct as necessary.	–	–	–
2	Check M5 for correct drive coupling and correct as necessary.	–	–	–
3	M5 operation check	ES 117	–	B-11
4	Scanner operation check	–	–	–
5	PC10 sensor check	ES 115	PWB-C/C P114C/C-3 (ON)	B-13
6	Change PWB-C/C.	–	–	–

15.3.14 C0F32: Faulty ATDC Sensor**15.3.15 C0F33: Improperly Adjusted ATDC Sensor****A. Detection Timing**

Trouble Code	Description
C0F32	<ul style="list-style-type: none"> The measurement taken by the ATDC Sensor (UN1) at a time 2.0 sec. after the Main Motor (M1) has started turning is less than 5% (greater than 4.63 V). The measurement taken by the ATDC Sensor (UN1) at a time 2.0 sec. after the Main Motor (M1) has started turning is 19% or more (1.41 V or less).
C0F33	<ul style="list-style-type: none"> The adjustment of the ATDC control voltage is not completed within 1 sec. after sampling has started of the ATDC Sensor (UN1) as part of an operation of ATDC Sensor Automatic Adjustment. The ATDC Sensor control voltage falls outside the range of 5.39 V to 8.15 V during an operation of ATDC Sensor Automatic Adjustment.

B. Action

Relevant Electrical Components	
ATDC Sensor (UN1)	Master Board (PWB-A) Power Supply Unit (PU1)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check to see if developer is available.	—	—	—
2	Check the ATDC Sensor connectors for proper connection and correct as necessary.	—	—	—
3	Change UN1.	—	—	—
4	Run "ATDC Auto Adjust."	ES ² 103	—	—
5	Change PWB-A.	—	—	—
6	Change PU1.	—	—	—

15.3.16 C1038: Engine Connection Failure**A. Detection Timing**

Trouble Code	Description
C1038	Master Board (PWB-A) to Control Board (PWB-C/C) connection failure <ul style="list-style-type: none"> • There is no acknowledge signal transmitted from the Master Board (PWB-A) to Control Board (PWB-C/C) for 1.5 sec. or more. • An error command signal is transmitted from the Control Board (PWB-C/C) to Master Board (PWB-A). • An error status signal is transmitted from the Master Board (PWB-A) to Control Board (PWB-C/C).

B. Action

Relevant Electrical Components	
Master Board (PWB-A)	Control Board (PWB-C/C)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Turn OFF and ON the Power Switch.	–	–	–
2	Check the PWB-A connectors for proper connection and correct as necessary.	–	–	–
3	Check the PWB-C/C connectors for proper connection and correct as necessary.	–	–	–
4	Check for proper connection between PWB-A and PWB-C/C and correct as necessary.	–	–	–
5	Change PWB-A.	–	–	–
6	Change PWB-C/C.	–	–	–

15.3.17 C1200: Faulty ASIC/Memory**A. Detection Timing**

Trouble Code	Description
C1200	ASIC/memory (for image and control) fault <ul style="list-style-type: none"> • A write or read error occurs with SRAM on the Control Board (PWB-C/C).

B. Action

Relevant Electrical Components	
Control Board (PWB-C/C)	

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Turn OFF and ON the Power Switch.	–	–	–
2	Check memory on PWB-C/C for connection and correct as necessary.	–	–	–
3	Change PWB-C/C.	–	–	–

15.3.18 C1300: Polygon Motor Malfunction**15.3.19 C13F0: Faulty HSYNC****A. Detection Timing**

Trouble Code	Description
C1300	Startup failure <ul style="list-style-type: none"> A LOW Polygon Motor (M2) Lock signal is not detected within a given period of time that begins 1 sec. after the Polygon Motor has started turning.
	Lock signal fault: Unstable after the first Lock signal has been detected <ul style="list-style-type: none"> For a period of 1 sec. after the first LOW Polygon Motor (M2) Lock signal (first Lock) has been detected, the next LOW Polygon Motor Lock signal is not detected.
	Lock signal fault: Lock signal out-of-timing <ul style="list-style-type: none"> A LOW Polygon Motor (M2) Lock signal is not detected for a continuous given period of time while the rotation of the Polygon Motor remains stabilized.
	Faulty Lock signal <ul style="list-style-type: none"> A LOW Polygon Motor (M2) Lock signal is detected for a given period of time or more when the Polygon Motor remains deenergized.
C13F0	Laser scanning system malfunction <ul style="list-style-type: none"> The SOS Sensor does not detect a rising edge of SOS within a given period of time after the Polygon Motor (M2) has started turning and a laser output has been started. The SOS Sensor detects no rising edges of SOS while VIA (image area control) is ON.

B. Action

Relevant Electrical Components	
PH Unit	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Turn OFF and ON the Power Switch.	–	–	–
2	Check for proper connection between the PH Unit and Master Board and correct as necessary.	–	–	–
3	Change the PH Unit.	–	–	–
4	Change PWB-A.	–	–	–

15.3.20 C133B: Communication with Option Error**15.3.21 C133D: ROM Check Error****A. Detection Timing**

Trouble Code	Description
C133B	<ul style="list-style-type: none"> It is not possible to communicate with the Printer Board within a predetermined period of time during a print cycle.
C133D	<ul style="list-style-type: none"> An error is detected of the flash ROM chip on the Fax Board when the Power Switch is turned ON.

* For detailed corrective action, see the Service Manual for Fax.

15.3.22 C1468: Faulty Parameter Chip**A. Detection Timing**

Trouble Code	Description
C1468	Parameter Chip fault <ul style="list-style-type: none"> Data cannot be written in Parameter Chip. Data stored in Parameter Chip is wrong.

B. Action

Relevant Electrical Components	
Master Board (PWB-A)	Parameter Chip (U16)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Turn OFF the Power Switch and unplug the power cord. Then, plug in the power cord and turn ON the Power Switch again.	—	—	—
2	Check Parameter Chip (U16) on PWB-C/C for proper connection and correct as necessary.	—	—	—
3	Change PWB-A.	—	—	—
4	Change Parameter Chip.	ESP 33	—	—

15.3.23 C14A3: IR Fluorescent Lamp Fault**A. Detection Timing**

Trouble Code	Description
C14A3	The Exposure Lamp (LA2) of the Scanner fails to turn ON. <ul style="list-style-type: none"> The intensity of the Exposure Lamp is a predetermined value or less during shading and re-shading.

B. Action

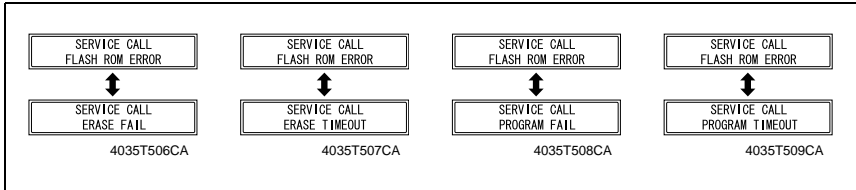
Relevant Electrical Components	
Exposure Lamp (LA2) Inverter Board (PU2)	CCD Board (PWB-J) Control Board (PWB-C/C)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check that the Exposure Lamp (LA2) turns ON when the Power Switch is turned ON and correct or replace as necessary.	-	-	-
2	Check connectors on PU2 for proper connection and correct as necessary.	-	-	-
3	Check connectors on PWB-J for proper connection and correct as necessary.	-	-	-
4	Change PWB-C/C.	-	-	-

15.4 Miscellaneous Errors

15.4.1 Flash ROM Error

- The copier determines that there is an error if writing to the flash ROM fails during upgrading of the firmware.
- When the Power Switch is turned ON, the Error indicator lights up steadily and a corresponding message appears on the Display.
- If this error message appears, no operations can then be performed. It is not possible to upgrade the firmware from a PC connected through USB connection, either.



A. Action

Relevant Electrical Components	
Master Board (PWB-A) Control Board (PWB-C/C)	Control Panel (UN4) Parameter Chip (U16)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the connection status of connectors on each board (PWB-A, PWB-C/C, UN4): If there is any abnormality, correct it.	-	-	-
2	Identify the specific firmware that is responsible for the error.	-	-	-
3	Perform upgrading of the firmware through BIOS.	25	-	-
4	Unplug Parameter Chip (U16) from PWB-C/C and then plug it back in.	-	-	-
5	Change PWB-C/C.	-	-	-

16. Power supply trouble

16.1 The copier does not turn ON

Step	Check	Result	Action
1	A malfunction code appears when the Power Switch is turned ON.	YES	• Go to step 2.
		NO	• Go to step 3.
2	The malfunction is temporarily reset when the Power Switch is turned OFF and ON with the Stop key held down.	YES	• Perform the troubleshooting procedure according to the malfunction code.
3	Power supply voltage check <Check Procedure> Check voltage across pins of DC Power Supply (PU1) when the Power Switch is turned ON. • Voltage across CN1PU1-1 and CN1PU1-2 AC0 V when the Power Switch is OFF Rated AC voltage when the Power Switch is turned ON	NO	• Check wall outlet for voltage. • Check power cord for continuity. • Check Power Switch.
4	Check of output of DC24 V to Control Board (copier: PWB-C) <Check Procedure> Check voltage across a Control Board (copier: PWB-C) pin and GND when the Power Switch is turned ON. • Voltage across P110C/C-1 and GND • Voltage across P110C/C-2 and GND DC0 V when the Power Switch is OFF DC24 V when the Power Switch is turned ON	NO	• Check Front Door Interlock Switch (S3). • Check Right Door Interlock Switch (S4). • Change DC power Supply (PU1).
5	Check of output of DC24 V to Master Board (copier: PWB-A) <Check Procedure> Check voltage across a Master Board (copier: PWB-A) pin and GND when the Power Switch is turned ON. • Voltage across PJ2A-2 and GND DC0 V when the Power Switch is OFF DC24 V when the Power Switch is turned ON	NO	• Check Front Door Interlock Switch (S3). • Check Right Door Interlock Switch (S4). • Change DC power Supply (PU1).
6	Check of output of DC 5 V to Master Board (copier: PWB-A) <Check Procedure> Check voltage across a Master Board (copier: PWB-A) pin and GND when the Power Switch is turned ON. • Voltage across PJ6A-9 and GND DC0 V when the Power Switch is OFF DC24 V when the Power Switch is turned ON	NO	• Change DC power Supply (PU1).
7	Check of output of DC5 V to control panel (UN2) <Check Procedure> Check voltage across a Control Board (copier: PWB-C) pin and GND when the Power Switch is turned ON. • Voltage across P102C/C-1 and GND DC0 V when the Power Switch is OFF DC5 V when the Power Switch is turned ON	NO	• Check Control Board (copier: PWB-C). • Change Master Board (copier: PWB-A). • Change DC power Supply (PU1).
		YES	• Change Control Panel (UN4).

17. Image quality problem

17.1 How to identify problematic part

- In this chapter, troubleshooting is divided into “initial checks” and “troubleshooting procedures classified by image failures.”
- If any image failure has occurred, first make the initial checks, then proceed to the corresponding image failure troubleshooting procedure.


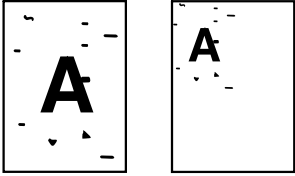

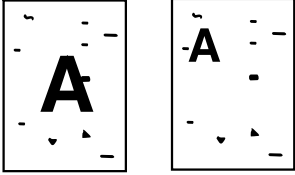
17.1.1 Initial Check Items

- Determine if the failure is attributable to a basic cause or causes.

Section	Step	Check	Result	Action
Installation site	1	The installation site complies with the requirements specified in “PRECAUTIONS FOR INSTALLATION” contained in GENERAL.	NO	<ul style="list-style-type: none"> • Change the installation site.
Paper	2	Paper meets product specifications.	NO	<ul style="list-style-type: none"> • Change paper for one that meets specifications. • Instruct user to use paper that meets specifications and is recommended.
	3	Paper is damp.	YES	<ul style="list-style-type: none"> • Change paper for one that is dry. Then, instruct user to use paper that meets specifications and in how to store paper.
Original	4	Original is placed correctly.	NO	<ul style="list-style-type: none"> • Reposition original. • Instruct user in how to place original correctly.
	5	Original is written in light pencil.	YES	<ul style="list-style-type: none"> • Change original. • Instruct user to use original with appropriate image density.
	6	Original is transparent (OHP film, etc.).	YES	<ul style="list-style-type: none"> • Change original. • Instruct user to use originals that meet specifications.
	7	Original Glass is dirty.	YES	<ul style="list-style-type: none"> • Clean Original Glass.
	8	Original Glass is scratchy.	YES	<ul style="list-style-type: none"> • Change Original Glass.
PM parts	9	The PM parts relating to image formation have reached the end of cleaning/replacement cycles.	YES	<ul style="list-style-type: none"> • Clean PM parts. • Change PM parts.

17.1.2 Identification of the Faulty System

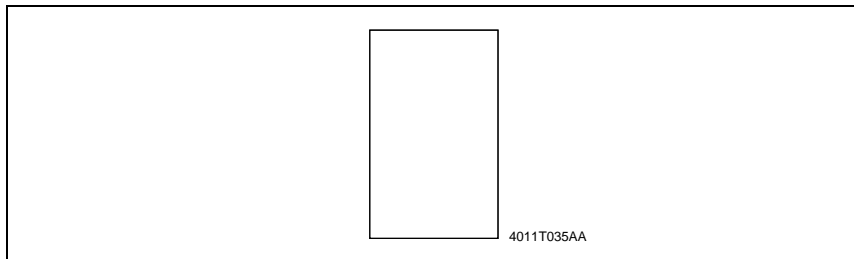
- Determine if the failure is attributable to an input system (IR) or output system (engine).

Check	Result	Action
<p>Copy made at a reduced ratio</p>  <p>1177T03YA</p>	<p>Full-size Reduced</p>  <p>1177T04YA</p>	<p>Input system (IR)</p>
 <p>1177T03YA</p>	<p>Full-size Reduced</p>  <p>1177T05YA</p>	<p>Output system (printer)</p>

17.2 Solution

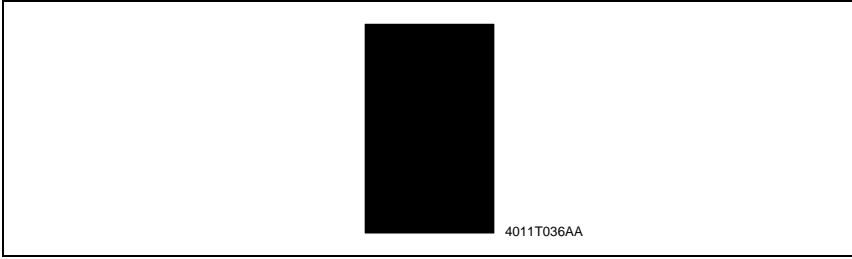
17.2.1 Image Reading Section: Blank copy

A. Typical Faulty Images



B. Troubleshooting Procedure

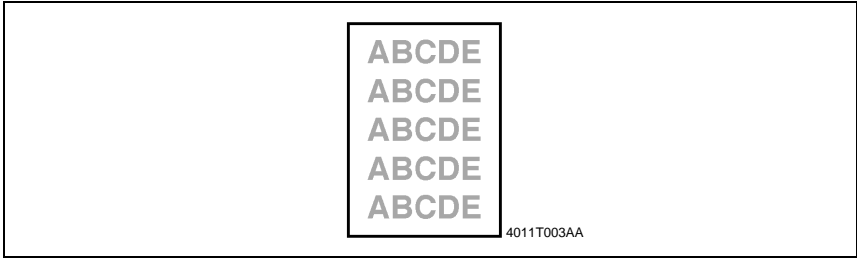
Step	Check	Result	Action
1	CCD Board (PWB-J) connector is loose.	YES	<ul style="list-style-type: none"> Reconnect.
2	Control Board (PWB-C) connector is loose.	YES	<ul style="list-style-type: none"> Reconnect.
		NO	<ul style="list-style-type: none"> Change Control Board (PWB-C/C). Change Master Board (PWB-A).

17.2.2 Image Reading Section: black copy**A. Typical Faulty Images****B. Troubleshooting Procedure**

Step	Check	Result	Action
1	Exposure Lamp turns ON when the Power Switch is turned ON.	NO	Go to step 3.
2	Exposure Lamp is abnormally lit (flickers or abnormally dark) when the Power Switch is turned ON.	NO	Go to step 4.
3	Inverter Board (PU2) connector is loose.	YES	Reconnect.
		NO	Change Exposure Lamp.
4	CCD Board (PWB-J) connector is loose.	YES	Reconnect.
		YES	Reconnect.
5	Control Board (PWB-C/C) connector is loose.	NO	<ul style="list-style-type: none"> • Change Inverter Board (PU2). • Change CCD Unit. • Change Control Board (PWB-C/C).
		YES	Reconnect.

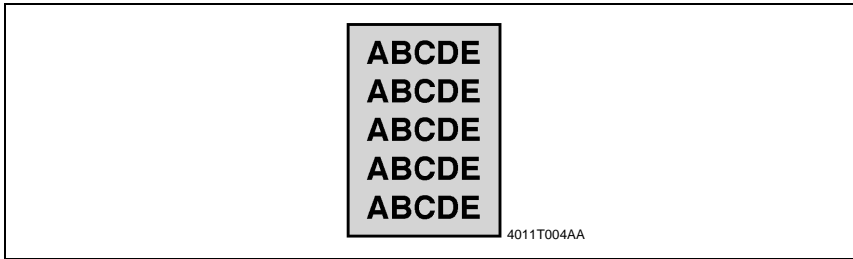
17.2.3 Image Reading Section: Low image density

A. Typical Faulty Images



B. Troubleshooting Procedure

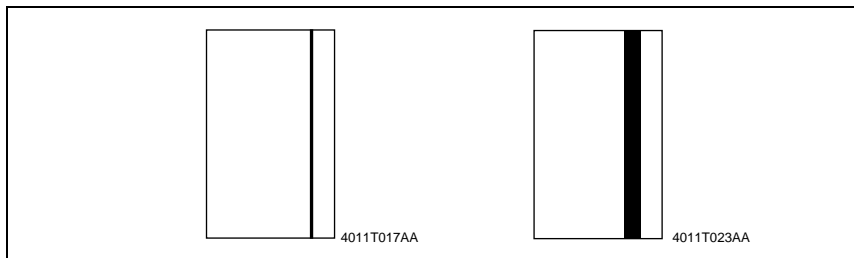
Step	Check	Result	Action
1	Shading sheet reading portion (the portion on the back-side of the Original Glass to which Original Width Scale is affixed) is dirty.	YES	<ul style="list-style-type: none"> • Clean.
2	CCD Board (PWB-J) connector is loose.	YES	<ul style="list-style-type: none"> • Reconnect.
3	Control Board (PWB-C) connector is loose.	YES	<ul style="list-style-type: none"> • Reconnect.
		NO	<ul style="list-style-type: none"> • Change Control Board (PWB-C/C). • Change Master Board (PWB-A).

17.2.4 Image Reading Section: Foggy background or rough image**A. Typical Faulty Images****B. Troubleshooting Procedure**

Step	Check	Result	Action
1	Original Glass is dirty.	YES	• Clean.
2	Scanner mirrors are dirty.	YES	• Clean.
3	Exposure Lamp (LA2) is dirty.	YES	• Clean.
4	CCD Unit lens and CCD surface are dirty. <Check Procedure> Remove lens cover to check for possible contamination.	YES	• Clean.
5	Exposure Lamp is abnormally lit (flickers or abnormally dark) when the Start key is pressed.	NO	• Go to step 7.
6	Inverter Board (copier: PU2) connector is loose.	YES	• Reconnect.
		NO	• Change Exposure Lamp (LA2).
7	CCD Board (copier: PWB-J) connector is loose.	YES	• Reconnect.
		NO	• Change Inverter Board (PU2). • Change Control Board (copier: PWB-C).

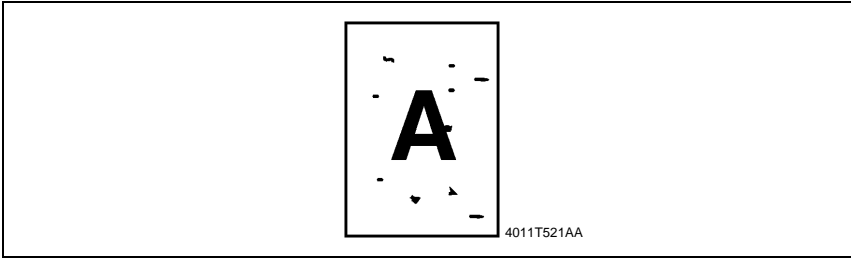
17.2.5 Image Reading Section: Black streaks or bands

A. Typical Faulty Images

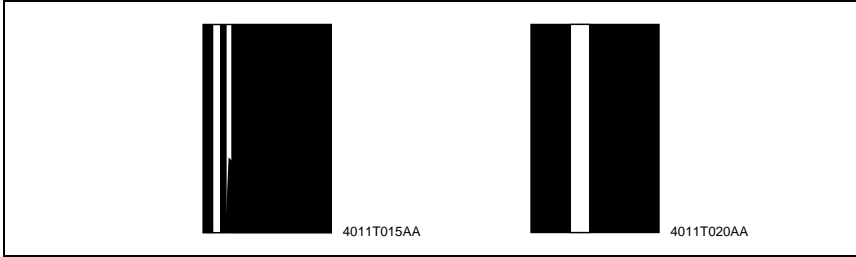


B. Troubleshooting Procedure

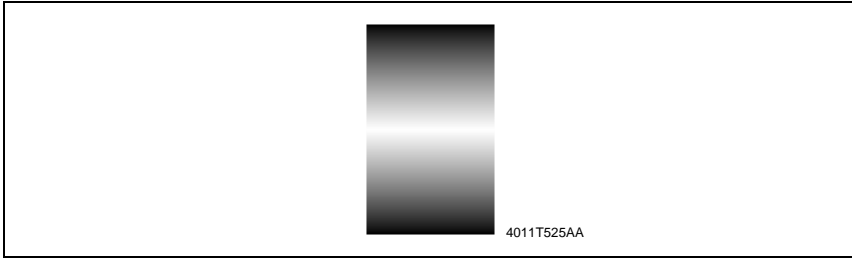
Step	Check	Result	Action
1	Original Glass is dirty, scratchy, worn, or damaged.	YES	• Clean or change.
2	Shading sheet reading portion (the portion on the back-side of the Original Glass to which Original Width Scale is affixed) is dirty.	YES	• Clean.
3	Scanner mirrors are dirty, scratchy, or damaged.	YES	• Clean or change.
4	Exposure Lamp (LA2) is dirty.	YES	• Clean or change.
5	CCD Unit lens and CCD surface are dirty or scratchy. <Check Procedure> Remove lens cover to check for possible contamination.	YES	• Clean or change.
6	CCD Board (PWB-J) connector is loose.	YES	• Reconnect.
		YES	• Reconnect.
7	Control Board (PWB-C/C) connector is loose.	NO	• Change CCD Unit. • Change Control Board (PWB-C/C).

17.2.6 Image Reading Section: Black spots**A. Typical Faulty Images****B. Troubleshooting Procedure**

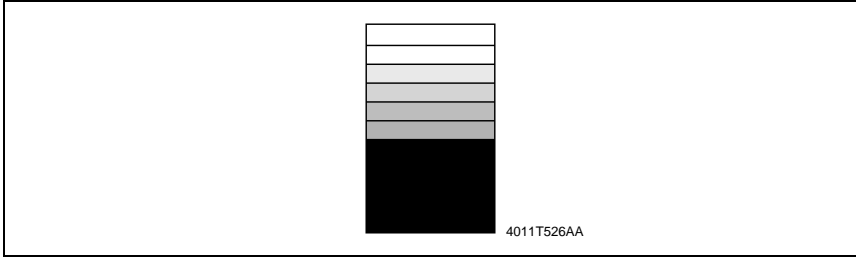
Step	Check	Result	Action
1	Original Glass is dirty or scratchy.	YES	• Clean.
2	CCD Board (PWB-J) connector is loose.	YES	• Reconnect.
3	Control Board (PWB-C/C) connector is loose.	YES	• Reconnect.
		NO	• Change CCD Unit. • Change Control Board (PWB-C/C).

17.2.7 Image Reading Section: Blank streaks or bands**A. Typical Faulty Images****B. Troubleshooting Procedure**

Step	Check	Result	Action
1	Original Glass is dirty, scratchy, worn, or damaged.	YES	• Clean or change.
2	Shading sheet reading portion (the portion on the back-side of the Original Glass to which Original Width Scale is affixed) is dirty.	YES	• Clean.
3	Scanner mirrors are dirty, scratchy, or damaged.	YES	• Clean or change.
4	CCD Unit lens and CCD surface are dirty or scratchy. <Check Procedure> Remove lens cover to check for possible contamination.	YES	• Clean or change.
5	CCD Board (PWB-J) connector is loose.	YES	• Reconnect.
6	Control Board (PWB-C/C) connector is loose.	YES	• Reconnect.
		NO	• Change CCD Unit. • Change Control Board (PWB-C/C).

17.2.8 Image Reading Section: Uneven image density**A. Typical Faulty Images****B. Troubleshooting Procedure**

Step	Check	Result	Action
1	Original Glass is dirty, scratchy, worn, or damaged.	YES	• Clean or change.
2	Shading sheet reading portion (the portion on the back-side of the Original Glass to which Original Width Scale is affixed) is dirty.	YES	• Clean.
3	Scanner mirrors are dirty, scratchy, or damaged.	YES	• Clean or change.
4	Exposure Lamp (LA2) is dirty.	YES	• Clean or change.
5	CCD Unit lens and CCD surface are dirty or scratchy. <Check Procedure> Remove lens cover to check for possible contamination.	YES	• Clean or change.
6	Exposure Lamp is abnormally lit (flickers or abnormally dark) when the Power Switch is turned ON.	NO	• Go to step 8.
		YES	• Reconnect.
7	Inverter Board (PU2) connector CN1PU2 is loose.	NO	• Change Exposure Lamp (LA2).
		YES	• Reconnect.
8	CCD Board (PWB-J) connector is loose.	YES	• Reconnect.
		YES	• Reconnect.
9	Control Board (PWB-C/C) connector is loose.	NO	• Change CCD Unit. • Change Control Board (PWB-C/C).
		YES	• Reconnect.

17.2.9 Image Reading Section: Gradation reproduction failure**A. Typical Faulty Images****B. Troubleshooting Procedure**

Step	Check	Result	Action
1	Original Glass is dirty, scratchy, worn, or damaged.	YES	• Clean or change.
2	Shading sheet reading portion (the portion on the back-side of the Original Glass to which Original Width Scale is affixed) is dirty.	YES	• Clean.
3	Scanner mirrors are dirty, scratchy, or damaged.	YES	• Clean or change.
4	Exposure Lamp (LA2) is dirty.	YES	• Clean or change.
5	CCD Unit lens and CCD surface are dirty or scratchy. <Check Procedure> Remove lens cover to check for possible contamination.	YES	• Clean or change.
6	Exposure Lamp is abnormally lit (flickers or abnormally dark) when the Start key is pressed.	NO	• Go to step 8.
		YES	• Reconnect.
7	Inverter Board (PU2) connector CN2PU2 is loose.	NO	• Change Exposure Lamp (LA2).
		YES	• Reconnect.
8	CCD Board (PWB-J) connector is loose.	YES	• Reconnect.
		YES	• Reconnect.
9	Control Board (PWB-C/C) connector is loose.	NO	• Change CCD Unit. • Change Control Board (copier: PWB-C/C).
		YES	• Reconnect.

17.2.10 Image Reading Section: Periodically uneven image

A. Typical Faulty Images

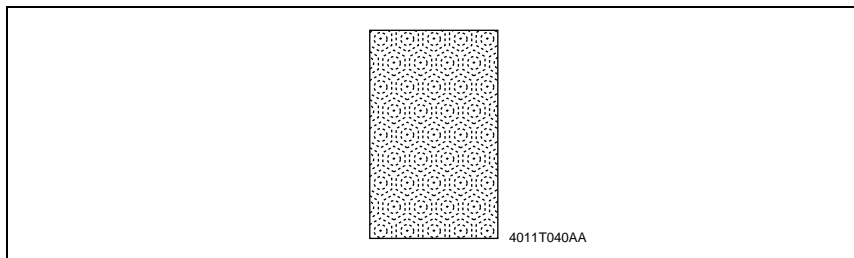


B. Troubleshooting Procedure

Step	Check	Result	Action
1	Scanner Motor (M5) is securely fastened using the dedicated fixing screws.	NO	<ul style="list-style-type: none"> Secure in position.
2	Scanner Motor (M5) drive mechanism is dirty or damaged.	YES	<ul style="list-style-type: none"> Clean or change.
3	Scanner drive mechanism pulley is dirty with foreign matter, scratchy, deformed, worn, or damaged.	YES	<ul style="list-style-type: none"> Remove foreign matter or change.
4	Scanner Drive Cables are wound incorrectly.	YES	<ul style="list-style-type: none"> Re-wind Scanner Drive Cables.
5	Scanner rails and Bearings are dirty with foreign matter, scratchy, deformed, worn, or damaged.	YES	<ul style="list-style-type: none"> Clean or change.
6	Scanner moves smoothly. <Check Procedure> Gently move the Scanner by hand to check for smooth operation.	NO	<ul style="list-style-type: none"> Lubricate the Scanner rails. Reinstall Scanner.
7	CCD Board (PWB-J) connector is loose.	YES	<ul style="list-style-type: none"> Reconnect.
8	Control Board (PWB-C/C) connector is loose.	YES	<ul style="list-style-type: none"> Reconnect.
		NO	<ul style="list-style-type: none"> Change CCD Unit. Change Control Board (PWB-C/C).

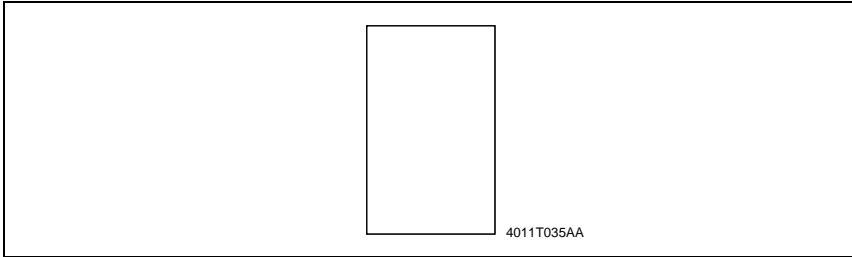
17.2.11 Image Reading Section: Moire

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Check	Result	Action
1	Moire distortions recur even after the orientation of original has been changed.	NO	<ul style="list-style-type: none"> Change the original mode (select one other than that resulted in moire).
2	Moire distortions recur even after the original mode has been changed.	NO	<ul style="list-style-type: none"> Change the original image mode.
3	Moire distortions recur even when the zoom ratio is changed.	NO	<ul style="list-style-type: none"> Change the zoom ratio setting.
4	The problem has been eliminated through the checks of step up 3.	NO	<ul style="list-style-type: none"> Adjust CCD Main Zoom and CCD Sub Zoom.

17.2.12 Printer Section: Blank copy**A. Typical Faulty Images****B. Troubleshooting Procedure**

Step	Check	Result	Action
1	Imaging Unit is installed correctly.	NO	• Reinstall.
2	Connector between the Imaging Unit and copier is dirty.	YES	• Clean.
3	PH Shutter (located along the laser path between the PH Unit and PC Drum) is not in correct position or malfunctions.	YES	• Correct or reinstall.
4	Connectors PJ12A and PJ13A in PH unit come off or lift.	YES	• Reconnect.
5	Image Transfer Roller Assy is installed correctly.	NO	• Reinstall.
6	Image transfer current contact is dirty, broken, or bent.	YES	• Clean, correct, or change.
7	Developing bias contact is dirty, broken, or bent.	YES	• Clean, correct, or change.
8	High Voltage Unit (HV1) connectors is loose.	YES	• Reconnect.
9	The following voltage is supplied from the Master Board (PWB-A). <Check procedure> Check that there is 24 V developing across the Master Board pin and GND when the Power Switch is turned ON (during a copy cycle or a standby state).	YES	• Change IU. • Change PH Unit. • Change High Voltage Unit (HV1).
		NO	• Change Master Board (PWB-A).

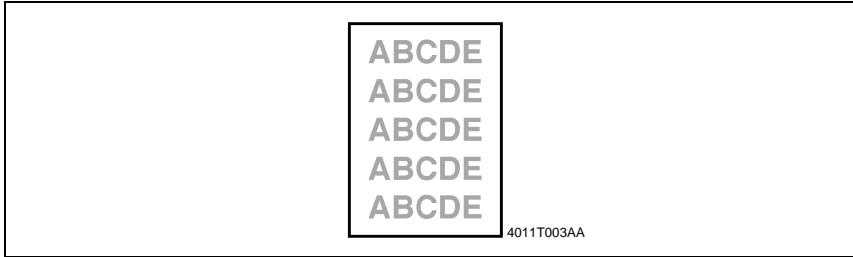
17.2.13 Printer Section: Black copy

A. Typical Faulty Images



B. Troubleshooting Procedure

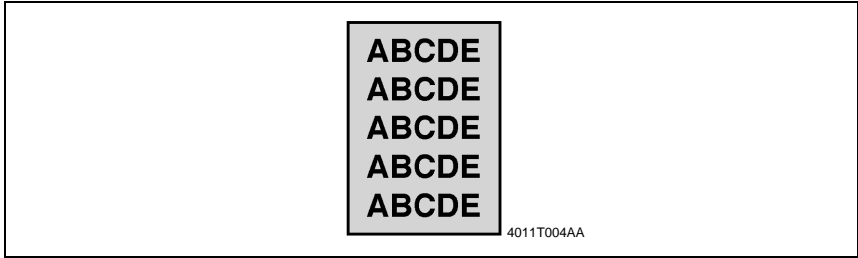
Step	Check	Result	Action
1	PC Drum Charge Corona grid mesh and Comb Electrode are loose.	YES	<ul style="list-style-type: none"> Reinstall.
2	PC Drum Charge Corona contact is dirty, scratchy, folded, bent, or damaged.	YES	<ul style="list-style-type: none"> Correct or change.
3	Grid bias contact is dirty, folded, or bent.	YES	<ul style="list-style-type: none"> Clean, correct, or change.
4	PC Drum ground contact is dirty, scratchy, bent, or damaged.	YES	<ul style="list-style-type: none"> Clean, correct, or change.
5	High Voltage Unit (HV1) connectors is loose.	YES	<ul style="list-style-type: none"> Reconnect.
6	The PH Unit cable is loose.	YES	<ul style="list-style-type: none"> Reconnect.
7	The following voltage is supplied from the Master Board (PWB-A). <Check procedure> Check that there is 24 V developing across the Master Board pin and GND when the Power Switch is turned ON (during a copy cycle or a standby state).	YES	<ul style="list-style-type: none"> Change IU. Change PH Unit. Change High Voltage Unit (HV1).
		NO	<ul style="list-style-type: none"> Change Master Board (copier: PWB-A).

17.2.14 Printer Section: Low image density**A. Typical Faulty Images****B. Troubleshooting Procedure**

Step	Check	Result	Action
1	The image changes when "Toner Replenisher" is executed. • "Toner Replenisher" of Utility	YES	• Replenish the supply of toner using Toner Replenisher.
2	The image changes when "ID Adjust" and "VG Adjust" are executed.	YES	• Readjust. For details, see ADJUSTING/SETTING.
3	Image transfer current contact is dirty, folded, or bent.	YES	• Clean, correct, or change.
4	Developing bias contact is dirty, folded, or bent.	YES	• Clean, correct, or change.
5	High Voltage Unit (HV1) connectors is loose.	YES	• Reconnect.
6	ATDC Sensor (UN1) is dirty with foreign matter (such as paper dust) other than developer.	YES	• Clean.
7	The following voltages develop from the ATDC Sensor (UN1). <Check Procedure> Check voltage across a Master Board pin and GND when the Power Switch is turned ON. • DC5.39 V to 8.15 V across PJ10A-1 and GND • DC1.41 V to 4.98 V across PJ10A-3 and GND	NO	• Change ATDC Sensor (UN1) and then change developer.
8	The following voltage is supplied from the Master Board (PWB-A). <Check procedure> • Check that there is 24 V developing across the Master Board pin and GND when the Power Switch is turned ON (during a copy cycle or a standby state).	YES	• Change IU. • Change High Voltage Unit (HV1).
		NO	• Change Master Board (copier: PWB-A).

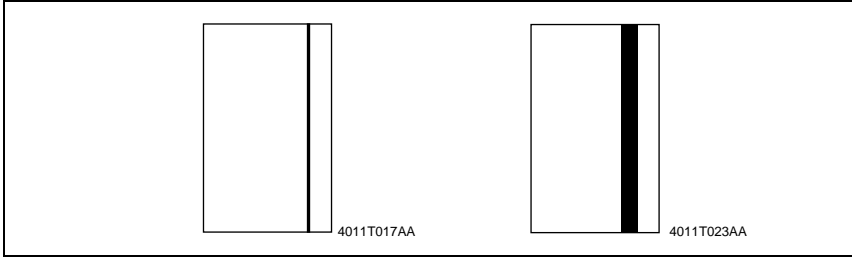
17.2.15 Printer Section: Foggy background or rough image

A. Typical Faulty Images



B. Troubleshooting Procedure

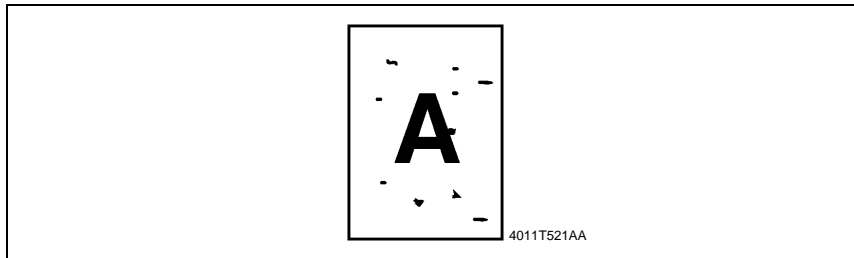
Step	Check	Result	Action
1	The image changes when "ID Adjust" and "VG Adjust" are executed.	YES	• Readjust. For details, see ADJUSTING/SETTING.
2	PC Drum surface and the areas in contact with Ds Col-lars are dirty with foreign matter, or deformed or worn.	YES	• Clean or change.
3	Main Erase (LA1) is dirty.	YES	• Clean.
4	Grid bias contact is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean, correct, or change.
5	ATDC Sensor (UN1) is dirty with foreign matter (such as paper dust) other than developer.	YES	• Clean.
6	The following voltages develop from the ATDC Sensor (UN1). <Check Procedure> Check voltage across a Master Board pin and GND when the Power Switch is turned ON. • DC5.39 V to 8.15 V across PJ10A-1 and GND • DC1.41 V to 4.98 V across PJ10A-3 and GND	NO	• Change ATDC Sensor (UN1) and then change developer.
7	The following voltage is supplied from the Master Board (PWB-A). <Check procedure> • Check that there is 24 V developing across the Master Board pin and GND when the Power Switch is turned ON (during a copy cycle or a standby state).	YES	• Adjust Db. For details, see ADJUSTING/SETTING. • Change Eraser Lamp (LA1). • Change PC Drum. • Change Imaging Unit. • Change High Voltage Unit (HV1).
		NO	• Change Master Board (copier: PWB-A).

17.2.16 Printer Section: Black streaks or bands**A. Typical Faulty Images****B. Troubleshooting Procedure**

Step	Check	Result	Action
1	PC Drum is dirty or scratchy.	YES	• Clean or change.
2	Foreign matter (such as paper dust) sticks to the Cleaning Blade of IU or the blade curves upward.	YES	• Remove foreign matter, correct, or change.
3	DB of IU is plugged with foreign matter (such as paper dust).	YES	• Remove foreign matter.
4	PC Drum Charge Corona grid mesh and Comb Electrode are dirty, scratchy, deformed, damaged, or out of position.	YES	• Clean or change.
5	Fusing Roller is dirty or scratchy.	YES	• Clean or change.
6	PH window of the PH Unit is dirty or scratchy.	YES	• Clean or change.
		NO	• Change IU.

17.2.17 Printer Section: Black spots

A. Typical Faulty Images

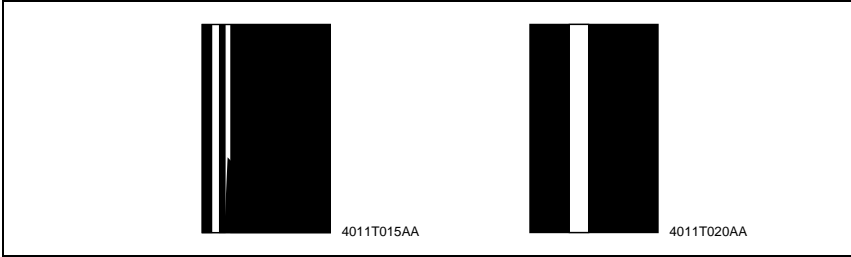


B. Troubleshooting Procedure

Step	Check	Result	Action
1	Toner is present along the paper path.	YES	• Clean.
2	PC Drum is dirty or scratchy.	YES	• Clean or change.
3	Tip of the PC Drum Paper Separator Finger is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean or change.
4	Fusing Roller is dirty or scratchy.	YES	• Clean or change.
5	Tip of the Fusing Paper Separator Finger is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean or change Fusing Paper Separator Fingers and finger springs.
6	The image changes when "VG Adjust" is executed.	YES	• Readjust. For details, see ADJUSTING/SETTING.

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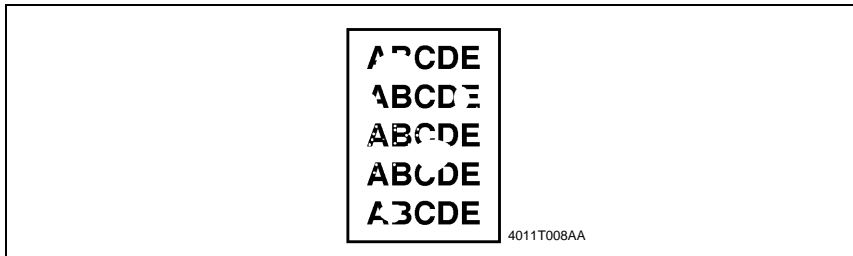
Troubleshooting

17.2.18 Printer Section: Blank streaks or bands**A. Typical Faulty Images****B. Troubleshooting Procedure**

Step	Check	Result	Action
1	PC Drum ground terminal is dirty, scratchy, deformed, or damaged.	YES	• Clean, correct, or change.
2	DB of IU is plugged with foreign matter (such as paper dust).	YES	• Remove foreign matter.
3	PC Drum Charge Corona grid mesh and Comb Electrode are dirty, scratchy, deformed, or damaged.	YES	• Clean, correct, or change.
4	Post-fusing guide plate is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean or change.
5	PH window of the PH Unit is dirty, scratchy, or damaged.	YES	• Clean or change.
		NO	• Change IU.

17.2.19 Printer Section: Void areas

A. Typical Faulty Images

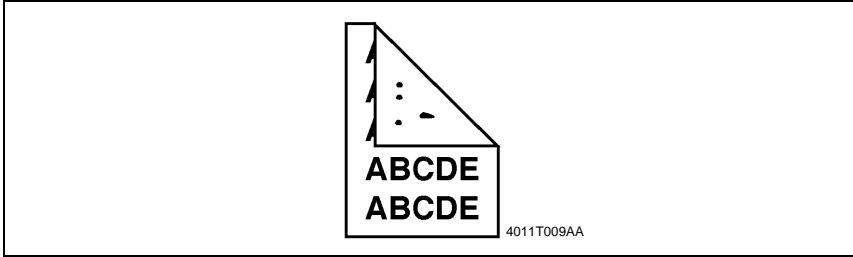


B. Troubleshooting Procedure

Step	Check	Result	Action
1	Foreign matter is present along the paper path.	YES	• Remove foreign matter.
2	Paper dust plugs up the Paper Dust Remover.	YES	• Clean or change.
3	PC Drum Charge Corona, grid mesh, and Comb Electrode are loose.	YES	• Reinstall.
4	PC Drum Charge Corona contact is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean, correct, or change.
5	Developing Roller is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean or change.
6	Toner is even on Sleeve/Magnet Roller.	NO	• Adjust Db. For details, see ADJUSTING/SETTING.
7	Developer is not even in the Developer Mixing Chamber of IU.	YES	• Even out developer in the Developer Mixing Chamber.
8	DB of IU is plugged with foreign matter (such as paper dust).	YES	• Remove foreign matter.
9	Image Transfer Roller is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean, correct, or change.
10	Image Transfer Roller Assy is installed correctly.	NO	• Reinstall.
11	Charge Neutralizing Plate is dirty, scratchy, folded, or bent.	YES	• Clean, correct, or change.
12	Fusing Roller is dirty, scratchy, deformed, or worn.	YES	• Clean or change.
		NO	• Change IU.

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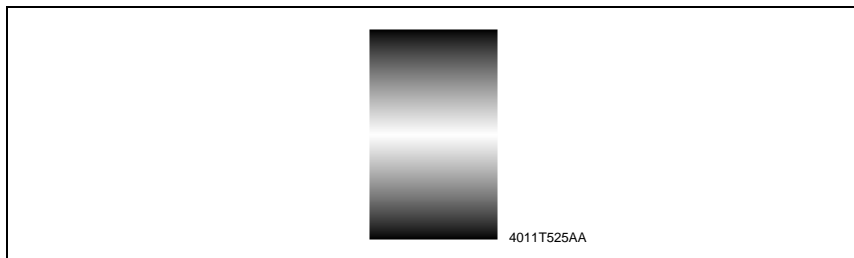
Troubleshooting

17.2.20 Printer Section: Smear on back**A. Typical Faulty Images****B. Troubleshooting Procedure**

Step	Check	Result	Action
1	Toner is spilled over area inside copier.	YES	• Clean interior.
2	Toner is present along the paper path.	YES	• Clean.
3	Fusing Pressure Roller is dirty, scratchy, or damaged.	YES	• Clean or change.
4	Image Transfer Roller is dirty.	YES	• Clean or change.
5	Grid bias contact is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean, correct, or change.
		NO	• Change High Voltage Unit (HV1). • Change Master Board (PWB-A).

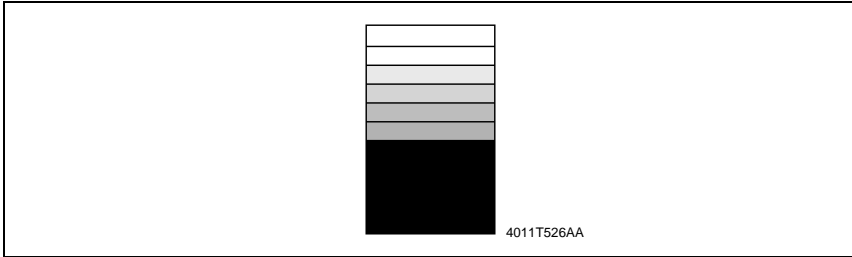
17.2.21 Printer Section: Uneven image density

A. Typical Faulty Images



B. Troubleshooting Procedure

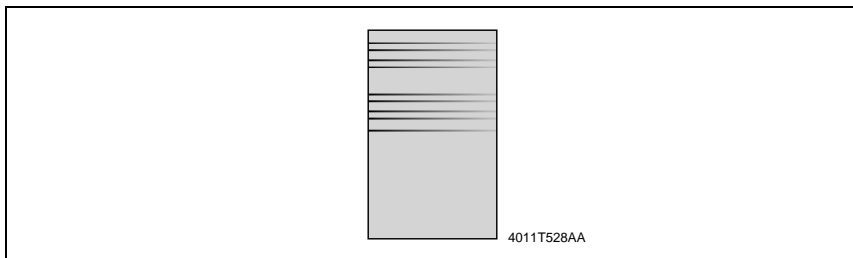
Step	Check	Result	Action
1	PC Drum ground plate is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean, correct, or change.
2	PC Drum Charge Corona grid mesh and Comb Electrode are dirty, scratchy, deformed, worn, damaged, or loose.	YES	• Clean, correct, or change.
3	Image Transfer Roller is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean or change.
4	Sleeve/Magnet Roller is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean or change.
5	Toner is even on Sleeve/Magnet Roller.	NO	• Adjust Db. For details, see ADJUSTING/SETTING.
6	Developer is not even in the Developer Mixing Chamber of IU.	YES	• Even out developer in the Developer Mixing Chamber.
		NO	• Change IU. • Change Master Board (PWB-A).

17.2.22 Printer Section: Gradation reproduction failure**A. Typical Faulty Images****B. Troubleshooting Procedure**

Step	Check	Result	Action
1	PC Drum is dirty.	YES	• Clean.
2	Image Transfer Roller is dirty, scratchy, deformed, worn, or damaged.	YES	• Clean or change.
3	The PH Unit cable is loose.	YES	• Reconnect.
4	PH window of PH Unit is dirty.	YES	• Clean.
5	ATDC Sensor (UN1) is dirty with foreign matter (such as paper dust) other than developer.	YES	• Clean.
6	The following voltages develop from the ATDC Sensor (UN1). <Check Procedure> Check voltage across a Master Board pin and GND when the Power Switch is turned ON. <ul style="list-style-type: none"> • DC5.39 V to 8.15 V across PJ10A-1 and GND • DC1.41 V to 4.98 V across PJ10A-3 and GND 	NO	• Change ATDC Sensor (UN1) and developer.
		YES	• Change Master Board (copier: PWB-A).

17.2.23 Printer Section: Periodically uneven image

A. Typical Faulty Images



B. Troubleshooting Procedure

Step	Check	Result	Action
1	IU is securely fastened using the dedicated fixing screws.	NO	• Secure in position.
2	PH Unit is securely fastened using the dedicated fixing screws.	NO	• Secure in position.
3	IU drive mechanism is dirty or damaged.	YES	• Clean or change.
4	PC Drum surfaces in contact with Ds Collars and drive mechanism are dirty, scratchy, deformed, or worn.	YES	• Clean or change.
5	Synchronizing Roller drive mechanism is dirty, scratchy, deformed, or worn.	YES	• Clean or change.
6	Fusing Unit drive mechanism is dirty, scratchy, deformed, or worn.	YES	• Clean or change.
		NO	• Change Master Board (PWB-A).

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Troubleshooting



KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE





Fax Kit (FK-505)

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, show  to the left of the revised section.
A number within  represents the number of times the revision has been made.
- To indicate clearly a section revised, show  in the lower outside section of the corresponding page.
A number within  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.

2005/04	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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Fax Kit (FK-505)

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General

1. Product specifications

General

Compatibility	G3
---------------	----

Scanning Resolution

TX Mode	Resolution	CD direction (dpi)	FD direction (dpi)
Memory TX	STD	204	98
	FINE	204	196
	S_FINE	204	392
Non memory TX	STD	204	98
	FINE	204	196
	S_FINE	408	392

Line	PSTN/ PBX
Data Transmission Rate	33.6 kbps (V.34 JBIG)
Coding Method	MH/ MR/ MMR/ JBIG
Document Size	CCD Scanning - A3/11 × 17 (297 mm) Sheet Through Scanning - STD/FINE: Max. 297 mm width × 1,000 mm - Super Fine: Max. 297 mm width × 900 mm
Internet fax	Enable when the optional Internet Fax & Network Scan Kit SU-502 and Network Interface Card NC-502 are installed.

Dialing

One touch dial	27 keys
Speed dial	200 fax numbers
Group dial	27 groups (50 destination/group)
Program dial	4 keys (No. 24 ~ 27)
Other dialing	On-hook dial, Automatic redial, Manual redial, Chain dial, Combination dial

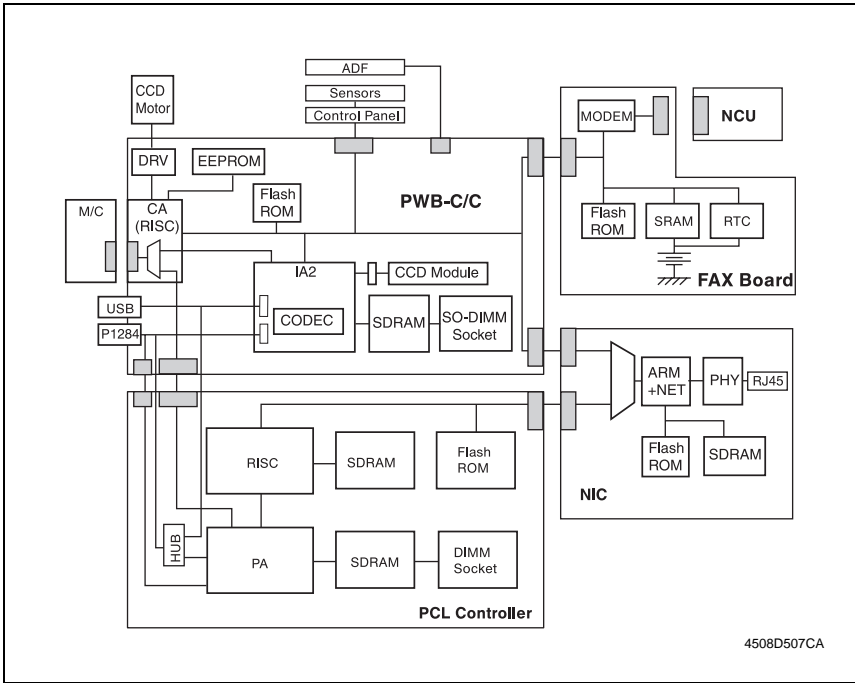
Transmission

Transmission mode	ADF TX, Memory TX, Batch TX, Broadcast TX, Manual TX, Polling TX, Quick Memory TX, Book TX, Relay initiate TX, Timer TX, Relay Broadcast
-------------------	--

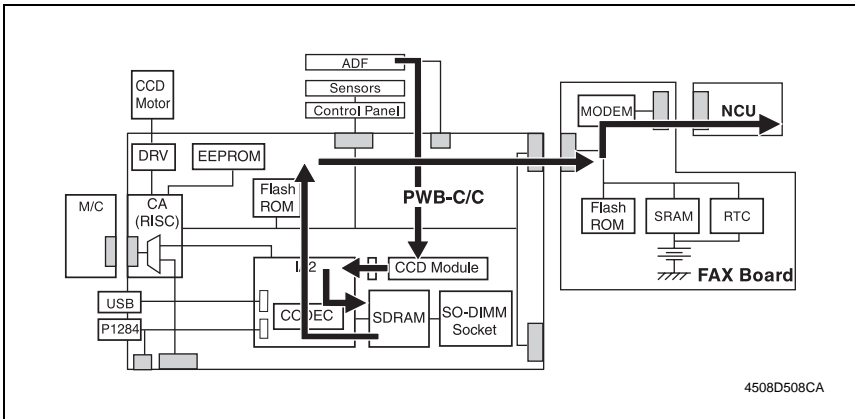
Receiving

Receiving mode	Mailbox RX, Manual RX, Memory RX, Substitute RX, Polling RX
RX resolution	204 dpi × 98 dpi, 204 dpi × 196 dpi, 204 dpi × 392 dpi
Max. recording paper size	A3/ 11 × 17

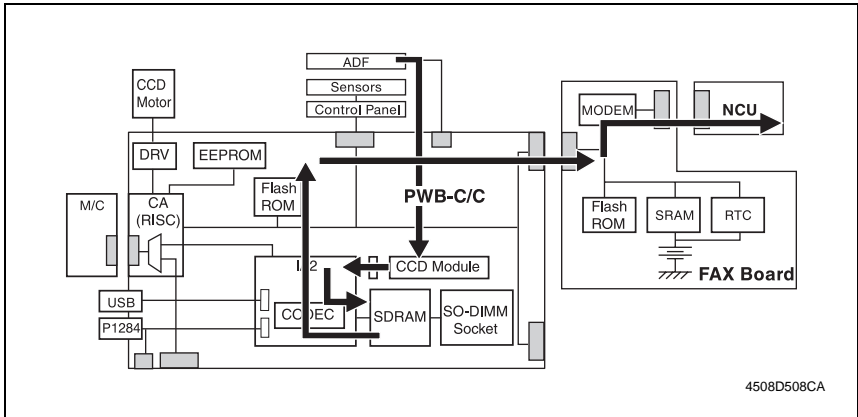
1.1 Data Flow Diagram



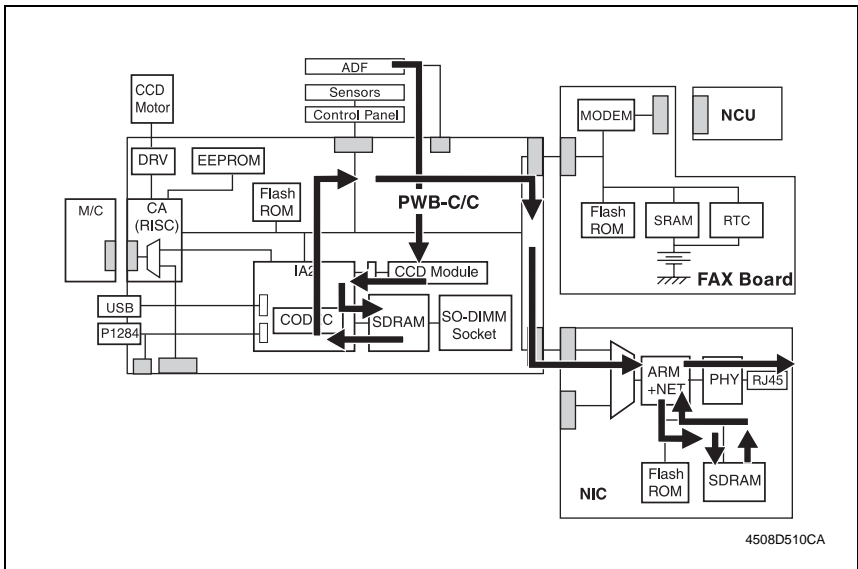
A. Memory TX Data Flow



B. RX & Printing Data Flow



C. I-FAX Data Flow



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Maintenance

2. Firmware upgrade

2.1 Upgrading the Main Firmware (Fax Board)

2.1.1 Installing the Driver

NOTE

- Since USB is used to upgrade the firmware, the host computer must be run on an OS of Windows 98 or later.
- The TWAIN driver must previously be installed in the host computer that is used to upgrade the firmware.
- If the TWAIN driver has not been installed, use the procedure below to install it.
- If the TWAIN driver has already been installed, proceed with the section on “Firmware rewriting” to upgrade the firmware.

7

A. Plug and Play Installation of the GDI Printer/TWAIN Driver

<For Windows XP>

1. Start the host computer.
2. Turn on the power switch of machine.
3. Use a USB cable to connect the machine to host computer.
4. In the “Found New Hardware Wizard” dialog box, choose “Install from a list or specific location (Advanced)”, and then click [Next].
5. Under “Search for the best driver in these locations”, choose “Include this location in the search”, and then click [Browse].
6. Specify “\ (name of any given language) WinXP” in the folder in which the TWAIN driver is stored, and then click [OK].
7. Click [Next] and then [Finish].
8. The “Found New Hardware Wizard” dialog box will appear again: Repeat steps 4~7 to install all drivers.

<For Windows 2000>

1. Prepare the files necessary for upgrading the firmware, and copy them to PC.
2. Start the host computer.
3. Turn on the power switch of machine.
4. Use a USB cable to connect the machine to host computer.
The “Found New Hardware Wizard” dialog box will appear.
5. In the “Install Hardware Device Printers” dialog box, choose “Search for a suitable driver for my device (recommended)”, and then click [Next].
6. In the “Locate Driver Files” dialog box, choose “Specify a location”, and then click [Next].
7. Click [Browse], specify “\ (name of any given language) Win2000” in the folder in which the TWAIN driver is stored, and then click [OK].
8. Click [OK]. Then, continue following the instructions in the dialog boxes that will appear until the “Completing the Found New Hardware Wizard” dialog box appears.
9. Click [Finish].
10. The “Found New Hardware Wizard” dialog box will appear again: Repeat steps 4~8 to install all drivers.

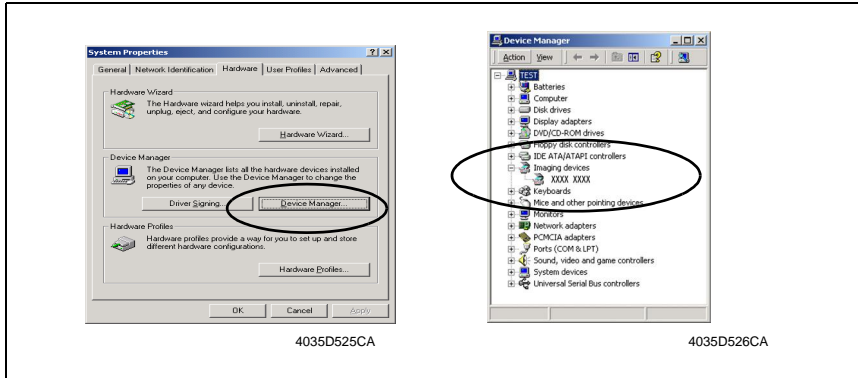
<For Windows Me/98>

1. Prepare the files necessary for upgrading the firmware, and copy them to PC.
2. Start the host computer.
3. Turn on the power switch of machine.
4. Use a USB cable to connect the machine to host computer.
The "Add New Hardware Wizard" dialog box will appear.
5. With Windows Me, choose "Specify the location of the driver (Advanced)", and then click [Next].
With Windows 98, click [Next]. Then, in the dialog box that will then appear, choose "Search for the best driver for your device (recommended)", and then click [Next].
6. Choose "Specify a location", and then click [Browse].
7. Specify "\\(name of any given language)Win9X" in the folder in which the TWAIN driver is stored, and then click [OK].
8. Click [Next]. Then, continue following the instructions in the dialog boxes that will appear until the "Finish" button appears.
9. Click [Finish].
10. The "Add New Hardware Wizard" dialog box will appear again: Repeat steps 4-8 to install all drivers.

2.2 Firmware rewriting

2.2.1 Procedure for Upgrading the Main Firmware

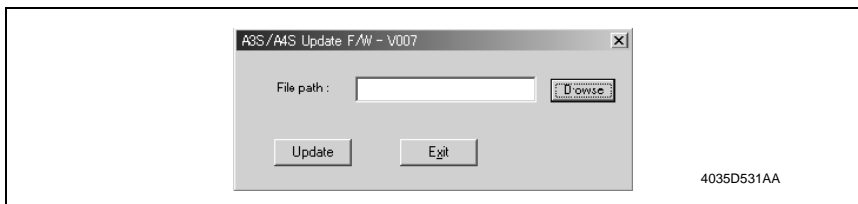
1. Turn ON the Power Switch of the machine.
2. Start the host computer.
3. Copy the "Update Software" folder and "Update" file to drive C. (Copy them into the highest directory on drive C.)
4. Connect the machine to the host computer using a USB cable. (Wait until the hardware is detected.)
5. Open "Properties" of "My Computer." Then select System Properties/Hardware/Device Manager/Imaging devices to check that the "XXXXXXXXXX" (Model Name) icon has been added.



6. Double-click the "Update" file in the "Update Software" folder. The "A3S/A4S Update F/W-VXXX" screen will appear.



7. Click the [Browse] button. Then, select the "Update" file that has been copied onto drive C in step 3.



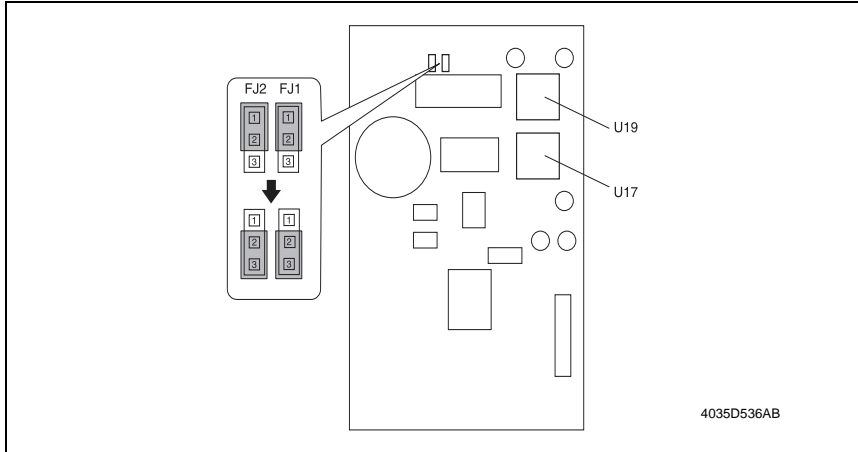
8. Click the [Update] button to start the transfer of the firmware data. (Wait until data transfer is completed.)

2.2.2 Procedure when Upgrading the Firmware has failed

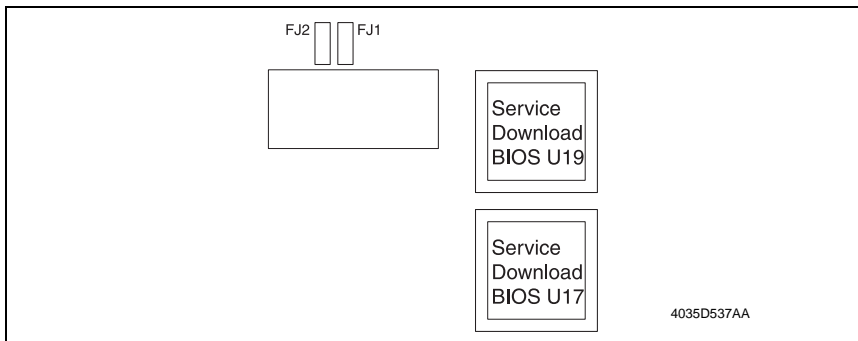
NOTES

- Perform upgrading using BIOS only when upgrading from PC using ordinary USB connection has failed and the PC has not started properly.
- To perform this procedure, you need BIOS ROMs (U17, U19) and the TWAIN Driver dedicated to this specific purpose.

1. Turn off the power switch of machine.
2. Disconnect the USB cable from the machine and host computer.
3. Remove the rear cover.
4. Disconnect jumper [FJ1] on the Fax board from 1-2 and connect it to 2-3.
5. Disconnect jumper [FJ2] on the Fax board from 1-2 and connect it to 2-3.



6. Install the BIOS ROMs (U17, U19) on the Fax board.



7. Attach the Fax board to Control board (PWB-C/C).
8. Turn on the power switch of machine. Following message will appear on message panel and machine waits for file data.



9. Perform steps 4~12 in the firmware upgrading procedure to upgrade the firmware.
10. Turn power off.
11. Remove the BIOS ROMs (U17, U19).
12. Disconnect jumper [FJ1] on the Fax board from 2-3 and connect it to 1-2.
13. Disconnect jumper [FJ2] on the Fax board from 2-3 and connect it to 1-2.

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.

B. Red Painted Screws

NOTES

- When the screws are removed, the red paint is coated on the points where readjustment is required.
- Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with 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.

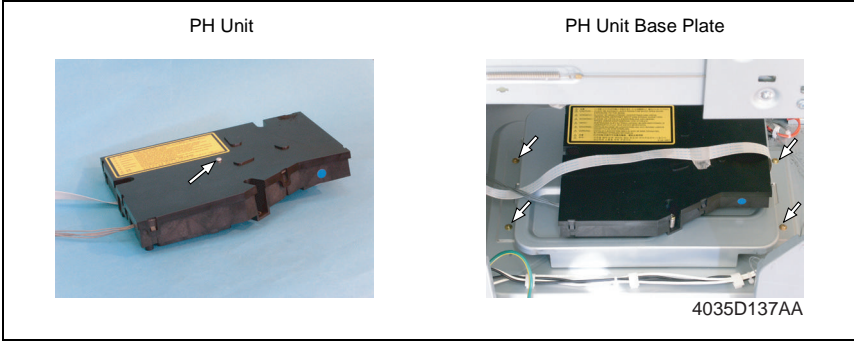
D. Removal of PWBs

NOTES

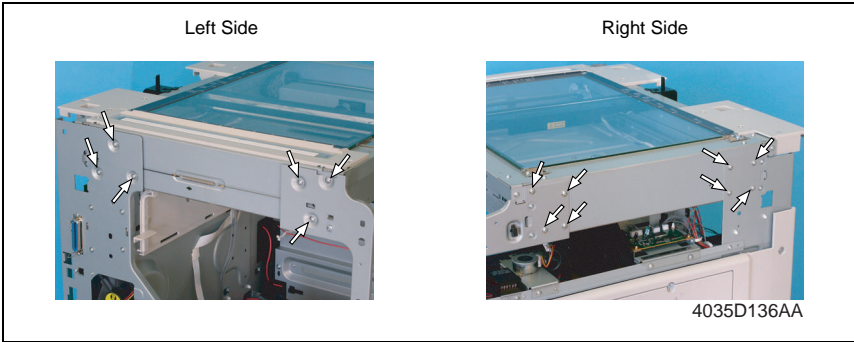
- When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.
- The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.
- Where it is absolutely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

E. Other Screws not Marked with Red Paint

(1) PH Unit Section



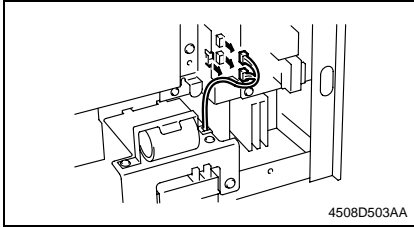
(2) IR Unit Section



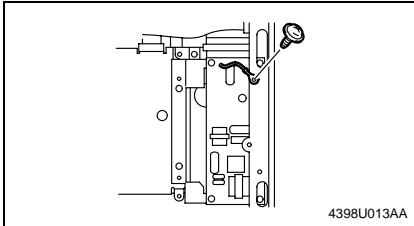
3.2 Disassembly/Assembly procedure

3.2.1 FAX Board and NCU Boards

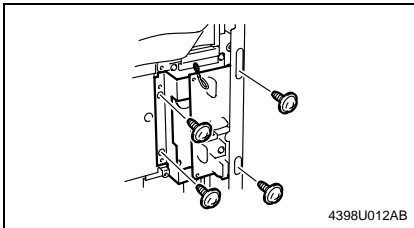
1. Remove the Rear Cover. (9 screws)



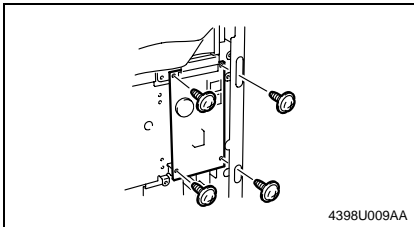
2. Disconnect the speaker and battery connectors from the Fax Board.



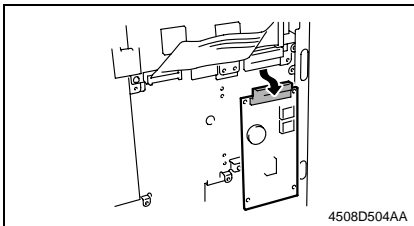
3. Remove the ground terminal of the NCU Board from the rear frame. (1 screw)



4. Remove the NCU Board. (4 screws)



5. Remove the Fax Board. (4 screws)



6. Disconnect the Fax Board from the hookup connector of the machine Control Board (PWB-C/C).

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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 “ ”.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:
 1. The power supply voltage meets the specifications.
 2. The power supply is properly grounded.
 3. 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).
 4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
 5. The original has a problem that may cause a defective image.
 6. The density is properly selected.
 7. The Original Glass, slit glass, or related part is dirty.
 8. Correct paper is being used for printing.
 9. 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.
 10. Toner is not running out.

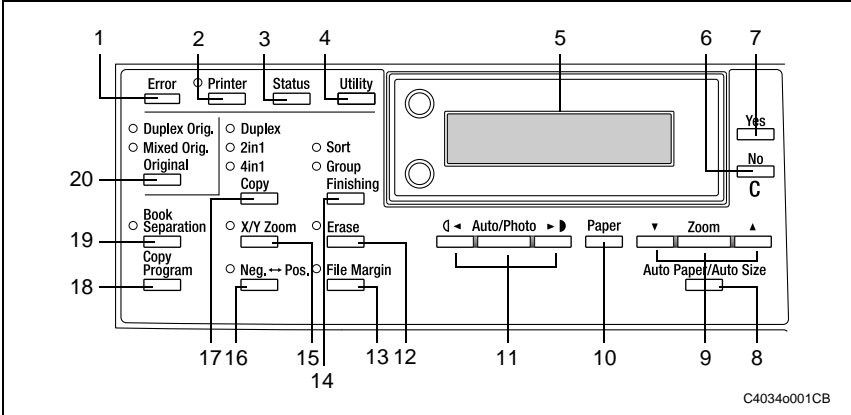
B. Precautions for Service Jobs

1. To unplug the power cord of the machine before starting the service job procedures.
2. 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.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

5. Control Panel Descriptions

5.1 Names of Control Panel Parts and Their Functions

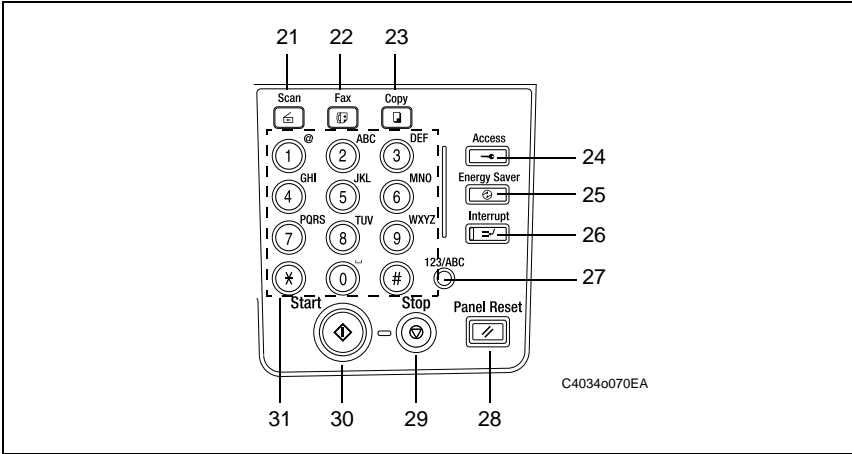
Control Panel Parts and Their Functions



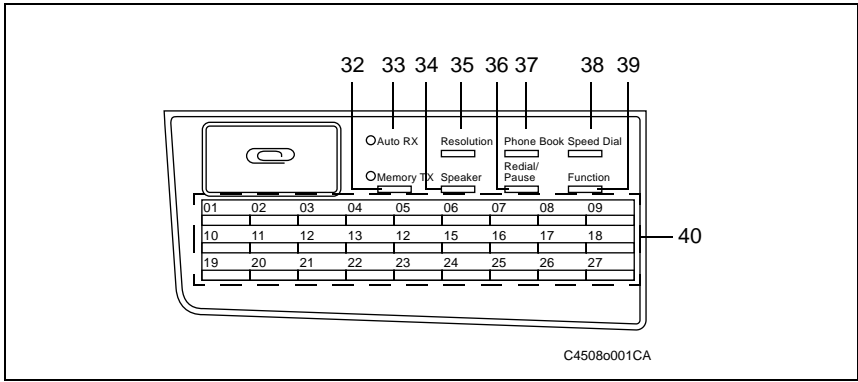
C4034o001CB

No.	Key Name	Function
1	"Error" indicator	Flashes when an error has occurred.
2	[Printer] key/indicator	Lights up while data is being printed from the computer and flashes while data is being sent. For details, refer to the Printer Controller User Manual.
3	[Status] key	Used to view the counters.
4	[Utility] key	Used to enter Utility mode and display the first Utility mode screen. • MACHINE SETTING, PAPER SOURCE SETUP, USER MANAGEMENT, ADMIN. MANAGEMENT, COPY SETTING 1 & 2
5	Display	Displays setting menus, error messages, and specified settings such as the number of copies and the zoom ratio.
6	[No] key	Erases the entered numbers and letters. Returns to the previous screen.
7	[Yes] key	Confirms the current setting.
8	[Auto Paper/Auto Size] key	Used to select between the Auto Paper or the Auto Size function.
9	[Zoom] key, ▼ and ▲ keys	<ul style="list-style-type: none"> Used to select a preset enlargement or reduction ratio. With each press, a zoom ratio between $\times 0.25$ and $\times 4.00$ is selected in 0.01 increments. Used to specify the selection above or below in setting screens and menus.
10	[Paper] key	Used to select the size of the paper to be printed on.
11	[Auto/Photo] key, ◀ and ▶ keys	<ul style="list-style-type: none"> Used to specify the scanning density of copies. Used to specify the selection at the left or right in setting screens.
12	[Erase] key	Used to select the area of the document that is erased.
13	[File Margin] key	Press to select the "File Margin" function.

No.	Key Name	Function
14	[Finishing] key	Used to select a copy "Finishing" function.
15	[X/Y Zoom] key	Used to specify different scaling proportions for the vertical and horizontal directions.
16	[Neg. ↔ Pos.] key	Press to make copies with the dark- and light-colored areas of the document inverted.
17	Copy key	Used to select between the "2in1" and the "4in1" copy functions.
18	[Copy Program] key	<ul style="list-style-type: none">• Copy programs can be stored.• Stored copy programs can be selected and recalled.
19	[Book Separation] key	Used to select the "Book Separation" function.
20	[Original] key	Used to select between the "Duplex Orig." function and the "Mixed Orig." function.



No.	Key Name	Function
21	[Scan] key	Press to enter Scan mode. The indicator lights up in green to indicate that the machine is in Scan mode. (Available only when the Network Interface Card NC-502 and the Internet Fax & Network Scan Kit SU-502 are installed.)
22	[Fax] key	Does not function on this machine.
23	[Copy] key	Press to enter Copy mode. The indicator lights up in green to indicate that the machine is in Copy mode.
24	[Access] key	Used with user management.
25	[Energy Saver] key	Press to enter Energy Save mode.
26	[Interrupt] key	Press to enter Interrupt mode. The indicator lights up in green to indicate that the machine is in Interrupt mode. Press again to cancel Interrupt mode and return to the mode before Interrupt mode was entered.
27	[123/ABC] key	Does not function on this machine.
28	[Panel Reset] key	<ul style="list-style-type: none"> • Cancels all copy functions and returns them to their default settings. • Deletes all queued jobs.
29	[Stop] key	Stops the multi-page copy operation.
30	[Start] key	<ul style="list-style-type: none"> • Starts copying. • Queues a copy job if pressed while the machine is warming up. • The indicator lights up in green to indicate that the machine is ready to start copying, or it lights up in orange to indicate that the machine is not ready to start copying.
31	10-Key Pad	<ul style="list-style-type: none"> • Used to specify the number of copies. • Used to enter setting values. • The [*] and [#] keys do not function on this machine.



No.	Key Name	Function
32	"Memory TX" indicator	Light up when the memory transmission function is selected.
33	"Auto RX" indicator	Light up when the automatic reception function is selected.
34	[Resolution] key	Used to select the image quality (transmission resolution).
35	[Speaker] key	Press to answer the call. Press again to hang up.
36	[Phone Book] key	Used to display the information programmed for one-touch dialing, group dialing and speed dialing.
37	[Redial/Pause] key	<ul style="list-style-type: none"> Redials the last number called. While dialing, used to generate a pause when transferring from an internal to an external line or receiving information services.
38	[Speed Dial] key	Used to dial previously programmed fax numbers represented by 3-digit numbers.
39	[Function] key	Used to select a function. <ul style="list-style-type: none"> BROADCAST (broadcast transmission), TIMER TX (timer transmission), MAILBOX TX (mailbox transmission), PRINT MAILBOX RX (retrieve mailbox faxes), POLLING TX (polling transmission), POLLING RX (polling reception), RELAY INITIATE (relay initiation transmission), CANCEL RESERV. (cancel queued job), TX MODE (transmission mode), INTERNET FAX RX (with the Internet Fax & Network Scan Kit installed)
40	One-touch key	<ul style="list-style-type: none"> Used to dial previously programmed fax numbers. Use keys [01] through [27] for programming one-touch dial keys and group dialing. Use keys [24] through [27] for setting program dialing.

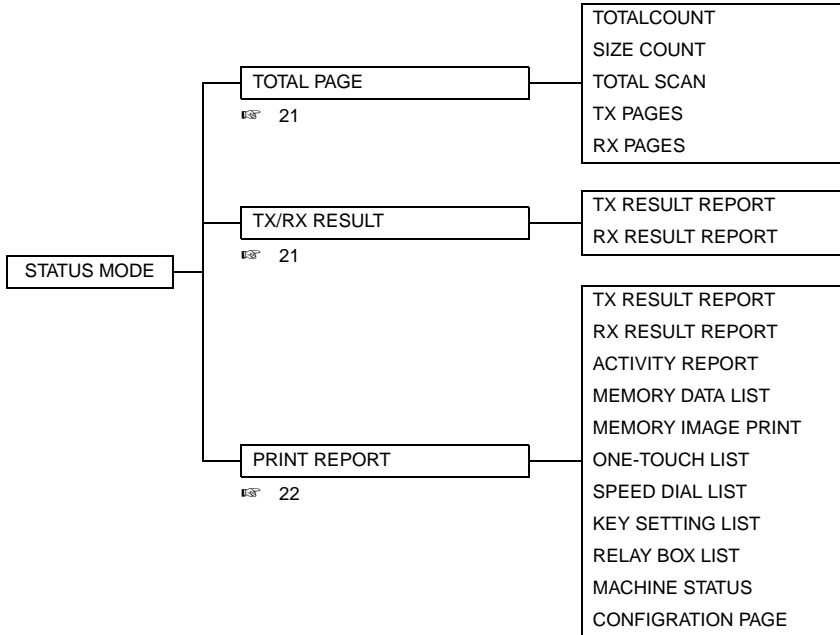
Fax Kit (FK-505)

Adjustment / Setting

6. Status Mode

- The total number of pages printed and scanned since this machine was installed can be checked.
- Results of 60 past faxes sent and received and counter information are displayed on the LCD, and various reports are printed.
- The reports and the lists are printed.

6.1 Status Mode Function Tree



6.2 Status Mode Setting Procedure

6.2.1 Procedure

1. Press the **Status** key.
2. The first Status screen appears.

6.2.2 Exiting

- Press the **Panel Reset** key.

6.2.3 Changing the Status Mode Functions

1. Press the **▲/▼** key or **</>** key to select the desired function.
2. Press the **Yes** key to apply the setting.
3. To return to the previous screen, press the **[No]** key.

6.2.4 Total Page

Functions	<ul style="list-style-type: none"> • Total Count : Displays the total number of pages printed since this machine was installed. • Size Count : Displays the Size Count of pages printed since this machine was installed. • Total Scan : Displays the total number of pages scanned since this machine was installed. However, the scanned number of pages in copy are not included. • TX Pages : Displays the total number of pages faxed since this machine was installed. • RX Pages : Displays the total number of pages received since this machine was installed.
Use	<ul style="list-style-type: none"> • The total number of pages printed and scanned since this machine was installed can be checked.
Setting/Procedure	<ol style="list-style-type: none"> 1. Press the Status key. 2. Press the Yes key. 3. Press the ▼ and ▲ keys to check the "TOTAL COUNT", "SIZE COUNT", "TOTAL SCAN", "TX PAGES" or "RX PAGES" values.

6.2.5 TX/ RX RESULT

Functions	<ul style="list-style-type: none"> • TX Result Report : Displays the transmission result report. • RX Result Report : Displays the reception result report.
Use	<ul style="list-style-type: none"> • Results of 60 past faxes sent and received and counter information are displayed on the LCD, and various reports are printed.
Setting/Procedure	<ol style="list-style-type: none"> 1. Press the Status key twice. 2. Press the Yes key. 3. Press the ▼ and ▲ keys to display the desired transmission results to check them. <ul style="list-style-type: none"> • In the transmission result screen, "TX" indicates sent faxes, and "RX" indicates received ones. • To print the transmission result report, press the Start key. After the transmission result report is printed, the main screen appears. • If the No key is pressed twice while the transmission results are displayed, the main screen appears.

6.2.6 PRINT REPORT

Functions	<ul style="list-style-type: none"> • TX Result Report : Prints the transmission result report. • RX Result Report : Prints the reception result report. • Activity Report : Prints the transmission/reception result report. • Memory Report : Prints the list of documents stored in the memory. • Memory Image Report : Prints the reduced image of the first page of the document stored in the memory. • One Touch List : Prints the recipients programmed in the one-touch dial keys. • Speed Dial List : Prints the recipients programmed for the speed dial numbers. • Key Setting List : Prints the settings specified for one-touch dial keys. • Relay Box List : Print the Relay Box registration contents. (Max. 5 relay boxes) • Machine Status List : Prints the current machine status. • Configuration Page : Prints the current machine configuration.
Use	<ul style="list-style-type: none"> • The reports and the lists are printed.
Setting/Procedure	<ol style="list-style-type: none"> 1. Press the Status key 3 times. 2. Press the Yes key. 3. Press the ▼ and ▲ keys to select the report/list that you wish to print, and then press the Yes key. After the specified report/list is printed, the main screen appears again. <p>NOTE The reception/transmission result reports can be checked on screen. For details on viewing the transmission result, refer to "TX/ RX Result".</p> <p>☎ 21</p>

• TX result report (example)

TX RESULT REPORT									
NAME:ABC 123									
TEL:1234567									
DATE:Dec.01.2003 15:12									
SESSION	FUNCTION	No.	DESTINATION STATION	DATE	TIME	PAGE	DURATION	MODE	RESULT
0001	TX	001	AAA NEWYORK 012345678	JAN.23	17:43	010	00:01'12"	G3	OK

• RX result report (example)

RX RESULT REPORT									
NAME:ABC 123									
TEL:1234567									
DATE:Dec.01.2003 15:12									
SESSION	FUNCTION	No.	DESTINATION STATION	DATE	TIME	PAGE	DURATION	MODE	RESULT
0069	RX	001	AAA NEWYORK 012345678	JAN.22	20:07	010	00:01'12"	G3	OK

- Activity report (example)

ACTIVITY REPORT										
NAME:ABC 123										
TEL:1234567										
DATE:Dec.01.2003 15:12										
No.	SESSION	DATE	TIME	TX/RX	DESTINATION STATION	PAGE	DURATION	MODE	RESULT	
01	0034	JAN.22	20:07	TX---	AAA NEWYORK 012345678	010	00:01'12"	G3 -2.4	OK	
02	0048	JAN.23	14:20	---RX	ZZZ LONDON 876543210	001	00:00'45"	G3 -2.4	OK	

- Memory data list (example)

MEMORY DATA LIST						
NAME:ABC 123						
TEL:1234567						
DATE:Dec.01.2003 15:12						
SESSION	FUNCTION	TIME	No.	DESTINATION STATION		PAGE
0077	TX	16:03	001	DELLY OFFICE		001

- Memory image print (example)

MEMORY IMAGE PRINT							
MEMORY IMAGE							
NAME:ABC 123							
TEL:1234567							
DATE:Dec.01.2003 15:12							
SESSION	FUNCTION	No.	DESTINATION STATION		DATE	TIME	PAGE
0077	TX	001	DELLY OFFICE		JAN.26	16:03	001

- One-touch list (example)

ONE TOUCH LIST				
NAME:ABC 123				
TEL:1234567				
DATE:Dec.01.2003 15:12				
OT-NO.	DESTINATION STATION	DESTINATION NUMBER	DETAIL	SET DATE
OP-01	AMSTERDAM OFFICE	0P09876543		33.6 JAN.20.2001

- Speed dial list (example)

SPEED DIAL LIST				
NAME:ABC 123				
TEL:1234567				
DATE:Dec.01.2003 15:12				
SP-NO.	DESTINATION STATION	DESTINATION NUMBER	DETAIL	SET DATE
SP-001	SYDNEY OFFICE	0P111222333444	33.6	JAN.26.2004

- Key setting list (example)

KEY SETTING LIST					
NAME:ABC 123					
TEL:1234567					
DATE:Dec.01.2003 15:12					
KEY-NO.	TIMER	FUNCTION	No.	DESTINATION STATION	
OT-01		APORO OFFICE	01	OT-01	J.B 999888777666 SUB:1234

- Relay Box List (example)

RELAY BOX LIST				
NAME:ABC 123				
TEL:1234567				
DATE:Dec.01.2003 15:12				
RELAY BOX	RELAY BOX SETTING		No.	RELAY BROADCAST LOCATION
BOX-00	RELAY REPORT = 1234567 RELAY ID = 1234 RELAY PW = 1234		00	OT-01 User1 user01@test.local

• Machine status list (Page1: example)

NAME:ABC 123 TEL:1234567 DATE:Dec.01.2004 15:12	MACHINE STATUS LIST		
..MACHINE SETTING..			
AUTO RESET (min.)	OFF		
ENERGY SAVE MODE (min.)	15		
AUTO SHUT OFF (min.)	OFF		
DENSITY (ADF)	MODE 1		
DENSITY (BOOK)	MODE 1		
PRINT DENSITY	LIGHT <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> DARK		
LCD CONTRAST	LIGHT <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> DARK		
BUZZER VOLUME	LOW		
LANGUAGE	ENGLISH		
INITIALMODE	COPY		
..PAPER SOURCE SETTING..			
	INCH/METRIC	TRAY PAPER	PAPER TYPE
TRAY1	METRIC	A4C (PLAIN)	PLAIN
..COPY SETTING 1..			
PAPER PRIORITY	TRAY 1		
DENSITY PRIORITY	AUTO DENSITY		
DENSITY LEVEL (AUTO)	LIGHT <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> DARK		
DENSITY LEVEL (MANUAL)	LIGHT <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> DARK		
BINDINGS POSITION	LEFT		
MARGIN SETTING (mm)	10		
ERASE SETTING (mm)	LEFT :10	UPPER :10	FRAME :10
SMALL ORIGINAL	ENABLE		
..COPY SETTING 2..			
MIXED ORIGINAL	OFF		
COPY PRIORITY	AP		
OUTPUT PRIORITY	NON		
4 IN 1 COPY ORDER	PATTERN1		
CRISSCROSS MODE	ON		
DUPLEX COPY	OFF		
..FAX REGISTRATION..			
ONE TOUCH OR GROUP DIAL	01/27 RESERVED		
SPEED DIAL	001/210 RESERVED		
PROGRAM DIAL	(24) NONE (25) NONE (26) NONE (27) ONE TOUCH		
BATCH TX	00/27		
MAIL BOX	(01) ID= NONE		(02) ID= NONE
	(03) ID= NONE		(04) ID= NONE
	(05) ID= NONE		
RELAY BOX	(00) ID= NONE		(01) ID= NONE
	(02) ID= NONE		(03) ID= NONE
	(04) ID= NONE		(05) ID= NONE
	(06) ID= NONE		(07) ID= NONE
	(08) ID= NONE		(09) ID= NONE

Fax Kit (FK-505)

Adjustment / Setting

• Machine status list (Page2: example)

NAME:ABC 123	MACHINE STATUS LIST			
TEL:1234567				
DATE:Dec.01.2004 15:12				
..TX OPERATIONS..				
SCAN CONTRAST	LIGHT <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> DARK			
RESOLUTION	STANDARD			
DEFAULT TX	MEMORY TX			
HEADER	ON			
..RX OPERATIONS..				
MEMORY RX MODE	OFF			
NO. OF RINGS	2			
REDUCTION RX	ON			
RX PRINT	MEMORY RX			
RX MODE	AUTO RX			
FORWARD	OFF			
FOOTER	OFF			
SELECT TRAY	TRAY1 : ENABLE			
CLOSED NETWORK	OFF			
..COMM SETTING..				
TONE/PULSE	TONE			
LINE MONITOR	LOW			
PSTN/PBX	PSTN			
..REPORTING..				
ACTIVITY REPORT	ON			
RESERVATION REPORT	OFF			
TX RESULT REPORT	OFF			
RX RESULT REPORT	OFF			
..INITIAL USER DATA..				
DATE AND TIME	JAN.27.2004 10:00 +00:00			
USER FAX NUMBER	0P1234567890			
USER NAME	AAABBBCCC DDDEEE			
..OTHER STATUS..				
TX/RX TOTAL PAGES	TX	000000	RX	000000
USER COUNTER	TOTAL COUNTER	000000	SIZE COUNTER	000000
	SCAN COUNTER	000000		

- Configuration page (example)

KONICA MINOLTA XXXXXXXX

Printer Configuration Page

Printer Information
Printer F/W: 100
Maser F/W: 100
Total Count: 000000
Size Count: 000000

Printer Configuration
Printer Memory: 16Mbytes
TRAY 1: A4
TRAY 2: A4
TRAY 3: Not Installed
TRAY 4: Not Installed
TRAY 5: Not Installed
Bypass: Installed
Output Tray: Installed

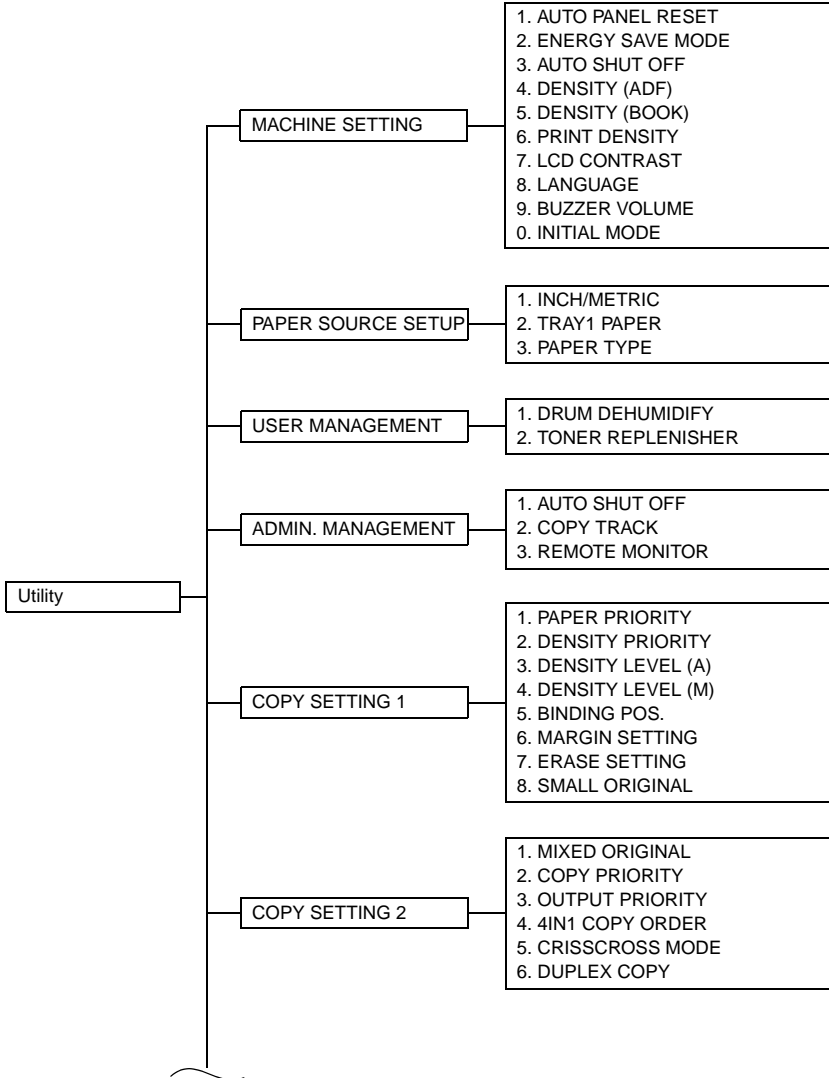
Fax Kit (FK-505)

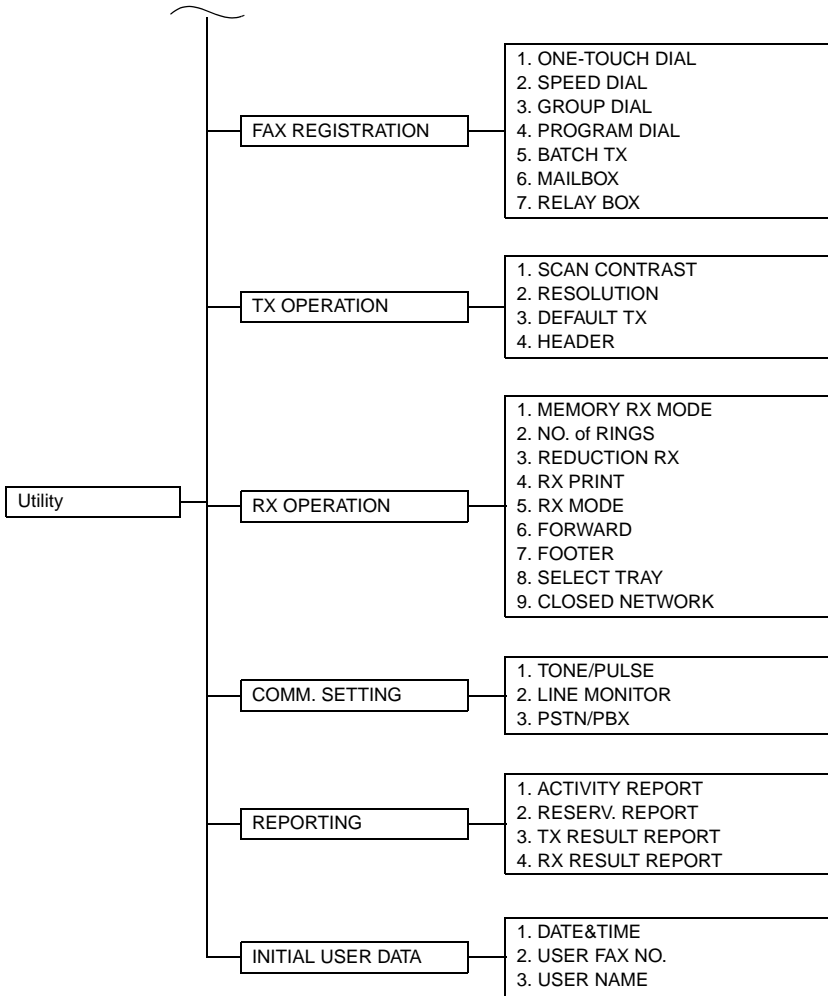
Adjustment / Setting

7. Utility Mode

- Utility mode is used to make settings for the utility functions.

7.1 Utility Mode Function Tree





Fax Kit (FK-505)

Adjustment / Setting

7.2 Utility Mode Setting Procedure

7.2.1 Procedure

1. Press the Utility key.
2. The Utility mode screen will appear.

7.2.2 Exiting

- Press the Panel Reset key.

7.2.3 Changing the Setting Values in Utility Mode Functions

- Select the appropriate item using [▲ / ▼] key, [< / >] key, or the 10-Key Pad.
- Select the setting value using [▲ / ▼] key, [< / >] key, or the 10-Key Pad.
 1. Validate the selected setting value using the [Yes] key.
 2. To go back to the previous screen, press the [No] key.

7.3 Setting in the Utility Mode

7.3.1 MACHINE SETTING

- MACHINE SETTING is used to set the operating environment.

A. AUTO PANEL RESET

Functions/Use	<ul style="list-style-type: none"> • To set the time it takes the Auto Panel Reset function, which resets the panel settings when the set period of time elapses after a copy cycle has been completed or the last key operated, to be activated.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "1" minute. OFF ON : 0.5 "1" 2 3 4 5 (min)

B. ENERGY SAVE MODE

Functions/Use	<ul style="list-style-type: none"> • To set the time it takes the machine to enter the Energy Saver mode after a copy cycle has been completed or the last key operated.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "15" minutes. "15" min (1 to 240)

C. AUTO SHUT OFF

Functions/Use	<ul style="list-style-type: none"> • To set the time it takes the Auto Shut OFF function, which shuts down the machine when the set period of time elapses after a copy cycle has been completed or the last key operated, to be activated.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "OFF" "OFF" ON - Setting range : 15 to 240 min

D. DENSITY (ADF)

Functions/Use	<ul style="list-style-type: none"> To set the reading image density level when the Automatic Document Feeder is used. <p>NOTE The low image density is set as the default value to prevent a dirty copy from being produced.</p>
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "MODE1". <p>"MODE 1" : To lower the image density to prevent a dirty copy from being produced.</p> <p>MODE 2 : To produce a copy having an image density equivalent to that of the original.</p>

E. DENSITY (BOOK)

Functions/Use	<ul style="list-style-type: none"> To set the reading image density level when the Original Glass is used.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "MODE1". <p>"MODE 1" : To produce a copy having an image density equivalent to that of the original.</p> <p>MODE 2 : To lower the image density to prevent a dirty copy from being produced.</p>

F. PRINT DENSITY

Functions/Use	<ul style="list-style-type: none"> To set the print density.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "0". <p>"0" Setting range : -2 (LIGHT) to +2 (DARK)</p>

G. LCD CONTRAST

Functions/Use	<ul style="list-style-type: none"> To set the brightness of the LCD display.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "0". <p>"0" Setting range : -1 (LIGHT) to +2 (DARK)</p>

H. LANGUAGE

Functions/Use	<ul style="list-style-type: none"> To select the language displayed on the control panel.
Setting/Procedure	<ul style="list-style-type: none"> Select the desired language and touch [OK] to set the language.

I. BUZZER VOLUME

Functions/Use	<ul style="list-style-type: none"> This function can be used to set the volume of alarms and the beep sounded when a key is pressed.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "LOW". <p>HIGHT "LOW" OFF</p>

J. INITIAL MODE

Functions/Use	<ul style="list-style-type: none"> This function can be used to set the mode (Copy mode or Fax mode) that the machine starts up in or returns to after the Control Panel is reset.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "COPY". <p style="text-align: center;">"COPY" FAX</p>

7.3.2 PAPER SOURCE SETUP

- PAPER SOURCE SETUP is used to make the various settings for the paper source.

A. INCH/METRIC

Functions/Use	<ul style="list-style-type: none"> To select the paper size type for each paper source for automatic paper size detection.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "METRIC". <p style="text-align: center;">INCH "METRIC"</p>

B. TRAY1 PAPER

Functions/Use	<ul style="list-style-type: none"> To set the type and size of the paper loaded in Paper Feed Tray/1.
Setting/Procedure	<p><Step></p> <ol style="list-style-type: none"> Select the type of paper <ul style="list-style-type: none"> Default setting of paper type is "PLAIN". <p style="text-align: center;">"PLAIN" OHP CARD ENVELOPE</p> Set the paper size. <ul style="list-style-type: none"> Default setting of paper size is "AUTO". <p style="text-align: center;">"AUTO"</p> <p style="text-align: center;">SIZE INPUT x : 140 to 432 mm (sub scan direction) Y : 90 to 297 mm (main scan direction)</p>

C. PAPER TYPE

Functions/Use	<ul style="list-style-type: none"> To set the type of paper for the paper source.
Setting/Procedure	<p><Step></p> <ol style="list-style-type: none"> Select the paper source <p style="text-align: center;">"TRAY1" TRAY2 BYPASS</p> Select the type of paper. <ul style="list-style-type: none"> The default setting is "PLAIN". <p style="text-align: center;">"PLAIN" RECYCLE SPECIAL 1-SIDE *1</p>

*1: appears only when the AD-504 (bizhub 180 / bizhub 210 only) is installed

7.3.3 USER MANAGEMENT

A. DRUM DEHUMIDIFY

Functions/Use	<ul style="list-style-type: none"> To run a drum dry sequence. * The drum dry sequence is run when an image problem occurs due to condensation formed on the surface of the PC Drum as a result of a sudden change in temperature or an increased humidity.
Setting/Procedure	<p><Step></p> <ol style="list-style-type: none"> Select "DRUM DEHUMIDIFY" and press the [Yes] key. The drum dry sequence is automatically terminated after the lapse of a predetermined period of time and the initial screen reappears.

B. TONER REPLENISHER

Functions/Use	<ul style="list-style-type: none"> To forcibly replenish the supply of toner when ID drops as a result of a reduced T/C ratio after a large number of copies have been made from an original having a high image density, thereby achieving the set T/C level.
Setting/Procedure	<ul style="list-style-type: none"> When "TONER REPLENISHER" is executed, the machine first detects the current toner density. If it is found that the density is lower than the reference value, supply of toner is replenished and then toner is agitated. If the density is found to be higher than the reference value, the machine simply agitates toner to complete the sequence. <p><Step></p> <ol style="list-style-type: none"> Select "TONER REPLENISHER" and press the [Yes] key. The toner replenisher sequence is automatically terminated after a given period of time or when the specified toner density is recovered. Then, the initial screen reappears.

7.3.4 ADMIN. MANAGEMENT

- ADMIN. MANAGEMENT is used to make various settings after the administrator number set using the Service mode has been entered.

<Admin. Management Mode Setting Procedure>

- Press the Utility key.
- Select "ADMIN. MANAGEMENT."
- Type the 6-digit administrator number and press the [Yes] key.

A. AUTO SHUT OFF

Functions/Use	<ul style="list-style-type: none"> To enable or disable the setting of Auto Shut OFF.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "ENABLE". <p style="text-align: center;">DISABLE "ENABLE"</p>

B. COPY TRACK

<COPY TRACK MODE>

Functions/Use	<ul style="list-style-type: none"> To select whether to turn ON or OFF the copy track function.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF" (copy track function is not used). <p style="text-align: center;">ON : Use the copy track function. "OFF" : Not use the copy track function.</p>

<ACCESS NO. REG.??>

Functions/Use	<ul style="list-style-type: none"> To register a 3-digit (001 to 999) access number used for the copy track function, or to change or delete a previously set access number.
Setting/Procedure	<p><Registration Procedure></p> <ol style="list-style-type: none"> Type any access number from the 10-Key Pad. Press the [Yes] key to validate the entry of the access number. To continue registering access numbers, repeat steps 1 and 2. (Up to 20 different accounts can be set.) When the registration procedure is completed, quit the function by pressing the [No] key. <p><Change/Delete Procedure></p> <ol style="list-style-type: none"> Type the access number to be changed or deleted from the 10-Key Pad and press the [Yes] key. When you are prompted to determine whether to retain the data or not, press the [No] key. Select "EDIT" or "DELETE" and press the [Yes] key. <p>* If "EDIT" is selected, a screen appears allowing you to change the access number. (To step 4) If "DELETE" is selected, the current access number is deleted.</p> <ol style="list-style-type: none"> Type the new access number from the 10-Key Pad and press the [Yes] key. To continue changing or deleting new access numbers, repeat steps 1 to 4. When the EDIT/DELETE procedure is completed, quit the function by pressing the [No] key.

<COPY TRACK DATA??>

Functions/Use	<ul style="list-style-type: none"> To display or clear the total count value of a specific account. To clear the total count values of all accounts under control.
Setting/Procedure	<p><Display/Clear Procedure></p> <ol style="list-style-type: none"> Select "DISPLAY" and press the [Yes] key. Select the access number, for which the count is to be checked, and press the [Yes] key. The total count value of the access number selected will be displayed. <p>* To clear the count value, press the [No] key. (To step 4) * To quit the function without clearing the count value, press the [Yes] key.</p> <ol style="list-style-type: none"> Press the [No] key to clear the count value. When the count value has been cleared, quit the function by pressing the [Yes] key. <p><All Clear Procedure></p> <ol style="list-style-type: none"> Select "CLEAR" and press the [Yes] key. When you are prompted to confirm if all count values are to be cleared, press the [Yes] key.

C. REMOTE MONITOR

<p>Functions/Use</p>	<ul style="list-style-type: none"> To set the access right when monitoring a user machine from a remote location on the Service side. RSD is used for remote monitoring.
<p>Setting/Procedure</p>	<ul style="list-style-type: none"> The default setting is "LIMITED". <p style="text-align: center;">"LIMITED" FULL OFF</p> LIMITED: <ul style="list-style-type: none"> Access right with limited functions. Detailed settings made in the user machine can be monitored. It is, however, not possible to change the user setting or upgrade firmware. FULL: <ul style="list-style-type: none"> Access right with no restrictions. In addition to being able to monitor the detailed settings made in the user machine, the Service can change user settings and upgrade firmware. When "FULL" is selected, the "Remote Monitoring Password" screen will appear. <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: fit-content;"> <p>PASSWORD=_ _ _ _ _ _ OK=YES</p> </div> The Administrator of the user machine sets a 4-digit (0000 to 9999) "Remote Monitoring Password". This password is necessary for Remote Monitoring and must be obtained in advance from the Administrator of the user machine. OFF: <ul style="list-style-type: none"> Access is prohibited. Remote Monitoring is disabled.

Fax Kit (FK-505)

Adjustment / Setting

NOTE

Precautions for Changing the Setting of ADMIN. MANAGEMENT/REMOTE MONITOR
If the user machine setting has been changed from "LIMITED" to "FULL" or vice versa while RSD (Remote Setup Diagnostic) communication is established, perform the following operations:

- Temporarily disconnect the communication and re-execute "Remote Connect."
- Press the "Disconnect" key to disconnect the communication.



4980P533AA

- The specific changes made in the setting of REMOTE MONITOR are not validated unless the connection is made again.

< Precautions for Using the RSD (Remote Setup Diagnostic)>

- When a connection is established with a local machine using the RSD, the following message appears on the Display and no operations can be made from the "Control Panel" of the local machine. Neither the PC print nor Scanner function can be accepted.

***PLEASE WAIT!*
ADMINISTERED BY PC**

4980P534AA

- No connection can be made with the RSD during operation from the "Control Panel" of the local machine. Make the connection while no operations are performed on the local machine.
- As is the case with the RSD, operations from the "Control Panel" of the local machine, PC print, and Scanner function are not accepted while a connection is being established with the local machine using the LSD (Local Setup Diagnostic) and Page Scope Web Connection/Admin. mode.
- As is the case with the RSD, no connection can be made with LSD and Page Scope Web Connection/Admin. mode during operation from the "Control Panel" of the local machine. Make the connection while no operations are performed on the local machine.

7.3.5 COPY SETTING 1

- COPY SETTING 1 is used to set the default values for different copy functions.

A. PAPER PRIORITY

Functions/Use	<ul style="list-style-type: none"> • To set the priority paper source.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "1ST". <p style="text-align: center;">"1ST" 2ND 3RD 4TH 5TH Multi Bypass</p>

B. DENSITY PRIORITY

Functions/Use	<ul style="list-style-type: none"> • To set the priority image quality mode and density that are selected when the Power Switch is turned ON or the Panel Reset key is pressed.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "TEXT/P" and "AUTO." • "TEXT/P" means "TEXT/PHOTO." <p style="text-align: center;">Image quality mode : TEXT PHOTO "TEXT/P" Density : "AUTO" MANUAL</p>

C. DENSITY LEVEL (A)

Functions/Use	<ul style="list-style-type: none"> • To set the density level when the Auto density is selected.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "0". <p style="text-align: center;">"0" Setting range : -1 (LIGHT) to +1 (DARK)</p>

D. DENSITY LEVEL (M)

Functions/Use	<ul style="list-style-type: none"> • To set the density level when the Manual density is selected.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "0". <p style="text-align: center;">"0" Setting range : -4 (LIGHT) to +4 (DARK)</p>

E. BINDING POS

Functions/Use	<ul style="list-style-type: none"> • To set the first page to be scanned when copies are made from a book, whether it is on the left or on the right.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "LEFT". <p style="text-align: center;">"LEFT" RIGHT</p>

F. MARGIN SETTING

Functions/Use	<ul style="list-style-type: none"> • To set the file margin width when making copies with a file margin.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "10" mm. <p style="text-align: center;">"10" Setting range : 0 to 20 mm</p>

G. ERASE SETTING

Functions/Use	<ul style="list-style-type: none"> • To set the erase width when making erase copies.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is NORMAL "10" mm. <p style="text-align: center;">"10" Setting range : 0 to 20 mm</p>

H. SMALL ORIGINAL

Functions/Use	<ul style="list-style-type: none"> To set whether to enable or disable copying when an original of a size smaller than the detectable one is loaded in the Auto Paper mode.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <p style="text-align: center;">ON "OFF"</p>

7.3.6 COPY SETTING 2

- COPY SETTING 2 is used to set the default values for different copy functions.

A. MIXED ORIGINAL

Functions/Use	<ul style="list-style-type: none"> To set whether or not to select the Mixed Original mode when the Power Switch is turned ON or Panel Reset key is pressed.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <p style="text-align: center;">ON "OFF"</p>

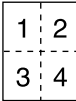
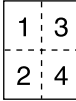
B. COPY PRIORITY

Functions/Use	<ul style="list-style-type: none"> To set the priority mode, either Auto Paper, Auto Size, or Manual, selected when the Power Switch is turned ON or Panel Reset key is pressed.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "APS". <p style="text-align: center;">"APS" AS MANUAL</p>

C. OUTPUT PRIORITY

Functions/Use	<ul style="list-style-type: none"> To set the priority finishing function, either Non-Sort, Sort, or Group.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "NON". <p style="text-align: center;">"NON" SORT GROUP</p>

D. 4IN1 COPY ORDER

Functions/Use	<ul style="list-style-type: none"> To set the layout of copy images in 4in1 copies.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "PATTERN1". <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>"PATTERN1"</p>  <p>4035S501AA</p> </div> <div style="text-align: center;"> <p>PATTERN2</p>  <p>4035S502AA</p> </div> </div>

E. CRISSCROSS MODE

Functions/Use	<ul style="list-style-type: none"> To set whether or not to select the Mixed Original mode when the Power Switch is turned ON or Panel Reset key is pressed.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "ON". <p style="text-align: center;">"ON" OFF</p>

F. DUPLEX COPY

- Appears only when the AD-504 (bizhub 180 / bizhub 210 only) is installed

Functions/Use	<ul style="list-style-type: none"> • To select whether to enable or disable 2-sided copying.
Setting/Procedure	<ul style="list-style-type: none"> • This function should not be used.

7.3.7 FAX REGISTRATION**A. ONE-TOUCH DIAL**

Functions/Use	<ul style="list-style-type: none"> • This function can be used to program one-touch dial keys with fax numbers, allowing the recipient to be specified easily and accurately without the need to manually enter the number using the 10-Key Pad. This dialing method is convenient for programming numbers where faxes are frequently sent to.
Setting/Procedure	<ul style="list-style-type: none"> • A maximum of 27 fax numbers can be programmed. <p>The contents of registration.</p> <ul style="list-style-type: none"> • Destination name : 20characters. • Dial No. : 30 digits. • Sub address : 20 digits. • SID : 20 digits. • Modem speed : 33.6 kbps/ 14.4kbps/ 9.6 kbps • Registered data : Automatically.

B. SPEED DIAL

Functions/Use	<ul style="list-style-type: none"> • This function can be used to program speed dial numbers with fax numbers, allowing the recipient to be specified easily and accurately without the need to manually enter the number using the 10-Key Pad.
Setting/Procedure	<ul style="list-style-type: none"> • A maximum of 200 fax numbers (001 to 200) can be programmed. <p>The contents of registration.</p> <ul style="list-style-type: none"> • Destination name : 20characters. • Dial No. : 30 digits. • Sub address : 20 digits. • SID : 20 digits. • Modem speed : 33.6 kbps/ 14.4kbps/ 9.6 kbps • Registered data : Automatically.

C. GROUP DIAL

Functions/Use	<ul style="list-style-type: none"> • This function can be used to program a single one-touch dial key with a maximum of 50 different fax numbers as one group. Programming a one-touch dial key with a group of fax numbers is convenient when documents are frequently sent to a set group of multiple recipients.
Setting/Procedure	<p>The contents of registration.</p> <ul style="list-style-type: none"> • Group name : 20 characters. • Information of destination station : The contents of one-touch or speed dial.

D. PROGRAM DIAL

Functions/Use	<ul style="list-style-type: none"> This function can be used to program one-touch dial keys (No. 12 to 15) with fax numbers and a transmission/reception function (such as timer transmission or polling reception), allowing that function to be carried out by pressing just the corresponding one-touch dial key. 																		
Setting/Procedure	<ul style="list-style-type: none"> If one-touch dial keys have been programmed with fax numbers and a transmission/reception function, that function can be carried out by pressing just the corresponding one-touch dial key. The function of registration <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Function No.</th> <th>Function</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BROADCAST</td> <td>Up to 50 detection</td> </tr> <tr> <td>2</td> <td>TIMER TX</td> <td>-</td> </tr> <tr> <td>3</td> <td>MAIBOX TX</td> <td>-</td> </tr> <tr> <td>6</td> <td>POLLING RX</td> <td>Up to 50 detection</td> </tr> <tr> <td>7</td> <td>RELEY INITIATE</td> <td>-</td> </tr> </tbody> </table>	Function No.	Function	Description	1	BROADCAST	Up to 50 detection	2	TIMER TX	-	3	MAIBOX TX	-	6	POLLING RX	Up to 50 detection	7	RELEY INITIATE	-
Function No.	Function	Description																	
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2	TIMER TX	-																	
3	MAIBOX TX	-																	
6	POLLING RX	Up to 50 detection																	
7	RELEY INITIATE	-																	

E. BATCH TX

Functions/Use	<ul style="list-style-type: none"> This function can be used to specify the batch transmission setting (transmission time) for a one-touch dial key programmed with recipient fax numbers, so multiple documents can be stored in the memory and sent out together at the specified time.
Setting/Procedure	<ul style="list-style-type: none"> If the batch transmission setting (transmission time) is specified for a one-touch dial key programmed with recipient fax numbers, multiple documents can be stored in the memory and sent out together at the specified time. A one-touch dial key must first be programmed with the fax number of the recipient for the batch transmission. Cannot set for e-mail address.

F. MAILBOX

Functions/Use	<ul style="list-style-type: none"> This function can be used to specify mailbox IDs in order to receive faxes with mailbox reception only if the mailbox ID sent by the caller matches the mailbox ID set on this machine.
Setting/Procedure	<ul style="list-style-type: none"> Mailbox IDs must first be specified in order to receive faxes with mailbox reception only if the mailbox ID sent by the caller matches the mailbox ID set on this machine. A mailbox ID cannot be the same as a relay box ID. Setting value : 0000 to 9999 Password : Setting range 0 to 9999, or none.

G. RELAY BOX

Functions/Use	<ul style="list-style-type: none"> This function can be used to program the relay boxes in order for this machine (acting as a relay station) to receive a document from another fax machine (transmitting station), then transmit the document to multiple recipients (receiving stations).
Setting/Procedure	<ul style="list-style-type: none"> Relay IDs must first be specified in order to receive faxes with relay reception only if the relay ID sent by the caller matches the relay ID set on this machine. A relay box ID cannot be the same as a mailbox ID. Setting value : 0000 to 9999 Password : Setting range 0 to 9999, or none.

7.3.8 TX OPERATION

- From the "TX OPERATION" menu, various functions for sending faxes can be set.

A. SCAN CONTRAST

Functions/Use	<ul style="list-style-type: none"> This function can be used to set the default scanning contrast level to one of five settings between "LIGHT" and "DARK". For dark-colored paper (media), select a setting towards "LIGHT". For faint or colored text, select a setting toward "DARK".
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "0".

B. RESOLUTION

Functions/Use	<ul style="list-style-type: none"> This function can be used to set the default scanning resolution (image quality) to one of the following: "Standard", "Fine", "Super Fine", "Half Tone + Standard", "Half Tone + Fine" or "Half Tone + Super Fine".
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "STD". The resolution when transmission image mode is Text. <ul style="list-style-type: none"> "STD" : Standard FINE : Fine S/F : Super Fine H/T : Half Tone -> to the resolution when transmission image mode is half-tone.

C. DEFAULT TX

Functions/Use	<ul style="list-style-type: none"> This function can be used to set the default transmission mode to "MEM. TX" or "ADF TX".
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "MEM.TX". <ul style="list-style-type: none"> "MEM TX" : Memory Transmission ADF TX : Direct transmission

D. HEADER

Functions/Use	<ul style="list-style-type: none"> This function can be used to set the default setting ("ON" or "OFF") for adding the header (date sent, sender's name and fax number, etc.) when sending faxes. This function is not available in the United States.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "ON". <ul style="list-style-type: none"> "ON" : Add header OFF : No header The contents of registration. <ul style="list-style-type: none"> TX data and time. Transmitter's own name. Transmitter's own tel number. Session number. Page number. Total page number (only displayed by use the memory TX job). It is selectable by soft switch to transmit only pages which have failed to transmit, if communication error occurs on the way transmitting document. In this case, page number on Header Print is continued from the page number of the document successfully transmitted. Whether user setting is allowed or not is selectable with Soft switch. For North America, Header print is set ON, and setting change to OFF by the user is not allowed. Attaching Header Print: Image within 4 mm (1/4 in) top margin of transmitting document is not transmitted and Header print data is attached.

7.3.9 RX OPERATION

- From the RX OPERATION menu, various functions for receiving faxes can be set.

A. MEMORY RX MODE

Functions/Use	<ul style="list-style-type: none"> This function can be used to set whether to allow ("ON") memory reception or not ("OFF"). In cases when confidential faxes are being received, the received document can be stored in the memory and printed at a specified time or when memory reception is set to "OFF". A password can be set to specify the starting time or ending time of memory reception, or to cancel the function. The set starting time and ending time are valid every day until memory reception is turned off.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <ul style="list-style-type: none"> ON : Enable memory RX mode "OFF" : Disable memory RX mode

B. No. of RINGS

Functions/Use	<ul style="list-style-type: none"> This function can be used to set the number of rings between 1 and 16 until the call is answered.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "2" (marketing area: standard). Depend on soft switch setting of marketing area. <p style="text-align: center;"> 1 : Once "2": Twice 3 : 3 times 4 : 4 times 5 : 5 times 6 : 6 times 7 : 7 times 8 : 8 times 9 : 9 times 10 : 10 times 11 : 11 times 12 : 12 times 13 : 13 times 14 : 14 times 15 : 15 times 16 : 16 times </p> <p>NOTE A fax to be received is canceled and the machine becomes unable to receive it if the setting of "No. of RINGS" is made longer than the setting of "CNG duration after dialing." Be sure to make the "No. of RINGS" setting to a value shorter than the "CNG duration after dialing" setting.</p>

C. REDUCTION RX

Functions/Use	<ul style="list-style-type: none"> This function can be used to set whether documents longer than the paper are printed reduced ("ON"), split ("OFF"), or discarded ("CUT"). However, when sending a document more than 24 mm (1 inch) longer than the paper, "CUT" is not available. (In this case, the document is split.)
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "ON". <p style="text-align: center;"> "ON" : Reduction print mode OFF : 100 % RX mode CUT : Cut mode </p>

Reduction print mode

- It reduces (only the FD direction) and prints so that receiving data will in a recording paper.

Recording paper size	Footer	Length of received image	Printing
A3	OFF	Less than 412 mm	1 page with 100 %
		413 mm to 458 mm	1 page with (412 mm / image length)% reduction
		459 mm to 816 mm	Divide into 2 pages with 100 %
		817 mm to 1,220 mm	Divide into 3 pages with 100 %
		1,221 mm or more	Divide into 3 pages (or more) with 100 %
	ON	Less than 408 mm	1 page with 100 %
		409 mm to 454 mm	1 page with (408 mm / image length)% reduction
		455 mm to 808 mm	Divide into 2 pages with 100 %
		809 mm to 1,208 mm	Divide into 3 pages with 100 %
		1,209 mm or more	Divide into 3 pages (or more) with 100 %

Recording paper size	Footer	Length of received image	Printing
A4	OFF	Less than 289 mm	1 page with 100 %
		290 mm to 385 mm	1 page with (289 mm / image length)% reduction
		386 mm to 570 mm	Divide into 2 pages with 100 %
		571 mm to 851 mm	Divide into 3 pages with 100 %
		852 mm or more	Divide into 3 pages (or more) with 100 %
	ON	Less than 285 mm	1 page with 100 %
		286 mm to 381 mm	1 page with (285 mm / image length)% reduction
		382 mm to 562 mm	Divide into 2 pages with 100 %
		563 mm to 839 mm	Divide into 3 pages with 100 %
		840 mm or more	Divide into 3 pages (or more) with 100 %
Letter	OFF	Less than 271 mm	1 page with 100 %
		272 mm to 387 mm	1 page with (271 mm / image length)% reduction
		388 mm to 534 mm	Divide into 2 pages with 100 %
		535 mm to 797 mm	Divide into 3 pages with 100 %
		798 mm or more	Divide into 3 pages (or more) with 100 %
	ON	Less than 267 mm	1 page with 100 %
		268 mm to 381 mm	1 page with (267 mm / image length)% reduction
		382 mm to 526 mm	Divide into 2 pages with 100 %
		527 mm to 785 mm	Divide into 3 pages with 100 %
		786 mm or more	Divide into 3 pages (or more) with 100 %
Legal	OFF	Less than 348 mm	1 page with 100 %
		349 mm to 385 mm	1 page with (347 mm / image length)% reduction
		386 mm to 688 mm	Divide into 2 pages with 100 %
		689 mm to 1,028 mm	Divide into 3 pages with 100 %
		1,029 mm or more	Divide into 3 pages (or more) with 100 %
	ON	Less than 344 mm	1 page with 100 %
		345 mm to 381 mm	1 page with (343 mm / image length)% reduction
		382 mm to 680 mm	Divide into 2 pages with 100 %
		681 mm to 1,016 mm	Divide into 3 pages with 100 %
		1,017 mm or more	Divide into 3 pages (or more) with 100 %

100 % RX mode

All receiving data is divided into 2 pages or more, and is printed.

Recording paper size	Footer	Length of received image	Printing
A3	OFF	Less than 412 mm	1 page in 230 mm or less, it prints to A4
		413 mm to 816 mm	Divide into 2 pages
		817 mm to 1,220 mm	Divide into 3 pages
		1,221 mm or more	Divide into 4 pages or more
	ON	Less than 408 mm	1 page in 230 mm or less, it prints to A4
		409 mm to 808 mm	Divide into 2 pages
		809 mm to 1,208 mm	Divide into 3 pages
		1,209 mm or more	Divide into 4 pages or more
A4	OFF	Less than 289 mm	1 page
		290 mm to 570 mm	Divide into 2 pages
		571 mm to 851 mm	Divide into 3 pages
		852 mm or more	Divide into 4 pages or more
	ON	Less than 285 mm	1 page
		286 mm to 562 mm	Divide into 2 pages
		563 mm to 839 mm	Divide into 3 pages
		840 mm or more	Divide into 4 pages or more
Letter	OFF	Less than 271 mm	1 page
		272 mm to 534 mm	Divide into 2 pages
		535 mm to 797 mm	Divide into 3 pages
		798 mm or more	Divide into 4 pages or more
	ON	Less than 267 mm	1 page
		268 mm to 526 mm	Divide into 2 pages
		527 mm to 785 mm	Divide into 3 pages
		786 mm or more	Divide into 4 pages or more
Legal	OFF	Less than 348 mm	1 page
		349 mm to 688 mm	Divide into 2 pages
		689 mm to 1,028 mm	Divide into 3 pages
		1,029 mm or more	Divide into 4 pages or more
	ON	Less than 344 mm	1 page
		345 mm to 680 mm	Divide into 2 pages
		681 mm to 1,024 mm	Divide into 3 pages
		1,025 mm or more	Divide into 4 pages or more

Cut mode

- The data that is larger than 1-page record area is cut and not recorded (to 18 mm).

Recording paper size	Footer	Length of received image	Printing
A3	OFF	Less than 412 mm	1 page
		413 mm to 436 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		437 mm to 816 mm	Divide into 2 pages
		817 mm to 840 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		841 mm to 1,220 mm	Divide into 3 pages
		1,221 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.
	ON	Less than 408 mm	1 page
		409 mm to 432 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		433 mm to 808 mm	Divide into 2 pages
		809 mm to 832 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		833 mm to 1,208 mm	Divide into 3 pages
1,209 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.		
A4	OFF	Less than 289 mm	1 page
		290 mm to 313 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		314 mm to 570 mm	Divide into 2 pages
		571 mm to 594 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		595 mm to 851 mm	Divide into 3 pages
		852 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.
	ON	Less than 285 mm	1 page
		286 mm to 309 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		310 mm to 562 mm	Divide into 2 pages
		563 mm to 586 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		587 mm to 839 mm	Divide into 3 pages
		840 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.

Recording paper size	Footer	Length of received image	Printing
Letter	OFF	Less than 271 mm	1 page
		272 mm to 295 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		296 mm to 534 mm	Divide into 2 pages
		535 mm to 558 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		559 mm to 797 mm	Divide into 3 pages
		798 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.
	ON	Less than 267 mm	1 page
		268 mm to 291 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		292 mm to 526 mm	Divide into 2 pages
		527 mm to 550 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		510 mm to 785 mm	Divide into 3 pages
786 mm or more		Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.	
Legal	OFF	Less than 348 mm	1 page
		349 mm to 372 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		373 mm to 688 mm	Divide into 2 pages
		689 mm to 712 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		713 mm to 1,028 mm	Divide into 3 pages
		1,029 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.
	ON	Less than 344 mm	1 page
		345 mm to 368 mm	Print into 1 page. 1 mm to 24 mm of end is cut.
		369 mm to 680 mm	Divide into 2 pages
		681 mm to 704 mm	Divide into 2 pages. 1 mm to 24 mm of end is cut.
		705 mm to 1,016 mm	Divide into 3 pages
		1,017 mm or more	Divide into 3 pages (or more). 1 mm to 24 mm of end is cut.

Fax Kit (FK-505)

Adjustment / Setting

D. RX PRINT

Functions/Use	<ul style="list-style-type: none"> This function can be used to set whether the fax is only printed after all document pages have been received ("MEMORY RX") or printing begins as soon as the first page of the document is received ("PRINT RX").
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "MEMORY RX". <p style="margin-left: 40px;">"MEMORY RX": Printed after all document pages have been received. PRINT RX : Printing begins as soon as the first page of the document is received.</p>

E. RX MODE

Functions/Use	<ul style="list-style-type: none"> This function can be used to set the reception mode to automatic reception ("AUTO RX") or manual reception ("MANUAL RX"). Automatic reception : Automatically begins receiving after the set number of rings. Manual reception : Does not automatically receive the fax. Reception begins after making a connection by picking up the telephone receiver or pressing the Speaker key, then pressing the Start key.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "AUTO RX". <p style="margin-left: 40px;">"AUTO RX" : Automatic reception MANUAL RX : Manual reception</p>

F. FORWARD

Functions/Use	<ul style="list-style-type: none"> This function can be used to set whether or not the received document is forwarded. Forward ("ON") : The received document is forwarded to the specified fax number or e-mail address. Forward and print ("ON (PRINT)") : The received document is printed by this machine at the same time that it is forwarded to the specified fax number or e-mail address. Do not forward ("OFF") : The document is not forwarded. In order to forward the document to an e-mail address, the optional Internet Fax & Network scan kit is required.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <p style="margin-left: 40px;">ON : Add forward "OFF" : No forward</p>

G. FOOTER

Functions/Use	<ul style="list-style-type: none"> This function can be used to set whether or not the reception information (RX data and time, RX management number, RX page number, Transmitter's ID) is printed at the bottom of each received document.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <p style="margin-left: 40px;">ON : Add footer "OFF" : No footer</p>

Attaching footer print:

When Footer is selected ON, it is printed at the end of printable area. 4 mm line area from the end of printable area is kept for printing Footer. It should be attached on Footer area regardless of image length. If the received image is divided into 2 pages or more, Footer is printed in the specified location of all the recording sheets of paper printed.

Image data area:

The received image data is printed on the area except for 12 mm from recording paper size. (No printable area: 8 mm (1/3 in) + Footer area: 4 mm (1/4 in)) The following table is the image printable area of each recording paper size due to setting of Footer Print.

Paper length		Footer off	Footer on	
		Image data area	Image data area	Footer area
A4 L	297 mm	289 mm	285 mm	+4 mm
A4 C	210 mm	202 mm	198 mm	+4 mm
Letter L	279 mm	271 mm	267 mm	+4 mm
Letter C	216 mm	208 mm	204 mm	+4 mm
Legal	356 mm	348 mm	344 mm	+4 mm

H. SELECT TRAY

Functions/Use	<ul style="list-style-type: none"> This function can be used to select which paper tray can be used to supply paper when printing received documents or transmission reports. (A paper tray that cannot be used for supplying paper can also be specified.) This function is only available when an optional paper tray is installed.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "Enable". <p style="margin-left: 40px;">Tray1 : "Enable" Disable Tray2 : "Enable" Disable</p> <ul style="list-style-type: none"> A non-equipped cassette is not displayed. When setting value is determined, reception setting of utility menu is indicated. This setting has effect on RX print and Report print.

I. CLOSED NETWORK

Functions/Use	<ul style="list-style-type: none"> This function can be used to set whether or not the fax is received if the sender's fax number does not match the fax number programmed in this machine's one-touch dial keys.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <p style="margin-left: 40px;">ON : Enable closed network reception "OFF" : Disable closed network reception</p>

7.3.10 COMM. SETTING**A. TONE/PULSE**

Functions/Use	<ul style="list-style-type: none"> This function can be used to specify the dialing system. If this function is not correctly set to the type of dialing system used, faxes cannot be sent. Select the correct setting after checking which type of dialing system is used by your telephone line. There are two types of telephone dialing systems: tone dialing (PB) and pulse dialing (DP10pps or DP20pps). Faxes cannot be sent if this machine is not set to the system used by your telephone line. Select the correct setting after checking which type of dialing system is used.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "TONE". <p style="margin-left: 40px;">"TONE" : Tone line PULSE 10pps : Pulse line of 10 pps PULSE 20pps : Pulse line of 20 pps</p>

B. LINE MONITOR

Functions/Use	<ul style="list-style-type: none"> This function can be used to set the volume when monitoring communication to "HIGH", "LOW" or "OFF". Usual TX/ RX (Start) : Pressing Start key following pressing ten-key. Pressing Start key following pressing Speed dial. Pressing One-touch key. Pressing Redial key. Usual TX/ RX (End) : After receiving V21 signal. Using Speaker key (Start) : Just after pressing Speaker key. Using Speaker key (End) : Just after pressing Speaker key.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "LOW". <p style="margin-left: 40px;">HIGE --- Usual TX/ RX : High, Usual SPEAKER key : High "LOW" --- Usual TX/ RX : Low, Usual SPEAKER key : Low OFF --- Usual TX/ RX : Off, Usual SPEAKER key : Low</p>

C. PSTN/PBX

Functions/Use	<ul style="list-style-type: none"> This function can be used to set whether the connected telephone wiring is a public switched telephone network (PSTN) or a private branch exchange (PBX). For a PBX system, the outside line access number (or extension number) must be specified. The connected wiring system can be set to either PSTN (Public Switched Telephone Network) or PBX (Private Branch Exchange). For a PBX system, the outside line access number (or extension number) must be specified. The outside line access number (or extension number) is programmed in the [#] key.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "PSTN". <p style="margin-left: 40px;">"PSTN" : Public Switched Telephone Network PBX : Private Branch Exchange</p>

7.3.11 REPORTING**A. ACTIVITY REPORT**

Functions/Use	<ul style="list-style-type: none"> Every 60 transmissions/receptions, a report can be printed to show the results of the transmissions/receptions. This function can be used to set whether the report is printed automatically when the 60th transmission/ reception is reached.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "ON". <p style="text-align: center;">"ON" OFF</p>

B. RESERV.REPORT

Functions/Use	<ul style="list-style-type: none"> If multiple recipients are specified for transmission, such as with broadcast transmission and polling reception, a report can be printed to show specified settings. This function can be used to set whether this report is printed automatically.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <p style="text-align: center;">ON "OFF"</p>

C. TX RESULT REPORT

Functions/Use	<ul style="list-style-type: none"> This function can be used to set whether the report showing the result of a transmission is printed automatically after the transmission is finished.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <p style="text-align: center;">ON "OFF"</p>

D. RX RESULT REPORT

Functions/Use	<ul style="list-style-type: none"> This function can be used to set whether the report showing the result of a reception is printed automatically after mailbox reception is finished. (If regular reception is not finished normally, a report will always be printed, regardless of the selected setting.)
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <p style="text-align: center;">ON "OFF"</p>

7.3.12 INITIAL USER DATA

- Various settings for the machine's user data can be specified.

A. DATE & TIME

Setting value	Description
Hour	00 to 23
Minute	00 to 59
Year	00 to 99 (2000 to 2099 will be meant)
Month	01 to 12
Day	01 to 28, 29, 30, 31
Time Zone	-12 hour to +12hour, interval: 30 minute.

B. USER FAX No.

Functions/Use	<ul style="list-style-type: none"> User fax number is set to TSI (Transmitting Station Identification), CSI (Called Subscriber Identification) during communication. A symbol is printed on header and Status list, but only figure is set to TSI, CSI signal. This is checked with the communication permission ID registered at destination station in case of Closed network.
Setting/Procedure	<ul style="list-style-type: none"> Max. 20 digits. The characters which can be inputted are "numbers from 0 to 9", "Space", "+" and "-".

C. USER NAME

Functions/Use	<ul style="list-style-type: none"> The User Name is used for the indication of destination station at the time of the communication between same models.
Setting/Procedure	<ul style="list-style-type: none"> Maximum 32 digits character can be inputted.

8. Service Mode

- The Service mode is used to check, set, adjust, or register the various service functions.

8.1 Service Mode Function Setting Procedure

NOTE

- **Care must be used to ensure that only the personnel who are involved in service jobs know the procedure to enter the Service mode.**

8.1.1 Procedure

1. Press the Utility key.
2. Press the following keys in this order.
3. Stop → 0 → 0 → Stop → 0 → 1
4. The Service mode menu screen will appear.

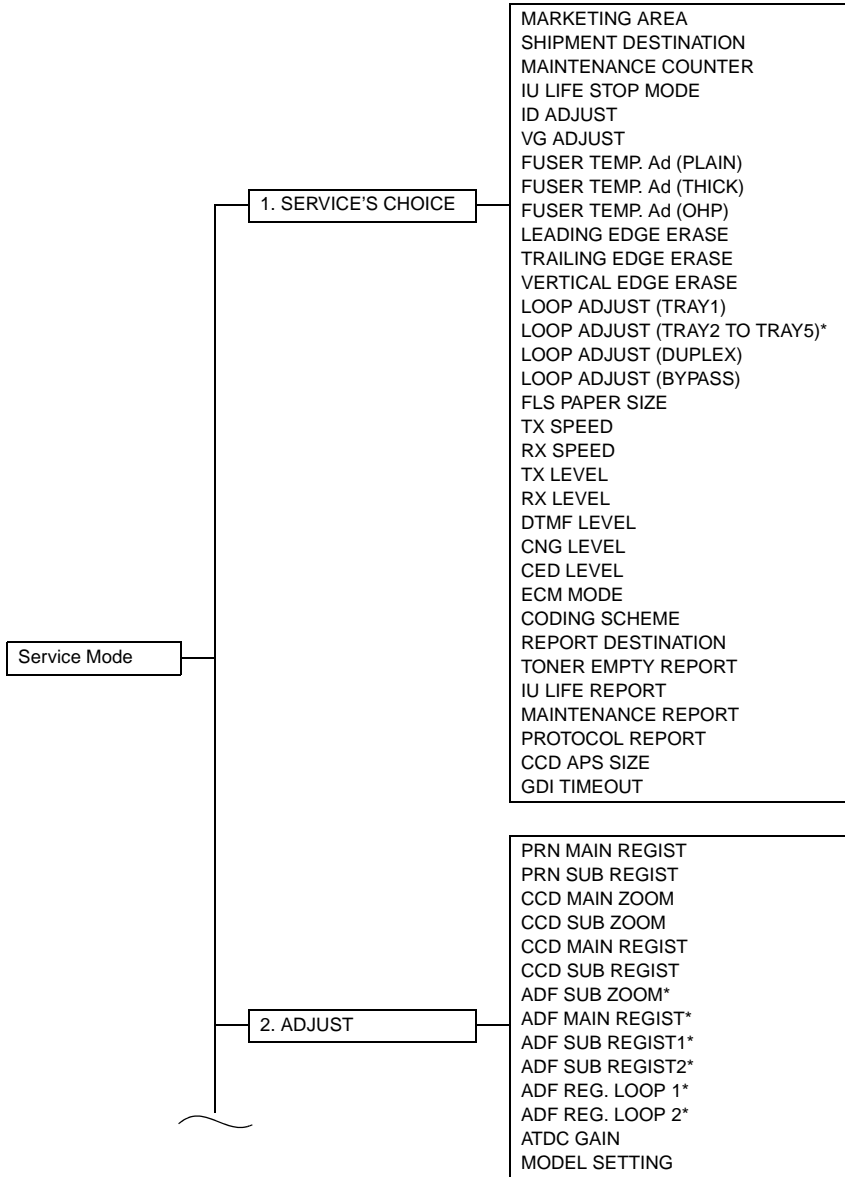
8.1.2 Exiting

- Press the Panel Reset key as many times as it is required to display the initial screen.

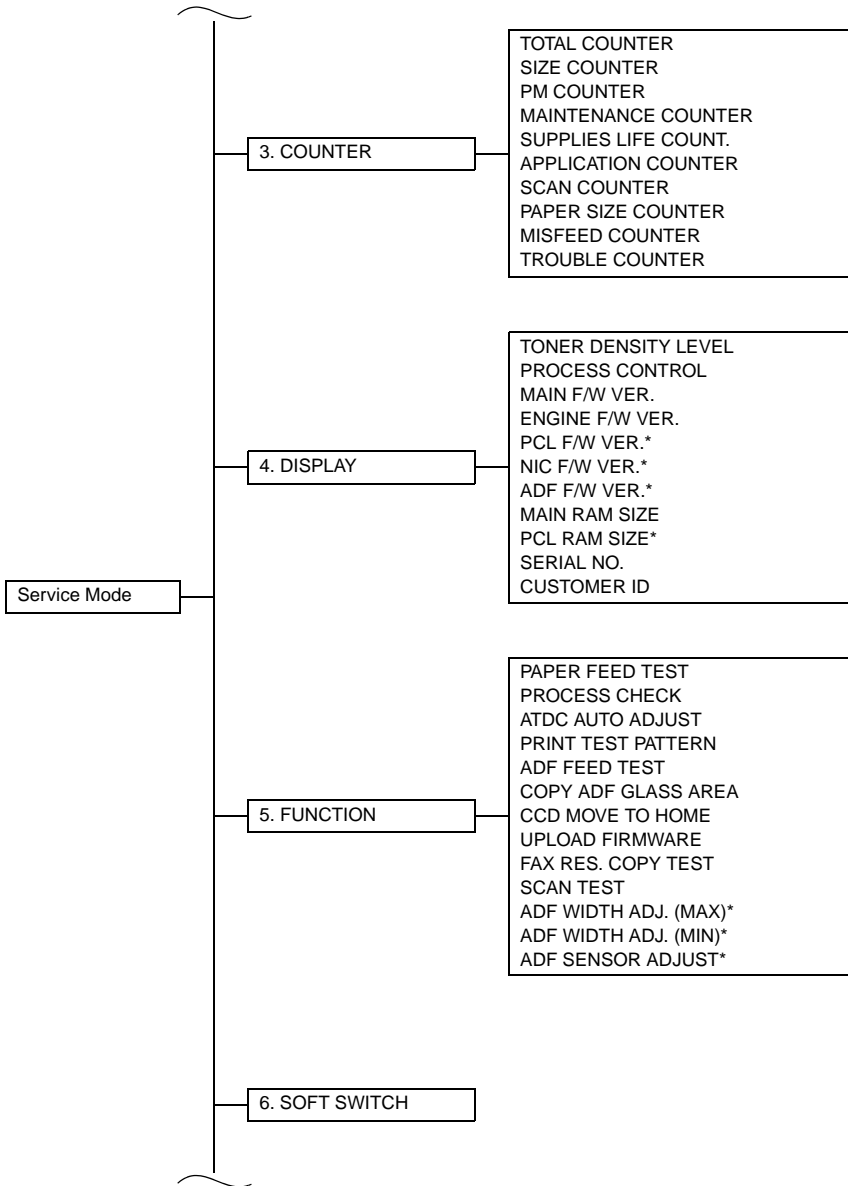
8.1.3 Service Mode Function Setting Value Changing Procedure

1. Select the desired item using [▲ / ▼] key.
2. Select the setting value using [▲ / ▼] key, [< / >] key, or the 10-Key Pad.
3. Validate the selection by pressing the [Yes] key.
4. To go back to previous screen, press the [No] key.

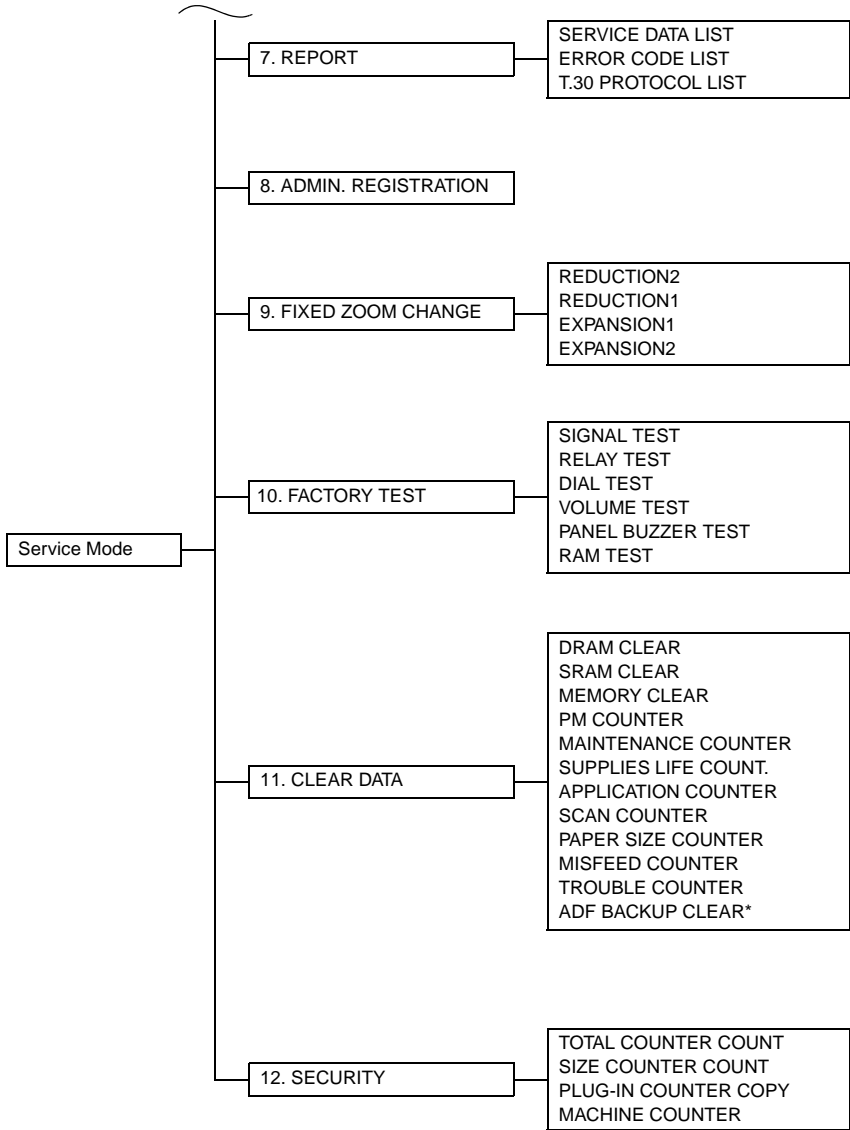
8.2 Service Mode Function Tree



* Displayed when options are mounted.



* Displayed when options are mounted.



* Displayed when options are mounted.

8.3 Setting in the Service Mode

8.3.1 SERVICE'S CHOICE

- SERVICE'S CHOICE is used to make the various service settings.

A. MARKETING AREA

- Set the marketing area.
- If you change the marketing area, the soft switch will change automatically.

NOTES

- **If you change the marketing area, the following items are cleared (initialization). Before change the marketing area, be sure to record the setting values that are to be change the marketing area.**
- **After change the marketing area has been executed, make necessary entries of data again based on the setting values recorded.**

Function		Default Setting
Utility mode/ Machine setting/ Buzzer volume	☺☺ 31	Low
Utility mode/ Admin. management/ Remote monitor	☺☺ 35	Limited

- **According to the following table, the machines that are installed in the West Europe Area select "West Europe" in the "Marketing Area" function. Do not select each country.**

Marketing area	Country
Standard	Baltic, Bahrain, Indonesia, Israel, Kuwait, Oman, Philippine, Poland, Qatar, Romania, Russia, Saudiarabia, Slovakia, Slovenia, Thailand, U.A.E., Ukraine
U.S.A	U.S.A., Canada.
West Europe	Austria, Belgium, Czech, Denmark, Finland, France, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, West Europe.
Asia	Hong Kong, Malaysia
Setting in accordance with each country	Australia, China, Germany, Japan, Korea, New Zealand, South Africa, Taiwan.
Singapore	Singapore (remark: with DTS default setting).

MARKETING AREA Setting Procedure

- Use the one touch key or using [▲ / ▼] key to select any number from 1 to 27.

One Touch	Marketing area	One Touch	Marketing area
1	STANDARD	15	SOUTH AFRICA
2	U.S.A.	16	GREECE
3	TAIWAN	17	ISRAEL
4	SPAIN	18	AUSTRIA
5	ITALY	19	GERMANY
6	BELGIUM	20	FRANCE
7	NORWAY	21	UNITED KINGDOM
8	SWEDEN	22	AUSTRALIA
9	NETHERLANDS	23	CHINA
10	FINLAND	24	NEW ZEALAND
11	DENMARK	25	KOREA
12	SWITZERLAND	26	CZECH
13	IRELAND	27	SLOVAKIA
14	PORTUGAL	-	-

- Using [▲ / ▼] key to select any number from 28 to 48.

No.	Marketing area	No.	Marketing area
28	HUNGARY	39	PHILIPPINE
29	UKRAINE	40	THAILAND
30	BALTIC	41	INDONESIA
31	WEST EUROPE	42	OMAN
32	SLOVENIJA	43	UAE
33	POLAND	44	QATAR
34	ROMANIA	45	BAHRAIN
35	RUSSIA	46	KUWAIT
36	SINGAPORE	47	SAUDI ARABIA
37	MALAYSIA	48	JAPAN
38	HONG KONG	-	-

B. SHIPMENT DESTINATION

Functions/Use	<ul style="list-style-type: none"> To select the display of the fixed zoom ratios and paper sizes according to the applicable marketing area.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is either "METRIC" or "INCH". <p style="text-align: center;">"METRIC" INCH JAPAN CHINA L.AMERICA (METRIC) L.AMERICA (INCH)</p>

C. MAINTENANCE COUNTER

Functions/Use	<ul style="list-style-type: none"> To enter an appropriate counter value (0 to 999999) as the tentative maintenance time. Specify the setting on maintenance counter to "1" or "2": If the maintenance life is reached, the maintenance call (M1) or Tech. Rep. call [Call Service (M1)] will appear. To select the display of the fixed zoom ratios and paper sizes according to the applicable marketing area.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "0". <ul style="list-style-type: none"> "0" : Not counted 1 : Counted (The maintenance call display is given when the counter reaches 0.) 2 : Counted (The Tech. Rep. call display is given and the initiation of any new copy cycle is inhibited when the counter reaches 0.) When "1" or "2" is selected, a screen will then appear to allow the counter value to be entered. <p>NOTE</p> <ul style="list-style-type: none"> The counter value is decremented until it reaches -999999 even after it has counted 0.

D. IU LIFE STOP MODE

Functions	<ul style="list-style-type: none"> When the Supplies Life Count. reaches the life value, the IU life will be detected.
Use	<ul style="list-style-type: none"> The mode when the IU life is reached, is specified by this setting.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "CONTINUOUS". <ul style="list-style-type: none"> "CONTINUOUS" : Enables copying. Maintenance call display is given. STOP : Disables copying. Tech. Rep. call display is given and the initiation of any new copy cycle is inhibited. <p>NOTE</p> <ul style="list-style-type: none"> The counter value is decremented until it reaches -999999 even after it has counted 0. In this case, however, no image quality is guaranteed.

E. ID ADJUST

Functions	<ul style="list-style-type: none"> To set the image density by varying Vg and Vb on the engine side.
Use	<ul style="list-style-type: none"> Used when the image density is high or low.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "0". <ul style="list-style-type: none"> "0" Setting range : -3 to +3

F. VG ADJUST

Functions	<ul style="list-style-type: none"> To adjust image density by varying Vg with changing sensitivities as the PC Drum is used for an extended period of time.
Use	<ul style="list-style-type: none"> When image problems (fog, void) occur When the PC Drum Unit has been replaced
Adjustment Instruction	<ul style="list-style-type: none"> To reduce the margin.....eliminate void. To increase the margin.....eliminate fog.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "0". <ul style="list-style-type: none"> "0" Setting range : -2 to +2

G. FUSER TEMP. Ad (PLAIN)

Functions	<ul style="list-style-type: none"> To set the temperature of the Fusing Roller for each type of paper, thereby making up for fusing performance that changes with the operating environment or type of paper.
Use	<ul style="list-style-type: none"> When fusing failure occurs When the type of paper is changed
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "0". <p style="text-align: center;">"0" Setting range : -1 to +2</p>

<Temperature table for adjusting fusing temperature for plain paper>
For bizhub 162

Setting value	Paper width		Mode selected in Service's Choice	
			Mode 1	Mode 3
	CD	FD	Fusing Heater Lamp temperature	
2	251 mm or more	361 mm or more	200 °C	190 °C
		360 mm or less	200 °C	190 °C
	250 mm or less	–	200 °C	185 °C
1	251 mm or more	361 mm or more	200 °C	180 °C
		360 mm or less	200 °C	180 °C
	250 mm or less	–	190 °C	175 °C
"0" (default value)	251 mm or more	361 mm or more	190 °C	170 °C
		360 mm or less	190 °C	170 °C
	250 mm or less	–	180 °C	165 °C
-1	251 mm or more	361 mm or more	180 °C	160 °C
		360 mm or less	180 °C	160 °C
	250 mm or less	–	170 °C	155 °C

For bizhub 180 / bizhub 210

Setting value	Paper width	Mode selected in Service's Choice	
		Mode 1	Mode 3
		Fusing Heater Lamp temperature (main/sub)	
2	221 mm or more	200 °C	
	220 mm or less		
1	221 mm or more	190 °C	
	220 mm or less		
"0" (default value)	221 mm or more	180 °C	
	220 mm or less		
-1	221 mm or more	170 °C	
	220 mm or less		

H. FUSER TEMP. Ad (THICK)

Functions	• To set the fusing temperature when thick paper is used.
Use	• When fusing failure occurs
Setting/Procedure	• The default setting is "0". "0" Setting range : -1 to +1

<Temperature table for adjusting fusing temperature for special paper>

For bizhub 162

Setting value	Paper width	Mode selected in Service's Choice	
		Mode 1	Mode 3
	CD	Fusing Heater Lamp temperature	
1	251 mm or more	210 °C	200 °C
	250 mm or less	210 °C	200 °C
"0" (default value)	251 mm or more	210 °C	190 °C
	250 mm or less	200 °C	190 °C
-1	251 mm or more	200 °C	180 °C
	250 mm or less	190 °C	180 °C

For bizhub 180 / bizhub 210

Setting value	Mode selected in Service's Choice	
	Mode 1	Mode 3
	Fusing Heater Lamp temperature (main/sub)	
1	210 °C	
"0" (default value)	200 °C	
-1	190 °C	

I. FUSER TEMP. Ad (OHP)

Functions	• To set the fusing temperature when OHP transparencies are used.
Use	• When fusing failure occurs
Setting/Procedure	• The default setting is "0". "0" Setting range : -1 to +1

<Temperature table for adjusting fusing temperature for OHP film>

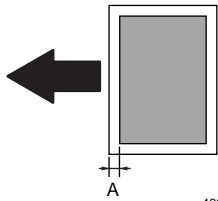
For bizhub 162

Setting value	Paper width	Mode selected in Service's Choice	
		Mode 1	Mode 3
	CD	Fusing Heater Lamp temperature	
1	251 mm or more	180 °C	175 °C
	250 mm or less	165 °C	165 °C
0 (default value)	251 mm or more	180 °C	165 °C
	250 mm or less	155 °C	155 °C
-1	251 mm or more	170 °C	155 °C
	250 mm or less	145 °C	145 °C

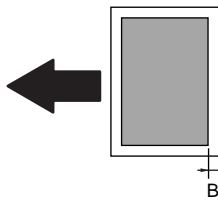
For bizhub 180 / bizhub 210

Setting value	Mode selected in Service's Choice	
	Mode 1	Mode 3
	Fusing Heater Lamp temperature (main/sub)	
1	175 °C	
0 (default value)	165 °C	
-1	155 °C	

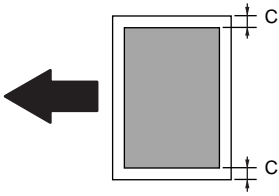
J. LEADING EDGE ERASE

Functions	<ul style="list-style-type: none"> To adjust the erase width on the leading edge of the image by varying the laser emission timing.
Use	<ul style="list-style-type: none"> When the PH unit has been replaced When the user requests a smaller margin
Adjustment Specification	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <ul style="list-style-type: none"> Specify the amount erased at the leading edge (width of A) of the paper. <p>Specifications 0 ± 2.0 mm</p> <p>Setting Range 0 to 5 (1 increment = 1 mm) The default setting is "4" mm</p> </div> </div> <p style="text-align: center; margin-top: 5px;">4035D516AA</p>
Adjustment Instruction	<p>To reduce the margin Decrease the setting. To increase the margin Increase the setting.</p>
Adjustment Procedure	<ol style="list-style-type: none"> Enter Service's Choice in the Service mode. Select "LEADING EDGE ERASE" and press the [Yes] key. Using [▲ / ▼] key, select the desired setting value. Press the [Yes] key to validate the setting value selected in step 3.

K. TRAILING EDGE ERASE

Functions	<ul style="list-style-type: none"> To adjust the erase width on the trailing edge of the image by varying the laser emission timing.
Use	<ul style="list-style-type: none"> When the PH unit has been replaced When the user requests a smaller margin
Adjustment Specification	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <ul style="list-style-type: none"> Specify the amount erased at the trailing edge (width of B) of the paper. <p>Specifications 0 ± 2.0 mm</p> <p>Setting Range 0 to 5 (1 increment = 1 mm) The default setting is "4" mm</p> </div> </div> <p style="text-align: center; margin-top: 5px;">4035D517AA</p>
Adjustment Instruction	<p>To reduce the margin..... Decrease the setting. To increase the margin..... Increase the setting.</p>
Adjustment Procedure	<ol style="list-style-type: none"> Enter Service's Choice in the Service mode. Select "TRAILING EDGE ERASE". Using [▲ / ▼] key, select the desired setting value. Press the [Yes] key to validate the setting value selected in step 3.

L. VERTICAL EDGE ERASE

Functions	<ul style="list-style-type: none"> To adjust the erase width on both edges of the image (in CD direction) by varying the laser emission timing.
Use	<ul style="list-style-type: none"> When the PH unit has been replaced When the user requests a smaller margin
Adjustment Specification	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <ul style="list-style-type: none"> Set the erase width on both edges of the paper (width C). <p>Specifications 0 ± 2.0 mm</p> <p>Setting Range 0 to 5 (1 increment = 1 mm) The default setting is "4" mm</p> </div> </div> <p style="text-align: center; font-size: small;">4035D518AA</p>
Adjustment Instruction	<p>To reduce the margin Decrease the setting. To increase the margin Increase the setting.</p>
Adjustment Procedure	<ol style="list-style-type: none"> 1. Enter Service's Choice in the Service mode. 2. Select "VERTICAL EDGE ERASE" and press the [Yes] key. 3. Using [▲ / ▼] key, select the desired setting value. 4. Press the [Yes] key to validate the setting value selected in step 3.

M. LOOP ADJUST (TRAY1)

Functions	<ul style="list-style-type: none"> To adjust the length of the loop formed in the paper before the Synchronizing Roller.
Use	<ul style="list-style-type: none"> When a skew feed, fold, or misfeed of paper occurs When variations in the amount of void on the leading edge occurs
Adjustment Specification	<p>Setting Range -3.9 to 3.9 mm (1 step = 0.6 mm)</p>
Adjustment Instruction	<p>Try a different setting value until there are no variations in the amount of void on the leading edge, and paper skew, fold, or misfeed.</p>
Adjustment Procedure	<ol style="list-style-type: none"> 1. Enter Service's Choice in the Service mode. 2. Select "Leading Edge Erase" and press the [Yes] key. 3. Using [▲ / ▼] key, select the desired setting value. 4. Press the [Yes] key to validate the setting value selected in step 3.

N. LOOP ADJUST (TRAY2 TO TRAY5)

Functions	<ul style="list-style-type: none"> To adjust the length of the loop formed in the paper before the Synchronizing Roller when the optional Paper Feed Unit is used.
Use	<ul style="list-style-type: none"> When a skew feed, fold, or misfeed of paper occurs When variations in the amount of void on the leading edge occurs
Adjustment Procedure	<ul style="list-style-type: none"> Refer to the option service manual (PF-502) for details.

O. LOOP ADJUST (DUPLEX) *bizhub 180 / bizhub 210 Only

Functions	<ul style="list-style-type: none"> To adjust the length of the loop formed in the paper before the Synchronizing Roller.
Use	<ul style="list-style-type: none"> When a skew feed, fold, or misfeed of paper occurs When variations in the amount of void on the leading edge occurs
Adjustment Procedure	<ul style="list-style-type: none"> Refer to the option service manual (AD-504) for details.

P. LOOP ADJUST (BYPASS)

Functions	<ul style="list-style-type: none"> To adjust the length of the loop formed in the paper before the Synchronizing Roller when the Manual Bypass is used.
Use	<ul style="list-style-type: none"> When a skew feed, fold, or misfeed of paper occurs When variations in the amount of void on the leading edge occurs
Adjustment Specification	Setting Range -3.9 to 3.9 mm (1 step = 0.6 mm)
Adjustment Instruction	Try a different setting value until there are no variations in the amount of void on the leading edge, and paper skew, fold, or misfeed.
Adjustment Procedure	<ol style="list-style-type: none"> Enter Service's Choice in the Service mode. Select "LOOP ADJUST (BYPASS)" and press the [Yes] key. Using [▲ / ▼] key, select the desired setting value. Press the [Yes] key to validate the setting value selected in step 3.

Q. FLS PAPER SIZE

Functions	<ul style="list-style-type: none"> To select the paper size for FLS.
Use	<ul style="list-style-type: none"> When the FLS paper size has been changed Upon setup
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "330*210" mm. <p style="text-align: center;">330*203 "330*210" 330*216 330*220 337*206 (mm)</p>

R. TX SPEED

Functions/Use	<ul style="list-style-type: none"> Transmit start speed setting. Choose the mode from among the following.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "V.34". <p style="text-align: center;"> "V.34" : 33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800 V.17 : 14400, 12000, 9600, 7200 V.29 : 9600, 7200 V.27 : 4800, 2400 </p>

S. RX SPEED

Functions/Use	<ul style="list-style-type: none"> Reception start speed setting. Choose the mode from among the following.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "V.34". <p style="text-align: center;"> "V.34" : 33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800 V.17 : 14400, 12000, 9600, 7200 V.29 : 9600, 7200 V.27 : 4800, 2400 </p>

T. TX LEVEL

Functions/Use	• PSK/FSK signal output level.
Setting/Procedure	• The default setting is "-9 dBm". -2 dBm -3 to -8 dBm "-9 dBm" -10 to -16 dBm -17 dBm

U. RX LEVEL

Functions/Use	• Reception sensitivity level.
Setting/Procedure	• The default setting is "-43 dBm". -36 dBm -37 to -42 dBm "-43 dBm" -44 to -48 dBm -49 dBm

V. DTMF LEVEL

Functions/Use	• Dual tone output level.
Setting/Procedure	• The default setting is "-9 dBm". -2 dBm -3 to -8 dBm "-9 dBm" -10 to -16 dBm -17 dBm

W. CNG LEVEL

Functions/Use	• Calling tone output level.
Setting/Procedure	• The default setting is "-11 dBm". -2 dBm -3 to -10 dBm "-11 dBm" -12 to -16 dBm -17 dBm

X. CED LEVEL

Functions/Use	• Answer tone output level.
Setting/Procedure	• The default setting is "-11 dBm". -2 dBm -3 to -10 dBm "-11 dBm" -12 to -16 dBm -17 dBm

Y. ECM MODE

Functions/Use	• Select error correction mode.
Setting/Procedure	• The default setting is "ON". "ON" : When an error occurs during communication, re-send the frame where the error occurs. OFF : Any error is ignored during communication.

Z. CODING SCHEME

Functions/Use	• Select compression method in TX/ RX mode.
Setting/Procedure	• The default setting is "JBIG". "JBIG" : The most complex compression method that generates the smallest code than any of following ones. MMR : A compression method. MR : A compression method. MH : The simplest compression method.

AA.REPORT DESTINATION

- Enter the telephone number for which the report is to be produced.
- Fax number specifications: An up-to-20-digit number that may consist of "0-9", " * ", and "#". (0-9, #, *)
- When any of the following conditions happens, the report is sent to the destination.
 1. Toner-empty condition
(Refer to (28) TONER EMPTY REPORT)
 2. The IU Life Counter exceeds the specifications.
(Refer to (29) IU LIFE REPORT)
 3. The Maintenance Counter reaches a preset value.
(Refer to (30) MAINTENANCE REPORT)
- The report will be produced at a timing of 20 min., 24 hours, 48 hours, and 72 hours after any of the above conditions has occurred until the condition disappears.
- If two or more conditions occur, only one report will be produced.

<Report sample>

SERVICE REPORT

NAME: ABC

TEL: 886-3-4733507

DATE: APR.10.2005 12:20

The FAX's following condition appears, the machine may not work correctly, the Fax already sent a report to your dealer automatically. They will contact you soon.

Toner status : Empty or Full
Maintenance counter : 125
Supplies life counter : 39938

AB.TONER EMPTY REPORT

Functions/Use	<ul style="list-style-type: none"> Select to generate a report to a specific destination when toner empty status occurs in the engine.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <ul style="list-style-type: none"> "OFF" : Not to generate report. ON : Generate a report to report destination. If "ON" is selected, select generate report and send to remote side when toner runs out. Enter the telephone number for which the report is to be produced. Fax number specifications: An up-to-20-digit number that may consist of "0-9", "*", "#", "pause", and "space". (0-9, #, *, pause, _) The report will generate after 20 minutes, 24 hours, 48 hours, or 72 hours after the event has occurred or until the condition is gone.

Toner empty report (example)

<div style="border: 1px solid black; padding: 2px; display: inline-block;">SERVICE REPORT</div>	
NAME:ABC 123 TEL:1234567 DATE:APR.01.2005 15:12	
The Fax's following conditions were appears, the machine may be can not work correctly, the Fax already send a report to your dealer automatically. They will contact with you soon.	
Toner status	: Empty

AC.IU LIFE REPORT

Functions/Use	<ul style="list-style-type: none"> Select to generate the report when IU LIFE COUNTER becomes out of life.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <ul style="list-style-type: none"> ON : Generate a report to destination. "OFF" : Not to generate a report.

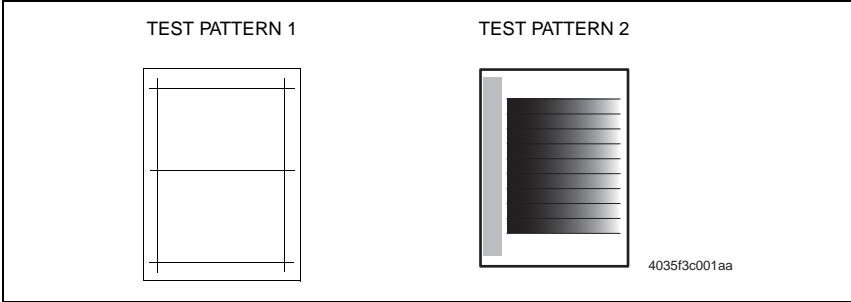
AD.MAINTENANCE REPORT

Functions/Use	<ul style="list-style-type: none"> Select error correction mode.
Setting/Procedure	<ul style="list-style-type: none"> The default setting is "ON". <ul style="list-style-type: none"> "ON" : When an error occurs during communication, re-send the frame where the error occurs. OFF : Any error is ignored during communication.

8.3.2 ADJUST

Precautions for making test copies with functions from the “ADJUST” menu

- The test pattern should be positioned vertically.
- Use paper loaded into Tray1 to make the test copy.



A. Printing a Test Pattern

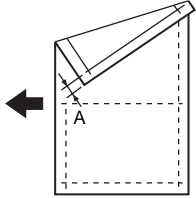
NOTE

Print a test pattern when making the following adjustments.

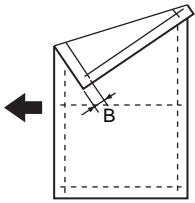
- Printer’s main scanning & sub-scanning registration adjustments
- Scanner’s main scanning & sub-scanning registration adjustments
- Scanner’s zoom ratio adjustment

1. Enter the Service mode.
2. Press the [▲ / ▼] key to select the function.
3. Select “PRINT TEST PATTERN” → “TEST PATTERN 1”.
4. Press the Start key to begin printing the test pattern.

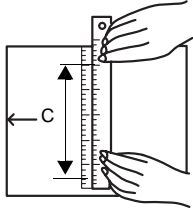
B. PRN MAIN REGIST

Functions	<ul style="list-style-type: none"> To adjust by varying the starting position of image writing in the main scanning direction.
Use	<ul style="list-style-type: none"> If the image on the copy deviates in the main scan direction When the PH unit has been replaced
Adjustment Specification	 <p style="text-align: center;">4035D519AA</p> <ul style="list-style-type: none"> Adjust so that width A on the test pattern produced falls within the specified range. <p>Specifications 20 ± 2.0 mm</p> <p>Setting Range 60 to 140 (1 step = 0.1 mm) The default setting is "100"</p>
Adjustment Instruction	<p>If width A on the test pattern is longer than the specifications, decrease the setting value. If width A on the test pattern is shorter than the specifications, increase the setting value.</p>
Adjustment Procedure	<ol style="list-style-type: none"> Load the Paper Feed Tray/1 with A4 crosswise paper. Enter Function of the Service mode. Select "Print Test Pattern" and then "Test Pattern1." Then, press the Start key. This will produce a test pattern. Check to see if width A on the test pattern falls within the specified range. If width A falls outside the specified range, perform the following steps to make an adjustment. Select "Adjust" of "PRN Main Regist" Using [▲ / ▼] key, select the appropriate setting value. Press the [Yes] key to validate the setting value selected in step 6. <p>NOTE</p> <ul style="list-style-type: none"> If a single adjustment procedure does not successfully bring width A into the specified range, repeat steps 5 through 7.

C. PRN SUB REGIST

Functions	<ul style="list-style-type: none"> To adjust by varying the starting position of image writing in the sub scanning direction.
Use	<ul style="list-style-type: none"> When the image on the copy deviates in the sub scan direction When the PH Unit has been replaced
Adjustment Specification	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <ul style="list-style-type: none"> Adjust so that width B on the test pattern produced falls within the specified range. <p>Specifications 10 ± 1.5 mm</p> <p>Setting Range 84 to 116 (1 step = 0.37 mm) The default setting is "100"</p> </div> </div> <p style="text-align: center; font-size: small;">4035D520AA</p>
Adjustment Instruction	<p>If width B on the test pattern is longer than the specifications, decrease the setting value. If width B on the test pattern is shorter than the specifications, increase the setting value.</p>
Adjustment Procedure	<ol style="list-style-type: none"> Load the Paper Feed Tray/1 with A4 crosswise paper. Enter Function of the Service mode. Select "Print Test Pattern" and then "Test Pattern1." Then, press the Start key. This will produce a test pattern. Check to see if width B on the test pattern falls within the specified range. If width B falls outside the specified range, perform the following steps to make an adjustment. Select "Adjust" of "PRN Sub Regist." Using [▲ / ▼] key, select the appropriate setting value. Press the [Yes] key to validate the setting value selected in step 6. <p>NOTE</p> <ul style="list-style-type: none"> If a single adjustment procedure does not successfully bring width B into the specified range, repeat steps 5 through 7.

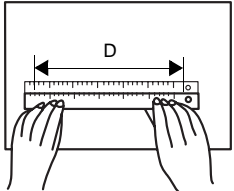
D. CCD MAIN ZOOM

Functions	<ul style="list-style-type: none"> To adjust variations in machining and installation accuracy of different IR parts by varying the scanning zoom ratio in the main scanning direction.
Use	<ul style="list-style-type: none"> When the CCD Unit has been replaced (After the CCD Unit has been adjusted for correct position)
Adjustment Specification	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <ul style="list-style-type: none"> After finishing the PRN MAIN REGIST and PRN SUB REGIST adjustments. Adjust the width of C in the copy of the scale so that the following specification is met. <p>Specifications 200 ± 2.0 mm (Zoom Ratio = Full Size : 100%)</p> <p>Setting Range 95 to 105 (1 increment = 0.4 %) The default setting is "100"</p> </div> </div> <p style="text-align: center; font-size: small;">4030D528AA</p>
Adjustment Instruction	<p>If the C on the copy is longer than the actual one, decrease the setting value. If the C on the copy is shorter than the actual one, increase the setting value.</p>
Adjustment Procedure	<ol style="list-style-type: none"> Place a scale on the Original Glass in parallel with the Original Width Scale and make a copy. Measure the C of the scale on the copy. If the amount of error falls outside the specified range, perform the following steps to make an adjustment. Enter Adjust of the Service mode. Select "Adjust" of "CCD Main Zoom." Using [▲ / ▼] key, select the appropriate setting value. Press the [Yes] key to validate the setting value selected in step 5. <p>NOTE</p> <ul style="list-style-type: none"> If a single adjustment procedure does not successfully bring the amount of error into the specified range, repeat steps 3 through 6.

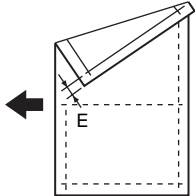
Fax Kit (FK-505)

Adjustment / Setting

E. CCD SUB ZOOM

Functions	<ul style="list-style-type: none"> To adjust variations in machining and installation accuracy of different IR parts by varying the scanning zoom ratio in the sub scanning direction.
Use	<ul style="list-style-type: none"> After the PRN MAIN REGIST and PRN SUB REGIST adjustments have been performed When the Scanner Drive Cables have been replaced
Adjustment Specification	<div style="display: flex; align-items: center;"> <div style="flex: 1;">  <p style="text-align: center;">4030D529AA</p> </div> <div style="flex: 1; padding-left: 20px;"> <ul style="list-style-type: none"> After finishing the PRN MAIN REGIST and PRN SUB REGIST adjustments. Adjust the width of D in the copy of the scale so that the following specification is met. <p>Specifications 300 ± 3 mm (Zoom Ratio = Full Size : 100%)</p> <p>Setting Range 95 to 105 (1 increment = 0.4 %) The default setting is "100"</p> </div> </div>
Adjustment Instruction	<p>If the D on the copy is longer than the actual one, decrease the setting value. If the D on the copy is shorter than the actual one, increase the setting value.</p>
Adjustment Procedure	<ol style="list-style-type: none"> Place a scale so that it is at right angles to the original width scale, and copy it. Measure the D of the scale on the copy. If the amount of error falls outside the specified range, perform the following steps to make an adjustment. Enter Adjust of the Service mode. Select "Adjust" of "CCD Sub Zoom." Using [▲ / ▼] key, select the appropriate setting value. Press the [Yes] key to validate the setting value selected in step 5. <p>NOTE</p> <ul style="list-style-type: none"> If a single adjustment procedure does not successfully bring the amount of error into the specified range, repeat steps 3 through 6.

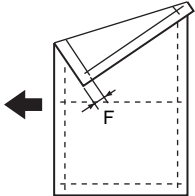
F. CCD MAIN REGIST

<p>Functions</p>	<ul style="list-style-type: none"> To adjust variations in machining and installation accuracy of different IR parts by varying the starting position of image scanning in the main scanning direction.
<p>Use</p>	<ul style="list-style-type: none"> After the PRN MAIN REGIST and PRN SUB REGIST and CCD MAIN ZOOM adjustments have been performed When the PH Unit has been replaced When the CCD Unit has been replaced (After the CCD Unit has been adjusted for correct position)
<p>Adjustment Specification</p>	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <ul style="list-style-type: none"> After finishing the PRN MAIN REGIST & PRN SUB REGIST and CCD MAIN ZOOM adjustments. Adjust so that deviation between width E on the test pattern produced and that on the copy produced falls within the specified range. <p>Specifications 0 ± 2.0 mm</p> <p>Setting Range 20 to 180 (1 step = 0.1 mm) The default setting is "100"</p> </div> </div> <p style="text-align: center; margin-top: 10px;">4035D519AA</p>
<p>Adjustment Instruction</p>	<p>If the deviation is longer than the specifications, increase the setting value. If the deviation is shorter than the specifications, decrease the setting value.</p>
<p>Adjustment Procedure</p>	<ol style="list-style-type: none"> Load the Paper Feed Tray/1 with A4 crosswise paper. Enter Function of the Service mode. Select "Print Test Pattern" and then "Test Pattern1." Then, press the Start key. *This will produce a test pattern. Place the test pattern produced in step 3 on the Original Glass and make a copy of it. Place the test pattern (original) on top of the copy and check for deviation in width A. If the deviation in width A falls outside the specified range, perform the following steps to make an adjustment. Select "Adjust" of "CCD Main Regist." Using [▲ / ▼] key, select the appropriate setting value. Press the [Yes] key to validate the setting value selected in step 7. <p>NOTE</p> <ul style="list-style-type: none"> If a single adjustment procedure does not successfully bring the deviation into the specified range, repeat steps 5 through 7.

Fax Kit (FK-505)

Adjustment / Setting

G. CCD SUB REGISTER

Functions	<ul style="list-style-type: none"> To adjust variations in machining and installation accuracy of different IR parts by varying the starting position of image scanning in the sub scanning direction.
Use	<ul style="list-style-type: none"> After the PRN MAIN REGIST and PRN SUB REGIST and CCD SUB ZOOM adjustments have been performed When the PH Unit has been replaced When the CCD Unit has been replaced (After the CCD Unit has been adjusted for correct position)
Adjustment Specification	<div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <ul style="list-style-type: none"> After finishing the PRN MAIN REGIST & PRN SUB REGIST and CCD SUB ZOOM adjustments. Adjust so that deviation between width F on the test pattern produced and that on the copy produced falls within the specified range. <p>Specifications 0 ± 1.5 mm</p> <p>Setting Range 60 to 140 (1 increment = 0.1 mm) The default setting is "100"</p> </div> </div> <p style="text-align: right; margin-right: 100px;">4035D520AA</p>
Adjustment Instruction	<p>If the deviation is longer than the specifications, increase the setting value. If the deviation is shorter than the specifications, decrease the setting value.</p>
Adjustment Procedure	<ol style="list-style-type: none"> Load the Paper Feed Tray/1 with A4 crosswise paper. Enter Function of the Service mode. Select "Print Test Pattern" and then "Test Pattern1." Then, press the Start key. This will produce a test pattern. Place the test pattern produced in step 3 on the Original Glass and make a copy of it. Place the test pattern (original) on top of the copy and check for deviation in width B. If the deviation in width B falls outside the specified range, perform the following steps to make an adjustment. Select "Adjust" of "CCD Sub Regist." Using [▲ / ▼] key, select the appropriate setting value. Press the [Yes] key to validate the setting value selected in step 7. <p>NOTE</p> <ul style="list-style-type: none"> If a single adjustment procedure does not successfully bring the deviation into the specified range, repeat steps 5 through 7.

H. ADF SUB ZOOM

- appears only when the DF-502 or DF-605 is installed.
- ☞ For details, see DF-502 or DF-605 Service Manual

Functions	<ul style="list-style-type: none"> • To adjust variations in machining and installation accuracy of different parts by varying the scanning zoom ratio in the sub scanning direction when the Automatic Document Feeder is used.
Use	<ul style="list-style-type: none"> • After the PRN MAIN REGIST and PRN SUB REGIST and CCD SUB ZOOM adjustments have been performed • When the ADF has been replaced

I. ADF MAIN REGIST

- appears only when the DF-502 or DF-605 is installed.
- ☞ For details, see DF-502 or DF-605 Service Manual

Functions	<ul style="list-style-type: none"> • To adjust variations in machining and installation accuracy of different parts by varying the scanning start position in the main scanning direction when the Automatic Document Feeder is used.
Use	<ul style="list-style-type: none"> • After the PRN MAIN REGIST and PRN SUB REGIST and CCD MAIN ZOOM adjustments have been performed • After the ADF SUB ZOOM adjustments have been performed • When the ADF has been replaced

J. ADF SUB REGIST1

- appears only when the DF-502 or DF-605 is installed.
- ☞ For details, see DF-502 or DF-605 Service Manual

Functions	<ul style="list-style-type: none"> • To adjust variations in machining and installation accuracy of different parts by varying the scanning start position in the sub scanning direction when the Automatic Document Feeder is used.
Use	<ul style="list-style-type: none"> • After the PRN MAIN REGIST and PRN SUB REGIST and CCD SUB ZOOM adjustments have been performed • After the ADF SUB ZOOM adjustments have been performed • When the ADF has been replaced

K. ADF SUB REGIST2

- appears only when the DF-605 is installed.
- ☞ For details, see DF-605 Service Manual

Functions	<ul style="list-style-type: none"> • To adjust variations in machining and installation accuracy of different parts by varying the scanning start position in the sub scanning direction when the Automatic Document Feeder is used.
Use	<ul style="list-style-type: none"> • After the PRN MAIN REGIST and PRN SUB REGIST and CCD SUB ZOOM adjustments have been performed • After the ADF SUB Zoom adjustments have been performed • When the ADF has been replaced

L. ADF REG. LOOP1

- appears only when the DF-605 is installed.
- ☞ For details, see DF-605 Service Manual

Functions	<ul style="list-style-type: none"> • To adjust the length of loop formed in the original before the Registration Roller.
Use	<ul style="list-style-type: none"> • When a skew feed, fold, or misfeed of the original occurs

M. ADF REG. LOOP2

- appears only when the DF-605 is installed.
- ☞ For details, see DF-605 Service Manual

Functions	• To adjust the length of loop formed in the original before the Registration Roller.
Use	• When a skew feed, fold, or misfeed of the original occurs

N. ATDC GAIN

Functions/Use	• To set the automatic paper size detection function for CCD scan.
Setting/Procedure	• The default setting is "155". "155" Setting range : 123 to 186 • The adjusted value of the ATDC Auto Adjust is the setting value.

O. MODEL SETTING**NOTE**

- **Never change this setting. If it is changed, the Tech. Rep. call (C03FF) will appear.**

8.3.3 COUNTER

- COUNTER displays the counts of various counters.

A. TOTAL COUNTER

Functions/Use	• To display the total count value of the selected mode.
Setting/Procedure	1: COPY 2: COPY DUPLEX 3: PRINT 4: PRINT DUPLEX

B. SIZE COUNTER

Functions/Use	• To display the count of the Size Counter.
Setting/Procedure	• To clear the count, use "Clear Data" of the Service mode.

C. PM COUNTER

Functions/Use	• To display the count of the number of times each of different parts of the machine has been used. • The count should be cleared when the corresponding PM part is replaced.
Setting/Procedure	1: BYPASS 2: TRAY1 3: TRAY2 4: TRAY3 (should not be used) 5: TRAY4 (should not be used only for Di1611) 6: TRAY5 (should not be used only for Di1611) 7: ADF (FEED) 8: ADF (REVERSE) (should not be used only for Di1611) 9: IR 10: OZONE 11: CLEANING • To clear the count, use "Clear Data" of the Service mode.

D. MAINTENANCE COUNTER

Functions/Use	<ul style="list-style-type: none"> To display the count of the Maintenance Counter. When the counter reaches "0", maintenance call M1 or the Service call will appear, according to the setting on maintenance counter of service choice.
Setting/Procedure	<ul style="list-style-type: none"> To clear the count, use "Clear Data" of the Service mode.

E. SUPPLIES LIFE COUNT.

Functions/Use	<ul style="list-style-type: none"> To display the count of the Size Counter.
Setting/Procedure	<ul style="list-style-type: none"> To clear the count, use "Clear Data" of the Service mode.

F. APPLICATION COUNTER

Functions/Use	<ul style="list-style-type: none"> To display the count of the number of sheets of paper used for each of different applications.
Setting/Procedure	<p>1: COPY PRINT : Number of copies made 2: FAX RX PRINT : (Only when Fax is used) 3: REPORT PRINT : (Only when Fax is used) 4: PC PRINT : Number of printed pages produced from PC 5: FAX TX PAGE : (Only when Fax is used) 6: MAIL TX PAGE : (Used only when SU-502 is mounted)</p> <ul style="list-style-type: none"> To clear the count, use "Clear Data" of the Service mode.

G. SCAN COUNTER

Functions/Use	<ul style="list-style-type: none"> To display the count of the Scan Counter
Setting/Procedure	<ul style="list-style-type: none"> The number of scan motions carried out for copying is not counted. To clear the count, use "Clear Data" of the Service mode.

H. PAPER SIZE COUNTER

Functions/Use	<ul style="list-style-type: none"> To display the count of the number of sheets of paper used for each size and type.
Setting/Procedure	<p>1: A3 2: B4 3: A4L 4: A4C 5: B5 6: A5 7: FLS 8: LEDGER 9: 11 x 14 10: LEGAL 11: LETTER L 12: LETTER C 13: INVOICE 14: OTHER 15: PLAIN PAPER 16: RECYCLE PAPER 17: SPECIAL PAPER 18: 1-SIDE PAPER (should not be used only for bizhub 162) 19: OHP 20: THICK PAPER 21: ENVELOPE</p> <ul style="list-style-type: none"> To clear the count, use "Clear Data" of the Service mode.

I. MISFEED COUNTER

Functions/Use	<ul style="list-style-type: none"> To display the count of the number of paper misfeeds that have occurred at different parts of the machine. 	
Setting/Procedure	1: BYPASS 3: TRAY2 5: TRAY4 7: PICK-UP/TSPT. 8: DUPLEX (ENTRANCE) *1 10: FUSER 12: ADF (PICK-UP) 14: ADF (EXIT)	2: TRAY1 4: TRAY3 6: TRAY5 9: DUPLEX (FEED) *1 11: SEPARATOR 13: ADF (TSPT.) 15: ADF (REVERSE) *1
	<ul style="list-style-type: none"> To clear the count, use "Clear Data" of the Service mode. 	

*1: should not be used only for bizhub 162

J. TROUBLE COUNTER

Functions/Use	<ul style="list-style-type: none"> To display the count of the number of malfunctions detected according to the malfunction code. 	
Setting/Procedure	C0000: Main Motor malfunction C0044: ADF Cooling Fan failure *1 C0045: Fusing Cooling Fan Motor malfunction C004E: Power Unit Cooling Fan Motor malfunction C0070: Toner Replenishing Motor malfunction C0210: Abnormal image transfer voltage C0500: Warm-up failure C0501: Warm-up failure 2 *1 C0510: Fusing failure (abnormally low temperature) C0511: Fusing failure (abnormally low temperature 2) *1 C0520: Fusing failure (abnormally high temperature) C0521: Fusing failure (abnormally high temperature 2) *1 C0650: Faulty Scanner Home Position Sensor C0B60: Bin Switching Motor malfunction C0B80: Shift Motor malfunction C0F32: Faulty ATDC Sensor C0F33: Improperly adjusted ATDC Sensor C1038: Engine connection failure C1200: Faulty ASIC/memory C1300: Polygon Motor malfunction C133B: Communication with option error C133C: Modem fault (should not be used only for FAX option) C133D: ROM checksum error C13F0: Faulty HSYNC C1468: Faulty EEPROM C14A3: IR fluorescent lamp fault	
	<ul style="list-style-type: none"> To clear the count, use "Clear Data" of the Service mode. 	

*1: should not be used only for bizhub 162

8.3.4 DISPLAY

- DISPLAY displays various types of information.

A. TONER DENSITY LEVEL

- To display the current output value of ATDC sensor.
- Refer to the following table for actual T/C values.
- Used to check the T/C ratio when the image density is defective.

Display	T/C
⋮	⋮
80	8.0 %~8.4 %
⋮	⋮
100	10.0 %~10.4 %
⋮	⋮
130	13.0 %~13.4 %
135	13.5 %~13.9 %
140	14.0 %~14.4 %
145	14.5 %~14.9 %
⋮	⋮

B. PROCESS CONTROL

- To display the Vg and Vb values.

Display	Vb (V)	Vg (V)
-5	-300	-450
0	-400	-550
+5	-500	-650

C. MAIN F/W VER. (PWB-C/C)

- To display the main firmware version information.

D. ENGINE F/W VER. (PWB-A)

- To display the engine firmware version information.

E. PCL F/W VER.

- To display the PCL firmware version information.
- Only when the optional Printer Controller (IC-205) is mounted

F. NIC F/W VER.

- To display the NIC firmware version information.
- Only when the optional Network Interface Card (NC-502) is mounted

G. ADF F/W VER.

- To display the ADF firmware version information.
- Only when the optional Duplexing Document Feeder (DF-605) is mounted

H. MAIN RAM SIZE

- To display the main memory size.

I. PCL RAM SIZE

- To display the PCL memory size.
- Only when the optional Printer Controller (IC-205) is mounted

J. SERIAL NO.

- To display the serial number of the machine.

K. CUSTOMER ID

- To display the customer ID of the machine.

8.3.5 FUNCTION

- FUNCTION allows the various service functions (paper feed test, image printing) to be checked and adjustments to be made.

A. PAPER FEED TEST

Functions	<ul style="list-style-type: none"> • To check for correct paper passage of the paper take-up and transport system by letting the machine consecutively take up and feed paper without involving actual printing action. • Here are the details of operation involved in the paper passage motion. • The Scanner does not make any scan motion. • Paper is fed until the corresponding paper source runs out of paper. • This test cannot be run with the Manual Bypass or Multiple Bypass (option). • No counters are activated.
Use	<ul style="list-style-type: none"> • When a paper misfeed occurs
Setting/Procedure	<ol style="list-style-type: none"> 1. Select the paper tray. 2. Press the Start key to begin testing paper feeding. 3. Press the Stop key to stop testing paper feeding.

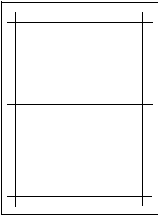
B. PROCESS CHECK

- HV output (for factory setting only) *Should not be used


C. ATDC AUTO ADJUST

Functions	<ul style="list-style-type: none"> • To make an automatic adjustment of the ATDC Sensor.
Use	<ul style="list-style-type: none"> • At setup • When developer has been changed • When IU has been replaced
Setting/Procedure	<ol style="list-style-type: none"> 1. Press the [Yes] key to start the adjustment. 2. The adjustment sequence automatically stops as soon as the adjustment is made. 3. The sequence may be interrupted using the Stop key.

D. PRINT TEST PATTERN1

Functions	<ul style="list-style-type: none"> To produce a test pattern for image adjustments. 
Use	<ul style="list-style-type: none"> When skew, registration, or zoom ratio has been adjusted
Setting/Procedure	<ol style="list-style-type: none"> Select the paper tray. Select the test pattern 1. Press the Start key to print the test pattern.

E. PRINT TEST PATTERN 2

Functions	<ul style="list-style-type: none"> To print the test pattern for halftones and gradations.  <p>4035f3c001aa</p>
Use	<ul style="list-style-type: none"> When checking for uneven density or uneven pitch When checking for gradation reproducibility
Setting/Procedure	<ol style="list-style-type: none"> Select the paper tray. Select the test pattern 2. Press the Start key to let the machine produce the test pattern

F. ADF FEED TEST

☞ For details, see DF-502 or DF-605 Service Manual

Functions	<ul style="list-style-type: none"> To check for correct paper passage of the paper take-up and transport system in the Automatic (Duplexing) Document Feeder alone as a single unit. Here are the details of operation involved in the paper passage motion. The Scanner does not make any scan motion. Paper passage operation continues until all pages of the document loaded in the unit have been fed in.
Use	<ul style="list-style-type: none"> When a paper misfeed of originals occurs

G. COPY ADF GLASS AREA

☞ For details, see DF-502 or DF-605 Service Manual

Functions	<ul style="list-style-type: none"> To check for scratches and dirt on the Original Scanning Glass.
Use	<ul style="list-style-type: none"> When a dirty image occurs

H. CCD MOVE TO HOME

Functions	<ul style="list-style-type: none"> To move the Scanner to its home position and fix it at the home position.
Use	<ul style="list-style-type: none"> When transporting the machine
Setting/Procedure	<ul style="list-style-type: none"> Pressing the Start key will move the Scanner toward the left from its standby position. <p><Step></p> <ol style="list-style-type: none"> Press the Start key to move the Scanner from the standby position to the home position. Pressing the Stop key will bring the Scanner back to its original position.

I. UPLOAD FIRMWARE

Functions/Use	<ul style="list-style-type: none"> Download firmware from this machine to remote side, after setup of remote side location.
Setting/Procedure	<ul style="list-style-type: none"> Machine will dial automatically and copy the Flash ROM date to remote side machine.

J. FAX RES. COPY TEST

Functions	<ul style="list-style-type: none"> Fax resolution copy test
Use	<ul style="list-style-type: none"> To check whether the encoding/ decoding process is correct
Setting/Procedure	<ul style="list-style-type: none"> The paper source is fixed to Tray1(MP).(Tray cannot be changed.) When A4 or Letter is not loaded in Tray1, operation of printing is not performed. <p>NOTE</p> <ul style="list-style-type: none"> If an error is displayed during the test, execute "SERVICE MODE/CLEAR DATA/DRAM CLEAR."

K. SCAN TEST

Functions	<ul style="list-style-type: none"> To check that the Exposure Lamp turns ON properly and the Scanner moves properly.
Use	<ul style="list-style-type: none"> When the scan motion is faulty
Setting/Procedure	<ol style="list-style-type: none"> Press the Start key to begin the scanner test. Press the Stop key to stop the scanner test.

L. ADF WIDTH ADJ. (MAX)

☞ For details, see DF-605 Service Manual

Functions	<ul style="list-style-type: none"> To adjust the Original size detection VR.
Use	<ul style="list-style-type: none"> When PBA-VR board is replace When PBA-CONT board is replace

M. ADF WIDTH ADJ. (MIN)

☞ For details, see DF-605 Service Manual

Functions	<ul style="list-style-type: none"> To adjust the Original size detection VR.
Use	<ul style="list-style-type: none"> When the scan motion is faulty When PBA-CONT board is replace

N. ADF SENSOR ADJUST

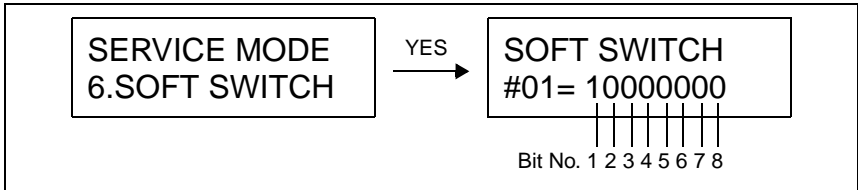
☞ For details, see DF-605 Service Manual

Functions	<ul style="list-style-type: none"> To automatically adjust the detection level of original path sensor.
Use	<ul style="list-style-type: none"> When each sensor is replaced When original size detection error occurs

8.3.6 SOFT SWITCH

• Refer to the chapter of soft switch for the explanation of soft switch.

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• KEY DEFINITION FOR SOFT SWITCH

Key	Definition
▼	Soft Switch Number Forward.
▲	Soft Switch Number Backward.
YES	Update Soft Switch by current setting.
NO/STOP	Exit Soft Switch setting
ONE TOUCH	<ul style="list-style-type: none"> 1 - 27 of the soft switch numbers uses and selects an one-touch key. 28 - 64 of the soft switch numbers uses and selects ↓ key.

8.3.7 REPORT

- The following list is selected, and press YES key.
- After service mode ends, the list is automatically printed.

A. SERVICE DATA LIST

- Print service data list report and Error log history list.
- Service Data list includes the following items:
 1. Report title
 2. Soft switch list: Soft switch is displayed by HEX No. example)

When the setting of SOFT "SWITCH #01 is 0000 0001 (Bit No. 8765 4321)", it is written as 01.

Hex-binary conversion list	HEX															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Bit no.	4 (8)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
	3 (7)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1
	2 (6)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1
	1 (5)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0

3. Communication history and counter
 4. Mailbox ID & Password
 5. RX in memory password
 6. Admin. password
 7. Section number password
 8. ROM ID
- Error log history list includes the following items:

No.	Item	Description
1	Index	Index number from 0 - 9999
2	Error	Error code number
3	Maker	NSF frame maker code
4	Tele.	Remote side or TX side telephone number for that transaction

1. Service Data List (example)

SERVICE DATA LIST

NAME:ABC 123
 TEL:1234567
 DATE:Mar.01.2005 15:12
 MARKETING AREA=STANDARD
 SHIPMENT DESTINATION= METRIC

example)
 SW01 = Hex 01 = 0000 0001
 Bit no. = 8 7 6 5 4 3 2 1
 Bit No.8 = 0 Bit No.4 = 0
 Bit No.7 = 0 Bit No.3 = 0
 Bit No.6 = 0 Bit No.2 = 0
 Bit No.5 = 0 Bit No.1 = 1

-- SOFT SWITCH --

SW01-SW16	01	20	80	0C	00	00	07	61	00	81	00	80	10	00	01	03
SW17-SW32	00	00	68	00	80	06	00	00	00	28	00	A7	14	68	00	00
SW33-SW48	C0	82	10	8A	00	C1	00	08	00	00	00	04	00	06	00	89
SW49-SW64	01	00	00	00	B0	00	00	00	00	00	00	21	0F	00	80	10

--COMMUNICATION HISTORY & COUNTER --

000000: ECM RX TIME	000000: ECM TX TIME
000001: G3 RX TIME	000000: G3 RX PAGE
000000: V.17 14.4K	000000: V.17 12K
000000: V.17 9.6K	000000: V.17 7.2K
000000: V.29 9.6K	000000: V.29 7.2K
000000: V.27 4.8K	000001: V.27 2.4K
000000: G3 TX TIME	000000: G3 TX PAGE
000000: V.17 14.4K	000000: V.17 12K
000000: V.33 14.4K	000000: V.33 12K
000000: V.17 9.6K	000000: V.17 7.2K
000000: V.29 9.6K	000000: V.29 7.2K
000000: V.27 4.8K	000000: V.27 2.4K
000007: V.34 RX TIME	000007: V.34 RX PAGE
000002: 33.6K	000005: 31.2K
000000: 28.8K	000000: 26.4K
000000: 24.0K	000000: 21.6K
000000: 19.2K	000000: 16.8K
000000: 9.6K	000000: 7.2K
000000: 4.8K	000000: 2.4K
000001: V.34 TX TIME	000015: V.34 TX PAGE
000001: 33.6K	000006: 31.2K
000000: 28.8K	000000: 26.4K
000000: 24.0K	000000: 21.6K
000000: 19.2K	000000: 16.8K
000000: 9.6K	000000: 7.2K
000000: 4.8K	000000: 2.4K
000007: JBIG TX TIME	000007: JBIG RX TIME
000000: TOTAL COUNTER	
000000: COPY PRINT	000000: FAX PRINT
000000: REPORT PRINT	000000: PC PRINT

-- MAILBOX ID & PW --

NO.1	ID=	PW=	NO.2	ID=	PW=	NO.3	ID=	PW=
NO.4	ID=	PW=	NO.5	ID=	PW=			

Fax Kit (FK-505)

Adjustment / Setting

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SERVICE DATA LIST

NAME:ABC 123

TEL:1234567

DATE:Mar.01.2005 15:12

-- RELAY BOX ID & PW --

NO.0	ID=	PW=	NO.1	ID=	PW=	NO.2	ID=	PW=
NO.3	ID=	PW=	NO.4	ID=	PW=	NO.5	ID=	PW=
NO.6	ID=	PW=	NO.7	ID=	PW=	NO.8	ID=	PW=
NO.9	ID=	PW=						

-- SECTION PASSWORD --

NO.01 : 111	NO.02 : 555	NO.03 : 001	NO.04 :	NO.05 :
NO.06 : 111	NO.07 : 555	NO.08 : 001	NO.09 :	NO.10 :
NO.11 : 111	NO.12 : 555	NO.13 : 001	NO.14 :	NO.15 :
NO.06 : 111	NO.17 : 555	NO.18 : 001	NO.19 :	NO.20 :

-- ADJUST --

PRINT MAIN REGIST : 77	PRN : SUB REGIST
CCD MAIN ZOOM : 100	CCD : SUB ZOOM
CCD MAIN REGIST : 100	CCD SUB REGIST : 100
ADF SUB ZOOM : 100	
ADF MAIN REGIST : 100	ADF SUB REGIST : 100
SERIAL NUMBER : 12345678	CUSTOMER ID : 0

RX IN MEMORY :

ADMIN. PASSWORD : 000000

TOTAL COUNTER COUNT MODE : 0

MAIN RAM SIZE : 32 MB

PCL RAM SIZE : 00 MB


-- ROM ID --

01/01/2005 v1.00-0


2. Error Log History List (example)

The following table is the error log history. The table keeps the last 40 records only.

ERROR LOG HISTORY LIST			
Index	Error	Maker	Tele
0001:	0070	49EE	88634733507
0002:	00A0	49EE	
0003:	0070	0000	
0004:	0070	0000	
0005:	0070	0000	
0006:	0070	0000	
0007:	0070	0000	
0008:	0070	0000	
0009:	0070	0000	
0010:	0070	0000	
0011:	0070	0000	
0012:	0070	0000	
0013:	0070	0000	
0014:	0070	0000	
0015:	0070	0000	
0016:	0070	0000	
0017:	0070	0000	
0018:	0070	0000	
0019:	0020	49EE	123
0020:	0070	0000	



NSF signal 3rd. and 4th byte



Keep 20 digits of TSI or CSI

B. ERROR CODE LIST

- Print out error code as following table. (example)

ERROR CODE LIST					
CODE	ERROR TIMES	CODE	ERROR TIMES	CODE	ERROR TIMES
0001	00000000	0002	00000000	0003	00000000
0004	00000000	0005	00000000	0006	00000000
0007	00000000	0008	00000000	0009	00000000
000A	00000000	000B	00000000	000C	00000000
000D	00000000	000E	00000000	000F	00000000
0010	00000000	0011	00000000	0012	00000000
0013	00000000	0014	00000000	0015	00000000
0016	00000000	0017	00000000	0018	00000000
0019	00000000	001A	00000000	001B	00000000
001C	00000000	001D	00000000	001E	00000000
001F	00000000	0020	00000000	0021	00000000
0022	00000000	0023	00000000	0024	00000000
0025	00000000	0026	00000000	0027	00000000
0028	00000000	0029	00000000	002A	00000000
002B	00000000	002C	00000000	002D	00000000
002E	00000000	002F	00000000	0030	00000000
0031	00000000	0032	00000000	0033	00000000
0034	00000000	0035	00000000	0036	00000000
0037	00000000	0038	00000000	0039	00000000
003A	00000000	003B	00000000	003C	00000000
003D	00000000	003E	00000000	003F	00000000
0040	00000000	0041	00000000	0042	00000000
0043	00000000	0044	00000000	0045	00000000
0046	00000000	0047	00000000	0048	00000000
0049	00000000	004A	00000000	004B	00000000
004C	00000000	004D	00000000	004E	00000000
004F	00000000	0050	00000000	0051	00000000
0052	00000000	0053	00000000	0054	00000000
0055	00000000	0056	00000000	0057	00000000
0058	00000000	0059	00000000	005A	00000000
005B	00000000	005C	00000000	005D	00000000
005E	00000000	005F	00000000	0060	00000000
0061	00000000	0062	00000000	0063	00000000
0064	00000000	0065	00000000	0066	00000000
0067	00000000	0068	00000000	0069	00000000
006A	00000000	006B	00000000	006C	00000000
006D	00000000	006E	00000000	006F	00000000
0070	00000002	0071	00000000	0072	00000008
0073	00000000	0074	00000000	0075	00000009
0076	00000000	0077	00000000	0078	00000017
0079	00000000	007A	00000000	007B	00000000
007C	00000000	007D	00000000	007E	00000000
007F	00000000	0080	00000000	0081	00000000
0082	00000000	0083	00000001	0084	00000000
0085	00000000	0086	00000000	0087	00000000
0088	00000000	0089	00000000	008A	00000000
008B	00000000	008C	00000000	008D	00000000
008E	00000000	008F	00000000	0090	00000000
0091	00000001	0092	00000000	0093	00000000
0094	00000000	0095	00000000	0096	00000000
0097	00000000	0098	00000000	0099	00000000
009A	00000000	009B	00000000	009C	00000000
009D	00000000	009E	00000000	009F	00000000
00A0	00000024	00A1	00000000	00A2	00000000
00A3	00004558	00A4	00000002	00A5	00000000
00A6	00000000	00A7	00000006	00A8	00000000
00A9	00000001	00AA	00000000	00AB	00000000
00AC	00000000	00AD	00000000	00AE	00000000
00AF	00000000	00B0	00000000	00B1	00000000
00B2	00000000	00B3	00000000	00B4	00000000
00B5	00000000	00B6	00000000	00B7	00000000
00B8	00000000	00B9	00000000	00BA	00000000
00BB	00000000	00BC	00000000	00BD	00000000
00BE	00000000	00BF	00000000	00C0	00000000
00C1	00000000	00C2	00000000	00C3	00000000
00C4	00000000	00C5	00000000	00C6	00000000
00C7	00000000	00C8	00000000	00C9	00000000
00CA	00000000	00CB	00000000	00CC	00000000
00CD	00000000	00CE	00000000	00CF	00000000
00D0	00000000	00D1	00000000	00D2	00000000
00D3	00000000	00D4	00000000	00D5	00000000
00D6	00000000	00D7	00000000	00D8	00000000
00D9	00000000	00DA	00000000	00DB	00000000
00DC	00000000	00DD	00000000	00DE	00000000
00DF	00000000	00E0	00000000	00E1	00000000
00E2	00000000	00E3	00000000	00E4	00000000
00E5	00000000	00E6	00000000	00E7	00000000
00E8	00000000	00E9	00000000	00EA	00000000
00EB	00000000	00EC	00000000	00ED	00000000
00EE	00000000	00EF	00000000	00F0	00000000
00F1	00000000	00F2	00000000	00F3	00000000
00F4	00000000	00F5	00000000	00F6	00000000
00F7	00000000	00F8	00000000	00F9	00000000
00FA	00000000	00FB	00000000	00FC	00000000
00FD	00000000	00FE	00000006	00FF	00000002

8.3.8 FIXED ZOOM CHANGE

Functions/Use	<ul style="list-style-type: none"> FIXED ZOOM CHANGE is used to change the fixed zoom ratios.
Setting/Procedure	<p><Step></p> <ol style="list-style-type: none"> Select the fixed zoom ratio that you wish to change. Use the 10-Key Pad to type in the desired fixed zoom ratio.

- FIXED ZOOM CHANGE is used to change the fixed zoom ratios.

Default Values and Setting Range of Fixed Zoom Ratios

A. Japan

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	70%	51% to 70%
REDUCTION1	81%	71% to 99%
EXPANSION1	122%	101% to 140%
EXPANSION2	141%	141% to 199%

B. Metric

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	70%	51% to 70%
REDUCTION1	81%	71% to 99%
EXPANSION1	115%	101% to 140%
EXPANSION2	141%	141% to 199%

C. Inch

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	64%	51% to 64%
REDUCTION1	78%	65% to 99%
EXPANSION1	121%	101% to 128%
EXPANSION2	129%	129% to 199%

D. China

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	70%	51% to 70%
REDUCTION1	81%	71% to 99%
EXPANSION1	115%	101% to 140%
EXPANSION2	141%	141% to 199%

E. Latin America (Metric)

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	70%	51% to 70%
REDUCTION1	78%	71% to 99%
EXPANSION1	115%	101% to 140%
EXPANSION2	141%	141% to 199%

F. Latin America (Inch)

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	64%	51% to 64%
REDUCTION1	78%	65% to 99%
EXPANSION1	121%	101% to 128%
EXPANSION2	129%	129% to 199%

G. OEM1 US

Setting name	Default fixed zoom ratio	Setting range
REDUCTION2	64%	51% to 64%
REDUCTION1	77%	65% to 99%
EXPANSION1	129%	101% to 154%
EXPANSION2	155%	155% to 199%

8.3.9 FACTORY TEST**A. SIGNAL TEST**

- This test is for factory adjustment only and should NOT be used.

B. RELAY TEST

- This test is for factory adjustment only and should NOT be used.

C. DIAL TEST

- This test is for factory adjustment only and should NOT be used.

D. VOLUME TEST

Functions/Use	• Buzzer issues sound correct.
Setting/Procedure	<Step> 1. Press the Yes key, and a buzzer can be heard. 2. Pressing the (◀) and (▶) keys will select the volume of High or Low.

E. PANEL BUZZER TEST

Functions/Use	• To test LEDs and keys on control panel
Setting/Procedure	PANEL LED TEST • Make sure that all LEDs on control panel light (for 5 seconds). PANEL SWITCH TEST 1. Press the control keys and numeric keys, and make sure that the names of switches appear in the LCD display. 2. To release the test, press the panel reset key twice: The initial screen will be restored.

F. RAM TEST

Functions/Use	• Write or read data to/from RAM memory to make sure of normal operation.
Setting/Procedure	1. Pressing the YES key will start the check. 2. After approx. 30 seconds, "RAM Chip is OK" will appear.

8.3.10 CLEAR DATA

- CLEAR DATA is used to clear data of various types.

A. DRAM CLEAR

- Clear all data in the memory file and free all memory to 100%, the user data are not affected. But only clear DRAM data on PWB-P.

NOTE

Not include DRAM data on NIC.

B. SRAM CLEAR

- To clear the settings for the functions listed at the following and return the functions to their default settings.
- The following items are cleared (initialization).

NOTES

- **Before executing “SRAM CLEAR,” be sure to record the setting values that are to be initialized through “SRAM CLEAR.”**
- **For the record of the setting values, it is a good idea to have reports and lists printed.**

☞ 22 PRINT REPORT

☞ 86 REPORT

- **Some setting values are not included any of these reports or lists. Be sure to make a note of them separately.**
- **After “SRAM CLEAR” has been executed, make necessary entries of data again based on the setting values recorded.**

MODE	Initialized Items		Default	Report/ List	
UTILITY MODE	MACHINE SETTING	BUZZAR VOLUM	LOW	MACHINE STATUS LIST	☞ 25
	ADMIN. MANEGE- MENT	REMOTE MONITOR	LIMITED	None	None
	FAX REGISTRATION	ONE TOUCH DIAL SPEED DIAL GROUP DIAL PROGRAM DIAL BATCH TX MAIL BOX	None None None None None None	ONE TOUCH LIST SPEED DIAL LIST KEY SETTING LIST MACHINE STATUS LIST	☞ 23 ☞ 25
	TX OPERATION	SCAN CONTRAST RESOLUTION DEFAULT TX HEADER	0 STD MEM. TX ON	MACHINE STATUS LIST	☞ 25
	RX OPERATION	MEMORY RX MODE NO. of RINGS REDUCTION RX RX PRINT RX MODE FORWARD FOOTER SELECT TRAY CLOSED NETWORK\	OFF 2 ON MEMORY RX AUTO RX OFF OFF ENABLE OFF	MACHINE STATUS LIST	☞ 25
	COMM. SETTING	STONE/ PULSE LINE MONITOR PSTN/ PBX	STONE LOW PSTN	MACHINE STATUS LIST	☞ 25

MODE	Initialized Items		Default	Report/ List	
UTILITY MODE	REPORTING	ACTIVITY REPORT RESERV. REPORT TX RESULT REPORT RX RESULT REPORT	ON OFF OFF OFF	MACHINE STATUS LIST	26
	INITIAL USER DATA	DATE & TIME USER FAX NO. USER NAME	None None None	MACHINE STATUS LIST	26
	NETWORK SETTING	IP ADDRESS SUBNET MASK GATEWAY DNS CONFIG GATEWAY TX	None None None DISABLE DISABLE	MACHINE STATUS LIST	26
	E-MAIL SETTING 1	SENDER NAME E-MAIL ADDRESS SMTP SERVER SMTP TIMEOUT TEXT INSERT DEFAULT SUBJECT	None None None 60 OFF None	MACHINE STATUS LIST	26
	E-MAIL SETTING 2	POP3 SERVER POP3 PORT NO. POP3 TIMEOUT POP3 ACCOUNT POP3 PASSWORD AUTO RECEPTION REPLY ADDRESS HEADER PRINT	None None None None None OFF None OFF	MACHINE STATUS LIST	26
	SCAN SETTING	RESOLUTION IMAGE FORMAT CODING METHOD	300 X 300 TIFF MH	MACHINE STATUS LIST	26
TX/RX Result (Activity Data)			None	TX RESULT REPORT RX RESULT REPORT ACTIVITY REPORT	22
Image Data of DRAM memory file			None	MEMORY DATA LIST MEMORY IMAGE PRINT	23
SERVICE MODE	SERVICE'S CHOICE	MARKETING AREA	STANDARD	SERVICE DATA LIST	86 87
		TX SPEED RX SPEED TX LEVEL RX LEVEL DTMF LEVEL CNG LEVEL CED LEVEL ECM MODE CODING SCHEME PROTOCOL REPORT	V,34 V,34 -3 dBm to -8 dBm -37dBm to -42 dBm -9 dBm -11 dBm -11 dBm ON JBIG OFF	None	None

C. MEMORY CLEAR

Functions/Use	<ul style="list-style-type: none"> To clear the setting values listed on the lower, resetting them to the default values.
Setting/Procedure	<ul style="list-style-type: none"> Settings of the Utility mode Settings of Service's Choice of the Service mode Settings of Adjust of the Service mode Setting of Administrator Number Registration of the Service mode Settings of Fixed Zoom Change of the Service mode Settings of Security of the Service mode Settings of copy programs <p>NOTE</p> <ul style="list-style-type: none"> After Memory Clear has been executed, be sure to turn OFF and ON the Power Switch.

D. PM COUNTER

- To clear each of the counts of the PM Counter.

E. MAINTENANCE COUNTER

- To clear the count of the Maintenance Counter.

F. SUPPLIES LIFE COUNT.

- To clear the count of the Supplies Life Counter.

G. APPLICATION COUNTER

- To clear each of the counts of the Application Counter.

H. SCAN COUNTER

- To clear the count of the Scan Counter.

I. PAPER SIZE COUNTER

- To clear each of the counts of the Paper Size Counter.

J. MISFEED COUNTER

- To clear each of the counts of the Misfeed Counter.

K. TROUBLE COUNTER

- To clear each of the counts of the Trouble Counter.

L. ADF BACKUP CLEAR

For details, see DF-605 Service Manual

Functions	<ul style="list-style-type: none"> To clear the values adjusted with ADF SENSOR ADJUST and the values adjusted with Org. Width Detect.
Use	<ul style="list-style-type: none"> When PBA-CONT board has been replaced. When PBA-VR board has been replaced.

9. Security

9.1 Security Function Setting Procedure

- Security is used to set the security functions.

9.1.1 Procedure

1. Display the Service mode screen.
2. Press the Stop key, then the 9 key.
3. The Security mode screen appears.

9.1.2 Exiting

- Press the Panel Reset key.

A. TOTAL COUNTER COUNT

Functions/Use	• To set the count-up method.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "0". <p>"0" : One count-up for each copy cycle (ordinary mode)</p> <p>1 : Multiple count-up according to the paper size and copy mode.</p> <p>2 : Multiple count-up according to the paper size and copy mode.</p>

B. SIZE COUNTER COUNT

Functions/Use	• To set the paper size to be counted.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "1". <p>0 : Not counted</p> <p>"1" : A3/LEDGER L</p> <p>2 : A3/B4/LEDGER L/LEGAL L/8K L</p> <p>3 : A3/B4/FLS/LEDGER L/LEGAL L/11 x 14 L/8K L</p>

C. PLUG-IN COUNTER COPY

Functions/Use	• To select whether to enable or disable copying according to whether the Plug-in Counter is mounted or not.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "ENABLE". <p>"ENABLE" DISABLE</p>

D. MACHINE COUNTER

Functions/Use	• To select whether to enable or disable copying according to whether the Machine Counter is mounted or not.
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "DISABLE". <p>ENABLE "DISABLE"</p>

<Count-up Table>

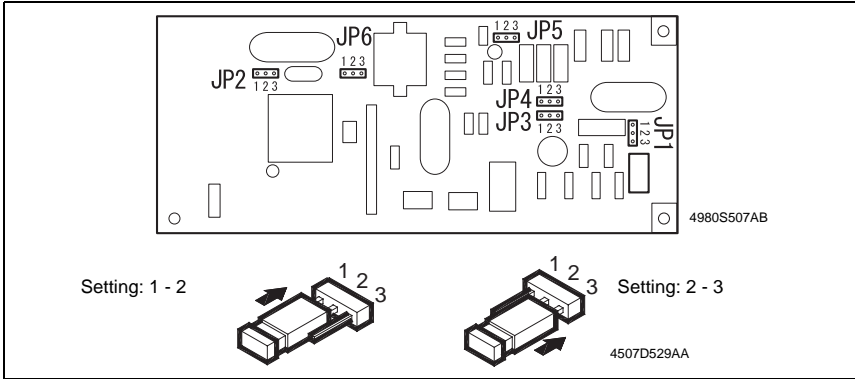
Size Counter Count Mode	Size other than those set			Set size		
Total Counter Count Mode	0	1	2	0	1	2
Total Counter	1			1	2	2
Size Counter	Not Count			1	1	2

1: 1 count 2: 2 counts

10. Mechanical Adjust

10.1 Adjustment of Jumper Switches on NCU Board

- Make the correct settings of the jumper switches at six places on the NCU Board according to the applicable marketing area.
- When the NCU Board has been replaced, check that the jumper switches are set as shown below.



• Country Classification Jumper Switch Setting

Type	Jumper Switch	Setting	Country
STD (UL)/ (Others)	JP1	2 - 3	STD (UL): Canada, South America, Taiwan, U.S A. STD (Others): Bahrain, Baltic, Croatia, Czech, Hong Kong, Hungary, Iran, Korea, Kuwait, Malaysia, New Zealand, Philippine, Poland, Qatar, Romania, Russia, Singapore, Slovakia, Slovenia, UAE, Ukraine, Others 200V Countries.
	JP2	1 - 2	
	JP3	1 - 2	
	JP4	1 - 2	
	JP5	2 - 3	
	JP6	2 - 3	
TBR-21	JP1	2 - 3	Austria, Belgium, Cyprus, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, U.K,
	JP2	2 - 3	
	JP3	2 - 3	
	JP4	2 - 3	
	JP5	1 - 2	
	JP6	1 - 2	
Australia/ South Africa	JP1	2 - 3	Australia, South Africa
	JP2	2 - 3	
	JP3	1 - 2	
	JP4	1 - 2	
	JP5	2 - 3	
	JP6	2 - 3	
China	JP1	2 - 3	China
	JP2	1 - 2	
	JP3	1 - 2	
	JP4	1 - 2	
	JP5	2 - 3	
	JP6	1 - 2	

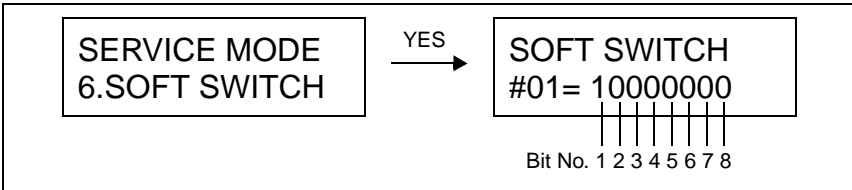
11. Soft Switch Set

- This machine is provided with a total of 64 soft switches used for making various adjustments. The initial values can be changed, defined to comply with the requirements unique to each individual country.
- The initial settings of the soft switches can be changed according to the marketing area. The settings can be changed when:
The marketing area code is set in the Service mode.
The marketing area code is set using the RSD utility software.
SRAM is cleared using the Service mode. In this case, the initial settings are determined according to the current marketing area code.

- The bit status can be changed by the following methods:

1. Use Soft Switch available as a Service Mode function.

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Hex-binary conversion list	HEX															
	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
4 (8)	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
3 (7)	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1
2 (6)	0	0	1	1	0	0	1	1	0	0	1	1	0	0	1	1
1 (5)	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1

2. Use the RSD software function.

11.1 Default Setting

11.1.1 Country for each marketing area

NOTES

- A different country may be applicable depending on the communications standard.
 - The marketing area settings can be set using the service's choice of service mode.
- ☞ 57
- According to the following table, the machines that are installed in the West Europe Area select "West Europe" in the "Marketing Area" function. Do not select each country.

Marketing area	Country
Standard	Baltic, Bahrain, Indonesia, Israel, Kuwait, Oman, Philippine, Poland, Qatar, Romania, Russia, Saudiarabia, Slovakia, Slovenia, Thailand, U.A.E., Ukraine
U.S.A	U.S.A., Canada.
West Europe	Austria, Belgium, Czech, Denmark, Finland, France, Greece, Hungary, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, West Europe.
Asia	Hong Kong, Malaysia
Setting in accordance with each country	Australia, China, Germany, Japan, Korea, New Zealand, South Africa, Taiwan.
Singapore	Singapore (remark: with DTS default setting).

11.2 Default soft switch setting for each market area 1

Soft switch No.	Marketing area																																			
	Standard (Initial setting)								U.S.A.								West europe								Asia											
	Bit No.								Bit No.								Bit No.								Bit No.											
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8				
# 01	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0							
# 02	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0						
# 03	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	1					
# 04	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0					
# 05	0	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	0	1	0	0	1	1	0	0	0	1	0	0	0	0					
# 06	1	1	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1	1	1	0	0	1	0	1	1	1	1	0	0	1	0					
# 07	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	1	0	0	0					
# 08	1	0	0	0	0	1	1	0	1	0	0	0	0	1	1	0	0	0	0	0	1	1	1	1	1	1	0	0	0	1	1	0				
# 09	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0	0	0				
# 10	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	1	1	1	0	1	1	1	1	0	0	0	1	1	0	1				
# 11	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
# 12	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1				
# 13	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	1	0	0	0	1	0	0	0			
# 14	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0			
# 15	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0			
# 16	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0			
# 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 19	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	1	1	0	1	0	1	1	0	0	1	0	1	0	1	1	0	1			
# 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 21	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1	1			
# 22	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0			
# 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 26	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0		
# 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 28	1	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1	1	1	1	0	1	0	1	0	1	0	1	1	1	0	0	1	0	1		
# 29	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0		
# 30	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	1	0	1	0	
# 31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 33	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	
# 34	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	
# 35	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	1	0	0	1
# 36	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	1	0	0	0	1
# 37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Fax Kit (FK-505)

Adjustment / Setting

Soft switch No.	Marketing area																																		
	Standard (Initial setting)								U.S.A.								West europe								Asia										
	Bit No.								Bit No.								Bit No.								Bit No.										
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8			
# 38	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1		
# 39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0		
# 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 46	0	1	0	1	0	0	0	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0		
# 47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 48	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	0	1		
# 49	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0		
# 50	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	
# 51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	0	0	1	0	1	
# 55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 59	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 60	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	
# 61	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	
# 62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 63	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	
# 64	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0

Fax Kit (FK-505)

Adjustment / Setting

11.3 Default soft switch setting for each market area 2

Soft switch No.	Marketing area																																							
	Austria								China								Germany								Japan															
	Bit No.								Bit No.								Bit No.								Bit No.															
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8								
# 01	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0					
# 02	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0				
# 03	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	1	1	0	0	1	1	0	1	1	0	0	0	0	1				
# 04	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0				
# 05	0	0	0	1	0	0	1	1	1	1	0	0	1	0	0	1	1	1	0	0	1	0	0	1	1	0	0	1	1	0	0	1	0	0	0	0				
# 06	1	1	1	1	0	0	1	1	0	1	1	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1	0	1	1	1	1	0	0	1	0	1				
# 07	1	1	1	0	0	0	0	1	0	0	0	1	0	0	0	1	1	1	1	0	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0				
# 08	0	0	0	0	0	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	0	0	0	1	1	0			
# 09	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 10	1	1	1	1	0	1	0	1	1	1	1	1	0	1	0	1	1	1	1	0	1	1	1	0	1	1	1	1	0	0	0	0	1	0	1	0	1			
# 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 12	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0		
# 13	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0		
# 14	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0		
# 15	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0		
# 16	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0		
# 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 19	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 21	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	
# 22	0	1	1	0	0	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0		
# 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 26	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 28	1	1	1	0	1	0	1	1	1	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	
# 29	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 30	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 33	0	0	0	1	1	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 34	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 35	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 36	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Soft switch No.	Marketing area																																			
	Austria								China								Germany								Japan											
	Bit No.								Bit No.								Bit No.								Bit No.											
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8				
# 38	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1			
# 39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0			
# 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	1	0	0	0		
# 47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 48	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	1	0	0	1	0	0	1	
# 49	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0		
# 50	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	
# 51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	0	1	0	1	0	1	
# 55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 60	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	1	0	0
# 61	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	
# 62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 63	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	
# 64	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1	0	0	1	0	0	0	

Fax Kit (FK-505)

Adjustment / Setting

11.4 Default soft switch setting for each market area 3

Soft switch No.	Marketing area																																						
	Korea								New Zealand								South Africa								Taiwan														
	Bit No.								Bit No.								Bit No.								Bit No.														
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8							
# 01	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0				
# 02	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0				
# 03	0	1	1	0	0	0	1	0	1	1	0	0	0	1	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	1	0	1	1	0	0	0	1		
# 04	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0			
# 05	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	1	0	0	0	1	0	0	0	0	0	0	1	0	1	0	1	0	0	0	0	0			
# 06	1	1	1	1	0	0	1	1	0	1	1	0	0	0	1	0	1	1	1	1	0	0	1	0	1	0	1	1	1	1	0	0	1	0	1	0			
# 07	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0		
# 08	1	1	0	0	0	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0	1	1	0	1	0	1	0	1	0	0	0	0	1	1	0	0		
# 09	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 10	1	0	0	0	0	1	0	1	1	1	1	0	1	1	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	0	0	0	0	1	0	1	
# 11	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
# 12	0	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	
# 13	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	
# 14	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	
# 15	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
# 16	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	
# 17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 19	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	1	1	0	1	1	0	1	0	1	1	0	1	1	0	
# 20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 21	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	
# 22	0	1	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	
# 23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 26	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0	0	1	0	1	0	0	0	
# 27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 28	1	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1	1	1	1	0	0	1	0	1	0	1	1	1	1	0	0	1	0	1	0	1	0	1	
# 29	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	
# 30	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	0	1	1	1	0	0	0	1	0	0	1	0	1	0	1	1	0	0	
# 31	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 33	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
# 34	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	
# 35	0	0	0	0	1	0	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0
# 36	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	0	1	0	1	0	1	0	1	0	0	0	0	1	0
# 37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Soft switch No.	Marketing area																																				
	Korea								New Zealand								South Africa								Taiwan												
	Bit No.								Bit No.								Bit No.								Bit No.												
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8					
# 38	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	1	0	0	0	0	1	1	1	1			
# 39	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0			
# 40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
# 46	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0	0	1	0	1	0	0	0
# 47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
# 48	1	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1	0	0	1	0	0	1	1	0	0	1	0	0	1	1	0	0	1	0	0	1
# 49	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
# 50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 51	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0
# 52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 54	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	0	1	0	1	0	1	0	0	1	0	1	0	0	0	1	0	1	0	1
# 55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 57	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 59	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 60	1	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0
# 61	1	1	1	1	0	0	0	1	1	1	1	0	0	0	0	1	1	1	0	0	0	0	1	1	1	0	0	0	1	1	1	1	0	0	0	0	0
# 62	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# 63	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
# 64	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0

Fax Kit (FK-505)

Adjustment / Setting

11.5 Default soft switch setting for each market area 4

Soft switch No.	Marketing area							
	Singapore							
	Bit No.							
	1	2	3	4	5	6	7	8
# 01	1	0	0	0	0	0	0	0
# 02	0	0	0	0	0	0	1	0
# 03	0	1	1	0	0	0	0	1
# 04	0	0	1	1	0	0	0	0
# 05	1	0	0	1	0	0	0	0
# 06	1	1	1	1	0	0	1	0
# 07	0	0	0	1	0	0	0	1
# 08	1	0	0	0	0	1	1	0
# 09	0	0	0	0	0	0	0	0
# 10	1	0	0	0	0	1	0	1
# 11	0	0	0	0	0	0	0	0
# 12	0	0	0	0	0	0	0	1
# 13	0	0	0	0	1	0	0	0
# 14	0	1	0	0	0	0	0	0
# 15	1	0	0	0	0	0	0	0
# 16	1	1	0	0	0	0	0	0
# 17	0	0	0	0	0	0	0	0
# 18	0	0	0	0	0	0	0	0
# 19	1	0	1	1	0	1	1	0
# 20	0	0	0	0	0	0	0	0
# 21	0	0	0	0	0	0	1	1
# 22	0	1	1	0	0	0	0	0
# 23	0	0	0	0	0	0	0	0
# 24	0	0	0	0	0	0	0	0
# 25	0	0	0	0	0	0	0	0
# 26	0	0	0	1	0	1	0	0
# 27	0	0	0	0	0	0	0	0
# 28	1	1	1	0	0	1	0	1
# 29	0	0	1	0	1	0	0	0
# 30	0	0	0	1	0	1	1	0
# 31	0	0	0	0	0	0	0	0
# 32	0	0	0	0	0	0	0	0

Soft switch No.	Marketing area							
	Singapore							
	Bit No.							
	1	2	3	4	5	6	7	8
# 33	0	0	0	0	0	0	1	0
# 34	0	1	0	0	0	0	0	0
# 35	0	0	0	0	1	0	0	1
# 36	0	1	0	1	0	0	0	1
# 37	0	0	0	0	0	0	0	0
# 38	1	0	0	0	0	1	1	1
# 39	1	0	0	0	0	0	0	0
# 40	0	0	0	0	0	0	0	0
# 41	0	0	0	0	0	0	0	0
# 42	0	0	0	0	0	0	0	0
# 43	0	0	0	0	0	0	0	0
# 44	0	0	0	0	0	0	0	0
# 45	0	0	0	0	0	0	0	0
# 46	0	1	0	1	0	0	0	0
# 47	0	0	0	0	0	0	0	0
# 48	1	0	0	1	0	0	0	1
# 49	1	0	0	0	0	0	0	0
# 50	0	0	0	0	0	0	1	0
# 51	0	0	0	0	0	0	0	0
# 52	0	0	0	0	0	0	0	0
# 53	0	0	0	0	0	0	0	0
# 54	0	0	0	1	0	1	0	1
# 55	0	0	0	0	0	0	0	0
# 56	0	0	0	0	0	0	0	0
# 57	0	0	0	0	0	0	0	0
# 58	0	0	0	0	0	0	0	0
# 59	0	0	0	1	0	0	0	0
# 60	1	0	0	0	0	1	0	0
# 61	1	1	1	1	0	0	0	0
# 62	0	0	0	0	0	0	0	0
# 63	0	0	0	0	0	0	0	1
# 64	0	0	0	0	1	0	0	0

11.6 Soft Switch List

Switch No.	Bit No.	Designation	Page No.
# 01	8	Detect CED or not after Dial	E33 114
	2/1	V.34 CI signal byte number reserved	
# 02	8/7	Time between phase C to phase D signal in V.17	E33 114
	6	Header TX selection open to user	
	3/2	Transmit RTN signal level criteria	
	1	Sent N.G page	
# 03	8	Send out NSF frame with station ID	E33 115
	7	Number of pause within phone number	
	6	Re-dial prohibit for NO ANSWER	
	4/3/2/1	RX level setting	
# 04	4	Visible alarm for RTN signal	E33 116
	3	Audible alarm or RTN signal	
	1	Polarity change detection	
# 05	8/7	Push Button on/off Timing (PB)	E33 117
	6/5	Relation between dialed No. and No. of dial pulse	
	4/3/2/1	Dial pulse make ratio select (MR)	
# 06	8/7	Ring on time to ignore ring off time at 1st cycle	E33 118
	4/3	Ring off time at 1 st. cycle to approve incoming ring	
# 07	8	Dial tone or busy tone detection	E33 118
	7	PSTN/ PBX setting	
	6	PBX dial tone detect	
	5	Dial mode select	
	4/3/2/1	Tx level select for PSK/ FSK	
# 08	8	Sending RTN signal level	E33 119
	7	Detect busy tone after dialing	
	6	Sending CED signal after connection	
	4/3/2/1	Redial interval	
# 09	8/7	Ringer frequency detection	E33 120
	5	TSI/ CSI Append "+"	
	2/1	Time from RX DIS signal to send DCS signal	
# 10	8	Print out RTN page report	E33 121
	7	Confirmation report result field	
	6/5	Get gap time between digit for pulse dial	
	4	RX PIP T.30 command after send out MPS command	
	3	Received DIS signal within reception	
	2	Transmission time limitation	
	1	Audio alarm after communication fail	

Switch No.	Bit No.	Designation	Page No.
# 11	7	Detect dial tone after pre-fix number	E33 ^o 122
	6	Pulse dial allowed to select	
	5	Protocol signal display mode	
	1	DTMF high frequency dB value	
# 12	8	ECM Mode capability	E33 ^o 122
	7/6	V.34 fall back level for V.34 TX.	
	5	Send CTC after 4th PPR	
	3	Send EOR after lowest speed	
	2/1	TCF transmission timing after DCS	
# 13	8	MR capability for G3	E33 ^o 123
	7/6	Delay time between transaction	
	5	Super fine printing capability for receiving	
	4	Disable ultra fine capability in RX mode	
	3	DTS mode (Der Telefax Standard)	
	2	Send DTC signal if RX DIS signal in polling RX mode	
# 14	6	Memory size level to RX	E33 ^o 124
	3/2/1	Time between V.34 ANSam signal and FSK DIS signal	
# 15	1	Remote side no document to be polled	E33 ^o 124
# 16	2/1	Fax communication coding method	E33 ^o 125
# 17	6	CED frequency	E33 ^o 125
	5/4/3	Pause between off hook and CED signal	
	2/1	Inactivity timer [T5]	
# 18	6/5	G3 mode training quality level	E33 ^o 126
	4/3/2/1	Redefine re-dial attempts counter	
# 19	8/7/6/5	CNG signal level	E33 ^o 127
	4/3/2/1	DTMF high frequency level	
# 20	5/4/3/2/1	Redefine redial interval	E33 ^o 128
# 21	8	NSS signal before DCS	E33 ^o 129
	7/6	CNG duration after dialing (T1)	
	5	T4 timer	
	3	DIS signal length	
	2/1	Increase default T1 timing during calling	
# 22	8	Detect busy tone before dial	E33 ^o 130
	7	Regard dial tone as busy tone after dialing	
	6	Check busy tone method	
	4/3/2/1	CED signal output level	
# 23	-	Reserved	E33 ^o 130
# 24	-	Reserved	E33 ^o 131
# 25	4/3	Flash key time in ON hook key dial	E33 ^o 131
# 26	8/7	Dial tone detection time before disconnected	E33 ^o 132
	6/5/4/3/2/1	Dial tone insensitivity	

Switch No.	Bit No.	Designation	Page No.
# 27	4/3/2/1	Immunity for dial tone receiver	133
# 28	8/7/6/5	Time to dial after dial tone on the line	133
# 29	5/4/3/2/1	Time to dial after size the line when dial tone detected	134
# 30	8/7	Pause delay time within digit	135
	6/5/4/3/2/1	Signal tone Insensitivity after dial for busy tone	
# 31	–	Reserved	136
# 32	–	Reserved	136
# 33	7	V.17 echo protection tone	137
	6	V.29 echo protection tone	
	5	Compromise equalize enable (CEQ) in the transmit path (TCEQ)	
	4	Compromise equalize enable (CEQ) in the receiver path (RCEQ)	
# 34	–	Reserved	137
# 35	8/7	Dial tone table switch time	138
	6/5/4	Dial tone frequency upper range index	
	3/2/1	Dial tone frequency low range index	
# 36	8	Re-dial attempts continue fall counter	139
	4/3/2/1	Re-dial attempts fail limitation counter	
# 37	8	Polling TX type for V.34 modem	140
	7	Auto dial learning for V.34 modem	
	6/5/4	RX start symbol rate for V.34 modem	
	3/2/1	TX start symbol rate for V.34 modem	
# 38	8	Fine tone of 33.6 kbps/ 31.2 kbps receiving speed for V.34 modem	141
	7	Set/ reset V.34 transmit level deviation	
	6/5	V.34 flag number between ECM frame	
	4	Phase 2 guard tone power level (V.34)	
	2	Polling RX start speed	
	1	V.8/ V.34 capability	
# 39	8	Disable V.34 TX for V.34 modem	141
	7	Disable V.34 RX for V.34 modem	
	6/5	Flags number in FSK for V.34 modem	
	4	Manual TX mode for V.34 modem	
	3	Switch from V.17 to V.34 if DIS bit 6 set after received DIS	
	2/1	Delay time in primary channel for V.34 transmit after CFR or MCF signal	
# 40	8/7/6/5	V.17 RX start speed	142
	3/2/1	V.34 RX start speed	
# 41	8/7/6/5	V.17 TX start speed	143
	3/2/1	V.34 TX start speed	
# 42	–	Reserved	143
# 43	–	Reserved	144
# 44	–	Reserved	144
# 45	6	Closed network	145

Switch No.	Bit No.	Designation	Page No.
# 46	8	Delight savings timer	E33 ^o 146
	4	RX print	
	3	Daylight TX mode	
	2	Header for FAX TX	
	1	Print model name	
# 47	6	RX mode	E33 ^o 146
	5	Footer	
# 48	8	Activity report	E33 ^o 147
	7	Reservation report	
	6	TX result report	
	5	RX result report	
	4	TX/ RX error report	
	3	Error report for I-FAX and network scanner	
	2	Error mail (I-FAX)	
# 49	6	Print RX mailbox report method	E33 ^o 148
	5	Redial method if communication fail	
	4/3/2/1	No. of ring	
# 50	8	Transmit or cancel after time out in "Memory TX"	E33 ^o 148
	7	E-mail address in Relay box registration	
# 51	4/3	T30 monitor report selection	E33 ^o 149
	2	Send "un-sent page mode" for memory transmission	
# 52	–	Reserved	E33 ^o 149
# 53	–	Reserved	E33 ^o 149
# 54	8	Report/ LCD date/ time type	E33 ^o 150
	7/6	Report/ LCD date/ time format	
	5/4	Memory near full capacity for scanning	
# 55	–	Reserved	E33 ^o 150
# 56	–	Reserved	E33 ^o 151
# 57	–	Reserved	E33 ^o 151
# 58	8	Time out from PSK to FSK delay time	E33 ^o 151
# 59	6/5/4/3/2/1	Time between GMT (Greenwich Mean Time)	E33 ^o 152
# 60	6	Quick memory TX	E33 ^o 155
	5	B4/ A3 declaration for Ledger	
	4	The width of TX Ledger (8k)	
	3	Print mailbox RX image even if password is not correct	
	2	Off hook alarm after communication	
	1	Display destination selection within TX phase C	
# 61	4/3/2/1	Max. No. of ring	E33 ^o 156
# 62	–	Reserved	E33 ^o 156

Switch No.	Bit No.	Designation	Page No.
# 63	8	# key definition in PBX mode	157
	1	TX result report with image	
# 64	6	Print RX error report on RX side if no FAX signal is detected	157
	5	10 pps & 20 pps selectable by user	

11.7 Soft Switch Definition

11.7.1 SOFT SWITCH: #01

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	Detect CED or not after Dial	0 : Detect CED after dial 1 : Not detect CED after dial	0	0															
7	Reserved	Reserved	0																
6	Reserved	Reserved	0																
5	Reserved	Reserved	0																
4	Reserved	Reserved	0	1															
3	Reserved	Reserved	0																
2	V.34 CI signal byte number reserved	<table border="1"> <thead> <tr> <th>Byte number</th> <th>30 bytes</th> <th>9 bytes</th> <th>15 bytes</th> <th>60 bytes</th> </tr> </thead> <tbody> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Byte number		30 bytes	9 bytes	15 bytes	60 bytes	Bit 2	0	0	1	1	Bit 1	0	1	0	1	0
Byte number			30 bytes		9 bytes	15 bytes	60 bytes												
Bit 2			0		0	1	1												
Bit 1	0	1	0	1															
1			1																

11.7.2 SOFT SWITCH: #02

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	Time between phase C to phase D signal in V.17 Example: Image → EOP	<table border="1"> <thead> <tr> <th>RX Insensitivity</th> <th>70 ms</th> <th>120 ms</th> <th>180 ms</th> <th>60 ms</th> </tr> </thead> <tbody> <tr> <td>Bit 8</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 7</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	RX Insensitivity	70 ms	120 ms	180 ms	60 ms	Bit 8	0	0	1	1	Bit 7	0	1	0	1	0	2
RX Insensitivity			70 ms	120 ms	180 ms	60 ms													
Bit 8	0	0	1	1															
Bit 7	0	1	0	1															
7			0																
6	Header TX selection open to user	0 : No 1 : Yes	1	0															
5	Reserved	Reserved	0																
4	Reserved	Reserved	0																
3	Transmit RTN signal level criteria	<table border="1"> <thead> <tr> <th>Percentage of error line</th> <th>10 %</th> <th>15 %</th> <th>20 %</th> <th>25 %</th> </tr> </thead> <tbody> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Percentage of error line		10 %	15 %	20 %	25 %	Bit 3	0	0	1	1	Bit 2	0	1	0	1	0
Percentage of error line			10 %		15 %	20 %	25 %												
Bit 3	0	0	1	1															
Bit 2	0	1	0	1															
2			0																
1	Sent N.G page	0 : Send N.G page and up to 3 times for that page 1 : Not re-send that N.G page for G3 mode	0																

- Bit 1 : If this bit is set to '0', N.G indicates our side detected RTN signal from other end. In this case machine can re-send the same page up to three or just one time, and this use for G3 mode only.
- Bit 2-3 : In G3 mode, if error line for each page meets the criteria setting, receiving machine will send RTN signal, in this case, some machine will re-send the same page again. The retry times depend on transmission side.
- Bit 6 : If this bit is set to '0', the header select function can not be changed by user, only changeable by serviceman in service mode.

11.7.3 SOFT SWITCH: #03

Bit No.	Designation	Function	Initial Setting																																																																																																
			Bit	HEX																																																																																															
8	Send out NSF frame with station ID	1 : Yes 0 : No	1	8																																																																																															
7	Number of pause within phone number	0 : No limitation 1 : Max. up to 2 "P" within inputted telephone number	0																																																																																																
6	Re-dial prohibit for NO ANSWER	0 : Continue to dial 1 : Not allowed to re-dial if no any FAX signal or detected busy tone after dialing	0																																																																																																
5	Reserved	Reserved	0																																																																																																
4	RX level setting	<table border="1"> <tr> <td>RX level (dB)</td> <td>-49</td> <td>-48</td> <td>-47</td> <td>-46</td> <td>-45</td> <td>-44</td> <td>-43</td> </tr> <tr> <td>Bit 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </table> <table border="1"> <tr> <td>RX level (dB)</td> <td>-42</td> <td>-41</td> <td>-40</td> <td>-39</td> <td>-38</td> <td>-37</td> <td>-36</td> </tr> <tr> <td>Bit 4</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 3</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 1</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table> <table border="1"> <tr> <td>RX level (dB)</td> <td colspan="2">Reserved</td> </tr> <tr> <td>Bit 4</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 3</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> </tr> </table>	RX level (dB)	-49	-48	-47	-46	-45	-44	-43	Bit 4	0	0	0	0	0	0	0	Bit 3	0	0	0	0	1	1	1	Bit 2	0	0	1	1	0	0	1	Bit 1	0	1	0	1	0	1	0	RX level (dB)	-42	-41	-40	-39	-38	-37	-36	Bit 4	0	1	1	1	1	1	1	Bit 3	1	0	0	0	0	1	1	Bit 2	1	0	0	1	1	0	0	Bit 1	1	0	1	0	1	0	1	RX level (dB)	Reserved		Bit 4	1	1	Bit 3	1	1	Bit 2	1	1	Bit 1	0	1	0	6
RX level (dB)			-49	-48	-47	-46	-45	-44	-43																																																																																										
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3	1																																																																																																		
2	1																																																																																																		
1	0																																																																																																		

- Bit 8 : If this bit is set to 1, the answer machine will send the machine name (which is that set in INITIAL USER DATA of Utility Mode) by NSF frame after connection.
- Bit 7 : Can input Pause key to insert pause time between digits, this can put more than one "P" at the end of access telephone number during calling to other parties by using PBX system.

Fax Kit (FK-505)

Adjustment / Setting

11.7.4 SOFT SWITCH: #04

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Visible alarm for RTN signal	0 : No 1 : Yes - display message while sending / receiving RTN signal (RTN= Return To Negative).	1	C
3	Audible alarm for RTN signal	0 : No 1 : Yes - alarm for sending or receiving RTN signal.	1	
2	Reserved	Reserved	0	
1	Polarity change detection	0 : Not to detect phase reverse during dialing & calling 1 : Detect line phase reverse during dialing & calling	0	

- Bit 3 : The alarm lasts for 3 seconds after a negative signal is detected in G3 mode.
- Bit 4 : The display message will stay put on the LCD for 3 seconds or until next incoming T30 signal.

11.7.5 SOFT SWITCH: #05

Bit No.	Designation	Function								Initial Setting	
		Timing (ms)		ON	100	70	70	140	90	Bit	HEX
8	Push button on/off timing (PB)	Timing (ms)		ON	100	70	70	140	90	0	0
7				OFF	140	70	140	90	0		
		Bit 8		0	0	1	1				
		Bit 7		0	1	0	1				
6	Relation between dialed No. and No. of dial pulse	# 1	1	2	9	Reserved				0	0
5		# 2	2	3	8						
		# 3	3	4	7						
		# 4	4	5	6						
		# 5	5	6	5						
		# 6	6	7	4						
		# 7	7	8	3						
		# 8	8	9	2						
		# 9	9	10	1						
		# 0	10	1	10						
			Bit 6		0	0	1	1			
	Bit 5		0	1	0	1					
4	Dial pulse make ratio select (MR)	PPS	20	20	20	Reser	16	16	16	Reser	1
3		MR(%)	33	40	30	ved	33	40	30	ved	0
2		Bit 4	0	0	0	0	0	0	0	0	1
1		Bit 3	0	0	0	0	1	1	1	1	0
		Bit 2	0	0	1	1	0	0	1	1	
		Bit 1	0	1	0	1	0	1	0	1	
			PPS	10	10	10	10	Reserved			
		MR(%)	33	40	30	33					
		Bit 4	1	1	1	1	1	1	1	1	
		Bit 3	0	0	0	0	1	1	1	1	
	Bit 2	0	0	1	1	0	0	1	1		
	Bit 1	0	1	0	1	0	1	0	1		

Fax Kit (FK-505)

Adjustment / Setting

11.7.6 SOFT SWITCH: #06

Bit No.	Designation	Function	Initial Setting					
			Bit	HEX				
8	Ring on time to ignore ring off time at 1st cycle	Time	50 ms	100 ms	150 ms	800 ms	0	4
7		Bit 8	0	0	1	1	1	
		Bit 7	0	1	0	1	1	
6	Reserved	Reserved					0	
5	Reserved	Reserved					0	
4	Ring off time at 1 st. cycle to approve incoming ring	Time	100 ms	250 ms	500 ms	1000 ms	1	F
3		Bit 4	0	0	1	1	1	
		Bit 3	0	1	0	1	1	
2	Reserved	Reserved					1	
1	Reserved	Reserved					1	

11.7.7 SOFT SWITCH: #07

Bit No.	Designation	Function	Initial Setting										
			Bit	HEX									
8	Dial tone or busy tone detection	0 : Disable 1 : Enable - Detect dial tone before dial			0	0							
7	PSTN/PBX setting	0 : PSTN 1 : PBX - Select PBX line type			0								
6	PBX dial tone detect	0 : Not to detect dial tone before pre-fix number 1 : Detect dial tone before the pre-fix number in PBX mode			0								
5	Dial mode select	0 : DTMF - PB 1 : Pulse - DP			0								
4	Tx level select for PSK/FSK	Level (dBm)	-17	-16	-15	-14	-13	-12	-11	-10	1	8	
3		Bit 4	0	0	0	0	0	0	0	0	0		
		Bit 3	0	0	0	0	1	1	1	1	0		
		Bit 2	0	0	1	1	0	0	1	1	0		
		Bit 1	0	1	0	1	0	1	0	1	0		
		Level (dBm)	-9	-8	-7	-6	-5	-4	-3	-2			0
1		Bit 4	1	1	1	1	1	1	1	1	1		
	Bit 3	0	0	0	0	1	1	1	1	1			
	Bit 2	0	0	1	1	0	0	1	1	1			
	Bit 1	0	1	0	1	0	1	0	1	1			

11.7.8 SOFT SWITCH: #08

Bit No.	Designation	Function	Initial Setting																																															
			Bit	HEX																																														
8	Sending RTN signal level	0 : (Normal, Fine)=(12,24) continue error line 1 : (Normal, Fine)=(6,12) continue error line	0	6																																														
7	Detect busy tone after dialing	0 : Not to detect 1 : Detect busy tone after dialing	1																																															
6	Sending CED signal After connection	0 : Not to send 1 : Send CED signal before DIS signal after connection	1																																															
5	Reserved	Reserved	0																																															
4	Redial Interval	<table border="1"> <tr> <td>Auto dial interval</td> <td>1, 1, 1, 1, 1, 1, 1, 1, 1, 1.</td> <td>3, 3, 15, 3, 3.</td> <td>1, 1, 15.</td> <td>3, 3.</td> <td>1, 1, 1, 1, 1, 1, 1, 1.</td> <td>3, 3, 1, 3, 1, 3.</td> <td>1, 1, 3, 1, 3.</td> <td>3, 3, 1, 3.</td> </tr> <tr> <td>Bit 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Auto dial interval		1, 1, 1, 1, 1, 1, 1, 1, 1, 1.	3, 3, 15, 3, 3.	1, 1, 15.	3, 3.	1, 1, 1, 1, 1, 1, 1, 1.	3, 3, 1, 3, 1, 3.	1, 1, 3, 1, 3.	3, 3, 1, 3.	Bit 4	0	0	0	0	0	0	0	0	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	0	1
Auto dial interval			1, 1, 1, 1, 1, 1, 1, 1, 1, 1.	3, 3, 15, 3, 3.	1, 1, 15.	3, 3.	1, 1, 1, 1, 1, 1, 1, 1.	3, 3, 1, 3, 1, 3.	1, 1, 3, 1, 3.	3, 3, 1, 3.																																								
Bit 4			0	0	0	0	0	0	0	0																																								
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3			0																																															
2			0																																															
1			<table border="1"> <tr> <td>Auto dial interval</td> <td>1, 1, 1, 1.</td> <td>2, 2.</td> <td>5, 5, 5.</td> <td>1, 2.</td> <td>2, 2, 2, 2, 2, 2, 2, 2.</td> <td>2, 2, 10, 2, 2, 2, 2.</td> <td>3, 3, 10, 3, 3.</td> <td>10, 10, 10, 15, 10.</td> </tr> <tr> <td>Bit 4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Auto dial interval	1, 1, 1, 1.	2, 2.	5, 5, 5.	1, 2.	2, 2, 2, 2, 2, 2, 2, 2.	2, 2, 10, 2, 2, 2, 2.	3, 3, 10, 3, 3.	10, 10, 10, 15, 10.	Bit 4	1	1	1	1	1	1	1	1	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	1	
Auto dial interval			1, 1, 1, 1.	2, 2.	5, 5, 5.	1, 2.	2, 2, 2, 2, 2, 2, 2, 2.	2, 2, 10, 2, 2, 2, 2.	3, 3, 10, 3, 3.	10, 10, 10, 15, 10.																																								
Bit 4	1	1	1	1	1	1	1	1																																										
Bit 3	0	0	0	0	1	1	1	1																																										
Bit 2	0	0	1	1	0	0	1	1																																										
Bit 1	0	1	0	1	0	1	0	1																																										

- Bit 8 : If error line above definition, machine will send RTN signal instead of MCF signal. This will cause the other party to send the same page again.

Fax Kit (FK-505)

Adjustment / Setting

11.7.9 SOFT SWITCH: #09

Bit No.	Designation	Function					Initial Setting	
							Bit	HEX
8	Ringer frequency detection	Ringer frequency range					0	0
7		10 to 75 Hz	20 to 57.5 Hz	20 to 75 Hz	10 to 75 Hz		0	
		Bit 8	0	1	1			
		Bit 7	0	1	0	1		
6	Reserved	Reserved					0	
5	TSI/CSI append "+"	0 : Not append "+" before send out TSI/CSI 1 : Automatically insert "+"					0	
4	Reserved	Reserved					0	0
3	Reserved	Reserved					0	
2	Time from RX DIS signal to send DCS signal	Description					0	
1		70 ms	120 ms	180 ms	240 ms			
		Bit 2	0	1	1		0	
		Bit 1	0	1	0	1		

- Bit 5 : When this bit is set to "1", the "+" character will be placed in the first position on CSI and TSI command.

11.7.10 SOFT SWITCH: #10

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	Print out RTN page report	0 : Not to Print 1 : Print Out RTN page report after transaction for TX/RX RTN signal	1	A															
7	Confirmation report result field	0 : Print "OK" 1 : Print "NG" in case of sending or receiving RTN signal	0																
6	Get gap time between digit for pulse dial	<table border="1"> <thead> <tr> <th>Value</th> <th>550 ms</th> <th>650 ms</th> <th>750 ms</th> <th>850 ms</th> </tr> </thead> <tbody> <tr> <td>Bit 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Value		550 ms	650 ms	750 ms	850 ms	Bit 6	0	0	1	1	Bit 5	0	1	0	1	1
Value			550 ms		650 ms	750 ms	850 ms												
Bit 6	0	0	1		1														
Bit 5	0	1	0	1															
5	0																		
4	RX PIP T.30 command after send out MPS command	0 : Send DCS at current speed 1 : Return to Tx phase B waiting for DIS signal	0																
3	Received DIS signal within reception	0 : Repeat sending DIS/DTC again until time out 1 : Disconnected after sending DCN signal	0	1															
2	Transmission time limitation	0 : No any limitation until document jam 1 : Limit to 8 minutes from data phase	0																
1	Audio alarm after communication fail	0 : Not to alarm after transaction fail 1 : Alarm 3 seconds after disconnected	1																

- Bit 8 : If this bit set to 1, machine will print out confirmation report after each transaction for TX/RX RTN signal.
- Bit 7 : If this bit is set to 1, the result field will show "NG" instead of "OK" in the confirmation report and activity report or checking the result on the LCD.
- Bit 2 : For Manual Tx only.

11.7.11 SOFT SWITCH: #11

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Detect dial tone after pre-fix number	0 : No 1 : Yes	0	
6	Pulse dial allowed to select	0 : Yes 1 : Not allowed	0	
5	Reserved	Reserved	0	0
4	Reserved	Reserved	0	
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	DTMF high frequency dB value	0 : Base on SW19 (1-4) 1 : High 1dB	0	

- Bit 6 : If this bit is set to 1, not allowed user to select Pulse dial, and this function open for serviceman to change.
- Bit 7 : Bit set to 1, LCD will show the command between each party.

11.7.12 SOFT SWITCH: #12

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	ECM mode capability	1 : Yes 0 : No - also disable V.34 modem capability	1	8															
7	V.34 fall back level for V.34 TX.	<table border="1"> <tr> <td>Counter</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>Bit 7</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 6</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Counter		1	2	3	4	Bit 7	0	0	1	1	Bit 6	0	1	0	1	0
Counter			1		2	3	4												
Bit 7	0	0	1	1															
Bit 6	0	1	0	1															
6			0																
5	Send CTC after 4th PPR	0 : Send CTC (Continue To Correct) 1 : Send EOR (End Of Transmission)	0	0															
4	Reserved	Reserved	0																
3	Send EOR after lowest speed	0 : Send DCN (Redial) 1 : Send EOR_xxx (Germany PTT)	0																
2	TCF transmission timing after DCS	<table border="1"> <tr> <td>Description</td> <td>70 ms</td> <td>80 ms</td> <td>90 ms</td> <td>100 ms</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Description		70 ms	80 ms	90 ms	100 ms	Bit 2	0	0	1	1	Bit 1	0	1	0	1	0
Description			70 ms		80 ms	90 ms	100 ms												
Bit 2	0	0	1	1															
Bit 1	0	1	0	1															
1			0																

- Bit 1-2 : Delay time from FSK mode to PSK mode, this is used for G3 mode only, V.34 does not need this setting.
- Bit 6-7 : If level reads "1", machine. Will go down to next lower speed for next data phase.

11.7.13 SOFT SWITCH: #13

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	MR capability for G3	0 : Yes 1 : No	0	1															
7	Delay time between transaction	<table border="1"> <thead> <tr> <th>Description</th> <th>20 sec</th> <th>60 sec</th> <th>120 sec</th> <th>240 sec</th> </tr> </thead> <tbody> <tr> <td>Bit 7</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 6</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Description		20 sec	60 sec	120 sec	240 sec	Bit 7	0	0	1	1	Bit 6	0	1	0	1	0
Description			20 sec		60 sec	120 sec	240 sec												
Bit 7	0	0	1	1															
Bit 6	0	1	0	1															
6			0																
5	Super fine printing capability for receiving	0 : No 1 : Yes	1	0															
4	Disable ultra fine capability in RX mode	0 : No 1 : Yes	0																
3	DTS mode (Der Telefax Standard)	0 : No 1 : Yes	0																
2	Send DTC signal if RX DIS signal in polling RX mode	1 : No -send DIS again 0 : Yes	0																
1	Reserved	Reserved	0																

- Bit 7-6 : If set to 1, the time between each transaction will become longer, in this case machine will wait more time before start to dial next transaction.
- Bit 4 : The resolution definition:
 - Standard R8 x 3.85 lines/mm
 - Fine R8 x 7.7 lines/mm
 - Super fine R8 x 15.4 line/mm
 - Ultra fine R8 x 15.4 lines/mm.

11.7.14 SOFT SWITCH: #14

Bit No.	Designation	Function	Initial Setting																																					
			Bit	HEX																																				
8	Reserved	Reserved	0	0																																				
7	Reserved	Reserved	0																																					
6	Memory size level To RX	1 : Up to 128 KB 0 : Based on system configuration	0																																					
5	Reserved	Reserved	0																																					
4	Reserved	Reserved	0																																					
3	Time between V,34 ANSam signal and FSK DIS signal	<table border="1"> <thead> <tr> <th>Timer</th> <th>50 ms</th> <th>60 ms</th> <th>70 ms</th> <th>80 ms</th> <th>100 ms</th> <th>120 ms</th> <th>140 ms</th> <th>160 ms</th> </tr> </thead> <tbody> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Timer	50 ms	60 ms	70 ms	80 ms	100 ms	120 ms	140 ms	160 ms	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	0	2
Timer			50 ms	60 ms	70 ms	80 ms	100 ms	120 ms	140 ms	160 ms																														
Bit 3			0	0	0	0	1	1	1	1																														
Bit 2			0	0	1	1	0	0	1	1																														
Bit 1	0	1	0	1	0	1	0	1																																
2	1																																							
1	0																																							
	0																																							

- Bit 6 : If set to 1, machine will become manual RX mode if available memory size less than 128 K (manual RX mode: Press “Speaker” key and “Start” key, then machine can start receiving).

11.7.15 SOFT SWITCH: #15

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	
3	Reserved	Reserved	0	1
2	Reserved	Reserved	0	
1	Remote side no document to be polled	0 : Not to generate error report document to be polled 1 : Generate error report after communication end	1	

11.7.16 SOFT SWITCH: #16

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	Reserved	Reserved	0	0															
7	Reserved	Reserved	0																
6	Reserved	Reserved	0																
5	Reserved	Reserved	0																
4	Reserved	Reserved	0																
3	Reserved	Reserved	0	3															
2	Fax communication coding method	<table border="1"> <thead> <tr> <th>Coding method</th> <th>MMR</th> <th>MR</th> <th>MH</th> <th>JBIG</th> </tr> </thead> <tbody> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Coding method		MMR	MR	MH	JBIG	Bit 2	0	0	1	1	Bit 1	0	1	0	1	1
Coding method			MMR		MR	MH	JBIG												
Bit 2			0	0	1	1													
Bit 1	0	1	0	1															
1	1																		

11.7.17 SOFT SWITCH: #17

Bit No.	Designation	Function	Initial Setting																																									
			Bit	HEX																																								
8	Reserved	Reserved	0	0																																								
7	Reserved	Reserved	0																																									
6	CED frequency	0 : 2100 Hz 1 : 1100 Hz	0																																									
5	Pause between off hook and CED signal	<table border="1"> <thead> <tr> <th>Time (T=)</th> <th>1.8 sec to 2.5 sec</th> <th>T+ 100 ms</th> <th>T+ 200 ms</th> <th>T+ 300 ms</th> </tr> </thead> <tbody> <tr> <td>Bit 5</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 4</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Time (T=)</th> <th>T+ 400 ms</th> <th>T+ 500 ms</th> <th>T+ 600 ms</th> <th>T+ 700 ms</th> </tr> </thead> <tbody> <tr> <td>Bit 5</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 4</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Time (T=)	1.8 sec to 2.5 sec	T+ 100 ms	T+ 200 ms	T+ 300 ms	Bit 5	0	0	0	0	Bit 4	0	0	1	1	Bit 3	0	1	0	1	Time (T=)	T+ 400 ms	T+ 500 ms	T+ 600 ms	T+ 700 ms	Bit 5	1	1	1	1	Bit 4	0	0	1	1	Bit 3	0	1	0	1	0	0
Time (T=)			1.8 sec to 2.5 sec	T+ 100 ms	T+ 200 ms	T+ 300 ms																																						
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Bit 3	0	1	0	1																																								
4	0																																											
3	0																																											
2	0																																											
1	Inactivity timer [T5]	<table border="1"> <thead> <tr> <th>Description</th> <th>T5</th> <th>T5 + 20 sec</th> <th>T5 + 40 sec</th> <th>T5 + 60 sec</th> </tr> </thead> <tbody> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Description	T5	T5 + 20 sec	T5 + 40 sec	T5 + 60 sec	Bit 2	0	0	1	1	Bit 1	0	1	0	1	0																										
			Description	T5	T5 + 20 sec	T5 + 40 sec	T5 + 60 sec																																					
			Bit 2	0	0	1	1																																					
Bit 1	0	1	0	1																																								
0																																												

- T5: 60 ± 5 sec. in ITU-T standard

11.7.18 SOFT SWITCH: #18

Fax Kit (FK-505)

Bit No.	Designation	Function	Initial Setting																																																													
			Bit	HEX																																																												
8	Reserved	Reserved	0	0																																																												
7	Reserved	Reserved	0																																																													
6	G3 mode training quality level	<table border="1"> <thead> <tr> <th>Definition</th> <th>Level1</th> <th>Level2</th> <th>Level3</th> <th>Level4</th> </tr> </thead> <tbody> <tr> <td>Bit 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Definition		Level1	Level2	Level3	Level4	Bit 6	0	0	1	1	Bit 5	0	1	0	1	0																																													
Definition		Level1	Level2	Level3	Level4																																																											
Bit 6	0	0	1	1																																																												
Bit 5	0	1	0	1																																																												
5			0																																																													
4	Redefine re-dial attempts counter	<table border="1"> <thead> <tr> <th>Counter</th> <th>0</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> </tr> </thead> <tbody> <tr> <td>Bit 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Counter	0	1	2	3	4	5	6	7	8	9	10	Bit 4	0	0	0	0	0	0	0	0	1	1	1	Bit 3	0	0	0	0	1	1	1	1	0	0	0	Bit 2	0	0	1	1	0	0	1	1	0	0	1	Bit 1	0	1	0	1	0	1	0	1	0	1	0	0	0
Counter		0	1	2	3	4	5	6	7	8	9	10																																																				
Bit 4		0	0	0	0	0	0	0	0	1	1	1																																																				
Bit 3		0	0	0	0	1	1	1	1	0	0	0																																																				
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Bit 1	0	1	0	1	0	1	0	1	0	1	0																																																					
3			0																																																													
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Bit 1	1	0	1	0	1																																																											
			0																																																													

- Bit 1-4 : The redial attempt times will follow bit 1- 4, if these bits are not all setting "0". Otherwise the redial attempt times will follow bit 1 to 4 on SW08.
- Bit 5-6 : Level 4 training check phases is most severe than level 3, 2, 1. Level 4 can keep lowest RX speed communication than level 3, 2, 1 when poor line condition.

Adjustment / Setting

11.7.19 SOFT SWITCH: #19

Bit No.	Designation	Function	Initial Setting																																														
			Bit	HEX																																													
8	CNG signal level	<table border="1"> <tr> <th>Level (dBm)</th> <th>-17</th> <th>-16</th> <th>-15</th> <th>-14</th> <th>-13</th> <th>-12</th> <th>-11</th> <th>-10</th> </tr> <tr> <td>Bit 8</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 7</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Level (dBm)	-17	-16	-15	-14	-13	-12	-11	-10	Bit 8	0	0	0	0	0	0	0	0	Bit 7	0	0	0	0	1	1	1	1	Bit 6	0	0	1	1	0	0	1	1	Bit 5	0	1	0	1	0	1	0	1	0	6
Level (dBm)		-17	-16	-15	-14	-13	-12	-11	-10																																								
Bit 8		0	0	0	0	0	0	0	0																																								
Bit 7		0	0	0	0	1	1	1	1																																								
Bit 6		0	0	1	1	0	0	1	1																																								
Bit 5		0	1	0	1	0	1	0	1																																								
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Bit 2	0	0	1	1	0	0	1	1																																									
Bit 1	0	1	0	1	0	1	0	1																																									
1	<table border="1"> <tr> <th>Level (dBm)</th> <th>-9</th> <th>-8</th> <th>-7</th> <th>-6</th> <th>-5</th> <th>-4</th> <th>-3</th> <th>-2</th> </tr> <tr> <td>Bit 4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Level (dBm)	-9	-8	-7	-6	-5	-4	-3	-2	Bit 4	1	1	1	1	1	1	1	1	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	0		
Level (dBm)	-9	-8	-7	-6	-5	-4	-3	-2																																									
Bit 4	1	1	1	1	1	1	1	1																																									
Bit 3	0	0	0	0	1	1	1	1																																									
Bit 2	0	0	1	1	0	0	1	1																																									
Bit 1	0	1	0	1	0	1	0	1																																									

Fax Kit (FK-505)

Adjustment / Setting

11.7.20 SOFT SWITCH: #20

Fax Kit (FK-505)

Bit No.	Designation	Function	Initial Setting															
			Bit	HEX														
8	Reserved	Reserved	0	0														
7	Reserved	Reserved	0															
6	Reserved	Reserved	0															
5	Redefine redial interval Redefine redial interval over default setting that is based on soft SW #08 bit 1~4	Interval (min)	0	1	2	3	4	5	6	7	8	9	10	11	0	0		
4		Bit 5	0	0	0	0	0	0	0	0	0	0	0	0	0		0	
3		Bit 4	0	0	0	0	0	0	0	0	1	1	1	1	1		0	
2		Bit 3	0	0	0	0	1	1	1	1	0	0	0	0	0		0	
1		Bit 2	0	0	1	1	0	0	1	1	0	0	1	1	1		0	
		Bit 1	0	1	0	1	0	1	0	1	0	1	0	1	0		1	
		Interval (min)	12	13	14	15	16	17	18	19	20	0	0					
		Bit 5	0	0	0	0	1	1	1	1	1	1						
		Bit 4	1	1	1	1	0	0	0	0	0	0						
Bit 3		1	1	1	1	0	0	0	0	0	1							
Bit 2		0	0	1	1	0	0	1	1	0	0							
Bit 1		0	1	0	1	0	1	0	1	0	1	0						
1		Interval (min)	Reserved														0	
		Bit 5	1	1	1	1	1	1	1	1	1	1	1	1	1		1	1
		Bit 4	0	0	0	1	1	1	1	1	1	1	1	1	1		1	1
		Bit 3	1	1	1	0	0	0	0	1	1	1	1	1	1		1	1
	Bit 2	0	1	1	0	0	1	1	0	0	1	1	1	1	1	1		
Bit 1	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1			

Adjustment / Setting

11.7.21 SOFT SWITCH: #21

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	NSS signal before DCS	0 : Not to send NSS signal if remote side is same model 1 : Send NSS signal if remote side is same model	1	C															
7	CNG duration after dialing (T1)	<table border="1"> <tr> <td>Duration</td> <td>40 sec</td> <td>60 sec</td> <td>70 sec</td> <td>120 sec</td> </tr> <tr> <td>Bit 7</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 6</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Duration		40 sec	60 sec	70 sec	120 sec	Bit 7	0	0	1	1	Bit 6	0	1	0	1	1
Duration		40 sec	60 sec		70 sec	120 sec													
Bit 7	0	0	1		1														
Bit 6	0	1	0	1															
6			0																
5	T4 timer	0 : 3.0 sec – Normal case 1 : 4.5 sec	0	0															
4	Reserved	Reserved	0																
3	DIS signal length	0 : Normal length (bit 1 to 64) 1 : 4 bytes DIS command – bit 1 to 32 only	0																
2	Increase default T1 timing during calling	<table border="1"> <tr> <td>Description</td> <td>T1 sec</td> <td>T1+ 30 sec</td> <td>T1+ 40 sec</td> <td>T1+ 60 sec</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Description		T1 sec	T1+ 30 sec	T1+ 40 sec	T1+ 60 sec	Bit 2	0	0	1	1	Bit 1	0	1	0	1	0
Description		T1 sec	T1+ 30 sec		T1+ 40 sec	T1+ 60 sec													
Bit 2	0	0	1	1															
Bit 1	0	1	0	1															
1			0																

- Bit 1-2 : T1 indicates the calling time after dialing, can adjust the T1 time longer by changing the default value. The default T1 timer depends on each country regulation.
- Bit 3 : Some old machines can not accept DIS command over 4 bytes, and every time will become fail. In this case you can set this bit to 1. If this bit is set to 1, JBIG and V8 capability will be disabled automatically.
- Bit 6-7 : A fax to be received is canceled and the machine becomes unable to receive it if the setting of “No. of RINGS” is made longer than the setting of “CNG duration after dialing.” Be sure to make the “No. of RINGS” setting to a value shorter than the “CNG duration after dialing” setting.
- Bit 8 : Sender machine's name will show on the other party's LCD or print on the report if remote side is the same model.

11.7.22 SOFT SWITCH: #22

Bit No.	Designation	Function	Initial Setting																																															
			Bit	HEX																																														
8	Detect busy tone before dial	1 : Check busy tone within dial tone detection 0 : Not to check	0	0																																														
7	Regard dial tone as busy tone after dialing	1 : Yes - Check dial tone after dialing 0 : No	0																																															
6	Check busy tone method	0 : Measure tone by input energy over threshold 1 : By PTT regulation tone frequency	0																																															
5	Reserved	Reserved	0	6																																														
4	CED signal output level	<table border="1"> <thead> <tr> <th>Level (dBm)</th> <th>-17</th> <th>-16</th> <th>-15</th> <th>-14</th> <th>-13</th> <th>-12</th> <th>-11</th> <th>-10</th> </tr> </thead> <tbody> <tr> <td>Bit 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Level (dBm)		-17	-16	-15	-14	-13	-12	-11	-10	Bit 4	0	0	0	0	0	0	0	0	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	0	
Level (dBm)			-17		-16	-15	-14	-13	-12	-11	-10																																							
Bit 4			0		0	0	0	0	0	0	0																																							
Bit 3			0		0	0	0	1	1	1	1																																							
Bit 2			0		0	1	1	0	0	1	1																																							
Bit 1			0		1	0	1	0	1	0	1																																							
3			1																																															
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1			0		<table border="1"> <thead> <tr> <th>Level (dBm)</th> <th>-9</th> <th>-8</th> <th>-7</th> <th>-6</th> <th>-5</th> <th>-4</th> <th>-3</th> <th>-2</th> </tr> </thead> <tbody> <tr> <td>Bit 4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Level (dBm)	-9	-8	-7	-6	-5	-4	-3	-2	Bit 4	1	1	1	1	1	1	1	1	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1
			Level (dBm)	-9	-8	-7	-6	-5	-4	-3	-2																																							
	Bit 4	1	1	1	1	1	1	1	1																																									
	Bit 3	0	0	0	0	1	1	1	1																																									
Bit 2	0	0	1	1	0	0	1	1																																										
Bit 1	0	1	0	1	0	1	0	1																																										

11.7.23 SOFT SWITCH: #23

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.24 SOFT SWITCH: #24

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.25 SOFT SWITCH: #25

Bit No.	Designation	Function	Initial Setting				
			Bit	HEX			
8	Reserved	Reserved	0	0			
7	Reserved	Reserved	0				
6	Reserved	Reserved	0				
5	Reserved	Reserved	0				
4	Flash key time in ON hook key dial	Flash time	100 ms	80 ms	60 ms	50 ms	0
3		Bit 4	0	0	1	1	
		Bit 3	0	1	0	1	
2	Reserved	Reserved	0	0			
1	Reserved	Reserved	0				

11.7.26 SOFT SWITCH: #26

Fax Kit (FK-505)

Adjustment / Setting

Bit No.	Designation	Function	Initial Setting													
			Bit	HEX												
8	Dial tone detection time before disconnected	Time	10 sec	15 sec	20 sec	25 sec	0	2								
7		Bit 8	0	0	1	1	0									
		Bit 7	0	1	0	1										
6	Dial tone insensitivity (0 dBm to -40 dBm)	Level (dBm)	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	1	8	
5		Bit 6	0	0	0	0	0	0	0	0	0	0	0	0		0
4		Bit 5	0	0	0	0	0	0	0	0	0	0	0	0		1
3		Bit 4	0	0	0	0	0	0	0	0	0	1	1	1		0
2		Bit 3	0	0	0	0	1	1	1	1	1	0	0	0		0
		Bit 2	0	0	1	1	0	0	1	1	1	0	0	1		0
		Bit 1	0	1	0	1	0	1	0	1	0	1	0	1		
		Level (dBm)	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20				
		Bit 6	0	0	0	0	0	0	0	0	0	0	0	0		
		Bit 5	0	0	0	0	0	1	1	1	1	1	1	1		
		Bit 4	1	1	1	1	1	1	0	0	0	0	0	0		
		Bit 3	0	1	1	1	1	1	0	0	0	0	0	1		
		Bit 2	1	0	0	1	1	0	0	1	1	1	1	0		
		Bit 1	1	0	1	0	1	0	1	0	1	0	1	0		
		Level (dBm)	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30				
		Bit 6	0	0	0	0	0	0	0	0	0	0	0	0		
		Bit 5	1	1	1	1	1	1	1	1	1	1	1	1		
		Bit 4	0	0	0	1	1	1	1	1	1	1	1	1		
		Bit 3	1	1	1	1	0	0	0	0	1	1	1	1		
		Bit 2	0	1	1	0	0	1	1	0	0	1	0	1		
	Bit 1	1	0	1	0	1	0	1	0	1	0	1	0			
	Level (dBm)	-31	-32	-33	-34	-35	-36	-37	-38	-39	-40					
	Bit 6	0	1	1	1	1	1	1	1	1	1	1	1			
	Bit 5	1	0	0	0	0	0	0	0	0	0	0	0			
	Bit 4	1	0	0	0	0	0	0	0	0	0	0	1			
	Bit 3	1	0	0	0	0	1	1	1	1	1	1	0			
	Bit 2	1	0	0	1	1	0	0	1	1	1	0	0			
	Bit 1	1	0	1	0	1	0	1	0	1	0	1	0			
	Level (dBm)	-41 dBm to -50 dBm														
	Bit 1 to 6	Setting disable														

11.7.27 SOFT SWITCH: #27

Bit No.	Designation	Function	Initial Setting																																																																																											
			Bit	HEX																																																																																										
8	Reserved	Reserved	0	0																																																																																										
7	Reserved	Reserved	0																																																																																											
6	Reserved	Reserved	0																																																																																											
5	Reserved	Reserved	0																																																																																											
4	Immunity for dial tone receiver	<table border="1"> <thead> <tr> <th>Level (dBm)</th> <th>0</th> <th>-1</th> <th>-2</th> <th>-3</th> <th>-4</th> <th>-5</th> <th>-6</th> <th>-7</th> </tr> </thead> <tbody> <tr> <td>Bit 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Level (dBm)</th> <th>-8</th> <th>-9</th> <th>-10</th> <th>-11</th> <th>-12</th> <th>-13</th> <th>-14</th> <th>-15</th> </tr> </thead> <tbody> <tr> <td>Bit 4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Level (dBm)	0	-1	-2	-3	-4	-5	-6	-7	Bit 4	0	0	0	0	0	0	0	0	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	Level (dBm)	-8	-9	-10	-11	-12	-13	-14	-15	Bit 4	1	1	1	1	1	1	1	1	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	0	0
Level (dBm)			0	-1	-2	-3	-4	-5	-6	-7																																																																																				
Bit 4			0	0	0	0	0	0	0	0																																																																																				
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Bit 1	0	1	0	1	0	1	0	1																																																																																						
3	0																																																																																													
2	0																																																																																													
1	0																																																																																													

- Bit 1-4 : Line input energy must be lower this level before dialing.

11.7.28 SOFT SWITCH: #28

Bit No.	Designation	Function	Initial Setting																																																																																																
			Bit	HEX																																																																																															
8	Time to dial after dial tone on the line	<table border="1"> <thead> <tr> <th>Time (ms)</th> <th>0</th> <th>100</th> <th>200</th> <th>300</th> <th>400</th> <th>500</th> <th>600</th> <th>700</th> </tr> </thead> <tbody> <tr> <td>Bit 8</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 7</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Time (ms)</th> <th>800</th> <th>900</th> <th>1000</th> <th>1100</th> <th>1200</th> <th>1300</th> </tr> </thead> <tbody> <tr> <td>Bit 8</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 7</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Time (ms)</th> <th>1400</th> <th>1500</th> </tr> </thead> <tbody> <tr> <td>Bit 8</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 7</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 6</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Time (ms)	0	100	200	300	400	500	600	700	Bit 8	0	0	0	0	0	0	0	0	Bit 7	0	0	0	0	1	1	1	1	Bit 6	0	0	1	1	0	0	1	1	Bit 5	0	1	0	1	0	1	0	1	Time (ms)	800	900	1000	1100	1200	1300	Bit 8	1	1	1	1	1	1	Bit 7	0	0	0	0	1	1	Bit 6	0	0	1	1	0	0	Bit 5	0	1	0	1	0	1	Time (ms)	1400	1500	Bit 8	1	1	Bit 7	1	1	Bit 6	1	1	Bit 5	0	1	1	A
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Time (ms)			800	900	1000	1100	1200	1300																																																																																											
Bit 8	1	1	1	1	1	1																																																																																													
Bit 7	0	0	0	0	1	1																																																																																													
Bit 6	0	0	1	1	0	0																																																																																													
Bit 5	0	1	0	1	0	1																																																																																													
Time (ms)	1400	1500																																																																																																	
Bit 8	1	1																																																																																																	
Bit 7	1	1																																																																																																	
Bit 6	1	1																																																																																																	
Bit 5	0	1																																																																																																	
7	0																																																																																																		
6	1																																																																																																		
5	0																																																																																																		
4	Reserved	Reserved	0	7																																																																																															
3	Reserved	Reserved	1																																																																																																
2	Reserved	Reserved	1																																																																																																
1	Reserved	Reserved	1																																																																																																

11.7.29 SOFT SWITCH: #29

Fax Kit (FK-505)

Adjustment / Setting

Bit No.	Designation	Function	Initial Setting																																																																				
			Bit	HEX																																																																			
8	Reserved	Reserved	0	1																																																																			
7	Reserved	Reserved	0																																																																				
6	Reserved	Reserved	0																																																																				
5	Time to dial after size the line when dial tone detected (Unit = 200 ms)	<table border="1"> <tr><td>Time (sec)</td><td>0</td><td>0.2</td><td>0.4</td><td>0.6</td><td>0.8</td><td>1.0</td><td>1.2</td><td>1.4</td><td>1.6</td><td>1.8</td></tr> <tr><td>Bit 5</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit 4</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit 3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>Bit 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>Bit 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Time (sec)		0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8	Bit 5	0	0	0	0	0	0	0	0	0	0	Bit 4	0	0	0	0	0	0	0	0	1	1	Bit 3	0	0	0	0	1	1	1	1	0	0	Bit 2	0	0	1	1	0	0	1	1	0	0	Bit 1	0	1	0	1	0	1	0	1	0	1	1	4
Time (sec)			0	0.2	0.4	0.6	0.8	1.0	1.2	1.4	1.6	1.8																																																											
Bit 5			0	0	0	0	0	0	0	0	0	0																																																											
Bit 4			0	0	0	0	0	0	0	0	1	1																																																											
Bit 3			0	0	0	0	1	1	1	1	0	0																																																											
Bit 2			0	0	1	1	0	0	1	1	0	0																																																											
Bit 1			0	1	0	1	0	1	0	1	0	1																																																											
4			<table border="1"> <tr><td>Time (sec)</td><td>2.0</td><td>2.2</td><td>2.4</td><td>2.6</td><td>2.8</td><td>3.0</td><td>3.2</td><td>3.4</td><td>3.6</td><td>3.8</td></tr> <tr><td>Bit 5</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit 4</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit 3</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit 2</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Time (sec)	2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8	Bit 5	0	0	0	0	0	0	1	1	1	1	Bit 4	1	1	1	1	1	1	0	0	0	0	Bit 3	0	0	1	1	1	1	0	0	0	0	Bit 2	1	1	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	0	1	0	
Time (sec)			2.0	2.2	2.4	2.6	2.8	3.0	3.2	3.4	3.6	3.8																																																											
Bit 5			0	0	0	0	0	0	1	1	1	1																																																											
Bit 4			1	1	1	1	1	1	0	0	0	0																																																											
Bit 3			0	0	1	1	1	1	0	0	0	0																																																											
Bit 2	1	1	0	0	1	1	0	0	1	1																																																													
Bit 1	0	1	0	1	0	1	0	1	0	1																																																													
3	<table border="1"> <tr><td>Time (sec)</td><td>4.0</td><td>4.2</td><td>4.4</td><td>4.6</td><td>4.8</td><td>5.0</td><td>5.2</td><td>5.4</td><td>5.6</td><td>5.8</td></tr> <tr><td>Bit 5</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit 4</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit 3</td><td>1</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>Bit 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Time (sec)	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8	Bit 5	1	1	1	1	1	1	1	1	1	1	Bit 4	0	0	0	0	1	1	1	1	1	1	Bit 3	1	1	1	1	0	0	0	0	1	1	Bit 2	0	0	1	1	0	0	1	1	0	0	Bit 1	0	1	0	1	0	1	0	1	0	1	0			
Time (sec)	4.0	4.2	4.4	4.6	4.8	5.0	5.2	5.4	5.6	5.8																																																													
Bit 5	1	1	1	1	1	1	1	1	1	1																																																													
Bit 4	0	0	0	0	1	1	1	1	1	1																																																													
Bit 3	1	1	1	1	0	0	0	0	1	1																																																													
Bit 2	0	0	1	1	0	0	1	1	0	0																																																													
Bit 1	0	1	0	1	0	1	0	1	0	1																																																													
2	<table border="1"> <tr><td>Time (sec)</td><td>6.0</td><td>6.2</td></tr> <tr><td>Bit 5</td><td>1</td><td>1</td></tr> <tr><td>Bit 4</td><td>1</td><td>1</td></tr> <tr><td>Bit 3</td><td>1</td><td>1</td></tr> <tr><td>Bit 2</td><td>1</td><td>1</td></tr> <tr><td>Bit 1</td><td>0</td><td>1</td></tr> </table>	Time (sec)	6.0	6.2	Bit 5	1	1	Bit 4	1	1	Bit 3	1	1	Bit 2	1	1	Bit 1	0	1	0																																																			
Time (sec)	6.0	6.2																																																																					
Bit 5	1	1																																																																					
Bit 4	1	1																																																																					
Bit 3	1	1																																																																					
Bit 2	1	1																																																																					
Bit 1	0	1																																																																					

11.7.30 SOFT SWITCH: #30

Bit No.	Designation	Function					Initial Setting									
							Bit	HEX								
8	Pause delay time within digits Ex. 002Pxxxxxx	Time	2.0 sec	2.5 sec	3.0 sec	3.5 sec	0	6								
7		Bit 8	0	0	1	1	1									
		Bit 7	0	1	0	0	1									
6	Signal tone Insensitivity (dBm) after dial for busy tone	Level (dBm)	0	-1	-2	-3	-4	-5	-6	-7	-8	-9	-10	1	8	
5		Bit 6	0	0	0	0	0	0	0	0	0	0	0	0		0
4		Bit 5	0	0	0	0	0	0	0	0	0	0	0	0		0
3		Bit 4	0	0	0	0	0	0	0	0	0	1	1	1		1
2		Bit 3	0	0	0	0	1	1	1	1	1	0	0	0		0
		Bit 2	0	0	1	1	0	0	1	1	1	0	0	1		0
		Bit 1	0	1	0	1	0	1	0	1	0	1	0	1		0
		Level (dBm)	-11	-12	-13	-14	-15	-16	-17	-18	-19	-20				
		Bit 6	0	0	0	0	0	0	0	0	0	0	0	0		0
		Bit 5	0	0	0	0	0	1	1	1	1	1	1	1		1
		Bit 4	1	1	1	1	1	0	0	0	0	0	0	0		0
		Bit 3	0	1	1	1	1	0	0	0	0	0	1	1		1
		Bit 2	1	0	0	1	1	0	0	1	1	0	1	1		0
		Bit 1	1	0	1	0	1	0	1	0	1	0	1	0		0
		Level (dBm)	-21	-22	-23	-24	-25	-26	-27	-28	-29	-30				
		Bit 6	0	0	0	0	0	0	0	0	0	0	0	0		0
		Bit 5	1	1	1	1	1	1	1	1	1	1	1	1		1
		Bit 4	0	0	0	1	1	1	1	1	1	1	1	1		1
		Bit 3	1	1	1	0	0	0	0	0	1	1	1	1		1
	Bit 2	0	1	1	0	0	1	1	1	0	0	1	0	1		
	Bit 1	1	0	1	0	1	0	1	0	1	0	1	0	0		
	Level (dBm)	-31	-32	-33	-34	-35	-36	-37	-38	-39	-40					
	Bit 6	0	1	1	1	1	1	1	1	1	1	1	1	1		
	Bit 5	1	0	0	0	0	0	0	0	0	0	0	0	0		
	Bit 4	1	0	0	0	0	0	0	0	0	0	0	1	1		
	Bit 3	1	0	0	0	0	0	1	1	1	1	0	0	0		
	Bit 2	1	0	0	1	1	0	0	1	1	0	1	1	0		
	Bit 1	1	0	1	0	1	0	1	0	1	0	1	0	0		
	Level (dBm)	-41 dBm to -50 dBm														
	Bit 1 to 6	Setting disable														

Fax Kit (FK-505)

Adjustment / Setting

11.7.31 SOFT SWITCH: #31

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.32 SOFT SWITCH: #32

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.33 SOFT SWITCH: #33

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	4
7	V.17 echo protection tone	0 : Off 1 : On	1	
6	V.29 echo protection tone	0 : Off 1 : On	0	
5	Compromise equalize enable (CEQ) in the transmit path (TCEQ)	0 : No 1 : Yes	0	
4	Compromise equalize enable (CEQ) in the receiver path (RCEQ)	0 : No 1 : Yes	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

- Bit 4-5 : V.17, V.29 and V.27 only

11.7.34 SOFT SWITCH: #34

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	2
3	Reserved	Reserved	0	
2	Reserved	Reserved	1	
1	Reserved	Reserved	0	

11.7.35 SOFT SWITCH: #35

Fax Kit (FK-505)

Bit No.	Designation	Function	Initial Setting						
			Bit	HEX					
8	Dial tone table switch time	Time	300 ms	600 ms	1 sec	2 sec	1	9	
7		Bit 8	0	0	1	1	0		
		Bit 7	0	1	0	1			
6	Dial tone frequency upper range index	Frequency range	375Hz to 462Hz	310Hz to 380Hz	462Hz to 580Hz		0	0	
5		Bit 6	0	0	0		1		
		Bit 5	0	0	1				
		Bit 4	0	1	0				
		Frequency range	570Hz to 630Hz	300Hz to 370Hz	Reserved				
		Bit 6	0	1	1	1	1		
		Bit 5	1	0	0	1	1		
		Bit 4	1	0	1	0	1		
		See Bit 1 to 3 (This upper range value must be higher than lower range value that defined in bit 1 to 3)							
3	Dial tone frequency Low range index	Frequency range	375Hz to 462Hz	310Hz to 380Hz	462Hz to 580Hz		0	0	
2		Bit 3	0	0	0		0		
		Bit 2	0	0	1				
		Bit 1	0	1	0				
		Frequency range	570Hz to 630Hz	300Hz to 370Hz	Reserved				
		Bit 3	0	1	1	1	1		
		Bit 2	1	0	0	1	1		
		Bit 1	1	0	1	0	1		

Adjustment / Setting

11.7.36 SOFT SWITCH: #36

Bit No.	Designation	Function	Initial Setting																																														
			Bit	HEX																																													
8	Re-dial attempts continue fail counter	0 : No any limitation 1 : limit up to bit 1 to 4	1	8																																													
7	Reserved	Reserved	0																																														
6	Reserved	Reserved	0																																														
5	Reserved	Reserved	0																																														
4	Re-dial attempts fail limitation counter	<table border="1"> <tr><td>Counter</td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>Bit 4</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit 3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Counter	0	1	2	3	4	5	6	7	Bit 4	0	0	0	0	0	0	0	0	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	1	6
Counter			0	1	2	3	4	5	6	7																																							
Bit 4			0	0	0	0	0	0	0	0																																							
Bit 3			0	0	0	0	1	1	1	1																																							
Bit 2			0	0	1	1	0	0	1	1																																							
Bit 1			0	1	0	1	0	1	0	1																																							
3	0																																																
2	1																																																
1	0	<table border="1"> <tr><td>Counter</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr> <tr><td>Bit 4</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit 3</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>Bit 2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit 1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </table>	Counter	8	9	10	11	12	13	14	15	Bit 4	1	1	1	1	1	1	1	1	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1		
		Counter	8	9	10	11	12	13	14	15																																							
		Bit 4	1	1	1	1	1	1	1	1																																							
		Bit 3	0	0	0	0	1	1	1	1																																							
Bit 2	0	0	1	1	0	0	1	1																																									
Bit 1	0	1	0	1	0	1	0	1																																									

- Bit 8 : The redial fail counter will plus 1 for each auto dialing, unless user interruption or after finish communication. If the counter is over the setting in bit 1~4 and Bit set to 1, then the machine will stop redial unless user interruption or enter the communication phase.

11.7.37 SOFT SWITCH: #37

Fax Kit (FK-505)

Bit No.	Designation	Function	Initial Setting																															
			Bit	HEX																														
8	Polling TX type for V.34 modem	0 : V.34 1 : V.17	0	0																														
7	Auto dial learning for V.34 modem	0 : Yes- skip V.34 handshaking with remote side 1 : No - retry from V.8 handshake	0																															
6	RX start symbol rate for V.34 modem	<table border="1"> <tr> <td>Symbol rate</td> <td>3429 sym/s</td> <td>3200 sym/s</td> <td>3000 sym/s</td> <td>2800 sym/s</td> <td>2400 sym/s</td> </tr> <tr> <td>Max. speed</td> <td>33.6 kbps</td> <td>31.2 kbps</td> <td>26.4 kbps</td> <td>24.0 kbps</td> <td>21.6 kbps</td> </tr> <tr> <td>Bit 6</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> </tr> <tr> <td>Bit 4</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </table>	Symbol rate		3429 sym/s	3200 sym/s	3000 sym/s	2800 sym/s	2400 sym/s	Max. speed	33.6 kbps	31.2 kbps	26.4 kbps	24.0 kbps	21.6 kbps	Bit 6	0	0	0	0	1	Bit 5	0	0	1	1	0	Bit 4	0	1	0	1	0	0
Symbol rate		3429 sym/s	3200 sym/s	3000 sym/s	2800 sym/s	2400 sym/s																												
Max. speed		33.6 kbps	31.2 kbps	26.4 kbps	24.0 kbps	21.6 kbps																												
Bit 6		0	0	0	0	1																												
Bit 5		0	0	1	1	0																												
Bit 4	0	1	0	1	0																													
5	<table border="1"> <tr> <td>Symbol rate</td> <td colspan="5">Reserved</td> </tr> <tr> <td>Max. speed</td> <td colspan="5">Reserved</td> </tr> <tr> <td>Bit 6</td> <td>1</td> <td>1</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>Bit 4</td> <td>1</td> <td>0</td> <td>1</td> <td></td> <td></td> </tr> </table>	Symbol rate	Reserved					Max. speed	Reserved					Bit 6	1	1	1			Bit 5	0	1	1			Bit 4	1	0	1			0		
Symbol rate	Reserved																																	
Max. speed	Reserved																																	
Bit 6	1	1	1																															
Bit 5	0	1	1																															
Bit 4	1	0	1																															
4	<table border="1"> <tr> <td>Symbol rate</td> <td colspan="5">Reserved</td> </tr> <tr> <td>Max. speed</td> <td colspan="5">Reserved</td> </tr> <tr> <td>Bit 6</td> <td>1</td> <td>1</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>1</td> <td></td> <td></td> </tr> <tr> <td>Bit 4</td> <td>1</td> <td>0</td> <td>1</td> <td></td> <td></td> </tr> </table>	Symbol rate	Reserved					Max. speed	Reserved					Bit 6	1	1	1			Bit 5	0	1	1			Bit 4	1	0	1			0		
Symbol rate	Reserved																																	
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3	TX start symbol rate for V.34 modem	<table border="1"> <tr> <td>Symbol rate</td> <td>3429 sym/s</td> <td>3200 sym/s</td> <td>3000 sym/s</td> <td>2800 sym/s</td> <td>2400 sym/s</td> </tr> <tr> <td>Max. speed</td> <td>33.6 kbps</td> <td>31.2 kbps</td> <td>26.4 kbps</td> <td>24.0 kbps</td> <td>21.6 kbps</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </table>	Symbol rate	3429 sym/s	3200 sym/s	3000 sym/s	2800 sym/s	2400 sym/s	Max. speed	33.6 kbps	31.2 kbps	26.4 kbps	24.0 kbps	21.6 kbps	Bit 3	0	0	0	0	1	Bit 2	0	0	1	1	0	Bit 1	0	1	0	1	0	0	0
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Adjustment / Setting

11.7.38 SOFT SWITCH: #38

Bit No.	Designation	Function	Initial Setting															
			Bit	HEX														
8	Fine tune of 33.6 kbps/ 31.2 kbps receiving speed for V.34 modem	0 : No - modem default setting 1 : Yes	1	E														
7	Set/Reset V.34 transmit level deviation	0 : Reset 1 : Set	1															
6	V.34 flag number between ECM frame	<table border="1"> <thead> <tr> <th>Flags number</th> <th>2</th> <th>4</th> <th>8</th> <th>16</th> </tr> </thead> <tbody> <tr> <td>Bit 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Flags number		2	4	8	16	Bit 6	0	0	1	1	Bit 5	0	1	0	1
Flags number			2	4	8	16												
Bit 6	0	0	1	1														
Bit 5	0	1	0	1														
5			0															
4	Phase 2 guard tone power level (V.34)	0 : normal power level 1 : -7 db of normal power level	0	1														
3	Reserved	Reserved	0															
2	Polling RX start speed	0 : start from V.34 1 : start from V.17	0															
1	V.8 /V.34 capability	0 : No 1 : Yes	1															

- Bit 8 : This bit when set to 1 can get higher speed communication for V.34 under the same line condition.

11.7.39 SOFT SWITCH: #39

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	Disable V.34 TX for V.34 modem	0 : No 1 : Yes	0	0															
7	Disable V.34 RX for V.34 modem	0 : No 1 : Yes	0																
6	Flags number in FSK for V.34 modem	<table border="1"> <thead> <tr> <th>Flags number</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>Bit 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Flags number		1	2	3	4	Bit 6	0	0	1	1	Bit 5	0	1	0	1	0
Flags number			1	2	3	4													
Bit 6	0	0	1	1															
Bit 5	0	1	0	1															
5			0																
4	Manual TX mode for V.34 modem	0 : V.8 - start handshake from V.8 1 : V.17	0	1															
3	Switch from V.17 to V.34 if DIS bit 6 set after received DIS	0 : Yes - start V.8 handshaking.but only first time 1 : No - Continue start with V.17	0																
2	Delay time in primary channel for V.34 transmit after CFR or MCF signal	<table border="1"> <thead> <tr> <th>Delay time</th> <th>100 ms</th> <th>200 ms</th> <th>300 ms</th> <th>500 ms</th> </tr> </thead> <tbody> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Delay time		100 ms	200 ms	300 ms	500 ms	Bit 2	0	0	1	1	Bit 1	0	1	0	1	0
Delay time			100 ms		200 ms	300 ms	500 ms												
Bit 2	0	0	1	1															
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1			1																

11.7.40 SOFT SWITCH: #40

Fax Kit (FK-505)

Bit No.	Designation	Function								Initial Setting																																																							
										Bit	HEX																																																						
8	V.17 RX start speed select receiving start speed for V.17	<table border="1"> <tr> <td>Speed</td> <td colspan="2">V.17</td> <td colspan="2">V.17</td> <td colspan="2">V.17</td> <td colspan="2">V.17</td> </tr> <tr> <td></td> <td colspan="2">14400 bps</td> <td colspan="2">12200 bps</td> <td colspan="2">9600 bps</td> <td colspan="2">7200 bps</td> </tr> <tr> <td>Bit 8</td> <td colspan="2">0</td> <td colspan="2">0</td> <td colspan="2">0</td> <td colspan="2">0</td> </tr> <tr> <td>Bit 7</td> <td colspan="2">0</td> <td colspan="2">0</td> <td colspan="2">0</td> <td colspan="2">0</td> </tr> <tr> <td>Bit 6</td> <td colspan="2">0</td> <td colspan="2">0</td> <td colspan="2">1</td> <td colspan="2">1</td> </tr> <tr> <td>Bit 5</td> <td colspan="2">0</td> <td colspan="2">1</td> <td colspan="2">0</td> <td colspan="2">1</td> </tr> </table>								Speed	V.17		V.17		V.17		V.17			14400 bps		12200 bps		9600 bps		7200 bps		Bit 8	0		0		0		0		Bit 7	0		0		0		0		Bit 6	0		0		1		1		Bit 5	0		1		0		1		0	0
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Adjustment / Setting

11.7.41 SOFT SWITCH: #41

Bit No.	Designation	Function	Initial Setting																																																																																																										
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8	V.17 TX start speed select receiving start speed for V.17	<table border="1"> <tr> <td>Speed</td> <td>V.17</td> <td>V.17</td> <td>V.17</td> <td>V.17</td> </tr> <tr> <td></td> <td>14400 bps</td> <td>12200 bps</td> <td>9600 bps</td> <td>7200 bps</td> </tr> <tr> <td>Bit 8</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 7</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table> <table border="1"> <tr> <td>Speed</td> <td>V.29</td> <td>V.29</td> <td>V.27</td> <td>V.27 ter</td> </tr> <tr> <td></td> <td>9600 bps</td> <td>7200 bps</td> <td>4800 bps</td> <td>2400 bps</td> </tr> <tr> <td>Bit 8</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 7</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table> <table border="1"> <tr> <td>Speed</td> <td colspan="8">Reserved</td> </tr> <tr> <td>Bit 8</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 7</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Speed	V.17	V.17	V.17	V.17		14400 bps	12200 bps	9600 bps	7200 bps	Bit 8	0	0	0	0	Bit 7	0	0	0	0	Bit 6	0	0	1	1	Bit 5	0	1	0	1	Speed	V.29	V.29	V.27	V.27 ter		9600 bps	7200 bps	4800 bps	2400 bps	Bit 8	0	0	0	0	Bit 7	1	1	1	1	Bit 6	0	0	1	1	Bit 5	0	1	0	1	Speed	Reserved								Bit 8	1	1	1	1	1	1	1	1	Bit 7	0	0	0	0	1	1	1	1	Bit 6	0	0	1	1	0	0	1	1	Bit 5	0	1	0	1	0	1	0	1	0	0
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4	Reserved	Reserved	0																																																																																																										
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11.7.42 SOFT SWITCH: #42

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.43 SOFT SWITCH: #43

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.44 SOFT SWITCH: #44

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.45 SOFT SWITCH: #45

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Closed network	0 : OFF 1 : ON	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	3
3	Reserved	Reserved	0	
2	Reserved	Reserved	1	
1	Reserved	Reserved	1	

Fax Kit (FK-505)

Adjustment / Setting

11.7.46 SOFT SWITCH: #46

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Daylight savings timer	0 : No 1 : Yes	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	RX print	0 : RX one page then print one page. (PRINT RX) 1 : Start to print after receiving all pages. (MEMORY RX)	1	A
3	Default TX mode	0 : Memory TX 1 : ADF TX	0	
2	Header for FAX TX	0 : Off 1 : On-Transmit header at top of each page.	1	
1	Print model name on top of TX page if machine name not register	0 : No 1 : Yes	0	

- Bit 1 : If machine name not registered, the model name will print at the top of each receiving page. The default is not printed.
- Bit 2 : Some country such as U.S.A. PTT regulation, must send header at top of each page.

11.7.47 SOFT SWITCH: #47

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	RX mode	0 : Auto RX mode 1 : Manual RX mode	0	
5	Footer	0 : Off 1 : On – Print footer information at each of received page	0	0
4	Reserved	Reserved	0	
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

- Bit 5 : The footer shows machine number, receiving time, remote side TSI number, session and page number.

11.7.48 SOFT SWITCH: #48

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Activity report	0 : No 1 : Yes	1	8
7	Reservation report	0 : No 1 : Yes	0	
6	TX result report	0 : No 1 : Yes	0	
5	RX result report	0 : No 1 : Yes	0	
4	TX/ RX error report	0 : No 1 : Yes	1	9
3	Error report for I-FAX and network scanner	0 : No 1 : Yes	0	
2	Error mail (I-FAX)	If machine receives Error Mail (I-FAX), the mail is deleted or kept? 0 : Delete 1 : Keep	0	
1	Broadcast report	0 : Not to print 1 : Print	1	

- Bit 4 : During communication have error in TX or RX and Bit 4 was set, the machine printed error report.
- Bit 2 : If resetting (delete), the mail will be deleted on POP3 server. If setting (keep), the mail will be kept on POP3 server.

11.7.49 SOFT SWITCH: #49

Bit No.	Designation	Function	Initial Setting																																														
			Bit	HEX																																													
8	Reserved	Reserved	0	0																																													
7	Reserved	Reserved	0																																														
6	Print RX mailbox report method	0 : Based on RX RESULT REPORT setting 1 : Always printing	0																																														
5	Redial method if communication fail	0 : Redial again 1 : Based on redial time interval	0																																														
4	No. of rings	<table border="1"> <thead> <tr> <th>No. of rings</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> </tr> </thead> <tbody> <tr> <td>Bit 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	No. of rings	1	2	3	4	5	6	7	8	Bit 4	0	0	0	0	0	0	0	0	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	0	1
No. of rings			1	2	3	4	5	6	7	8																																							
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Bit 2	0	0	1	1	0	0	1	1																																									
Bit 1	0	1	0	1	0	1	0	1																																									

11.7.50 SOFT SWITCH: #50

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Transmit or cancel after time out in "Memory TX"	0 : Cancel and print out 1 : Transmission	0	4
7	It is possible to register E-mail address in Relay box registration	0 : Disable 1 : Enable	1	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

- Bit 8 : Can select cancel this job and print out report or start to send in case of time when memory full condition occurs
- Bit 7 : If F-NIC was install, this bit was usable in Relay box. If Bit was set, any E-mail address could be registered in Relay box. If Bit was reset, any E-mail address could not be registered in Relay box.

11.7.51 SOFT SWITCH: #51

Bit No.	Designation	Function	Initial Setting																
			Bit	HEX															
8	Reserved	Reserved	0	0															
7	Reserved	Reserved	0																
6	Reserved	Reserved	0																
5	Reserved	Reserved	0																
4	T.30 monitor report selection	<table border="1"> <tr> <td>Descrip-tion</td> <td>Not to print</td> <td>Print report for each transaction</td> <td>Print report while reporting error</td> <td>Not used</td> </tr> <tr> <td>Bit 4</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	Descrip-tion	Not to print	Print report for each transaction	Print report while reporting error	Not used	Bit 4	0	0	1	1	Bit 3	0	1	0	1	0	0
Descrip-tion			Not to print	Print report for each transaction	Print report while reporting error	Not used													
Bit 4			0	0	1	1													
Bit 3	0	1	0	1															
3	0																		
2	Send "un-sent page mode" for memory transmission	0 : From error page 1 : From start page	0																
1	Reserved	Reserved	0																

11.7.52 SOFT SWITCH: #52

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.53 SOFT SWITCH: #53

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.54 SOFT SWITCH: #54

Bit No.	Designation	Function	Initial Setting															
			Bit	HEX														
8	Report/ LCD date/time type	0 : Digits format (example: 2003. 11. 19) 1 : Alpha numeric format (example: 2003. NOV. 19)	1	2														
7	Report/ LCD date format	When bit No.8 is "1".	0															
6		<table border="1"> <thead> <tr> <th>Date</th> <th>2003. NOV. 19</th> <th>19. NOV. 2003</th> <th>NOV. 19. 2003</th> </tr> </thead> <tbody> <tr> <td>Bit 7</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>Bit 6</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Date	2003. NOV. 19	19. NOV. 2003	NOV. 19. 2003	Bit 7	0	0	1	Bit 6	0	1	0	1			
		Date	2003. NOV. 19	19. NOV. 2003	NOV. 19. 2003													
		Bit 7	0	0	1													
Bit 6	0	1	0															
When bit No.8 is "0".	1																	
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Date	2003. 11. 19	19. 11. 2003	11. 19. 2003															
Bit 7	0	0	1															
Bit 6	0	1	0															
5	Memory near full capacity for scanning	<table border="1"> <thead> <tr> <th>Description</th> <th>48 KB</th> <th>96 KB</th> <th>176 KB</th> <th>256 KB</th> </tr> </thead> <tbody> <tr> <td>Bit 5</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 4</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Description	48 KB	96 KB	176 KB	256 KB	Bit 5	0	0	1	1	Bit 4	0	1	0	1	0
Description		48 KB	96 KB	176 KB	256 KB													
Bit 5		0	0	1	1													
Bit 4	0	1	0	1														
4	1																	
3	Reserved	Reserved	0	8														
2	Reserved	Reserved	0															
1	Reserved	Reserved	0															

11.7.55 SOFT SWITCH: #55

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.56 SOFT SWITCH: #56

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.57 SOFT SWITCH: #57

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.58 SOFT SWITCH: #58

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Time out from PSK to FSK delay time	0 : 6 sec 1 : 30 sec	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

- Bit 8 : This is the delay time for PSK signal after sending MCF or PPR command. The timer depends on regulations of each country.

11.7.59 SOFT SWITCH: #59 Part 1

Fax Kit (FK-505)

Adjustment / Setting

Bit No.	Designation	Function	Initial Setting																																								
			Bit	HEX																																							
8	Reserved	Reserved	0	0																																							
7	Reserved	Reserved	0																																								
6	Time between GMT GMT: Greenwich mean time	<table border="1"> <thead> <tr> <th rowspan="2">Time between mean time</th> <th colspan="4">Greenwich mean time + T</th> </tr> <tr> <th>+00:00</th> <th>+00:30</th> <th>+01:00</th> <th>+01:30</th> </tr> </thead> <tbody> <tr><td>Bit 6</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit 5</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit 4</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit 3</td><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>Bit 2</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>Bit 1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </tbody> </table>	Time between mean time		Greenwich mean time + T				+00:00	+00:30	+01:00	+01:30	Bit 6	0	0	0	0	Bit 5	0	0	0	0	Bit 4	0	0	0	0	Bit 3	0	0	0	0	Bit 2	0	0	1	1	Bit 1	0	1	0	1	0
Time between mean time					Greenwich mean time + T																																						
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11.7.60 SOFT SWITCH: #59 Part 2

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Fax Kit (FK-505)

Adjustment / Setting

11.7.61 SOFT SWITCH: #59 Part 3

Fax Kit (FK-505)

Adjustment / Setting

Bit No.	Designation	Function	Initial Setting																																																																																																																																																																																					
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- Bit 1-6 : This value must be entered correctly, or E-mail headers will be wrong. A good reference web site may be found at <http://greenwichmeantime.com>
Available ranges are: 12 to -12, in one hour increments. The default setting is zero.

11.7.62 SOFT SWITCH: #60

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	2
7	Reserved	Reserved	0	
6	Quick memory TX	0 : Ineffective 1 : Effective	1	
5	B4/ A3 declaration for Ledger	0 : A3 size 1 : B4 size	0	1
4	The width of TX Ledger (8k)	0 : A3 size 1 : B4 size	0	
3	Print mailbox RX image even if password is not correct	0 : No 1 : Yes	0	
2	Off hook alarm after communication	0 : Alarm 1 : No alarm after communication	0	
1	Display destination selection within TX Phase C	0 : Local Name or telephone number 1 : Display and report Remote telephone number	1	

- Bit 5 : If set to 0, machine will indicate A3 printing capability in DIS command if machine have Ledger Paper.
- Bit 4 : If set to 0, the width of Ledger as handle as A3 size, but the Zoom ratio is not perform. If set to 1, the width of Ledger as handle as B4. However, when the transmission is performed at the same zoom ratio, an image will be lost. Therefore transmission is started after reducing the width of the image.
- Bit 3 : If bit 3 is set to "1", machine will print out the incoming page even if password is not correct.

11.7.63 SOFT SWITCH: #61

Bit No.	Designation	Function	Initial Setting																																														
			Bit	HEX																																													
8	Reserved	Reserved	0	0																																													
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6	Reserved	Reserved	0																																														
5	Reserved	Reserved	0																																														
4	Max. No. of rings	<table border="1"> <tr> <td>No. of rings</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> <td>6</td> <td>7</td> <td>8</td> </tr> <tr> <td>Bit 4</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	No. of rings	1	2	3	4	5	6	7	8	Bit 4	0	0	0	0	0	0	0	0	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	1	F
No. of rings			1	2	3	4	5	6	7	8																																							
Bit 4			0	0	0	0	0	0	0	0																																							
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1	<table border="1"> <tr> <td>No. of rings</td> <td>9</td> <td>10</td> <td>11</td> <td>12</td> <td>13</td> <td>14</td> <td>15</td> <td>16</td> </tr> <tr> <td>Bit 4</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 3</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 2</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bit 1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </table>	No. of rings	9	10	11	12	13	14	15	16	Bit 4	1	1	1	1	1	1	1	1	Bit 3	0	0	0	0	1	1	1	1	Bit 2	0	0	1	1	0	0	1	1	Bit 1	0	1	0	1	0	1	0	1	1		
		No. of rings	9	10	11	12	13	14	15	16																																							
		Bit 4	1	1	1	1	1	1	1	1																																							
		Bit 3	0	0	0	0	1	1	1	1																																							
Bit 2	0	0	1	1	0	0	1	1																																									
Bit 1	0	1	0	1	0	1	0	1																																									

11.7.64 SOFT SWITCH: #62

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	0
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Reserved	Reserved	0	

11.7.65 SOFT SWITCH: #63

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	# key definition in PBX mode	0 : default is internal 1 : default is external	1	8
7	Reserved	Reserved	0	
6	Reserved	Reserved	0	
5	Reserved	Reserved	0	
4	Reserved	Reserved	0	0
3	Reserved	Reserved	0	
2	Reserved	Reserved	0	
1	Tx Result report with image	0 : Yes 1 : No	0	

- Bit 8 : If this bit set to "1", the # key is used to access PSTN line instead of the pre-fix number which is dialed in front of the TEL No. If this bit set to 0, the pre-fix number is used automatically to access PSTN line when the TEL No. is dialed.
- Bit 1 : If this bit set to "1", the first page image will not append at the bottom of error report or OK report.

11.7.66 SOFT SWITCH: #64

Bit No.	Designation	Function	Initial Setting	
			Bit	HEX
8	Reserved	Reserved	0	1
7	Reserved	Reserved	0	
6	Print RX error report on RX side if no FAX signal is detected	0 : No 1 : Yes	0	
5	10 PPS & 20 PPS selectable by user	0 : No 1 : Yes	1	0
4	Reserved		0	
3	Reserved		0	
2	Reserved		0	
1	Reserved		0	

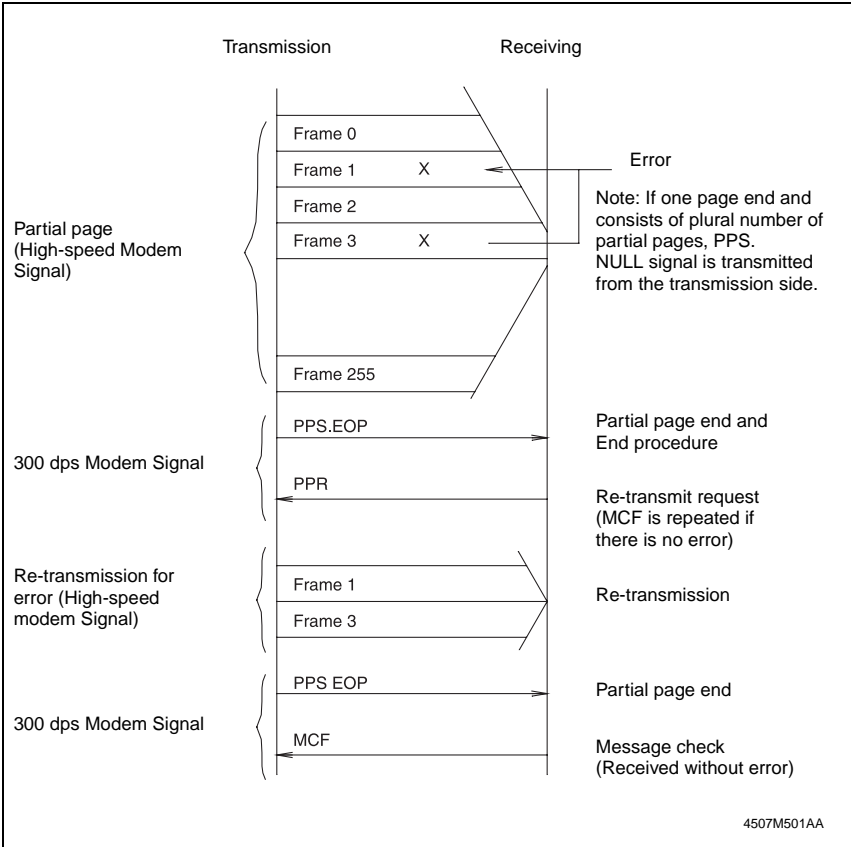
- Bit 6 : If this bit set to "1", Machine does not print a RX error report if no Fax signal from the other party is detected.
- Bit 5 : Prevents user to change PPS if this bit set to "0".

12. Fax Protocols

12.1 G3 ECM (G3 Error Correction Mode)

- G3 ECM is the error correction system newly recommended by Consultative Committee of International Telephone & Telegraph of 1988.
- By G3 ECM, documents are divided into blocks (called partial page) for transmission. If any error takes place in any frame (one partial page consists of 256 frames) on a partial page, the receiving party generates the retransmit request with erroneous frame numbers.

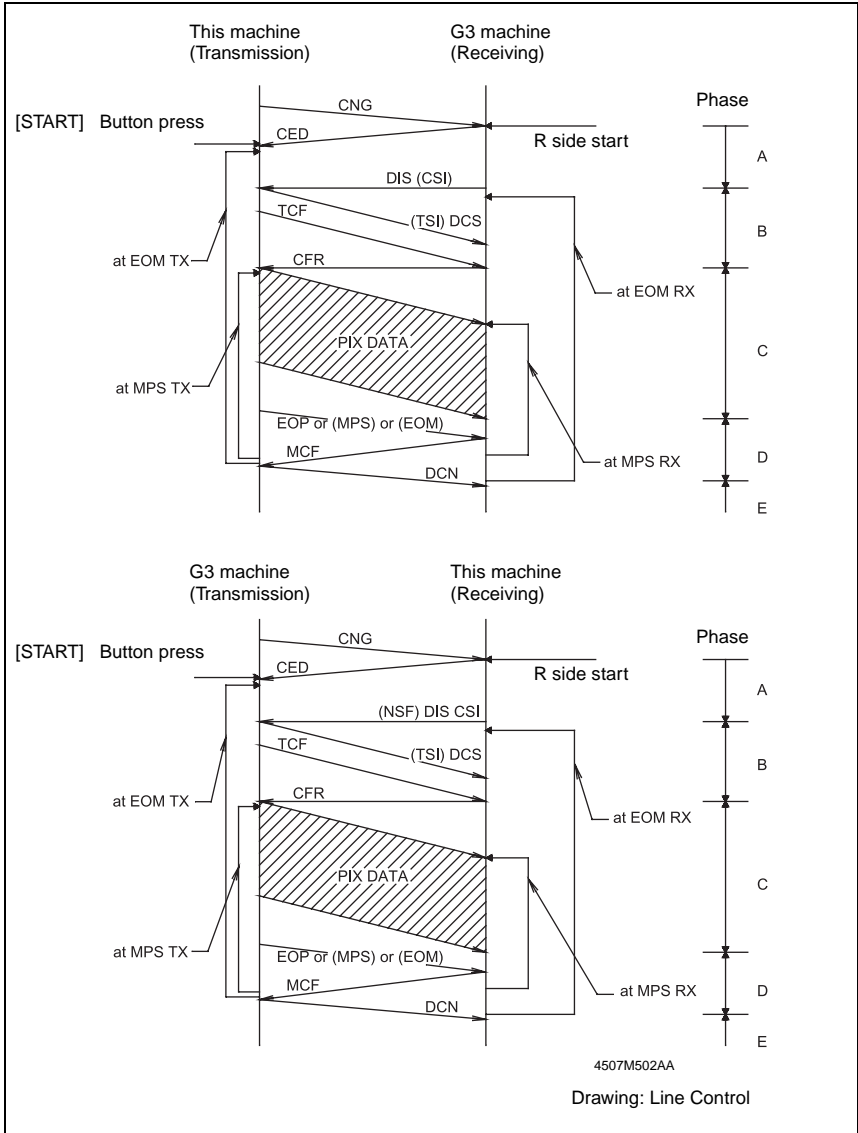
Here is an example where frame 1 and frame 3 are subjected to error:



12.2 Line Control

12.2.1 Procedure of G3 mode communication

- Basic communications diagram of G3 mode.



12.3 Table of Reference Code

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

12.4 How to Analyze the T30 Protocol Monitor

- DCS or DIS
- HEX Data as printed on page.
- 69, 91
- Example: V.17 Communication

PROTOCOL MONITOR REPORT

NAME: ABC
 TEL:886 3 4733507
 DATE: APR.23'04 12:20

SESSION	FUNCTION	NO	DESTINATION STATION	DATE	TIME	PAGE	DURATION	MODE	RESULT
0001	TX	01	ABC 22345678901234567890	DEC.02	15:00	008	00:00'11"	ECM-12	OK

TX	RX	DATA
		<p>FF 13 83 00 46 88 00...</p> <p>Means address</p> <p>FIF (Facsimile Information Field)</p> <p>FCF (Facsimile Control Field) = 83: DCS, 80: DIS</p> <p>Means Last Control Field.</p>

- FIF (Facsimile Information Field)

HEX	1												2																							
	0				0				4				6				8				8				0				0							
Data Bit	0	0	0	0	0	0	0	0	0	1	0	0	0	1	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bit No.	8	7	6	5	4	3	2	1	16	15	14	13	12	11	10	9	24	23	22	21	20	19	18	17	32	31	30	29	28	27	26	25				
Note	<p>↑ Bit No.11= 1, Bit No.12=0 7200 bps</p> <p>↑ Bit No.15= 1 R8 x 7.7 Lines/mm (Fine Mode)</p> <p>↑ Bit No.19= 0, Bit No.20=1 Unlimited Paper Length</p>																																			

- Hex-Binary Conversion List

Hex	Binary				Hex	Binary				Hex	Binary				Hex	Binary			
0	0	0	0	0	4	0	1	0	0	8	1	0	0	0	C	1	1	0	0
1	0	0	0	1	5	0	1	0	1	9	1	0	0	1	D	1	1	0	1
2	0	0	1	0	6	0	1	1	0	A	1	0	1	0	E	1	1	1	0
3	0	0	1	1	7	0	1	1	1	B	1	0	1	1	F	1	1	1	1

DIS (DTC)/ DCS Bit Allocation Table of FIF (Facsimile Information Field)

Bit No.	Designation	DIS/ DTC	DCS																																																																																																																																																																																								
1	"0"= Invalid "1"= Store-and-forward switching Internet fax simple mode																																																																																																																																																																																										
2	Set to "0"																																																																																																																																																																																										
3	"0"= Invalid "1"= Real-time Internet fax																																																																																																																																																																																										
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5	Set to "0"																																																																																																																																																																																										
6	"0"= Invalid "1"= V.8 capabilities		Invalid																																																																																																																																																																																								
7	Flame size	"0" = 256 octets preferred "1"= 64 octets preferred	Invalid																																																																																																																																																																																								
8	Set to "0"																																																																																																																																																																																										
9	"0"= Invalid "1"= Ready to transmit a facsimile document (polling)		Set to "0"																																																																																																																																																																																								
10	"0"= Invalid "1"= Receiver fax operation																																																																																																																																																																																										
11	Data signalling rate	<table border="1"> <thead> <tr> <th colspan="4">Bit No.</th> <th rowspan="2">Data signalling rate</th> </tr> <tr> <th>14</th> <th>13</th> <th>12</th> <th>11</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>V.27 <i>ter</i> fall-back mode</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>Rec. V.29</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>Rec. V.27 <i>ter</i></td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>Rec. V.27 <i>ter</i> and V.29</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>Not used</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>Not used</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>Reserved</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>Not used</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>Not used</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>1</td> <td>Rec. V.27 <i>ter</i>, V.29, V33 and V.17</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>Not used</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>1</td> <td>Not used</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>Reserved</td> </tr> </tbody> </table>				Bit No.				Data signalling rate	14	13	12	11	0	0	0	0	V.27 <i>ter</i> fall-back mode	0	0	0	1	Rec. V.29	0	0	1	0	Rec. V.27 <i>ter</i>	0	0	1	1	Rec. V.27 <i>ter</i> and V.29	0	1	0	0	Not used	0	1	0	1	Not used	0	1	1	0	Reserved	0	1	1	1	Reserved	1	0	0	0	Not used	1	0	0	1	Not used	1	0	1	0	Reserved	1	0	1	1	Rec. V.27 <i>ter</i> , V.29, V33 and V.17	1	1	0	0	Not used	1	1	0	1	Not used	1	1	1	0	Reserved	1	1	1	1	Reserved	<table border="1"> <thead> <tr> <th colspan="4">Bit No.</th> <th rowspan="2">Data signalling rate</th> </tr> <tr> <th>14</th> <th>13</th> <th>12</th> <th>11</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>2400 bit/s, rec. V.27 <i>ter</i></td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>9600 bit/s, rec. V.29</td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>4800 bit/s, rec. V.27 <i>ter</i></td> </tr> <tr> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>7200 bit/s, rec. V.29</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>Invalid</td> </tr> <tr> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>Reserved</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>Invalid</td> </tr> <tr> <td>0</td> <td>1</td> <td>1</td> <td>1</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>14,400 bit/s, rec. V.17</td> </tr> <tr> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>9,600 bit/s, rec. V.17</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>12,000 bit/s, rec. V.17</td> </tr> <tr> <td>1</td> <td>0</td> <td>1</td> <td>1</td> <td>7,200 bit/s, rec. V.17</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>1</td> <td>0</td> <td>1</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>Reserved</td> </tr> <tr> <td>1</td> <td>1</td> <td>1</td> <td>1</td> <td>Reserved</td> </tr> </tbody> </table>				Bit No.				Data signalling rate	14	13	12	11	0	0	0	0	2400 bit/s, rec. V.27 <i>ter</i>	0	0	0	1	9600 bit/s, rec. V.29	0	0	1	0	4800 bit/s, rec. V.27 <i>ter</i>	0	0	1	1	7200 bit/s, rec. V.29	0	1	0	0	Invalid	0	1	0	1	Reserved	0	1	1	0	Invalid	0	1	1	1	Reserved	1	0	0	0	14,400 bit/s, rec. V.17	1	0	0	1	9,600 bit/s, rec. V.17	1	0	1	0	12,000 bit/s, rec. V.17	1	0	1	1	7,200 bit/s, rec. V.17	1	1	0	0	Reserved	1	1	0	1	Reserved	1	1	1	0	Reserved	1	1	1	1	Reserved
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15	"0"= Invalid "1"= R8 × 7.7 lines/mm and/or 200 × 200 pels/25.4 mm																																																																																																																																																																																										
16	"0"= Invalid "1"= Two-dimensional coding capability		"0"= Invalid "1"= Two-dimensional coding																																																																																																																																																																																								

Bit No.	Designation	DIS/ DTC	DCS																																																																
17	Recording width capabilities	<table border="1"> <thead> <tr> <th>Bit No.</th> <th colspan="2">Data signalling rate</th> </tr> <tr> <th>18</th> <th>17</th> <th></th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>Scan line length 215 mm ± 1%</td> </tr> <tr> <td rowspan="2">0</td> <td>1</td> <td>Scan line length 215 mm ± 1% and scan line length 255 mm ± 1%</td> </tr> <tr> <td>0</td> <td>Scan line length 215 mm ± 1% and scan line length 255 mm ± 1% and scan line length 303 mm ± 1%</td> </tr> <tr> <td>1</td> <td>1</td> <td>Invalid</td> </tr> </tbody> </table>	Bit No.	Data signalling rate		18	17		0	0	Scan line length 215 mm ± 1%	0	1	Scan line length 215 mm ± 1% and scan line length 255 mm ± 1%	0	Scan line length 215 mm ± 1% and scan line length 255 mm ± 1% and scan line length 303 mm ± 1%	1	1	Invalid	<table border="1"> <thead> <tr> <th>Bit No.</th> <th colspan="2">Data signalling rate</th> </tr> <tr> <th>18</th> <th>17</th> <th></th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0</td> <td>Scan line length 215 mm ± 1%</td> </tr> <tr> <td>0</td> <td>1</td> <td>Scan line length 215 mm ± 1%</td> </tr> <tr> <td>1</td> <td>0</td> <td>Scan line length 303 mm ± 1%</td> </tr> <tr> <td>1</td> <td>1</td> <td>Invalid</td> </tr> </tbody> </table>	Bit No.	Data signalling rate		18	17		0	0	Scan line length 215 mm ± 1%	0	1	Scan line length 215 mm ± 1%	1	0	Scan line length 303 mm ± 1%	1	1	Invalid																													
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24	Extension field	"0"= Without "1"= With																																																																	
25	Reserved																																																																		
26	"0"= Invalid "1"= Un-compressed mode																																																																		
27	"0"= Invalid "1"= ECM																																																																		
28	Set to "0"		Frame size 0: 256 octets Frame size 1: 64 octets																																																																
29	Set to "0"																																																																		
30	Set to "0"																																																																		
31	"0"= Invalid "1"= T.6 coding capability		"0"= Invalid "1"= T.6 coding enabled																																																																
32	Extend field	"0"= Without "1"= With																																																																	

Fax Kit (FK-505)

Adjustment / Setting

Bit No.	Designation	DIS/ DTC	DCS
33	"0"= Invalid "1"= Field not valid capability		
34	"0"= Invalid "1"= Multiple selective polling capability		Set to "0"
35	"0"= Invalid "1"= Polling subaddress transmission (DTC) by Polled SubAddress (DIS)/PSA		Set to "0"
36	"0"= Invalid "1"= T.43 coding		
37	"0"= Invalid "1"= Plane interleave		
38	Set to "0"		
39	Set to "0"		
40	Extend field	"0"= Without "1"= With	
41	"0"= Invalid "1"= R8 x 15.4 lines/mm		
42	"0"= Invalid "1"= 300 x 300 pels/25.4 mm		
43	"0"= Invalid "1"= R16 x 15.4 lines/mm and/or 400 x 400 pels/25.4 mm		
44	"0"= Invalid "1"= Inch based resolution preferred		Resolution type selection "0"= metric based resolution "1"= inch based resolution
45	"0"= Invalid "1"= Metric based resolution preferred		Do not care
46	Minimum scan line time capability for higher resolutions.	"0": T 15.4 = T 7.7 "1": T 15.4 = 1/2 T 7.7	Do not care
47	"0"= Invalid "1"= Selective polling (DIS)/ Selective polling transmission (DTC)		Set to "0"
48	Extend field	0: Without 1: With	
49	"0"= Invalid "1"= Sub Addressing capability		"0"= Invalid "1"= Sub Addressing transmission
50	"0"= Invalid "1"= Password/ Sender Identification capability (DIS)/ Password transmission (DTC)		"0"= Invalid "1"= Sender Identification transmission
51	"0"= Invalid "1"= Ready to transmit a data file (polling)		Set to "0"
52	Set to "0"		
53	"0"= Invalid "1"= Binary File Transfer (BFT)		
54	"0"= Invalid "1"= Document Transfer Mode (DTM)		
55	"0"= Invalid "1"= EDIFACT Transfer (EDI)		

Bit No.	Designation	DIS/ DTC	DCS
56	Extend field	0: Without 1: With	
57	"0"= Invalid "1"= Basic Transfer Mode (BTM)		
58	Set to "0"		
59	"0"= Invalid "1"= Ready to transmit a character or mixed mode document (polling)		Set to "0"
60	"0"= Invalid "1"= Character mode		
61	Set to "0"		
62	"0"= Invalid "1"= Mixed mode		
63	Set to "0"		
64	Extend field	"0"= Without "1"= With	
65	"0"= Invalid "1"= Processable mode 26		
66	"0"= Invalid "1"= Digital network capability		
67	Duplex and half duplex capabilities	"0"= Half duplex operation only "1"= Duplex and half duplex operation	"0"= Half duplex operation only "1"= Duplex operation
68	"0"= Invalid "1"= JPEG coding		
69	"0"= Invalid "1"= Full color mode		
70	Set to "0"		"0"= Invalid "1"= Preferred Huffmann tables
71	"0"= Invalid "1"= 12 bit/pixel/element		
72	Extend field	"0"= Without "1"= With	
73	"0"= Invalid "1"= No sampling (1:1:1)		
74	"0"= Invalid "1"= Nonstandard radiation light		
75	"0"= Invalid "1"= Nonstandard is mute range		
76	"0"= Invalid "1"= North American Letter (215.9 mm x 279.4 mm) capacity		"0"= Invalid "1"= North American Letter (215.9 mm x 279.4 mm)
77	"0"= Invalid "1"= North American Legal (215.9 mm x 355.6 mm) capacity		"0"= Invalid "1"= North American Legal (215.9 mm x 355.6 mm)
78	"0"= Invalid "1"= Single layer sequential encoding, basic capacity		"0"= Invalid "1"= Single layer sequential encoding, basic

Bit No.	Designation	DIS/ DTC	DCS
79	"0"= Invalid "1"= Single layer sequential encoding, optional L0 capacity		
80	Extend field	"0"= Without "1"= With	
81	"0"= Invalid "1"= HKM key management capacity		"0"= Invalid "1"= HKM key management selection
82	"0"= Invalid "1"= RSA key management capacity		"0"= Invalid "1"= RSA key management selection
83	"0"= Invalid "1"= Override mode capacity		"0"= Invalid "1"= Override mode function
84	"0"= Invalid "1"= HFX40 code capacity		"0"= Invalid "1"= HFX40 code selection
85	"0"= Invalid "1"= Alternative code number 2 capacity		"0"= Invalid "1"= Alternative code number 2 selection
86	"0"= Invalid "1"= Alternative code number 3 capacity		"0"= Invalid "1"= Alternative code number 3 selection
87	"0"= Invalid "1"= HFX40-1 hashing capacity		"0"= Invalid "1"= HFX40-1 hashing selection
88	Extend field	"0"= Without "1"= With	
89	"0"= Invalid "1"= Alternative hashing system number 2 capacity		"0"= Invalid "1"= Alternative hashing system number 2 selection
90	"0"= Invalid "1"= Alternative hashing system number 3 capacity		"0"= Invalid "1"= Alternative hashing system number 3 selection
91	Reserved		
92	"0"= Invalid "1"= T.44 (Mixed raster content) mode		
93	"0"= Invalid "1"= T.44 (Mixed raster content) mode		
94	"0"= Invalid "1"= T.44 (Mixed raster content) mode		
95	"0"= Invalid "1"= Page length maximum strip size for T.44 (Mixed raster content)		
96	Extend field	"0"= Without "1"= With	
97	"0"= Invalid "1"= Color/mono-color multi-value 300 pixels x 300 pixels or 400 pixels x 400 pixels / 25.4 mm		
98	"0"= Invalid "1"= R4 x 3.85 lines/mm and/or 100 pixels x 100 pixels / 25.4 mm for color/mono-color multi-value		
99	"0"= Invalid "1"= Single phase C BFT negotiation capacity		

Bit No.	Designation	DIS/ DTC	DCS
100	Set to "0"		
101	Set to "0"		
102	Set to "0"		
103	Set to "0"		
104	Extend field	"0"= Without "1"= With	

Fax Kit (FK-505)

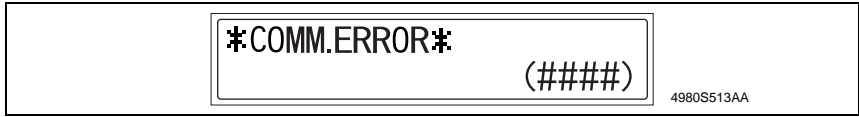
Adjustment / Setting

Blank page

Troubleshooting

13. Fax Error

13.1 Communication Error

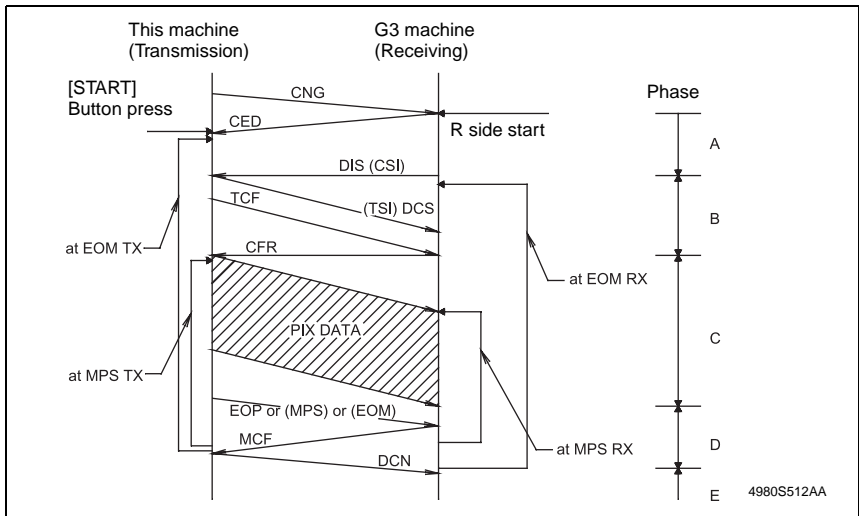


13.1.1 Outline

- Error caused by a problem of communication functioning. Five possible causes of errors are:
 1. Communication is discontinued by a machine error.
 2. Communication is discontinued by a machine trouble.
 3. Communication is discontinued by an error occurring at the destination station.
 4. Communication is discontinued by a protocol error.
 5. ADF Error on trouble.
- When communication is discontinued due to item 3 or 4, transmission is retried. In other case, transmission is canceled without retry.

13.1.2 Error occurring during transmission

- The transmission error before “Phase-B” performs redial according to the redial interval of each country and the number of times.
 The transmission error after “Phase-C” performs redial only one time. Transmission is canceled when an error occurs again. (can change in Soft SW)
 When an error occurs by ADF TX, transmission is canceled without redial.



13.1.3 Error occurring during reception

- Reception is canceled.

13.2 Error Code

13.2.1 Reception

Code	Possible Causes of Error.
0001	No G3 signal received within 35 sec. in manual receive mode.
0003	Received DIS after sending DIS signal.
0004	Received DCN after sending DTC signal.
0006	Detect busy tone within receiving phase B.
0009	Can not receive any signal within 35 sec. in manual polling mode.
0010	Received DCN signal after sending DTC signal in polling RX.
0011	Can not receive any correct response after sending three DTC signals.
0012	Remote side Password does not match in polling RX/our side no file to be polled.
0013	Can not receive carrier signal within 6 sec. after sending CFR in data phase C.
0014	Can not receive T.30 signal after sending FTT signal.
0015	Line polarity change within receiving phase B-D.
0016	Receive DCN signal after sending FTT signal.
0017	Can not receive any response from remote side after sending type of xxx_EOM signal.
0018	Can not detect energy within 6 sec. after sending FTT command.
0019	Received DCN signal after sending CFR signal.
001A	No energy on line over 6 sec. within phase C before any corrected ECM frame.
001D	Detect flag but noting after CER.
0020	Can not correct frame within 6 sec., or in non-ECM mode, one decoding line over 6 sec.
0021	File full
0022	Owing to noise interference on the line, receiving side can't receive correct data within specified time (no ECM).
0023	- Received "Remote monitoring password" error in RSD. - The Customer machine has updated the firmware now. - The Service Tech. Rep. updated remote machine firmware by RSD.
0024	- TX and RX machines both have different "machine ID (FAX model ID)" code in RSD. - The Customer machine has updated the firmware now. - The Service Tech. Rep. updated remote machine firmware by RSD
0025	- TX and RX machines have different "company ID (FAX machine maker ID)" code in RSD. - The Customer machine has updated the firmware now. - The Service Tech. Rep. updated remote machine firmware by RSD
0026	- Remote monitor level error. Remote side can't access in RSD. - The Customer machine has updated the firmware now. - The Service Tech. Rep. updated remote machine firmware by RSD
0027	RSD connect failure due to user incorrect operation or machine error.
0029	Mailbox password not programmed or matched for mailbox receiving.
002A	Line Problem
0030	Did not receive any signal within 6 sec.at phase D.
0031	Received incorrect signal at phase D (not EOP, MPS, EOM, DCS PPS_Q, PPS_Q, etc.).
0032	Did not receive carrier signal within 6 sec.after sending MCF. or RTP, RTN signal.
0033	Received DCN signal at phase D within pages (not last page).
0039	In non-ECM mode, when machine already received the data but next line data doesn't receive within 13.1 seconds.

Code	Possible Causes of Error.
003F	Remote side TSI not programmed in machine one touch or speed dial directory.
0040	Did not receive carrier signal within 6 sec. after sending CTR.
0041	Did not receive carrier signal within 6 sec. after sending PPR.
0042	Did not receive correct signal after sending RNR signal.
0043	Received incorrect signal at phase D in ECM mode.
0044	Did not receive carrier signal /FSK signal within 6 sec. after sending MCF in ECM mode.
0045	Did not receive any correct signal after sending RNR response with ERR signal.
0046	Receive incorrect signal when sending RNR response with ERR signal.
0047	Did not receive correct signal after sending ERR signal.
0048	Did not receive correct signal after receiving PPS_PRI_Q or PRI_Q, EOR_PRI_Q.
0049	Did not receive correct signal after sending PIP/PIN signal within 13 sec.
004A	Line energy over threshold lasts for 60 seconds after MCF and can not detect FSK or carrier signal in ECM mode.
004B	Can not detect correct FSK signal even though detected FSK tone within 6 sec.
004C	Command hand shake fail when V.34 RX.
004E	Receive DCN signal after sending DIS in V.34.
004F	Remote side disconnected after sending ANSam in V.8 phase.
0050	Did not receive any correct signal after sending CJ signal in V.8 phase.
0051	Did not receive phase C signal after phase B within 20 seconds in V.34.
0052	Did not receive phase D signal after phase C within 20 seconds in V.34.
0053	Modem disconnect after phase D in V.34.
0054	Remote side disconnected after phase D in V.8.
0055	Receive incorrect signal after sending DIS signal in V.34.
0056	Modem disconnect after sending CFR in V.34.
0057	Did not detect image signal within 6 seconds after sending CFR.
0058	Did not detect image signal within 6 seconds after modem enter to phase A in V.34.
0059	Relay box is not registered even when Relay job has been received.
005A	Modem can not detect any correct ECM frame within 3 minutes in phase C.
005B	Did not detect phase E signal after primary channel within 6 seconds.
005C	Detect busy tone within control channel after phase C.
005D	Modem can not detect any connect ECM frame with 12 sec. in Phase C.
005E	Did not detect control channel signal after received RCP frame within 6 seconds.
005F	Did not detect silence after sending JM signal for polling TX function.
0060	There are no bulletin files to be polled in V.34.
0061	Machine can not detect V.21 or V.8 signal within 35 seconds.
0062	Modem disconnect in phase D after our side sending out flag sequence in control channel.
0063	Did not receive any flag sequence in control channel within 6 seconds in phase D.
0064	Did not detect any control channel signal in phase D within 60 seconds even though energy still on the line.
0065	Did not detect any control channel signal within 60 seconds after detect silence in phase D.
0066	Did not receive T.30 signal or carrier signal after sending CFR in V.34.
0070	User presses stop key during receiving.
0071	Memory full during receiving.

13.2.2 Transmission

Code	Possible Causes of Error.
0080	Did not detect any G3 signal within 35 sec. specified by ITU-T in phase B.
0081	Received DTC signal in transmission phase.
0082	Transmitting unit receives a signal other than DIS or DTC. and DCN in phase B.
0083	Detected FSK signal, but did not receive any signal within 35 seconds.
0084	Detect DCN signal in phase B.
0085	Transmitting unit sending DCS 3 times consecutively, but each time receiver responds with DIS/DTC.
0086	Detected response signal other than DTC, DIS, FTT, DCN or CFR after sending DCS.
0087	Training attempt has failed because speed unit cannot adjust to low lower speed.
0088	Received DCN signal after sending out DCS signal.
0089	Remote side no mailbox function or not compatible.
008A	Remote side not enough memory for relay initiate.
008B	Receiver's protocol of DIS is received, but it is not compatible with our machine.
008C	Remote side not enough memory for relay initiate.
008D	Receiver's protocol of DIS is received, but remote side can't receive document temporary, may be run out of paper or other reason.
008E	Remote side CSI number not defined in machine one touch or speed dial directory.
008F	Modem not ready to receive V.34 data during 6 seconds after receiving CFR signal.
0090	Called side document not ready for our polling.
0091	Sending out DCS+TCF signal 3 times consecutively but no signal in response from receiver.
0092	Remote side disconnected during transmitting phase.
0093	Received DCN signal after sending out DCS signal for V.34.
0094	Time out during transmission of ECM frame or RCP command.
0095	Wrong ID number when Polling RX or Mail Box TX.
0099	Remote side disconnect after primary channel.
009A	Did not detect any signal after sending CI signal.
009C	Received DCN after sending DTC in V.34 polling RX.
009D	Remote side hang up before V.34 modem enters phase B state in V.34 polling RX.
009F	Did not receive any response from other side after sending PPS_EOM signal.
00A0	User stops or cancels transmission job.
00A1	Document JAM during transmission.
00AE	Did not finish V.8 procedure or detect V.21 signal after CM signal within 30 seconds.
00AF	Modem can not enter into control channel after TX side sends out RCP signal for V.34.
00B0	Did not receive any command after our side retry three DCS signal in V.34 TX.
00B1	Did not finish V.8 procedure or detect V.21 signal after ANSam signal within 35 seconds.
00B2	Did not detect phase B signal after our side sending CJ signal within 30 seconds.
00B3	Did not detect correct V.21 or JM signal after sending CM signal.
00B4	Did not detect correct phase B signal within 25 second after CM/JM signal exchange.
00B5	Did not detect phase C signal after phase B within 25 seconds.
00B6	Did not detect phase D signal within 25 seconds after CM/JM exchange.
00B7	Did not detect phase E signal after phase D within 30 seconds.

Code	Possible Causes of Error.
00B8	Remote side disconnect after our side sent DCS signal in V.34.
00B9	Receive T.30 signal other than DIS,DCS,CFR after sending DCS signal in V.34.
00BA	Did not receive correct signal after our side sent DTC signal in V.34.
00BB	Every time our side received DIS signal after sending DTC in V.34.
00BC	Modem not ready within 10 second after entering primary channel in V.34.
00BD	Can not detect correct V.21 or JM signal after detected FSK frequency.
00BE	Remote side no document to be polled after V8 handshaking.
00BF	Capability not match after V8 handshaking.
00C0	Remote side disconnect before entering primary channel in V.34.
00C1	At phase-D, transmitting unit sends out EOP 3 times consecutively, but receives no answer from receiving unit.
00C2	Remote side disconnect after sending out V.8 CM signal.
00C4	After sending MPS signal, the received signal is not one of MCF, RTN, PIP, PIN, RTP, DCN.
00C5	Received DCN signal after sending MPS signal.
00C9	At phase-D, sending MPS 3 times consecutively, but no answer from receiving unit.
00CA	After sending EOP signal, the received signal is not one of MCF, RTN, PIP, PIN, PRI-EOP, DCN.
00CB	After sending EOP signal, the received signal is DCN signal.
00CC	After sending EOM signal, the received signal is not one of MCF, RTN, PIP, PIN, RTP, DCN.
00CD	At phase-D, transmitting unit sends out EOM 3 times consecutively, but receives no answer.
00CE	At phase-D, transmitting unit sends out EOM, but receives DCN.
00CF	Received incorrect signal after sending DTC signal for V.34 polling.
00D0	Received ERR signal after sending EOR_NULL.
00D1	ECM TX received wrong command in phase D after PPS-EOP. (not PPR, MCF, PIP, PIN,.....).
00D2	Receive DCN after send command PPS-EOP signal.
00D3	Received DCN after sending PPS_NULL signal.
00D4	Received DCN after sending PPS_EOM signal.
00D8	Did not detect correct phase C signal for polling within 25 seconds.
00D9	Did not detect correct phase C signal after detecting silence after phase B.
00DA	Did not detect phase D signal within 30 seconds or remote side hang up over 6 seconds.
00DB	Did not receive any T.30 signal within 15 seconds in phase D.
00DC	Received T.30 signal in phase D other than DCS,DIS or DTC.
00DD	Remote side not the same model or no mailbox ID defined for mailbox TX.
00DE	Remote side no SUB capability in V.34.
00E0	At phase-D, transmitting unit sends out PPS_NULL 3 times consecutively but receives no answer.
00E1	Received incorrect response after sending PPS_NULL.
00E2	Did not receive any response in RR response procedure after sending PPS_NULL.
00E4	At phase-D, transmitting unit sends out PPS_MPS 3 times consecutively but no answer.
00E5	Received incorrect response after sending PPS_MPS.
00E6	Did not receive any response in RR response procedure after sending PPS_MPS.
00E7	Received DCN after sending PPS_MPS.

Code	Possible Causes of Error.
00E8	At phase-D, transmitting unit sends out PPS_EOP 3 times consecutively but no answer.
00E9	Receive PIN signal after sent last page three times.
00EA	Did not receive any response in RR response procedure after sending PPS_EOP.
00EB	At phase-D, transmitting unit sends out PPS_EOM 3 times consecutively but no answer.
00EC	Received incorrect response after sending PPS_EOM.
00ED	Did not receive any response in RR response procedure after sent out PPS_EOM.
00EE	At phase-D, transmitting unit sends out EOR_NULL 3 times consecutively but no answer.
00EF	Received incorrect response after sending EOR_NULL.
00F0	Did not receive any response procedure after sending EOR_NULL.
00F1	At phase-D, transmitting unit sends out EOR_MPS 3 times consecutively but no answer.
00F2	Received incorrect response after sending EOR_MPS.
00F3	Received ERR signal after sending EOR_MPS.
00F4	Did not receive any response in RR response procedure after sending EOR_MPS.
00F5	At phase-D, transmitting unit sends out EOR_EOP 3 times consecutively but no answer.
00F6	Received incorrect response after sending EOR_EOP.
00F7	After Received ERR, our side can not receive response after sending EOR_EOP command.
00F8	At phase-D, transmitting unit sends out EOR_EOM 3 times consecutively but no answer.
00F9	Received incorrect response after sending EOR_EOM.
00FA	Received ERR signal after sending EOR_EOM.
00FB	Did not receive any response in RR response procedure after sending EOR_EOM.
00FC	Did not receive any response after sending CTC.
00FD	Can't speed down to lower speed in ECM mode.
00FE	Memory full for transmission.
00FF	Redial all fail.



KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE





DF-502

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, show  to the left of the revised section.
A number within  represents the number of times the revision has been made.
- To indicate clearly a section revised, show  in the lower outside section of the corresponding page.
A number within  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.

2005/04	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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General

1. Product specification

Name	Automatic Document Feeder
Installation	Inserted in top portion of the copier
Modes	Standard = 1-sided original Mixed Original = 1-sided original
Document Loading	Left-hand side, face up

Types and Sizes of Document

	Standard	Mixed Original
Type	Plain paper (50 to 110 g/m ²)	Plain paper (60 to 90 g/m ²)
Sizes	A3, A4 R, A4, A5 R, B4, B5 R, B5, 11 x 17, 11 x 14, Legal, Letter R, Letter, Invoice R, and Invoice	A3 and A4, B4 and B5, 11 x 17 and Letter, Legal and Letter R, Legal and Invoice, Letter R and Invoice

Document Alignment	Center
Capacity	50 sheets max. (80 g/m ²)
Power Requirements	DC24 V, DC5 V (supplied from the copier)
Power Consumption	36 W or less
Dimensions	Width = 598 mm, Depth = 483 mm, Height = 102 mm
Mass	6.3 kg
Operating Environment	Conforms to that of the copier

Types of Originals Not Guaranteed for Reliable Feeding

Type of Original	Possible Problems
Sheets stapled or clipped together	Take-up failure, damaged sheet, defective drive mechanism due to jammed staples or clips
Sheets glued together	Take-up failure, damaged sheet
Sheets folded, torn, or wrinkled	Take-up failure, damaged sheet
Sheets severely curled	Sheet misfed due to its being dog-eared or fed in askew

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Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

2.1.1 Pick-up Roller/Take-up Roller

A. Cleaning Procedure

1. Open the Upper Door.



2. Using a soft cloth dampened with alcohol, wipe the Take-up Roller clean of dirt.

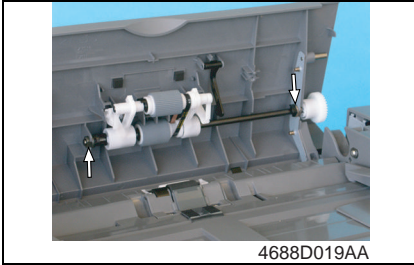


3. Using a soft cloth dampened with alcohol, wipe the Pick-up Roller clean of dirt.

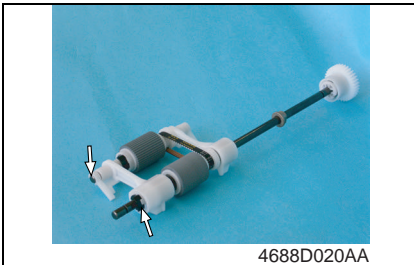
B. Replacing Procedure

1. Open the Upper Door.
2. Open the Document Take-up Section Cover.

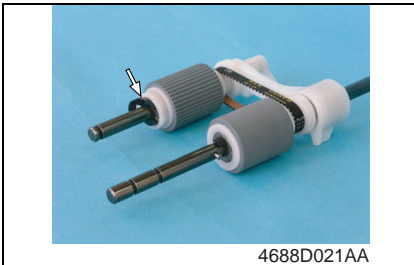
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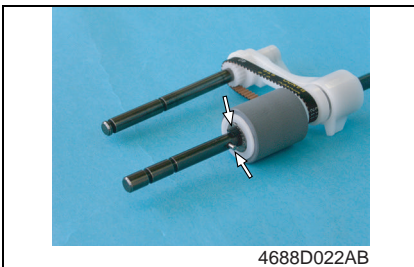
3. Snap off two C-clips.
4. Remove two Bearings and the Pick-up Roller/Take-up Roller Assy.



5. Snap off one C-clip and remove one lever and the holder.

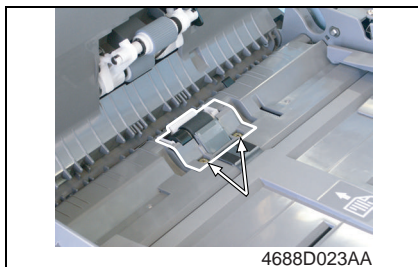


6. Snap off one C-clip and remove the Pick-up Roller.

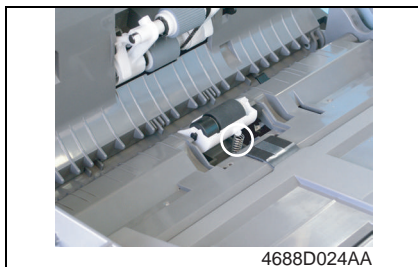


7. Remove one pin, snap off one C-clip, and remove the Take-up Roller.

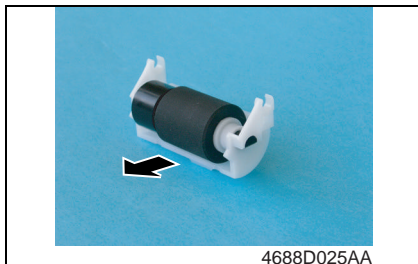
2.1.2 Separation Roller



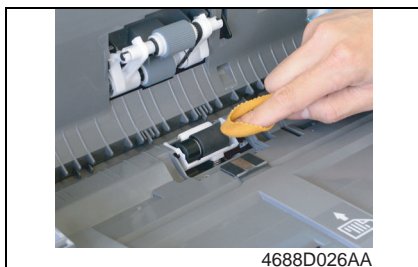
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A. Replacing Procedure

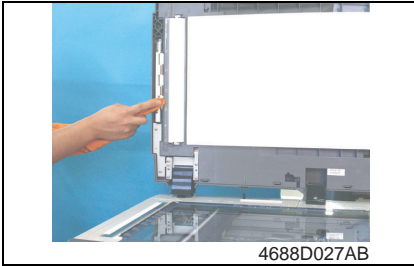
1. Open the Upper Door.
2. Remove two screws and the Separator Section Protective Cover.
3. Unhook one spring and remove the Separation Roller Assy.

4. Remove the Separation Roller.

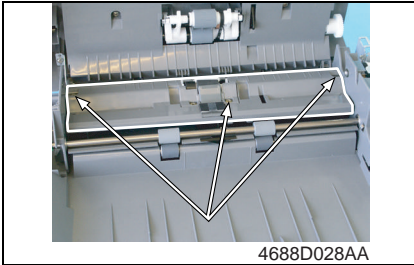
B. Cleaning Procedure

1. Remove the Separator Section Protective Cover.
2. Using a soft cloth dampened with alcohol, wipe the Separation Roller clean of dirt.

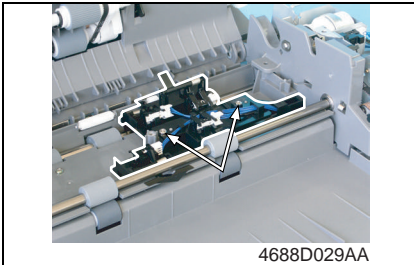
2.1.3 Cleaning of the Registration Roller/Rolls



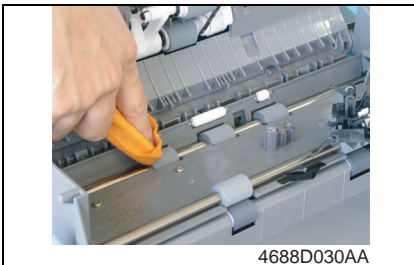
1. Raise the Automatic Document Feeder.
2. Using a soft cloth dampened with alcohol, wipe the Registration Rolls clean of dirt.



3. Remove the Rear Cover.
4. Remove the Document Feeding Tray.
5. Remove three screws and the Registration Roller Cover.



6. Remove two screws and the Sensor Assy.



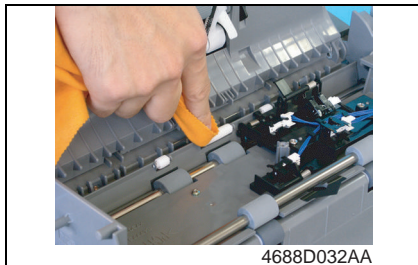
7. Using a soft cloth dampened with alcohol, wipe the Registration Roller clean of dirt.

2.1.4 Cleaning of the Exit Roller/Rolls



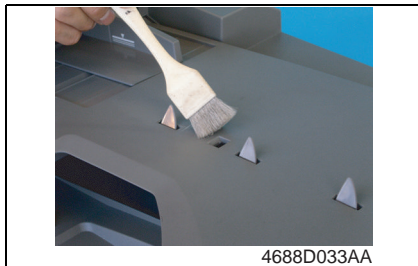
1. Remove the Rear Cover.
2. Remove the Document Feeding Tray.
9
3. Using a soft cloth dampened with alcohol, wipe the Exit Roller/Rolls clean of dirt.

2.1.5 Cleaning of the Transport Rolls



1. Remove the Rear Cover.
2. Remove the Document Feeding Tray.
9
3. Remove the Registration Roller Cover.
4. Using a soft cloth dampened with alcohol, wipe the Transport Rolls clean of dirt.

2.1.6 Cleaning of Length Size Sensor 2



1. Using a brush, whisk dust and dirt off the surface of the sensor window.

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.

B. Red Painted Screws

NOTES

- When the screws are removed, the red paint is coated on the points where readjustment is required.
- Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with 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.

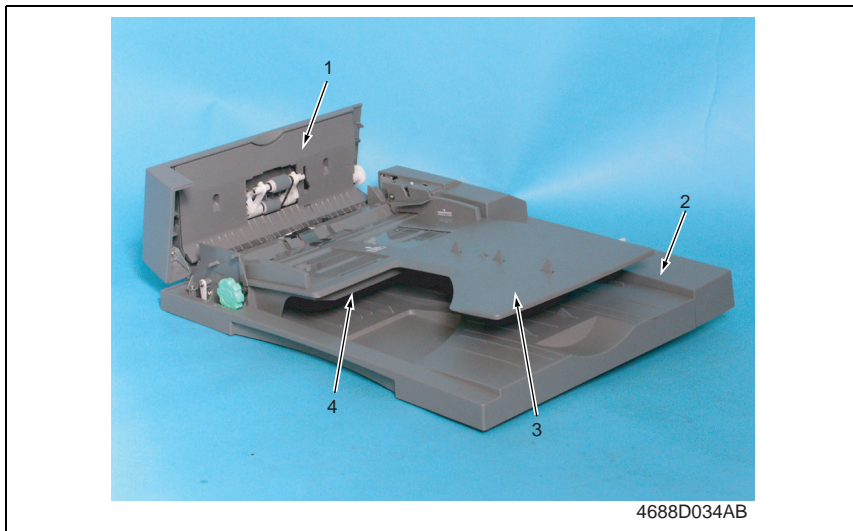
D. Removal of PWBs

NOTES

- 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 procedure

3.2.1 Exterior Parts

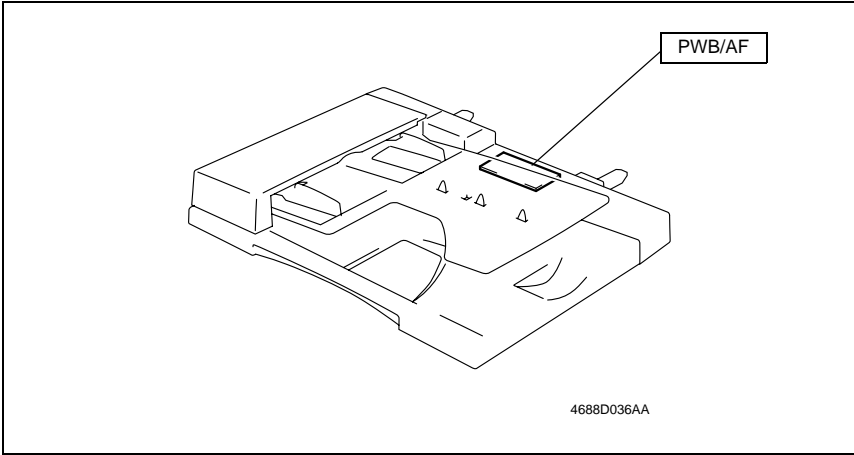


No.	Part Name	Removal Procedure
1	Document Take-up Section Cover	Open the Upper Door. → Remove two screws. → Remove the Document Take-up Section Cover.
2	Rear Cover	Open the Upper Door. → Remove one screw and unhook six tabs. → Remove the Rear Cover.
3	Document Feeding Tray	Open the Upper Door. → Remove the Rear Cover. → Remove three screws and unplug two connectors. → Remove the Document Feeding Tray.
4	Document Feeding Tray Cover	Remove the Document Feeding Tray. → Remove four screws. → Remove the Document Feeding Tray Cover.

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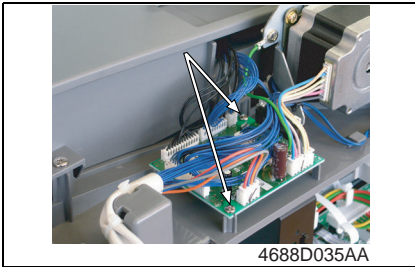
Maintenance

3.2.2 Interface Board (PWB/AF)



1. Open the Upper Door.
2. Remove the Rear Cover.

9



3. Unplug all connectors from the Interface Board.
4. Remove two screws and the Interface Board.

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 “ ”.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:
 1. The power supply voltage meets the specifications.
 2. The power supply is properly grounded.
 3. 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).
 4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
 5. The original has a problem that may cause a defective image.
 6. The density is properly selected.
 7. The Original Glass, slit glass, or related part is dirty.
 8. Correct paper is being used for printing.
 9. 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.
 10. Toner is not running out.

B. Precautions for Service Jobs

1. To unplug the power cord of the machine before starting the service job procedures.
2. 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.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

5. Service Mode

5.1 Service Mode function setting procedure

NOTE

- Care must be used to ensure that only the personnel who are involved in service jobs know the procedure to enter the Service mode.

5.1.1 Procedure

1. Press the Utility key.
2. Press the following keys in this order.
3. Stop → 0 → 0 → Stop → 0 → 1
4. The Service mode menu screen will appear.

5.1.2 Exiting

- Press the Panel Reset key as many times as it is required to display the initial screen.

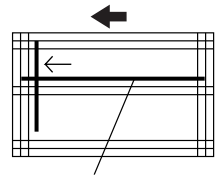
5.1.3 Changing the Setting Value in Service Mode Functions

1. Select the desired item using [▲ / ▼] key.
2. Select the setting value using [▲ / ▼] key, [< / >] key, or the 10-Key Pad.
3. Validate the selection by pressing the [Yes] key.
4. To go back to previous screen, press the [No] key.

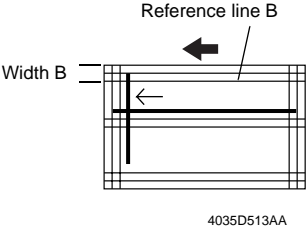
5.2 Setting in the Service Mode

5.2.1 ADJUST

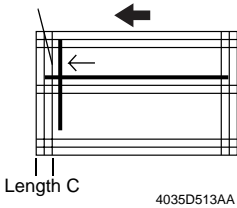
A. ADF SUB ZOOM

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different parts by varying the scanning zoom ratio in the sub scanning direction when the Automatic Document Feeder is used.	
Setting/ Procedure	Press the Start key to start a test copy cycle.	<ul style="list-style-type: none"> The default setting is "100." Setting range: 87 to 113 (1 step: 0.4%)
Adjustment Procedure	<div style="text-align: center;">  <p>Reference line A: 400 mm</p> <p>4035D513AA</p> </div> <ul style="list-style-type: none"> Ready the test chart that comes with the Automatic Document Feeder. Adjust so that deviation between length A on the test chart and that on the copy falls within the specified range. <p>Specifications 400 ± 6.0 mm</p> <ol style="list-style-type: none"> Make a full-size copy of the test chart. Measure the length of reference line A on the copy to determine if the deviation falls within the specified range. If it falls outside the specified range, perform the following steps to make an adjustment. Enter Adjust of the Service mode. Select "ADF Sub Zoom" and press the [Yes] key. Using [▲ / ▼] key, select the appropriate setting value. Press the [Yes] key to validate the setting value selected in step 5. Make another full-size copy of the test chart to determine the amount of error in length A on the copy. <p>Adjustment Instructions</p> <p>If length A on the copy is longer than the specifications, decrease the setting value. If length A on the copy is shorter than the specifications, increase the setting value. If a single adjustment procedure does not successfully bring the deviation into the specified range, repeat steps 3 through 7. </p>	

B. ADF MAIN REGIST

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different parts by varying the scanning start position in the main scanning direction when the Automatic Document Feeder is used.	
Setting/Procedure	Press the Start key to start a test copy cycle.	Setting range: 20 to 180 (1 step: 0.1 mm)
Adjustment Procedure	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  <p style="text-align: center;">4035D513AA</p> </div> <div style="width: 50%;"> <ul style="list-style-type: none"> • Ready the test chart that comes with the optional Automatic Document Feeder. • Adjust so that the amount of error of width B on the copy falls within the specified range. <p style="margin-top: 10px;">Specifications 20 ± 2.0 mm</p> </div> </div> <ol style="list-style-type: none"> 1. Make a full-size copy of the test chart. 2. Using a scale, measure the distance between reference line B on the copy and the top edge of the copy (width B) and determine if the amount of error in width B falls within the specified range. If it falls outside the specified range, perform the following steps to make an adjustment. 3. Enter Adjust of the Service mode. 4. Select "ADF Main Regist" and press the [Yes] key. 5. Using [▲ / ▼] key, select the appropriate setting value. 6. Press the [Yes] key to validate the setting value selected in step 5. 7. Make another full-size copy of the test chart to check for the amount of error in width B on the copy. <p style="margin-top: 10px;">Adjustment Instructions If width B on the copy is longer than the specifications, decrease the setting value. If width B on the copy is shorter than the specifications, increase the setting value. If a single adjustment procedure does not successfully bring the amount of error into the specified range, repeat steps 3 through 7.</p>	

C. ADF SUB REGIST1

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different parts by varying the scanning start position in the sub scanning direction when the Automatic Document Feeder is used. NOTE • This adjustment should be made after the ADF Sub Zoom adjustment.	
Setting/Procedure	Press the Start key to start a test copy cycle.	Setting range: 50 to 150 (1 step: 0.1 mm)
Adjustment Procedure	<p>Reference line C</p>  <p>Length C</p> <p>4035D513AA</p> <ul style="list-style-type: none"> • Ready the test chart that comes with the optional Automatic Document Feeder. • Adjust so that the amount of error of length C on the copy falls within the specified range. <p>Specifications 20 ± 2.5 mm</p> <ol style="list-style-type: none"> 1. Make a full-size copy of the test chart. 2. Using a scale, measure the distance between reference line C on the copy and the leading edge of the copy (length C) and determine if the amount of error in length C falls within the specified range. If it falls outside the specified range, perform the following steps to make an adjustment. 3. Enter Adjust of the Service mode. 4. Select "ADF Sub Regist" and press the [Yes] key. 5. Using [▲ / ▼] key, select the appropriate setting value. 6. Press the [Yes] key to validate the setting value selected in step 5. 7. Make another full-size copy of the test chart to check for the amount of error in length C on the copy. <p>Adjustment Instructions If length C on the copy is longer than the specifications, increase the setting value. If length C on the copy is shorter than the specifications, decrease the setting value. If a single adjustment procedure does not successfully bring the amount of error into the specified range, repeat steps 3 through 7.</p>	

5.2.2 FUNCTION**A. ADF FEED TEST**

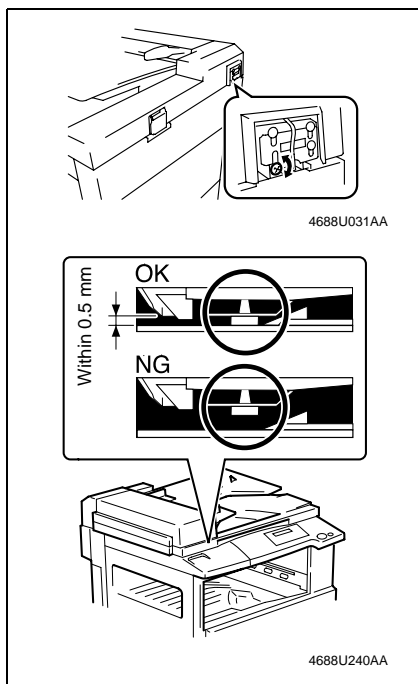
Purpose/Use	<ul style="list-style-type: none"> • To check for correct paper passage of the paper take-up and transport system in the Automatic (Duplexing) Document Feeder alone as a single unit. • Here are the details of operation involved in the paper passage motion. <ul style="list-style-type: none"> • The Scanner does not make any scan motion. • Paper passage operation continues until all pages of the document loaded in the unit have been fed in. <p>* When a paper misfeed of originals occurs</p>
Setting/Procedure	<p><Step></p> <ol style="list-style-type: none"> 1. Load paper in the ADF. 2. Press the Start key to start the ADF feed test. <p>* Press the Stop key to stop the ADF feed test.</p>

B. COPY ADF GLASS AREA

Purpose/Use	<p>To check for scratches and dirt on the Original Scanning Glass.</p> <p>* When a dirty image occurs</p>
Setting/Procedure	<p><Step></p> <ol style="list-style-type: none"> 1. Place a gray chart (OD = 0.3) on the Original Glass. 2. Press the Start key to start the Copy ADF Glass Area test. 3. The Scanner moves from its standby position to a point 2 mm to the left of the Original Scanning Glass. 4. The Scanner moves to the right to start a scan motion. 5. The copier produces two copy samples (in order to know dirt on the glass from printer image noise).

6. Mechanical adjustment

6.1 ADF Height Adjustment



1. Turn one screw so that the spacer contacts the glass at the scale position of the copier.

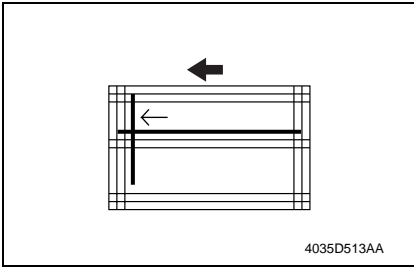
Turn the screw clockwise to raise the ADF.

Turn the screw counterclockwise to lower the ADF.

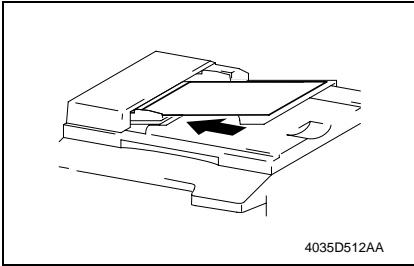
6.2 ADF Leading Edge Skew Adjustment

NOTE

- This adjustment is to be made when a tilted image occurs.



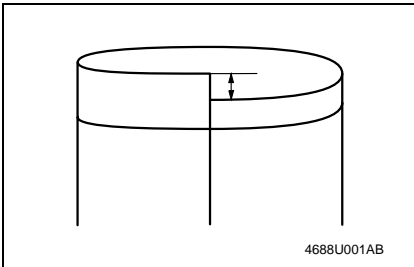
1. Prepare the test chart that comes with the ADF (option).



2. Load the test chart in the ADF and make five 1-sided copies.

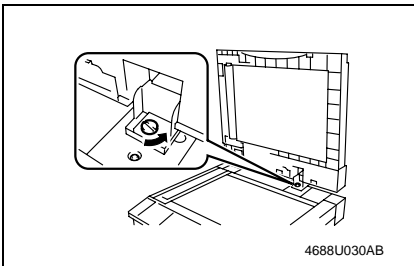
NOTE

- Load the test chart lengthwise.

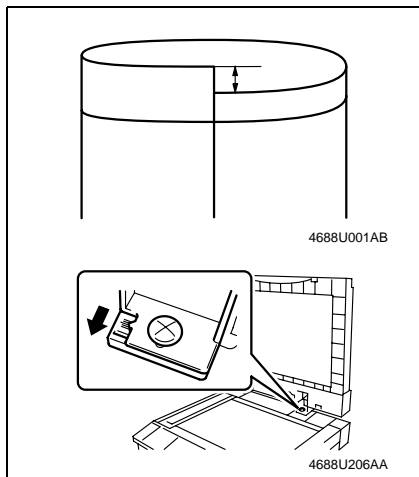


3. Align each copy sample as shown on the left and check the deviation. If the deviation falls outside the range specified below, perform the following steps to make an adjustment.

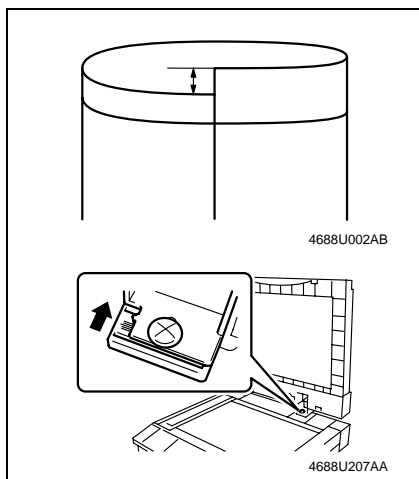
Specifications
 0 ± 3.0 mm



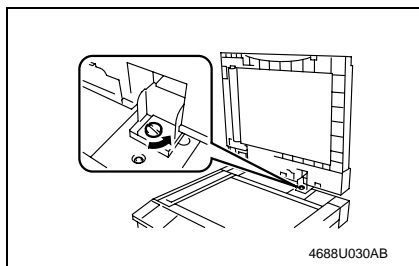
4. Loosen one screw.



5. If the deviation is as shown on the left, move the graduations of the ADF to the front.



6. If the deviation is as shown on the left, move the graduations of the ADF to the rear.



7. Tighten the screw.

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Troubleshooting

7. Introduction

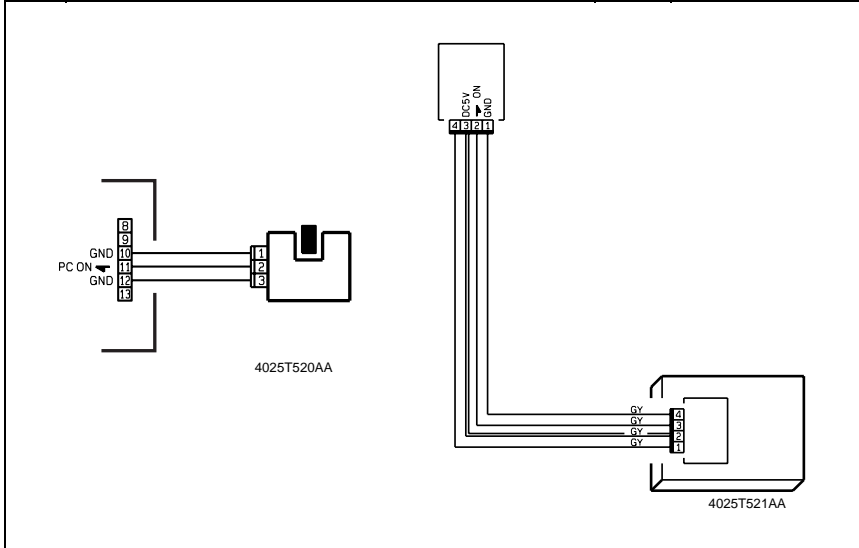
- Information required for troubleshooting and steps that must be performed are described in this chapter.

7.1 Electrical Components Check Procedure

- If a paper misfeed or malfunction occurs, perform the following operations to check the condition of the electrical components.

7.1.1 Sensor

Step	Check	Result	Action
1	Does the input signal of the control board change when the sensor light is interrupted? (H → L, L → H)	NO	Replace the sensor.
		YES	Replace the control board.



7.1.2 Switch

Step	Check	Result	Action
1	Does the input signal (NO) of the control board change from L to H when the switch is activated?	NO	Replace the switch.
		YES	Replace the control board.

4025T523AB

7.1.3 Solenoid

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the solenoid is activated?	NO	Replace the control board.
		YES	Replace the solenoid.

4025T522AA

7.1.4 Clutch

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the clutch is activated?	NO	Replace the control board.
		YES	Replace the clutch.

4025T528AA

7.1.5 Motor

Step	Check	Result	Action
1	Does the LOCK signal switch to H when the machine goes into standby?	NO	Replace the control board. Replace the motor.
2	Does the REM signal of the master board change from H to L when the motor is turned on?	YES	Replace the motor.
		NO	Replace the control board.

4025T526AA

Step	Check	Result	Action
1	Does the input signal of the master board change from H to L when the motor is turned on? (The input signal differs depending on the rotation direction.)	YES	Replace the motor.
		NO	Replace the control board.

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Step	Check	Result	Action
1	Are the relay connector of the motor and the print jack of the control board correctly connected?	YES	Replace the motor or the control board.
		NO	Connect the connector or the print jack.

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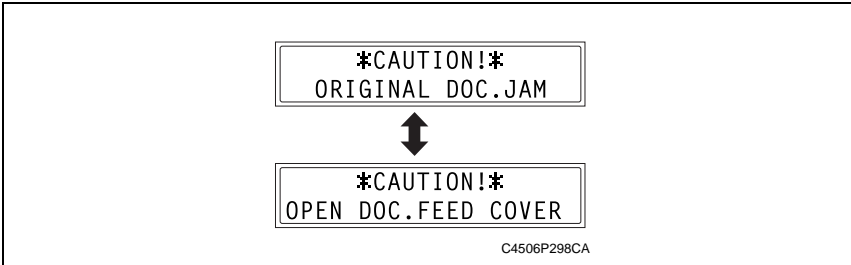
DF-502

Troubleshooting

8. Jam Display

8.1 Misfeed Display

- When a paper misfeed occurs, the Error indicator lights up steadily and the Display gives a corresponding message.

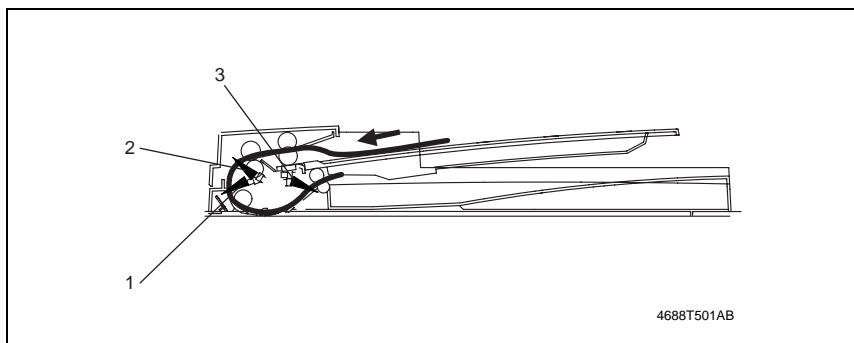


Display Message	Misfeed/Paper Location	Ref. Page
OPEN DOC. FEED COVER	Document take-up section	☞ 27
	Document transport section	☞ 28
	Document exit section	☞ 29

8.1.1 Display Resetting Procedure

- Open the corresponding cover, clear the sheet of paper misfed, and close the cover.

8.2 Sensor layout



- [1] Registration Sensor (PC3/AF)
- [2] Separator Sensor (PC4/AF)

- [3] Paper Exit Sensor (PC5/AF)

8.3 Solution

8.3.1 Initial Check Items

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

Check Item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. 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 Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
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 operational and checked for correct operation?	Correct or replace the defective actuator.

8.3.2 Misfeed at the Document Take-up Section

A. Detection Timing

Type	Description
Document take-up section misfeed detection	• The Separator Sensor (PC4/AF) is not blocked even after the lapse of a given period of time after the Main Motor (M1/AF) has been energized.
Document left in the document take-up section	• The Separator Sensor (PC4/AF) is blocked at timing when the Power Switch is turned ON, the cover is opened and closed, or a paper misfeed or malfunction is reset.

B. Action

Relevant Electrical Components	
Main Motor (M1/AF) Separator Sensor (PC4/AF)	Interface Board (PWB/AF)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	–	–	–
2	M1/AF operation check	E33 ²³	–	D-6 (DF-502)
3	PC4/AF sensor check	E33 ²¹	PWB/AF CN2/AF-9 (ON)	I-4 (DF-502)
4	Replace PWB/AF	–	–	–

8.3.3 Misfeed at the Document Transport Section

A. Detection Timing

Type	Description
Document transport section misfeed detection	<ul style="list-style-type: none"> The Registration Sensor (PC3/AF) is not blocked even after the lapse of a given period of time after the Main Motor (M1/AF) has been energized.
Document left in the document transport section	<ul style="list-style-type: none"> The Registration Sensor (PC3/AF) is blocked at timing when the Power Switch is turned ON, the cover is opened and closed, or a paper misfeed or malfunction is reset.

B. Action

Relevant Electrical Components	
Main Motor (M1/AF) Registration Sensor (PC3/AF)	Interface Board (PWB/AF)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	–	–	–
2	M1/AF operation check	^{E38} 23	–	D-6 (DF-502)
3	PC3/AF sensor check	^{E38} 21	PWB/AF CN2/AF-6 (ON)	H-4 (DF-502)
4	Replace PWB/AF	–	–	–

8.3.4 Misfeed at the Document Exit Section

A. Detection Timing

Type	Description
Document exit section misfeed detection	<ul style="list-style-type: none"> The Paper Exit Sensor (PC5/AF) is not blocked even after the lapse of a given period of time after the Main Motor (M1/AF) has been energized.
Document left in the document exit section	<ul style="list-style-type: none"> The Paper Exit Sensor (PC5/AF) is blocked at timing when the Power Switch is turned ON, the cover is opened and closed, or a paper misfeed or malfunction is reset.

B. Action

Relevant Electrical Components	
Main Motor (M1/AF) Paper Exit Sensor (PC5/AF)	Interface Board (PWB/AF)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	–	–	–
2	M1/AF operation check	E-33 ² 23	–	D-6 (DF-502)
3	PC5/AF sensor check	E-33 ² 21	PWB/AF CN2/AF-12 (ON)	H-6 (DF-502)
4	Replace PWB/AF	–	–	–

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE





DF-605

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, show  to the left of the revised section.
A number within  represents the number of times the revision has been made.
- To indicate clearly a section revised, show  in the lower outside section of the corresponding page.
A number within  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.

2005/04	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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General

1. Product specification

Name	Duplexing Document Feeder
Type	Paper take-up = U-turn upper exit system Turnover = Switchback turnover system Exit = Straight exit system
Installation	Screwed to the copier
Types of Document	Standard mode Plain paper: 1-sided mode = 35 to 128 g/m ² 2-sided mode = 50 to 128 g/m ² Mixed Original mode Plain paper: 1-sided/2-sided mode = 50 to 128 g/m ² FAX mode Plain paper: 1-sided mode = 35 to 128 g/m ² 2-sided mode = 50 to 128 g/m ²
Detectable Document Sizes	Standard mode B6 R, A5 R, A5, B5 R, B5, A4 R, A4, B4, A3, Ledger, 11 x 15, Letter R, Letter, FLS (210 mm x 330 mm) FAX mode A5 R, A5, B5 R, B5, A4 R, A4, B4, A3, Ledger, 11 x 15, Letter R, Letter, FLS (210 mm x 330 mm) Width: 128 mm to 297 mm Length: 1-sided mode = 100 mm to 1000 mm 2-sided mode = 139.7 mm to 431.8 mm The original measuring more than 431.8 mm and up to 1000 mm can be loaded one sheet at a time, and no guarantees are given for good image quality or reliable feeding. See the table of permissible combination of sizes in Mixed Original mode.
Capacity	80 sheets (80 g/m ²) or load height of 11 mm or less
Document Alignment	Center
Document Loading	Left-hand side, face up
Modes	1-sided mode and 2-sided mode
Power Requirements	DC24 V \pm 10% (supplied from the copier) DC5 V \pm 5% (generated inside the AFR)
Max. Power Consumption	48 W or less
Dimensions	Width = 582 mm, Depth = 558 mm, Height = 145 mm
Mass	10 kg or less
Operating Environment	Conforms to that of the copier

<Table of Permissible Combination of Sizes in Mixed Original Mode>
For Inch

Mixed Original Size		Maximum Original Width					
		11		8-1/2			5-1/2
		11 X 17	8-1/2 x 11	8-1/2 x 14	8-1/2 x 11	8-1/2 x 5-1/2	8-1/2 x 5-1/2R
11	11 X 17	○	○	-	-	-	-
	8-1/2 x 11	○	○	-	-	-	-
8-1/2	8-1/2 x 14	▲	▲	○	○	○	-
	8-1/2 x 11	▲	▲	○	○	○	-
5-1/2	8-1/2 x 5-1/2	×	×	○	○	○	-
	8-1/2 x 5-1/2R	×	×	×	×	×	○

For Metric

Mixed Original Size		Max. Original Width								
		297 mm		257 mm		210 mm		182 mm	148 mm	123 mm
		A3	A4	B4	B5	A4 R	A5	B5 R	A5 R	B6 R
297 mm	A3	○	○	-	-	-	-	-	-	-
	A4	○	○	-	-	-	-	-	-	-
257 mm	B4	●	●	○	○	-	-	-	-	-
	B5	●	●	○	○	-	-	-	-	-
210 mm	A4 R	▲	▲	●	●	○	○	-	-	-
	A5	×	×	●	●	○	○	-	-	-
182 mm	B5 R	×	×	▲	▲	●	●	○	-	-
148 mm	A5 R	×	×	×	×	×	×	●	○	-
123 mm	B6 R	×	×	×	×	×	×	×	●	○

○	Same width	Leading edge tilt 1.5 % or less
●	Combination allowed	
▲	Leading edge tilt 2 % or less is 80 % or more	
×	Combination not allowed	
-	Cannot be set	

Prohibited original: Original that has a high possibility of causing problems if used.

Type of Document	Expected Problem
Original that is stapled or clipped.	Paper take-up failure, damage to the original, or drive failure due to clip clogging
Glued original	Paper take-up failure or damage to the original
Book original	Paper take-up failure, damage to the original, or drive failure
Original weighing less than 35g/m ² or 129g/m ² or more	Paper take-up failure
Original with many dog-ears, tears, or wrinkles.	Paper take-up failure or damage to the original
Highly curled original (15 mm or more)	Original misfeed due to dog-ear or skew
OHP film	Paper take-up failure
Label Sheet	Paper take-up failure
Offset master	Paper take-up failure
Original with cutouts	Damage to the original
Cut-and-pasted original	Dog-ear or tear at the cut-and-paste section

Originals not guaranteed for reliable feeding: Original that can be fed to some extent but is highly prone to cause problems if used.

Type of Document	Expected Problem
Original with small curls (amount of curl 10 or 15 mm)	Dog-ear or output failure
Thermosensitive paper	Leading edge crease, output failure, or paper transport failure
Inkjet paper	Paper take-up failure or paper transport failure
Paper with smooth surface (coated paper)	Paper take-up failure or paper transport failure
Translucent original	Paper take-up failure or paper transport failure
Paper immediately after it is output from the copier	Paper take-up failure or paper transport failure
Paper with many holes (restricted to vertical feeding of loose leaf, etc.)	Multi-page feed due to flashes from holes
Original with 2 to 4 holes	Paper Transport Failure
Folded or Z-fold Original (amount of float 15 mm or less)	Paper take-up failure, paper transport failure, or distorted image
Original with bumpy surface (letterhead, etc.)	Paper take-up failure
Original written in pencil	Smudged original
Folded original	Distorted image, multi-page feeding, or paper take-up failure

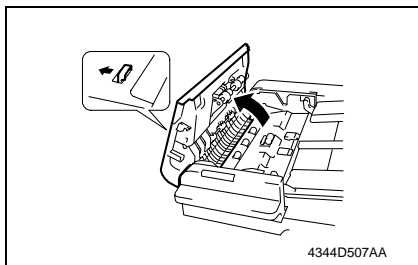
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Maintenance

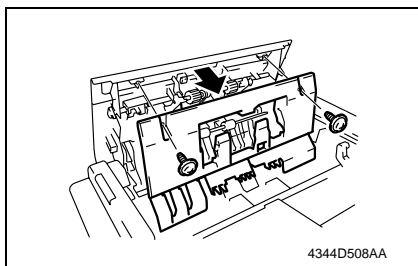
2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

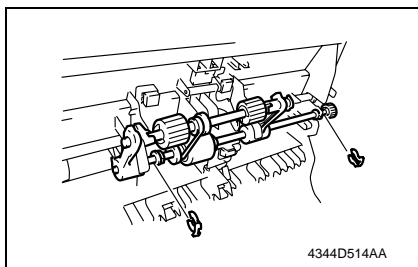
2.1.1 Replacing the Pickup Roller/Take-Up Roller



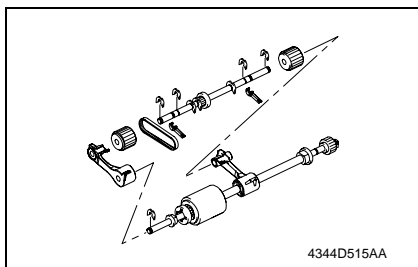
1. Open the Upper Door.



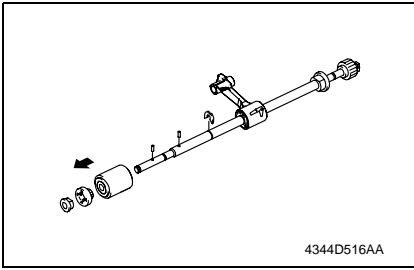
2. Remove two screws and the cover.



3. Remove two C-clips and remove the Pickup Roller Assy.



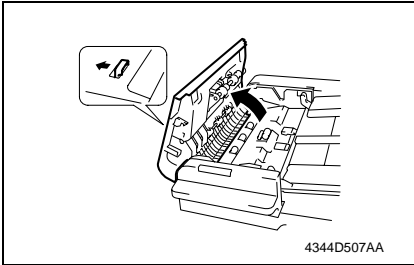
4. Remove two levers.
 5. Remove five C rings.
 6. Remove one arm.
 7. Remove two Pickup Rollers.



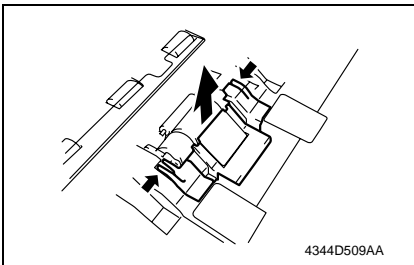
8. Remove one C-ring and remove the gear and Bearing.
9. Remove two pins.
10. Remove the Feed Roller.

NOTE

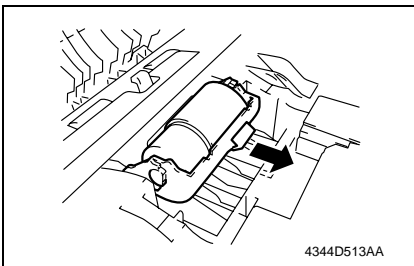
- Use care not to lose the pin.

2.1.2 Replacing the Separation Roller

1. Open the Upper Door.



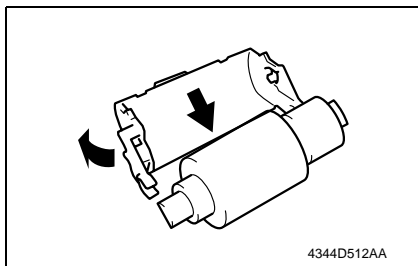
2. Hold the arrow sections in the figure and remove the cover.



3. Remove the Paper Separator Roll Assy.

NOTE

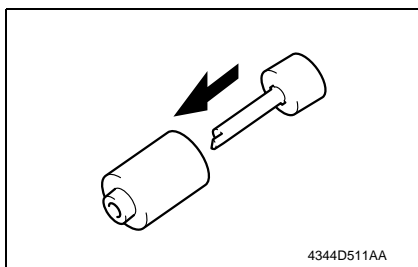
- Use care not to lose the spring below the Separation Roller Assy.



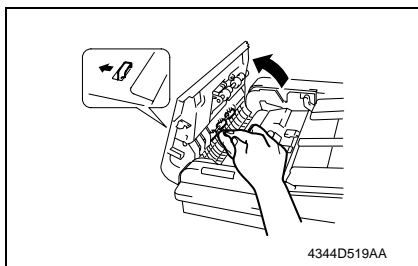
4. While opening up the holder, remove the shaft.

NOTE

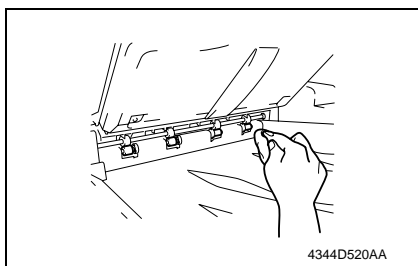
- **Opening the holder too much can break the holder.**



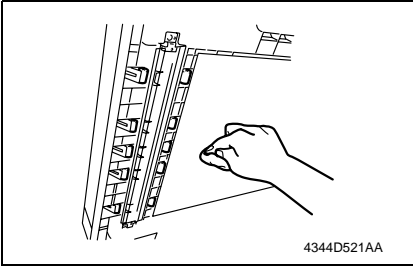
5. Remove the Separation Roller from the shaft.

2.1.3 Cleaning of the Roll

1. Open the Upper Door.
2. Using a soft cloth dampened with alcohol, wipe the roll.

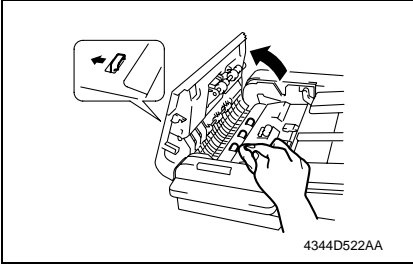


3. Lift up the Drawer.
4. Using a soft cloth dampened with alcohol, wipe the roll.

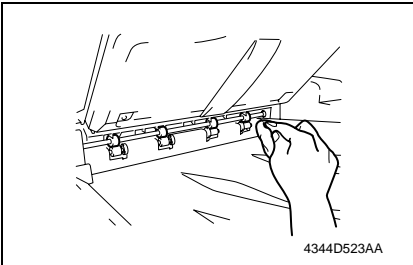


5. Open the Duplexing Document Feeder.
6. Using a soft cloth dampened with alcohol, wipe the roll.

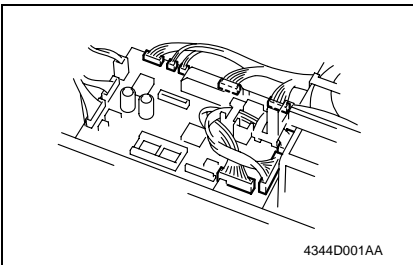
2.1.4 Cleaning of the Roller



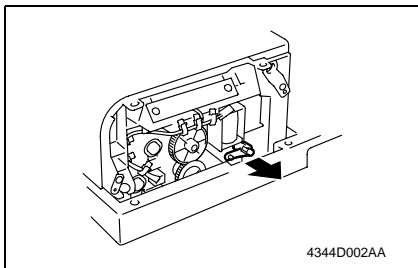
1. Open the Upper Door.
2. Using a soft cloth dampened with alcohol, wipe the roller.



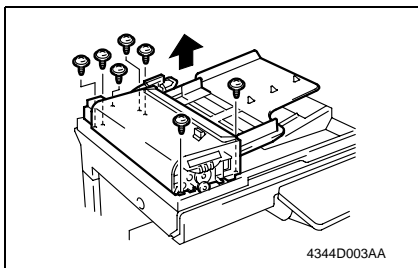
3. Lift up the Drawer.
4. Using a soft cloth dampened with alcohol, wipe the roller.



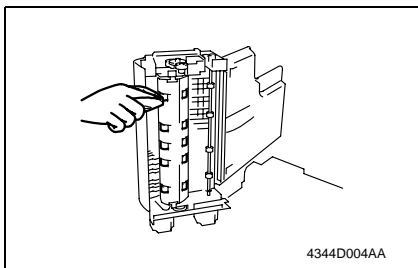
5. Remove the Front and Rear Cover.
6. Unplug eight connectors on the board.



7. Remove the lever.

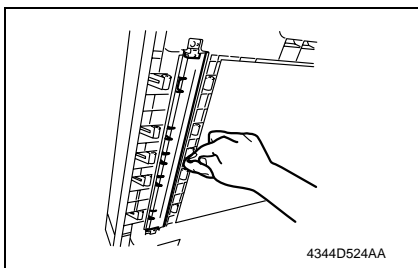


8. Remove seven screws and the Paper Take-Up Unit.



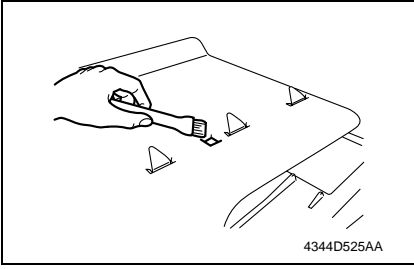
9. Using a soft cloth dampened with alcohol, wipe the roller.

2.1.5 Cleaning of the Scanning Guide



1. Open the Duplexing Document Feeder.
2. Using a soft cloth dampened with alcohol, wipe the Scanning Guide clean of dirt.

2.1.6 Cleaning of the Sensor Section



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

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.

B. Red Painted Screws

NOTES

- When the screws are removed, the red paint is coated on the points where readjustment is required.
- Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with 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.

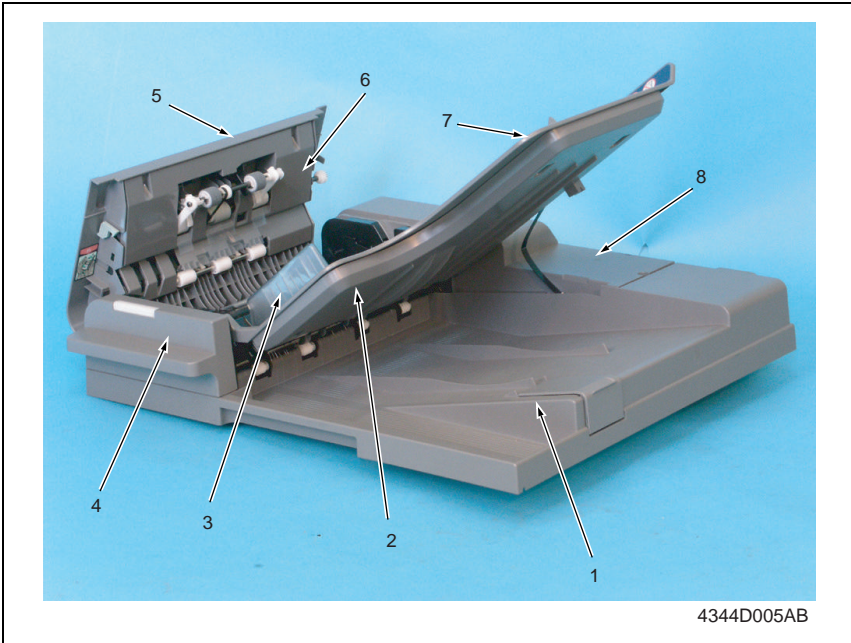
D. Removal of PWBs

NOTES

- 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.

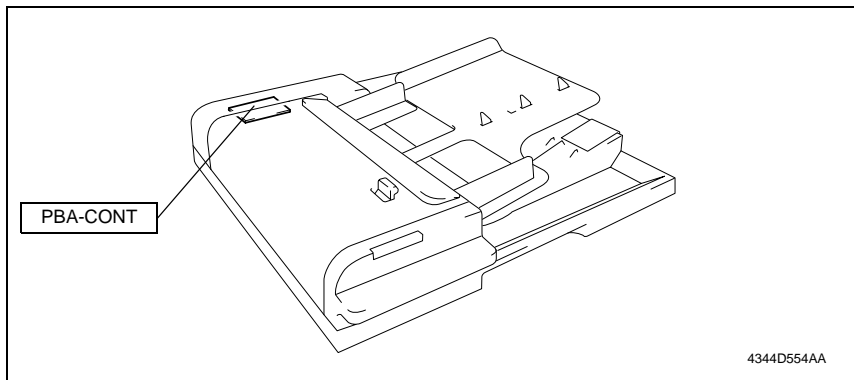
3.2 Disassembly/Assembly procedure

3.2.1 Exterior Parts



No.	Part Name	Removal Procedure
1	Document Exit Tray	–
2	Document Feeding Tray Cover	Remove the Document Feeding Tray. → Remove four screws. → Remove the Document Feeding Tray Cover.
3	Document Edge Guide	–
4	Front Cover	Raise the Duplexing Document Feeder. → Remove two screws. → Remove the Front Cover.
5	Upper Door	–
6	Document Take-up Section Cover	Open the Upper Door. → Remove two screws. → Remove the Document Take-up Section Cover.
7	Document Feeding Tray	Open the Upper Door. → Remove the Rear Cover. → Remove two screws and unplug one connector. → Remove the Document Feeding Tray.
8	Rear Cover	Open the Upper Door. → Remove two screws. → Unhook two tabs and remove the Rear Cover.

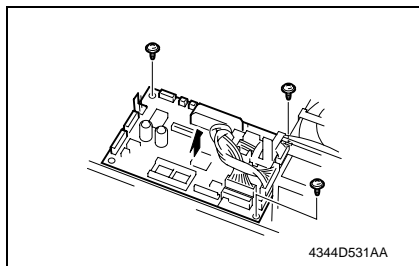
3.2.2 Main Control Board (PBA-CONT)



A. Removal Procedure

1. Turn OFF the Power Switch.
2. Remove the Rear Cover.

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3. Unplug all connectors from the Main Control Board.
4. Remove three screws and the Main Control Board.

B. Reinstallation Procedure

1. Reinstall all parts that have been removed by reversing the order of removal.
2. Turn ON the Power Switch.

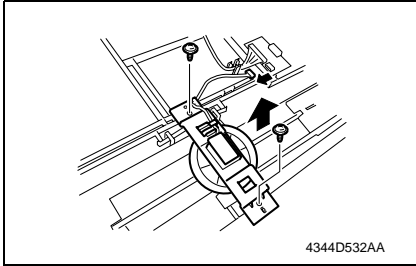
NOTE

- Perform the following steps when the Main Control Board has been replaced.
- 3. Upgrade the firmware.

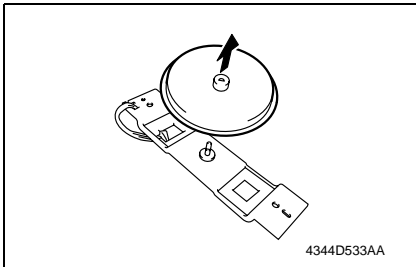
3.2.3 Variable Resistor

A. Removal Procedure

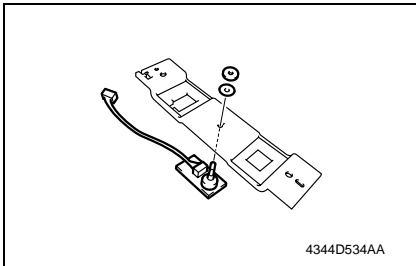
1. Turn OFF the power.
2. Remove the Document Feeding Tray Cover.



3. Unplug one connector.
4. Remove two screws and the mounting bracket.

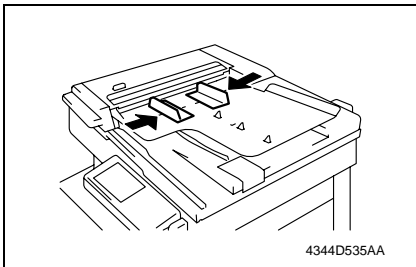


5. Remove the gear.



6. Remove one nut and one washer and the Variable Resistor.

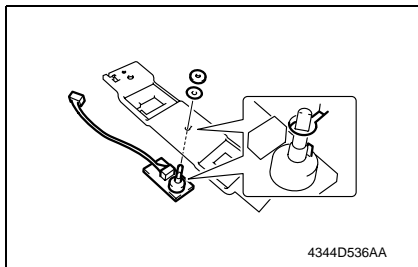
B. Reinstallation Procedure



1. Close the Side Edge Stop of the Original Feed Tray.

NOTE

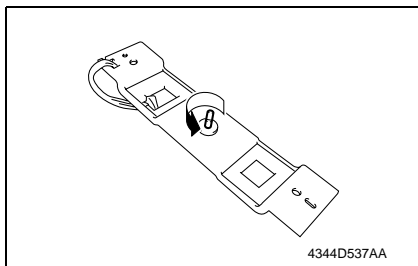
- Be sure to perform document width detection adjustment after replacing the Variable Resistor (PBA-VR).



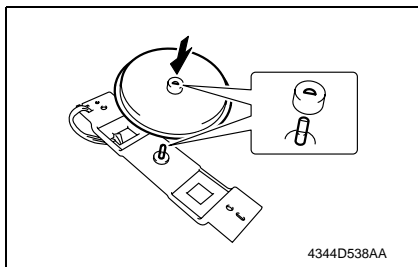
- Use one nut to install the Variable Resistor.

NOTE

- Align the protrusion of the Variable Resistor and the cutout of the mounting bracket.



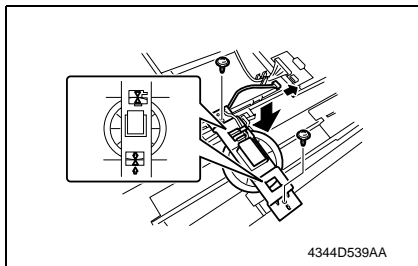
- Turn the Variable Resistor counter-clockwise until it stops.



- Reinstall the gear that was removed at Removal Procedure 5.

NOTE

- Note the mounting position of the gear and the Variable Resistor.



- Use two screws to install the Variable Resistor.

NOTE

- Install the gear and rack gear by aligning the arrows.

- Install the Document Feeding Tray Cover and turn ON the power.

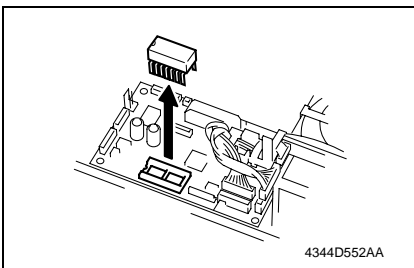
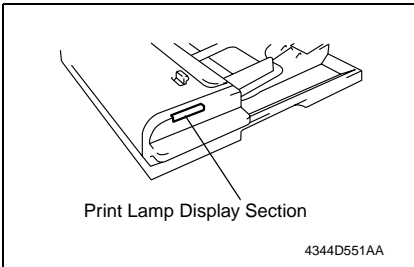
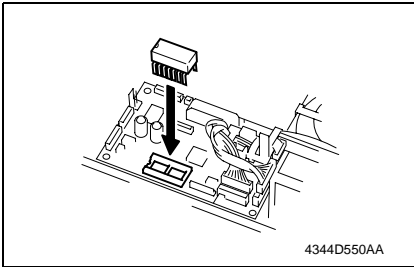
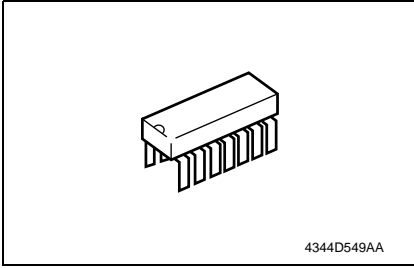
NOTE

- Be sure to perform the following operation when the Variable Resistor is replaced.

- Power cycle and check whether size detection operates normally.

4. Firmware upgrade

4.1 Optional Duplexing Document Feeder (DF-605) Firmware Upgrade



1. Prepare the firmware upgrade EP-ROM.
2. Turn OFF the power and remove the Rear Cover.

3. Insert the EP-ROM you prepared at step 1 to the IC socket section of the Control Board.

NOTE

- Ensure that the EP-ROM is installed in the correct direction.
4. Turn ON the power.

5. Check the firmware update status at the Print Lamp Display Section of the Duplexing Document Feeder.

Updating: Green and red light up alternately.

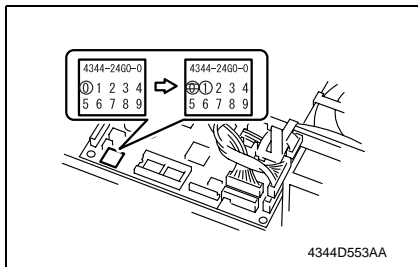
Successful completion: Blinks in green.

Failure: Blinks in red.

* If failure occurs, redo the procedure

from step 3.

6. After the firmware has been upgraded successfully, turn OFF the power and remove the EP-ROM that was attached at step 3.



11. Reinstall the Rear Cover.

7. Turn ON the power.
8. Display Tech. Rep. Mode.
9. Using the Display menu, check the ROM version number of the ADFR.
10. Correct the version indication on the ROM label on the Control Board using a pen or other similar means.

Blank page

Adjustment/Setting

5. 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 “ ”.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:
 1. The power supply voltage meets the specifications.
 2. The power supply is properly grounded.
 3. 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).
 4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
 5. The original has a problem that may cause a defective image.
 6. The density is properly selected.
 7. The Original Glass, slit glass, or related part is dirty.
 8. Correct paper is being used for printing.
 9. 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.
 10. Toner is not running out.

B. Precautions for Service Jobs

1. To unplug the power cord of the machine before starting the service job procedures.
2. 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.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

6. Service Mode

6.1 Service Mode function setting procedure

NOTE

- Care must be used to ensure that only the personnel who are involved in service jobs know the procedure to enter the Service mode.

6.1.1 Procedure

1. Press the Utility key.
2. Press the following keys in this order.
3. Stop → 0 → 0 → Stop → 0 → 1
4. The Service mode menu screen will appear.

6.1.2 Exiting

- Press the Panel Reset key as many times as it is required to display the initial screen.

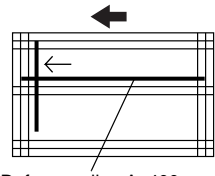
6.1.3 Changing the Setting Value in Service Mode Functions

1. Select the desired item using [▲ / ▼] key.
2. Select the setting value using [▲ / ▼] key, [< / >] key, or the 10-Key Pad.
3. Validate the selection by pressing the [Yes] key.
4. To go back to previous screen, press the [No] key.

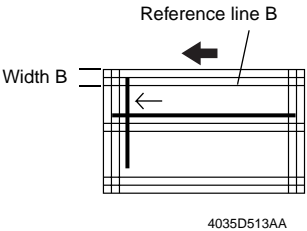
6.2 Setting in the Service Mode

6.2.1 ADJUST

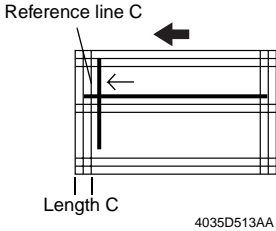
A. ADF SUB ZOOM

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different parts by varying the scanning zoom ratio in the sub scanning direction when the Automatic Document Feeder is used.	
Setting/Procedure	Press the Start key to start a test copy cycle.	<ul style="list-style-type: none"> The default setting is "100." Setting range: 87 to 113 (1 step: 0.4%)
Adjustment Procedure	<div style="text-align: center;">  <p>Reference line A: 400 mm</p> <p>4035D513AA</p> </div> <ul style="list-style-type: none"> Ready the test chart that comes with the Automatic Document Feeder. Adjust so that deviation between length A on the test chart and that on the copy falls within the specified range. <p>Specifications 400 ± 6.0 mm</p> <ol style="list-style-type: none"> Make a full-size copy of the test chart. Measure the length of reference line A on the copy to determine if the deviation falls within the specified range. If it falls outside the specified range, perform the following steps to make an adjustment. Enter Adjust of the Service mode. Select "ADF Sub Zoom" and press the [Yes] key. Using [▲ / ▼] key, select the appropriate setting value. Press the [Yes] key to validate the setting value selected in step 5. Make another full-size copy of the test chart to determine the amount of error in length A on the copy. <p>Adjustment Instructions</p> <p>If length A on the copy is longer than the specifications, decrease the setting value. If length A on the copy is shorter than the specifications, increase the setting value. If a single adjustment procedure does not successfully bring the deviation into the specified range, repeat steps 3 through 7. </p>	

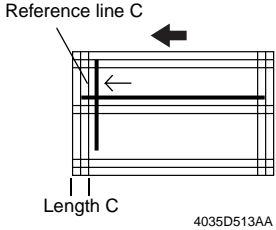
B. ADF MAIN REGIST

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different parts by varying the scanning start position in the main scanning direction when the Automatic Document Feeder is used.	
Setting/Procedure	Press the Start key to start a test copy cycle.	Setting range: 20 to 180 (1 step: 0.1 mm)
Adjustment Procedure	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  <p style="text-align: center;">4035D513AA</p> </div> <div style="width: 50%;"> <ul style="list-style-type: none"> • Ready the test chart that comes with the optional Automatic Document Feeder. • Adjust so that the amount of error of width B on the copy falls within the specified range. <p>Specifications 20 ± 2.0 mm</p> <ol style="list-style-type: none"> 1. Make a full-size copy of the test chart. 2. Using a scale, measure the distance between reference line B on the copy and the top edge of the copy (width B) and determine if the amount of error in width B falls within the specified range. If it falls outside the specified range, perform the following steps to make an adjustment. 3. Enter Adjust of the Service mode. 4. Select "ADF Main Regist" and press the [Yes] key. 5. Using [▲ / ▼] key, select the appropriate setting value. 6. Press the [Yes] key to validate the setting value selected in step 5. 7. Make another full-size copy of the test chart to check for the amount of error in width B on the copy. <p>Adjustment Instructions If width B on the copy is longer than the specifications, decrease the setting value. If width B on the copy is shorter than the specifications, increase the setting value. If a single adjustment procedure does not successfully bring the amount of error into the specified range, repeat steps 3 through 7.</p> </div> </div>	

C. ADF SUB REGIST1

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different parts by varying the scanning start position in the sub scanning direction when the Automatic Document Feeder is used. NOTE • This adjustment should be made after the ADF Sub Zoom adjustment.	
Setting/Procedure	Press the Start key to start a test copy cycle.	Setting range: 50 to 150 (1 step: 0.1 mm)
Adjustment Procedure	<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;">  <p style="text-align: center;">4035D513AA</p> </div> <div style="flex: 1; padding-left: 20px;"> <ul style="list-style-type: none"> • Ready the test chart that comes with the optional Automatic Document Feeder. • Adjust so that the amount of error of length C on the copy falls within the specified range. <p>Specifications 20 ± 2.5 mm</p> </div> </div> <ol style="list-style-type: none"> 1. Make a full-size copy of the test chart. 2. Using a scale, measure the distance between reference line C on the copy and the leading edge of the copy (length C) and determine if the amount of error in length C falls within the specified range. If it falls outside the specified range, perform the following steps to make an adjustment. 3. Enter Adjust of the Service mode. 4. Select "ADF Sub Regist" and press the [Yes] key. 5. Using [▲ / ▼] key, select the appropriate setting value. 6. Press the [Yes] key to validate the setting value selected in step 5. 7. Make another full-size copy of the test chart to check for the amount of error in length C on the copy. <p>Adjustment Instructions</p> <p>If length C on the copy is longer than the specifications, increase the setting value. If length C on the copy is shorter than the specifications, decrease the setting value. If a single adjustment procedure does not successfully bring the amount of error into the specified range, repeat steps 3 through 7.</p>	

D. ADF SUB REGIST2

Function	Test Copy	Adjust
Purpose/Use	To adjust variations in machining and installation accuracy of different parts by varying the scanning start position in the sub scanning direction when the Automatic Document Feeder is used. NOTE This adjustment should be made after the ADF Sub Zoom adjustment.	
Setting/Procedure	Press the Start key to start a test copy cycle.	Setting range: 50 to 150 (1 step: 0.1 mm)
Adjustment Procedure	<div style="display: flex; align-items: center;"> <div style="flex: 1;">  <p style="text-align: center;">4035D513AA</p> </div> <div style="flex: 1;"> <ul style="list-style-type: none"> • Ready the test chart that comes with the optional Automatic Document Feeder. • Adjust so that the amount of error of length C on the copy falls within the specified range. <p>Specifications 20 ± 2.5 mm</p> </div> </div> <ol style="list-style-type: none"> 1. Make a full-size copy of the test chart. 2. Using a scale, measure the distance between reference line C on the copy and the leading edge of the copy (length C) and determine if the amount of error in length C falls within the specified range. If it falls outside the specified range, perform the following steps to make an adjustment. 3. Enter Adjust of the Service mode. 4. Select "ADF Sub Regist" and press the [Yes] key. 5. Using [▲ / ▼] key, select the appropriate setting value. 6. Press the [Yes] key to validate the setting value selected in step 5. 7. Make another full-size copy of the test chart to check for the amount of error in length C on the copy. <p>Adjustment Instructions If length C on the copy is longer than the specifications, decrease the setting value. If length C on the copy is shorter than the specifications, increase the setting value. If a single adjustment procedure does not successfully bring the amount of error into the specified range, repeat steps 3 through 7.</p>	

E. ADF REG. LOOP1

Purpose/Use	To adjust the length of loop formed in the original before the Registration Roller. * When a skew feed, fold, or misfeed of the original occurs	
Setting/Procedure	<ul style="list-style-type: none"> • The default setting is "100." <p>Setting range: 95 to 105 (1 step: 1.0 mm)</p>	
Adjustment Procedure	<ol style="list-style-type: none"> 1. Enter Adjust of the Service mode. 2. Select "ADF Reg. Loop1" and press the [Yes] key. 3. Using [▲ / ▼] key, select the desired setting value. 4. Press the [Yes] key to validate the setting value selected in step 3. <p>Adjustment Instructions</p> <ul style="list-style-type: none"> • Try a different setting value until there is no skew, fold, or misfeed of the original. 	

F. ADF REG. LOOP2

Purpose/Use	To adjust the length of loop formed in the original before the Registration Roller. * When a skew feed, fold, or misfeed of the original occurs
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "100." Setting range: 95 to 105 (1 step: 1.0 mm)
Adjustment Procedure	<ol style="list-style-type: none"> Enter Adjust of the Service mode. Select "ADF Reg. Loop2" and press the [Yes] key. Using [▲ / ▼] key, select the desired setting value. Press the [Yes] key to validate the setting value selected in step 3. Adjustment Instructions <ul style="list-style-type: none"> Try a different setting value until there is no skew, fold, or misfeed of the original.

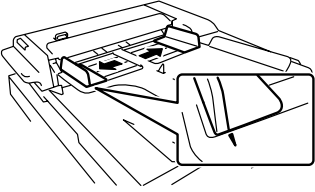
6.2.2 FUNCTION**A. ADF FEED TEST**

Purpose/Use	<ul style="list-style-type: none"> To check for correct paper passage of the paper take-up and transport system in the Automatic (Duplexing) Document Feeder alone as a single unit. Here are the details of operation involved in the paper passage motion. <ul style="list-style-type: none"> The Scanner does not make any scan motion. Paper passage operation continues until all pages of the document loaded in the unit have been fed in. * When a paper misfeed of originals occurs
Setting/ Procedure	<Step> <ol style="list-style-type: none"> Load paper in the ADF. Press the Start key to start the ADF feed test. * Press the Stop key to stop the ADF feed test.

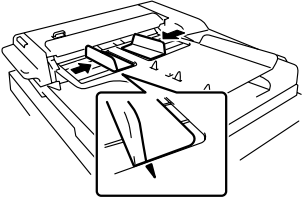
B. COPY ADF GLASS AREA

Purpose/Use	To check for scratches and dirt on the Original Scanning Glass. * When a dirty image occurs
Setting/ Procedure	<Step> <ol style="list-style-type: none"> Place a gray chart (OD = 0.3) on the Original Glass. Press the Start key to start the Copy ADF Glass Area test. The Scanner moves from its standby position to a point 2 mm to the left of the Original Scanning Glass. The Scanner moves to the right to start a scan motion. The copier produces two copy samples (in order to know dirt on the glass from printer image noise).

C. ADF WIDTH ADJ. (MAX)

Purpose/Use	To adjust the original size detection VR. * When PBA-VR board is replaced
Adjustment Procedure	<ol style="list-style-type: none"> 1. Display the Tech. Rep. mode. 2. Choose "ADF WIDTH ADJ. (MAX)" from "Functions".  <ol style="list-style-type: none"> 3. Align the original edge plane of the Side Edge Stop of the Original Feed Tray to the outside ▼ mark. 4. Press the YES key to determine the maximum value. 5. Power cycle and check whether size detection operates normally. <p style="text-align: center;">4344D540AA</p>

D. ADF WIDTH ADJ. (MIN)

Purpose/Use	To adjust the original size detection VR. * When PBA-VR board is replaced
Adjustment Procedure	<ol style="list-style-type: none"> 1. Display the Tech. Rep. mode. 2. Choose "ADF WIDTH ADJ. (MIN)" from "Functions".  <ol style="list-style-type: none"> 3. Align the original edge plane of the Side Edge Stop of the Original Feed Tray to the inside ▼ mark. 4. Press the YES key to determine the minimum value. 5. Power cycle and check whether size detection operates normally. <p style="text-align: center;">4344D541AA</p>

E. ADF SENSOR ADJUST

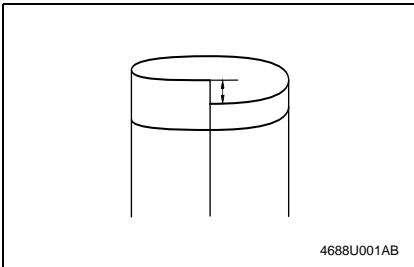
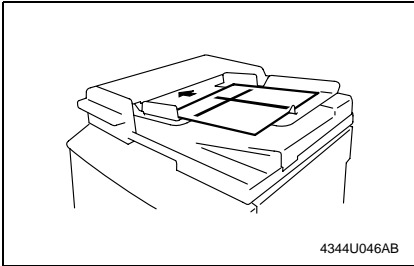
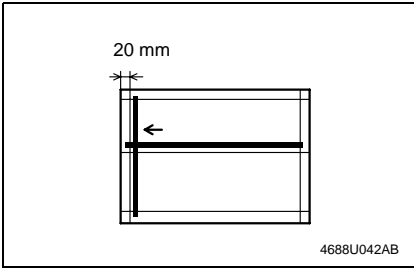
Purpose/Use	To automatically adjust the detection level of original path sensor. * When each sensor is replaced * When original size detection error occurs
Setting/ Procedure	<ol style="list-style-type: none"> 1. Display the Tech. Rep. mode. 2. Choose "ADF WIDTH ADJUST" from "Functions". 3. Press the YES key.

6.2.3 CLEAR DATA**A. ADF BACKUP CLEAR (Di2011 Only)**

Purpose/Use	To clear the values adjusted with ADF SENSOR ADJUST and the values adjusted with Org. Width Detect. * When PBA-CONT board has been replaced. * When PBA-VR board has been replaced.
Setting/ Procedure	1. Press the YES key to clear settings memorized in PBA-CONT. 2. The operation stops automatically. 3. After clear the Backup data, adjust the ADF WIDTH ADJ. (MAX), ADF WIDTH ADJ. (MIN) and ADF SENSOR ADJUST.

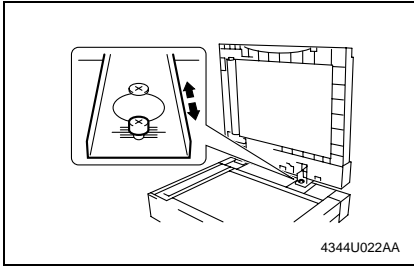
7. Mechanical adjustment

7.1 Checking for Skew Feed

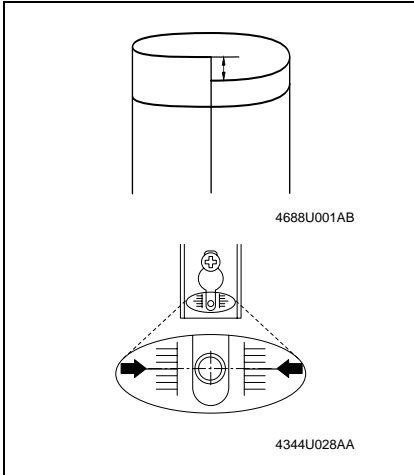


1. Test chart (A3) of the attachment is prepared.
- * Copy Paper
Inch area: 11 × 17
Metric area: A3
2. Plug in the power cord and turn ON the Power Switch of the copier.
3. Load the test chart in the Automatic Document Feeder and make one 1-sided copy five consecutive times.
4. Fold each of the sample copies as illustrated and check for any deviation.
Specifications: 0 ± 3.0 mm
- * If the deviation does not fall within the specified range, perform the following adjustment procedure.

7.2 Adjusting Skew Feed

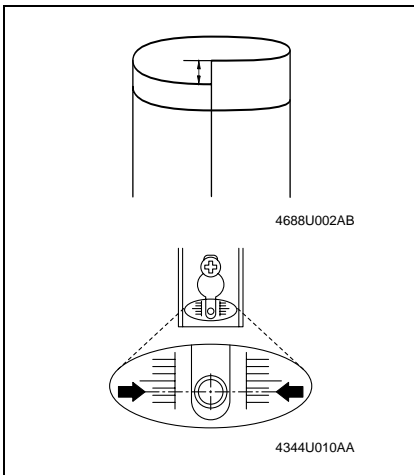


1. Loosen the screw shown and adjust the position of the Automatic Document Feeder as detailed below.



2. If the deviation looks as illustrated, push the front left side of the Automatic Document Feeder toward the rear.

Move the hinge to the front.

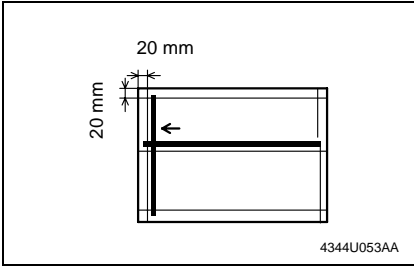


3. If the deviation looks as illustrated, push the front right side of the Automatic Document Feeder toward the rear.

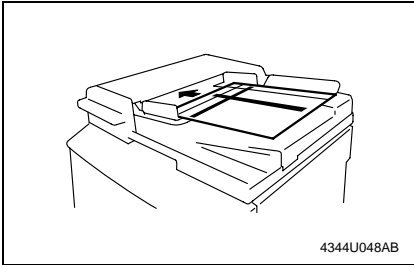
Move the hinge to the rear.

4. After the adjustment procedure has been completed, tighten with a screwdriver the screw which has been loosened in step 1.

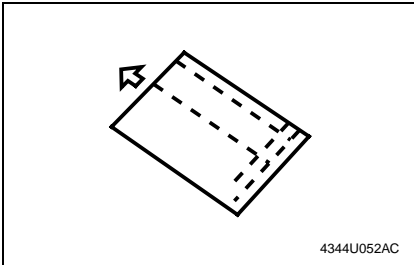
7.3 Registration Check (full size copy, 2-sided original/2-sided copy)



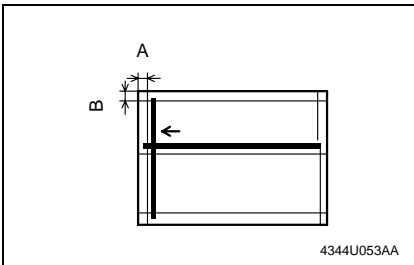
1. Test chart (A3) of the attachment is prepared.



2. Place the test chart in the Duplexing Document Feeder.
3. Make a full size copy.



4. Make a full size copy using the 2-sided original/2-sided copy mode. (Face down the test chart.)



5. Check that the margins reproduced on the copy meet the following specifications.

- * In full size copy mode
Margin Registration Specifications:
Width A: 20 ± 2.5 mm
Width B: 20 ± 2.0 mm
- * In 2-sided original mode
Margin Registration Specifications:
Width A: 20 ± 3.0 mm

If the margins reproduced on the copy fall outside the specified range, make the "Registration Adjustment."

Troubleshooting

8. Introduction

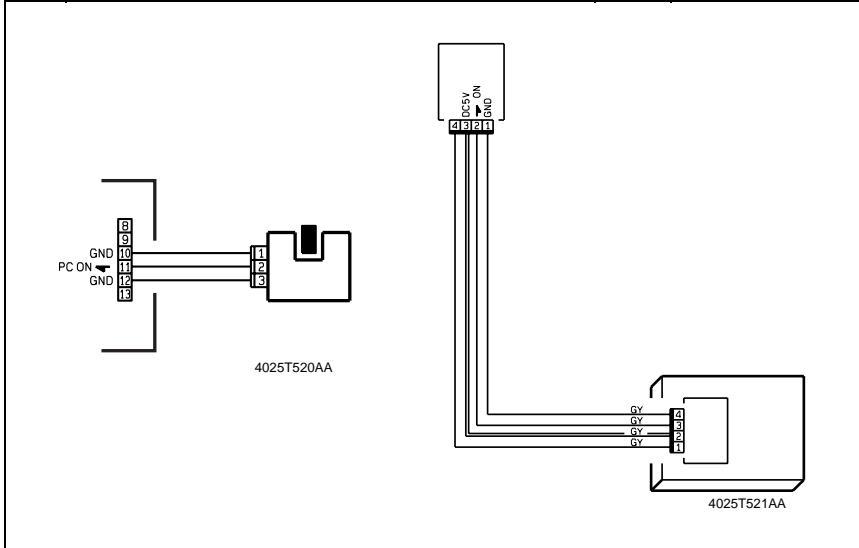
- Information required for troubleshooting and steps that must be performed are described in this chapter.

8.1 Electrical Components Check Procedure

- If a paper misfeed or malfunction occurs, perform the following operation to check the condition of the electrical components.

8.1.1 Sensor

Step	Check	Result	Action
1	Does the input signal of the control board change when the sensor light is interrupted? (H → L, L → H)	NO	Replace the sensor.
		YES	Replace the control board.



8.1.2 Switch

Step	Check	Result	Action
1	Does the input signal (NO) of the control board change from L to H when the switch is turned on?	NO	Replace the switch.
		YES	Replace the control board.

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8.1.3 Solenoid

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the solenoid is activated?	NO	Replace the control board.
		YES	Replace the solenoid.

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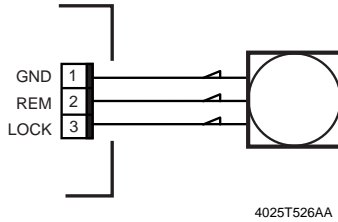
8.1.4 Clutch

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the clutch is activated?	NO	Replace the control board.
		YES	Replace the clutch.

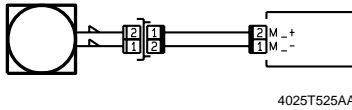
4025T528AA

8.1.5 Motor

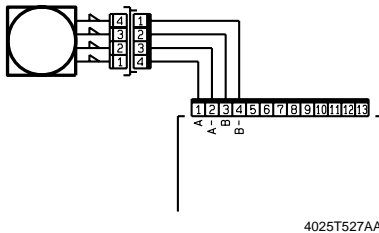
Step	Check	Result	Action
1	Does the LOCK signal of the control board switch to H when the machine goes into standby?	NO	Replace the control board. Replace the motor.
2	Does the REM signal of the control board change from H to L when the motor is turned on?	YES	Replace the motor.
		NO	Replace the control board.



Step	Check	Result	Action
1	Does the input signal of the control board change from H to L when the motor is turned on? (Input signals differ according to the direction of rotation)	YES	Replace the motor.
		NO	Replace the control board.



Step	Check	Result	Action
1	Are the relay connector of the motor and the print jack of the control board correctly connected?	YES	Replace the motor or the control board.
		NO	Connect the connector or the print jack.

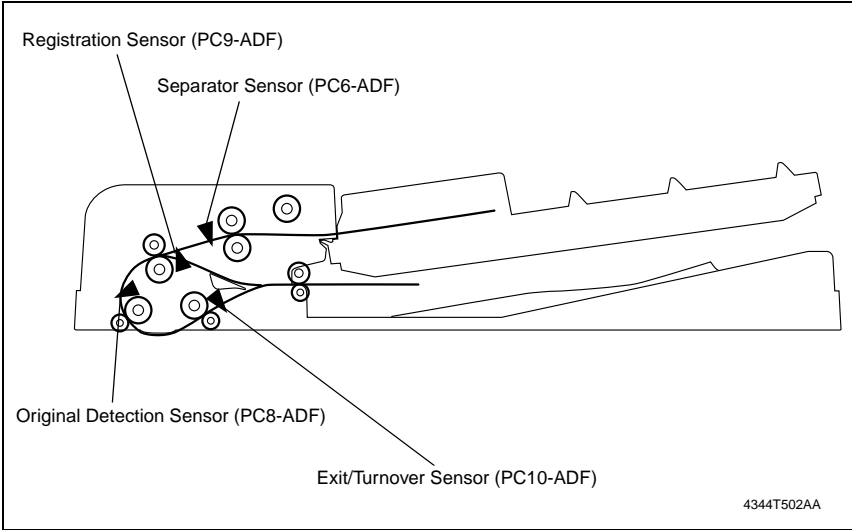


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Troubleshooting

9. Jam Display

9.1 Sensor layout



9.2 Solution

9.2.1 Initial Check Items

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

Check Item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. 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 the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
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 change the defective actuator.

9.2.2 Paper Take-Up Misfeed

A. Detection Timing

Type	Description
Paper Take-Up Section misfeed detection	The Separator Sensor (PC6-ADF) is not blocked even after the set period of time has elapsed after the Paper Take-Up Motor (M1-ADF) is energized.
	The Registration Sensor (PC9-ADF) is not blocked even after the set period of time has elapsed after the Paper Take-Up Motor (M1-ADF) is energized.
Detection of paper remaining in the Paper Take-Up section	The Separator Sensor (PC6-ADF) is not blocked even after the set period of time has elapsed after the Original Detection Sensor (PC8-ADF) is blocked by the paper.
	The Registration Sensor (PC9-ADF) is not blocked even after the set period of time has elapsed after the Original Detection Sensor (PC8-ADF) is blocked by the paper.

B. Action

Relevant Electrical Components	
Paper Take-Up Motor (M1-ADF) Separator Sensor (PC6-ADF) Registration Sensor (PC9-ADF) Original Detection Sensor (PC8-ADF)	Control Board (PBA-CONT)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	ES ³ 35	—	—
2	PC6-ADF sensor check	ES ³ 31	PBA-CONT CN5CONT-11	G-2
3	PC9-ADF sensor check	ES ³ 31	PBA-CONT CN6CONT-3	G-2
4	PC8-ADF sensor check	ES ³ 31	PBA-CONT CN6CONT-6	G-2
5	M1-ADF operation check	ES ³ 33	—	F-7
6	PBA-CONT replacement	—	—	E-5

9.2.3 Transport Section Misfeed

A. Detection Timing

Type	Description
Transport Section misfeed detection	The Original Detection Sensor (PC8-ADF) is not blocked even after the set period of time has elapsed after the Registration Sensor (PC9-ADF) is blocked by the paper.
Detection of paper remaining in the Transport Section	The Original Detection Sensor (PC8-ADF) is not unblocked even after the set period of time has elapsed after the Registration Sensor (PC9-ADF) is unblocked by the paper.

B. Action

Relevant Electrical Components	
Paper Take-Up Motor (M1-ADF) Transport Motor (M2-ADF) Registration Sensor (PC9-ADF) Original Detection Sensor (PC8-ADF)	Control Board (PBA-CONT)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	E-35 35	—	—
2	PC9-ADF sensor check	E-35 31	PBA-CONT CN6CONT-3	G-2
3	PC8-ADF sensor check	E-35 31	PBA-CONT CN6CONT-6	G-2
4	M1-ADF operation check	E-35 33	—	F-7
5	M2-ADF operation check	E-35 33	—	E-7
6	PBA-CONT replacement	—	—	E-5

9.2.4 Turnover Unit Misfeed

A. Detection Timing

Type	Description
Turnover Unit misfeed detection	The Registration Sensor (PC9-ADF) is not blocked even after the set period of time has elapsed after the Transport Motor (M2-ADF) is energized.

B. Action

Relevant Electrical Components	
Transport Motor (M2-ADF) Registration Sensor (PC9-ADF)	Control Board (PBA-CONT)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	ES ⁺ 35	—	—
2	PC9-ADF sensor check	ES ⁺ 31	PBA-CONT CN6CONT-3	G-2
3	M2-ADF operation check	ES ⁺ 33	—	E-7
4	PBA-CONT replacement	—	—	E-5

9.2.5 Paper Exit Section Misfeed

A. Detection Timing

Type	Description
Paper Exit Section misfeed detection	The Exit/Turnover Sensor (PC10-ADF) is not blocked even after the set period of time has elapsed after the Original Detection Sensor (PC8-ADF) is blocked by the paper.
Detection of paper remaining in the Transport Section	The Exit/Turnover Sensor (PC10-ADF) is not unblocked even after the set period of time has elapsed after the Original Detection Sensor (PC8-ADF) is unblocked by the paper.

B. Action

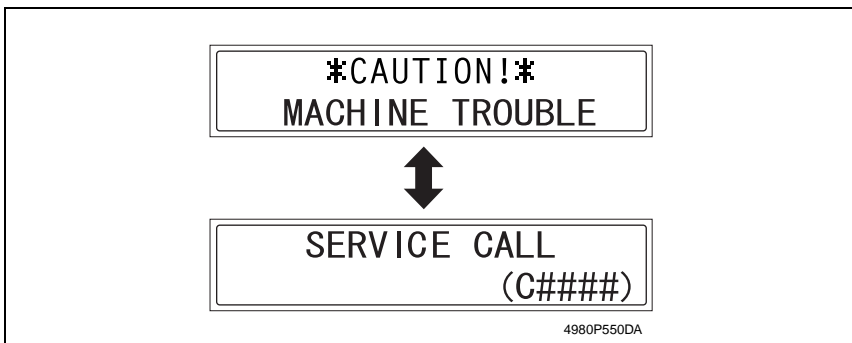
Relevant Electrical Components	
Transport Motor (M2-ADF) Original Detection Sensor (PC8-ADF) Exit/Turnover Sensor (PC10-ADF)	Control Board (PBA-CONT)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	☞ 35	—	—
2	PC8-ADF sensor check	☞ 31	PBA-CONT CN6CONT-6	G-2
3	PC10-ADF sensor check	☞ 31	PBA-CONT CN6CONT-9	H-2
4	M2-ADF operation check	☞ 33	—	E-7
5	PBA-CONT replacement	—	—	E-5

10. Malfunction code

10.1 Trouble code

- The copier'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.



10.2 Solution

10.2.1 C0044: ADF Cooling Fan Failure

A. Detection Timing

Trouble Code	Description
C0044	<ul style="list-style-type: none"> The ADF Fan Motor Lock signal remains set to H for a set period of time while the EDH Fan Motor is turning.

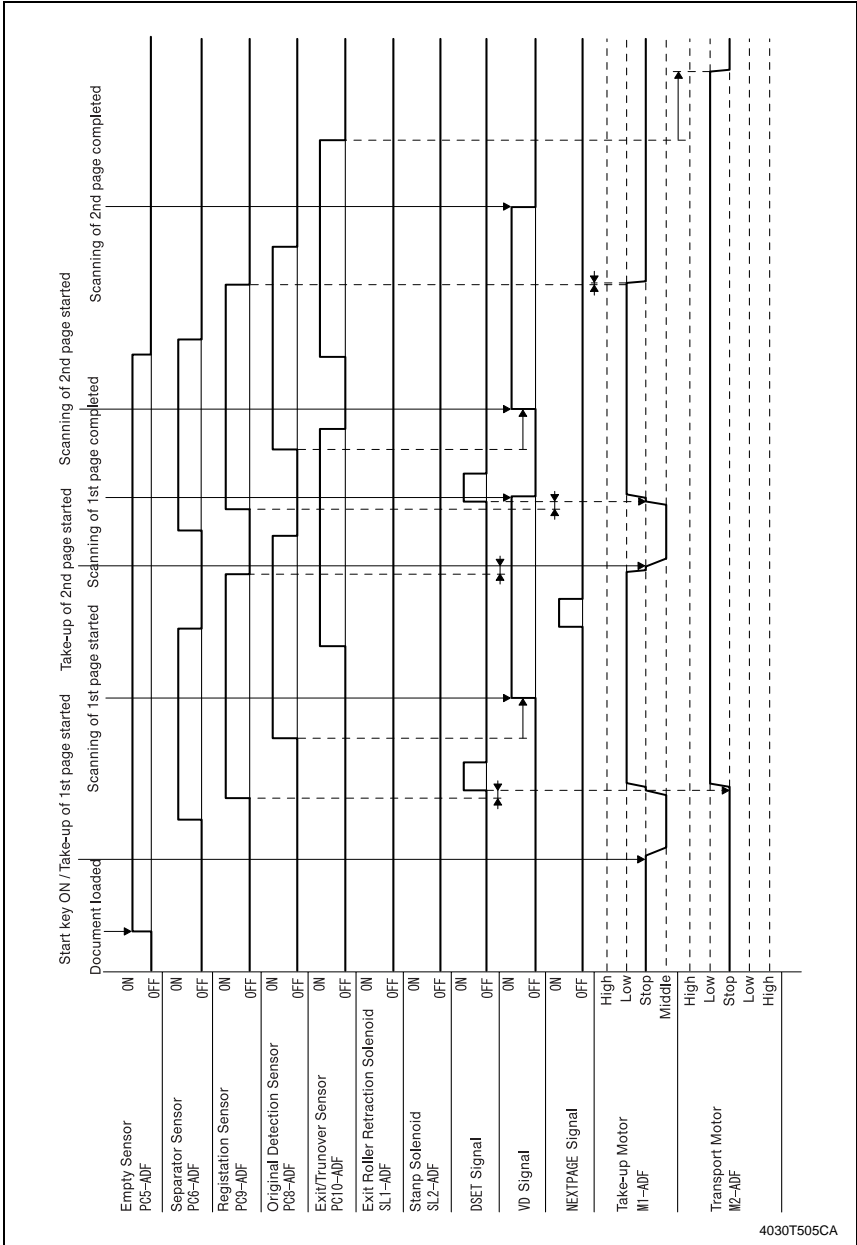
B. Action

Relevant Electrical Components	
Cooling Fan Motor (M3-ADF)	Main Control Board (PBA-CONT)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check the motor connectors for paper connection, and correct as necessary.	—	—	—
2	Check the fan for possible overload, and correct as necessary.	—	—	—
3	M3-ADF operation check.	ES ² 33	PBA-CONT CN9 CONT-2 (REM)	E-5
4	Replace PBA-CONT.	—	—	—

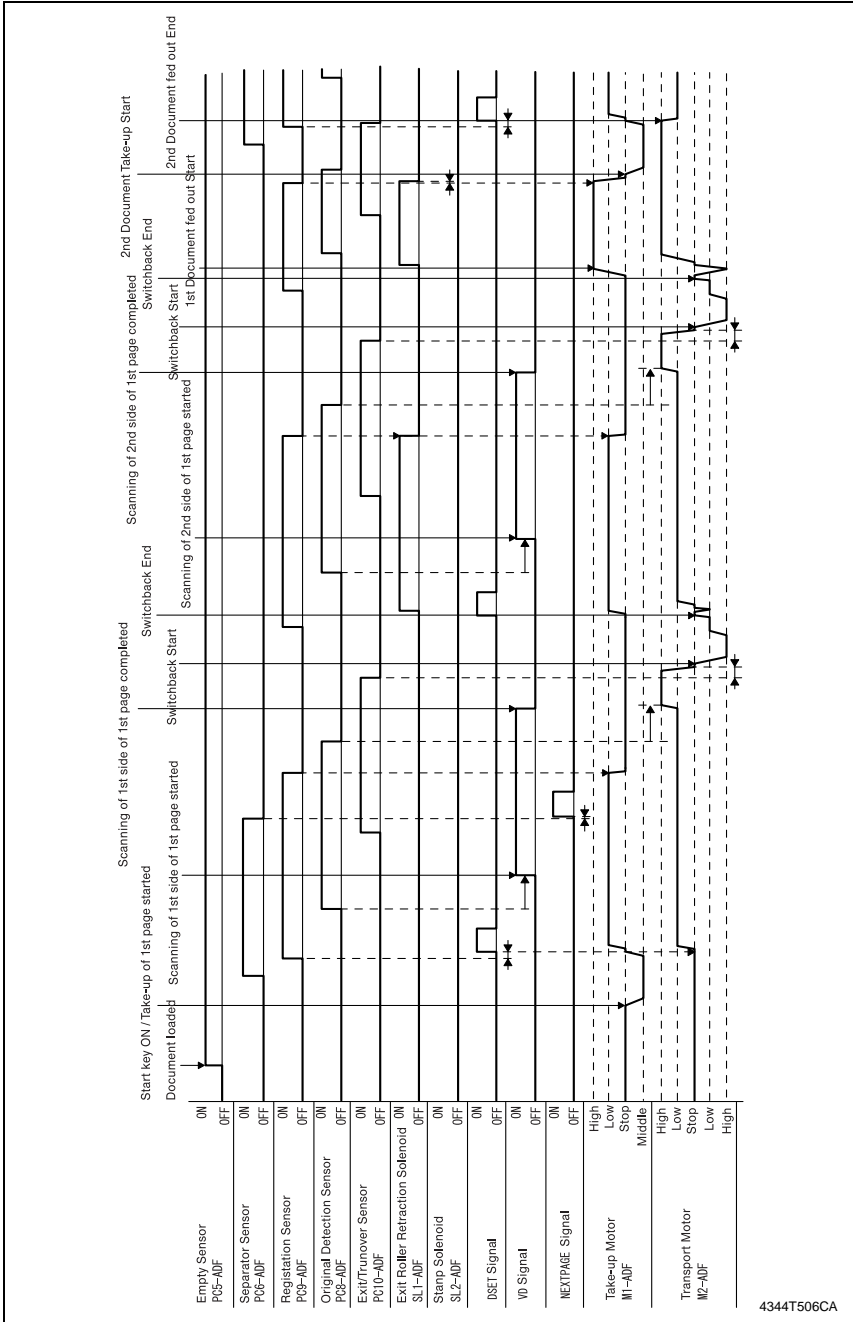
11. Time Chart

11.1 Single-sided document mode (A4C; 2-sheet feeding)



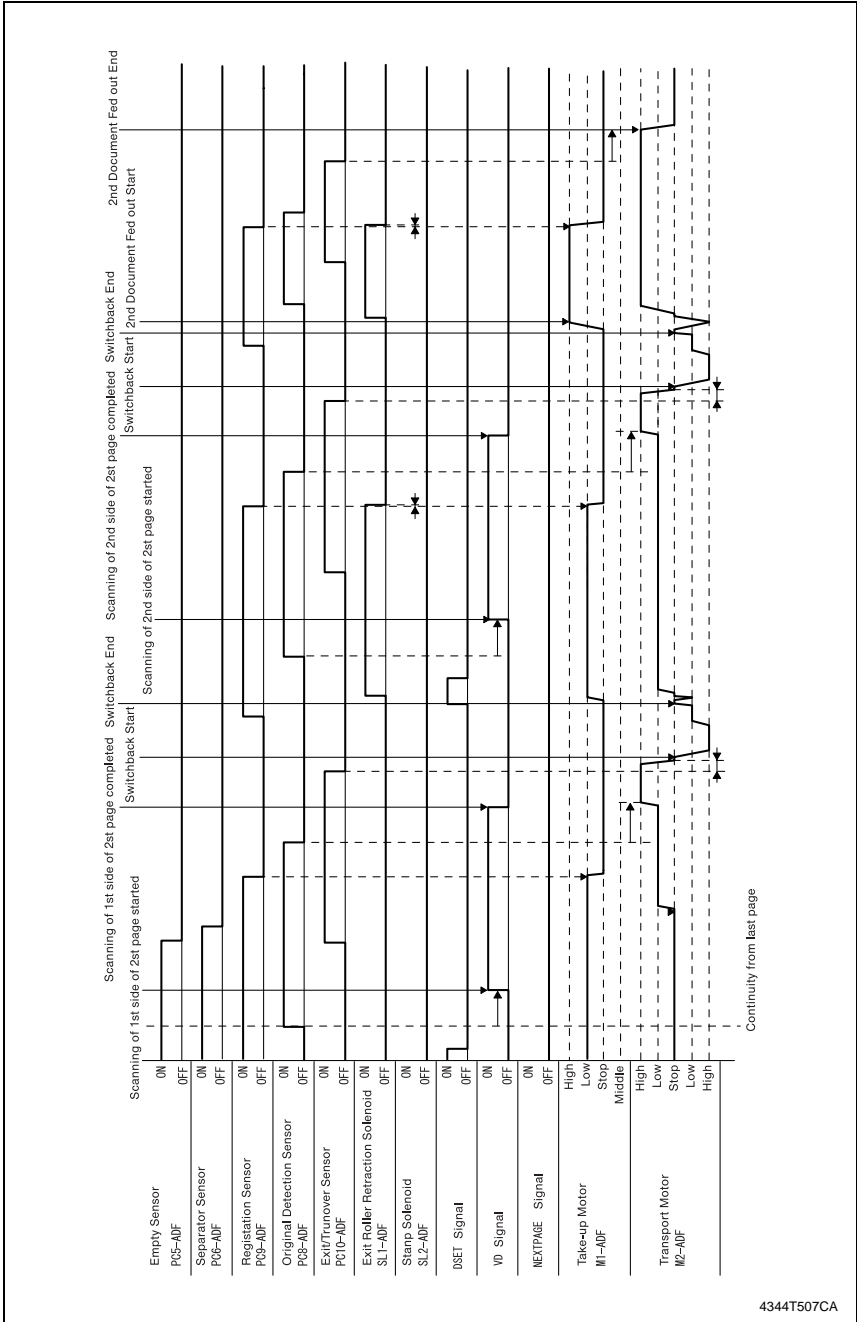
11.2 Double-sided document mode (A4C; 2-sheet feeding)

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Troubleshooting

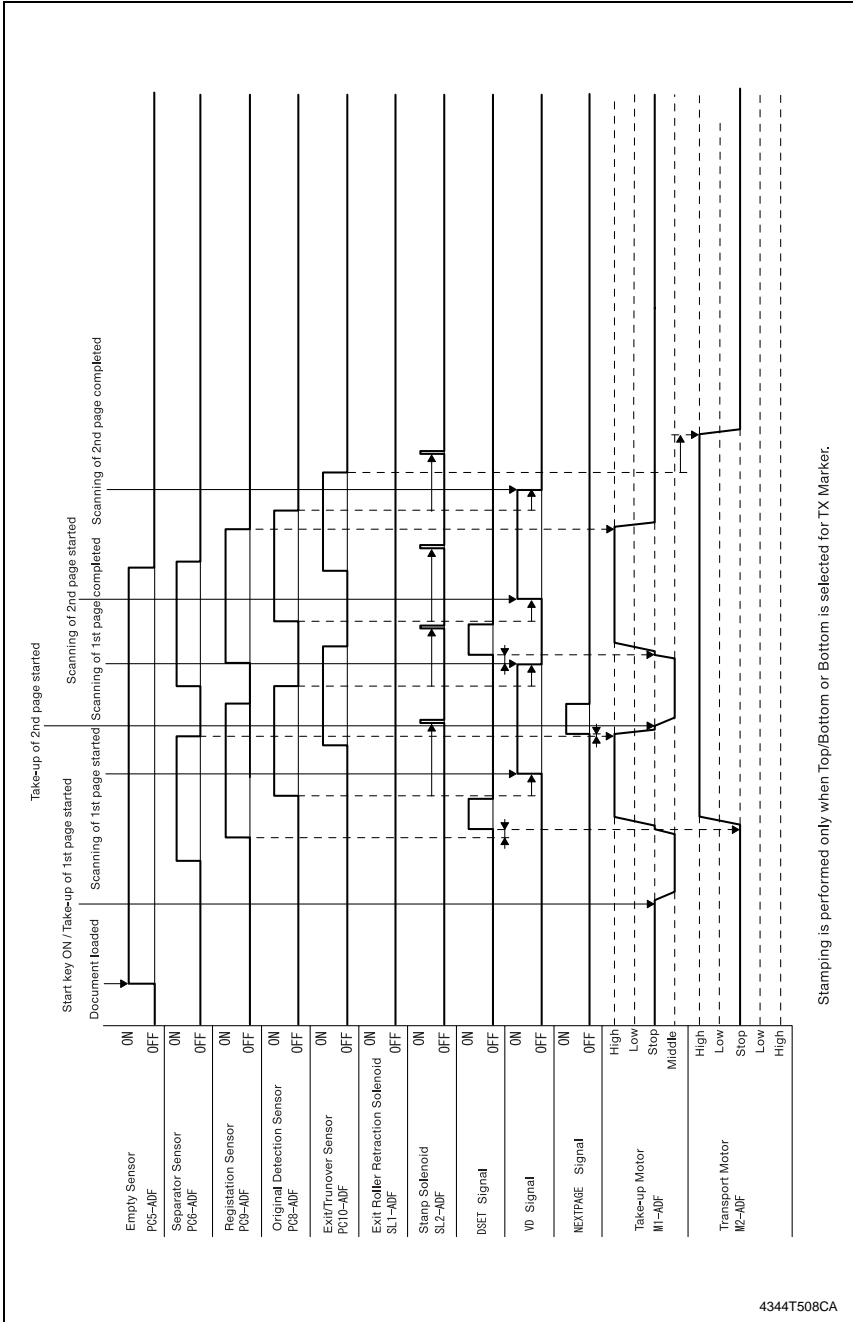


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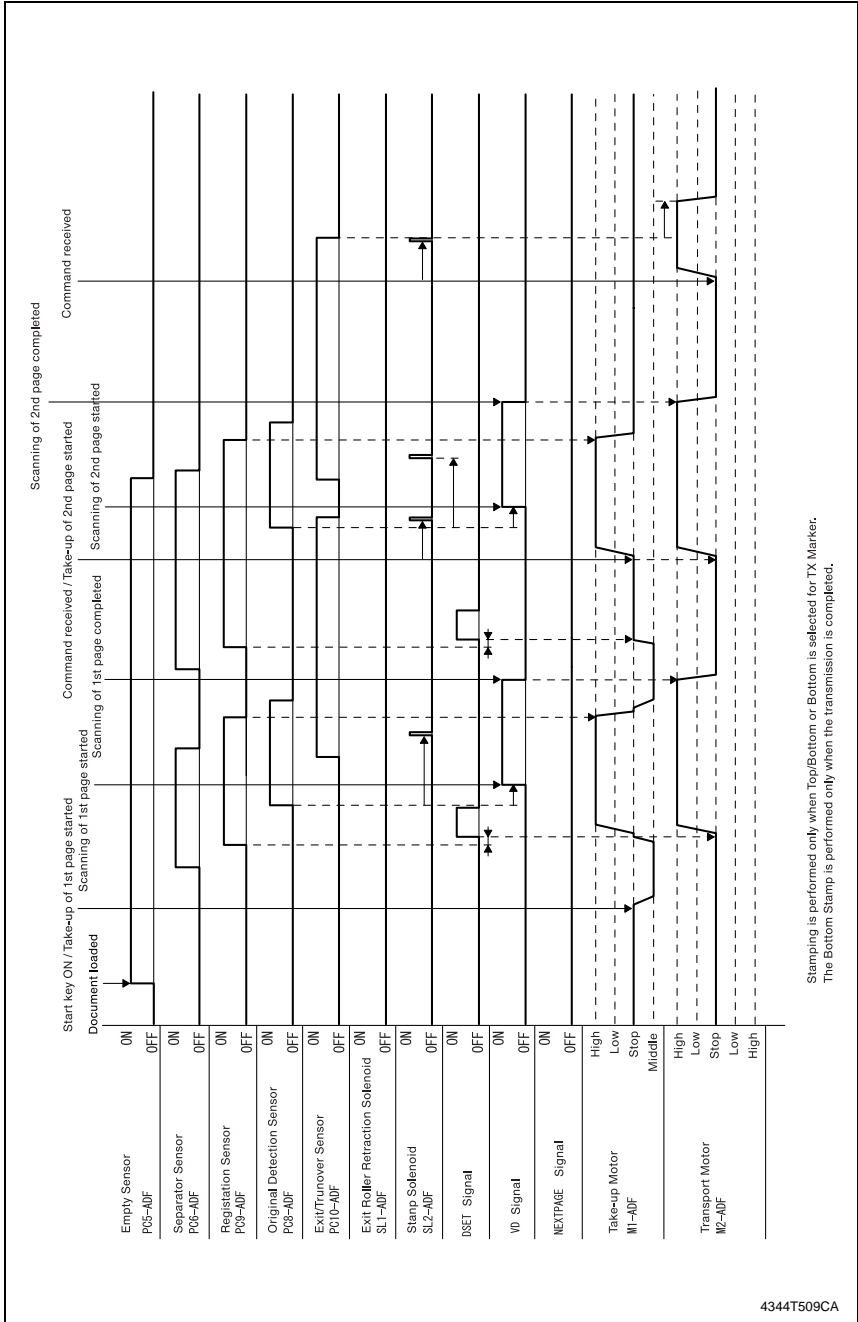
Troubleshooting

11.3 Fax (Fine) mode (A4C; 2-sheet feeding)



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11.4 Immediate fax transmission mode (A4C; 2-sheet feeding)



Stamping is performed only when Top/Bottom or Bottom is selected for TX Marker.
The Bottom Stamp is performed only when the transmission is completed.

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SERVICE MANUAL

FIELD SERVICE





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A number within  represents the number of times the revision has been made.
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NOTE

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2005/04	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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General

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General

1. Product specification

Name	Duplex Unit
Type	Sheet duplex paper take-up section
Installation	Installed to the right side door
Paper Size	A3, A4 R, A4, A5 R, A5, B4, B5 R, B5, FLS, Ledger, Legal, Letter, Invoice R, Invoice
Paper Type	Plain paper (60 to 90 g/m ²), recycled paper (60 to 90 g/m ²)
Document Alignment	Center
Power Requirements	DC24 V (supplied from the copier) DC5 V
Max. Power Consumption	9 W or less
Dimensions	Width = 412 mm Depth = 215 mm Height = 88 mm
Mass	2.5 kg (Duplex Unit + Manual Bypass Assy)
Operating Environment	Conforms to that of the copier

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Maintenance

2. Other

2.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.

B. Red Painted Screws

NOTES

- When the screws are removed, the red paint is coated on the points where readjustment is required.
- Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with 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

NOTES

- 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.

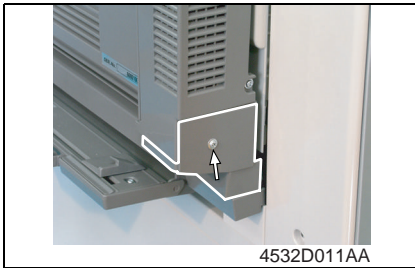
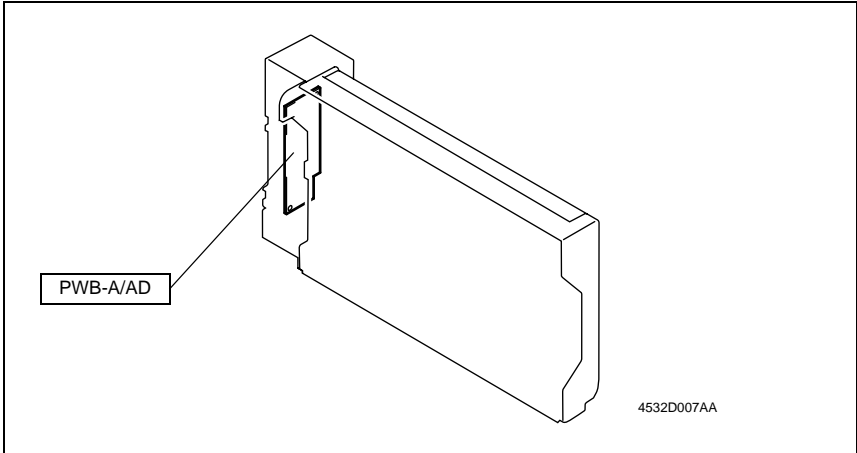
2.2 Disassembly/Assembly procedure

2.2.1 Exterior Parts



No.	Part Name	Removal Procedure
1	Right Cover	Remove the Lower Right Cover. → Remove two screws. → Remove the Right Cover.
2	Lower Right Cover	Remove one screw. → Remove the Lower Right Cover.
3	Front Door	Remove the Right Cover. → Remove one screw, snap off one C-clip, and remove one washer. → Slide the Front Door to the left and take it off.

2.2.2 Control Board (PWB-A/AD)



1. Remove one screw and the Lower Right Cover.



2. Remove two screws and the Right Cover.



3. Remove two screws, unplug all connectors, and remove the Control Board.

2.3 Cleaning procedure

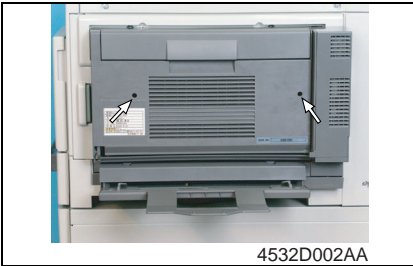
2.3.1 Duplex Unit Transport Rollers/Rolls

1. Open the Front Door of the Duplex Unit.

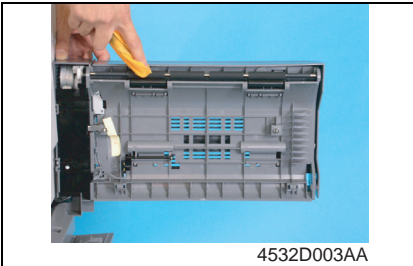


2. Using a soft cloth dampened with alcohol, wipe the Duplex Unit Transport Rollers/Rolls clean of dirt.

2.3.2 Switch Back Unit Transport Roller/Roll



1. Remove two screws and the Duplex Unit.

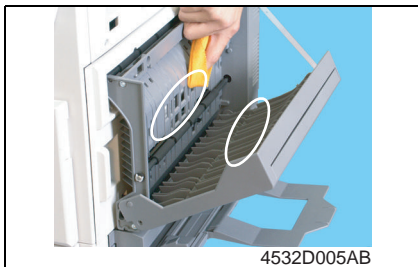


2. Using a soft cloth dampened with alcohol, wipe the Switch Back Unit Transport Roller/Roll clean of dirt.

2.3.3 Duplex Unit Ventilation Section



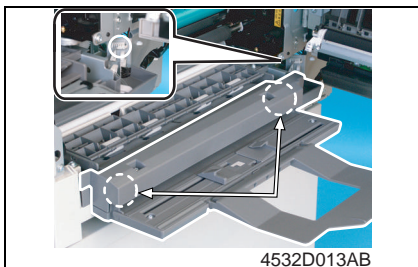
1. Using a soft cloth dampened with alcohol, wipe the outside of the Duplex Unit Ventilation Section clean of dirt.



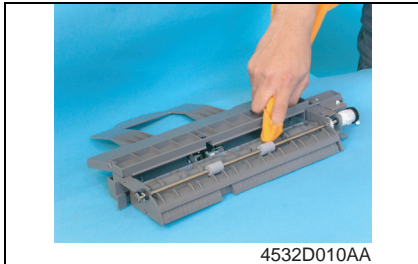
2. Open the Front Door of the Duplex Unit.
3. Using a soft cloth dampened with alcohol, wipe the inside of the Duplex Unit Ventilation Section clean of dirt.

2.3.4 Bypass Transport Roller/Rolls

1. Remove the Rear Right Cover.
4
2. Open the Right Door.



3. Remove two screws, unplug one connector, and remove the Bypass Assy.



4. Using a soft cloth dampened with alcohol, wipe the Bypass Transport Roller clean of dirt.



5. Using a soft cloth dampened with alcohol, wipe the Bypass Transport Rolls 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 “ ”.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:
 1. The power supply voltage meets the specifications.
 2. The power supply is properly grounded.
 3. 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).
 4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
 5. The original has a problem that may cause a defective image.
 6. The density is properly selected.
 7. The Original Glass, slit glass, or related part is dirty.
 8. Correct paper is being used for printing.
 9. 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.
 10. Toner is not running out.

B. Precautions for Service Jobs

1. To unplug the power cord of the machine before starting the service job procedures.
2. 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.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

4. Service Mode

4.1 Service Mode function setting procedure

NOTE

- Care must be used to ensure that only the personnel who are involved in service jobs know the procedure to enter the Service mode.

4.1.1 Procedure

1. Press the Utility key.
2. Press the following keys in this order.
3. Stop → 0 → 0 → Stop → 0 → 1
4. The Service mode menu screen will appear.

4.1.2 Exiting

- Press the Panel Reset key as many times as it is required to display the initial screen.

4.1.3 Changing the Setting Value in Service Mode Functions

1. Select the desired item using [▲ / ▼] key.
2. Select the setting value using [▲ / ▼] key, [< / >] key, or the 10-Key Pad.
3. Validate the selection by pressing the [Yes] key.
4. To go back to previous screen, press the [No] key.

4.2 Setting in the Service Mode

4.2.1 SERVICE'S CHOICE

A. LOOP ADJUST (DUPLEX)

Purpose/Use	To adjust the length of the loop formed in the paper before the Synchronizing Roller. * When a skew feed, fold, or misfeed of paper occurs * When variations in the amount of void on the leading edge occurs
Setting/ Procedure	Setting range: -3.9 to 3.9 mm (1 step: 0.6 mm)
Adjustment Procedure	<ol style="list-style-type: none"> 1. Call Service's Choice of Service Mode to the screen. 2. Select "Loop Adjust (Duplex)" and press the [Yes] key. 3. Using [▲ / ▼] key, select the desired setting value. 4. Press the [Yes] key to validate the setting value selected in step 3. <p>Adjustment Instructions</p> <ul style="list-style-type: none"> • Try a different setting value until there are no variations in the amount of void on the leading edge, and paper skew, fold, or misfeed.

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Troubleshooting

5. Introduction

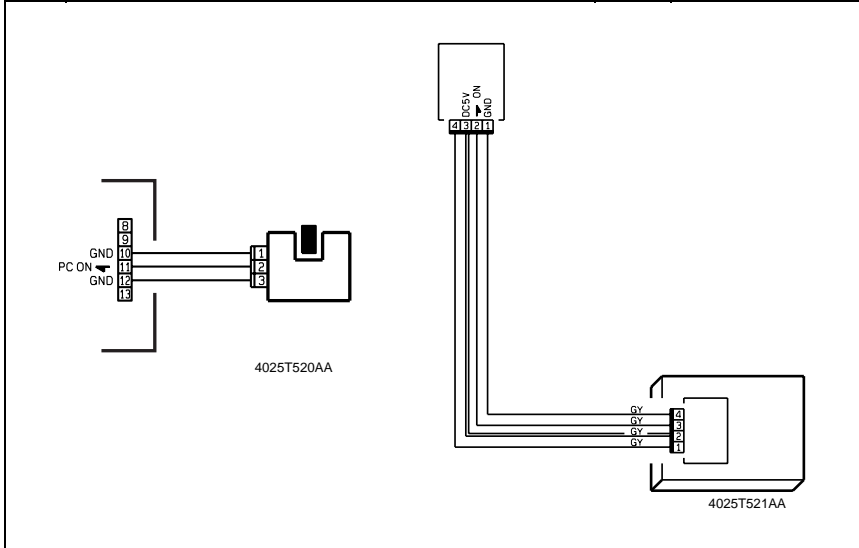
- Information required for troubleshooting and steps that must be performed are described in this chapter.

5.1 Electrical Components Check Procedure

- If a paper misfeed or malfunction occurs, perform the following operations to check the condition of the electrical components.

5.1.1 Sensor

Step	Check	Result	Action
1	Does the input signal of the control board change when the sensor light is interrupted? (H → L, L → H)	NO	Replace the sensor.
		YES	Replace the control board.



5.1.2 Switch

Step	Check	Result	Action
1	Does the input signal (NO) of the control board change from L to H when the switch is activated?	NO	Replace the switch.
		YES	Replace the control board.

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5.1.3 Solenoid

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the solenoid is activated?	NO	Replace the control board.
		YES	Replace the solenoid.

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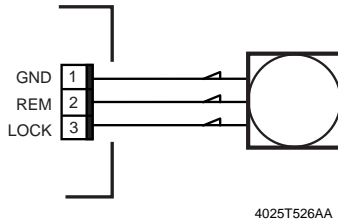
5.1.4 Clutch

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the clutch is activated?	NO	Replace the control board.
		YES	Replace the clutch.

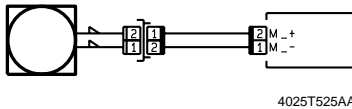
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5.1.5 Motor

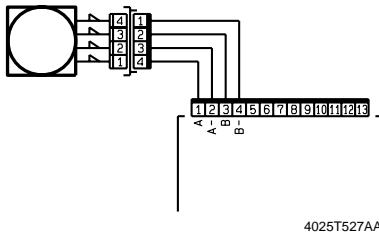
Step	Check	Result	Action
1	Does the LOCK signal switch to H when the machine goes into standby?	NO	Replace the control board. Replace the motor.
2	Does the REM signal of the master board change from H to L when the motor is turned on?	YES	Replace the motor.
		NO	Replace the control board.



Step	Check	Result	Action
1	Does the input signal of the master board change from H to L when the motor is turned on? (The input signal differs depending on the rotation direction.)	YES	Replace the motor.
		NO	Replace the control board.



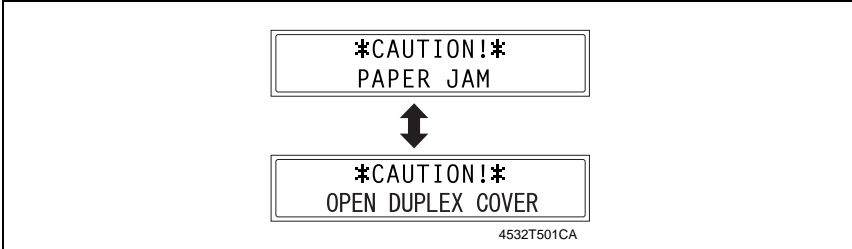
Step	Check	Result	Action
1	Are the relay connector of the motor and the print jack of the control board correctly connected?	YES	Replace the motor or the control board.
		NO	Connect the connector or the print jack.



6. Jam Display

6.1 Misfeed Display

- When a paper misfeed occurs, the Error indicator lights up steadily and the Display gives a corresponding message.

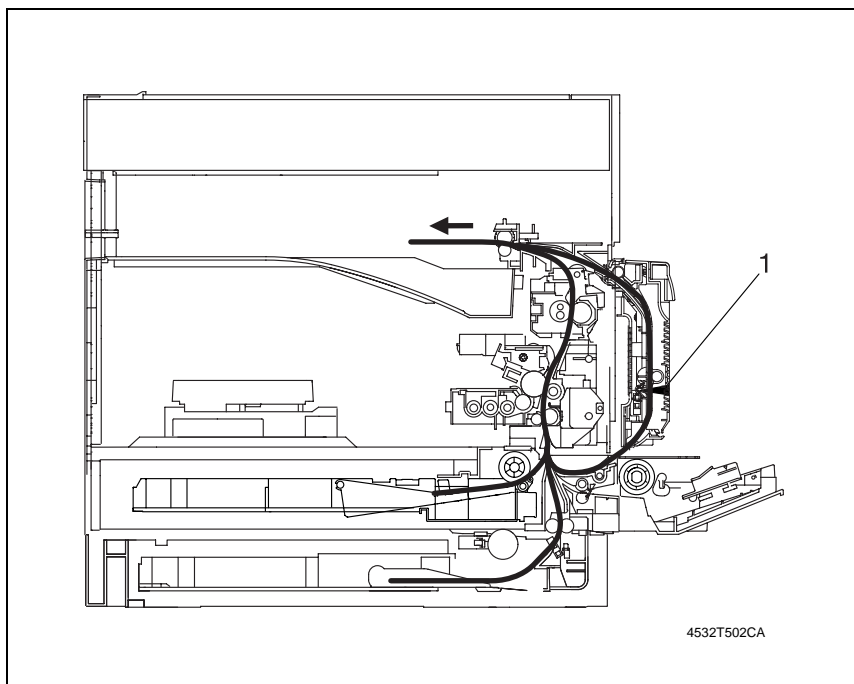


Display Message	Misfeed/Paper Location	Ref. Page
OPEN DUPLEX COVER	Duplex Reversal Housing Block	E3P 18

6.1.1 Display Resetting Procedure

- Open the corresponding cover, clear the sheet of paper misfed, and close the cover.

6.2 Sensor layout



[1] Duplex Unit Transport Sensor (PC2/AD)

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Troubleshooting

6.3 Solution

6.3.1 Initial Check Items

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

Check Item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. 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 Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
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 operational and checked for correct operation?	Correct or replace the defective actuator.

6.3.2 Duplex Reversal Housing Block

A. Detection Timing

Type	Description
Duplex Reversal Housing Block	<ul style="list-style-type: none"> If the Duplex Unit Transfer Sensor does not turn on even when a specified time elapses after the Exit Sensor turns off.

B. Action

Relevant Electrical Components	
Duplex Unit Transport Motor (M2/AD)	Control Board (PWB-A/AD)
Duplex Unit Transport Sensor (PC2/AD)	

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	–	–	–
2	M2/AD operation check	ES ³ 15	–	F-G-7 (AD-504)
3	PC2/AD sensor check	ES ³ 13	PWB-A/AD PJ4A/AD-5 (ON)	C-D-3~4 (AD-504)
4	Replace PWB-A/AD	–	–	–



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Date	Service manual Ver.	Revision mark	Descriptions of revision

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General

1. Product specification

Name	Add-on paper feed unit
Installation	Installed on the underside of the copier

Types and Sizes of Paper

Type	Plain paper (60 to 90 g/m ²)	250 sheets
	Recycled paper (60 to 90 g/m ²)	
Sizes	Metric areas: A3, A4 R, A4, A5, B4, B5 R, and B5 Inch areas: Ledger (11 x 17), 11 x 14, Legal (8-1/2 x 14), Letter/R (8-1/2 x 11/R), and Invoice (5-1/2 x 8-1/2)	

Paper Alignment	Center
Capacity	250 sheets
Power Requirements	DC24 V, DC5 V (supplied from the copier)
Power Consumption	9 W or less
Dimensions	Width = 590 mm Depth = 558 mm Height = 108 mm
Mass	5.5 kg
Operating Environment	Conforms to that of the copier

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Maintenance

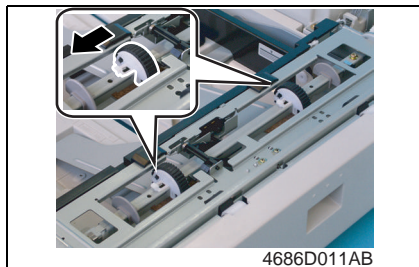
2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

2.1.1 Replacing the Feed Roller

1. Remove the Paper Feed Unit.

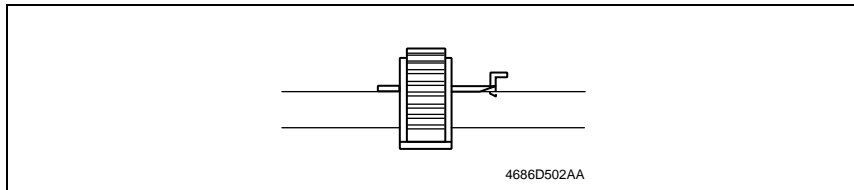
5



2. Remove the Feed Roller lock. Then, slide and take off two Feed Rollers.

Precautions for Installation of the Feed Roller

- Make sure that the Feed Roller lock is in position.



3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.

B. Red Painted Screws

NOTES

- When the screws are removed, the red paint is coated on the points where readjustment is required.
- Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with 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.

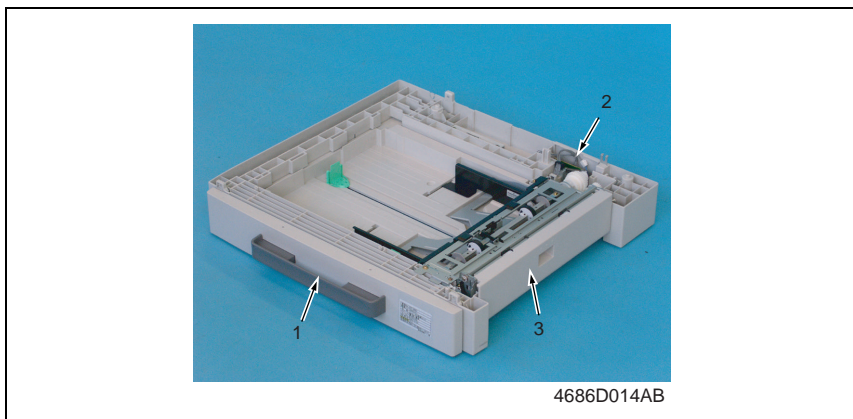
D. Removal of PWBs

NOTES

- 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.

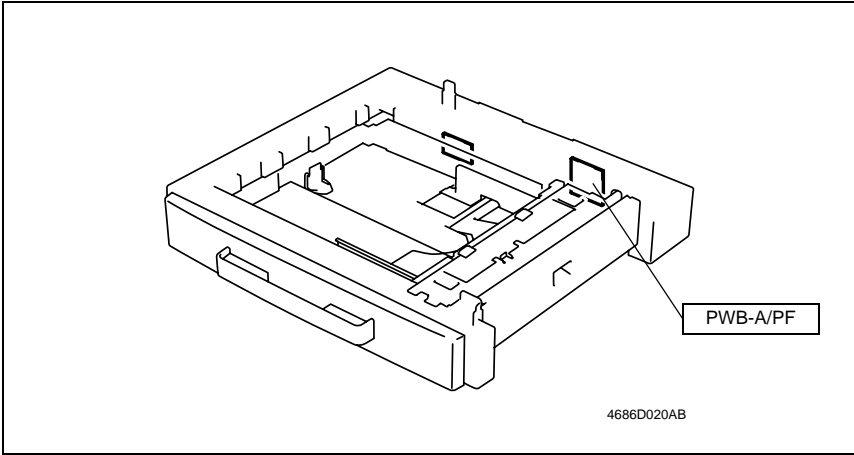
3.2 Disassembly/Assembly procedure

3.2.1 Exterior Parts



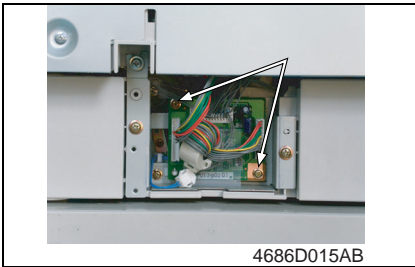
No.	Part Name	Removal Procedure
1	Paper Feed Unit	Slide out the Paper Feed Unit. → Remove two screws. → Remove the fixing brackets on the right and left ends of the unit. → Remove the Paper Feed Unit.
2	Paper Feed Unit Rear Cover	Remove one screw. → Remove the Paper Feed Unit Rear Cover.
3	Paper Feed Unit Right Door	-

3.2.2 Control Board (PWB-A/PF)



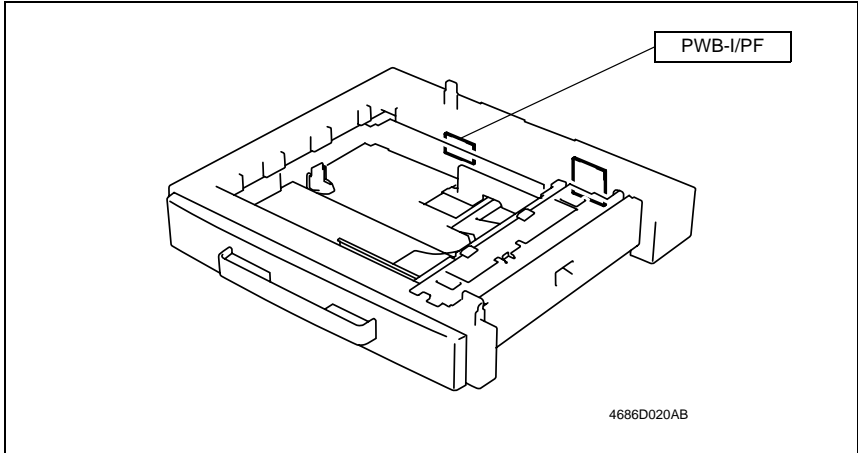
1. Remove the Paper Feed Unit Rear Cover.

5



2. Unplug all connectors from the Control Board.
3. Remove two screws and the Control Board.

3.2.3 Paper Size (FD) Detection Board (PWB-I/PF)

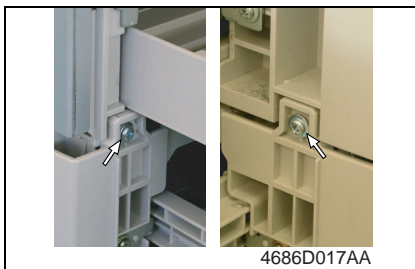


1. Slide out the Paper Feed Unit.
2. Remove the Paper Feed Unit Rear Cover.

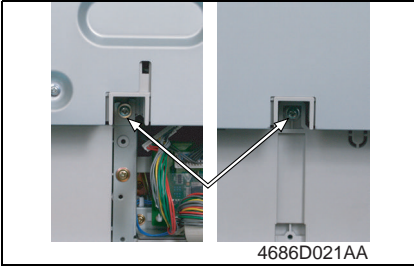
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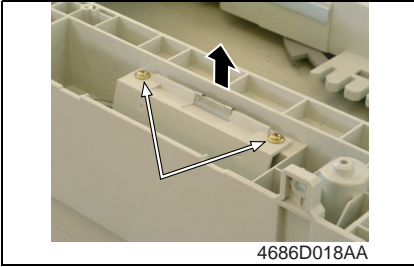
3. Unplug one connector.



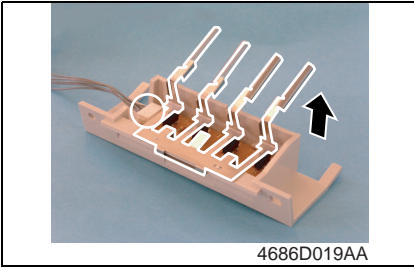
4. Remove two screws at the front.



5. Remove two screws in the rear. Then, remove the Paper Feed Unit from the copier.



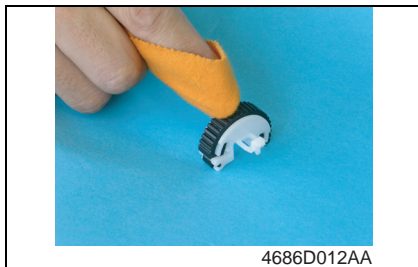
6. Remove two Paper Size (FD) Detection Board Assy mounting screws.



7. Unplug one connector and remove the lever and Paper Size (FD) Detection Board.

3.3 Cleaning procedure

3.3.1 Feed Roller



1. Remove the Feed Rollers.
2. Using a soft cloth dampened with alcohol, wipe the two Feed Rollers clean of dirt.

3.3.2 Vertical Transport Roller/Rolls



1. Open the Paper Take-up Unit Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Vertical Transport Roller/Rolls clean of dirt.

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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 “ ”.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:
 1. The power supply voltage meets the specifications.
 2. The power supply is properly grounded.
 3. 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).
 4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
 5. The original has a problem that may cause a defective image.
 6. The density is properly selected.
 7. The Original Glass, slit glass, or related part is dirty.
 8. Correct paper is being used for printing.
 9. 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.
 10. Toner is not running out.

B. Precautions for Service Jobs

1. To unplug the power cord of the machine before starting the service job procedures.
2. 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.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

5. Service Mode

5.1 Service Mode function setting procedure

NOTE

- Care must be used to ensure that only the personnel who are involved in service jobs know the procedure to enter the Service mode.

5.1.1 Procedure

1. Press the Utility key.
2. Press the following keys in this order.
3. Stop → 0 → 0 → Stop → 0 → 1
4. The Service mode menu screen will appear.

5.1.2 Exiting

- Press the Panel Reset key as many times as it is required to display the initial screen.

5.1.3 Changing the Setting Value in Service Mode Functions

1. Select the desired item using [▲ / ▼] key.
2. Select the setting value using [▲ / ▼] key, [< / >] key, or the 10-Key Pad.
3. Validate the selection by pressing the [Yes] key.
4. To go back to previous screen, press the [No] key.

5.2 Setting in the Service Mode

5.2.1 SERVICE'S CHOICE

A. LOOP ADJUST (TRAY2 TO TRAY5)

Purpose/Use	To adjust the length of the loop formed in the paper before the Synchronizing Roller when the optional Paper Feed Unit is used. When a skew feed, fold, or misfeed of paper occurs When variations in the amount of void on the leading edge occurs
Setting/ Procedure	Setting range: -3.9 to 3.9 mm (1 step: 0.6 mm)
Adjustment Procedure	<ol style="list-style-type: none"> 1. Call Service's Choice of Service Mode to the screen. 2. Select "Loop Adjust (Tray2 to Tray5)" and press the [Yes] key. 3. Using [▲ / ▼] key, select the desired setting value. 4. Press the [Yes] key to validate the setting value selected in step 3. <p>Adjustment Instructions</p> <ul style="list-style-type: none"> • Try a different setting value until there are no variations in the amount of void on the leading edge, and paper skew, fold, or misfeed.

5.2.2 FUNCTION

A. PAPER FEED TEST

Purpose/Use	<ul style="list-style-type: none"> • To check for correct paper passage of the paper take-up and transport system by letting the copier consecutively take up and feed paper without involving actual printing action. • Here are the details of operation involved in the paper passage motion. <ul style="list-style-type: none"> • The Scanner does not make any scan motion. • Paper is fed until the corresponding paper source runs out of paper. • This test cannot be run while the copier is warming up. • This test cannot be run with the Manual Bypass or Multiple Bypass (option). • No counters are activated. <p>* When a paper misfeed occurs</p>
Setting/ Procedure	<p><Step></p> <ol style="list-style-type: none"> 1. Select the paper source. TRAY1 TRAY2 2. Press the Start key to start the paper feed test. <p>* Press the Stop key to stop the paper feed test.</p>

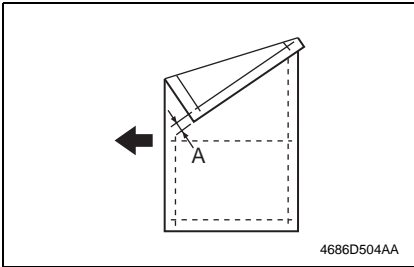
6. Mechanical adjustment

6.1 Paper Feed Unit CD Registration Adjustment

NOTE

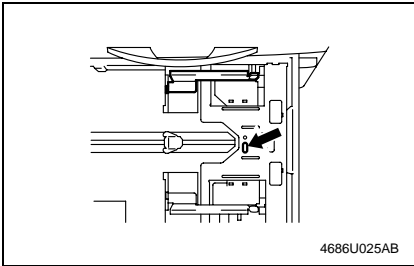
- This adjustment is to be made when the PH Unit has been replaced.

1. Load the Paper Feed Unit with A4 crosswise paper.
 2. Enter Function of the Service mode.
 3. Select "Print Test Pattern" and then "Test Pattern1." Then, press the Start key.
- * This will produce a test pattern.

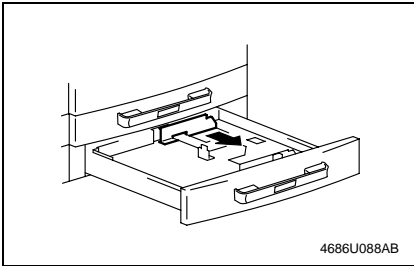


4. Check width A on the test pattern. If width A falls outside the specified range, perform the following steps to make an adjustment.

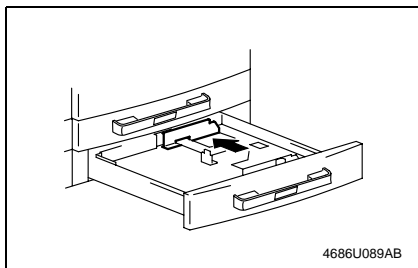
Specifications
 20 ± 2.0 mm



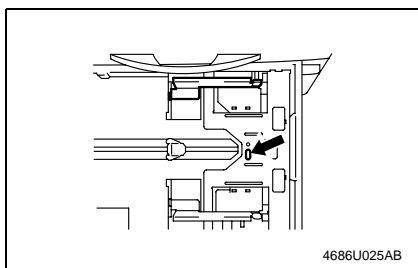
5. Slide out the Paper Feed Unit and loosen one screw.



6. If width A is greater than the specified range, move the Edge Guide in the direction of the arrow.



7. If width A is smaller than the specified range, move the Edge Guide in the direction of the arrow.
8. After the adjustment has been made, produce a new test pattern and check for deviation.



9. After the adjustment has been properly made, tighten the screw.

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Troubleshooting

7. Introduction

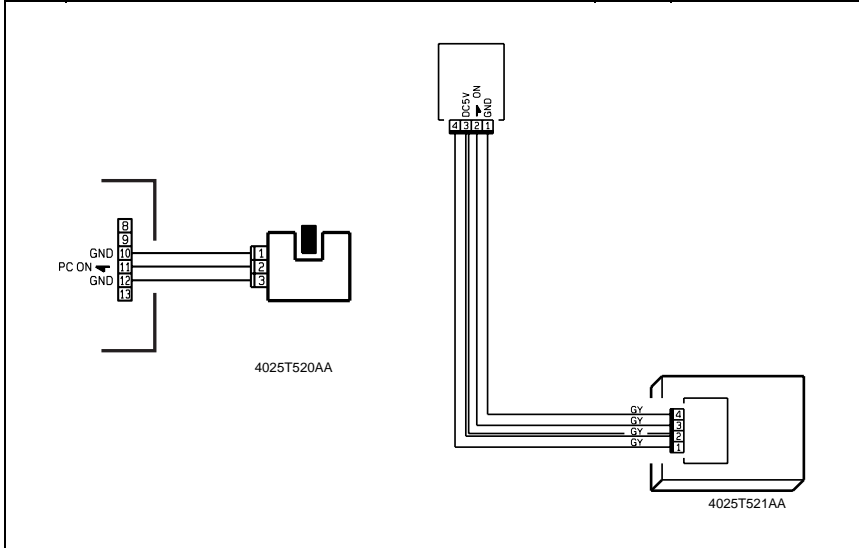
- Information required for troubleshooting and steps that must be performed are described in this chapter.

7.1 Electrical Components Check Procedure

- If a paper misfeed or malfunction occurs, perform the following operations to check the condition of the electrical components.

7.1.1 Sensor

Step	Check	Result	Action
1	Does the input signal of the control board change when the sensor light is interrupted? (H → L, L → H)	NO	Replace the sensor.
		YES	Replace the control board.



7.1.2 Switch

Step	Check	Result	Action
1	Does the input signal (NO) of the control board change from L to H when the switch is activated?	NO	Replace the switch.
		YES	Replace the control board.

4025T523AB

7.1.3 Solenoid

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the solenoid is activated?	NO	Replace the control board.
		YES	Replace the solenoid.

4025T522AA

7.1.4 Clutch

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the clutch is activated?	NO	Replace the control board.
		YES	Replace the clutch.

4025T528AA

7.1.5 Motor

Step	Check	Result	Action
1	Does the LOCK signal switch to H when the machine goes into standby?	NO	Replace the control board. Replace the motor.
2	Does the REM signal of the master board change from H to L when the motor is turned on?	YES	Replace the motor.
		NO	Replace the control board.

4025T526AA

Step	Check	Result	Action
1	Does the input signal of the master board change from H to L when the motor is turned on? (The input signal differs depending on the rotation direction.)	YES	Replace the motor.
		NO	Replace the control board.

4025T525AA

Step	Check	Result	Action
1	Are the relay connector of the motor and the print jack of the control board correctly connected?	YES	Replace the motor or the control board.
		NO	Connect the connector or the print jack.

4025T527AA

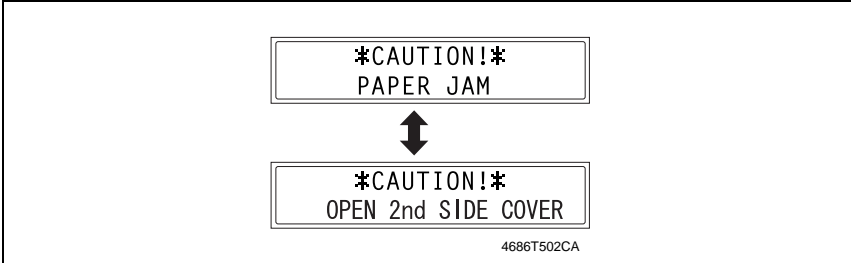
PF-502

Troubleshooting

8. Jam Display

8.1 Misfeed Display

- When a paper misfeed occurs, the Error indicator lights up steadily and the Display gives a corresponding message.



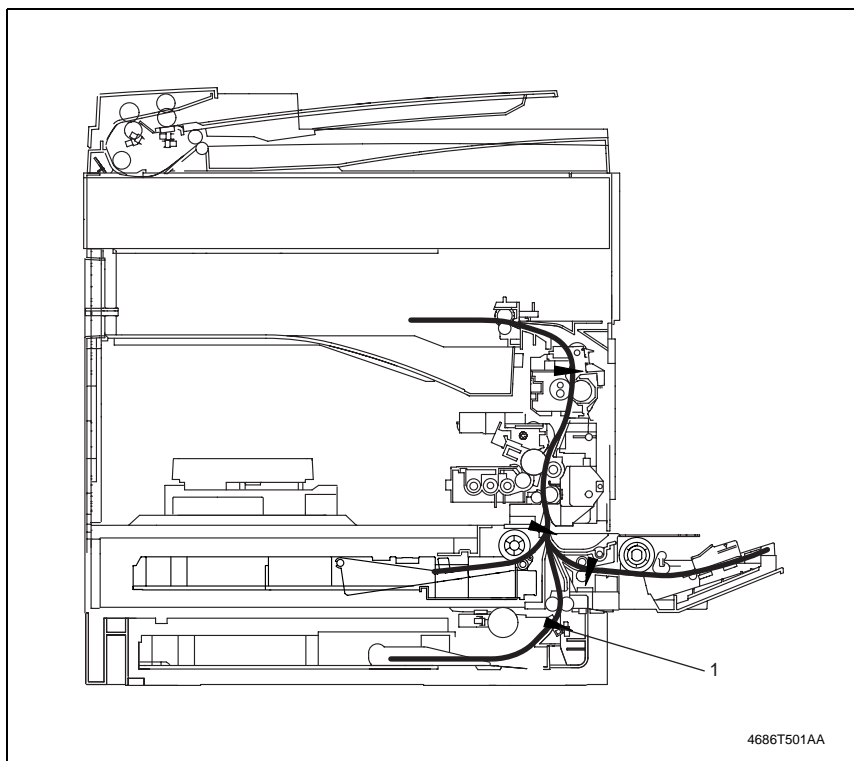
Display Message	Misfeed/Paper Location	Ref. Page
OPEN 2nd SIDE COVER	Paper take-up/vertical transport section of the Paper Feed Unit	23

8.1.1 Display Resetting Procedure

- Open the corresponding cover, clear the sheet of paper misfed, and close the cover.

8.2 Sensor layout

8.2.1 System Mounted with DF-502, PF-502 and MB-501



[1] Paper Take-Up Sensor (PC12/PF)

8.3 Solution

8.3.1 Initial Check Items

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

Check Item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. 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 Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
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 operational and checked for correct operation?	Correct or replace the defective actuator.

8.3.2 Misfeed at the Paper Feed Unit Paper Take-up/Vertical Transport Section

A. Detection Timing

Type	Description
Paper take-up/vertical transport section misfeed detection	<ul style="list-style-type: none"> The leading edge of the paper does not unblock the Synchronizing Roller Sensor (PC1) even after the lapse of a given period of time after the Paper Take-up Solenoid (SL11/PF) has been energized.
Size error detection	<ul style="list-style-type: none"> The Synchronizing Roller Sensor (PC1) is not blocked even after the lapse of a given period of time after the paper has unblocked the Synchronizing Roller Sensor (PC1). The Synchronizing Roller Sensor (PC1) is blocked before the lapse of a given period of time.
Paper left at the paper take-up/vertical transport section	<ul style="list-style-type: none"> The Paper Take-up Sensor (PC12/PF) is blocked at timing when the Power Switch is turned ON, the cover is opened and closed, or a paper misfeed or malfunction is reset.

B. Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) Paper Take-Up Solenoid (SL11/PF)	Paper Take-Up Sensor (PC12/PF) Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1 sensor check	☞ 17	PWB-A PJ17A-3 (ON)	F-8
3	SL11/PF operation check	☞ 18	PWB-A/PF PJ3A/PF-1A (ON)	A-3 (PF-502)
4	PC12/PF sensor check	☞ 17	PWB-A/PF PJ3A/PF-2B (ON)	I-6 (PF-502)
5	Replace PWB-A	—	—	—

PF-502

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Troubleshooting



KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE





MB-501

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, show  to the left of the revised section.
A number within  represents the number of times the revision has been made.
- To indicate clearly a section revised, show  in the lower outside section of the corresponding page.
A number within  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.

2005/04	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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MB-501

General

Maintenance

Adjustment / Setting

Troubleshooting

General

1. Product specification

Name	Multiple Bypass Tray
Installation	Screwed to the copier

Copy Medium

Type	Plain Paper (60 to 90 g/m ²)	100 sheets
	OHP film	20 sheets
	Thick Paper (91 to 157 g/m ²)	
	Postcards and Labels	
	Envelopes	10 sheets
	Recycled Paper (60 to 90 g/m ²)	100 sheets
Size	Width	90 X 297 mm
	Length	140 X 432 mm
Sizes	A3, A4 R, A4, A5, A5 R, B4, B5 R, B5, FLS, Ledger, 11 x 14, Legal, Letter R, Letter, Invoice R, Invoice, 8K, 16K R, and 16K	

Registration	Center
Capacity	100 sheets (80 g/m ²)
Power Requirements	DC24 V, DC5 V (supplied from the copier)
Power Consumption	9 W or less
Dimensions	Width = 439 mm, Depth = 435 mm, Height = 137 m
Mass	3.1 kg
Operating Environment	Conforms to that of the copier

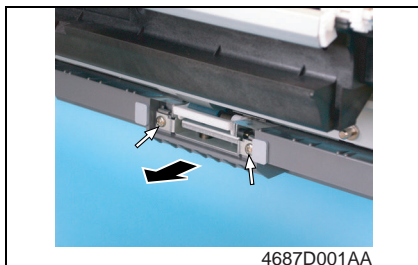
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Maintenance

2. Periodical check

2.1 Maintenance procedure (Periodical check parts)

2.1.1 Replacing the Separation Roller Assy



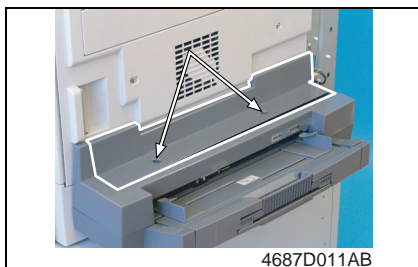
1. Open the Right Door.
2. Remove the two screws and the Separation Roller Assy.

2.1.2 Replacing the Feed Roller

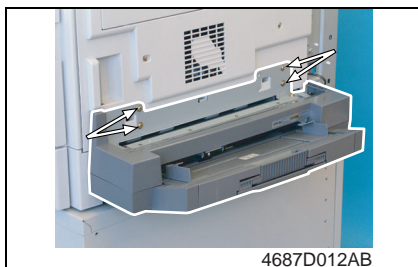
1. Remove the Rear Right Cover.



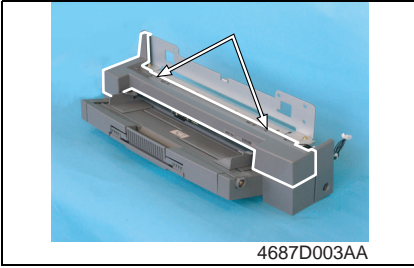
2. Open the Right Door.
3. Unplug two connectors.



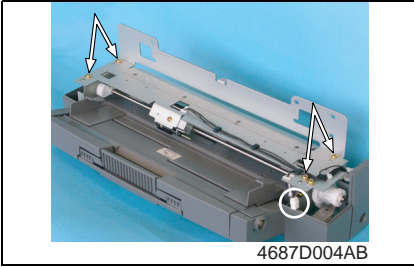
4. Remove two screws and the Upper Cover.



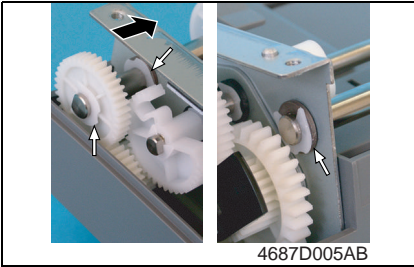
5. Remove four screws and the Multiple Bypass.



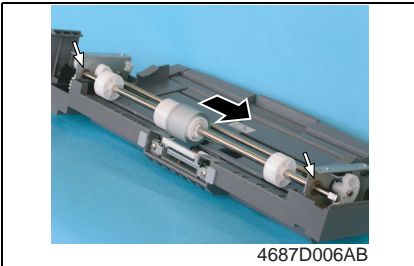
6. Remove two screws and the Lower Cover.



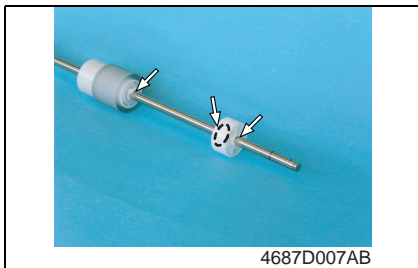
7. Remove four screws, unplug one connector, and remove the Paper Take-up Assy.



8. Snap off three C-rings and slide the shaft to remove one gear.



9. Remove two Bearings and the Feed Roller Assy.



10. Snap off one C-clip and two C-rings and remove the Feed Roller.

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.

B. Red Painted Screws

NOTES

- When the screws are removed, the red paint is coated on the points where readjustment is required.
- Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with 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.

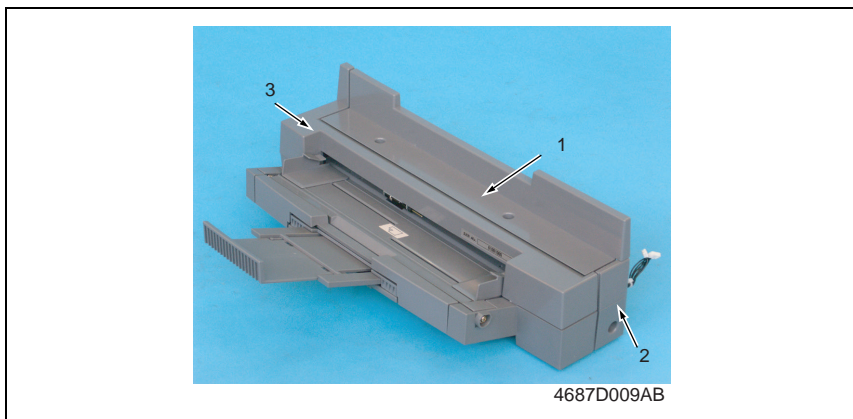
D. Removal of PWBs

NOTES

- 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 procedure

3.2.1 Exterior Parts



No.	Part Name	Removal Procedure
1	Upper Cover	Remove two screws. → Remove the Upper Cover.
2	Lower Right Cover	Remove one screw. → Remove the Lower Right Cover.
3	Lower Cover	Remove the Upper Cover. → Remove two screws. → Remove the Lower Cover.

MB-501

Maintenance

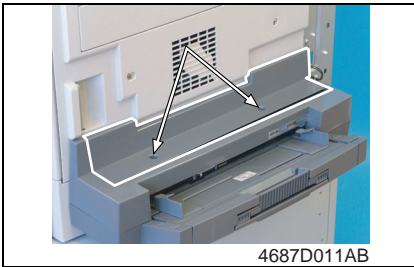
3.2.2 Multiple Bypass

A. Removal Procedure

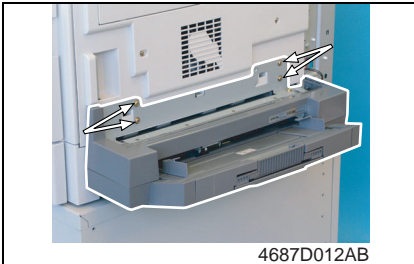
1. Remove the Rear Right Cover.
2. Open the Right Door.



3. Unplug two connectors.



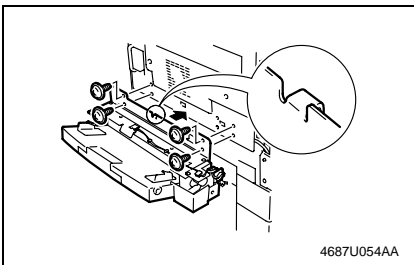
4. Remove two screws and the Upper Cover.



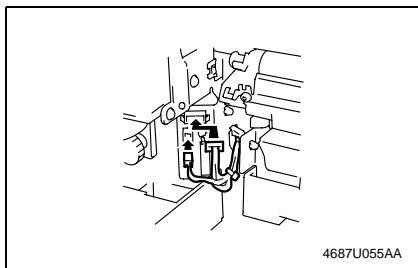
5. Remove four screws and the Multiple Bypass.

B. Reinstallation Procedure

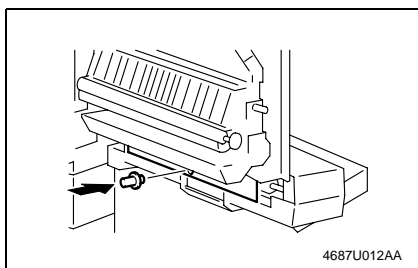
1. Remove the Lower Right Cover, Upper Cover, and Lower Cover.



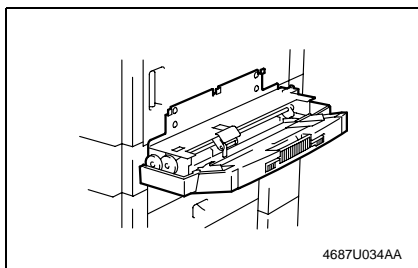
2. Install the Multiple Bypass and temporarily tighten the four screws.



3. Open the Right Door.
4. Connect two connectors to the copier and secure the harness using a wiring saddle.



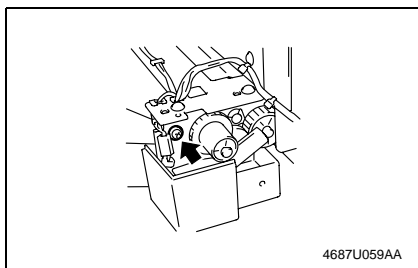
5. Install the positioning pin at the location shown on the left.
6. Close the Right Door. Correctly position the Multiple Bypass with reference to the positioning pin.



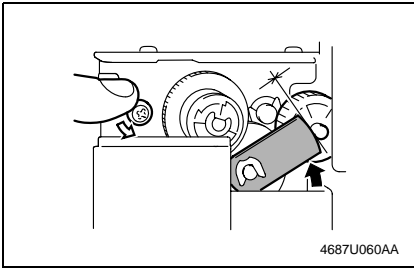
7. Firmly tighten the four screws to fix the Multiple Bypass in position.
8. Remove the positioning pin.

NOTE

- **Save the positioning pin that has been removed.**



9. Loosen one screw shown.



10. Make the lever contact the gear shaft.
11. Tighten the screw.

12. Reinstall the Lower Cover, Upper Cover, and Lower Right Cover.

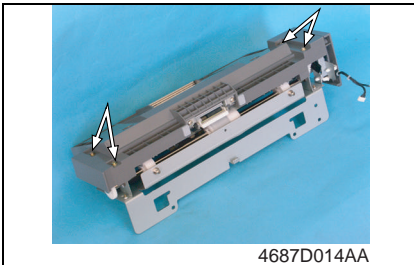
3.2.3 Removal and Disassembly of the Paper Take-up Mechanical Clutch

1. Remove the Multiple Bypass.

ⓘ 8

2. Remove the Lower Cover.

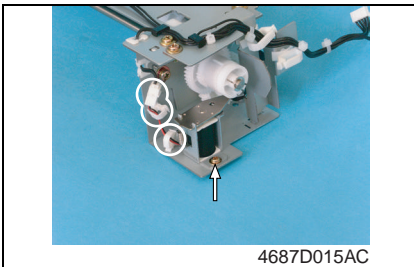
ⓘ 7



3. Remove four screws and the Feed Roller Assy.

NOTE

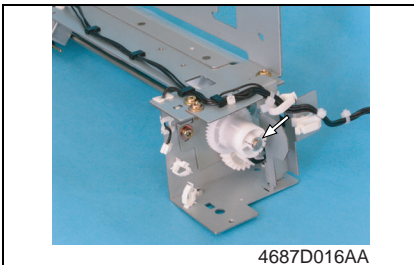
- Use care not to lose the two springs.



4. Remove the harness from the two wiring saddles.
5. Remove one screw, unplug one connector, and remove the solenoid.

NOTE

- Do not remove the flapper from the solenoid.



6. Snap off one E-ring and remove the Paper Take-up Mechanical Clutch.



7. Remove the collar.



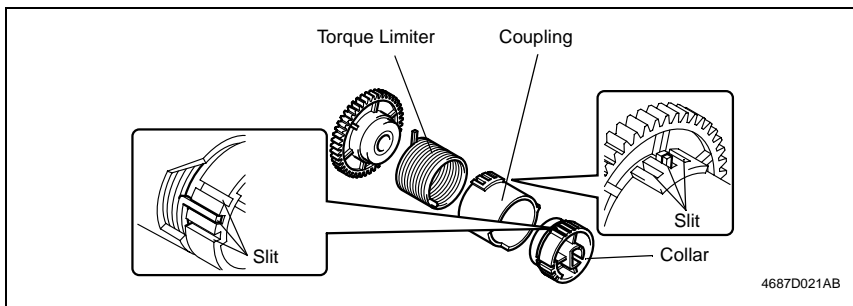
8. Remove the coupling.



9. Remove the torque limiter from the gear.

Precautions for Reassembly of the Paper Take-up Mechanical Clutch

- At reassembly, make sure that the protrusions on both ends of the torque limiter fit into the center slit in the collar and coupling.



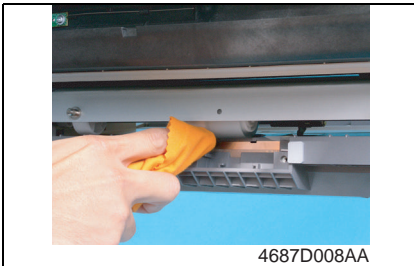
3.3 Cleaning procedure

3.3.1 Separation Roller



1. Remove the Separation Roller Assy.
2. Using a soft cloth dampened with alcohol, wipe the Separation Roller clean of dirt.

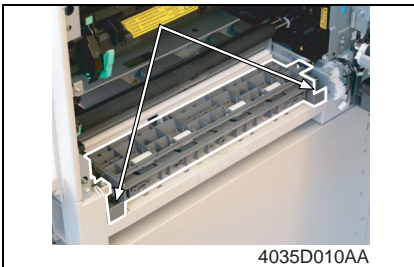
3.3.2 Feed Roller



1. Remove the Separation Roller Assy.
2. Using a soft cloth dampened with alcohol, wipe the Feed Roller Assy clean of dirt.

3.3.3 Bypass Transport Roller/Rolls

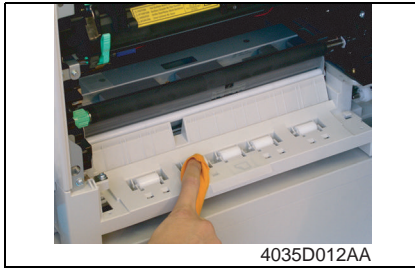
1. Remove the Rear Right Cover.
2. Open the Right Door.



3. Remove two screws and the Bypass Assy.



4. Using a soft cloth dampened with alcohol, wipe the Bypass Transport Roller clean of dirt.



5. Using a soft cloth dampened with alcohol, wipe the Bypass Transport Rolls clean of dirt.

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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 “ ”.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:
 1. The power supply voltage meets the specifications.
 2. The power supply is properly grounded.
 3. 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).
 4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
 5. The original has a problem that may cause a defective image.
 6. The density is properly selected.
 7. The Original Glass, slit glass, or related part is dirty.
 8. Correct paper is being used for printing.
 9. 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.
 10. Toner is not running out.

B. Precautions for Service Jobs

1. To unplug the power cord of the machine before starting the service job procedures.
2. 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.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

5. Service Mode

5.1 Service Mode function setting procedure

NOTE

- Care must be used to ensure that only the personnel who are involved in service jobs know the procedure to enter the Service mode.

5.1.1 Procedure

1. Press the Utility key.
2. Press the following keys in this order.
3. Stop → 0 → 0 → Stop → 0 → 1
4. The Service mode menu screen will appear.

5.1.2 Exiting

- Press the Panel Reset key as many times as it is required to display the initial screen.

5.1.3 Changing the Setting Value in Service Mode Functions

1. Select the desired item using [▲ / ▼] key.
2. Select the setting value using [▲ / ▼] key, [< / >] key, or the 10-Key Pad.
3. Validate the selection by pressing the [Yes] key.
4. To go back to previous screen, press the [No] key.

5.2 Setting in the Service Mode

5.2.1 SERVICE'S CHOICE

A. LOOP ADJUST (BYPASS)

Purpose/Use	<p>To adjust the length of the loop formed in the paper before the Synchronizing Roller when the Manual Bypass is used.</p> <ul style="list-style-type: none"> * When a skew feed, fold, or misfeed of paper occurs * When variations in the amount of void on the leading edge occurs
Setting/ Procedure	Setting range: -3.9 to 3.9 mm (1 step: 0.6 mm)
Adjustment Procedure	<ol style="list-style-type: none"> 1. Call Service's Choice of Service Mode to the screen. 2. Select "Loop Adjust (Bypass)" and press the [Yes] key. 3. Using [▲ / ▼] key, select the desired setting value. 4. Press the [Yes] key to validate the setting value selected in step 3. <p>Adjustment Instructions</p> <ul style="list-style-type: none"> • Try a different setting value until there are no variations in the amount of void on the leading edge, and paper skew, fold, or misfeed.

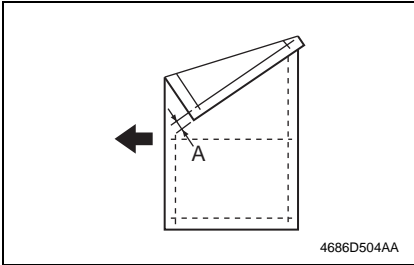
6. Mechanical adjustment

6.1 Multiple Bypass CD Registration Adjustment

NOTE

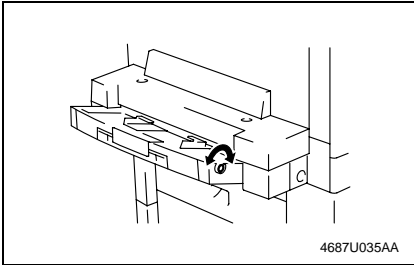
- This adjustment is to be made when the PH Unit has been replaced.

1. Load the Paper Feed Tray/1 with A4 crosswise paper.
2. Enter Function of the Service mode.
3. Select "Print Test Pattern" and then "Test Pattern1." Then, press the Start key.
- * This will produce a test pattern.
4. Place the test pattern produced on the Original Glass.
5. Load A4 crosswise paper in the Multiple Bypass and make a test copy.



6. Check width A on the copy of the test pattern.
If width A falls outside the specified range, perform the following steps to make an adjustment.

Specifications
 20 ± 2.0 mm



7. Turn the screw of the Multiple Bypass as necessary to adjust the position of the Multiple Bypass table.

Adjustment Instructions

If width A on the copy is smaller than width A on the test pattern, turn the screw clockwise.

If width A on the copy is greater than width A on the test pattern, turn the screw counterclockwise.


8. Make another copy of the test pattern and check for any error in width A.

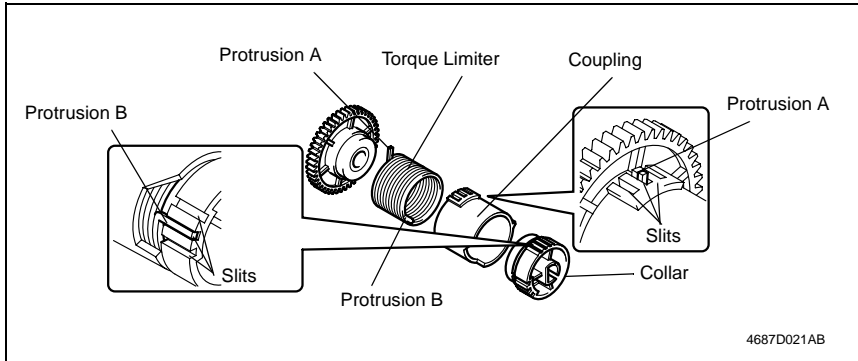
6.2 Multiple Bypass Mechanical Clutch Adjustment

- The assembled position of the collar/coupling on the torque limiter of the Paper Take-up Mechanical Clutch is varied so that the clutch operates properly.

NOTE

- This adjustment is to be made when a paper take-up failure occurs in the Multiple Bypass.**

- Remove the Paper Take-up Mechanical Clutch.
 10
- Aligning protrusion A of the torque limiter with any one of the three slits in the coupling, fit the coupling over the torque limiter.
- Aligning protrusion B of the torque limiter with any one of the three slits in the collar, fit the collar to the torque limiter.



- Reinstall the Paper Take-up Mechanical Clutch and make copies using the Multiple Bypass. If a paper take-up failure occurs again, repeat steps 1 through 3.

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Troubleshooting

7. Introduction

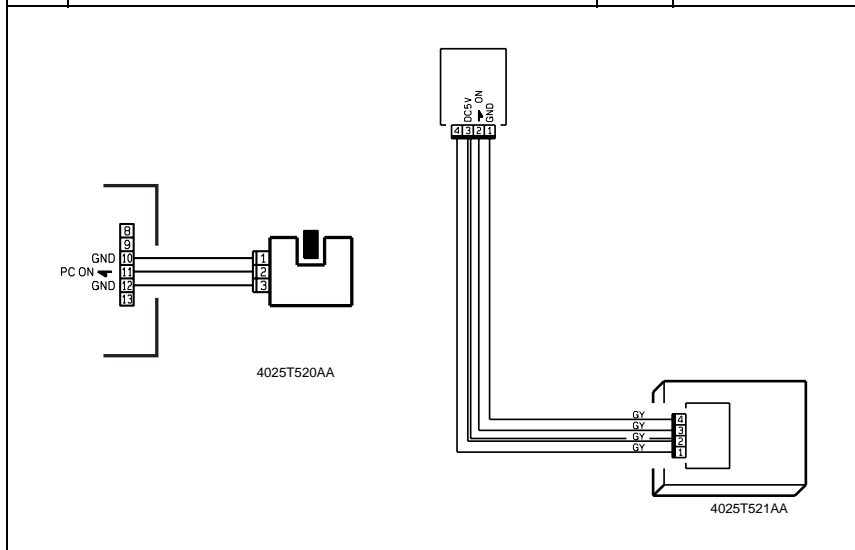
- Information required for troubleshooting and steps that must be performed are described in this chapter.

7.1 Electrical Components Check Procedure

- If a paper misfeed or malfunction occurs, perform the following operations to check the condition of the electrical components.

7.1.1 Sensor

Step	Check	Result	Action
1	Does the input signal of the control board change when the sensor light is interrupted? (H → L, L → H)	NO	Replace the sensor.
		YES	Replace the control board.

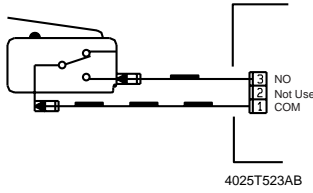


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Troubleshooting

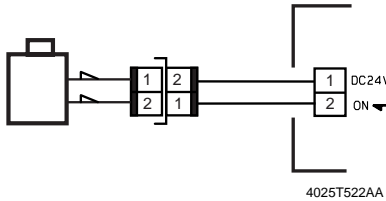
7.1.2 Switch

Step	Check	Result	Action
1	Does the input signal (NO) of the control board change from L to H when the switch is activated?	NO	Replace the switch.
		YES	Replace the control board.



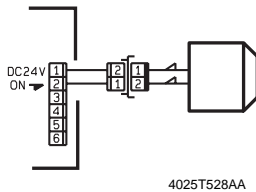
7.1.3 Solenoid

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the solenoid is activated?	NO	Replace the control board.
		YES	Replace the solenoid.



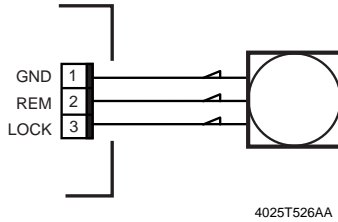
7.1.4 Clutch

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the clutch is activated?	NO	Replace the control board.
		YES	Replace the clutch.

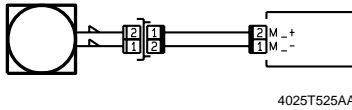


7.1.5 Motor

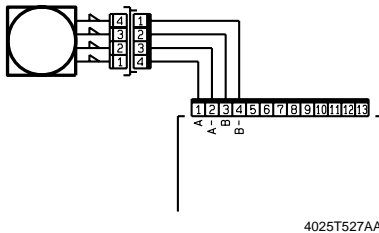
Step	Check	Result	Action
1	Does the LOCK signal switch to H when the machine goes into standby?	NO	Replace the control board. Replace the motor.
2	Does the REM signal of the master board change from H to L when the motor is turned on?	YES	Replace the motor.
		NO	Replace the control board.



Step	Check	Result	Action
1	Does the input signal of the master board change from H to L when the motor is turned on? (The input signal differs depending on the rotation direction.)	YES	Replace the motor.
		NO	Replace the control board.



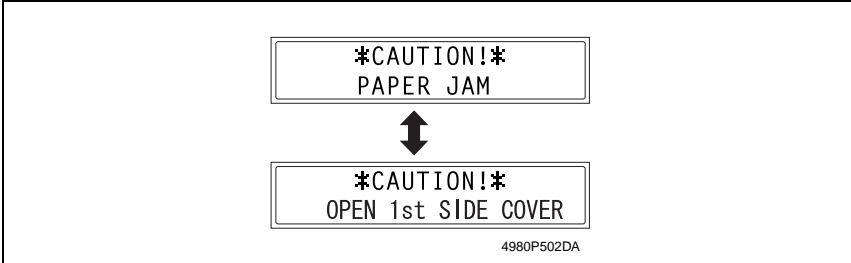
Step	Check	Result	Action
1	Are the relay connector of the motor and the print jack of the control board correctly connected?	YES	Replace the motor or the control board.
		NO	Connect the connector or the print jack.



8. Jam Display

8.1 Misfeed Display

- When a paper misfeed occurs, the Error indicator lights up steadily and the Display gives a corresponding message.



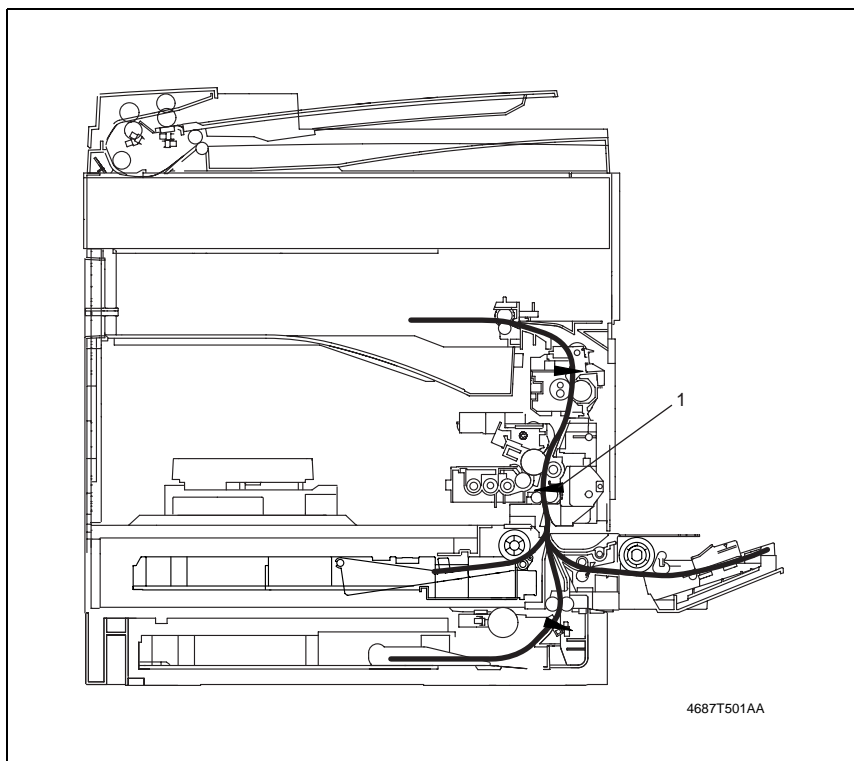
Display Message	Misfeed/Paper Location	Ref. Page
OPEN 1st SIDE COVER	Paper take-up section of the Multiple Bypass	E-37 27

8.1.1 Display Resetting Procedure

- Open the corresponding cover, clear the sheet of paper misfed, and close the cover.

8.2 Sensor layout

8.2.1 System Mounted with DF-502, PF-502 and MB-501.



[1] Synchronizing Roller Sensor (PC1)

8.3 Solution

8.3.1 Initial Check Items

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

Check Item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. 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 Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
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 operational and checked for correct operation?	Correct or replace the defective actuator.

8.3.2 Misfeed at the Multiple Bypass Paper Take-up Section

A. Detection Timing

Type	Description
Paper take-up section misfeed detection	<ul style="list-style-type: none"> The leading edge of the paper does not unblock the Synchronizing Roller Sensor (PC1) even after the lapse of a given period of time after the Paper Take-up Solenoid (SL21/MB) has been energized.
Size error detection	<ul style="list-style-type: none"> The Synchronizing Roller Sensor (PC1) is not blocked even after the lapse of a given period of time after the paper has unblocked the Synchronizing Roller Sensor (PC1). The Synchronizing Roller Sensor (PC1) is blocked before the lapse of a given period of time.

B. Action

Relevant Electrical Components	
Synchronizing Roller Sensor (PC1) Paper Take-up Solenoid (SL21/MB)	Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	—	—	—
2	PC1 sensor check	ESP 21	PWB-A PJ17A-3 (ON)	F-8
3	SL21/MB operation check	ESP 22	PWB-A PJ12A-2 (REM)	D-16
4	Replace PWB-A	—	—	—

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KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE





JS-503

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, show  to the left of the revised section.
A number within  represents the number of times the revision has been made.
- To indicate clearly a section revised, show  in the lower outside section of the corresponding page.
A number within  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.

2005/04	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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General

Maintenance

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General

1. Product specification

Type	Add-on drawer
Installation	Built into the exit section of the copier
Paper Storage System	Moving drawer system

Capacities

		Upper Drawer	Lower Drawer
Paper Type	Plain paper (60 to 90 g/m ²)	100 sheets (A4/R), 50 sheets (other than A4/R) Load height up to 22 mm	150 sheets (A4/R), 75 sheets (other than A4/R)
	OHP film	10 sheets	20 sheets
	Thick paper (91 to 157 g/m ²)		
	Postcards, labels, and envelopes		
	Recycled Paper (60 to 90 g/m ²)	100 sheets (A4/R), 50 sheets (other than A4/R) Load height up to 22 mm	150 sheets (A4/R), 75 sheets (other than A4/R)

Power Requirements	DC24 V, DC5 V (supplied from the copier)
Power Consumption	24 W or less
Operating Environment	Conforms to that of the copier

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Maintenance

2. Other

2.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.

B. Red Painted Screws

NOTES

- When the screws are removed, the red paint is coated on the points where readjustment is required.
- Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with 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.

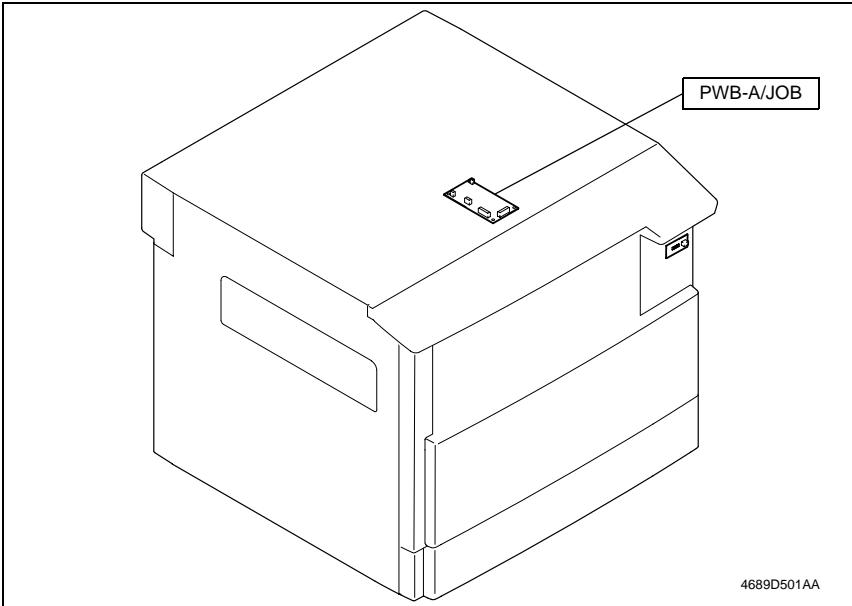
D. Removal of PWBs

NOTES

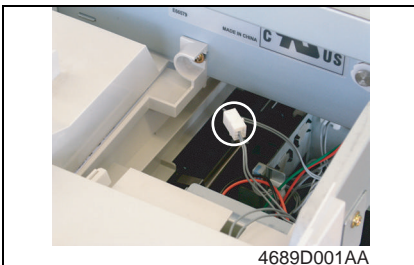
- When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.
- The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.
- Where it is absolutely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

2.2 Disassembly/Assembly procedure

2.2.1 Control Board (PWB-A/JOB)

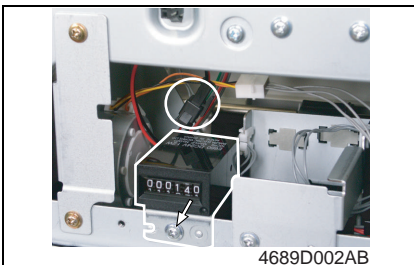


1. Remove the control panel.

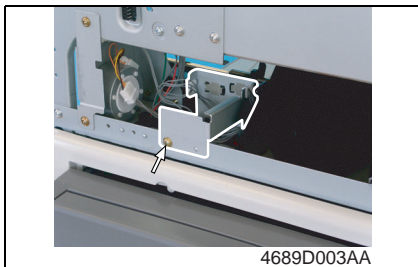


2. Remove the indicator lamp and one connector.

3. Remove the Front Cover, Right Cover, and Paper Exit Cover.

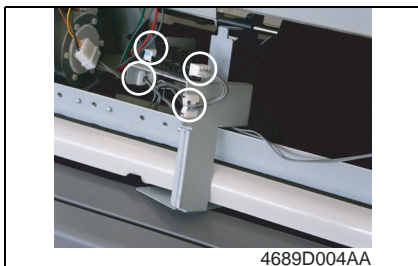


4. Remove one screw, unplug one connector, and remove the Total Counter.



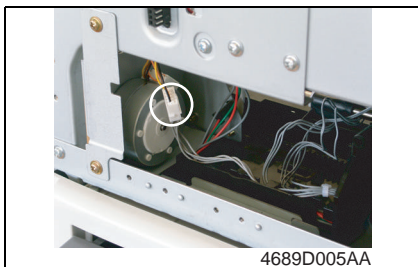
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5. Remove one Sensor Assy mounting screw.



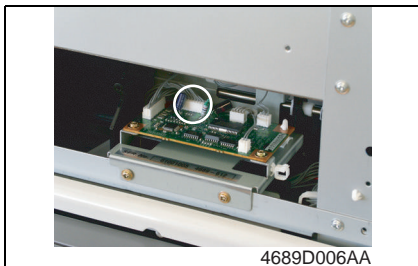
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6. Unplug two connectors.
7. Remove the harness from the edge cover and remove the Sensor Assy.



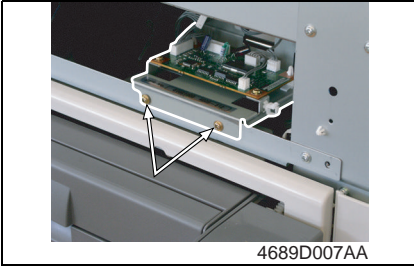
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8. Disconnect the connector of the Bin Switching Motor.

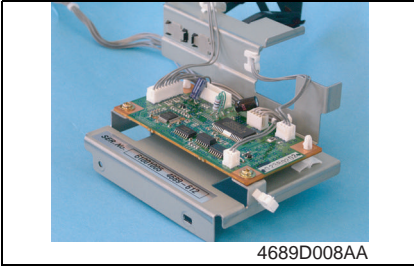


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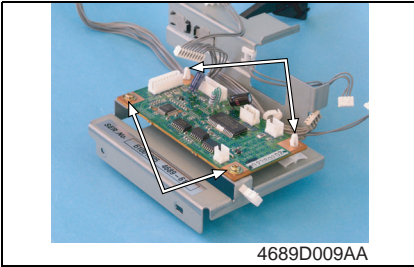
9. Disconnect one connector from the copier.



10. Remove two screws and the Control Board Assy.

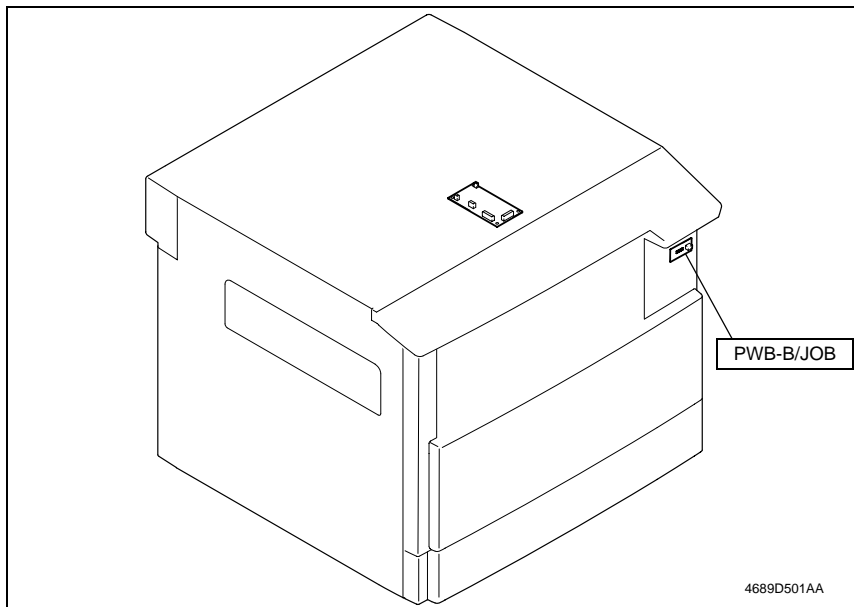


11. Unplug all connectors from the Control Board.

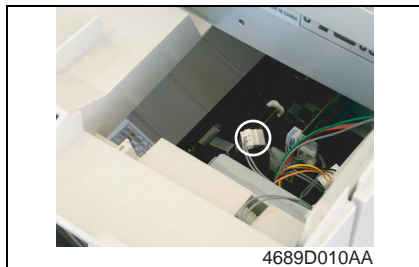


12. Remove two screws, two PWB supports, and the Control Board.

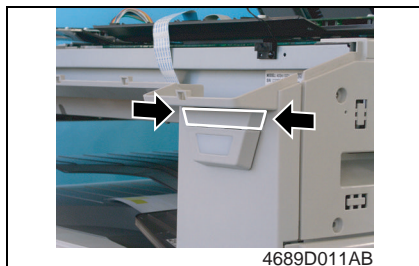
2.2.2 Paper Detecting Board (PWB-B/JOB)



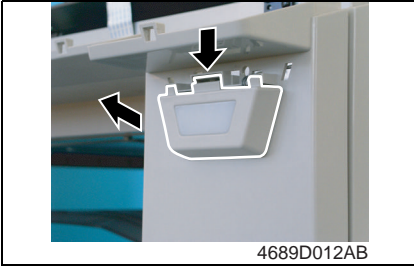
1. Remove the control panel.



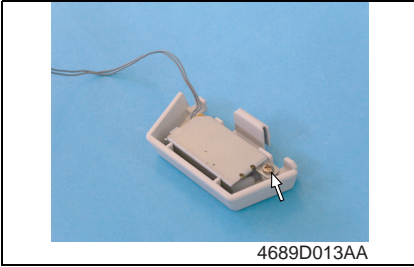
2. Unplug one connector.



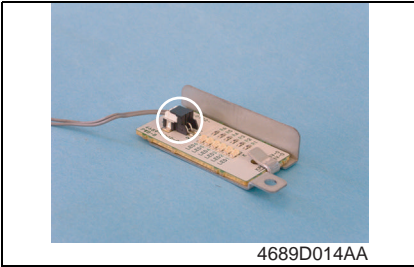
3. Holding onto both ends, remove the indicator lamp cover.



- 4. Press down one tab and remove the Paper Detecting Board from the Front Cover.



- 5. Remove one Paper Detecting Board Assy mounting screw.



- 6. Unplug one connector and remove the Paper Detecting Board.

Troubleshooting

3. Introduction

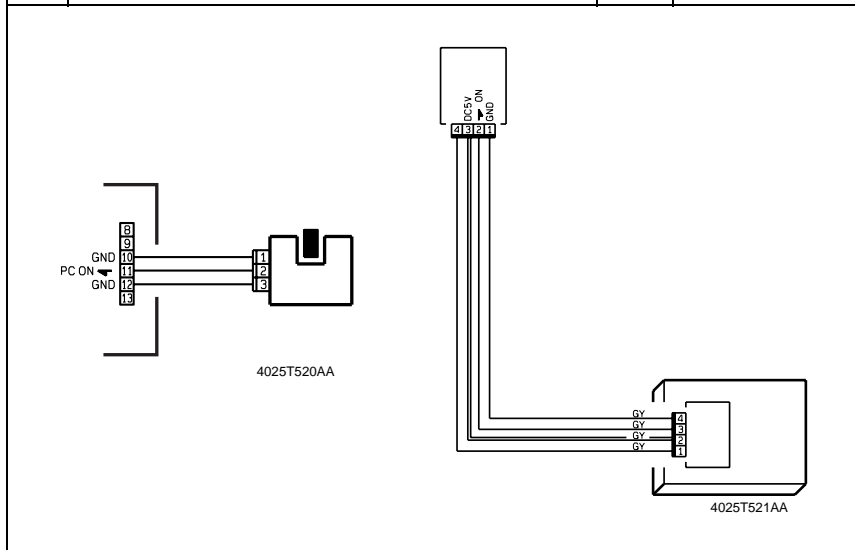
- Information required for troubleshooting and steps that must be performed are described in this chapter.

3.1 Electrical Components Check Procedure

- If a paper misfeed or malfunction occurs, perform the following operations to check the condition of the electrical components.

3.1.1 Sensor

Step	Check	Result	Action
1	Does the input signal of the control board change when the sensor light is interrupted? (H → L, L → H)	NO	Replace the sensor.
		YES	Replace the control board.



3.1.2 Switch

Step	Check	Result	Action
1	Does the input signal (NO) of the control board change from L to H when the switch is activated?	NO	Replace the switch.
		YES	Replace the control board.

4025T523AB

3.1.3 Solenoid

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the solenoid is activated?	NO	Replace the control board.
		YES	Replace the solenoid.

4025T522AA

3.1.4 Clutch

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the clutch is activated?	NO	Replace the control board.
		YES	Replace the clutch.

4025T528AA

3.1.5 Motor

Step	Check	Result	Action
1	Does the LOCK signal switch to H when the machine goes into standby?	NO	Replace the control board. Replace the motor.
2	Does the REM signal of the master board change from H to L when the motor is turned on?	YES	Replace the motor.
		NO	Replace the control board.

Step	Check	Result	Action
1	Does the input signal of the master board change from H to L when the motor is turned on? (The input signal differs depending on the rotation direction.)	YES	Replace the motor.
		NO	Replace the control board.

Step	Check	Result	Action
1	Are the relay connector of the motor and the print jack of the control board correctly connected?	YES	Replace the motor or the control board.
		NO	Connect the connector or the print jack.

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Troubleshooting

4. Jam Display

4.1 Solution

4.1.1 Initial Check Items

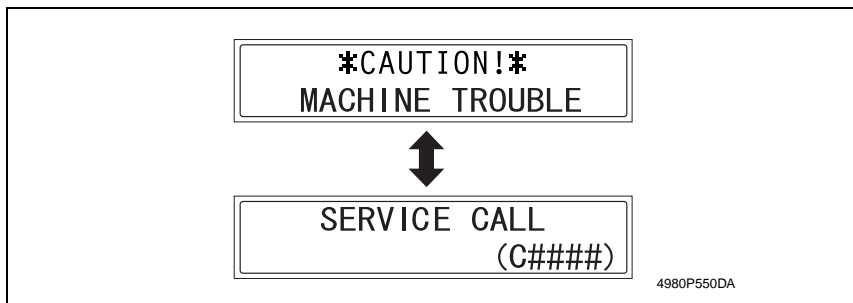
- When a paper misfeed occurs, first perform the following initial checks.

Check Item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. 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 Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
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 operational and checked for correct operation?	Correct or replace the defective actuator.

5. Malfunction code

5.1 Trouble code

- The copier'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.



5.2 How to reset

Code	Description	Procedure
C0B60	Bin Switching Motor malfunction	<ul style="list-style-type: none"> Turn OFF and ON the Power Switch.

5.3 Solution

5.3.1 C0B60: Bin Switching Motor Malfunction

A. Detection Timing

Trouble Code	Description
C0B60	<p>If the Upper Home Position Sensor is LOW during an initial operation:</p> <ul style="list-style-type: none"> • The Lower Home Position Sensor (PC33) is LOW when the Bin Switching Motor (M1) starts turning forward. • If the Lower Home Position Sensor (PC33) does not go LOW at a time 2.5 sec. after the Bin Switching Motor (M1) has started turning forward, the Bin Switching Motor is kept deenergized for a given period of time and then energized again to turn backward. The Upper Home Position Sensor (PC32) does not go LOW after the motor has started turning backward. • The Upper Home Position Sensor (PC32) does not go HIGH at a time 1 sec. after the Bin Switching Motor (M1) has started turning forward. • When the Lower Home Position Sensor (PC33) goes LOW, the Bin Switching Motor (M1) starts turning backward. The Upper Home Position Sensor (PC32) does not go LOW at a time 2.5 sec. after the motor has started turning backward. • When the Lower Home Position Sensor (PC33) goes LOW, the Bin Switching Motor (M1) starts turning backward. The Lower Home Position Sensor (PC33) does not go HIGH at a time 1 sec. after the motor has started turning backward.
	<p>If the Lower Home Position Sensor is LOW during an initial operation:</p> <ul style="list-style-type: none"> • The Upper Home Position Sensor (PC32) does not go LOW at a time 2.5 sec. after the Bin Switching Motor (M1) has started turning backward. • The Lower Home Position Sensor (PC33) does not go HIGH at a time 1 sec. after the Bin Switching Motor (M1) has started turning backward.
	<p>If both the Upper Home Position Sensor and the Lower Home Position Sensor are HIGH during an initial operation:</p> <ul style="list-style-type: none"> • If the Lower Home Position Sensor (PC33) does not go LOW at a time 2.5 sec. after the Bin Switching Motor (M1) has started turning forward, the Bin Switching Motor is kept deenergized for a given period of time and then energized again to turn backward. The Upper Home Position Sensor (PC32) does not go LOW after the motor has started turning backward. • When the Lower Home Position Sensor (PC33) goes LOW, the Bin Switching Motor (M1) starts turning backward. The Upper Home Position Sensor (PC32) does not go LOW at a time 2.5 sec. after the motor has started turning backward. • When the Lower Home Position Sensor (PC33) goes LOW, the Bin Switching Motor (M1) starts turning backward. The Lower Home Position Sensor (PC33) does not go HIGH at a time 1 sec. after the motor has started turning backward.

B. Action

Relevant Electrical Components	
Bin Switching Motor (M1/JOB) Upper Home Position Sensor (PC32/JOB) Lower Home Position Sensor (PC33/JOB)	Control Board (PWB-A/JOB) Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check sensor connectors for proper connection and correct as necessary.	—	—	—
2	Check M1/JOB connectors for proper connection and correct as necessary.	—	—	—
3	Check M1/JOB for correct drive coupling and correct as necessary.	—	—	—
4	M1/JOB operation check	ES ² 11	—	A-16
5	PC32/JOB sensor check	ES ² 9	PWB-A/JOB PJ4A/JOB-3 (ON)	B-15
6	PC33/JOB sensor check	ES ² 9	PWB-A/JOB PJ4A/JOB-6 (ON)	B-15
7	Change PWB-A/JOB.	—	—	—
8	Change PWB-A.	—	—	—

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Troubleshooting

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General

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General

1. Product specification

Shifting amount	28 mm
Paper capacity	250 sheets
Power consumption	Less than 63 W

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Maintenance

2. Other

2.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.

B. Red Painted Screws

NOTES

- When the screws are removed, the red paint is coated on the points where readjustment is required.
- Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with 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.

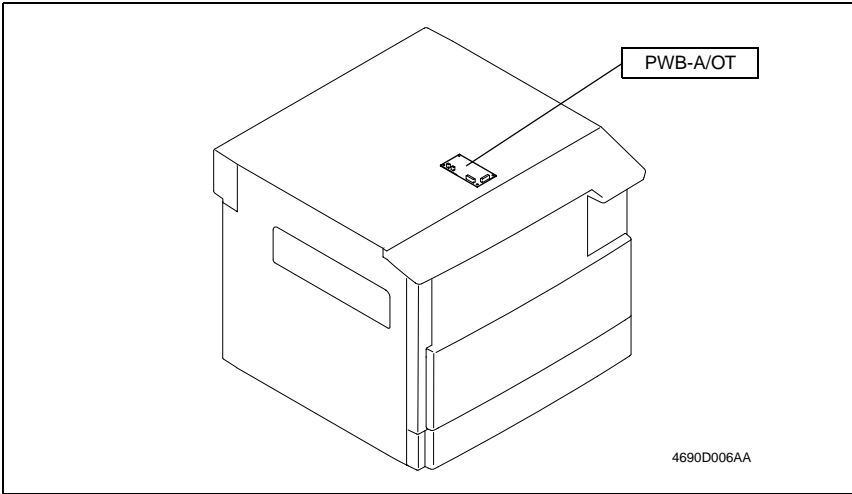
D. Removal of PWBs

NOTES

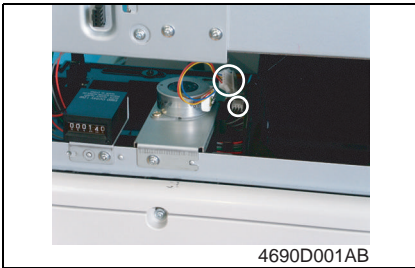
- When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.
- The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.
- Where it is absolutely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

2.2 Disassembly/Assembly procedure

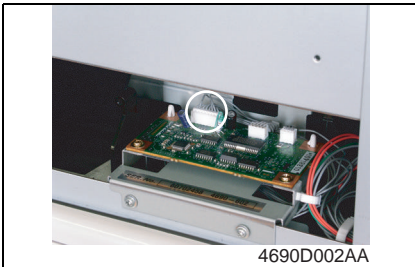
2.2.1 Control Board (PWB-A/OT)



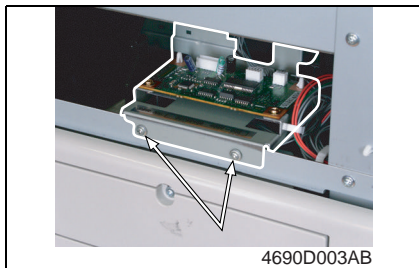
1. Remove the Front Cover, Right Cover, and Paper Exit Cover.



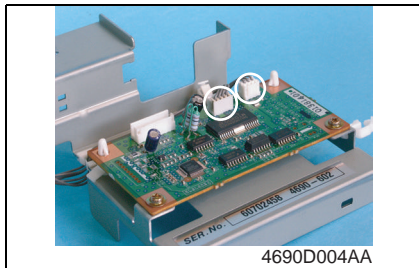
2. Unplug two connectors from the Shift Motor.



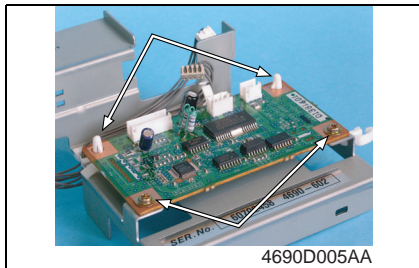
3. Unplug one connector from the copier.



- 4. Remove two screws and the Control Board Assy.



- 5. Unplug two connectors.



- 6. Remove two screws, two PWB supports, and the Control Board.

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Maintenance

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Troubleshooting

3. Introduction

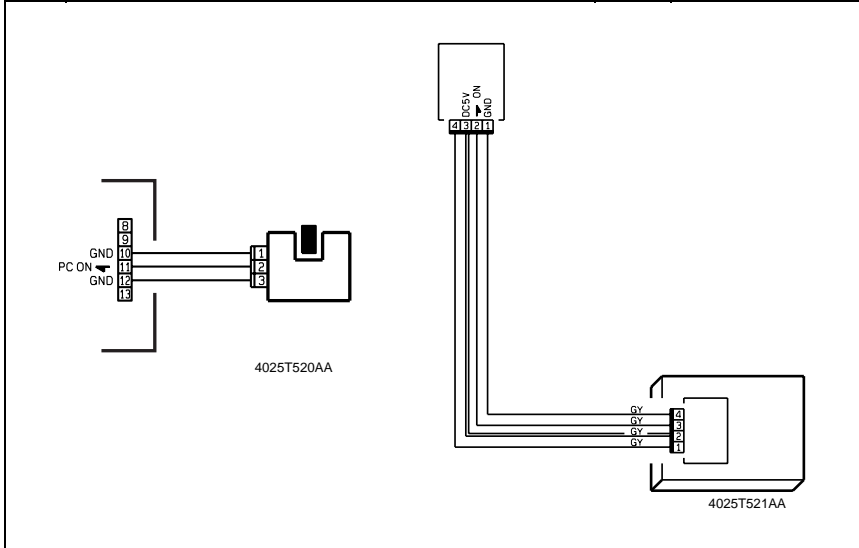
- Information required for troubleshooting and steps that must be performed are described in this chapter.

3.1 Electrical Components Check Procedure

- If a paper misfeed or malfunction occurs, perform the following operations to check the condition of the electrical components.

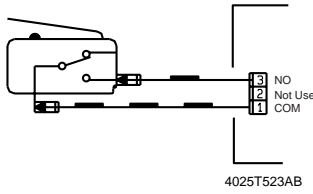
3.1.1 Sensor

Step	Check	Result	Action
1	Does the input signal of the control board change when the sensor light is interrupted? (H → L, L → H)	NO	Replace the sensor.
		YES	Replace the control board.



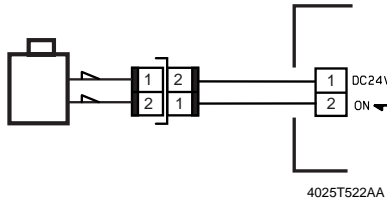
3.1.2 Switch

Step	Check	Result	Action
1	Does the input signal (NO) of the control board change from L to H when the switch is activated?	NO	Replace the switch.
		YES	Replace the control board.



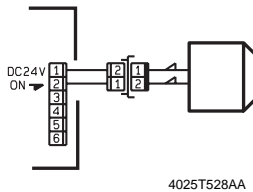
3.1.3 Solenoid

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the solenoid is activated?	NO	Replace the control board.
		YES	Replace the solenoid.



3.1.4 Clutch

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the clutch is activated?	NO	Replace the control board.
		YES	Replace the clutch.



3.1.5 Motor

Step	Check	Result	Action
1	Does the LOCK signal switch to H when the machine goes into standby?	NO	Replace the control board. Replace the motor.
2	Does the REM signal of the master board change from H to L when the motor is turned on?	YES	Replace the motor.
		NO	Replace the control board.

Step	Check	Result	Action
1	Does the input signal of the master board change from H to L when the motor is turned on? (The input signal differs depending on the rotation direction.)	YES	Replace the motor.
		NO	Replace the control board.

Step	Check	Result	Action
1	Are the relay connector of the motor and the print jack of the control board correctly connected?	YES	Replace the motor or the control board.
		NO	Connect the connector or the print jack.

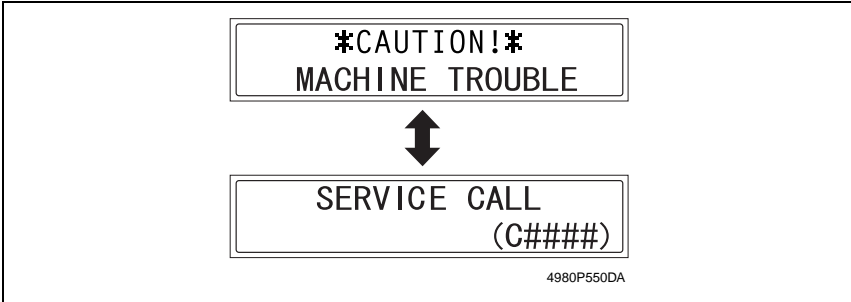
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Troubleshooting

4. Malfunction code

4.1 Trouble code

- The copier'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.



4.2 Solution

4.2.1 C0B80: Shift Motor Malfunction

A. Detection Timing

Trouble Code	Description
C0B80	<ul style="list-style-type: none"> The Home Sensor (S31/OT) is LOW at a timing immediately before the Shift Motor (M1/OT) starts turning backward. The Home Sensor (S31/OT) is LOW after the lapse of a given period of time after the Shift Motor (M1/OT) has started turning backward.

B. Action

Relevant Electrical Components	
Shift Motor (M1/OT) Home Sensor (PC31/OT)	Control Board (PWB-A/OT) Master Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Check PC31/OT connectors for proper connection and correct as necessary.	-	-	-
2	Check M1/OT connectors for proper connection and correct as necessary.	-	-	-
3	Check M1/OT for correct drive coupling and correct as necessary.	-	-	-
4	M1/OT operation check	9	-	D-17
5	PC31/OT sensor check	7	PWB-A/OT PJ3A/OT-3 (ON)	D-18
6	Change PWB-A/OT.	-	-	-
7	Change PWB-A.	-	-	-

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General

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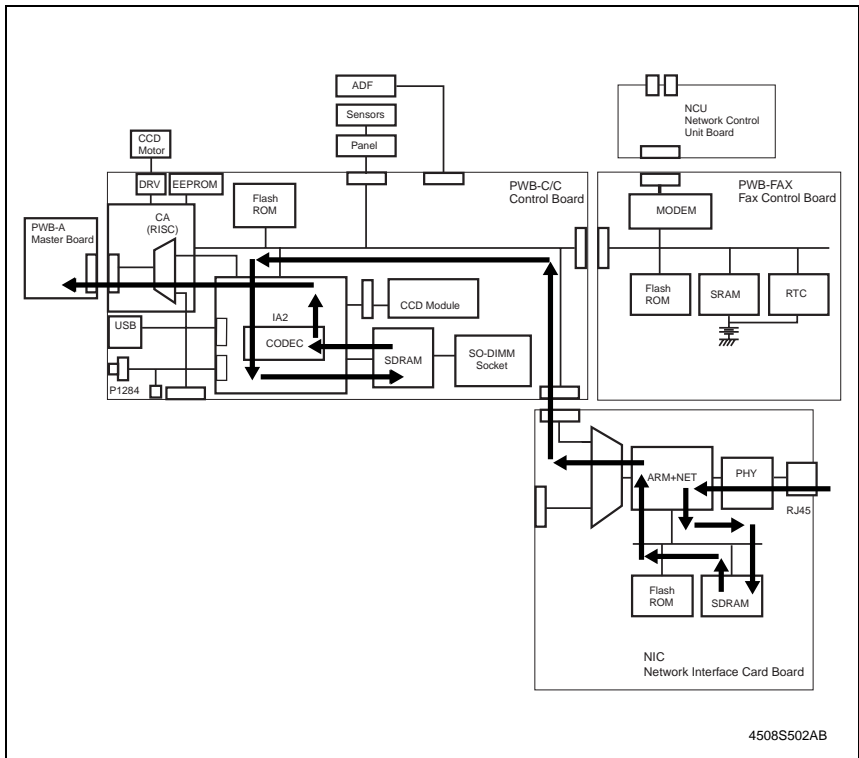
General

1. Product specifications

Name	Network Interface Card (NC-502)
Interface	Ethernet 10/100Base T /TX (RJ-45)
TCP/IP Service	ARP, BootP, DHCP, IPP, lpr/lpd, Raw Socket, HTTPd1.1, SLP, AutoIP
Netware Services	Bindery, NDS, PServer mode, NPrinter mode, NDPS Frame Type (802.3, 802.2, 802.3 SNAP, Ethernet-II, Auto Detect)

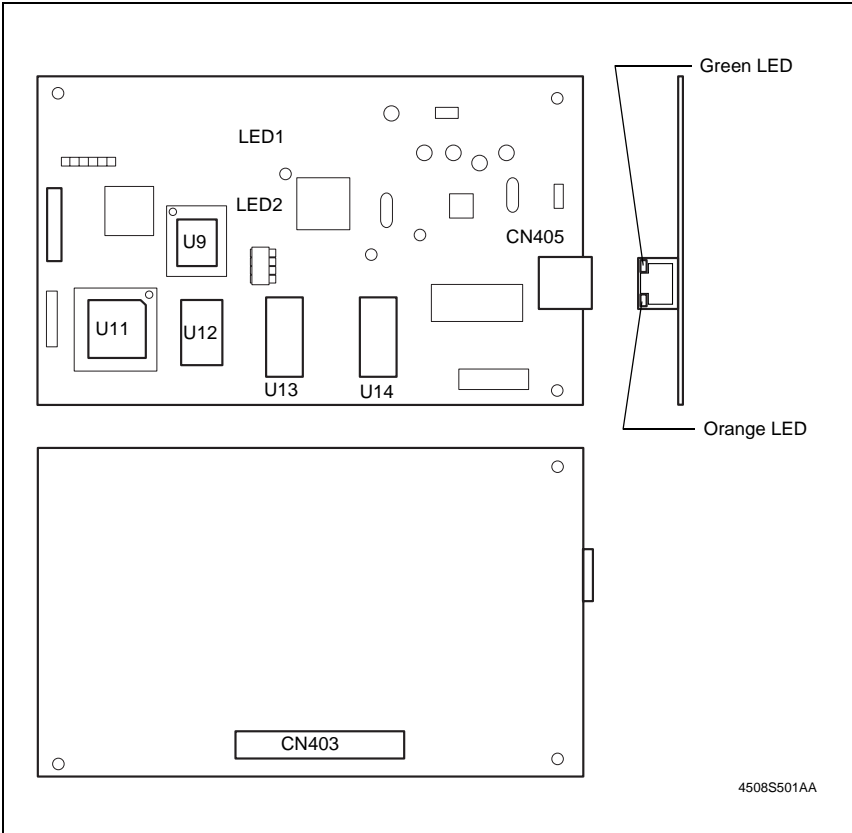
2. Data Flow Diagram

2.1 Data Flow Diagram for Network GDI Printing



2.2 Electrical Components

2.2.1 Network Interface Card



4508S501AA

U11	Internet Fax & Network Scan Kit
U9	Parameter Chip
U12	FlashROM
U13	SDRAM
U14	SDRAM
CN405	Network Interface
Green LED	Network Interface Card status display.
Orange LED	Network Interface Card status display.
P403	Hookup Connector (to PWB-C/C)

2.2.2 LED status display list

LEDs		Status
Green LED (Green)	ON	This is lit when the network cable is connected correctly. If this LED is not lit, check the connection again, even if the copier appears to be connected correctly. If this LED is not lit when both ends are connected correctly, the network cable may be damaged.
Orange LED (Orange)	ON	This LED blinks when data is being transferred.

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Maintenance

3. Firmware upgrade

3.1 Firmware rewriting

3.1.1 Updating method

1. Connect the Network Interface Card and PC with the network by using the RJ45 network cables.
2. Start up the [MS-DOS prompt] or [Command prompt] of PC.
3. Input "ftp", and then input the [IP address].
C:\>ftp XXX.XXX.XXX.XXX

NOTE

Confirm with the user's system administrator or network administrator on the IP address.

4. Press the "Enter" key.
5. Check that the following message is displayed, and that the PC has been connected with the Network Interface Card.
Connected to XXX.XXX.XXX.XXX
220_NET+ARM_FTP_SERVER_1.0_ready
USER(XXX.XXX.XXX.XXX:(none)):
6. Press the "Enter" key.

NOTE

In case of using the Windows XP or Windows 2003 Server, type "(none)" and press the Enter key.

USER(XXX.XXX.XXX.XXX:(none)): (none)

7. Check that the following message is displayed, and that you could log on to the Network Interface Card through the PC.
230_User_none_logged_in.
8. Input "bin". (Data transfer is switched to the binary mode.)
9. Press the "Enter" key.
ftp>bin
10. The following messages is displayed.
200_Type_set_to_I.
11. Type "put" and then the location and name of the update file.
ftp>put X:\XXX.bin
12. Press the "Enter" key. (Wait to a while until data transfer is completed.)
13. Check that the following message is displayed, and data has been properly transferred to the Network Interface Card from the PC.
200_PORT_command_OK
150_About_to_open_data_connection.
226_Transfer_complete.
ftp: xxxbytes_sent_in_xxxSeconds_xxKbytes/sec.
14. Type "get flash" and press the Enter key. (Wait to a while until data transfer is completed.)
ftp>get flash

15. The following messages will appear.
200_PORT_command_OK
150_About_to_open_data_connection.
226_Transfer_complete
ftp: xxxbytes_received_in_xxxSeconds_xxKbytes/sec.
16. Input "quit", and then press the "Enter" key.
ftp>quit
221 Goodbye.
17. Input "type flash".
C:\>type flash
18. Check that the firmware has been updated properly using the following messages that should appear.
step 1: Command format is correct
step 2: Program's header is right
step 4: Flash ROM erase OK
step 5: Flash ROM write OK
step 6: Program complete
19. Input "exit", and then press the "Enter" key.
C:\>exit
20. Check that you exit the [MS-DOS prompt] or [Command prompt] of PC.
21. Delete the "flash" file created in drive C of the PC.
22. Press the main power switch for the copier OFF/ON to restart the copier.

```
C:\>ftp XXX.XXX.XXX.XXX
Connected to XXX.XXX.XXX.XXX
220 NET+ARM FTP SERVER X.X ready
Connected to XXX.XXX.XXX.XXX
220 NET+ARM FTP SERVER X.X ready
USER(XXX.XXX.XXX.XXX:(none)):
230 User none logged in.
ftp>bin
200 Type set to I.
ftp>put X:\XXX.bin
200 PORT command OK.
150 About to open data connection.
226 Transfer complete
ftp: xxxbytes sent in xxxSeconds xxxKbytes/sec.
ftp>get flash
200 PORT command OK.
150 About to open data connection.
226 Transfer complete.
ftp: xxxbytes received in xxxSeconds xxxKbytes/sec.
ftp>quit
221 Goodbye

C:\>type flash
step 1 : Command format is correct
step 2 : Program's header is right
step 4 : Flash ROM erase OK
step 5 : Flash ROM write OK
step 6 : Program complete
C:\>exit
```

4. Other

4.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.

B. Red Painted Screws

NOTES

- When the screws are removed, the red paint is coated on the points where readjustment is required.
- Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with 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.

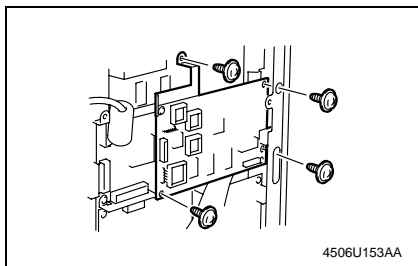
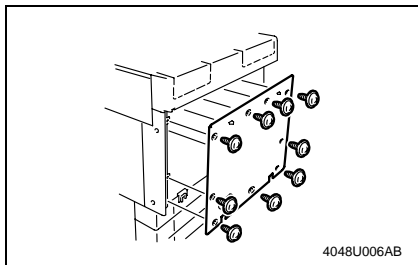
D. Removal of PWBs

NOTES

- 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.

4.2 Disassembly/Assembly procedure

4.2.1 Network Interface Card



1. Turn OFF the Power Switch and unplug the power cord from the power outlet.
2. Remove the Rear Cover. (9 screws)
3. Remove the four screw, and the Network Interface Card (unplug the hookup connector provided on the backside of the Network I/F Card).

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Adjustment/Setting

5. 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 “ ”.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:
 1. The power supply voltage meets the specifications.
 2. The power supply is properly grounded.
 3. 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).
 4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
 5. The original has a problem that may cause a defective image.
 6. The density is properly selected.
 7. The Original Glass, slit glass, or related part is dirty.
 8. Correct paper is being used for printing.
 9. 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.
 10. Toner is not running out.

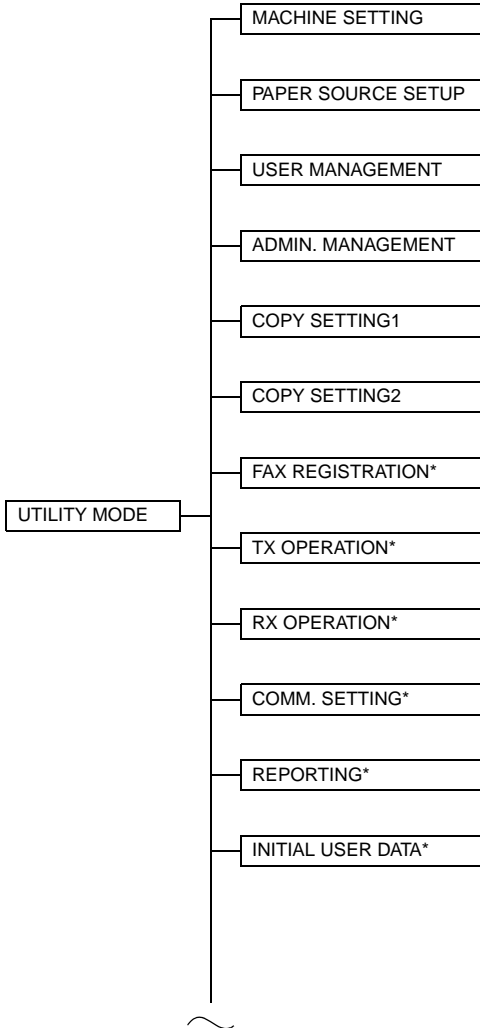
B. Precautions for Service Jobs

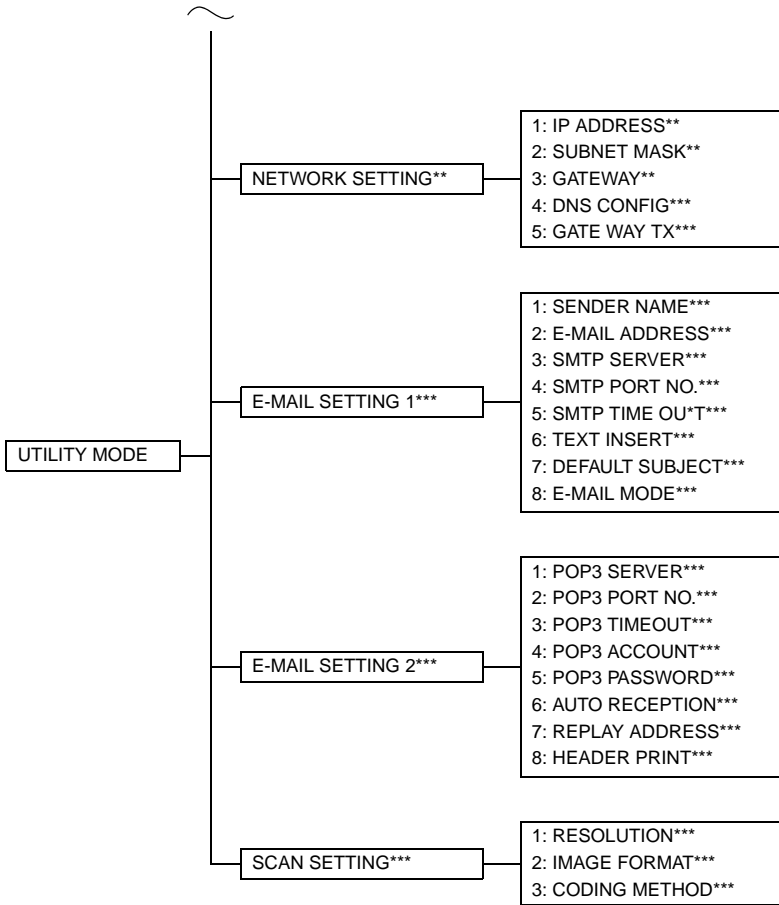
1. To unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

6. Utility Mode

- This mode is used to set various machine functions.

6.1 Utility Mode function tree





*: Available only if the FAX-Kit is installed.

** : Available only if the NIC NC-502 is installed.

***: Available only if the Internet Fax & Network Scan Kit SU-502 is installed.

B. SUBNET MASK

Purpose/Use	<p>This function is used to specify the subnet mask value for the network.</p> <p>NOTE</p> <ul style="list-style-type: none"> • Available only if the NIC NC-502 is installed. • Please consult customer's network administrator for information about the subnet mask to use.
Setting/Procedure	<ul style="list-style-type: none"> • Setting LAN connect to WAN the net mask address. <p>NOTE</p> <ul style="list-style-type: none"> • If Auto is selected for "1 IP Address/Auto," the items of "2 Subnet mask" and "3 Gateway" are automatically set. Key entry is therefore disabled for "2 Subnet mask" and "3 Gateway."

C. GATEWAY

Purpose/Use	<p>This function is used to specify the default gateway (IP address) of a router on the network.</p> <p>NOTE</p> <ul style="list-style-type: none"> • Available only if the NIC NC-502 is installed. • Please consult customer's network administrator for information about the gateway to use.
Setting/Procedure	<ul style="list-style-type: none"> • Setting LAN address. <p>NOTE</p> <ul style="list-style-type: none"> • If Auto is selected for "1 IP Address/Auto," the items of "2 Subnet mask" and "3 Gateway" are automatically set. Key entry is therefore disabled for "2 Subnet mask" and "3 Gateway."

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Troubleshooting

7. Troubleshooting

7.1 Troubleshooting Procedure Overview

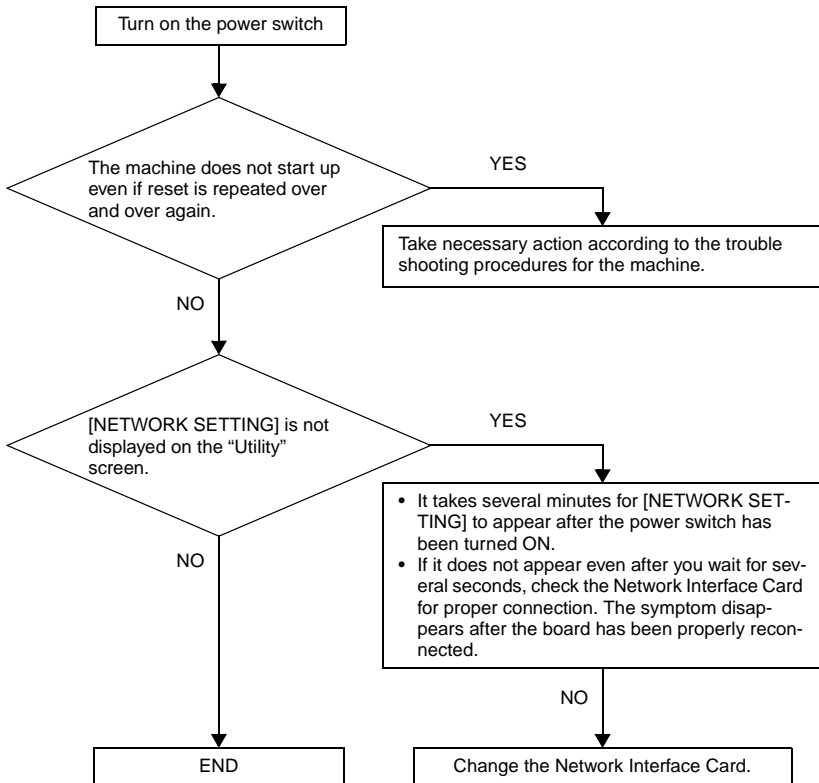
- If the following symptoms occur when the machine is restarted after the Network Interface Card has been mounted, check the board and connectors for proper connection. If the symptom persists, replace the defective part or parts.
- If it is not possible to transfer data correctly with the various settings made on [NETWORK SETTING], the network or telephone line is probably defective.

NOTE

Network setting and line checks should be made by the network administrator (system administrator).

7.2 Troubleshooting Procedure Chart

1. If network settings are not correct, check them by following the flowchart below.



7.3 Action Taken if Network Print Cannot be Done

Step	Check	Result	Possible Cause	Action
1	Has the print job reached the copier?	Yes	A copier error (paper running out, toner, etc.)	Check the copier and correct the cause of the error.
		No	Data is yet to reach the copier.	Go to step 2.
2	Is a response received to ping from the computer to the Network I/F Card?	Yes	A wrong print destination port has been set.	Set the correct port.
			Computer operate erratically only temporarily.	Restart the computer.
			The driver has not been correctly installed.	Follow the correct procedure to uninstall the driver, and then reinstall it correctly.
		No	Computer operates erratically only temporarily.	Restart the computer.
			The network cable is disconnected, or the relay device is faulty.	Make the correct connector connection, or restart or replace the relay device.
			Erroneously set IP address and subnet mask.	Set the correct IP address and subnet mask.



KONICA MINOLTA

SERVICE MANUAL

FIELD SERVICE





SU-502

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, show  to the left of the revised section.
A number within  represents the number of times the revision has been made.
- To indicate clearly a section revised, show  in the lower outside section of the corresponding page.
A number within  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.

2005/04	1.0	—	Issue of the first edition
Date	Service manual Ver.	Revision mark	Descriptions of revision

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SU-502

General

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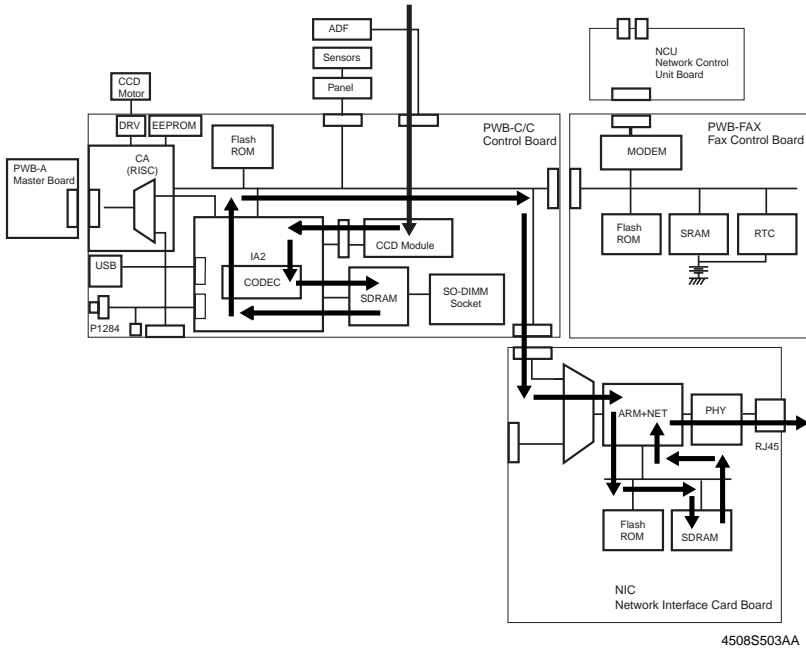
General

1. Product specifications

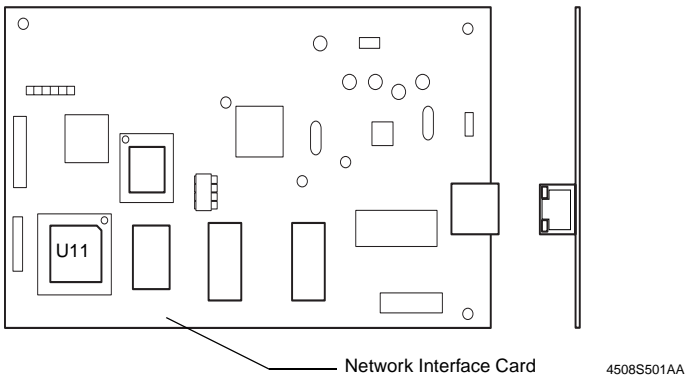
Name	Internet Fax & Network Scan Kit (SU-502)
Interface	Ethernet 10/100Base T /TX (RJ-45)
Data format	MIME, Base64
Content Type	Multi-part/Mixed (text/plain, image/tiff)
I-FAX Communication Protocol	TX: SMTP RX: POP3
I-FAX Data Format	E-Mail Format: MIME Attached File format: TIFF-S, TIFF-F
I-FAX Cording method	Transmission: MH, MR (Advanced mode), MMR (Advanced mode) Reception: MH, MR, MMR, JBIG
I-FAX TX resolution	204 dpi × 98 dpi (STD) 204 dpi × 196 dpi (Fine) 204 dpi × 392 dpi (S.Fine)
I-FAX RX resolution	204 dpi × 98 dpi 204 dpi × 196 dpi 204 dpi × 391 dpi 408 dpi × 391 dpi 200 dpi × 100 dpi 200 dpi × 200 dpi
Scan to E-Mail / Scan to FTP Communication Protocol	E-Mail TX: SMTP FTP TX: FTP
Scan to E-Mail / Scan to FTP Data Format	E-Mail Format: MIME Attached File format: TIFF, PDF
Scan to E-Mail / Scan to FTP Cording method	MH, MR, MMR
Scan to E-Mail / Scan to FTP resolution	150 dpi × 150 dpi 300 dpi × 300 dpi 600 dpi × 600 dpi

2. Data Flow Diagram

2.1 Data Flow Diagram for N-Scanner/I-Fax



2.2 Electrical Components



U11

Internet Fax & Network Scan Kit

Maintenance

3. Other

3.1 Disassembly/Adjustment prohibited items

A. Paint-locked Screws

NOTE

- Paint-locked screws show that the assembly or unit secured can only be adjusted or set at the factory and should not be adjusted, set, or removed in the field.

B. Red Painted Screws

NOTES

- When the screws are removed, the red paint is coated on the points where readjustment is required.
- Once the red painted screw is removed or loosened, you should make adjustment. Accordingly check the adjustment items in operation manual and make necessary adjustment. Note that when two or more screws are used on the part in questions, only one representative screw may be marked with 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.

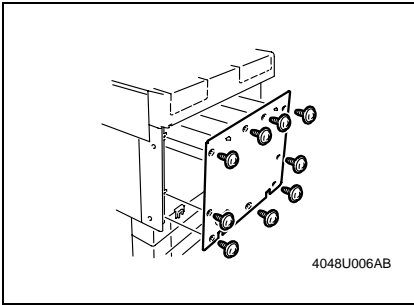
D. Removal of PWBs

NOTES

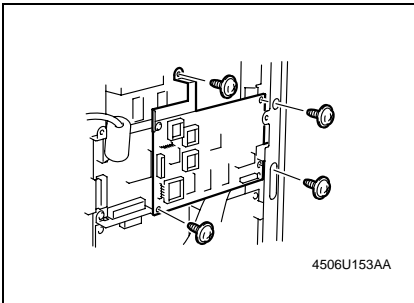
- When removing a circuit board or other electrical component, refer to “Handling of PWBs” and follow the corresponding removal procedures.
- The removal procedures given in the following omit the removal of connectors and screws securing the circuit board support or circuit board.
- Where it is absolutely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

3.2 Disassembly/Assembly procedure

3.2.1 Network Interface Card

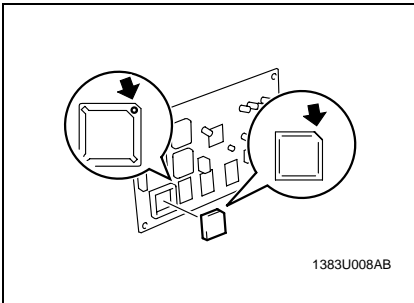


1. Turn OFF the Power Switch and unplug the power cord from the power outlet.
2. Remove the Rear Cover. (9 screws)



3. Remove the four screw, and the Network Interface Card (unplug the hookup connector provided on the backside of the Network I/F Card).

3.2.2 Internet Fax & Network Scan Kit



1. Remove the Internet Fax & Network Scan Kit from IC socket BC31 of the Network Interface Card.

NOTES

Use the following precautions when installing the Internet Fax & Network Scan Kit.

- Before installing the Internet Fax & Network Scan Kit, first remove the Network Interface Card from the copier.
- During installation, align the round portion on the IC socket with the cutoff corner of the Internet Fax & Network Scan Kit.

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 “ ”.

A. Advance Checks

- Before attempting to solve the customer problem, the following advance checks must be made. Check to see if:
 1. The power supply voltage meets the specifications.
 2. The power supply is properly grounded.
 3. 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).
 4. The installation site is environmentally appropriate: high temperature, high humidity, direct sunlight, ventilation, etc.; levelness of the installation site.
 5. The original has a problem that may cause a defective image.
 6. The density is properly selected.
 7. The Original Glass, slit glass, or related part is dirty.
 8. Correct paper is being used for printing.
 9. 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.
 10. Toner is not running out.

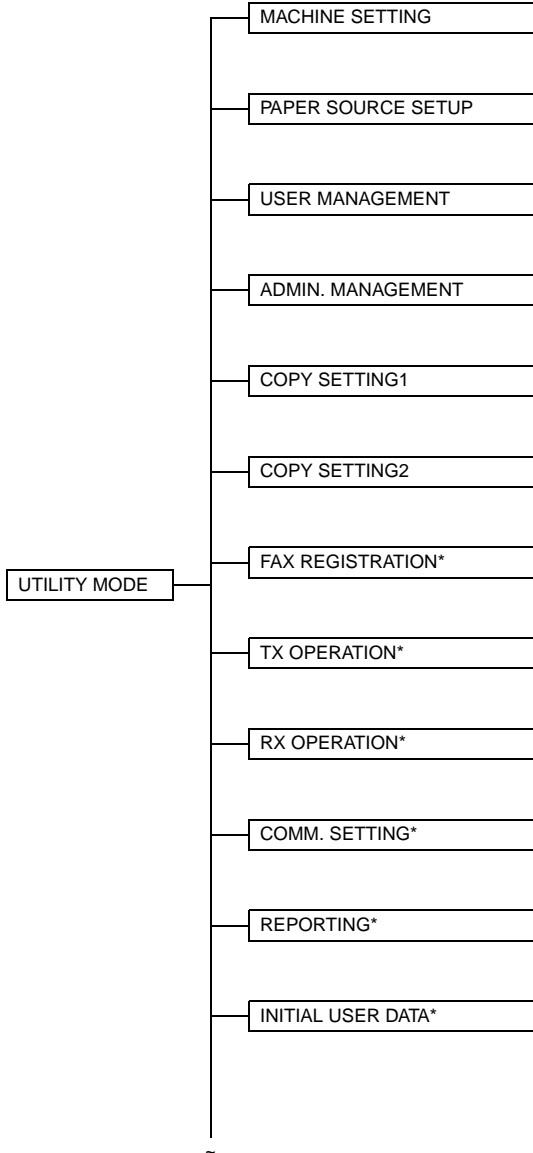
B. Precautions for Service Jobs

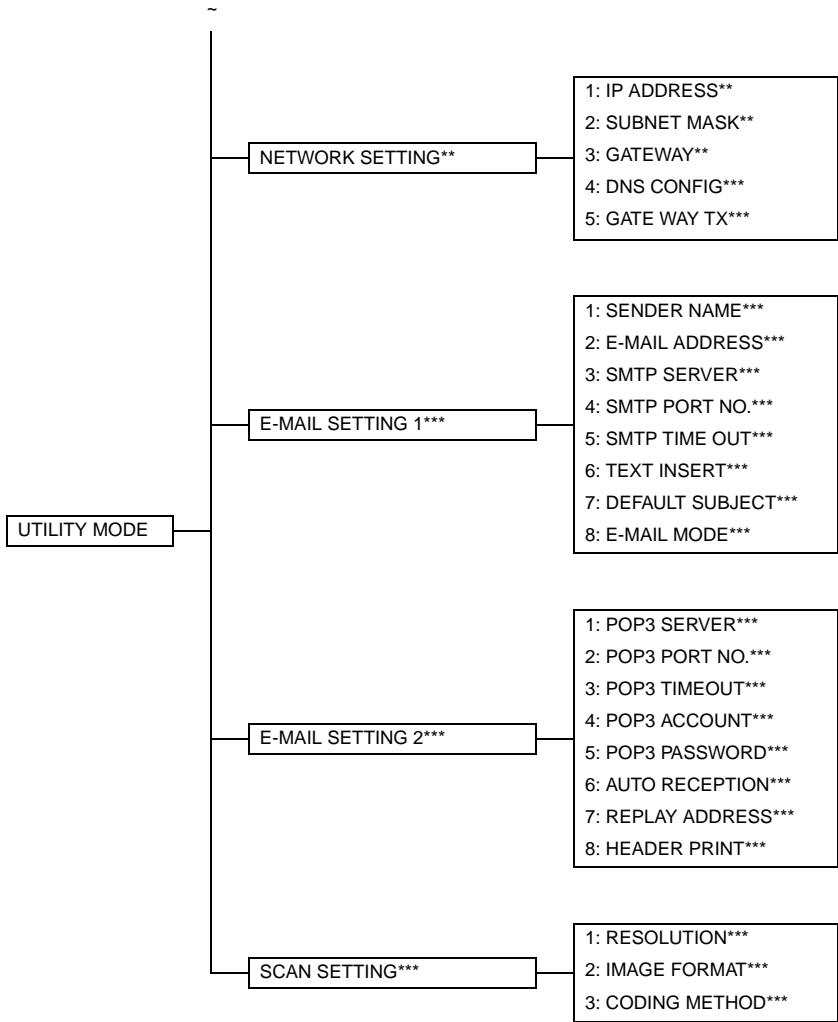
1. To unplug the power cord of the machine before starting the service job procedures.
2. If it is unavoidably necessary to service the machine with its power turned ON, use utmost care not to be caught in the Scanner Cables or gears of the Exposure Unit.
3. Special care should be used when handling the Fusing Unit which can be extremely hot.
4. The Developing Unit has a strong magnetic field. Keep watches and measuring instruments away from it.
5. Take care not to damage the PC Drum with a tool or similar device.
6. Do not touch IC pins with bare hands.

5. Utility Mode

- This mode is used to set various machine functions.

5.1 Utility Mode function tree





*: Available only if the FAX-Kit is installed.

** : Available only if the NIC NC-502 is installed.

***: Available only if the Internet Fax & Network Scan Kit SU-502 is installed.

5.3.2 E-mail setting 1

- Available only if the Internet Fax & Network Scan Kit SU-502 is installed.
- Depending on the network environment in which the machine is located, there may be some restrictions on the network functions that the machine can use. Make the network settings to suit the functions and environment required for customer's location. The network settings can be specified from the control panel or using the administrator mode of PageScope Web Connection.

A. SENDER NAME

Purpose/Use	This function is used to specify the sender's name.
Setting/ Procedure	Up to 20 characters can be entered for the sender name.

B. E-MAIL ADDRESS

Purpose/Use	This function is used to specify the e-mail address of the sender. NOTE Please consult customer's network administrator for information about the e-mail address to use.
Setting/ Procedure	<ul style="list-style-type: none"> • Up to 64 characters can be entered for the sender address. • If customer does not receive e-mail on the copier, enter the e-mail address of the customer's administrator.

C. SMTP SERVER

Purpose/Use	This function is used to enter the IP address or host name of an SMTP server. NOTE Please consult customer's network administrator for information about the IP address to use.
Setting/ Procedure	<ul style="list-style-type: none"> • Up to 64 characters can be entered for the host name. • The DNS settings must have been specified before specifying the host name for the SMTP server.

D. SMTP PORT NO.

Purpose/Use	This function is used to enter the port number (1 to 65535) for the SMTP server. NOTE Please consult customer's network administrator for information about the port number to use.
Setting/ Procedure	<ul style="list-style-type: none"> • The port number can be set between 1 and 65535. • Normally, port number 25 is used.

E. SMTP TIMEOUT

Purpose/Use	This function is used to specify the length of time (in seconds) before the connection to the SMTP server times out. (30 to 300 seconds)
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "60". • The time out period can be between 30 and 300 seconds.

F. TEXT INSERT

Purpose/Use	This function is used to specify whether or not to insert text explaining that an image has been attached to an e-mail message, when sending scan data as an E-mail attachment.		
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "OFF". <table border="0" style="width: 100%; text-align: center;"> <tr> <td>ON</td> <td>"OFF"</td> </tr> </table> <ul style="list-style-type: none"> ON: If ON is selected, the following text is inserted in the e-mail message. <p>Image data (TIFF format) has been attached to the E-mail. We recommend you use a program like "Imaging for Windows" to view the file.</p> <ul style="list-style-type: none"> OFF: If OFF is selected, a blank e-mail message will be sent. 	ON	"OFF"
ON	"OFF"		

G. DEFAULT SUBJECT

Purpose/Use	This function is used to specify the default subject line, when sending scan data as an e-mail attachment.
Setting/ Procedure	Up to 20 characters can be entered for the default subject.

H. E-Mail MODE

Purpose/Use	This function is used to specify the default settings for the Basic and Advanced transmission modes when sending a document by Internet fax (using the 10 key pad to enter the destination).				
		Description			
	Function	Basic Mode	Advanced Mode		
	Maximum TX Size	A4 or LT	Inch models: LT, 11 × 17 Metric models: A4, B4, A3		
	Resolution to be transmitted	Fine	Fine, S/F (Superfine)		
	Coding Method	MH, MR, MMR			
Setting/ Procedure	<ul style="list-style-type: none"> The default setting is "BASIC". <table border="0" style="width: 100%; text-align: center;"> <tr> <td>"BASIC"</td> <td>ADVANCED</td> </tr> </table> <ul style="list-style-type: none"> BASIC If BASIC is selected, the E-MAIL SETTING 1 screen appears. ADVANCED If BASIC is selected, the Maximum TX Size screen, Maximum Resolution and Coding Method screen appears in turn. Maximum TX Size The default setting is "A3 or 11 × 17". Maximum Resolution The default setting is "S/F". Coding Method Maximum Resolution The default setting is "MH". 			"BASIC"	ADVANCED
"BASIC"	ADVANCED				

NOTE

- If the settings are not changed for IFAX transmission, that particular transmission is carried out with the values selected in E-Mail mode set as default both for Basic and Advanced mode.

- The following operations are performed if Basic is selected.

Paper size:

Scans a size larger than A4 → Transmitted with data reduced to A4

Scans a size smaller than A4 → Data transmitted as A4

Resolution:

Fine or STD is specified using the Resolution key or other function → Transmitted with the selected resolution

S. Fine is specified using the Resolution key or other function → Transmitted in Fine

(In Basic mode, Fine is the best possible resolution. Selecting S. Fine is not accepted and data is transmitted as Fine even if S. Fine is selected.)

Coding method:

Transmitted as MH at all times

- The following operations are performed if Advanced is selected.

Paper size:

Scans A4/B4/A3 size → Data transmitted as the same size as the original

Scans a size smaller than A4 → Data transmitted as A4

Resolution:

Resolution is specified using the Resolution key or other function → Transmitted with the selected resolution

Coding method:

Transmitted by the selected coding method (MH/MR/MMR)

5.3.3 E-mail setting 2

- Available only if the Internet Fax & Network Scan Kit SU-502 is installed.
- Depending on the network environment in which the machine is located, there may be some restrictions on the network functions that the machine can use. Make the network settings to suit the functions and environment required for customer's location. The network settings can be specified from the control panel or using the administrator mode of PageScope Web Connection.

A. POP3 SERVER

Purpose/Use	This function is used to enter the IP address or host name of an POP3 server. NOTE Please consult customer's network administrator for information about the IP address to use.
Setting/ Procedure	<ul style="list-style-type: none"> • Up to 64 characters can be entered for the host name. • The DNS settings must have been specified before specifying the host name for the POP3 server.

B. POP3 PORT NO.

Purpose/Use	This function is used to enter the port number (1 to 65535) for the POP3 server. NOTE Please consult customer's network administrator for information about the port number to use.
Setting/ Procedure	<ul style="list-style-type: none"> • The port number can be set between 1 and 65535. • Normally, port number 110 is used.

C. POP3 TIMEOUT

Purpose/Use	This function is used to specify the length of time (in seconds) before the connection to the POP3 server times out. (30 to 300 seconds)
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "60". • The time out period can be between 30 and 300 seconds.

D. POP3 ACCOUNT

Purpose/Use	This function is used to enter the account name used to log on to the POP3 server. NOTE Please consult customer's network administrator for information about the account name to use.
Setting/ Procedure	Up to 64 characters can be entered for the account name.

E. POP3 PASSWORD

Purpose/Use	This function is used to enter the password associated with the account name used to log in to the POP3 server. NOTE Please consult customer's network administrator for information about the password to use.
Setting/ Procedure	Up to 32 characters can be entered for the password.

5.3.4 Scan setting

- Available only if the Internet Fax & Network Scan Kit SU-502 is installed.
- The scan settings can be specified from the control panel or using the administrator mode of PageScope Web Connection.

A. RESOLUTION

Purpose/Use	The default settings for resolution used by the Scan to E-mail and Scan to Server (FTP) functions can be specified.
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "300 x 300". <p style="text-align: center;">150 x 150 "300 x 300" 600 x 600</p> <ul style="list-style-type: none"> • 150 dpi x 150 dpi: Normal resolution for text documents containing standard sized text. • 300 dpi x 300 dpi: Higher resolution for text documents containing small characters or fine print, such as a newspaper article. • 600dpi x 600dpi: Highest resolution for scanning photographs and other images.

B. IMAGE FORMAT

Purpose/Use	The default settings for data format used by the Scan to E-mail and Scan to Server (FTP) functions can be specified.
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "TIFF". <p style="text-align: center;">"TIFF" PDF</p> <ul style="list-style-type: none"> • TIFF: Tagged Image File Format, The image is not compressed. Images are clearer than the image data of the PDF form. • PDF: Portable Document Format, The image is compressed. The data size becomes small compared with the image data of the TIFF form.

C. CODING METHOD

Purpose/Use	The default settings for coding method, used by the Scan to E-mail and Scan to Server (FTP) functions can be specified.
Setting/ Procedure	<ul style="list-style-type: none"> • The default setting is "MH". <p style="text-align: center;">"MH" MR MMR</p> <ul style="list-style-type: none"> • MH: Modified Huffmann. • MR: Modified Read, 50% faster than MH. • MMR: Modified Modified Read, 50% faster than MR.

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Troubleshooting

6. Troubleshooting

6.1 Main Error Messages and Their Remedies

Message	Cause	Remedy
COMM.ERROR XXXX SERVER	Communication is not possible because of some problem in the machine or the condition of the network or server.	Check the transmission results. Consult with the network administrator.
CANNOT CONNECT XXXX SERVER	A connection to the server cannot be established.	Check that the Ethernet cable is correctly connected. Check the "E-MAIL SETTING 1", "E-MAIL SETTING 2" and "NETWORK SETTING" settings. Consult with the network administrator.
CANNOT GET IP XXXX SERVER	The IP address could not be assigned by the DNS or DHCP server.	Consult with the network administrator.
DISCONNECT XXXX SERVER	The connection to the server was cut.	Consult with the network administrator.
WRONG PASSWORD XXXX SERVER	The password is incorrect, so the machine could not log onto the server.	For a POP3 server, check the "E-MAIL SETTING 2" setting. Consult with the network administrator.
RECEIVE WRONG DATA	An e-mail that cannot be printed by this machine was received. (For a file attachment in a format other than TIFF-F)	Ask the sender to send a TIFF-F file or text in the correct format.
MEM.FULL/TX CANCEL	While sending an e-mail, the size of the data for the scanned image has exceeded the capacity of the memory.	Retrieve all received e-mail stored in the memory.
MEM.FULL/RX CANCEL XXXX SERVER	While receiving an e-mail, the size of the data for the scanned image has exceeded the capacity of the memory.	Retrieve all received e-mail stored in the memory.
FILE.FULL/TX CANCEL	While sending an e-mail, the maximum of number of managed memory file is used.	Retrieve all received e-mail stored in the memory.
FILE.FULL/RX CANCEL XXXX SERVER	While receiving an e-mail, the maximum of number of managed memory file is used.	Retrieve all received e-mail stored in the memory.
SERVER MEMORY FULL SMTP SERVER	The memory of the SMTP server has become full while sending an e-mail.	Consult with the network administrator.
FTP SERVER ERROR	While uploading scan data, the data could not be correctly uploaded to the FTP server.	Please consult your network administrator for details.

6.2 Troubleshooting Functions

A. Scan to E-Mail Transmission

No.	Condition	Cause	Action
1	Transmission is not possible.	The connections are incorrect.	Check the LED indicator on the hub, and check the connections.
		The settings necessary for the device are not registered.	Specify the necessary network settings.
		The LAN cable is damaged.	Replace the LAN cable.
2	Transmission is possible, but the image cannot be outputted at the recipient's terminal or computer.	The recipient's terminal is not able to handle the sent image.	Change the size, resolution and coding method so that they are supported by the recipient's terminal, and then try sending the data again.
		The document text was not inserted when the data was sent.	With some e-mail applications, if an e-mail is received containing no text and only an attached file, it may not be possible to open the attached file. Therefore, text should be inserted into the document that is sent.

B. Internet Fax Transmission

No.	Condition	Cause	Action
1	Transmission is not possible.	The connections are incorrect.	Check the LED indicator on the hub, and check the connections.
		The settings necessary for the device are not registered.	Specify the necessary network settings.
		The LAN cable is damaged.	Replace the LAN cable.
2	An interruption in the transmission was specified, but the transmission was not interrupted.	It takes some time to interrupt an Internet fax transmission.	Wait until the transmission is interrupted.

C. Internet Fax Reception

No.	Condition	Cause	Action
1	Reception is not possible.	The connections are incorrect.	Check the LED indicator on the hub, and check the connections.
		The setting to not automatically check for new e-mail messages has been specified.	Specify a time interval for automatically checking for new e-mail messages. Receive manually.
		The settings necessary for the device are not registered.	Specify the necessary network settings.
		The same POP3 user name is being used by a different e-mail application or another user.	Do not use the same POP3 user name that is used by a different e-mail application.
		The LAN cable is damaged.	Replace the LAN cable.
2	The data is received, but not printed.	An e-mail message with data of an incompatible format attached or with no data was received.	Ask the sender to send a TIFF-F file or text.
		The memory is full.	Print saved documents and reduce the amount of memory that is used, and then ask the sender to send the data again.
3	The same document is received many times.	Since the size of the mail is too large, the connection with the server times out while the data is being received.	Specify that the data be kept on the computer, and delete the corresponding e-mail messages from the server. Ask the sender to try sending e-mail messages of smaller sizes.
4	An interruption in the reception was specified, but the reception was not interrupted.	It takes some time to interrupt an Internet fax reception.	Wait until the transmission is interrupted.

D. Direct Fax Sending (Gateway TX)

No.	Condition	Cause	Action
1	Data does not arrive at the copier.	The Unimessage Pro I-Net Portal settings are incorrect.	Check the Unimessage Pro I-Net Portal settings.
		Since the size of the received data is large, it cannot be received due to the server's limitations.	Reduce the size of the data, for example, by decreasing the number of pages, and then try sending again.
2	A fax cannot be sent from this copier.	The communication mode for gateway transmissions is incorrectly specified.	The "GATEWAY TX" parameter must be set to "ENABLE", and the communication mode must be set correctly.

E. PageScope Web Connection

No.	Condition	Cause	Action
1	A connection with PageScope Web Connection cannot be established.	The IP address for the device is not specified correctly.	Specify the IP address.
		The URL setting in the Web browser is incorrect.	In the "Address" box, type the IP address of the specified device.
		The settings in the Web browser are incorrect.	Even though the device can be accessed, certain settings must be specified according to the network configuration in order to establish a connection. For details, contact your network administrator.
		If a proxy is specified with the browser and the IP address of this copier cannot be recognized by the proxy server, the PageScope Web Connection window cannot be displayed.	Use the proxy settings in the browser to add the IP address of this copier to the list of exceptions that will not use the proxy server.
		The LAN cable is damaged.	Replace the LAN cable.
2	Could not login using Administrator mode.	Before this login, a different password had been entered.	Once login is successful, that password is saved in the browser until the browser is closed. Close the browser, and then start it up again.
3	The text in the window is disorganized.	The browser is too small.	Increase the size of the browser.
		An appropriate font size is not selected.	Specify an appropriate font size for the computer and browser.
4	Some deleted characters remain in the window.	Operations differ depending on the browser used.	Reload the browser window or rescan.
5	The number of digits in an input or display area and the number of characters that can be registered are different.	Depending on the browser, scroll within the input area. If this is not possible, this should not affect the actual setting operation, although it may be a problem for displaying.	—
6	Some characters cannot be specified or displayed.	Depending on the operating system, some characters cannot be specified or displayed.	—
7	Space characters cannot be specified or displayed.	Spaces entered at the end of words may be removed.	—
8	Entered data was erased when an error occurred while specifying settings.	Depending on the browser, settings that appear as "x", such as passwords, may be erased.	—

6.3 List of Communication Error Codes

- The following error codes appear in TX Result Report, RX Result Report.

Error code	Description
0072	A connection to the SMTP server cannot be established.
0073	Communication is not possible because of some problem in the machine or the condition of the network or SMTP Server.
0074	The connection to the SMTP server was cut.
0075	The memory of the SMTP server has become full while sending an e-mail.
007B	The connection is disconnected during gateway transmission.
007C	A Direct fax that cannot be forward transmit by this machine was received. (For a file attachment in a format other than TIFF-F)
007D	The memory has become full while receiving Direct fax.
007E	While receiving a Direct fax, the maximum of number of managed memory file is used.
0096	The IP address could not be assigned by the DNS server.
0097	The IP address could not be assigned by the DNS server.
0098	The IP address could not be assigned by the DNS server.
009B	A connection to the DNS server cannot be established.
00a2	While receiving an e-mail, the maximum of number of managed memory file is used.
00a3	A connection to the POP3 server cannot be established.
00a4	The password is incorrect, so the machine could not log onto the POP3 server.
00a5	Communication is not possible because of some problem in the machine or the condition of the network or POP Server.
00a6	The connection to the POP3 server was cut.
00a7	An e-mail that cannot be printed by this machine was received. (For a file attachment in a format other than TIFF-F)
00a8	The memory has become full while receiving e-mail.
00A9	A connection to the FTP server cannot be established.
00AA	The password is incorrect, so the machine could not log onto the FTP server.
00AB	Communication is not possible because of some problem in the machine or the condition of the network or FTP Server.
00AC	The connection to the FTP server was cut.
00AD	The FTP server cannot store the data that is sent from the machine.

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