Service Manual
CF2002/CF3102

www.minoltaeurope.com The essentials of imaging

MINOLTA

1. SAFETY PRECAUTIONS FOR INSPECTION AND SERVICE

- When performing inspection and service procedures, observe the following precautions to prevent accidents and ensure utmost safety.

✻ Depending on the model, some of the precautions given in the following do not apply.

- Different markings are used to denote specific meanings as detailed below.

⚠ WARNING

- Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

⚠ CAUTION

- The following graphic symbols are used to give instructions that need to be observed.

Used to call the service technician attention to what is graphically represented inside the marking (including a warning).

Used to prohibit the service technician from doing what is graphically represented inside the marking.

Used to instruct the service technician to do what is graphically represented inside the marking.

1-1. Warning

⚠ WARNING

1. Always observe precautions.

- Parts requiring special attention in this product will include a label containing the mark shown on the left plus precautionary notes. Be sure to observe the precautions.
- Be sure to observe the “Safety Information” given in the Operator’s Manual.

2. Before starting the procedures, be sure to unplug the power cord.

- This product contains a high-voltage unit and a circuit with a large current capacity that may cause an electric shock or burn.
- The product also contains parts that can jerk suddenly and cause injury.
- If this product uses a laser, laser beam leakage may cause eye damage or blindness.

⚠ WARNING

3. Do not throw toner or the toner bottle into a fire.

- Do not throw toner or the Toner Bottle (Imaging Cartridge, Toner Cartridge) into a fire. Toner expelled from the fire may cause burns.

4. Use the specified parts.

- For replacement parts, always use the genuine parts specified in the manufacturer's parts manual. Installing a wrong or unauthorized part could cause dielectric breakdown, overload, or undermine safety devices resulting in possible electric shock or fire.
- Replace a blown electrical fuse or thermal fuse with its corresponding genuine part specified in the manufacturer's parts manual. Installing a fuse of a different make or rating could lead to a possible fire. If a thermal fuse blows frequently, the temperature control system may have a problem and action must be taken to eliminate the cause of the problem.

5. Handle the power cord with care and never use a multiple outlet.

- Do not break, crush or otherwise damage the power cord. Placing a heavy object on the power cord, or pulling or bending it may damage it, resulting in a possible fire or electric shock.
- Do not use a multiple outlet to which any other appliance or machine is connected.
- Be sure the power outlet meets or exceeds the specified capacity.

6. Be careful with the high-voltage parts.

- A part marked with the symbol shown on the left carries a high voltage. Touching it could result in an electric shock or burn. Be sure to unplug the power cord before servicing this part or the parts near it.

7. Do not work with wet hands.

- Do not unplug or plug in the power cord, or perform any kind of service or inspection with wet hands. Doing so could result in an electric shock.

8. Do not touch a high-temperature part.

- A part marked with the symbol shown on the left and other parts such as the exposure lamp and fusing roller can be very hot while the machine is energized. Touching them may result in a burn.
- Wait until these parts have cooled down before replacing them or any surrounding parts.

⚠ WARNING

9. Maintain a grounded connection at all times.

- Connect the power cord to an electrical outlet that is equipped with a grounding terminal.

10. Do not remodel the product.

- Modifying this product in a manner not authorized by the manufacturer may result in a fire or electric shock. If this product uses a laser, laser beam leakage may cause eye damage or blindness.

11. Restore all parts and harnesses to their original positions.

- To promote safety and prevent product damage, make sure the harnesses are returned to their original positions and properly secured in their clamps and saddles in order to avoid hot parts, high-voltage parts, sharp edges, or being crushed.
- To promote safety, make sure that all tubing and other insulating materials are returned to their original positions. Make sure that floating components mounted on the circuit boards are at their correct distance and position off the boards.

1-2. Caution

⚠ CAUTION

1. Precautions for Service Jobs.

- A star washer and spring washer, if used originally, must be reinstalled. Omitting them may result in contact failure which could cause an electric shock or fire.
- When reassembling parts, make sure that the correct screws (size, type) are used in the correct places. Using the wrong screw could lead to stripped threads, poorly secured parts, poor insulating or grounding, and result in a malfunction, electric shock or injury.
- Take great care to avoid personal injury from possible burrs and sharp edges on the parts, frames and chassis of the product.
- When moving the product or removing an option, use care not to injure your back or allow your hands to be caught in mechanisms.

⚠ CAUTION

2. Precautions for Servicing with Covers and Parts Removed.

- Wherever feasible, keep all parts and covers mounted when energizing the product.
- If energizing the product with a cover removed is absolutely unavoidable, do not touch any exposed live parts and use care not to allow your clothing to be caught in the moving parts. Never leave a product in this condition unattended.
- Never place disassembled parts or a container of liquid on the product. Parts falling into, or the liquid spilling inside, the mechanism could result in an electric shock or fire.

- Never use a flammable spray near the product. This could result in a fire.
- Make sure the power cord is unplugged before removing or installing circuit boards or plugging in or unplugging connectors.
- Always use the interlock switch actuating jig to actuate an interlock switch when a cover is opened or removed. The use of folded paper or some other object may damage the interlock switch mechanism, possibly resulting in an electric shock, injury or blindness.

3. Precautions for the Working Environment.

- The product must be placed on a flat, level surface that is stable and secure.
- Never place this product or its parts on an unsteady or tilting workbench when servicing.
- Provide good ventilation at regular intervals if a service job must be done in a confined space for a long period of time.
- Avoid dusty locations and places exposed to oil or steam.
- Avoid working positions that may block the ventilation ports of the product.

4. Precautions for Handling Batteries. (Lithium, Nickel-Cadmium, etc.)

- Replace a rundown battery with the same type as specified in the manufacturer's parts manual.
- Before installing a new battery, make sure of the correct polarity of the installation or the battery could burst.
- Dispose of used batteries according to the local regulations. Never dispose of them at the user's premises or attempt to try to discharge one.

5. Precautions for the Laser Beam. (Only for Products Employing a Laser)

- Removing the cover marked with the caution label could lead to possible exposure to the laser beam, resulting in eye damage or blindness. Be sure to unplug the power cord before removing this cover.
- If removing this cover while the power is ON is unavoidable, be sure to wear protective laser goggles that meet specifications.
- Make sure that no one enters the room when the machine is in this condition.
- When handling the laser unit, observe the "Precautions for Handling Laser Equipment."

6. Precautions for storing the toner or imaging cartridge.

- Be sure to keep the toner or imaging cartridge out of the reach of children. Licking the imaging cartridge or ingesting its contents is harmful to your health.

1-3. Used Batteries Precautions

ALL Areas

CAUTION

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

Germany

VORSICHT!

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

France

ATTENTION

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

Denmark

ADVARSEL!

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

Finland, Sweden

VAROITUS

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

VARNING

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

Norway

ADVARSEL

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

1-4. Other Precautions

- When handling circuit boards, observe the “HANDLING of PWBs”.
- The PC Drum is a very delicate component. Observe the precautions given in “HANDLING OF THE PC DRUM” because mishandling may result in serious image problems.
- Note that replacement of a circuit board may call for readjustments or resetting of particular items, or software installation.

1-5. Precautions for Service

- When performing inspection and service procedures, observe the following precautions to prevent mishandling of the machine and its parts.

✻ Depending on the model, some of the precautions given in the following do not apply.

1. Precautions Before Service

- When the user is using a word processor or personal computer from a wall outlet of the same line, take necessary steps to prevent the circuit breaker from opening due to overloads.
- Never disturb the LAN by breaking or making a network connection, altering termination, installing or removing networking hardware or software, or shutting down networked devices without the knowledge and express permission of the network administrator or the shop supervisor.

2. How to Use this Book

DIS/REASSEMBLY, ADJUSTMENT

- To reassemble the product, reverse the order of disassembly unless otherwise specified.

TROUBLESHOOTING

- If a component on a PWB or any other functional unit including a motor is defective, the text only instructs you to replace the whole PWB or functional unit and does not give troubleshooting procedures applicable within the defective unit.
- All troubleshooting procedures contained herein assume that there are no breaks in the harnesses and cords and all connectors are plugged into the right positions.
- The procedures preclude possible malfunctions due to noise and other external causes.

3. Precautions for Service

- Keep all disassembled parts in good order and keep tools under control so that none will be lost or damaged.
- After completing a service job, perform a safety check. Make sure that all parts, wiring and screws are returned to their original positions.
- Do not pull out the toner hopper while the toner bottle is turning. This could result in a damaged motor or locking mechanism.
- If the product is to be run with the front door open, make sure that the toner hopper is in the locked position.
- Do not use an air gun or vacuum cleaner for cleaning the ATDC Sensor and other sensors, as they can cause electrostatic destruction. Use a blower brush and cloth. If a unit containing these sensors is to be cleaned, first remove the sensors from the unit.

4. Precautions for Dis/Reassembly

- Be sure to unplug the copier from the outlet before attempting to service the copier.
- The basic rule is not to operate the copier anytime during disassembly. If it is absolutely necessary to run the copier with its covers removed, use care not to allow your clothing to be caught in revolving parts such as the timing belt and gears.
- Before attempting to replace parts and unplug connectors, make sure that the power cord of the copier has been unplugged from the wall outlet.
- Be sure to use the Interlock Switch Actuating Jig whenever it is necessary to actuate the Interlock Switch with the covers left open or removed.
- While the product is energized, do not unplug or plug connectors into the circuit boards or harnesses.
- Never use flammable sprays near the copier.
- A used battery should be disposed of according to the local regulations and never be discarded casually or left unattended at the user's premises.
- When reassembling parts, make sure that the correct screws (size, type) and toothed washer are used in the correct places.

5. Precautions for Circuit Inspection

- Never create a closed circuit across connector pins except those specified in the text and on the printed circuit.
- When creating a closed circuit and measuring a voltage across connector pins specified in the text, be sure to use the GND wire.

6. Handling of PWBs

During Transportation/Storage

- During transportation or when in storage, new P.W. Boards must not be indiscriminately removed from their protective conductive bags.
- Do not store or place P.W. Boards in a location exposed to direct sunlight and high temperature.
- When it becomes absolutely necessary to remove a Board from its conductive bag or case, always place it on its conductive mat in an area as free as possible from static electricity.
- Do not touch the pins of the ICs with your bare hands.
- Protect the PWBs from any external force so that they are not bent or damaged.

During Inspection/Replacement

- Avoid checking the IC directly with a multimeter; use connectors on the Board.
- Never create a closed circuit across IC pins with a metal tool.
- Before unplugging connectors from the P.W. Boards, make sure that the power cord has been unplugged from the outlet.
- When removing a Board from its conductive bag or conductive case, do not touch the pins of the ICs or the printed pattern. Place it in position by holding only the edges of the Board.
- When touching the PWB, wear a wrist strap and connect its cord to a securely grounded place whenever possible. If you cannot wear a wrist strap, touch a metal part to discharge static electricity before touching the PWB.
- Note that replacement of a PWB may call for readjustments or resetting of particular items.

7. Handling of Other Parts

- The magnet roller generates a strong magnetic field. Do not bring it near a watch, floppy disk, magnetic card, or CRT tube.

8. Handling of the PC Drum

✻ Only for Products Not Employing an Imaging Cartridge.

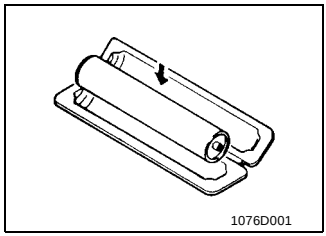
During Transportation/Storage

- Use the specified carton whenever moving or storing the PC Drum.
- The storage temperature is in the range between –20°C and +40°C.
- In summer, avoid leaving the PC Drum in a car for a long time.

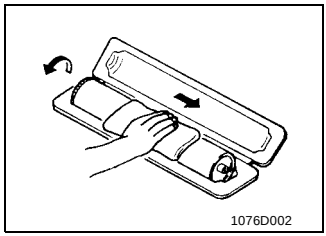
Handling

- Ensure that the correct PC Drum is used.
- Whenever the PC Drum has been removed from the copier, store it in its carton or protect it with a Drum Cloth.
- The PC Drum exhibits greatest light fatigue after being exposed to strong light over an extended period of time. Never, therefore, expose it to direct sunlight.
- Use care not to contaminate the surface of the PC Drum with oil-base solvent, fingerprints, and other foreign matter.
- Do not scratch the surface of the PC Drum.
- Do not apply chemicals to the surface of the PC Drum.
- Do not attempt to wipe clean the surface of the PC Drum.

If, however, the surface is contaminated with fingerprints, clean it using the following procedure.



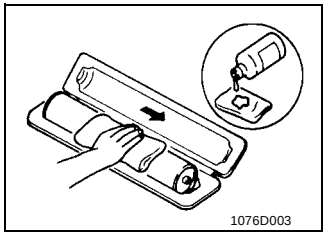
A. Place the PC Drum into one half of its carton.



B. Gently wipe the residual toner off the surface of the PC Drum with a dry, Dust-Free Cotton Pad.

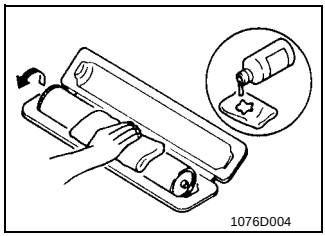
- Turn the PC Drum so that the area of its surface on which the line of toner left by the Cleaning Blade is present is facing straight up. Wipe the surface in one continuous movement from the rear edge of the PC Drum to the front edge and off the surface of the PC Drum.
- Turn the PC Drum slightly and wipe the newly exposed surface area with a CLEAN face of the Dust-Free Cotton Pad. Repeat this procedure until the entire surface of the PC Drum has been thoroughly cleaned.

✻ At this time, always use a CLEAN face of the dry Dust-Free Cotton Pad until no toner is evident on the face of the Pad after wiping.



C. Soak a small amount of either ethyl alcohol or isopropyl alcohol into a clean, unused Dust-Free Cotton Pad which has been folded over into quarters. Now, wipe the surface of the PC Drum in one continuous movement from its rear edge to its front edge and off its surface one to two times.

✻ Never move the Pad back and forth.



D. Using the SAME face of the Pad, repeat the procedure explained in the latter half of step 3 until the entire surface of the PC Drum has been wiped. Always OVERLAP the areas when wiping. Two complete turns of the PC Drum would be appropriate for cleaning.

NOTES

- *Even when the PC Drum is only locally dirtied, wipe the entire surface.*
- *Do not expose the PC Drum to direct sunlight. Clean it as quickly as possible even under interior illumination.*
- *If dirt remains after cleaning, repeat the entire procedure from the beginning one more time.*

9. Handling of the Imaging Cartridge

✻ Only for Products Employing an Imaging Cartridge.

During Transportation/Storage

- The storage temperature is in the range between –20 °C and +40 °C.
- In summer, avoid leaving the Imaging Cartridge in a car for a long time.

Handling

- Store the Imaging Cartridge in a place that is not exposed to direct sunlight.

Precautionary Information on the PC Drum Inside the Imaging Cartridge

- Use care not to contaminate the surface of the PC Drum with oil-base solvent, fingerprints, and other foreign matter.
- Do not scratch the surface of the PC Drum.
- Do not attempt to wipe clean the surface of the PC Drum.

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GENERAL

MAINTENANCE

DIS/REASSEMBLY, ADJUSTMENT

SWITCHES ON PWBs, TECH. REP. SETTINGS

TROUBLESHOOTING

GENERAL

1. SPECIFICATION

Type	:	Freestanding scanner and printer separated from each other
Original Scanning	:	Scanning in main scanning direction with a reduction-type color CCD (One Scan Reading System)
PC Drum Type	:	OPC (organic photoconductor)
Copying System	:	Electrostatic dry-powdered image transfer to plain paper
Scanning Density	:	Equivalent to 600 dpi
Print Density	:	Equivalent to 600 dpi in main scanning direction x 1800 dpi in sub-scanning direction
Paper Feeding System (Standard)	:	Three-Way system Manual Bypass Table...Single 1st Drawer.....250 sheets 2nd Drawer.....500 sheets
Printing Process	:	Tandem-type indirect electrostatic recording sysytem
Exposure System	:	LED Unit exposure for each of Y, M, C, and Bk
Developing System	:	MTHG System
Charging System	:	DC comb electrobe Scorotron System
Ozone Removal System	:	Ozone Filter
Image Transfer System	:	Intermediate Transfer Belt System
Paper Separating System	:	Selecting either nonwoven fabric bias or ground + Separation Finger
Transfer Belt Cleaning System	:	Blade Cleaning + Brush + Toner Patch
Fusing System	:	Belt Fusing
Paper Charge Neutralizing	:	Charge Neutralizing Brush
Max. Original Size	:	A3 or 11×17

Copy Paper Type

Paper Source		1st Drawer	2nd Drawer	Manual Bypass Table
Copy paper type	Plain paper (64 to 90 g/m²)	❍	❍	❍
	Translucent paper	–	–	–
	OHP transparencies (dedicated)	❍	–	❍
	Thick paper (91 to 150 g/m²)	❍ 20 sheets or less	–	❍
	Thick paper (151 to 209 g/m²)		–	❍
	Thick paper (210 to 256 g/m²)		–	❍
	Postcards		–	❍
	Envelope		–	❍
	Label Sheet		–	❍
Copy paper dimensions	Max. (width × length)	311 × 457 mm 12-1/4 × 18	297 × 432 mm 11-3/4 × 17	311 × 457 mm 12-1/4 × 18
	Min. (width × length)	86 × 140 mm 3-1/2 × 5-1/2	182 × 182 mm 7-1/4 × 7-1/4	86 × 140 mm 3-1/2 × 5-1/2

❍ : Reliably fed –: Feeding prohibited

Multiple Copies : 1 to 999 copies
Warming-up Time : 5 min. or less (at ambient temperature of 20 °C, 68 ° F and rated source voltage)

First Copy Time

	31-cpm Copier	20-cpm copier
Full Color	9.9 sec.	14.1 sec.
Mono Color	7.9 sec.	7.9 sec.

(1st Drawer, full size, A4C, Manual Exposure)

Copying Speed for Multi-Copy Cycle (copies/min.)

Size	31-cpm Copier	20-cpm copier	Size	31-cpm Copier	20-cpm copier
A3, 11 × 17	15/15	10/15	B4L	18/18	12/18
A4L, 8-1/2 × 11L	21/21	14/21	B5L	21/21	14/21
A4C, 8-1/2 × 11C	31/31	20/31	B5C	31/31	20/31

(Full Color / Mono Color fed from 2nd Drawer)

Zoom Ratio

		Metric Area	Inch Area
Fixed	Full size	× 1.000	× 1.000
	Reduction	× 0.816 × 0.707 × 0.500	× 0.785 × 0.733 × 0.647 × 0.500
	Enlargement	× 1.154 × 1.414 × 2.000	× 1.214 × 1.294 × 1.545 × 2.000
Variable (in 0.001 increments)		× 0.250 to × 4.000	

Lens : Through Lens
Light Source : White Fluorescent Lamp

Max. Power Consumption (copier only) : 1.5 kw
Power Requirements : 110 v, 120 v, 127 v, 220 to 240 v ; 50/60 Hz

Environmental Conditions

Temperature	10 to 30 °C, 50 to 86 ° F (with a fluctuation of 10 °C, 50 ° F or less per hour)
Humidity	25 to 85 % (with a fluctuation of 20 % or less)
Ambient Illumination	3,000 lux or less
Levelness	1° (1.75/100 or less)

Dimensions	:	With Rack Width.....596 mm, 23-1/2 Depth.....792 mm, 31-1/4 Height.....1025 mm, 40-1/4 Engine + 2nd Drawer Width.....596 mm, 23-1/2 Depth.....730 mm, 28-3/4 Height.....571 mm, 22-1/2 Scanner Width.....589 mm, 23-1/4 Depth.....730 mm, 28-3/4 Height.....152 mm, 6
Weight	:	Engine+ 2nd Drawer.....85 kg, 187-1/2 lbs Scanner.....19.5 kg, 43 lbs Rack.....18 kg, 39-3/4 lbs

2. PRECAUTIONS FOR INSTALLATION

2-1. Installation Site

To ensure safety and utmost performance of the copier, the copier should NOT be used in a place:

- Where it will be subjected to extremely high or low temperature or humidity.
- Where it will be subjected to sudden fluctuations in either temperature or humidity.
- Which is exposed to direct sunlight.
- Which is in the direct air stream of an air conditioner, heater, or ventilator.
- Which has poor ventilation or is dusty.
- Which does not have a stable, level floor or where it will receive undue vibration.
- Which is near any kind of heating device.
- Which is near volatile flammables (thinner, gasoline, etc.).
- Where it may be splashed with water.
- Which puts the operator in the direct stream of exhaust from the copier.
- Where ammonia gas might be generated.

2-2. Power Source

- If any other electrical equipment is sourced from the same power outlet, make sure that the capacity of the outlet is not exceeded.
- Use a power source with little voltage fluctuation.
- Never connect by means of a multiple socket any other appliances or machines to the outlet being used for the copier.
- Ensure that the copier does not ride on the power cord or communication cable of other electrical equipment, and that it does not become wedged into or underneath the mechanism.
- Make the following checks at frequent intervals:

✻ Is the power plug abnormally hot?
✻ Are there any cracks or scrapes in the cord?
✻ Has the power plug been inserted fully into the outlet?
✻ Does something, including the copier itself, ride on the power cord?

Use an outlet with a capacity of 110/120/127 V, 15 A or more. 220/240 V, 10 A or more.

2-3. Grounding

- Always ground the copier to prevent receiving electrical shocks in the case of electrical leakage.
- Connect the ground wire to the ground terminal of the outlet or a grounding contact which complies with the local electrical standards.
- Never connect the ground wire to a gas pipe, the ground wire for a telephone, lightning arrester, or a water pipe for fear of fire and electrical shock.

3. PRECAUTIONS FOR USE

3-1. To ensure that the copier is used in an optimum condition

- Never place a heavy object on the copier or subject the copier to shocks.
- Insert the power plug all the way into the outlet.
- Do not attempt to remove any panel or cover which is secured while the copier is making copies.
- Do not turn OFF the copier while it is making copies.
- Provide good ventilation when making a large number of copies continuously.
- Never use flammable sprays near the copier.
- If the copier becomes inordinately hot or produces abnormal noise, turn it OFF and unplug it.
- Do not turn ON the power switch at the same time when you plug the power cord into the outlet.
- When unplugging the power cord, do not pull on the cord; hold the plug and pull it out.
- Do not bring any magnetized object near the copier.
- Do not place a vase or vessel containing water on the copier.
- Be sure to turn OFF the power switch at the end of the workday or upon power failure.
- Use care not to drop paper clips, staples, or other small pieces of metal into the copier.

3-2. Operating Environment

The operating environmental requirements of the copier are as follows.

- Temperature: 10 to 30 °C, 50 to 86 ° F
- Humidity: 25 to 85 % RH
- Rate of temperature change: 10 °C/h, 50 ° F/h
- Rate of humidity change: 20 % RH/h

3-3. Power Requirements

The power source voltage requirements are as follows.

- Voltage fluctuation: AC110, 120, 220, 240 V
  ±10 % (copying performance assured)
  (127 V areas only; between -10 % and +6 %)
  +10 %
  -15 % (paper feeding performance assured)
- Frequency fluctuation: 50/60 Hz ±0.3 %

3-4. Note

- It is prohibited to copy paper and hard currencies, government securities, and municipal bonds (even when they are stamped as “Sample”).
- For fear of infringement of copyright, it is also prohibited to copy copyrighted works, including books, music, works of art, maps, drawings, motion pictures, and photos except when the copy is to be used only personally.

4. HANDLING OF CONSUMABLES

Before using any consumables, always read the label on its container carefully.

- Paper can be easily damaged by dampness. To prevent absorption of moisture, store paper, which has been removed from its wrapper but not loaded in the drawer, in a sealed plastic bag in a cool, dark place.
- Keep consumables out of the reach of children.
- Do not touch the PC Drum with bare hands.
- The same sized paper is of two kinds, short grain and long grain. Short grain paper should only be fed through the copier crosswise, long grain paper should only be fed lengthwise.
- If your hands become soiled with toner, wash them with soap and water.
- Do not throw away any used consumables (PC Drum, starter, toner, etc.). They are to be collected.
- Do not burn, bury in the ground, or throw into the water any consumables (PC Drum, starter, toner, etc.).
- Do not store consumables in a place which:

✻ Is hot and humid.
✻ Is subject to direct sunlight.
✻ Has an open flame nearby.

- Never store the Imaging Cartridge standing on end.

5. OTHER PRECAUTIONS

CAUTION

Double pole / neutral fusing

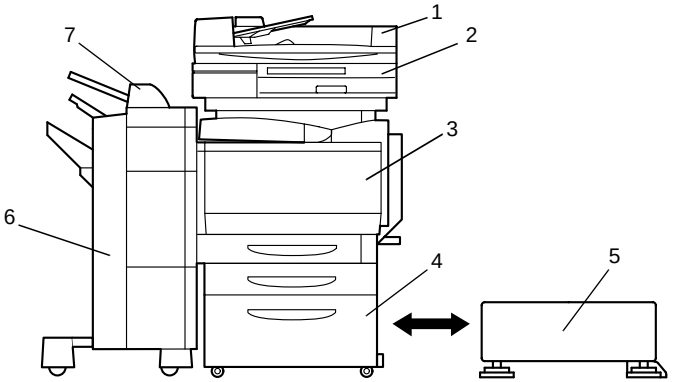
ATTENTION

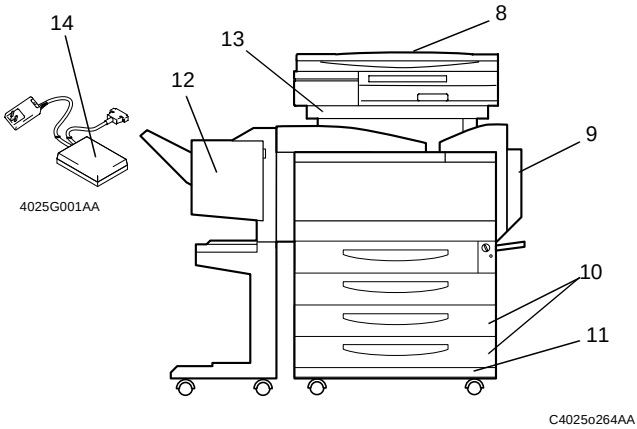
Double pôle / fusible sur le neutre.

6. LED RADIATION SAFETY

- This product is a copier which operates by means of a LED (light emitting diodes) exposure system. There is no possibility of danger from the LED optical radiation, because the LED optical radiation level does not exceed the acceptable radiation limit of class 1 under all conditions of operation, maintenance, service and failure.

7. SYSTEM OPTIONS





1. Duplexing Document Feeder AFR-18
2. Scanner SC-1
3. Copier printer section
4. Large Capacity Cabinet PF-121
5. Copy Desk CD-2M
6. Finisher FN-116
7. Option Tray JS-100
8. Original Cover OC-2
9. Duplex Unit AD-14
10. Paper Feed Unit PF-118
11. Copy Table CT-2
12. Finisher FN-8
13. Copier Stand CS-2
14. Data Terminal DT-105
    (U.S.A .and Canada only)
15. Memory M256-2*
16. Hard Disk Drive HDD-5*
17. Punch Kit PK-4*
18. Mechanical Counter*
19. Printer Controller CN3101e*
20. Printer Controller CN3102Pro*
21. Printer Controller CN3102e*

*:The internal options are not shown.

MAINTENANCE

1. MAINTENANCE SCHEDULE

- To ensure that the copier produces good copies and to extend its service life, it is recommended that the maintenance jobs described in this schedule be carried out as instruced.

	PM Parts	Maintenance Cycle		Parts No.	Ref. Page in This Manual
		Clean	Replace		
Paper Take-Up Section	Paper Take-Up Roll	When paper take-up failure occurs	200 K	4021-3012-01(1st) 4128-3214-01(2nd)	☞ E-5
	Separator Roll Assy	When paper take-up failure occurs	200 K	4658-0151-01	☞ E-5 ☞ E-6
Transfer Section	Synchronizing Roller	Upon each call (60 K)	—	—	☞ E-7
	Paper Dust Remover	Upon each call (60 K)	152 K	4588-611	☞ E-7 ☞ E-8
	Transport Roller	Upon each call (60 K)	—	—	☞ E-8
	2nd Image Transfer Entrance Upper Guide	Upon each call (60 K)	—	—	☞ E-8
	Image Transfer Roller Unit	—	152 K	4588-411	☞ E-18
IR Section	Scanner Rail	When image failure occurs	—	—	☞ E-9
	Mirrors (1st, 2nd, 3rd)	When image failure occurs	—	—	☞ E-10
	Lens	When image failure occurs	—	—	☞ E-11
	Original Glass	When image failure occurs	—	—	☞ E-11
	CCD Sensor	When image failure occurs	—	—	☞ E-12
Image Transfer Section	Image Transfer Belt Unit	—	160 K	4588-211	☞ E-19
	Waste Toner Bottle	—	30 K	4697-101	☞ E-13
	Around waste toner collecting port	Upon each call	—	—	☞ E-14

	PM Parts	Maintenance Cycle		Parts No.	Ref. Page in This Manual
		Clean	Replace		
Developing Section	Imaging Unit C/M/Y	—	52 K	—	☞ E-22
	Imaging Unit Bk	—	82 K	—	
	Ozone Filter	—	152 K	4025-0447-01	☞ E-15
	Comb electrode	10 K or When image failure occurs	—	—	☞ E-15
LPH Section	LPH Assy	Upon each call or replacement of IU	—	—	☞ E-16
Fusing Section	Fusing Unit	—	152 K	4588-510 (100 V) 4588-512 (230 V) 4588-513 (120 V)	☞ E-26
	Fusing Entrance Guide Plate	When malfunction occurs	—	—	☞ E-17
	Deodorant Filter	—	10 K	4588-711	☞ E-17

NOTES

- *Replace the Paper Take-Up Roller and Separator Roller at the same time.*
- *Replace the Paper Dust Remover and Ozone Filter at the same time.*
- *When the Black Imaging Unit is replaced, also replace the Deodorant Filter (packed with the Black Imaging Unit) at the same time.*
- *When the Toner Cartridge is replaced, also clean the Comb electrode.*
- *The numeric values in the Maintenance Cycle column represent the Life Counter values.*
- *The contents of this maintenance schedule are subject to change without notice.*

1-1. Guideline for Life Specifications Values by Unit

	Description	Life Value	*new copy/print cycle is inhibited*
Waste Toner Bottle	A waste toner full condition is detected when about 3.5 K(31-cpm Copier) 6.9 K(20-cpm Copier) copies are made after a waste toner near-full condition has been detected.	—	30 K
Fusing Unit	The number of copies made is counted. (The counter counts up 2 for paper whose FD exceeds 216 mm.) Once the number of copies has reached its life value (inhibit), copying is prohibited.	150 K	152 K
Paper Dust Remover	The number of copies made is counted. (The counter counts up 2 for paper whose FD exceeds 216 mm.)	150 K	152 K*
Ozone Filter	The number of copies made is counted. (The counter counts up 2 for paper whose FD exceeds 216 mm.)	150 K	152 K*
Transfer Roller Unit	The number of copies made is counted. (The counter counts up 2 for paper whose FD exceeds 216 mm.)	150 K	152 K*
Transfer Belt Unit	• The number of copies made is counted. (The counter counts up 2 for paper whose FD exceeds 216 mm.) • The number of copies made is compared with the value of the number of hours through which the belt has turned translated to a corresponding value of the number of copies made and the value, whichever reaches the life specifications value, is detected. Once the number of copies has reached its life value (inhibit), copying is peohibited.	150 K	160 K
Imaging Unit C/M/Y (20-cpm copier)	The number of hours through which the PC Drum has turned is compared with the number of hours through which the Developing Roller has turned translated to a corresponding value of the number of hours through which the PC Drum has turned and the value, whichever reaches the life specifications value, is detected. Once the number of copies has reached its life value (inhibit), copying is peohibited.	6929 M (50 K)	7206 M (52 K)
Imaging Unit C/M/Y (31-cpm copier)		3479 M (50 K)	3618 M (52 K)
Imaging Unit Bk (20-cpm copier)		7627 M (80 K)	7818 M (82 K)
Imaging Unit Bk (31-cpm copier)		5411 M (80 K)	5546 M (82 K)

M: minutes

NOTES

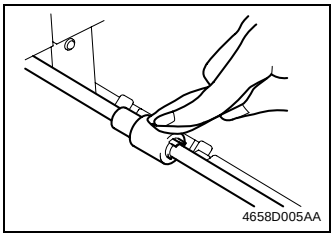
- **When the life specifications value (inhibit) is reached, the initiation of a new copy/print cycle is inhibited if "User" is selected for "Unit Change" accessed from "System Input" available under "Tech. Rep. Mode" and the life warning display is given if "Service" is selected for the same function ("Unit Change")*
- *The life specifications values represent the number of copies made or figures equivalent to it when given conditions (see the Table given below) are met. They can be more or less depending on the copier operating conditions of each individual user.*

- Conditions for Life Specifications Values

	31-cpm Copier	20-cpm Copier
Job Type	Making three copies per job	Monochrome: Making three copies per job Color: Making three copies per job
Paper Size	A4C,Letter C	
Color Ratio	Color to Black = 6.5 to 1.5	Color to Black = 1.5 to 4.5
CV/M	8 K	6 K
Original Density	B/W = 5 % for each color, 6 % for Monochrome	
No. of Operating Days per Month	20 days (Power Switch turned ON and OFF 20 times per month)	

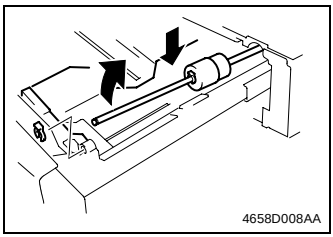
2. DISASSEMBLY/REASSEMBLY AND CLEANING

(1) Cleaning of the Paper Take-Up Roller

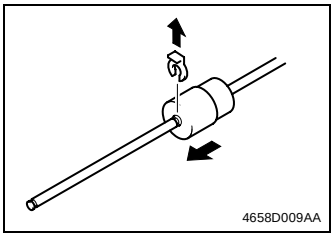


1. Slide out the drawer.
2. Using a soft cloth dampened with alcohol, wipe the Paper Take-Up Roller clean of dirt.

(2) Replacing of the Paper Take-Up Roller

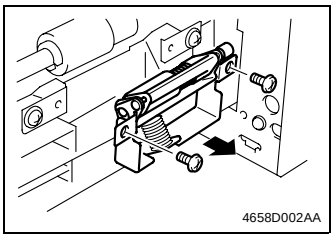


1. Slide out the drawer.
2. Lock the Paper Lifting Plate into position.
3. Snap off one C-clip from the Paper Take-Up Roller Assy.
4. Slide the Paper Take-Up Roller Assy to the rear and take its shaft off the front bushing.

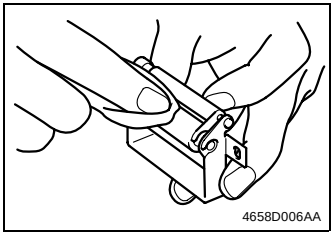


5. Snap off one C-clip and remove the Paper Take-Up Roller.
6. Remove the Paper Separator Roller Assy. [See (4) Replacement of the Paper Separator Roller Assy.]
7. To reinstall, reverse the order of removal.
8. Select “Tech. Rep. Mode” → “Counter” → “Life” and clear the count of “1st” or “2nd.”

(3) Cleaning of the Paper Separator Roller

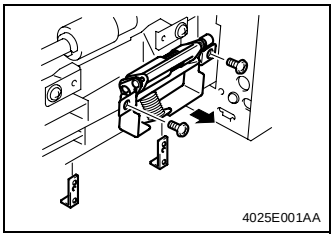


1. Slide out the drawer.
2. Remove two screws and the Paper Separator Roll mounting bracket assy.



3. Using a soft cloth dampened with alcohol, wipe the Paper Separator Roll clean of dirt.

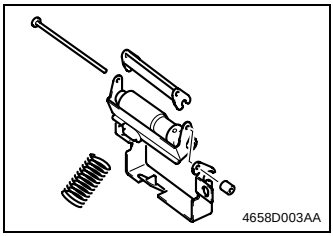
(4) Replacing of the Separator Roll Assy



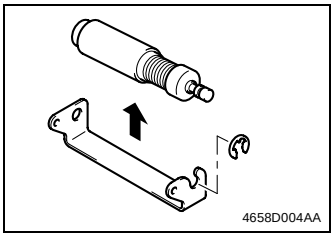
1. Slide out the drawer.
2. Remove two screws and the Paper Separator Roll mounting bracket assy and reinforcement plate.

NOTES

- *Receive by hand the reinforcement plate that will come off position when the screws are removed.*
- *When reinstalling the reinforcement plate, make sure that it is doweled into position.*

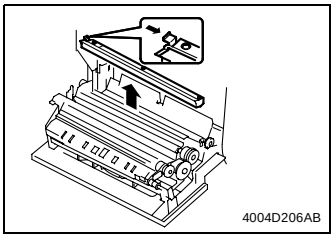


3. Take off the rubber stopper, shaft, spring, and guide plate to remove the Paper Separator Roll fixing bracket assy.

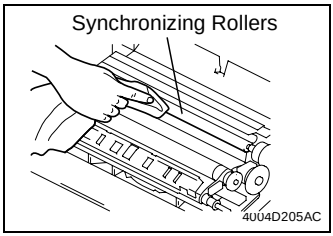


4. Snap off one E-ring and the Paper Separator Roll Assy.
5. Remove the Paper Take-Up Roll. [See (2) Replacement of the Paper Take-Up Roll.]
6. To reinstall, reverse the order of removal.
7. Select “Tech. Rep. Mode” → “Counter” → “Life” and clear the count of “1st.”

(5) Cleaning of the Synchronizing Rollers

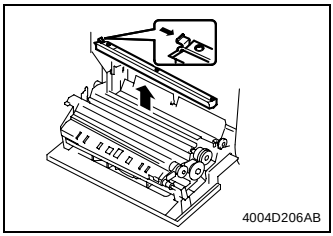


1. Open the Right Door.
2. Remove the Paper Dust Remover.
   See (7) Replacing the Paper Dust Remover.

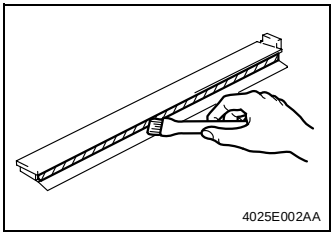


3. Using a soft cloth dampened with alcohol, wipe the Synchronizing Rollers clean of dirt.

(6) Cleaning of the Paper Dust Remover

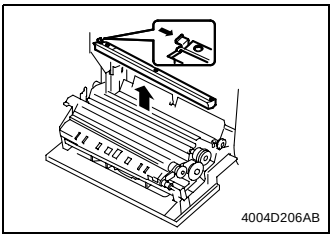


1. Open the Right Door.
2. Remove the Paper Dust Remover.
   See (7) Replacing the Paper Dust Remover.



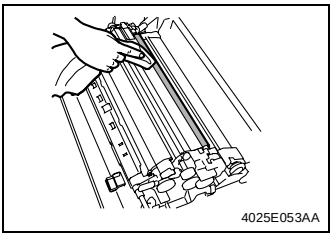
3. Using a brush, whisk dust off the Paper Dust Remover.

(7) Replacing of the Paper Dust Remover



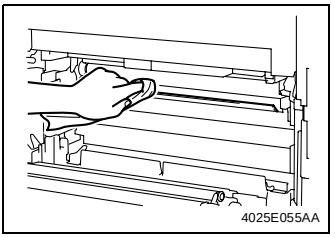
1. Open the Right Door.
2. Pushing the hook with a blue label inward, remove the Paper Dust Remover.
3. Remove the Ozone Filter. [See (17) Replacement of the Ozone Filter.]
4. To reinstall, reverse the order of removal.
5. Select “Tech. Rep. Mode” →”Counter” →”Life” and clear the count of “Paper Powder Filter/ Ozone Filter.”

(8) Cleaning of the Transport Roller



1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe the Transport Roller clean of dirt.

(9) Cleaning of the 2nd Image Transfer Entrance Upper Guide

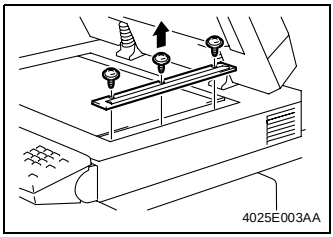


1. Open the Right Door.
2. Open the Left Door.
3. Remove the Waste Toner Bottle.
4. Slide the Transfer Belt Unit out halfway.
5. Wipe the 2nd Image Transfer Entrance Upper Guide clean of dirt using a soft cloth.

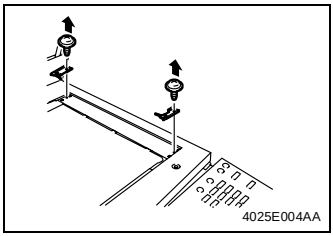
NOTE

- *When cleaning, use care not to be hurt by the leading edge of the guide that is sharp.*

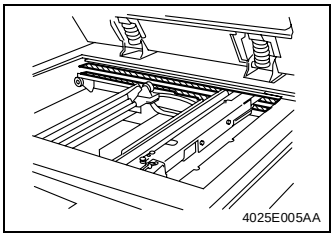
(10) Cleaning of the Scanner Rails



1. Remove three screws and the IR Right Cover.



2. Remove one screw each and the Original Glass fixing bracket (at the front and rear).
3. Remove the Original Glass.

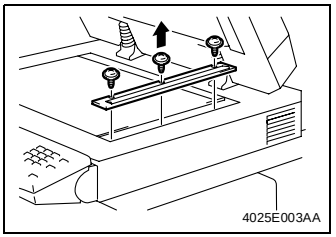


4. Using a soft cloth dampened with alcohol, wipe the Scanner Rails clean of dirt.

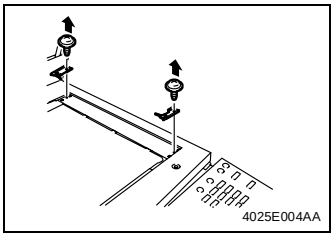
NOTE

- *Apply lubricant after cleaning.*

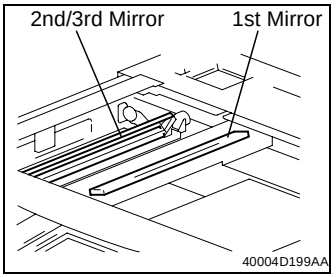
(11) Cleaning of the Mirrors (1st/2nd/3rd)



1. Remove three screws and the IR Right Cover.

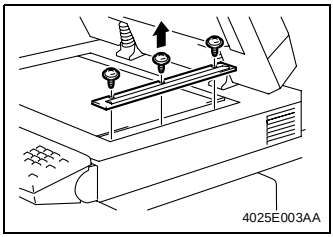


2. Remove one screw each and the Original Glass fixing bracket (at the front and rear).
3. Remove the Original Glass.

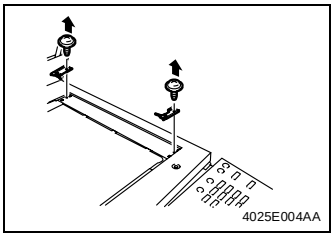


4. Using a soft cloth dampened with alcohol, wipe mirrors clean of dirt.

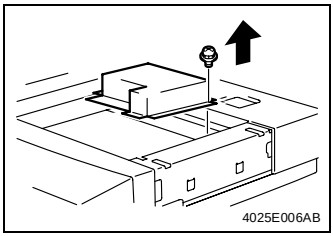
(12) Cleaning of the Lens



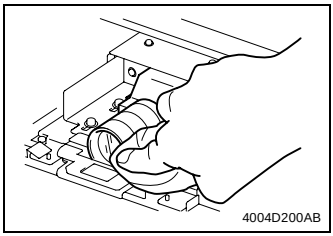
1. Remove three screws and the IR Right Cover.



2. Remove one screw each and the Original Glass fixing bracket (at the front and rear).
3. Remove the Original Glass.

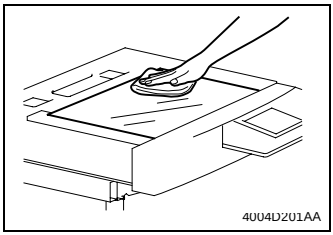


4. Remove fourteen screws and the optical cover.



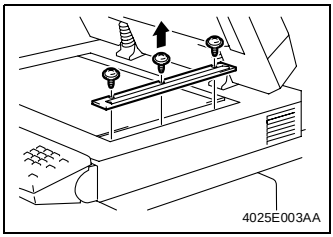
5. Using a soft cloth dampened with alcohol, wipe the Lens clean of dirt.

(13) Cleaning of the Original Glass

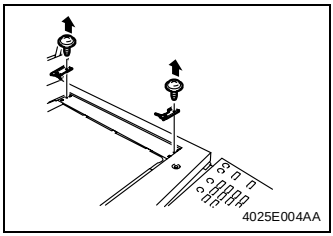


1. Using a soft cloth dampened with alcohol, wipe the Original Glass clean of dirt.

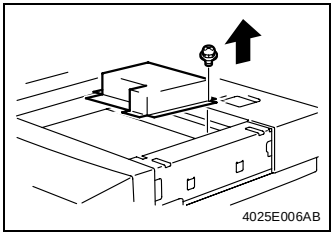
(14) Cleaning of the CCD Sensor



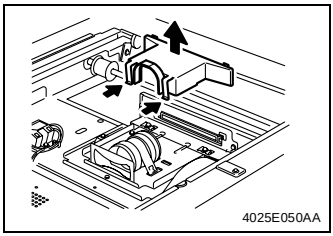
1. Remove three screws and the IR Right Cover.



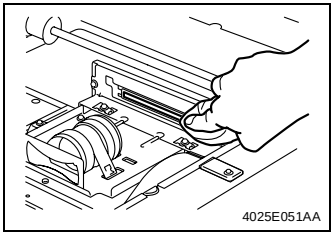
2. Remove one screw each and the Original Glass fixing bracket (at the front and rear).
3. Remove the Original Glass.



4. Remove fourteen screws and the optical cover.



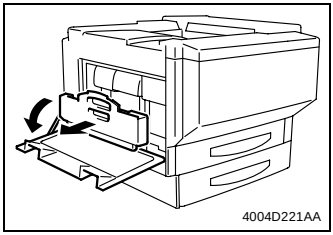
5. .Remove two hooks and the lens cover.



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

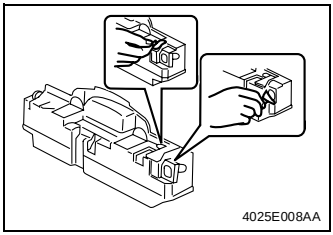
(15) Replacing the Waste Toner Bottle

NOTES
- *If a Finishing Option is installed, remove if from the Main Unit before trying to replace the Waste Toner Bottle.*
- *When removing the Finishing Option, support the Horizontal Transport Unit with your hand to prevent if from dropping.*

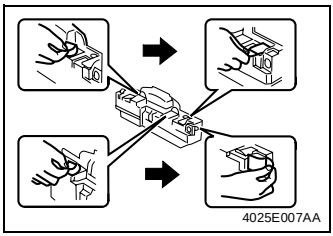


1. Turn OFF the main switch.
2. Open the Left Door.
3. Grasp the handle, and remove the waste toner bottle.

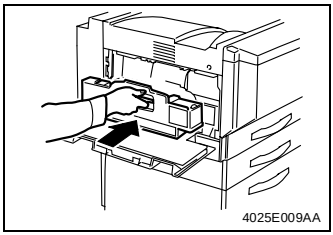
NOTES
- *Raise the waste toner bottle gently before removing it.*
- *If scattered toner has accumulated in the vicinity of the toner collecting port, do not tilt the waste toner bottle when removing it.*
- *Do not leave the waste toner bottle in a tilted condition after removing it.*



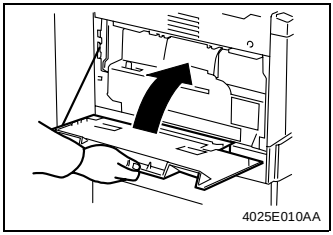
4. Remove the seals from the two toner collecting ports.



5. Peel off the seals for blocking the two toner collecting ports, and place them over the toner collecting ports.

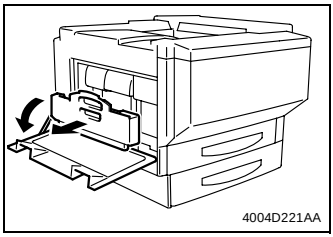


6. Clean the surface around the waste toner collecting port. [See (16) Cleaning of the Area around the Waste Toner Collecting Port.]
7. Remove the waste toner bottle from its box, and remove the packing material.
8. Grasp the handle, and set the waste toner bottle in place.

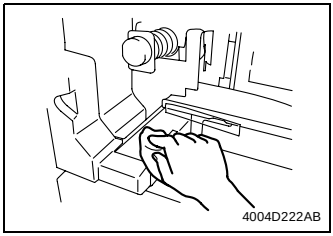


9. Close the Left Door.

(16) Cleaning of the Area around the Waste Toner Collecting Port

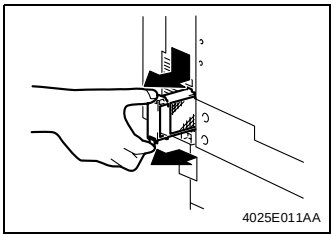


1. Open the Rear Left Cover.
2. Remove the Waste Toner Bottle.



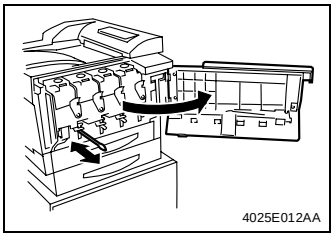
3. Wipe the areas around the Waste Toner Collecting Port clean of spilled toner and dirt using a soft cloth dampened with water or alcohol.

(17) Replacing Ozone Filter



1. Holding onto the hook, remove the Ozone Filter.
2. Remove the Paper Dust Remover. [See (7) Replacement of the Paper Dust Remover.]
3. To reinstall, reverse the order of removal.
4. Select “Tech. Rep. Mode” → “Counter”→”Life” and clear the count of “Paper Powder Filter/ Ozone Filter.”

(18) Cleaning of the Comb Electrode



1. Open the Front Door.
2. Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever In and Out several times.

NOTE

- *Move the Comb Electrode Cleaning Lever slowly forward and backward until it stops.*

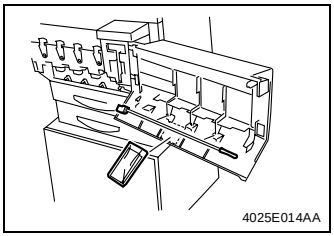
(19) Cleaning LPH Assy

NOTE

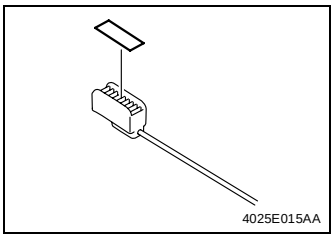
- *After the Imaging Unit has been removed from the main unit, be sure to place it in the aluminum package or wrap it in a light shielding cloth, and store it in a dark place. Do not leave the Imaging Unit exposed to light for a extended period of time, as it may become damaged.*

1. Open the Front Door.
2. Slide out the IU (C/M/Y/Bk).

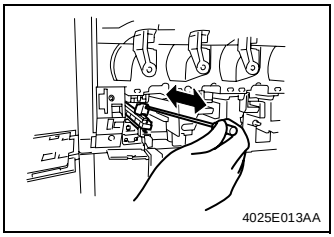
☞ E-22



3. Remove the LED Cleaning Jig and LED Cleaning Jig Pad.



4. Affix a LED Cleaning Jig Pad to the LED Cleaning Jig.

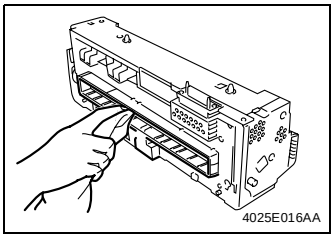


5. Clean the LED of the LPH Assy by moving the LED Cleaning Jig three reciprocating motions.

NOTE

- *Use only the specified jig (LED Cleaning Jig) for cleaning.*

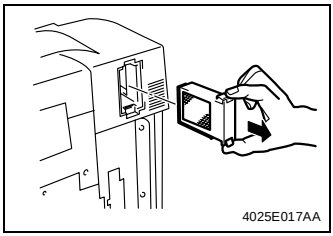
(20) Cleaning of the Fusing Entrance Guide Plate



1. Remove the Fusing Unit.
☞ E-26
2. Using a soft cloth or cotton swab dampened with alcohol, wipe clean the Fusing Entrance Guide Plate.

NOTES
- *Use care when cleaning the Fusing Entrance Guide Plate as it is easy to damage.*
- *Be careful the Fusing Unit can be HOT.*
- *Do not place the Fusing Unit on a workbench with its terminal strip facing down as it can become damaged.*

(21) Replacement of the Deodorant Filter



1. Holding onto the hook, take out the Deodorant Filter.

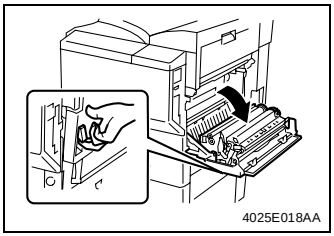
3. Replacing the Units

(1) Replacing the Image Transfer Roller Unit

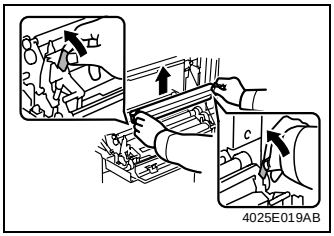
Removal Procedure

NOTES

- *If a Finishing Option is installed, remove if from the main unit before trying to replace the Waste Toner Bottle.*
- *When removing the Finishing Option, support the horizontal transport unit with your hand to prevent if from dropping.*

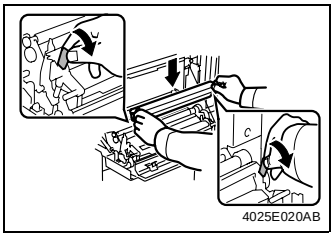


1. Turn OFF the main switch.
2. Open the Right Door.



3. Unlock the blue lock levers (at two places).
4. Holding onto the blue lock levers (at two places), remove the Image Transfer Roller Unit.

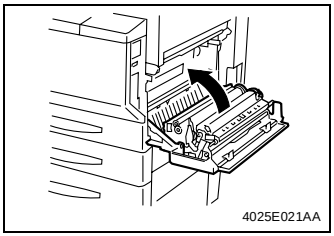
Reinstallation Procedure



1. Holding onto the blue lock levers (at two places), mount the Image Transfer Roller Unit.
2. Lock the blue lock levers (at two places).

NOTE

- Avoid touching the Transfer Roller surface as it may become damaged.



3. Close the Right Door.

NOTE

- *Make sure that the door is locked in position both at front and rear.*

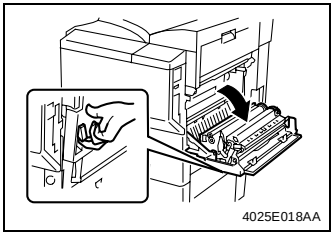
4. Turn ON the Power Switch.
5. Select “Tech. Rep. Mode” → “Counter” → “Life” and clear the count of “Transfer Roller Unit.”

(2) Replacing the Image Transfer Belt Unit

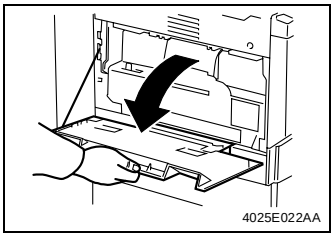
Removal Procedure

NOTES

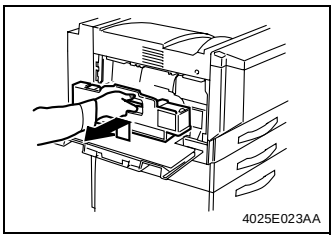
- *If a Finishing Option is installed, remove if from the main unit before trying to replace the Transfer Belt Assembly.*
- *When removing the Finishing Option, support the horizontal transport unit with your hand to prevent if from dropping.*



1. Turn OFF the main switch.
2. Open the Right Door.



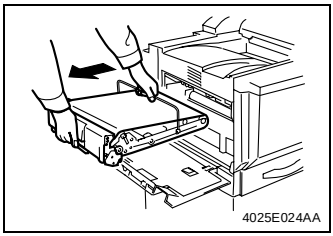
3. Open the Left Door.



4. Grasp the handle, and remove the waste toner bottle.

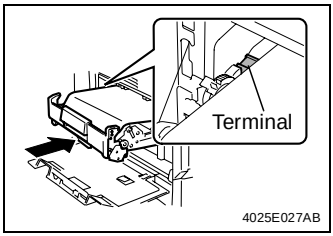
NOTES

- *Raise the waste toner bottle gently before removing it.*
- *If scattered toner has accumulated in the vicinity of the toner collecting port, do not tilt the waste toner bottle when removing it.*
- *Do not leave the waste toner bottle in a tilted condition after removing it.*



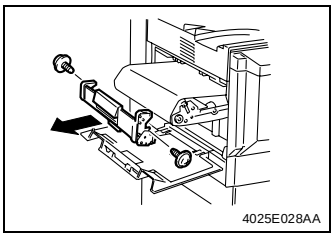
5. Pull out the Image Transfer Belt Unit.

NOTE
- *When installing the Transfer Belt Unit, use care not to touch the Transfer Film with hands. (Fingerprints on the Transfer Film result in image problems.)*

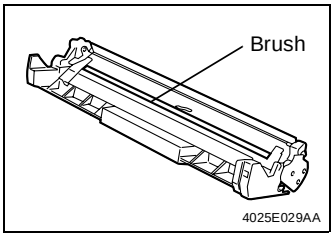


1. Insert the Transfer Belt Unit halfway up to the point shown on the left.

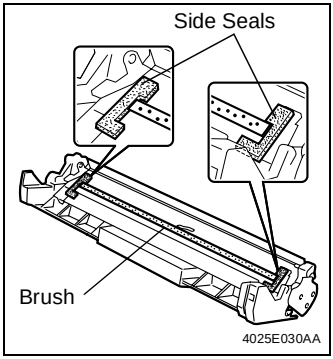
NOTES
- *Note the arrow label provided at the guide on the copier side when inserting the Transfer Belt Unit.*
- *Insert the Transfer Belt Unit until its terminal is stopped at the cutout in the guide on the copier side.*



2. Supporting the Transfer Cleaner Assy with a hand, remove two screws.
3. Remove the Transfer Cleaner Assy.
4. Remove protective paper taped to the Transfer Cleaner Assy.

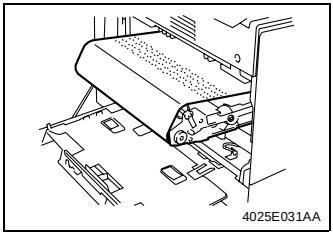


5. Turn over the Transfer Cleaner Assy so that the brush faces upward.



6. Uniformly apply the enclosed toner along the brush and on the side seals.

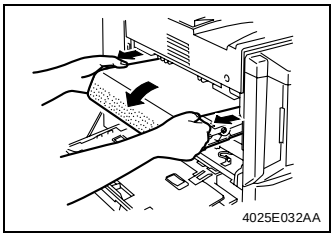
NOTE
- *Save a small amount of toner for use in the subsequent step.*
- *Apply toner directly to the top of the side seals. Otherwise, the side seals could be worn or a noise could be produced when the image transfer belt moves.*



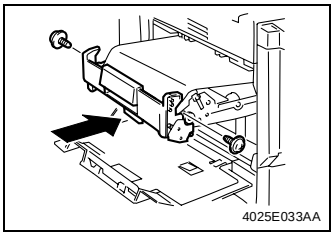
7. Place the remainder toner on the paper towel that comes with the Transfer Belt Unit and apply an even coat of toner on the Transfer Belt (up to 15 mm from both edges).

NOTE

- *The toner, even if there is any remaining should NOT be used in the copier. It is different from the Toner that is used in the Copier.*



8. Holding onto both ends of the Transfer Belt, rotate the Transfer Belt until the Blade of the Transfer Cleaner Assy contacts the location on the belt, to which the toner has been applied.

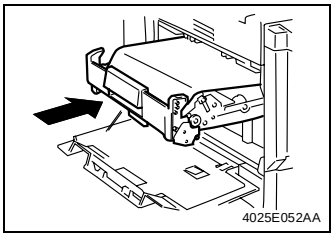


9. Fit bosses (at the front and rear) of the Transfer Cleaner Assy into the hooks (at the front and rear) of the Transfer Belt Unit.
10. Secure the Transfer Cleaner Assy to the Transfer Belt Unit using two screws.

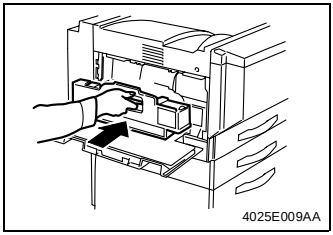
11. Holding onto both ends of the Transfer Belt, rotate the Transfer Belt one complete Rotation in the Same direction as in step 8, and check the Blade for improper contact, or failure to remove the toner completely, or for any noise or binding.

NOTES

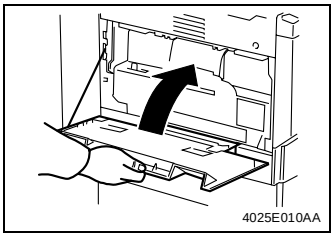
- *If any faulty symptom is evident, apply toner to the Transfer Belt again.*
- *If the Blade fails to remove toner completely off the Transfer Belt, perform step 11 once again.*



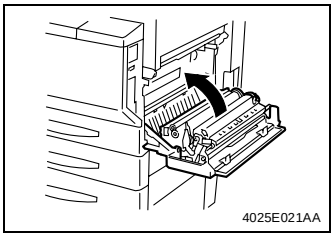
12. Insert the Image Transfer Belt Unit.
- Failure to have the Right side door open may result in damage to the Transfer Belt or it Drive.



13. Hold the handle and install the Waste Toner Bottle in position.



14. Close the Left Door.



15. Close the Right Door.

NOTE

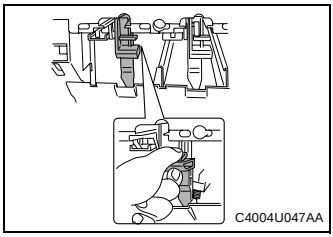
- *Make sure that the door is locked in position both at front and rear.*

16. Turn ON the Power Switch.
17. Select “Tech. Rep. Mode” → “Gradation Adjust” and carry out Gradation Adjust.

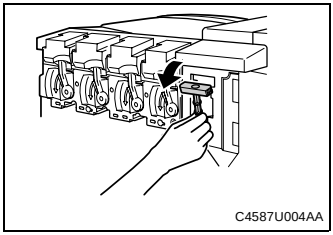
(3) Replacing the Imaging Unit (C, M, Y, Bk)

Removal Procedure

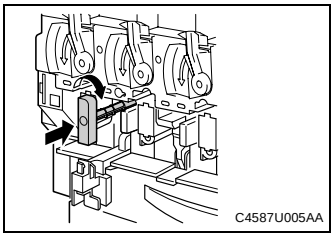
1. Take out the “Imaging Unit Pull-out Tray” from the packing box.
2. Turn OFF the Power Switch.
3. Unplug the power cord.
4. Open the Front Door.



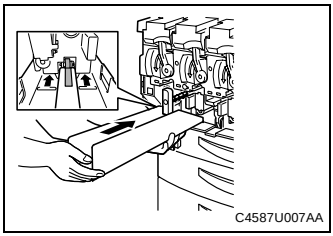
5. Release the lock lever of the Imaging Unit.



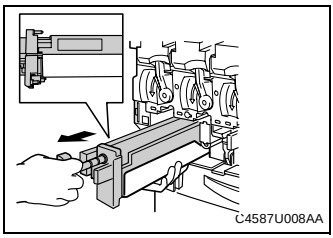
6. Remove the IU removal jig (“T” Handle) for the Imaging Unit from the Main unit.



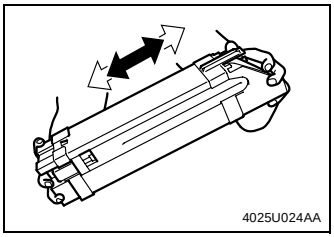
7. Set the removal jig of the Imaging Unit in place.
8. Slowly rotate the jig clock-wise until it is fixed.



9. Position the Imaging Unit Pull-out Tray under the Imaging Unit and insert it all the way into position.

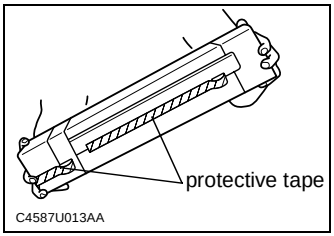


10. Supporting the Imaging Unit Pull-out Tray with one hand and holding the “T” Handle with the other, carefully slide the Imaging Unit out of the Main Unit. After removing the Imaging Unit place it on a level surface and cover it with a light blocking cloth.
11. Remove the Imaging Unit Pull-out Jig and return it to the copier.

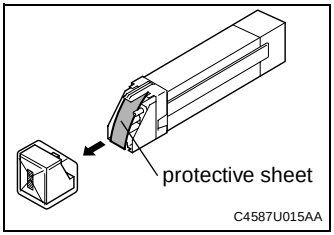


1. Remove the Imaging Unit from its aluminum pack.
2. Tilt the Imaging Unit to the left and shake it a small stroke in the tilt direction twice. Then, tilt it to the right and shake it a small stroke in the tilt direction twice.

NOTES
- *Since the Imaging Unit is highly susceptible to light, keep it shielded from light up to the time it is installed.*
- *Carefully unseal the aluminum pack.*
- *If the Imaging Unit is packed in the aluminum package again, seal the package using tape or another means.*



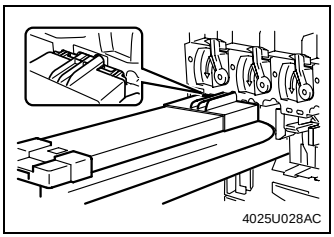
3. Remove the protective tapes



4. Remove the shipping cushion.

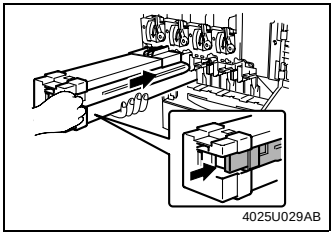
CAUTION
- *Make sure that the protective sheet is rolled up into the Imaging Unit as shown in the <OK>.*

NOTE
- *When installing the Imaging Unit, ensure that the color of the mounting guide of the Imaging Unit is the same as the color of the label at the mounting position on the main unit.*



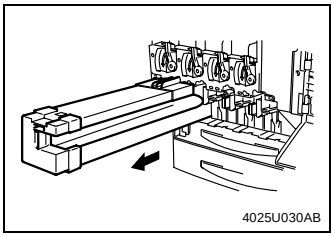
5. Keeping the Imaging Unit in a level position, insert the Imaging Unit into the mounting position all the way until it is stopped.

NOTE
- *Do not allow the Imaging Unit to become tilted while installing them into the Main Unit, as damage to the PC Drum or the LED assembly can result.*

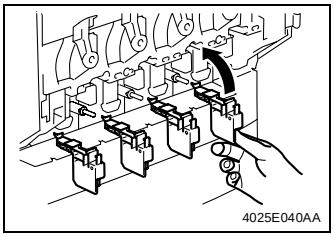


6. Holding the underside of the Imaging Unit with your left hand, gently insert the Imaging Unit with your right hand.

NOTE
- *Insert the Imaging Unit until a click is heard.*



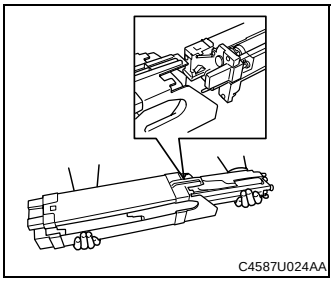
7. Remove the Imaging Unit Cover.
8. Check that the Imaging Unit has been inserted all the way in the copier.



9. Close the Imaging Unit Locking Lever.

NOTE
- *Place the IU Lock Lever into the locked position until a click is heard.*

10. Close the Front Door.
11. Place the empty Imaging Unit Cover on the floor.
12. Remove a pair of gloves from the packing box and wear them.



13. Insert the old Imaging Unit into the Imaging Unit Cover.

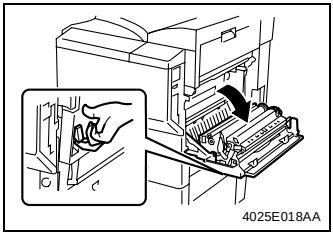
14. Place the Imaging Unit that has been inserted into the Imaging Unit Cover in the aluminum pack and place the pack in the packing box.
15. Place the Imaging Unit Pull-out Tray, gloves, and packing material in the packing box.
16. Plug in the power cord.
17. Turn ON the Power Switch.
18. Select “Tech. Rep. Mode” → “Gradation Adjust” and carry out Gradation Adjust.

(4) Replacing the Fusing Unit

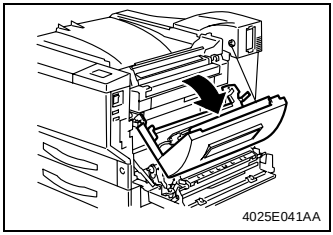
Removal Procedure

NOTE

- *Before replacing the Fusing Unit, ensure that it has had time to cool down.*



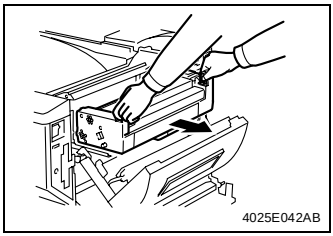
1. Turn OFF the main switch, then wait for about 20 minutes.
2. Open the Right Door.



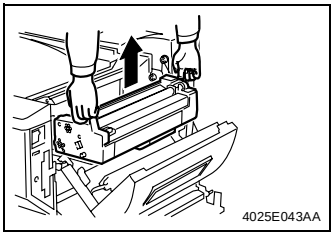
3. Open the Upper Right Door.

NOTE

- *When opening the Upper Right Door, be sure to support it with your hand until it is in the fully open position. If you remove your hand from the Upper Right Door, it may drop, and the resulting impact may cause the hinges to bend.*



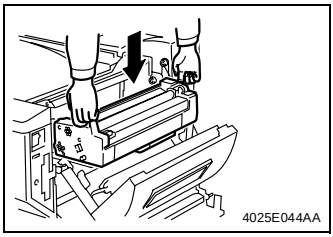
4. Hold the handles (at two places) and slide out the Fusing Unit.



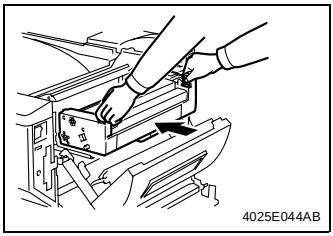
5. Hold the handles (at two places) and remove the Fusing Unit.

NOTE

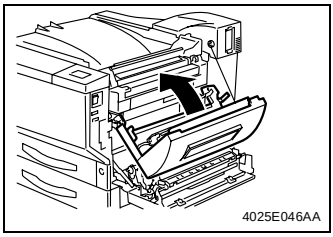
- *Please use care while Installing/Removing the Fusing Unit due to the close proximity of the Fusing Drive Gears.*



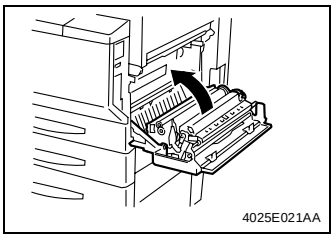
1. Hold the handles (at two places) and place the Fusing Unit in position.



2. Hold the handles (at two places) and push the Fusing Unit into position.



3. Close the Upper Right Door.



4. Close the Right Door.

NOTE

- *Ensure that both the front and rear sides are locked.*

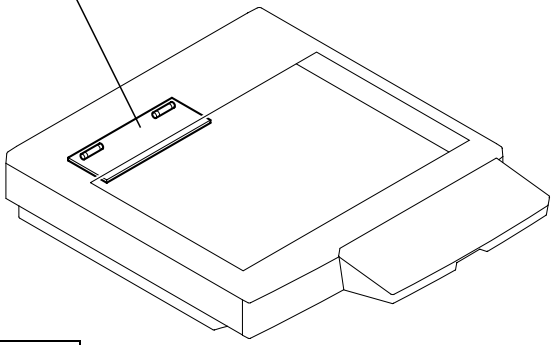
DIS/REASSEMBLY, ADJUSTMENT

1. SERVICE INSTRUCTIONS

1-1. IDENTIFICATION OF FUSES

DC Power Supply 3 PU201

F1: 250 V 5 A
F100: 250 V 3.15 A



4025D001AA

DC Power Supply 2 PU2

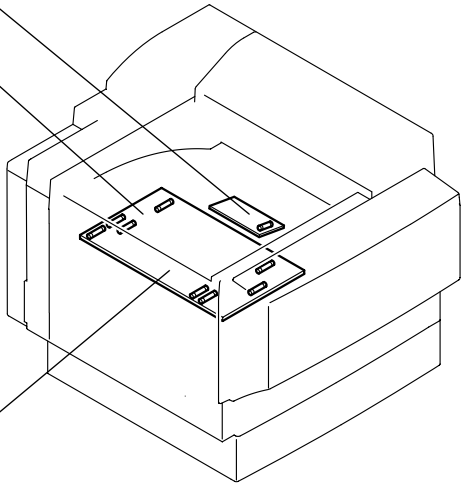
100 V Area
F1: 125 V 4 A
200 V Area
F1: 250 V 4 A

DC Power Supply 1 PU1

100 V Area
F1: 250 V 15 A
F2: 250 V 15 A
F3: 250 V 15 A
F4: 250 V 15 A
200 V Area
F1: 250 V 8 A
F2: 250 V 8 A
F3: 250 V 8 A
F4: 250 V 8 A

DC Power Supply 1 PU1

F101: 250 V 3.15 A
F102: 250 V 3.15 A
F103: 250 V 3.15 A
F104: 250 V 3.15 A



4025D002AB

1-2. PARTS WHICH MUST NOT BE TOUCHED

(1) Red painted Screws

Purpose of Application of Red Paint

Red painted 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.

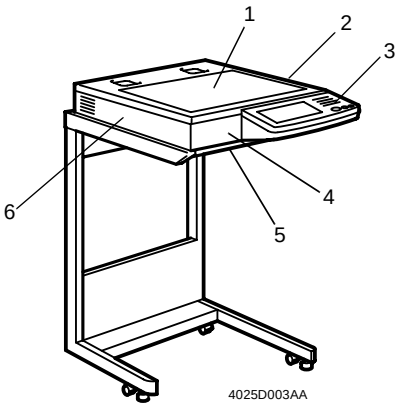
Note that when two or more screws are used on the part in questions, only one representative screw may be marked with red paint.

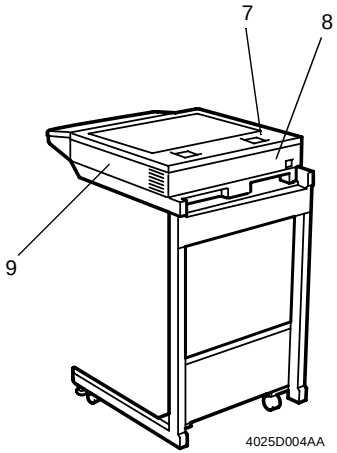
(2) Variable Resistors on Board

Do not turn the variable resistors on boards for which no adjusting instructions are given in "ADJUSTMENT."

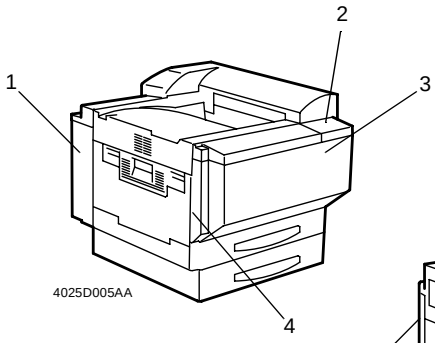
2. DISASSEMBLY/REASSEMBLY

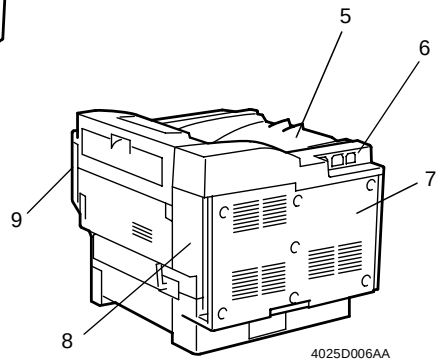
2-1. DOORS, COVERS, AND EXTERIOR PARTS: IDENTIFICATION AND REMOVAL PROCEDURES





No.	Name	Removal Procedure
1	Original Glass	Remove the IR Upper Right Cover. → Remove one screw and the Original Glass fixing brackets (front and rear). → Remove the Original Glass.
2	IR Upper Right Cover	Remove three screws and the IR Upper Right Cover.
3	Control Panel	Remove the four caps on both sides of the control panel. → Remove four screws and the flat cable. → Remove the control panel.
4	IR Front Cover	Remove the IR Lower Front Cover. → Loosen three screws and remove the IR Front Cover.
5	IR Lower Front Cover	Remove the pipe ends (left and right). → Remove two screws and the IR Lower Front Cover.
6	IR Left Cover	Remove the IR Upper Cover. → Remove the IR Rear Cover. → Demount the IR Unit from the Copier Stand. → Remove four screws and the IR Left Cover.
7	IR Upper Cover	Remove the Original Cover. → Remove six screws and the IR Upper Cover.
8	IR Rear Cover	Disconnect the power cable and ADF cable. → Remove the IR Upper Cover. → Remove two screws and the IR Rear Cover.
9	IR Right Cover	Remove the IR Upper Cover. → Remove the IR Rear Cover. → Demount the IR Unit from the Copier Stand. → Remove four screws and the IR Right Cover.



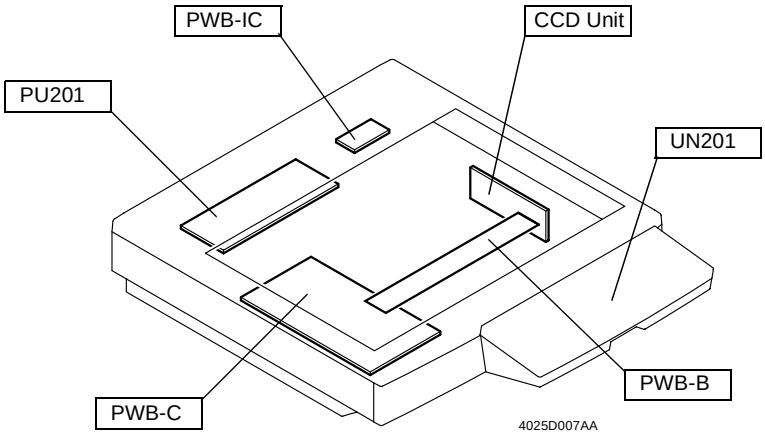


No.	Name	Removal Procedure
1	Rear Left Cover	Open the Left Door. → Remove the Waste Toner Bottle. → Remove the Ozone Filter. → Remove two screws and the Rear Left Cover.
2	Panel Cover	Open the Front Door. → Remove one screw and the Panel Cover.
3	Front Door	Open the Front Door. → Lift the Front Door off the copier.
4	Hopper Left Cover	Open the Front Door. → Remove one screw and lift the Hopper Left Cover upward to take it off.
5	Paper Output Cover	Open the Upper Right Door. → Remove two screws and the Paper Output Cover.
6	Rear Upper Cover	Remove the Paper Output Cover. → Remove the Rear Cover. → Remove the deodorant filter. → Remove three screws and the Rear Upper Cover.
7	Rear Cover	Remove seven screws and the Rear Cover.
8	Rear Right Cover	Open the Right Door. → Remove the Rear Upper Cover. → Remove one screw and the Rear Right Cover.
9	Front Right Cover	Open the Right Door. → Open the Upper Right Door. → Remove the Panel Cover. → Remove one screw and the Front Right Cover.

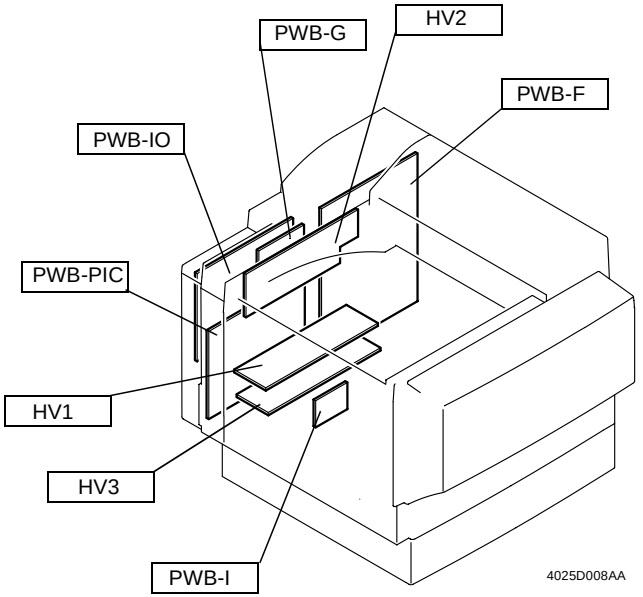
2-2. REMOVAL OF CIRCUIT BOARDS AND OTHER ELECTRICAL COMPONENTS

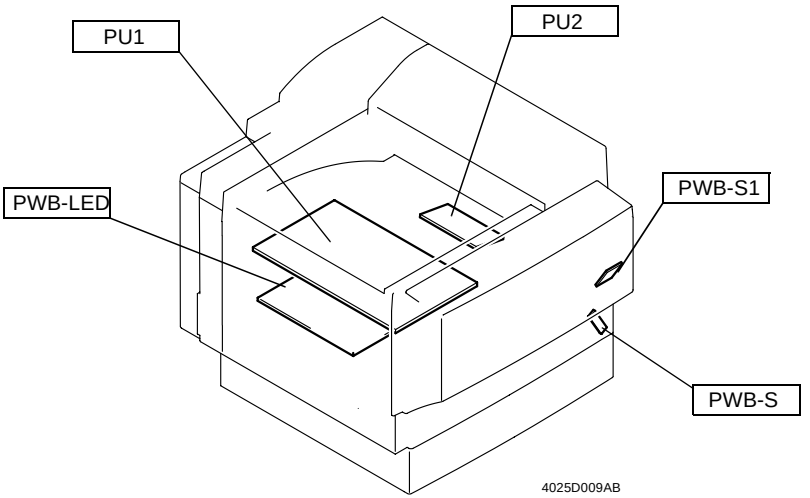
NOTES

- *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.*



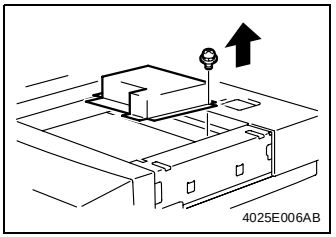
Symbol	Name	Removal Procedure
-	CCD Unit	☞ D-8
PWB-B	Image Processing Interface Board	☞ D-10
PWB-C	Image Processing Board	☞ D-10 ✻ Upgrade the firmware after the replacement.
PWB-IC	Scanner Motor Drive Board	Remove the IR Rear Cover. → Remove 11 screws and the reinforcement frame. → Remove the Scanner Motor Drive Board.
UN201	Control Panel	Remove the four rubber caps on the right and left and remove four screws. → Remove the control panel and then remove the flat cable from the control panel.
PU201	DC Power Supply 3	Remove the IR Rear Cover.→ Remove 11 screws and the reinforcement frame. → Remove five screws and DC Power Supply 3.


PWB-G
HV2
PWB-F
PWB-IO
PWB-PIC
HV1
HV3
PWB-I
4025D008AA

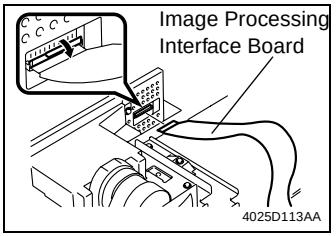

PU1
PU2
PWB-LED
PWB-S1
PWB-S
4025D009AB

Symbol	Name	Removal Procedure
PWB-IO	IO Board	Remove the Rear Upper Cover. → Remove the Rear Left Cover.→ Remove three screws and the upper rear left metal bracket. → Remove five screws and the IO Board.
PWB-G	Option Interface Board	Remove the I/O Board. → Remove four screws and slide the Option Interface Board off the copier.
PWB-PIC	PIC Board	Remove the I/O Board. → Remove five screws and the harness protective metal bracket. → Remove nine screws and the rear left metal bracket. → Remove PWB-F. → Remove eight screws and the PIC Board. ✻ You MUST Upgrade the firmware after the replacement.
PWB-F	Image Control Board	☞ D-12 ✻ Upgrade the firmware after the replacement.
HV1	High Voltage Unit (PC DRUM CH.)	☞ D-13
HV2	High Voltage Unit (Image Transfer, Neutralizing)	☞ D-13
HV3	High Voltage Unit (Developing Bias)	☞ D-13
PU1	DC Power Supply 1	☞ D-15
PU2	DC Power Supply 2	Remove the Paper Output Cover and Rear Upper Cover. → Remove four screws and the PWB cover. → Remove three screws and DC Power Supply 2.
PWB-LED	LED Drive Board	☞ D-41
PWB-I	Paper Size Detecting Board	☞ D-13
PWB-S	Paper Type Detection Board	Open the Front Door. → Slide out the paper drawer. → Remove one screw and the Paper Type Detection Board cover.→ Remove one screw and the Paper Type Detection Board. ✻ There are locking tabs inside the Paper Type Detection Board cover. Try to expand both sides of the cover when removing it.
PWB-S1	Tech. Rep. Setting Switches Board	Open the Front Door. → Remove the Panel Cover. → Remove two screws and the Right Front Cover. → Remove one screw and the Tech. Rep. Setting Switches Board.

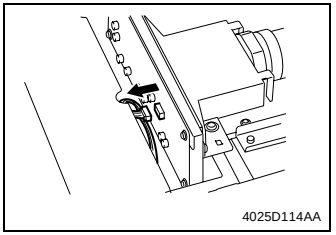
(1) Removal of the CCD Unit



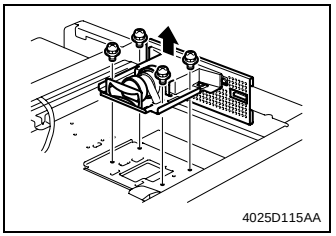
1. Remove the Original Glass.
2. Remove 14 screws and optical cover.



3. Remove the Image Processing Interface Board cable from the CCD Unit.



4. Unplug connector

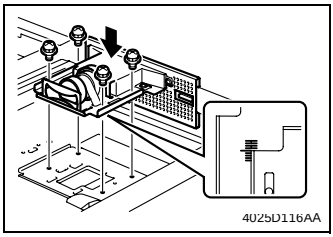


5. Remove four screws and the CCD Unit.

NOTE

- *Make doubly sure that you remove the correct screws. If any screw that should not be removed is removed, it results in the distance between the lens and the CCD sensor or tilt in these parts being varied.*

Reinstallation Procedure



1. Align the CCD Unit with the center of the graduations as illustrated on the left and then tighten the four screws.

2. Reinstall the Original Glass.
3. Turn ON the Power Switch.
4. Carry out the adjustment procedure for CD-Mag. (see D-67). If the specifications are not met, loosen the CCD Unit mounting screws and move the CCD Unit in the FD direction as necessary.

NOTE

- *Hold the CCD Unit by hand when moving it. NEVER use a screwdriver or similar tool to tap to move it, as a varied distance between the CCD sensor and lens results.*

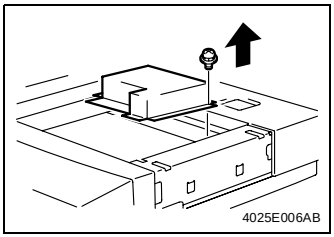
<Adjustment Procedure>

- If the specified width on the copy is less than the specifications, move the CCD Unit to the left.
- If the specified width on the copy is longer than the specifications, move the CCD Unit to the right.

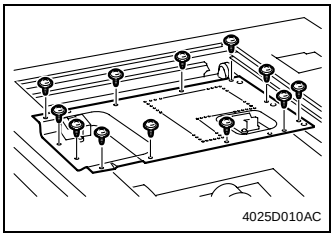
✻ Moving the CCD Unit over 1 mm results in the zoom ratio being varied about 2%.

5. Reversing the order of removal, reinstall all parts that have been removed.

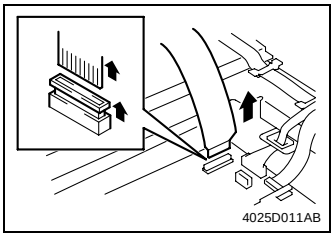
(2) Removal of the Image Processing Board and Image Processing Interface Board



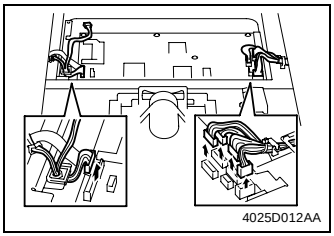
1. Remove the Original Glass.
2. Remove 14 screws and optical cover.



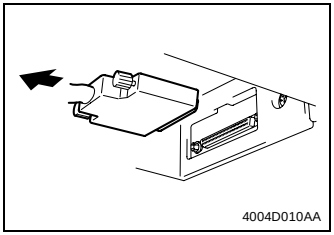
3. Unplug the connectors and remove the cord clamps of the Original Size Detecting Sensors.
4. Remove 12 screws and the Image Processing Board lid.



5. Remove the Image Processing Interface Board cable.



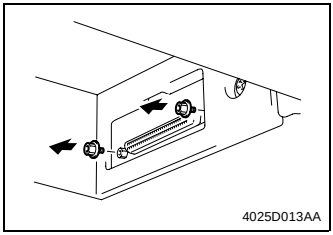
6. Unplug all connectors of the Image Processing Board.



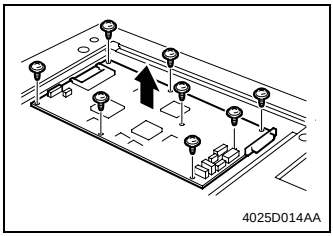
7. Remove the IR hookup cable.

NOTES

- *Be sure to hold onto the connector when removing or installing the cable. NEVER pull on the cable.*
- *At reinstallation, make sure that the Connector is not Tilted.*



8. Remove two screws.

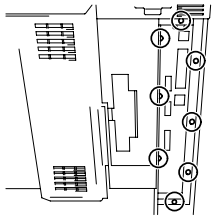


9. Remove eight screws and the Image processing Board.

✻ Upgrade the firmware after the replacement.

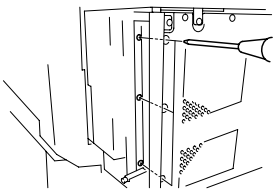
(3) Removal of the Image Control Board

<Copier Side Face>



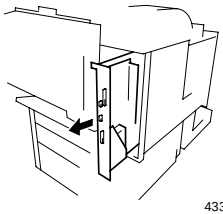
4334O014AA

<Copier Rear Face>



4334O015AA

1. Remove the Rear Cover.
2. Remove eight screws at the I/F cable connection (five on the side face and three on the rear face of the copier).



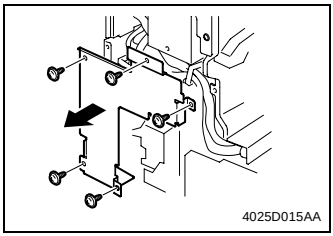
4334O016AA

3. Slide the Image Control Board to the left off the copier.

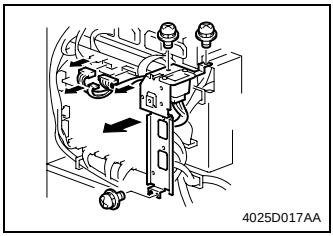
✻ Remount IC202 and upgrade the firmware after the replacement.

(4) Removal of the High Voltage Unit (PC Drum CH.), High Voltage Unit (Image Transfer, Neutralizing), High Voltage Unit (Developing Bias), and Paper Size Detecting Board

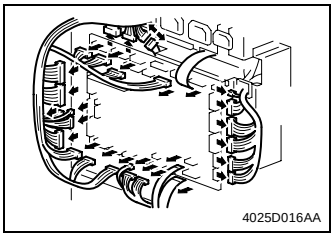
1. Remove the Rear Upper Cover.
2. Remove the Rear Left Cover.
3. Remove the Rear Right Cover.



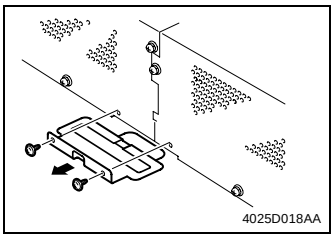
4. Remove five screws and the harness protective metal bracket.



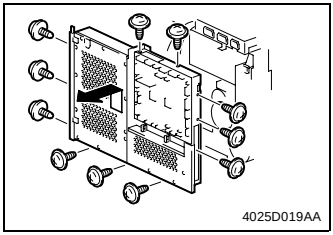
5. Remove three screws and unplug three connectors. Then, remove the rear left metal bracket.



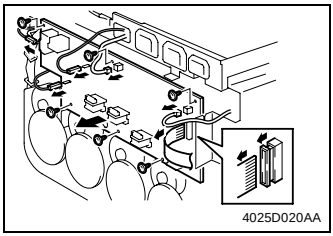
6. Unplug all connectors from the Main Board.
7. Unplug the two connectors from the Option Interface Board.
8. Unplug the two connectors from the PIC Board.



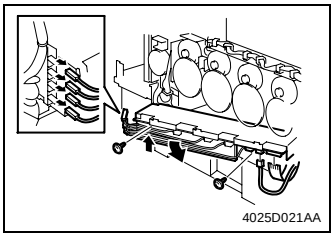
9. Remove two screws and the 2nd Drawer power line mounting bracket.



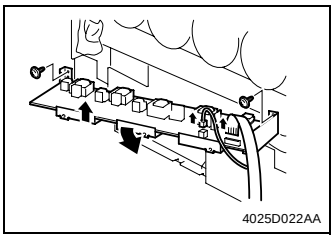
10. Remove 11 screws and lift the PWB box upward and off the copier.



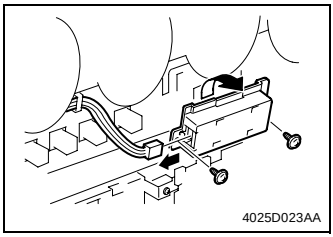
11. Disconnect connectors, terminals, and flat cable from the High Voltage Unit (Image Transfer, Neutralizing).
12. Remove six screws and the High Voltage Unit (Image Transfer, Neutralizing).



13. Disconnect connectors, terminals, and flat cable from the High Voltage Unit (PC Drum CH.).
14. Remove two screws. Then, lift the High Voltage Unit (PC Drum CH.) and take it out to the front.

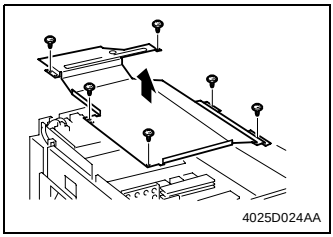


15. Disconnect the connectors and flat cable from the High Voltage Unit (Developing Bias).
16. Remove two screws. Then, lift the High Voltage Unit (Developing Bias) and take it out to the front.

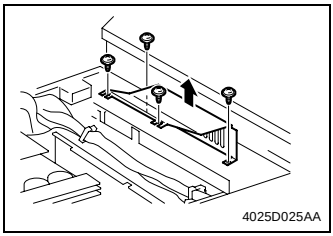


17. Slide out the paper drawer.
18. Remove two screws, unplug the connector, and remove the Paper Size Detecting Board.

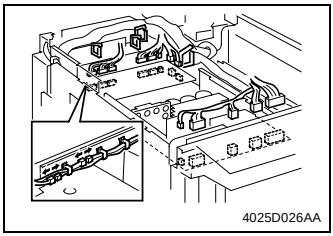
(5) Removal of DC Power Supply 1



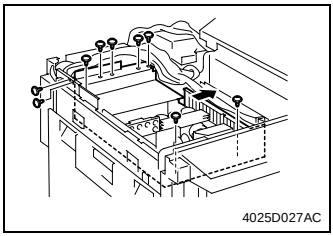
1. Remove the Upper Cover (Exit Tray).
   Then renumber the remaining steps.
2. Remove six screws and the PWB cover.



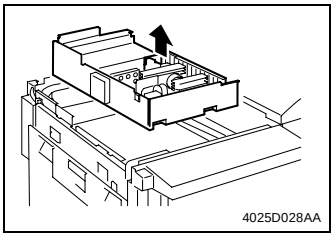
3. Remove four screws and the PWB cover.



4. Unplug all connectors from DC Power Supply 1.



5. Remove nine screws and slide DC Power Supply 1 to the right.



6. Remove DC Power Supply 1.

2-3. Removal of Units

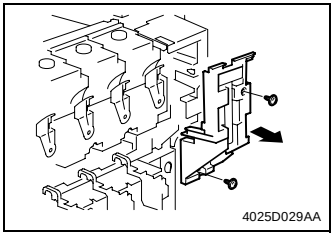
(1) Removal of the Toner Hopper Unit

1. Open the Front Door.
2. Remove the Toner Cartridge (C, M, Y, Bk).
3. Remove the IU (C, M, Y, Bk).

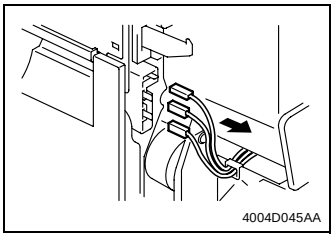
NOTE

- *After the Imaging Unit has been removed from the main unit wrap it in the light shielding cloth and store it in a dark place. DO NOT leave the Imaging Unit exposed to light for a extended period of time as it will become damaged.*

4. Remove the hopper left cover.
5. Remove the Front Right Cover.

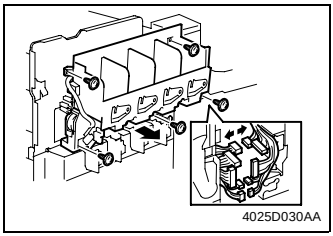


6. Remove two screws and the Front Door Switch cover.



7. Disconnect terminals.

✻ Terminals (from top downward): blue, white, and green



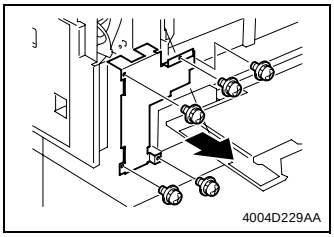
8. Disconnect five connectors.
9. Remove five screws and the Toner Hopper Unit.

(2) Removal of the LPH Unit

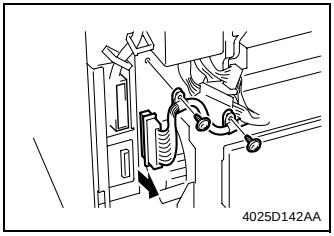
1. Open the Front Door.
2. Slide out the IU (C, M, Y, Bk).

NOTES
- *After the IU has been pulled out, place the IU lock lever back into the locked position.*
- *When installing the Imaging Unit into the main unit, make sure that the Toner supply shutter is opened if the Imaging Unit Lower Cover is not used.*

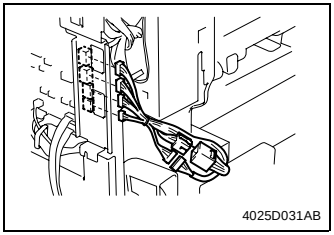
3. Removed the Rear Left Cover.



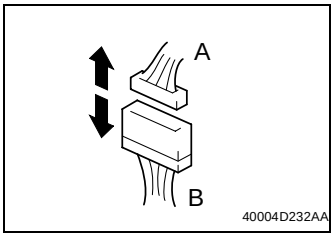
4. Remove five screws and the harness protective metal bracket.



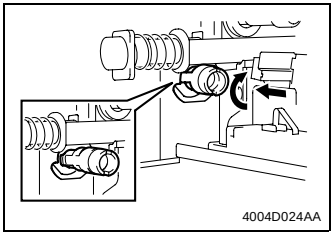
5. Remove two screws and unplug one connector on the PIC Board.



6. Unplug four connectors from the IO Board.
7. Disconnect two hookup connectors.

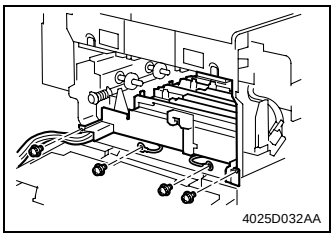


NOTE
- *When unplugging the connector, make sure that connector A (on the copier side) is disconnected. Connector B (on the LPH Unit side) should not be disconnected.*


4004D024AA

8. Open the Right Door and Left Door and remove the Waste Toner Bottle and Transfer Belt Unit.
9. Turning the IU (C, M, Y, Bk) drive hub, push it into the locked position (at four places).

NOTES
- *During the locking procedure, use care not to touch the LED surface.*
- *Should the LED surface be touched, clean it with the LED Cleaning Jig.*

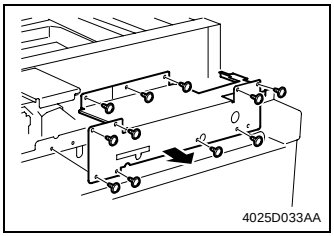

4025D032AA

10. Remove four screws and slide out the LPH Unit.

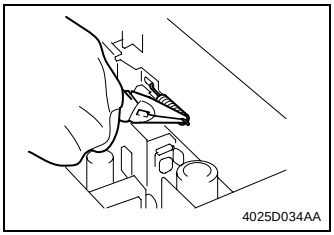
NOTE
- *When the LPH Unit is to be replaced, remove the ATDC Sensor from the old LPH Unit and remount it on the new one. This step is not, however, necessary if the IU is replaced at the same time.*

2-4. Disassembly of the IR Unit

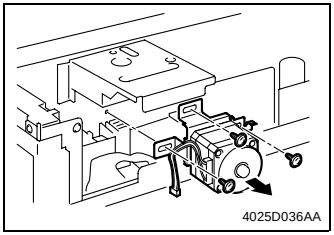
(1) Removal of the Scanner Motor



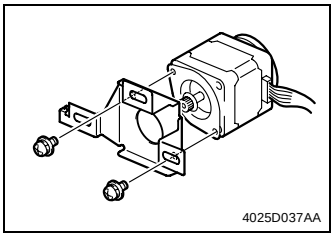
1. Remove the IR Rear Cover.
2. Remove 11 screws and the reinforcement frame.



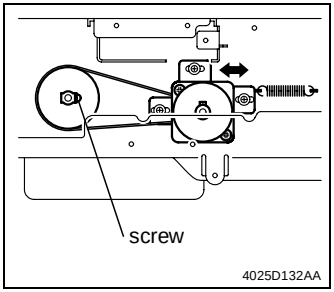
3. Remove the tension spring for the Scanner Motor timing belt.



4. Remove three screws and the Scanner Motor Assy.



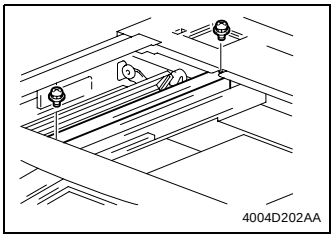
5. Remove two screws and the Scanner Motor.



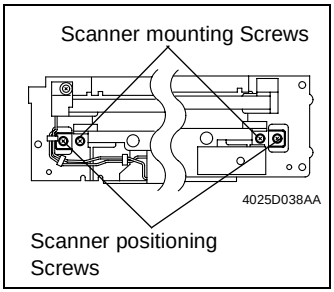
<Reinstallation of the Scanner Motor Assy>

1. Temporarily secure the Scanner Motor Assy using three screws.
2. Hook the spring.
3. With the Scanner drive gear set screw located on the right-hand side as shown on the left, slide the Scanner Motor Assy to the left and check that it is returned to the original position by the tension of the spring. Perform this step three times.
4. Securely tighten the three screws to fix the Scanner Motor Assy into position.

(2) Remove of the Scanner Assy

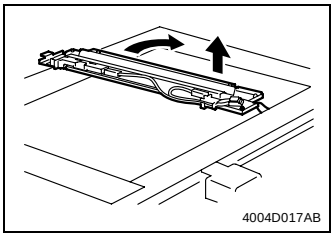


1. Remove the Original Glass.
2. Move the Scanner Assy to the location shown and remove one mounting screw each at the front and rear end.

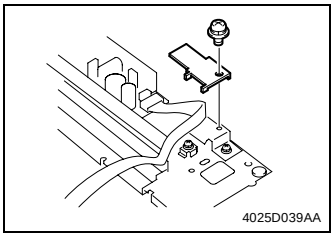


NOTE

- *Do not remove the Scanner Positionng Screws.*

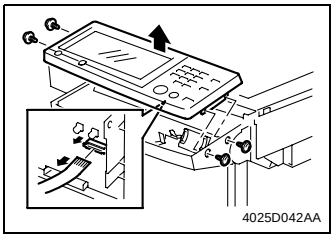


3. Take out the Scanner Assy by turning it in the direction of the arrow shown.

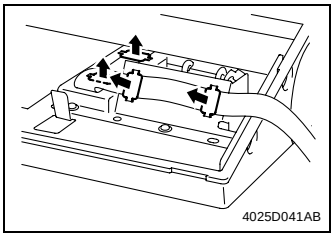


4. Remove one screw and the holder.
5. Remove the flat cable.
6. Remove the Scanner Assy.

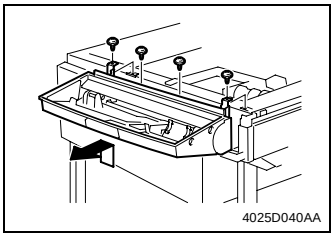
(3) Removal of the Scanner Drive Cables



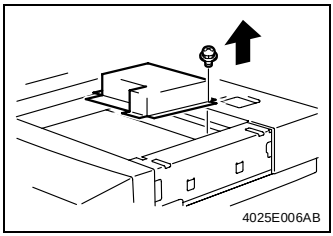
1. Remove the IR RearCover.
2. Remove four screws and Control Panel.



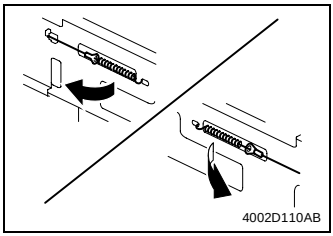
3. Remove the holding bracket and flat cable.



4. Remove four screws and the control panel base.



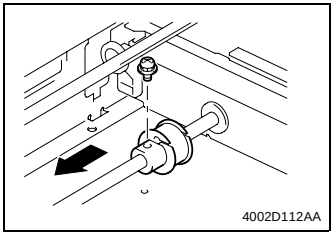
5. Remove the IR Front Cover.
6. Remove the Original Glass.
7. Remove 14 screws and the Optical Cover.



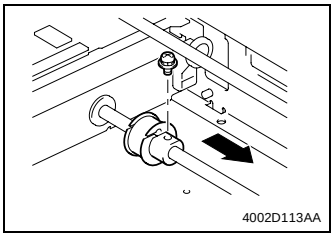
8. Remove the Scanner Assy.

☞ D-20

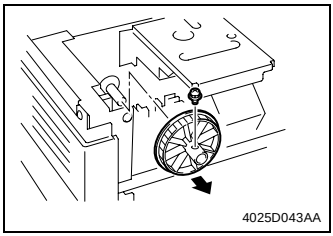
9. Remove the IR Right Cover and the IR Left Cover.
10. Unhook the springs of the Scanner Drive Cables on the hook side, one each at the front and in the rear.



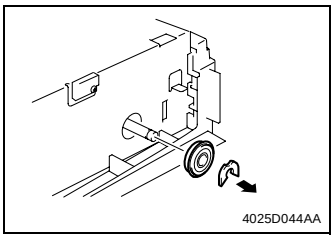
11. Remove the Scanner Motor Assy.
☞ D-19
12. Remove one screw and then slide the front pulley toward the front.



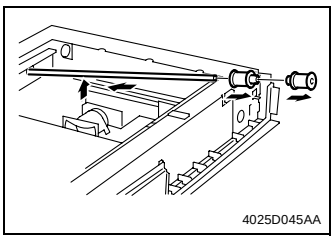
13. Remove one screw and then slide the rear pulley toward the front.



14. Remove one screw and the Scanner drive gear.

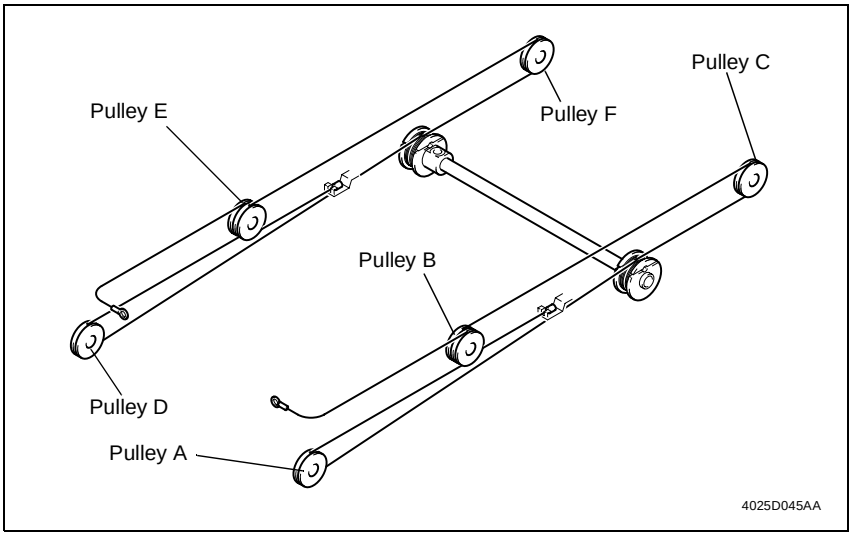


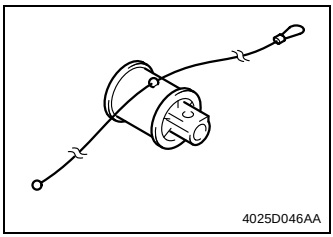
15. Snap off the C-clip and remove the bushing (front).



16. Slide the shaft toward the rear and lift it. Then, remove the front and rear pulleys.
17. Remove the Scanner Drive Cables.

(4) Winding of the Scanner Drive Cables



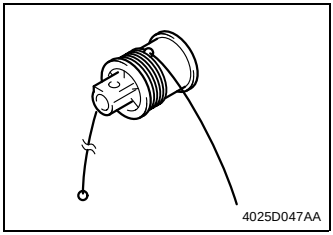


Front

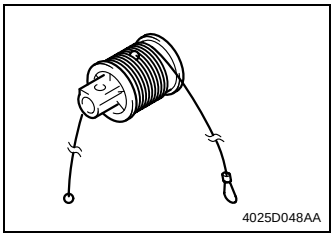
1. Position the round bead of the Scanner Drive Cable in the pulley as shown.

NOTE

- *Make sure that the bead snugly rests in the slit in the pulley.*

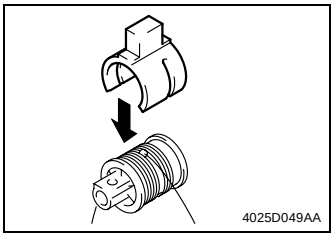


2. Wind the fixed bead end of the cable around the pulley five turns clockwise, from the rear toward the front side.

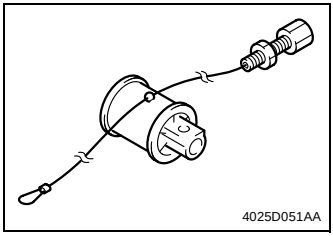


3. Wind the hook end of the cable around the pulley five turns counterclockwise, from the front toward the rear side.

NOTE
- *Make sure that no part of the cable rides on the other.*



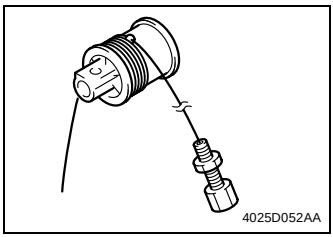
4. Slip the Cable Holding Jig onto the pulley to secure the cable in position.



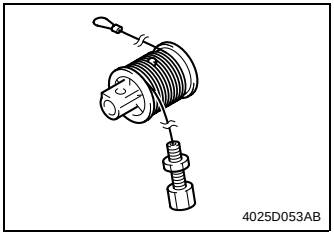
Rear

5. Position the round bead of the Scanner Drive Cable in the pulley as shown.

NOTE
- *Make sure that the bead snugly rests in the slit in the pulley.*

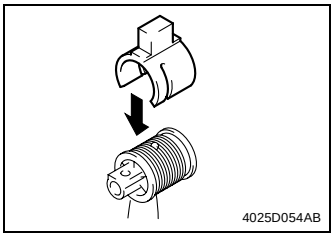


6. Wind the fixed bead end of the cable around the pulley five turns clockwise, from the front toward the rear side.

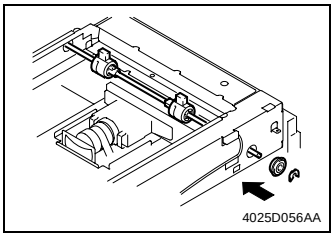


7. Wind the hook end of the cable around the pulley five turns counterclockwise, from the rear toward the front side.

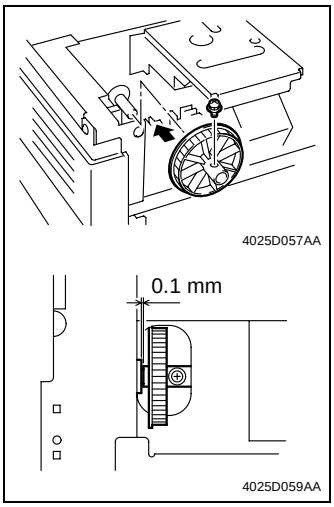
NOTE
- *Make sure that no part of the cable rides on the other.*



8. Slip the Cable Holding Jig onto the pulley to secure the cable in position.

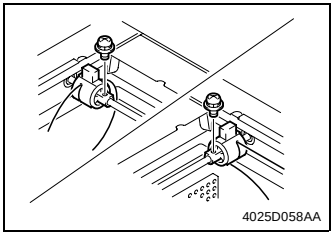


9. Install the front and rear pulleys and bushings onto the shaft and fit the C-clip.

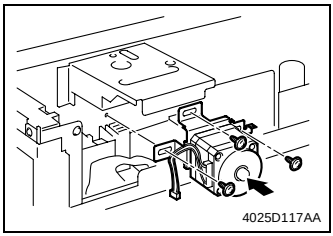


10. Mount the Scanner drive gear on the shaft and secure it using one screw.

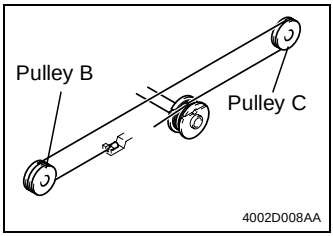
NOTE
- *Allow a clearance of about 0.1 mm between the Scanner drive gear and bushing.*



11. Secure the front and rear pulleys using one screw each.

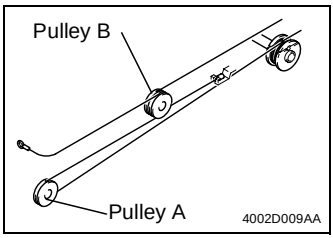


12. Mount the Scanner Motor Assy.
☞ D-19

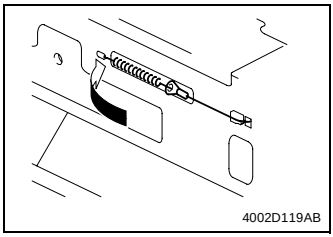


Front

13. Wind the bead end of the cable around pulley C and pulley B, then hook the bead onto the Adjustable Anchor.



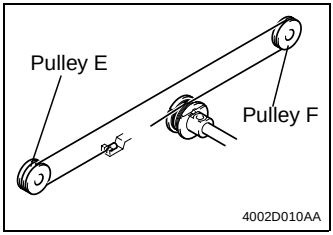
14. Wind the hook end of the cable around pulley A and pulley B.



15. Fit the hook end of the cable to the spring and then hook the spring to the catch in the frame.

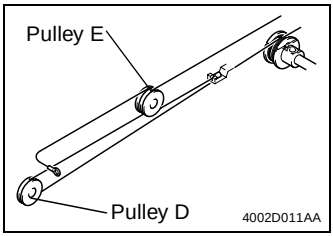
NOTE

- *Select the appropriate catch in the frame (from among three) so that the spring measures 64.2 mm ±1 mm.*

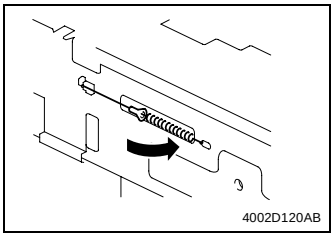


Rear

16. Wind the bead end of the cable around pulley F and pulley E, then hook the bead onto the Adjustable Anchor.



17. Wind the hook end of the cable around pulley D and pulley E.



18. Fit the hook end of the cable to the spring and then hook the spring to the catch in the frame.

NOTE

- *Select the appropriate catch in the frame (from among three) so that the spring measures 64.2 mm ±1 mm.*

19. Remove the Cable Holding Jigs from the front and rear pulleys.
20. Mount the Scanner Assy and Flat Cable.
21. Reinstall the optical cover.
22. Reinstall the Original Glass.
23. Reinstall all covers which have been removed.
24. Reinstall the Control Panel.
25. Adjust the position of the Scanner and 2nd/3rd Mirrors Carriage.

☞ D-44

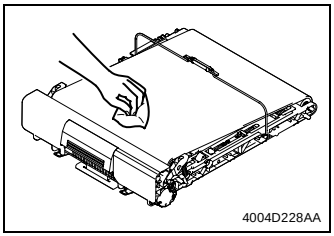
NOTE

- *Whenever the Scanner Drive Cables have been removed, be sure to carry out the "FD-Mag" adjustment procedure.*

☞ D-68

2-5. CLEANING AND DISASSEMBLY OF THE ENGINE PARTS

(1) Cleaning of the Transfer Belt Unit



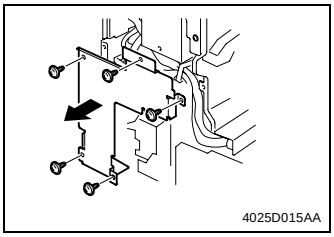
1. Remove the Transfer Belt Unit.
☞ Meintenance Schedule Section
2. Wipe the surface of the Transfer Belt with a dry cloth.

NOTES

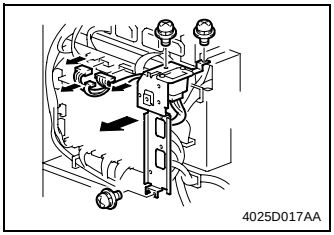
- *If the dry cloth is not effective in removing dirt, dampen it with alcohol.*
- *Do not use a cloth wet with water.*
- *If any solvent is to be used, select one from among the following: IPA, ethyl alcohol, PPC Cleaner, and Solmix AP-7.*
- *When the solvent has been used for cleaning, make 28 or more copies using A3 blank sheets of paper to remove image noise.*

(2) Removal of the Imaging Unit Motor C/M/Y/Bk

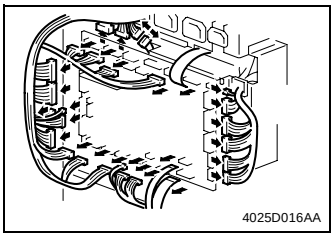
1. Remove the Rear Upper Cover.
2. Remove the Rear Left Cover.
3. Remove the Rear Right Cover.



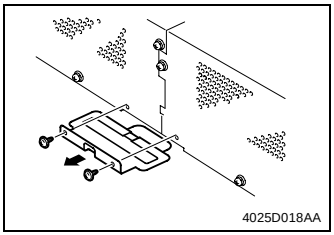
4. Remove five screws and the harness protective metal bracket.



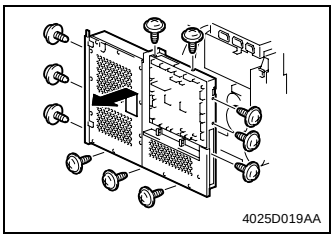
5. Remove three screws, unplug three connectors, and remove the rear left metal bracket.



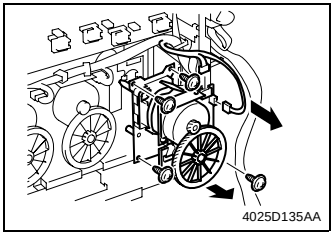
6. Unplug all connectors of the IO Board.
7. Unplug two connectors of the Option Interface Board.
8. Unplug two connectors of the PIC Board.



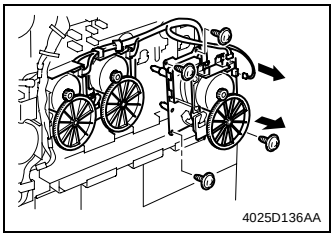
9. Remove two screws and the power line mounting bracket for the 2nd Drawer.



10. Remove 11 screws and lift the PWB box upward and off the copier.

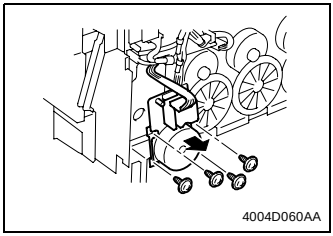


11. Remove the LPH Unit.
☞ D-17
12. Unplug two connectors.
13. Remove four screws and Imaging Unit Motor Y.



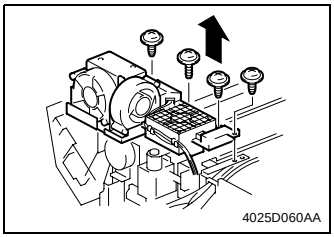
14. Unplug two connectors each.
15. Remove four screws each and Imaging Unit Motor M/C/Bk.

(3) Removal of the Main Motor

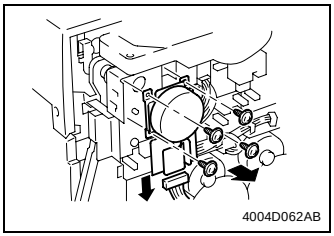


1. Remove the PWB Box.
☞ D-13 (steps 1 through 10)
2. Unplug one connector.
3. Remove four screws and the Main Motor.

(4) Removal of the Fusing Drive Motor

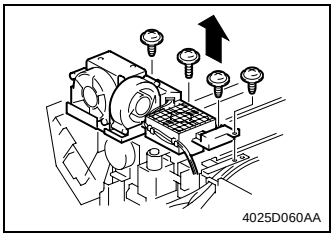


1. Remove the PWB Box.
☞ D-13 (steps 1 through 10)
2. Remove four screws and the Cooling Fan Assy.

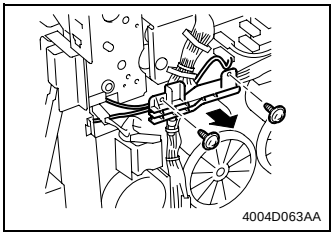


3. Unplug one connector.
4. Remove four screws and the Fusing Drive Motor.

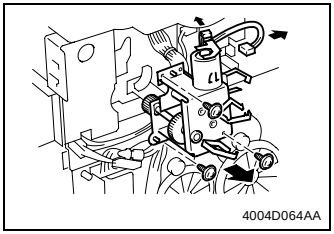
(5) Removal of the Fusing Pressure/Retraction Motor



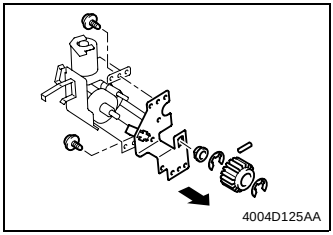
1. Remove the PWB Box.
☞ D-13 (steps 1 through 10)
2. Remove four screws and the Cooling Fan Assy.



3. Remove two screws and the harness holder.



4. Unplug two connectors.
5. Remove three screws and the Fusing Pressure/ Retraction Motor Assy.

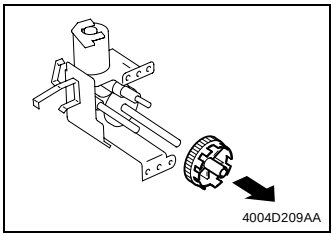


6. Snap off one E-ring and remove the gear and pin.

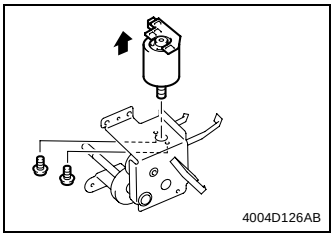
NOTE

- *Use care not to lose the pin.*

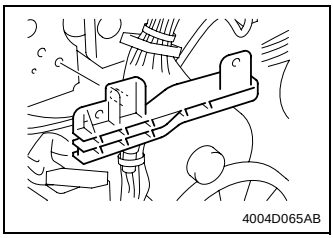
7. Snap off one E-ring and remove the bushing.
8. Remove two screws and the Fusing Retraction Position Sensor mounting bracket.



9. Remove the gear (black).



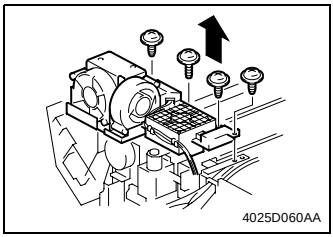
10. Remove two screws and the Fusing Pressure/ Retraction Motor.



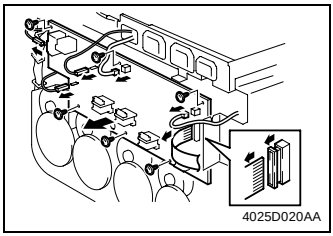
Precaution for Reinstallation

- *When reinstalling the harness holder, make sure that the protrusion on the backside of the holder fits into the hole in the metal bracket.*

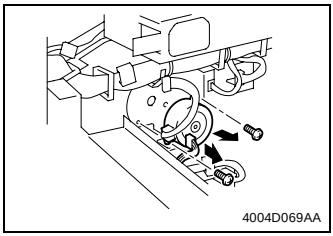
(6) Removal of the 1st Image Transfer Pressure/Retraction Motor



1. Remove the PWB Box.
☞ D-13 (steps 1 through 10)
2. Remove four screws and the Cooling Fan Assy.

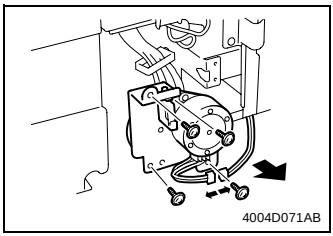


3. Disconnect connectors, terminals, and flat cable.
4. Remove six screws and slide the High Voltage Unit (Image Transfer, Neutralizing) to the left and off the copier.



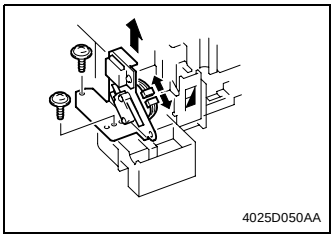
5. Unplug one connector.
6. Remove two screws and the 1st Image Transfer Pressure/Retraction Motor.

(7) Removal of Toner Replenishing Motor C/Bk

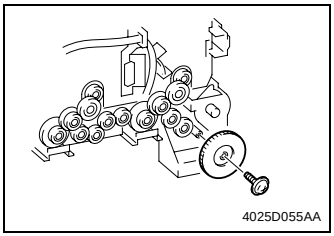


1. Remove the Right Front Cover.
2. Unplug one connector.
3. Remove four screws and the Toner Replenishing Motor C/Bk Assy.

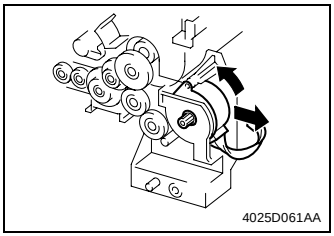
(8) Removal of Toner Replenishing Motor Y/M



1. Remove the Toner Hopper.
☞ D-16
2. Unplug one connector.
3. Remove two screws and the Front Door Switch Assy.

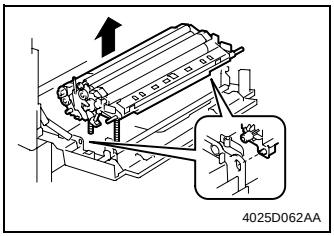


4. Remove one screw and the gear.

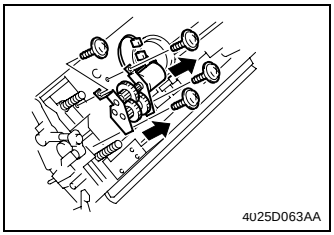


5. Remove two screws. Then, turn the Toner Replenishing Motor Y/M counterclockwise and take it off the copier.

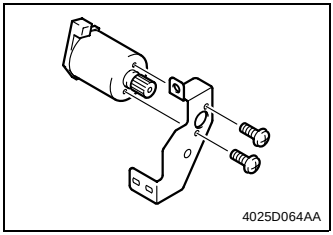
(9) Removal of the 2nd Image Transfer Pressure/Retraction Motor



1. Open the Right Door.
2. Unlock the tab and remove the Transport Unit Assy.

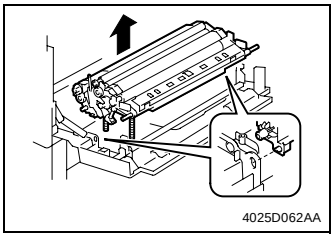


3. Remove four screws, unplug one connector, and remove the gear assy and motor assy.

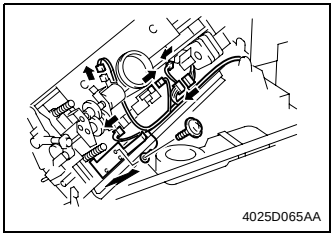


4. Remove two screws and the 2nd Image Transfer Pressure/Retraction Motor.

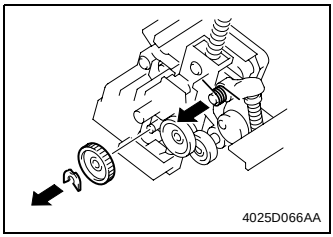
(10) Removal of the Transport Roller Motor



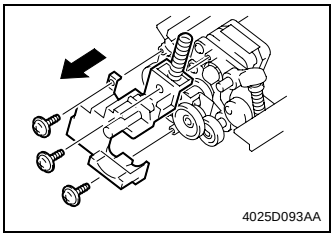
1. Open the Right Door.
2. Unlock the tab and remove the Transport Unit Assy.



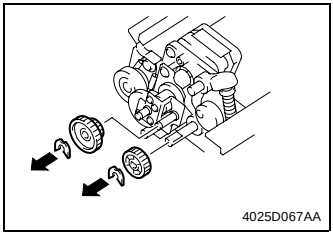
3. Remove one screw, ground wire, and ground plate.
4. Unplug five connectors and remove the Transport Unit Assy.



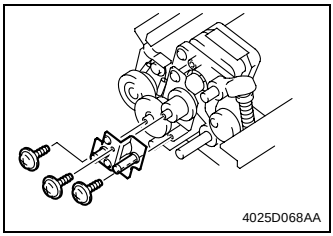
5. Snap off the C-clip and remove the gear.
6. Unhook the spring.



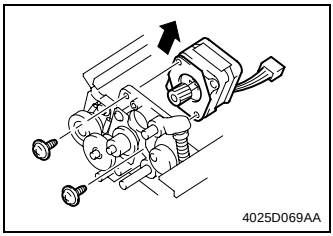
7. Remove three screws and the holder.



8. Snap off the C-clip and remove two Gears.

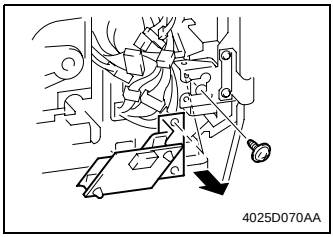


9. Remove three screws and the mounting bracket.

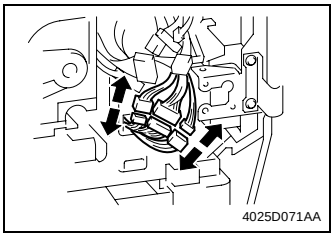


10. Remove two screws and the Transport Roller Motor.

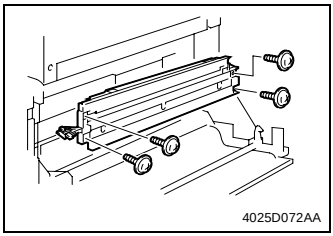
(11) Removal of AIDC/Registration Sensor 1/2



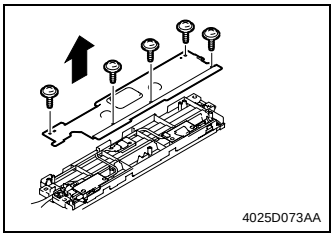
1. Remove the Front Right Door.
2. Remove one screw and the Tech. Rep. Setting Switches Board Assy.



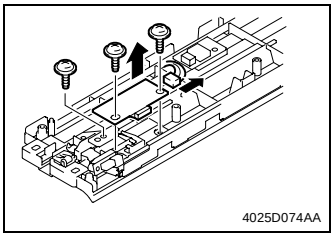
3. Unplug three connectors



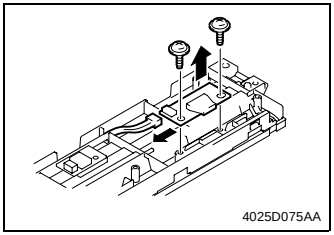
4. Open the Right Door.
5. Remove four screws and the Synchronizing Roller entrance guide.



6. Remove five screws and the cover.

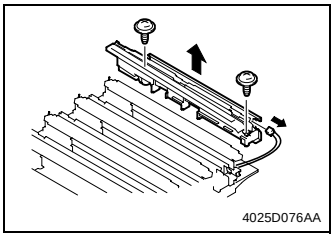


7. Remove three screws, unplug one connector, and remove AIDC/Registration Sensor 1.



8. Remove two screws, unplug one connector, and remove AIDC/Registration Sensor 2.

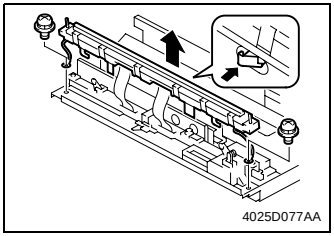
(12) Removal of the LPH Assy



1. Remove the LPH Unit.

☞ D-17

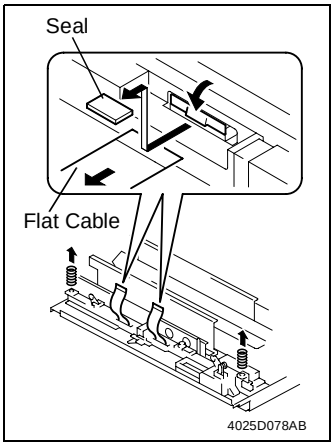
2. Remove two screws, unplug one connector, and remove the Guide Assy.



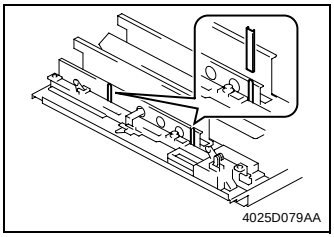
3. Remove two screws and, holding the LPH Assy with hands, unlock it.

NOTES

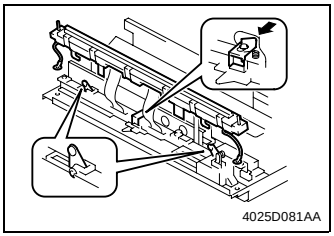
- *Do not touch the LED by hand. Clean the LED, if touched by hand, using the LED cleaning jig.*
- *Be careful about the spring that can spring off when the LPH Assy is unlocked.*



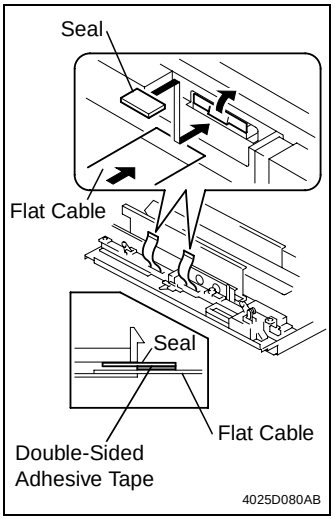
4. Peel off the seal, unlock the LPH Assy, and remove the flat cable.
5. Unhook the springs.
6. Perform the same procedure for each of different colors of LPH Assy.



1. Install the LPH Assy mounting jigs.



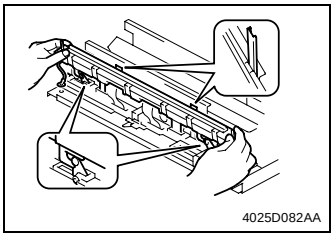
2. Unlock the LPH Assy and place the pivot tabs (at two places) at the upper position.



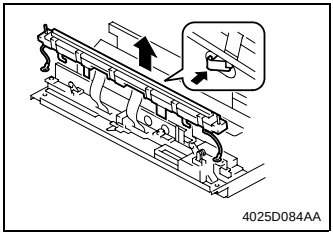
3. Insert the flat cable into the LPH Assy and lock the LPH Assy.
4. Affix the seal that comes with the LPH Assy to the location shown on the left.

NOTE

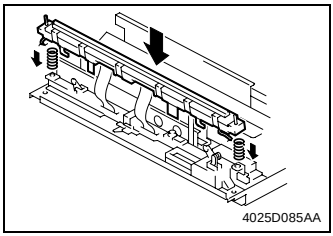
- *Failure to affix the seal could cause the flat cable to come off the LPH Assy.*



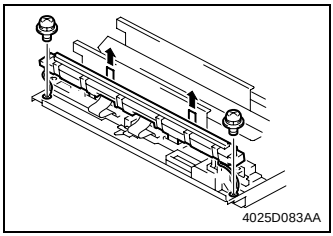
5. Holding onto both ends of the LPH Assy, align the portions shown on the left and then press it down into the locked position.



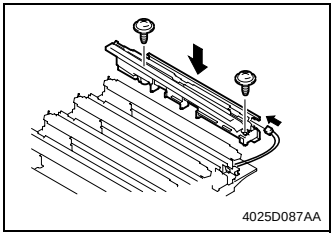
6. Unlock the LPH Assy.



7. Hook the springs and press the LPH Assy down into the locked position.

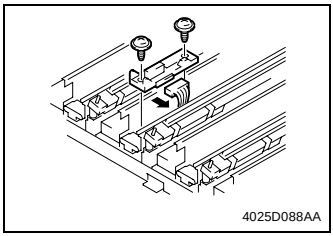


8. Remove the LPH Assy mounting jigs.
9. Install the two screws.



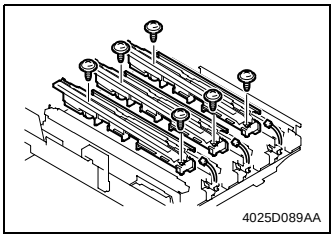
10. Install the two screws to secure the guide assy.
11. Connect the connector.

(13) Removal of ATDC Sensor Y/M/C

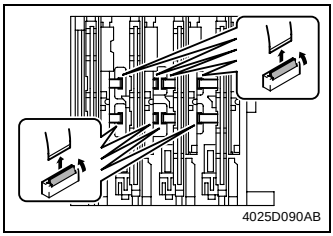


1. Remove the LPH Unit.
☞ D-17
2. Remove two screws, unplug the connector, and remove the ATDC Sensor.

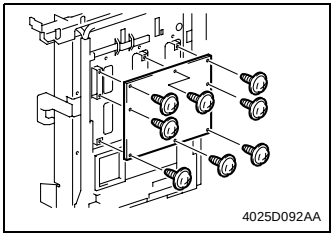
(14) Removal of the LED Drive Board



1. Remove the LPH Unit.
☞ D-17
2. Remove two screws each, unplug one connector each, and remove each guide assy.



3. Remove the flat cables (eight).

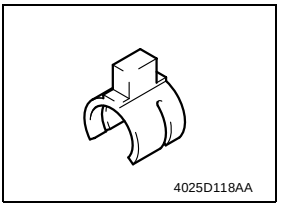


4. Remove eight screws, unplug two connectors, and remove the LED Drive Board.

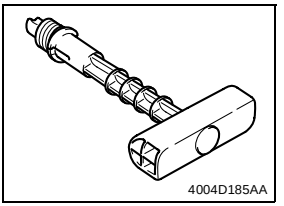
3. ADJUSTMENTS

- The adjustment procedures must be carried out in the order of printer and IR.

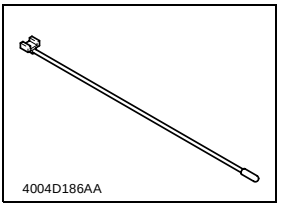
3-1. ADJUSTMENT JIGS AND TOOLS USED



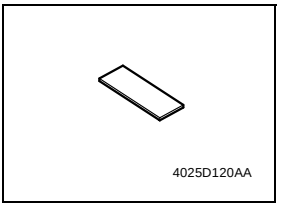
Scanner Drive Cable
Holding Jig



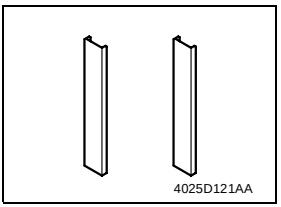
Imaging Unit Removal Jig
("T" Handle)



LED Cleaning Jig



LED Cleaning Jig Pad



LPH Assy Mounting Jigs

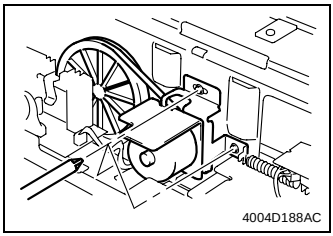
3-2. MECHANICAL ADJUSTMENT

(1) Adjustment of the Scanner Motor Timing Belt

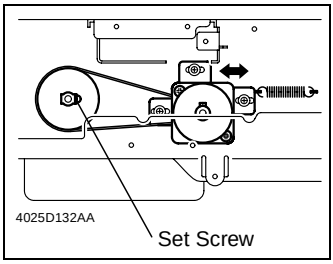
This adjustment must be made in the following case:

- *The Scanner Motor Assy has been removed.*
- *The Scanner Drive Cables have been rewound.*

1. Remove the IR Rear Cover.
2. Remove 11 screws and the reinforcement frame.



3. Loosen the three screws that secure the Scanner Motor mounting bracket.

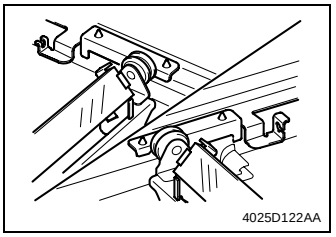


4. With the Scanner drive gear set screw located on the right-hand side as shown on the left, slide the Scanner Motor Assy to the left and check that it is returned to the original position by the tension of the spring. Perform this step three times.
5. Tighten the three screws to fix the Scanner Motor Assy into position.

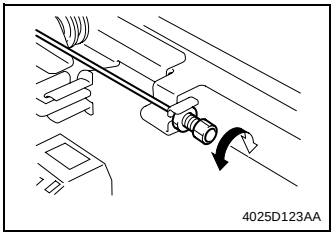
(2) Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage

This adjustment must be made in the following case:

- *The Scanner Drive Cables have been rewound*



1. Slide the 2nd/3rd Mirrors Carriage to the center until it is pressed up against the cutouts in the rails.

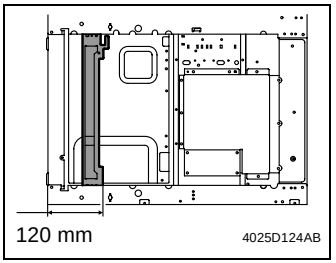


2. Turn the cable length adjusting screw so that the 2nd/3rd Mirrors Carriage contacts the cutouts in the rails.

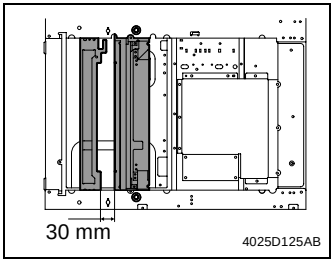
(3) Scanner Position Adjustment

This adjustment must be made in the following case:

- *The Scanner Drive Cables have been rewound.*
- *Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage must be completed.*



1. Slide the 2nd/3rd Mirrors Carriage to the position shown on the left.



2. Secure the Scanner in the position shown on the left using Scanner positioning Screws.

☞ D-20

3. Make the FD-Mag. adjustment.

☞ D-68

3-3. ELECTRICAL/IMAGE ADJUSTMENT

(1) Accessing the Tech. Rep. Mode

1. Press the Utility key.
2. Touch [Meter Count].
3. Press the following keys in this order:
   Stop → 0 → 0 → Stop → 0 → 1

NOTE

- *Ensure appropriate security for Tech. Rep. mode setting procedures. They should NEVER be shown to any unauthorized person not involved with service jobs.*

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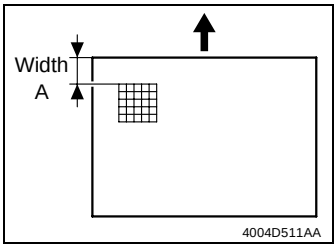
(2) Producing a Test Print

1. Call the Tech. Rep. Mode to the screen.
2. Touch [Test Print].
3. Select the desired test pattern type.
4. Make the necessary settings.
5. Press the Start key.

✻ Printer

(3) Top Margin

Requirement



Width A on the test pattern produced should fall within the following range.

Specifications	Adjustment Mode	Setting Range
5.0 or 7.0 ± 1.0 mm	Top Margin	-2.0 mm to +2.0 mm

✻ The leading edge erase width is set to 5 mm or 7 mm by “Erase” under the “Administrator Mode” check this setting befor beginning this Adjustment.

This adjustment must be made in the following case:

- *The LPH Unit has been replaced.*
- *The paper type has been changed.*
- *The image on the copy deviates in the FD direction.*
- *A faint image occurs on the leading edge of the image.*
- *A misfeed occurs at the 2nd image transfer section.*

Adjustment Procedure

1. Load the 1st Drawer with A3 or 11” × 17” plain paper.
2. Select plain paper on the Paper Type Setting Dial.
3. Select the 1st Drawer.
4. Call the Tech. Rep. Mode to the screen.
5. Touch these keys in this order: “Machine Adjust” → “PRT Area” → “Top Margin.”
6. Press the Start key to let the copier produce a test pattern.
7. Check the dimension of width A on the test pattern.
8. If width A falls outside the specified range, change the setting using the Up/Down key.

- *If width A is longer than the specifications, make the setting value smaller than the current one.*
- *If width A is shorter than the specifications, make the setting value greater than the current one.*

---

9. Press the Start key to let the copier produce a test pattern.
10. Check the dimension of width A on the test pattern.
11. If width A is outside the specified range, change the setting again and make a check again.
12. If width A falls within the specified range, touch “END.”
13. Following the same procedure, adjust for all the paper types.
14. Go back to the initial Tech. Rep. Mode screen.
15. Touch “Test Print.”
16. Select “Halftone Pattern.”

17. Select “Cyan,” “SINGLE,” and “HYPER.”
18. Press the Clear key to clear the density setting.
19. Enter “255” from the 10-Key Pad.
20. Press the Start key to let the copier produce a test pattern.
21. Check to see if the image on the leading and trailing edges of the test pattern is faint.

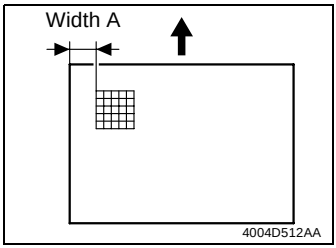
✻ If the image is faint:
22. Touch these keys in this order: “Machine Adjust” → “PRT Area” → “Top Margin.”
23. Touch “2nd Transfer Timing” and then use the Down key to decrease the setting.

NOTE
- *Decreasing the setting makes transfer timing faster. An abnormally low setting could, however, result in a paper misfeed.*

24. Touch “END.”
25. Produce a halftone test pattern again.
26. Check the image on the leading and trailing edges of the test pattern.
27. If the image on the leading and trailing edges of the test pattern is faint, change the setting and make a check again.

(4) Left Margin

Requirement



Width A on the test pattern produced should fall within the following range.

Specifications	Adjustment Mode	Setting Range
3.0 ± 1.0 mm	Left Margin	-3.0 mm to +3.0 mm

This adjustment must be made in the following case:

- *The LPH Unit has been replaced.*
- *A paper feed unit has been added.*
- *The image on the copy deviates in the CD direction.*

Adjustment Procedure

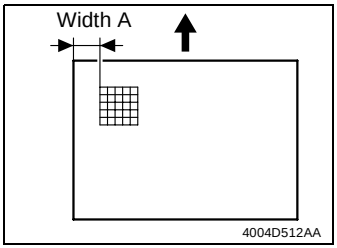
1. Load the 1st Drawer with A3 or 11" × 17" plain paper.
2. Select plain paper on the Paper Type Setting Dial.
3. Select the 1st Drawer.
4. Call the Tech. Rep. Mode to the screen.
5. Touch these keys in this order: "Machine Adjust" → "PRT Area" → "Left Margin."
6. Press the Start key to let the copier produce a test pattern.
7. Check the dimension of width A on the test pattern.
8. If width A falls outside the specified range, change the setting using the Up/Down key.

- *If width A is longer than the specifications, make the setting value smaller than the current one.*
- *If width A is shorter than the specifications, make the setting value greater than the current one.*

9. Press the Start key to let the copier produce a test pattern.
10. Check the dimension of width A on the test pattern.
11. If width A is outside the specified range, change the setting again and make a check again.
12. If width A falls within the specified range, touch "END."
13. Following the same procedure, adjust for all other paper sources. (Use A4 or 8 1/2" × 11" plain paper for the Manual Bypass Tray.)

(5) Dup. Left Margin

Requirement



Width A on the test pattern produced should fall within the following range.

Specifications	Adjustment Mode	Setting Range
3.0 ± 1.0 mm	Dup. Left Margin	-3.0 mm to +3.0 mm

This adjustment must be made in the following case:

- *The Duplex Unit has been set up.*
- *The image on the backside of the 2-sided copy deviates in the CD direction.*

Adjustment Procedure

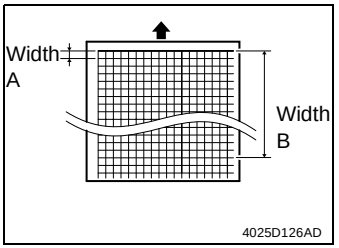
1. Load the 1st Drawer with A3 or 11" × 17" plain paper.
2. Select plain paper on the Paper Type Setting Dial.
3. Select the 1st Drawer.
4. Call the Tech. Rep. Mode to the screen.
5. Touch these keys in this order: "Machine Adjust" → "PRT Area" → "Dup. Left Margin."
6. Press the Start key to let the copier produce a test pattern.
7. Check the dimension of width A on the test pattern.
8. If width A falls outside the specified range, change the setting using the Up/Down key.

- *If width A is longer than the specifications, make the setting value smaller than the current one.*
- *If width A is shorter than the specifications, make the setting value greater than the current one.*

9. Press the Start key to let the copier produce a test pattern.
10. Check the dimension of width A on the test pattern.
11. If width A is outside the specified range, change the setting again and make a check again.
12. If width A falls within the specified range, touch "END."
13. Following the same procedure, adjust for all other paper sources.

(6) Zoom for FD

Requirement



Width A and width B on the test pattern produced should fall within the following ranges.

Width A : equivalent to one grid
Width B : equivalent to 48 grids

Specifications	Adjustment Mode	Setting Range
Width A: 7.9 to 8.3 mm Width B: 389.1 to 392.1 mm	Zoom for FD	-10 to +10 (0.2 mm/step)

This adjustment must be made in the following case:

- *The CD-Mag. or FD-Mag. adjustment becomes necessary.*
- *The image on the copy distorts (stretched, shrunk).*

Adjustment Procedure

1. Load the 1st Drawer with A3 or 11" × 17" plain paper.
2. Select plain paper on the Paper Type Setting Dial.
3. Select the 1st Drawer.
4. Call the Tech. Rep. Mode to the screen.
5. Touch these keys in this order: "Test Print" → "Lattice Pattern."
6. Select "Black," "SINGLE," "FEET," "SINGLE," "CD Width:2," "FD Width:2," "Density:255," and "Normal."
7. Press the Start key to let the copier produce a test pattern.
8. Check width A (equivalent to one grid) and width B (equivalent to 48 grids) on the test pattern.
9. Touch these keys in this order: "Machine Adjust" → "PRT Area" → "Zoom for FD."
10. If width of A or B falls outside the specified range, Change the setting using the Up/Down keys.

- *If width A or B is longer than the specifications, make the setting value smaller than the current one.*
- *If width A or B is shorter than the specifications, make the setting value greater than the current one.*

11. Press the Start key to let the copier produce a test pattern.
12. Check width A and width B on the test pattern.
13. If width A or B falls outside the specified range, change the setting value and make a check again.
14. If width A or B falls within the specified range, touch "END."
15. Following the same procedure, adjust for "Thick 1," " Thick 2," "Thick 3," "OHP," and "Envelope." (Check width A only for "OHP" and "Envelope.")

(7) Color Shift Correction

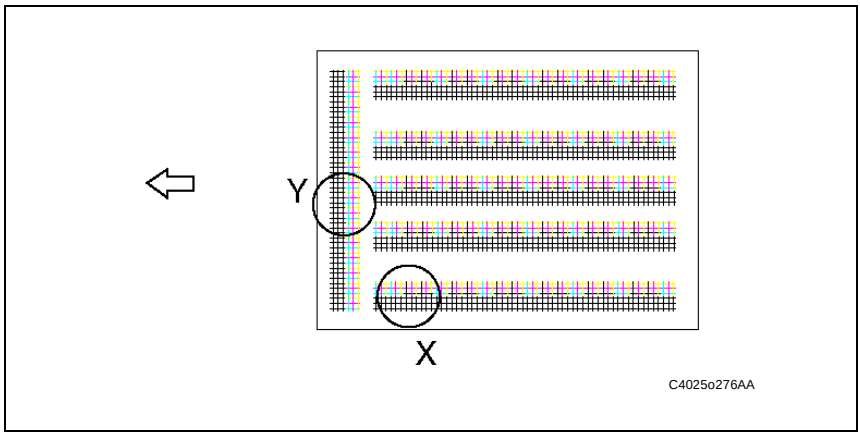
This adjustment must be made in the following case:

- *Color shift occurs.*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Machine Adjust” → “Color Shift Correction.”
3. Select “Cyan,” and “SINGLE.”
4. Press the Start key to let the copier produce a test pattern.
5. Check to see if the black cross at the location shown below deviates or not.
6. If it deviates, change the setting using the Up/Down key.

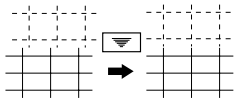
Setting Instructions



Adjustment for X direction: Check point X

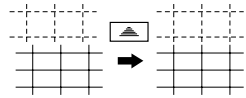
- *If the cross deviates in the direction of C, decrease the setting.*
- *If the cross deviates in the direction of D, increase the setting.*

Direction of C



C4025s313AA

Direction of D

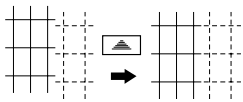


C4025s314AA

Adjustment for Y direction: Check point Y

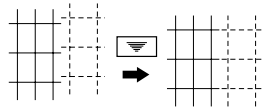
- *If the cross deviates in the direction of C, increase the setting.*
- *If the cross deviates in the direction of D, decrease the setting.*

Direction of C



C4025s315AB

Direction of D



C4025s316AB

(8) Leading Edge Skew Adjustment

This adjustment must be made in the following case:

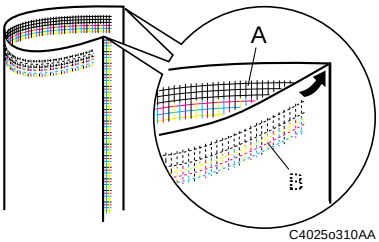
- *Leading edge skew occurs.*
- *The LPH Assy Bk has been replaced.*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Machine Adjust” → “Color Shift Correction.”
3. Select “SINGLE.”
4. Press the Start key to let the copier produce a test pattern.
5. Fold the test pattern in half lengthwise.
6. Check black lines A and B for deviation.
7. If there is any deviation touch the “Black” key and change the setting using the Up/ Down key.

Setting Instructions

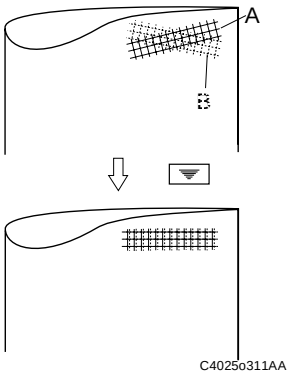
Check point A,B



C4025o310AA

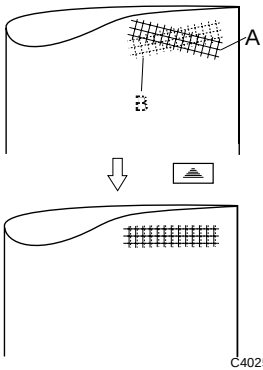
- *If the lines deviate in the C direction, decrease the setting.*
- *If the lines deviate in the D direction, increase the setting.*

Direction of C



C4025o311AA

Direction of D



C4025o312AA

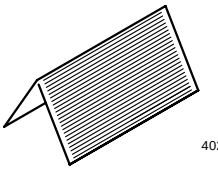
(9) LPH Chip Adjust

This adjustment must be made in the following case:

- *White lines or black lines in FD occur*
- *The LPH Assy has been replaced.*
- *The LPH Unit has been replaced.*

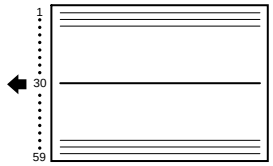
Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: "Test Print" → "LPH Pattern."
3. Select "SINGLE," "HYPER," "Gradation," and "Border Line:ON."
4. Press the Start key to let the copier produce a test pattern.
5. Check the test pattern for the location, at which white lines or black lines in FD occur.
6. Touch these keys in this order: "Machine Adjust" → "LPH Chip Adjust."
7. Fold the test pattern in half (with the pattern face on the outside).

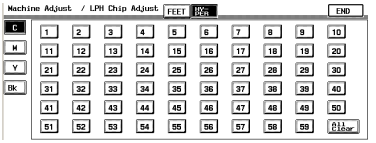


4025D127AA

8. The chip boundary line on the crease (the center) of the test pattern corresponds to the "30" on the panel. Starting here count out to each side of the paper to identify each location.



4025D128AB



4025D503CA

9. Find the number on the panel, to which the location of white lines or black lines in FD checked in step 5 corresponds.
10. Select the color (C, M, Y, or Bk) in which white lines or black lines in FD occur.

✻ If the lines occur only in green on the test pattern, select Y.

11. Touch the corresponding number on the panel. (It is then highlighted and the setting value is displayed besides the highlighted number.)
12. Change the setting value using the 10-Key Pad.

Black lines in FD: Decrease the setting value.
White lines in FD: Increase the setting value.

✻ When a new LPH Unit has been installed, corrections can be made for up to eight locations.

✻ Corrections for up to five locations can be made through factory adjustments. If white lines or black lines in FD occur, therefore, corrections can therefore be made in the field for three to eight locations.

✻ If lines persist even after the correction procedures, change the LPH Unit.

13. Select HYPER and color.
14. Press the Start key to let the copier produce a test pattern and check for lines.

(10) Gradation Adjust

This adjustment must be made in the following case:

- *Color reproduction performance becomes poor.*
- *The IU has been replaced.*
- *The Image Transfer Belt Unit has been replaced.*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch “Gradation Adjust.”
3. Press the Start key to let the copier produce a test pattern.
4. Place the test pattern produced on the Original Glass.
5. Place ten blank sheets of A3 or 11” × 17” paper on the test pattern and then lower the Original Cover.
6. Press the Start key (to let the copier start scanning the original).
7. Repeat steps from 2 to 6 twice (a total of three cycles).
8. The Adj. Value and Conv. Value will be displayed for Max and Highlight of each color (C, M, Y, Bk).
9. Check the Conv. Value according to the following procedure.

- *Max 0 ± 100 and Highlight 0 ± 60: It completes the adjustment procedure.*
- *If neither Max or Highlight falls outside the ranges specified above: Perform steps from 2 to 6.*

✻ If a fault is detected, “0” is displayed for all values. In this case, turn OFF and ON the Power Switch and perform Gradation Adjust once again.

✻ If either Max or Highlight still remains outside the specified ranges, perform PRT Max Density or PRT Highlight.

(11) PRT Max Density

This adjustment must be made in the following case:

- *An image quality problem is not corrected even after Gradation Adjust has been run.*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Image Adjust” → “PRT Max Density.”
3. Select the color to be adjusted.
4. Enter the new setting from the 10-Key Pad.

- *To increase the maximum amount of toner sticking, increase the setting value.*
- *To decrease the maximum amount of toner sticking, decrease the setting value.*

5. Touch “END” to return to the “Image Adjust” menu screen.
6. Touch “Stabilizer.”
7. Touch “Stabilizer Mode.”
8. Press the Start key to validate the adjustment value.
9. Check the copy image for any image problem.

(12) PRT Highlight

This adjustment must be made in the following case:

- *An image quality problem is not corrected even after Gradation Adjust has been run.*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Image Adjust” → “PRT Highlight.”
3. Select the color to be adjusted.
4. Enter the new setting from the 10-Key Pad.

- To make the Highlight portion darker, increase the setting value.
- To make the Highlight portion lighter, decrease the setting value.

5. Touch “END” to return to the “Image Adjust” menu screen.
6. Touch “Stabilizer.”
7. Touch “Stabilizer Mode.”
8. Press the Start key to validate the adjustment value.
9. Check the copy image for any image problem.

(13) Background Voltage Margin

This adjustment must be made in the following case:

- *Foggy background occurs.*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Image Adjust” → “Background Voltage Margin.”
3. Select the color to be adjusted.
4. Enter the new setting from the 10-Key Pad.

- To make the background level foggier, increase the setting value.
- To make the background level less foggy, decrease the setting value.

5. Touch “END” to return to the “Image Adjust” menu screen.
6. Touch “Stabilizer.”
7. Touch “Stabilizer Mode.”
8. Press the Start key to validate the adjustment value.
9. Check the copy image for any image problem.

(14) ATDC Level Setting

This adjustment must be made in the following case:

- *T/C is changed as a result of changes in environmental conditions.*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Image Adjust” → “ATDC Level Setting.”
3. Select the color to be adjusted.
4. Enter the new setting from the 10-Key Pad.

- *To increase T/C, increase the setting value.*
- *To decrease T/C, decrease the setting value.*

5. Touch “END” to validate the adjustment value.
6. Check the copy image for any image problem.

(15) AE Adjust

This adjustment must be made in the following case:

- *Foggy background occurs in the Auto Exposure mode.*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Image Adjust” → “AE Adjust.”
3. Enter the new setting from the 10-Key Pad.

- *To make the background level foggier, change the setting value to 3 or 4.*
- *To make the background level less foggy, change the setting value to 0 or 1.*

4. Touch “END” to validate the adjustment value.
5. Check the copy image for any image problem.

(16) 2nd Transfer Adjust

This adjustment must be made in the following case:

- *A transfer failure occurs at the trailing edge (only with plain paper).*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Image Adjust” → “2nd Transfer Adjust.”
3. Select the side of the image (First side or Second side), on which the transfer failure at the trailing edge occurs.
4. Enter the new setting from the 10-Key Pad.

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

5. Touch “END” to validate the adjustment value.
6. Check the copy image for any image problem.

(17) Fuser Temp.

This adjustment must be made in the following case:

- *Fusing performance is poor or offset occurs when the paper type or environmental conditions are changed.*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Machine Adjust” → “Fuser Temp.”
3. Select the paper type and Fusing Roller type.
4. Enter the new setting from the 10-Key Pad.

If fusing performance is poor, increase the setting.

✻ *The temperature does not change immediately when the setting is change. Wait a while before performing the subsequent steps.*

5. Touch “END” to validate the adjustment value.
6. Check the copy image for any image problem.

(18) Fuser Speed

This adjustment must be made in the following case:

- *Brush effect or blurred image is evident as a result of changes in environmental conditions or degraded durability.*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Machine Adjust” → “Fuser Speed.”
3. Select the transport speed, at which the brush effect or blurred image has occurred.

Transport Speed	31-cpm Copier	20-cpm Copier
135 mm/s	Plain paper: monochrome, color	Plain paper: monochrome
90 mm/s	—	Plain paper: color
60 mm/s	Thick paper, OHP, envelope, postcard, labels: monochrome, color	

4. Enter the new setting from the 10-Key Pad.

- *If brush effect is evident, decrease the setting.*
- *If a blurred image occurs, increase the setting.*

5. Touch “END” to validate the adjustment value.
6. Check the copy image for any image problem.

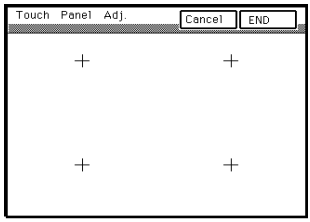
✻ IR

(19) Touch Panel Adj.

NOTE

- *Make this adjustment if the Touch Panel is slow to respond to a pressing action.*

1. Press the following keys:
   Stop → 0 → Stop → 3

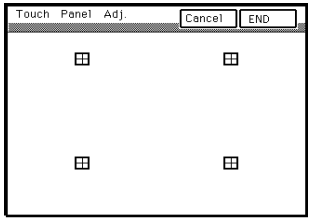


1155D191CA

2. Using the tip of a pen or similar object, touch the four crosses (+) on the screen in sequence.

NOTES

- *These crosses may be touched in any order; but be sure to touch the center of each cross.*
- *Use care not to damage the screen surface with the tip of the pen.*

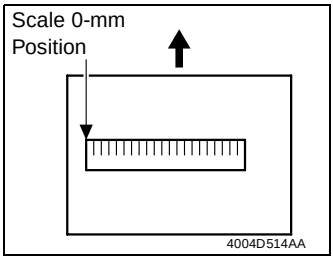


1155D192CA

3. The cross touched changes into a grid marker that consists of a square with a cross superimposed.
4. Touch [END].

(20) Left Image

Requirement



- The position of 0 mm of the scale on the sample copy produced should fall within the following range.
- The adjustment of Left Margin on the printer side must have been made to meet the specifications.

☞ D-48

Specifications	Adjustment Mode	Setting Range
0 ± 1.0 mm	Left Image	-10.0 to +10.0

This adjustment must be made in any of the following cases:

- *The Original Glass has been replaced.*
- *The Scanner Home Sensor has been replaced.*

Adjustment Procedure

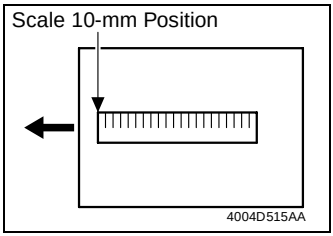
1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Machine Adjust” → “IR Area.”
3. Touch “Left Image.”
4. Place a scale on the Original Glass so that it runs parallel with the Original Width Scale and its leading edge is aligned with the Original Length Scale.
5. Press the Start key to make a copy.
6. Check the image on the copy produced.
7. If the image does not meet the specifications, change the setting using the Up/Down key.

- *If the 0-mm position on the sample copy is on the right side of the correct 0-mm position perpendicularly to the feeding direction (less than -1 mm), decrease the setting.*
- *If the 0-mm position on the sample copy is on the left side of the correct 0-mm position perpendicularly to the feeding direction (exceeding 1 mm), increase the setting.*

8. Press the Start key to make a copy.
9. Check the image on the copy to see if the specifications are met.
10. If it fails to meet the specifications, change the setting and make a check again.
11. If it meets the specifications, touch “END.”

(21) Top Image

Requirement



- The position of 10 mm of the scale on the sample copy produced should fall within the following range.
- The adjustment of Top Margin on the printer side must have been made to meet the specifications.

☞ D-46

Specifications	Adjustment Mode	Setting Range
10.0 ± 1.0 mm	Top Image	-5.0 to +5.0

This adjustment must be made in any of the following cases:

- *The CCD Unit has been replaced.*
- *The Original Glass has been replaced.*
- *The Original Scale has been replaced.*

Adjustment Procedure

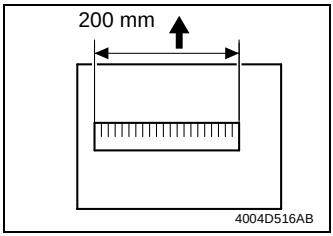
1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Machine Adjust” → “IR Area.”
3. Touch “Top Image.”
4. Place a scale on the Original Glass so that it runs parallel with the Original Length Scale and its leading edge is aligned with the Original Width Scale.
5. Press the Start key to make a copy.
6. Check the image on the copy produced.
7. If the image does not meet the specifications, change the setting using the Up/Down key.

- If the 10-mm position on the sample copy is on the right side of the correct 10-mm position parallel to the feeding direction (less than 9 mm), decrease the setting.
- If the 10-mm position on the sample copy is on the left side of the correct 10-mm position parallel to the feeding direction (exceeding 11 mm), increase the setting.

8. Press the Start key to make a copy.
9. Check the image on the copy to see if the specifications are met.
10. If it fails to meet the specifications, change the setting and make a check again.
11. If it meets the specifications, touch “END.”

(22) CD-Mag.

Requirement



- The 200-mm width of the scale on the sample copy produced should fall within the following range.
- The adjustment of Zoom for FD on the printer side must have been made to meet the specifications.

☞ D-50

Specifications	Adjustment Mode	Setting Range
200 ± 1.0 mm	CD-Mag.	0.990 to 1.010

This adjustment must be made in any of the following cases:

- *The CCD Unit has been replaced.*
- *The lens has been replaced.*

Adjustment Procedure

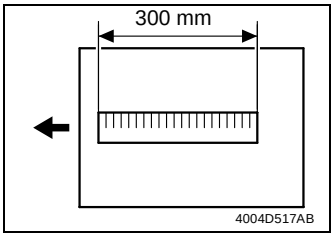
1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Machine Adjust” → “IR Area.”
3. Touch “CD-Mag.”
4. Place a scale on the Original Glass so that it runs parallel with the Original Width Scale and its leading edge is aligned with the Original Length Scale.
5. Press the Start key to make a copy.
6. Check the image on the copy produced.
7. If the image does not meet the specifications, change the setting using the Up/Down key.

- If the specified width on the copy is less than 199 mm, increase the setting.
- If the specified width on the copy exceeds 201 mm, decrease the setting.

8. Press the Start key to make a copy.
9. Check the image on the copy to see if the specifications are met.
10. If it fails to meet the specifications, change the setting and make a check again.
11. If it meets the specifications, touch “END.”

(23) FD-Mag.

Requirement



- The 300-mm width of the scale on the sample copy produced should fall within the following range.
- The adjustment of Zoom for FD on the printer side must have been made to meet the specifications.

☞ D-50

Specifications	Adjustment Mode	Setting Range
300 ± 1.5 mm	FD-Mag.	0.990 to 1.010

This adjustment must be made in any of the following cases:

- *The Scanner Assy has been replaced.*
- *The Scanner Motor has been replaced.*
- *The Scanner Drive Cables have been replaced.*

Adjustment Procedure

1. Call the Tech. Rep. Mode to the screen.
2. Touch these keys in this order: “Machine Adjust” → “IR Area.”
3. Touch “FD-Mag.”
4. Place a scale on the Original Glass so that it runs parallel with the Original Length Scale and its leading edge is aligned with the Original Width Scale.
5. Press the Start key to make a copy.
6. Check the image on the copy produced.
7. If the image does not meet the specifications, change the setting using the Up/Down key.

- *If the specified width on the copy is less than 298.5 mm, increase the setting.*
- *If the specified width on the copy exceeds 301.5 mm, decrease the setting.*

8. Press the Start key to make a copy.
9. Check the image on the copy to see if the specifications are met.
10. If it fails to meet the specifications, change the setting and make a check again.
11. If it meets the specifications, touch “END.”

(24) Org. Detect Sensor

This adjustment must be made in any of the following cases:

- *The Original Size Detecting Sensor has been replaced.*
- *The optional Original Size Detecting Sensors have been added.*
- *The copier fails to detect the size of the original correctly.*

Adjustment Procedure

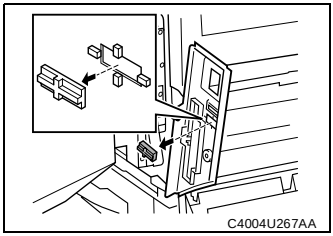
1. Place a blank sheet of A3 or 11" × 17" paper on the Original Glass and lower the Original Cover.
2. Call the Tech. Rep. Mode to the screen.
3. Touch these keys in this order: "Machine Adjust" → "Org. Detect Sensor."
4. Press the Start key.

- *If the adjustment has been successfully made, it completes the adjustment procedure.*
- *If the adjustment has turned out to be unsuccessful, check the optional Original Size Detecting Sensors for correct installation and change the defective sensor or harness.*

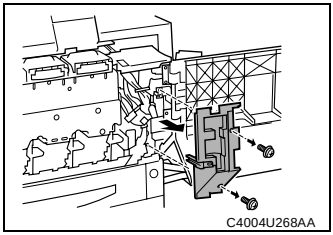
4. OTHER ADJUSTMENTS

4-1. INSTALLATION OF THE MECHANICAL COUNTER (OPTION)

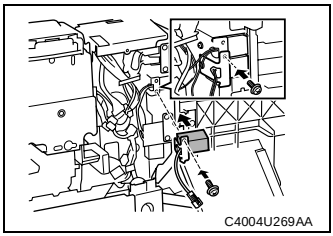
1. Open the Front Door.
2. Remove the Panel Cover.
3. Open the Right Door.



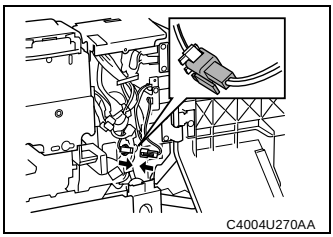
4. Cut out the knockout in the Front Right Cover.



5. Remove two screws and the Right Front Cover.



6. Secure the mechanical counter with one screw.



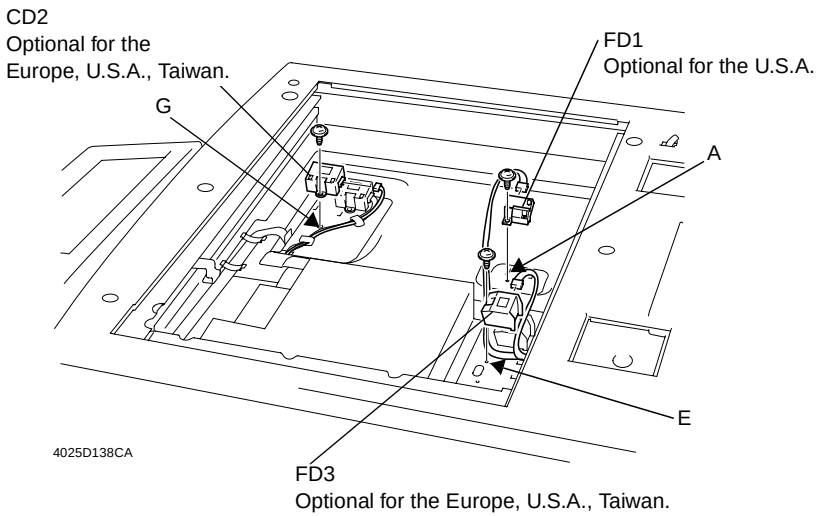
7. Connect one connector.

4-2. MOUNT THE OPTIONAL ORIGINAL SIZE DETECTING SENSORS

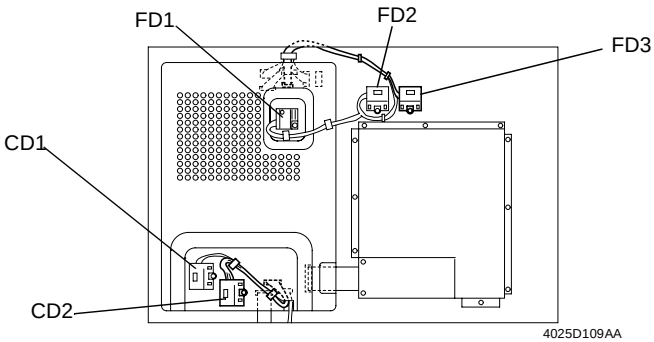
NOTE

- *When an Original Size Detecting Sensor has been added, select "SET" in "Org. Detect Option Sensor" of "System Input" available from the "Tech. Rep. Mode" and run "Org. Detect Sensor" of "Machine Adjust."*

1. Remove the IR Right Cover and Original Glass.
2. Remove the PWB Cover.
3. Connect the connector of the Original Size Detecting Sensor to be added to the Image Processing Board.
4. Replacing the PWB Cover.
5. Mount the Original Size Detecting Sensor (option).



How the Harness should be Placed



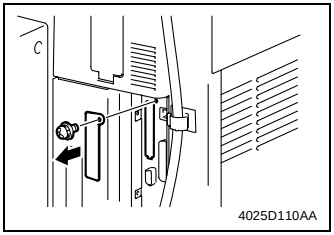
4-3. FLASH MEMORY

- Firmware is upgraded by means of the memory card (IC card).

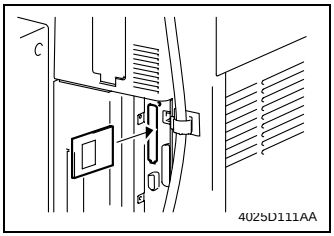
NOTE

- *NEVER remove or insert the memory card with the copier power turned ON.*

1. With the Power Switch in the OFF position, unplug the power cord from the power outlet.



2. Remove one screw and the metal Blanking Plate.



3. Insert the memory card into the slot.

4. Plug the power cord into the power outlet and turn ON the Power Switch.

✻ Three different types of F/W appear on the Touch Panel.

5. Select the particular type of F/W to be updated.

4025P036CB

MSC	Image Control Board PWB-F
IR	Image Processing Board PWB-C
PRT	PIC Board PWB-PIC

6. Press the Start key.

✻ This starts the data rewriting sequence. (At this time, the Start key starts blinking red.)

	Time Required for Rewriting
Three types at once	approx. 20 min.
MSC	approx. 1 min. 30 sec.
IR	approx. 6 min.
PRT	approx. 18 min. 30 sec.

7. Check that the Touch Panel shows the message indicating that the data has been rewritten correctly (“Downloading Completed”). Check also the Check Sum value (“Check Sum XXXX”) shown on the Touch Panel. (The Start key blinks green.)
8. Unplug the power cord from the power outlet.

NOTE

- Do not turn OFF the Power Switch.

9. Remove the memory card from the slot
10. Turn OFF the Power Switch.

- Plug the copier back in and renumber the rest of the steps.

11. Turn ON the Power Switch.
12. Call the Tech. Rep. mode to the screen.
13. Select ROM Version.
14. Check that the ROM version matches the version marked on the memory card.

✻ Action When Data Transfer Fails

If “NG” appears on the Touch Panel, indicating that rewriting has been unsuccessful (in which case the Start key lights up red), take the following steps.

1. Perform the data rewriting procedure again.
2. If the procedure is abnormally terminated, change the memory card for a new one and try another rewriting sequence.
3. If the procedure is still abnormally terminated, change the board that has caused “NG” and carry out data rewriting procedure.

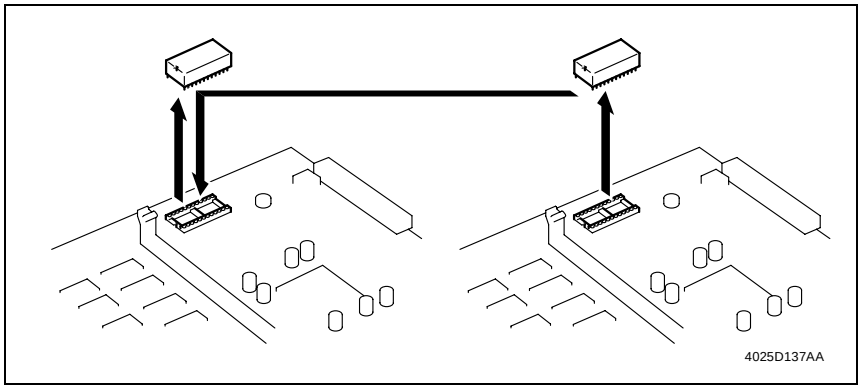
MSC	Image Control Board PWB-F
IR	Image Processing Board PWB-C
PRT	PIC Board PWB-PIC

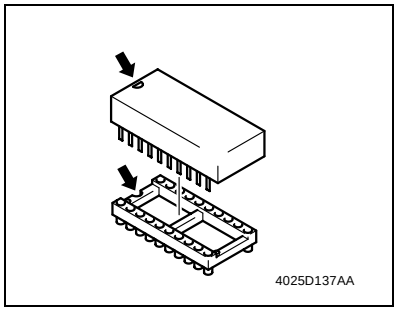
4-4. REMOUNTING RAM IC (IC202)

1. Remove the Image Control Board (PWB-F) from the copier.
2. Remove RAM IC (IC202) from the old Image Control Board (PWB-F).
3. Remove RAM IC (IC202) from the NEW Image Control Board (PWB-F) and then install the RAM IC (IC202) from the old Image Control Board (PWB-F) on the NEW Image Control Board (PWB-F).

NOTE

- *If the Image Control Board (PWB-F) has been replaced and RAM IC (IC202) is not to be remounted, be sure to record all data of Utility mode and Tech. Rep. mode functions and make the entries again of these numeric values.*





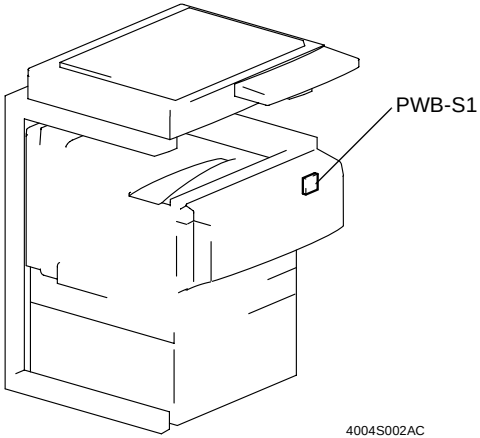
NOTE

- *Note the alignment notch (A) on RAM IC when mounting it.*

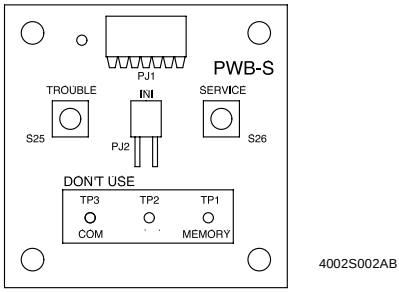
SWITCHES ON PWBs, TECH. REP. SETTINGS

1. FUNCTION OF SWITCHES AND OTHER PARTS ON PWBs

1-1. PWB Location



1-2. PWB-S1 (Tech. Rep. Setting Switches Board)



Symbol	Name	Description
INI	Initialize Point	Resets a paper misfeed, malfunction, and erratic display.
MEMORY	Memory Clear Test Point	Clears data of various kinds stored in memory.
COM	COM Test Point	Ground used for memory clear.
TROUBLE	Trouble Reset Switch	Resets the following malfunction displays: Exposure Lamp system (C04XX), Fusing system (C05XX), Scanner system (C06XX), ROM contents failure detected upon start (C3FF)
SERVICE	Not used	

(1) Initialize Procedure

1. Turn OFF the Power Switch.
2. With the circuit across pins of PJ2 closed, turn ON the Power Switch.
3. In about 5 sec., open the PJ2 circuit.
4. Check that the message “Initialize Completed” is displayed on the Touch Panel and then touch “END.”

(2) Memory Clear Procedure

1. Turn OFF the Power Switch.
2. With the circuit across TP1 and TP3 closed, turn ON the Power Switch.
3. In about 5 sec., open the circuit across TP1 and TP3.
4. Check that the message “Memory Clear Completed” is displayed on the Touch Panel and then touch “END.”
5. The following types of data are cleared.

- Utility mode: Input, User's Choice 1/2
- Tech. Rep. mode: System Input, Administrator # Input
- Security mode: Counter Setting
- Touch Panel Adj.

NOTES

- *If the copier exhibits an erratic display or operation, unplug and plug in the power cord, turn OFF and ON the Power Switch, and then perform the following procedures in this order: Initialize → Memory Clear.*
- *Do not perform Memory Clear casually, as it clears the types of data mentioned above. If Memory Clear has been performed, be sure to make settings for the functions that have been cleared once again.*

---

(3) Data/Conditions Cleared by Reset Switches/Pins

Data Cleared \ Clearing Method		Front Door Open/ Close	Trouble Reset Switch	Initialize	Memory Clear
Misfeed display		❍	—	❍	❍
Malfunction display	Fusing Optical Scanner C3FFF	—	❍	❍	❍
	Others	❍	❍	❍	❍
Erratic operation/display		—	❍	❍	❍
Utility Mode (Input, User's Choice:1,2)		—	—	—	❍
Tech. Rep. Mode (System Input, Administrator # Input)		—	—	—	❍
Security Mode (Counter Setting)		—	—	—	❍
Touch Panel Correction Mode		—	—	—	❍

❍: Cleared —: Not cleared

2. UTILITY MODE

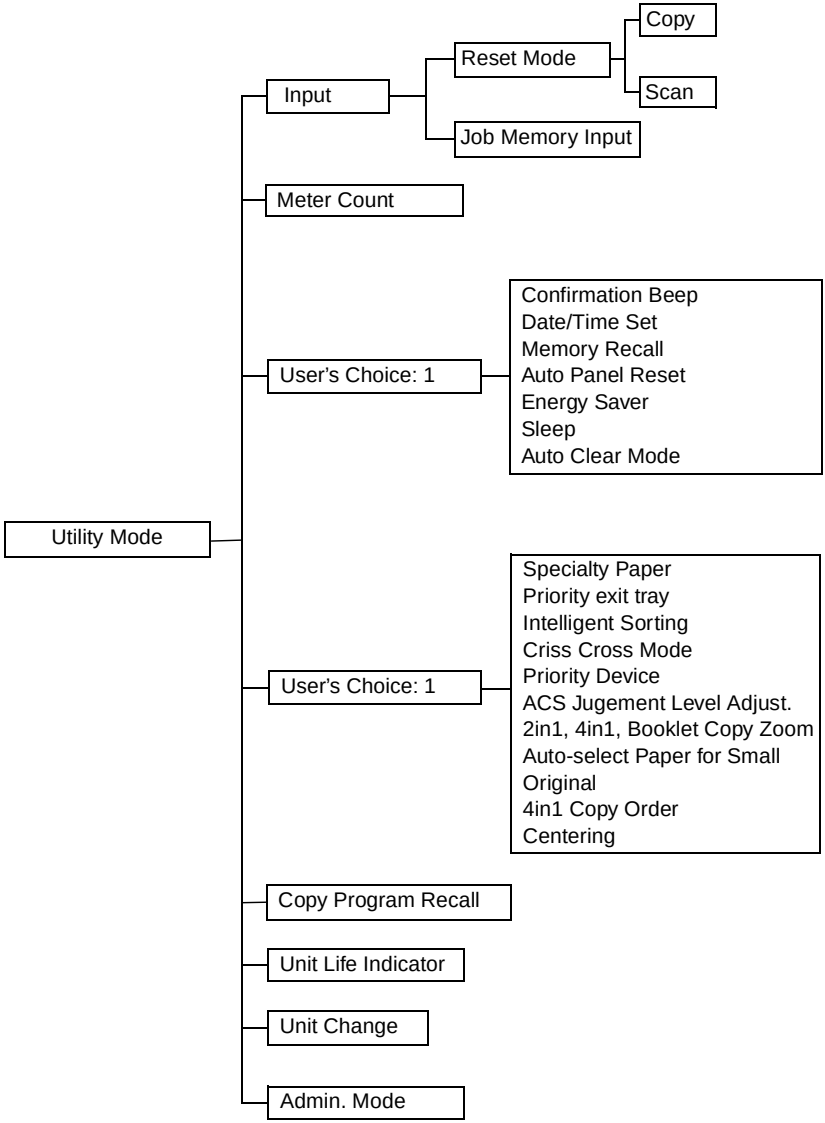
2-1. Utility Mode Function Setting Procedure

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

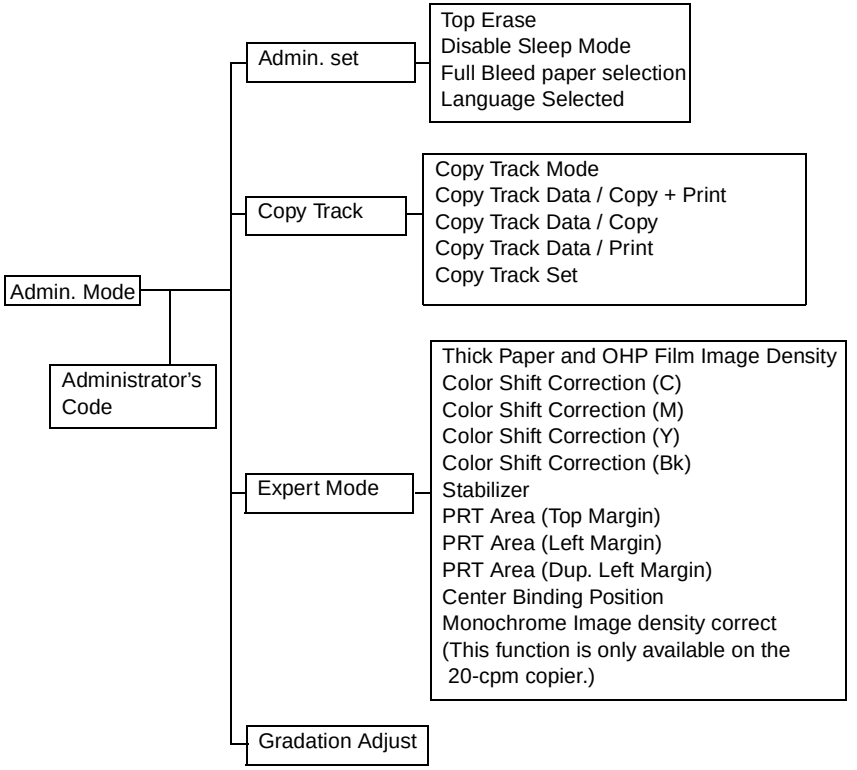
<Exiting>
- Touch the “Fin. Time” key.

<Changing the Setting Value in Utility Mode Functions>
- Use the ID key to change the + sign to - sign, or vice versa.
- Use the Up/Down key to enter or change the setting value.
- Use the 10-Key Pad to enter the setting value. (To change the setting value, first press the Clear key before making an entry.)

2-2. Utility Mode Function Tree



(1) Administrator Mode Function Tree



2-3. Setting in the Utility Mode

Input

Item	Purpose	Setting/Precautions
Reset Mode	To register the copy mode functions or scanner mode functions (when a printer controller is mounted) set when the copier is initialized.	"Set-up Mode" • The copy mode or scanner mode functions set arbitrarily on the panel are registered. **"Factory Default"** • The factory-set copy mode or scanner mode functions are registered. • The copier is initialized at the following timings: ✻ The Power Switch is turned ON. ✻ Panel is reset. ✻ An Interrupt mode is canceled.
Job Memory Input	To register the copy mode functions being currently set as a job program or check or delete a job program that has previously been registered.	• Up to ten different job programs can be registered. • "Copy Program Recall" as a Utility function is used to call up a program.

Meter Count

Purpose	Setting/Precautions
To check the count of each counter or print a list of counters.	• To print the list, load the 1st Drawer with A4 lengthwise or Letter lengthwise paper. • The copier rejects the print cycle if the drawer is loaded with paper of any other size.

User's Choice: 1

Item	Purpose	Setting/Precautions
Confirmation Beep	To select whether to enable or disable the beep that sounds each time a key on the control panel is pressed.	The default setting is ON. **ON** OFF
Date/Time Set	To set the time-of-day, date, and time zone and start the clock.	• The default setting is 00:00, January 1, 2000. • For the time zone, set the time difference from the Greenwich Mean Time.
Memory Recall	To select whether to permit recalling and copying of image data which has previously been subjected to a copy cycle.	The default setting is Yes. **Yes** No
Auto Panel Reset	To set the time it takes the Auto Panel Reset function to be activated after a copy cycle has been completed or the last key operated. The default settings are established when Auto Panel Reset is activated. It is also used to set the priority display that will be given when Auto Panel Reset is activated.	• Use the 10-Key Pad to enter the Auto Panel Reset time (1 to 9 min.). • The default setting is 1 min. **1 min** (1 to 9) No • The default priority display is Copy.
Energy Saver	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.	• Use the 10-Key Pad to enter the time (10 to 240 min.). • The default setting is 15 min. **15 min** (10 to 240)
Sleep	To set the time it takes the copier to enter the Sleep mode after a copy cycle has been completed or the last key operated. If the system consists of only a copier, all power is shut down, but if a printer controller is mounted on the copier, only the 5-V line turns ON.	• Use the 10-Key Pad to enter the time (15 to 240 min.). • The default setting is 30 min. **30 min** (15 to 240) • The option of "No" becomes available only if "Yes" is selected for "Disable Sleep Mode" of the "Admin. Mode."
Auto Clear Mode	To select whether to reset the copying mode functions to the default ones when the Plug-In Counter is unplugged, a magnetic card is pulled out, or the access number is entered for the Copy Track function.	The default setting is Yes. **Yes** No

User's Choice: 2

Item	Purpose	Setting/Precautions
Specialty Paper	To set the paper type for the 2nd through 4th Drawers.	The default setting is Standard (plain paper). (Standard, High Quality Paper, Single Sided Only, Specialty)
Priority exit tray	Set the priority exit tray for each of the copier print, PC print, and the Internet Fax print. ✻ When the FN-116 is mounted	The default settings are as follows (as set with the corresponding number shown on the display). • Internet: 3 (3rd Drawer) • Print (PC print): 2 (Elevator Tray) • Copy: 2 (Elevator Tray)
Intelligent Sorting	To select whether to enable or disable the function that automatically switches between Sort and Non-Sort according to the number of originals and the number of copy sets to be made.	• The default setting is Yes. **Yes** No
Criss Cross Mode	To select whether to enable or disable the crisscross sorting function that stacks sorted copy sets in a crisscross manner, i.e., one set stacked lengthwise on top of another set stacked crosswise.	• The default setting is Yes. **Yes** No
Priority Device	To set the print timing for the PC print jobs received.	• The default setting is Copier. **Copier**: After the reception of all data Printer: After the reception of data for each page
ACS Jugement Level Adjust.	To set the criterion level to discriminate between a colored original and a black-and-white original in the Auto Color (ACS) mode.	• Five levels are available to choose from and the default setting is 3. Near Black 1 2 **3** 4 5 Near Full Color
2in1, 4in1, Booklet Copy Zoom	To select, when 2in1, 4in1, or Booklet is selected, whether or not to automatically call up the zoom ratio optimum for the mode.	• The default setting is Presets (call up). **Presets** No Presets
Auto-select Paper for Small	To select whether or not to enable copying when an original, whose size falls outside the detectable range, is loaded in the Auto Paper mode and to select the paper source to be used.	• The default setting is OFF (disable copying). **OFF** ON • The default setting for the paper source is the 1st Drawer.

Item	Purpose	Setting/Precautions
Original 4in1 Copy Order	To select the layout of copy images in the 4in1 mode.	The default setting is as follows: 
Centering	To select whether to center the image with respect to the paper.	• The default setting is Yes. **Yes** No • Used when the size of the original is smaller than that of the paper selected for use.

Copy Program Recall

Purpose	Setting/Precautions
To call up a program registered through Job Memory Input.	• Select the program number. • If the copier is not equipped with capabilities (e.g., stapling) that were provided when the program was registered, calling up that particular program is disabled.

Unit Life Indicator

Purpose	Setting/Precautions
To check each unit for life.	• The life indicator of each unit is displayed. • Allows a list of counter counts to be printed.

Unit Change

Purpose	Setting/Precautions
To clear the life counters for the Transfer Roller Unit and Paper Dust Remover/Ozone Filter. ✻ When “User” is selected for “Transfer Roller Unit” and “Paper Powder Filter/Ozone Filter” available from “Unit Change” of “System Input” under “Tech. Rep. Mode.” ✻ When the life value is reached. ✻ When the unit is replaced before its life.	• After the Transfer Roller Unit or the Paper Dust Remover/Ozone Filter has been replaced with a new one, enter the Utility mode with the Right Door left open. • The “Unit Change” key will appear on the screen. • Touch the “Unit Change” key and clear the life counter.

Admin. Mode

- Entering the 4-digit administrator number set in the Tech. Rep. mode will allow you to enter the Admin. Mode (default value: 0000).

Admin. set

Item	Purpose	Setting/Precautions
Top Erase	To set the leading edge erase amount of the paper.	• The default setting is 5 mm. **5 mm** 7 mm
Disable Sleep Mode	To display the option of “No” for the Sleep setting screen available from User's Choice 1.	• The default setting is No. Yes **No**
Full Bleed paper selection	To establish the full bleed paper size.	• The default setting is 305 x 457 mm or 12 x 18. Metric areas: 311 x 457 mm **305 x 457 mm** Inch areas: 12-1/4 x 18 **12 x 18**
Language Selected	To select the language of the LCD display messages. The counter outputs will be produced in the language selected.	The language options depend on the marketing area selected in “Marketing Area” available from “System Input” under Tech. Rep. Mode.

Copy Track

Item	Purpose	Setting/Precautions
Copy Track Mode	To select whether to enable or disable the Copy Track function.	• The default setting is No. Yes **No** • If the option is changed from “Yes” to “No,” the Copy Track data is initialized.
Copy Track Data / Copy + Print	To set the account number and access number for each account, display or clear the counter data, display or change the upper limit value, and print a list of all counter data.	• Entering the access number of each account will allow the Copy Track function to be performed for the account. • Up to 99 accounts can be registered. • The count data can be cleared for each individual account or all at once. • Since it is impossible to display all 99 accounts at once on the screen, they are divided into 20 groups, each consisting of five accounts, and there are ten different one-touch keys displayed. (Example) [1/20]: accounts 001 to 005
Copy Track Data / Copy	To display the copy counter data of each account.	
Copy Track Data / Print	To display the print counter data of each account.	
Copy Track Set	To set the upper limit for the Total Counter, and the limit of each of copy and print outputs in black and color for each account or uniformly for all accounts.	<Upper limit setting> Select either Activate or Inactivate for each of total, color, and black. If Activate is selected, the upper limit value for “Copy Track Data / Copy + Print” becomes effective. Select either Allow or Prohibit for each of total, color, and black. ✻ Color is applicable both to full color and mono color.

Expert Mode

Item	Purpose	Setting/Precautions
Thick Paper and OHP Film Image Density	To fine-adjust density of printed images of each color for thick paper and OHP transparencies.	The fine-adjustment can be made over a range of a total of five steps, two darker levels and two lighter levels around the standard central level. (This setting is not affected by image stabilizer control.)
Color Shift Correction (C) Color Shift Correction (M) Color Shift Correction (Y) Color Shift Correction (Bk)	To make an automatic or manual correction of color shift.	(Automatic correction) • Pressing the Start key will let the copier produce a test pattern according to the current color shift condition. (Manual correction) • Check the test pattern for color shift amount in each of the X, Y, and ? directions, and fine-adjust using the Up/Down key. • Fine-adjust in X and Y directions for color shift of cyan, magenta, and yellow. • For color shift of black, adjust tilt in the black line on the leading edge in ? direction. ✻ Since the test pattern is produced on A3L or 11 × 17, or A4C or 8-1/2 × 11, the press of the Start key will not be accepted unless the paper source is loaded with any of these paper sizes (the Start key lighting up red).

Item	Purpose	Setting/Precautions
Stabilizer	(Stabilizer Mode) The image stabilization sequence is carried out without clearing the historical data of image stabilization control. ✻ When PRT Max Density, PRT Highlight, and Background Voltage Margin of Tech. Rep. mode are changed.	When the Start key is pressed, the image stabilization sequence is carried out with reference to the historical data.
	(Reset and Stabilizer Mode) The image stabilization control historical data is cleared and an image stabilization sequence is carried out. ✻ An abnormal value is recorded in the historical data due to a sudden extraneous light or other cause. ✻ If any unusual symptom is noted in gradation and density even after an image stabilization sequence.	When the Start key is pressed, the historical data is cleared and image stabilization sequence is carried out based on the initial values.
PRT Area (Top Margin)	To vary the print start position in the FD direction for each of different paper types in the 1st Drawer.	• Select the appropriate position on the paper type setting dial according to the type of paper loaded in the 1st Drawer and press the Start key. • Check the test pattern and adjust so that the distance between the leading edge of the paper and the edge of the pattern falls within the range of 5 mm ± 0.5 mm. ✻ The adjustment range is -3.0 mm to +3.0 mm (in 0.2-mm increments).
PRT Area (Left Margin)	To vary the print start position in the CD direction for each paper source.	• Select the paper source and press the Start key. • Check the test pattern and adjust so that the void amount on the left edge of the paper falls within the range of 3 ± 0.5 mm. ✻ The adjustment range is -3.0 mm to +3.0 mm (in 0.2-mm increments).

Item	Purpose	Setting/Precautions
PRT Area (Dup. Left Margin)	To vary the print start position in the CD direction for each paper source in the 2-Sided mode.	• Select the paper source and press the Start key. • Check the test pattern and adjust so that the void amount on the left edge of the paper falls within the range of 3 ± 0.5 mm. • Take measurements of the pattern on the backside of the paper. ✻ The adjustment range is -3.0 mm to +3.0 mm (in 0.2-mm increments).
Center Binding Position	To adjust the positions of center staple and folding for the Finisher.	Adjust each of the center staple position and folding position independently of each other. ✻ The adjustment range is -7.0 mm to +7.0 mm (in 1-mm increments).
Monochrome Image density correct (This function is only available on the 20-cpm copier.)	To fine-adjust the image density for black copies.	The fine-adjustment can be made over a range of a total of five steps, two darker levels and two lighter levels around the standard central level. (This setting is not affected by image stabilizer control.)

Gradation Adjust

Purpose	Setting/Precautions
To correct gradation after the setup procedure has been completed or when color reproduction performance is poor.	• Press the Start key to let the copier produce a test pattern. • Place the test pattern on the Original Glass and press the Start key. • Let the copier scan the test pattern and compare the output value with the input value to correct gradation.

3. TECH. REP. MODE

3-1. Tech. Rep. Mode Function Setting Procedure

NOTE

- *Ensure appropriate security for Tech. Rep. mode function setting procedures. They should NEVER be shown to any unauthorized person not involved with service jobs.*

<Procedure>

1. Press the Utility key.
2. Press the Meter Count key.
3. Press the following keys in this order.
   Stop → 0 → 0 → Stop → 0 → 1
4. The Tech. Rep. Mode menu will appear.

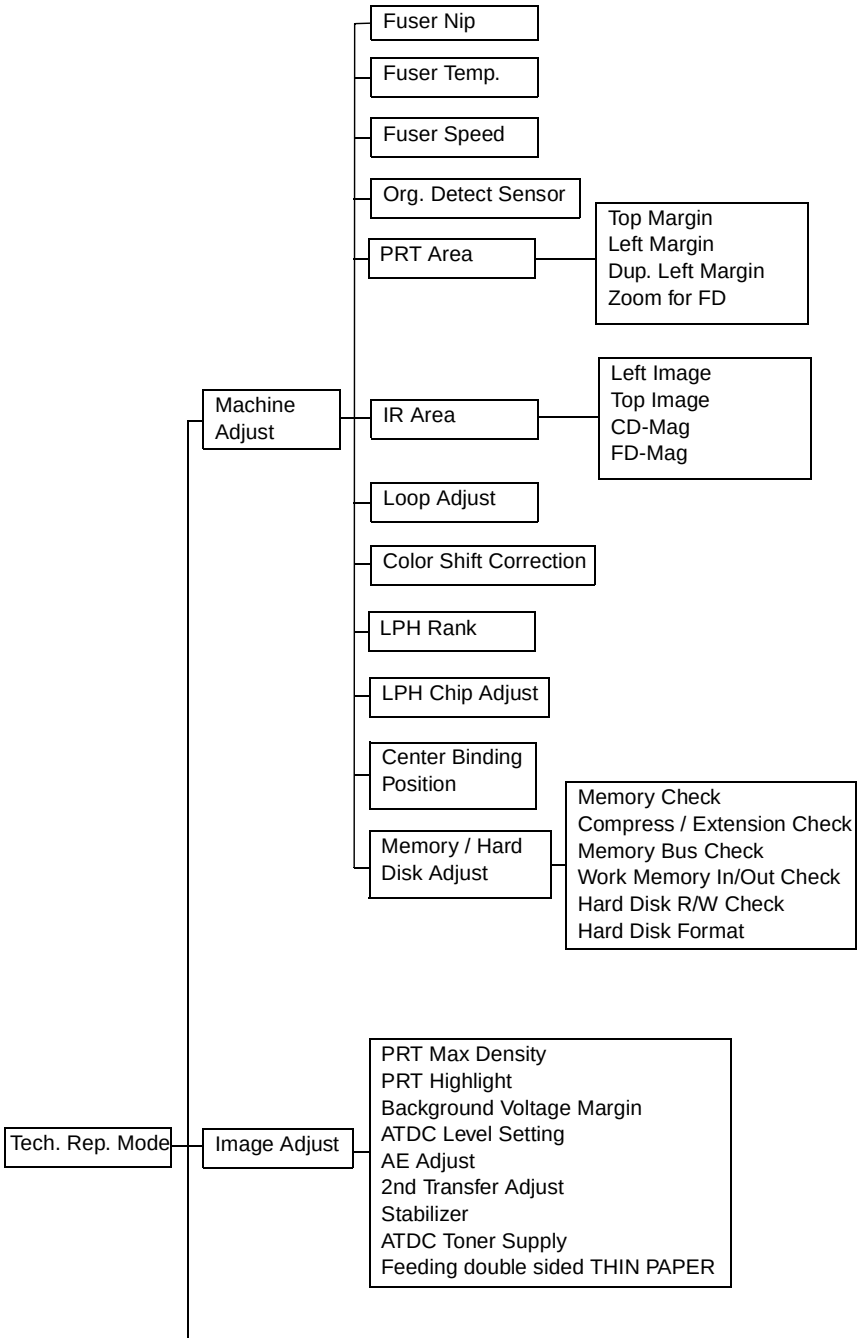
<Exiting>

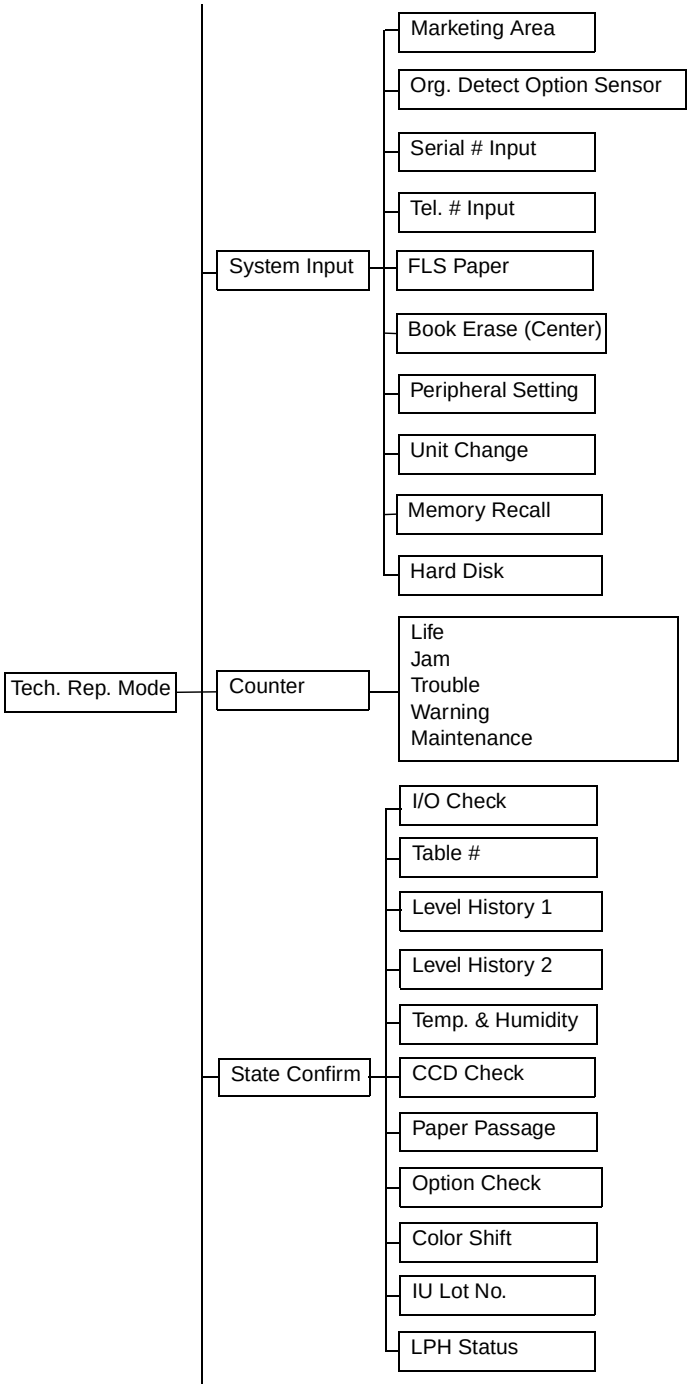
- Touch the “Fin. Time” key.

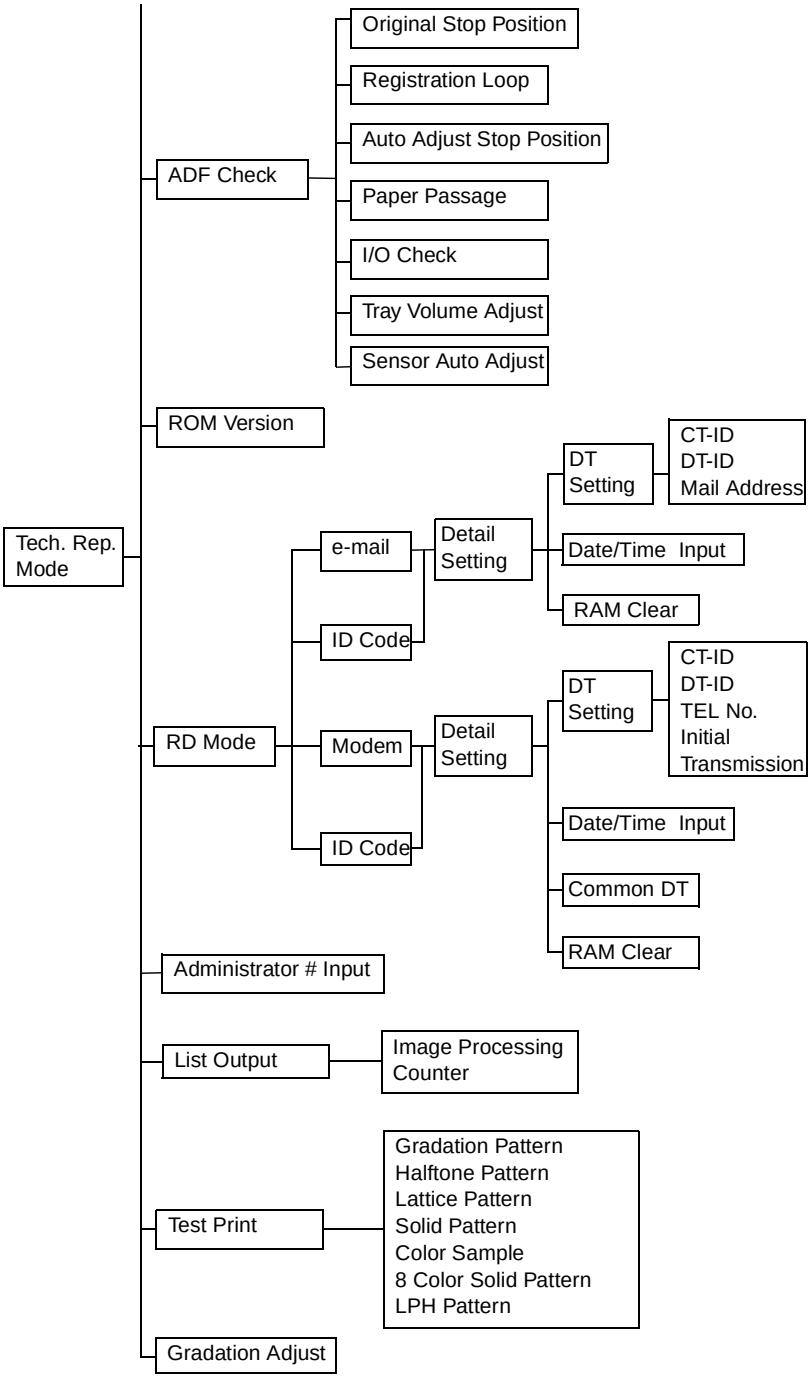
<Changing the Setting Value in Tech. Rep. Mode Functions>

- Use the ID key to change the + sign to - sign, or vice versa.
- Use the Up/Down key to enter or change the setting value.
- Use the 10-Key Pad to enter the setting value. (To change the setting value, first press the Clear key before making an entry.)

3-2. Tech. Rep. Mode Function Tree




Tech. Rep. Mode
System Input
Marketing Area
Org. Detect Option Sensor
Serial # Input
Tel. # Input
FLS Paper
Book Erase (Center)
Peripheral Setting
Unit Change
Memory Recall
Hard Disk
Counter
Life
Jam
Trouble
Warning
Maintenance
State Confirm
I/O Check
Table #
Level History 1
Level History 2
Temp. & Humidity
CCD Check
Paper Passage
Option Check
Color Shift
IU Lot No.
LPH Status


Tech. Rep. Mode
ADF Check
Original Stop Position
Registration Loop
Auto Adjust Stop Position
Paper Passage
I/O Check
Tray Volume Adjust
Sensor Auto Adjust
ROM Version
RD Mode
e-mail
ID Code
Detail Setting
DT Setting
CT-ID
DT-ID
Mail Address
Date/Time Input
RAM Clear
Modem
ID Code
Detail Setting
DT Setting
CT-ID
DT-ID
TEL No.
Initial Transmission
Date/Time Input
Common DT
RAM Clear
Administrator # Input
List Output
Image Processing Counter
Test Print
Gradation Pattern
Halftone Pattern
Lattice Pattern
Solid Pattern
Color Sample
8 Color Solid Pattern
LPH Pattern
Gradation Adjust

3-3. Setting in the Tech. Rep. Mode

Machine Adjustt

Item	Purpose	Setting/Precautions
Fuser Nip	To check the Fusing Roller nip width. ✻ When a fusing failure occurs. ✻ When a blurred image or brush effect occurs.	• Press the Start key, which produces a test print. • Check that the fusing roller nip width measures 9 ± 0.5 mm.
Fuser Temp.	To adjust individually the temperature of the Heating Roller and the Fusing Pressure Roller for each type of paper, thereby coping with varying fusing performance under changing environmental conditions. ✻ When a fusing failure occurs. ✻ When an offset occurs.	• Adjust for each paper type. • Increase the set temperature for a fusing failure and decrease the set temperature for an offset.
Fuser Speed	• To adjust the speed of the Fusing Drive Motor so as to match the fusing speed with transport speed. • Make the adjustment for each paper type. ✻ Brush effect ✻ Blurred image	• A brush effect will occur at the trailing edge if the fusing speed is faster than the transport speed. • A blurred image will occur on both edges at around the center if the fusing speed is slower than the transport speed. • 135 mm/s: plain paper • 90 mm/s: plain paper (This function is only available on the 20-cpm copier.) • 60 mm/s: OHP transparencies, thick paper 1, thick paper 2, thick paper 3, envelope • Variable range: -2 % to +2 % (in 0.1 % increments)
Org. Detect Sensor	To automatically adjust the original detection distance for the Original Size Detecting Sensor. ✻ When the sensor is replaced with a new one. ✻ When an optional sensor has been added. ✻ When an erroneous original size detection is made. ✻ When the marketing area setting is changed.	• Lower the Original Cover and press the Start key. This lets the copier automatically adjust the original detection distance for each sensor, showing the result of adjustment of OK or NG. • If the result is NG, perform the troubleshooting procedure.

Item		Purpose	Setting/Precautions
PRT Area	Top Margin	To vary the print start position in the FD direction for each of different paper types in the 1st Drawer. ✻ When the LPH Unit is replaced with a new one. ✻ When the paper type is changed. ✻ When the image on the copy deviates in the FD direction.	• Select the appropriate position on the paper type setting dial according to the type of paper loaded in the 1st Drawer and press the Start key. • Check the test pattern and adjust so that the distance between the leading edge of the paper and the edge of the pattern falls within the range of 5 or 7 ± 1.0 mm. • Follow the same procedure to adjust for thick paper and OHP transparencies.
	Left Margin	To vary the print start position in the CD direction for each paper source. ✻ When the image on the copy deviates in the CD direction. ✻ When an add-on cassette is mounted or the LPH Unit is replaced with a new one.	• Select the paper source and press the Start key. • Check the test pattern and adjust so that the void amount on the left edge of the paper falls within the range of 3 ± 0.5 mm.
	Dup. Left Margin	To vary the print start position in the CD direction for each paper source in the 2-Sided mode. ✻ When the Duplex Unit is set up. ✻ When the image on the backside of a 2-sided copy deviates in the CD direction.	• Select the paper source and press the Start key. • Check the test pattern and adjust so that the void amount on the left edge of the paper falls within the range of 3 ± 1.0 mm. • Take measurements of the pattern on the backside of the paper.
	Zoom for FD	To synchronize the paper transport speed with the image writing speed. ✻ When the image on the copy is stretched in the FD direction.	• Select the appropriate position on the paper type setting dial according to the type of paper loaded in the 1st Drawer and press the Start key. • Check the test pattern and adjust so that the pattern width falls within the range of 8.13 ± 0.2 mm. • Follow the same procedure to adjust for thick paper and OHP transparencies.

Item		Purpose	Setting/Precautions
IR Area	Left Image	To adjust part-to-part variations in accuracy of IR parts and their mounting accuracy by varying the scan start position in the CD direction. ✻ When the CCD Unit is replaced. ✻ When the Original Glass is replaced.	• With a scale placed in parallel with the Original Width Scale and with the leading edge of the scale pressed up against the Original Length Scale, make a copy of the scale. • Because of a void amount involved with the engine side, the image is automatically slid 50 mm toward the left as it is produced on the copy. • Adjust so that the scan starts with the position of 0 mm (on the graduations) at the leading edge of the scale as checked with the image on the copy.
	Top Image	To adjust variations in mounting accuracy and sensitivity of the Scanner Home Sensor and in mounting accuracy of the Original Width Scale by varying the scan start position in the CD direction. ✻ When the Original Glass or Original Width Scale is replaced.	• With a scale placed in parallel with the Original Length Scale and with the leading edge of the scale pressed up against the Original Width Scale, make a copy of the scale. • Since a void image occurs on the copy corresponding to the 0 mm portion of the scale due to the shadow of the Original Width Scale and Original Glass, a void of 10 mm is forcibly produced of the data. • Adjust so that the scan starts with the position of 10 mm (on the graduations) of the scale as checked with the image on the copy.
	CD-Mag	To correct an error in the zoom ratio in the CD direction occurring due to variations in mounting accuracy of the CCD, lens, and other parts by varying the number of readings in the CD direction. ✻ When the CCD Unit is replaced. ✻ The adjustment of “Zoom for FD” of “PRT Area” must be completed.	• Place a scale on the Original Glass in the CD direction and make a copy of the scale. Measure the length of the scale on the copy to see if it measures 200 mm ± 1. • If the measured value falls outside the specified range, enter the correction value by the following formula: specified value/measured value.

Item		Purpose	Setting/Precautions
IR Area	FD-Mag	To correct an error in the zoom ratio in the FD direction occurring due to part-to-part variations of the pulleys, cables, and other parts by varying the traveling speed of the Scanner. ✻ When the Scanner Assy, Scanner Motor, or Scanner Drive Cables are replaced.	• Place a scale on the Original Glass in the FD direction and make a copy of the scale. Measure the length of the scale on the copy to see if it measures 300 mm ± 1.5. • If the measured value falls outside the specified range, enter the correction value by the following formula: specified value/measured value.
Loop Adjust		To adjust the length of the loop formed in paper before the Synchronizing Rollers. ✻ When a paper skew occurs. ✻ When a paper misfeed occurs.	• Adjust for each of the drawers, Manual Bypass Table, and Duplex Unit. • Adjust also for each of different transport speeds. ✻ 135 mm/s: -6 to +6 ✻ 90 mm/s: -10 to +10 (CF2002 only) ✻ 60 mm/s: -15 to +15 • Use “Paper Passage” for paper passage check.
Color Shift Correction		To automatically or manually correct color shift, if any occurs. ✻ When color shift occurs.	(Automatic correction) Press the Start key, which lets the copier produce a test pattern that represents the current color shift condition. (Manual correction) • Check the test pattern for color shift amount in each of the X, Y, and ? directions, and fine-adjust using the Up/Down key. • Fine-adjust in X and Y directions for color shift of cyan, magenta, and yellow. • For color shift of black, adjust only in ? direction. • After the adjustments have been made, press the Start key again to check the test pattern. ✻ Since the test pattern is produced on A3L or 11 × 17, or A4C or 8-1/2 × 11, the press of the Start key will not be accepted unless the paper source is loaded with any of these paper sizes (the Start key lighting up red).

Item	Purpose	Setting/Precautions
LPH Rank	Factory adjustment	
LPH Chip Adjust	To correct intensity between LPH chips. ✻ When a white line or black line occurs in the FD direction. ✻ When the LPH Unit is replaced. ✻ When the LPH Assy is replaced.	• Let the copier produce “LPH Pattern” of “Test Print” and correct intensity between chips, in which the FD white line or black line occurs. • Standard: 4 • FD white line: Increase the setting value. • FD black line: Decrease the setting value.
Center Binding Position	To adjust the positions of center staple and folding for the Finisher.	Adjust each of the center staple position and folding position independently of each other.

Item		Purpose	Setting/Precautions
Memory / HardDisk Adjust	Memory Check	To check correspondence of data written to and that read from memory through write/read check. ✻ If the copy image is faulty.	• Pressing the Start key will automatically start a memory check sequence. As soon as the sequence is completed, the result of the check will be displayed. • If the check result is NG, check the memory for proper connection or change it. <Rough Check> A check is made to see if the image data reading and writing are correctly made in a very limited area. <Detail Check> A check is made to see if the image data reading and writing are correctly made at the addresses and buses in all areas. The progress of the check sequence is displayed in percentage.
	Compress / Extension Check	To check whether compression and decompression are carried out properly. ✻ If the copy image is faulty.	• Pressing the Start key will automatically start to complete a compression/decompression check sequence. • The check result will be displayed, “OK” or “NG”.
	Memory Bus Check	To check to see if image data is correctly transferred from IR to memory, and from memory to printer. ✻ If the copy image is faulty.	• Select either “IR → Memory,” “Memory → PRT,” or both. • Pressing the Start key will start the memory bus check and be terminated automatically. • The check result will be displayed, “OK” or “NG”.
	Work Memory In/Out Check	To check to see if input and output of image data of work memory are correctly performed. ✻ If the copy image is faulty.	• Select either “Input Check,” “Output Check,” or both. • Pressing the Start key will start the work memory input/output operation check sequence and be terminated automatically. • The check result will be displayed, “OK” or “NG”.

Item		Purpose	Setting/Precautions
Memory / HardDisk Adjust	Hard Disk R/W Check	To check to see if the hard disk is connected properly, and if read/write operation of the hard disk is correctly performed. ✻ When the hard disk is mounted.	• Pressing the Start key will start the hard disk R/W check sequence and be terminated automatically. • The check result will be displayed, “OK” or “NG”.
	Hard Disk Format	To format the hard disk. ✻ When the hard disk is mounted. ✻ When the hard disk is to be initialized.	• Pressing the Start key will start the hard disk formatting sequence and be terminated automatically. • The sequence for format is 1st physical then 2nd Logical. • All data in the hard disk will be erased. • The check result will be displayed, “OK” or “NG”.

Image Adjust

Item	Purpose	Setting/Precautions
PRT Max Density	To adjust gradation, color, and image density to target reproduction levels by varying the maximum amount of toner sticking to paper through auxiliary manual fine-adjustment of ? of each color after Gradation Adjust. ✻ If Gradation Adjust does not allow the target reproduction level to be achieved.	If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.
PRT Highlight	To adjust the highlight portion (fog level) to the target reproduction level by making an auxiliary manual fine-adjustment of ? of each color after Gradation Adjust. ✻ If Gradation Adjust does not allow the target reproduction level to be achieved.	If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.
Background Voltage Margin	To make an auxiliary adjustment of the background voltage margin setting value after Gradation Adjust. ✻ When a foggy background occurs.	If the setting value has been changed, be sure to run an image stabilization sequence to make valid the new value.
ATDC Level Setting	To adjust the T/C control level when an abnormal image density occurs as a result of a change in the amount of charge of toner and carrier due to an environmental change. ✻ Use appropriately according to the operating environment of the user.	The central value of 0 corresponds to 5% of T/C (in 0.5% increments).
AE Adjust	To adjust subtle shades of the highlight portion according to the user's need by varying the background level in a direction of less foggy or foggier setting in the Auto Exposure mode. ✻ When a fog occurs, or no image is produced, in the background in the Auto Exposure mode.	• Variable range: 0 to 4 • Less foggy setting: 0, 1 • Foggier setting: 3, 4

Item	Purpose	Setting/Precautions
2nd Transfer Adjust	To fine-adjust the second transfer output (ATVC) for the first side and the second side, respectively. ✻ When an image transfer failure occurs at the trailing edge (of plain paper).	• Variable range: -5 to +5 (-500 V to +500 V) • Less foggy setting: Increase the setting value. • Foggier setting: Decrease the setting value.
Stabilizer	• Stabilizer To run an image stabilization sequence without clearing the historical data of image stabilization control. ✻ When PRT Max Density, PRT Highlight, or Background Voltage Margin has been changed.	Pressing the Start key will let the copier run an image stabilization sequence with reference to the historical data. (This is the same as that which is run when the Power Switch is turned ON except that no color shift adjustment is made.)
	• Reset + Stabilizer To run an image stabilization sequence by initializing the historical data of image stabilization control. ✻ If gradation and max. density are faulty even after a Stabilizer has been run.	Pressing the Start key will let the copier clear the historical data of the image stabilization control and run an image stabilization sequence based on the default settings.
ATDC Toner Supply	To adjust the set T/C level by replenishing an auxiliary supply of toner when a low ID occurs due to a lowered T/C after large numbers of copies have been made of originals having a high image density. ✻ When there is a drop in T/C.	• Pressing the Start key will let the copier detect the current toner density and; if the density is lower than a reference value, a toner replenishing sequence and then a developer agitation sequence are run. • These sequences are repeated up to a maximum of four times until the toner density reaches the reference value. If the toner density is found to be higher than the reference value, only a developer agitation sequence is carried out.
Feeding double sided THIN PAPER	Turn this function ON when thin paper (64 g/m2) is used in an ambience of high temperature and high humidity in the 2-sided mode. It decreases the transfer output value so as to prevent a paper misfeed from occurring.	• The default setting is OFF. ON **OFF**

System Input

Item	Purpose	Setting/Precautions
Marketing Area	To make the various settings (language, paper size, fixed zoom ratios, etc.) according to the applicable marketing area. ✻ Upon setup	Select the applicable marketing area and touch "END" to set the marketing area. MSJ **MC** ME
Org. Detect Option Sensor	To let the copier recognize an optional Original Size Detecting Sensor when one is mounted. ✻ When an optional sensor is mounted.	After the optional Original Size Detecting Sensor has been mounted, select "Set." Set **Unset** After the sensor has been mounted, perform "Org. Detect Sensor" of "Machine Adjust."
Serial # Input	To register the serial numbers of the copier and options. The numbers will be printed on the list output. ✻ Upon setup. ✻ When the IR Unit is replaced.	• The IR and printer have been separately adjusted and it is necessary to load the adjustment and other data of the IR side when the IR is connected to the printer. • The data is loaded at the timing when the Power Switch is turned OFF and ON after the IR serial number has been entered and "END" has been touched on the "Serial # Input" screen.
Tel. # Input	To enter the telephone number of the service contact that will appear on the Touch Panel when a malfunction occurs in the copier. ✻ Upon setup.	Enter the telephone number (19 digits) from the 10-Key Pad. Use the Interrupt key to enter a hyphen "-."
FLS Paper	To set the size for FLS paper. ✻ Upon setup. ✻ When the FLS paper size is changed.	Select the size from among the following four. F: 330.2 mm **F: 330 mm** F: 330.2 mm F: 330 mm C: 203.2 mm **C: 210 mm** C: 215.9 mm C: 220 mm
Book Erase (Center)	To change the center erase width in Book copying. ✻ As required by the user.	The setting range is 2 to 30 mm, with 15 mm being the default.

Item	Purpose	Setting/Precautions
Peripheral Setting	To set the type of the controller. ✻ When setting up the controller	See the Setup Instructions for the Controller.
Unit Change	• To select who is to replace a unit. • When the unit life arrives, the warning display is intended for the specific person who is going to replace the unit. • When “User” is selected: Copying is inhibited. • When “Service” is selected: Life warning. ✻ Upon setup	The following are the default settings: Toner Cartridge: User Waste Toner Bottle: Service Fusing Unit: Service Imaging Unit: Service Transfer Roller Unit: Service Paper Powder Filter/Ozone Filter: Service Punch Scraps Box: Service
Memory Recall	To select whether to display the option of “Memory Recall” for “User's Choice 1” of “Utility.”	The default setting is Enable. **Enable** Disable
Hard Disk	To configure the copier as necessary when a hard disk is mounted.	The default setting is Unset. Set **Unset**

Counter

- To clear the counts of two or more counters within a group or across different groups at once, touch “Counter Reset,” select the specific counters to be cleared, and touch “END.” Two or more counters can be selected.

Item	Purpose	Setting/Precautions
Life	To check the number of hours or times each of the different maintenance parts has been used or to clear the count of each counter. ✻ When each of the maintenance parts is replaced.	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation. • It is not possible to clear the count of the counters for the Fusing Unit and IU, which are provided with a new unit detection function. <1> • Fusing Unit: Number of times a sheet of paper is fed through • Transfer Roller Unit: Number of times a sheet of paper is fed through • Transfer Belt Unit: Number of times a sheet of paper is fed through ✻ The number of copies made (A) is compared with the number of hours through which the unit has been energized translated to the equivalent number of copies made (B) and (A) or (B), whichever reaches the life value, is detected. • Paper Powder Filter/Ozone Filter: Number of times a sheet of paper is fed through • 1st.: Number of sheets of paper fed from the 1st Drawer • 2nd.: Number of sheets of paper fed from the 2nd Drawer • 3rd.: Number of sheets of paper fed from the 3rd Drawer • 4th.: Number of sheets of paper fed from the 4th Drawer <2> • Cyan IU: Period of time over which the Cyan Developing Unit has been used. • Magenta IU: Period of time over which the Magenta Developing Unit has been used. • Yellow IU: Period of time over which the Yellow Developing Unit has been used. • Black IU: Period of time over which the Black Developing Unit has been used. ✻ The period of time over which the PC Drum has been turned (A) is compared with the period of time over which the Developing Roller has been rotated translated to the period of time over which the PC Drum has been turned (B) and (A) or (B), whichever reaches the life value, is detected. • LCC Parts 1: Number of sheets of paper fed from the LCC • LCC Parts 2: Number of sheets of paper fed from the LCC • ADF Feed: Number of sheets of paper fed through the take-up section of the ADF • ADF Rev.: Number of sheets of paper fed through the turnover unit of the ADF • Sorter/Finisher: Number of sheets of paper fed out of the Sorter/Finisher • Staple: Number of stapling sequences performed • Punch: Number of hole-punch sequences performed • Paper Fold: Number of folding sequences performed

Item	Purpose	Setting/Precautions
Jam	To check the number of misfeeds that have occurred at different locations in the copier or to clear the count of each counter.	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.
Trouble	To check the number of malfunctions that have occurred at different locations in the copier or to clear the count of each counter.	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.
Warning	To check the number of warning conditions detected according to the warming type or to clear the count of each counter.	• To clear the count of a counter, select the specific part and press the Clear key. • If a counter is cleared mistakenly, press the Interrupt key, which will undo the clearing operation. • When a warning condition occurs, an oil mark appears at the lower left corner of the Basic screen. • Touching the oil mark will display the warning code screen.
Maintenance	To set a count value for maintenance of any given part. ✻ When any given part is replaced.	<Maint.-Set> • Enter the maintenance counter value from the 10-Key Pad. <Maint.-Count> • Counts up when a sheet of paper is fed through the copier. Pressing the Clear key will clear the count. • If the count is cleared mistakenly, press the Interrupt key, which will undo the clearing operation.

State Confirm

Item	Purpose	Setting/Precautions
I/O Check	To display the states of the input ports of sensors and switches when the copier remains stationary. ✻ Used for troubleshooting when a malfunction or a misfeed occurs.	• The operation of each of the switches and sensors can be checked on a real-time basis. • It can be checked as long as the 5-V power line remains intact even when a cover is open.
Table #	To display the Vg/Vb output values calculated for the image density of the test pattern (amount of toner sticking) produced on the Transfer Belt during an AIDC detection sequence. ✻ Used for troubleshooting of image problems.	• Reference values C, M, Y .. Vb: around 400 V Vg: around 550 V ✻ The higher the humidity, the lower these values, and the lower the humidity, the higher these values.
Level History 1	To display ATDC (T/C ratio), AIDC/Regist Sensor output values, and fusing temperature. ✻ Used for troubleshooting of image problems.	• AIDC: Shows the AIDC bare surface output reading taken last. • ATDC, fusing temperature: Shows the latest ATDC and fusing temperature data. <"Reading taken last" means> • After the last image stabilization sequence. • When a test print is produced by pressing the Start key while Level History 1 is being displayed.
Level History 2	To display the intensity adjustment value of the AIDC Sensor (Transfer Belt bare surface level) as adjusted through the image stabilization sequence and ATVC value. ✻ Used for troubleshooting of image problems.	• AIDC Sensor: Shows the intensity adjustment value (0 to 255) of the AIDC Sensor. • ATVC (C, M, Y, Bk): Shows the first image transfer ATVC adjustment value (400 V to 3000 V). • ATVC (2nd): Shows the second image transfer ATVC adjustment value (300 V to 5000 V).
Temp. & Humidity	To display the temperature and humidity of a specific location (AIDC Sensor portion) inside the copier and fusing temperature. ✻ Used as reference information when a malfunction occurs.	• Copier interior temperature: 0 to 100 °C in 1 °C increments • Temperature on Fusing Belt side: 0 to 255 °C in 1 °C increments • Temperature on fusing pressure side: 0 to 255 °C in 1 °C increments • Copier interior humidity: 0 to 100% in 1% increments • Absolute humidity: 0 to 100 g/cm3 in 1-g/cm3 increments

Item	Purpose	Setting/Precautions
CCD Check	To display the D/A value of CCD clamp/gain for R, G, and B. ✻ Used for troubleshooting for the CCD Sensor.	Following are the normal ranges to be used as reference: • Clamp: ±100 for R, G, and B • Gain: Clamp value (R and B) ±90 for R and B, Clamp value (G) ±50 for G • The difference between each of RO and RE, GO and GE, and BO and BE should be within 30.
Paper Passage	• To check for paper passage performance of the engine only without involving a print action on paper. • The counters do not count up. ✻ When a paper misfeed or other fault occurs in the paper transport system.	• Select the paper source and press the Start key. • The sequence is halted when the Stop key is pressed or paper runs out.
Option Check	To check the capacity of the add-on memory and mounting of a hard disk. ✻ Used when the 2-sided copying function cannot be selected after an add-on memory has been set up.	When an add-on memory is mounted, the copier automatically recognizes it and displays its capacity.
Color Shift	• To check each of C, M, Y, and Bk for color shift amount. • The data is updated after a color shift correction has been made or color shift adjustment has been completed.	• For each of C, M, Y, and Bk, the color shift amount (in X and Y directions) at two locations (one at the front and the other in the rear) and the difference in color shift amount between the front and rear (X and Y directions) are displayed. • Display unit: dots • The shift amount is displayed with reference to Bk for C, M, and Y, and that for Bk is displayed with reference to an ideal position.
IU Lot No.	• To display the 10-digit lot number for each of C, M, Y, and Bk IUs. • The lot number data is stored in EEPROM of each IU.	The IU lot number is displayed even with the Front Door opened; however, the display is blank, since the copier is unable to read the lot number when the Power Switch is turned ON with the Front Door open. Nonetheless, the lot number will be displayed when the Front Door is closed. (The engine obtains the IU lot number information when the Front Door is closed.)

Item	Purpose	Setting/Precautions
LPH Status	To check various information on each of the C, M, Y, and Bk LPHs.	• LPH Lot No.: LPH lot number (10 digits) • Average Exposure: Average light intensity • X: Print width accuracy • Y: Linearity accuracy • Z: Focus accuracy • FFT Rank: Print width rank • LPH Rank: 0 to 5 ✻ If any one change is made from the default value as a result of LPH chip-to-chip corrections, an asterisk "✻" is displayed beside the color identification (C, M, Y, and Bk) on the screen.

ADF Check

Item	Purpose	Setting/Precautions
Original Stop Position	To make a manual adjustment of the document stop position and scanning position in each of the ADF modes. ✻ When "Auto Adjust Stop Position" is NG.	• 1-Sided Set: Adjust the document stop position for the first side (-7 mm to +7 mm). • 2-Sided Set: Adjust the document stop position for the second side (-7 mm to +7 mm). • Feed Set (Common): Adjust the start position for image scanning (-3 mm to +3 mm).
Registration Loop	To adjust the length of the loop to be formed in paper before the Registration Rollers. ✻ When a document misfeed or skew occurs.	• Enter the loop length from the 10-Key Pad and check for paper passage. • If a misfeed at times occurs due to a worn and slippery Document Take-Up Roller, the loop length may be increased as a temporary measure before the part is replaced with a new one. • Adjustment range: -5 mm to +5 mm
Auto Adjust Stop Position	To make an automatic adjustment of the document stop position and scanning position in each of the ADF modes. ✻ Upon setup of the ADF	• FD 1-Sided: Adjust the document stop position for the first side (-7 mm to +7 mm). • FD 2-Sided: Adjust the document stop position for the second side (-7 mm to +7 mm). • CD: Adjust the start position for image scanning (-3 mm to +3 mm). • The adjustment result is displayed (OK or NG).
Paper Passage	To check for paper passage through the ADF in each of the ADF modes. ✻ Used for checking the document path for any abnormal condition when a document misfeed occurs.	1. Select the mode and load the document in the Document Feed Tray. 2. Press the Start key, which will take up and feed the document through the ADF, one page after another.
I/O Check	To check sensors on the paper path. ✻ When a document misfeed occurs.	Block and unblock the sensor and check to see if the input port signal changes properly.

Item	Purpose	Setting/Precautions
Tray Volume Adjust	To set the maximum and the minimum width for the width sensor. ✻ Upon setup of the ADF	<Max. Width> Slide the Document Edge Guides to their maximum width and press the Start key. <Min. Width> Narrow the Document Edge Guides to their minimum width and press the Start key.
Sensor Auto Adjust	To make an automatic adjustment of the sensor. ✻ When a document misfeed occurs. ✻ When the sensor is replaced.	<Reset And ADF Sensor Auto Adj.> The detection level of the document through path sensor is initialized and then an automatic adjustment is made. <ADF Sensor Auto Adj.> The detection level of the document through path sensor is automatically adjusted.

ROM Version

Purpose	Setting/Precautions
To check the ROM version. ✻ When the firmware is upgraded or PWB is replaced.	<1> MSC/PANEL MSC Subset Message Mecha/PIC IR I.P ADF Sorter/Finisher <2> Controller Controller Board Controller Subset Controller Board Font

RD Mode

- Make the settings necessary when a Data Terminal is mounted. (For details, see Service Manual for Data Terminal.)

Item	Purpose	Setting/Precautions
e-mail / Modem	To select the type of the RD system.	Select either “e-mail” or “Modem.”
ID Code	To register the Tech. Rep. ID code and perform a maintenance start transmission.	Enter a 7-digit code from the 10-Key Pad (0000001 to 9999999). <Registration> When the ID code is entered, it is registered. <Maint. Start> Touch the ID Code Key.
DT Setting	To make the DT setting and perform the initial transmission.	<DT Setting> Set “Password,” “DT-ID,” and “TEL No.” ✻ When “e-mail” is selected for the ID Setting, TEL No. is the e-mail address. <Initial Transmission> Press the Initial Transmission key to execute the initial transmission to the Center and the copier equipped with the Data Terminal is registered with the Center (only if “Modem” is selected for “System Selection”).
Date/Time Input	To set the date and time-of-day.	Enter the date (month, day, and year) and time-of-day from the 10-Key Pad. Pressing the Set key will start the clock.
Common DT	To set tone or pulse and automatic reception.	The default settings are tone and disable automatic reception.
RAM Clear	To clear the data for the Center.	The following types of data are cleared: • ID Code, DT Setting, Date/Time Input, and Common DT.

Administrator # Input

Purpose	Setting/Precautions
To register the administrator number for entering the Admin. Mode of Utility. ✻ Upon setup	Enter a 4-digit number from the 10-Key Pad.

List Output

Item	Purpose	Setting/Precautions
Image Processing	To produce an output of a list of setting values, adjustment values, Total Counter values, and others. ✻ At the end of setup or when a malfunction occurs.	• Press the Start key, which will let the copier produce the list. • The paper used is A4 or 8 1/2" × 11" lengthwise plain paper and the paper source is the 1st Drawer. • Data printed is in English (alphanumeric characters). • The time-of-day and date will also be printed.
Counter	To produce an output of a list of counts of various counters. ✻ At the end of setup or when a malfunction occurs.	

Test Print

- To check for image on the printer side by letting the copier produce various types of test pattern.
- The copier searches through the paper sources in the order of the 2nd Drawer, 3rd Drawer, 4th Drawer, and 1st Drawer for paper of the maximum size for printing.

Item	Purpose	Setting/Precautions
Gradation Pattern	To produce a gradation pattern. ✻ Used for checking gradation reproducibility.	• Select **SINGLE** (single copy) or MULTI (multi copy). • Select FEET or **HYPER**. • Select **Gradation** or Resolution. • Select the color mode. ✻ Black (4PC): Uses four colors. ✻ Black (1PC): Uses one color of black.
Halftone Pattern	To produce a solid halftone pattern. ✻ Used for checking uneven density and pitch noise.	• Select **SINGLE** (single copy) or MULTI (multi copy). • Select FEET or **HYPER**. • Select **Gradation** or Resolution. • Select the color mode. ✻ Black (4PC): Uses four colors. ✻ Black (1PC): Uses one color of black. • Type the density level (0 to 255).
Lattice Pattern	To produce a lattice pattern. ✻ Used for checking fine line reproducibility and uneven density. A reverse pattern is also used to check for fine line reproducibility of white letters on a solid background.	• Select **SINGLE** (single copy) or MULTI (multi copy). • Select **FEET** or HYPER. • Select the color mode. ✻ Black (4PC): Uses four colors. ✻ Black (1PC): Uses one color of black. • Enter CD width and FD width (0 to 191 dots). • Type the density level (0 to **255**). • Select **Normal** or Reverse.
Solid Pattern	To produce each of the C, M, Y, and Bk solid patterns. ✻ Used for checking reproducibility of image density.	• Select **SINGLE** (single copy) or MULTI (multi copy). • Select FEET or **HYPER**. • Select **Gradation** or Resolution. • Type the density level (0 to **255**).
Color Sample	To produce a color sample. ✻ Used for checking reproducibility of each of the different colors.	Select **SINGLE** (single copy) or MULTI (multi copy).

Item	Purpose	Setting/Precautions
8 Color Solid Pattern	To produce an 8-color solid pattern. ✻ Used for checking color reproducibility and uneven density of each color.	• Select **SINGLE** (single copy) or MULTI (multi copy). • . Select FEET or **HYPER**. • . Select **Gradation** or Resolution. • . Type the density level (0 to **255**).
LPH Pattern	To produce an LPH pattern. ✻ Used for LPH chip-to-chip correction	• Select **SINGLE** (single copy) or MULTI (multi copy). • Select FEET or **HYPER**. • Select **Gradation** or Resolution. • Select to turn ON or **OFF** the Border Line.

Gradation Adjust

Purpose	Setting/Precautions
To correct gradation reproduction after the setup procedure has been completed or when color reproducibility is poor. ✻ The "Adj. Value" for "Max" and "Highlight" shown on the Gradation Adjust screen represents the degree of correction made to produce an output of an ideal image and "Conv. Value" represents the difference from an ideal image density. ✻ The image is more ideal when the "Conv. Value" is closer to 0.	• Press the Start key, which will let the copier produce a test pattern. Now. place the test pattern on the Original Glass. • Place ten blank sheets of A3 or 11" × 17" paper on the test pattern, lower the Original Cover, and press the Start key. • The copier then starts scanning the test pattern. On completing the scanning sequence, the copier displays the results of Gradation Adjust. • Repeat these steps two more times to let the copier carry out Gradation Adjust sequences a total of three times. • Select Gradation Adjust and check the data for "Conv. Value." • Complete the adjustments if the values for "Max" fall within the range of 0 +/-100 and for "Highlight" within the range of 0 +/-60. If values fall outside the ranges, carry out Gradation Adjust once again. • If a total of four Gradation Adjust sequences do not bring the values into the specified ranges, check the image. • If the image is faulty, perform troubleshooting procedures for image problems.

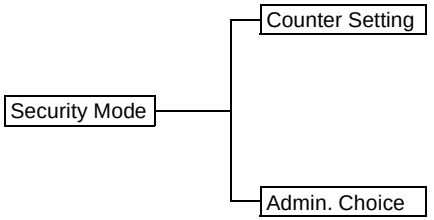
4. SECURITY MODE

4-1. Security Mode Function Setting Procedure

<Procedure>
1. Show the Tech. Rep. mode menu screen.
2. Press the following keys in this order.
   Stop → 9
3. Security Mode menu will appear.

<Exiting>
- Touch the “Fin. Time” key.

4-2. Security Mode Function Tree



4-3. Settings in the Security Mode

Counter Setting

<table>
<tr><th>Purpose</th><th>Setting/Precautions</th></tr>
<tr><td>To set the counting method for the Total Counter and Size Counter.</td><td>
<Total Counter>
Mode 1: 1 Count per 1 copy cycle (Default: U.S.A. and Canada)
Mode 2: Double count-up according to paper size and copying mode (Default: Europe)

<Size Counter>
• Not counted (Default: U.S.A. and Canada)
• A3 and 11 × 17
• A3, B4, 11 × 17, and Legal
• A3, B4, FLS, 11 × 17, 11 × 14, and Legal (Default: Europe)

✻ Count-up Table
<table>
<tr><td>Copying</td><td colspan="4">1-Sided</td><td colspan="4">2-Sided</td></tr>
<tr><td>Size</td><td colspan="2">Sizes other than those specified</td><td colspan="2">Specified sizes</td><td colspan="2">Sizes other than those specified</td><td colspan="2">Specified sizes</td></tr>
<tr><td rowspan="2">Total</td><td colspan="2">Mode</td><td colspan="2">Mode</td><td colspan="2">Mode</td><td colspan="2">Mode</td></tr>
<tr><td>1</td><td>2</td><td>1</td><td>2</td><td>1</td><td>2</td><td>1</td><td>2</td></tr>
<tr><td>Total</td><td>1</td><td>1</td><td>1</td><td>2</td><td>2</td><td>2</td><td>2</td><td>4</td></tr>
<tr><td>Size</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>2</td><td>2</td></tr>
<tr><td>2-sided Total</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>
</table>
0: No count; 1: 1 count; 2: 2 counts; 3: 3 counts; 4: 4 counts
</td></tr>
</table>

Admin. Choice

Purpose	Setting/Precautions
To set whether or not the Plug-In Counter, Data Controller, and Vendor are installed.	<Key Counter>(Plug-In Counter) • Default setting: Unset • If “Set” is selected, select the counting method applicable when an output is produced in color or mono color. ✻ If “Mode 1” is selected for “Total Counter” Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle ✻ If “Mode 2” is selected for “Total Counter,” “Specified sizes” is selected for “Size Counter,” and the paper used is the specified size Mode 1: 2 counts per 1 copy cycle Mode 2: 4 counts per 1 copy cycle Mode 3: 6 counts per 1 copy cycle Mode 4: 8 counts per 1 copy cycle Mode 5: 10 counts per 1 copy cycle ✻ If “Mode 2” is selected for “Total Counter,” “Sizes other than those specified” is selected for “Size Counter,” and the paper used is the specified size or one other than those specified Mode 1: 1 count per 1 copy cycle Mode 2: 2 counts per 1 copy cycle Mode 3: 3 counts per 1 copy cycle Mode 4: 4 counts per 1 copy cycle Mode 5: 5 counts per 1 copy cycle <Admin. Unit> (Data Controller) • Default setting: Unset <Vendor> • Default setting: Unset • If “Set” is selected, select Coin Vendor or Card Keeper.

TROUBLESHOOTING

1. INTRODUCTION

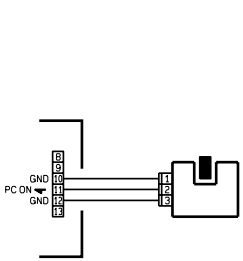
- Information required for troubleshooting and steps that must be performed are described in this chapter.

1-1. Checking the electrical components

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

(1) Sensor

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



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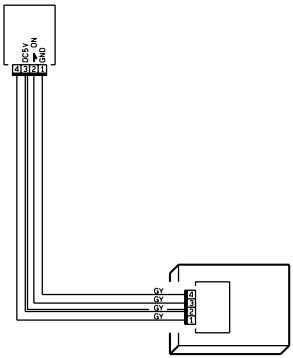

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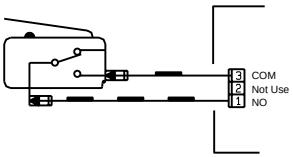
(2) Switch

Step	Check	Result	Action
1	Does the input signal (NO) of the master 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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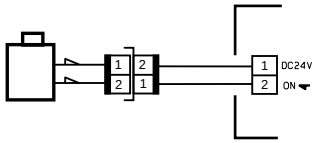
(3) Solenoid

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



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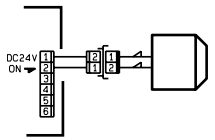
(4) Clutch

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



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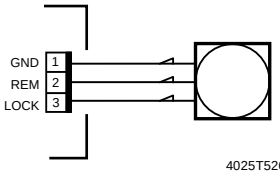
(5) Motor

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.



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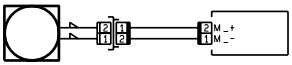
Step	Check	Result	Action
1	Does the input signal of the master board change from H to L when the motor is turned on?(The input signal differs depending on the rotation direction.)	YES	Replace the motor.
		NO	Replace the control board.



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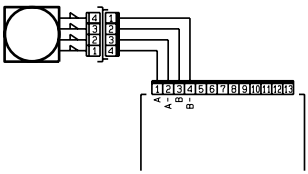
Step	Check	Result	Action
1	Are the relay connector of the motor and the print jack on the master board correctly connected?	YES	Replace the motor or the control board.
		NO	Connect the connector or the print jack.



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1-2. I/O CHECK

(1) Check Procedure

To allow sensors to be checked for operation easily and safely, data applied to the IC on the board can be checked on the panel with the copier in the standby state (including a misfeed, malfunction, and closure failure condition).

<Electrical Components Check Procedure Through Input Data Check>

Example

When a paper misfeed occurs in the paper take-up section of the copier, the 2nd Drawer Paper Take-Up Sensor is considered to be responsible for it.

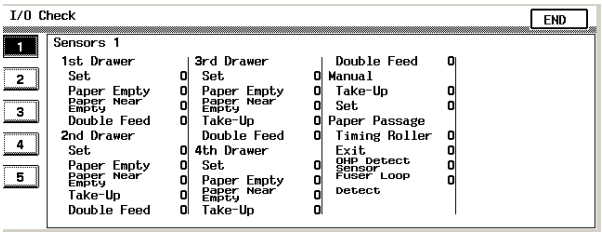
<Procedure>

1. Remove the sheet of paper misfeed.
2. From the I/O Check List that follows, check the panel display of the 2nd Drawer Paper Take-Up Sensor. For the 2nd Drawer Paper Take-Up Sensor, you check the data of "Take-Up" of "2nd Drawer."
3. Call the Tech. Rep. mode to the screen.
4. Select "State Confirm" → "I/O Check" and then select the screen that contains "Take-Up" under "2nd Drawer." For "Take-Up" under "2nd Drawer," select "1" on the left-hand side of the screen.
5. Check that the data for "Take-Up" under "2nd Drawer" is "0" (sensor blocked).
6. Move the actuator to unblock the 2nd Drawer Paper Take-Up Sensor.
7. Check that the data for "Take-Up" under "2nd Drawer" changes from "0" to "1" on the screen.
8. If the input data is "0," change the sensor.

(2) I/O Check List

<I/O Check Screens>

- These are only typical screens which may be different from what are shown on each individual copier.



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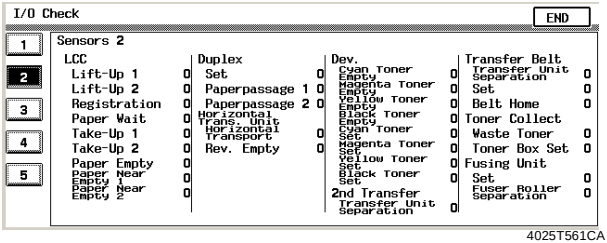

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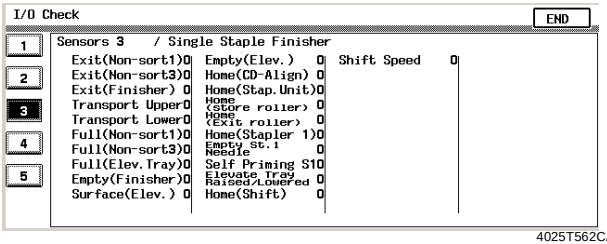

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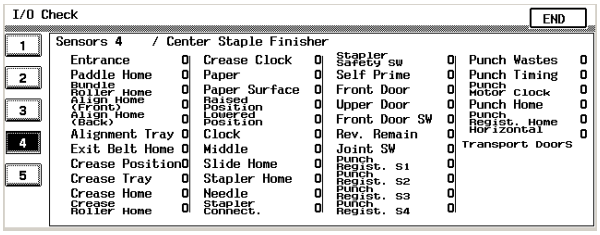

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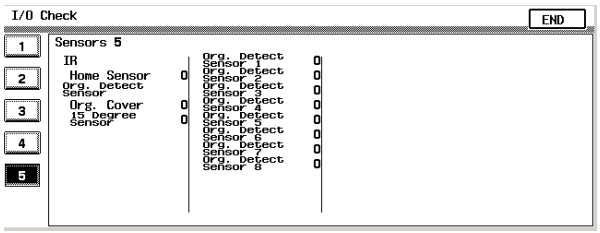

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<I/O Check List>

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display		Input Board	CN/PJ No.
				1	0		
PC3	1st Drawer	Set	1st Drawer Set Sensor	In position	Out of position	IO Board (PWB-IO)	PJ18IO-6B
PC6		Paper Empty	1st Drawer Paper Empty Sensor	Paper not present	Paper present		PJ11IO-3A
PC4		Paper Near Empty	1st Drawer Paper Near-Empty Sensor	Blocked	Unblocked		PJ18IO-3B
PC13		Double Feed	1st Drawer Double Feed Sensor	Paper present	Paper not present		PJ11IO-5B
SW D	2nd Drawer	Set	2nd Drawer Set Switch	In position	Out of position	2nd Drawer Control Board (PWB-A)	PJ3A-4B
PC102		Paper Empty	2nd Drawer Paper Empty Sensor	Paper not present	Paper present		PJ3A-14A
PC103		Paper Near Empty	2nd Drawer Paper Near-Empty Sensor	Blocked	Unblocked		PJ3A-11A
PC101		Take-Up	2nd Drawer Paper Take-Up Sensor	Paper present	Paper not present		PJ3A-5A
PC105		Double Feed	2nd Drawer Double Feed Sensor	Paper present	Paper not present		PJ3A-8A
SW D	3rd Drawer	Set	Drawer Set Switch	In position	Out of position	3rd Drawer Control Board (PWB-A)	PJ3A-4B
PC2		Paper Empty	Drawer Paper Empty Sensor	Paper not present	Paper present		PJ3A-14A
PC3		Paper Near Empty	Drawer Paper Near-Empty Sensor	Blocked	Unblocked		PJ3A-11A
PC1		Take-Up	Drawer Paper Take-Up Sensor	Paper present	Paper not present		PJ3A-5A
PC5		Double Feed	Drawer Double Feed Sensor	Paper present	Paper not present		PJ3A-8A
SW D	4th Drawer	Set	Drawer Set Switch	In position	Out of position	4th Drawer Control Board (PWB-A)	PJ3A-4B
PC2		Paper Empty	Drawer Paper Empty Sensor	Paper not present	Paper present		PJ3A-14A
PC3		Paper Near Empty	Drawer Paper Near-Empty Sensor	Blocked	Unblocked		PJ3A-11A
PC1		Take-Up	Drawer Paper Take-Up Sensor	Paper present	Paper not present		PJ3A-5A
PC5		Double Feed	Drawer Double Feed Sensor	Paper present	Paper not present		PJ3A-8A
PC15	Manual	Take-Up	Manual Feed Paper Take-Up Sensor	Paper present	Paper not present	IO Board (PWB-IO)	PJ10IO-2
PC15		Set	Manual Feed Paper Take-Up Sensor	In position	Out of position		
PC17	Paper Passage	Timing Roller	Synchronizing Roller Sensor	Paper present	Paper not present		PJ3IO-9B
PC10		Exit	Exit Sensor	Paper present	Paper not present		PJ11IO-9A
PC19		OHP Detect Sensor	OHP Detecting Sensor	OHP present	OHP not present		PJ3IO-2B
PC9		Fuser Loop Detect	Fusing Paper Loop Detecting Sensor	Loop present	Loop not present		PJ4IO-14

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display		Input Board	CN/PJ No.
				1	0		
LS1	LCC	Lift-Up 1	Lift-Up Sensor 1	At raised position	Not at raised position	LCC Control Board (PWB-A)	CN4A-6
LS2		Lift-Up 2	Lift-Up Sensor 2	At raised position	Not at raised position		CN4A-9
RSEN		Registration	Registration Sensor	Paper present	Paper not present		CN4A-2
S1		Paper Wait	Paper Standby Position Sensor	At standby position	Not at standby position		CN3A-5
PPS0		Take-Up 1	LCC Paper Take-Up Sensor	Paper present	Paper not present		CN4A-11
PPS1		Take-Up 2	Paper Empty Sensor 1	Paper present	Paper not present		CN3A-2
EMP		Paper Empty	Paper Empty Sensor 2	Paper not present	Paper present		CN3A-8
RS1		Paper Near Empty 1	Paper Near Empty Sensor 1	Unblocked	Blocked		CN6A-12
RS2		Paper Near Empty 2	Paper Near Empty Sensor 2	Unblocked	Blocked		CN5A-5
PWB-A PI2	Duplex	Set	Duplex Unit Door Set Sensor (in PWB-A)	Close	Open	Duplex Control Board	PJ1A-3
PWB-A PI1		Paper passage 1	Duplex Unit Transport Sensor 1 (in PWB-A)	Paper present	Paper not present		PJ1A-12
PC1		Paper passage 2	Duplex Unit Transport Sensor 2	Paper present	Paper not present		PJ4A-3
PC1	Horizontal Trans. Unit	Horizontal Transport	Paper Sensor	Paper not present	Paper present	Control Board (PWB-A)	PJ15A-4 PJ12-2
PC6		Rev. Empty	Turnover Empty Detecting Sensor	Paper present	Paper not present		PJ15A-12 PJ13-2
PC45	Dev.	Cyan Toner Empty	Toner Near-Empty Sensor PQ C	Toner not present	Toner present	IO Board (PWB-IO)	PJ15IO-1A
PC43		Magenta Toner Empty	Toner Near-Empty Sensor PQ M	Toner not present	Toner present		PJ15IO-3A
PC41		Yellow Toner Empty	Toner Near-Empty Sensor PQ Y	Toner not present	Toner present		PJ15IO-5A
PC47		Black Toner Empty	Toner Near-Empty Sensor PQ Bk	Toner not present	Toner present		PJ15IO-7A
PC50		Cyan Toner Set	TC Set Sensor C	Out of position	In position		PJ15IO-11A
PC49		Magenta Toner Set	TC Set Sensor M	Out of position	In position		PJ15IO-14A
PC48		Yellow Toner Set	TC Set Sensor Y	Out of position	In position		PJ15IO-11B
PC51		Black Toner Set	TC Set Sensor Bk	Out of position	In position		PJ15IO-14B
PC23	2nd Transfer	Transfer Unit Separation	2nd Image Transfer Pressure Position Sensor	Not Retracted	Retracted		PJ3IO-6B
PC28	Transfer Belt	Transfer Unit Separation	1st Image Transfer Retraction Position Sensor	Not Retracted	Retracted		PJ18IO-6A
-		Set	-	In position	Out of position		PJ2IO-3A
PC12		Belt Home	Image Transfer Belt Reference Position Sensor	Unblocked	Blocked		PJ11IO-3B

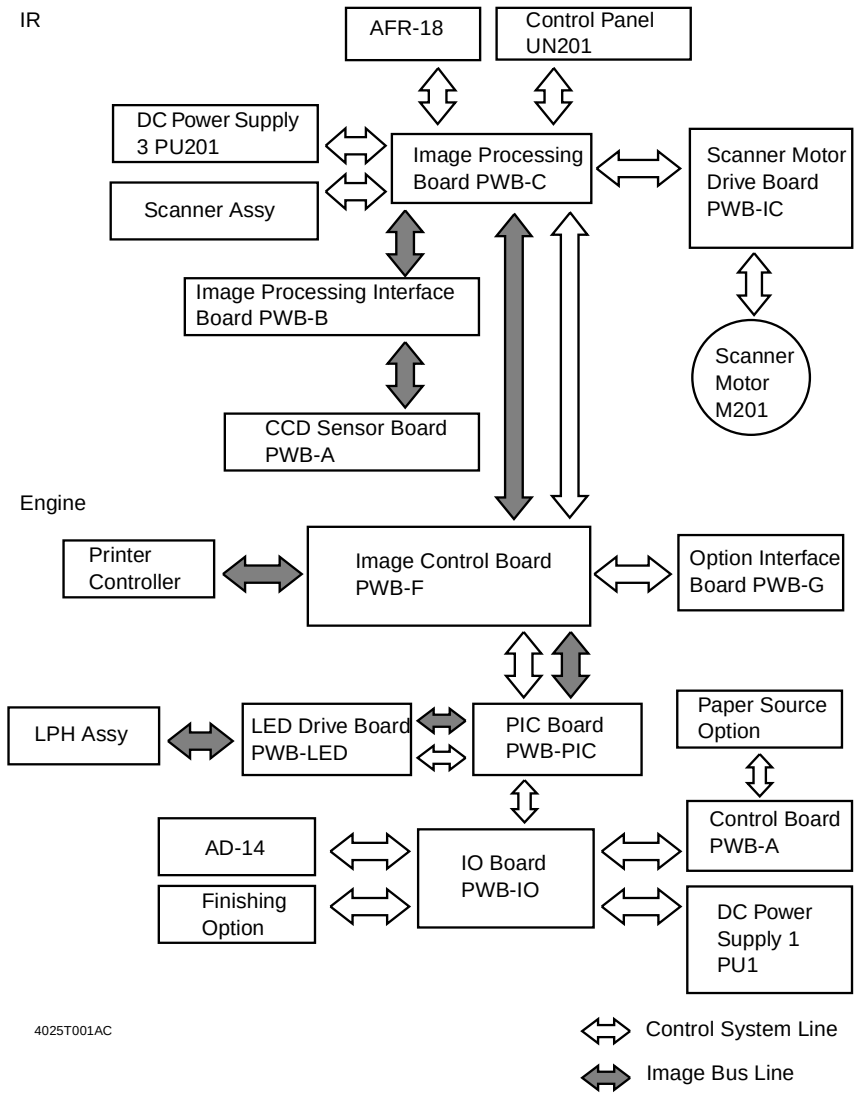
Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display		Input Board	CN/PJ No.
				1	0		
PC29	Toner Collect	Waste Toner	Waste Toner Full Detecting Sensor	Unblocked	Blocked	IO Board (PWB-IO)	PJ24IO-1B
PC18		Toner Box Set	Waste Toner Bottle Set Sensor	In position	Out of position		PJ24IO-4B
-	Fusing Unit	Set	Fusing Unit	In position	Out of position		PJ4IO-6
PC7		Fuser Roller Separation	Fusing Pressure Position Sensor	Pressed	State other than pressed		PJ4IO-3
PC1	Single Staple Finisher	Exit (Non-sort 1)	See the FN-116 service manual				
PC19		Exit (Non-sort 3)					
PC3		Exit (Finisher)					
PC4		Transport Upper					
PC2		Transport Lower					
PC6		Full (Non-sort 1)					
PC20		Full (Non-sort 3)					
PC7		Full (Elev. Tray)					
PC5		Empty (Finisher)					
PWB-D		Surface (Elev.)					
PC8		Empty (Elev.)					
PC9		Home (CD-Align)					
PC14		Home (Stap. Unit)					
PC12		Home (store roller)					
PC13		Home (Exit roller)					
-		Home (Stapler 1)					
-		Empty St. 1 Needle					
-		Self Priming S1					
S2 S3		Elevate Tray Raised/Lowered					
PC10		Home (Shift)					
PC11		Shift Speed					

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display		Input Board	CN/PJ No.
				1	0		
PI1	Center Staple Finisher	Entrance	See the FN-8 service manual				
PI2		Paddle Home					
PI3		Bundle Roller Home					
PI4		Align Home (Front)					
PI5		Align Home (Back)					
PI6		Alignment Tray					
PI7		Exit Belt Home					
PI10		Crease Position					
PI13		Crease Tray					
PI11		Crease Home					
PI12		Crease Roller Home					
PI14		Crease Clock					
PI8		Paper					
PI9		Paper Surface					
PI15		Raised Position					
PI16		Lowered Position					
PI17		Clock					
-		Middle					
PI18		Slide Home					
PI19		Stapler Home					
PI20		Needle					
-		Stapler Connect					
MS3		Stapler Safety SW					
PI21		Self Prime					
PI22		Front Door					
PI23		Upper Door					
MS1		Front Door SW					
-		Rev. Remain					
MS2		Joint SW					

Symbol	Panel Display		Part/Signal Name	Operation Characteristics/Panel Display		Input Board	CN/PJ No.
				1	0		
-	Center Staple Finisher	Punch Regist. S1	See the FN-8 service manual				
-		Punch Regist. S2					
-		Punch Regist. S3					
-		Punch Regist. S4					
-		Punch Wastes					
-		Punch Timing					
PI3P		Punch Motor Clock					
PI1P		Punch Home					
PI2P		Punch Regist. Home					
PC4		Transport Doors					
PC201	IR	Home Sensor	Scanner Home Sensor	At home	Out of home	Image Processing Board (PWB-C)	PJ11C-7
SW201	Org. Detect Sensor	Org. Cover	Size Reset Switch	Lowered	Raised		PJ11C-9
PC202		15 Degree Sensor	Original Cover Detecting Sensor	Less than 15°	15° or more		PJ8C-12B
PC203		Org. Detect Sensor 1	Original Size Detecting Sensor FD1	Original loaded, not mounted	Original not loaded		PJ8C-1A
PC204		Org. Detect Sensor 2	Original Size Detecting Sensor FD2	Original loaded, not mounted	Original not loaded		PJ8C-9A
PC204		Org. Detect Sensor 3	Original Size Detecting Sensor FD2	Original loaded, not mounted	Original not loaded		PJ8C-9A
PC206		Org. Detect Sensor 4	Original Size Detecting Sensor FD3	Original loaded, not mounted	Original not loaded		PJ7C-5
PC206		Org. Detect Sensor 5	Original Size Detecting Sensor FD3	Original loaded, not mounted	Original not loaded		PJ7C-5
PC205		Org. Detect Sensor 6	Original Size Detecting Sensor CD1	Original loaded, not mounted	Original not loaded		PJ11C-5
PC205		Org. Detect Sensor 7	Original Size Detecting Sensor CD1	Original loaded, not mounted	Original not loaded		PJ11C-5
PC207		Org. Detect Sensor 8	Original Size Detecting Sensor CD2	Original loaded, not mounted	Original not loaded		PJ10C-5

1-3. System Control Block Diagram

- Understanding the system control block diagram will help make easier the troubleshooting procedures for paper misfeeds, malfunctions, and image problems.



2. PAPER MISFEED

2-1. Initial Check Items

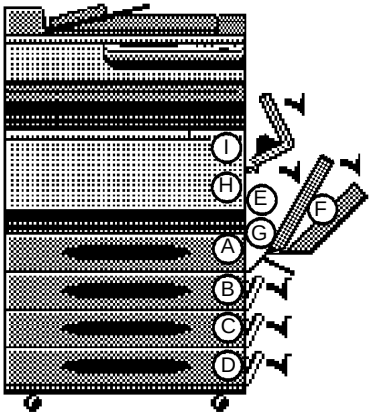
- When a paper misfeed occurs, first make checks of the following initial check items.

Check Item	Action
Does paper meet product specifications?	Change paper.
Is paper curled, wavy, or damp.	Change paper. Instruct user in correct paper storage.
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 change the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or change the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at correct position to accommodate paper?	Set as necessary.
Are actuators found operational as checked for correct operation?	Correct or change the defective actuator.

2-2. Misfeed Display

- When a paper misfeed occurs, the misfeed message, misfeed location, and paper location are displayed on the Touch Panel of the copier.

Misfeed detected
Remove misfeed at ○.



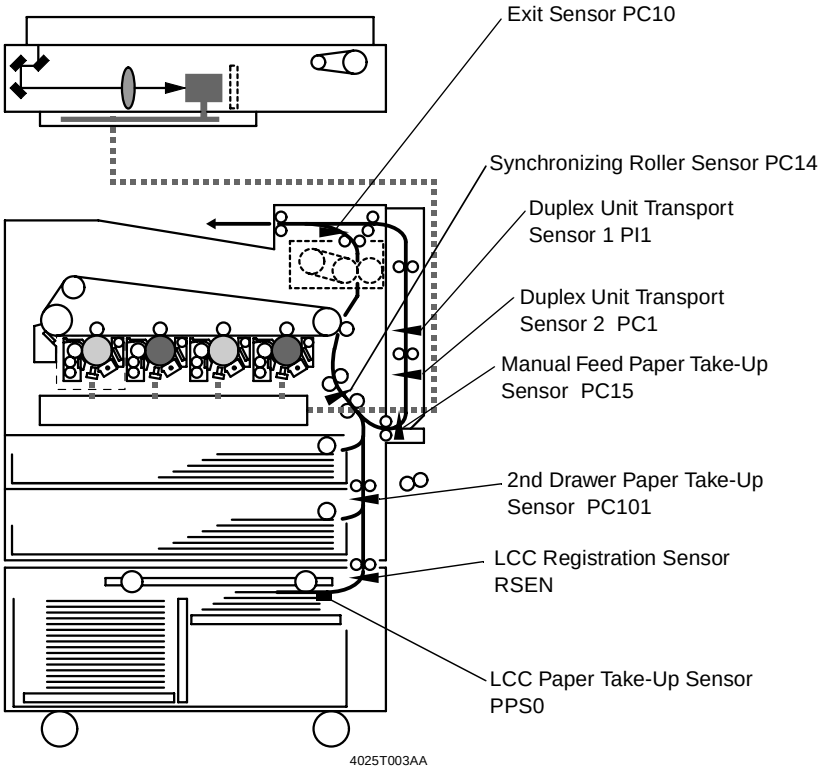
Display	Misfeed Location	Action
A	1st Drawer take-up	☞ T-16
B	2nd Drawer take-up	☞ T-17
C	3rd Drawer take-up	☞ T-18
	LCC take-up	☞ T-19
D	4th Drawer take-up	☞ T-20
	LCC Lift 2 to 1 paper transport	☞ T-21
E	Manual Bypass take-up	☞ T-22
F	Duplex Unit transport	☞ T-27
G	Vertical Transport	☞ T-23
	Duplex Unit take-up	☞ T-26
H	2nd Image Transfer	☞ T-28
I	Fusing/Exit	☞ T-29

<Misfeed Display Resetting Procedure>

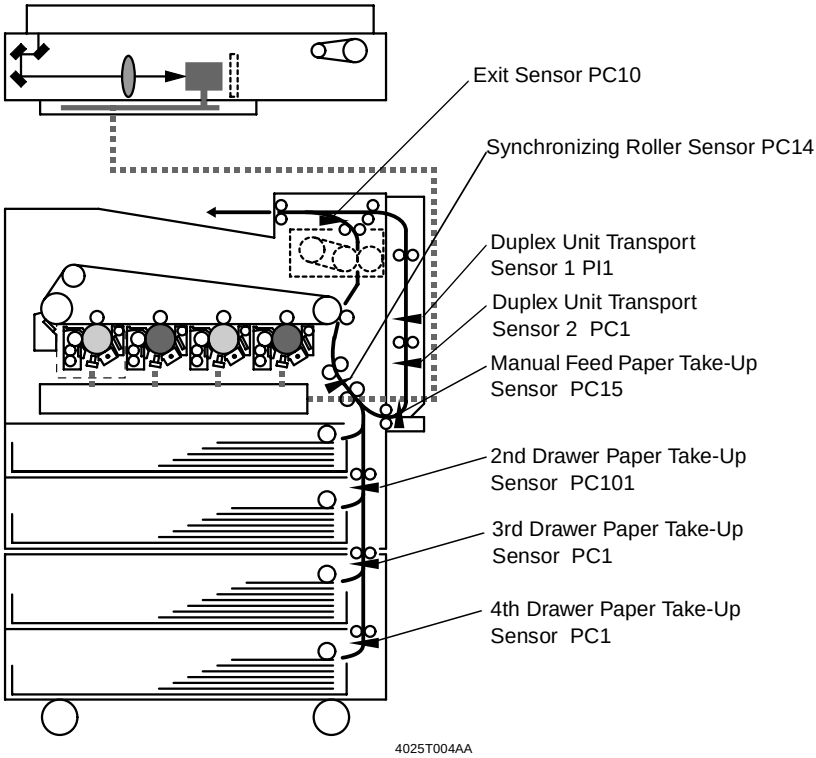
- Open the corresponding door, clear the sheet of paper misfeed, and close the door.

2-3. Misfeed Detecting Sensor Layout

- System Mounted with AD-14 and PF-121



• System Mounted with AD-14 and PF-118



2-4. Misfeed Detection Timing/Troubleshooting Procedures

(1) 1st Drawer Paper Take-Up Misfeed

<Detection Timing>

Type	Description
Paper take-up failure detection	The leading edge of the paper does not block the Synchronizing Roller Sensor (PC14) even after the lapse of a given period of time after the 1st Drawer Paper Take-Up Clutch (CL1) has been energized.
1st Drawer size error detection	The Synchronizing Roller Sensor (PC14) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.

<Action>

Relevant Electrical Parts	
Synchronizing Roller Sensor (PC14) 1st Drawer Paper Take-Up Clutch (CL1)	IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PC14 I/O check	T-4 to T-10	—	2-I
3	CL1 operation check	T-2	PWB-IO PJ10IO-8 (ON)	8-A
4	Change PWB-IO.	—	—	—

(2) 2nd Drawer Paper Take-Up Misfeed

<Detection Timing>

Type	Description
Paper take-up failure detection	The leading edge of the paper does not block the 2nd Drawer Paper Take-Up Sensor (PC101) even after the lapse of a given period of time after the 2nd Drawer Paper Take-Up Clutch (CL101) has been energized.
2nd Drawer size error detection	The 2nd Drawer Paper Take-Up Sensor (PC101) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
Detection of paper left in 2nd Drawer	The 2nd Drawer Paper Take-Up Sensor (PC101) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

<Action>

Relevant Electrical Parts	
2nd Drawer Take-Up Sensor (PC101) 2nd Drawer Take-Up Clutch (CL101) 2nd Drawer Take-Up Motor (M101)	2nd Drawer Control Board (PWB-A)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PC101 I/O check	T-4 to T-10	—	6-H
3	CL101 operation check	T-2	PWB-A PJ3A-14B (ON)	5-I
4	M101 operation check	T-3	PWB-A PJ5A-1 to 4 (Pulse Output)	6-G
5	Change PWB-A.	—	—	—

(3) 3rd Drawer Paper Take-Up Misfeed (PF-118)

<Detection Timing>

Type	Description
Paper take-up failure detection	The leading edge of the paper does not block the 3rd Drawer Paper Take-Up Sensor (PC1) even after the lapse of a given period of time after the 3rd Drawer Paper Take-Up Clutch (CL1) has been energized.
3rd Drawer size error detection	The 3rd Drawer Paper Take-Up Sensor (PC1) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
Detection of paper left in 3rd Drawer	The 3rd Drawer Paper Take-Up Sensor (PC1) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

<Action>

Relevant Electrical Parts	
3rd Drawer Take-Up Sensor (PC1) 3rd Drawer Take-Up Clutch (CL1) 3rd Drawer Take-Up Motor (M1)	3rd Drawer Control Board (PWB-A)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PC1 I/O check	T-4 to T-10	—	2-D
3	CL1 operation check	T-2	PWB-A PJ3A-14B (ON)	2-I
4	M1 operation check	T-3	PWB-A PJ5A-1 to 4 (Pulse Output)	2-A
5	Change PWB-A.	—	—	—

(4) LCC Paper Take-Up Misfeed (PF-121)

<Detection Timing>

Type	Description
LCC paper take-up failure detection	The LCC Exit signal does not turn ON even after the lapse of a given period of time after an LCC paper take-up request has been issued.
	The LCC Registration Sensor (RSEN) is not blocked even after the lapse of a given period of time after an LCC paper take-up request has been issued.
LCC size error detection	The 2nd Drawer Paper Take-Up Sensor (PC101) is not blocked even after the lapse of a given period of time after it has been blocked by the paper.
Detection of paper left in LCC	The LCC Registration Sensor (RSEN) or 2nd Drawer Paper Take-Up Sensor (PC101) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

<Action>

Relevant Electrical Parts	
LCC Paper Take-Up Sensor (PPS0) LCC Registration Sensor (RSEN) 2nd Drawer Paper Take-Up Sensor (PC101) LCC Paper Take-Up Clutch1 (P1CL) LCC Paper Take-Up Clutch2 (P2CL)	LCC Separator Clutch (BCL) LCC Registration Clutch (RCL) LCC Control Board (PWB-A)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PPS0 I/O check	T-4 to T-10	—	7-D
3	RSEN I/O check	T-4 to T-10	—	7-E
4	PC101 I/O check	T-4 to T-10	—	6-H (Copier)
5	P1CL operation check	T-2	PWB-A CN7A-8 (ON)	7-B
6	P2CL operation check	T-2	PWB-A CN7A-6 (ON)	7-B
7	BCL operation check	T-2	PWB-A CN7A-2 (ON)	7-C
8	RCL operation check	T-2	PWB-A CN7A-4 (ON)	7-C
9	Change PWB-A.	—	—	—

(5) 4th Drawer Paper Take-Up Misfeed (PF-118)

<Detection Timing>

Type	Description
Paper take-up failure detection	The leading edge of the paper does not block the 4th Drawer Paper Take-Up Sensor (PC1) even after the lapse of a given period of time after the 4th Drawer Paper Take-Up Clutch (CL1) has been energized.
4th Drawer size error detection	The 4th Drawer Paper Take-Up Sensor (PC1) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
Detection of paper left in 4th Drawer	The 4th Drawer Paper Take-Up Sensor (PC1) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

<Action>

Relevant Electrical Parts	
4th Drawer Take-Up Sensor (PC1) 4th Drawer Take-Up Clutch (CL1) 4th Drawer Take-Up Motor (M1)	4th Drawer Control Board (PWB-A)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PC1 I/O check	T-4 to T-10	—	2-D
3	CL1 operation check	T-2	PWB-A PJ3A-14B (ON)	2-I
4	M1 operation check	T-3	PWB-A PJ5A-1 to 4 (Pulse Output)	2-A
5	Change PWB-A.	—	—	—

(6) LCC Lift 2 to 1 paper transport Misfeed (PF121)

<Detection Timing>

Type	Description
Lift 2 to 1 misfeed detection	The LCC Paper Take-Up Sensor (PPS0) is not blocked even after the lapse of a given period of time after an LCC paper take-up request has been issued.
	The LCC Registration Sensor (RSEN) is not blocked even after the lapse of a given period of time after an LCC paper take-up request has been issued.
	The Paper Standby Position Sensor (S1) is not blocked even after the lapse of a given period of time after an LCC paper take-up request has been issued.

<Action>

Relevant Electrical Parts	
LCC Paper Take-Up Sensor (PPS0) Paper Standby Position Sensor (S1) LCC Registration Sensor (RSEN) LCC Paper Take-Up Clutch1 (P1CL) LCC Paper Take-Up Clutch2 (P2CL)	LCC Separator Clutch (BCL) LCC Registration Clutch (RCL) LCC Control Board (PWB-A)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PPS0 I/O check	T-4 to T-10	—	7-D
3	RSEN I/O check	T-4 to T-10	—	7-E
4	S1 I/O check	T-4 to T-10	—	7-G
5	P1CL operation check	T-2	PWB-A CN7A-8 (ON)	7-B
6	P2CL operation check	T-2	PWB-A CN7A-6 (ON)	7-B
7	BCL operation check	T-2	PWB-A CN7A-2 (ON)	7-C
8	RCL operation check	T-2	PWB-A CN7A-4 (ON)	7-C
9	Change PWB-A.	—	—	—

(7) Manual Bypass Take-Up Misfeed

<Detection Timing>

Type	Description
Manual bypass paper take-up failure detection	The Synchronizing Roller Sensor (PC14) is not blocked even after the lapse of a given period of time after the Manual Feed Paper Take-Up Sensor (PC15) has been blocked by the paper.
Manual bypass size error detection	The Synchronizing Roller Sensor (PC14) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
Detection of paper left in Manual Bypass Table	The Manual Feed Paper Take-Up Sensor (PC15) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

<Action>

Relevant Electrical Parts	
Manual Feed Paper Take-Up Sensor (PC15) Synchronizing Roller Sensor (PC14) Manual Feed Paper Take-Up Clutch (CL3)	IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PC15 I/O check	T-4 to T-10	—	1-B
3	PC14 I/O check	T-4 to T-10	—	2-I
4	CL3 operation check	T-2	PWB-IO PJ10IO-1 (ON)	1-A
5	Change PWB-IO.	—	—	—

(8) Vertical Transport Misfeed

<Detection Timing>

Type	Description
Vertical Transport misfeed detection	(Copier) The Synchronizing Roller Sensor (PC14) is not blocked even after the lapse of a given period of time after the 2nd Drawer Paper Take-Up Sensor (PC101) has been blocked by the paper.
	(PF-118) The 2nd Drawer Paper Take-Up Sensor (PC101) is not blocked even after the lapse of a given period of time after the 3rd Drawer Paper Take-Up Sensor (PC1) has been blocked by the paper.
	(PF-118) The 3rd Drawer Paper Take-Up Sensor (PC1) is not blocked even after the lapse of a given period of time after the 4th Drawer Paper Take-Up Sensor (PC1) has been blocked by the paper.
	(PF-121) The 2nd Drawer Paper Take-Up Sensor (PC101) is not blocked even after the lapse of a given period of time after an LCC paper take-up request has been issued.

<Action>

Copier

Relevant Electrical Parts	
2nd Drawer Paper Take-Up Sensor (PC101) Synchronizing Roller Sensor (PC14) 2nd Drawer Paper Take-Up Clutch (CL101) 2nd Drawer Paper Take-Up Motor (M101)	2nd Drawer Control Board (PWB-A)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PC101 I/O check	T-4 to T-10	—	6-H
3	PC14 I/O check	T-4 to T-10	—	2-I
4	CL101 operation check	T-2	PWB-A PJ13A-14B (ON)	5-I
5	M101 operation check	T-3	PWB-A PJ5A-1 to 4 (Pulse Output)	6-G
6	Change PWB-A.	—	—	—

Relevant Electrical Parts	
2nd Drawer Paper Take-Up Sensor (PC101) 3rd Drawer Paper Take-Up Sensor (PC1) 4th Drawer Paper Take-Up Sensor (PC1) 3rd Drawer Paper Take-Up Clutch (CL1) 4th Drawer Paper Take-Up Clutch (CL1)	3rd Drawer Paper Take-Up Motor (M1) 4th Drawer Paper Take-Up Motor (M1) 3rd Drawer Control Board (PWB-A) 4th Drawer Control Board (PWB-A)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PC101 I/O check	T-4 to T-10	—	6-H (Copier)
3	PC1(3rd Drawer) I/O check	T-4 to T-10	—	2-D
4	PC1(4th Drawer) I/O check	T-4 to T-10	—	2-D
5	CL1(3rd Drawer) operation check	T-2	PWB-A PJ3A-14B (ON)	2-I
6	CL1(4th Drawer) operation check	T-2	PWB-A PJ3A-14B (ON)	2-I
7	M1(3rd Drawer) operation check	T-3	PWB-A PJ5A-1 to 4 (Pulse Output)	2-A
8	M1(4th Drawer) operation check	T-3	PWB-A PJ5A-1 to 4 (Pulse Output)	2-A
9	Change PWB-A (3rd Drawer).	—	—	—
10	Change PWB-A (4th Drawer).	—	—	—

Relevant Electrical Parts	
LCC Paper Take-Up Sensor (PPS0) LCC Registration Sensor (RSEN) 2nd Drawer Paper Take-Up Sensor (PC101) LCC Paper Take-Up Clutch1 (P1CL) LCC Paper Take-Up Clutch2 (P2CL)	LCC Separator Clutch (BCL) LCC Registration Clutch (RCL) LCC Control Board (PWB-A)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PC101 I/O check	T-4 to T-10	—	6-H (Copier)
3	PPS0 I/O check	T-4 to T-10	—	7-D
4	RSEN I/O check	T-4 to T-10	—	7-E
5	P1CL operation check	T-2	PWB-A CN7A-8 (ON)	7-B
6	P2CL operation check	T-2	PWB-A CN7A-6 (ON)	7-B
7	BCL operation check	T-2	PWB-A CN7A-2 (ON)	7-C
8	RCL operation check	T-2	PWB-A CN7A-4 (ON)	7-C
9	Change PWB-A.	—	—	—

(9) Duplex Paper Take-Up Misfeed (AD-14)

<Detection Timing>

Type	Description
Duplex paper take-up misfeed detection	The Synchronizing Roller Sensor (PC14) is not blocked even after the lapse of a given period of time after a Duplex paper take-up sequence has been started.

<Action>

Relevant Electrical Parts	
Synchronizing Roller Sensor (PC14) Duplex Unit Motor (M2)	Duplex Control Board (PWB-A) IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
3	PC14 I/O check	T-4 to T-10	—	2-I (Copier)
4	M2 operation check	T-3	PWB-A PJ2A-1 to 4 (Pulse Output))	2-H
5	Change PWB-A.	—	—	—
6	Change PWB-IO.	—	—	—

(10) Duplex Paper Transport Misfeed (AD-14)

<Detection Timing>

Type	Description
Duplex transport misfeed detection	The Manual Feed Paper Take-Up Sensor (PC15) is not blocked even after the lapse of a given period of time after a Duplex paper take-up sequence has been started.
	The Duplex Unit Transport Sensor 2 (PC1) is not blocked even after the lapse of a given period of time after the Duplex Unit Transport Sensor 1 (PI1) has been blocked by the paper.
Detection of paper left in Duplex	The Duplex Unit Transport Sensor 1 (PI1) or Duplex Unit Transport Sensor 2 (PC1) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

<Action>

Relevant Electrical Parts	
Manual Feed Paper Take-Up Sensor (PC15) Duplex Unit Transport Sensor 1 (PI1) Duplex Unit Transport Sensor 2 (PC1) Switchback Motor (M1) Duplex Unit Motor (M2)	Duplex Control Board (PWB-A) IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PC15 I/O check	T-4 to T-10	—	1-B (Copier)
3	PI1 I/O check	T-4 to T-10	—	4-H
4	PC1 I/O check	T-4 to T-10	—	2-C
5	M1 operation check	T-3	PWB-A PJ3A-1 to 4 (Pulse Output))	7-D
6	M2 operation check	T-3	PWB-A PJ2A-1 to 4 (Pulse Output))	2-H
7	Change PWB-A.	—	—	—
8	Change PWB-IO.	—	—	—

(11) 2nd Image Transfer Misfeed

<Detection Timing>

Type	Description
2nd Image Transfer misfeed detection	The Synchronizing Roller Sensor (PC14) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
	The Exit Sensor (PC10) is not blocked even after the lapse of a given period of time after the Synchronizing Roller Sensor (PC14) has been blocked by the paper.
Detection of paper left at 2nd Image Transfer	The Synchronizing Roller Sensor (PC14) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The OHP Detecting Sensor (PC19) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

<Action>

Relevant Electrical Parts	
Synchronizing Roller Sensor (PC14) Exit Sensor (PC10) OHP Detecting Sensor (PC19)	IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PC14 I/O check	T-4 to T-10	—	2-I
3	PC10 I/O check	T-4 to T-10	—	8-F
4	PC19 I/O check	T-4 to T-10	—	2-I
5	Change PWB-IO.	—	—	—

(12) Fusing/Exit Misfeed

<Detection Timing>

Type	Description
Fusing/Exit misfeed detection	The Exit Sensor (PC10) is not unblocked even after the lapse of a given period of time after it has been blocked by the paper.
	The Duplex Unit Transport Sensor 1 (PI1) is not blocked even after the lapse of a given period of time after the Exit Sensor (PC10) has been unblocked by the paper during a switchback sequence.
Detection of paper left at Fusing/Exit	The Exit Sensor (PC10) is blocked when the Power Switch is turned ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

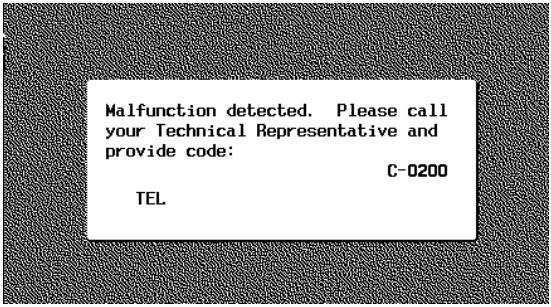
<Action>

Relevant Electrical Parts	
Exit Sensor (PC10) Duplex Unit Transport Sensor 1 (PI1)	IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Initial check items	T-12	—	—
2	PC10 I/O check	T-4 to T-10	—	8-F
3	PI1 I/O check	T-4 to T-10	—	4-H (AD-14)
4	Change PWB-IO.	—	—	—

3. MALFUNCTIONS

- 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.



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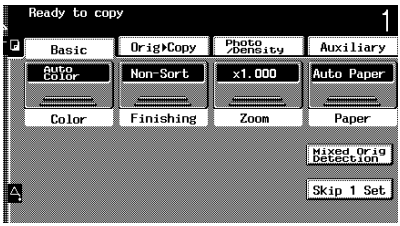
Resetting a Malfunction

- *Press the Trouble Reset Switch on the Tech. Rep. Setting Switches Board to reset the following malfunctions: scanner-related malfunctions, fusing-related malfunctions, exposure lamp-related malfunctions and C3FFF.*
- *For any other malfunctions, open and close the Front Door or turn OFF and ON the Power Switch.*

<Warning>

When a warning condition is detected, the maintenance call mark will be displayed on the Touch Panel. Touching the maintenance call mark will display the corresponding warning code on the State Confirm screen.



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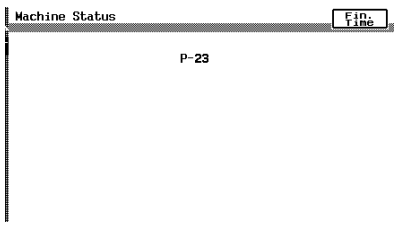

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3-1. Warning Detection Timing and Troubleshooting Procedure

- If an image stabilization or IR-related fault occurs, the corresponding warning code appears.

(1) P-5: AIDC Sensor (Front) failure

(2) P-28 AIDC Sensor (Back) failure

<Detection Timing>

Warning Code	Description
P-5	• The output from the photoreceiver of the AIDC Sensor that takes a reading of a point of a bare surface on the Transfer Belt is 4.5 V or more during an adjustment of the AIDC Sensor. • The output from the photoreceiver of the AIDC Sensor that takes a reading of a point in a toner pattern on the Transfer Belt is 1.0 V or less after the adjustment has been completed.
P-28	

<Action>

Relevant Electrical Parts	
AIDC Sensor 1 (UN20) AIDC Sensor 2 (UN21)	IO Board (PWB-IO) Image Transfer Belt Unit

Step	Action
1	Wipe clean the surface of the Transfer Belt with a soft cloth, if it is dirty.
2	Change the Image Transfer Belt Unit if the Transfer Belt is damaged.
3	Reinstall or reconnect UN20 or UN21 if it is installed or connected improperly.
4	Clean UN20 or UN21 if it is dirty.
5	Open and close the Left Door, run an image stabilization sequence, and select “State Confirm” -> “Level History 1” to check the AIDC value. If the value is 1.0 V or less, change UN20 or UN21.
6	Change PWB-IO.

(3) P-6: Cyan IU failure

(4) P-7: Magenta IU failure

(5) P-8: Yellow IU failure

(6) P-9: Black IU failure

<Detection Timing>

Warning Code	Description
P-6	All density readings taken from the density pattern produced on the Transfer Belt are 0.4 V (AIDC Sensor photoreceiver output) or less during max. density adjustment (Vg/Vb adjustment).
P-7	
P-8	
P-9	

<Action>

Relevant Electrical Parts	
IU (C) IU (M) IU (Y) IU (Bk)	Image Transfer Belt Unit

Step	Action
1	Select “Image Adjust” → “PRT Max Density” and, if the setting value is negative, readjust.
2	Check the drive transmission portion of the IU and correct as necessary.
3	Clean the AIDC Sensor window if dirty.
4	Clean the contact of the IU connector if dirty.
5	Change IU.
6	Change the Image Transfer Belt Unit.

(7) P-21: Color Shift Test Pattern failure

<Detection Timing>

Warning Code	Description
P-21	• The number of points detected in the CD direction is more or less than the specified value during CD registration correction. • The number of points detected in the FD direction is more or less than the specified value during FD registration correction.

<Action>

Relevant Electrical Parts
Image Transfer Belt Unit

Step	Action
1	Wipe clean the surface of the Transfer Belt with a soft cloth, if it is dirty.
2	Change the Image Transfer Belt Unit if the Transfer Belt is damaged.

(8) P-22: Color Shift Adjust failure

<Detection Timing>

Warning Code	Description
P-22	• The color shift amount is greater than the specified range during CD registration correction. • The color shift amount is greater than the specified range during FD registration correction. • The skew correction amount is greater than the specified value.

<Action>

Relevant Electrical Parts	
Regist Sensor 1 (UN20)	Regist Sensor 2 (UN21)

Step	Action
1	Check the LED retraction lever for locked position and, if there is any faulty condition evident, slide out the IU and reinstall it in position.
2	Reinstall or reconnect UN20 or UN21 if it is installed or connected improperly.
3	Check the Vertical Transport Guide for installed position and correct as necessary.

(9) P-23: ATVC(C) failure

(10) P-24: ATVC(M) failure

(11) P-25: ATVC(Y) failure

(12) P-26: ATVC(Bk) failure

(13) P-27: ATVC(2nd) failure

<Detection Timing>

Warning Code	Description
P-23	An abnormal average value is detected during an adjustment of the first image transfer ATVC value of each color.
P-24	
P-25	
P-26	
P-27	An abnormal average value is detected during an adjustment of the second image transfer ATVC value.

<Action>

Relevant Electrical Parts	
High Voltage Unit (Image Transfer, Neutralizing) HV2	IO Board (PWB-IO) Image Transfer Belt Unit

Step	Action
1	Check the contact of the Transfer Belt Unit and that of HV2 for connection and clean or correct the contact as necessary.
2	Change the Image Transfer Belt Unit.
3	Change HV2.
4	Change PWB-IO.

3-2. Malfunction Detection Timing and Troubleshooting Procedure

(1) C0000: Main Motor's failure to turn

(2) C0001: Main Motor Turning at abnormal timing

<Detection Timing>

Malfunction Code	Description
C0000	The Main Motor Lock signal remains HIGH for a predetermined continuous period of time while the Main Motor is turning.
C0001	The Main Motor Lock signal remains LOW for a predetermined continuous period of time while the Main Motor remains stationary.

<Action>

Relevant Electrical Parts	
Main Motor (M13)	IO Board (PWB-IO) DC Power Supply 1 (PU1)

✻ C0000

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the M13 connector for proper connection and correct as necessary.	—	—	—
2	Check M13 for proper drive coupling and correct as necessary.	—	—	—
3	Check the PU1 connector for proper connection and correct as necessary.	—	PU1 PJ6 PU1-1 (DC24V)	28-G
4	M13 operation check	T-3	PWB-IO PJ5IO-1A (LOCK) PWB-IO PJ5IO-4A (REM)	35-A
5	Change PWB-IO.	—	—	—
6	Change PU1.	—	—	—

✻ C0001

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	M13 operation check	T-3	PWB-IO PJ5IO-1A (LOCK) PWB-IO PJ5IO-4A (REM)	35-A
2	Change PWB-IO.	—	—	—

(3) C0010: Imaging Unit Motor C's failure to turn

(4) C0011: Imaging Unit C turning at abnormal timing

(5) C0012: Imaging Unit Motor M's failure to turn

(6) C0013: Imaging Unit M turning at abnormal timing

(7) C0014: Imaging Unit Motor Y's failure to turn

(8) C0015: Imaging Unit Y turning at abnormal timing

(9) C0016: Imaging Unit Motor Bk's failure to turn

(10) C0017: Imaging Unit Bk turning at abnormal timing

<Detection Timing>

Malfunction Code	Description
C0010	The Imaging Unit Motor C Lock signal remains HIGH for a predetermined continuous period of time while the Imaging Unit Motor C is turning.
C0011	The Imaging Unit Motor C Lock signal remains LOW for a predetermined continuous period of time while the Imaging Unit Motor C remains stationary.
C0012	The Imaging Unit Motor M Lock signal remains HIGH for a predetermined continuous period of time while the Imaging Unit Motor M is turning.
C0013	The Imaging Unit Motor M Lock signal remains LOW for a predetermined continuous period of time while the Imaging Unit Motor M remains stationary.
C0014	The Imaging Unit Motor Y Lock signal remains HIGH for a predetermined continuous period of time while the Imaging Unit Motor Y is turning.
C0015	The Imaging Unit Motor Y Lock signal remains LOW for a predetermined continuous period of time while the Imaging Unit Motor Y remains stationary.
C0016	The Imaging Unit Motor Bk Lock signal remains HIGH for a predetermined continuous period of time while the Imaging Unit Motor Bk is turning.
C0017	The Imaging Unit Motor Bk Lock signal remains LOW for a predetermined continuous period of time while the Imaging Unit Motor Bk remains stationary.

<Action>

Relevant Electrical Parts	
IU Motor C (M17) IU Motor M (M16) IU Motor Y (M15) IU Motor Bk (M18)	IO Board (PWB-IO) DC Power Supply 1 (PU1)

✻ C0010, C0012, C0014, C0016

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the connector of each motor for proper connection and correct as necessary.	—	—	—
2	Check the connector of each motor for proper drive coupling and correct as necessary.	—	—	—
3	Check the PU1 connector for proper connection and correct as necessary.	—	PU1 PJ7PU1-1 (DC24V)	28-G
4	M15 operation check	T-3	PWB-IO PJ17IO-5A (LOCK) PWB-IO PJ17IO-6A (REM)	16-A
5	M16 operation check	T-3	PWB-IO PJ17IO-11A(LOCK) PWB-IO PJ17IO-12A(REM)	17-B
6	M17 operation check	T-3	PWB-IO PJ17IO-5B(LOCK) PWB-IO PJ17IO-6B(REM)	16-C
7	M18 operation check	T-3	PWB-IO PJ17IO-11B(LOCK) PWB-IO PJ17IO-12B(REM)	18-C
8	Change PWB-IO.	—	—	—
9	Change PU1.	—	—	—

✻ C0011, C0013, C0015, C0017

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	M15 operation check	T-3	PWB-IO PJ17IO-5A(LOCK) PWB-IO PJ17IO-6A(REM)	16-A
2	M16 operation check	T-3	PWB-IO PJ17IO-11A(LOCK) PWB-IO PJ17IO-12A(REM)	17-B
3	M17 operation check	T-3	PWB-IO PJ17IO-5B(LOCK) PWB-IO PJ17IO-6B(REM)	16-C
4	M18 operation check	T-3	PWB-IO PJ17IO-11B(LOCK) PWB-IO PJ17IO-12B(REM)	18-C
5	Change PWB-IO.	—	—	—

(11) C0040: Suction Fan Motor's failure to turn

(12) C0043: Cooling Fan Motor 1's failure to turn

(13) C0044: Cooling Fan Motor 3's failure to turn

(14) C0045: Cooling Fan Motor 4/5's failure to turn

(15) C0046: Fusing Cooling Fan Motor's failure to turn

(16) C004C: Ozone Ventilation Fan Motor's failure to turn

(17) C004E: Power Supply Cooling Fan Motor's failure to turn

(18) C004F: Cooling Fan Motor 2's failure to turn

<Detection Timing>

Malfunction Code	Description
C0040	The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Suction Fan Motor is turning.
C0043	The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Cooling Fan Motor 1 is turning.
C0044	The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Cooling Fan Motor 3 is turning.
C0045	The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Cooling Fan Motor 4/5 is turning.
C0046	The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Fusing Cooling Fan Motor is turning.
C004C	The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Ozone Ventilation Fan Motor is turning.
C004E	The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Power Supply Cooling Fan Motor is turning.
C004F	The Fan Lock signal remains HIGH for a predetermined continuous period of time while the Cooling Fan Motor 2 is turning.

<Action>

Relevant Electrical Parts	
Suction Fan Motor (M23) Cooling Fan Motor 1 (M25) Cooling Fan Motor 2 (M26) Cooling Fan Motor 3 (M27) Cooling Fan Motor 4 (M28) Cooling Fan Motor 5 (M29) Fusing Cooling Fan Motor (M24) Ozone Ventilation Fan Motor (M22) Power Supply Cooling Fan Motor (M21)	High Voltage Unit (Developing Bias) HV3 IO Board (PWB-IO) DC Power Supply 1 (PU1) DC Power Supply 2 (PU2)

✻ C0040

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the motor connector for proper connection and correct as necessary.	—	—	—
2	Check the fan for possible overload and correct as necessary.	—	—	—
3	M23 operation check	T-3	PWB-IO PJ10IO-13(LOCK) PWB-IO PJ10IO-11(REM)	2-H
4	Change PWB-IO.	—	—	—

✻ C0043

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the motor connector for proper connection and correct as necessary.	—	—	—
2	Check the fan for possible overload and correct as necessary.	—	—	—
3	M25 operation check	T-3	PWB-IO PJ6IO-14(LOCK) PWB-IO PJ6IO-12(REM)	35-A
4	Change PWB-IO.	—	—	—

✻ C0044

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the motor connector for proper connection and correct as necessary.	—	—	—
2	Check the fan for possible overload and correct as necessary.	—	—	—
3	M27 operation check	T-3	PWB-IO PJ29IO-3(LOCK) PWB-IO PJ29IO-1(REM)	35-B
4	Change PWB-IO.	—	—	—

✻ C0045

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the motor connector for proper connection and correct as necessary.	—	—	—
2	Check the fan for possible overload and correct as necessary.	—	—	—
3	M28, M29 operation check	T-3	PJ25IO-4B(LOCK): M28 PJ25IO-2B(REM): M28 PJ25IO-9B(LOCK): M29 PJ25IO-7B(REM): M29	35-B: M28 35-C: M29
4	Change PWB-IO.	—	—	—

✻ C0046

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the motor connector for proper connection and correct as necessary.	—	—	—
2	Check the fan for possible overload and correct as necessary.	—	—	—
3	M24 operation check	T-3	PU2 CN2PU2-9(LOCK) PU2 CN2PU2-7(REM)	2-F
4	Change PU2.	—	—	—

✻ C004C

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the motor connector for proper connection and correct as necessary.	—	—	—
2	Check the fan for possible overload and correct as necessary.	—	—	—
3	M22 operation check	T-3	PWB-IO PJ23IO-15(LOCK) PWB-IO PJ23IO-14(REM)	19-A
4	Change PWB-IO.	—	—	—
5	Change HV3.	—	—	19-B, C

✻ C004E

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the motor connector for proper connection and correct as necessary.	—	—	—
2	Check the fan for possible overload and correct as necessary.	—	—	—
3	M21 operation check	T-3	PU1 PJ12PU1-1(LOCK) PU1 PJ12PU1-3(REM)	29-I
4	Change PU1.	—	—	—

✻ C004F

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the motor connector for proper connection and correct as necessary.	—	—	—
2	Check the fan for possible overload and correct as necessary.	—	—	—
3	M26 operation check	T-3	PWB-IO PJ28IO-9(LOCK) PWB-IO PJ28IO-7(REM)	35-B
4	Change PWB-IO.	—	—	—

(19) C0060: Fusing Drive Motor's failure to turn

(20) C0061: Fusing Drive Motor turning at abnormal timing

<Detection Timing>

Malfunction Code	Description
C0060	The Fusing Drive Motor Lock signal remains HIGH for a predetermined continuous period of time while the Fusing Drive Motor is turning.
C0061	The Fusing Drive Motor Lock signal remains LOW for a predetermined continuous period of time while the Fusing Drive Motor remains stationary.

<Action>

Relevant Electrical Parts	
Fusing Drive Motor (M14)	IO Board (PWB-IO) DC Power Supply 1 (PU1)

✻ C0060

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the M14 connector for proper connection and correct as necessary.	—	—	—
2	Check the Fusing Unit drive for possible overload and correct as necessary.	—	—	—
3	Check the PU1 connector for proper connection and correct as necessary.	—	PU1 PJ6PU1-1(DC24V)	28-G
4	M14 operation check	T-3	PWB-IO PJ5IO-7A(LOCK) PWB-IO PJ5IO-10A(REM)	2-E
5	Change PWB-IO.	—	—	—
6	Change PU1.	—	—	—

✻ C0061

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	M14 operation check	T-3	PWB-IO PJ5IO-7A(LOCK) PWB-IO PJ5IO-10A(REM)	2-E
2	Change PWB-IO.	—	—	—

(21) C0094: 2nd Image Transfer Roller pressure/retraction failure

<Detection Timing>

Malfunction Code	Description
C0094	• The 2nd Image Transfer Pressure Position Sensor is not activated (retracted position) within 2 sec. after the 2nd Image Transfer Pressure/Retraction Motor has started turning during a sequence of the 2nd Image Transfer Roller's retracting motion. • The 2nd Image Transfer Pressure Position Sensor is not deactivated (pressed position) within 2 sec. after the 2nd Image Transfer Pressure/Retraction Motor has started turning during a sequence of the 2nd Image Transfer Roller's pressing motion.

<Action>

Relevant Electrical Parts	
2nd Image Transfer Pressure Position Sensor (PC23) 2nd Image Transfer Pressure/Retraction Motor (M12)	IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the M12 connector for proper connection and correct as necessary.	—	—	—
2	PC23 I/O check	T-4 to T-10	—	5-E
3	M12 operation check	T-3	PWB-IO PJ10IO-9(REM)	5-D
4	Change PWB-IO.	—	—	—

(22) C0096: Image Transfer Belt pressure/retraction failure

<Detection Timing>

Malfunction Code	Description
C0096	• The 1st Image Transfer Retraction Position Sensor is not activated (retracted position) within 3 sec. after the 1st Image Transfer Pressure/Retraction Motor has started turning during a sequence of the Transfer Belt's retracting motion. • The 1st Image Transfer Retraction Position Sensor is not deactivated (pressed position) within 1 sec. after the 1st Image Transfer Pressure/Retraction Motor has started turning during a sequence of the Transfer Belt's pressing motion.

<Action>

Relevant Electrical Parts	
1st Image Transfer Retraction Position Sensor (PC28) 1st Image Transfer Pressure/Retraction Motor (M11)	IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the M11 connector for proper connection and correct as necessary.	—	—	—
2	PC28 I/O check	T-4 to T-10	—	5-E
3	M11 operation check	T-3	PWB-IO PJ16IO-1 to 4 (Pulse Output)	5-D
4	Change PWB-IO.	—	—	—

(23) C0098: Fusing Pressure Roller pressure/retraction failure

<Detection Timing>

Malfunction Code	Description
C0098	• No change is observed in the encoder pulse of the Fusing Pressure/Retraction Motor even after the lapse of 0.5 sec. after the motor has started turning for a sequence of the Fusing Pressure Roller's retracting motion. • No change is observed in the encoder pulse of the Fusing Pressure/Retraction Motor even after the lapse of 0.5 sec. after the motor has started turning for a sequence of the Fusing Pressure Roller's pressing motion. • The Fusing Pressure Position Sensor is not activated (pressed position) even when 21 encoder pulses of the Fusing Pressure/Retraction Motor are counted after the motor has started turning for a sequence of the Fusing Pressure Roller's pressing motion.

<Action>

Relevant Electrical Parts	
Fusing Pressure/Retraction Motor (M8)	IO Board (PWB-IO) Fusing Unit

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the M8 connector for proper connection and correct as necessary.	—	—	—
2	M8 operation check	T-3	PWB-IO PJ13IO-4, 5	2-E
3	Change Fusing Unit.	—	—	—
4	Change PWB-IO.	—	—	—

(24) C0200: Cyan PC Drum Charge Corona malfunction

(25) C0202: Magenta PC Drum Charge Corona malfunction

(26) C0204: Yellow PC Drum Charge Corona malfunction

(27) C0206: Black PC Drum Charge Corona malfunction

(28) C0208: PC Drum Charge Corona malfunction

<Detection Timing>

Malfunction Code	Description
C0200	The SCD signal is detected for a continuous 0.7-sec. period when the Cyan PC Drum Charge Corona is automatically energized as the malfunction is reset after C0208 (PC Drum Charge Corona malfunction) has been detected.
C0202	The SCD signal is detected for a continuous 0.7-sec. period when the Magenta PC Drum Charge Corona is automatically energized as the malfunction is reset after C0208 (PC Drum Charge Corona malfunction) has been detected.
C0204	The SCD signal is detected for a continuous 0.7-sec. period when the Yellow PC Drum Charge Corona is automatically energized as the malfunction is reset after C0208 (PC Drum Charge Corona malfunction) has been detected.
C0206	The SCD signal is detected for a continuous 0.7-sec. period when the Black PC Drum Charge Corona is automatically energized as the malfunction is reset after C0208 (PC Drum Charge Corona malfunction) has been detected.
C0208	The SCD signal is detected for a continuous 0.7-sec. period while the PC Drum Charge Corona is being energized.

<Action>

Relevant Electrical Parts	
IU C/M/Y/Bk	High Voltage Unit (PC Drum CH.) HV1 IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the IU contact and correct or clean as necessary.	—	—	—
2	Check the HV1 contact and correct or clean as necessary.	—	—	—
3	Change IU.	—	—	—
4	Change HV1.	—	—	—
5	Change PWB-IO	—	—	—

(29) C0400: Exposure Lamp's failure to turn ON

(30) C0410: Exposure Lamp turning ON at abnormal timing

<Detection Timing>

Malfunction Code	Description
C0400	The output from the CCD Sensor is a predetermined value or less during CCD Sensor gain adjustment.
C0410	The average output value of the CCD Sensor with the Scanner at its standby position is a predetermined value or more at the end of a scan job.

<Action>

Relevant Electrical Parts	
Scanner Assy Flat Cable	Image Processing Board (PWB-C)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the flat cable for proper connection and correct or change as necessary.	—	—	—
2	Change Scanner Assy.	—	—	—
3	Change PWB-C.	—	—	—

(31) C0500: Heating Roller warm-up failure

(32) C0501: Fusing Pressure Roller warm-up failure

(33) C0510: Heating Roller abnormally low temperature

(34) C0511: Fusing Pressure Roller abnormally low temperature

(35) C0520: Heating Roller abnormally high temperature

(36) C0521: Fusing Pressure Roller abnormally high temperature

<Detection Timing>

Malfunction Code	Description
C0500	• The Heating Roller Thermistor does not detect a predetermined temperature within 550 sec. after a warm-up cycle has been started and thus the copier does not complete the warm-up cycle. • The output from the Heating Roller Thermistor does not rise beyond a predetermined level within 30 sec. after the Heating Roller Heater Lamps have lit up.
C0501	• The temperature detected by the Fusing Pressure Roller Thermistor does not reach 100 °C within 230 sec. after a warm-up cycle has been started. • The output from the Heating Roller Thermistor does not rise beyond a predetermined level within 120 sec. after the Fusing Pressure Roller Heater Lamp has lit up.
C0510	• The Heating Roller Thermistor detects 160 °C or less for 1 sec. or more while the copier is in the standby state. • The Heating Roller Thermistor detects 160 °C or less for 1 sec. or more while the copier is in a print cycle. • The Heating Roller Thermistor detects 70 °C or less for 1 sec. or more while the copier is in the Energy Saver mode.
C0511	• The Fusing Pressure Roller Thermistor detects 100 °C or less for 1 sec. or more while the copier is in the standby state. • The Fusing Pressure Roller Thermistor detects 100 °C or less for 1 sec. or more while the copier is in a print cycle. • The Fusing Pressure Roller Thermistor detects 100 °C or less for 1 sec. or more while the copier is in the Energy Saver mode.
C0520	The Heating Roller Thermistor detects 220 °C or more for 1 sec. or more.
C0521	The Fusing Pressure Roller Thermistor detects 215 °C or more for 1 sec. or more.

<Action>

Relevant Electrical Parts	
Fusing Unit	DC Power Supply 1 (PU1) IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Change PWB-IO.	—	—	—
2	Change Fusing Unit.	—	—	—
3	Change PU1.	—	—	—

(37) C0650: Scanner Home Sensor malfunction

(38) C0660: Scanner overrun failure

<Detection Timing>

Malfunction Code	Description
C0650	• The Scanner Home Sensor is unable to detect a Scanner when the Scanner is at a position to block the sensor. • The Scanner Home Sensor is unable to detect a Scanner despite the fact that the Scanner Motor has been energized to move the Scanner over the maximum traveling distance. • The Scanner Home Sensor detects a Scanner when the Scanner has moved a distance of 5 mm away from the position, at which it blocks the sensor.
C0660	The Scanner Home Sensor detects the Scanner at its home position during a period of time that begins with the time when a prescan command and a scan preparation command are executed and ends when a home return command is executed.

<Action>

Relevant Electrical Parts	
Scanner Home Sensor (PC201) Scanner Motor (M201)	Scanner Motor Drive Board (PWB-IC) Image Processing Board (PWB-C)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Correct or change the Scanner drive (cable, pulley, gear, belt) if it is faulty.	—	—	—
2	Correct the Scanner Motor set screw if loose.	—	—	—
3	Adjust “Top Image” and “FD-Mag.”	D-68	—	—
4	PC201 I/O check	T-4 to T-10	—	26-G
5	Change M201.	—	—	22-G
6	Change PWB-IC.	—	—	—
7	Change PWB-C.	—	—	—

(39) C0F30: Abnormally low toner density detected Cyan ATDC Sensor

(40) C0F31: Abnormally high toner density detected Cyan ATDC Sensor

(41) C0F32: Abnormally low toner density detected Magenta ATDC Sensor

(42) C0F33: Abnormally high toner density detected Magenta ATDC Sensor

(43) C0F34: Abnormally low toner density detected Yellow ATDC Sensor

(44) C0F35: Abnormally high toner density detected Yellow ATDC Sensor

<Detection Timing>

Malfunction Code	Description
C0F30	Toner density that is 3% or more lower than the target level is detected ten consecutive times while the Developing Unit is being energized during a print cycle, ATVC, or image stabilization sequence.
C0F31	Toner density that is 4% or more higher than the target level is detected ten consecutive times while the Developing Unit is being energized during a print cycle, ATVC, or image stabilization sequence.
C0F32	Toner density that is 3% or more lower than the target level is detected ten consecutive times while the Developing Unit is being energized during a print cycle, ATVC, or image stabilization sequence.
C0F33	Toner density that is 4% or more higher than the target level is detected ten consecutive times while the Developing Unit is being energized during a print cycle, ATVC, or image stabilization sequence.
C0F34	Toner density that is 3% or more lower than the target level is detected ten consecutive times while the Developing Unit is being energized during a print cycle, ATVC, or image stabilization sequence.
C0F35	Toner density that is 4% or more higher than the target level is detected ten consecutive times while the Developing Unit is being energized during a print cycle, ATVC, or image stabilization sequence.

<Action>

Relevant Electrical Parts	
ATDC Sensor C (PWB-N3) ATDC Sensor M (PWB-N2) ATDC Sensor Y (PWB-N1)	Toner Replenishing Motor C/Bk (M9) Toner Replenishing Motor Y/M (M10) IO Board (PWB-IO) PIC Board (PWB-PIC) IU C/M/Y

✻ C0F30, C0F32, C0F34

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Perform image troubleshooting procedure if image density is low.	T-91	—	—
2	Clean the ATDC Sensor window on the underside of the IU if dirty.	—	—	—
3	Correct the ATDC Sensor spring moving part if faulty.	—	—	—
4	Clean the ATDC Sensor LED if dirty.	—	—	—
5	Change ATDC Sensor C/M/Y.	—	—	10-B,C,D
6	M9, M10 operation check	T-3	PWB-IO PJ13IO-10 to 13 (Pulse Output): M9 PWB-IO PJ13IO-6 to 9 (Pulse Output): M10	10-A
7	Change IU C/M/Y.	—	—	—
8	Change PWB-IO.	—	—	—
9	Change PWB-PIC.	—	—	—

✻ C0F31, C0F33, C0F35

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Clean the ATDC Sensor window on the underside of the IU if dirty.	—	—	—
2	Clean the ATDC Sensor LED if dirty.	—	—	—
3	Correct the contact and/or wiring of the ATDC Sensor if faulty.	—	—	—
4	Change ATDC Sensor C/M/Y.	—	—	10-B,C,D
5	Change PWB-IO.	—	—	—
6	Change PWB-PIC.	—	—	—

(45) C0F36: Abnormally low toner density detected Cyan ATDC Sensor

(46) C0F37: Abnormally high toner density detected Cyan ATDC Sensor

<Detection Timing>

Malfunction Code	Description
C0F36	Toner density that is 3% or more lower than the target level is detected ten consecutive times while the Developing Unit is being energized during a print cycle, ATVC, or image stabilization sequence.
C0F37	Toner density that is 4% or more higher than the target level is detected ten consecutive times while the Developing Unit is being energized during a print cycle, ATVC, or image stabilization sequence.

<Action>

Relevant Electrical Parts	
IU Bk	Toner Replenishing Motor C/Bk (M9) IO Board (PWB-IO) PIC Board (PWB-PIC)

✻ C0F36

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Perform image troubleshooting procedure if image density is low.	T-91	—	—
2	M9 operation check	T-3	PWB-IO PJ13IO-10 to 13 (Pulse Output)	10-A
3	Change IU Bk.	—	—	—
4	Change PWB-IO.	—	—	—
5	Change PWB-PIC	—	—	—

✻ C0F37

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Correct the ATDC connection on the underside of the IU if faulty.	—	—	—
2	Clean or correct each contact of the IU if faulty.	—	—	—
3	Change IU Bk.	—	—	—
4	Change PWB-IO.	—	—	—
5	Change PWB-PIC	—	—	—

(47) C0F3A: Cyan ATDC Sensor adjustment failure

(48) C0F3B: Magenta ATDC Sensor adjustment failure

(49) C0F3C: Yellow ATDC Sensor adjustment failure

(50) C0F3D: Black ATDC Sensor adjustment failure

<Detection Timing>

Malfunction Code	Description
C0F3A	Cyan ATDC Sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.
C0F3B	Magenta ATDC Sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.
C0F3C	Yellow ATDC Sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.
C0F3D	Black ATDC Sensor automatic adjustment does not function properly, failing to adjust to an appropriate value.

<Action>

Relevant Electrical Parts	
ATDC Sensor C (PWB-N3) ATDC Sensor M (PWB-N2) ATDC Sensor Y (PWB-N1)	Toner Replenishing Motor C/Bk (M9) Toner Replenishing Motor Y/M (M10) IO Board (PWB-IO) PIC Board (PWB-PIC) IU C/M/Y/Bk

✻ C0F3A, C0F3B, C0F3C

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Clean the ATDC Sensor window on the underside of the IU if dirty.	—	—	—
2	Clean the ATDC Sensor LED if dirty.	—	—	—
3	Correct the contact and/or wiring of the ATDC Sensor if faulty.	—	—	—
4	Reinstall IU C/M/Y.	—	—	—
5	M9, M10 operation check	T-3	PWB-IO PJ13IO-10 to 13 (Pulse Output): M9 PWB-IO PJ13IO-6 to 9 (Pulse Output): M10	10-A
6	Change IU C/M/Y.	—	—	—
7	Change PWB-IO.	—	—	—
8	Change PWB-PIC	—	—	—

✻ C0F3D

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Correct the ATDC connection on the underside of the IU if faulty.	—	—	—
2	Clean or correct each contact of the IU if faulty.	—	—	—
3	Change IU Bk.	—	—	—
4	Change PWB-IO.	—	—	—
5	Change PWB-PIC	—	—	—

(51) C1200: Memory mounting failure

<Detection Timing>

Malfunction Code	Description
C1200	The WORK memory or Controller Board are not mounted on the Image Control Board (PWB-F) when the printer controller CN3102e is installed.

<Action>

Relevant Electrical Parts	
Image Control Board (PWB-F)	Controller Board WORK memory (DIMM Board)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Select “Tech. Rep. Mode” → “System Input” → “Peripheral Setting” and check for correct setting.	—	—	—
2	Check that WORK memory is correctly mounted on the Image Control Board (PWB-F).	—	—	—
3	Change WORK memory on the Image Control Board (PWB-F).	—	—	—
4	Change Controller Board on the Image Control Board (PWB-F).	—	—	—
5	Change PWB-F.	—	—	—

(52) C1203: Memory mounting failure

(53) C1204: Memory mounting failure

<Detection Timing>

Malfunction Code	Description
C1203	The FILE memory on the Image Control Board (PWB-F) is faulty.
C1204	The FILE memory on the Image Control Board (PWB-F) is short of capacity

<Action>

Relevant Electrical Parts	
Image Control Board (PWB-F)	FILE memory (DIMM Board)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check that FILE memory is correctly mounted on the Image Control Board (PWB-F).	—	—	—
2	Change FILE memory on the Image Control Board (PWB-F).	—	—	—
3	Change PWB-F.	—	—	—

(54) C1220: Image Input Time Out

<Detection Timing>

Malfunction Code	Description
C1220	Image data is not input from the Image Processing Board (PWB-C) to the Image Control Board (PWB-F).

<Action>

Relevant Electrical Parts	
Image Control Board (PWB-F)	Image Processing Board (PWB-C)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Select “Tech. Rep. Mode” → “Machine Adjust” → “Memory/ Hard Disk Adjust” → “Memory Bus Check” →”IR →Memory”.	—	—	—
2	Check connection between PWB-F and PWB-C.	—	—	—
3	Change PWB-F.	—	—	—
4	Change PWB-C.	—	—	—

(55) C1229: Image Output Time Out

<Detection Timing>

Malfunction Code	Description
C1229	Image data is not output from the Image Control Board (PWB-F) to the PIC Board (PWB-PIC).

<Action>

Relevant Electrical Parts	
Image Control Board (PWB-F)	PIC Board (PWB-PIC)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Select “Tech. Rep. Mode” → “Machine Adjust” → “Memory/ Hard Disk Adjust” → “Memory Bus Check”→”Memory →PRT” .	—	—	—
2	Check connection between PWB-F and PWB-PIC.	—	—	—
3	Change PWB-F.	—	—	—
4	Change PWB-PIC.	—	—	—

(56) C1240: JBIG Error

(57) C1241: JBIG Error

(58) C1242: JBIG Error

(59) C1243: JBIG Error

<Detection Timing>

Malfunction Code	Description
C1240	Memory of the Image Control Board (PWB-F) is faulty.
C1241	
C1242	
C1243	

<Action>

Relevant Electrical Parts
Image Control Board (PWB-F)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Change PWB-F.	—	—	—

(60) C1261: Memory Board Time Out

(61) C1265: Memory Board Time Out

(62) C1279: Memory Board Time Out

<Detection Timing>

Malfunction Code	Description
C1261	Compression of image data of the Image Control Board (PWB-F) is faulty.
C1265	Decompression of image data of the Image Control Board (PWB-F) is faulty.
C1279	Transfer of image data of the Image Control Board (PWB-F) is faulty.

<Action>

Relevant Electrical Parts
Image Control Board (PWB-F)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Change PWB-F.	—	—	—

(63) C1290: Compress/Expand Time Out

<Detection Timing>

Malfunction Code	Description
C1290	Compression/decompression of image data of the Image Control Board (PWB-F) is faulty when the print controller CN3102e is mounted.

<Action>

Relevant Electrical Parts	
Image Control Board (PWB-F)	Controller Board

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Change Controller Board on the Image Control Board (PWB-F).	—	—	—
2	Change PWB-F.	—	—	—

(64) C12C0: Hard Disk Error

(65) C12CB: Hard Disk Error

<Detection Timing>

Malfunction Code	Description
C12C0	Unable to communicate between the hard disk and Image Control Board (PWB-F).
C12CB	Data transfer from the hard disk is faulty.

<Action>

Relevant Electrical Parts	
Image Control Board (PWB-F)	Hard Disk

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Reinstall the hard disk.	—	—	—
2	Change Hard Disk.	—	—	—
3	Change PWB-F.	—	—	—

(66) C12CC: Hard Disk Error

<Detection Timing>

Malfunction Code	Description
C12CC	Unformatted hard disk is connected.

<Action>

Relevant Electrical Parts	
Image Control Board (PWB-F)	Hard Disk

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Select “Tech. Rep. Mode” → “Machine Adjust” → “Memory/ Hard Disk Adjust” → “Hard Disk Format”	—	—	—
2	Change Hard Disk.	—	—	—
3	Change PWB-F.	—	—	—

(67) C12C1: Hard Disk Error

(68) C12C2: Hard Disk Error

(69) C12C3: Hard Disk Error

(70) C12C4: Hard Disk Error

(71) C12C5: Hard Disk Error

(72) C12C6: Hard Disk Error

(73) C12C7: Hard Disk Error

(74) C12C8: Hard Disk Error

(75) C12C9: Hard Disk Error

(76) C12CA: Hard Disk Error

(77) C12CF: Hard Disk Error

<Detection Timing>

Malfunction Code	Description
C12C1	Hard disk is faulty.
C12C2	
C12C2	
C12C2	
C12C2	
C12C2	
C12C2	
C12C2	
C12C2	
C12C2	
C12C2	A hard disk that falls outside the specifications is connected.

<Action>

Relevant Electrical Parts
Hard Disk

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Change Hard Disk.	—	—	—

(78) C13C8: New Transfer Cleaner Unit resetting failure

(79) C13CA: New Fusing Unit resetting failure

<Detection Timing>

Malfunction Code	Description
C13C8	A new installation is not detected when a new Transfer Cleaner Unit (Image Transfer Belt Unit) is installed.
C13CA	A new installation is not detected when a new Fusing Unit is installed.

<Action>

Relevant Electrical Parts
IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Reinstall the unit.	—	—	—
2	Change PWB-IO.	—	—	—

(80) C13D1: Cyan IU EEPROM access error

(81) C13D2: Magenta IU EEPROM access error

(82) C13D3: Yellow IU EEPROM access error

(83) C13D4: Black IU EEPROM access error

<Detection Timing>

Malfunction Code	Description
C13D1	Setting 1 “Start Flag” of GA register does not become ready even after the lapse of a predetermined period of time after a cyan IU EEPROM access control has been executed.
C13D2	Setting 1 “Start Flag” of GA register does not become ready even after the lapse of a predetermined period of time after a magenta IU EEPROM access control has been executed.
C13D3	Setting 1 “Start Flag” of GA register does not become ready even after the lapse of a predetermined period of time after a yellow IU EEPROM access control has been executed.
C13D4	Setting 1 “Start Flag” of GA register does not become ready even after the lapse of a predetermined period of time after a black IU EEPROM access control has been executed.

<Action>

Relevant Electrical Parts	
IO Board (PWB-IO)	IU C/M/Y/Bk

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Clean the connection between the IU and copier if dirty.	—	—	—
2	Reinstall IU C/M/Y/Bk.	—	—	—
3	Change IU C/M/Y/Bk.	—	—	—
4	Change PWB-IO.	—	—	—

(84) C13D5: Cyan LPH correction data download failure

(85) C13D6: Magenta LPH correction data download failure

(86) C13D7: Yellow LPH correction data download failure

(87) C13D8: Black LPH correction data download failure

<Detection Timing>

Malfunction Code	Description
C13D5	A fault occurs while the LPH correction data is being downloaded from the Cyan LPH EEPROM to the flash memory on PWB-PIC when power is turned ON.
C13D6	A fault occurs while the LPH correction data is being downloaded from the Magenta LPH EEPROM to the flash memory on PWB-PIC when power is turned ON.
C13D7	A fault occurs while the LPH correction data is being downloaded from the Yellow LPH EEPROM to the flash memory on PWB-PIC when power is turned ON.
C13D8	A fault occurs while the LPH correction data is being downloaded from the Black LPH EEPROM to the flash memory on PWB-PIC when power is turned ON.

<Action>

Relevant Electrical Parts	
LPH C/M/Y/Bk	LED Drive Board (PWB-LED) PIC Board (PWB-PIC) IO Board (PWB-IO)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Correct the harness connection between LPH and PWB-LED if faulty.	—	—	—
2	Correct the harness connection between PWB-LED and PWB-PIC if faulty.	—	—	—
3	Change LPH C/M/Y/Bk.	—	—	—
4	Change PWB-LED.	—	—	—
5	Change PWB-IO.	—	—	—
6	Change PWB-PIC.	—	—	—

(88) C3310: CCD clamp/gain adjustment failure

<Detection Timing>

Malfunction Code	Description
C3310	• The adjustment value is 0 or 255 during a CCD clamp adjustment. • The peak value of the output data is 64 or less during a CCD gain adjustment.

<Action>

Relevant Electrical Parts	
Scanner Assy	CCD Sensor Board (PWB-A) Image Processing Board (PWB-C)

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Correct the harness connection between PWB-A and PWB-C if faulty.	—	—	—
2	Check for possible extraneous light and correct as necessary.	—	—	—
3	Clean the lens, mirrors, CCD surface, and shading sheet if dirty.	—	—	—
4	Correct reflective mirror of the Scanner if faulty, or change Scanner.	—	—	—
5	Change PWB-A.	—	—	—
6	Change PWB-C.	—	—	—

(89) C3700: IR Power Supply Cooling Fan Motor turning at abnormal timing

(90) C3710: IR Drive Board Cooling Fan Motor turning at abnormal timing

<Detection Timing>

Malfunction Code	Description
C3700	A Lock signal is detected ten consecutive times when it is monitored at 0.01-sec. intervals during a period of time 2 sec. after the output of a Fan Motor ON signal has been started.
C3710	

<Action>

Relevant Electrical Parts	
IR Power Supply Cooling Fan Motor (M202) IR Drive Board Cooling Fan Motor (M203)	Image Processing Board (PWB-C)

✻ C3700

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	M202 operation check	T-3	PWB-C PJ8C-18B(LOCK) PWB-C PJ8C-17B(REM)	19-G
2	Change PWB-C.	—	—	—

✻ C3710

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	M203 operation check	T-3	PWB-C PJ8C-15B(LOCK) PWB-C PJ8C-14B(REM)	19-H
2	Change PWB-C.	—	—	—

(91) C3FFF: ROM contents fault detected upon start

<Detection Timing>

Malfunction Code	Description
C3FFF	A fault is detected in the contents of ROM of MSC, IR, and PRT when the copier is started.

<Action>

Step	Action	Ref. Page	WIRING DIAGRAM	
			Control Signal	Location (Electrical Component)
1	Check the ROM version.	—	—	—
2	Rewrite firmware using the memory card.	—	—	—

3-3. Power Supply-Related Malfunctions

(1) Copier is not energized at all.

Relevant Electrical Parts	
IO Board (PWB-IO)	DC Power Supply 1 (PU1) DC Power Supply 2 (PU2)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is a power voltage supplied across PJ3PU1-1 and 3 on PU1?	30-H	NO	Check wiring between the wall outlet and PJ3PU1.
2	Are the fuses (F1 and F2) on PU1 conducting?	—	NO	Change PU1.
3	Is a power voltage supplied across CN1PU2-1 and 2 on PU2?	30-F	NO	Change PU1.
4	Is the fuse (F1) on PU2 conducting?	—	NO	Change PU2.
5	Is DC5 V being output from CN2PU2-3 on PU2?	31-F	NO	Change PU2.
6	Is DC5 V being input to PJ15PU1-1 on PU1?	28-F	NO	Change PU2.
7	Is DC5 V being input to PJ1IO-3 on the IO Board?	14-E	NO	Change PU1.
			YES	Change PWB-IO.

(2) Only the Power Supply Cooling Fan rotates.

Relevant Electrical Parts	
PIC Board (PWB-PIC)	DC Power Supply 1 (PU1) DC Power Supply 2 (PU2)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is DC3.3 V being output from PJ9PU1-1 on PU1?	29-F	NO	Change PU1.
2	Is DC5 V being output from CN2PU2-2 on PU2?	31-F	NO	Change PU2.
3	Is DC3.3 V being input to PJ1PIC-1 on PWB-PIC and DC5 V to PJ1PIC-3?	32-C	YES	Change PWB-PIC.
			NO	Check the wiring.

(3) Control panel indicators do not light.

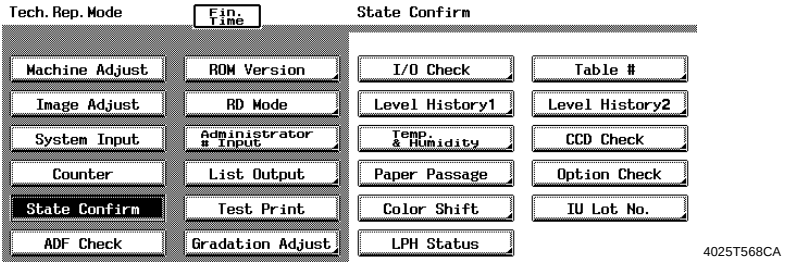
Relevant Electrical Parts	
Image Processing Board (PWB-C) Control Panel (UN201)	DC Power Supply 3 (PU201)

Step	Check Item	WIRING DIAGRAM (Location)	Result	Action
1	Is the I/F cable between the IR and engine connected properly?	—	NO	Reconnect or change the I/F cable.
2	Is a power voltage being applied across CN3PU201-1 and 2 on PU201?	22-H	NO	Check the wiring from the wall outlet to CN3PU201-1/2.
3	Is the fuse (F1) on PU201 conducting?	—	NO	Change PU201.
4	Is DC5.1 V being output from CN2PU201-1 on PU201 and DC24 V from CN2PU201-3?	22-H	NO	Change PU201.
5	Is PJ12C on PWB-C securely connected?	26-E	NO	Reconnect.
6	Is CN12 on UN201 securely connected?	24-F	NO	Reconnect.
			YES	Change UN201. Change PWB-C.

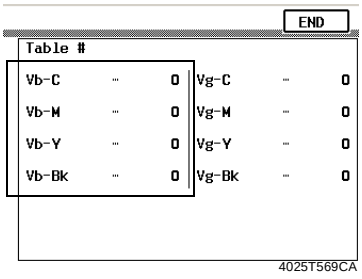
4. IMAGE QUALITY PROBLEMS

4-1. Descriptions of the “State Confirm” Function of Tech. Rep. Mode Concerning Image Quality Problems

- As part of troubleshooting procedures, the numeric values set for “State Confirm” available from “Tech. Rep. Mode” can be used to isolate the cause of the image problem.



(1) Table

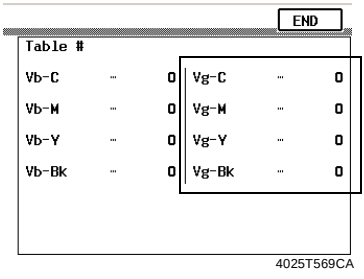


Vb-C/-M/-Y/-Bk

- Shows the developing bias value of each color of toner when an image is produced.
- Standard values: Around 400 V

✻ A correction is made to make the image lighter when the numeric value is greater.
✻ A correction is made to make the image darker when the numeric value is smaller.

<Relevant Components>
IU, High Voltage Unit (Developing Bias)



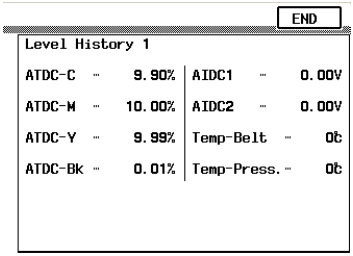
Vg-C/-M/-Y/-Bk

- Shows the grid voltage value of each color of toner when an image is produced.
- Standard values: Around 550 V

✻ A correction is made to make the image lighter when the numeric value is greater.
✻ A correction is made to make the image darker when the numeric value is smaller.

<Relevant Components>
IU, High Voltage Unit (Developing Bias)

(2) Level History 1



4025T570CA

ATDC-C/-M/-Y/-Bk
- Shows the T/C ratio (in 0.01 % increments).
- Standard value: 8 ± –3 %

<Relevant Components>
LPH Unit, ATDC Sensor Bk

ATDC1/2
- Shows the AIDC bare surface output reading taken last (in 0.01 V increments).
- It should normally be around 4.2 V.
- The output range is 0 V to 5 V.

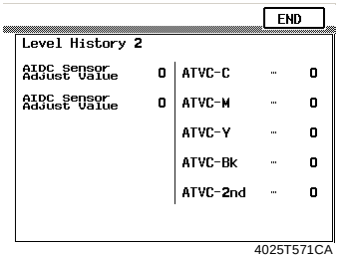
<"Reading taken last" means>
- During the last image stabilization sequence.
- When the Start key is pressed, the output value is displayed while a test print is being produced.

<Relevant Components>
AIDC Sensor, Transfer Belt Unit

Temp-Belt/Press.
- Shows the temperature of the Heating Roller (Temp-Belt) and the Fusing Pressure Roller (Temp-Press.) (in 5 °C increments).

<Relevant Components>
Fusing Unit

(3) Level History 2



4025T571CA

AIDC Sensor Adjust Value
- Shows the AIDC intensity adjustment value.
- It should normally be around 50 and can range from 0 to 255.
- The value becomes greater as the Transfer Belt Unit has been used more.

<Relevant Components>
AIDC Sensor, Transfer Belt Unit

ATVC-C/-M/-Y/-Bk/2nd
- Shows the latest ATVC level (which varies according to the paper type).
- 400 V to 3000 V (ATVC-C/-M/-Y/-Bk)
- 300 V to 5000 V (ATVC-2nd)

<Relevant Components>
Transfer Belt Unit, High Voltage Unit (Image Transfer, Neutralizing)

4-2. Troubleshooting Image Quality Problems

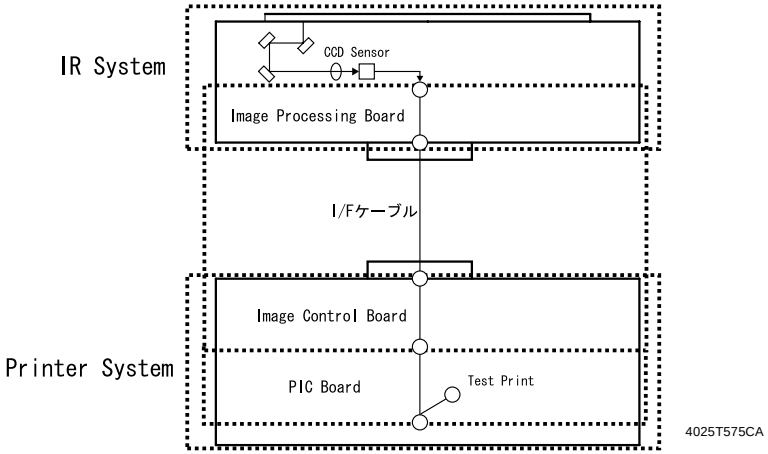
- This chapter is divided into two parts: “Initial Check Items” and “Troubleshooting Procedure by a Particular Image Quality Problem.”
- When an image quality problem occurs, first go through the “Initial Check Items” and, if the cause is yet to be identified, go to “Troubleshooting Procedure by a Particular Image Quality Problem.”

4-3. Initial Check Items

1. Check first to see if image data is properly transmitted between IR and memory, and between memory and printer.

Action	Result	Next Step
Enter the Tech. Rep. Mode, select “Machine Adjust” → “Memory/Hard Disk Adjust” → “Memory Bus Check,” and select and carry out “IR→Memory” and “Memory→PRT” checks.	OK	Initial check item (2)
	NG	☞ T- 58, 59 (action as instructed)

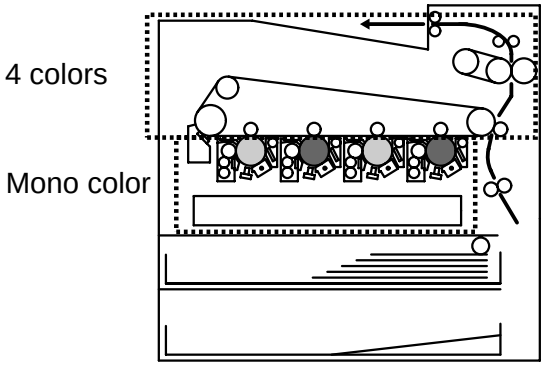
2. Let the copier produce a test print and determine whether the image problem is attributable to the IR or printer system.



- Evaluation Procedure

Image Problem	Action	Result	Cause	Next Step
Lines, bands	From “Tech. Rep. Mode,” select “Test Print” → “Halftone Pattern” → “SINGLE” → “HYPER” → “Gradation” → “C→M→Y→Bk” → “Density 64,” and produce a test print. Is image problem evident?	YES	Printer	Initial check item (3)
		NO	IR	☞ T-75

3. If the printer is responsible for the image problem, let the copier produce a test print and determine whether the image problem occurs in a specific single color or four colors.



• Evaluation Procedure

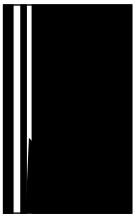
Image Problem	Action	Result		Next Step
Lines, bands	From “Tech. Rep. Mode,” select “Test Print” → “Halftone Pattern” → “SINGLE” → “HYPER”→ “Gradation”→ “C→M→Y→Bk”→ “Density 64,” and produce a test print. Is image problem evident in each of all four colors?	YES	Printer, 4 colors	☞ T-104
		NO	Printer, single color	☞ T-88

4-4. Troubleshooting Procedure by a Particular Image Quality Problem

(1) IR System: white lines in FD, white bands in FD, colored lines in FD, and colored bands in FD

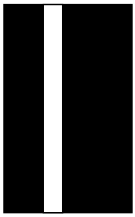
<Typical Faulty Images>

White lines in FD



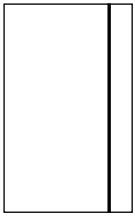
4011T015AA

White bands in FD



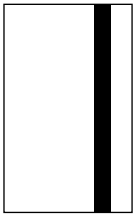
4011T020AA

Color lines in FD



4011T017AA

Color bands in FD



4011T023AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Original	1	Original is damaged or dirty.	YES	Change original.
Original Cover	2	Original Pad is dirty.	YES	Clean.
Original Glass	3	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
Shading sheet	4	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
Mirror, lens, Exposure Lamp, and reflectors	5	Mirror is dirty.	YES	Clean.
		Lens is dirty.	YES	Clean.
		Exposure Lamp is dirty.	YES	Clean.
		Reflectors are dirty.	YES	Clean.
System Input → Serial # Input (Tech. Rep. Mode)	6	The IR serial number has been correctly entered.	NO	Enter correctly.
Machine Adjust → IR Area → Left Image (Tech. Rep. Mode)	7	The adjustment value for Left Image falls within the specified range.		Readjust.
IR	8	The white lines/bands or colored lines/bands are blurry.	YES	Change Scanner Assy.
	9	The white lines/bands or colored lines/bands are clear and distinct.	YES	Change CCD Unit.

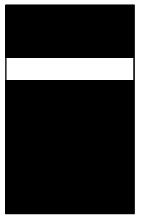
(2) IR System: white lines in CD, white bands in CD, colored lines in CD, and colored bands in CD

<Typical Faulty Images>

White lines in CD

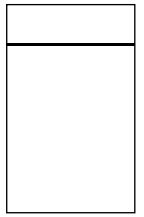
4011T016AA

White bands in CD



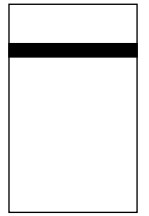
4011T021AA

Color lines in CD



4011T018AA

Color bands in CD



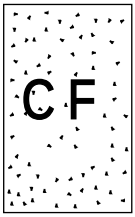
4011T022AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Original	1	Original is damaged or dirty.	YES	Change original.
Original Cover	2	Original Pad is dirty.	YES	Clean.
Original Glass	3	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
Machine Adjust → IR Area →Top Image (Tech. Rep. Mode)	4	The adjustment value for Top Image falls within the specified range.		Readjust.
	5	The problem has been eliminated through the checks of steps up to 4.	NO	Change Scanner Assy. Change CCD Unit.

(3) IR System: color spots

<Typical Faulty Image>



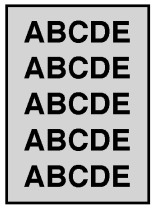
4011T027AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Original	1	Original is damaged or dirty.	YES	Change original.
Original Cover	2	Original Pad is dirty.	YES	Clean.
Original Glass	3	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
	4	The problem has been eliminated through the checks of steps up to 3.	NO	Change Scanner Assy. Change CCD Unit.

(4) IR System: fog

<Typical Faulty Image>



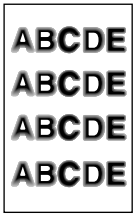
4011T004AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Original	1	Original is damaged or dirty.	YES	Change original.
Original Cover	2	Original Pad is dirty.	YES	Clean.
	3	Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
Original Glass	4	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
Shading sheet	5	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
Mirror, lens, Exposure Lamp, and reflectors	6	Mirror is dirty.	YES	Clean.
		Lens is dirty.	YES	Clean.
		Exposure Lamp is dirty.	YES	Clean.
		Reflectors are dirty.	YES	Clean.
Photo/Density	7	The problem is eliminated when the image is produced in the Manual exposure setting.	NO	Try another exposure level in Manual.
	8	The problem has been eliminated through the checks of steps up to 7.	NO	Change Scanner Assy. Change CCD Unit.

(5) IR System: blurred image, blotchy image

<Typical Faulty Image>



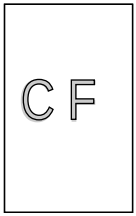
4011T046AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Original	1	Original does not lie flat.	YES	Change original.
Original Cover	2	Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
Original Glass	3	Original Glass tilts.	YES	Position Original Glass correctly. Check original loading position.
IR	4	Scanner is not aligned with the 2nd/3rd Mirrors Carriage.	YES	Perform “Focus Positioning of the Scanner and 2nd/3rd Mirrors Carriage” and “Scanner Position Adjustment.”
	5	The problem has been eliminated through the checks of steps up to 4.	NO	Change Scanner Assy. Change CCD Unit.

(6) IR System: incorrect color image registration, sync shift (lines in CD)

<Typical Faulty Image>



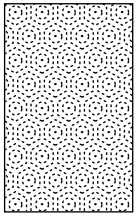
4011T039AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Original	1	Original does not lie flat.	YES	Change original.
Original Cover	2	Original Cover does not lie flat.	YES	Change Original Cover if it is deformed or hinges are broken.
Slide rails	3	Foreign matter on rails.	YES	Clean and apply lubricant.
Drive Cables	4	Cable kinks or is damaged.	YES	Correct or change.
Scanner Assy	5	Scanner moves smoothly.	NO	Adjust the Scanner Motor timing belt. →Change bushing. →Change Scanner Motor.
	6	The problem has been eliminated through the checks of steps up to 5.	NO	Change CCD Unit.

(7) IR System: moire

<Typical Faulty Image>



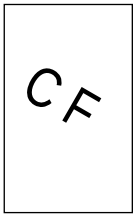
4011T040AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Original	1	Moire distortions recur even after the orientation of original has been changed.	YES	Change the original mode (select one other than that resulted in moire).
Photo/Density	2	Moire distortions recur even after the original mode has been changed.	YES	Select “Gradation” (mode optimized for gradation) or “Resolution” (that optimized for resolution).
	3	The problem has been eliminated through the checks of steps up to 2.	NO	Change the zoom ratio.

(8) IR System: skewed image

<Typical Faulty Image>



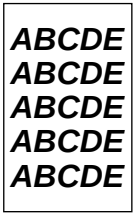
4011T048AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Original	1	Original is skew.	YES	Reposition original.
Original Glass	2	Original Glass is in positive contact with the flat spring without being tilt.	NO	Reinstall the glass. Check the original loading position.
2nd/3rd Mirrors Carriage	3	Scanner Assy is not properly aligned with 2nd/3rd Mirrors Carriage.	YES	Readjust with the Scanner/ Mirrors Carriage Positioning Jigs.
	4	The problem has been eliminated through the checks of steps up to 3.	NO	Change Scanner Assy. Change CCD Unit.

(9) IR System: distorted image

<Typical Faulty Image>



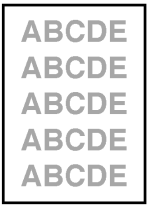
4011T045AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Installation	1	IR is installed on a level surface if mounted without any rack.	NO	Reinstall.
		Rack is installed on a level surface.	NO	Reinstall.
		The Rack is tilted with a lot of play.	YES	Adjust rack leg height.
2nd/3rd Mirrors Carriage	2	Scanner Assy is not properly aligned with 2nd/3rd Mirrors Carriage.	YES	Readjust with the Scanner/ Mirrors Carriage Positioning Jigs.
Scanner Motor	3	Scanner Motor turns smoothly.	NO	Change belt. Change Scanner Motor.
	4	The problem has been eliminated through the checks of steps up to 3.	NO	Change Scanner Assy. Change CCD Unit.

(10) IR System: low image density, rough image

<Typical Faulty Image>



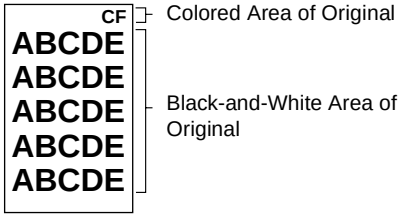
4011T003AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Original	1	Original sticks to Original Glass.	YES	Reposition original.
Original Glass	2	Original Glass is dirty.	YES	Wipe the surface clean with a soft cloth.
Shading sheet	3	Shading sheet is dirty.	YES	Wipe the surface clean with a soft cloth.
Mirror, lens, Exposure Lamp, and reflectors	4	Mirror is dirty.	YES	Clean.
	5	Lens is dirty.	YES	Clean.
	6	Exposure Lamp is dirty.	YES	Clean.
	7	Reflectors are dirty.	YES	Clean.
	8	The problem has been eliminated through the check of step 7.	NO	Clean Exposure Lamp. →Change Scanner Assy. →Change CCD Unit.

(11) IR System: defective ACS

<Typical Faulty Image>



4011T052AA

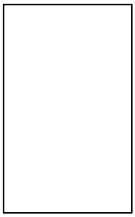
<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
ACS Judgement Level Adjust (User's Choice 2)	1	The problem persists even after the ACS Determination Level Adjust function has been changed.	YES	Change the original loading direction. Make manual settings according to the type of original. (If the original contains a colored area in one of its corners, the copier may fail to properly detect the colored area.)

(12) IR System: blank copy, black copy

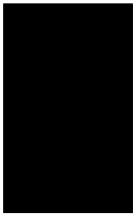
<Typical Faulty Images>

Blank copy



4011T036AA

Black copy



4011T035AA

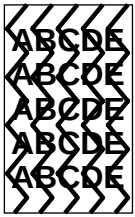
<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Cable connecting IR and printer	1	Connector is connected properly with no pins bent.	NO	Reconnect.
Image Processing Board (PWB-C)	2	Connectors on the Image Processing Board are connected properly.	NO	Reconnect.
CCD Unit	3	Connectors of the CCD Unit are connected properly.	NO	Reconnect.
Test Print (Tech.Rep.Mode)	4	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change I/F connection cable.
Image Processing Board (PWB-C)	5	The problem is eliminated after the I/F connection cable has been changed.	NO	Change Image Processing Board.

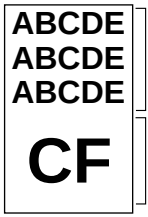
(13) IR System: abnormal image

<Typical Faulty Images>

4004T010AB



4011T053AA



Data on previous page

Data on current page

4011T063AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Cable connecting IR and printer	1	Connector is connected properly with no pins bent.	NO	Reconnect.
Connection cable between controller I/F board and Image Control Board (PWB-F)	2	Connector is connected properly with no pins bent.	NO	Reconnect.
Image Processing Board (PWB-C)	3	Connectors on the Image Processing Board are connected properly.	NO	Reconnect.
Image Processing Interface Board (PWB-B)	4	Connectors on the Image Processing Board are connected properly.	NO	Reconnect.
Image Control Board (PWB-F)	5	Data on previous page is mixed with data on current page.	NO	Reinstall expanded memory.
Test Print (Tech.Rep.Mode)	6	The problem is eliminated as checked with the image on a test pattern produced.	NO	Change interface connection cable.
Image Processing Board (PWB-C)	7	The problem is eliminated after the interface connection cable has been changed.	NO	Change Image Processing Board.

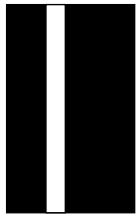
(14) Printer Monocolor: white lines in FD, white bands in FD, colored lines in FD, colored bands in FD, white lines in CD, white bands in CD, colored lines in CD, colored bands in CD

<Typical Faulty Images>

White lines in FD

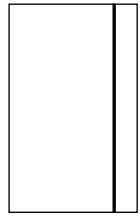
4011T015AA

White bands in FD



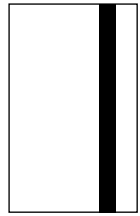
4011T020AA

Colored lines in FD



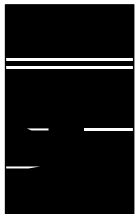
4011T017AA

Colored bands in FD



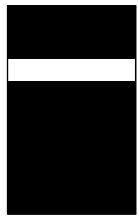
4011T023AA

White lines in CD



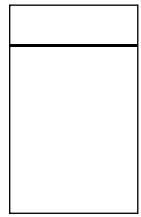
4011T016AA

White bands in CD



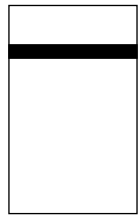
4011T021AA

Colored lines in CD



4011T018AA

Colored bands in CD



4011T022AA

<Troubleshooting Procedure>

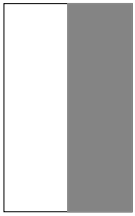
Section	Step	Check Item	Result	Action
Image check	1	A white line or black line in FD is sharp.	YES	Perform LPH Chip Adjust.
			NO	Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever.
IU	2	The surface of the PC Drum is scratched.	YES	Change IU.
LED Assy	3	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
IU	4	Dirty on the outside.	YES	Clean.
	5	Connectors and contact terminals make good connection between each IU and LED Assy.	NO	Clean contact terminals. Reconnect.
	6	Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
	7	The problem has been eliminated through the checks of steps up to 6.	NO	Change IU. →Change Image Transfer Belt Unit. →Change LPH Assy.

(15) Printer Monocolor: uneven density in FD

<Typical Faulty Images>

4011T031AA

4011T042AA



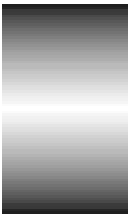
4004T011AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Image check	1	Uneven density of void area occurs.	YES	Check LPH Unit connector for proper connection. Check the LED Drive Board connectors for proper connection.
High image density original	2	Uneven density in FD occurs at a pitch of 40 mm to 50 mm when a multi-copy cycle is run using an original with high image density (50 % or more).	YES	Feed 10 to 20 blank sheets of paper with no originals placed, as the IU fails to keep up with a high demand for toner.
LPH Assy	3	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
IU	4	The surface of the PC Drum is scratched.	YES	Change IU.
	5	Dirty on the outside.	YES	Clean.
LPH Assy	6	LED surface is dirty.	YES	Clean using the LED Cleaning Jig.
Image Transfer Belt Unit	7	Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
	8	The problem has been eliminated through the checks of steps up to 7.	NO	Change IU. →Change Image Transfer Belt Unit. →Change LPH Assy. →Change PIC Board. →Change LED Drive Board →Change LPH Unit. →Change High Voltage Unit (Image Transfer, Neutralizing).

(16) Printer Monocolor: uneven density in CD

<Typical Faulty Images>



4011T032AA

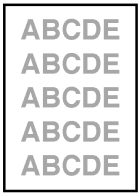
4011T043AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
IU	1	The surface of the PC Drum is scratched.	YES	Change IU.
	2	Dirty on the outside.	YES	Clean.
LPH Assy	3	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
Image Transfer Belt Unit	4	Image Transfer Belt Unit makes positive contact with plates on rails.	NO	Check and correct contacts.
	5	Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
	6	The problem has been eliminated through the checks of steps up to 5.	NO	Change IU. →Change Image Transfer Belt Unit. →Change High Voltage Unit (Developing Bias). →Change High Voltage Unit (Image Transfer, Neutralizing).

(17) Printer Monocolor: low image density

<Typical Faulty Image>



4011T003AA

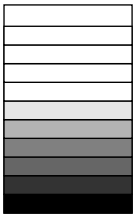
<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
State Confirm → Table # (Tech. Rep. Mode)	1	Check data for Vg and Vb. Color Vb: Around 400 V Vg: Around 550 V Black Vb: Around 400 V Vg: Around 550 V	NO	Go to next step.
State Confirm → Level History 1 (Tech. Rep. Mode)	2	Check ATDC data.	—	Go to next step.
	3	AIDC output value is around 4.5 V.	NO	Clean AIDC Sensor. Check Image Transfer Belt for damage.
Level History data check results	4	Low ATDC and low Vg and Vb	YES	Go to step 8.
	5	Low ATDC and high Vg and Vb	YES	Go to step 14.
	6	ATDC falling within specified range and low Vg and Vb	YES	Go to step 8.
	7	ATDC falling within specified range and high Vg and Vb	YES	Go to step 14.
LPH Assy	8	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
IU	9	Dirty on the outside.	YES	Clean.
LPH Assy	10	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
ATDC Sensor window	11	The color ATDC Sensor window on the LED Assy is dirty.	YES	Clean. Change ATDC. Change IU.

Section	Step	Check Item	Result	Action
Image Transfer Belt Unit	12	Image Transfer Belt Unit makes positive contact with plates on rails.	NO	Check and correct contacts.
	13	Cam gear operates properly.	NO	Change Image Transfer Belt Unit.
Hopper Unit	14	Connectors are loose.	YES	Reconnect.
	15	Gear is cracked.	YES	Change gear.
	16	Toner empty lever and/or detecting switch are defective.	YES	Change Hopper Unit.
Gradation Adjust (Tech. Rep. Mode)	17	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ±100 Highlight = 0 ±60	NO	Go to step 21.
Image Adjust →PRT Max Density (Tech. Rep.Mode)	18	The problem has been eliminated through the adjust of PRT Max.	NO	Go to next step.
Image Adjust →PRT Highlight (Tech. Rep. Mode)	19	The problem has been eliminated through the adjust of PRT Highlight.	NO	Go to next step.
Image Adjust →Stabilizer→ Reset + Stabilizer (Tech. Rep. Mode)	20	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of PRT Max Density and PRT Highlight.	NO	Go to next step.
	21	The problem has been eliminated through the checks of steps up to 20.	NO	Change IU. →Change Image Transfer Belt Unit. →Change LPH Assy. →Change PIC Board. →Change LED Drive Board. →Change LPH Unit. →Change High Voltage Unit (Developing Bias). →Change High Voltage Unit (Image Transfer, Neutralizing).

(18) Printer Monocolor: gradation reproduction failure

<Typical Faulty Images>



4011T034AA

4011T029AA

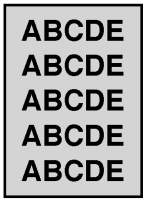
<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Photo/ Density	1	Original type and screen pattern are selected properly.	NO	Change screen pattern.
LPH Assy	2	LED retracting lever is locked in position.	YES	Slide out the Imaging Unit and reinstall.
IU	3	Dirty on the outside.	YES	Clean.
LPH Assy	4	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
ATDC Sensor window	5	ATDC Sensor window is dirty.	YES	Clean.
State Confirm → Level History 1 (Tech. Rep. Mode)	6	AIDC output value is around 4.2 V.	NO	Clean AIDC Sensor. Check Image Transfer Belt for damage.
Gradation Adjust (Tech. Rep. Mode)	7	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ±100 Highlight = 0 ±60	NO	Go to step 11.
Image Adjust →PRT Max Density (Tech. Rep.Mode)	8	The problem has been eliminated through the adjust of PRT Max.	NO	Go to next step.
Image Adjust →PRT Highlight (Tech. Rep. Mode)	9	The problem has been eliminated through the adjust of PRT Highlight.	NO	Go to next step.

Section	Step	Check Item	Result	Action
Image Adjust →Stabilizer →Reset + Stabilizer (Tech. Rep. Mode)	10	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of PRT Max Density and PRT Highlight.	NO	Go to next step.
	11	The problem has been eliminated through the checks of steps up to 10.	NO	Change IU. →Change LPH Assy. →Change PIC Board. →Change LED Drive Board. →Change LPH Unit. →Change High Voltage Unit (Developing Bias). →Change High Voltage Unit (Image Transfer, Neutralizing).

(19) Printer Monocolor: foggy background

<Typical Faulty Image>



4011T004AA

<Troubleshooting Procedure>

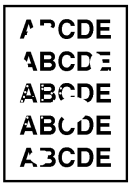
Section	Step	Check Item	Result	Action
State Confirm → Table # (Tech. Rep. Mode)	1	Check data for Vg and Vb. Color Vb: Around 400 V Vg: Around 550 V Black Vb: Around 400 V Vg: Around 550 V	NO	Go to next step.
State Confirm → Level History 1 (Tech. Rep. Mode)	2	Check ATDC data.	—	Go to next step.
	3	AIDC output value is around 4.5 V.	NO	Clean AIDC Sensor. Check Transfer Belt for damage.
Level History data check results	4	Low ATDC and low Vg and Vb	YES	Go to step 8.
	5	Low ATDC and high Vg and Vb	YES	Go to step 12.
	6	ATDC falling within specified range and low Vg and Vb	YES	Go to step 8.
	7	ATDC falling within specified range and high Vg and Vb	YES	Go to step 12.
LPH Assy	8	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
IU	9	Dirty on the outside.	YES	Clean.
LPH Assy	10	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
ATDC Sensor window	11	The color ATDC Sensor window on the LED Assy is dirty.	YES	Clean. Change ATDC. Change IU.

Section	Step	Check Item	Result	Action
Image Adjust→Background Voltage Margin (Tech. Rep. Mode)	12	The problem is eliminated after Background Voltage Margin has been adjusted.	NO	Go to next step.
Gradation Adjust (Tech. Rep. Mode)	13	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ±100 Highlight = 0 ±60	NO	Go to step 17.
Image Adjust →PRT Max Density (Tech. Rep.Mode)	14	The problem has been eliminated through the adjust of PRT Max.	NO	Go to next step.
Image Adjust →PRT Highlight (Tech. Rep. Mode)	15	The problem has been eliminated through the adjust of PRT Highlight.	NO	Go to next step.
Image Adjust →Stabilizer →Reset + Stabilizer (Tech. Rep. Mode)	16	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of PRT Max Density and PRT Highlight.	NO	Go to next step.
	17	The problem has been eliminated through the checks of steps up to 16.	NO	Change IU. →Change LPH Assy. →Change PIC Board. →Change LED Drive Board. →Change LPH Unit. →Change High Voltage Unit (Developing Bias). →Change High Voltage Unit (Image Transfer, Neutralizing).

(20) Printer Monocolor: void areas, white spots

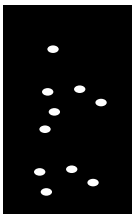
<Typical Faulty Images>

Void areas



4011T008AA

White spots



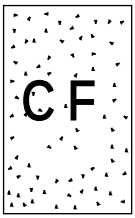
4011T030AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Image Check	1	There are void areas at the front side or high density section.	YES	☞ T-91
	2	There is void area at the rear side section.	YES	Perform “2nd Transfer Adjust” of “Image Adjust” under Tech. Rep. mode.
IU	3	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
	4	Dirty on the outside.	YES	Clean.
Hopper Unit	5	Foreign matter or caked toner in the Toner Cartridge.	YES	Remove foreign matter.
	6	The problem has been eliminated through the checks of steps up to 5.	NO	Change IU.

(21) Printer Monocolor: colored spots

<Typical Faulty Image>



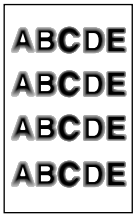
4011T027AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
IU	1	Developing bias contact terminal makes good connection.	NO	Clean contact terminal and check terminal position.
	2	The surface of the PC Drum is scratched.	YES	Change Imaging Unit.
	3	Dirty on the outside.	YES	Clean.
	4	The problem has been eliminated through the checks of steps up to 3.	NO	Change IU.

(22) Printer Monocolor: blurred image

<Typical Faulty Image>



4011T046AA

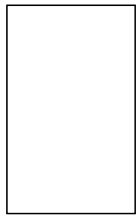
<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Image Check	1	Image is distorted (stretched or shrunk).	YES	Perform “Zoom for FD.”
LED Assy	2	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
	3	The surface of the lens array is dirty.	YES	Clean with cleaning jig.
Imaging Unit	4	Dirty on the outside.	YES	Clean.
	5	The problem has been elimi-nated through the checks of steps up to 4.	NO	Change IU. →Change LPH Assy. →Change LPH Unit.

(23) Printer Monocolor: blank copy, black copy

<Typical Faulty Images>

Blank copy



4011T035AA

Black copy

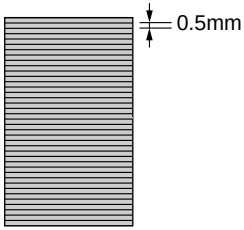
4011T036AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Image Check	1	A blank copy occurs.	YES	Check LPH Unit connector for proper connection. Check the LED Drive Board connectors for proper connection.
IU	2	Coupling of IU drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling. Change IU.
	3	The PC Drum Charge Corona voltage contact or PC Drum ground contact of the Imaging Unit is connected properly.	NO	Check, clean, or correct the contact.
High Voltage Unit (Image Transfer, Neutralizing)	4	Connector is connected properly.	NO	Reconnect.
	5	The problem has been eliminated through the check of step4.	NO	Change High Voltage Unit (Image Transfer, Neutralizing). →Change PIC Board. →Change LED Drive Board. →Change LPH Unit.

(24) Printer Monocolor: 0.5-mm-pitch uneven image

<Typical Faulty Image>



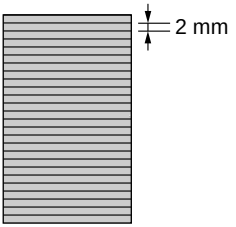
4011T060AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
LPH Assy	1	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
			YES	Change IU.

(25) Printer Monocolor: 2-mm-pitch uneven image

<Typical Faulty Image>



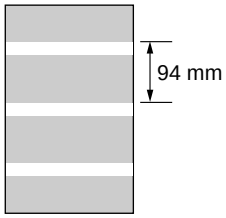
4011T059AA

<Troubleshooting Procedure>

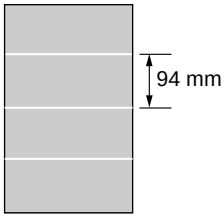
Section	Step	Check Item	Result	Action
IU	1	The drive mechanisms for spent toner conveying and IU are dirty.	YES	Clean.
			NO	Change IU.

(26) Printer Monocolor: 94-mm-pitch uneven image

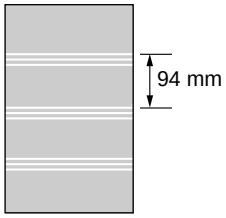
<Typical Faulty Images>



4011T047AD



4011T057AA



4011T058AA

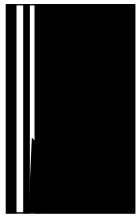
<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
IU	1	The surface of the PC Drum is scratched.	YES	Change IU.
	2	Coupling of IU drive mechanism is installed properly.	NO	Check and correct drive transmitting coupling. Change IU.
	3	There is play in the IU Motor.	YES	Reinstall or change the IU Motor.
Image Transfer Belt Unit	4	Image Transfer Belt Unit drive gear has chipped off.	NO	Correct. Change Image Transfer Belt Unit.
Image Transfer Roller Unit	5	Image Transfer Roller is damaged.	YES	Change Image Transfer Roller Unit.
	6	The problem has been eliminated through the checks of steps up to 5.	NO	Change IU.

(27) Printer 4-Color: white lines in FD, white bands in FD, colored lines in FD, and colored bands in FD

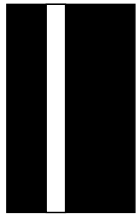
<Typical Faulty Images>

White lines in FD



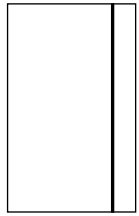
4011T015AA

White bands in FD



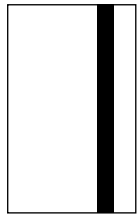
4011T020AA

Colored lines in FD



4011T017AA

Colored bands in FD



4011T023AA

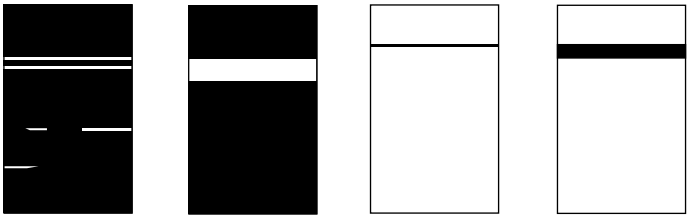
<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Image Check	1	A white line or colored line in FD.	YES	Clean the Comb Electrode by moving the Comb Electrode Cleaning Lever.
Image Transfer Belt Unit	2	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See DIS/REASSEMBLY, ADJUSTMENT.)
	3	Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
	4	Cleaning Blade is not effective in removing toner completely.	YES	Clean Cleaning Blade. change Image Transfer Belt Unit.
Image Transfer Roller Unit	5	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
Paper path	6	There is foreign matter on paper path.	YES	Remove foreign matter.
	7	Image Transfer Paper Separator Fingers are damaged or dirty.	YES	Clean or change.
Paper Dust Remover	8	Paper dust accumulates on Paper Dust Remover.	YES	Clean.
Fusing Unit	9	Fusing Entrance Guide Plate is dirty or damaged.	YES	Clean or change.
	10	Fusing Paper Separator Fingers are dirty.	YES	Clean.
	11	The problem has been eliminated through the checks of steps up to 10.	NO	Change Image Transfer Roller Unit. →Change Image Transfer Belt Unit. →Change PIC Board.

(28) Printer 4-Color: white lines in CD, white bands in CD, colored lines in CD, and colored bands in CD

<Typical Faulty Images>

White lines in CD White bands in CD Colored lines in CD Colored bands in CD



4011T016AA 4011T021AA 4011T018AA 4011T022AA

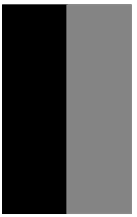
<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Image Transfer Belt Unit	1	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See DIS/REASSEMBLY, ADJUSTMENT.)
	2	Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
	3	Cleaning Blade is not effective in removing toner completely.	YES	Clean Cleaning Blade. change Image Transfer Belt Unit.
Image Transfer Roller Unit	4	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
Paper path	5	There is foreign matter on paper path.	YES	Remove foreign matter.
	6	Image Transfer Paper Separator Fingers are damaged or dirty.	YES	Clean or change.
Paper Dust Remover	7	Paper dust accumulates on Paper Dust Remover.	YES	Clean.
Fusing Unit	8	Fusing Entrance Guide Plate is dirty or damaged.	YES	Clean or change.
	9	Fusing Paper Separator Fingers are dirty.	YES	Clean.
	10	The problem has been eliminated through the checks of steps up to 9.	NO	Change Image Transfer Roller Unit. →Change Image Transfer Belt Unit. →Change PIC Board.

(29) Printer 4-Color: uneven density in FD

<Typical Faulty Images>

4011T031AA



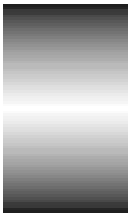
4011T042AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Image Transfer Belt Unit	1	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See DIS/REASSEMBLY, ADJUSTMENT.)
	2	Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
	3	Terminal is dirty.	YES	Clean.
Image Transfer Roller Unit	4	Image Transfer Roller is installed properly.	NO	Reinstall.
	5	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
	6	The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Roller Unit. Change Image Transfer Belt Unit.

(30) Printer 4-Color: uneven density in CD

<Typical Faulty Images>



4011T032AA

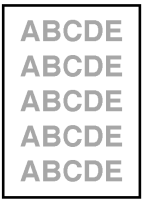
4011T043AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Image Transfer Belt Unit	1	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See DIS/REASSEMBLY, ADJUSTMENT.)
	2	Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
	3	Terminal is dirty.	YES	Clean.
Image Transfer Roller Unit	4	Image Transfer Roller is installed properly.	NO	Reinstall.
	5	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
	6	The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Roller Unit. →Change Image Transfer Belt Unit. →Change High Voltage Unit (Developing Bias). →Change High Voltage Unit (Image Transfer, Neutralizing).

(31) Printer 4-Color: low image density

<Typical Faulty Image>



4011T003AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Paper	1	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
Image Transfer Belt Unit	2	Terminal is dirty.	YES	Clean.
Image Transfer Roller Unit	3	Image Transfer Roller is installed properly.	NO	Reinstall.
	4	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
AIDC Sensor	5	Sensor is dirty.	YES	Clean with blower brush.
Gradation Adjust (Tech. Rep. Mode)	6	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	NO	Go to step 10.
Image Adjust →PRT Max Density (Tech. Rep.Mode)	7	The problem has been eliminated through the adjust of PRT Max.	NO	Go to next step.
Image Adjust →PRT Highlight (Tech. Rep. Mode)	8	The problem has been eliminated through the adjust of PRT Highlight.	NO	Go to next step.

Section	Step	Check Item	Result	Action
Image Adjust →Stabilizer →Reset + Stabilizer (Tech. Rep. Mode)	9	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of PRT Max Density and PRT Highlight.	NO	Go to next step.
	10	The problem has been eliminated through the checks of steps up to 9.	NO	Change Image Transfer Roller Unit. →Change Image Transfer Belt Unit. →Change PIC Board. →Change High Voltage Unit (Developing Bias). →Change High Voltage Unit (Image Transfer, Neutralizing).

(32) Printer 4-Color: poor color reproduction

<Typical Faulty Image>

4011T050AA

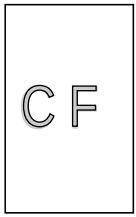
<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Paper	1	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
Image Transfer Belt Unit	2	Terminal is dirty.	YES	Clean.
Image Transfer Roller Unit	3	Image Transfer Roller is installed properly.	NO	Reinstall.
	4	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
AIDC Sensor	5	Sensor is dirty.	YES	Clean with blower brush.
Gradation Adjust (Tech. Rep. Mode)	6	"Conv. Value" falls within the specified range as checked through Gradation Adjust. Max: 0 ± 100 Highlight = 0 ± 60	NO	Go to step 10.
Image Adjust →PRT Max Density (Tech. Rep.Mode)	7	The problem has been eliminated through the adjust of PRT Max.	NO	Go to next step.
Image Adjust →PRT Highlight (Tech. Rep. Mode)	8	The problem has been eliminated through the adjust of PRT Highlight.	NO	Go to next step.

Section	Step	Check Item	Result	Action
Image Adjust →Stabilizer →Reset + Stabilizer (Tech. Rep. Mode)	9	After the Reset + Stabilizer sequence has been completed, run Gradation Adjust; if the problem persists, make adjustments of PRT Max Density and PRT Highlight.	NO	Go to next step.
	10	The problem has been eliminated through the checks of steps up to 9.	NO	Change Image Transfer Roller Unit. →Change Image Transfer Belt Unit. →Change PIC Board. →Change High Voltage Unit (Developing Bias). →Change High Voltage Unit (Image Transfer, Neutralizing).

(33) Printer 4-Color: incorrect color image registration

<Typical Faulty Image>



4011T049AA

<Troubleshooting Procedure>

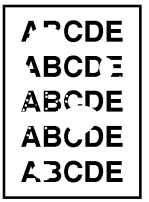
Section	Step	Check Item	Result	Action
Warning display	1	The maintenance call mark is displayed on the panel.	YES	Take action according to the warning code shown on the State Confirm screen.
Machine condition	2	Vibration is given to copier after Power Switch has been turned ON.	YES	Turn OFF and ON Power Switch.
LPH Assy	3	LED retracting lever is locked in position.	NO	Slide out the IU and reinstall.
Image Transfer Belt Unit	4	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See DIS/REASSEMBLY, ADJUSTMENT.)
	5	Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
	6	Drive coupling to the copier is dirty.	YES	Clean.
IU	7	The surface of the PC Drum is scratched.	YES	Change IU.
Image Transfer Roller Unit	8	Image Transfer Roller is installed properly.	NO	Reinstall.
	9	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
Machine Adjust →Fuser Speed (Tech. Rep. Mode)	10	Brush effect or blurred image occurs.	NO	Readjust Fuser Speed.

Section	Step	Check Item	Result	Action
Machine Adjust →Color Shift Correction (Tech. Rep. MOde)	11	Check the specific color in which color shift occurs.	YES	Perform “Color Shift Correction.” If color shift is not corrected even with a correction of ± 1 dot, go to next step.
	12	The problem has been eliminated through the checks of steps up to 11.	NO	Change Image Transfer Roller Unit. →Change Image Transfer Belt Unit. →Change PIC Board.

(34) Printer 4-Color: void areas, white spots

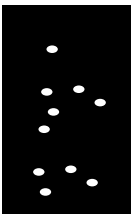
<Typical Faulty Images>

Void areas



4011T008AA

White spots



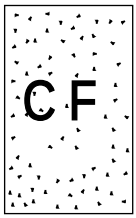
4011T030AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Image Check	1	There are void areas at the front side or high density section.	YES	☞ T-108
	2	There are void areas in the trailing edge.	YES	Perform “2nd Transfer Adjust” of “Image Adjust” under Tech. Rep. mode.
Transfer Belt Unit	3	Fingerprints, oil, or other foreign matter is evident on the Transfer Belt.	YES	Clean with specified solvent. (See DIS/REASSEMBLY, ADJUSTMENT.)
	4	Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Transfer Belt Unit if belt is damaged.
Transfer Roller Unit	5	Transfer Roller is dirty or scratched.	YES	Change Transfer Roller Unit.
	6	Charge Neutralizing Cloth is not separated and ground terminal is connected properly.	NO	Correct or change.
Paper path	7	There is foreign matter on paper path.	YES	Remove foreign matter.
	8	Pre-Image Transfer Guide Plate is damaged or dirty.	YES	Clean or change.
Paper Dust Remover	9	Paper dust accumulates on Paper Dust Remover.	YES	Clean.
	10	The problem has been eliminated through the checks of steps up to 9.	NO	Change Transfer Roller Unit.

(35) Printer 4-Color: colored spots

<Typical Faulty Image>



4011T027AA

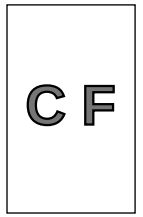
<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
IU	1	The surface of the PC Drum is scratched.	YES	Change IU.
Image Transfer Belt Unit	2	Fingerprints, oil, or other foreign matter is evident on the Image Transfer Belt.	YES	Clean with specified solvent. (See DIS/REASSEMBLY, ADJUSTMENT.)
	3	Image Transfer Belt is dirty or scratched.	YES	Clean dirty belt with a soft cloth. Change Image Transfer Belt Unit if belt is damaged.
Image Transfer Roller Unit	4	Image Transfer Roller is dirty or scratched.	YES	Change Image Transfer Roller Unit.
Paper path	5	There is foreign matter on paper path.	YES	Remove foreign matter.
Paper Dust Remover	6	Paper dust accumulates on Paper Dust Remover.	YES	Clean.
Fusing Unit	7	Fusing Belt is dirty or scratched.	YES	Change Fusing Unit.
	8	The problem has been eliminated through the checks of steps up to 7.	NO	Change Image Transfer Roller Unit. →Change Image Transfer Relt Unit. →Change Fusing Unit.

(36) Printer 4-Color: poor fusing performance, offset

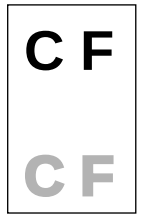
<Typical Faulty Images>

Poor fusing performance



4004T002AA

Offset



4004T003AA

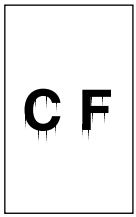
<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Paper	1	Paper type does not match the setting on the paper type setting dial.	YES	Change the setting of the paper type setting dial.
Machine Adjust →Fuser Temp. (Tech. Rep. Mode)	2	Changing fusing temperature eliminates the problem of poor fusing performance and offset.	NO	Change Fusing Unit.

(37) Printer 4-Color: brush effect, blurred image

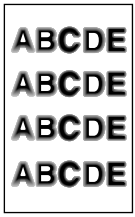
<Typical Faulty Images>

Brush effect



4004T004AA

Blurred image



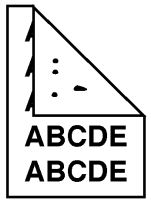
4011T046AA

<Troubleshooting Procedure>

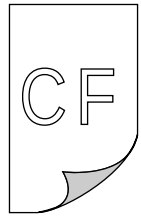
Section	Step	Check Item	Result	Action
Paper	1	Paper is damp.	YES	Change paper to one just unwrapped from its package. Install Paper Dehumidifying Heater.
	2	Paper type does not match the setting on the paper type setting dial.	YES	Change the setting of the paper type setting dial.
Fusing Unit	3	Fusing Entrance Guide Plate is dirty.	YES	Clean.
	4	Fusing Belt is dirty or scratched.	YES	Change Fusing Unit.
Machine Adjust →Fuser Speed (Tech. Rep. Mode)	5	Changing fusing speed eliminates the problem of brush effect and blurred image.	NO	Change Fusing Unit.

(38) Printer 4-Color: back marking

<Typical Faulty Images>



4011T009AA



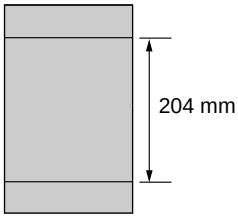
4011T051AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
Image Transfer Roller Unit	1	Image Transfer Roller is scratched or dirty.	YES	Change Image Transfer Roller Unit.
Paper path	2	There is foreign matter on paper path.	YES	Remove foreign matter.
Fusing Unit	3	Fusing Entrance Guide Plate is scratched or dirty.	YES	Clean or change.
	4	Lower Fusing Roller is scratched or dirty.	YES	Change Fusing Unit.
Transfer Belt Unit	5	Fingerprints, oil, or other foreign matter is evident on the Transfer Belt.	YES	Clean with specified solvent. (See DIS/REASSEMBLY, ADJUSTMENT.)
	6	The problem has been eliminated through the checks of steps up to 5.	NO	Change Image Transfer Roller Unit. →Change Image Transfer Belt Unit. →Change Fusing Unit. →Change High Voltage Unit (Image Transfer, Neutralizing).

(39) Printer 4-Color: 204-mm-pitch uneven image

<Typical Faulty Images>



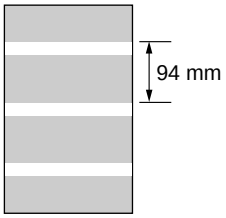
4011T061AB

<Troubleshooting Procedure>

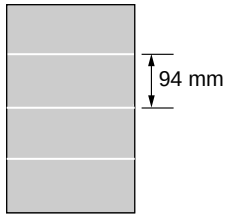
Section	Step	Check Item	Result	Action
Fusing Unit	1	The Fusing Belt is scratched.	YES	Change Fusing Unit.

(40) Printer 4-Color: 94-mm-pitch uneven image

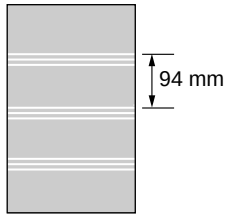
<Typical Faulty Images>



4011T047AD



4011T057AA



4011T058AA

<Troubleshooting Procedure>

Section	Step	Check Item	Result	Action
IU	1	The surface of the PC Drum is scratched.	YES	Change IU.
Image Transfer Belt Unit	2	The Image Transfer Belt Unit drive gear is intact.	NO	Correct. Change Image Transfer Belt Unit.
Image Transfer Roller Unit	3	Image Transfer Roller is damaged.	YES	Change Image Transfer Roller Unit.