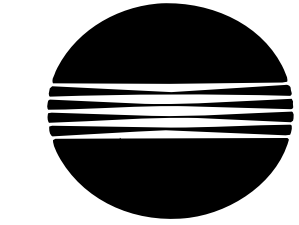
Di450/Di550

SERVICE MANUAL

[FIELD SERVICE]



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PARTS MANUAL

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.

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

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.

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

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

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

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.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. Maintain a grounded connection at all times.
    - Be sure to connect the ground wire to the ground terminal even when performing an inspection or repair. Without proper grounding, electrical leakage could result in an electric shock or fire.
    - Never connect the ground wire to a gas pipe, water pipe, telephone ground wire, or a lightning conductor.

9. 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.

10. 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.

CAUTION

1. Precautions for Service Jobs
    - A toothed 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.

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
    - 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 following 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.”



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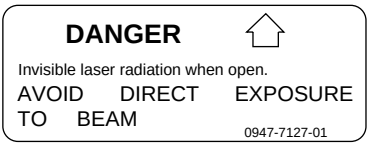

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Other Precautions

- To reassemble the product, reverse the order of disassembly unless otherwise specified.
- While the product is energized, do not unplug or plug connectors into the circuit boards or harnesses.
- The magnet roller generates a strong magnetic field. Do not bring it near a watch, floppy disk, magnetic card, or CRT tube.
- An air gun and vacuum cleaner generates a strong electrostatic charge that can destroy the ATDC sensor and other sensors. Before cleaning a component with one of these devices, be sure to remove all the sensors. Otherwise, use a blower brush and cloth when cleaning parts.
- When handling circuit boards with MOS ICs, observe the “INSTRUCTIONS FOR HANDLING THE PWBs WITH MOS ICs” (applicable only to the products using MOS ICs).
- 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.
- After completing a service job, perform a safety check. Make sure that all parts, wiring and screws are returned to their original positions.
- Check the area surrounding the service site for any signs of damage, wear or need of repair.
- Do not pull out the toner hopper while the toner bottle is turning. This could result in a damaged hopper 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.

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 ähnlichen Typ.
Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

France

ATTENTION

Ily a danger d'explosion s'ily a remplacement incorrec de la batterie.
Remplacer uniquement avec une batterie du meme type ou d'un type équivalent recommande par le constructueur.
Mettre au rebut les batteries usageés 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.

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.

Sweden

VARNING

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

Finland

VAROITUS

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

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.

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.

How to Use this Book

1. DIS/REASSEMBLY, ADJUSTMENT
- To reassemble the product, reverse the order of disassembly unless otherwise specified.

2. 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.

Precautions for Service

- Check the area surrounding the service site for any signs of damage, wear or need of repair.
- 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.

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.
- Do not plug in or unplug print jacks on the PWB or connect or disconnect the PWB connectors while power is being supplied to the copier.
- Never use flammable sprays near the copier.
- A battery (lithium, nickel-cadmium, etc.) is used in this machine. Do not charge or short circuit it and make sure of the correct polarity at replacement.
- 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.
- If it becomes necessary to replace the thermal fuse or any other fuse mounted on a board, be sure to use one of the rating marked on the blown fuse. Always note the rating marked on the fuse, as the rating and mounting site or number used are subject to change without notice.

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.

Handling of PWBs

1. 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.

2. 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.

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.

Handling of the PC Drum

✻ Only for Products Not Employing an Imaging Cartridge.

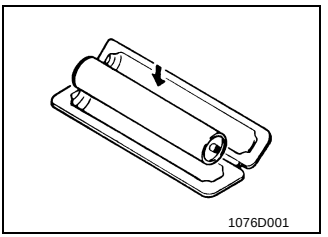
1. During Transportation/Storage:

- 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.

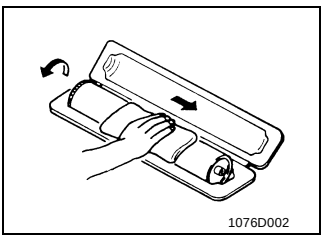
2. Handling:

- 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.



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

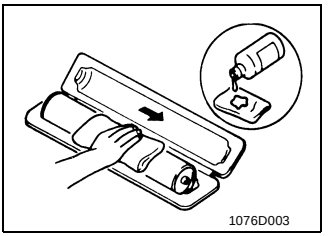


2. Gently wipe the residual toner off the surface of the PC Drum with a dry, Dust-Free Cotton Pad.

A. 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.

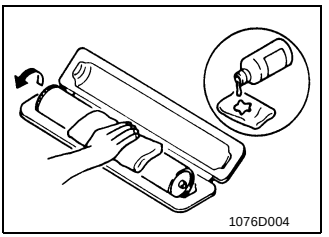
B. Turn the PC Drum slightly and wipe the newly exposed surface area with a CLEAN face of the Dust-Free Cotton Pad. Repeat this procedure until the entire surface of the PC Drum has been thoroughly cleaned.

✻ 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.



3. 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.



4. 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.*

Handling of the Imaging Cartridge

✻ Only for Products Employing an Imaging Cartridge.

1. 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.

2. Handling:

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

3. 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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1 INSTALLATION

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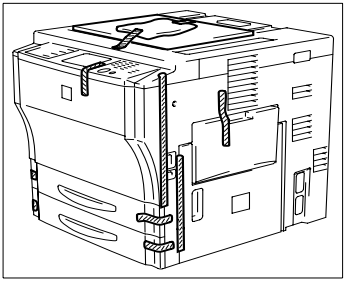
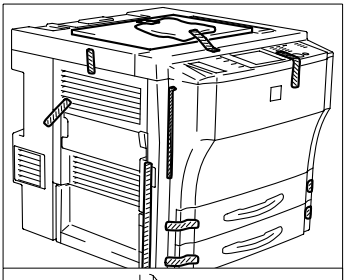
1.1.1 Unpacking

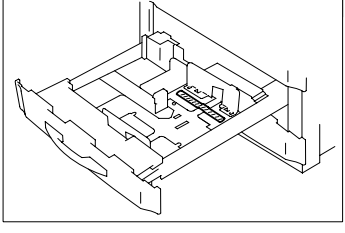
Check to see that the following items are contained in the Carton.

1. Operator's Manual
2. Quick Guide
3. Unpacking/Setting-Up Instructions
4. Seal
5. Power Cord (For Particular area only)
6. Operator's Manual Holder
7. Warranty Card (U.S.A. and Canada only)
8. Power Cord Instructions (For Particular area only)

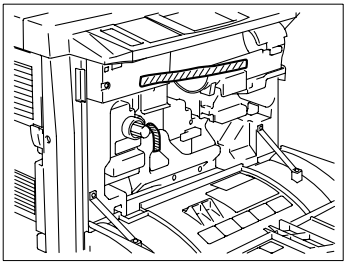
1.1.2 Setting-up



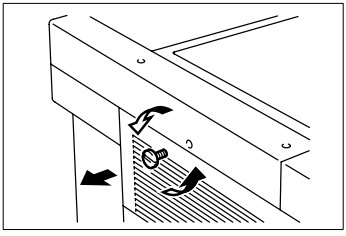




1. Remove all the tape from the machine.

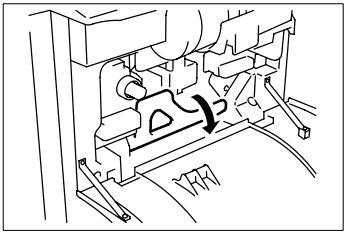


2. Peel off all the tape and remove the cushion inside the machine.

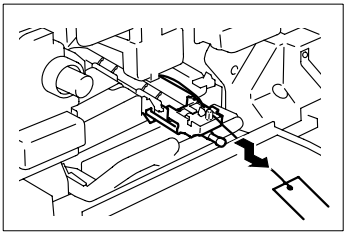


3. Turn the Scanner Locking Screw counterclockwise and pull it out.

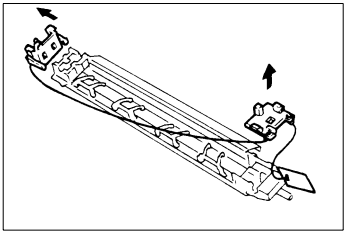
4. Affix the Seal (accessory) in the position as shown.



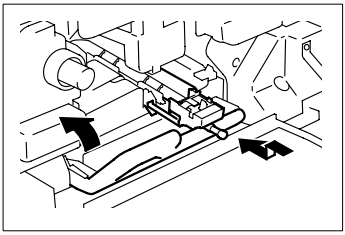
5. Pull the Transport Unit Release Lever down.



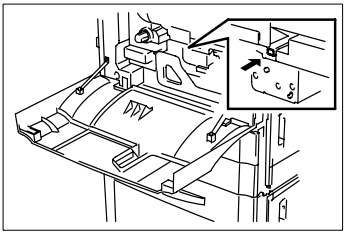
6. First press the Image Transfer/Paper Separator Coronas Unit down and then pull it out of the machine.



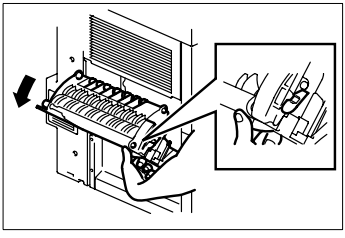
7. Remove the fixing materials from both ends of the Unit.



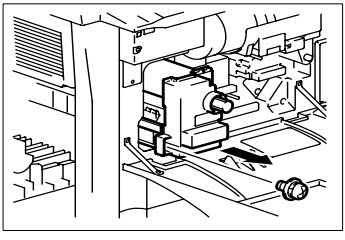
8. Slide the Unit back into the machine.
9. Lift the Transport Unit Release Lever up.



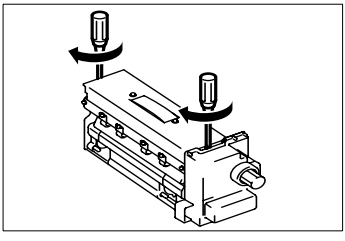
10. Push the Cleaning Blade Pressure Plate, which is marked with a red label, completely into the copier.



11. Open the Left Upper Door.



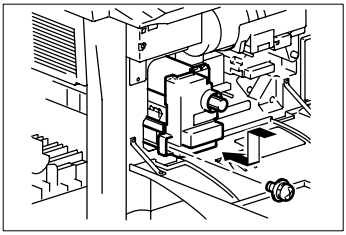
12. Remove the screw and, holding the Fusing Unit Knob, Slide the Fusing Unit out of the copier.



13. Screw in the two Screws (front and rear) alternately until they are completely tightened.

NOTE

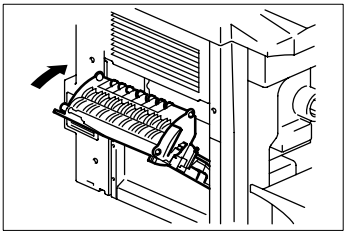
Ensure that the Upper and Lower Fusing Rollers are pressed together evenly at the front and rear ends.



14. Slide the Fusing Unit back into the copier and tighten the screw.

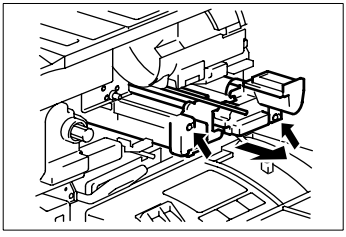
NOTE

While pressing down the Fusing Unit, slide it into the copier.

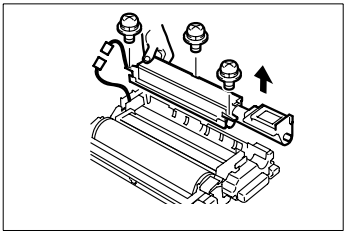


15. Close the Left Upper Door.

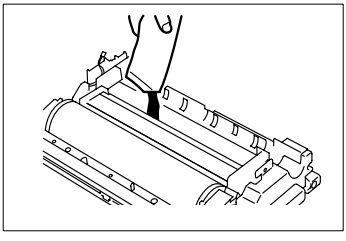
1.1.3 Loading the Starter



1. Pull the Transport Unit Release Lever down.
2. Loosen two screws and slide out the Developing Unit.



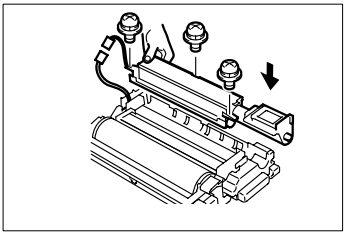
3. Remove three screws and unplug connector. Take the Sub Hopper off of the Developing Unit.



4. Pour **one** packet of Starter evenly into the Bucket Roller side of the Developer Chamber.

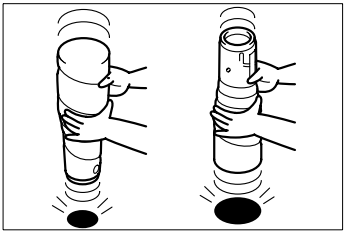
NOTE

Shake the Starter well before pouring.

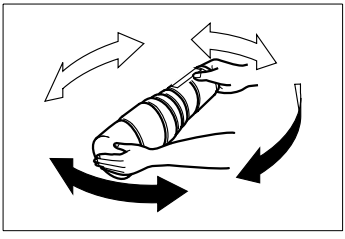


5. Remount the Sub Hopper and plug the connector.

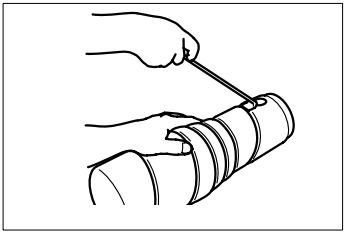
1.1.4 Coating of toner



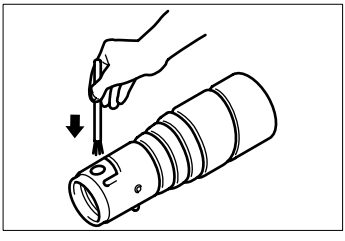
1. Vigorously tap the Toner Bottle on a hard surface about five times. Then turn it over and repeat.



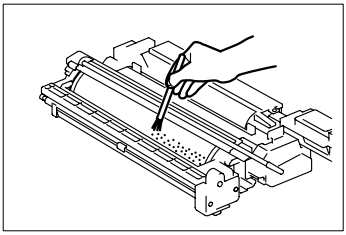
2. Turn the Bottle back over and shake it vigorously about five times to agitate the Toner.



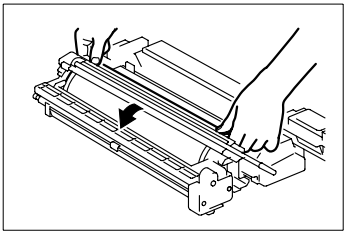
3. Holding the Toner Bottle with your left hand, gently peel off the seal from the Bottle.



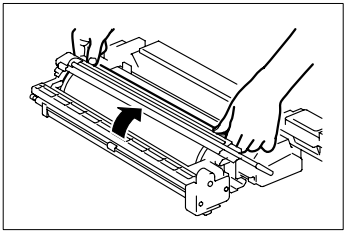
4. Insert a brush into the Toner Bottle to dip it into the toner.



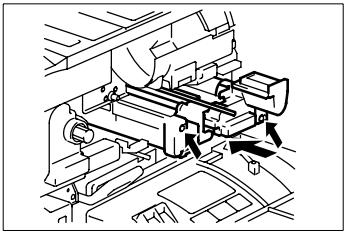
5. Apply a light coating of toner onto the PC Drum.



6. Using the rear edge of the PC Drum, turn it a half turn in the direction shown by the arrow.

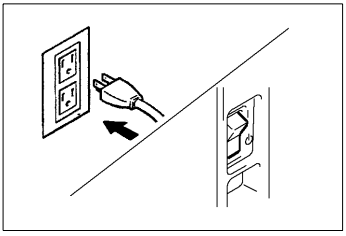


7. Using the rear edge of the PC Drum, turn it one turn in the direction shown by the arrow.

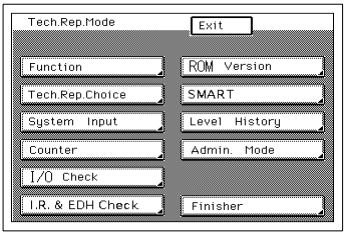


8. Slide the Developing Unit all the way into the machine and tighten the screws.
9. Lift the Transport Unit Release Lever up.

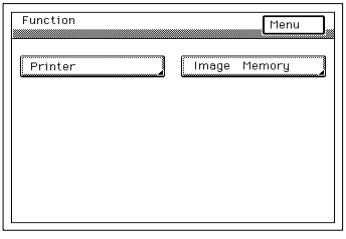
1.1.5 ATDC Level Adjustment



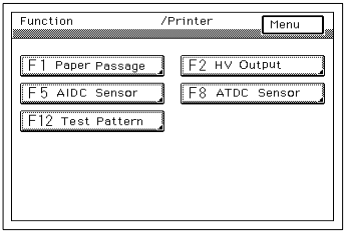
1. Plug the Power Cord into the Wall Outlet. Turn ON the Power Switch.
2. Access the initial Tech. Rep. Mode screen. (Refer to the Service Manual for the procedure.)



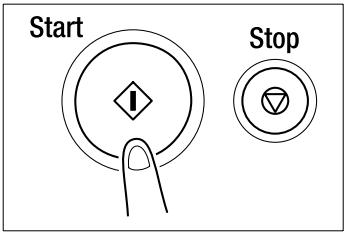
3. Touch “Function” on the screen.



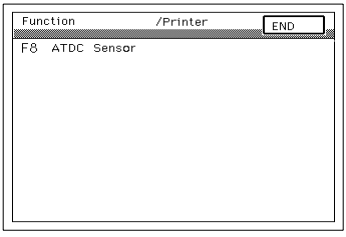
4. Touch “Printer.”



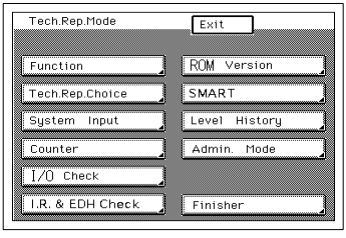
5. Touch “F8 ATDC Sensor.”



6. Press the Start key.
   The machine automatically performs the ATDC Level Adjustment.

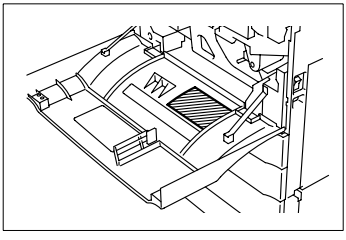


7. After completion of the ATDC Level Adjustment, touch “END.”



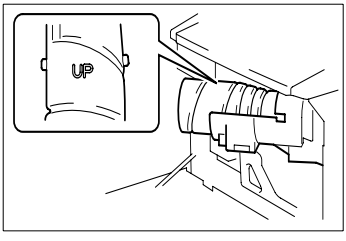
8. Press the Panel Reset key.

9. Touch “Level History.”



10. Write down the current value of the ATDC Control onto the Label attached inside the Upper Front Door.

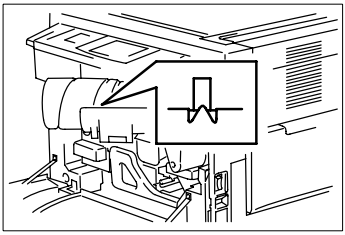
Insert the toner bottle



11. With the side marked UP facing up, insert the Toner Bottle into the Bottle Holder.

NOTE

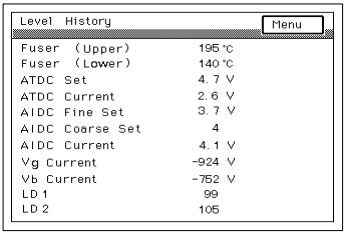
Insert the toner bottle after runnig the ATDC level adjust!



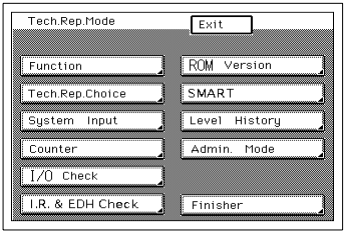
12. Check that the Marker ▯ on the Bottle is aligned with the Marker on the Holder.

13. Close the Front Door.

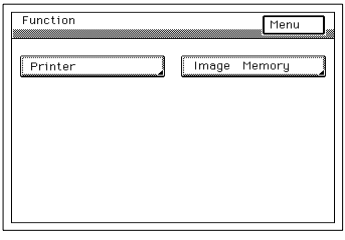
1.1.6 AIDC Level Adjustment



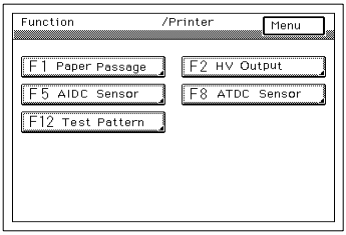
1. Touch “Menu.”



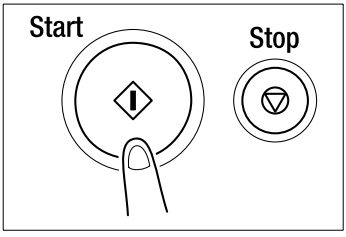
2. Touch “Function.”



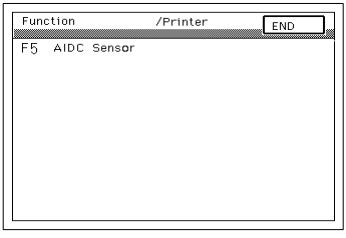
3. Touch “Printer.”



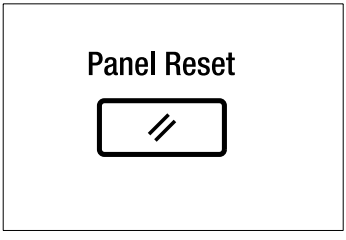
4. Touch “F5 AIDC Sensor.”



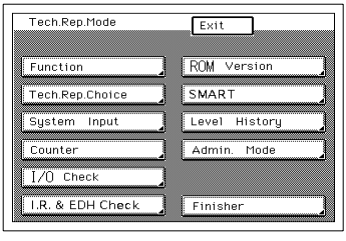
5. Press the Start key.
   The machine automatically performs the AIDC Level Adjustment.



6. After completion of the AIDC Level Adjustment, touch “END.”



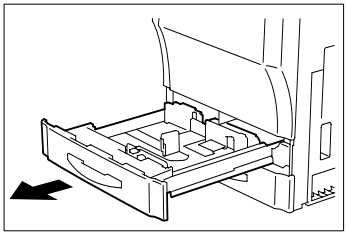
7. Press the Panel Reset key.



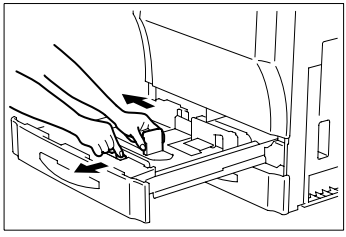
8. Touch “Exit.”

1.1.7 Paper Loading

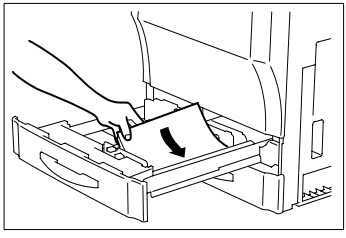
1.1.7.1 1st / 2nd Drawer



1. Pull out the Drawer.



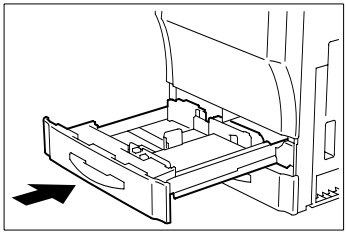
2. Slide the Edge Guide and the Trailing Edge Stop up against the paper.



3. Load the paper into the Drawer.

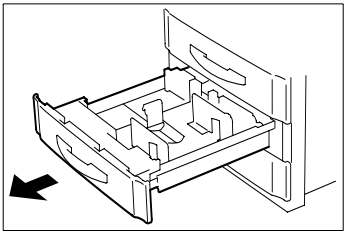
NOTE

The paper should be loaded no higher than the Max. Level Indication on the Edge Guide.

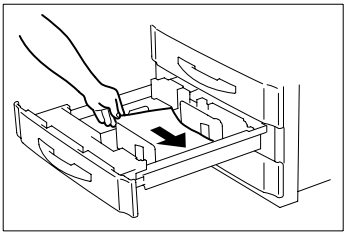


4. Close the Drawer.

1.1.7.2 2 way Paper Feed Cabinet



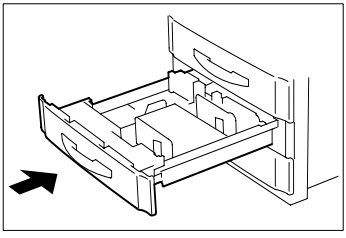
1. Pull out the Drawer.



2. Load the paper into the Drawer.

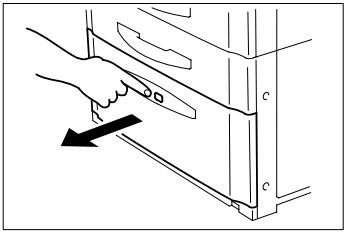
NOTE

The paper should be loaded no higher than the Max. Level Indication on the Edge Guide.

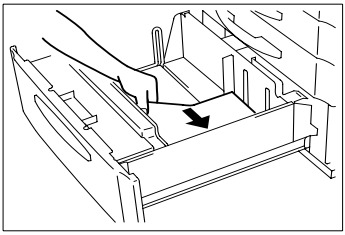


3. Close the Drawer.

1.1.7.3 Large Capacity Cabinet



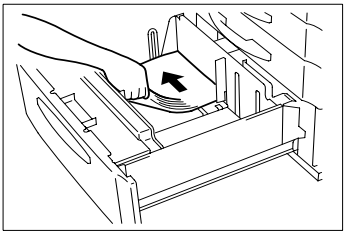
1. Press the Descent Button and open the Drawer.



2. Load the paper into the Main Tray, pressing it up against the right side.

NOTE

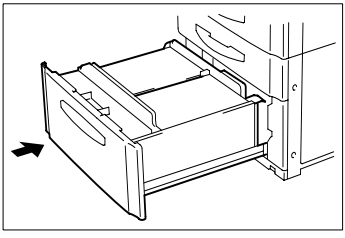
The paper should be loaded no higher than the Max. Level Indication on the Edge Guide.



3. Load the paper into the Sub-Tray, pressing it up against the left side.

NOTE

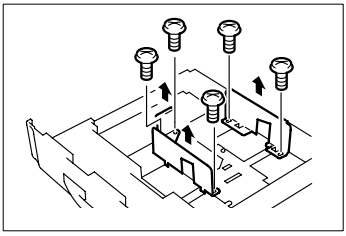
The paper should be loaded no higher than the Max. Level Indication on the Edge Guide.



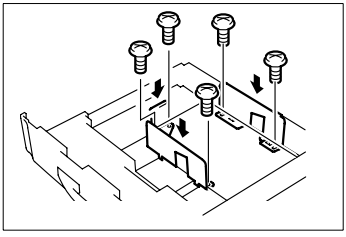
4. Close the Drawer.

1.1.8 Drawer size change

1.1.8.1 2 way Paper Feed Cabinet



1. Pull out the Drawer.
   Remove the Guide Plates.



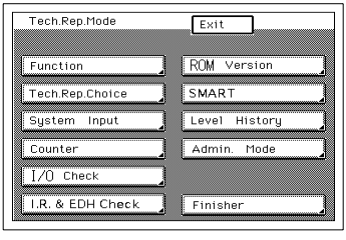
2. Reposition for Guide Plates in accordance with the size of paper to be used.

NOTE

Only lengthwise-feeding papers can be loaded into the 4th Drawer.

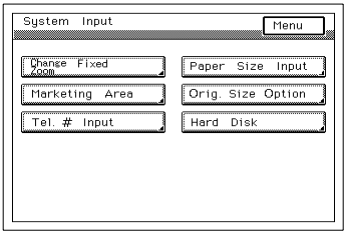
1.1.9 Input the Paper Size

1.1.9.1 2 way Paper Feed Cabinet

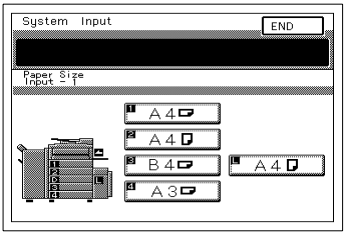


1. Access the initial Tech, Rep. Mode screen. (Refer to the Service Manual for the procedure.)

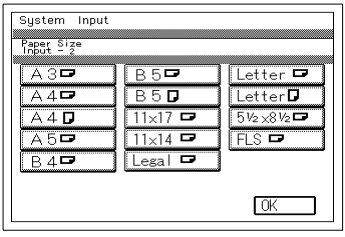
2. Touch “System Input.”



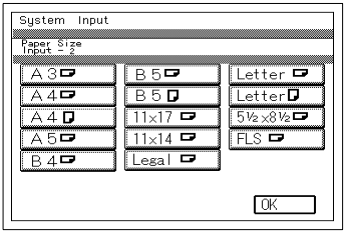
3. Touch “Paper Size Input.”



4. Select the Drawer which paper size has been changed by touching the corresponding key.

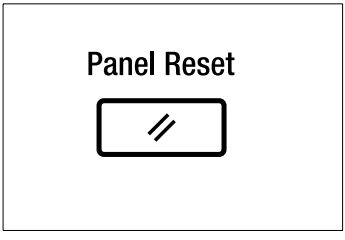


5. Touch the key of the desired size to highlight it.

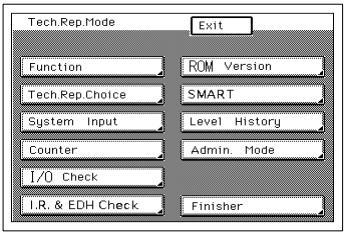


6. Touch “OK” to input the paper size.

   Another Drawer can be selected after “OK” is touched on the screen.

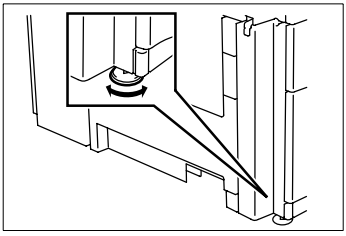


7. Press the Panel Reset key.

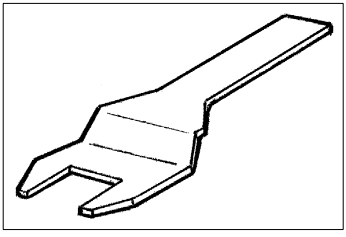


8. Touch “Exit.”

1.1.10 Adjusting the Support Feet



Using the wrench jig, adjust the height of the Front Support Feet so that they can securely support the machine.

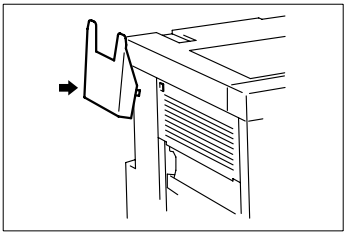


The wrench jig can be obtained by ordering Part No. 1031-7809-01.

CAUTION

To reduce the risk of injury due to unstable equipment, set the support feed before use.

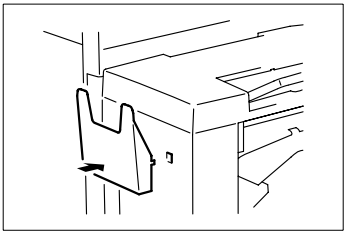
1.1.11 Installing the Manual Holder



1. Mount the Operator's Manual Holder as shown.

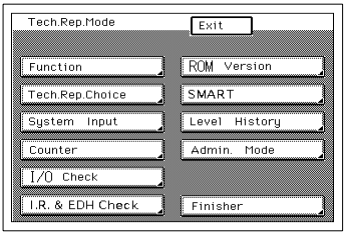
NOTE

The mounting location differs according to whether the copier is with or without a Finisher. Be sure to mount it in the correct location.

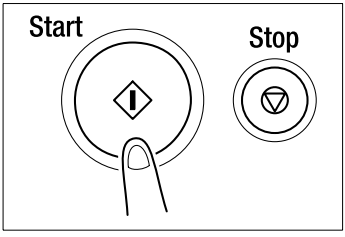


1.1.12 Checking for Registration

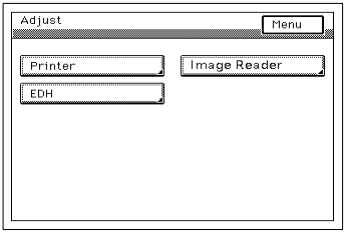
1.1.12.1 Paper Feed Cabinet • Single-sided



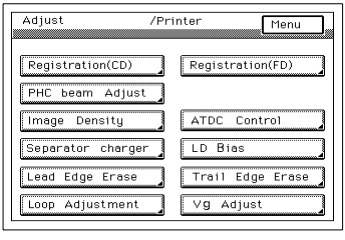
1. Access the initial Tech. Rep. Mode screen. (Refer to the Service Manual for the procedure.)



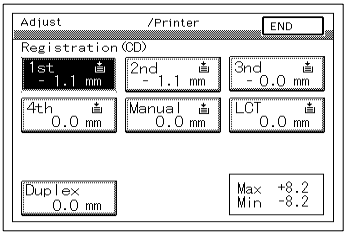
2. Press the “Stop” key and then press the “Start” key immediately.



3. Touch “Printer.”



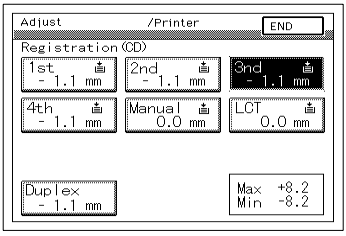
4. Touch “Registration (CD).”



5. Enter the same value of the “1st” for the “3rd”, “4th” and “Duplex.”

NOTE

2 way Paper Feed Cabinet: 3rd, 4th
Large Capacity Cabinet: 3rd
Duplex Unit: Duplex

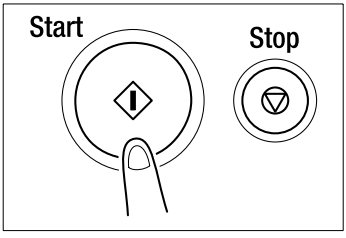


(Example) 1st : -1.1mm
3rd : -1.1mm
4th : -1.1mm
Duplex: -1.1mm

Press the Clear key and enter the value from the 10-key Pad.
Pressing the Access key switches “+” and “-” alternately.

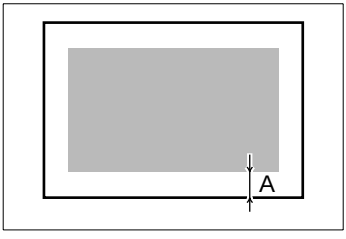
6. Touch “3rd” or “4th” and press the Start key.

Output the test print.



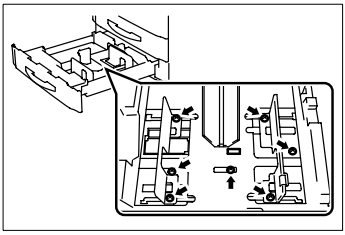
2 way Paper Feed Cabinet
:Output the test print for 3rd and 4th.
Large Capacity Cabinet
: Output the test print for 3rd.

Check that the margins reproduced on the copy meet the following specifications.
Margin Registration Specifications :
A : 5±0.5mm
If the margins reproduced on the copy fall outside the specified range, make the “Registration Adjustment.”

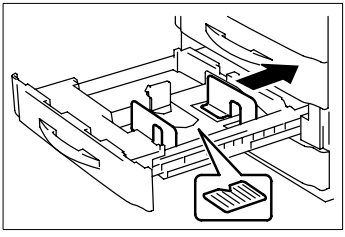


1.1.13 Registration Adjustment

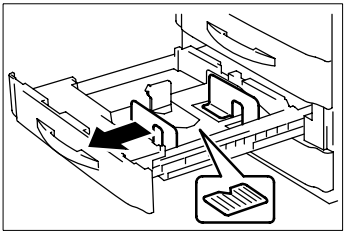
1.1.13.1 2 way Paper Feed Cabinet



1. Pull out the Drawer and unload the paper from the Drawer.
2. Loosen seven screws as shown.

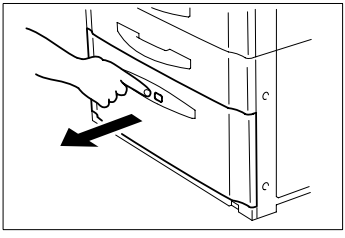


3. Referring to the gauge on the bottom plate of the Drawer, move the Guide Plates as follows.
   If the margin A is greater than the specifications, move the Guide Plates toward the rear as needed.
   If the margin A is smaller than the specifications, move the Guide Plates toward the front as needed.

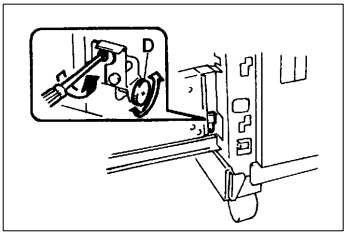


4. Make a test print again and check for correct registration.

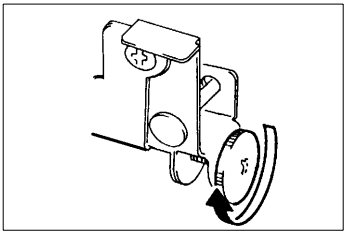
1.1.13.2 Large Capacity Cabinet



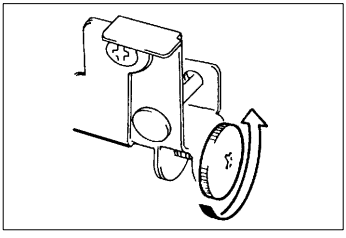
1. Press the Paper Descent Button of the 3rd Drawer. This releases the 3rd Drawer allowing you to slide it out of the machine.



2. Loosen the screw securing the Bracket and turn screw D Clockwise or counterclockwise as necessary.



If distance “A” is more than 5.5mm, turn screw B clockwise.

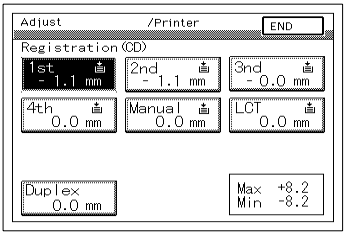


If distance “A” is less than 4.5mm, turn screw B counterclockwise.

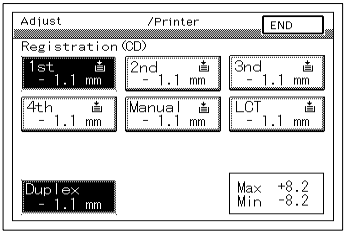
3. Tighten the screw.
4. Make a test print again and check for correct registration.

1.1.14 Checking for Registration

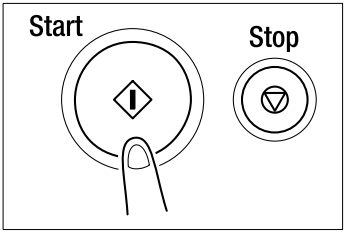
1.1.14.1 Paper Feed Cabinet • Duplex



1. Touch “1st.”

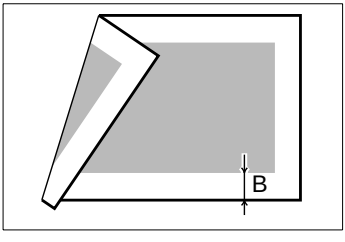


2. Touch “Duplex.”



3. Press the Start key.

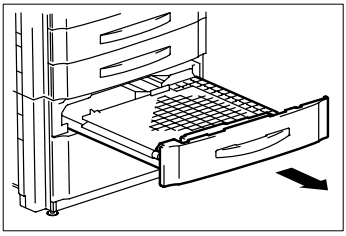
   Output the test print.



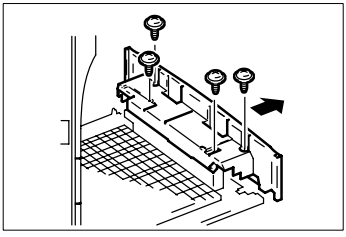
4. Check that the margin B reproduced on the front surface (double-sided surface) of the copy meets the specifications.
   Margin Registration Specifications:
   B : 5±0.5mm
   If the margins reproduced on the copy fall outside the specified range, make the “Registration Adjustment.”

1.1.15 Registration Adjustment

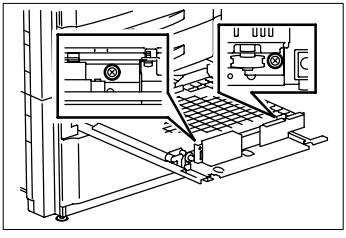
1.1.15.1 Duplex Unit



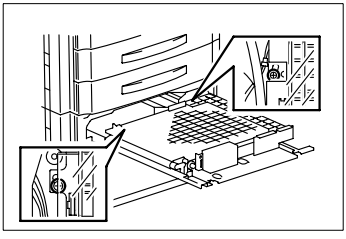
1. Pull out the Duplex Unit.

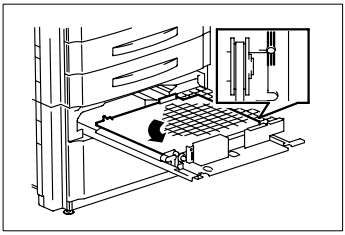


2. Remove the Cover (four screws).



3. Loosen the four screws as shown.

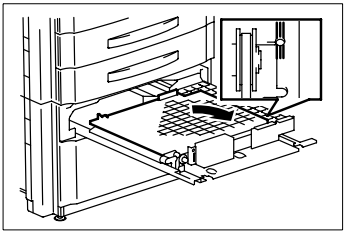


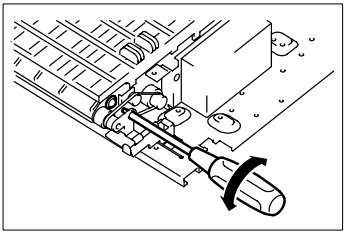


4. Referring to the adjusting gauge, move the Upper Guide Plate Assy. as follows.

   If the margin B is greater than the specifications, move the Upper Guide Plate Assy. toward left as needed.

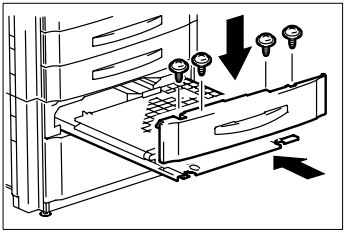
   If the margin B is greater than the specifications, move the Upper Guide Plate Assy. toward right as needed.





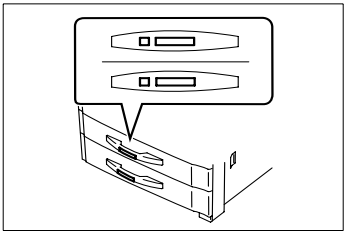
5. Loosen the screw as shown and then re-tighten it.

6. Make a test print again and check for correct registration.



7. Remount the Cover and close the Duplex Unit.

1.1.16 Affixing the Labels



Affix the Labels enclosed with the optional Paper Feed Cabinet.

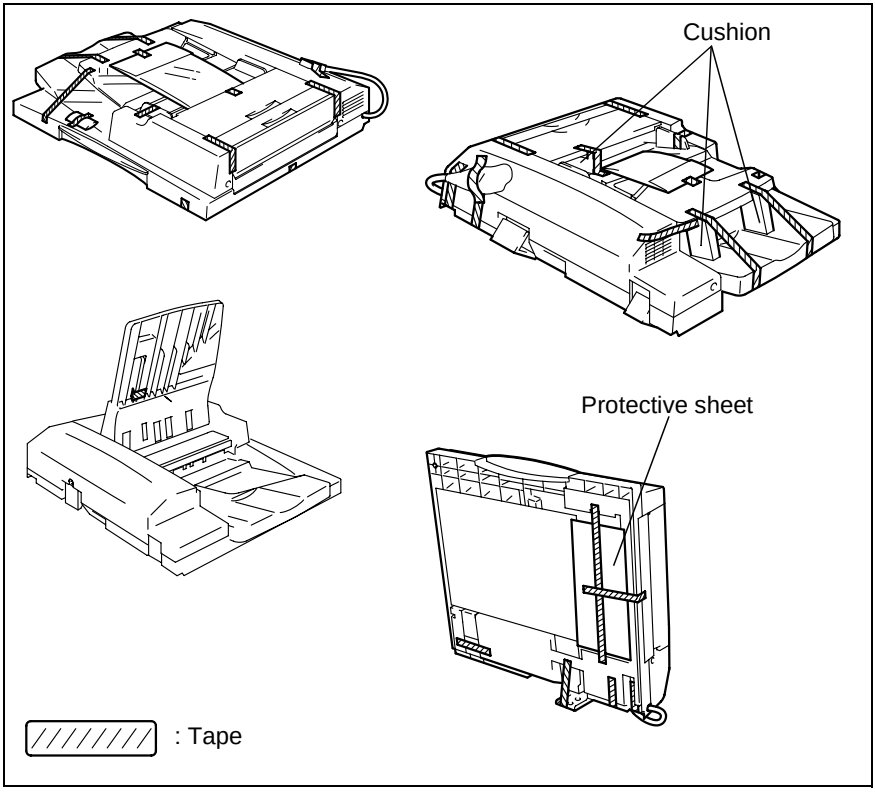
1.2 Installing EDH 3

1.2.1 Components

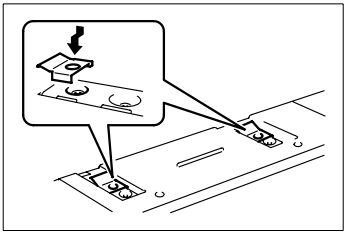
1. Shoulder Head Screw 4
2. Chart 1
   (Save this Chart for use in future adjustment.)
3. Document Guide 1
4. Flat Spring (for particular areas only) 2

1.2.2 Removal of Tape and Cushions

Remove pieces of tape and cushions



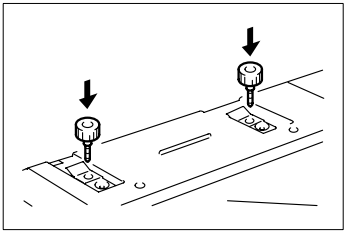
1.2.3 Installation



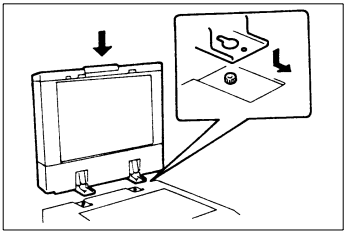
1. Install the Flat Springs (two) at the locations shown in the illustration. For particular areas only.

Note

Make sure that the Flat Springs are installed in the correct direction.



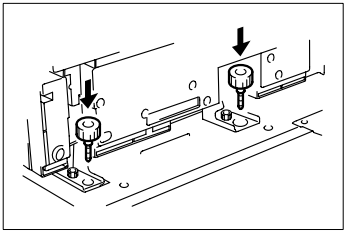
2. Screw the Shoulder Head Screws (two) at the locations shown in the illustration.



3. Temporarily mount the Electronic Document Handler onto the machine as illustrated.

NOTE

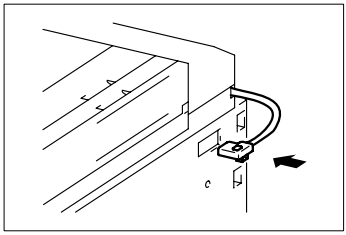
Use care not to let the Electronic Document Handler drop as it is insecure yet.



4. Secure both Hinges of the Electronic Document Handler with Shoulder Head Screws (two).

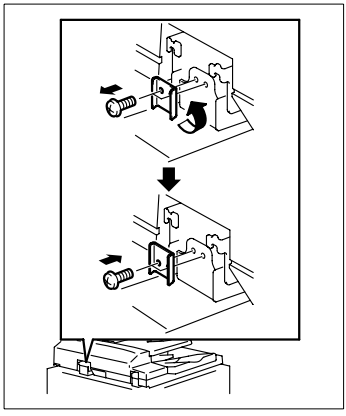
NOTE

Use care not to let the Electronic Document Handler drop as it is insecure yet.

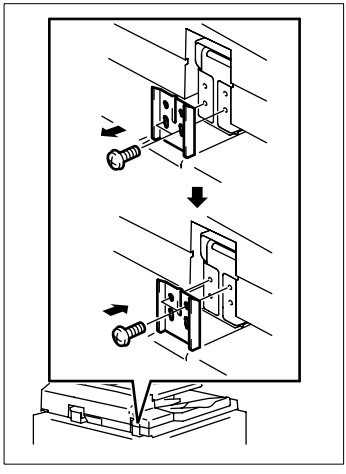


5. Lower the Electronic Document Handler.

6. Connect the Hookup Cord of the Electronic Document Handler.



7. At the back of the Electronic Document Handler, remove the Hinge Stopper (two screws) shown, turn it through 180 degrees, and then reinstall in position.

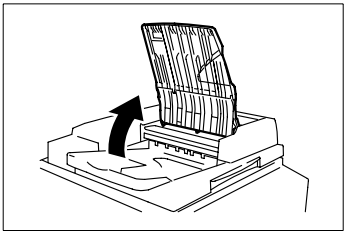


8. At the back of the Electronic Document Handler, remove the Hinge Stopper (two screws) shown and reinstall it according to the following instructions.
   Plate: Use the upper two screw holes.
   Hinge: Use the upper two screw holes.

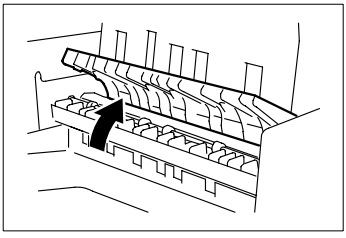
Note

Check that the Electronic Document Handler does not open more than 60 degrees.

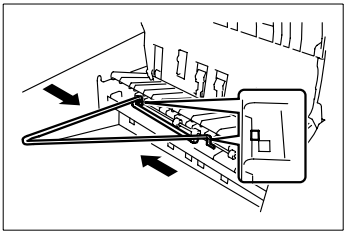
1.2.4 Installation of the Document Guide



1. Raise the Document Handling Tray until it is locked into position.

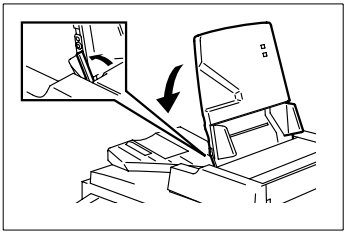


2. Raising the portion shown, install the Document Guide.



Note

Note the correct hole positions (marked with A in the illustration) into which the Document Guide should be fitted.

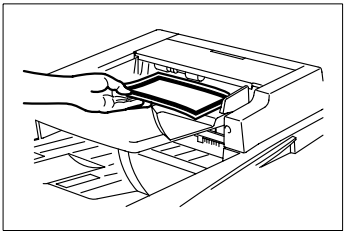


3. Pressing the lock lever, lower the Document Handling Tray into the original position.

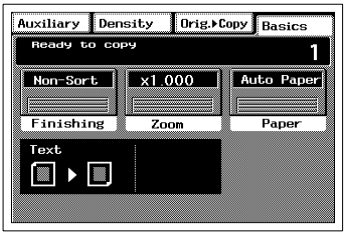
Note

Be careful not to let the tray pinch your fingers

1.2.5 Checking for Skew Feed



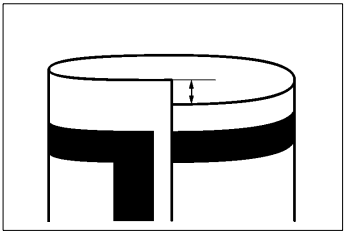
1. Plug in the power cord of the machine and turn ON the Power Switch.
2. Check that the paper of the same size as the Chart shipped with the unit is loaded in the machine.



3. Place the Chart on the Document Handling Tray and make 1-sided copies five consecutive times.

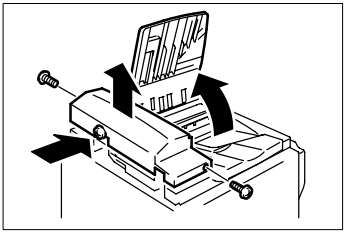
Note

Place the Chart crosswise on the Document Handling Tray.

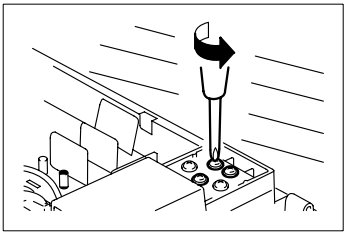


4. Fold each copy as shown and check for deviation.
5. If the deviation is great, perform the following adjustment procedures.
   Specifications : 0±1mm

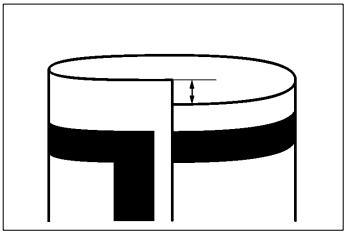
1.2.6 Adjusting Skew Feed



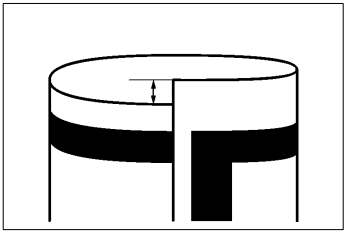
1. Raise the Document Handling Tray until it is locked into position. Then, after loosening the screw indicated by the arrow, remove the two remaining screws and the Rear Cover.



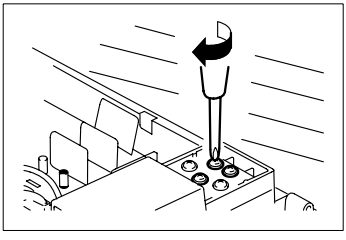
2. Loosen the three screws shown and adjust the position of the Electronic Document Handler as detailed below.



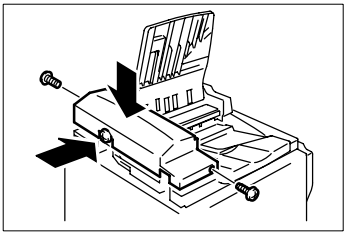
3. If the image deviates as shown, push the front left side of the Electronic Document Handler toward the rear.



If the image deviates as shown, push the front right side of the Electronic Document Handler toward the rear.



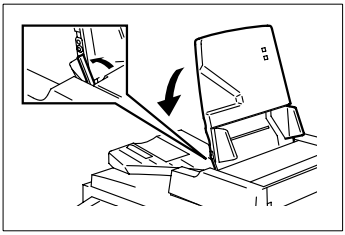
4. Tighten the three screws shown.



5. Reinstall the Rear Cover (three screws).

Note

Note that the right screw, looking the machine from the front side, is of a different kind.



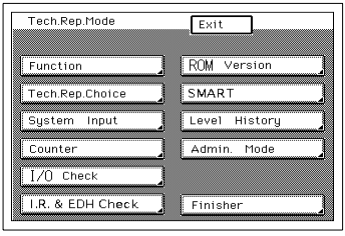
6. Pressing the lock lever, lower the Document Handling Tray into the original position.

Note

Be careful not to let the tray pinch your fingers.

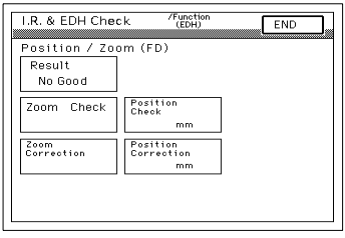
7. If the specifications are not still met, readjust.

1.2.7 Displaying the I.R. & EDH Check Screen

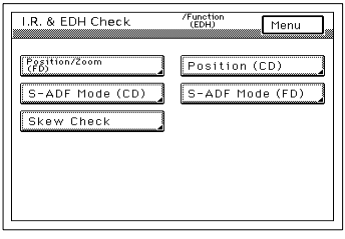


1. Show the Tech. Rep. mode screen. For the detailed procedure, refer to the Service Manual.)

2. Touch “I.R. & EDH Check.”

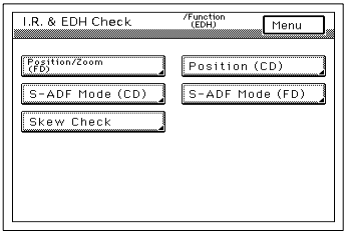


3. Touch “Function (EDH).”

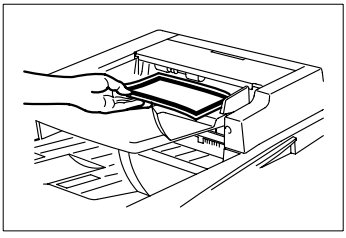


The I.R. & EDH Check screen appears.

1.2.8 Adjustment of FD Reading Position and Zoom Ratio



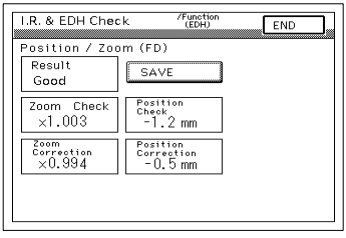
1. Touch “Position / Zoom (FD).”



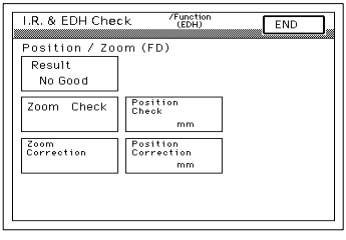
2. Place the Chart shipped with the unit on the Document Handling Tray and press the Start key.

Note

Place the Chart crosswise on the Document Handling Tray.



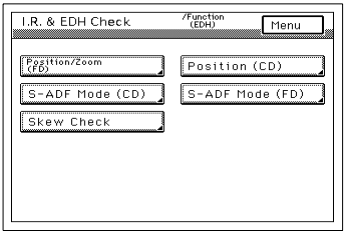
3. Touch “SAVE.”



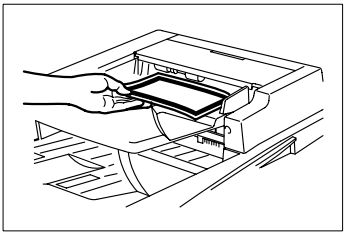
4. Touch “END.”

   If the “SAVE” key is not shown on the screen, repeat the above steps.

1.2.9 Adjustment of CD Reading Position



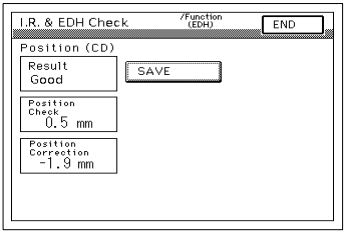
1. Touch “Position (CD).”



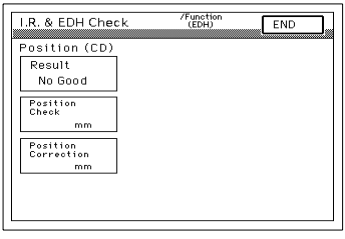
2. Place the Chart shipped with the unit on the Document Handling Tray and press the Start key.

Note

Place the Chart crosswise on the Document Handling Tray.



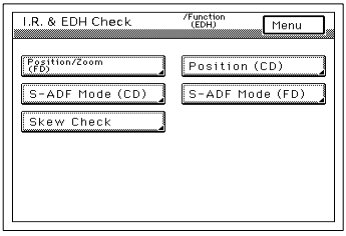
3. Touch “SAVE.”



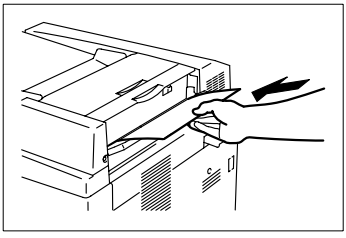
4. Touch “END.”

   If the “SAVE” key is not shown on the screen, repeat the above steps.

1.2.10 Adjustment of Single Feed CD Reading Position



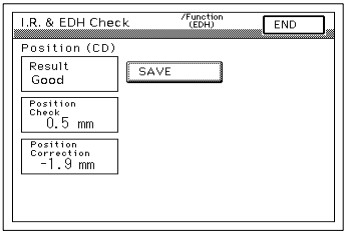
1. Touch “S-ADF Mode(CD).”



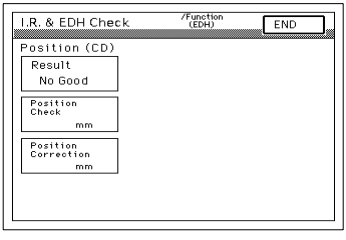
2. Open the Single Feed Tray and insert the Chart shipped with the unit into the tray.

Note

Press the Chart up against the Rear Edge Guide and insert it crosswise.



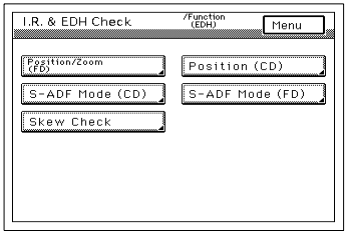
3. Touch “SAVE.”



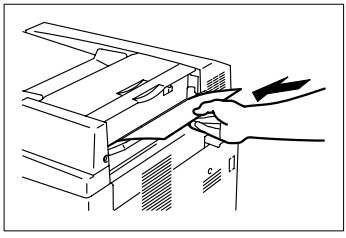
4. Touch “END.”

   If the “SAVE” key is not shown on the screen, repeat the above steps.

1.2.11 Adjustment of Single Feed FD Reading Position



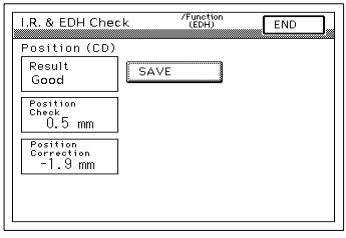
1. Touch “S-ADF Mode (FD).”



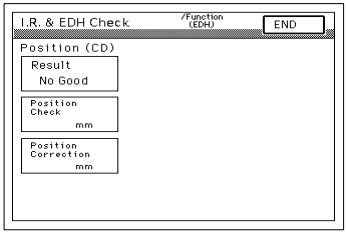
2. Insert the Chart shipped with the unit into the Single Feed Tray.

Note

Press the Chart up against the Rear Edge Guide and insert it crosswise.



3. Touch “SAVE.”

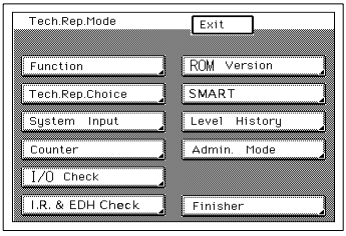


4. Touch “END.”

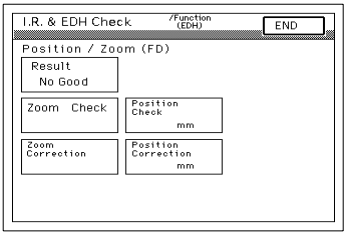
   If the “SAVE” key is not shown on the screen, repeat the above steps.

5. Close the Single Feed Tray.

1.2.12 Adjustment of Original Detection



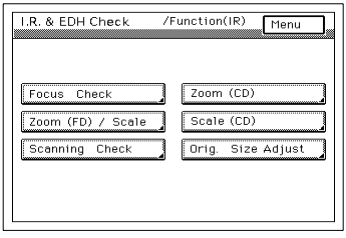
1. Press the Panel Reset key to return to the Tech. Rep. mode screen. Then, touch "I.R. & EDH Check."



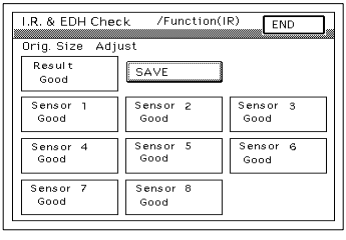
2. Touch "Function (I.R.)."

Note

Make sure that the Electronic Document Handler is closed



3. Touch "Orig. Size Adjust."
4. Press the Start key.

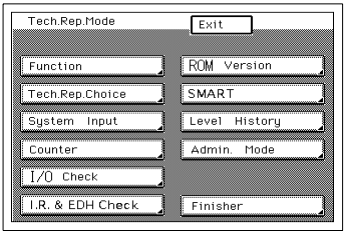


5. Touch "SAVE."

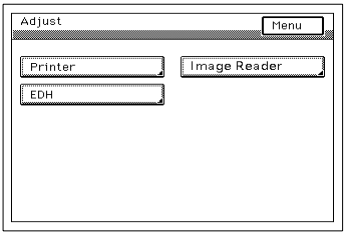
   If the "SAVE" key is not shown on the screen, repeat the above steps.

6. Touch "END."
7. Press the Panel Reset key.

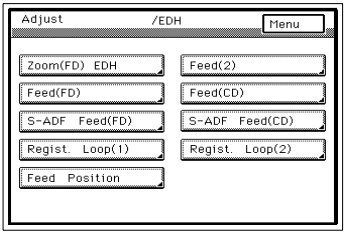
1.2.13 Entering the Adjust/EDH Adjustment Values



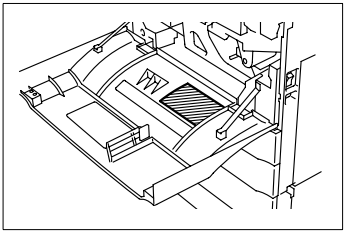
1. Press the Stop key and, without any delay, press the Start key.



2. Touch “EDH.”



3. Touch each item, one at a time, on the Adjust/ EDH screen to display the corresponding adjustment value.



4. Each time the adjustment value is displayed, enter it on the Label affixed to the inside of the Front Door.

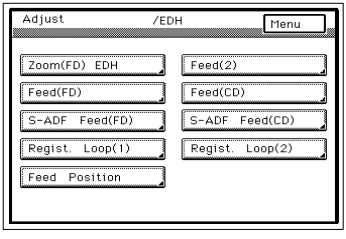
Note

Refer to the Table given below and make sure that each value is entered at the correct column.

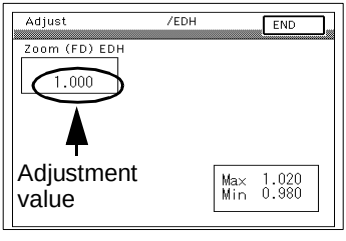
ADJUST(PRINTER)		SET	S/No			ADJUST(EDH)	SET	
REGIST (CD)	1st					ZOOM(FD)		
	2nd					FEED(2)		
	3rd					FEED(FD)		
	4th					FEED(CD)		
	Manual					S-ADF(FD)		
	LCT					S-ADF(CD)		
	DUPLEX					LOOP(1)		
	600dpi					LOOP(2)		
REGIST (FD)	400dpi					POSITION		
	600dpi							
ZOOM(FD)						SCH		
FUSING INPUT						SCH		
ID						SCH		
ATDC(SET)						SCH		
ADJUST(IR)						SCH		
ZOOM(CD)						SCH		
ZOOM(FD)						SCH		
SCALE(FD)						SCH		
SCALE(CD)						SCH		

Enter the Adjustment Value.

1.2.14 Example of Data Entry [for Zoom (FD) EDH



1. Touch “Zoom (FD) EDH” on the Adjust/EDH screen.



2. Enter the value shown in the corresponding column in the table.

Note

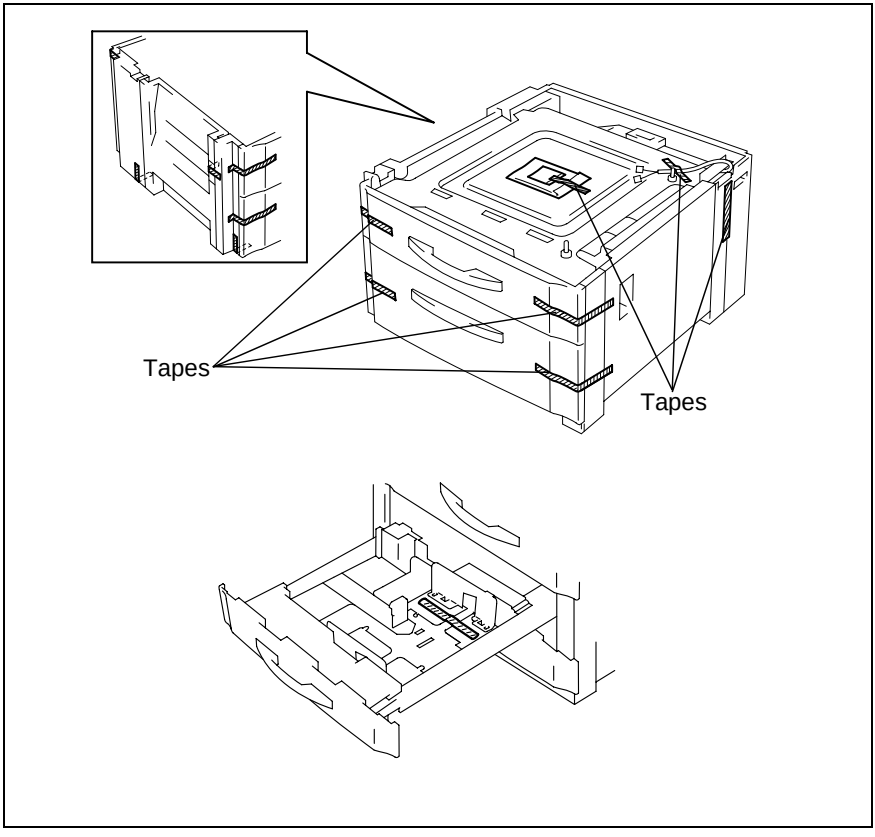
The adjustment values differ from one machine to another.

3. After the adjustment values have been checked, touch “END.”

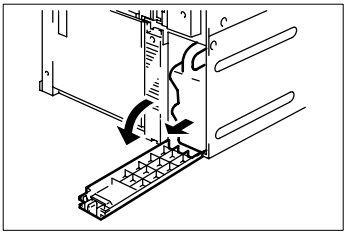
1.3 PF-115 Installation

1.3.1 Unpacking

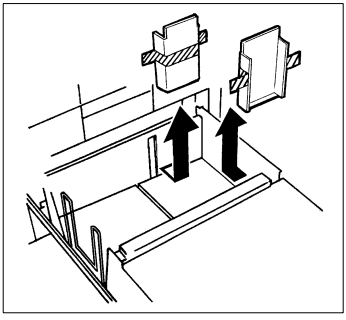
1. Take the Bag of Accessories and Cabinet out of the Carton.
   Check to see that the following item in the bag:
   Label 1
2. Peel off all the tapes from the cabinet.



3. Remove the two Packing Materials from the inside of 3rd Drawer.

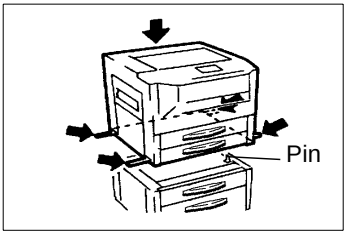


1. Open Cover E located in the rear on the right of the cabinet.
2. Slide out the Duplex Unit only some way and remove the Toner Collecting Box
3. Press the LCC Drawer Lock Release Switch and slide out the LCC Drawer.

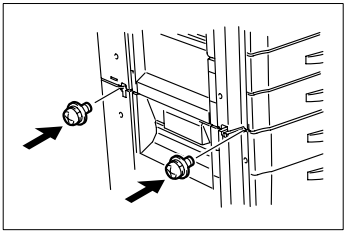


4. Remove the two Packing Materials from the inside of 3rd Drawer.
5. Close the 3rd Drawer.
6. Reinstall the Toner Collecting Box and close Cover E.
7. Slide the Duplex Unit back into the cabinet.

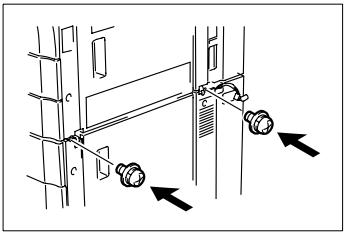
1.3.2 Fitting the copier to the cabinet

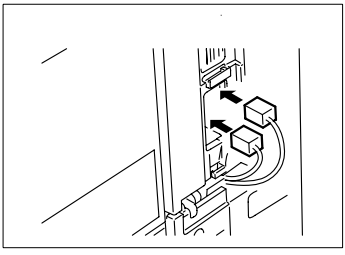


1. Take the Copier out of the carton.
2. While holding the Carrying Handles, lift the copier up and onto the cabinet ensuring that the Positioning Pins are securely located in the holes in the base frame of the copier.



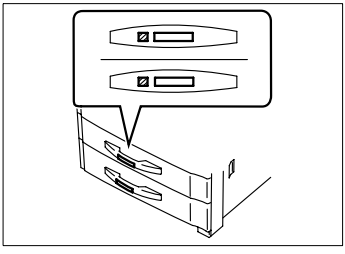
3. Using the four screws shipped with the copier, secure the Paper Feed Cabinet to the copier.
   Screw (shipped with the copier) -4x8mm (4)





4. Hook the cord of the cabinet at a catch provided on the copier and plug in the connector

5. Install the Harness Cover shipped with the copier.
   Screw (shipped with the copier) -4x10mm (1)



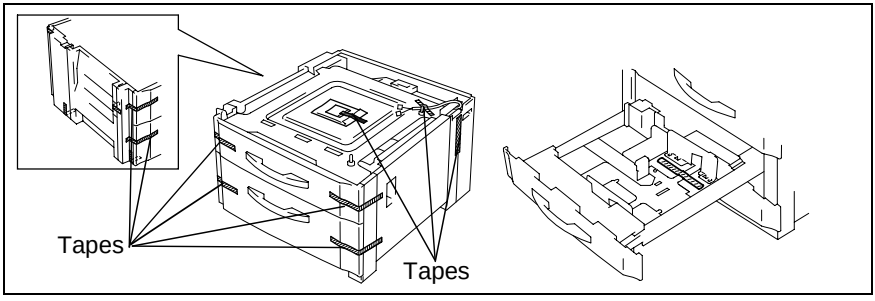
6. Affix the Cassette Label furnished with the unit to the location shown in the illustration.

For checking the Side-to-Side Image Registration (PF-115), refer to the Di450/Di550 Unpacking/Setting-Up Instructions.

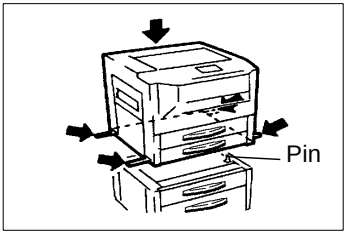
1.4 PF-208 Installation

1.4.1 Unpacking

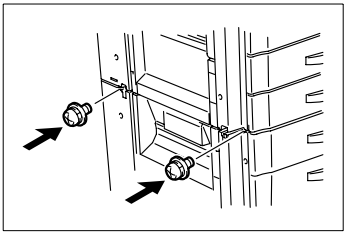
1. Take the Bag of Accessories and Cabinet out of the Carton.
   Check to see that the following item in the bag:
   Label.....1
2. Peel off all the tapes from the cabinet.



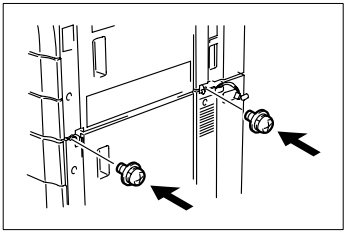
1.4.2 Fitting the copier to the cabinet

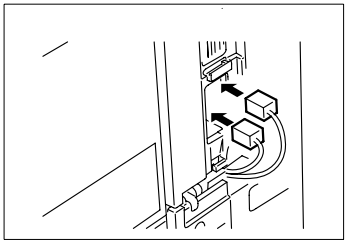


1. Take the Copier out of the carton.
2. While holding the Carrying Handles, lift the copier up and onto the cabinet ensuring that the Positioning Pins are securely located in the holes in the base frame of the copier.



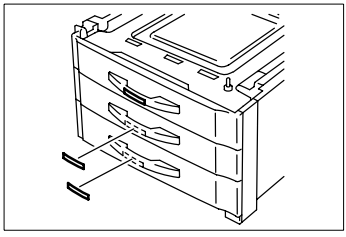
3. Using the four screws shipped with the copier, secure the Paper Feed Cabinet to the copier.
   Screw (shipped with the copier) -4x8mm (4)





4. Hook the cord of the cabinet at a catch provided on the copier and plug in the connector.

5. Install the Harness Cover shipped with the copier.
   Screw (shipped with the copier) -4x10mm (1)



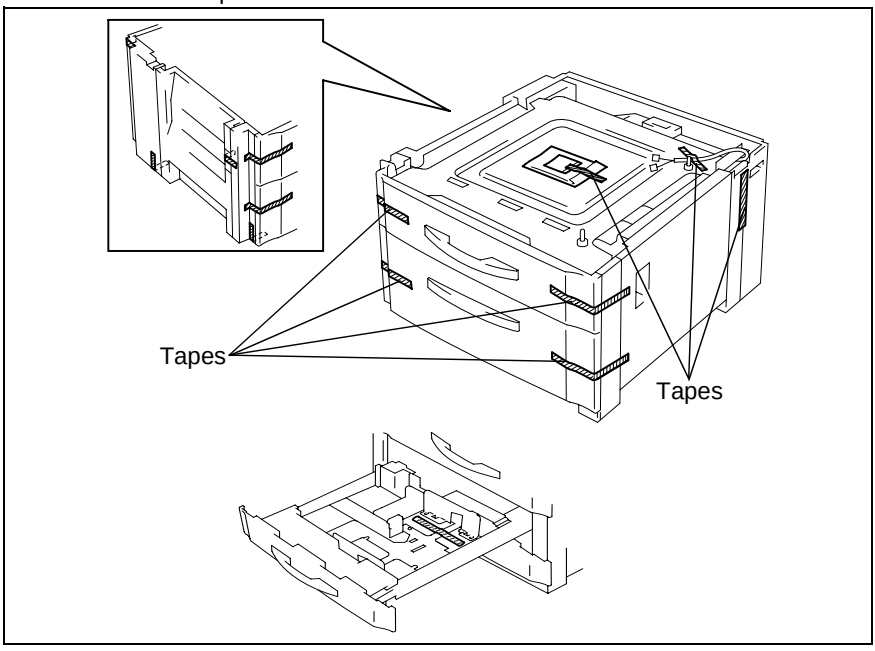
6. Affix the Cassette Label furnished with the unit to the location shown in the illustration.

For checking the Side-to-Side Image Registration (PF-208), refer to the Di450/Di550 Unpacking/Setting-Up Instructions.

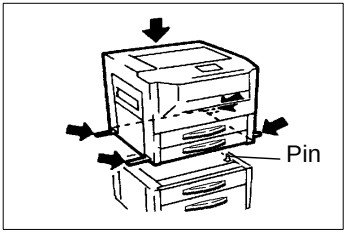
1.5 PF-7D Installing

1.5.1 Unpacking the Cabinet

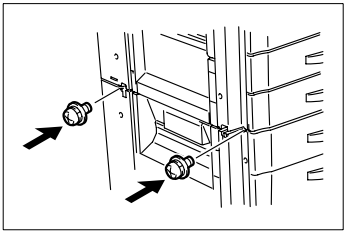
1. Take the Cabinet out of the Carton.
2. Peel off all the tapes from the cabinet.

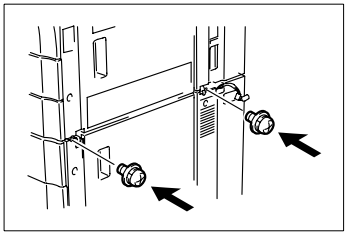


1.5.2 Fitting the copier to the cabinet

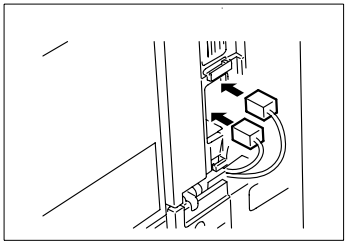


1. Take the Copier out of the carton.
2. While holding the Carrying Handles, lift the copier up and onto the cabinet ensuring that the Positioning Pins are securely located in the holes in the base frame of the copier.





3. Using the four screws shipped with the copier, secure the Paper Feed Cabinet to the copier.
   Screw (shipped with the copier) -4x8mm (4)



4. Hook the cord of the cabinet at a catch provided on the copier and plug in the connector.

5. Install the Harness Cover shipped with the copier.
   Screw (shipped with the copier) -4x10mm (1)

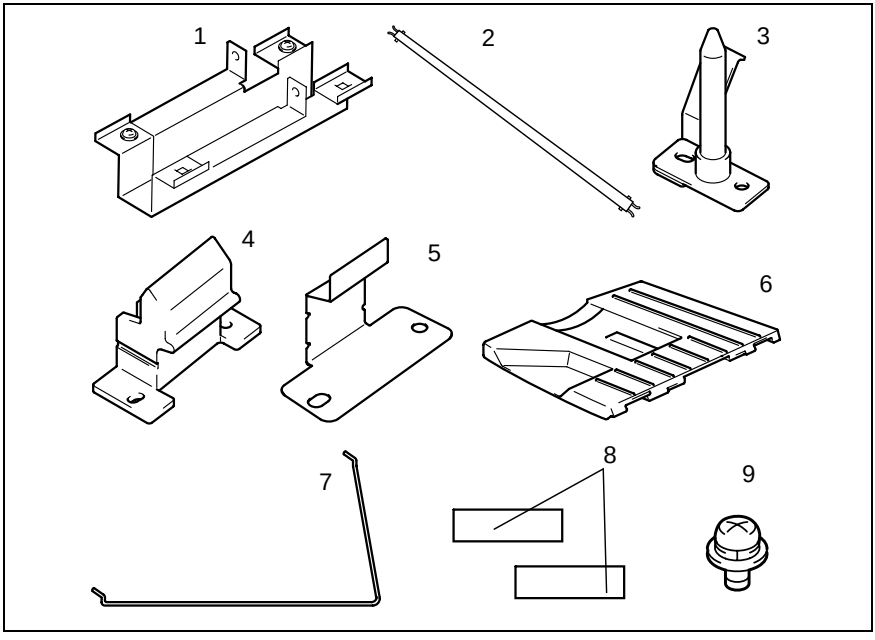
For checking the Side-to-Side Image Registration (Duplex Unit), refer to the Di450/ Di550 Unpacking/Setting-Up Instructions.

1.6 FN-105 / FN-106 Installation

1.6.1 Unpacking

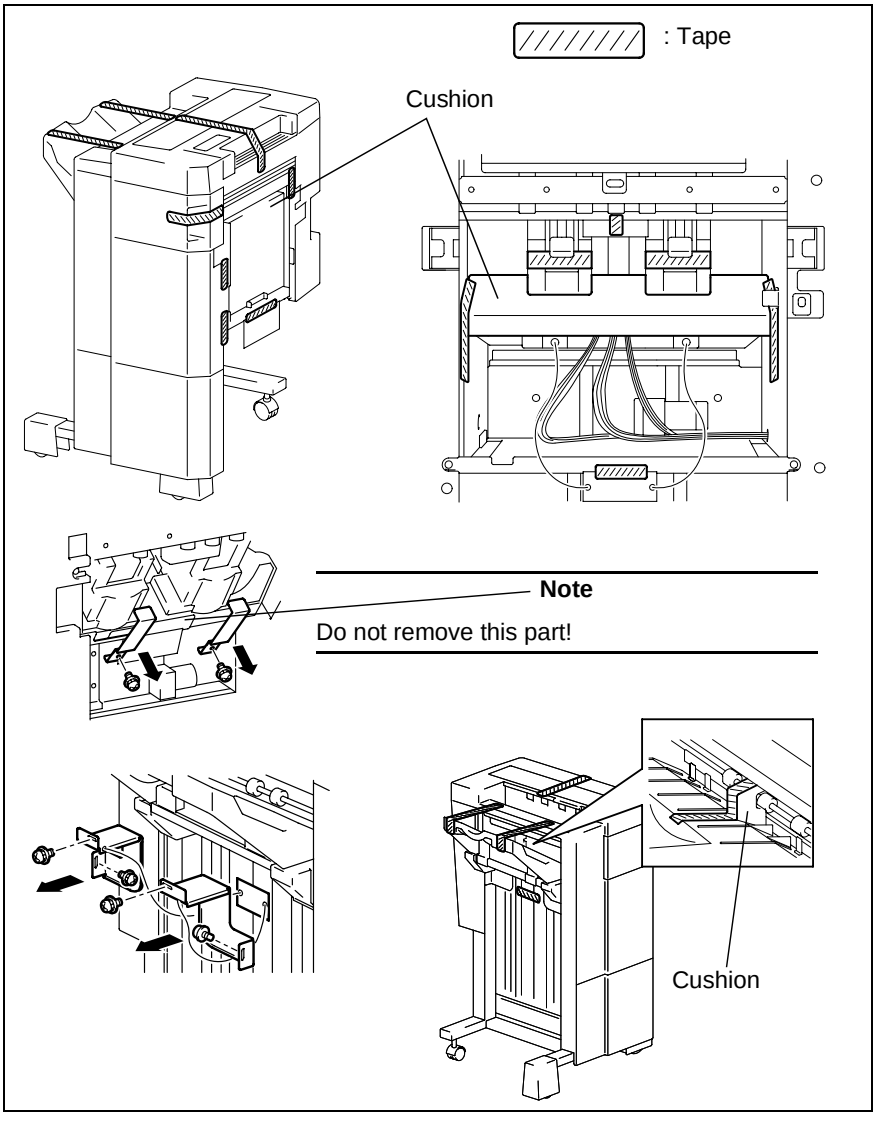
Check to see that the following items are contained in the carton.

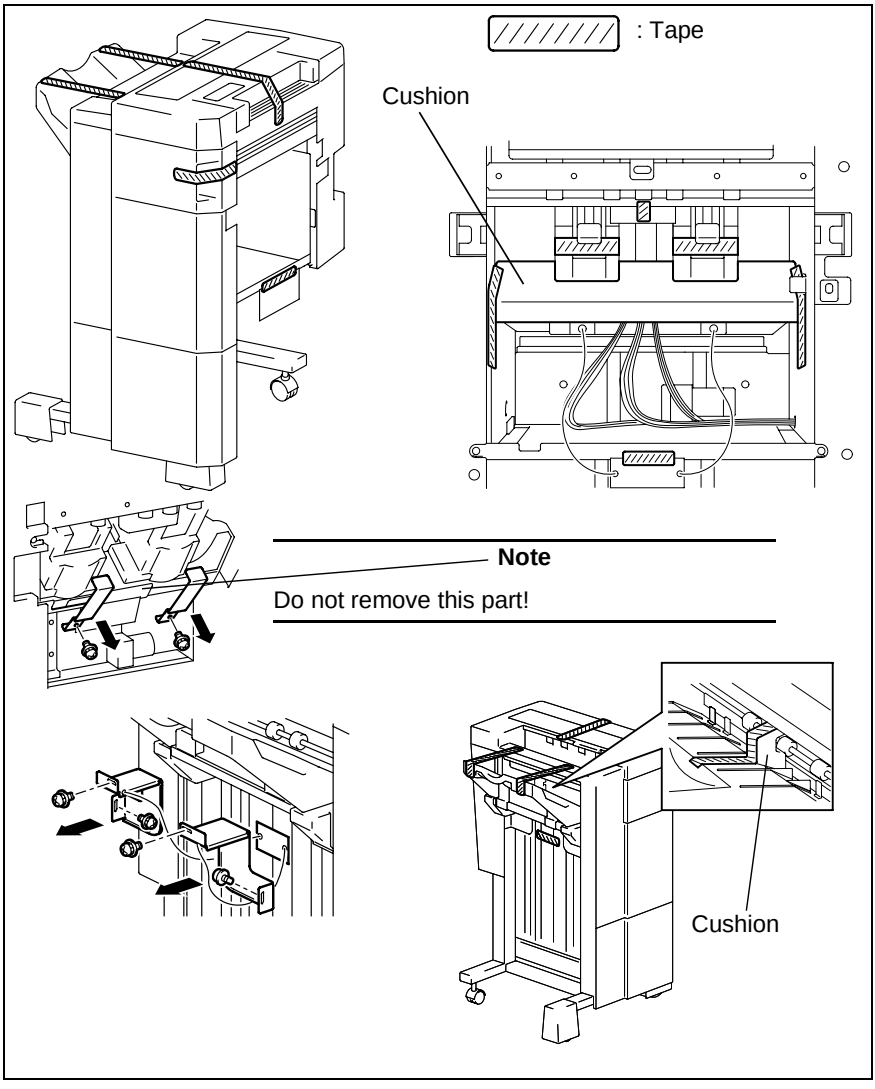
1. Feeder Attachment 1
2. Pipe 1
3. Positioning Pin 1
4. Fixing Bracket A 2
5. Fixing Bracket B 2
6. Tray 1
7. Wire Form 1
8. Label 2
9. Screw 8
10. Unpacking/Setting-up Instructions 1



1.6.2 Remove tape and packing materials

For FN-105

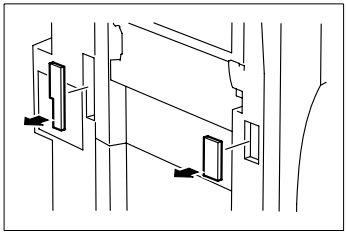




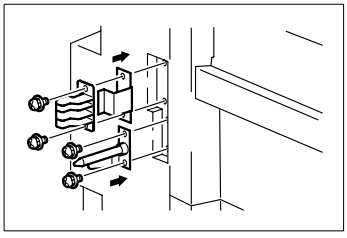
Note

Make sure that the Finisher is installed on a level surface.
Once the Finisher has been installed, do not move it unless absolutely necessary. If it becomes absolutely necessary to move the Finisher, remove the Pipe both from it and the machine.
After the Finisher has been relocated, attach the Pipe back again by following the steps given in "Attaching the Pipe."
When moving the Finisher, press the side opposite to the Tray to prevent the Finisher from toppling over.

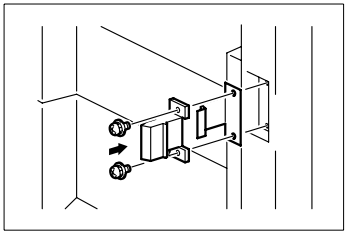
1.6.3 Attaching the Positioning Pin, Fixing Brackets, and Pip



1. Remove the knockouts shown from the Left Cover.

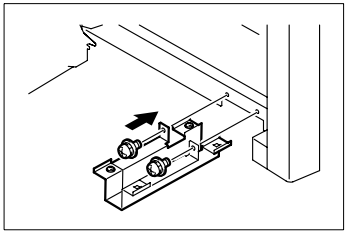


2. Install the right and left Fixing Brackets A and B (four screws) and the Positioning Pin (two screws).



Note

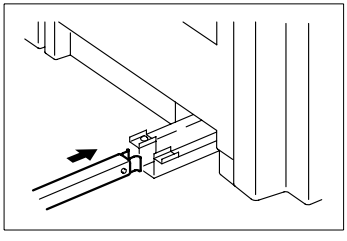
Ensure that Fixing Brackets B face inward. Install the Positioning Pin so that its flat spring is on the bottom side.



3. Open the Lower Left Door of the machine and install the Feeder Attachment (two screws).

Note

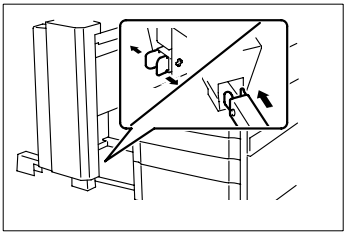
Make sure of the correct direction of the Feeder Attachment when installed.



4. Lower the Lower Left Door of the machine and fit one end of the Pipe into the Feeder Attachment.

Note

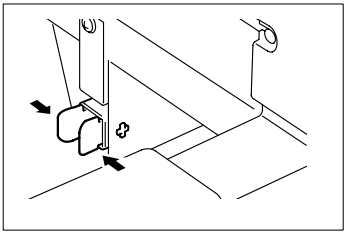
Face the grooved end of the Pipe down and fit the Pipe positively into position.



5. Fit the other end of the Pipe into the mounting guide on the Finisher Tray side and insert the Pipe until a click is heard.

Note

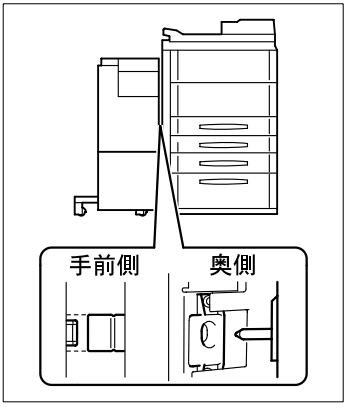
At this time, do not press the Finisher up against the machine, yet.



When Removing the Pipe

Using the tabs on the Finisher side, unlock the Pipe and pull it out from the mounting guide. Then, remove the Pipe together with the Feeder Attachment installed in step 3. Next, pull the Pipe out of the Feeder Attachment.

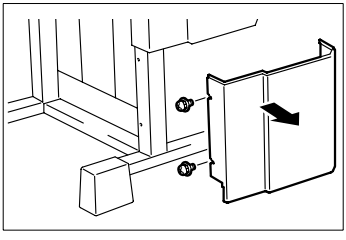
1.6.4 Adjusting the Position of the Finisher



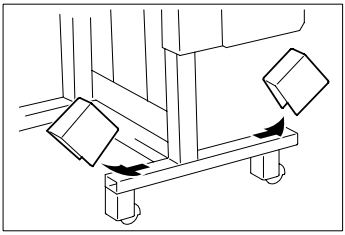
1. Slowly move the Finisher toward the machine and check the followings:
   Alignment between the Positioning Pin and the hole in the Finisher (height) (in the rear)
   Alignment between Fixing Bracket A and the fixing bracket on the Finisher (height) (at the front)

Note

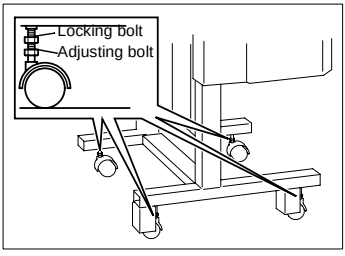
If the parts are not properly aligned with each other, perform these steps to make an adjustment.



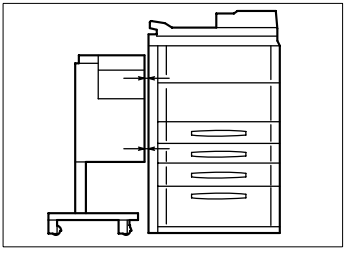
2. Remove the Lower Front Cover (two screws) of the Finisher.



3. Pull up and remove the caster covers (two).



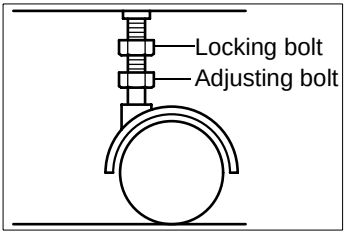
4. Holding the lower adjusting bolt of the caster in position, loosen the upper locking bolt. Then, turn the lower adjusting bolt to adjust the height.
   <Two in the rear>
   If the Positioning Pin is higher
   : Turn the bolt clockwise.
   If the Positioning Pin is lower
   : Turn the bolt counterclockwise.
   <Two at the front>
   If Fixing Bracket A is higher
   : Turn the bolt clockwise.
   If Fixing Bracket A is lower
   : Turn the bolt counterclockwise.



5. Press the Finisher against the machine and check that clearance between the two is equal at points a and b.

Note

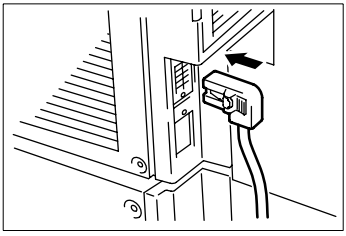
If the clearance at a is not equal that at b, readjust with the casters.



6. After the check has been made, tighten the upper locking bolts of the casters (at four places), while holding the lower adjusting bolts in position

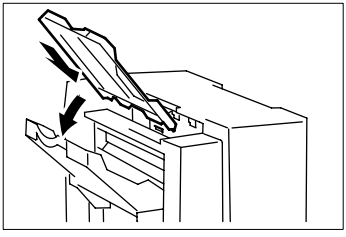
7. Reinstall the parts which have been removed.

1.6.5 Connecting the Hookup Cord

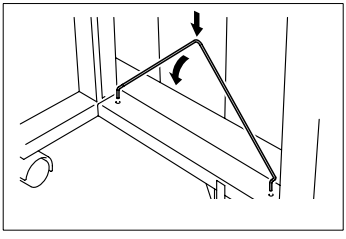


Remove the knockout from the machine and connect the Hookup Cord.

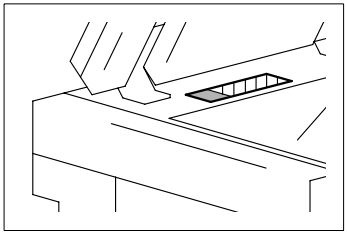
1.6.6 Installing the Tray and Wire Form



Install the Tray and Wire Form that come with the Finisher at the locations shown.



1.6.7 Affixing the Labels

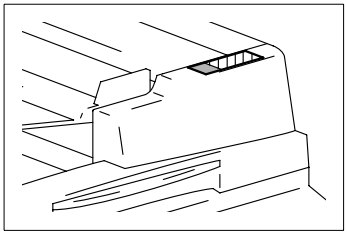


Affix the labels that come with the Finisher.

1. Label (for the copier)

: FN-105

: FN-106

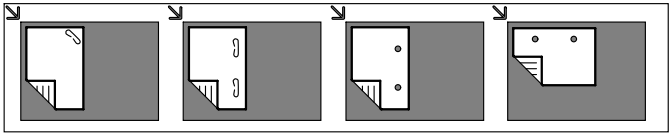


Label (for the electronic document handler)

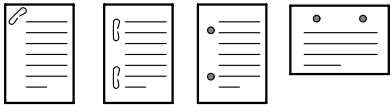
: FN-105

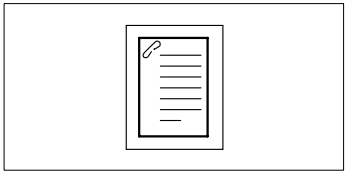
: FN-106

(For FN-105 and the copier)

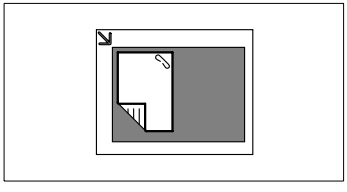


(For FN-105 and the electronic document handler)



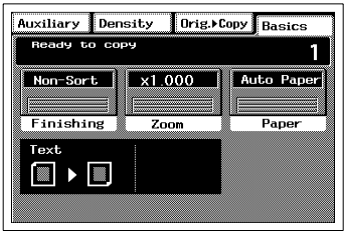


(For FN-106 and the electronic document handler)

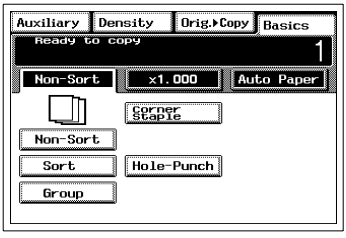


(For FN-106 and the copier)

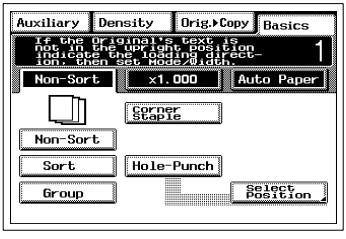
1.6.8 Checking the Hole Positions for Hole Punch (FN-105 only)



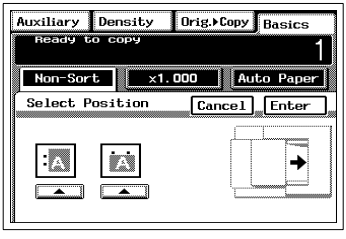
1. Plug the power cord of the machine and turn ON the Power Switch.
2. Load the 1st Drawer with A4-size or Letter-size crosswise paper.
3. Touch “Finishing.”



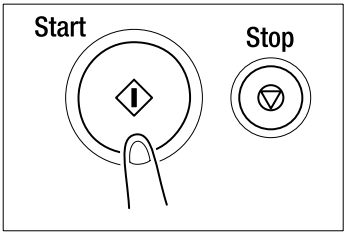
4. Touch “Hole-Punch” to highlight it



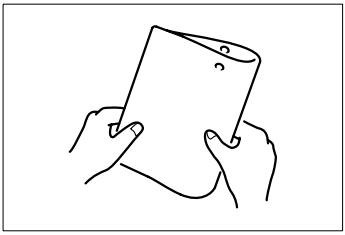
5. Touch “Select Position.”



6. Select the position for the holes to be made in Hole Punch.



7. Press the Start key.

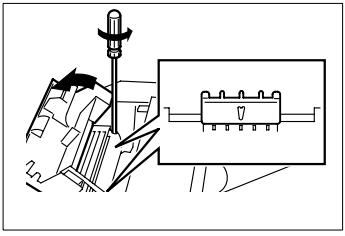


8. Fold the copy in half to check that holes are in correct alignment with each other.
   Specifications: 0 ±2 mm

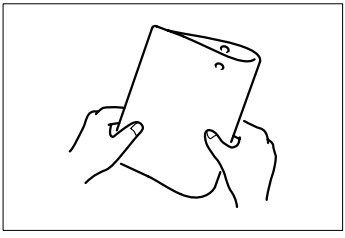
Note

If the specifications are not met, adjust the hole positions for Hole Punch.

1.6.9 Adjusting the Hole Positions for Hole Punch (FN-105 only)



1. Open the Top Cover of the Finisher and loosen the screw that secures the Hole Punch Guide Plate.
   Slide the green handle to the front or rear to adjust the position of holes for Hole Punch.



2. Tighten the screw which has been loosened in step 1.

Note

Make a copy again and check for correct hole positions. If the specifications are not still met, readjust.

3. After the adjustment has been completed, close the Top Cover.

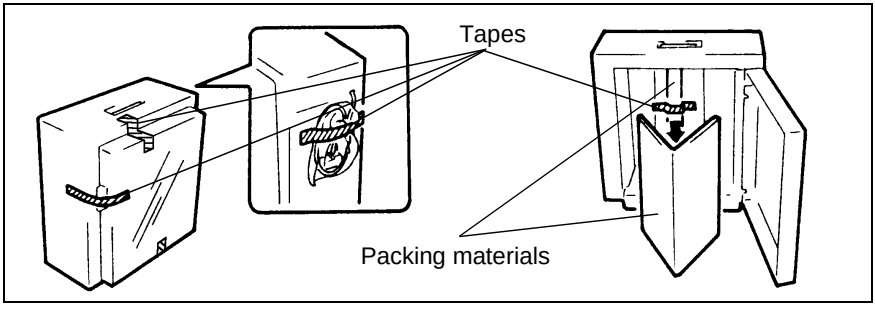
1.7 C-306 / C-306L Installation

1.7.1 UNPACKING C-306

Note

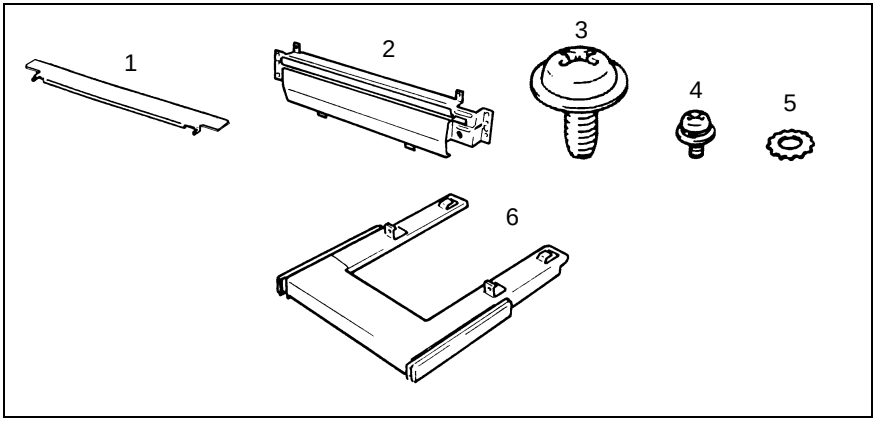
When unpacking or moving the C-306, never lift or carry the Large Capacity Cassette by holding the take-up roller section.

1. Take out the Large Capacity Cassette and accessories box.
2. Peel off the tape fixing the Large Capacity Cassette.
3. Open the Cassette Door and remove the tape and packing materials.



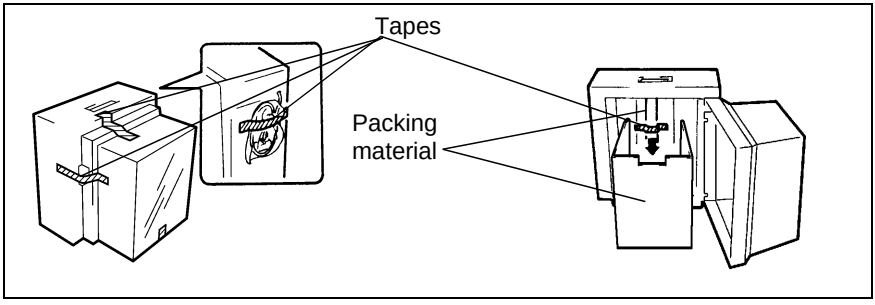
4. Check the contents of the accessories box.

1. Elevator Table 2
2. Paper Transport Guide Plate 1
3. Pan Head Tapping Scre 7
4. Cap Head Screw..... 2
5. External Toothed Lock Washer..... 1
6. Support Stand..... 1



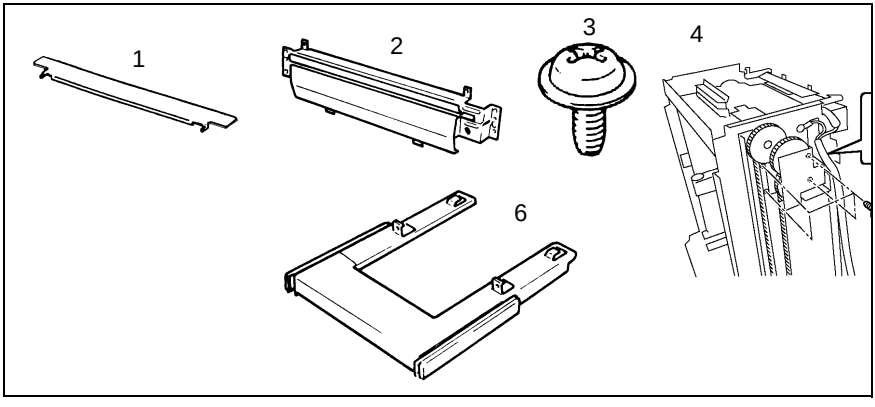
1.7.1.1 Unpacking C-306L

1. Take out the Large Capacity Cassette, Support Stand and Package.
2. Take out the Paper Transport Guide Plate, Cover Plates and screws from the package.
3. Peel off the tape fixing the Large Capacity Cassette.
4. Open the Cassette Door and remove the tape and packing materials.

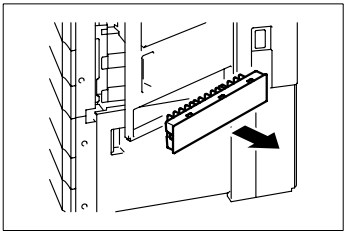


5. Check for the following items:

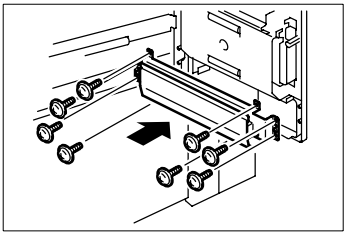
1.	Paper Transport Guide Plate	1
2.	Cover Plate	2
3.	Pan Head Tapping Screw	7
4.	Shoulder Head Screw	2
5.	External Toothed Lock Washer	1
6.	Support Stand	1



1.7.2 INSTALLING THE PAPER TRANSPORT GUIDE (C-306/C-306L

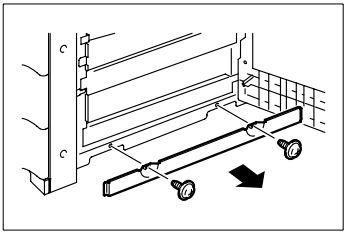


1. Open the Right Upper Door of the copier and cut out panel A.

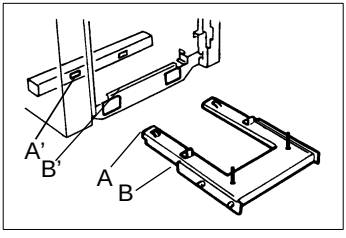


2. Attach the Paper Transport Guide Plate furnished with the unit to the backside of the Right Upper Door.
   Use the screw that is used on the copier to secure the upper left corner of the Paper Transport Guide Plate.
   Pan Head Tapping Screw ... 7

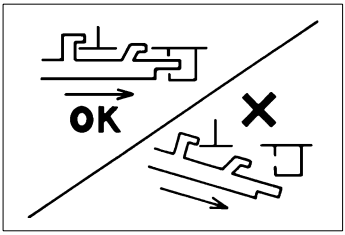
1.7.3 INSTALLING THE LARGE CAPACITY CASSETTE (C-306 / C-306L)



1. Open the Right Lower Door of the copier to an angle of about 45°.
2. Remove the screws provided on the copier.

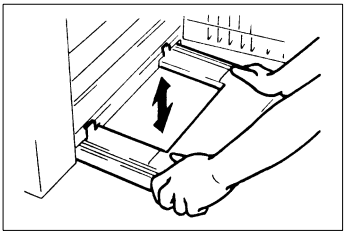


3. Insert part A of the Support Stand into position A' underneath the copier. Then, insert part B of the Support Stand into position B' at the bottom of the copier.

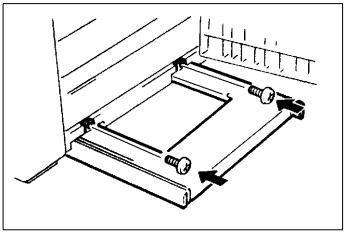


Note

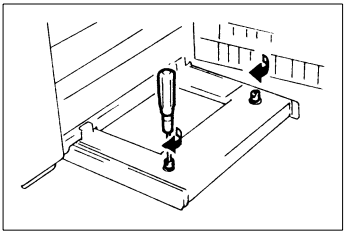
Hold and insert the Support Stand horizontally so that the hooks of the Support Stand properly fit into place.



4. Confirm whether the Support Stand is properly fitted to the paper Feed Cabinet by shaking the Support Stand.

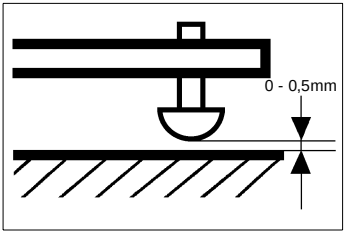


5. Loosely secure the Support Stand using two screws removed in step 2.

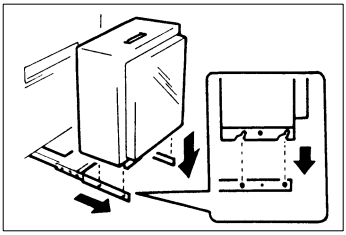


6. Screw out the Front and Rear Support Feet of the Stand so that they can securely support the weight of the Large Capacity Cassette.

Only C-306L

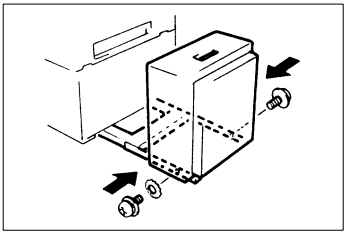


7. Turn the Feet about a half turn counterclockwise so that the gap between the Feet and the Floor is 0-0.5mm.



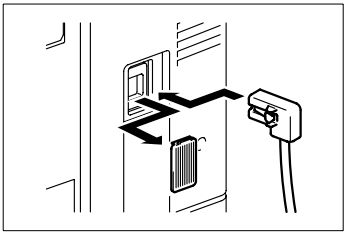
8. Close the Right Upper Door and Right Lower Door of the copier.

9. Slide out the two rails of the Support Stand and set the Mounting Plate of the Large Capacity Cassette onto them.



10. Secure the Mounting Plate to the Slide Rails using two Screws and a Toothed Lock Washer.
    Slide the Large Capacity Cassette firmly against the copier.
    Shoulder Head Screw x 2
    Toothed Lock Washer x 1

1.7.4 CONNECTING THE HOOKUP CORD (C-306 / C-306L)



1. Remove the Connector Cover from the copier.

2. Plug in the Connector of the Hookup Cord

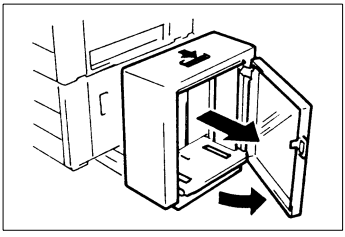
1.7.5 CHANGING PAPER SIZE

At the time of shipment, Large Capacity Cassettes are set for
C306: A4(C) or Letter(C) and for
C-306L: A4(L) or Letter (L)paper.

Paper Sizes Available:
C-306 = A4(C), B5(C), Letter(C)
C-306L = A4(L, C), B5(C), Letter(L, C), Legal (L)

If you do not need to change that setting, please skip to “INPUT THE PAPER SIZE”.

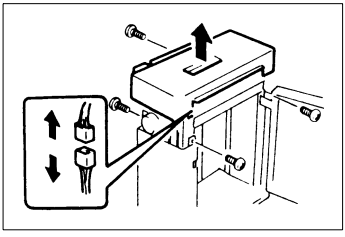
1.7.5.1 C-306



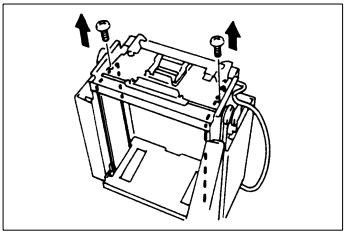
1. Slide the Large Capacity Cassette away from the copier and open the Cassette Door.

Note

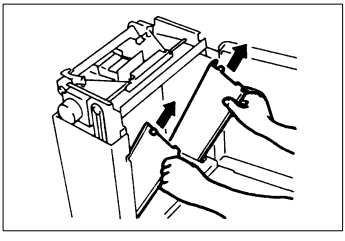
The Elevator should be in its lowered position before carrying out the following procedure.



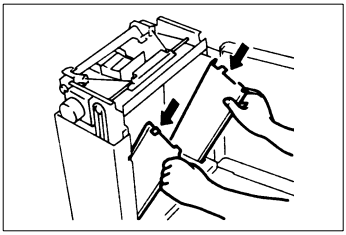
2. Lifting up the Top Cover a little, unplug the Connector and remove the Top Cover.



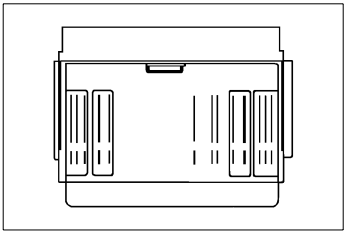
3. Remove the two Screws of the Paper Edge Guides.



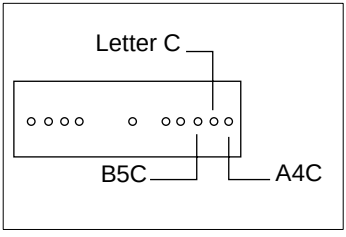
4. Slide out the Paper Edge Guides.

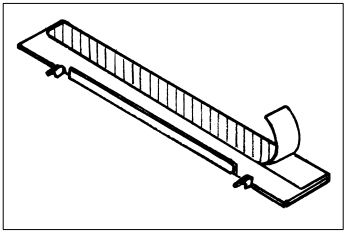


5. Refit the Paper Edge Guides into the bottom slots which correspond to the paper size desired.
(Refer to the table below.)

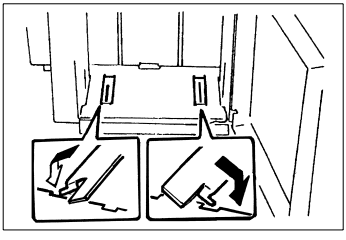


Paper size	Position
A4C	Outer slot
B5C	Inner slot
LetterC	Center slot

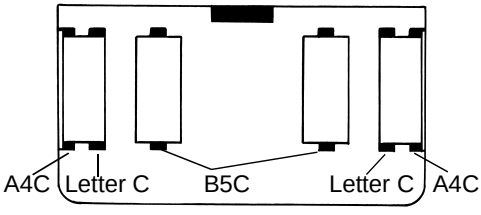


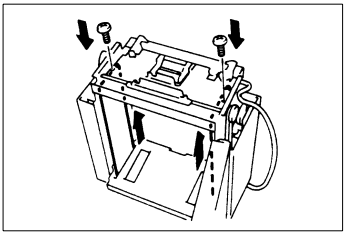


6. Peel off the backing from two Elevator Tables contained in the accessories box.

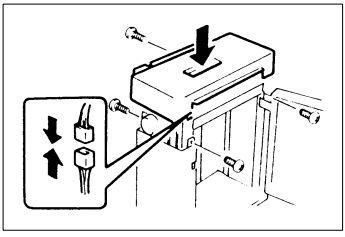


7. Install the Elevator Tables.





8. While lifting up the Paper Edge Guides, set them into the upper slots and secure with the two Screws.



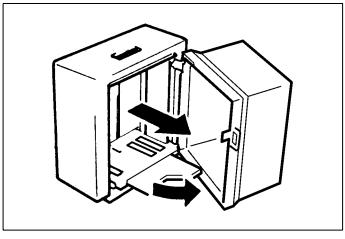
9. Plug in the Connector and reinstall the Top Cover.

Note

When installing the Top Cover, be careful not to pinch the Connector with the Top Cover.

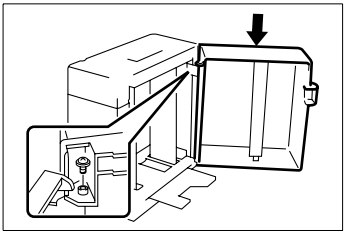
10. Close the Cassette Door and slide the Large Capacity Cassette back into position.

1.7.5.2 C-306L

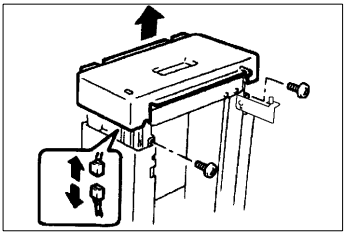


1. Unplug the Hookup Cord, slide out the Large Capacity Cassette and remove it from the rails.

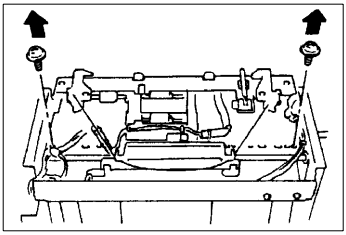
2. Open the Cassette Door. Check to see if the Paper Table is in the lowered position at this time.



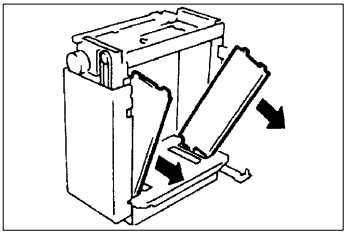
3. Remove the Cassette Door.



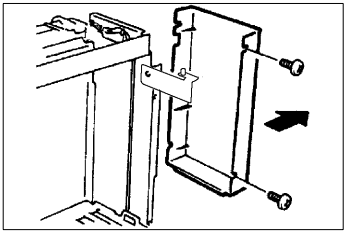
4. Remove the right two Screws, loosen the left two screws, lift the Top cover a little, unplug the connector, and remove the Top Cover.



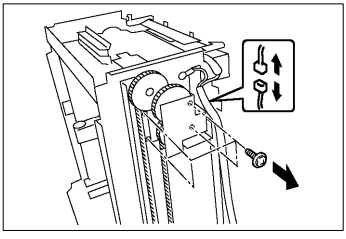
5. Remove the two Screws of the Paper Edge Guides.



6. Slide out the Paper Edge Guides.



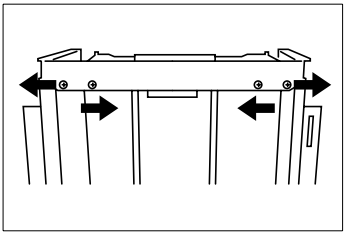
7. Remove the right two screws, loosen the left two screws, and remove the Rear Cover.



8. Unplug the connector, take out four screws and remove the Motor in order to free the Paper Table.

Note

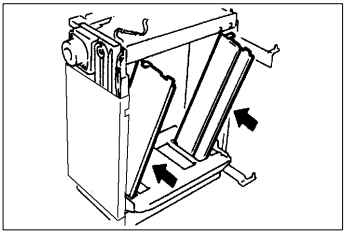
To avoid dropping the Paper Table, be sure to lower the Paper Table before removing the Motor.



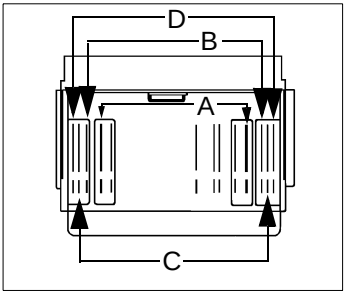
9. Move the Upper Size Plates out or in according to the paper size and secure with the screw.

Paper size	Upper and Lower Size Plate	
	Front	Rear
A4 (C)	Upper IN Lower OUT	OUT
Letter (C)	OUT	OUT
B5 (C)	Not Used	OUT
A4(L)	IN	IN
Letter, Legal(L)	OUT	OUT

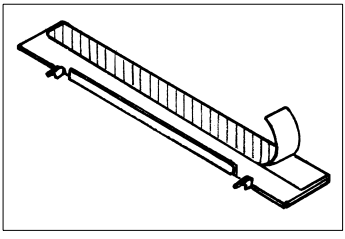
10. Push up the Paper Table and secure the Lower Size Plate at the same paper size setting as the Upper Size Plate.



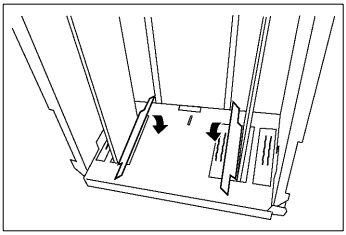
11. Fit the Paper Edge Guides into the bottom slots which correspond to the paper size desired. (Refer to the following diagram.)



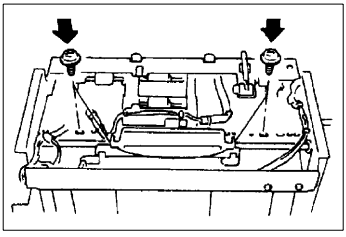
A : A4(L), Letter(L), Legal(L)
B : Letter(C)
C : A4(C)



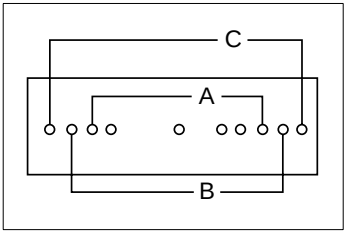
12. Peel off the backing from two Cover Plates contained in the accessories box.



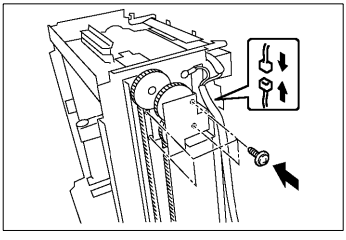
13. Attach the Cover Plates as shown.



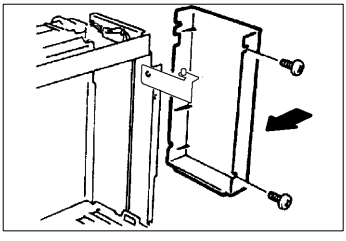
14. While lifting the Paper Edge Guides, set them into the upper slots and secure with the two screws. (Refer to the following diagram.)



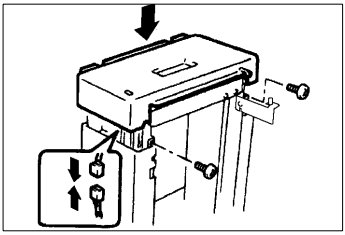
A : A4(L), B5(C), Letter(L), Legal(L)
B : Letter(C)
C : A4(C)



15. While the Paper Table is in the lowered position, plug in the connector and reinstall the Motor.



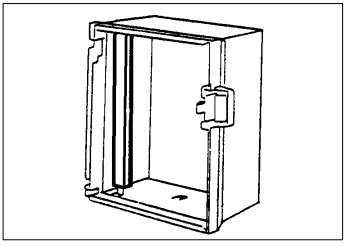
16. Remount the Rear Cover.



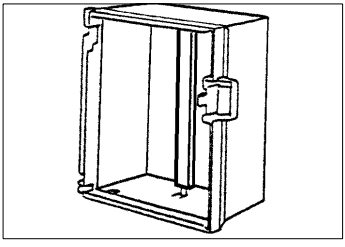
17. Plug in the connector and remount the Top Cover.

Note

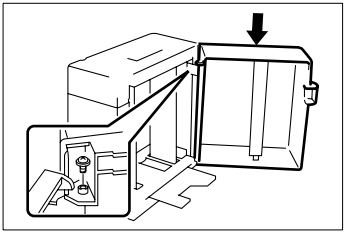
When installing the top cover, be carful not to pinch the wires of the connector with the top cover.



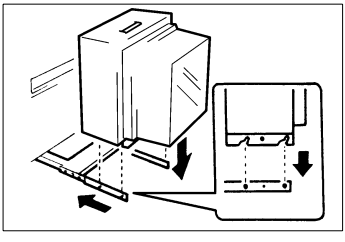
18. Reposition the Paper Stop Bar in the Cassette Door according to the paper size as indicated below.
A4(C), B5(C), Legal(L)



A4(L), Letter(L)

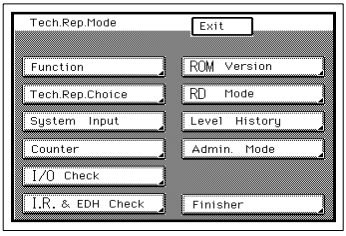


19. Mount the Cassette Door and close it.

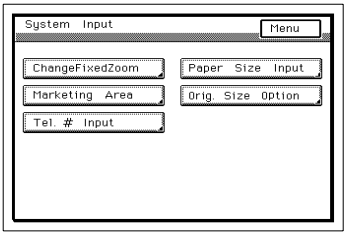


20. Set the Large Capacity Cassette onto the Slide Rails and slide it firmly against the copier.

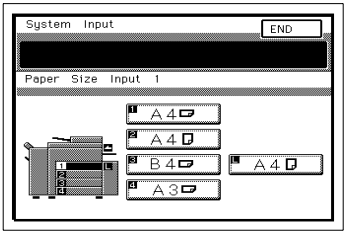
1.7.5.3 INPUT THE PAPER SIZE for C-306 / C306L



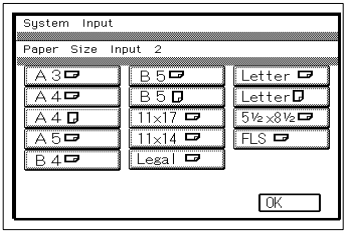
1. Access the Tech. Rep. Mode screen. (Refer to the Service Manual for the procedure.)
2. Touch “System Input” on the screen.



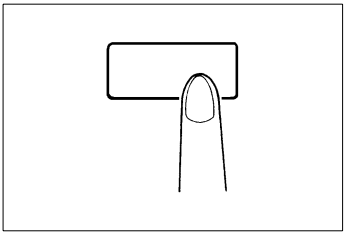
3. Touch “Paper Size Input.”



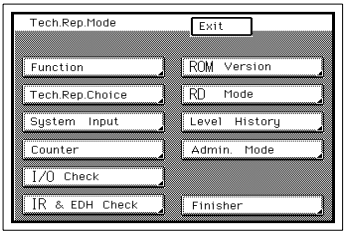
4. Touch “L” which represents the Large Capacity Cassette on the screen.



5. Touch the desired paper size key to highlight it.
6. Touch “OK” to input the paper size.

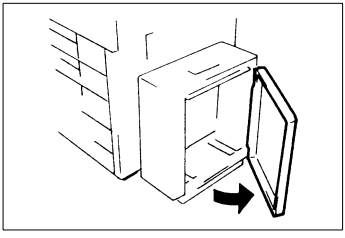


7. Press the Panel Reset key to terminate the Paper Size Input Mode and return to the Tech. Rep. Mode screen.

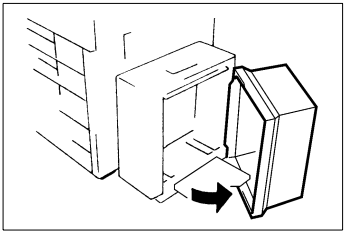


8. Touch the “Exit” key to return to the initial screen.

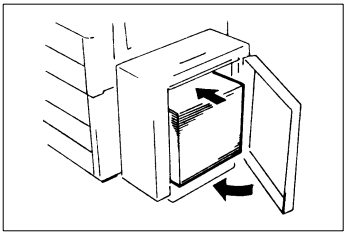
1.7.6 LOADING PAPER



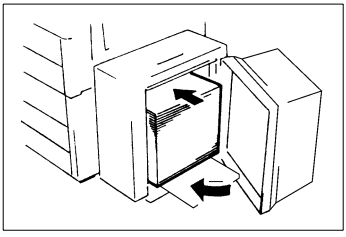
1. Open the Cassette Door. (C-306)



(C-306L)

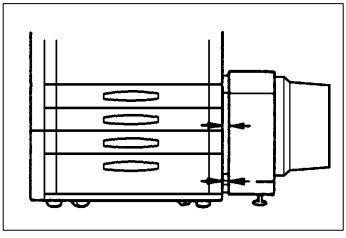


2. Fan the Paper throughly and load it no higher than the indication on the Label. (C-306)



(C-306L)

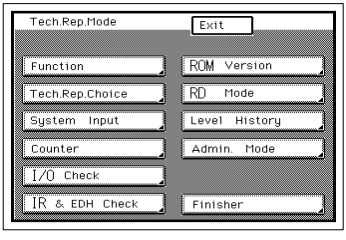
1.7.7 CHECKING THE LARGE CAPACITY CASSETTE INSTALLATION (C-306 / C-306L)



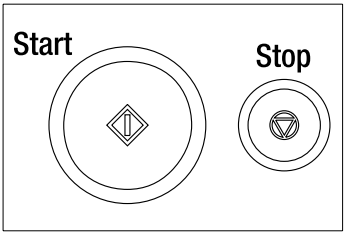
1. Slide the Large Capacity Cassette firmly against the copier and visually check to see if there is a gap between the Large Capacity Cassette and copier.

2. If gap “A” or “B” is too wide, the Support Stand was not installed correctly. Carry out “Installing the Large Capacity Casette” on page 2 again.

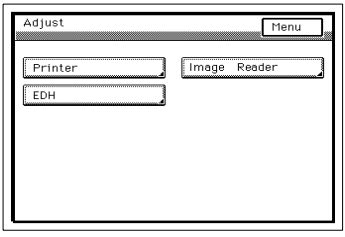
1.7.8 CHECKING THE SIDE-TO-SIDE IMAGE REGISTRATION



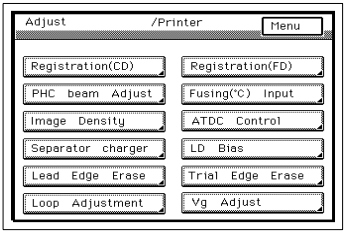
1. Access the Tech. Rep. Mode screen. (Refer to the Service Manual for the procedure.)



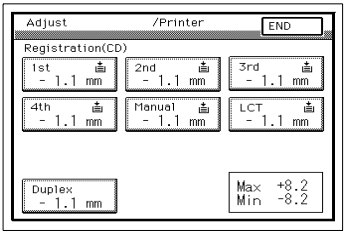
2. Press the Stop key and then press the Start key immediately.



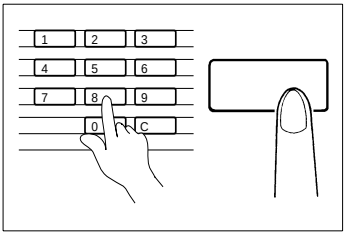
3. Touch “Printer.”



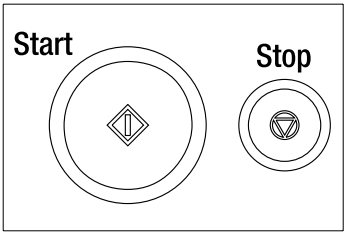
4. Touch “Registration (CD).”



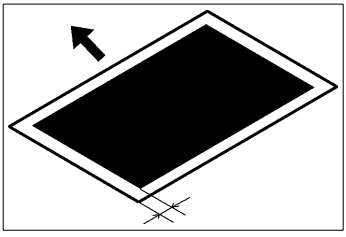
5. Touch “LCT.”



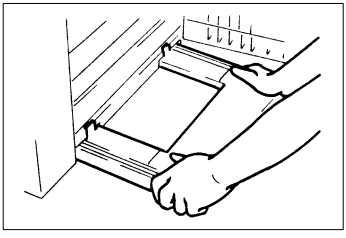
6. Press the Start key and input the same value of the 1st cassette.
   Pressing the ID Key can change the “+” or “-” sign.



7. Press the Start key.



8. Measure the white space from the edge of the copy.
   Tolerance : 5±2mm



9. If the amount of deviation is out of the tolerance range, remove the Large Capacity Cassette from the rails.

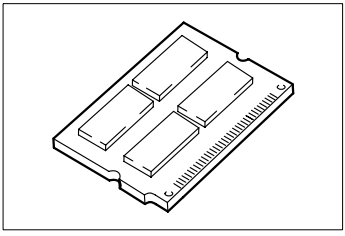
10. Loosen two screws securing the Support Stand and move the Support Stand toward the front or rear of the copier as necessary.

1.8 32MB Memory (M32-2) Installation

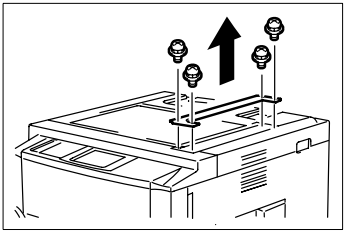
1.8.1 Unpacking

Before starting the setting-up procedure, check that following items are contained in the bag of accessories:

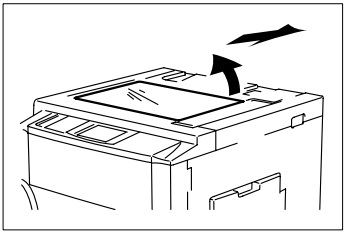
1. 32MB memory M32-2..... 1
2. Unpacking/Setting-up instructions..... 1



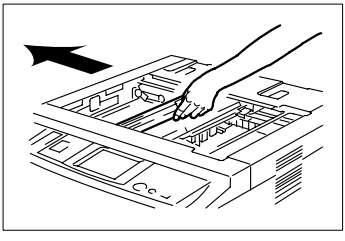
1.8.2 Installation



1. Remove the Original Width Scale (four screws).



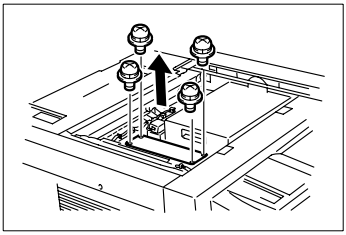
2. Move the Original Glass as shown by the arrows to remove it from the machine



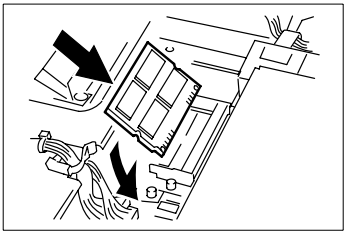
3. Holding the Scanner as illustrated, move it in the direction of the arrow.

Note

Be sure to move the Scanner slowly.



4. Remove the cover (four screws).



5. Insert the memory board as illustrated and push it until it is clicked into position.

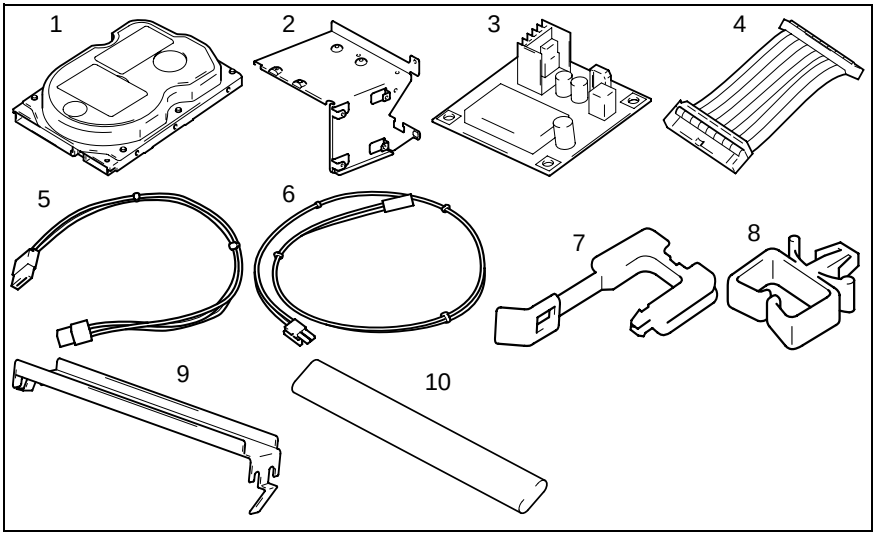
6. Reinstall the parts which have been removed.

1.9 Hard Disk Drive Kit (HDD-1) Installation

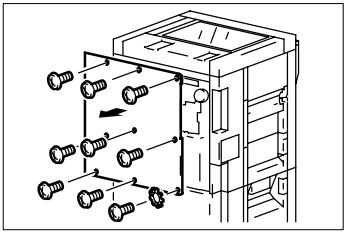
1.9.1 Unpacking

Before starting the setting-up procedures, check that the following items are contained in the Bag of Accessories:

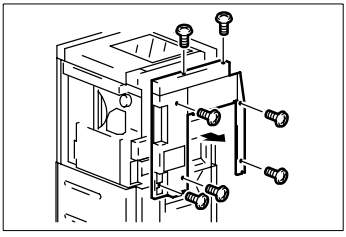
1. HDD 1
2. Mounting Bracket 1
3. PWB-R 1
4. Cable 1
5. Harness A 1
6. Harness B 1
7. Edge Cover 2
8. Wiring Saddle 2
9. Flat Spring 1
10. Gasket 2
11. Screw, silver 4
12. Screw 3x6mm 4
13. Screw 4x8mm 3



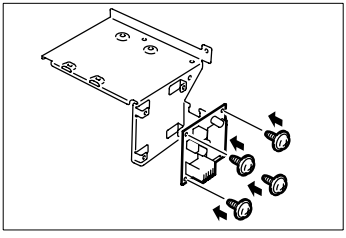
1.9.2 Installation



1. Remove the Rear Cover (nine screws).



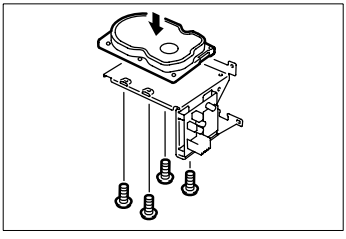
2. Remove the Left Cover (seven screws).



3. Secure the PWB-R to the metal bracket as illustrated (four screws).
   Screw 3x6 mm

Note

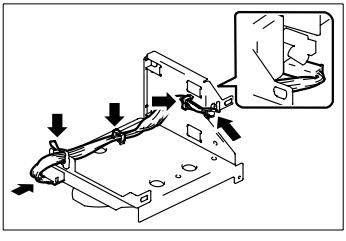
Make sure that the PWB-R is mounted in the correct direction.



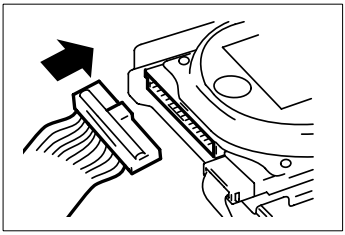
4. Secure the HDD to the metal bracket as illustrated (four screws).
   Screw silver

Note

Make sure that the HDD is mounted in the correct direction.



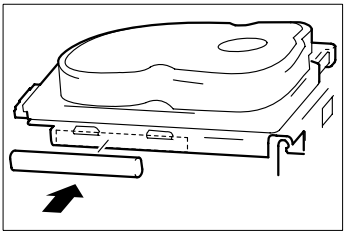
5. Fit Edge Covers and Wiring Saddles at the locations shown in the illustration, connect Harness A to the PWB-R (PJ2R) and the HDD (PJ75), and secure Harness A with the Edge Covers and Wiring Saddles.



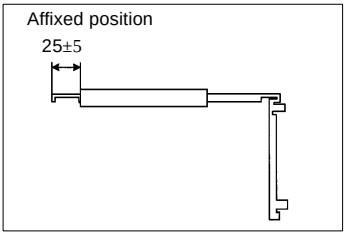
6. Connect the Cable to the HDD.

Note

Make sure that the Cable is connected in the correct direction.

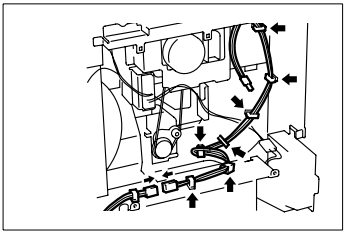


7. Install the Gasket in the position shown in the illustration.

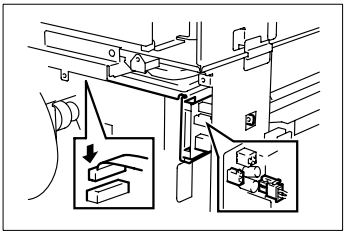


Note

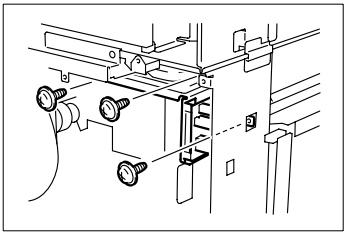
Affix the gasket to the HDD mounting plate as shown.



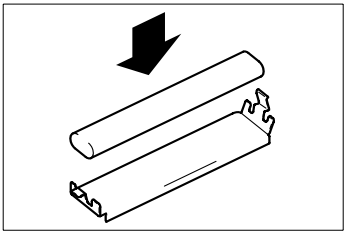
8. Connect Harness B as illustrated and secure it in position using cord clamps (at seven places).



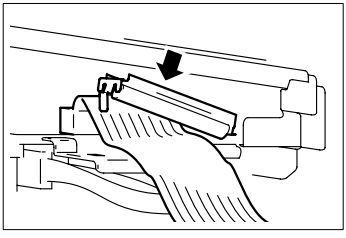
9. After Harness B has been connected to the PWB-R as illustrated, connect the cable of the kit to the connector on the machine.



10. Install the HDD Assy (three screws).
    Screw 4x8 mm



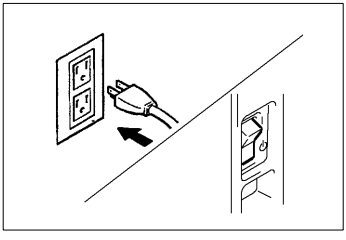
11. Peal off the seal and affix the Gasket to the Flat Spring.



12. Insert the Flat Spring as illustrated.

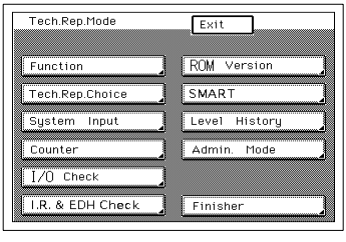
13. Reinstall the parts which have been removed

1.9.2.1 Setting

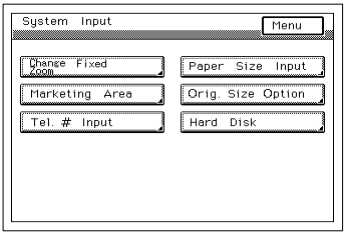


1. Turn ON the Power Switch.

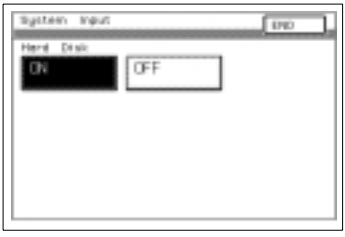
2. Show the initial screen of the Tech. Rep. mode. (For the detailed procedures, see Service Manual.)



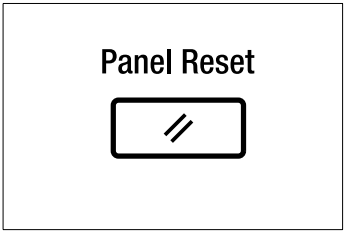
3. Touch “System Input.”



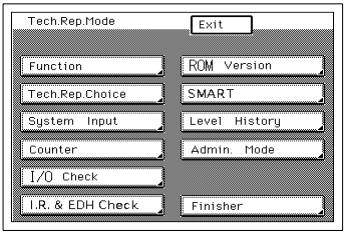
4. Touch “Hard Disk.”



5. Touch “ON” and then “End.”

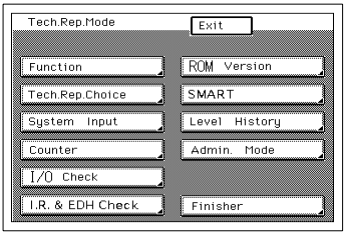


6. Press the Panel Reset key.

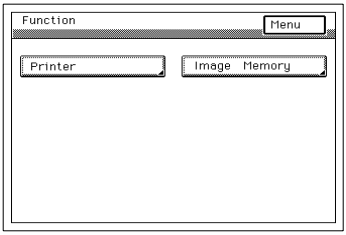


7. Touch “Exit.”
8. Turn OFF the Power Switch.
9. Turn ON the Power Switch again to complete the procedures.

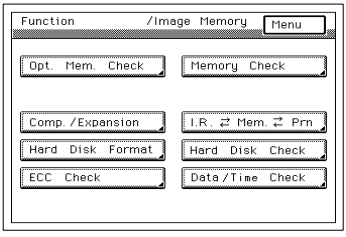
1.9.2.2 Formatting



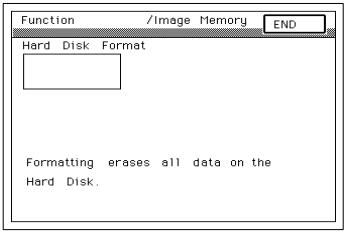
1. Show the initial screen of the Tech. Rep. mode. (For the detailed procedures, see Service Manual.)
2. Touch “Function.”



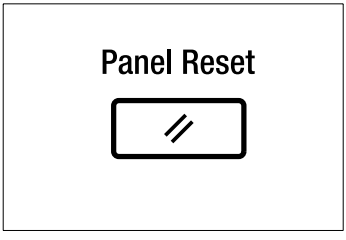
3. Touch “Image Memory.”



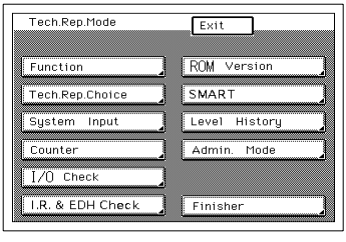
4. Touch “Hard Disk Format.”
5. Press the Start key.



6. After the formatting has been completed, touch “End.”



7. Press the Panel Reset key.



8. Touch “Exit.”

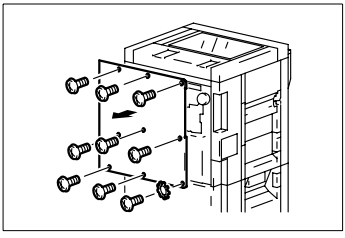
1.10 IF Kit Installation

1.10.1 Unpacking

Before starting the setting-up procedures, check that the following items are contained in the Bag of Accessories:

1. Board Assy 1
2. Cover 1
3. Flat Spring 2
4. Screw 3x6 mm 8
5. Screw 4x6 mm, silver 2
6. Screw 4x8 mm 9

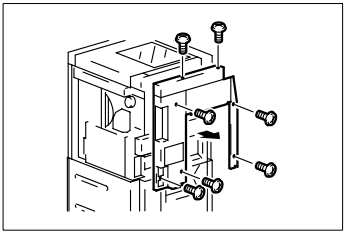
1.10.2 Installation



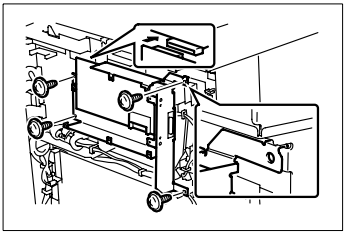
1. Remove the Rear Cover (nine screws).

Note

Note that the lower right screw is different from the rest.



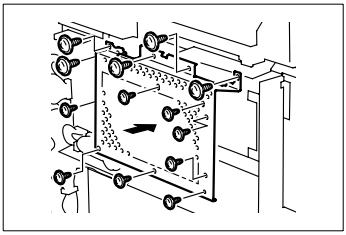
2. Remove the Left Cover (seven screws).



3. Plug the connector of the Board Assy into the connector of the Main Board of the machine and secure the Board Assy with screws (four).
   Screws 4x8 m

Note

Tighten the screws marked with ① and ② in the illustration first, then tighten the other screws.

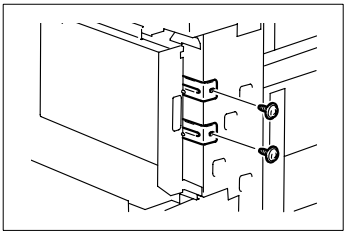


4. Install the Cover (13 screws) to the Board Assy.

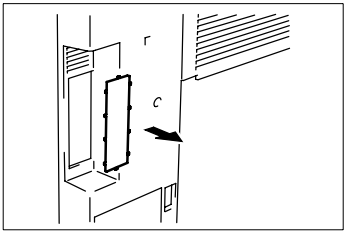
Note

Tighten the screws marked with ① and ② in the illustration first, then tighten the other screws.

Screws 4x8 mm (5)
3x6 mm (8)



5. Install the Flat Springs (two) as illustrated.
Screws 4x6 mm, silver (2)



6. Cut out the knockout from the Left Cover.

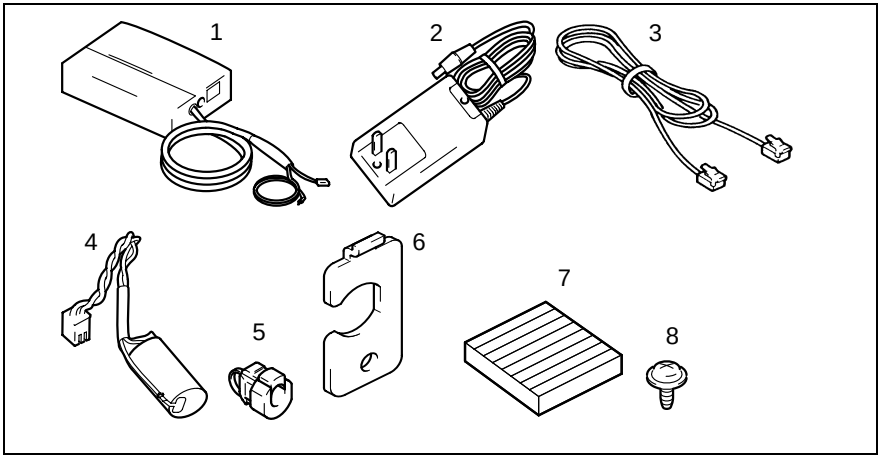
7. Reinstall the parts which have been removed.

1.11 DT-105 Installation

1.11.1 Unpacking

Check that the following items are contained in the Box of Accessories:

1. Data Terminal 1
2. AC Adapter 1
3. Telephone Cord 1
4. Backup Battery 1
5. Cord Bushing 1
6. Cord Holder 1
7. Velcro 6
8. Screw 2
9. Unpacking/Setting-up Instructions 1



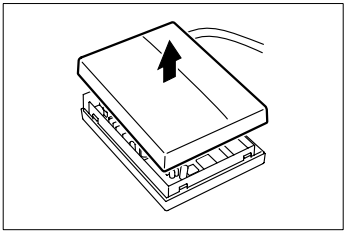
1.11.2 Installing

Before a DT-105 can be installed to the machine, it is necessary that user master data be programmed at the Center.
If the user master data has not been programmed, it is not possible to execute test transmission at the time of installation and subsequent data transmission. Make sure that the data has been programmed. (Check for Password, which is a personal computer ID number set for each DT-105, DT-ID, which is a DT-105 ID number, and TEL, which is the telephone number of the Center.)
Check also the type of the office system implemented at the user's premises (whether pulse dialing or tone), depending on which different settings of the DT-105 apply.

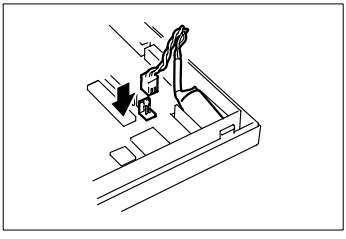
Note

Before setting up, be sure to unplug the power cord of the machine.
DO NOT make copies until the initial transmission has been completed. Making copies may cause the count data to differ between the Center and the DT-105.
When the initial data setting mode is set again, once the initial data has been input, the input data will be cancelled and you must input the initial data again.

1.11.3 Installing the Backup Battery



1. Remove the Cover.

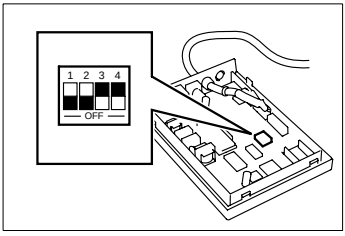


2. Plug the connector of the Backup Battery into CN2.

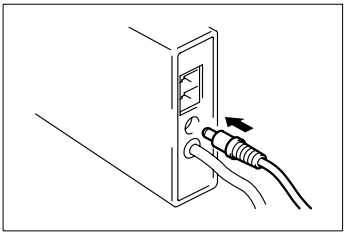
Note

Leave the Cover opened.

1.11.4 Initialization



1. Flip key nos. 3 and 4 of the DIP SW to the ON position.

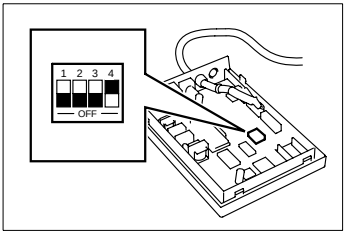


2. Connect the AC Adapter to energize the DT-105.

Note

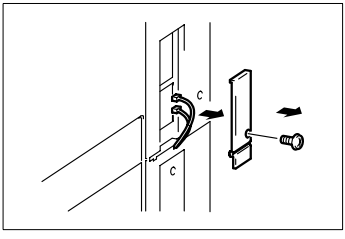
The DT-105 is initialized as soon as it is energized.

3. Unplug the AC Adapter from the power.

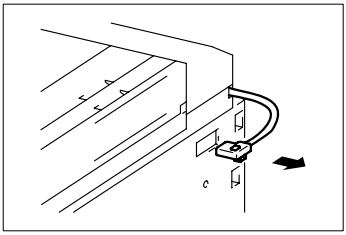


4. Flip key no. 3 of DIP SW to the OFF position.
5. Reinstall the Cover.

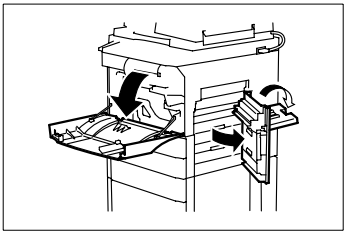
1.11.4.1 Connecting the Hookup Cord



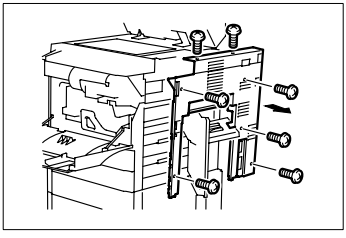
1. Remove the ornament cover (one screw) and unplug the connectors (two)



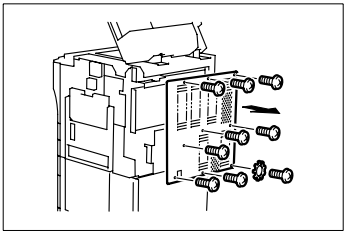
2. Unplug the connector shown.



3. Open the Front Door and Right Door (including the Multi Bypass Tray).



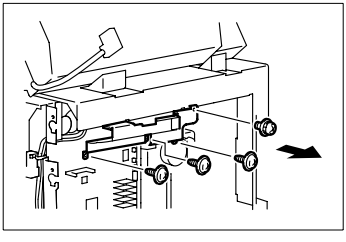
4. Raise the Electronic Document Handler and remove the Right Cover (seven screws).



5. Remove the Rear Cover (nine screws).

Note

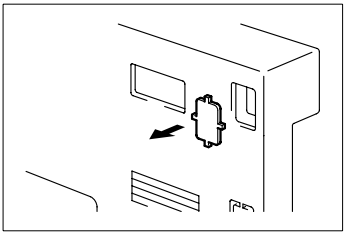
The lower right screw is of a kind different from the rest.



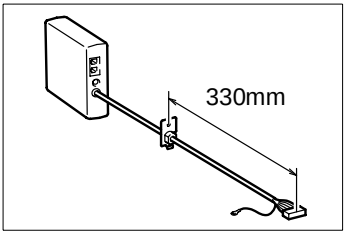
6. Remove the metal bracket (four screws) shown.

Note

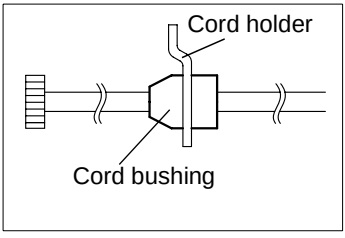
The upper (one) screw comes with a washer, while the lower (three) screws do not.



7. Remove the knockout shown from the Right Cover which has been removed in step 4.

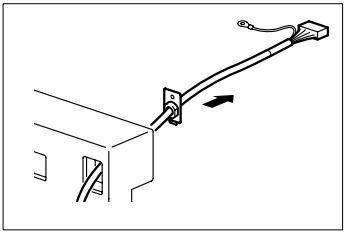


8. Fit the Cord Bushing and Cord Holder that come with the DT-105 to the Hookup Cord at a location about 330 mm from the end of the connector.

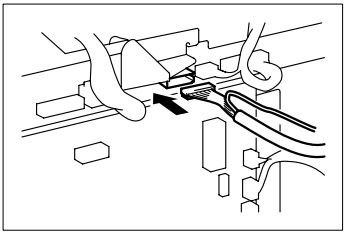


Note

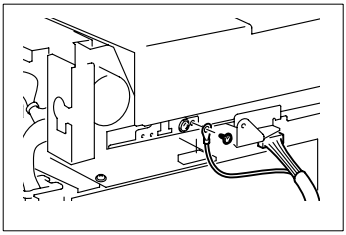
Make sure of the correct orientation of the Cord Bushing and Cord Holder. Study the illustration.



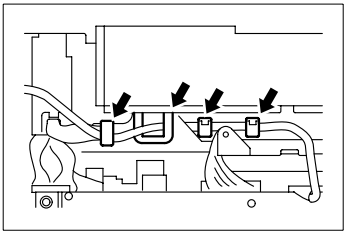
9. Pass the Hookup Cord as illustrated.



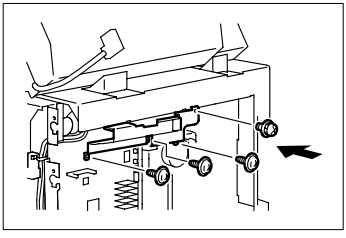
10. Connect the Hookup Cord to the PJ311 connector on PWB-B.



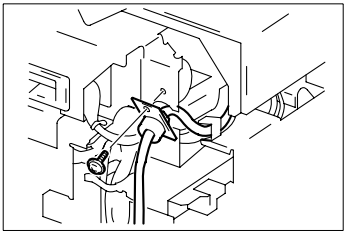
11. Secure the ground wire of the Hookup Cord (one screw that comes with the DT-105).



12. Secure the Hookup Cord and ground wire with cord clamps (three) and edge cover (one) as illustrated.



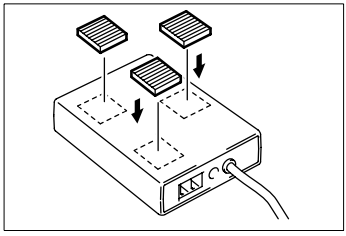
13. Reinstall the metal bracket.



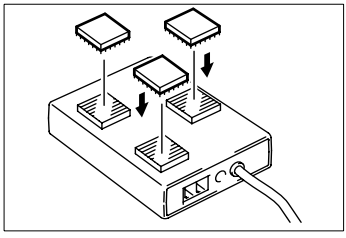
14. Secure the Cord Holder at the location shown (one screw that comes with the DT-105).

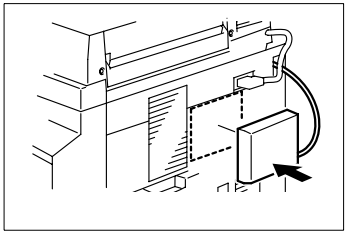
15. Reinstall the parts which have been removed.

1.11.5 Attaching the DT-105



1. Peel off the backing from three pieces of Velcro and affix them onto the backside of the DT-105.

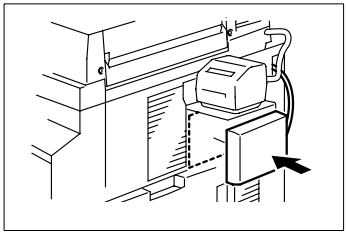




2. Attach the DT-105 at the location shown.

Note

If the DT-105 is affixed at a wrong place, it could prevent the Multi Bypass Tray from being opened or a D-103 from being installed.



If a D-103 has been installed

Make sure that the DT-105 is attached so that the connector of the AC Adapter does not contact the mounting bracket of the D-103.

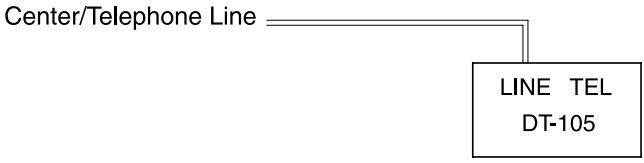
1.11.6 Connecting the Telephon cord

Note

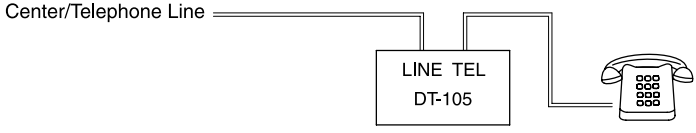
If the telephone cord is too short, please obtain another telephone cord with plug.

Example

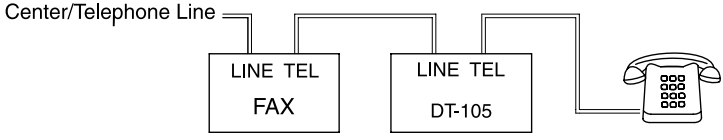
Only used for DT-105



Commonly used for DT-105 and the telephone



Commonly used for DT-105 and the Fax Unit



Note

Connecting the line to the Fax Unit is explained in the Operator's Manual of your Fax Unit.

1.11.7 Precautions for Connecting a Telephone to the DT-105

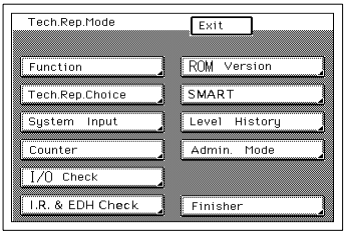
If a telephone is connected to the DT-105, make sure that the telephone complies with FCC part 68.

If a telephone that does not comply with FCC part 68 is used and the DT-105 starts a data transmission sequence while the phone is being used, the line could be disconnected.

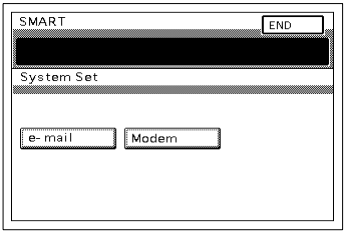
1.11.8 DT-105 specifications

Product name	: DT-105 (Data Terminal)
Transmission speed	: 2,400 bps max.
Line used	: Public switched telephone network, analog two-wire circuit
Power requirements	: DC5.2V (supplied through AC Adapter)
Current consumption	: 500 mA
DC resistance	: 111.6 W

1.11.9 Setting the Modem

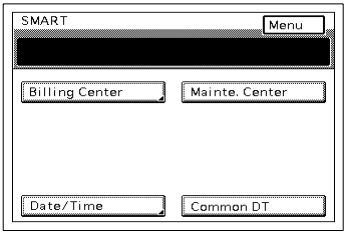


1. After the DT-105 AC plug has been plugged into the power outlet, connect the machine power cord and then turn ON the Power Switch of the machine.
2. Access the Tech. Rep. Mode screen. (Refer to the Service Manual for the procedure.)

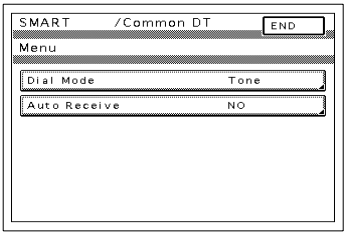


3. Touch “SMART.”
4. Touch “Modem.”
5. Touch “End.”

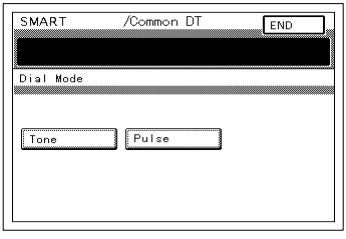
1.11.9.1 Setting Common DT



1. Touch “Common DT.”



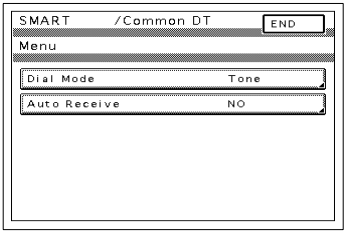
2. Touch “Dial Mode.”



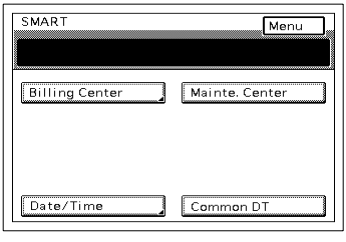
3. Change the dial mode according to the type of office system as shown below.

   For pulse dial: Pulse
   For tone: Tone

4. Touch “END.

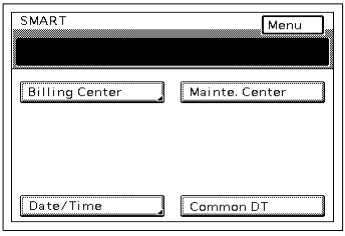


5. Touch “Auto Receive.”

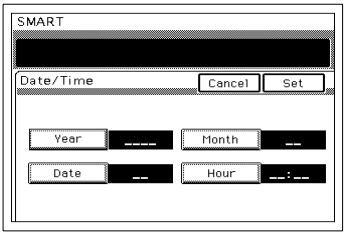


6. Touch “NO.”
7. Touch “END” twice.

1.11.10 Setting Date/Time



1. Touch “Date/Time.”



2. Touch each of “Year,” “Month,” “Date,” and “Hour,” and press the Clear key. Then, make the corresponding setting.

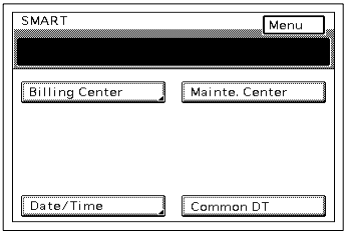
3. Touch “Set.”

1.11.11 Setting Maintenance Center (Setting Billing Center)

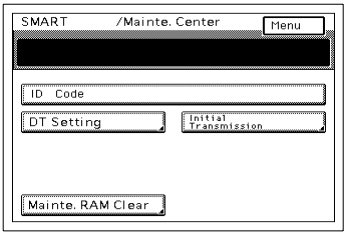
Note

The following procedures are concerned with setting of Maintenance Center. Setting of Billing Center may also be performed as may be necessary, to which the same procedures apply. Following the setting of Maintenance Center, set Billing Center as necessary.

1.11.12 Maintenance RAM Clear



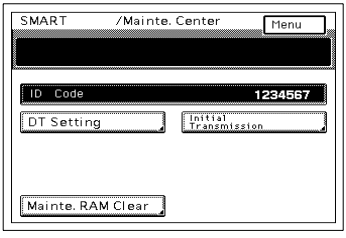
1. Touch “Mainte. Center.”



2. Touch “ID Code” to show it in reverse video.

Note

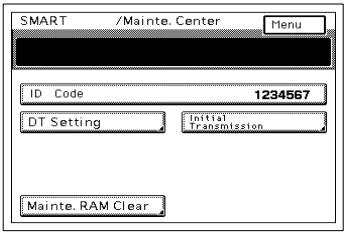
There is no need of entering the ID code for Billing Center.



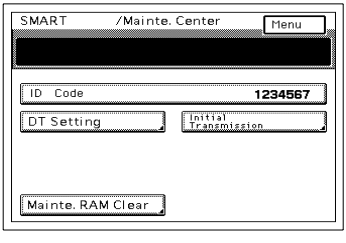
3. Enter the ID code (7 digits) from the 10-Key Pad.

Note

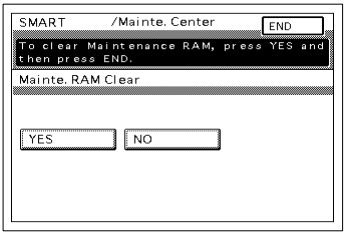
Enter the ID code of the Tech. Rep.



4. Touch “ID Code” again to show it normally.

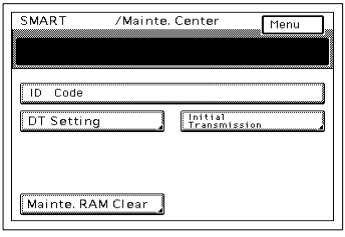


5. Touch “Mainte. RAM Clear.”

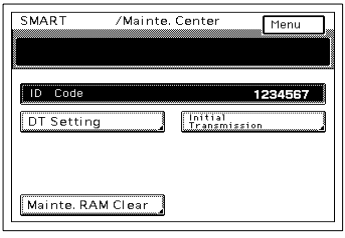


6. Touch “YES.”
7. Touch “END.”

1.11.13 DT Setting



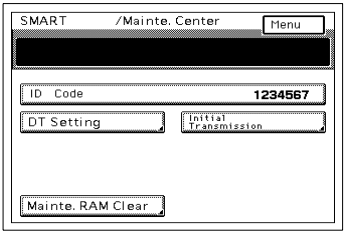
1. Touch “ID Code” to show it in reverse video.



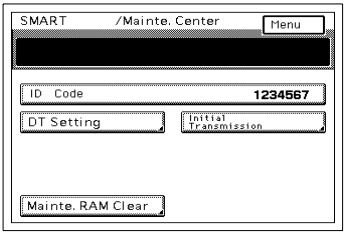
2. Enter the ID code (7 digits) from the 10-Key Pad.

Note

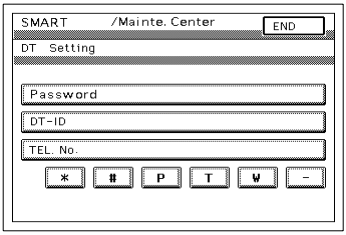
Enter the ID code of the Tech. Rep.



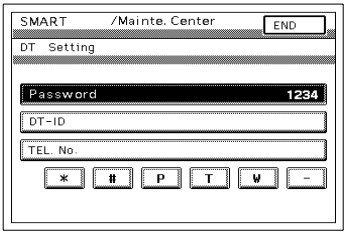
3. Touch “ID Code” again to show it normally.



4. Touch “DT Setting.”



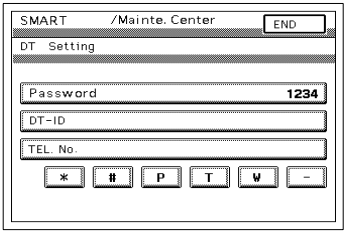
5. Touch “Password” to show it in reverse video.



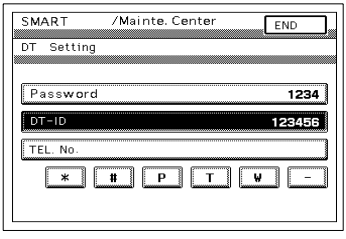
6. Enter the center ID (4 digits) from the 10-Key Pad.

   Password: A Center ID code name which is a personal computer ID number set for each DT-105

7. Touch “Password” again to show it normally.



8. Touch “DT-ID” to show it in reverse video.



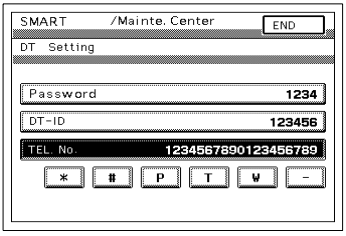
9. Enter the Data Terminal ID (6 digits) from the 10-Key Pad.

Note

If the number of digits is less than 6, add “0” in the beginning.

10. Touch “DT-ID” again to show it normally.

1.11.13.1 Setting Telephone No.



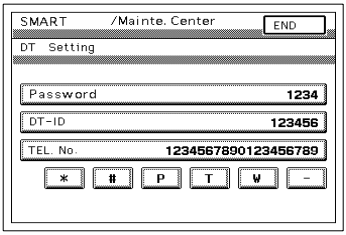
1. Touch “TEL. NO.” again to show it in reverse video.
2. Press the Clear key.
3. Enter the telephone number (up to 19 digits) of the Center from the 10-Key Pad.

Notes

1. *Be sure to input the number correctly by checking the Display. If an incorrect number is input, press the Clear key and input the correct number again.*
2. *If the customer's office has its own switchboard, and the DT-105 is connected to this system, be sure to include the access number for the outside telephone line (“0” for example).*
   Also, the time it takes the office system to access the outside line varies depending on the type of system employed. Therefore, a wait (w) or pause (–) code should be input between the access number and the regular phone number as shown below.
   If the time is more than 3 seconds, a wait (w) code should be input by pressing the Energy Saver key.
   If the time is 3 seconds or less, a pause (–) code should be input by pressing the Interrupt key.
3. *Further, if the signal method differs between the office system and the outside line, it is necessary to input a pulse (P) or tone (T) code before the corresponding set of numbers. Each time the Stop Key is pressed, a P (pulse) or T (tone) code alternates on the Display.*

Key	Function	Display
Interrupt key	Pause	-
Energy Saver key	Wait	W
P	Pulse	P
T	Tone	T
#	Extension key (sharp)	#
*	Extension key (asterisk)	*

4. *After the telephone number has been input, call the Center to inform them of the details of the telephone number.*



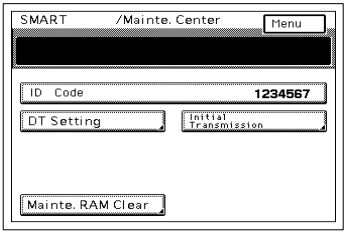
4. Touch “END.”

1.11.14 Initial Transmission

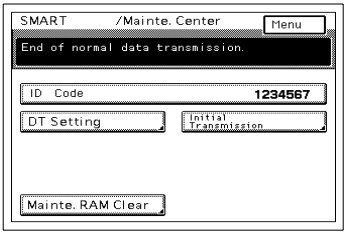
After the initial data setting has been completed, execute the Initial Transmission. The DT-105 is connected to the Center via the telephone line and the Initial Information is sent from the Center computer to the DT-105.

Note

Be sure to make a telephone call to the Center before executing the Initial Transmission. After completion of the Initial Transmission, check that the data is correctly sent to the Center.

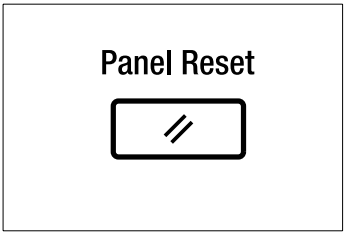


1. Touch “Initial Transmission.”

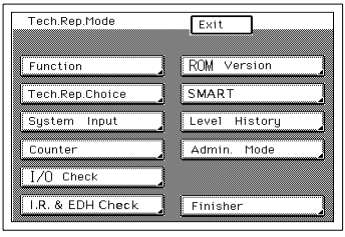


2. After completion of the Initial Transmission, check that the message “End of normal data trans.” is shown on the Display.

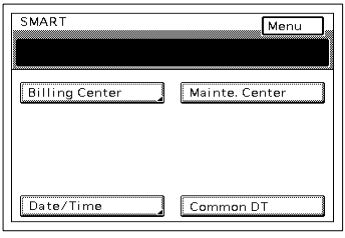
Condition	
Line is busy	Not answering.
Max. trial number reached.	The other line is busy.
Connection failed.	DT modem error.
Connected.	Dialing.
End of normal data transmission.	DT Connection failed.



3. Press the Panel Reset key.



4. Touch “Exit.”



Note

This completes the setting of Maintenance Center. Perform the same procedures to set Billing Center as may be necessary.

SWITCHES ON PWBs, TECH. REP. SETTINGS

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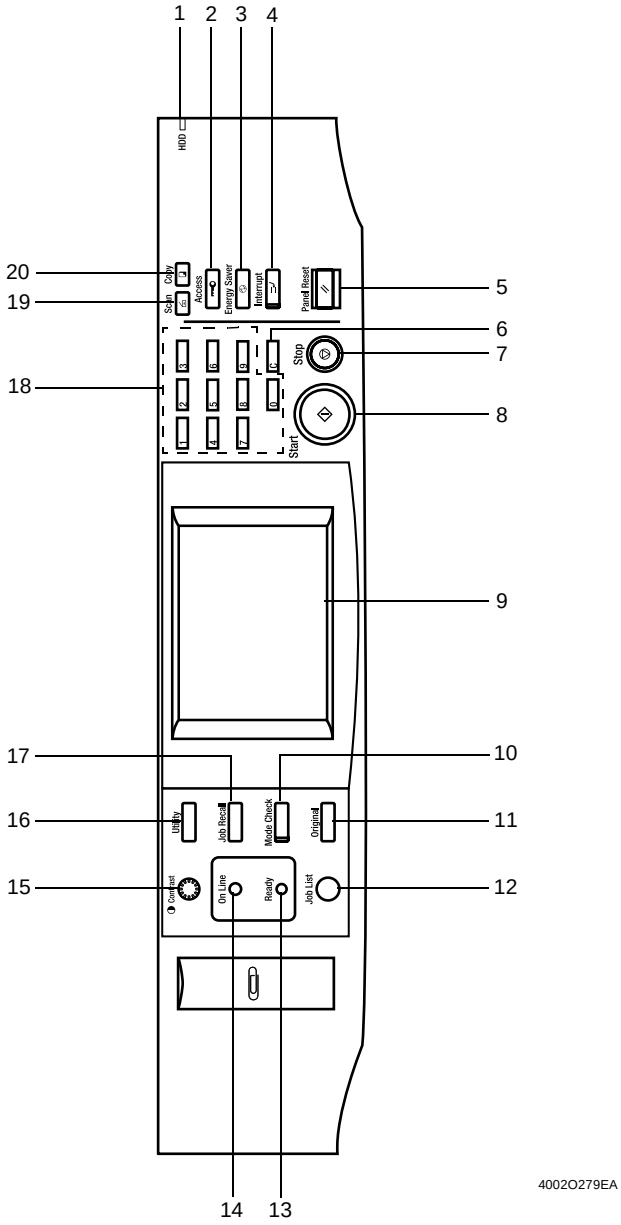
2. CONTROL PANEL KEYS AND TOUCH PANEL

2-1. Control Panel Keys



1. HDD Lamp
- Lights up to indicate that the Hard Disk Drive Kit (option) is being accessed.

2. Access Key
- Press to enter the access number when Copy Track of the Administrator mode available.
  Press the access Key.

3. Energy Saver Key
- Press to set machine into the Energy Saver mode.

4. Interrupt Key
- Press to select the Interrupt mode.

5. Panel Reset Key
- Press to set the machine into the initial mode, clearing all settings made on the control panel.

6. Clear Key
- Clear the various numeric values.

7. Stop Key
- Stop a print cycle.
- Stop a scanning cycle.

8. Start Key
- Start a print cycle.

9. Touch Panel
- Shows various screens and message.

10. Mode Check Key
- Press to show the Mode Check screen.

11. Original Key
- Press to select the Mixed Orig. Detection and other document-related functions setting screen.

12. Job List Key
- Press to check for the settings made for a job (Mode Check), modify the settings of a job (Change), delete a job (Delete), and unlock a job (Unlock).

13. Ready Key
- Lights up to indicate that data can be transferred.

14. On Line Key
- Press to select either Online or Offline mode.

15. Display Contrast Knob
- Use to adjust the brightness of the Touch Panel.

16. Utility Key
- Press to show the Utility Mode menu.

17. Job Recall Key
- Press to show the Job Recall screen on which you can check or recall a copy-job program previously stored in memory.

18. 10-Key pad
- The number of copies to be made.
- The various numeric values.

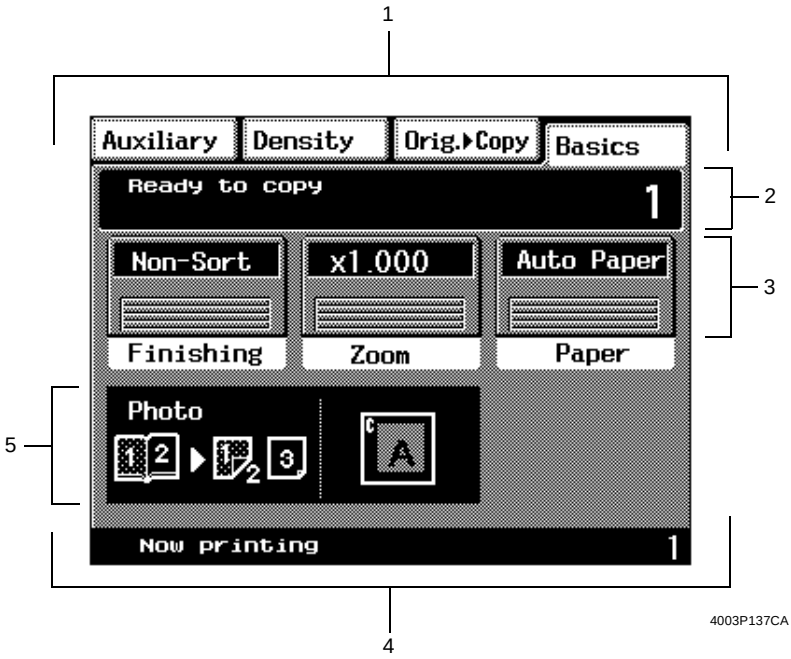
19. Scan Key
- Press to select the Scanner mode.

20. Copy Key
- Press to select the Copy mode.

2-2. Explanation of the Touch Panel

(1) Basis Screen

The Basic screen is the initial screen that appears when the copier is turned ON.



1. Supplementary Function Keys
- The auxiliary, Density, Orig. ▶ Copy, and Basics keys are displayed.

2. Message Display
- Shows the current machine status, operating instructions and precautions, and other data including the number of copies selected and the amount of paper still available for use.

3. Basic Function/Key
- Shows the basic function keys and the corresponding functions currently selected for use.

4. Set Function
- Shows graphic representations of the settings currently made for Orig. ▶ Copy and Finishing.

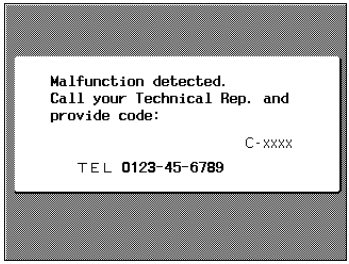
5. Sub-message Display
- Shows what is being done with the currently reserved job.

(2) Warning Screens

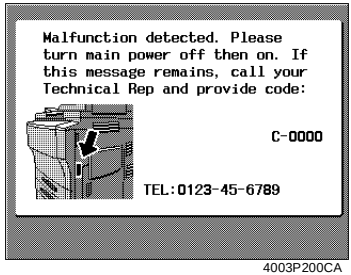
The Warning screen may be a malfunction display, error display, warning display, or a caution display.

<Malfunction Display>

Given when a malfunction occurs.
E.g.: Malfunctions that can be identified with a specific code.



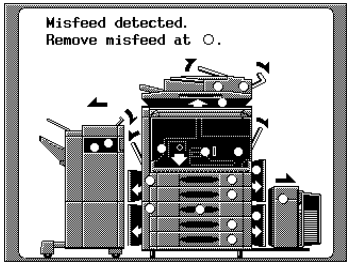
4003P201CA



4003P200CA

<Error Display>

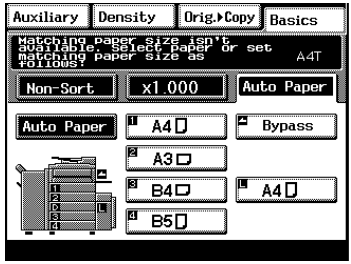
Given when an error occurs.
E.g.: Paper misfeed, door open, etc.



4003P189CA

<Warning Display>

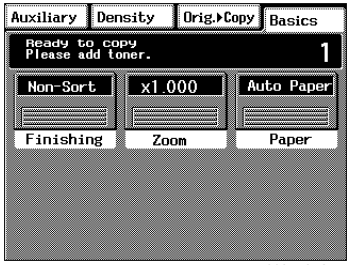
Given when only a defective copy will be produced because of erroneous or illegal panel settings.
E.g.: Unmatched paper size in Auto Paper.



4003P601DA

<Caution Display>

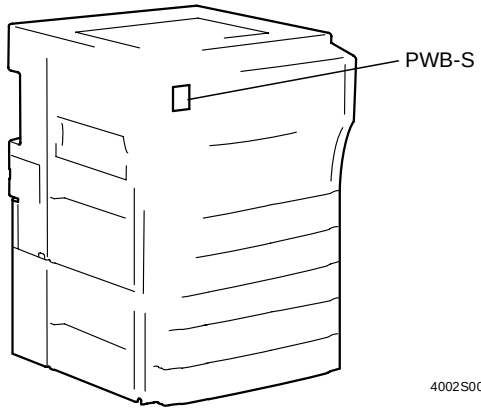
Given when, though further copier operation will be possible, it could eventually result in a malfunction.
E.g.: Toner near empty, etc.



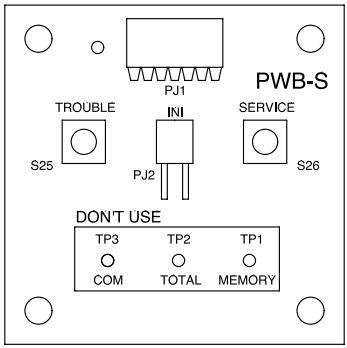
4003P185CA

3. FUNCTION OF SWITCHES AND OTHER PARTS ON PWBs

3-1. PWB Location



3-2. PWB-S (Tech. Rep. Setting Switches Board)



Symbol	Name	Description
S25	Trouble Reset Switch	Resets the malfunction display.
S26	Tech. Rep. Switch	Display the Tech. Rep. mode screen.
PJ2	Initialize Switch	Resets a misfeed, malfunction, and erratic display.
TP1	Memory Clear Test Point	Clears all data. ***NOTE:*** • *It does not, however, clear data of Electronic counters, Adjust mode, Administrator and RD mode functions.*
TP3	COM Test Point	Ground used for memory clear.

(1) Clearing Procedures

<Initialize>
1. Turn OFF the Power Switch.
2. With the circuit across pins of PJ2 closed, turn ON the Power Switch.
3. Open the circuit in about 5 seconds.
4. Check that the message “Initialize Completed” is displayed on the Touch Panel and then touch the “OK” key.

<Memory Clear>
1. Turn OFF the Power Switch.
2. With the circuit across TP1 and TP3 closed, turn ON the Power Switch.
3. Open the circuit in about 5 seconds.
4. Check that the message “Memory Clear Completed” is displayed on the Touch Panel and then touch the “OK” key.

NOTES:
- *If the copier exhibits an erratic display or operation, reset and clear in the following order: Initialize → Memory Clear.*
- *If Memory Clear has been performed, make settings of various functions once again.*

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

Clearing Method / Data Cleared		Front Door Open/Close	Trouble Reset Switch S25	Initialize PJ2	Memory Clear TP1
Misfeed display		❍	–	❍	❍
Malfunction display	Fusing/ Optical	–	❍	❍	❍
	Others	❍	❍	❍	❍
Erratic operation/display		–	❍	❍	❍
Job/Image		–	–	–	❍
User’s Choice		–	–	–	❍
Tech. Rep. Mode		–	–	–	❍
Security Mode		–	–	–	❍

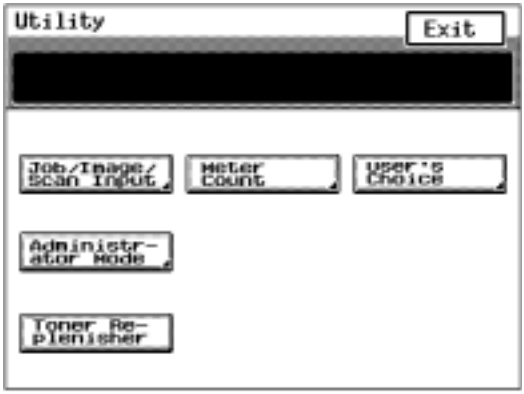
❍: Cleared –: Not cleared

4. UTILITY MODE

• Utility Mode is used to make various settings according to the user's need.

4-1. Utility Mode selection Screen

• Press the Utility key on the control panel.



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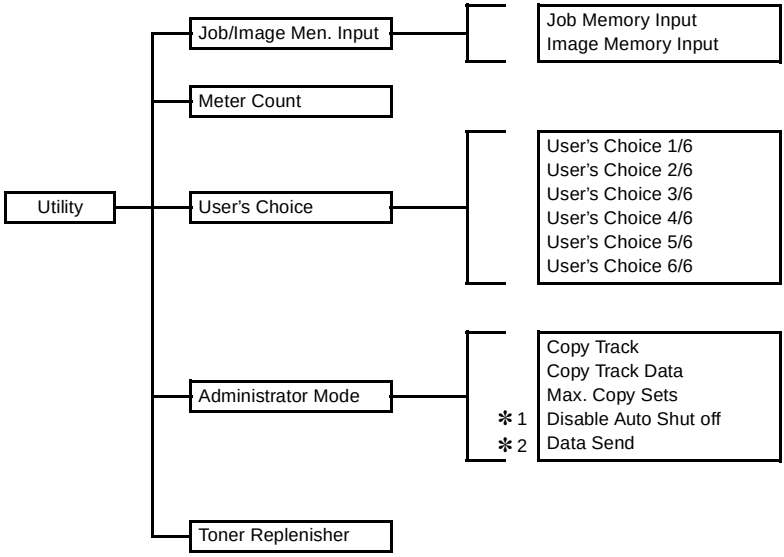
4-2. Utility Mode Function Tree



✻ 1: The description of the function displayed on the Touch Panel is "Disable Sleep" when a Printer Controller is connected to the machine and "Disable Auto Shut off" when one is not connected.

✻ 2: The description of the function is displayed when a Data Terminal is connected to the machine.

4-3. Settings in the Utility Mode

Touch Panel Display	Setting
Job/Image Men. Input	Permits programming of various functions, including copying jobs.
Meter Count	Displays the counts of various counters.
User's Choice	User's Choice is used to make various settings according to the user's need.
Administrator Mode	The entry of the "Administrator #" set using the Tech. Rep. mode permits the settings of the following functions.
Toner Replenisher	Replenishes the supply of toner.

(1) User's Choice Mode

- User's Choice is used to make various settings according to the user's need.

1. User's Choice Function Setting Procedure

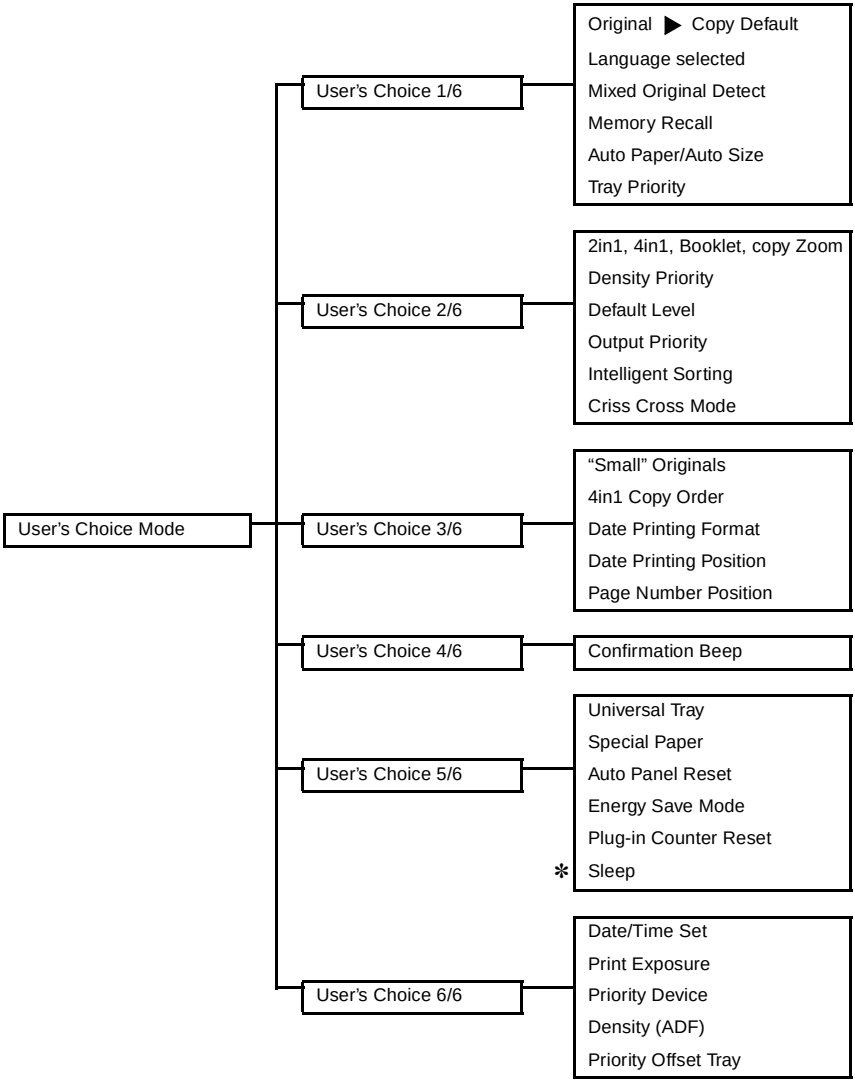
<Procedure>

1. Press the Utility key.
2. Touch the "User's Choice" key.
3. Select the appropriate screen from the menu.
4. Select the appropriate function.
5. After the settings are complete, touch the "Enter" key to validate the settings.

<Exiting the Mode>

- Press the Panel Reset key.

2. User's Choice Function Tree

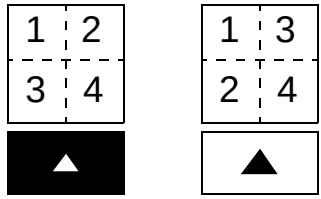


✻ The function displayed on the Touch Panel is "Sleep" when a Printer Controller is connected to the machine and "Auto Shut off" when one is not connected.

3. Settings in the User's Choice Mode

Touch Panel Display	Setting (The default is **Highlighted**).
Original ▶ Copy Default	Select the priority type of Original ▶ Copy setting selected automatically when the Power Switch is turned ON or Panel Reset key pressed. **1-Sided ▶ 1-Sided** | 1-Sided ▶ 2-Sided | 2-Sided ▶ 2-Sided
Language selected	Select the language of the Touch Panel messages. <Metric Areas> **ENGLISH** | GERMAN | FRENCH DUTCH | ITALIAN | SPANISH PORTUGUESE | DANISH | NORWEGIAN SWEDISH | FINISH | JAPANESE <Inch Areas> **ENGLISH** | FRENCH | SPANISH JAPANESE
Mixed Original Detect	Select the priority Mixed Original Detection mode that is automatically selected when the Power Switch is turned ON or Panel Reset key pressed. ON | **OFF**
Memory Recall	Select whether to enable or disable the Memory Recall function. ON | **OFF**
Auto Paper/Auto Size	Select the priority Auto mode (Auto Paper or Auto Size) selected when the Power Switch is turned ON or Panel Reset key pressed. **Auto Paper** | Auto Size | Manual
Tray Priority	Select the priority paper source that is automatically selected when the copier is set into the Auto Size or Manual mode. **1st Drawer** | 2nd Drawer 3rd Drawer | 4th Drawer LCT
2in1, 4in1, Booklet Copy Zoom	Select whether to enable or disable recalling a default zoom ratio when Auto Paper is selected for 2in1, 4in1, or Booklet Creation. <2in1 4in1> **ON** | OFF <Booklet Creation> **ON** | OFF

Touch Panel Display	Setting (The default is **Highlighted**).
Density Priority	Specify the priority exposure mode that is selected automatically when the Power Switch is turned ON or the Panel Reset key pressed. <Density> **Auto Exposure** | Manual <Original Image Type> **Text** | Text/Photo | Photo
Default Level	Auto: Select the priority exposure level in the Auto Exposure mode. Manual: Select the priority exposure level in the Manual Exposure mode. <Auto> Lighter | **Normal** | Darker <Manual>  Lighter ... Darker
Output Priority	Select the priority finishing type. ***NOTE:*** • *The contents of the display vary depending on the types of finishing options mounted on the machine.* **Non Sort** / Sort / Group Corner Staple / 2-Point Staple 2-Hole Punch / 3-Hole Punch
Intelligent Sorting	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. Applicable when the system is equipped with a finishing option and using an EDH. **ON** | OFF
Criss Cross Mode	Select whether to enable or disable crisscross sorting automatically. **ON** | OFF

Touch Panel Display	Setting (The default is **Highlighted**).
"Smaller" Originals	Select whether to enable or disable a copy cycle when it is initiated with an original of a small size that is not detectable by the system placed on the Original Glass. ON | OFF ✻ Default: Metric areas OFF/Inch Areas ON.
4in1 Copy Order	Specify the default copying order in the 4in1 mode. 
Date Printing Format	Select the delimiter and format for date printing. <Punctuation> **X X / X X / X X** | X X. X X. X X <Year> **'yy** | yyyy <Date Format> **'00/12/24** | DEC/24/'00 | 24/DEC/'00 12/24/'00 | 24/12/'00
Date Printing Position	Select the position at which to print the date. <Metric Areas> X: 4 to 40 (**8 mm**) Y: 4 to 40 (**20 mm**) <Inch Areas> X: 3/16 to 1-9/16" (**1/4"**) Y: 3/16 to 1-9/16" (**3/4"**)
Page Number Position	Set the position at which to print the page number, how many millimeters or inches from the bottom of the page. <Metric Areas> 4 to 40 (**8 mm**) <Inch Areas> 3/16 to 1-9/16" (**1/4"**)
Confirmation Beep	Select whether to enable or disable the beep that sounds each time a key on the control panel is pressed or a function on the Touch Panel touched. **ON** | OFF

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted).</th></tr>
<tr><td>Universal Tray</td><td>Set the paper size for the Universal Tray.
<table><tr><td>Auto Detect</td><td>Size Input</td></tr></table></td></tr>
<tr><td>Special Paper</td><td>Define the type of paper used for each paper source, or designate a particular paper source for special paper.
<table><tr><td>Normal</td><td>Cover/Insert</td></tr><tr><td>Recycled</td><td>Cover</td></tr><tr><td>Not for 2-Sided</td><td>Insert</td></tr></table></td></tr>
<tr><td>Auto Panel Reset</td><td>Select the time it takes the Auto Panel Reset function, which resets the panel settings when the set period of time elapses after a copy cycle has been completed or the last key operated, to be activated.
<table><tr><td>30 sec.</td><td>1 min.</td><td>2 min.</td></tr><tr><td>3 min.</td><td>5 min.</td><td>No Reset</td></tr></table></td></tr>
<tr><td>Energy Saver Mode</td><td>Select 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 set the time.
<table><tr><td>1 to 90 (15 min.)</td></tr></table></td></tr>
<tr><td>Plug-In Counter Reset</td><td>Select whether or not to activate the Panel Reset function when the Plug-In Counter or a magnetic card is pulled out.
<table><tr><td>ON</td><td>OFF</td></tr></table></td></tr>
<tr><td>Sleep

✻ When a Printer Controller is connected.</td><td>Select the time it takes the Sleep function, which shuts down the copier when the set period of time elapses after a copy cycle has been completed or the last key operated, to be activated.
NOTE:
• The option of “OFF” becomes available on the screen if “Yes” is selected for “Disable Sleep” of the “Administrator Mode” function.
<table><tr><td>OFF</td><td>15 to 90 (90 min.)</td></tr></table></td></tr>
</table>

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted).</th></tr>
<tr><td>Auto Shut-Off Mode

✻ When a Printer Controller is not connected.</td><td>Select the time it takes the Auto Shut Off function, which shuts down the copier when the set period of time elapses after a copy cycle has been completed or the last key operated, to be activated.

NOTE:
• The option of “OFF” becomes available on the screen if “Yes” is selected for “Disable Auto Shut off” of the “Administrator Mode” function.

OFF | 15 to 90 (90 min.)</td></tr>
<tr><td>Date/Time Set</td><td>Set the date and time-of-day for Date Printing.

Year: 1999 to 2089 | Month: 1 to 12
Day: 1 to 31 | Time: 00 to 23 (hour) 00 to 59 (min)</td></tr>
<tr><td>Print Exposure</td><td>Set the image density level for printing.

Lighter | Normal | Darker</td></tr>
<tr><td>Priority Device</td><td>Select the priority configuration of the copier established when the Power Switch is turned ON or the Panel Reset key pressed.

Copier | Printer</td></tr>
<tr><td>Density (ADF)</td><td>Adjust the copy image density level when the ADF is being used.

Mode 1: When the standard original (text, etc.) is used.
Mode 2: To give better reproduction of faint original.</td></tr>
<tr><td>Priority Offset Tray</td><td>Select the particular Offset Tray to which priority is given.

Top Tray | Bottom Tray</td></tr>
</table>

(2) Administrator Mode

- The entry of the “Administrator #” set using the Tech. Rep. mode permits the settings of the following functions.

1. Administrator Mode Function Setting Procedure

<Procedure>

1. Press the Utility key.
2. Touch the “Administrator Mode” key.
3. Enter the Administrator number.
4. Select the appropriate function.
5. After the settings are complete, touch the “Enter” key to validate the settings.

<Exiting the Mode>

- Press the Panel Reset key.

2. Settings in the Administrator Mode

Touch Panel Display	Setting (The default is **Highlighted**).
Copy Track	Select the number of accounts to be controlled. -Copy Track- <Copy> ON / **OFF** <Printer> ON / **OFF** ***NOTE:*** • *Printer is displayed when an external I/F is connected.* -Copy Track method- 100 Accounts / 1000 Accounts
Copy Track	Select whether or not to initialize the copy track data so far taken. Yes (initialize) / No (do not initialize)
Copy Track Data	Select the particular account number. When “All Counter Reset” is touched, it clears all data under control.

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted).</th></tr>
<tr><td>100 Accounts</td><td>The copy track data of the selected page is displayed.
“No.”: Enter the set account number from the 10-Key Pad.
“Total Count”: Displays the count of the Total Counter.
“Size Count”: Displays the count of the Size Counter.
“Copy Limit”: Enter the maximum number of copies that can be made from the 10-Key Pad.
“Access Code”: Enter the access number, which can range from 0001 to 9999, from the 10-Key Pad.
These data can be cleared with the Clear key.</td></tr>
<tr><td>1000 Accounts</td><td>The copy track data of the selected page is displayed.
“No.”: Displays the account number. (Setting cannot be changed.)
“Total Count”: Displays the count of the Total Counter. (It can be cleared with the Clear key.)

NOTE:
• The account number corresponds to the access code (ID) of that particular account.</td></tr>
<tr><td>Permission Level</td><td>Determine the number of copies or copy sets that can be set using the 10-Key Pad.
<table><tr><td>1 to 99</td><td>OFF</td></tr></table></td></tr>
<tr><td>Disable Sleep

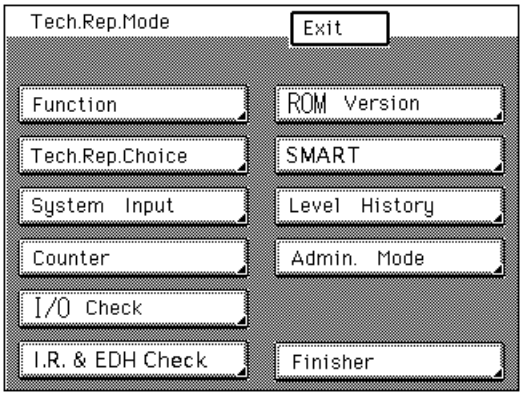
✻ When a Printer Controller is connected.</td><td>Select whether to enable or disable the setting of the “Sleep” function available from User’s Choice.
<table><tr><td>No</td><td>Not displayed.</td></tr><tr><td>Yes</td><td>Displayed.</td></tr></table></td></tr>
<tr><td>Disable Auto Shut off

✻ When a Printer Controller is not connected.</td><td>Select whether to enable or disable the setting of the “Auto Shut Off” function available from User’s Choice.
<table><tr><td>No</td><td>Not displayed.</td></tr><tr><td>Yes</td><td>Displayed.</td></tr></table></td></tr>
<tr><td>Data Send</td><td>Transmits various data to the Center when a Data Terminal is mounted.</td></tr>
</table>

5. TECH. REP. MODE

- This mode is used by the Tech. Rep. to check, set, adjust, and/or program various service functions.

5-1. Tech. Rep. Mode Menu Screen



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5-2. Tech. Rep. Mode Function Setting Procedure

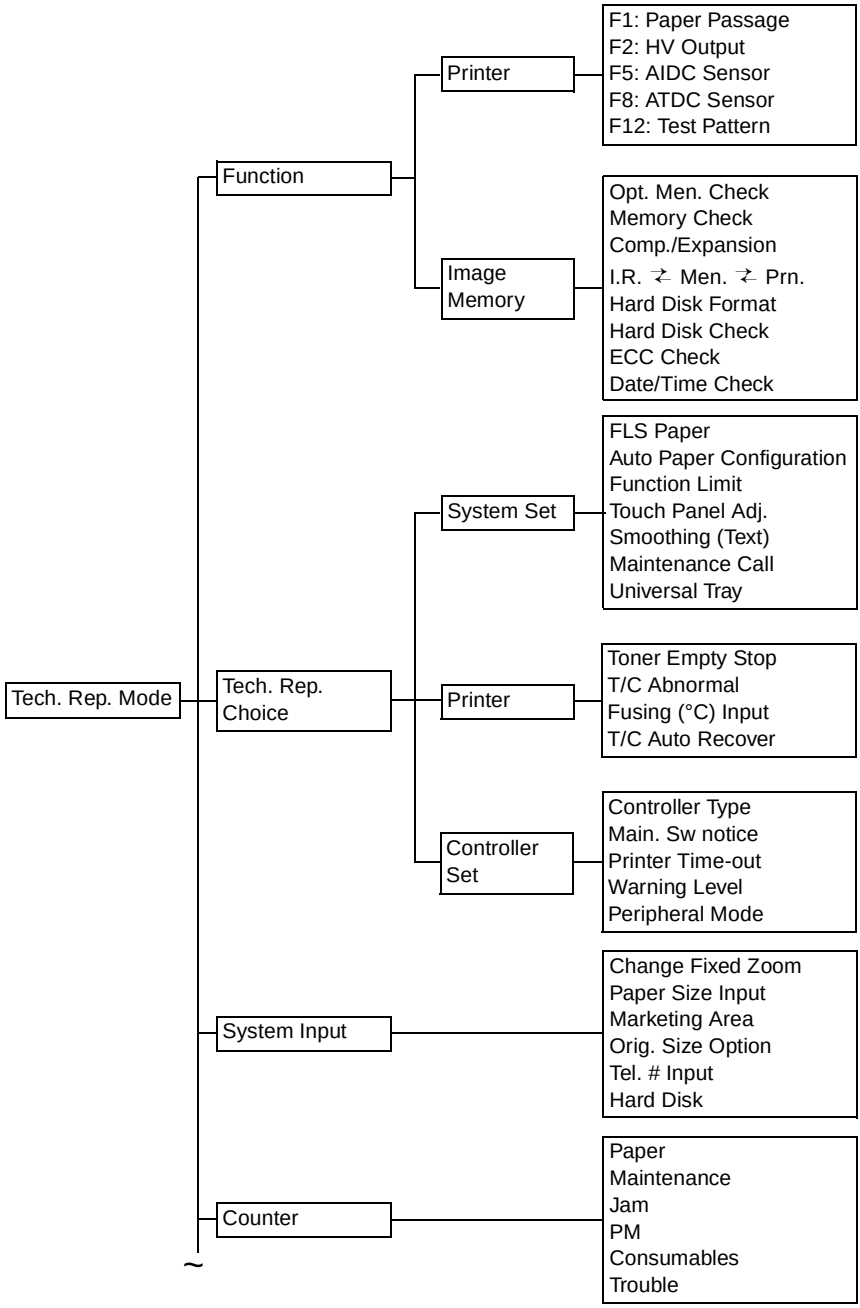
<Procedure>

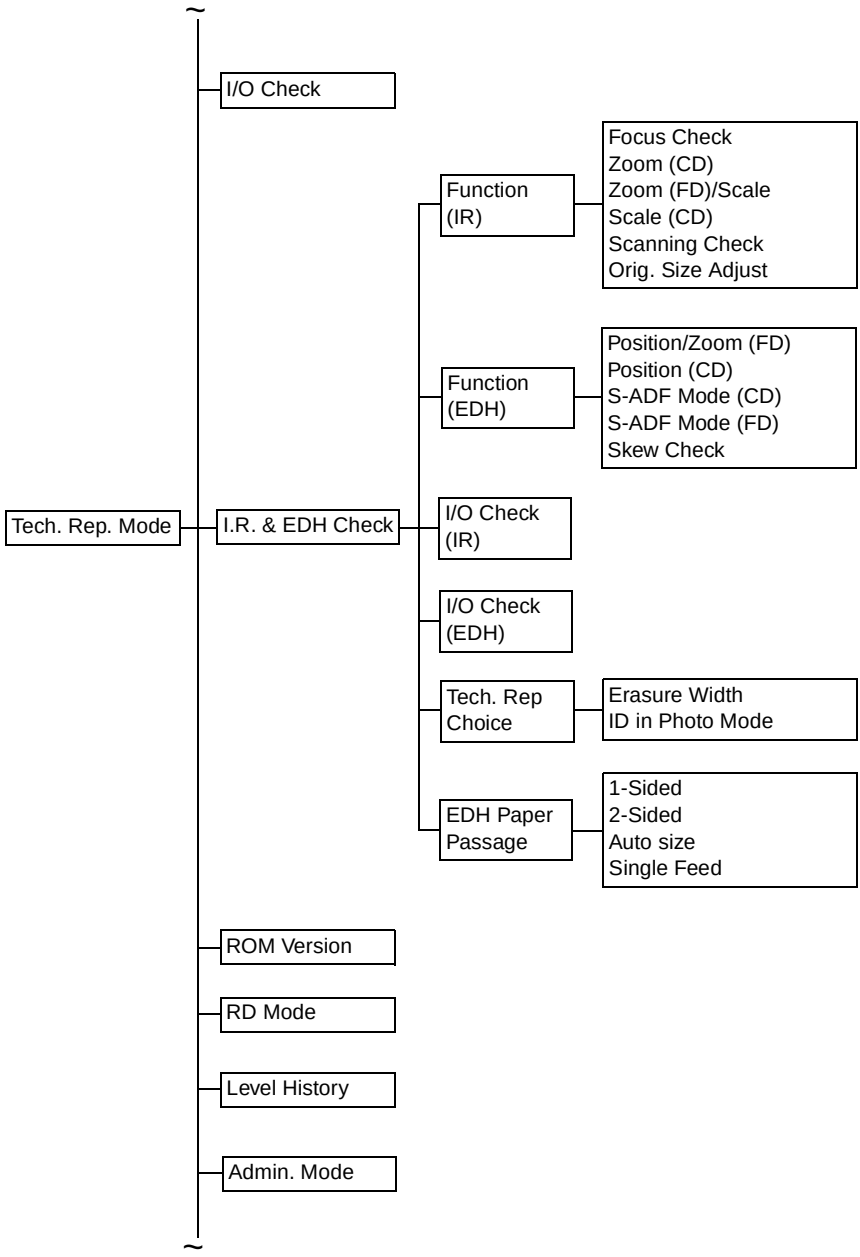
1. Press the Utility key.
2. Press the Meter Count key.
3. Press the following keys in this order:
   Stop → 0 → 0 → Stop → 0 → 1
4. Select the desired Tech. Rep. Mode function.

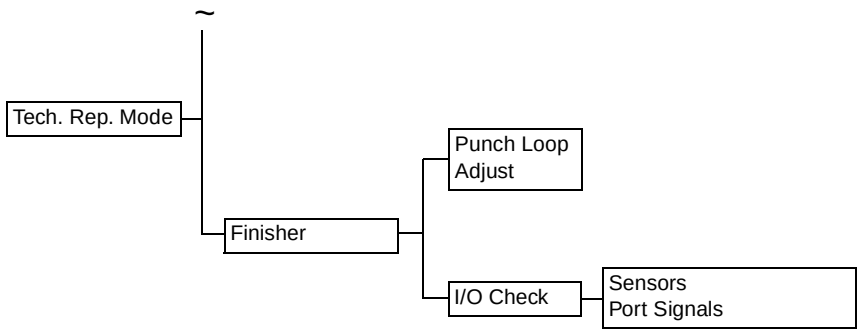
<Exiting the Mode>

- Press the Panel Reset key.

5-3. Tech. Rep. Mode Menu Function Tree




~
I/O Check
Tech. Rep. Mode
I.R. & EDH Check
Function (IR)
Focus Check
Zoom (CD)
Zoom (FD)/Scale
Scale (CD)
Scanning Check
Orig. Size Adjust
Function (EDH)
Position/Zoom (FD)
Position (CD)
S-ADF Mode (CD)
S-ADF Mode (FD)
Skew Check
I/O Check (IR)
I/O Check (EDH)
Tech. Rep Choice
Erasure Width
ID in Photo Mode
EDH Paper Passage
1-Sided
2-Sided
Auto size
Single Feed
ROM Version
RD Mode
Level History
Admin. Mode
~


~
Tech. Rep. Mode
Finisher
Punch Loop Adjust
I/O Check
Sensors
Port Signals

5-4. Setting in the Tech. Rep. Mode

(1) Function

• This function allows the Tech. Rep. to make the various function tests and adjustments.
<Functions>
Printer: Used for making the various function tests and adjustments for the printer.
Image Memory: Used for making the various function tests and adjustments for image memory.

<table>
<tr><th>Touch Panel Display</th><th>Operation</th></tr>
<tr><td>F1:
Paper Passage</td><td>A check is made for paper passage performance.
<Procedure>
1. Select the paper source.
2. Touch “Duplex” for paper passage output on paper fed from the Duplex Unit.
3. Press the Start key to start the paper passage cycle.
4. Press the Stop key to stop the paper passage cycle.</td></tr>
<tr><td>F2: HV Output</td><td>This test is for factory adjustment only and should NOT be used.</td></tr>
<tr><td>F5: AIDC Sensor</td><td>Adjusts the output level of the AIDC Sensor.
✻ For details, see DIS/REASSEMBLY, ADJUSTMENT.</td></tr>
<tr><td>F8: ATDC Sensor</td><td>Adjusts the output level of the ATDC Sensor.
✻ For details, see DIS/REASSEMBLY, ADJUSTMENT.</td></tr>
<tr><td>F12: Test Pattern</td><td>Outputs the test pattern.
<Procedure>
1. Touch “Duplex” for test pattern output on paper fed from the Duplex Unit.
2. Select the test pattern type.
3. Select the paper source.
4. Press the Start key to start the output sequence.
5. Press the Stop key to stop the output sequence.
<table>
<tr><th>Display</th><th>Type</th><th>Display</th><th>Type</th></tr>
<tr><td>F12-0</td><td>Dots</td><td>F12-5</td><td>ID self printing</td></tr>
<tr><td>F12-1</td><td>Gradation</td><td>F12-6</td><td>Double dots</td></tr>
<tr><td>F12-2</td><td>Halftone</td><td>F12-7</td><td>45° slant line</td></tr>
<tr><td>F12-3</td><td>64-dot checkered</td><td>F12-8</td><td>2-dot line pair</td></tr>
<tr><td>F12-4</td><td>Solid black</td><td>F12-9</td><td>LD beam position correction</td></tr>
</table>
</td></tr>
<tr><td>Opt. Men. Check</td><td>Checks for the connection of optional memory.</td></tr>
</table>

Touch Panel Display	Operation
Memory Check	Writes data in the image memory and reads it out to check for exact correspondence. The Touch Panel shows the percentage of processing completed of each diagnostic sequence and the number of diagnostic sequences carried out. If a fault is encountered, it gives the message of “NG” together with the address at which the fault occurred. <Procedure> 1. Press the Start key to start the diagnostic sequence. 2. Press the Stop key to stop the diagnostic sequence.
Comp./Expansion	Comp.: Checks to determine if the image data has been properly compressed in memory. Expansion: Checks to determine if the compressed image data is properly expanded in memory. The Touch Panel shows the percentage of processing completed of the diagnostic sequence. If the sequence has been completed okay, it gives the message of “OK”; if a fault was encountered, it gives the message of “NG” together with the corresponding malfunction code. <Procedure> • Press the Start key to start the diagnostic sequence.
I.R. ⇄ Men. ⇄ Prn.	I.R. → Memory: Checks for correct image signal transfer between I.R. and memory. The Touch Panel shows the percentage of processing completed of the diagnostic sequence. If the sequence has been completed okay, it gives the message of “OK”; if a fault was encountered, it gives the message of “NG” together with the corresponding malfunction code. <Procedure> 1. Touch “IR → Memory”. 2. Press the Start key to start the diagnostic sequence. Memory → Printer: Checks for correct image signal transfer between memory and printer. The Touch Panel shows the percentage of processing completed of the diagnostic sequence. If the sequence has been completed okay, it gives the message of “OK”; if a fault was encountered, it gives the message of “NG” together with the corresponding malfunction code. During the sequence, the copier also produces a test copy which can be checked for correct image. <Procedure> 1. Touch either “Memory → Prn1” or “Memory → Prn”. 2. Load the Multi Bypass Table with A4 lengthwise paper. 3. Press the Start key to start the diagnostic sequence.

Touch Panel Display	Operation
Hard Disk Format	Formats the Hard Disk. The Touch Panel shows the percentage of processing completed. If formatting has been normally completed, the panel gives the message of “OK”; if it has been abnormally terminated, the panel gives the message of “NG” together with the corresponding malfunction code. <Procedure> • Press the Start key to start the formatting sequence.
Hard Disk Check	Checks for proper connection and read/write operation of the Hard Disk. The Touch Panel shows the percentage of sequence completed. If the check has been completed okay, it gives the message of “OK”; if a fault was encountered, it gives the message of “NG” together with the corresponding malfunction code. <Procedure> • Press the Start key to start the check sequence.
ECC Check	Checks for proper connection of the ECC. The Touch Panel shows the percentage of sequence completed. If the check has been completed okay, it gives the message of “OK”; if a fault was encountered, it gives the message of “NG” together with the corresponding malfunction code. <Procedure> • Press the Start key to start the check sequence.
Date/Time Check	Checks for the current time-of-day and date.

(2) Tech. Rep. Choice

- This function allows the Tech. Rep. to make various settings and adjustments.

<Functions>
System Set: Choice functions relating to the printer.
Printer: Choice functions relating to image memory.
Controller Set: Choice functions relating to the Printer Controller.

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted).</th></tr>
<tr><td>FLS Paper</td><td>Set the size for FLS.
<table>
<tr><td>F: 330.2 mm
C: 203.2 mm</td><td>F: 330 mm
C: 210 mm</td><td>F: 330.2 mm
C: 215.9 mm</td><td>F: 330 mm
C: 220 mm</td></tr>
</table></td></tr>
<tr><td>Auto Paper Configuration</td><td>Select the method of rounding of the detected original size.
<table>
<tr><td>Inch/Metric</td><td>The measurement is rounded to the nearest standard inch or metric size.</td></tr>
<tr><td>Metric</td><td>The measurement is rounded to the nearest standard metric size.</td></tr>
</table></td></tr>
<tr><td>Function Limit</td><td>Select whether to limit the functions to be set on the control panel or not.
<table>
<tr><td>Enable</td><td>Limits the functions to the paper, zoom ratio, density, number of copies to be made, Mixed Orig. Detection, Free Orig. Placement, and Small Orig. Adjustment.</td></tr>
<tr><td>Disable</td><td>Enables all functions (no Limit).</td></tr>
</table></td></tr>
<tr><td>Touch Panel Adj.</td><td>Corrects deviation in the sensitive area of the Touch Panel.
<Procedure>
• Sequentially touch the four points marked with + on the screen.

NOTE:
• Be sure to touch the exact center of the + marking.</td></tr>
<tr><td>Smoothing (Text)</td><td>Select whether to turn ON or OFF the smoothing for function for the Text mode.
<table>
<tr><td>ON</td><td>OFF</td></tr>
</table></td></tr>
<tr><td>Maintenance Call</td><td>Select whether to enable or disable the maintenance call reminder (M1) message that is displayed when the maintenance counter count reaches the preset value.
<table>
<tr><td>Call Indicated</td><td>Call Not Indicated</td></tr>
</table></td></tr>
<tr><td>Universal Tray</td><td>Set the inch size of paper to be used.
<table>
<tr><td>14 × 81/4</td><td>14 × 81/2</td></tr>
</table></td></tr>
</table>

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted).</th></tr>
<tr><td>Toner Empty Stop</td><td>Select whether or not to inhibit copying when a toner-empty condition is detected.
<table><tr><td>Enable</td><td>Disable</td></tr></table></td></tr>
<tr><td>T/C Abnormal</td><td>Select whether to enable or disable copying when an abnormal T/C is detected.
<table><tr><td>Enable</td><td>Disable</td></tr></table></td></tr>
<tr><td>Fusing (°C) Input</td><td>Set the temperature for fusing temperature control according to the operating environment and the type of paper used.
<table><tr><td>1</td><td>2</td><td>3</td></tr><tr><td>180 °C</td><td>190 °C</td><td>195 °C</td></tr></table></td></tr>
<tr><td>T/C Auto Recover</td><td>Select whether to enable or disable auto recovery of T/C when it drops.
<table><tr><td>Enable</td><td>Disable</td></tr></table></td></tr>
<tr><td>Controller Type</td><td>Set the type of the Printer Controller.
<table><tr><td>0 to 9 (0)</td></tr></table>✻ After the setting has been made, touch “END” and turn OFF and ON the Power Switch.</td></tr>
<tr><td>Main. Sw notice</td><td>Select the timing at which the Printer Controller power is turned ON.
<table><tr><td>Mode 1</td><td>After the machine has completed its initial operation.</td></tr><tr><td>Mode 2</td><td>When the machine is turned ON.</td></tr></table>✻ After the setting has been made, touch “END” and turn OFF and ON the Power Switch.</td></tr>
<tr><td>Printer Time-Out</td><td>Set the timeout period for the printer.
<table><tr><td>Disable</td><td>1 to 99 (10 min.)</td></tr></table>✻ After the setting has been made, touch “END” and turn OFF and ON the Power Switch.</td></tr>
<tr><td>Warning Level</td><td>Select the type of warning display given when an error occurs in the Printer Controller.
<table><tr><td>Trouble</td><td>Attention</td></tr></table>✻ After the setting has been made, touch “END” and turn OFF and ON the Power Switch.</td></tr>
</table>

<table>
<tr><td>Touch Panel Display</td><td>Setting (The default is Highlighted).</td></tr>
<tr><td>Peripheral Mode</td><td>Select the type of external I/F operation.
<table><tr><td>Mode 1</td><td>External I/F operation mode 1</td></tr><tr><td>Mode 2</td><td>External I/F operation mode 2</td></tr><tr><td>Mode 3</td><td>External I/F operation mode 3</td></tr></table>✻ After the setting has been made, touch “END” and turn OFF and ON the Power Switch.</td></tr>
</table>

(3) System Input

- This function allows the Tech. Rep. to change the fixed zoom ratios, set the paper size, define the marketing area, and make other settings.

<table>
<tr><td>Touch Panel Display</td><td>Setting (The default is Highlighted).</td></tr>
<tr><td>Change Fixed Zoom</td><td>Change a fixed zoom ratio to a desired value.
<Procedure>
1. Touch the key of the fixed zoom ratio to be changed.
2. Press the Clear key.
3. Enter the new ratio from the 10-Key Pad.
4. Touch “Input” to validate the new setting.</td></tr>
<tr><td>Paper Size Input</td><td>Set the paper size.
<Procedure>
1. Select the paper source.
2. Select the paper size.
3. Touch “END” to validate the new setting.</td></tr>
<tr><td>Marketing Area</td><td>Set the marketing area.
<table><tr><td>MSJ</td><td>MC</td><td>ME</td><td>Other Areas</td></tr></table></td></tr>
<tr><td>Original Size Detecting Option</td><td>Select “ON” when the optional Original Size Detecting Sensor is mounted.
<table><tr><td>ON</td><td>OFF</td></tr></table></td></tr>
<tr><td>Tel. # Input</td><td>Enter the telephone number that will appear on the Touch Panel when a malfunction occurs in the copier.
<Procedure>
1. Enter the phone number from the 10-Key Pad. Use the Interrupt key to enter a hyphen “-.”
2. Touch “END” to validate the phone number setting.</td></tr>
<tr><td>Hard Disk</td><td>Select “ON” if a Hard Disk is mounted.
<table><tr><td>ON</td><td>OFF</td></tr></table></td></tr>
</table>

(4) Counter

• Shows the number of copies made on each paper size or type.

<Clearing a Count>
1. Open the counter menu screen.
2. Select the counter to be cleared.
3. Press the Clear key.
4. Touch “END”.
   Press the Interrupt key to undo the clearing operation, restoring the original count.

<Clearing All Counts of a Counter Type at Once>
1. Touch the “Counter Reset” key.
2. Select the counters to be cleared all at once.
3. Touch “OK”.

<table>
<tr><th>Touch Panel Display</th><th>Setting</th></tr>
<tr><td>Paper</td><td>Counts the number of sheets of paper used according to the size and type.
<table>
<tr><th colspan="2">Paper size</th></tr>
<tr><td>A3</td><td>11 × 17</td></tr>
<tr><td>B4</td><td>11 × 14</td></tr>
<tr><td>A4</td><td>Letter</td></tr>
<tr><td>B5</td><td>Legal</td></tr>
<tr><td>A5</td><td>5-1/2 × 8-1/2</td></tr>
<tr><td>B6</td><td>FLS</td></tr>
<tr><td>A6</td><td>Executive</td></tr>
</table>
<table>
<tr><th>Paper Type</th></tr>
<tr><td>Not-2-Sided</td></tr>
<tr><td>Normal</td></tr>
<tr><td>Recycle</td></tr>
<tr><td>Cover</td></tr>
<tr><td>Insert</td></tr>
<tr><td>Cover/Insert</td></tr>
</table>
</td></tr>
<tr><td>Maintenance</td><td>Set different count values for the Maintenance Counter.
When the preset count is reached, the maintenance call reminder message and maintenance code “M1” appear on the Touch Panel.

NOTE:
• Whether the maintenance call reminder message and maintenance code is given or not depends on the setting made in Tech. Rep. Choice.

<Procedure>
1. Touch “Maintenance Set”.
2. Press the Clear key to clear the current value.
Press the Interrupt key to undo the clearing operation, restoring the original value.
3. Enter the value from the 10-Key Pad.
4. Touch “END”.</td></tr>
</table>

<table>
<tr><th>Touch Panel Display</th><th>Setting</th></tr>
<tr><td>Jam</td><td>Counts the number of misfeeds that have occurred at different locations in the copier.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MCBJ System</td><td>Total Counter divided by the sum of all misfeed-counters (including misfeeds in the Finisher)</td></tr>
<tr><td>MCBJ Machine Only</td><td>Total Counter divided by the sum of machine misfeed counter (excluding misfeeds in the Finisher)</td></tr>
<tr><td>Manual Feed</td><td>No. of misfeeds that occurred at the Multi Bypass Tray</td></tr>
<tr><td>1st Drawer</td><td>No. of misfeeds that occurred at the 1st Drawer</td></tr>
<tr><td>2nd Drawer</td><td>No. of misfeeds that occurred at the 2nd Drawer</td></tr>
<tr><td>3rd Drawer</td><td>No. of misfeeds that occurred at the 3rd Drawer</td></tr>
<tr><td>4tht Drawer</td><td>No. of misfeeds that occurred at the 4th Drawer</td></tr>
</table>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>LCT</td><td>No. of misfeeds that occurred at the LCT</td></tr>
<tr><td>Vertical Transport (Upper)</td><td>No. of misfeeds that occurred at the paper take-up upper vertical transport section</td></tr>
<tr><td>Vertical Transport (Lower)</td><td>No. of misfeeds that occurred at the paper take-up lower vertical transport section</td></tr>
<tr><td>Horizontal Transport</td><td>No. of misfeeds that occurred at the vertical transport section</td></tr>
<tr><td>Separator</td><td>No. of misfeeds that occurred at the paper separation section</td></tr>
<tr><td>Fusing</td><td>No. of misfeeds that occurred at the Fusing Unit</td></tr>
<tr><td>Turnover</td><td>No. of misfeeds that occurred at the exit/turnover section</td></tr>
</table>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>MCBJ (EDH)</td><td>EDH paper feed counter divided by EDH misfeed counter</td></tr>
<tr><td>EDH Feed</td><td>No. of misfeeds that occurred at the document take-up section of the EDH</td></tr>
<tr><td>EDH Transport</td><td>No. of misfeeds that occurred at the document transport section of the EDH</td></tr>
<tr><td>EDH Reverse</td><td>No. of misfeeds that occurred at the document turnover section of the EDH</td></tr>
<tr><td>EDH Exit</td><td>No. of misfeeds that occurred at the document exit section (straight) of the EDH</td></tr>
<tr><td>EDH Exit-Reverse</td><td>No. of misfeeds that occurred at the document exit section (turnover) of the EDH</td></tr>
<tr><td>SADF Feed</td><td>No. of misfeeds that occurred at the SADF</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Touch Panel Display</th><th>Setting</th></tr>
<tr><td>Jam</td><td>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Fold</td><td>No. of misfeeds that occurred at the Folding Unit</td></tr>
<tr><td>Staple</td><td>No. of misfeeds that occurred at the Stapling Unit</td></tr>
<tr><td>Finisher</td><td>No. of misfeeds that occurred in the Finisher, other than above</td></tr>
<tr><td>Needle</td><td>No. of staple misfeeds that occurred.</td></tr>
<tr><td>Duplex Entrance</td><td>No. of misfeeds that occurred at the turnover/storage section of the Duplex Unit</td></tr>
<tr><td>Duplex Exit</td><td>No. of misfeeds that occurred at the horizontal transport section of the Duplex Unit</td></tr>
</table>
</td></tr>
<tr><td>PM</td><td>Counts the frequency of use of each of the different parts of the copier.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Manual Feed</td><td>No. of sheets of paper fed from the Multi Bypass Tray</td></tr>
<tr><td>1st Drawer</td><td>No. of sheets of paper fed from the 1st Drawer</td></tr>
<tr><td>2nd Drawer</td><td>No. of sheets of paper fed from the 2nd Drawer</td></tr>
<tr><td>3rd Drawer (LCC)</td><td>No. of sheets of paper fed from the 3rd Drawer</td></tr>
<tr><td>LCC Parts</td><td>No. of sheets of paper fed from the 3rd Drawer</td></tr>
<tr><td>4th Drawer</td><td>No. of sheets of paper fed from the 4th Drawer</td></tr>
</table>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>LCT</td><td>No. of sheets of paper fed from the LCT</td></tr>
<tr><td>LCT Parts</td><td>No. of sheets of paper fed from the LCT</td></tr>
<tr><td>PC Drum 1</td><td>No. of times a sheet of paper is fed through</td></tr>
<tr><td>PC Drum 2</td><td>No. of times a sheet of paper is fed through</td></tr>
<tr><td>PC Drum 3</td><td>No. of times a sheet of paper is fed through</td></tr>
</table>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Developer 1</td><td>Time over which the PC Drum has turned (H), the number of copies made as calculated from the time (K)</td></tr>
<tr><td>Developer 2</td><td>Time over which the PC Drum has turned (H), the number of copies made as calculated from the time (K)</td></tr>
<tr><td>Others PM Parts 1</td><td>No. of times a sheet of paper is fed through</td></tr>
<tr><td>Others PM Parts 2</td><td>No. of times a sheet of paper is fed through</td></tr>
<tr><td>Cleaning 1</td><td>No. of times a sheet of paper is fed through</td></tr>
<tr><td>Cleaning 2</td><td>No. of times a sheet of paper is fed through</td></tr>
<tr><td>Cleaning 3</td><td>No. of times a sheet of paper is fed through</td></tr>
</table>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Fusing Unit</td><td>No. of times a sheet of paper is fed through</td></tr>
<tr><td>Fusing Roller</td><td>No. of times a sheet of paper is fed through</td></tr>
<tr><td>Image Reader</td><td>No. of scan motions carried out for originals placed manually</td></tr>
<tr><td>EDH Simplex</td><td>No. of scan motions carried out for 1-sided originals</td></tr>
<tr><td>EDH Duplex</td><td>No. of scan motions carried out for 2-sided originals</td></tr>
<tr><td>EDH Single Feed</td><td>No. of scan motions carried out for single feed</td></tr>
<tr><td>Fold</td><td>No. of copies fed out in the Folding mode</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Touch Panel Display</th><th>Setting</th></tr>
<tr><td>PM</td><td>
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Staple 1
Staple 2
Punch
Sort/Group
Trans./Sepa. pass
Ozone Filter</td><td>No. of stapling sequences performed
No. of stapling sequences performed (FN-105)
No. of holes made (FN-105)
No. of copies fed out in the Sort/Group mode
No. of times a sheet of paper is fed through
No. of times a sheet of paper is fed through</td></tr>
</table>
✻ See MAINTENANCE SCHEDULE (machine/options) for the applicable parts.
</td></tr>
<tr><td>Consumables</td><td>
Enter the count of the Waste Toner and Web Roller counters. When the count reaches the set value, the maintenance code is displayed.

Web: Maintenance code “M3”
<table>
<tr><th>Description</th><th colspan="2">Maintenance code</th><th colspan="2">Machine stop</th></tr>
<tr><td rowspan="2">Initial set value</td><td>45 cpm</td><td>460 k</td><td>45 cpm</td><td>480 k</td></tr>
<tr><td>55 cpm</td><td>470 k</td><td>55 cpm</td><td>500 k</td></tr>
<tr><td rowspan="2">If the initial set value is changed</td><td colspan="2" rowspan="2">When the count reaches the set value</td><td>45 cpm</td><td>480 k</td></tr>
<tr><td>55 cpm</td><td>500 k</td></tr>
</table>
Waste Toner: Maintenance code “M2”
<table>
<tr><th>Description</th><th colspan="2">Maintenance code</th><th colspan="2">Machine stop</th></tr>
<tr><td rowspan="2">Initial set value</td><td>45 cpm</td><td>Approx. 220 k</td><td>45 cpm</td><td>Approx. 240 k</td></tr>
<tr><td>55 cpm</td><td>Approx. 270 k</td><td>55 cpm</td><td>Approx. 300 k</td></tr>
<tr><td rowspan="2">If the initial set value is changed</td><td>45 cpm</td><td>The set value - Approx. 20 k</td><td>45 cpm</td><td>Set value</td></tr>
<tr><td>55 cpm</td><td>The set value - Approx. 30 k</td><td>55 cpm</td><td>Set value</td></tr>
</table>
✻ “-”: Subtract

<Procedure>
1. Touch “Set”.
2. Press the Clear key to clear the current value.
Press the Interrupt key to undo the clearing operation, restoring the original value.
3. Enter the value from the 10-Key Pad.
4. Touch “END”.
</td></tr>
<tr><td>Trouble</td><td>
Counts the number of malfunctions that have occurred at different parts of the copier.
<table>
<tr><th>Malfunction Code</th><th>Description</th><th>Malfunction Code</th><th>Description</th></tr>
<tr><td>C0000</td><td>Main Drive Motor</td><td>C004C</td><td>Ventilation Fan</td></tr>
<tr><td>C0010</td><td>PC Drum Drive Motor</td><td>C0045</td><td>Image Unit Cooling Fan</td></tr>
<tr><td>C0040</td><td>Suction Fan</td><td>C0046</td><td>PH Cooling Fan 1</td></tr>
<tr><td>C0044</td><td>EDH Cooling Fan</td><td>C0047</td><td>PH Cooling Fan 2</td></tr>
</table>
</td></tr>
</table>

Touch Panel Display	Setting
Trouble	

Malfunction Code	Description	Malfunction Code	Description
C004E/F	Cooling Fan	C0210	Transfer Corona
C0042	Fusing Unit Fan	C04X0	Exposure Lamp
C0070/2	Toner Hopper Motor	C05X0	Fusing Unit
C0090	Dev. Unit Drive Motor	C0602	Scanner Drive

Malfunction Code	Description	Malfunction Code	Description
C0650	Scanner Home	C095X	4th Drawer
C090X	3rd Drawer	C099X	LCC
C091X	2nd Drawer	C09CX	LCT
C092X	1st Drawer		

Malfunction Code	Description	Malfunction Code	Description
C0B0X	Finisher Transport	C0B5X	Staple Unit (Rotation)
C0B2X	Staple Unit (CD direction)	C0B7X	Punch
C0B3X	Finisher Alignment	C0B8X	Finisher Shift Tray
C0B4X	Finisher Staple Transport	C0BAX	Finisher Elevator Tray

Malfunction Code	Description	Malfunction Code	Description
C0BCX	Finisher Fold Unit	C1200/3/4	Memory
C0E00	Main Erase	C12XX	Memory Board
C0F24	AIDC Sensor	C128A/B/C	Load TimeOut
C0F3X	ATDC Sensor	C128D/E	Save TimeOut

Malfunction Code	Description	Malfunction Code	Description
C12A0/4	Peripheral Signal (Input)	C13F0	SOS Sensor
C12A8/9/C	Peripheral Signal (Output)	C1330	VD Trouble
C12CX	HDD Trouble	C13FA-8/A-C	LaserBeam Adj. Trouble
C1300	Polygon Motor	C13F9	Printer EEPROM Trouble

<table>
<tr><th>Touch Panel Display</th><th>Setting</th></tr>
<tr><td>Trouble</td><td>
<table>
<tr><th>Malfunction Code</th><th>Description</th><th>Malfunction Code</th><th>Description</th></tr>
<tr><td>C1430</td><td>H. sysnc Trouble</td><td>C1461/2</td><td>Serial GA Trouble</td></tr>
<tr><td>C143E</td><td>EDH Trouble</td><td>C1499</td><td>IR Cooling Fan</td></tr>
<tr><td>C1440</td><td>Gain Adjust Trouble</td><td>C14XX</td><td>IR Sequence Trouble</td></tr>
<tr><td>C1441</td><td>CCD Trouble</td><td>C1802</td><td>SPC Error</td></tr>
</table>
<table>
<tr><th>Malfunction Code</th><th>Description</th></tr>
<tr><td>C1803</td><td>Memory Check Trouble</td></tr>
<tr><td>C180X</td><td>ECC Control Trouble</td></tr>
<tr><td>C10A1/2, C11EX</td><td>Communication (IR)</td></tr>
<tr><td>C10A5/6, C11FX, C1326/34</td><td>Com. (Prin.)</td></tr>
<tr><td>C133B</td><td>Communication (Option)</td></tr>
<tr><td>C10XX, C11XX</td><td>Others</td></tr>
</table>
</td></tr>
</table>

(5) I/O Check

- The following functions are used to locate the faulty spot.
- Shows the states of the I/O ports when the copier is in the standby state.

✻ For details, see TROUBLESHOOTING.

(6) I.R. & EDH Check

- Allows the Tech. Rep. to make the various functional tests and adjustments of the IR (EDH).

Touch Panel Display	Setting
Function (IR)	Displays the screens used to adjust and check the IR.
Focus Check	Adjusts the focus level and displays the results of the adjustment made. ✻ For details, see DIS/REASSEMBLY, ADJUSTMENT.
Zoom (CD)	Adjusts the zoom ratio in the CD direction and displays the results of the adjustment made. ✻ For details, see DIS/REASSEMBLY, ADJUSTMENT.
Zoom (FD)/Scale	Adjusts the zoom ratio and the position of the scale in the FD direction, and displays the results of the adjustment made. ✻ For details, see DIS/REASSEMBLY, ADJUSTMENT.
Scale (CD)	Adjusts the position of the scale in the CD direction and displays the results of the adjustment made. ✻ For details, see DIS/REASSEMBLY, ADJUSTMENT.

<table>
<tr><th>Touch Panel Display</th><th>Setting</th></tr>
<tr><td>Scanning Check</td><td>Check the operations from image scanning to image processing.
Normal: OK: Abnormal: NG
See the following for details of “NG” display
<table><tr><th>Display</th><th>Action</th></tr><tr><td>Optical</td><td>———————————</td></tr><tr><td>Analog</td><td>✻ Check the optical system, change PWB-IA or B.</td></tr><tr><td>Digital</td><td>Change PWB-B.</td></tr></table>✻ Made for correct alignment of the optical axis.</td></tr>
<tr><td>Orig. Size Adjust</td><td>Adjusts the threshold of original detection level.
✻ For details, see DIS/REASSEMBLY, ADJUSTMENT.</td></tr>
<tr><td>Function (EDH)</td><td>Displays the screens used to adjust and check the EDH.</td></tr>
<tr><td>Position./Zoom (FD)</td><td>Adjusts the zoom ration and the scanning position in the FD direction when the EDH is used.
✻ For details, see the relevant option service manual.</td></tr>
<tr><td>Position (CD)</td><td>Adjusts the scanning position in the CD direction when the EDH is used.
✻ For details, see the relevant option service manual.</td></tr>
<tr><td>S-ADF Mode (CD)</td><td>Adjusts the scanning position in the CD direction for a single feed scan.
✻ For details, see the relevant option service manual.</td></tr>
<tr><td>S-ADF Mode (FD)</td><td>Adjusts the scanning position in the FD direction for a single feed scan.
✻ For details, see the relevant option service manual.</td></tr>
<tr><td>Skew Check</td><td>Checks the EDH for correct alignment.
✻ For details, see the relevant option service manual.</td></tr>
<tr><td>I/O Check (IR)</td><td>Checks the function of sensors.</td></tr>
<tr><td>I/O Check (EDH)</td><td>Checks the function of sensors.
✻ For details, see the relevant option service manual.</td></tr>
<tr><td>Tech. Rep. Choice</td><td>Displays the screens for setting the various Tech. Rep. functions.</td></tr>
<tr><td>Erasure Width</td><td>Set the fixed erase width from the scales in the CD and FD directions.
✻ For details, see DIS/REASSEMBLY, ADJUSTMENT.
0 to 5 (3 mm)</td></tr>
<tr><td>ID in Photo Mode</td><td>This function does not function because it is applicable on a case-by-case basis.</td></tr>
<tr><td>EDH Paper Passage</td><td>Makes a paper passage check through the EDH.
<Procedure>
1. Select the paper passage mode.
2. Place paper on the Document Feed Tray.
3. Press the Start key.</td></tr>
</table>

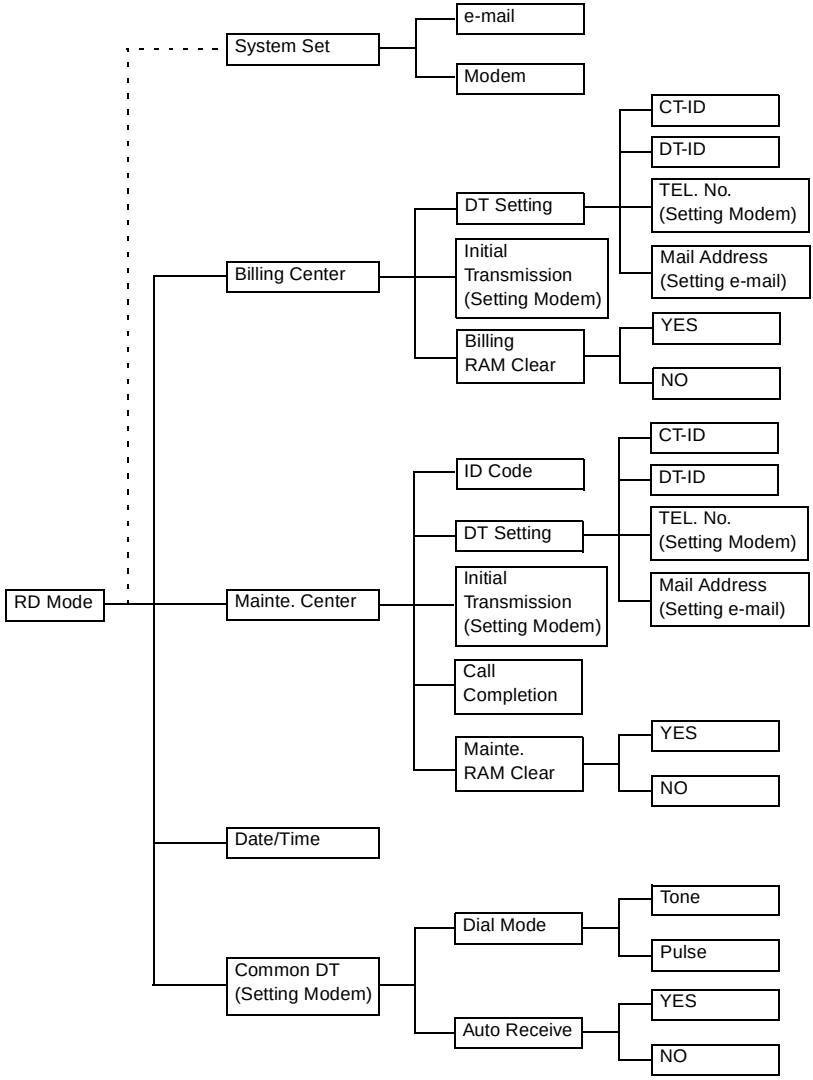
(7) ROM Version

- Shows the ROM versions.

(8) RD Mode

- Make the initial settings of the copier for the Data Terminal.

1. RD Mode Menu Function Tree



✻ The “System Set” portion is displayed when the machine has been set up for the Center for communication.

2. Setting in the RD Mode

Touch Panel Display	Setting
System Set	Set the control system. e-mail / **Modem**
Billing Center	Displays the various setting screens.
DT Setting	Displays the setting screens for CT-ID, DT-ID, and telephone number. The mail address is also displayed if “e-mail” is set for System Set.
CT-ID	Enter the ID number of the Center PC from the 10-Key Pad.
DT-ID	Enter the ID number of the Data Terminal from the 10-Key Pad.
TEL No.	Enter the telephone number of the modem connected to the Center PC.
Initial Transmission	Performs the initial transmission from the PPC to the Center to check for correct communication after the Data Terminal has been set up.
Billing RAM Clear	Initializes the Data Terminal settings. YES / **NO**
Mainte. Center	Displays the various setting screens.
ID Code	Enter the ID code. <Procedure> 1. Touch the ID Code key. 2. Enter the ID code from the 10-Key Pad. 3. Touch the ID Code key. (This executes the transmission of MAINT. START to the Center.)
DT Setting	Displays the setting screens for CT-ID, DT-ID, and telephone number. The mail address is also displayed if “e-mail” is set for System Set.
CT-ID	Enter the ID number of the Center PC from the 10-Key Pad.
DT-ID	Enter the ID number of the Data Terminal from the 10-Key Pad.
TEL No.	Enter the telephone number of the modem connected to the Center PC.
Initial Transmission	Performs the initial transmission from the PPC to the Center to check for correct communication after the Data Terminal has been set up.
Call Completion	Transmits the signal of notifying the completion of service job to the Center.
Mainte. RAM Clear	Initializes the Data Terminal settings. YES / **NO**

Touch Panel Display	Setting
Date/Time Set	Set the date and time-of-day for Date Printing.
Common DT	Displays the screens for communications settings.
Dial Mode	Sets the type of telephone line of the user. Tone / Pulse
Auto Receive	Sets the auto reception function. YES / **NO**

(9) Level History

- Displays the various level histories.

Touch Panel Display	Setting
Fuser (Upper)	Displays the current value of the fusing temperature.
Fuser (Lower)	Displays the current value of the fusing temperature.
ATDC Set	Displays the voltage set with ATDC Sensor Automatic Adjustment (F8).
ATDC Current	Displays the output voltage of the ATDC Sensor.
AIDC Fine Set	Displays the AIDC Sensor LED control voltage.
AIDC Coarse Set	Displays the load resistance level of the phototransistor used in the AIDC Sensor.
AIDC Current	Displays the output voltage of the AIDC Sensor.
Vg Current	Displays the current value of the grid voltage.
Vb Current	Displays the current value of the developing bias voltage.
LD1	Displays the intensity value of LD1.
LD2	Displays the intensity value of LD2.

(10) Admin. Mode

• Makes the various settings.

Touch Panel Display	Setting
Copy Track	See User's Choice.
Copy Track Data	See User's Choice.
Max. Copy Sets	See User's Choice.
Administrator # Input	Set an ID number for opening the "Administrator Mode" screen of Utility Mode from the 10-Key Pad.
Data send	See User's Choice.
Telephone number of Copy Track on the LAN	See User's Choice.

(11) Finisher

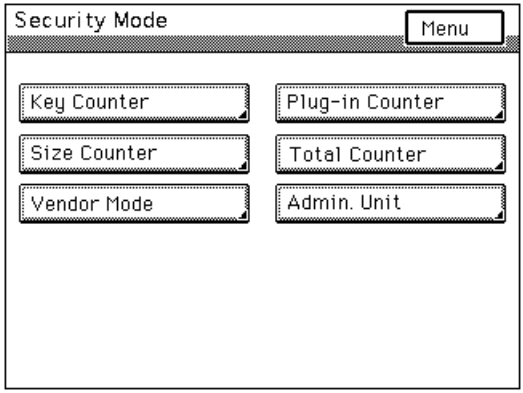
• Checks the Finisher for operation and makes necessary adjustments.

Touch Panel Display	Setting
Punch Loop Adj.	Adjust the loop length for Hole Punch. ✻ For details, see the relevant option service manual.
I/O Check	Displays the screens for sensor monitor and port input check.
Sensors	Checks the function of sensors (on the paper path). ✻ For details, see the relevant option service manual.
Port Signals	Checks the function of sensors (installed in different places other than the paper path). ✻ For details, see the relevant option service manual.

6. SECURITY MODE

- Allows the Tech. Rep. to set the various counters.

6-1. Security Mode Menu Screen



4003P603CA

6-2. Security Mode Setting Procedure

<Procedure>

1. Show the Tech. Rep. mode menu screen.
2. Press the following keys in this order:
   Stop → 9
3. Select the particular function.

<Exiting the Mode>

- Press the Panel Reset key.

6-3. Settings in the Security Mode

Touch Panel Display	Setting (The default is **Highlighted**).
Key Counter	Set to “ON” if a Key Counter is plugged in. ***NOTE:*** • *If “OFF” is set, copies can be made without having to plugging the Key Counter into the socket.* ON / **OFF**
Plug-In Counter	Select the condition by which the Counter count is increased. **Copy Made** / Copy Cycles
Size Counter	Select the size of the paper to be counted by the Size Counter. No Count / **A3/11 × 17** / A6 A3/B4/11 × 17/Legal A3/B4/FLS/11 × 17/Legal
Total Counter	Select the condition by which the Counter count is increased. **Mode 1**: 1 Copy per 1 copy cycle Mode 2: Multiple count-up according to paper size 1/2-sided copying Mode 3: Multiple count-up according to paper size 1/2-sided copying

<Count-up Table>

Copying		1-Sided						2-Sided					
Size		Sizes Other than those set			Set sizes			Sizes Other than those set			Set sizes		
Total		Mode			Mode			Mode			Mode		
		1	2	3	1	2	3	1	2	3	1	2	3
Total Counter		1			1	2	2	2			2	4	4
Size Counter		0			1	1	2	0			2	2	0
2-sided Total Counter		0			0			1	1	2	1	1	4
2-sided Size Counter		0			0			0			1	1	4
Plug-in Counter	Counting copies	1			1	2	2	1	2	2	1	4	4
	Counting copy cycle	1			1	2	2	2			2	4	4

0: No count 1: 1 count 2: 2 counts 4: 4 counts

Touch Panel Display	Setting (The default is **Highlighted**).
Vender Mode	Set the initial screen according to the type of vender mounted on the copier. **OFF** / Coin / Card
Admin. Unit	Select the model of the Data Controller mounted on the copier. **OFF** / D102 / D103

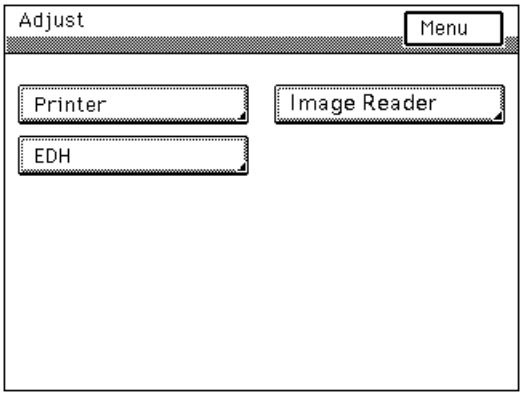
7. ADJUST MODE

- Used at the factory for making adjustments.

NOTE:

- *Use only when the RAM Board has been replaced. If any of the adjustment values has been changed, be sure to enter the value in the label affixed to the copier.*

7-1. Adjust Mode Menu Screen



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7-2. Adjust Mode Setting Procedure

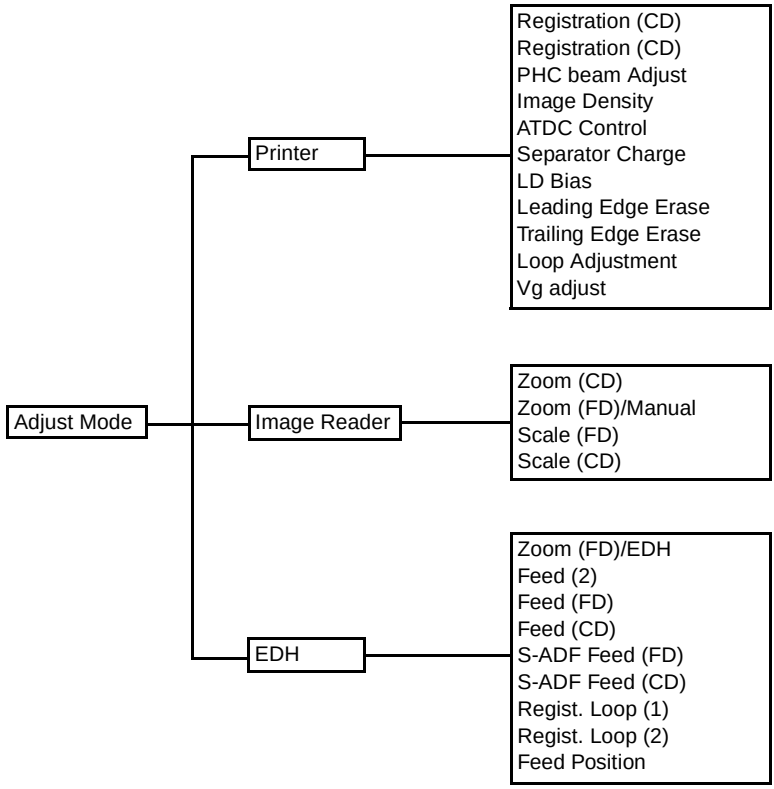
<Procedure>

1. Show the Tech. Rep. mode menu screen.
2. Press the following keys in this order:
   Stop → Start
3. Select the desired function.

<Exiting the Mode>

- Press the Panel Reset key.

7-3. Adjust Mode Function Tree



7-4. Settings in the Adjust Mode

<Function>
Printer: Adjust functions relating to the printer.
I.R.: Adjust functions relating to the I.R.
EDH: Adjust functions relating to the EDH.

<table>
<tr><th>Touch Panel Display</th><th>Setting (The default is Highlighted).</th></tr>
<tr><td>Registration (CD)</td><td>Adjust registration in the CD direction on the engine side.
<table><tr><td>Setting</td><td>-8.2 ..... 0 .....+8.2</td></tr><tr><td>Description</td><td>Smaller ◄——————► Greater</td></tr></table></td></tr>
<tr><td>Registration (FD)</td><td>Adjust registration in the FD direction on the engine side.
<table><tr><td>Setting</td><td>-8.2 ..... 0 .....+8.2</td></tr><tr><td>Description</td><td>Smaller ◄——————► Greater</td></tr></table></td></tr>
<tr><td>PHC beam Adjust</td><td>Adjust the intervals which the laser beam is illuminated (for the main-scanning and sub-scanning).
<table><tr><td>Setting</td><td>-5 ..... 0 .....+5</td></tr><tr><td>Description</td><td>Smaller ◄——————► Greater</td></tr></table></td></tr>
<tr><td>Image Density</td><td>Set the image density for the printer. The value set for this function becomes the central value of “Print Exposure” of User’s Choice.
<table><tr><td>Setting</td><td>-3 ..... 0 .....+3</td></tr><tr><td>Description</td><td>Lighter ◄——————► Darker</td></tr></table></td></tr>
<tr><td>ATDC Control</td><td>Current: Displays the current ATDC control voltage.
Set: Displays the set value entered.
If a spare Developing Unit is to be used, input the F8 adjustment value for that particular Developing Unit.
<Procedure>
1. Clear the Set value using the Clear key.
2. Enter the F8 value of the Developing Unit to be used from the 10-Key Pad.
0 to 9.4 (V)</td></tr>
<tr><td>Separator Charge</td><td>Adjust the output voltage of the Paper Separator Corona.
-12 to +12</td></tr>
<tr><td>LD Bias</td><td>Current: Displays the current intensity of the laser light.
Set: Displays the adjustment value for the intensity of the laser light.
0 to 255</td></tr>
</table>

Touch Panel Display	Setting (The default is **Highlighted**).
Leading Edge Erase	Select whether to enable or disable the leading edge erase. 0 to 5 (**3 mm**)
Trailing Edge Erase	Select whether to enable or disable the trailing edge erase. 0 to 5 (**3 mm**)
Loop Adjustment	Set the length of the loop to be formed in paper before the Synchronizing Rollers. Setting: -3 ..... **0** .....+3 Description: Smaller ◄——► Greater
VG Adjust	Vary the Vg voltage to set the desired image density. Setting: -4 ..... **0** .....+4 Description: Lighter ◄——► Darker
Zoom (CD)	Set the correction value for the zoom ratio in the CD direction on the IR side. 0.990 to 1.010 (**1.000**)
Zoom (FD)/Manual	Set the correction value for the zoom ratio in the FD direction on the IR side. 0.990 to 1.010 (**1.000**)
Scale (FD)	Set the correction value for the start-of-scan position of the original in the FD direction with respect to the Original Width Scale position. -4.0 to +4.0 (**0.0 mm**)
Scale (CD)	Set the correction value for the start-of-scan position of the original in the CD direction with respect to the Original Length Scale position. -10.0 to +10.0 (**0.0 mm**)
Zoom (FD) EDH	Set the correction value for the zoom ratio in the FD direction when the EDH is used. 0.980 to 1.020 (**1.000**)
Feed (2)	Set the correction value for the original scanning position for the second page of a 2-sided original when the EDH is used. -5.0 to +5.0 (**0.0 mm**)

Touch Panel Display	Setting (The default is **Highlighted**).
Feed (FD)	Set the correction value for the original scanning position in the FD direction when the EDH is used. -4.0 to +4.0 (**0.0 mm**)
Feed (CD)	Set the correction value for the original scanning position in the CD direction when the EDH is used. -3.0 to +3.0 (**0.0 mm**)
S-ADF Feed (FD)	Set the correction value for the original scanning position in the FD direction in the single feed mode. -4.0 to +4.0 (**0.0 mm**)
S-ADF Feed (CD)	Set the correction value for the original scanning position in the CD direction in the single feed mode. -3.0 to +3.0 (**0.0 mm**)
Regist Loop (1)	Set the length of the loop formed in the 1-sided original before the Registration Roller of the EDH. -5.0 to +5.0 (**0.0 mm**)
Regist Loop (2)	Set the length of the loop formed in the 2-sided original before the Registration Roller of the EDH. -5.0 to +5.0 (**0.0 mm**)
Feed Position	Set the target stop position of the Scanner during scanning by the EDH. Setting: **0** ....4 Description: Smaller ◄——► Greater

DIS/REASSEMBLY, ADJUSTMENT

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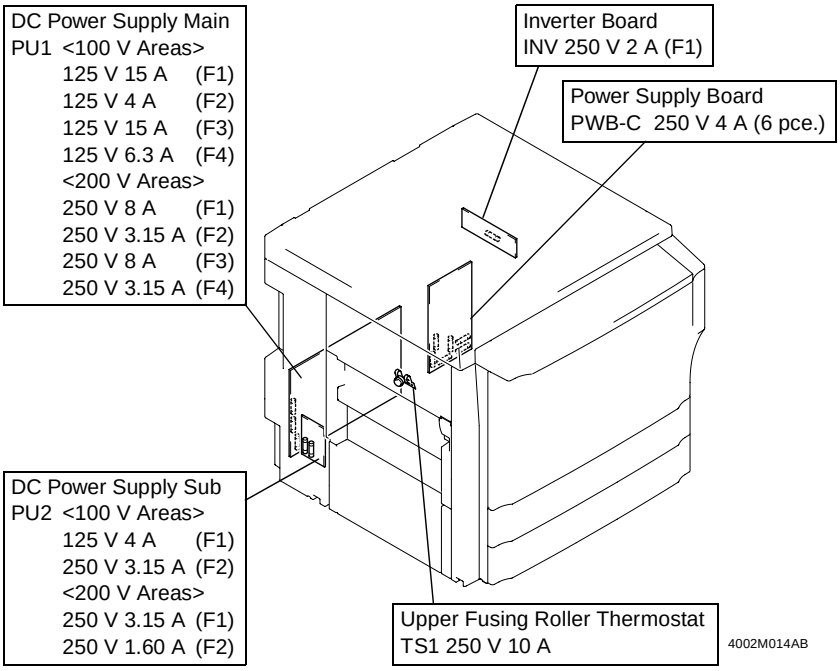
1. SERVICE INSTRUCTIONS

1-1. IDENTIFICATION OF FUSES AND CIRCUIT BREAKERS



1-2. PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

- The laser used in this copier is a semiconductor laser having the following specifications.

Max. power: 5 mW × 2 Output wavelength: 770 to 800 nm

- When laser protective goggles are to be used, select ones with a lens conforming to the above specifications.
- When a disassembly job needs to be performed in the laser beam path, such as when working around the printerhead and PC Drum, be sure first to turn the copier OFF.
- If the job requires that the copier be left ON, take off your watch and ring and wear laser protective goggles.
- A highly reflective tool can be dangerous if it is brought into the laser beam path. Use utmost care when handling tools on the user's premises.
- The printerhead is not maintainable in the field. It is to be replaced as an assembly including the control board. Never, therefore, attempt to remove the laser diode or adjust trimmers on the control board.

NOTES

- *The Organic Photoconductor Drum is softer than CdS and Selenium Drums and is therefore susceptible to scratches.*
- *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.*

1-3. 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.

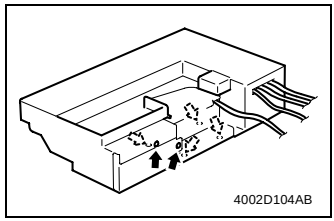
(2) Variable Resistors on Board

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

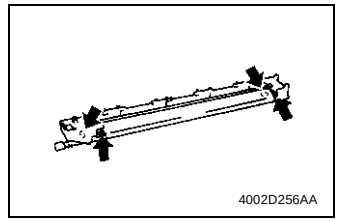
(3) Other Screws

Although not marked with red paint, the following screws must not be loosened or readjusted.

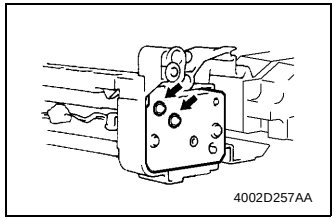
8 screws on the PH Unit Cover



4 screws on the Image Transfer/ Paper Separator Coronas

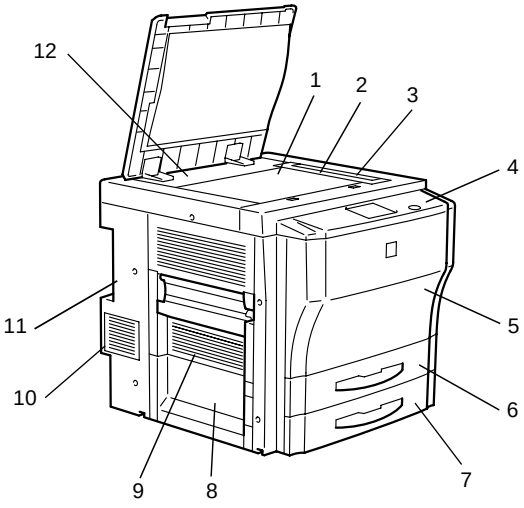


2 screws on the Separator Finger Solenoid



2. DISASSEMBLY/REASSEMBLY

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



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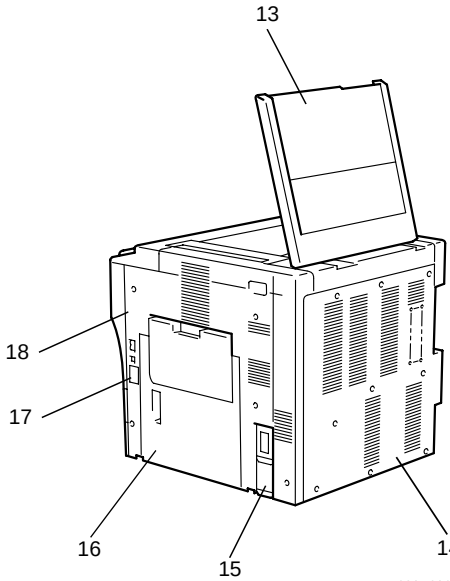

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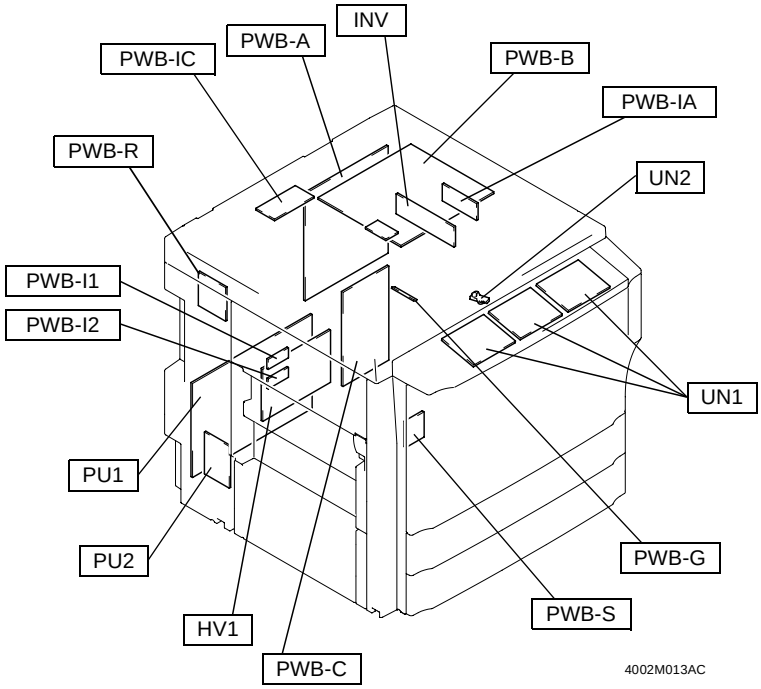
No.	Part Name	Removal Procedure
1	Original Glass	Remove No.3.
2	EDH Glass	Remove No.3.
3	EDH Glass Holder	Raise No.13. → Remove four EDH Glass Holder mounting screws.
4	Control Panel	Raise No.13. → Swing down No.5. → Remove No.18. → Remove No.11. → Remove five Control Panel mounting screws. → Unplug two connectors.
5	Front Door	Swing down the Front Door. → Remove two Front Door hinge shafts. → Remove two belt mounting screws inside the Front Door.
6	1st Drawer	Slide out the drawer. → Remove one screw and the right stopper. → Pressing the tab on the left rail, pull out the drawer.
7	2nd Drawer	
8	Middle Left Door	Remove No.11. → Remove two Middle Left Door mounting screws.
9	Upper Left Door (Exit/Duplex Switching Unit)	☞ D-23
10	Filter Cover	Unhook one tab on the Filter Cover.
11	Left Cover	Slide out No.6. → Swing down No.5. → Remove seven Left Cover mounting screws.
12	Rear Upper Cover	Remove No.13. → Remove No.11. → Remove No.18. → Remove two Rear Upper Cover mounting screws.
13	Original Cover	Remove the Original Cover by pulling up.
14	Rear Cover	Remove nine Rear Cover mounting screws.
15	Connector Cover	Remove one Connector Cover mounting screws.
16	Upper Right Door (Multi Bypass Unit)	☞ D-15
17	Counter Cover	Unhook two tabs on the Counter Cover.
18	Right Cover	Slide out No.6. → Swing down No.5. → Open No.16. → Open the Multi Bypass Table. → Remove seven Right Cover mounting screws.

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

- 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.

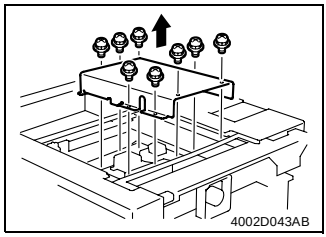


Symbol	Part Name	Removal Procedure
INV	Inverter Board	Remove the Scanner. → Unplug two connectors and remove two screws and the Inverter Board Mounting Bracket Assy. → INV
PWB-A	Master Board	Remove the Right Cover. → Remove the Rear Cover. → Remove three screws and the Cover. → Remove four screws and the Cover. → PWB-A
PWB-B	Image Processing Board	☞ D-7
PWB-C	Power Supply Board	Remove the Right Cover. → Remove the Rear Cover. → Remove six screws and the Board Cover. → PWB-C
PWB-G	AIDC Sensor Board	☞ D-47
PWB-I1	Paper Size Detecting Board 1	Remove four screws and the PC Drum Charge/Developing Bias HV Mountaing Bracket Assy. → Remove two screws and the Board Cover. → PWB-I
PWB-I2	Paper Size Detecting Board 2	
PWB-IC	SCP Board	Remove the Rear Upper Cover. → PWB-IC
PWB-M	Memory Board	Remove the Original Glass. → Remove four screws and the IR Base Plate Left Cover. → PWB-M
PWB-R	HDD Power Supply Board	Remove the Rear Cover. → Remove the Left Cover. → Remove three screws and the HDD Mounting Bracket Assy. → PWB-R
PWB-S	Tech. Rep. Setting Switches Board	Swing down the Front Door. → Remove the Left Cover. → Remove four screws and the Cover. → PWB-S
UN1	Control Panel	Remove the Control Panel Unit. → UN1
UN2	ATDC Sensor	☞ D-47
PU1	DC Power Supply Main	Remove the Rear Cover. → Remove six screws and the Board Cover. → PU1
PU2	DC Power Supply Sub	Remove the Rear Cover. → Remove the Left Cover. → Remove three screws and the DC Power Supply Sub Mounting Bracket Assy. → PU2
HV1	PC Drum Charge/ Developing Bias HV	Remove the Rear Cover. → Remove six screws and the Board Cover. → Remove ten screws and the DC Power Supply Main Mounting Bracket Assy. → HV1

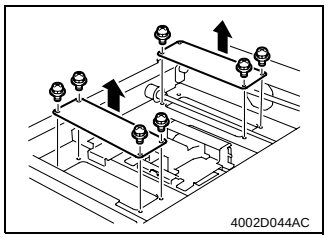
NOTE

PWB-M and PWB-R: optional on the 45-cpm copier, standard on the 55-cpm copier.

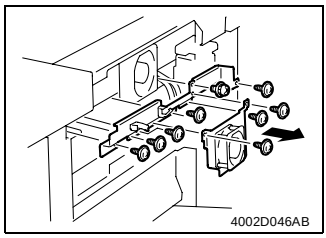
Removal of the Image Processing Board



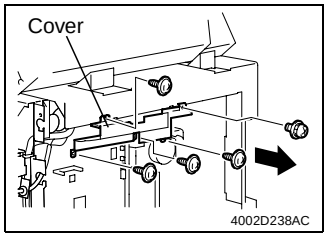
1. Remove the Rear Cover and Right Cover.
2. Remove the Original Glass and EDH Glass.
3. Remove eight screws and the CCD Unit Cover.



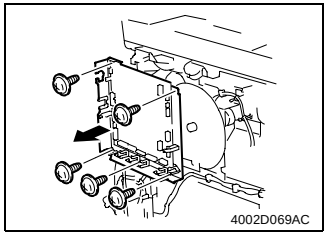
4. Remove four screws and the cover on the left.
5. Remove three screws and the cover on the right.



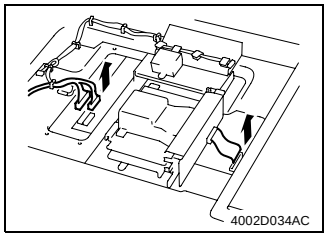
6. Remove three screws and the PH Cooling Fan Motor mounting bracket Assy.
7. Remove six screws and the mounting bracket.



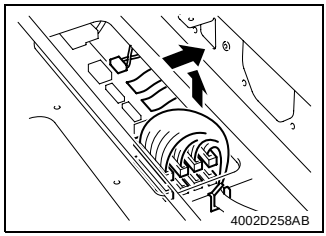
8. Remove five screws and the Cover.



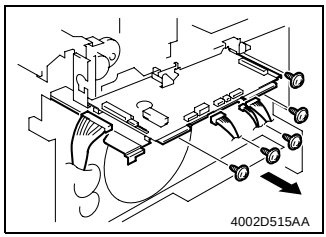
9. Remove five screws and the Master Board Mountain Bracket Assy.



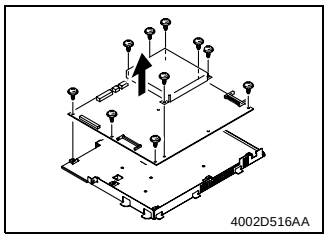
10. Unplug two connectors, one flat cable.



11. Unplug five connectors, two flat cables.
12. Remove the harness from the edge cover.



13. Unplug four connectors.
14. Remove five screws and the Imaging Processing Board Mounting Bracket Assy.



15. Remove ten screws and the Imaging Processing Board.

2-3. 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 instructed.

(1) 45-cpm copier

	PM Parts	Maintenance Cycle (K)		Parts No.	QTY	Reference Page	PM
		Clean	Replace				
Paper Take-Up/Transport Section	Paper Take-Up Roll	80	160	4002-3216-01	2	☞ D-24	1st Drawer 2nd Drawer
	Paper Feed Roll (*1)	80	160	4002-3216-01	2	☞ D-24	
	Paper Separator Roll Assy. (*1)	80	160	1136-0162-01	2	☞ D-24	
	Upper Transport Roller	80	–	–	–	☞ D-29	Cleaning 1
	Lower Transport Roller	80	–	–	–	☞ D-29	
	Vertical Transport Rollers	80	–	–	–	☞ D-30	
	Upper Synchronizing Roller	80	–	–	–	☞ D-32	
	Lower Synchronizing Roller	80	–	–	–	☞ D-33	
	Synchronizing Paper Dust Remover	80	160	1074-3316-01	1	☞ D-33	Other PM Parts 2 Cleaning 1
	Transport Paper Dust Remover	80	160	1156-3543-01	1	☞ D-33	
	Multi Bypass Unit Paper Take-Up Roll	(*2)	–	–	–	☞ D-37	Manual Feed
	Multi Bypass Unit Paper Feed Roll	(*2)	–	–	–	☞ D-37	
	Multi Bypass Unit Paper Separator Roll	(*2)	–	–	–	☞ D-37	
Optical Section	Mirrors	160	–	–	–	☞ D-38	(*6)
	Lens	160	–	–	–	☞ D-38	
	Scanner Rail/Slider Bushings	160 (*3)	–	–	–	☞ D-39	
	Original Glass	80	–	–	–	☞ D-38	Cleaning 1
	PH Glass	80	–	–	–	☞ D-39	
	EDH Glass	As required	160	1155-1602-03	1	☞ D-38	(*6)

	PM Parts	Maintenance Cycle (K)		Parts No.	QTY	Reference Page	PM
		Clean	Replace				
PC Section	PC Drum	–	(*4)	–	–	☞ D-47	PC Drum 1, 2, 3
	Cleaning Blade	–	240	1136-5534-02	1	☞ D-50	Developer 1, 2
	Toner Antispill Seal	80	240	1013-5524-01	1	☞ D-53	Developer 1 Cleaning 1
	Main Erase Lamp Filter	80	–	–	–	☞ D-54	Cleaning 1
	AIDC Sensor Board	80	–	–	–	☞ D-53	
	PC Drum Paper Separator Fingers	80	–	–	–	☞ D-53	
	Ozone Filter (Drum Charge)	–	240	4002-4004-01	1	☞ D-55	Ozone Filter
	Ozone Filter (Image Transfer)	–	240	1136-4018-01	1	☞ D-55	
	Toner Collecting Bottle (*5)	–	(*4)	4640-2027-01	1	☞ D-55	
Drum Charge/Image Transfer Coronas	PC Drum Charge Corona Grid Mash	80	–	–	–	☞ D-57	Cleaning 1
	PC Drum Charge Corona Housing	80	–	–	–	☞ D-56	
	PC Drum Charge Corona Comb Electrode	80	240	4002-4001-01	1	☞ D-58	Developer 1, 2 Cleaning 1
	Image Transfer/Paper Separator Corona Housing	80	–	–	–	☞ D-60	Cleaning 1
	Image Transfer/Paper Separator Corona Wire	80	160	1075-0765-01	2	☞ D-59	
	Pre-Image Transfer Guide Plate	80	–	–	–	☞ D-61	
Developing Section	Developer	–	240	–	–	☞ D-52	Developer 1, 2
	Ds Positioning Collars	80	–	–	–	☞ D-50	Cleaning 1
	Developer Scattering Prevention Plate	80	240	4002-5003-02	1	☞ D-50	Developer 1, 2 Cleaning 1
	Toner Antisocial Trap	80	–	–	–	☞ D-50	Cleaning 1

	PM Parts	Maintenance Cycle (K)		Parts No.	QTY	Reference Page	PM
		Clean	Replace				
Fusing Section	Upper Fusing Roller	–	480	4002-5701-01	1	☞ D-62	Fusing Roller
	Upper Fusing Roller Bearings	–	960	4002-5705-01	2	☞ D-62	Fusing Unit
	Upper Fusing Roller Bushings	–	480	4002-5704-01	2	☞ D-62	Fusing Roller
	Lower Fusing Roller	–	480	4002-5702-01	1	☞ D-62	
	Lower Fusing Roller Bearings	–	960	4002-5706-01	2	☞ D-62	Fusing Unit
	Upper Fusing Roller Drive Gear	–	480	4002-5709-02	1	☞ D-62	Fusing Roller
	Web Roller	–	480	4002-5732-01	1	☞ D-70	
	Web Pressure Roller	–	960	1075-5751-01	1	☞ D-70	Fusing Unit
	Upper Paper Separator Fingers	240	960	4002-5783-01	5	☞ D-67	Cleaning 2 Fusing Unit
	Lower Paper Separator Fingers	240	–	–	–	☞ D-67	Cleaning 2
	Fusing Unit Entrance Guide Plate	240	–	–	–	☞ D-67	
	Upper Fusing Roller Thermistor	160	960	9372-2710-12	1	☞ D-68	Cleaning 3 Fusing Unit
	Lower Fusing Roller Thermistor	160	960	9372-2910-31	1	☞ D-68	
	Upper Fusing Roller Thermo-stat	480	–	–	–	☞ D-69	Cleaning 3
	Misfeed Clearing Knob Bush-ings	–	480	1156-5837-01	1	☞ D-71	Fusing Unit
	Fusing Unit Drive Coupling Gear	–	480	4002-5710-02	1	☞ D-71	Fusing Roller
Turnover Section	Turnover Roller	80	–	–	–	☞ D-71	Cleaning 1
	Transport Roller	80	–	–	–	☞ D-71	

✻ Perform the maintenance jobs based on the PM Counter count.
*1: Replace the Paper Feed Roll and Paper Separator Roll Assy at the same time.
*2: Perform cleaning when a malfunction occurs.
*3: Lubricate after cleaning.
*4: Replace at 130 hours (equivalent to 240/300 K).
*5: Mounted on the applicable paper source option.
*6: Use the Total Counter for the control.

(2) 55-cpm copier

	PM Parts	Maintenance Cycle (K)		Parts No.	QTY	Reference Page	PM
		Clean	Replace				
Paper Take-Up/Transport Section	Paper Take-Up Roll	100	200	4002-3216-01	2	☞ D-24	1st Drawer 2nd Drawer
	Paper Feed Roll (*1)	100	200	4002-3216-01	2	☞ D-24	
	Paper Separator Roll Assy. (*1)	100	200	1136-0162-01	2	☞ D-24	
	Upper Transport Roller	100	–	–	–	☞ D-29	Cleaning 1
	Lower Transport Roller	100	–	–	–	☞ D-29	
	Vertical Transport Rollers	100	–	–	–	☞ D-30	
	Upper Synchronizing Roller	100	–	–	–	☞ D-32	
	Lower Synchronizing Roller	100	–	–	–	☞ D-33	
	Synchronizing Paper Dust Remover	100	200	1074-3316-01	1	☞ D-33	Other PM Parts 2 Cleaning 1
	Transport Paper Dust Remover	100	200	1156-3543-01	1	☞ D-33	
	Multi Bypass Unit Paper Take-Up Roll	(*2)	–	–	–	☞ D-37	Manual Feed
	Multi Bypass Unit Paper Feed Roll	(*2)	–	–	–	☞ D-37	
	Multi Bypass Unit Paper Separator Roll	(*2)	–	–	–	☞ D-37	
Optical Section	Mirrors	200	–	–	–	☞ D-38	(*6)
	Lens	200	–	–	–	☞ D-38	
	Scanner Rail/Slider Bushings	200 (*3)	–	–	–	☞ D-39	
	Original Glass	100	–	–	–	☞ D-38	Cleaning 1
	PH Glass	100	–	–	–	☞ D-39	
	EDH Glass	As required	200	1155-1602-03	1	☞ D-38	(*6)
PC Section	PC Drum	–	(*4)	–	–	☞ D-47	PC Drum 1, 2, 3
	Cleaning Blade	–	300	1136-5534-02	1	☞ D-50	Developer 1, 2
	Toner Antispill Seal	100	300	1013-5524-01	1	☞ D-53	Developer 1 Cleaning 1
	Main Erase Lamp Filter	100	–	–	–	☞ D-54	Cleaning 1
	AIDC Sensor Board	100	–	–	–	☞ D-53	
	PC Drum Paper Separator Fingers	100	–	–	–	☞ D-53	
	Ozone Filter (Drum Charge)	–	300	4002-4004-01	1	☞ D-55	Ozone Filter
	Ozone Filter (Image Transfer)	–	300	1136-4018-01	1	☞ D-55	
	Toner Collecting Bottle (*5)	–	(*4)	4640-2027-01	1	☞ D-55	

	PM Parts	Maintenance Cycle (K)		Parts No.	QTY	Reference Page	PM
		Clean	Replace				
Drum Charge/Image Transfer Coronas	PC Drum Charge Corona Grid Mash	100	–	–	–	☞ D-57	Cleaning 1
	PC Drum Charge Corona Housing	100	–	–	–	☞ D-56	
	PC Drum Charge Corona Comb Electrode	100	300	4002-4001-01	1	☞ D-58	Developer 1, 2 Cleaning 1
	Image Transfer/Paper Separator Corona Housing	100	–	–	–	☞ D-60	Cleaning 1
	Image Transfer/Paper Separator Corona Wire	100	200	1075-0765-01	2	☞ D-59	
	Pre-Image Transfer Guide Plate	100	–	–	–	☞ D-61	
Developing Section	Developer	–	300	–	–	☞ D-52	Developer 1, 2
	Ds Positioning Collars	100	–	–	–	☞ D-50	Cleaning 1
	Developer Scattering Prevention Plate	100	300	4002-5003-02	1	☞ D-50	Developer 1, 2 Cleaning 1
	Toner Antisocial Trap	100	–	–	–	☞ D-50	Cleaning 1
Fusing Section	Upper Fusing Roller	–	500	4002-5701-01	1	☞ D-62	Fusing Roller
	Upper Fusing Roller Bearings	–	1000	4002-5705-01	2	☞ D-62	Fusing Unit
	Upper Fusing Roller Bushings	–	500	4002-5704-01	2	☞ D-62	Fusing Roller
	Lower Fusing Roller	–	500	4002-5702-01	1	☞ D-62	
	Lower Fusing Roller Bearings	–	1000	4002-5706-01	2	☞ D-62	Fusing Unit
	Upper Fusing Roller Drive Gear	–	500	4002-5709-02	1	☞ D-62	Fusing Roller
	Web Roller	–	500	4002-5732-01	1	☞ D-70	
	Web Pressure Roller	–	1000	1075-5751-01	1	☞ D-70	Fusing Unit
	Upper Paper Separator Fingers	300	1000	4002-5783-01	5	☞ D-67	Cleaning 2 Fusing Unit
	Lower Paper Separator Fingers	300	–	–	–	☞ D-67	Cleaning 2
	Fusing Unit Entrance Guide Plate	300	–	–	–	☞ D-67	
	Upper Fusing Roller Thermistor	200	1000	9372-2710-12	1	☞ D-68	Cleaning 3 Fusing Unit
	Lower Fusing Roller Thermistor	200	1000	9372-2910-31	1	☞ D-68	
	Upper Fusing Roller Thermostat	500	–	–	–	☞ D-69	Cleaning 3
	Misfeed Clearing Knob Bushings	–	500	1156-5837-01	1	☞ D-71	Fusing Unit
	Fusing Unit Drive Coupling Gear	–	500	4002-5710-02	1	☞ D-71	Fusing Roller

	PM Parts	Maintenance Cycle (K)		Parts No.	QTY	Reference Page	PM
		Clean	Replace				
Turnover Section	Turnover Roller	100	–	–	–	☞ D-71	Cleaning 1
	Transport Roller	100	–	–	–	☞ D-71	

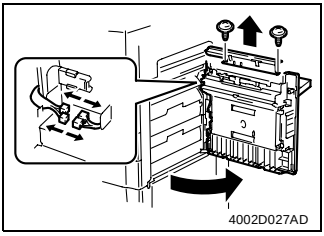
✻ Perform the maintenance jobs based on the PM Counter count.
*1: Replace the Paper Feed Roll and Paper Separator Roll Assy at the same time.
*2: Perform cleaning when a malfunction occurs.
*3: Lubricate after cleaning.
*4: Replace at 130 hours (equivalent to 240/300 K).
*5: Mounted on the applicable paper source option.
*6: Use the Total Counter for the control.

NOTES

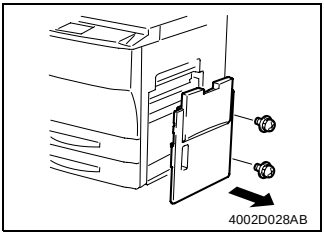
- *K = 1,000 copies*
- *The contents of the above PM parts list are subject to change without notice.*

2-4. Removal of the Unit

(1) Removal of the Multi Bypass Unit



1. Open the Upper Right Door.
2. Remove two connectors and the cover.
3. Unplug two connectors.



4. Remove two screws and the Upper Right Cover.

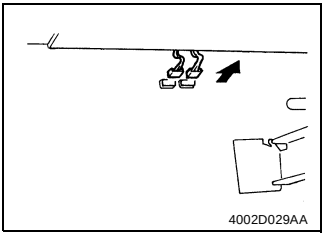
NOTE

When reinstalling the Upper Right Cover, Adjustment of the Upper Right Door (Multi Bypass Unit).

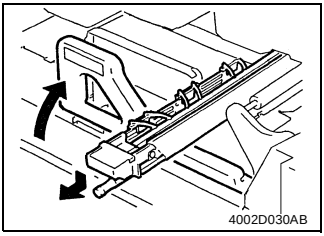
☞ D-112

(2) Removal of the Suction Unit

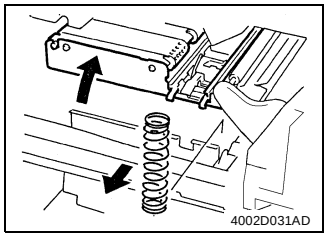
1. Swing down the Front Door and slide out the Developer Unit.
2. Remove the Paper Dust Remover Assy.
3. Slide out the Fusing Unit.
4. Slide out the 1st and 2nd Drawers.



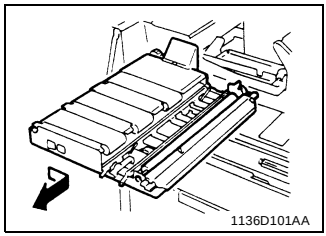
5. Unplug two connectors from lower end of the Suction Unit.



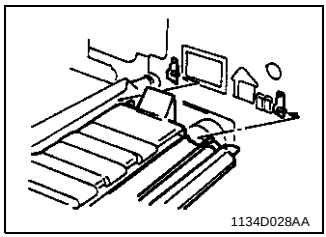
6. Swing the Transport Section Release Lever back to its original position.
7. Pressing down the Transfer/Paper Separator Coronas Unit, pull out of the copier.



8. Swing down the Transport Section Release Lever.
9. Holding up the Suction Unit, remove the compression coil.



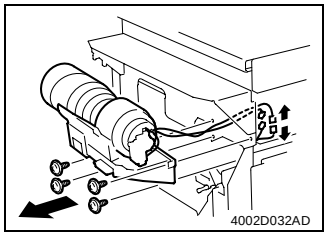
10. Remove the Suction Unit by sliding it to the right.



NOTE
When reinstalling the Suction Unit, make sure that two positioning pins on the copier fit into the positioning holes in the Suction Unit.

(3) Removal of the Main Hopper Unit

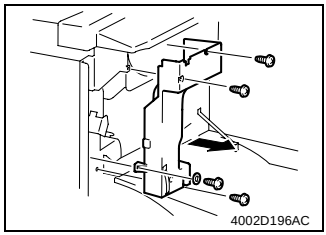
1. Swing down the Front Door and slide out the Developer Unit.
2. Remove the Right Cover.



3. Unplug two connectors, remove four screws and remove the Main Hopper Unit.

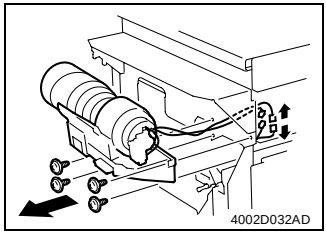
(4) Removal of the IR Unit

1. Swing down the Front Door and slide out the Developer Unit.
2. Remove the Right Door, Left Door, Rear Upper Cover, Rear Cover and Control Panel.
3. Slide out the Fusing Unit.

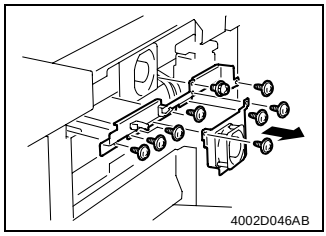


4. Remove four screws and the Cover.

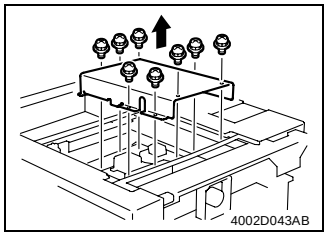
NOTE
Do not remove the belt mounting screw on the cover.



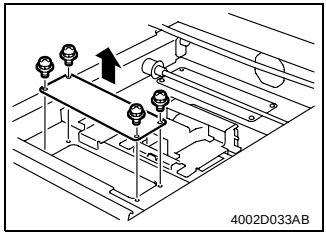
5. Unplug two connectors, remove four screws and remove the Main Hopper Unit.



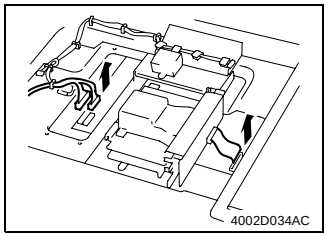
6. Remove three screws and the PH Cooling Fan Motor mounting bracket Assy.
7. Remove six screws and the mounting bracket.



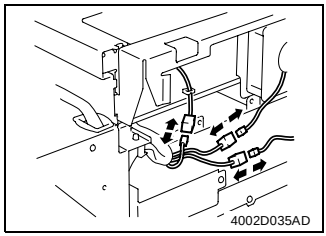
8. Remove the Original Grass and EDH Glass.
9. Remove eight screws and the CCD Unit Cover.



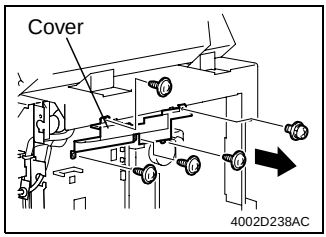
10. Remove four screws and the Cover.



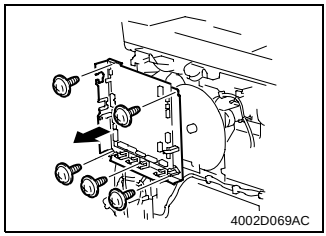
11. Unplug two connectors, one flat cable from the Imaging Processing Board.



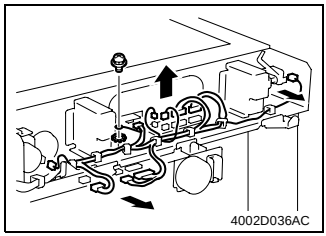
12. Unplug four connectors at the front.



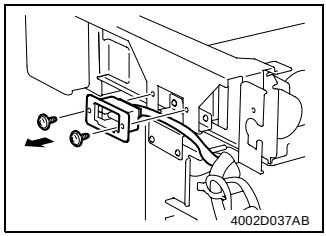
13. Remove five screws and the Cover.



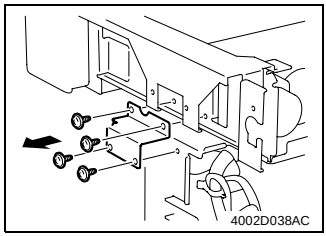
14. Remove five screws and the Master Board Mountain Bracket Assy.



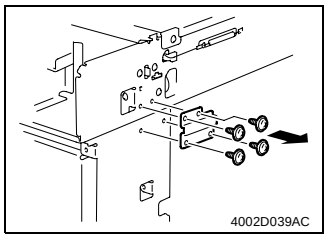
15. Unplug ten connectors in the rear.
16. Remove one screw and the ground wire.



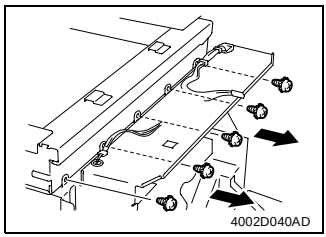
17. Remove two screws and the relay connector.



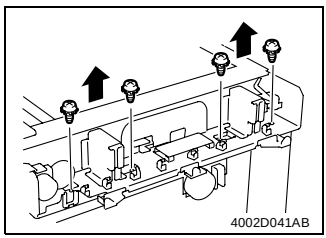
18. Remove four screws and the right mounting bracket.



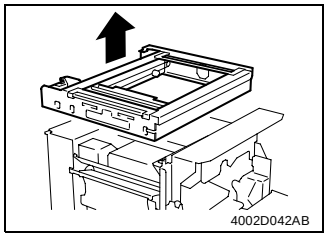
19. Remove four screws and the left mounting bracket.



20. Remove five screws that secure the IR Unit on the front side.



21. Remove four screws that secure the IR Unit in the rear.

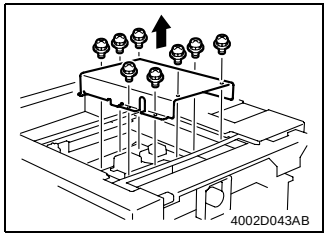


22. Remove the IR Unit.

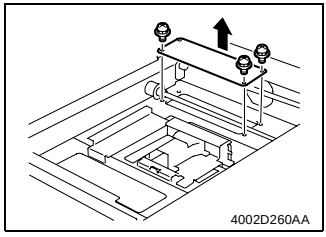
(5) Removal of the PH Unit

NOTES

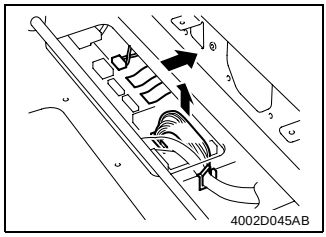
- *Do not place the PH Unit upside down, tilt it excessively, or subject it to excessive shock.*
- *Replace the PH Unit as one unit.*
- *NEVER attempt to disassemble or adjust the PH Unit.*
- *Whenever the PH Unit has been removed, make the following adjustments: Lead/Trail Edge Erase and Registration (CD/FD).*



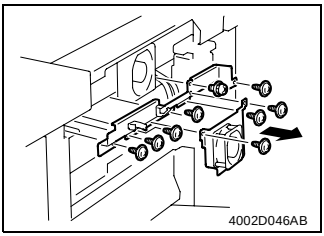
1. Remove the Right Cover.
2. Remove the Original Glass and EDH Glass.
3. Remove eight screws and the CCD Unit Cover.



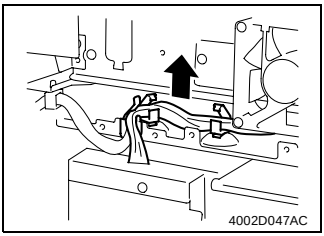
4. Remove three screws and the cover.



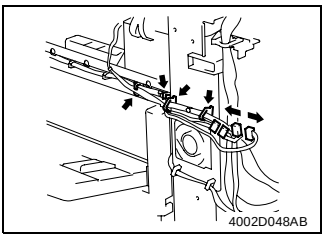
5. Unplug two connectors, two flat cables.
6. Remove the harness from the edge cover.



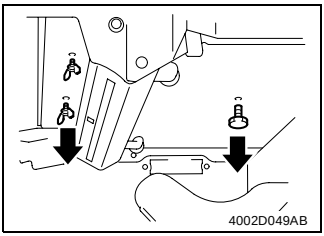
7. Remove three screws and the PH Cooling Fan Motor mounting bracket Assy.
8. Remove six screws and the mounting bracket.



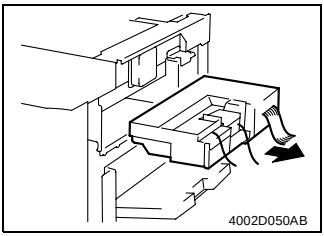
9. Remove the harness from two cord clamps and one edge cover.



10. Unplug two relay connectors and remove the harness from the cord clamp.

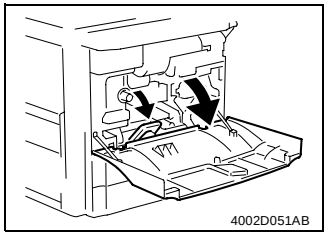


11. Swing down the Front Door and slide out the Developer Unit.
12. Remove two thumbscrews and one bolt.

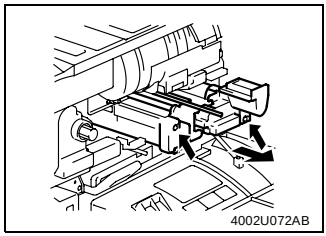


13. Remove the PH Unit.

(6) Removal of the Developing Unit

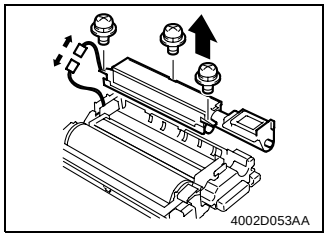


1. Swing down the Front Door.
2. Swing down the Transport Section Release Lever.



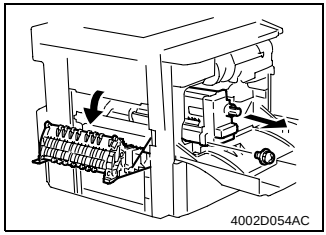
3. Loosen two screws and remove the Developing Unit.

(7) Removal of the Sub Hopper Unit



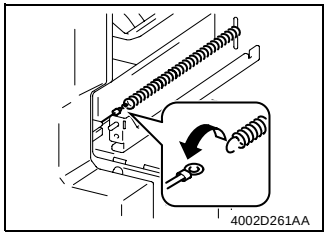
1. Swing down the Front Door and slide out the Developing Unit.
2. Unplug one connector and remove three screws and the Sub Hopper Unit.

(8) Removal of the Fusing Unit

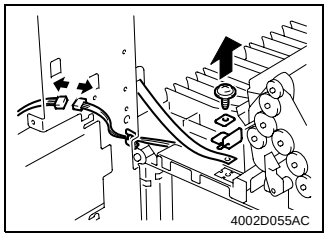


1. Open the Left Door.
2. Swing Down the Front Door.
3. Remove one screw and slide out the Fusing Unit.

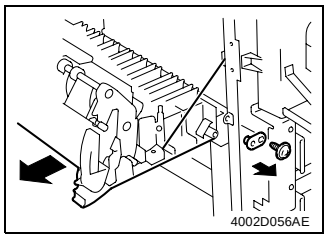
(9) Removal of the Upper Left Door (Exit/Duplex Switching Unit)



1. Swing down the Front Cover and slide out the Fusing Unit.
2. Remove the cable from the spring.



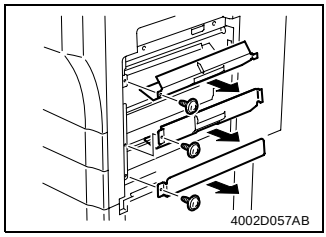
3. Remove the Rear Cover.
4. Open the Upper Left Door.
5. Remove the Left Cover.
6. Unplug one connector and remove the harness from the edge cover.
7. Remove one screw, holding bracket, and the belt.



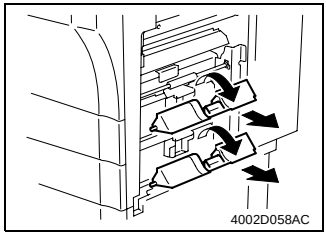
8. Remove one screw and the holding bracket.
9. Remove the Upper Left Door.

2-5. PAPER TAKE-UP/TRANSPORT SECTION

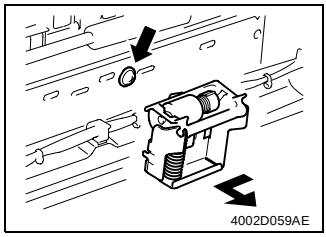
(1) Removal of the Paper Take-Up Roll, Paper Feed Roll and Paper Separator Roll Assy.



1. Remove the Right Door.
2. Remove one screw and the Paper Guide Plate from each drawer.

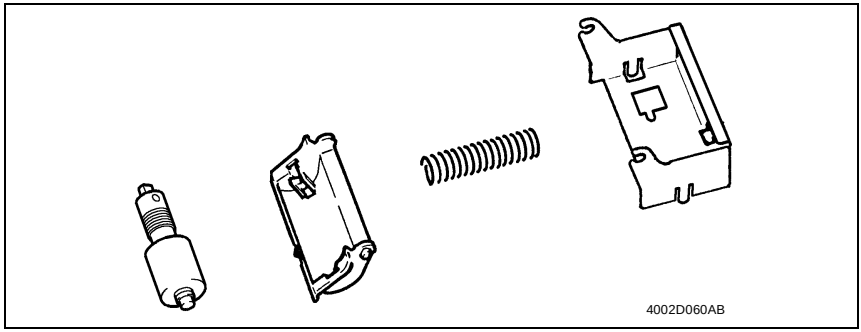


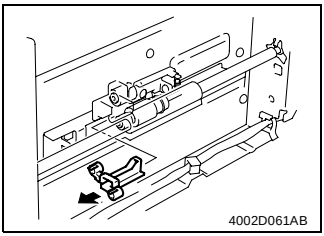
3. Remove the Paper Separator Roll/Paper Guide Plate Assy. by turning it about 90 in the direction of the arrow.



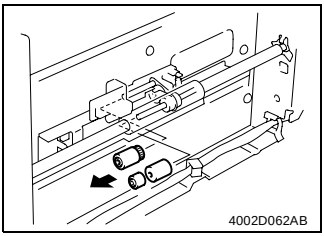
4. Loosen one screw and remove the Paper Separator Roll Mounting Bracket Assy.

5. Disassemble the Paper Separator Roll Assy.



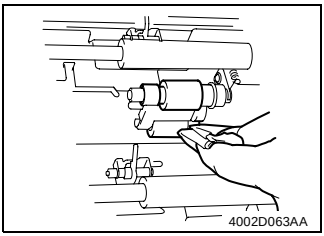


6. Unbending one tab of the holder, remove the holder.



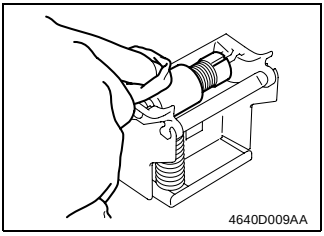
7. Remove the Paper Take-Up Roll and Paper Feed Roll.

(2) Cleaning of the Paper Take-Up Roll and Paper Feed Roll



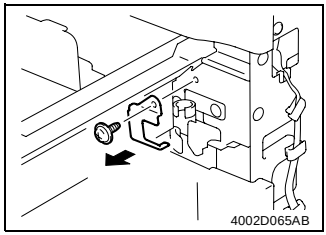
1. Remove the Paper Separator Roll Mounting Bracket Assy.
2. Using a soft cloth dampened with alcohol, wipe each roll clean of dirt.

(3) Cleaning of the Paper Separator Roll

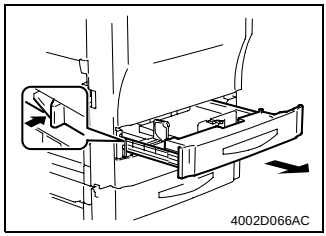


1. Remove the Paper Separator Roll Mounting Bracket Assy.
2. Using a soft cloth dampened with alcohol, clean the Paper Separator Roll.

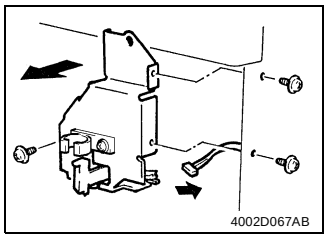
(4) Removal of the Drawer Lift-Up Motor



1. Remove the Right Door.
2. Slide out the drawer and remove one screw and the right stopper.

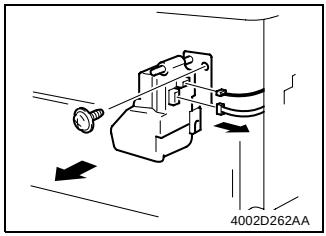


3. Pushing the tab on the left rail, pull out the drawer.



4. Remove three screws and the Drawer Set Sensor Mounting Bracket Assy.
5. Unplug one connector.

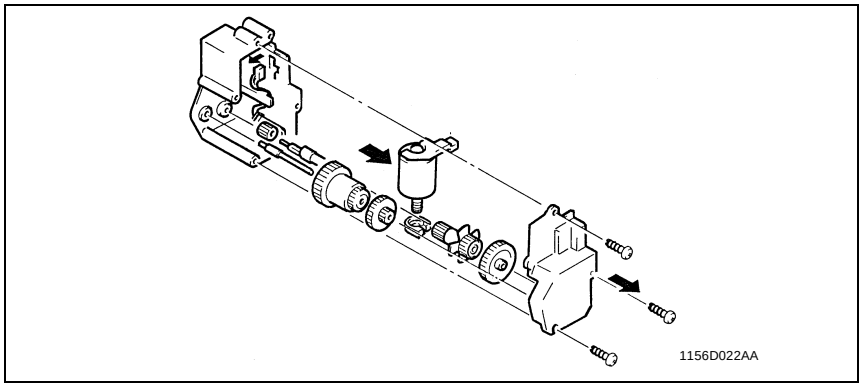
NOTE
Reinstall the Drawer Set Sensor Mounting Bracket as you hold the lever.



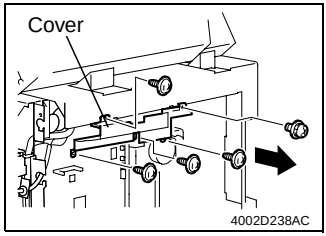
6. Unplug two connectors.
7. Remove one screw and the Drawer Lift-Up Unit.

NOTE
When reinstalling the Drawer Lift-Up Unit, make sure that the mounting bracket is properly aligned with the positioning dowel pin on the copier.

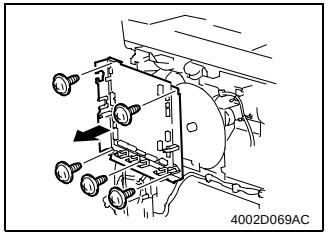
8. Disassemble the Drawer Lift-Up Unit.



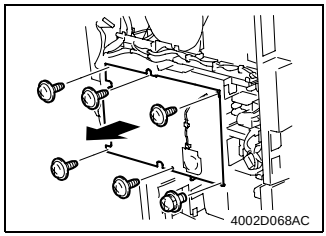
(5) Removal of the Upper and Lower Transport Rollers



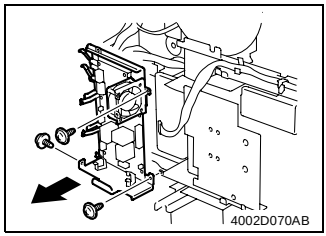
1. Swing down the Front Door and slide out the Developing Unit.
2. Slide out the 1st Drawer.
3. Remove the Rear Cover.
4. Remove the Right Cover.
5. Remove five screws and the Cover.



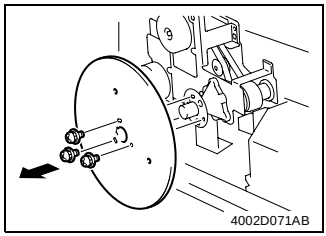
6. Remove five screws and the Master Board Mounting Bracket Assy.



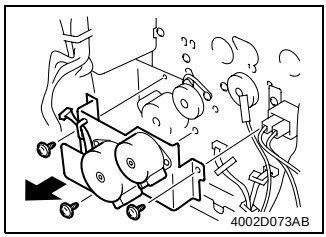
7. Remove six screws and the board cover.



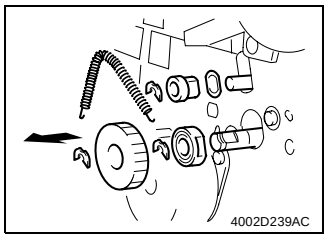
8. Remove three screws and the Power Supply Board Mounting Bracket Assy.



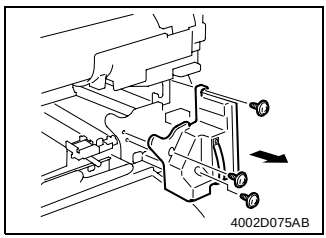
9. Remove three screws and the Flywheel.



10. Remove three screws and the Transport/Synchronizing Rollers Drive Assy.

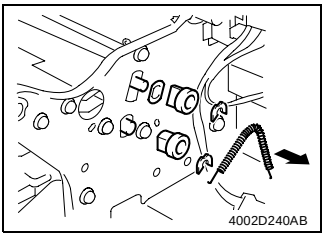


11. Snap off the E-ring and remove the gear.
12. Unhook one spring and snap off one E-ring. Then remove the bushing from the rear end of the Upper Transport Roller.
13. Snap off one E-ring and remove the bearing from the rear end of the Lower Transport Roller.

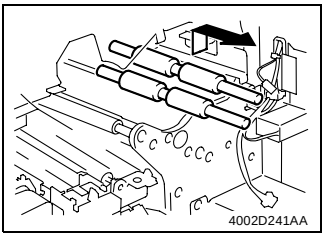


14. Remove three screws and the Cover.

NOTE
Do not remove the belt mounting screw on the cover.

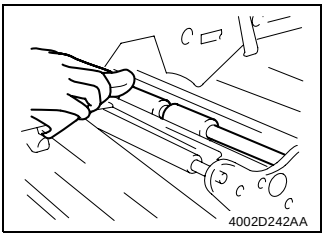


15. Unhook one spring and snap off two E-rings. Then remove the bushings from the front end of the Upper and Lower Transport Roller.



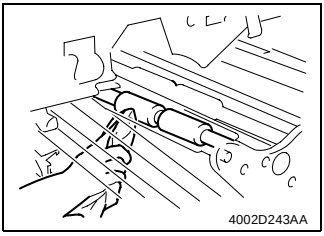
16. Remove the Upper Transport Roller.
17. Remove the Lower Transport Roller.

(6) Cleaning of the Upper Transport Roller



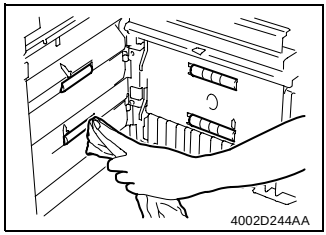
1. Swing down the Front Door and slide out the Developing Unit.
2. Using a soft cloth dampened with alcohol, clean the Upper Transport Roller.

(7) Cleaning of the Lower Transport Roller



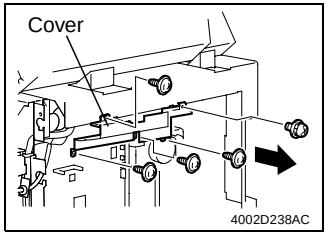
1. Swing down the Front Door and slide out the Developing Unit.
2. Using a soft cloth dampened with alcohol, clean the Lower Transport Roller.

(8) Cleaning of the Vertical Transport Rollers

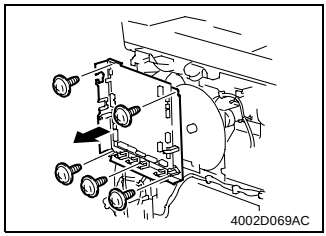


1. Open the Upper Right Door.
2. Using a soft cloth dampened with alcohol, wipe each roller clean of dirt.

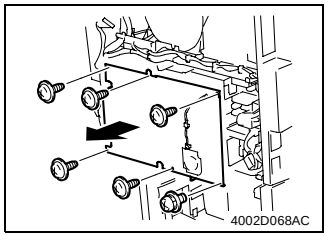
(9) Removal of the Synchronizing Roller



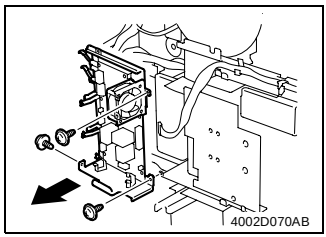
1. Swing down the Front Door and slide out the Developing Unit.
2. Remove the Rear Cover.
3. Remove the Right Cover.
4. Remove five screws and the Cover.



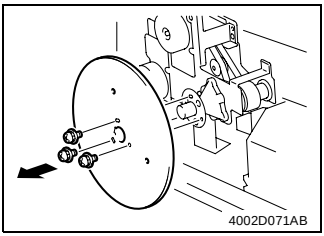
5. Remove five screws and the Master Board Mounting Bracket Assy.



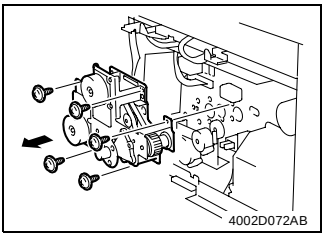
6. Remove six screws and the board cover.



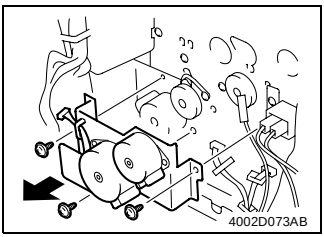
7. Remove three screws and the Power Supply Board Mounting Bracket Assy.



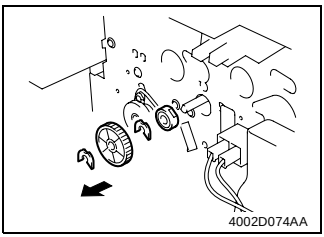
8. Remove three screws and the Flywheel.



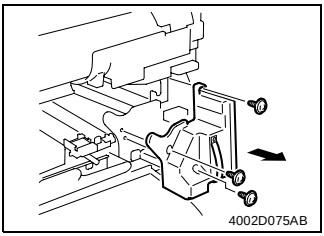
9. Unplug two connectors and remove five screws and the Developing Unit Drive Assy.



10. Unplug two connectors and remove three screws and the Transport/Synchronizing Rollers Drive Assy.

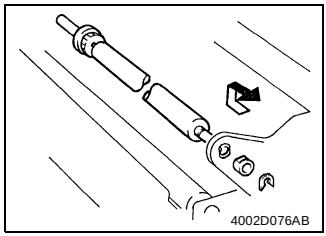


11. Snap off the E-ring and remove the gear.
12. Snap off one E-ring and remove the bushing from the rear end of the Upper Synchronizing Roller.



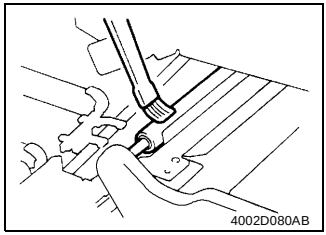
13. Remove three screws and the Cover.

NOTE
Do not remove the belt mounting screw on the cover.



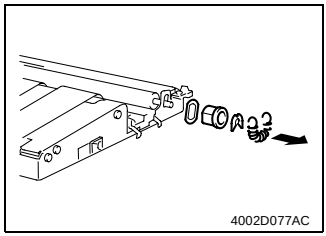
14. Snap off the E-ring and remove the bushing from the front end of the Upper Synchronizing Roller.
15. Remove the Upper Synchronizing Roller.

(10) Cleaning of the Upper Synchronizing Roller

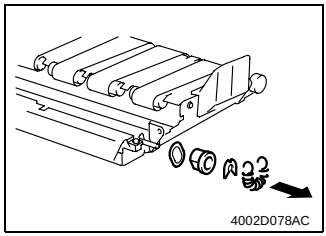


1. Swing down the Front Door and slide out the Developing Unit.
2. Using a brush or a vacuum cleaner, clean the Upper Synchronizing Roller.

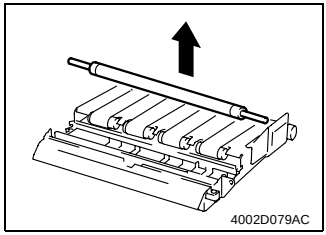
(11) Removal of the Lower Synchronizing Roller



1. Remove the Suction Unit.
2. Unhook the spring, snap off the E-ring, and remove the bushing from the front end of the Lower Synchronizing Roller.

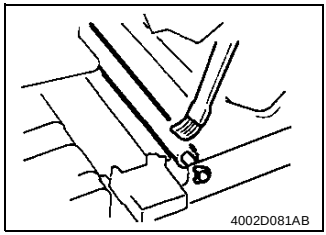


3. Unhook the spring, snap off the E-ring, and remove the gear and bushing from the rear end of the Lower Synchronizing Roller.



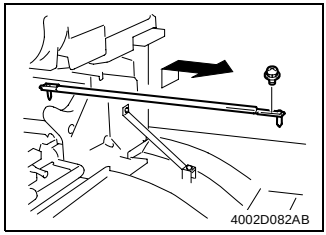
4. Remove the Lower Synchronizing Roller.

(12) Cleaning of the Lower Synchronizing Roller

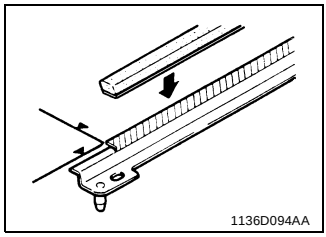


1. Swing down the Transport Section Release Lever.
2. Using a brush or a vacuum cleaner, clean the Lower Synchronizing Roller.

(13) Removal of the Synchronizing Paper Dust Remover

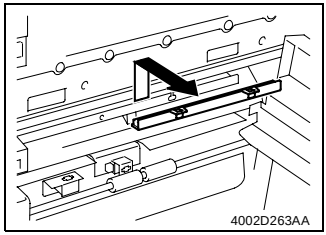


1. Swing down the Front Door and slide out the Developing Unit.
2. Remove one screw and the Synchronizing Paper Dust Remover Assy.

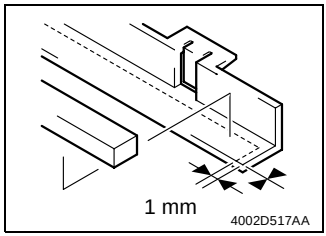


NOTE
When only the Paper Dust Remover is to be replaced, affix the new one along the reference line as shown on the left.

(14) Removal of the Transport Paper Dust Remover

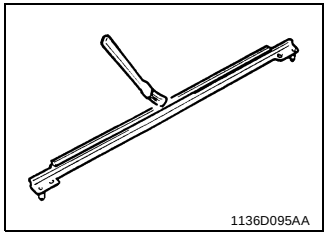


1. Open the Upper Right Door.
2. Remove the Transport Paper Dust Remover Assy.

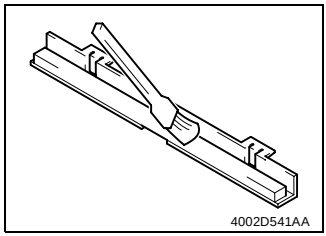


NOTE
When only the Paper Dust Remover is to be replaced, affix the new one along the reference line as shown on the left.

(15) Cleaning of the Paper Dust Remover

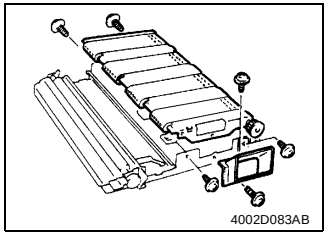


1. Remove the Synchronizing Paper Dust Remover Assy.
2. Using a brush, whisk dust off the Synchronizing Paper Dust Remover.



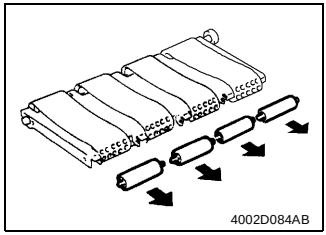
1. Remove the Transport Paper Dust Remover Assy.
2. Using a brush, whisk dust off the Transport Paper Dust Remover.

(16) Disassembly of the Suction Unit

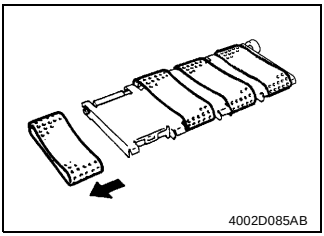


1. Remove the Suction Unit.
2. Remove two screws and the duct.
3. Remove four screws and the Suction Drive Unit.

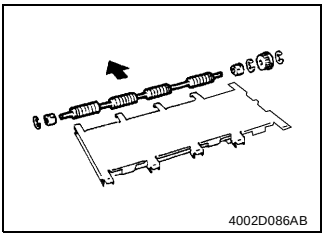
NOTE
When reinstalling the Suction Drive Unit, try to press it down against the Suction Base Plate.



4. Remove four driven rolls.

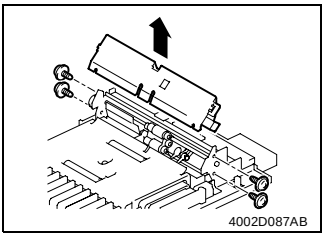


5. Remove four Suction Belts.

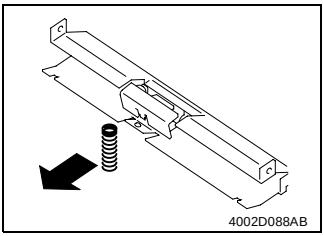


6. Remove the Suction Roller as shown on the left.

(17) Disassembly of the Multi Bypass Unit

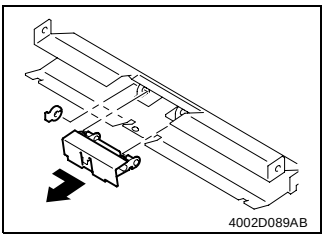


1. Remove the Right Door.
2. Remove four screws and the Separator Guide Plate Assy.

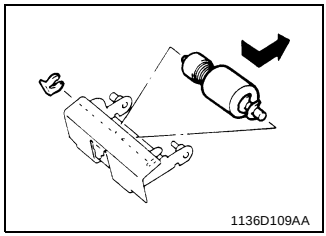


3. Remove the Spring.

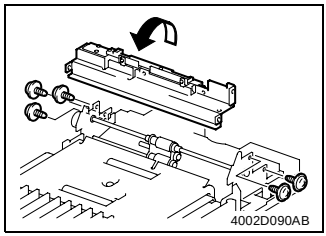
NOTE
When reinstalling the Spring, place it so that its close-coiled end faces the Separator Unit.



4. Snap off the C-clip and remove the Separator Assy.



5. Snap off the C-clip and remove the Separator Roll Assy.



6. Remove five screws and the Solenoid Mounting Bracket Assy.

NOTE

Whenever a solenoid has been replaced or a solenoid mounting screw removed, be sure to adjust the position of the solenoid.

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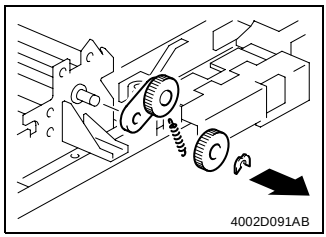
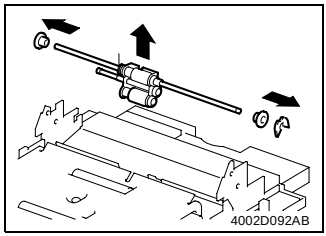
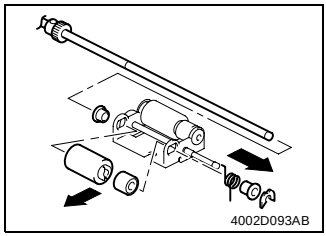


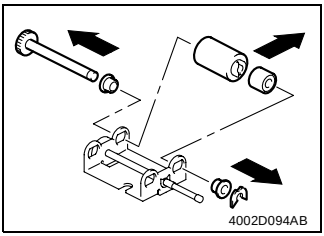
7. Snap off the E-ring and remove the gear.
8. Unhook the spring and remove the gear assy.



9. Snap off the E-ring and remove the Paper Take-Up Roll Assy.

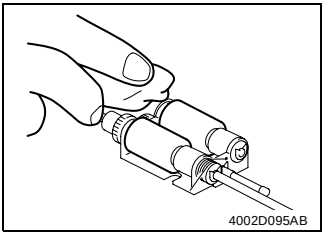


10. Snap off the E-ring and remove the Paper Feed Roll.



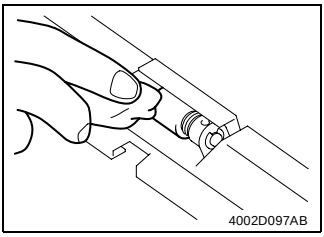
11. Snap off the E-ring and remove the Paper Take-Up Roll.

(18) Cleaning of the Multi Bypass Paper Take-Up Roll/Paper Feed Roll



1. Using a soft cloth dampened with alcohol, clean the Paper Take-Up Roll/Paper Feed Roll.

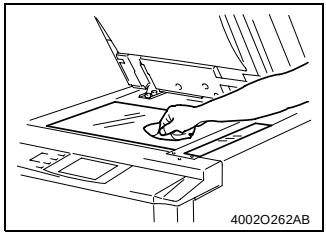
(19) Cleaning of the Multi Bypass Paper Separator Roll Assy.



1. Using a soft cloth dampened with alcohol, clean the Paper Separator Roll Assy.

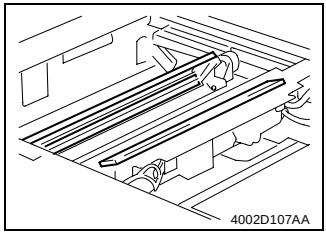
2-6. OPTICAL SECTION

(1) Cleaning of the Original Glass and EDH Glass



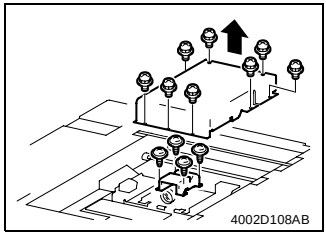
1. Wipe clean the Original Glass and EDH Glass with a soft cloth.

(2) Cleaning of the Mirrors

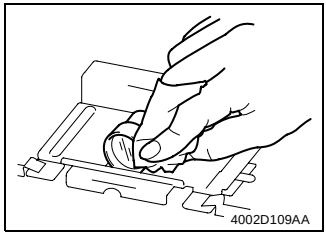


1. Remove the Original Glass.
2. Wipe the surface of each mirror clean of dirt using a soft cloth.

(3) Cleaning of the Lens

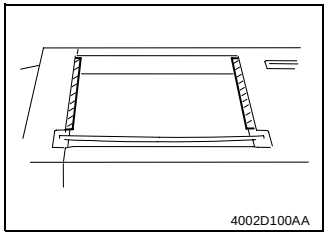


1. Remove the Original Glass and EDH Glass.
2. Remove eight screws and the CCD Unit Cover.
3. Remove four screws and the Lens Cover.



4. Wipe clean the Lens with a soft cloth.

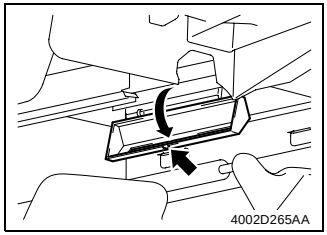
(4) Cleaning of the Scanner Rails/bushings



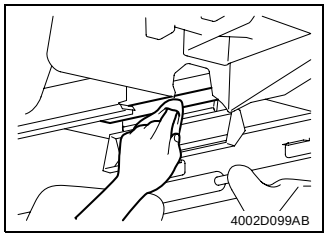
1. Remove the Original Glass.
2. Wipe clean the Scanner Rails/bushings with a soft cloth.

NOTE
Apply lubricant to the Scanner Rails/Bushings after they have been cleaned.

(5) Cleaning of the PH Glass

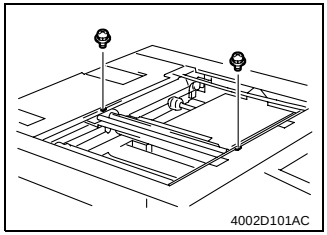


1. Swing down the Front Door and slide out the Developing Unit.
2. Open the cover.

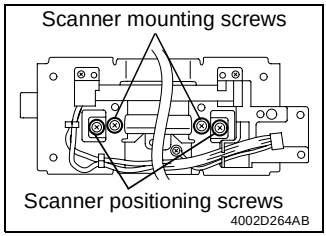


3. Wipe clean the PH Glass with a soft cloth.

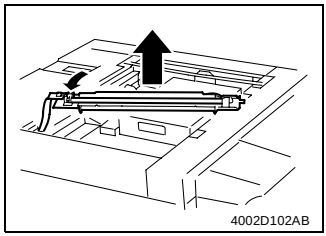
(6) Removal of the Scanner



1. Remove the Original Glass.
2. Slide the Scanner to the position shown.
3. Remove the two Scanner mounting screws at the front and rear.

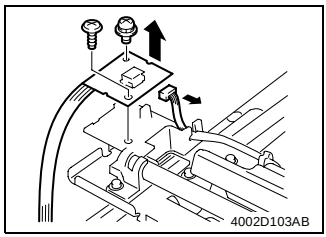


NOTE
Do not remove the Scanner positioning screws.



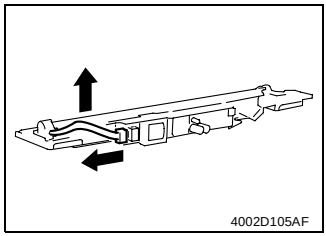
4. Swing the Scanner counterclockwise and take it out of the copier.

NOTE
At this point, the Scanner is kept connected to a flat cable and cannot be taken off.

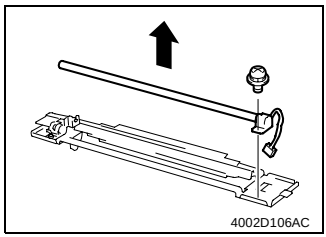


5. Unplug one connector.
6. Remove two screws and the flat cable board.
7. Remove the Scanner.

(7) Removal of the Exposure Lamp

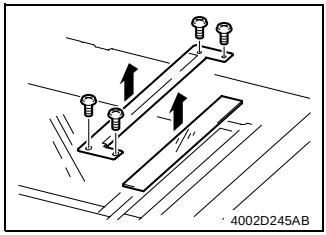


1. Remove the Scanner.
2. Unplug one connector from the Inverter Board.
3. Remove the harnesses from the corresponding wiring saddles.



4. Remove one screw and the Exposure Lamp.

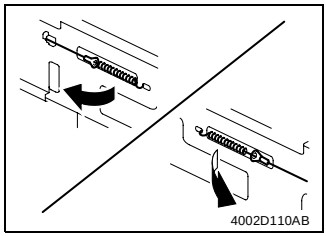
(8) Removal of the EDH Glass



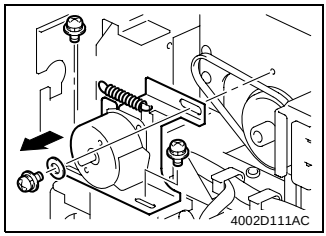
1. Remove four screws and the EDH Glass Holder.
2. Remove the EDH Glass.

(9) Removal of the Scanner Drive Cable

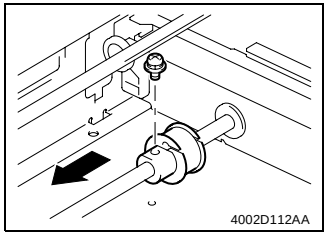
1. Remove the Original Glass and EDH Glass.
2. Remove the Left Cover, Right Cover, Rear Upper Cover and Control Panel.
3. Remove the CCD Unit Cover.
4. Remove the Scanner.



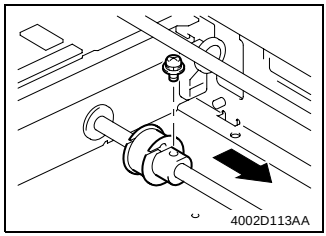
5. Unhook the springs of the Scanner Drive Cables on the hook side, one each at the front and in the rear.
6. Remove the front and rear Scanner Drive Cables.



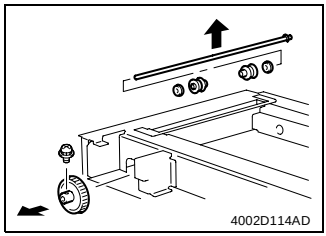
7. Remove three screws and the Scanner Motor Mounting Bracket Assy.



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

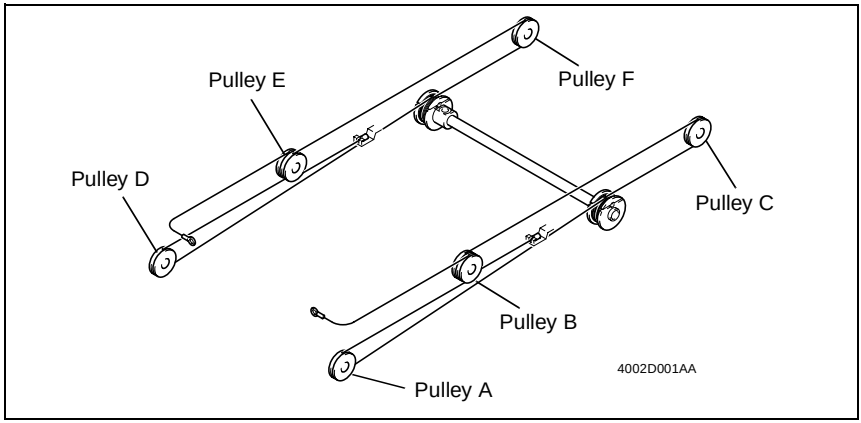


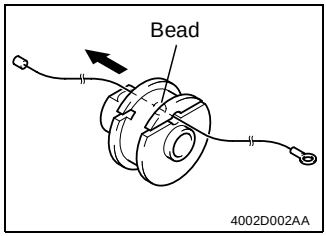
9. Remove one screw and the slide the rear pulley and bushing toward the front.



10. Remove the Scanner Drive Gear, pulleys and bushings at the front and rear, and the shaft.

(10) Winding of the Scanner Drive Cable



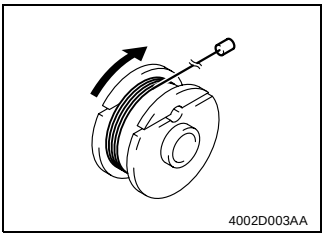


Front

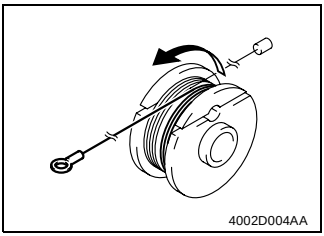
1. Position the round bead of the Scanner Drive Cable in the pulley as shown.

NOTE

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

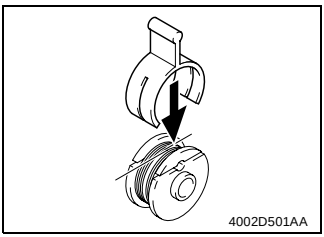


2. Wind the fixed bead end of the cable around the pulley five turns clockwise, from the rear toward the front side.

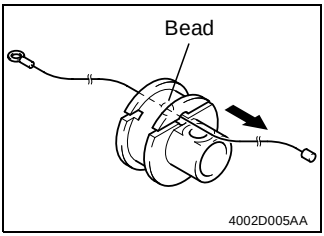


3. Wind the hook end of the cable around the pulley five turns counterclockwise, from the front toward the rear side.

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



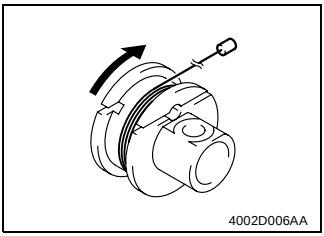
4. Slip the Cable Holding Jig onto the pulley to secure the cable in position.



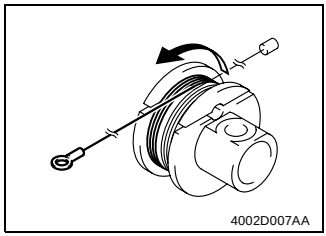
Rear

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.

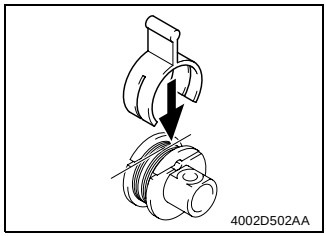


6. Wind the fixed bead end of the cable around the pulley five turns clockwise, from the front toward the rear side.

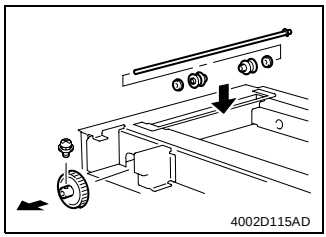


7. Wind the hook end of the cable around the pulley five turns counterclockwise, from the rear toward the front side.

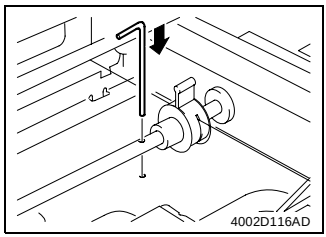
NOTE
Make sure that no part of the cable rides on the other.



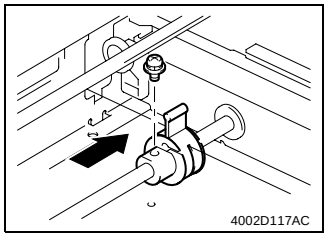
8. Slip the Cable Holding Jig onto the pulley to secure the cable in position.



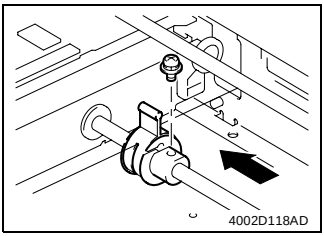
9. Mount the front and rear pulleys and bushings on the shaft and install the shaft to the IR Unit.
10. Mount the Scanner Drive Gear on the shaft and secure it in position with one screw.



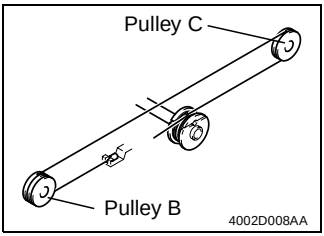
11. Install an Allen wrench into the holes in the shaft and the IR Base Plate.



12. Slide the front pulley and bushing to the front and install one mounting screw.

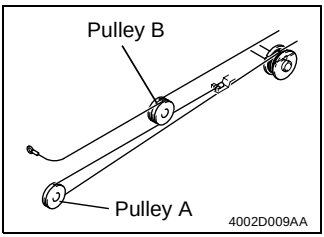


13. Slide the rear pulley and bushing to the rear and secure install one mounting screw.

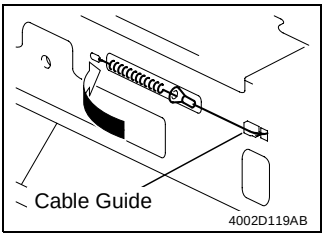


Front

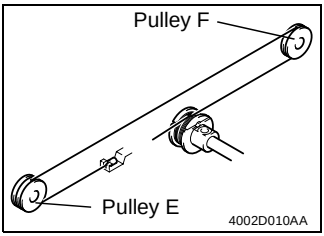
14. Wind the bead end of the cable around pulley C and pulley B, then hook the bead onto the Adjustable Anchor.



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

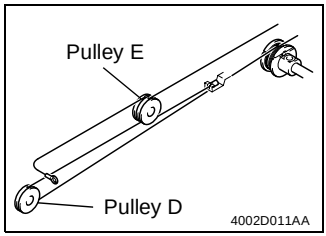


16. Fit the hook end of the cable into the groove in the Cable Guide and hook the spring.

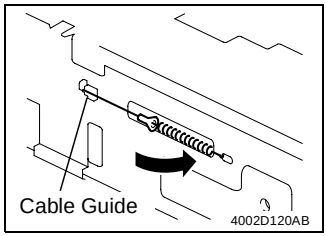


Rear

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



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



19. Fit the hook end of the cable into the groove in the Cable Guide and hook the spring.

20. Mount the Scanner Motor Mounting Bracket Assy.
21. Remove the Cable Holding Jigs from the front and rear pulleys.
22. Remove the Allen wrench.
23. Mount the Scanner.
24. Reinstall the Left Cover, Right Cover, Rear Upper Cover and Control Panel.
25. Reinstall the Original Glass and EDH Glass.
26. Adjust the position of the Scanner and 2nd/3rd Mirrors Carriage.

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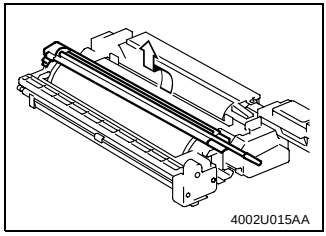
NOTE

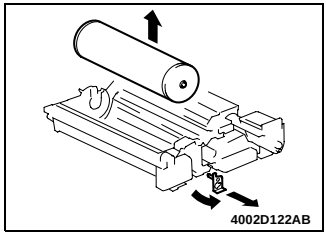
Whenever the Scanner Drive Cables have been removed, be sure to carry out the following check and adjustment: Orig. Size Adjust and Registration (CD).

2-7. DEVELOPING UNIT

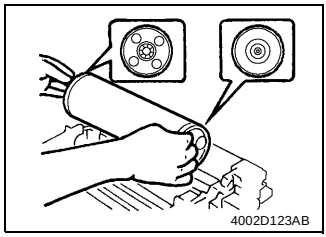
(1) Remove of the Developing Unit



1. Swing down the Front Door and slide out the Developing Unit.
2. Move the PC Drum Charge Corona to the rear, raise it, and take it off.

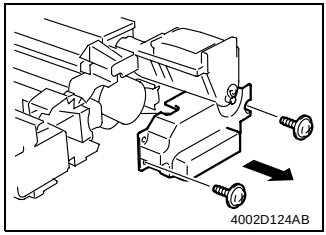


3. Loosen the two screws of the PC Drum stopper and remove the PC Drum stopper.
4. Remove the PC Drum.

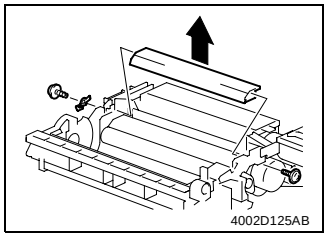


NOTES

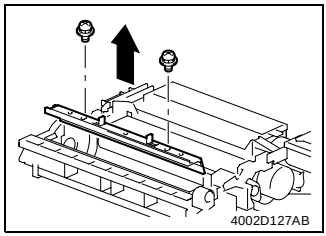
- *When reinstalling the PC Drum, refer to the illustration on the left and make sure of the correct direction of installation. Be also sure to hold the PC Drum on both sides with care not to touch the surface of the drum with bare hands.*
- *When the PC Drum has been replaced, clear the counts of "PC Drum 1", "PC Drum 2" and "PC Drum 3" of "PM" of "Counter" available from the Tech. Rep. mode.*



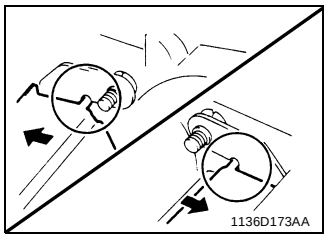
5. Remove two screws and the Developing Unit Front Cover.



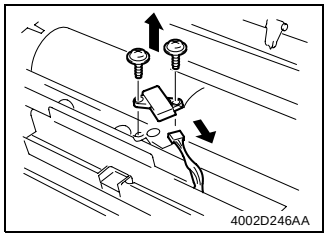
6. Remove two screws and the Stopper and Developer Scattering Prevention Plate.



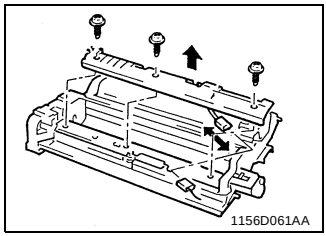
7. Remove two screws and the Cleaning Blade.



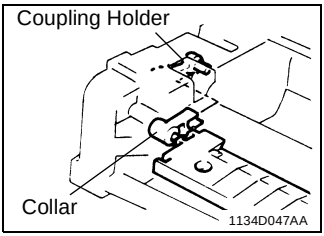
NOTE
When reinstalling the Cleaning Blade, press the blade tightly up against the mounting bracket.



8. Remove two screws, unplug one connector, and remove the ATDC Sensor.



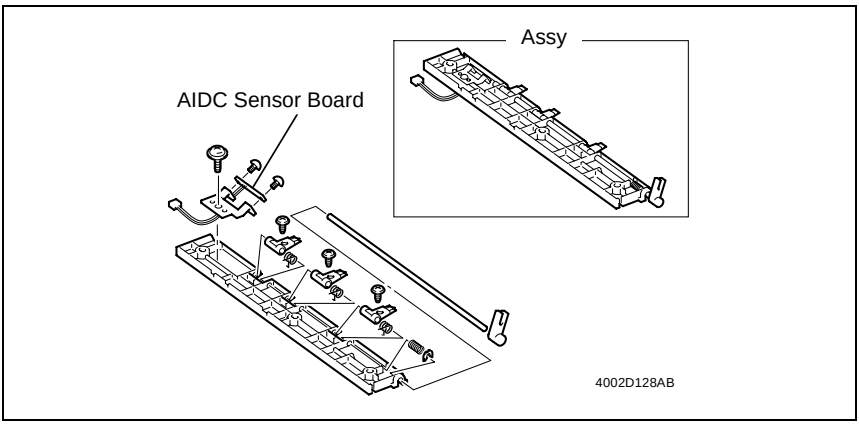
9. Unplug one connector.
10. Remove three screws and the PC Drum Paper Finger Holder Assy.



NOTE

When reinstalling the PC Drum Paper Separator Finger Holder Assy., fit the collar of the assy onto the coupling holder in the rear.

11. Remove the PC Drum Paper Fingers and AIDC Sensor Board as shown below.



NOTES

- *At removal and reinstallation, use care not to damage the tip of the fingers. Also, use care not to get hurt by the tip of the fingers.*
- *After reinstallation, perform the following adjustment procedure: Positioning of the PC Drum Paper Separator Fingers.*

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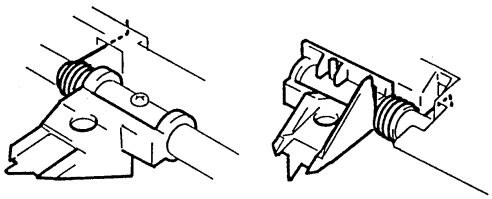
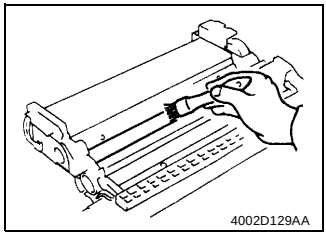
PC Drum Paper Separator Finger Installed

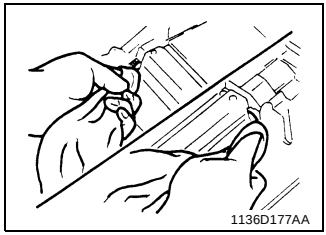


(2) Cleaning of the Developer Scattering Prevention Plate



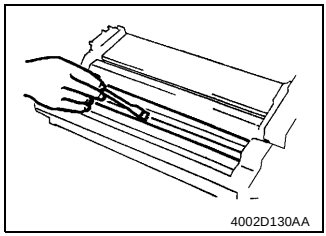
1. Using a brush, whisk dust off the Developer Scattering Prevention Plate.

(3) Cleaning of the DS Positioning Collars



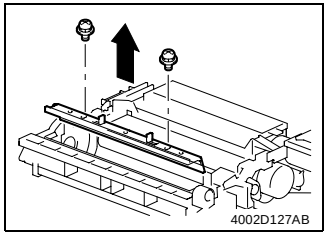
1. Using a brush or a soft cloth dampened with alcohol, clean the DS Positioning Collars.

(4) Cleaning of the Toner Antisocial Trap

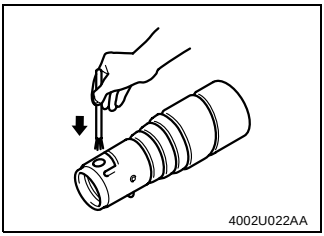


1. Using a brush or a soft cloth, clean the Toner Antispill Trap.

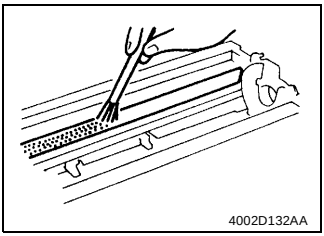
(5) Replacement of the Cleaning Blade



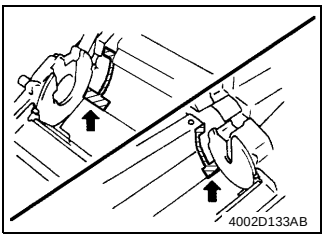
1. Remove two screws and the Cleaning Blade, and replace the Cleaning Blade with a new one.



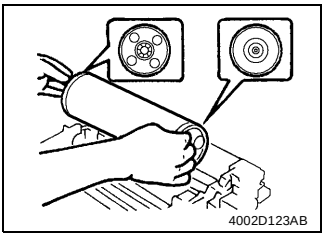
2. Remove the Toner Bottle from Main Hopper. Insert a brush through the toner port and into the toner.



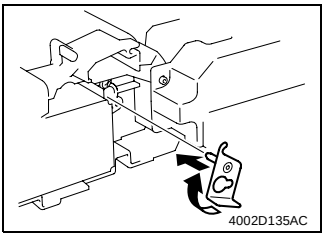
3. Apply toner to the entire surface of the new Cleaning Blade.



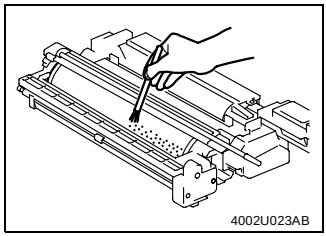
4. Using the brush, apply lubricant shipped with the Cleaning Blade to the two side seals shown.



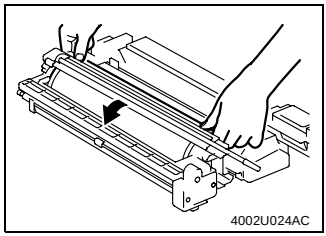
5. Install the PC Drum.



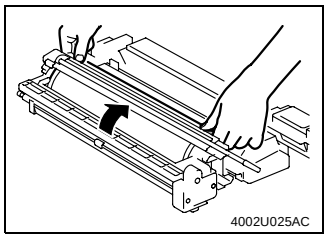
6. Fit the PC Drum stopper and tighten the screws.



7. Apply a thin coat of toner to the surface of the PC Drum.

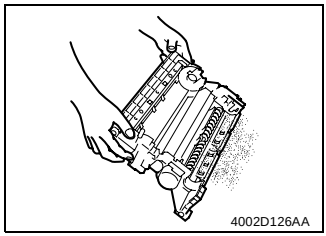


8. Holding onto the both sides of the PC Drum with hands, turn the PC Drum a half turn in the direction of the arrow.

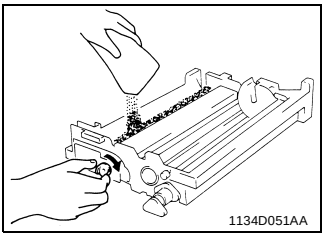


9. Holding onto the both sides of the PC Drum with hands, turn the PC Drum a half turn in the direction of the arrow.

(6) Replacement of the Developer



1. Remove the Sub Hopper Unit.
2. Dump the developer out the Developing Unit.



3. Turning the Bucket Roller, pour fresh developer evenly into the chamber.

NOTES

- *Shake the packet of developer well before opening it.*
- *When the developer has been replaced, clear the counts of "Developer 1" and "Developer 2" of "PM" of "Counter" available from the Tech. Rep. mode and run the F8 ATDC Sensor operation.*

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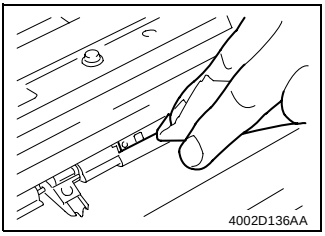
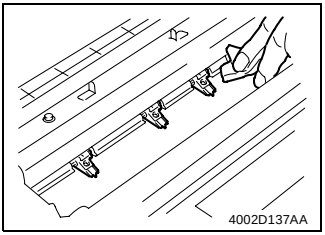
(7) Cleaning of the AIDC Sensor Board



1. Remove the PC Drum.
2. Using a brush or a soft cloth dampened with alcohol, clean the AIDC Sensor Board.

(8) Cleaning of the PC Drum Paper Separator Fingers

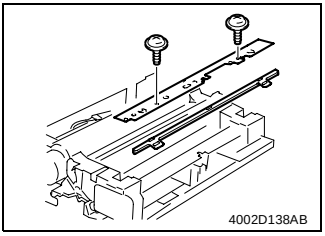


1. Remove the PC Drum.
2. Using a brush or a soft cloth dampened with alcohol, clean the PC Drum Paper Separator Fingers.

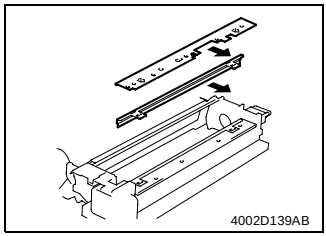
NOTE

During the cleaning procedure, use care not to scratch, bend, or otherwise damage the tips of the PC Drum Paper Separator Fingers. Be also careful not to get hurt with the tips.

(9) Removal of the Toner Antispill Seal

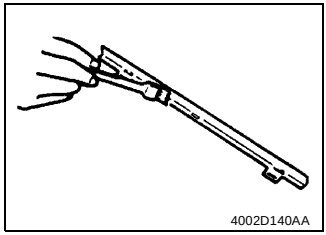


1. Remove the PC Drum Paper Separator Fingers Assy.
2. Remove two screws and the Toner Antispill Plate and Toner Antispill Seal.



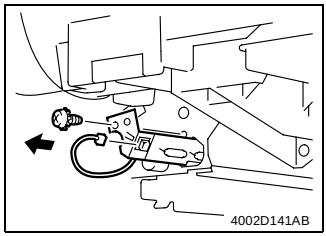
NOTE
When reinstalling the Toner Antispill Plate and Toner Antispill Seal, press them in the direction of the arrows.

(10) Cleaning of the Toner Antispill Seal



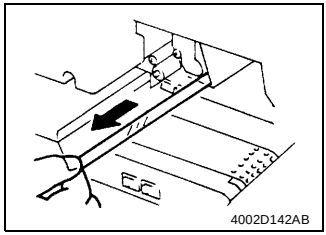
1. Remove the Toner Antispill Seal.
2. Using a brush, clean the Toner Antispill Seal.

(11) Removal of the Main Erase Lamp

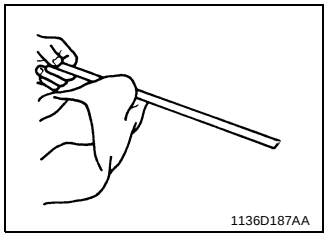


1. Swing down the Front Door.
2. Unplug one connector.
3. Remove one screw and the Main Erase Lamp.

(12) Cleaning of the Main Erase Lamp Filter

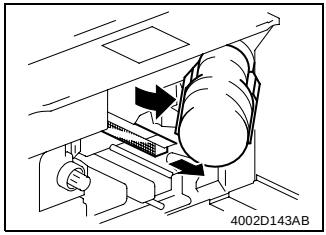


1. Swing down the Front Door.
2. Remove the Main Erase Lamp Filter.



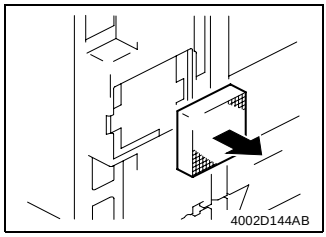
3. Using a soft cloth dampened with alcohol, wipe clean the Main Erase Lamp Filter.

(13) Removal of the Ozone Filter (PC Drum Charge Corona)



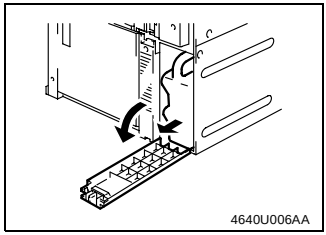
1. Swing down the Front Door.
2. Swing out the Main Hopper.
3. Slide out the Ozone Filter.

(14) Removal of the Ozone Filter (Image Transfer/Paper Separator Coronas)



1. Unhook one tab and remove the Filter Cover.
2. Pull out the Ozone Filter.

(15) Removal of the Toner Collecting Bottle

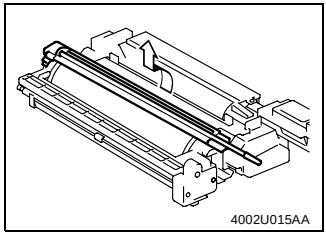


1. Slide out the drawers from the applicable paper source option.
   (There is no need of sliding out the drawer for LCC.)
2. Swing down the Toner Collecting Bottle Cover.
3. Remove the Toner Collecting Bottle.

NOTE
When the Toner Collecting Bottle has been replaced, clear the "Waste Toner-Count" count of "Consumables" available from "Counter" under the Tech. Rep. mode.

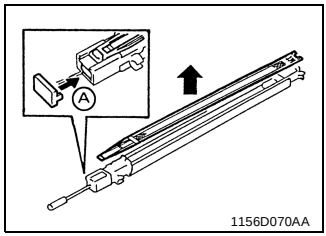
2-8. PC DRUM CHARGE CORONA AND IMAGE TRANSFER/ PAPER SEPARATOR CORONAS

(1) Removal of the PC Drum Charge Corona

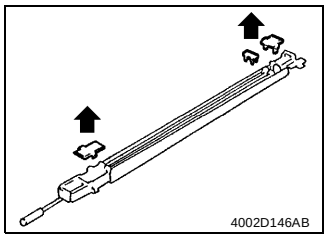


1. Swing down the Front Door and slide out the Developing Unit.
2. Move the PC Drum Charge Corona to the rear, raise it, and take it off.

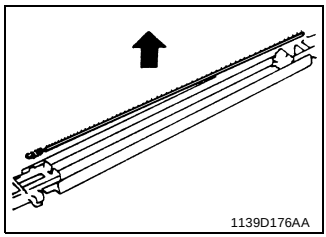
(2) Cleaning of the PC Drum Charge Corona Housing



1. Remove the PC Drum Charge Corona.
2. Press the Mesh Holder on the front of the Corona Unit in the direction of arrow A to remove the Grid Mesh.



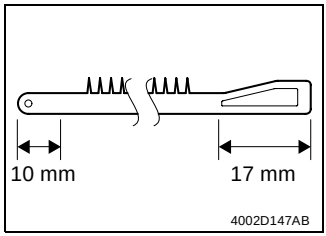
3. Remove the Cleaning Pad Holder.
4. Remove the End Caps from the front and rear ends of the Unit.



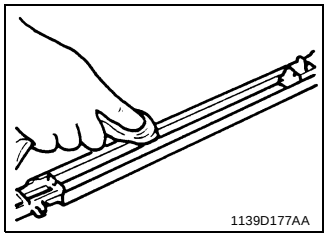
5. Remove the Comb Electrode.

NOTES

- *Use care not to deform the Comb Electrode.*
- *When removing the electrode, first snap off its spring end.*

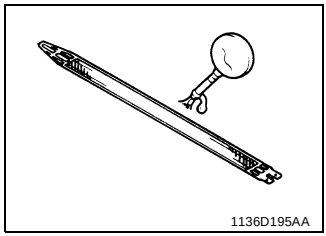


NOTE
When handling the Comb Electrode, be sure to hold it onto its both ends.

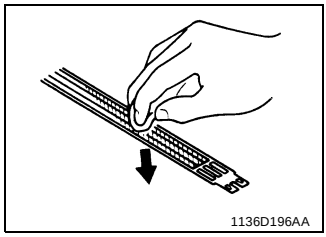


6. Wipe clean the Housing with a soft cloth.

(3) Cleaning of the PC Drum Charge Corona Grid Mesh

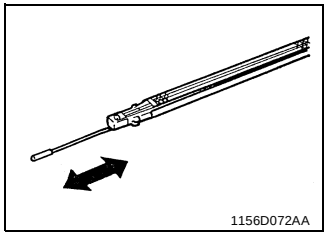


1. Blow all foreign matter off the Grid Mesh with a blower brush.



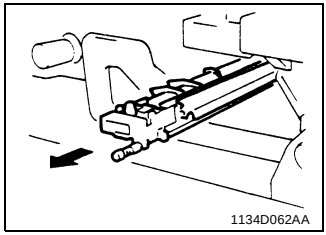
NOTES
- *If the blower brush is not effective in cleaning serious contamination of the Grid Mesh, use a soft cloth dampened with alcohol. At this time, place the Grid Mesh on a flat surface and sweep the cloth along the mesh.*
- *After cleaning, use care not to touch the cleaned Grid Mesh with bare hands.*

(4) Cleaning of the Comb Electrode



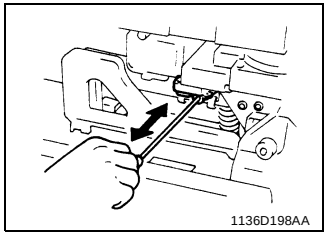
1. Clean Comb Electrode using the PC Drum Charge Corona Cleaning Lever.

(5) Removal of the Image Transfer/Paper Separator Coronas

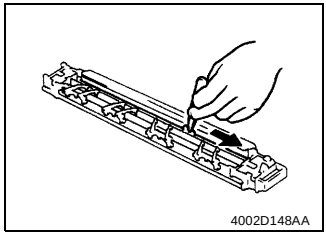


1. Swing down the Front Door.
2. Pull out the Transfer/Paper Separator Coronas.

(6) Cleaning of the Image Transfer Corona Wire



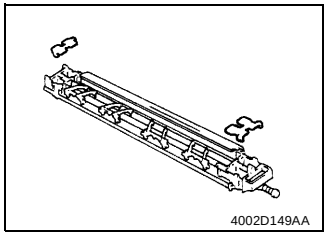
1. Swing down the Front Door.
2. Clean Image Transfer Corona Wire using the Image Transfer Corona Wire Cleaning Lever.



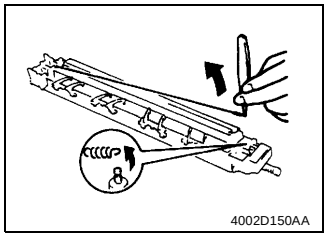
NOTE

If the Image Transfer Corona Wire is seriously contaminated, dampen a soft cloth with alcohol, hold it with a pair of tweezers, and wipe the wire gently in one direction-from the hook end to the spring end.

(7) Removal of the Image Transfer Corona Wire

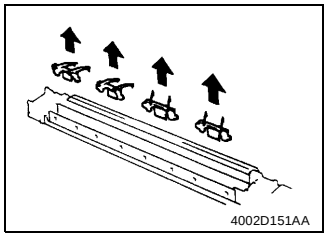


1. Remove the End Caps from the front and rear ends of the Unit.

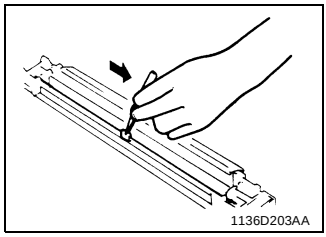


2. Remove the corona wire, first at the spring end.

(8) Cleaning of the Paper Separator Corona Wire



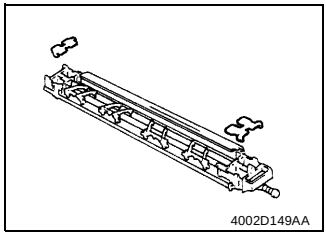
1. Remove the four Paper Guides.



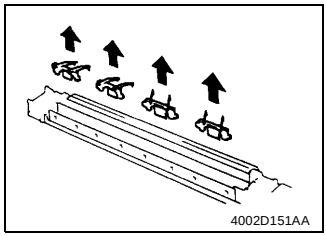
2. Dampen a soft cloth with alcohol, hold it with a pair of tweezers, and wipe the Paper Separator Corona Wire gently in one direction.

NOTE
Wipe the wire from the hook to spring end.

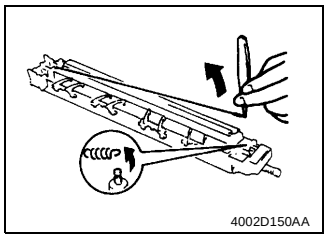
(9) Removal of the Paper Separator Corona Wire



1. Remove the End Caps from the front and rear ends of the Unit.

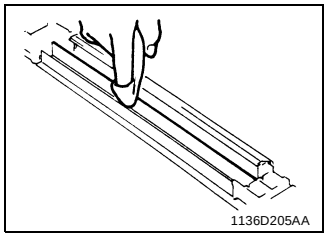


2. Remove the four Paper Guides.



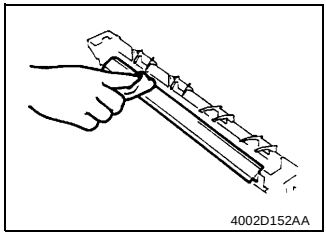
3. Remove the corona wire, first at the spring end.

(10) Cleaning of the Image Transfer/Paper Separator Coronas Housing



1. Remove the four Paper Guides.
2. Remove the End Caps from the front and rear ends of the Unit.
3. Remove the corona wire, first at the spring end.
4. Wipe clean the Housing with a soft cloth.

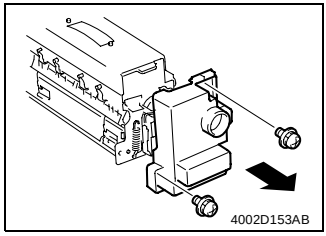
(11) Cleaning of the Pre-Image Transfer Guide Plate



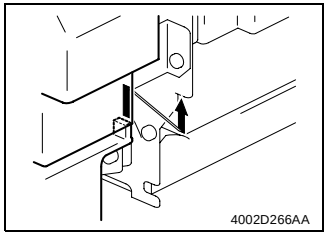
1. Using a soft cloth dampened with alcohol, wipe clean the Pre-Image Transfer Guide Plate.

2-9. FUSING UNIT

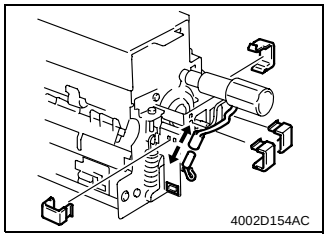
(1) Disassembly of the Fusing Unit



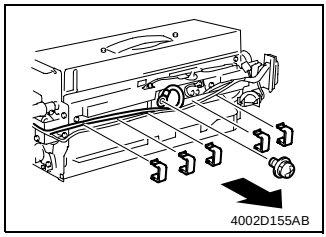
1. Slide out the Fusing Unit.
2. Remove two screws and the Fusing Unit Front Cover.



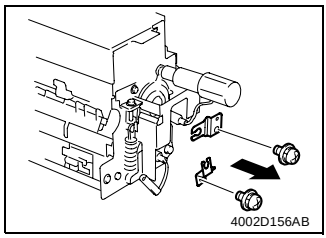
NOTE
When reinstalling the Front Cover, hook the tab into position.



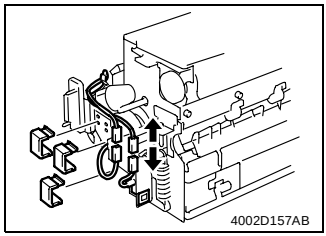
3. Remove four harness holders.
4. Unplug the connector of the Heater Lamp on the front.
5. Remove the Heater Lamp cord from the one edge cover.



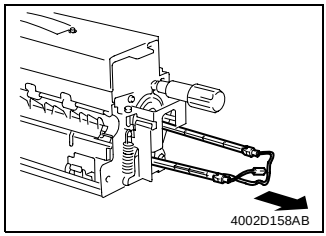
6. Remove five harness holders.
7. Remove one screw and the Heater Lamp cord.



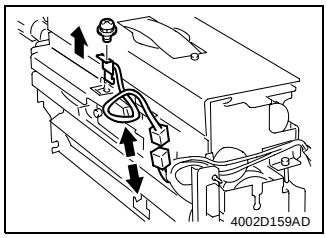
8. Remove one screw each and the upper and lower lamp holders at the front.



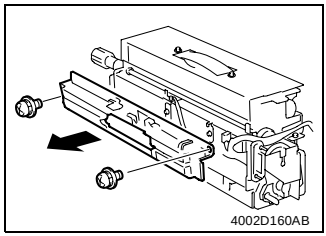
9. Remove four harness holders.
10. Remove the Upper Fusing Roller Heater Lamp harness from one wiring saddle.
11. Unplug two connectors of the Heater Lamp on the rear.
12. Remove the Upper and Lower Fusing Roller Heater Lamp harnesses from three edge covers.



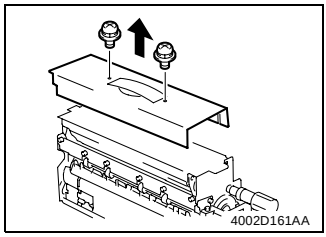
13. From the front side, slide out the Upper and Lower Fusing Roller Heater Lamps.



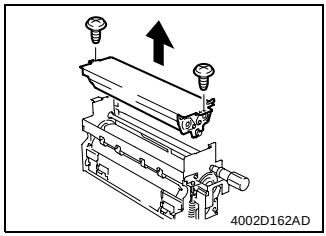
14. Unplug one Thermistor connector.
15. Remove the Thermistor harness from the harness guide.
16. Remove one screw and the cord.



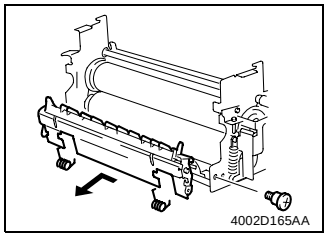
17. Remove two screws and the Harness Guide.



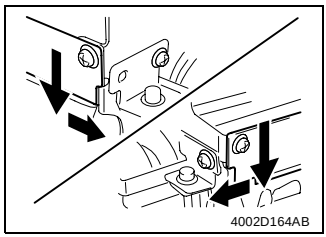
18. Remove two screws and the Upper Cover.



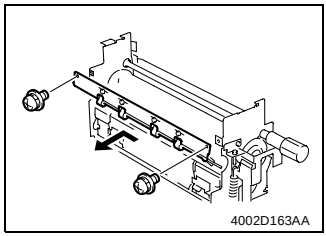
19. Remove two screws and the Web Roller Assy.



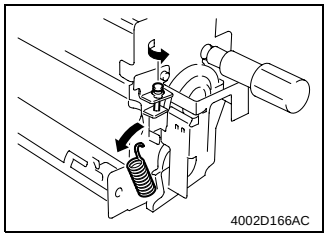
20. Remove two springs.
21. Remove one shoulder screw and the Lower Exit Guide Assy.



NOTE
When reinstalling the Upper Fusing Guide Plate Assy, press both ends of the guide plate up against the frame.

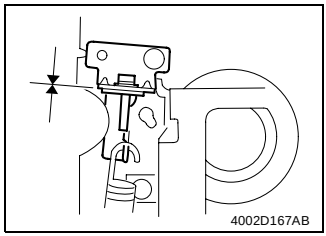


22. Remove two screws and the Upper Fusing Guide Plate Assy.

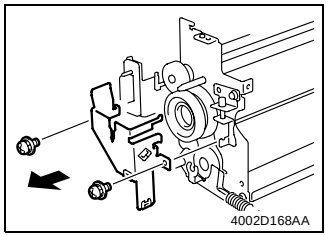


23. Loosen the front roller pressure screw and unhook the upper end of the spring.

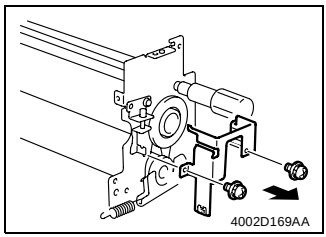
NOTE
Repeat the same step for the spring in the rear.



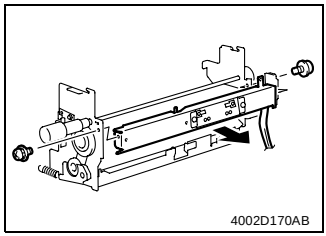
NOTE
When tightening the roller pressure screws with the springs installed, tighten the front and rear ones alternately until there is no clearance in the mounting bracket.



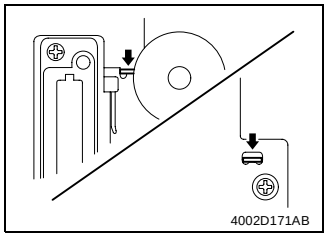
24. Remove two screws and the rear holder.



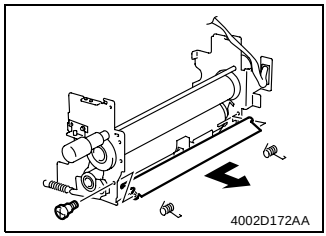
25. Remove two screws and the front holder.



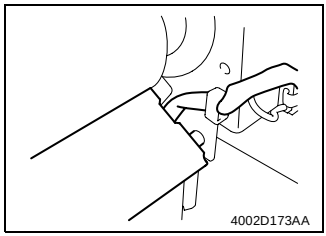
26. Remove two screws and the bracket.



NOTE
When installing the mounting bracket, press its both ends up against the frame.

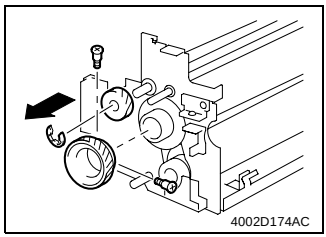


27. Remove one shoulder screw and the Pre-Fusing Guide Plate.
28. Remove two springs.

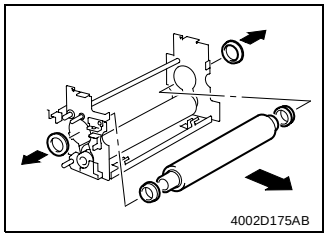


NOTE

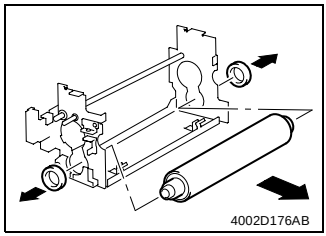
When reinstalling the Pre-Fusing Guide Plate, make sure that the rear harness is on the inside of the shoulder screw.



29. Remove one E-ring, two shoulder screws, and two gears.

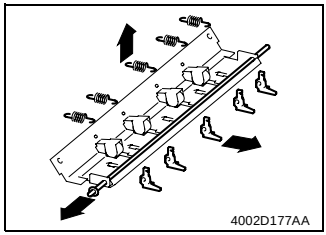


30. Remove two bearings.
31. Remove the bushing and Upper Fusing Roller.



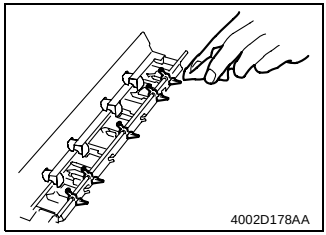
32. Remove the bearing and Lower Fusing Roller.

(2) Removal of the Upper Fusing Paper Separator Fingers



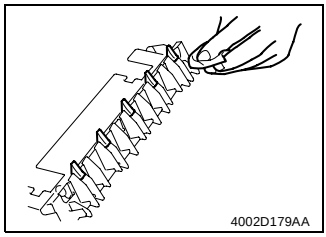
1. Remove the Upper Fusing Guide Plate Assy.
2. Remove five springs.
3. Slide out the shaft to remove five Upper Fusing Paper Separator Fingers.

(3) Cleaning of the Upper Fusing Paper Separator Fingers



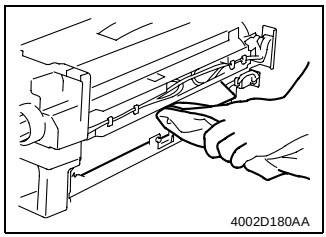
1. Remove the Upper Fusing Guide Plate Assy.
2. Using a soft cloth dampened with oil, wipe the five Upper Fusing Paper Separator Fingers clean of dirt.

(4) Cleaning of the Lower Fusing Paper Separator Fingers



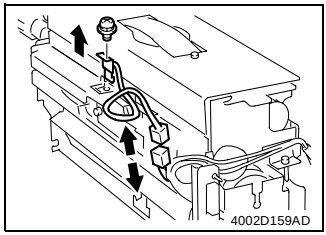
1. Remove the Fusing Unit Front Cover.
2. Swing open the Lower Fusing Guide Plate Assy. Using a soft cloth dampened with oil, wipe the five Lower Fusing Paper Separator Fingers clean of dirt.

(5) Cleaning of the Entrance Guide Plate

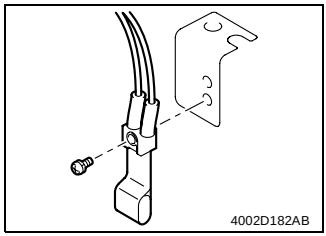


1. Using a soft cloth dampened with alcohol, wipe clean the Entrance Guide Plate.

(6) Removal of the Upper Fusing Roller Thermistor

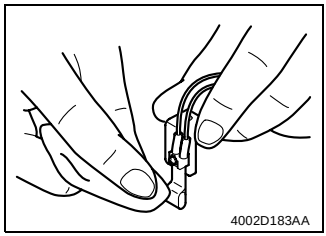


1. Slide out the Fusing Unit.
2. Unplug one connector.
3. Remove one screw and the Upper Fusing Roller Thermistor Assy.



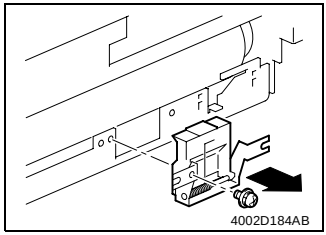
4. Remove one screw and the Upper Fusing Roller Thermistor.

(7) Cleaning of the Upper Fusing Roller Thermistor

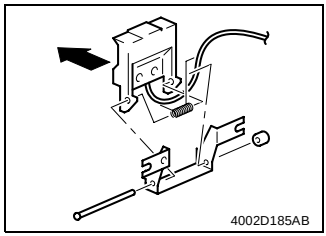


1. Remove the Upper Fusing Roller Thermistor Assy.
2. Using a soft cloth dampened with oil, wipe the Upper Fusing Roller Thermistor clean of dirt.

(8) Removal of the Lower Fusing Roller Thermistor

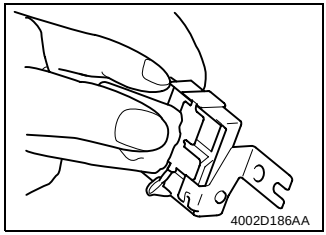


1. Slide out the Fusing Unit.
2. Remove the Fusing Unit Front Cover.
3. Remove the Pre-Fusing Guide Plate.
4. Remove one screw to free the Lower Fusing Roller Thermistor Assy.



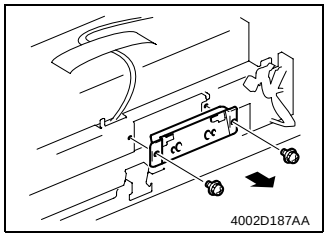
5. Remove the rubber stopper, and slide out the shaft.
6. Remove the Lower Fusing Roller Thermistor.

(9) Cleaning of the Lower Fusing Roller Thermistor



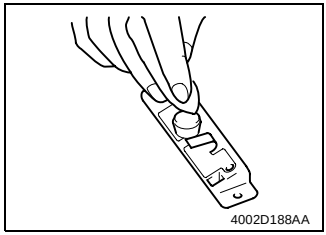
1. Remove the Lower Fusing Roller Thermistor Assy.
2. Using a soft cloth dampened with oil, wipe the Lower Fusing Roller Thermistor clean of dirt.

(10) Removal of the Upper Fusing Roller Thermostat



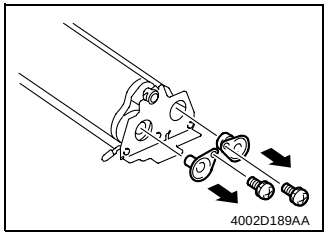
1. Remove the Harness Guide.
2. Remove two screws and the Upper Fusing Roller Thermostat Assy.
3. Remove two screws and the Upper Fusing Roller Thermostat.

(11) Cleaning of the Upper Fusing Roller Thermostat



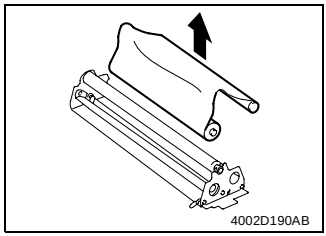
1. Remove the Upper Fusing Roller Thermostat Assy.
2. Using a soft cloth dampened with silicone oil, wipe the Upper Fusing Roller Thermostat clean of dirt.

(12) Removal of the Web Roller



1. Remove the Web Roller Assy.
2. Remove two screws and the Web Roller bushing and Web Take-Up Roller bushing.

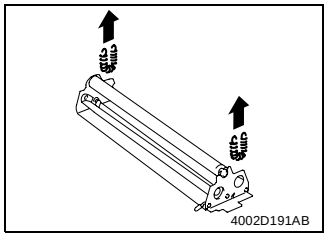
NOTE
When reinstalling the Web Roller bushing and Web Take-Up Roller bushing, ensure that they are in correct position without being tilt or out of correct position.



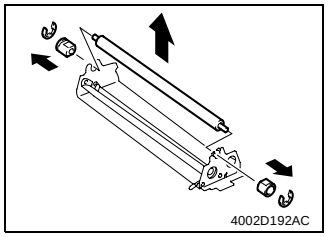
3. Remove the Web Roller and Web Take-Up Roller.

NOTES
- *When reinstalling the Web Roller and Web Take-Up Roller, wind the web around the Web Take-Up Roller at least one complete turn. Make also sure that the web is not slack off.*
- *When the Web Roller has been removed, clear Web-Count of Consumables Counter available from Tech. Rep. mode.*

(13) Removal of the Web Pressure Roller

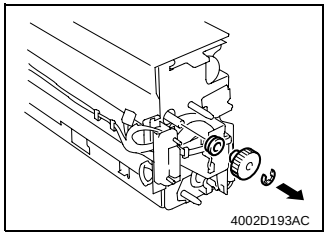


1. Remove the Web Roller Assy.
2. Remove the Web Roller and Web Take-Up Roller.
3. Remove the springs at the front and rear.

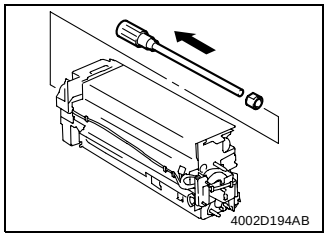


4. Remove the E-rings and bushings from the front and rear end and remove the Web Pressure Roller.

(14) Removal of the Misfeed Removal Knob Bushing

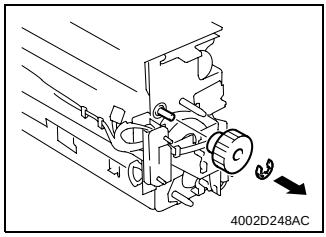


1. Slide out the Fusing Unit.
2. Remove one E-ring and the gear and bearing.



3. Remove the Misfeed Removal Knob Assy. and bushing.

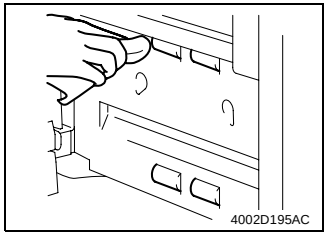
(15) Removal of the Fusing Unit Drive Coupling Gear



1. Slide out the Fusing Unit.
2. Remove one E-ring and the Fusing Unit Drive Coupling Gear.

2-10. TURNOVER UNIT

(1) Cleaning of the Turnover Roller, Transport Rollers

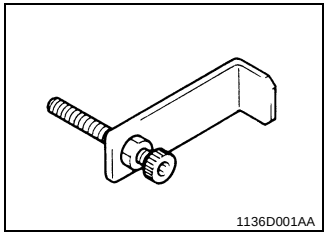


1. Open the Lower Left Door.
2. Using a soft cloth dampened with alcohol, wipe clean the Turnover Roller, Transport Rollers.

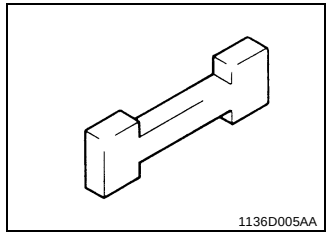
3. ADJUSTMENT

3-1. ADJUSTMENT JIGS AND TOOLS USED

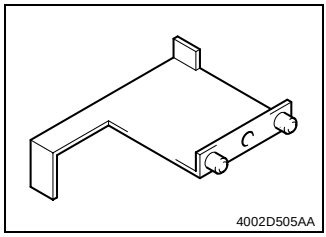
1. Front Door Interlock Switch Actuating Jig



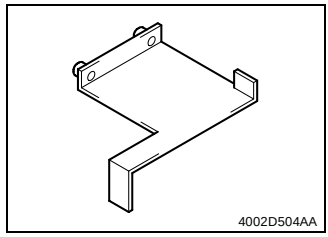
2. Predrive Inhibit Switch Actuating Jig



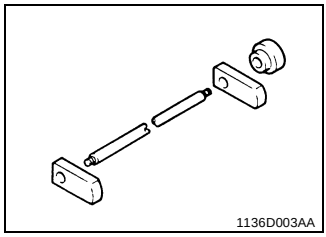
3. Scanner Positioning Jig (Front)



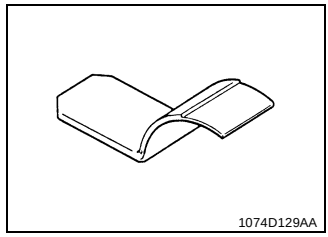
4. Scanner Positioning Jig (Rear)



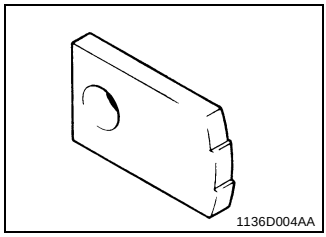
5. Sleeve/Magnet Roller Positioning Jig



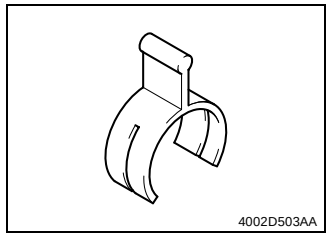
6. D.B. Adjusting Jigs



7. PC Drum Paper Separator Finger Positioning Jig



8. Scanner Drive Cable Holding Jig



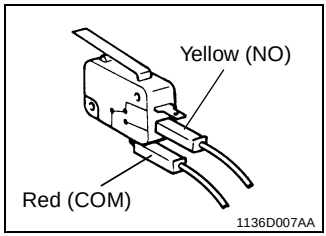
3-2. ADJUSTMENT REQUIREMENTS LIST

Adjustment Item	Requirements	Ref. Page
Touch Panel Adj.	Automatically adjusted	☞ D-85
Orig. Size Adjust	↑	☞ D-86
F8 ATDC Sensor	↑	☞ D-87
F5 AIDC Sensor	↑	☞ D-88
Registration (CD)	5.0 ± 0.5 mm	☞ D-89
Registration (FD)	↑	☞ D-91
Lead Edge Erase	3.0 ± 1.0 mm	☞ D-93
Trail Edge Erase	↑	☞ D-95
Loop Adjustment	Approx. 4.0 mm	☞ D-97
Erasure Width	3.0 mm	☞ D-99
Zoom (CD)	200 ± 1.0 mm	☞ D-101
Zoom (FD)	300 ± 1.0 mm	☞ D-103
Scale (CD)	———	☞ D-105
Scale (FD)	———	☞ D-107

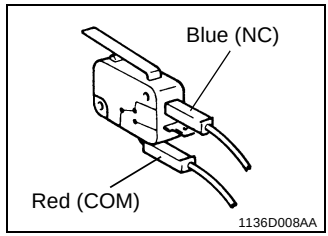
3-3. ADJUSTMENT OF SWITCHES

(1) Microswitches

The following microswitches are used in various parts of this copier.



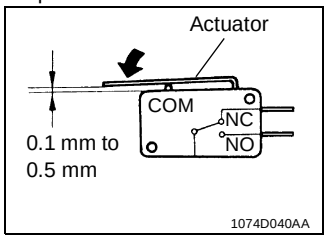
Wiring for the NO Type



Wiring for the NC Type

NC (Normally-Closed)	:	Current flows between NC and COM when the actuator is open.
NO (Normally-Open)	:	Current flows between NC and COM when the actuator is closed.
COM (Common)	:	Common contact for NC and NO.

Requirement

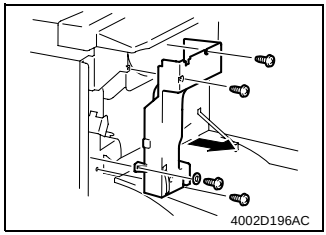


The gap between the switch and actuator should be 0.1 to 0.5 mm when the actuator is closed.

Out-of-Adjustment (When the actuator is closed)

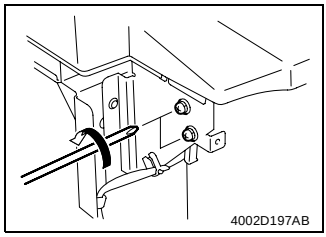
- If the gap between the switch and actuator is too big, current dose not at times flow to NC or NO.
- If there is no gap between the switch and actuator, the actuator is bent or the switch can be broken.

(2) Adjustment of Front Door Interlock Switch

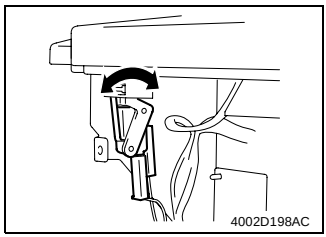


1. Swing down the Front Door.
2. Remove the Left Cover.
3. Slide out the Fusing Unit.
4. Remove four screws and the Cover.

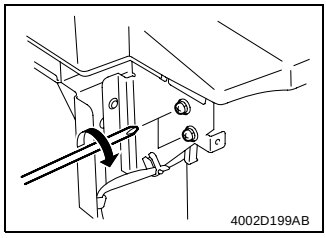
NOTE
Do not remove the belt mounting screw on the cover.



5. Loosen two screws that secure Front Door Interlock Switch.



6. If the interlock switch is OFF when the Front Door is closed in position, move the interlock switch toward the front.
7. If it is impossible to close the Front Door in position because of the interlock switch located excessively to the front, move the switch to the rear.



8. After the Interlock Switch is moved, tighten two mounting screws.
9. Check the Interlock Switch ON/OFF by closing and opening the Front Door.

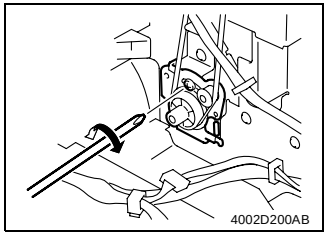
Reference
An NO type switch is used for the Interlock Switch.

3-4. ADJUSTMENT OF BELT TENSION

Checks after Adjustment
- Turn the Timing Belt and check that all the Pulleys and grooves of the Belt fit securely.
- Each Belt should flex a little when the Belt is lightly pressed with a finger.

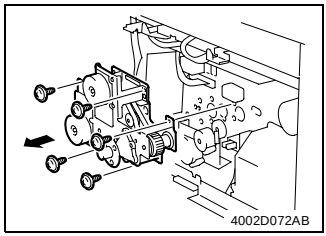
Reference
Since a given tension is applied by a tension spring to the Tension Lever that maintains the tension of each timing belt, adjustment is completed by re-tightening the mounting screw after it has been loosened.

(1) Adjustment of the Suction Drive Timing Belt

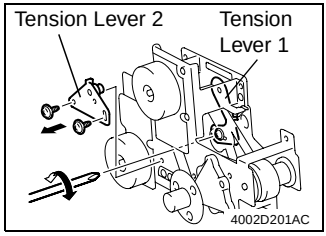


1. Remove the Rear Cover.
2. Loosen the screw by which the Tension Lever is mounted as shown on the left and then re-tighten it.

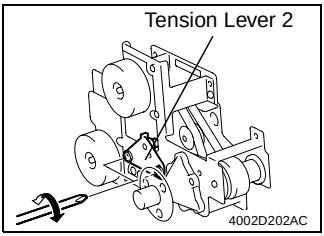
(2) Adjustment of the Developing Unit Drive Timing Belt



1. Remove the Rear Cover.
2. Remove the Master Board mounting bracket Assy. and FlyWheel.
3. Remove five screws and the Developing Unit Drive Assy.

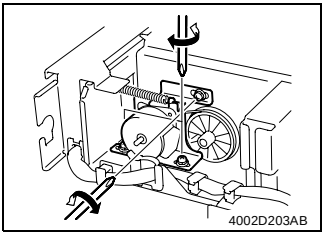


4. Remove two screws and the Tension Lever 2.
5. Loosen the screw by which the Tension Lever 1 is mounted as shown on the left and then re-tighten it.
6. Reinstall the Tension Lever 2.



7. Loosen two screws by which the Tension Lever 2 is mounted as shown on the left and then re-tighten it.

(3) Adjustment of the Scanner Motor Timing Belt



1. Remove the Rear Upper Cover.
2. Loosen three screws on the Scanner Motor mounting bracket and then re-tighten them.

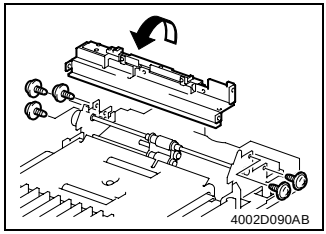
3-5. SOLENOID POSITION ADJUSTMENT

(1) Adjustment of Manual Feed Paper Pick-Up Solenoid

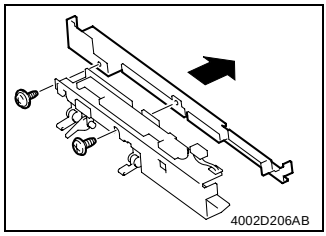
Requirement

The Paper Stoppers should be fixed perpendicularly when the Pick-Up Solenoid is ON.

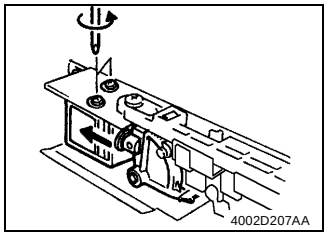
Adjustment Procedure



1. Remove the Right Cover.
2. Remove five screws and the Manual Feed Paper Pick-Up Solenoid mounting bracket Assy.



3. Remove two screws and the bracket.



4. Set the Pick-Up Solenoid to ON.

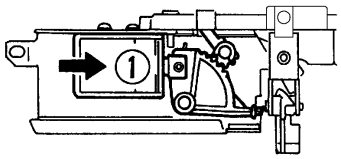
Reference

Since a keeper solenoid is used as the Pick-Up Solenoid, the set condition is kept when the Pick-Up Solenoid is on.

5. Move the Pick-Up Solenoid in the direction of arrow ①, then slowly move it in the direction of arrow ②.
6. Move the Pick-Up Solenoid up to the position where the Lock Lever of the Paper Stopper becomes perpendicular (the position where the Paper Stopper is locked).

NOTES

- *Be careful that the Pick-Up Solenoid is canceled from its set condition if moved excessively.*
- *If the set condition is canceled, set the solenoid to the energized (ON) position again and repeat steps starting with step 6.*



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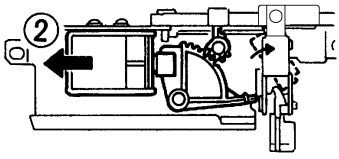

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7. After the adjustment has been made, tighten the two the Pick-Up Solenoid mounting screws.

Check after Adjustment

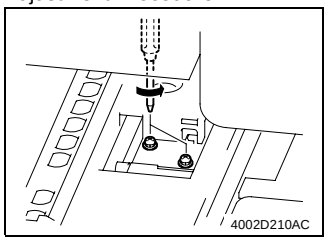
Check that the Paper Stopper is securely locked perpendicularly when the Pick-Up Solenoid is ON.

(2) Adjustment of Turnover Roller Retraction Solenoid

Requirement

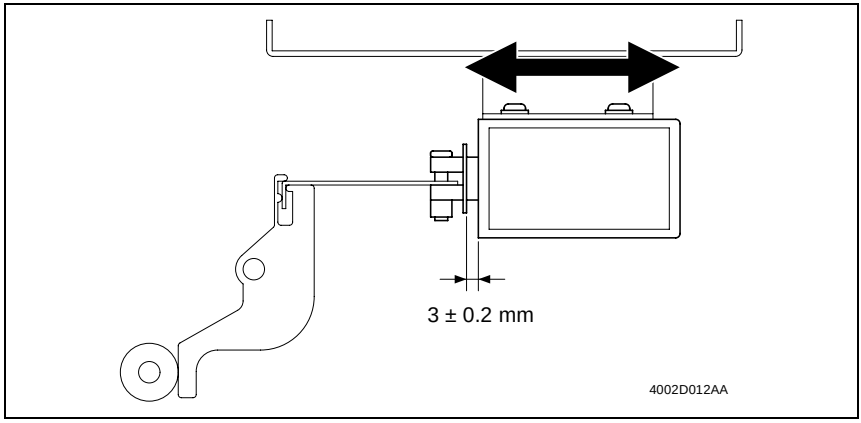
The gap between the E-ring of the plunger and the Retraction Solenoid should be 3 ± 0.2 mm when the Retraction Solenoid OFF.

Adjustment Procedure



1. Slide out the Fusing Unit.
2. Loosen two screws by which the Retraction Solenoid is mounted.

3. Move the Retraction Solenoid so that the gap between the E-ring of the plunger and the Solenoid is 3 ± 0.2 mm when the Retraction Solenoid OFF.



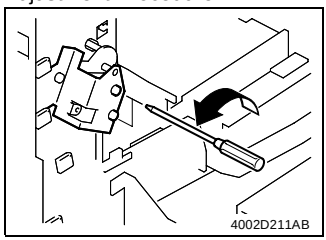
4. After adjustment is completed, tighten the two Retraction Solenoid mounting screws.

(3) Adjustment of Exit/Duplex Switching Solenoid

Requirement

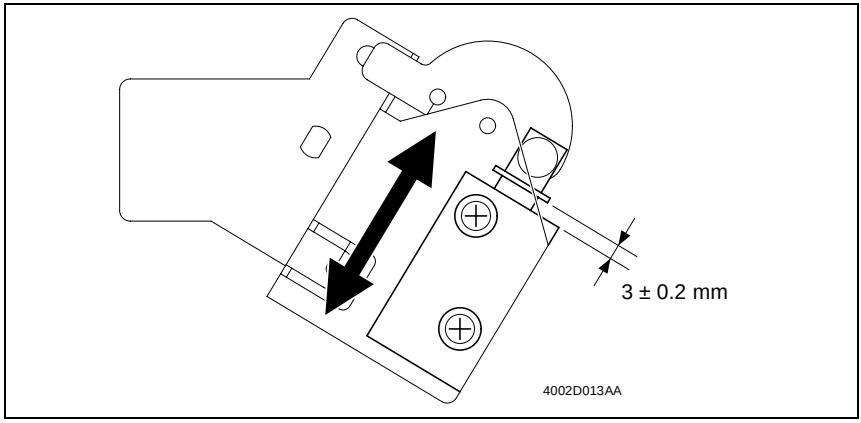
The gap between the E-ring of the plunger and the Switching Solenoid should be 3 ± 0.2 mm when the Switching Solenoid OFF.

Adjustment Procedure



1. Remove the Left Cover.
2. Slide out the Fusing Unit.
3. Remove the Left Inner Cover.
4. Loosen two screws by which the Switching Solenoid is mounted.

5. Move the Switching Solenoid so that the gap between the E-ring of the plunger and the Solenoid is 3 ± 0.2 mm when the Switching Solenoid OFF.



6. After adjustment is completed, tighten the two Switching Solenoid mounting screws.

(4) Positioning of the PC Drum Paper Separator Fingers (Separator Finger Solenoid)

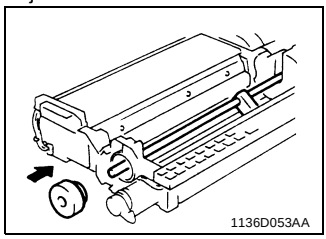
Requirement

The gap between the three PC Drum Paper Separator Fingers and the PC Drum should be 0.3 to 1.0 mm when the Separator Finger Solenoid OFF.

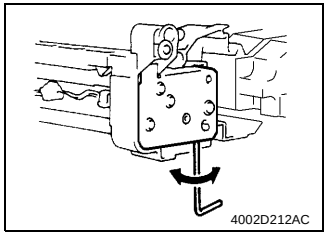
NOTE

Use care not to deform the Separator Fingers during the adjustment procedure.

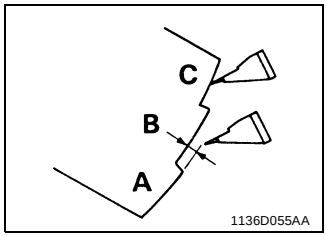
Adjustment Procedure



1. Attach the PC Drum Paper Separator Finger Positioning Jig to the Developer Unit.

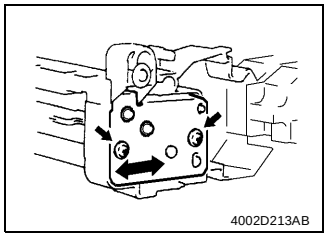


2. With the Separator Finger Solenoid in the deenergized position, adjust the position of the three Paper Separator Fingers using an Allen wrench.



Adjustment Instructions

- With the solenoid in the deenergized position, the tip of the finger should be at a point between A to B end.
- With the solenoid energized, the tip of the finger should touch C.



NOTE

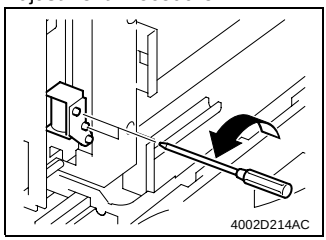
If the requirements are not met, loosen the hexagon socket head screw, loosen the two screws indicated on the left, reposition the solenoid, and make the adjustment once again.

(5) Adjustment of Turnover Route Switching Solenoid

Requirement

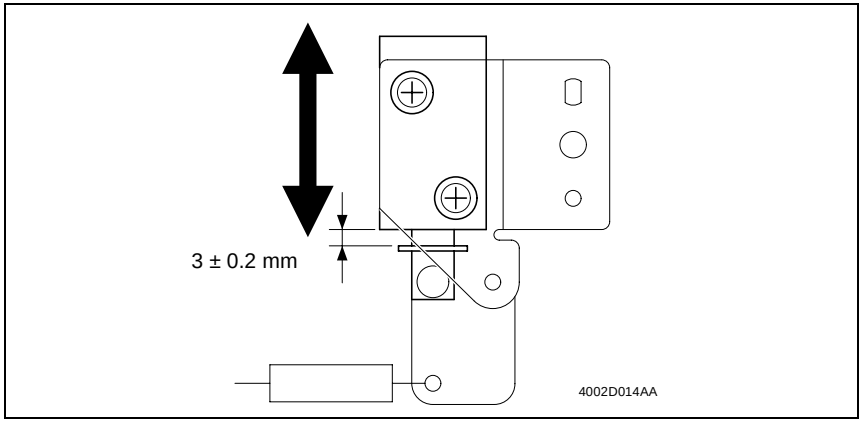
The gap between the E-ring of the plunger and the Switching Solenoid should be 3 ± 0.2 mm when the Switching Solenoid OFF.

Adjustment Procedure



1. Remove the Left Cover.
2. Loosen two screws by which the Switching Solenoid is mounted.

3. Move the Switching Solenoid so that the gap between the E-ring of the plunger and the Solenoid is 3 ± 0.2 mm when the Switching Solenoid OFF.



4. After adjustment is completed, tighten the two Switching Solenoid mounting screws.

3-6. ACCESSING THE TECH. REP. MODE AND ADJUST MODE

(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

(2) Accessing the Adjust Mode

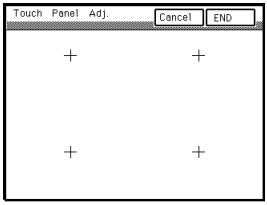
1. Enter the Tech. Rep. mode.
2. Press the following keys in this order:
   Start → Stop

3-7. ELECTRICAL/IMAGE ADJUSTMENT

(1) Touch Panel Adj.

Make this adjustment after either of the following procedures have been performed:
- *Memory Clear*
- *Control Panel replacement*

Adjustment Procedure
1. Call the Tech. Rep. mode to the screen.
2. Touch [Tech. Rep. Choice] and [System Set], in that order.
3. Touch [Touch Panel Adj.].



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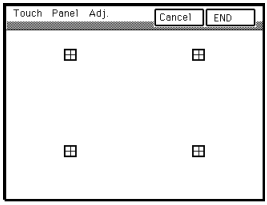
4. With the tip of a pen or similar object, touch the four crosses (+) on the screen in sequence.

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.*



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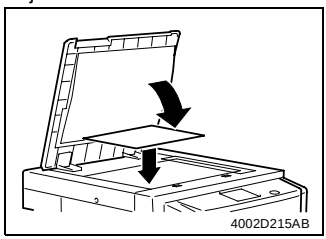
5. The cross touched changes into a grid marker (that consists of a square with a cross superimposed).
6. Touch [END].

(2) Orig. Size Adjust

Make this adjustment after any of the following procedures have been performed:
- *Memory Clear*
- *The original size is incorrectly detected*
- *Replacement of the CCD Unit and Scanner parts*
- *An Original Size Detecting Sensor has been replaced or added*

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 [I.R. & EDH Check].
4. Touch [Function (I.R.)].
5. Touch [Orig. Size Adjust].
6. Press the Start Key to execute Orig. Size Adjust.

NOTE
The Start key remains lit up orange while this function is being run and lights up green as soon as the sequence is completed.

7. If the adjustment results have been made okay, touch [Save].

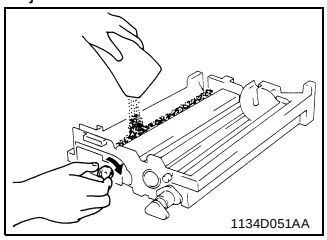
NOTE
If the adjustment results have been NG, refer to "I/O Check List" of TROUBLESHOOTING.

(3) F8 ATDC Sensor

Make this adjustment after any of the following procedures have been performed:
- *Developer replacement*
- *ATDC replacement*
- *Memory Clear*

NOTE
Make this adjustment before running an F5 AIDC Sensor operation.

Adjustment Procedure



1. Load the Developing Unit with fresh developer.
2. Install the Developing Unit in the copier.
3. Close the Front Door.

NOTE
Do not open and close the Front Door until the F8 ATDC Sensor operation is completed after the Power Switch has been turned ON.

4. Turn the Power Switch ON.
5. Call the Tech. Rep. mode to the screen.
6. Touch [Function].
7. Touch [Printer].
8. Touch [F8 ATDC Sensor].
9. Press the Start Key to let the copier make the F8 ATDC Sensor. (It will run for about 4 minutes.)

NOTES
- *Note that the press of the Start Key lets the ATDC Sensor Adjustment run automatically. Run this function only after the developer has been changed, ATDC Sensor replaced.*
- *While the copier is in the adjustment cycle, the Start Key is lit up orange. The key turns green as soon as the adjustment cycle is completed.*

10. Call the Adjust mode to the screen.
11. Touch [Printer].
12. Touch [ATDC Control].
13. Write down the value for “Current” in the ATDC column on the Adjust Label.

(4) F5 AIDC Sensor

Make this adjustment after any of the following procedures have been performed:
- *Developer replacement*
- *ATDC replacement*
- *Memory Clear*

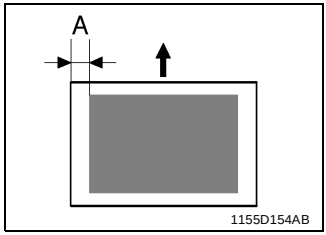
NOTE
This adjustment must be made after F8 ATDC Sensor.

Adjustment Procedure
1. Turn the Power Switch ON.
2. Call the Tech. Rep. mode to the screen.
3. Touch [Function].
4. Touch [Printer].
5. Touch [F5 AIDC Sensor].
6. Press the Start Key to let the copier make the F5 AIDC Sensor. (It will run for about 30 seconds.)

NOTE
While the copier is in the adjustment cycle, the Start Key is lit up orange. The key turns green as soon as the adjustment cycle is completed.

(5) Registration (CD)

Requirement



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

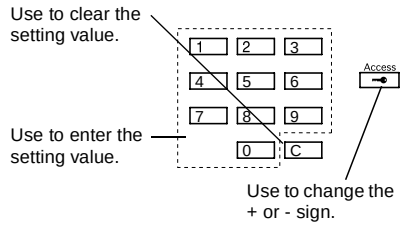
Specification	Adjust Mode	Setting Range
5.0 ± 0.5 mm	Registration (CD)	-8.2 to +8.2

This adjustment must be made after the PH Unit has been replaced.

Adjustment Procedure

1. Call the Adjust mode to the screen.
2. Touch [Printer].
3. Touch [Registration (CD)].
4. Select the paper source to be checked and adjusted.
5. Press the Start Key to let the copier produce a test pattern.
6. Check to see if width A on the test pattern is up to the specifications. If it is outside the specified range, perform the following adjustment steps.

7. Press the Clear key to clear the current setting value.



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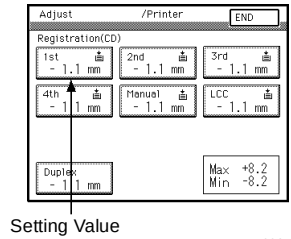
8. Use the 10-key pad to change the setting value.

NOTE

Use the Access key to select the sign of + or -.



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Setting Instructions

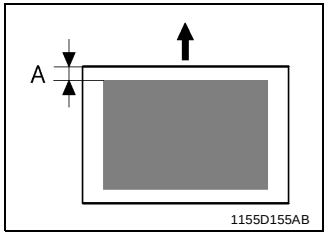
If width A is longer than the specifications, make the setting value smaller than the current one.

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

9. Press the Start key to let the copier produce a test pattern.
10. Check to see if width A on the test pattern is up to the specifications.
    If it is outside the specified range, change the setting value and make a check again.
11. If width A falls within the specified range, touch [END] to validate the setting value.

(6) Registration (FD)

Requirement



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

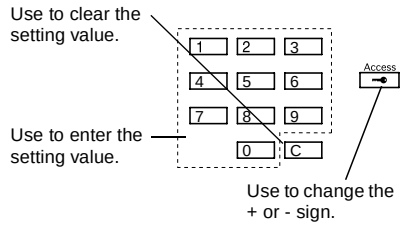
Specification	Adjust Mode	Setting Range
5.0 ± 0.5 mm	Registration (FD)	-8.2 to +8.2

This adjustment must be made after the PH Unit has been replaced.

Adjustment Procedure

1. Call the Adjust mode to the screen.
2. Touch [Printer].
3. Touch [Registration (FD)].
4. Press the Start Key to let the copier produce a test pattern.
5. Check to see if width A on the test pattern is up to the specifications. If it is outside the specified range, perform the following adjustment steps.

6. Press the Clear key to clear the current setting value.



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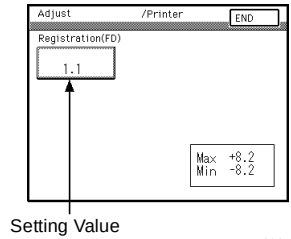
7. Use the 10-key pad to change the setting value.

NOTE
Use the Access key to select the sign of + or -.



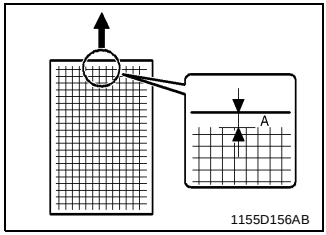
4002D511CB

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

8. Press the Start key to let the copier produce a test pattern.
9. Check to see if width A on the test pattern is up to the specifications.
   If it is outside the specified range, change the setting value and make a check again.
10. If width A falls within the specified range, touch [END] to validate the setting value.

(7) Lead Edge Erase

Requirement



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

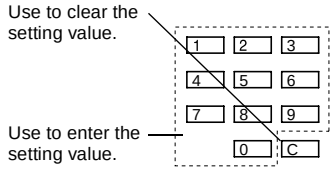
NOTE
The measurement shall be taken at the center on the leading edge of the paper.

Specification	Adjust Mode	Setting Range
3.0 ± 1.0 mm	Lead Edge Erase	0 to 5

This adjustment must be made after the PH Unit has been replaced and following Registration (CD/FD).

Adjustment Procedure
1. Call the Adjust mode to the screen.
2. Touch [Printer].
3. Touch [Lead Edge Erase].
4. Press the Start Key to let the copier produce a test pattern.
5. Check to see if width A on the test pattern is up to the specifications. If it is outside the specified range, perform the following adjustment steps.

6. Press the Clear key to clear the current setting value.



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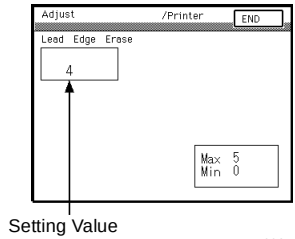
7. Use the 10-key pad to change the setting value.



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Setting Instructions

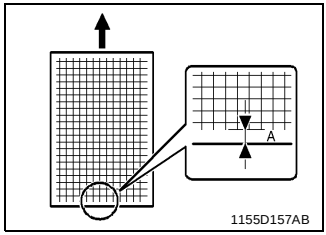
If width A is longer than the specifications, make the setting value smaller than the current one.

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

8. Press the Start key to let the copier produce a test pattern.
9. Check to see if width A on the test pattern is up to the specifications.
   If it is outside the specified range, change the setting value and make a check again.
10. If width A falls within the specified range, touch [END] to validate the setting value.

(8) Trail Edge Erase

Requirement



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

NOTE

The measurement shall be taken at the center on the trailing edge of the paper.

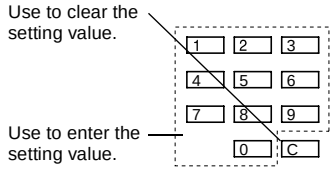
Specification	Adjust Mode	Setting Range
3.0 ± 1.0 mm	Trail Edge Erase	0 to 5

This adjustment must be made after the PH Unit has been replaced and following Registration (CD/FD).

Adjustment Procedure

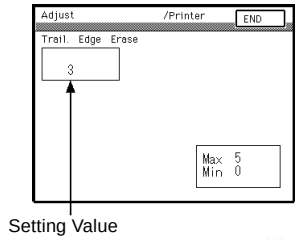
1. Call the Adjust mode to the screen.
2. Touch [Printer].
3. Touch [Trail Edge Erase].
4. Press the Start Key to let the copier produce a test pattern.
5. Check to see if width A on the test pattern is up to the specifications. If it is outside the specified range, perform the following adjustment steps.

6. Press the Clear key to clear the current setting value.



4002D519AA

7. Use the 10-key pad to change the setting value.



4002D513CB

Setting Instructions

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

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

8. Press the Start key to let the copier produce a test pattern.
9. Check to see if width A on the test pattern is up to the specifications.
   If it is outside the specified range, change the setting value and make a check again.
10. If width A falls within the specified range, touch [END] to validate the setting value.

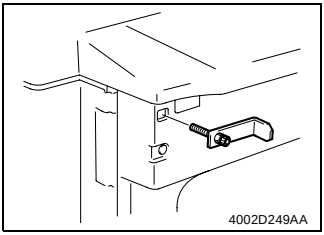
(9) Loop Adjustment

Requirement
Adjust so that a correct loop is formed at part A when paper is fed through.

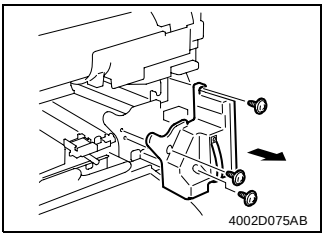
Specification	Adjust Mode	Setting Range
Approx. 4.0 mm (visual)	Loop Adjustment	-3 to +3

This adjustment is to be made when any of the following symptoms occurs: variation in the amount of print leading edge void, paper skew, folded edge, and misfeed.

Adjustment Procedure



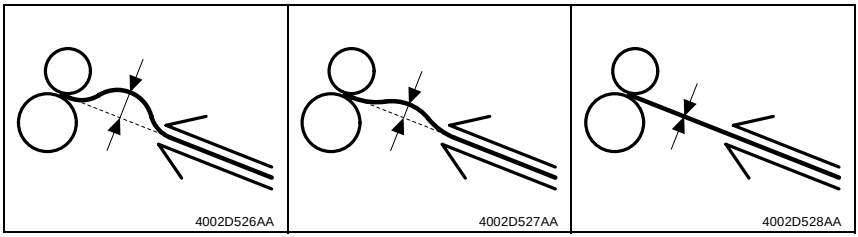
1. Swing down the Front Door and fit the Front Door Interlock Switch Actuating Jig.



2. Remove three screws and the Cover.

NOTE
Do not remove the belt mounting screw on the cover.

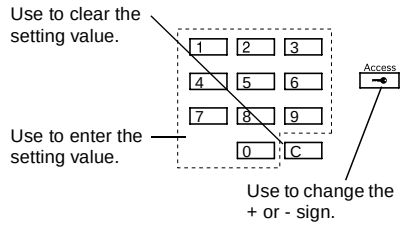
3. Press the Start Key to let the copier take up and feed a sheet of paper and visually check that a correct loop is formed at part A of the location shown below.



Advanced	Correct	Retarded
The loop length is too long causing the paper to have too much slack.	A good length of loop is formed as the paper moves into the Synchronizing Rollers.	No loop is formed causing the paper to be taut.

If the loop length falls outside the specified range, perform the following adjustment steps.

4. Call the Adjust mode to the screen.
5. Touch [Printer].
6. Touch [Loop Adjustment].
7. Touch [Drawer].
8. Press the Clear key to clear the current setting value.

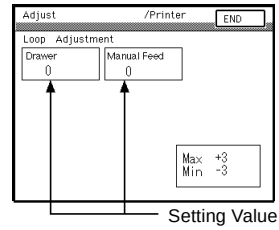


4002D510CB

9. Use the 10-key pad to change the setting value.

NOTE

Use the Access key to select the sign of + or -.



4002D514CB

Setting Instructions

If the loop length is longer than the specifications, decrease the setting value.
If the loop length is shorter than the specifications, increase the setting value.

10. Touch [END] to validate the setting value.
11. Go back to the Basic screen.
12. Press the Start key and check for the loop length again.
13. If the loop length falls outside the specified range, change the setting value and make a check again.
14. Place a sheet of paper on the Multi Bypass Tray.
15. Following the same procedures, make the loop adjustment for the Multi Bypass Tray.

(10) Erasure Width

Requirement

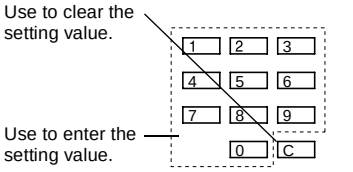
Adjust so that no shade of the Original Scale is produced on the sample copy.

Adjust Mode	Setting Range
Erasure Width	0 to 5

This adjustment must be made when a shadow is produced from the Original Scale.

Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch [I.R. (EDH) Check].
3. Touch [Tech. Rep. Choice].
4. Touch [Erasure Width].
5. Press the Clear key to clear the current setting value.



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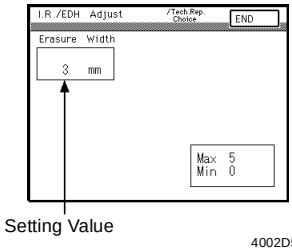
6. Using the 10-Key Pad, set “3” for Erasure Width.



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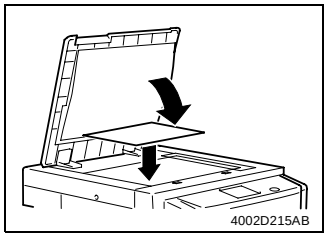
7. Touch [END] to validate the setting value.
8. Go back to the Basic screen.
9. Set Lead Edge Erase to 0.

☞ D-93

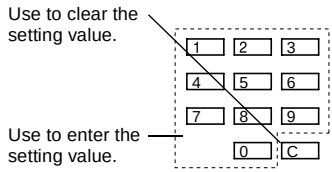
NOTE

Be sure to record to current setting value.

10. Go back to the Basic screen.

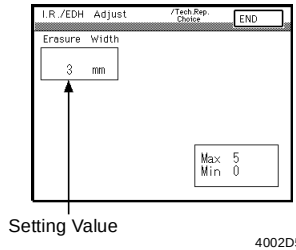


11. Place a sheet of A3 or 11 × 17 paper on the Original Glass and lower the Original Cover.
12. Make a copy in the full size (× 1.000) mode.
13. Check to see if a shadow of the Original Scale is produced on the sample copy.
    If no shadow is produced, return Lead Edge Erase to the value which has been recorded.
    If a shadow is produced, perform the following adjustment steps.
14. Call the Tech. Rep. mode to the screen.
15. Touch [I.R. (EDH) Check].
16. Touch [Tech. Rep. Choice].
17. Touch [Erasure Width].
18. Press the Clear key to clear the current setting value.



4002D519AA

19. Use the 10-key pad to change the setting value.



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20. Touch [END] to validate the setting value.
21. Go back to the Basic screen.
22. Make another sample copy for rechecking.
    If a shadow from the Original Scale is produced, try another setting value and check again.
    If no shadow is produced, return Lead Edge Erase to the value which has been recorded.

(11) Zoom (CD)

Requirement

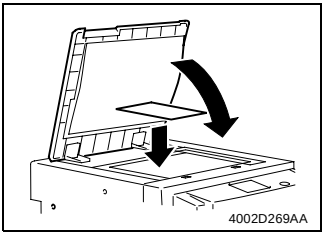
Adjust to eliminate any difference in width between the original test pattern and a test pattern copy.

Adjust Mode	Setting Range
Zoom (CD)	0.990 to 1.010

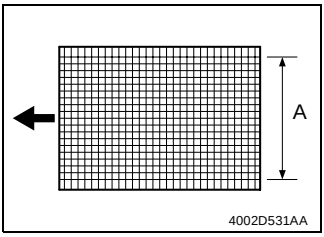
This adjustment must be made when the CCD Unit has been replaced.

Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch [Function].
3. Touch [Printer].
4. Touch [F12 Test Pattern].
5. Touch [F12-3 (64-dot checkered)].
6. Select the paper source loaded with A4 crosswise or Letter crosswise paper.
7. Press the Start key, and without any delay, press the Stop key to let the copier produce a test pattern.
8. Go back to the Basic screen.

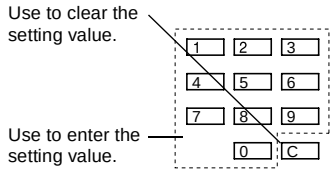


9. Place the test pattern on the Original Glass and lower the Original Cover.
10. Make a copy in the full size (× 1.000) mode.



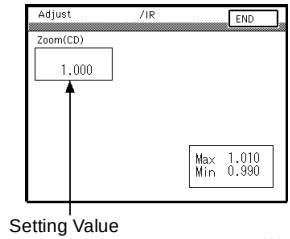
11. Measure width A on the original test pattern and the copy of the test pattern and find any difference between the two measurements.
    If there is any difference, perform the following adjustment steps.

12. Call the Adjust mode to the screen.
13. Touch [IR].
14. Touch [Zoom (CD)].
15. Press the Clear key to clear the current setting value.



4002D519AA

16. Use the 10-key pad to change the setting value.



4002D534CA

Setting Instructions

If width A on the test pattern copy is greater than that on the original test pattern, decrease the setting value.

If width A on the test pattern copy is smaller than that on the original test pattern, increase the setting value.

17. Touch [END] to validate the setting value.
18. Go back to the Basic screen.
19. Perform steps 9 and 10.
20. Check for any difference in width A between the original test pattern and the test pattern copy.
    If there is any difference, try another setting value for rechecking.

(12) Zoom (FD)

Requirement

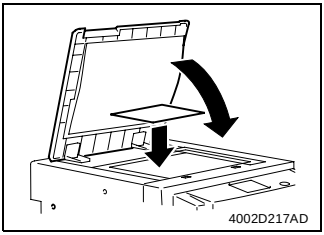
Adjust to eliminate any difference in width between the original test pattern and a test pattern copy.

Adjust Mode	Setting Range
Zoom (FD)	0.990 to 1.010

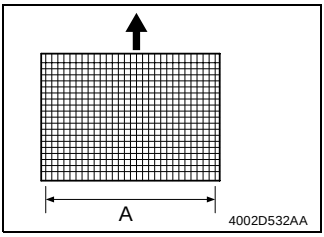
This adjustment must be made when the Scanner Drive Cable has been replaced.

Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch [Function].
3. Touch [Printer].
4. Touch [F12 Test Pattern].
5. Touch [F12-3 (64-dot checkered)].
6. Select the paper source loaded with A4 lengthwise or Letter lengthwise paper.
7. Press the Start key, and without any delay, press the Stop key to let the copier produce a test pattern.
8. Go back to the Basic screen.

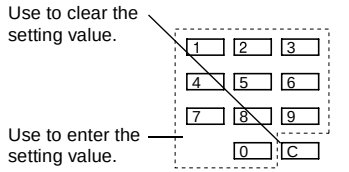


9. Place the test pattern on the Original Glass and lower the Original Cover.
10. Make a copy in the full size (× 1.000) mode.



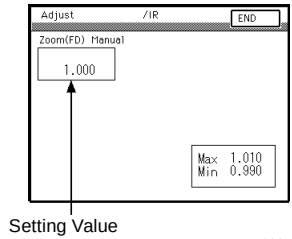
11. Measure width A on the original test pattern and the copy of the test pattern and find any difference between the two measurements.
    If there is any difference, perform the following adjustment steps.

12. Call the Adjust mode to the screen.
13. Touch [IR].
14. Touch [Zoom (FD)].
15. Press the Clear key to clear the current setting value.



4002D519AA

16. Use the 10-key pad to change the setting value.



4002D535CA

Setting Instructions

If width A on the test pattern copy is greater than that on the original test pattern, decrease the setting value.

If width A on the test pattern copy is smaller than that on the original test pattern, increase the setting value.

17. Touch [END] to validate the setting value.
18. Go back to the Basic screen.
19. Perform steps 9 and 10.
20. Check for any difference in width A between the original test pattern and the test pattern copy.
    If there is any difference, try another setting value for rechecking.

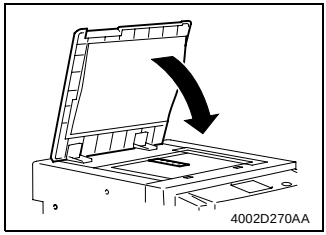
(13) Scale (CD)

Requirement
Adjust so that the leading edge of the image of the scale on the copy sample meets the requirements.

Adjust Mode	Setting Range
Scale (CD)	-10.0 to +10.0

This adjustment must be made when the CCD Unit or Original Glass has been replaced.

Adjustment Procedure



1. 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.
2. Set Registration (CD) to +8.2.

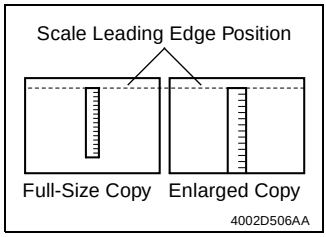
☞ D-89

3. Set Erasure Width to 0.

☞ D-99

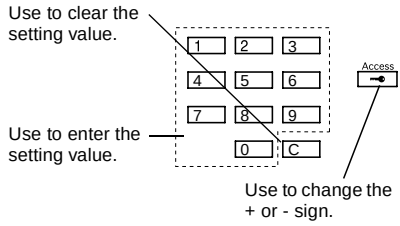
NOTE
Be sure to record the current setting value.

4. Go back to the Basic screen.
5. Select the paper source that has been checked for “Registration (CD).”
6. Make a copy in the full size (× 1.000) mode.
7. Make a copy at an enlargement ratio (e.g.: × 1.414).



8. Check to see if the leading edge of the scale is reproduced on the full-size copy.
9. Check to see if the position of the leading edge of the scale reproduced on the enlarged copy does not deviate from that on the full-size copy.
   If the conditions of steps 8 and 9 are met, return Registration (CD) and Erasure Width to the values recorded.
   If conditions of steps 8 and 9 are not met, perform the following adjustment steps.

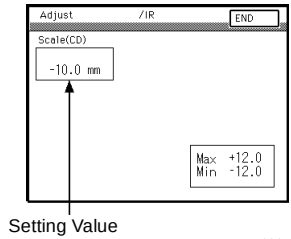
10. Call the Adjust mode to the screen.
11. Touch [IR].
12. Touch [Scale (CD)].
13. Press the Clear key to clear the current setting value.



4002D510CB

14. Use the 10-key pad to change the setting value.

NOTE
Use the Access key to select the sign of + or -.



4002D536CA

Setting Instructions
If the position of the leading edge of the scale reproduced on the enlarged copy deviates from that on the full-size copy, decrease the setting value.
If the leading edge of the scale is not reproduced on the full-size copy, increase the setting value.

15. Go back to the Basic screen.
16. Perform steps 5 through 9.
17. Check to see if conditions of steps 8 and 9 are met.
    If the conditions are not met, try another setting value for rechecking.
18. If the conditions are met, return Registration (CD) and Erasure Width to the values recorded.

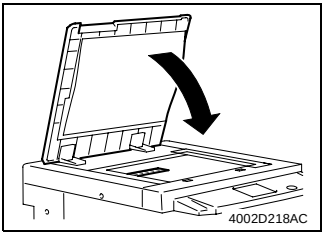
(14) Scale (FD)

Requirement
Adjust so that the leading edge of the image of the scale on the copy sample meets the requirements.

Adjust Mode	Setting Range
Scale (FD)	-7.0 to +7.0

This adjustment must be made when the Scanner has been removed the Scanner Drive Cable or Original Glass has been replaced.

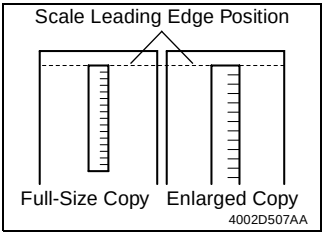
Adjustment Procedure



1. 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.
2. Set Lead Edge Erase to 0.
☞ D-93
3. Set Registration (FD) to +8.2.
☞ D-91
4. Set Erasure Width to 0.
☞ D-99

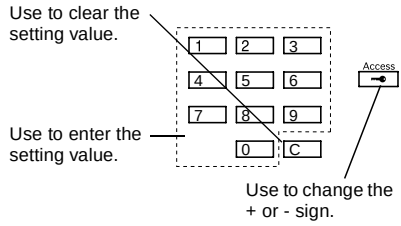
NOTE
Be sure to record the current setting value.

5. Go back to the Basic screen.
6. Make a copy in the full size (× 1.000) mode.
7. Make a copy at an enlargement ratio (e.g.: × 1.414 or × 1.290).



8. Check to see if the leading edge of the scale is reproduced on the full-size copy.
9. Check to see if the position of the leading edge of the scale reproduced on the enlarged copy does not deviate from that on the full-size copy.
If the conditions of steps 8 and 9 are met, return Lead Edge Erase, Registration (FD), and Erasure Width to the values recorded.
If conditions of steps 8 and 9 are not met, perform the following adjustment steps.

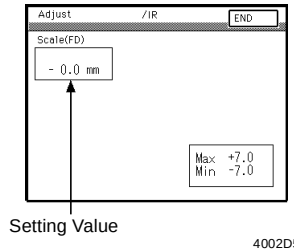
10. Call the Adjust mode to the screen.
11. Touch [IR].
12. Touch [Scale (FD)].
13. Press the Clear key to clear the current setting value.



4002D510CB

14. Use the 10-key pad to change the setting value.

NOTE
Use the Access key to select the sign of + or -.



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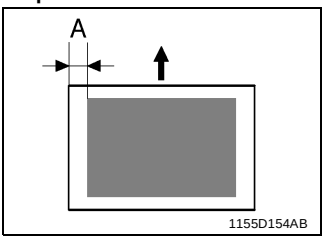
Setting Instructions
If the position of the leading edge of the scale reproduced on the enlarged copy deviates from that on the full-size copy, decrease the setting value.
If the leading edge of the scale is not reproduced on the full-size copy, increase the setting value.

15. Go back to the Basic screen.
16. Perform steps 6 through 9.
17. Check to see if conditions of steps 8 and 9 are met.
    If the conditions are not met, try another setting value for rechecking.
18. If the conditions are met, return Lead Edge Erase, Registration (FD), and Erasure Width to the values recorded.

3-8. OTHER ADJUSTMENTS

(1) Adjustment of the Reference Position of Each Drawer

Requirement



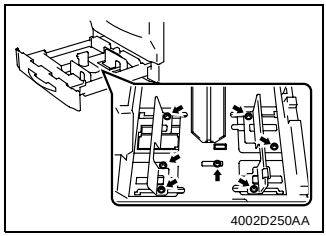
Width A on the test pattern output should fall within the following range.

Specification
5 ± 0.5 mm

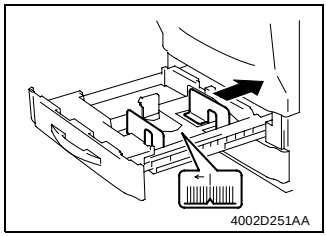
The adjustment should be made after Registration (CD/FD).

Adjustment Procedure

1. Call the Adjust mode to the screen.
2. Touch [Printer].
3. Touch [Registration (CD)].
4. Select the paper source to be checked and adjusted.
5. Press the Start Key to let the copier produce a test pattern.
6. Check to see if width A on the test pattern is up to the specifications. If it is outside the specified range, perform the following adjustment steps.



7. Slide out the drawer used as the paper source for the test pattern and then loosen the seven screws shown on the left.



8. Watching the scale on the adjustment plate in the drawer, move the Edge Guide.

Setting Instructions

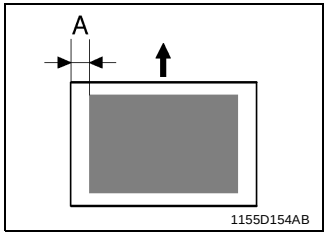
If width A on the test pattern is greater than the specifications, move the Edge Guide to the rear.

If width A on the test pattern is smaller than the specifications, move the Edge Guide to the front.

9. Press the Start key to let the copier produce a test pattern.
10. Check to see if width A on the test pattern is up to specifications.
    If the width falls outside the specified range, move the Edge Guide as necessary and check again.
11. Following the same procedures, make the adjustment for all drawers.

(2) Adjustment of the Reference Position of the Multi Bypass Tray

Requirement



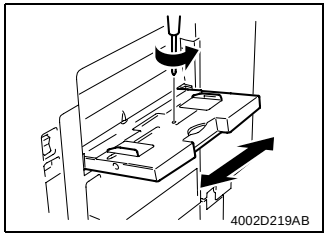
Width A on the test pattern output should fall within the following range.

Specification
5 ± 0.5 mm

The adjustment should be made after Registration (CD/FD).

Adjustment Procedure

1. Place a sheet of paper on the Multi Bypass Tray.
2. Call the Adjust mode to the screen.
3. Touch [Printer].
4. Touch [Registration (CD)].
5. Touch [Manual].
6. Press the Start Key to let the copier produce a test pattern.
7. Check to see if width A on the test pattern is up to the specifications. If it is outside the specified range, perform the following adjustment steps.



8. Loosen one screw that secures the Multi Bypass Tray in position and move the tray as necessary.

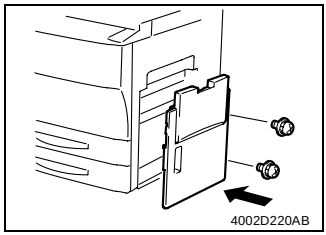
Setting Instructions

If width A on the test pattern is greater than the specifications, move the Multi Bypass Tray to the rear.
If width A on the test pattern is smaller than the specifications, move the Multi Bypass Tray to the front.

9. Press the Start key to let the copier produce a test pattern.
10. Check to see if width A on the test pattern is up to specifications.
    If the width falls outside the specified range, move the tray as necessary and check again.

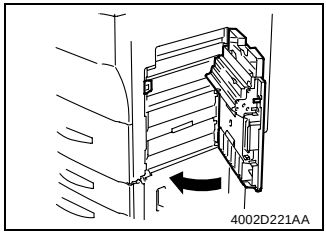
(3) Adjustment of the Upper Right Door (Multi Bypass Unit)

If the Right Door has been removed and reinstalled, the position of the actuator of Upper Right Door Set Sensor may deviate from the correct position. Hence, the necessity of the following adjustment.

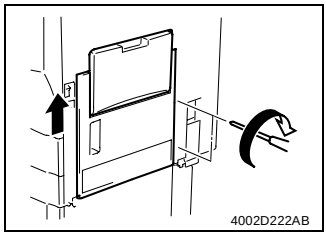


1. Mount the Upper Right Door with two screws.

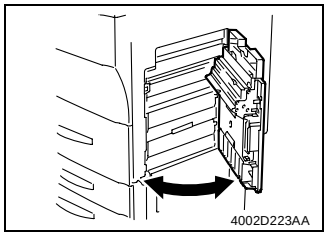
NOTE
At this time, only temporarily tighten these screws.



2. Lightly close the Upper Right Door Set Sensor actuator will not contact the frame.



3. Due to its own weight, the front end of the Upper Right Door tends to hang lower. Lifting the front end slighting the two mounting screws.



4. Open and close the Upper Right Door two to three times to make sure that the actuator of the Upper Right Door Set Sensor does not contact the frame.

(4) Adjustment of the Position of the Scanner and 2nd/3rd Mirrors Carriage

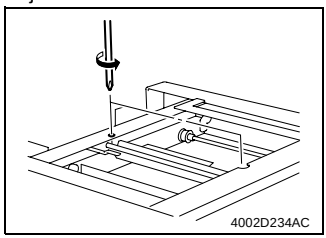
Requirement

With the Scanner fixed to the Scanner Drive Cables, there should be no gap between the Scanner/Mirrors Carriage Positioning Jig and the Scanner and also between the Scanner/ Mirrors Carriage Positioning Jig and the 2nd/3rd Mirror Carriage.

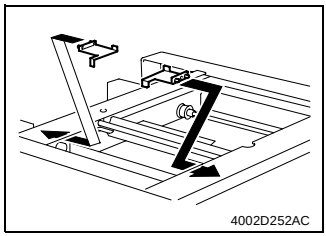
Make this adjustment after either of the following procedures have been performed:

- *After the Scanner Drive Cable has been replaced.*
- *When the Scanner Fixing Bracket has been removed from Scanner Drive Cable.*
- *When the Scanner Drive Cable comes unwound.*

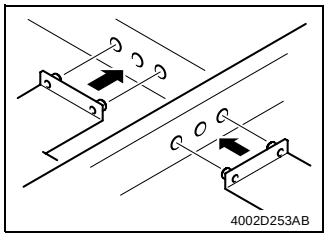
Adjustment Procedure



1. Remove the Original Glass and Rear Upper Cover.
2. Move the Scanner so that the Scanner Positioning Screw is aligned with the hole in the upper frame.
3. Insert a screwdriver into the hole in the upper frame and loosen the Scanner Positioning Screw (so that the Scanner Drive Cables and the Scanner can be moved independently of each other).

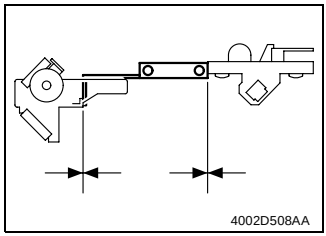


4. Install the Scanner Positioning Jigs between the Scanner and the 2nd/3rd Mirrors Carriage Assy.

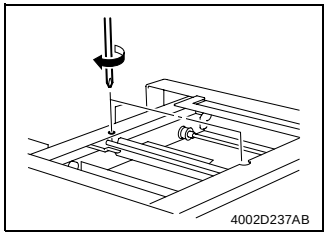


NOTE

When installing the Scanner Positioning Jigs, be sure to fit the tabs on the jigs into the holes at the front and rear ends of the frame.

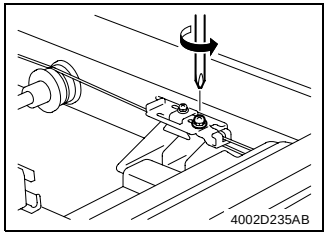


5. Press the Scanner and the 2nd/3rd Mirrors Carriage Assy tightly up against the Scanner Positioning Jigs.
6. Check that there is no clearance between the Scanner and the Scanner Positioning Jig, and between the 2nd/3rd Mirrors Carriage Assy and the Scanner Positioning Jig.
   If there is any clearance, adjust parallel alignment of the 2nd/3rd Mirrors Carriage Assy after this adjustment has been completed.

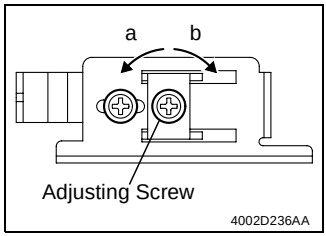


7. Tighten the two Scanner Positioning Screws.

(5) Adjustment of the 2nd/3rd Mirrors Carriage Assy for Parallel Alignment



1. Remove the Original Glass.
2. Loosen one screw that secures the adjusting plate.



3. Turn the adjusting screw as necessary.

Setting Instructions

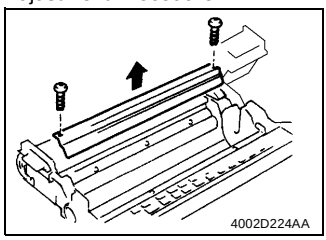
If there is a gap between the 2nd/3rd Mirrors Carriage Assy and the Scanner Positioning Jig at the front, turn the adjusting screw clockwise.
If there is a gap between the 2nd/3rd Mirrors Carriage Assy and the Scanner Positioning Jig in the rear, turn the adjusting screw counterclockwise.

4. Lightly press the 2nd/3rd Mirrors Carriage Assy up against the Scanner Positioning Jig and check that there is no clearance between the two.
5. Tighten one screw to secure the adjusting plate in position.

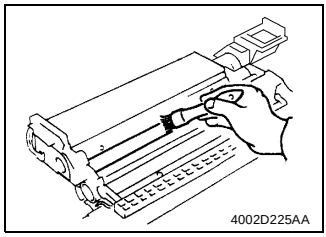
(6) Adjustment of the Gap Between the Doctor Blade and Sleeve Roller (D.B. Adjustment)

Requirement
The gap between the Doctor Blade and Sleeve Roller should be 0.6 + 0.03 - 0.05 mm.

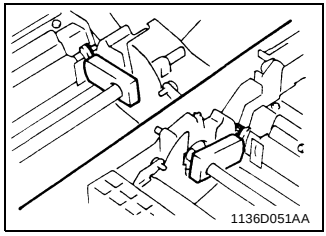
Adjustment Procedure



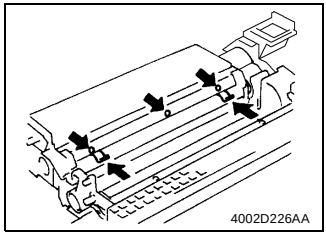
1. Slide out the Developer Unit and remove the PC Drum Charge Corona and PC Drum.
2. Remove two screws and the Developer Scattering Prevention Plate.



3. Using a brush, whisk developer off the surface of the Sleeve Roller.



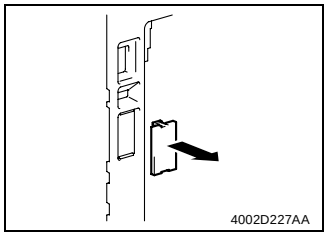
4. Install the Sleeve/Magnet Roller Positioning Jig into the Developer Unit.



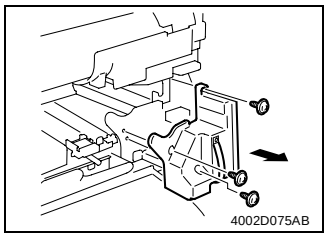
5. Loosen three screws that secure the Doctor Blade. Insert the D.B. Adjusting Jigs between the Doctor Blade and Sleeve Roller.
6. Press down the Doctor Blade until it positively contacts the D.B. Adjusting Jigs. Then, tighten the three screws to secure the Doctor Blade.

4. MISCELLANEOUS

4-1. INSTALLATION OF THE KEY COUNTER SOCKET (OPTION)

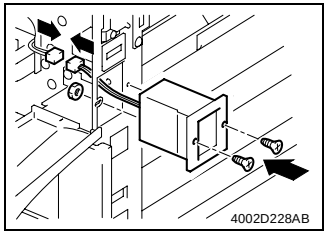


1. Remove the Right Cover.
2. Remove the Counter Cover.



3. Swing down the Front Door and slide out the Developer Unit.
4. Remove three screws and the cover.

NOTE
Do not remove the belt mounting screw on the cover.



5. Connect the Key Counter Socket connector.
6. Using one screw and nut, secure the counter socket.

NOTE
When the Key Counter Socket is mounted, set to "ON" the "Key Counter" available from the Security mode.

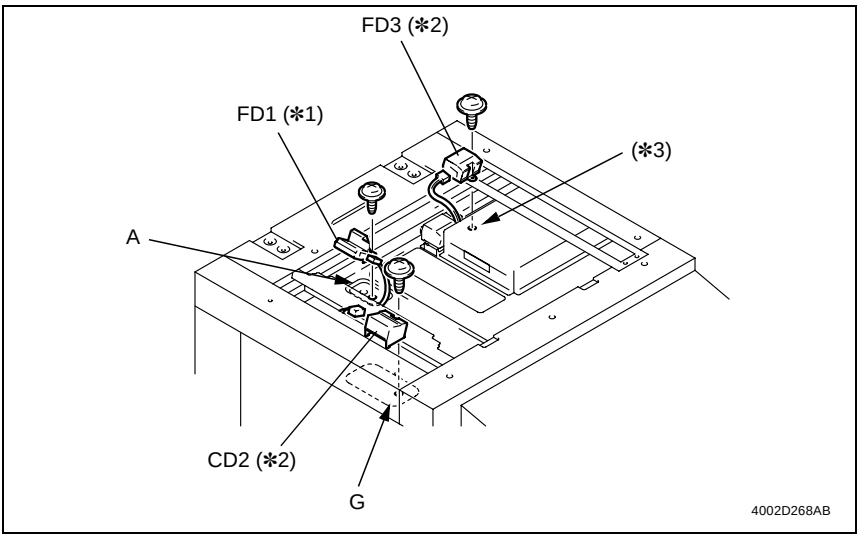
4-2. MOUNTING THE ORIGINAL SIZE DETECTING SENSORS (OPTION)

NOTE

When an Original Size Detecting Sensor has been added, turn "ON" "Original Size Detecting Option" of "System Input" under the Tech. Rep. mode and make the "Orig. Size Adjustment."

☞ D-86

1. Remove the Original Glass and EDH Glass.
2. Install the Original Size Detecting Sensor.



✻ 1: Standard for the Except U.S.A., Canada
✻ 2: Standard for the Other Areas (Except Korea, Taiwan)
✻ 3: Mount the sensor in hole D for Korea and Taiwan.
Mount it in hole E for areas other than Korea and Taiwan.

4-3. FLASH MEMORY

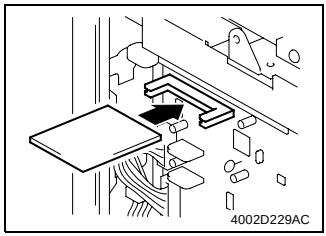
Software has conventionally been upgraded by replacing ROM on each board. This copier employs flash memory for the system control IC mounted on the Master Board and Image Processing Board. Its contents are reprogrammed easily by performing the following steps using the IC card (memory card), into which data has been previously downloaded.

NOTES

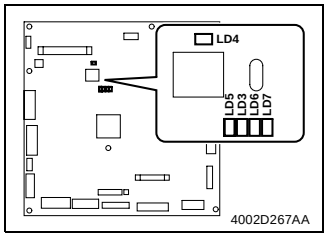
- *NEVER remove or insert the memory card with the copier power turned ON.*
- *An error code appears on the Touch Panel while data is being rewritten. It does not, however, indicate any problematic symptom and can be ignored.*

(1) Rewriting the Master Board Data

1. With the Power Switch in the OFF position, unplug the power cord from the power outlet.
2. Remove the Rear Cover.



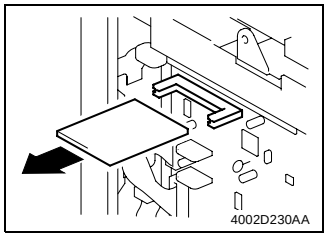
3. Insert the memory card into the Master Board.



4. Plug the power cord into the power outlet.
5. Turn ON the Power Switch.
6. This starts the data rewriting sequence.

NOTE
While the data is being rewritten, LD3 on the Master Board remains blinking and LD4 remains OFF.

7. Check that LD3 and LD4 on the Master Board turn ON.



8. Unplug the power cord from the power outlet.

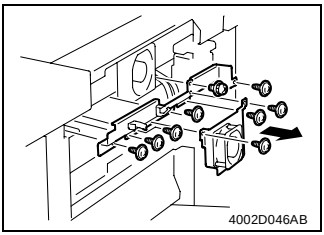
NOTE
Do not turn OFF the Power Switch at this time.

9. Remove the memory card.

10. Turn OFF the Power Switch.
11. Plug the power cord into the power outlet.
12. Turn ON the Power Switch.
13. Call the Tech. Rep. Mode to the screen.
14. Touch [ROM Version].
15. Check to see if the printer version shown on the screen matches the version marked on the flash memory.

(2) Rewriting the Image Processing Board Data

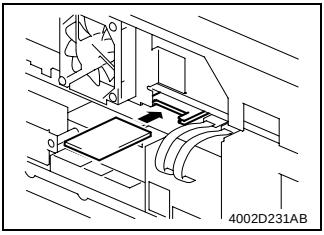
1. With the Power Switch in the OFF position, unplug the power cord from the power outlet.
2. Remove the Right Cover.
3. Close the Front Cover.



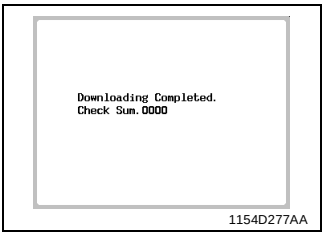
4. Remove three screws and the PH Cooling Fan Motor mounting bracket Assy.

NOTE
Do not disconnect the connector of the PH Cooling Fan Motor.

5. Remove six screws and the mounting bracket.



6. Insert the memory card into the Image Processing Board.



7. Plug the power cord into the power outlet.
8. Holding down the particular numeric key of the 10-Key Pad corresponding to the language in which the data is to be rewritten, turn ON the Power Switch.

NOTE
For the specific numeric key of the 10-Key Pad, refer to the "List of Numeric Keys Corresponding to Languages."
☞ D-120

9. The data rewriting sequence starts.
   (The Start key starts blinking red.)
10. Check that a message appears on the Touch Panel, indicating that the data has been rewritten correctly.
    (The Start key lights up green steadily.)

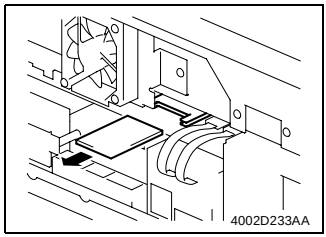
Check Items

- "Downloading Completed." is shown.
- The number shown to the left of "Language" matches that entered from the 10-Key Pad when the Power Switch is turned ON.
- The Check Sum value matches the value given on the memory card.

11. If rewriting has been NG (as indicated by the Start key lighting up red), perform steps 12 and 13 and then start the procedure over, beginning with step 5.

NOTE

If the second rewriting fails, perform steps 12 and 13 and abandon the procedure.



12. Unplug the power cord from the power outlet.

NOTE

At this time, do not turn OFF the Power Switch.

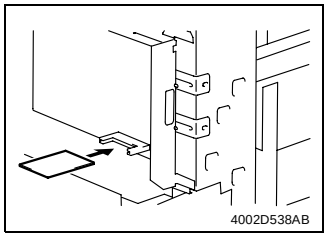
13. Remove the memory card.

<List of Numeric Keys Corresponding to Languages>

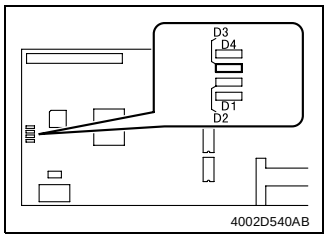
10-Key Pad	None pressed		1	2	3	4
Marketing Areas	U.S.A. and Canada	Europe 1	Europe 2	Europe 3	Other Areas 1	Other Areas 2
Languages	English	English	English	English	English	English
	French	German	Ukrainian	Czech	Spanish	Chinese 1
	Spanish	French	Lithuanian	Slovak	Portuguese	Chinese 2
	Japanese	Dutch	Estonian	Turkish	French	Japanese
		Italian	Hungarian	French	Russian	
		Spanish	Romanian	German	Thai	
		Portuguese	Polish	Greek	Malay	
		Danish	Croatian	Chinese	Indonesian	
		Norwegian	German	Arabic	Arabic	
		Swedish	Russian	Slovenian	Japanese	
		Finnish			Chinese 1	
		Japanese			Chinese 2	

(3) Rewriting the ECC Board Data (option)

1. Unplug the power cord from the power outlet with the Power Switch OFF.
2. Remove the Rear Cover.



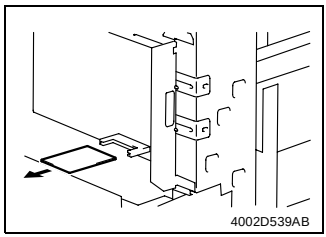
3. Insert the memory card into the ECC Board.



4. Plug the power cord into the power outlet.
5. Turn ON the Power Switch.
6. This starts the rewriting sequence.

NOTE
D1 on the Master Board remains blinking while data is being rewritten.

7. Check that D3 on the ECC Board turns ON.
8. If an LED other than D3 turns ON or if it takes longer than 3 min. to rewrite the data, perform steps 9 and 10, turn OFF the Power Switch, and start the procedure over beginning with step 4.



9. Unplug the power cord from the power outlet.

NOTE
At this time, do not turn OFF the Power Switch.

10. Remove the memory card.

(4) Rewriting the Master Board, Image Processing Board, and ECC Board (Option) Simultaneously

NOTE

Steps 4 and 9 are to be performed only when the ECC Board (option) is mounted.

1. With the Power Switch in the OFF position, unplug the power cord from the power outlet.
2. Insert the memory card into the Image Processing Board.

☞ D-119

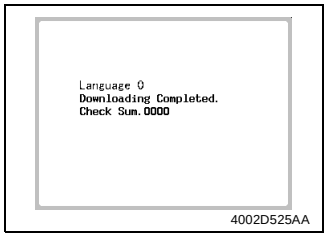
3. Insert the memory card into the Master Board.

☞ D-118

4. Insert the memory card into the ECC Board.

☞ D-121

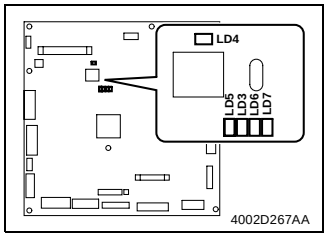
5. Plug the power cord into the power outlet.
6. Turn ON the Power Switch.



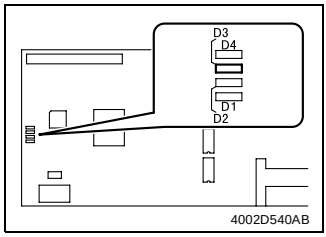
7. Check that a message appears on the Touch Panel, indicating that the data has been rewritten correctly.

Check Items

- "Downloading Completed." is shown.
- The number shown to the left of "Language" matches that entered from the 10-Key Pad when the Power Switch is turned ON.
- The Check Sum value matches the value given on the memory card.



8. Check that LD3 and LD4 on the Master Board are ON.



9. Check that D3 on the ECC Board turns ON.
10. Unplug the power cord from the power outlet.

NOTE

Do not turn OFF the Power Switch at this time.

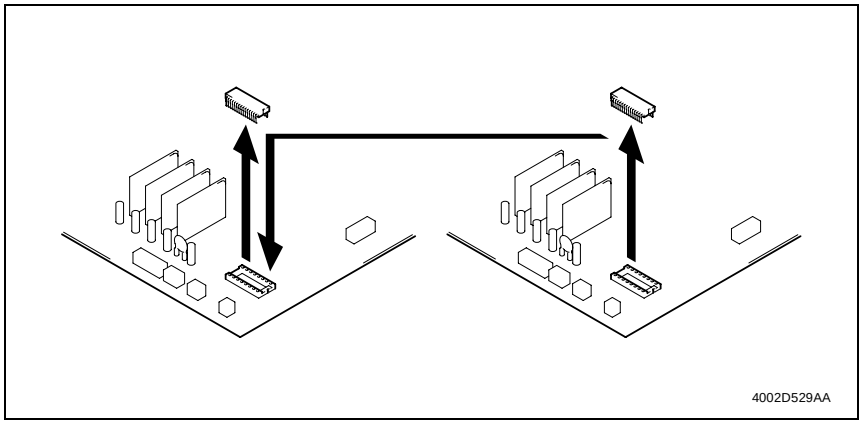
11. Remove the memory card.

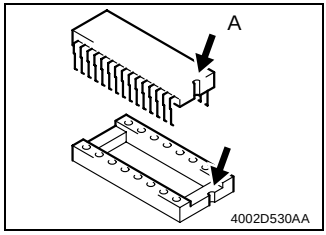
4-4. REMOUNTING EEPROM

NOTE
If the PW Board has replaced, be sure to remount EEPROM from the old to new PW Board. If the PW Board has been replaced and EEPROM has not been remounted, be sure to replace the PC Drum with a new one. EEPROM contains no data in this case, so make entries again of numeric values given on the Adjust Label.

(1) Remounting EEPROM on the Master Board

1. Remove the Master Board.
2. Remove EEPROM (IC101) from the new Master Board.
3. Remove EEPROM (IC101) from old Master Board and remount it onto the new Master Board.

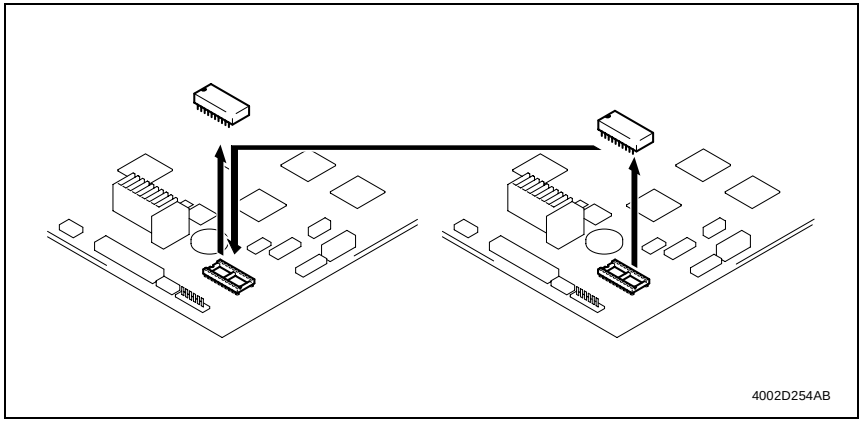


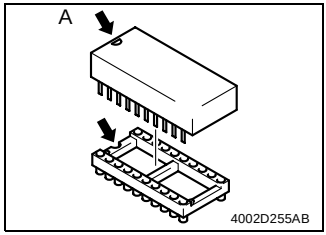


NOTE
Note the alignment notch (A) on EEPROM (IC101) when mounting the IC.

(2) Remounting EEPROM on the Image Processing Board

1. Remove the Image Processing Board.
2. Remove EEPROM (IC400) from the new Image Processing Board.
3. Remove EEPROM (IC400) from old Image Processing Board and remount it onto the new Image Processing Board.





NOTE

Note the alignment notch (A) on EEPROM (IC101) when mounting the IC.

TROUBLESHOOTING

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1. INTRODUCTION

1-1. Reading the Text

1. The paper transport failure troubleshooting procedures are given according to the symptom. First identify the location where the paper is present and start the procedure for that particular location. For malfunction troubleshooting, start with step 1 and onward.
2. Make checks in the numerical order of steps and, if an item is checked okay, go to the next step.

Pattern 1

Step	Check	Result	Action
1	~	YES	~
2		↑	

Go to step 2 if you answered No.

Pattern 2

Step	Check	Result	Action
1	~	YES	~
		NO	~
2			↑

Go to step 2 if it checks okay.

2. I/O CHECK

2-1. Controlled Parts Check Procedure

To allow the Tech. Rep. to easily and safely determine whether a particular controlled part is fully operational, this copier provides the following provision. Checking the data of the input port of the board IC with the copier in the standby state (including a misfeed, malfunction, and closure failure condition) allows the Tech. Rep. to determine whether signals are properly input to a controlled part.

<Procedure>
1. When a misfeed or malfunction occurs, locate on a circuit diagram accompanying the text the controlled part which is probably defective.
2. Select “I/O Check” from the Tech. Rep. Mode menu screen and access the screen that contains the controlled part picked out in step 1 above. (See SWITCHES ON PWBs/ TECH. REP. MODE.)
3. Check the input port data to determine if a signal is properly input to the controlled part.

<Controlled Part Check Procedure Through Checking Input Port Data>

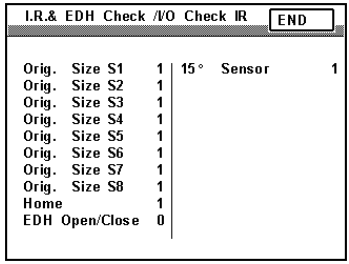
Example
When a paper misfeed occurs in the paper take-up section of the copier, the Synchronizing Roller Sensor (PC1) is considered to be responsible for it.
<Procedure>
1. Remove the sheet of paper misfed.
2. From the I/O Check list, it is found that the signal input to PC1 is “Timing Roller.”
3. Select “Tech. Rep. Mode” → “I/O Check” → “Printer.” Then access the screen that contains “Timing Roller.”
4. Check that the input port data of “Timing Roller” is “0” (sensor is blocked).
5. Move the PC1 actuator to unblock the sensor.
6. Check at this time that the input port data on the screen changes from “0” to “1.”
   1: PC1 is operational. 0: PC1 is faulty.

2-2. I/O Check List

<I/O Check Screens>

- The following screen is only typical and the port data shown does not necessarily represent the actual one.

[IR]



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<I/O Check List>

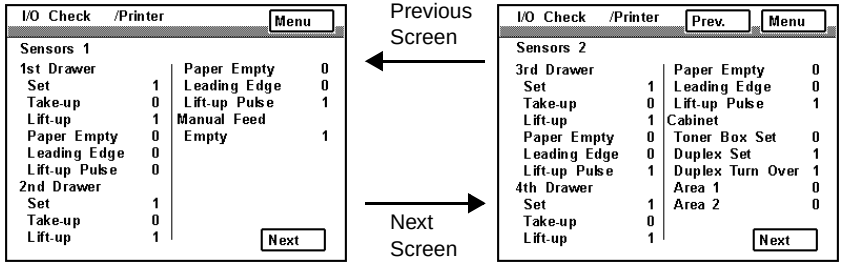
[IR]

Symbol	Panel Display	Parts/Signal Name	Operation Characteristics/Panel Display		Input Board	IC No.	Port No.	CN/PJ No.
			1	0				
PC53	Orig. Size S1	Original Size Detecting Sensor FD1	Original present	Original not present	Image Processing Board (PWB-B)	—	—	PJ6B-1
PC54	Orig. Size S2	Original Size Detecting Sensor FD2	Original present	Original not present		—	—	PJ6B-14
PC54	Orig. Size S3	Original Size Detecting Sensor FD2	Original present	Original not present		—	—	PJ6B-14
PC55	Orig. Size S4	Original Size Detecting Sensor FD3	Original present	Original not present		—	—	PJ7B-10
PC55	Orig. Size S5	Original Size Detecting Sensor FD3	Original present	Original not present		—	—	PJ7B-10
PC56	Orig. Size S6	Original Size Detecting Sensor CD1	Original present	Original not present		—	—	PJ6B-9
PC56	Orig. Size S7	Original Size Detecting Sensor CD1	Original present	Original not present		—	—	PJ6B-9
PC57	Orig. Size S8	Original Size Detecting Sensor CD2	Original present	Original not present		—	—	PJ7B-5
PC51	Home	Scanner Reference Position Sensor	At home	Not at home		—	—	PJ306B-9
S51	EDH Open/Close	Size Reset Switch	When raised	When lowered		—	—	PJ306B-7
PC52	15° Sensor	Original Cover Detecting Sensor	Less than 15°	15° or more		—	—	PJ5B-2

<I/O Check Screens>

- The following screens are only typical and the port data shown does not necessarily represent the actual one.

[Printer]



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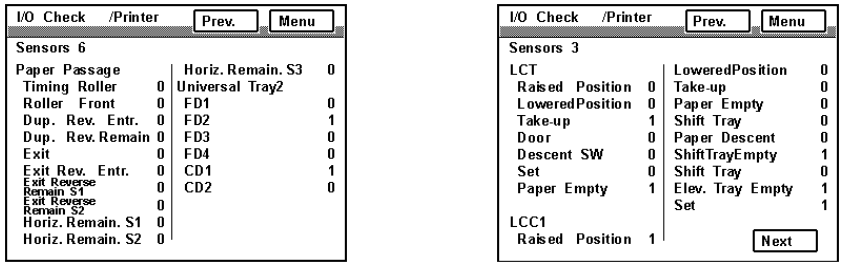
Next Screen

Previous Screen



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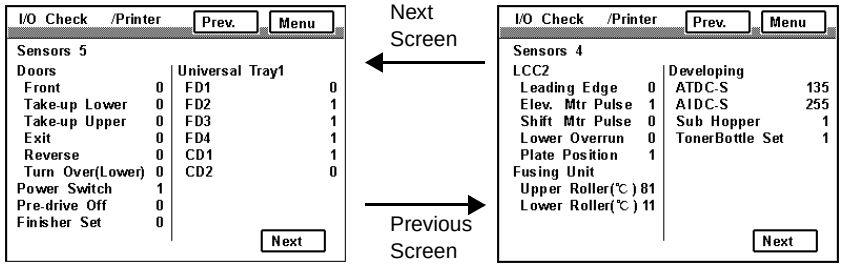
Previous Screen

Next Screen

Next Screen

Previous Screen



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<I/O Check List>
[Printer]

Symbol	Panel Display		Parts/Signal Name	Operation Characteristics/Panel Display		Input Board	IC No.	Port No.	CN/PJ No.
				1	0				
PC10	1st Drawer	Set	1st Drawer Set Sensor	In position	Out of position	Master Board (PWB-A)	IC3	PJ0	PJ3A-9A
PC3		Take-up	1st Drawer Paper Take-Up Sensor	Paper present	Paper not present		IC3	PI4	PJ3A-6A
PC14		Lift-up	1st Drawer Paper Lift-Up Sensor	At upper limit	Not at upper limit		IC3	PI6	PJ4A-6B
PC16		Paper Empty	1st Drawer Paper Empty Sensor	Paper not present	Paper present		IC3	PJ2	PJ4A-9B
PC5		Leading Edge	Paper Leading Edge Sensor SW1	Paper present	Paper not present		IC3	PI4	PJ3A-3A
PC12		Lift-up Pulse	1st Drawer Lift-Up Motor Pulse Sensor	Blocked	Unblocked		IC3	PI0	PJ3A-11A
PC11	2nd Drawer	Set	2nd Drawer Set Sensor	In position	Out of position		IC3	PJ1	PJ3A-9B
PC4		Take-up	2nd Drawer Paper Take-Up Sensor	Paper present	Paper not present		IC3	PI3	PJ3A-6B
PC15		Lift-up	2nd Drawer Paper Lift-Up Sensor	At upper limit	Not at upper limit		IC3	PI7	PJ4A-12B
PC17		Paper Empty	2nd Drawer Paper Empty Sensor	Paper not present	Paper present		IC3	PJ3	PJ4A-15B
PC6		Leading Edge	Paper Leading Edge Sensor SW2	Paper present	Paper not present		IC3	PI5	PJ3A-3B
PC13		Lift-up Pulse	2nd Drawer Lift-Up Motor Pulse Sensor	Blocked	Unblocked		IC3	PI1	PJ3A-11B
PC18	Manual Feed	Empty	Manual Feed Paper Empty Sensor	Paper present	Paper not present		IC3	PK7	PJ2A-3
PC121	3rd Drawer (PF-208)	Set	3rd Drawer Set Sensor	In position	Out of position	Control Board (PWB-A)	IC1	PB3	PJ5A-6B
PC117		Take-up	3rd Drawer Paper Take-Up Sensor	Paper present	Paper not present		IC1	PE0	PJ9A-11
PC115		Lift-up	3rd Drawer Paper Lift-Up Sensor	At upper limit	Not at upper limit		IC1	PD4	PJ8A-2
PC116		Paper Empty	3rd Drawer Paper Empty Sensor	Paper present	Paper not present		IC1	PD3	PJ8A-5
PC113		Leading Edge	Paper Leading Edge Sensor 3	Paper present	Paper not present		IC1	PD6	PJ9A-5
PC123		Lift-up Pulse	3rd Drawer Lift-Up Motor Pulse Sensor	Blocked	Unblocked		IC1	PB2	PJ5A-9B
PC122	4th Drawer (PF-208)	Set	4th Drawer Set Sensor	In position	Out of position		IC1	PB3	PJ5A-8A
PC125		Take-up	4th Drawer Paper Take-Up Sensor	Paper present	Paper not present		IC1	PB0	PJ5A-2A
PC119		Lift-up	4th Drawer Paper Lift-Up Sensor	At upper limit	Not at upper limit		IC1	PB6	PJ6A-2
PC120		Paper Empty	4th Drawer Paper Empty Sensor	Paper not present	Paper present		IC1	PB5	PJ6A-5
PC118		Leading Edge	Paper Leading Edge Sensor 4	Paper present	Paper not present		IC1	PD7	PJ9A-8

Symbol	Panel Display		Parts/Signal Name	Operation Characteristics/Panel Display		Input Board	IC No.	Port No.	CN/PJ No.
				1	0				
PC124	4th Drawer (PF-208)	Lift-up Pulse	4th Drawer Lift-Up Motor Pulse Sensor	Blocked	Unblocked	Control Board (PWB-A)	IC1	PB1	PJ5A-5A
PC135	Cabinet	Toner Box Set	Toner Collecting Bottle Set Sensor	Out of position	In position		IC1	PG1	PJ13A-2
—		Duplex Set	——	In position	Out of position		IC1	PE5	PJ12A-1
—		Duplex Turn Over	——	In position	Out of position		IC1	PE4	PJ11A-7B
—		Area 1	——	——	——		IC1	PG6	——
—		Area 2	——	——	——		IC1	PG7	——
PC1	LCT (C-306 · C-306L)	Raised Position	Paper Plate Raised Position Sensor	At raised position	Not at raised position	Drive Control Board (PWB-A)	IC1	PC0	PJ2A-8A
PC6		Lowered Position	Paper Plate Lowered Position Sensor	At lowered position	Not at lowered position		IC1	PG6	PJ2A-5A
PC4		Take-up	Paper Take-Up Sensor	Paper present	Paper not present		IC1	PG0	PJ2A-2B
PC5		Door	Cassette Door Sensor	When closed	When opened		IC1	PG2	PJ2A-2A
PWB-B		Descent SW	Paper Plate Descent Key Board	ON	OFF		IC1	PG1	PJ3A-2
PC3		Set	Set Sensor	In position	Out of position		IC1	PC2	PJ2A-5B
PC2		Paper Empty	Paper Empty Sensor	Paper present	Paper not present		IC1	PC1	PJ2A-8B
PC115	LCC1 (PF-115)	Raised Position	3rd Drawer Paper Lift-Up Sensor	At raised position	Not at raised position	Control Board (PWB-A)	IC1	PD4	PJ8A-2
PC139		Lowered Position	Elevator Lower Position Sensor	At lowered position	Not at lowered position		IC1	PD0	PJ7A-9A
PC117		Take-up	3rd Drawer Paper Take-Up Sensor	Paper present	Paper not present		IC1	PE0	PJ9A-11
PC116		Paper Empty	3rd Drawer Paper Empty Sensor	Paper not present	Paper present		IC1	PD3	PJ8A-5
PC141		Shift Tray	Shifter Return Position Sensor	Not at return position	At return position		IC1	PD2	PJ7A-7A
UN21		Paper Descent	Paper Descent Key	ON	OFF		IC1	PB7	PJ7A-10A
PC138		Shift Tray Empty	Shift Tray Paper Empty Sensor	Paper not present	Paper present		IC1	PB1	PJ7A-4A
PC140		Shift Tray	Shifter Home Position Sensor	At home	Not at home		IC1	PD1	PJ7A-8A
PWB-E		Elev. Tray Empty	Elevator Tray Paper Empty Board	Paper not present	Paper present		IC1	PB6	PJ7A-6A
PC144		Set	3rd Drawer Set Sensor	In position	Out of position		IC1	PB4	PJ10A-3

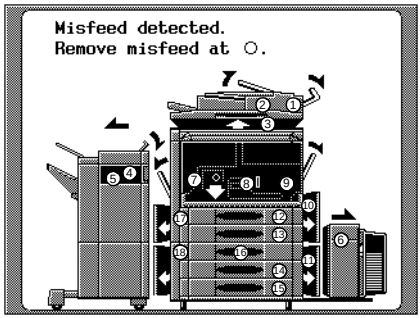
Symbol	Panel Display		Parts/Signal Name	Operation Characteristics/Panel Display		Input Board	IC No.	Port No.	CN/PJ No.
				1	0				
PC113	LCC2 (PF-115)	Leading Edge	Paper Leading Edge Sensor 3	Paper present	Paper not present	Control Board (PWB-A)	IC1	PD6	PJ9A-5
PC142		Elev. Mtr Pulse	Elevator Motor Pulse Sensor	Blocked	Unblocked		IC1	PB3	PJ7A-5A
PC143		Shift Mtr Pulse	Shift Motor Pulse Sensor	Blocked	Unblocked		IC1	PB5	PJ7A-3A
PC137		Lower Overrun	Lower Position Overrun Detecting Sensor	At lowered position	Not at lowered position		IC1	PB0	PJ7A-2A
PC136		Plate Position	Shift Gate Position Sensor	At home	Not at home		IC1	PB2	PJ7A-1B
TH1	Fusing Unit	Upper Roller (°C)	Upper Fusing Roller Thermistor	Voltage value (A/D conversion)		Master Board (PWB-A)	IC1	PORT12	PJ7A-9A
TH2		Lower Roller (°C)	Lower Fusing Roller Thermistor	Voltage value (A/D conversion)			IC1	PORT13	PJ7A-12A
UN2	Developing	ATDC-S	ATDC Sensor	Voltage value (A/D conversion)			IC1	PORT10	PJ7A-10B
PWB-G		AIDC-S	AIDC Sensor Board	Voltage value (A/D conversion)			IC1	PORT11	PJ7A-7B
S4		Sub Hopper	Sub Hopper Toner Empty Switch	Toner loaded	Toner not loaded		IC1	PB7	PJ7A-12B
PC21		Toner Bottle Set	Toner Bottle Home Position Sensor	At home	Not at home		IC3	PK6	PJ11A-5A
S21	Doors	Front	Front Door Interlock Switch	When opened	When closed		IC3	PA0	PJ6A-1
PC114		Take-up Lower	Paper Take-Up Door Sensor	When opened	When closed	Control Board (PWB-A)	IC1	PD5	PJ9A-2
PC29		Take-up Upper	Upper Right Door Set Sensor	When opened	When closed	Master Board (PWB-A)	IC3	PA1	PJ11A-8
S22		Exit	Upper Left Door Interlock Switch	When opened	When closed		IC3	PA2	PJ6A-2
PC19		Reverse	Lower Left Door Set Sensor	When opened	When closed		IC3	PA3	PJ9A-6
PC111		Turn Over (Lower)	Turnover Door Sensor	When opened	When closed	Control Board (PWB-A)	IC1	PE3	PJ11A-10B
S1	Power Switch	—	Power Switch	ON	OFF	Master Board (PWB-A)	IC101	R41	—
PC20	Pre-drive OFF	—	Pre-Drive OFF Rear Sensor	Blocked	Unblocked		IC3	PB0	PJ2A-3B
S1	Finisher Set	—	Set Switch	Out of position	In position	Control Board (PWB-A)	—	—	—
PWB-I1	Universal Tray 1	FD1	Paper Size Detecting Board 1	ON	OFF	Master Board (PWB-A)	IC3	PJ4	PJ4A-1A
PWB-I1		FD2	Paper Size Detecting Board 1	ON	OFF		IC3	PJ5	PJ4A-2A
PWB-I1		FD3	Paper Size Detecting Board 1	ON	OFF		IC3	PJ6	PJ4A-3A
PWB-I1		FD4	Paper Size Detecting Board 1	ON	OFF		IC3	PJ7	PJ4A-4A

Symbol	Panel Display		Parts/Signal Name	Operation Characteristics/Panel Display		Input Board	IC No.	Port No.	CN/PJ No.
				1	0				
PC23	Universal Tray 1	CD1	Paper Size Detecting Sensor CDA1	Blocked	Unblocked	Master Board (PWB-A)	IC3	PK0	PJ12A-3A
PC24		CD1	Paper Size Detecting Sensor CDB1	Blocked	Unblocked		IC3	PB3	PJ12A-6A
PC1	Paper Passage	Timing Roller	Synchronizing Roller Sensor	Paper present	Paper not present	Master Board (PWB-A)	IC1	PORT17	PJ4A-3B
PC2		Roller Front	Transport Roller Sensor	Paper present	Paper not present		IC1	PORT16	PJ4A-13A
PC112		Dup. Rev. Entr.	Duplex Unit Turnover Entry Sensor	Paper present	Paper not present	Control Board (PWB-A)	IC1	PF2	PJ11A-2A
PC131		Dup. Rev. Remain	Turnover Feed Jam Sensor	Paper present	Paper not present		IC1	PE1	PJ11A-5A
PC9		Exit	Paper Exit Sensor	Paper present	Paper not present	Master Board (PWB-A)	IC3	PB5	PJ9A-3A
PC7		Exit Rev. Entr.	Turnover Feed Entry Sensor	Paper present	Paper not present		IC3	PA6	PJ8A-9
PC8		Exit Reverse Remain S1	Turnover Feed Jam Sensor	Paper present	Paper not present		IC3	PA7	PJ8A-6
PC27		Exit Reverse Remain S2	Turnover/Exit Sensor	Paper present	Paper not present		IC3	PA4	PJ8A-3
PC132		Horiz. Remain. S1	Horizontal Transport Entry Sensor	Paper present	Paper not present	Control Board (PWB-A)	IC1	PG0	PJ12A-6
PC133		Horiz. Remain. S2	Horizontal Transport Jam Sensor	Paper present	Paper not present		IC1	PE6	PJ12A-3
PC134		Horiz. Remain. S3	Horizontal Transport Exit Sensor	Paper present	Paper not present		IC1	PE7	PJ12A-4
PWB-I2	Universal Tray 2	FD1	Paper Size Detecting Board 2	ON	OFF	Master Board (PWB-A)	IC3	PK1	PJ4A-6A
PWB-I2		FD2	Paper Size Detecting Board 2	ON	OFF		IC3	PK2	PJ4A-7A
PWB-I2		FD3	Paper Size Detecting Board 2	ON	OFF		IC3	PK3	PJ4A-8A
PWB-I2		FD4	Paper Size Detecting Board 2	ON	OFF		IC3	PK4	PJ4A-9A
PC25		CD2	Paper Size Detecting Sensor CDA2	Blocked	Unblocked		IC3	PK5	PJ12A-9A
PC26		CD2	Paper Size Detecting Sensor CDB2	Blocked	Unblocked		IC3	PB4	PJ12A-12A

3. PAPER TRANSPORT FAILURE

3-1. Paper Misfeed

When a paper misfeed occurs, the Touch Panel shows the corresponding message, misfeed location, and paper location.



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Blinking	Misfeed location
ON	Paper location

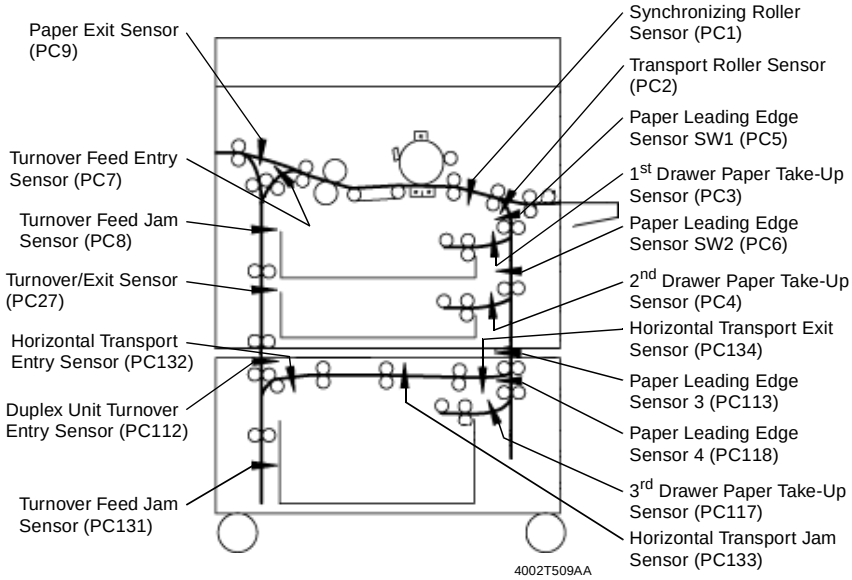
Display	Misfeed/Paper Location	Ref. Page
1	EDH take-up	See the relevant option service manual.
2	EDH reverse, EDH exit	
3	EDH transport	
4	Finisher transport, Finisher exit	
5	Finisher copy set/stack exit	
6	LCT	
7	Copier Fusing Unit	(4)
8	Copier separator	(3)
9	Copier transport	(3)
10	Multi Bypass take-up, take-up vertical transport (upper right section of copier)	(2)
11	Take-up vertical transport (lower right section of copier)	(1)
12	1st Drawer	(1)
13	2nd Drawer	(1)
14	3rd Drawer, LCC	(5) (6)
15	4th Drawer	(5)
16	Duplex horizontal transport	(7)
17	Exit/turnover	(7)
18	Duplex turnover/storage	(7)

<Resetting the Display>

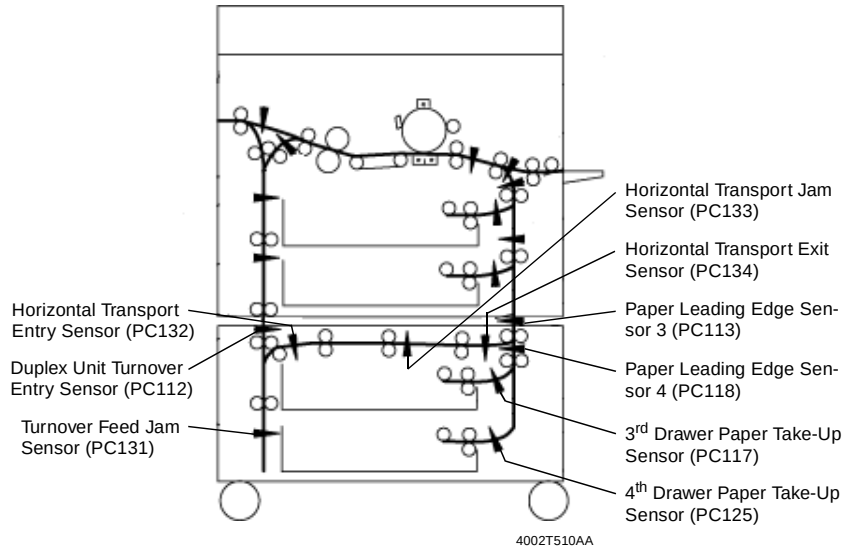
Misfeed in the copier	Open the appropriate door, remove all sheets of paper misfed and left inside, and close the door.
Misfeed in the option	

3-2. Misfeed Detection Sensor Layout

- When PF-115 is Mounted



- When PF-208 is Mounted



3-3. Types of Misfeed Detection and Detection Timings

- The following lists the types of misfeed detection and detection timings for different misfeed locations.
- The symbol “L” (for the leading edge) and “T” (for the trailing edge) given in ( ) indicate the particular edge of the paper detected by the sensor.

NOTE

For the types of misfeed detection and detection timings of options, see the relevant option service manual.

<Copier Paper Take-Up Misfeed>

Type	Detection Start	Detection
Paper take-up failure detection	1st Drawer Paper Take-Up Motor energized	1st Drawer Paper Take-Up Sensor (L)
	2nd Drawer Paper Take-Up Motor energized	2nd Drawer Paper Take-Up Sensor (L)
Paper take-up trailing edge detection	1st Drawer Paper Take-Up Sensor (L)	1st Drawer Paper Take-Up Sensor (T)
	2nd Drawer Paper Take-Up Sensor (L)	2nd Drawer Paper Take-Up Sensor (T)

<Multi Bypass Misfeed>

Type	Detection Start	Detection
Bypass paper take-up failure detection	Upper Vertical Transport/ Manual Feed Motor energized	Transport Roller Sensor (L)

<Transport/Separator Misfeed>

Type	Detection Start	Detection
Leading edge detection by Synchronizing Roller Sensor	Transport Roller Sensor (L)	Synchronizing Roller Sensor (L)
Leading edge detection by Paper Exit Sensor	Synchronizing Roller Sensor (L)	Paper Exit Sensor (L)
Leading edge detection by Turnover Feed Entry Sensor	Synchronizing Roller Sensor (L)	Turnover Feed Entry Sensor (L)

<Fusing/Exit Misfeed>

Type	Detection Start	Detection
Trailing edge detection by Paper Exit Sensor	Synchronizing Roller Sensor (T)	Paper Exit Sensor (T)
Trailing edge detection by Turnover Feed Entry Sensor	Synchronizing Roller Sensor (T)	Turnover Feed Entry Sensor (T)

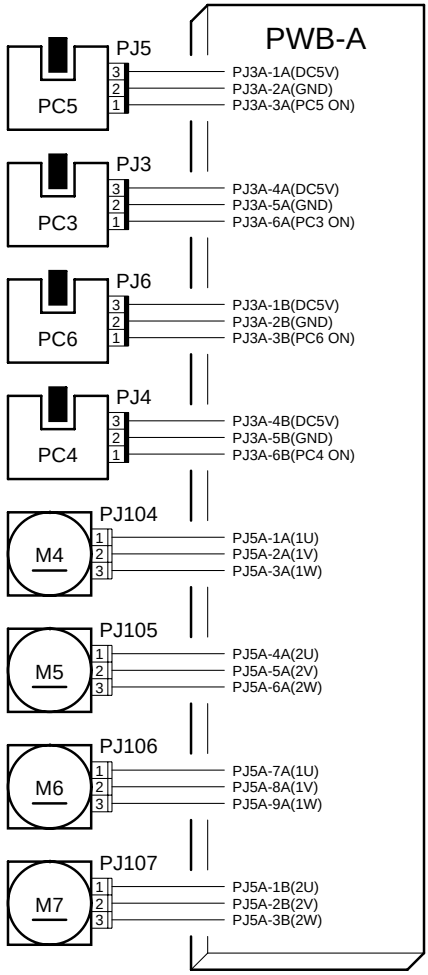
<Duplex Paper Take-Up Misfeed>

Type	Detection Start	Detection
Leading edge detection by Paper Exit Sensor during turnover exit	Turnover Feed Entry Sensor (T)	Paper Exit Sensor (L)
Trailing edge detection by Paper Exit Sensor during turnover exit	Paper Exit Sensor (L)	Paper Exit Sensor (T)
Leading edge detection by Turnover/Exit Sensor	Turnover Feed Entry Sensor (L)	Turnover/Exit Sensor (L)
Leading edge detection by Duplex Unit Turnover Entry Sensor	Turnover/Exit Sensor (L)	Duplex Unit Turnover Entry Sensor (L)
Trailing edge detection by Duplex Unit Turnover Entry Sensor	Turnover/Exit Sensor (T)	Duplex Unit Turnover Entry Sensor (T)
Leading edge detection by Horizontal Transport Entry Sensor	Duplex Unit Turnover Entry Sensor (T)	Horizontal Transport Entry Sensor (L)
Leading edge detection by Horizontal Transport Exit Sensor	Horizontal Transport Entry Sensor (L)	Horizontal Transport Exit Sensor (L)

3-4. Misfeed Troubleshooting Procedures

(1) Copier Paper Take-Up Misfeed

Relevant Electrical Parts	
1st Drawer Paper Take-Up Sensor (PC3) 2nd Drawer Paper Take-Up Sensor (PC4) Paper Leading Edge Sensor SW1 (PC5) Paper Leading Edge Sensor SW2 (PC6)	1st Drawer Paper Take-Up Motor (M4) 2nd Drawer Paper Take-Up Motor (M5) Upper Vertical Transport/Manual Feed Motor (M6) Lower Vertical Transport Motor (M7) Master Board (PWB-A)



4002C01TAA

• Paper is not taken up at all.

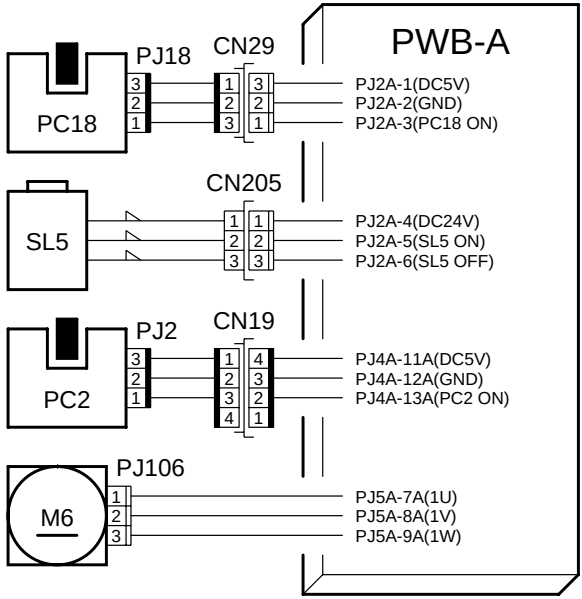
Step	Check	Result	Action
1	Paper meets product specifications.	NO	Change paper.
2	Paper is curled, wavy, or damp.	YES	Change paper. Instruct user in correct paper storage.
3	Edge Guide and Trailing Edge Stop are at correct position to accommodate paper.	NO	Set.
4	Paper Take-Up Roll is dirty with paper dust, deformed, or worn.	YES	Clean or change.
5	Paper Lifting Plate is dirty or deformed.	YES	Clean or change.
6	Paper Separator Pad is dirty with paper dust, deformed, or worn.	YES	Clean or change.
7	Paper take-up guide plate is dirty or deformed.	YES	Clean or change.
8	1st Drawer Paper Take-Up Motor turns when the Start key is pressed with the 1st Drawer selected.	NO	Correct drive coupling. Change motor or Master Board.
9	2nd Drawer Paper Take-Up Motor turns when the Start key is pressed with the 2nd Drawer selected.	NO	Correct drive coupling. Change motor or Master Board.

• Paper is at a stop in the Vertical Transport Section.

Step	Check	Result	Action
1	Vertical Transport Rollers are dirty with paper dust, deformed, or worn.	NO	Change paper.
2	Paper take-up guide plate or vertical transport guide plate is dirty or deformed.	YES	Clean or change.
3	I/O check for 1st Drawer Paper Take-Up Sensor operation when the 1st Drawer is used: the voltage across PJ3A-6A on Master Board and GND is DC0V when the sensor is unblocked and DC5V when the sensor is blocked.	YES	Change Master Board.
		NO	Correct actuator. Change sensor.
4	I/O check for 2nd Drawer Paper Take-Up Sensor operation when the 2nd Drawer is used: the voltage across PJ3A-6B on Master Board and GND is DC0V when the sensor is unblocked and DC5V when the sensor is blocked.	YES	Change Master Board.
		NO	Correct actuator. Change sensor.
5	I/O check for Paper Leading Edge Sensor SW1 operation when the 1st Drawer is used: the voltage across PJ3A-3A on Master Board and GND is DC0V when the sensor is unblocked and DC5V when the sensor is blocked.	YES	Change Master Board.
		NO	Correct actuator. Change sensor.
6	I/O check for Paper Leading Edge Sensor SW2 operation when the 2nd Drawer is used: the voltage across PJ3A-3B on Master Board and GND is DC0V when the sensor is unblocked and DC5V when the sensor is blocked.	YES	Change Master Board.
		NO	Correct actuator. Change sensor.
7	Upper Vertical Transport/Manual Feed Motor turns when the Start key is pressed with the 1st Drawer selected.	NO	Correct drive coupling. Change motor or Master Board.
8	Lower Vertical Transport Motor turns when the Start key is pressed with the 2nd Drawer selected.	NO	Correct drive coupling. Change motor or Master Board.

(2) Multi Bypass Misfeed

Relevant Electrical Parts	
Transport Roller Sensor (PC2) Manual Feed Paper Empty Sensor (PC18) Upper Vertical Transport/Manual Feed Motor (M6)	Manual Feed Paper Pick-Up Solenoid (SL5) Master Board (PWB-A)



4002C02TAA

• Paper is not detected.

Step	Check	Result	Action
1	I/O check for Manual Feed Paper Empty Sensor operation: the voltage across PJ2A-3 on Master Board and GND is DC0V when the sensor is unblocked and DC5V when the sensor is blocked.	YES	Change Master Board.
		NO	Correct actuator. Change sensor.

• Paper is not taken up at all.

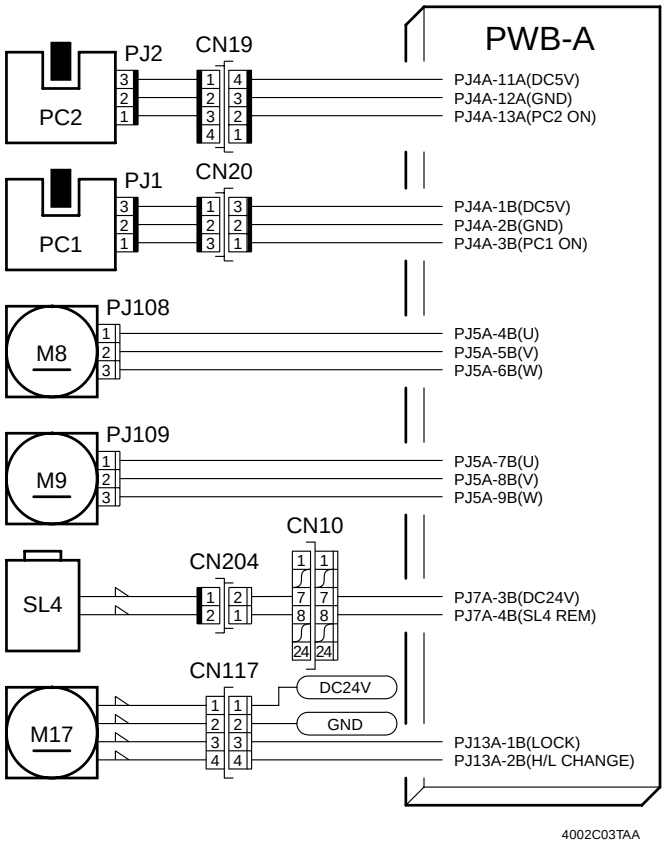
Step	Check	Result	Action
1	Paper meets product specifications.	NO	Change paper.
2	Paper is curled, wavy, or damp.	YES	Change paper. Instruct user in correct paper storage.
3	Friction Pad and guide plate are dirty with paper dust, deformed, or worn.	YES	Clean or change.
4	Manual Bypass Take-Up Roll is dirty with paper dust, deformed, or worn.	YES	Clean or change.
5	Upper Vertical Transport/Manual Feed Motor turns when the Start key is pressed with the Multi Bypass Tray selected.	NO	Correct drive coupling. Change motor or Master Board.

• Paper is at a stop at the Transport Rollers.

Step	Check	Result	Action
1	Manual Feed Paper Pick-Up Solenoid operation when the Start key is pressed with paper loaded in the Multi Bypass Tray: the voltage across PJ2A-6 on Master Board and GND is DC24V when the solenoid is deenergized and DC0V when the solenoid is energized.	YES	Change solenoid.
		NO	Change Master Board.
2	Transport Rollers are dirty with paper dust, deformed, or worn.	YES	Clean or change.
3	I/O check for Transport Roller Sensor operation: the voltage across PJ4A-13A on Master Board and GND is DC0V when the sensor is unblocked and DC5V when the sensor is blocked.	YES	Change Master Board.
		NO	Correct actuator. Change sensor.

(3) Transport/Separator Misfeed

Relevant Electrical Parts	
Transport Roller Sensor (PC2) Synchronizing Roller Sensor (PC1) Transport Roller Motor (M8) Synchronizing Roller Motor (M9)	Suction Fan Motor (M17) Separator Finger Solenoid (SL4) Master Board (PWB-A)



4002C03TAA

• Paper is at a stop at the Synchronizing Rollers.

Step	Check	Result	Action
1	Synchronizing Rollers are dirty with paper dust, deformed, or worn.	YES	Clean or change.
2	The length of the loop formed before the Synchronizing Rollers is okay.	NO	Adjust loop length.
3	I/O check for Synchronizing Roller Sensor operation: the voltage across PJ4A-3B on Master Board and GND is DC0V when the sensor is unblocked and DC5V when the sensor is blocked.	YES	Change Master Board.
		NO	Correct actuator. Change sensor.
4	Synchronizing Roller Motor turns when the Start key is pressed.	NO	Correct drive coupling. Change motor or Master Board.

• Paper is at a stop near the PC Drum.

Step	Check	Result	Action
1	Image Transfer Entrance Guide Plate is dirty with paper dust, deformed, or worn.	YES	Clean or change.
2	Image Transfer/Paper Separator Corona wires are dirty or deteriorated.	YES	Clean or change.
3	Paper guide above Paper Separator Corona is dirty or deformed.	YES	Clean or change.

• Paper is at a stop near the PC Drum Paper Separator Finger.

Step	Check	Result	Action
1	PC Drum Paper Separator Fingers are dirty or deformed.	YES	Clean or change.
2	Separator Finger Solenoid operation: the voltage across PJ7A-4B on Master Board and GND is DC24V when the solenoid is deenergized and DC0V when the solenoid is energized.	YES	Change solenoid.
		NO	Change Master Board.

• Paper is at a stop on the Suction Belts.

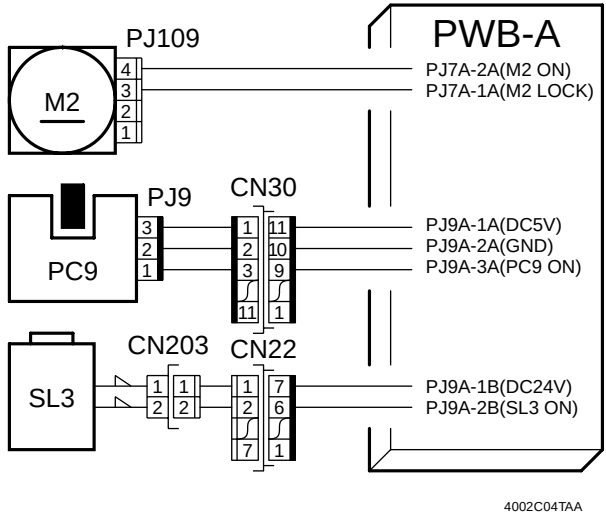
Step	Check	Result	Action
1	Suction Belts turn correctly.	NO	Correct drive coupling.
2	Suction Fan Motor rotation when the Start key is pressed: the voltage across PJ13A-2B on Master Board and GND is DC0V when the motor is deenergized and DC5V when the motor is energized.	YES	Change Suction Belts or motor.
		NO	Change Master Board.

• Paper is at a stop at the Transport Rollers.

Step	Check	Result	Action
1	Transport Rollers are dirty with paper dust, deformed, or worn.	YES	Clean or change.
2	Transport Roller Motor turns when the Start key is pressed.	NO	Correct drive coupling. Change motor or Master Board.

(4) Fusing/Exit Misfeed

Relevant Electrical Parts	
Paper Exit Sensor (PC9) Fusing Motor (M2)	Exit/Duplex Switching Solenoid (SL3) Master Board (PWB-A)



Fusing/Exit Misfeed Troubleshooting Procedures

- Paper is at a stop at the Fusing Unit.

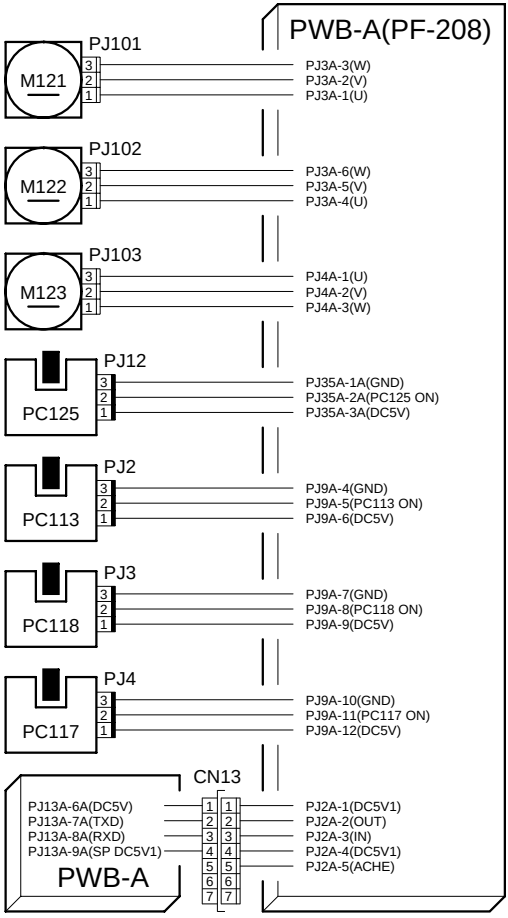
Step	Check	Result	Action
1	Fusing Guide Plate is dirty or deformed.	YES	Clean or change.
2	Fusing Rollers are dirty or scratched.	YES	Clean or change.
3	Fusing Roller Paper Separator Fingers are dirty, deformed, or worn.	YES	Clean, correct, or change.
4	Fusing Motor turns when the Start key is pressed.	NO	Correct drive coupling. Change motor or Master Board.

- Paper is at a stop at the exit section.

Step	Check	Result	Action
1	Exit Roller is dirty or scratched.	YES	Clean or change.
2	I/O check for Paper Exit Sensor: the voltage across PJ9A-3A on Master Board and GND is DC0V when the sensor is unblocked and DC5V when the sensor is blocked.	YES	Change Master Board.
		NO	Correct actuator. Change sensor.
3	Fusing Motor turns when the Start key is pressed.	NO	Correct drive coupling. Change motor or Master Board.

(5) PF-208 Paper Take-Up Misfeed

Relevant Electrical Parts	
3rd Drawer Paper Take-Up Sensor (PC117)	3rd Drawer Paper Take-Up Motor (M122)
4th Drawer Paper Take-Up Sensor (PC125)	4th Drawer Paper Take-Up Motor (M123)
Paper Leading Edge Sensor 3 (PC113)	Vertical Transport Motor (M121)
Paper Leading Edge Sensor 4 (PC118)	Control Board (PWB-A): PF-208
	Master Board (PWB-A)



4002C05TAA

• Paper is not taken up at all.

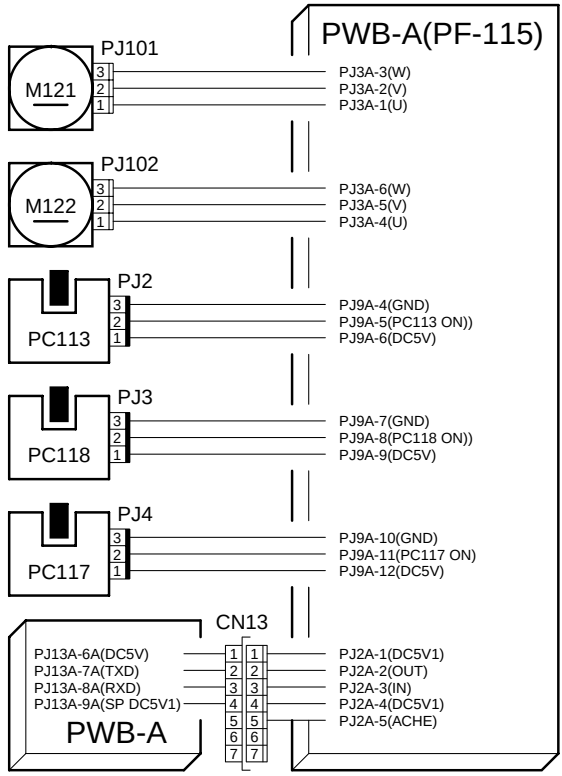
Step	Check	Result	Action
1	Paper meets product specifications.	NO	Change paper.
2	Paper is curled, wavy, or damp.	YES	Change paper. Instruct user in correct paper storage.
3	Edge Guide and Trailing Edge Stop are at correct position to accommodate paper.	NO	Set.
4	Paper Lifting Plate is dirty or deformed.	YES	Clean or change.
5	Paper Separator Pad is dirty with paper dust, deformed, or worn.	YES	Clean or change.
6	Paper take-up guide plate is dirty or deformed.	YES	Clean or change.
7	Paper Take-Up Roll and Separator Roll are dirty with paper dust, deformed, or worn.	YES	Clean or change.
8	3rd Drawer Paper Take-Up Motor turns when the Start key is pressed with the 3rd Drawer selected.	NO	Correct drive coupling. Change motor or Control Board. Change Master Board.
9	4th Drawer Paper Take-Up Motor turns when the Start key is pressed with the 4th Drawer selected.	NO	Correct drive coupling. Change motor or Control Board. Change Master Board.

• Paper is at a stop at the Vertical Transport Rollers.

Step	Check	Result	Action
1	Vertical Transport Rollers are dirty with paper dust, deformed, or worn.	YES	Clean or change.
2	Paper take-up guide plate or vertical transport guide plate is dirty or deformed.	YES	Clean, correct, or change.
3	Vertical Transport Motor turns when the Start key is pressed with the cabinet selected.	NO	Correct drive coupling. Change motor or Control Board. Change Master Board.
4	I/O check for 3rd Drawer Paper Take-Up Sensor operation when the 3rd Drawer is used: the voltage across PJ9A-11 on Control Board and GND is DC5V when the sensor is unblocked and DC0V when the sensor is blocked.	YES	Change Control Board or Master Board.
		NO	Correct actuator. Change sensor.
5	I/O check for 4th Drawer Paper Take-Up Sensor operation when the 4th Drawer is used: the voltage across PJ5A-2A on Control Board and GND is DC5V when the sensor is unblocked and DC0V when the sensor is blocked.	YES	Change Control Board or Master Board.
		NO	Correct actuator. Change sensor.
6	I/O check for Paper Leading Edge Sensor 3 operation when the 3rd Drawer is used: the voltage across PJ9A-5 on Control Board and GND is DC5V when the sensor is unblocked and DC0V when the sensor is blocked.	YES	Change Control Board or Master Board.
		NO	Correct actuator. Change sensor.
7	I/O check for Paper Leading Edge Sensor 4 operation when the 4th Drawer is used: the voltage across PJ9A-8 on Control Board and GND is DC5V when the sensor is unblocked and DC0V when the sensor is blocked.	YES	Change Control Board or Master Board.
		NO	Correct actuator. Change sensor.

(6) PF-115 Paper Take-Up Misfeed

Relevant Electrical Parts	
3rd Drawer Paper Take-Up Sensor (PC117) Paper Leading Edge Sensor 3 (PC113) Paper Leading Edge Sensor 4 (PC118)	3rd Drawer Paper Take-Up Motor (M122) Vertical Transport Motor (M121) Control Board (PWB-A): PF-115 Master Board (PWB-A)



4002C06TAA

• Paper is not taken up at all.

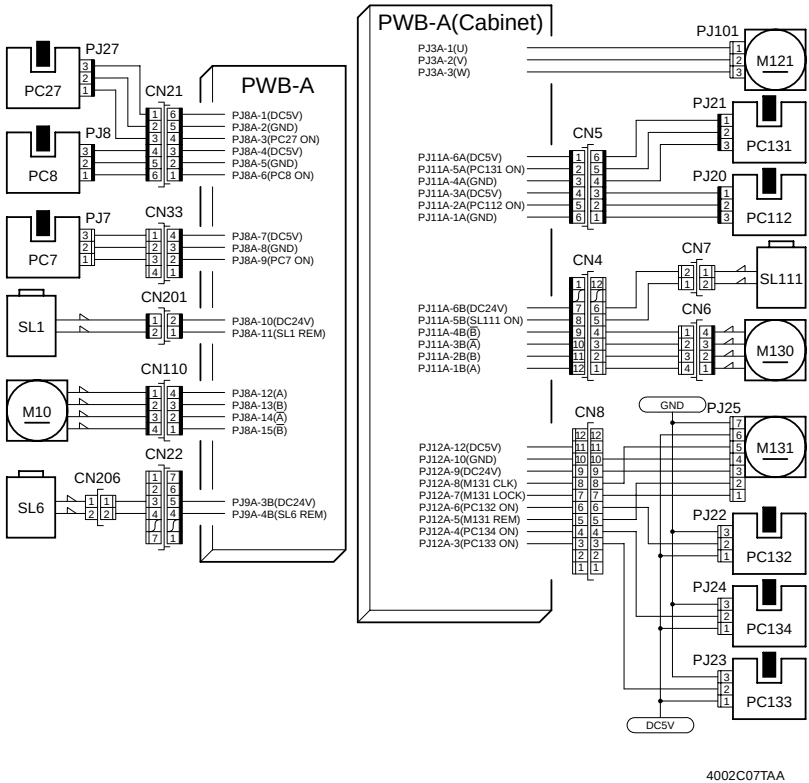
Step	Check	Result	Action
1	Paper meets product specifications.	NO	Change paper.
2	Paper is curled, wavy, or damp.	YES	Change paper. Instruct user in correct paper storage.
3	Paper Lifting Plate is dirty or deformed.	YES	Clean or change.
4	Paper Separator Pad is dirty with paper dust, deformed, or worn.	YES	Clean or change.
5	Paper take-up guide plate is dirty or deformed.	YES	Clean or change.
6	Paper Take-Up Roll and Separator Roll are dirty with paper dust, deformed, or worn.	YES	Clean or change.
7	3rd Drawer Paper Take-Up Motor turns when the Start key is pressed with the 3rd Drawer selected.	NO	Correct drive coupling. Change motor or Control Board. Change Master Board.

• Paper is at a stop at the Vertical Transport Rollers.

Step	Check	Result	Action
1	Vertical Transport Rollers are dirty with paper dust, deformed, or worn.	YES	Clean or change.
2	Paper take-up guide plate or vertical transport guide plate is dirty or deformed.	YES	Clean, correct, or change.
3	Vertical Transport Motor turns when the Start key is pressed with the cabinet selected.	NO	Correct drive coupling. Change motor or Control Board. Change Master Board.
4	I/O check for 3rd Drawer Paper Take-Up Sensor operation when the 3rd Drawer is used: the voltage across PJ9A-11 on Control Board and GND is DC5V when the sensor is unblocked and DC0V when the sensor is blocked.	YES	Change Control Board or Master Board.
		NO	Correct actuator. Change sensor.
5	I/O check for Paper Leading Edge Sensor 3 operation when the 3rd Drawer is used: the voltage across PJ9A-5 on Control Board and GND is DC5V when the sensor is unblocked and DC0V when the sensor is blocked.	YES	Change Control Board or Master Board.
		NO	Correct actuator. Change sensor.

(7) Duplex Paper Take-Up Misfeed

Relevant Electrical Parts	
Turnover Feed Entry Sensor (PC7)	Turnover Motor (M10)
Turnover Feed Jam Sensor (PC8)	Vertical Transport Motor (M121)
Turnover/Exit Sensor (PC27)	Duplex Unit Turnover Motor (M130)
Duplex Unit Turnover Entry Sensor (PC112)	Horizontal Transport Motor (M131)
Turnover Feed Jam Sensor (PC131)	Turnover Roller Retraction Solenoid (SL1)
Horizontal Transport Entry Sensor (PC132)	Turnover Route Switching Solenoid (SL6)
Horizontal Transport Jam Sensor (PC133)	Turnover Roller Interval Solenoid (SL111)
Horizontal Transport Exit Sensor (PC134)	Control Board (PWB-A): Cabinet
	Master Board (PWB-A)



4002C07TAA

• Paper is at a stop at the turnover section.

Step	Check	Result	Action
1	Rollers at the turnover section are dirty, deformed, or worn.	YES	Clean or change.
2	Guide plate at the turnover section is dirty or deformed.	YES	Clean, correct, or change.
3	A torn piece of paper is left at the turnover section.	YES	Clean.
4	I/O check for Turnover Feed Entry Sensor operation: the voltage across PJ8A-9 on Master Board and GND is DC0V when the sensor is unblocked and DC5V when the sensor is blocked.	YES	Change Master Board.
		NO	Correct actuator. Change sensor.
5	I/O check for Turnover Feed Jam Sensor operation: the voltage across PJ8A-6 on Master Board and GND is DC0V when the sensor is unblocked and DC5V when the sensor is blocked.	YES	Change Master Board.
		NO	Correct actuator. Change sensor.
6	I/O check for Turnover/Exit Sensor operation: the voltage across PJ8A-3 on Master Board and GND is DC0V when the sensor is unblocked and DC5V when the sensor is blocked.	YES	Change Master Board.
		NO	Correct actuator. Change sensor.
7	Horizontal Transport Motor rotation: the voltage across PJ12A-5 on Control Board and GND is DC0V when the motor is deenergized and DC5V when the motor is energized.	YES	Change motor.
		NO	Change Control Board.
8	Turnover Motor rotation	NO	Correct drive coupling. Change motor or Master Board.

• Paper is at a stop at the horizontal transport section.

Step	Check	Result	Action
1	Horizontal Transport Rollers are dirty with paper dust, deformed, or worn.	YES	Clean or change.
2	Horizontal transport guide plate is dirty or deformed.	YES	Clean, correct, or change.
3	I/O check for Horizontal Transport Entry Sensor operation: the voltage across PJ12A-6 on Control Board and GND is DC5V when the sensor is unblocked and DC0V when the sensor is blocked.	YES	Change Control Board.
		NO	Correct actuator. Change sensor.
4	I/O check for Horizontal Transport Jam Sensor operation: the voltage across PJ12A-3 on Control Board and GND is DC5V when the sensor is unblocked and DC0V when the sensor is blocked.	YES	Change Control Board or Master Board.
		NO	Correct actuator. Change sensor.
5	I/O check for Horizontal Transport Exit Sensor operation: the voltage across PJ12A-4 on Control Board and GND is DC5V when the sensor is unblocked and DC0V when the sensor is blocked.	YES	Change Control Board or Master Board.
		NO	Correct actuator. Change sensor.
6	Vertical Transport Motor turns when the Start key is pressed with the cabinet selected.	NO	Correct drive coupling. Change motor or Control Board. Change Master Board.

4. MALFUNCTIONS

The copier's CPU is equipped with a self-diagnostics function that, on detecting a malfunction, gives the corresponding malfunction code on the Touch Panel.

Resetting a Malfunction

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

4-1. Detection Timing by Malfunction Code

Code	Description	Detection Timing
C0000	Fusing Motor's failure to turn	• The Lock signal remains HIGH for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has started turning. • The Lock signal remains LOW for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has stopped turning.
C0010	PC Drum Drive Motor's failure to turn	• The Lock signal remains HIGH for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has started turning. • The Lock signal remains LOW for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has stopped turning.
C0040	Suction Fan Motor's failure to turn	The Lock signal remains HIGH for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has started turning at high speed.
C0042	Fusing Unit Cooling Fan Motor's failure to turn	The Lock signal remains HIGH for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has started turning at high speed.
C0044	EDH Fan Motor malfunction	See the relevant option service manual.
C0045	IR Cooling Fan Motor malfunction	The Lock signal remains HIGH for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has stopped turning.
C0046	PH Cooling Fan Motor 1 malfunction	The Lock signal remains HIGH for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has started turning.
C0047	PH Cooling Fan Motor 2 malfunction	The Lock signal remains HIGH for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has started turning.
C0049	Paper source option Vertical Transport Cooling Fan Motor malfunction	See the relevant option service manual.

Code	Description	Detection Timing
C004C	Ventilation Fan Motor's failure to turn	• The Lock signal remains HIGH for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has started turning. • The Lock signal remains LOW for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has stopped turning.
C004E	Power Supply Unit Cooling Fan Motor 1's failure to turn	The Lock signal remains HIGH for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has started turning at high speed.
C004F	Power Supply Unit Cooling Fan Motor 2's failure to turn	The Lock signal remains HIGH for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has started turning at high speed.
C0072	Main Hopper Toner Replenishing Motor's failure to turn	• The Toner Bottle Home Position Sensor does not go HIGH within 5 sec. after the motor has started turning. • The Toner Bottle Home Position Sensor does not go LOW within 10 sec. after the motor has started turning and the sensor has gone HIGH. • The motor is stationary or the Toner Bottle Home Position Sensor is HIGH 2 sec. after the motor has stopped turning.
C0090	Developing Unit Drive Motor's failure to turn	• The Lock signal remains HIGH for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has started turning. • The Lock signal remains LOW for a continuous period of 1.5 sec. or more after the lapse of 10 sec. after the motor has stopped turning.
C0210	Image Transfer/Paper Separator Corona charge leak detected	The Charge Leak Detection signal (SCD) remains ON for a continuous period of 0.3 sec. after the Image Transfer/Paper Separator Corona output has been turned ON.
C0400	Exposure Lamp's failure to turn ON	• During a light intensity adjustment sequence, the CCD read data does not exceed the specified level when the peak of the intensity of light is detected within 1 min. after the Exposure Lamp has turned ON. • Under normal conditions, the CCD read data does not exceed the specified level 450 ms after the Exposure Lamp has turned ON.
C0420	Exposure Lamp turning ON at abnormal timing	During a light intensity adjustment sequence, the adjusted value for the intensity of light remains at the lower limit and the CCD output level is at the saturation level even after the lapse of 2 sec. after the Exposure Lamp has turned ON.

Code	Description	Detection Timing
C0500	Warming-up failure	The surface temperature of the Upper Fusing Roller does not reach a specified level even after the lapse of a predetermined period of time during warming-up as detailed below: • From room temperature to 90°C: Within 180 sec. • From 90°C to 140°C: Within 140 sec. • From 140°C to 170°C: Within 135 sec. The copier fails to complete its warm-up cycle within 135 sec. after the temperature has reached 170°C.
C0510	Abnormally low fusing temperature	• The surface temperature of the Upper Using Roller remains less than 120°C for a continuous period of 2 sec. or more after the copier has completed warming up. • The surface temperature of the Lower Using Roller remains 80°C or less for a continuous period of 2 sec. or more after the copier has completed warming up.
C0520	Abnormally high fusing temperature	• The surface temperature of the Upper Using Roller remains 215°C or more for a continuous period of 2 sec. or more after the copier has completed warming up. • The surface temperature of the Lower Using Roller remains 200°C or more for a continuous period of 2 sec. or more after the copier has completed warming up.
C0602	Cable unwound	A Scanner drive command is issued when the Scanner is at its home position and the Scanner Reference Position Sensor remains blocked even after the lapse of a given period of time (after the Scanner has been driven to move a given distance thereafter).
C0650	SHOME signal error	A Scanner drive command is issued when the Scanner is at a position other than its home and the Scanner Reference Position Sensor is not blocked even after the lapse of a given period of time (after the Scanner has been driven to move a given distance thereafter).
C0900	3rd Drawer Paper Lift-Up Sensor malfunction	See the relevant option service manual.
C0904	3rd Drawer Paper Lift-Up Motor's failure to turn	

Code	Description	Detection Timing
C0910	2nd Drawer Paper Lift-Up Sensor malfunction	• The 2nd Drawer Paper Lift-Up Sensor is not blocked (LOW) even after the lapse of 5 sec. after the 2nd Drawer Paper Lift-Up Motor has started turning. • The 2nd Drawer Paper Lift-Up Sensor is not activated even when the 2nd Drawer Paper Lift-Up Motor Pulse Sensor detects 150 edges of rotation detection pulses after the 2nd Drawer Paper Lift-Up Motor has started turning.
C0914	2nd Drawer Lift-Up Motor's failure to turn	The 2nd Drawer Paper Lift-Up Motor Pulse Sensor detects no edges of rotation detection pulses even after the lapse of 500 ms after the 2nd Drawer Paper Lift-Up Motor has started turning.
C0920	1st Drawer Paper Lift-Up Sensor malfunction	• The 1st Drawer Paper Lift-Up Sensor is not blocked (LOW) even after the lapse of 5 sec. after the 1st Drawer Paper Lift-Up Motor has started turning. • The 1st Drawer Paper Lift-Up Sensor is not activated even when the 1st Drawer Paper Lift-Up Motor Pulse Sensor detects 150 edges of rotation detection pulses after the 1st Drawer Paper Lift-Up Motor has started turning.
C0924	1st Drawer Lift-Up Motor's failure to turn	The 1st Drawer Paper Lift-Up Motor Pulse Sensor detects no edges of rotation detection pulses even after the lapse of 500 ms after the 1st Drawer Paper Lift-Up Motor has started turning.
C0950	4th Drawer Paper Lift-Up Sensor malfunction	See the relevant option service manual.
C0954	4th Drawer Paper Lift-Up Motor's failure to turn	
C0990	Main Tray lifting motion failure	
C0994	Main Tray Elevator Motor's failure to turn	
C0996	Main Tray lock release failure	
C0997	Shift Gate malfunction	
C0998	Shifter return failure	
C099C	Shift Motor's failure to turn	
C09C0	LCT Elevator ascent/ descent failure	

Code	Description	Detection Timing
C0B00	Transport mechanism malfunction	See the relevant option service manual.
C0B02		
C0B03		
C0B04		
C0B20	Stapling Unit drive system malfunction	
C0B21		
C0B24		
C0B30	Paper Aligning Mechanism malfunction	
C0B31		
C0B34		
C0B35		
C0B36		
C0B38		
C0B48	Neat copy stack transport mechanism malfunction	
C0B49	Copy stack transport mechanism malfunction	
C0B4A		
C0B4B		
C0B4D		
C0B4E		
C0B4F		
C0B50	Stapling drive system	
C0B51		
C0B54		
C0B73	Hole Punch mechanism malfunction	
C0B74		
C0B78	Hole Punch mechanism malfunction	
C0B80	Shifting mechanism malfunction	
C0BA0	Elevator mechanism malfunction	
C0BA1		
C0BA2		

Code	Description	Detection Timing
C0BC0	Paper folding mechanism malfunction	See the relevant option service manual.
C0BC1		
C0BC2		
C0BC3		
C0BF0	Control system malfunction	
C0D50	Duplex Horizontal Transport Motor malfunction	
C0E00	Main Erase Lamp's failure to turn ON	• The Main Erase Lamp Malfunction signal remains LOW for a continuous 1-sec. period while the Main Erase Lamp remains OFF. • The Main Erase Lamp Malfunction signal remains HIGH for a continuous 1-sec. period while the Main Erase Lamp remains ON.
C0F24	AIDC Sensor contamination correction failure	The output voltage from the AIDC Sensor Board does not fall within the range of 0.9V to 1.1V even after the contamination correction and variation adjustment have been made.
C0F32	ATDC Sensor malfunction	• The output voltage from the ATDC Sensor remains 0.2V or less, or 4.5V or more, for a continuous 3-sec. period after the Developing Unit Drive Motor has been energized. • The output voltage from the ATDC Sensor does not fall within the range of 2.45V to 2.55V during an F8 operation.
C0F33	Abnormally low T/C as detected by ATDC Sensor	A T/C of 2.5% or less (ATDC Sensor output being 2.86V or more) is detected.
C10XX C11XX C12XX	Memory Board failure	
C12CX	Hard Disk Drive failure	
C1300	Polygon Motor malfunction	• No Lock signals are detected for the period of 5 to 20 sec. after the motor has started turning after the Power Switch was turned ON. • No Lock signals are detected for the period of 5 to 20 sec. after the motor has started turning at full speed after the Start key was pressed. • The Lock signal remains HIGH for a continuous period of 3 sec. or more while the motor is running at steady speed.
C1326	ARMS interface failure	No answer is received within 1.5 sec. to a report transmitted by the engine.
C1330	VD signal error	A LOW VD signal is not detected even after the lapse of 60 sec. after an IDREQ signal has been output.

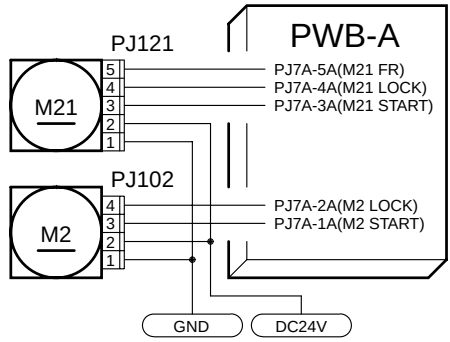
Code	Description	Detection Timing
C1334	Duplex take-up print command error	• A Duplex take-up print command is not received for the paper to be taken up from the Duplex after the paper has moved past the horizontal transport, but before it reaches the Transport Roller. • The number of Duplex take-up print commands falls short of the number of sheets of paper to be taken up from the Duplex, or the leading edge of a sheet of paper, for which a Duplex take-up print command is yet to be received, activates the Transport Roller Sensor.
C133B	Option I/F communications error	
C13F1	600dpi SOS Sensor failure	
C13F4	Optical System out of adjustment range	
C13F5	LD1 intensity adjustment failure	
C13F6	LD2 intensity adjustment failure	
C13F7	Sub-scanning direction beam position adjustment failure	
C13F8	Main scanning direction beam position adjustment failure	
C13F9	EEPROM communications error	
C13FA	LD2 out of correction range	
C13FC	APC failure	
C1401	IR main routine timeout	
C1402	IR illegal interrupt vector occurred	
C1410	IR watchdog	
C1426	Report retransmitted	
C1428	Transmission buffer full	
C1429	Reception buffer full	
C142A	Transmission hard error	
C1430	H-Sync error	
C143E	EDH malfunction	
C1440	Gain adjustment failure	
C1441	CCD failure (clamp adjustment failure)	
C1450	Sequence trouble timeout	
C1461	Serial GA1 failure	
C1462	Serial GA2 failure	
C1470	Module-to-module communication (CCM-EVM)	
C1471	Module-to-module communication (EVM-SQM)	
C1472	Module-to-module communication (EVM-AMM)	
C1499	IR cooling fan malfunction	
C18XX	SCSI communications unit failure	

4-2. Troubleshooting Procedures by Malfunction Code

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

C0010: PC Drum Drive Motor's failure to turn

Relevant Electrical Parts	
Fusing Motor (M2) PC Drum Drive Motor (M21)	Master Board (PWB-A)



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C0000

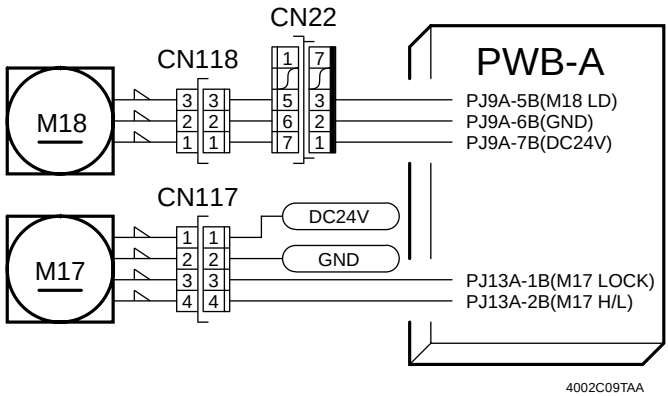
Step	Check	Result	Action
1	Fusing Motor turns when the Start key is pressed.	NO	Correct drive coupling.
2	Fusing Motor rotation: the voltage across PJ7A-1A on Master Board and GND is DC5V (motor deenergized) and DC0V (motor energized) when the Start key is pressed.	NO	Change Master Board.
3	Fusing Motor rotation: the voltage across PJ7A-2A on Master Board and GND is DC5V (motor deenergized) and DC0V (motor energized) when the Start key is pressed.	YES	Change Master Board.
		NO	Change motor.

C0010

Step	Check	Result	Action
1	PC Drum Drive Motor turns when the Start key is pressed.	NO	Correct drive coupling.
2	PC Drum Drive Motor rotation: the voltage across PJ7A-3A on Master Board and GND is DC5V (motor deenergized) and DC0V (motor energized) when the Start key is pressed.	NO	Change Master Board.
3	PC Drum Drive Motor rotation: the voltage across PJ7A-4A on Master Board and GND is DC5V (motor deenergized) and DC0V (motor energized) when the Start key is pressed.	YES	Change Master Board.
		NO	Change motor.

(2) C0040: Suction Fan Motor's failure to turn
C004C: Ventilation Fan Motor's failure to turn

Relevant Electrical Parts	
Suction Fan Motor (M17) Ventilation Fan Motor (M18)	Master Board (PWB-A)



C0040

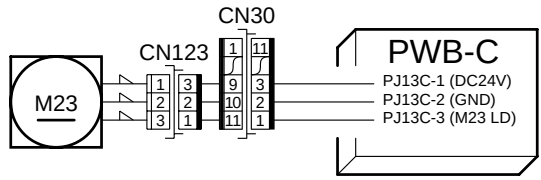
Step	Check	Result	Action
1	Suction Fan Motor turns when the malfunction is reset.	NO	Check motor for installation.
2	Suction Fan Motor rotation: the voltage across PJ13A-1B on Master Board and GND is DC5V after the malfunction has been reset.	YES	Change Master Board.
		NO	Change motor.

C004C

Step	Check	Result	Action
1	Ventilation Fan Motor rotation: the voltage across PJ9A-7B on Master Board and GND is DC24V when the Start key is pressed.	NO	Change Master Board.
2	Ventilation Fan Motor rotation: the voltage across PJ9A-5B on Master Board and GND is DC0V when the Start key is pressed.	YES	Change Master Board.
		NO	Check motor for installation. Change motor.

(3) C0042: Fusing Unit Cooling Fan Motor's failure to turn

Relevant Electrical Parts	
Fusing Unit Cooling Fan Motor (M23)	Power Supply Board (PWB-C)

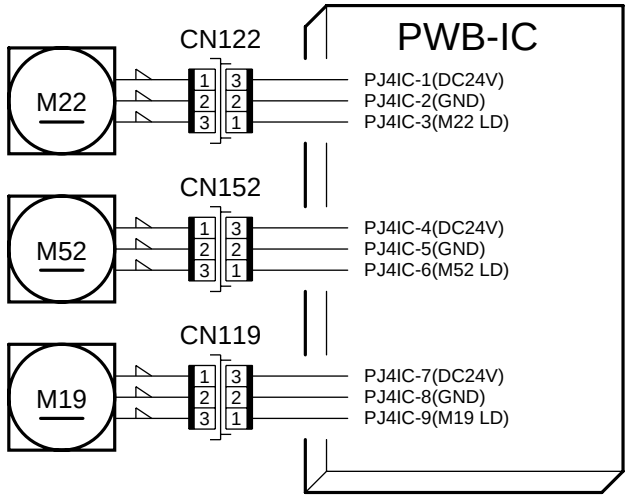


C0042

Step	Check	Result	Action
1	Fusing Unit Cooling Fan Motor rotation: the voltage across PJ13C-1 on Power Supply Board and GND is DC24V (during high-speed rotation) and DC16V (during low-speed rotation) after the malfunction has been reset.	NO	Change Power Supply Board.
2	Fusing Unit Cooling Fan Motor rotation: the voltage across PJ13C-3 on Power Supply Board and GND is DC5V after the malfunction has been reset.	YES	Change Master Board.
		NO	Check motor for installation. Change motor.

(4) C0045: IR Cooling Fan Motor malfunction
C0046: PH Cooling Fan Motor 1 malfunction
C0047: PH Cooling Fan Motor 2 malfunction

Relevant Electrical Parts	
PH Cooling Fan Motor 2 (M19)	IR Cooling Fan Motor (M52)
PH Cooling Fan Motor 1 (M22)	SCP Board (PWB-IC)



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C0045

Step	Check	Result	Action
1	IR Cooling Fan Motor rotation: the voltage across PJ4IC-4 on SCP Board and GND is DC24V (during high-speed rotation) and DC12V (during low-speed rotation) after the malfunction has been reset.	NO	Change SCP Board.
2	IR Cooling Fan Motor rotation: the voltage across PJ4IC-6 on SCP Board and GND is DC5V after the malfunction has been reset.	YES	Change SCP Board.
		NO	Check motor for installation. Change motor.

C0046

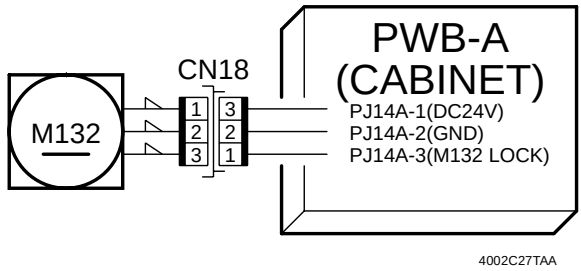
Step	Check	Result	Action
1	PH Cooling Fan Motor 1 rotation: the voltage across PJ4IC-1 on Master Board and GND is DC24V after the malfunction has been reset.	NO	Change SCP Board.
2	PH Cooling Fan Motor 1 rotation: the voltage across PJ4IC-3 on Master Board and GND is DC0V after the malfunction has been reset.	YES	Change SCP Board.
		NO	Check motor for installation. Change motor.

C0047

Step	Check	Result	Action
1	PH Cooling Fan Motor 2 rotation: the voltage across PJ4IC-7 on Master Board and GND is DC24V after the malfunction has been reset.	NO	Change SCP Board.
2	PH Cooling Fan Motor 2 rotation: the voltage across PJ4IC-9 on Master Board and GND is DC0V after the malfunction has been reset.	YES	Change SCP Board.
		NO	Check motor for installation. Change motor.

(5) C0049: Paper source option Vertical Transport Cooling Fan Motor malfunction

Relevant Electrical Parts	
Vertical Transport Cooling Fan Motor (M132)	Control Board (PWB-A)



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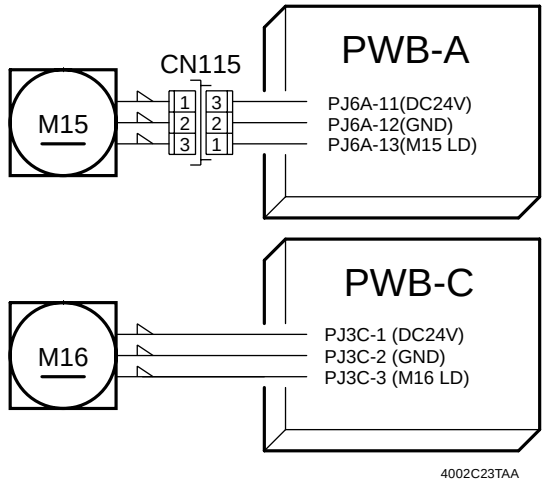
C0049

Step	Check	Result	Action
1	Vertical Transport Cooling Fan Motor rotation: the voltage across PJ14A-1 on Power Supply Board and GND is DC24V after the malfunction has been reset.	NO	Change Control Board.
2	Vertical Transport Cooling Fan Motor rotation: the voltage across PJ14A-3 on Power Supply Board and GND is DC0V after the malfunction has been reset.	YES	Change Control Board.
		NO	Check motor for installation. Change motor.

(6) C004E: Power Supply Unit Cooling Fan Motor 1's failure to turn
C004F: Power Supply Unit Cooling Fan Motor 2's failure to turn

Relevant Electrical Parts	
Power Supply Unit Cooling Fan Motor 1 (M16) Power Supply Unit Cooling Fan Motor 2 (M15)	Master Board (PWB-A) Power Supply Board (PWB-C)



C004E

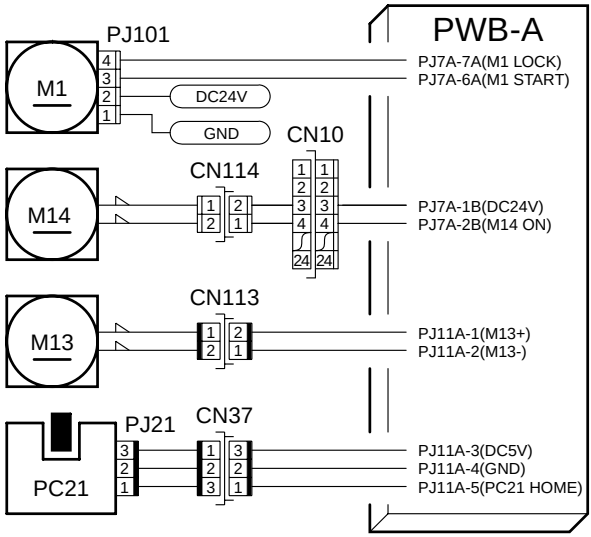
Step	Check	Result	Action
1	Power Supply Unit Cooling Fan Motor 1 rotation: the voltage across PJ3C-1 on Power Supply Board and GND is DC24V after the malfunction has been reset.	NO	Change Power Supply Board.
2	Power Supply Unit Cooling Fan Motor 1 rotation: the voltage across PJ3C-3 on Power Supply Board and GND is DC5V after the malfunction has been reset.	YES	Check motor for installation. Change motor.
		NO	Change Power Supply Board.

C004F

Step	Check	Result	Action
1	Power Supply Unit Cooling Fan Motor 2 rotation: the voltage across PJ6A-11 on Power Supply Board and GND is DC24V after the malfunction has been reset.	NO	Change Master Board.
2	Power Supply Unit Cooling Fan Motor 2 rotation: the voltage across PJ6A-13 on Power Supply Board and GND is DC5V after the malfunction has been reset.	YES	Check motor for installation. Change motor.
		NO	Change Master Board.

(7) C0072: Main Hopper Toner Replenishing Motor's failure to turn
C0090: Developing Unit Drive Motor's failure to turn

Relevant Electrical Parts	
Toner Bottle Home Position Sensor (PC21) Developing Unit Drive Motor (M1) Main Hopper Toner Replenishing Motor (M13)	Sub Hopper Toner Replenishing Motor (M14) Master Board (PWB-A)



4002C11TAA

C0072

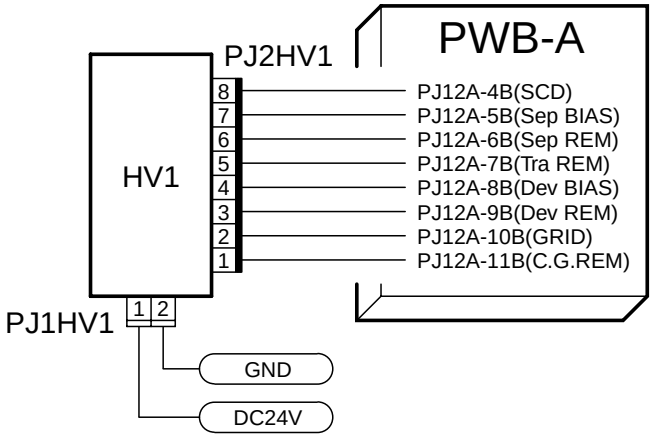
Step	Check	Result	Action
1	Toner Bottle turns when the Toner Bottle is turned a half turn and the Front Door is closed.	NO	Correct drive coupling.
2	I/O check for Toner Bottle Home Position Sensor operation: the voltage across PJ11A-5 on Master Board and GND is DC5V (Toner Bottle at home position) and DC0V (Toner Bottle at a position other than home) when step 1 is performed.	YES	Change Master Board.
		NO	Check sensor for installation. Correct detecting plate. Change sensor.
3	Main Hopper Toner Replenishing Motor rotation: the voltage across PJ11A-1 on Master Board and GND is DC0V (Toner Bottle at a stop) and DC24V (Toner Bottle turning) when step 1 is performed.	YES	Change motor.
		NO	Change Master Board.

C0090

Step	Check	Result	Action
1	Developing Unit Drive Motor rotation: the voltage across PJ7A-7A on Master Board and GND is DC5V (motor deenergized) and DC0V (motor energized) when the Start key is pressed.	NO	Change Master Board.
2	Developing Unit Drive Motor rotation: the voltage across PJ7A-6A on Master Board and GND is DC5V (motor deenergized) and DC0V (motor energized) when the Start key is pressed.	YES	Correct drive coupling. Correct installed position of the Developing Unit. Change motor.
		NO	Change Master Board.

(8) C0210: Image Transfer/Paper Separator Corona charge leak detected

Relevant Electrical Parts	
PC Drum Charge/Developing Bias HV (HV1)	Master Board (PWB-A)



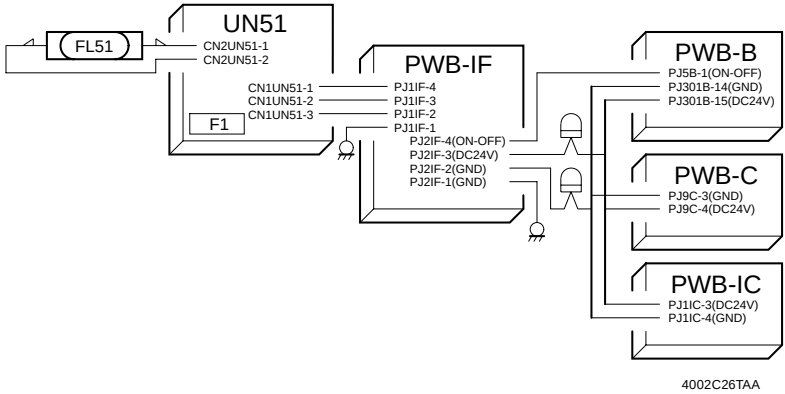
C0210

Step	Check	Result	Action
1	The Image Transfer/Paper Separator Coronas Unit is installed properly.	NO	Correct installed position.
2	The Image Transfer/Paper Separator Coronas wires are dirty or have snapped.	YES	Clean or change.
3	The malfunction code appears even with PJ2HV1 unplugged.	YES	Change Master Board.
		NO	Change the HV.

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

C0420: Exposure Lamp turning ON at abnormal timing

Relevant Electrical Parts	
Exposure Lamp (FL51)	Image Processing Board (PWB-B)
Inverter Board (UN51)	Power Supply Board (PWB-C)
Lamp Flat Cable (PWB-IF)	SCP Board (PWB-IC)



C0400, C0420

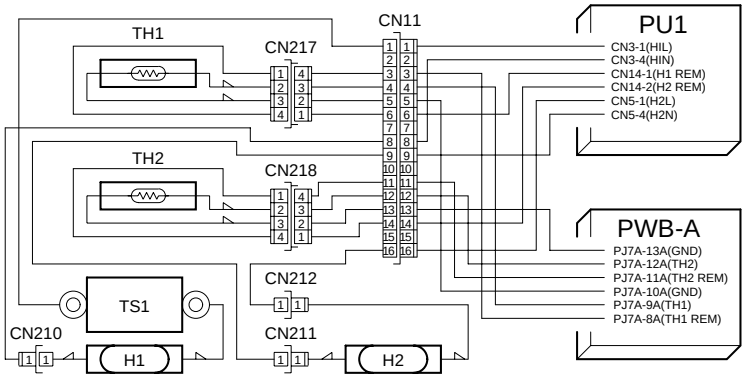
Step	Check	Result	Action
1	Exposure Lamp has discolored.	YES	Change Exposure Lamp.
2	"NG" is displayed when "Scanning Check" of "Function (IR)" is run.	YES	Check the optical path. Change Image Processing Board or CCD Board.
3	Power Supply Board operation: the voltage across PJ9C-4 on Power Supply Board and GND is DC24V after the malfunction has been reset.	YES	Check and change, as necessary, flat cable. Change Inverter Board or Image Processing Board.
		NO	Change Power Supply Board.

(10) C0500: Warming-up failure

C0510: Abnormally low fusing temperature

C0520: Abnormally high fusing temperature

Relevant Electrical Parts	
Upper Fusing Roller Heater Lamp (H1) Lower Fusing Roller Heater Lamp (H2) Upper Fusing Roller Thermistor (TH1) Lower Fusing Roller Thermistor (TH2)	Upper Fusing Roller Thermostat (TS1) DC Power Supply Main (PU1) Master Board (PWB-A)



4002C13TAB

C0500, C0510

Step	Check	Result	Action
1	Upper Fusing Roller Heater Lamp turns ON when the Power Switch is turned ON.	YES	Correct thermistor for mounting position and/or clean.
2	Lower Fusing Roller Heater Lamp turns ON when the malfunction is reset with the surface temperature of Lower Fusing Roller Heater Lamp is 140°C or less as indicated on “Level History” under the Tech. Rep. mode.	NO	Check step 7 and onward.
3	Upper and Lower Fusing Roller Thermistors are installed properly.	NO	Reinstall.
4	Upper and Lower Fusing Roller Thermistors are dirty.	NO	Clean.
5	Upper Fusing Roller Thermistor operation: the resistance across CN217-2 and 3 on the Fusing Unit end is infinity with CN217 (4P) disconnected.	YES	Change Upper Fusing Roller Thermistor.
6	Lower Fusing Roller Thermistor operation: the resistance across CN218-2 and 3 on the Fusing Unit end is infinity with CN218 (4P) disconnected.	YES	Change Lower Fusing Roller Thermistor.
7	Upper Fusing Roller Thermostat and Upper Fusing Roller Heater Lamp continuity: there is continuity across CN11-1 and 8 with CN11 (16P) disconnected.	NO	Change thermostat and heater lamp.
8	Lower Fusing Roller Heater Lamp continuity: there is continuity across CN11-9 and 16 with CN11 (16P) disconnected.	NO	Change heater lamp.

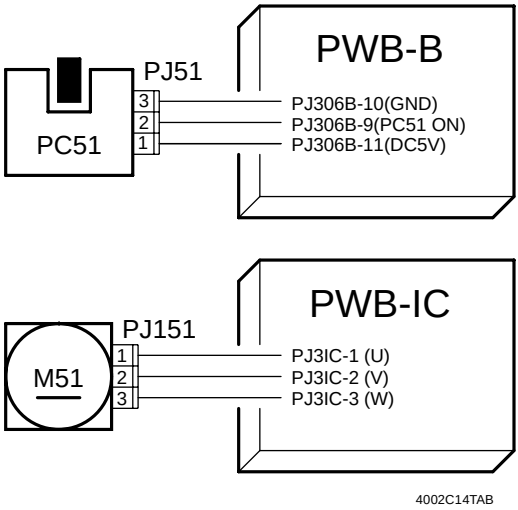
C0520

Step	Check	Result	Action
1	Upper Fusing Roller Heater Lamp is ON even after the copier has completed warming up. Or Lower Fusing Roller Heater Lamp is ON when the surface temperature of Lower Fusing Roller Heater Lamp is 140°C or more as indicated on “Level History” under the Tech. Rep. mode.	YES	Change DC Power Supply Main.
2	Upper and Lower Fusing Roller Thermistors are installed properly.	NO	Reinstall.
3	Upper and Lower Fusing Roller Thermistors are dirty.	NO	Clean.
4	Upper Fusing Roller Thermistor operation: the resistance across CN217-2 and 3 on the Fusing Unit end is infinity with CN217 (4P) disconnected.	YES	Change Upper Fusing Roller Thermistor.
5	Lower Fusing Roller Thermistor operation: the resistance across CN218-2 and 3 on the Fusing Unit end is infinity with CN218 (4P) disconnected.	YES	Change Lower Fusing Roller Thermistor.

(11) C0602: Cable unwound

C0650: SHOME signal error

Relevant Electrical Parts	
Scanner Motor (M51)	Image Processing Board (PWB-B)
Scanner Reference Position Sensor (PC51)	SCP Board (PWB-IC)



4002C14TAB

C0602

Step	Check	Result	Action
1	Scanner moves as moved manually.	NO	Correct drive coupling. Rewind cables.
2	Connector on SCP Board is connected properly: PJ3IC on PWB-IC.	NO	Connect.
3	Scanner Motor turns when the Start key is pressed.	NO	Correct drive coupling. Change motor or SCP Board.
4	Connector on Image Processing Board is connected properly: PJ306B on PWB-B.	NO	Connect.
5	I/O check for Scanner Reference Position Sensor	YES	Change Image Processing Board.
		NO	Correct actuator. Change sensor.

C0605

Step	Check	Result	Action
1	Scanner moves as moved manually.	NO	Correct drive coupling. Rewind cables.
2	Connector on Image Processing Board is connected properly: PJ306B on PWB-B.	NO	Connect.
3	Light Blocking Plate is installed properly.	NO	Correct.
4	I/O check for Scanner Reference Position Sensor	YES	Change Image Processing Board.
		NO	Correct actuator. Change sensor.

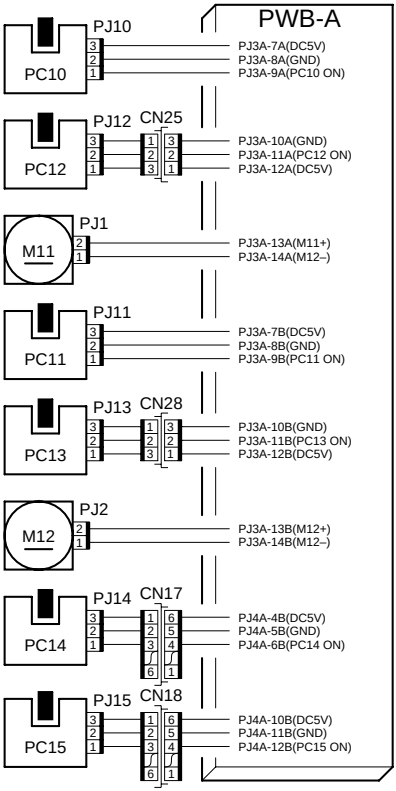
(12) C0910: 2nd Drawer Paper Lift-Up Sensor malfunction

C0914: 2nd Drawer Lift-Up Motor's failure to turn

C0920: 1st Drawer Paper Lift-Up Sensor malfunction

C0924: 1st Drawer Lift-Up Motor's failure to turn

Relevant Electrical Parts	
2nd Drawer Set Sensor (PC11)	1st Drawer Set Sensor (PC10)
2nd Drawer Lift-Up Motor Pulse Sensor (PC13)	1st Drawer Lift-Up Motor Pulse Sensor (PC12)
2nd Drawer Paper Lift-Up Sensor (PC15)	1st Drawer Paper Lift-Up Sensor (PC14)
2nd Drawer Lift-Up Motor (M12)	1st Drawer Lift-Up Motor (M11) Master Board (PWB-A)



4002C15TAA

C0910, C0914

Step	Check	Result	Action
1	Lift-Up Motor turns when the 2nd Drawer is slid out and then back in.	NO	Correct drive coupling.
2	2nd Drawer Lift-Up Motor rotation: the voltage across PJ3A-13B on Master Board and GND is DC0V (motor deenergized) and DC24V (motor energized) after the 2nd Drawer has been slid back in.	YES	Change motor.
		NO	Change Master Board.
3	I/O check for 2nd Drawer Lift-Up Motor Pulse Sensor operation: the voltage across PJ3A-11B on Master Board and GND changes in the range between DC0V and DC5V while 2nd Drawer Lift-Up Motor is turning.	YES	Change Master Board.
		NO	Correct drive coupling. Change sensor.
4	I/O check for 2nd Drawer Paper Lift-Up Sensor: the voltage across PJ4A-12B on Master Board and GND is DC0V (sensor unblocked) and DC5V (sensor blocked).	YES	Change Master Board.
		NO	Change sensor.

C0920, C0924

Step	Check	Result	Action
1	Lift-Up Motor turns when the 1st Drawer is slid out and then back in.	NO	Correct drive coupling.
2	1st Drawer Lift-Up Motor rotation: the voltage across PJ3A-13A on Master Board and GND is DC0V (motor deenergized) and DC24V (motor energized) after the 1st Drawer has been slid back in.	YES	Change motor.
		NO	Change Master Board.
3	I/O check for 1st Drawer Lift-Up Motor Pulse Sensor operation: the voltage across PJ3A-11A on Master Board and GND changes in the range between DC0V and DC5V while 1st Drawer Lift-Up Motor is turning.	YES	Change Master Board.
		NO	Correct drive coupling. Change sensor.
4	I/O check for 1st Drawer Paper Lift-Up Sensor: the voltage across PJ4A-6B on Master Board and GND is DC0V (sensor unblocked) and DC5V (sensor blocked).	YES	Change Master Board.
		NO	Change sensor.

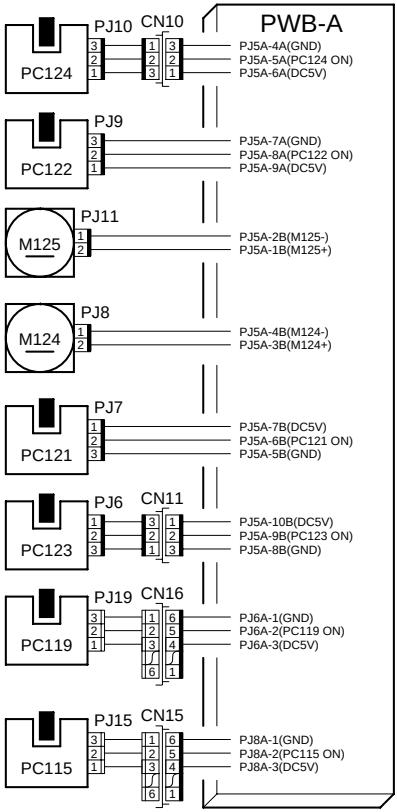
(13) C0900: 3rd Drawer Paper Lift-Up Sensor malfunction

C0904: 3rd Drawer Paper Lift-Up Motor's failure to turn

C0950: 4th Drawer Paper Lift-Up Sensor malfunction

C0954: 4th Drawer Paper Lift-Up Motor's failure to turn

Relevant Electrical Parts	
3rd Drawer Paper Lift-Up Sensor (PC115)	4th Drawer Paper Lift-Up Sensor (PC119)
3rd Drawer Set Sensor (PC121)	4th Drawer Set Sensor (PC122)
3rd Drawer Lift-Up Motor Pulse Sensor (PC123)	4th Drawer Lift-Up Motor Pulse Sensor (PC124)
3rd Drawer Paper Lift-Up Motor (M124)	4th Drawer Paper Lift-Up Motor (M125) Control Board (PWB-A): PF-208



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C0900, C0904

Step	Check	Result	Action
1	Lift-Up Motor turns when the 3rd Drawer is slid out and then back in.	NO	Correct drive coupling.
2	3rd Drawer Paper Lift-Up Motor rotation: the voltage across PJ5A-3B on Control Board and GND is DC0V (motor deenergized) and DC24V (motor energized) after the 3rd Drawer has been slid back in.	YES	Change motor.
		NO	Change Control Board.
3	I/O check for 3rd Drawer Lift-Up Motor Pulse Sensor operation: the voltage across PJ5A-9B on Control Board and GND changes in the range between DC0V and DC5V while 3rd Drawer Paper Lift-Up Motor is turning.	YES	Change Control Board.
		NO	Correct drive coupling. Change sensor.
4	I/O check for 3rd Drawer Paper Lift-Up Sensor: the voltage across PJ8A-2 on Control Board and GND is DC0V (sensor unblocked) and DC5V (sensor blocked).	YES	Change Control Board.
		NO	Change sensor.

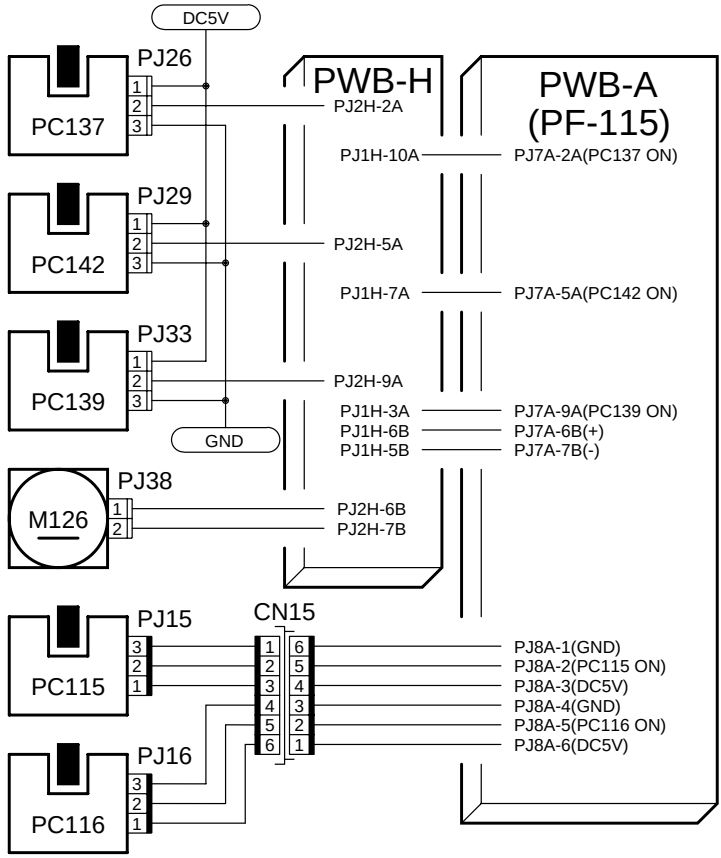
C0950, C0954

Step	Check	Result	Action
1	Lift-Up Motor turns when the 4th Drawer is slid out and then back in.	NO	Correct drive coupling.
2	4th Drawer Paper Lift-Up Motor rotation: the voltage across PJ5A-1B on Control Board and GND is DC0V (motor deenergized) and DC24V (motor energized) after the 4th Drawer has been slid back in.	YES	Change motor.
		NO	Change Control Board.
3	I/O check for 4th Drawer Lift-Up Motor Pulse Sensor operation: the voltage across PJ5A-5A on Control Board and GND changes in the range between DC0V and DC5V while 4th Drawer Paper Lift-Up Motor is turning.	YES	Change Control Board.
		NO	Correct drive coupling. Change sensor.
4	I/O check for 4th Drawer Paper Lift-Up Sensor: the voltage across PJ6A-2 on Control Board and GND is DC0V (sensor unblocked) and DC5V (sensor blocked).	YES	Change Control Board.
		NO	Change sensor.

(14) C0990: Main Tray lifting motion failure

C0994: Main Tray Elevator Motor's failure to turn

Relevant Electrical Parts	
3rd Drawer Paper Lift-Up Sensor (PC115) 3rd Drawer Paper Empty Sensor (PC116) Lower Position Overrun Detecting Sensor (PC137) Elevator Lower Position Sensor (PC139)	Elevator Motor Pulse Sensor (PC142) Elevator Motor (M126) Cabinet Transport Board (PWB-H) Control Board (PWB-A): PF-115



4002C17TAA

C0990

Step	Check	Result	Action
1	I/O check for 3rd Drawer Paper Lift-Up Sensor operation: the voltage across PJ8A-2 on Control Board and GND is DC5V (sensor unblocked) and DC0V (sensor blocked).	YES	Change Control Board.
		NO	Change sensor.
2	I/O check for Lower Position Overrun Detecting Sensor operation: the voltage across PJ7A-2A on Control Board and GND is DC5V (sensor unblocked) and DC0V (sensor blocked).	YES	Change Control Board.
		NO	Change sensor or Cabinet Transport Board. Change flat cable.
3	I/O check for Elevator Lower Position Sensor operation: the voltage across PJ7A-9A on Control Board and GND is DC5V (sensor unblocked) and DC0V (sensor blocked).	YES	Change Control Board.
		NO	Correct actuator. Change sensor or Cabinet Transport Board. Change flat cable.

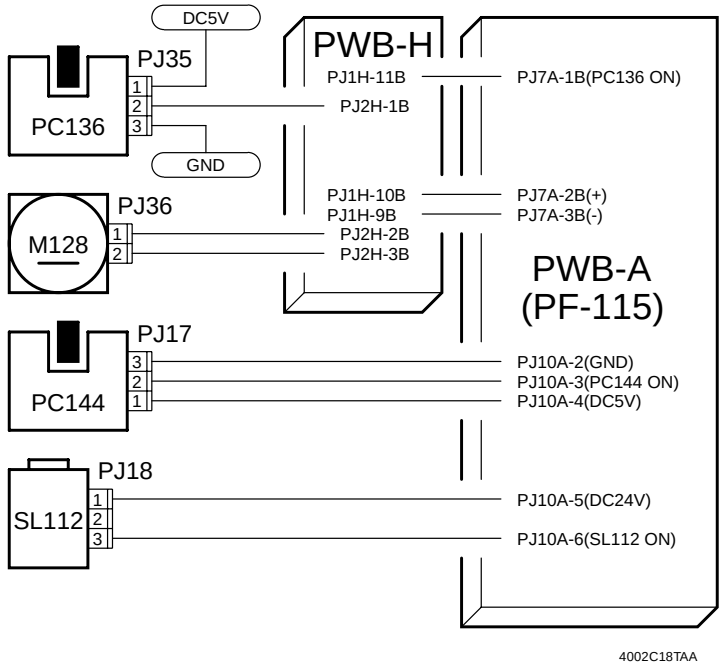
C0994

Step	Check	Result	Action
1	Elevator Motor turns when the Paper Descent key is pressed.	NO	Correct drive coupling.
2	Elevator Motor rotation: the voltage across PJ7A-6B (ascent)/PJ7A-7B (descent) on Control Board and GND is DC0V (motor deenergized) and DC24V (motor energized) when the drawer is slid in or the Paper Descent key is pressed.	YES	Change motor or Cabinet Transport Board. Change flat cable.
		NO	Change Control Board.
3	I/O check for Elevator Motor Pulse Sensor operation: the voltage across PJ7A-5A on Control Board and GND changes in the range between DC0V and DC5V while the Elevator Motor is turning.	YES	Change Control Board.
		NO	Change gear or sensor.

(15) C0996: Main Tray lock release failure

C0997: Shift Gate malfunction

Relevant Electrical Parts	
Shift Gate Position Sensor (PC136) 3rd Drawer Set Sensor (PC144) Shift Gate Motor (M128)	3rd Drawer Lock Solenoid (SL112) Cabinet Transport Board (PWB-H) Control Board (PWB-A): PF-115



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C0996

Step	Check	Result	Action
1	3rd Drawer Lock Solenoid operation: the voltage across PJ10A-6 on Control Board and GND is DC24V (solenoid deenergized) and DC0V (solenoid energized) when the Paper Descent key is pressed and the Main Tray completes its descent motion.	YES	Change solenoid.
		NO	Change Control Board.

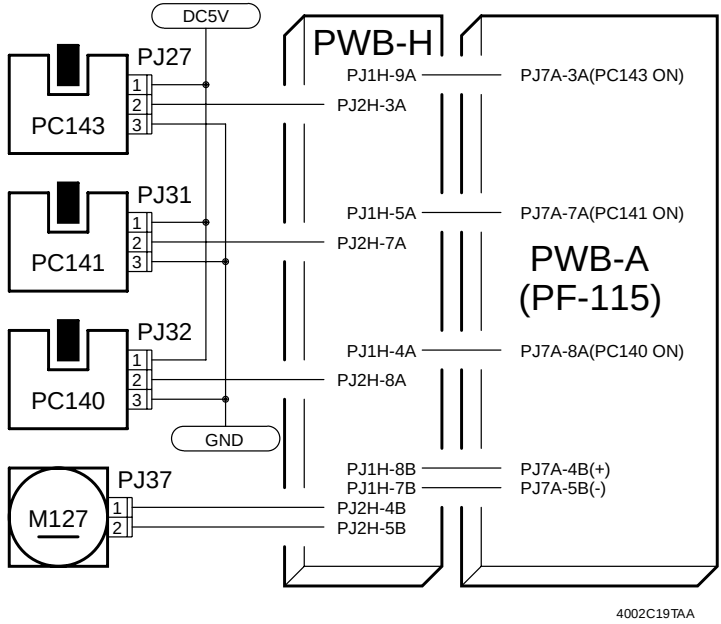
C0997

Step	Check	Result	Action
1	Shift Gate Motor rotation: the voltage across PJ7A-2B on Control Board and GND is DC0V (motor deenergized) and DC24V (motor energized) when the drawer is slid in with paper loaded on the Shift Tray only.	YES	Correct drive coupling. Change motor or flat cable.
		NO	Change Control Board. Change Cabinet Transport Board.
2	I/O check for Shift Gate Position Sensor operation: the voltage across PJ7A-1B on Control Board and GND is DC5V (sensor unblocked) and DC0V (sensor blocked) when the drawer is slid in with paper loaded on the Shift Tray only.	YES	Change Control Board. Change Cabinet Transport Board.
		NO	Change sensor. Change flat cable.

(16) C0998: Shifter return failure

C099C: Shift Motor's failure to turn

Relevant Electrical Parts	
Shifter Home Position Sensor (PC140)	Shift Motor (M127)
Shifter Return Position Sensor (PC141)	Cabinet Transport Board (PWB-H)
Shift Motor Pulse Sensor (PC143)	Control Board (PWB-A): PF-115



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C0998

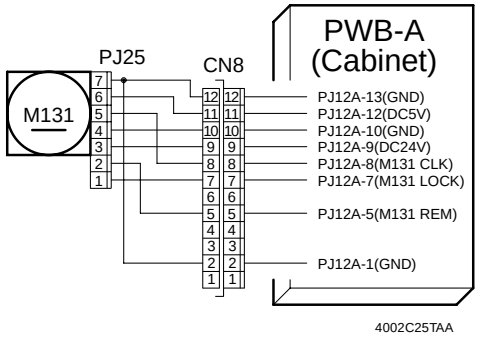
Step	Check	Result	Action
1	I/O check for Shifter Return Position Sensor operation: the voltage across PJ7A-7A on Control Board and GND is DC5V (sensor unblocked) and DC0V (sensor blocked).	YES	Change Control Board.
		NO	Change sensor or Cabinet Transport Board. Change flat cable.
2	I/O check for Shifter Home Position Sensor operation: the voltage across PJ7A-8A on Control Board and GND is DC5V (sensor unblocked) and DC0V (sensor blocked).	YES	Change Control Board.
		NO	Change sensor or Cabinet Transport Board. Change flat cable.

C099C

Step	Check	Result	Action
1	Shift Motor turns when the 3rd Drawer is slid in with paper loaded on the Shift Tray (paper is moved to the Main Tray).	NO	Correct drive coupling.
2	Shift Motor rotation: the voltage across PJ7A-4B on Control Board and GND is DC0V (motor deenergized) and DC24V (motor energized) in step 1.	YES	Change motor or Cabinet Transport Board. Change flat cable.
		NO	Change Control Board.
3	I/O check for Shift Motor Pulse Sensor operation: the voltage across PJ7A-3A on Control Board and GND changes in the range between DC0V and DC5V while the Shift Motor is turning.	YES	Change Control Board.
		NO	Correct drive coupling. Change sensor.

(17) C0D50: Duplex Horizontal Transport Motor malfunction

Relevant Electrical Parts	
Horizontal Transport Motor (M131)	Control Board (PWB-A)

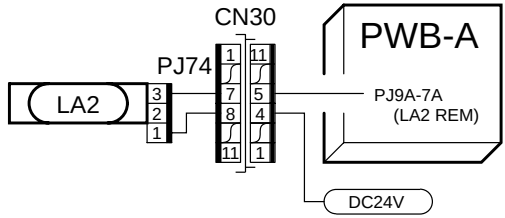


C0D50

Step	Check	Result	Action
1	Horizontal Transport Motor turns when the Start key is pressed.	NO	Correct drive coupling.
2	Horizontal Transport Motor rotation: the voltage across PJ12A-5 on Control Board and GND is DC5V (motor deenergized) and DC0V (motor energized) when the Start key is pressed.	NO	Change Control Board.
3	Horizontal Transport Motor rotation: the voltage across PJ12A-7 on Control Board and GND is DC5V (motor deenergized) and DC0V (motor energized) when the Start key is pressed.	YES	Change Control Board.
		NO	Change motor.

(18) C0E00: Main Erase Lamp's failure to turn ON

Relevant Electrical Parts	
Main Erase Lamp (LA2)	Master Board (PWB-A)



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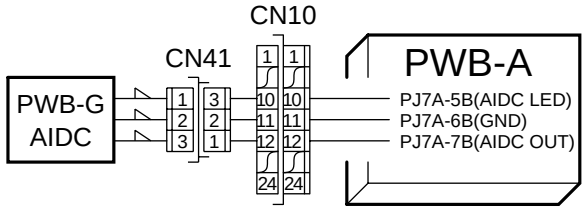
C0E00

Step	Check	Result	Action
1	Main Erase Lamp ON: the voltage across PJ9A-7A on Master Board and GND is DC24V (lamp OFF) and DC0V (lamp ON) when the Start key is pressed.	YES	Change Master Board.
2	Main Erase Lamp ON: the voltage across PJ9A-7A on Master Board and GND is DC24V in the standby state.	YES	Change lamp.
		NO	Change Master Board.

(19) C0F24: AIDC Sensor contamination correction failure

Relevant Electrical Parts	
AIDC Sensor Board (PWB-G)	Master Board (PWB-A)



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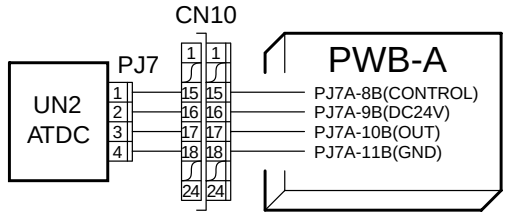
C0F24

Step	Check	Result	Action
1	PJ7A, CN10, and CN41 are plugged securely into Master Board.	NO	Plug them in securely.
2	Photosensor/LED of the AIDC Sensor are contaminated.	YES	Clean.
		NO	Change AIDC Sensor Board. Change Master Board.

(20) C0F32: ATDC Sensor malfunction

C0F33: Abnormally low T/C as detected by ATDC Sensor

Relevant Electrical Parts	
ATDC Sensor (UN2)	Master Board (PWB-A)



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C0F32, C0F33

Step	Check	Result	Action
1	PJ7A on Master Board, CN10, and PJ7 on the sensor are properly connected.	NO	Plug them in securely.
2	ATDC Sensor operation: the voltage across PJ7A-10B on Master Board and GND changes in the range between DC0.5V and DC4.5V during a copy cycle.	YES	Change Master Board.
		NO	Change sensor.

(21) C10XX to C18XX

- These malfunctions are concerned with faulty symptoms relating to software, hardware, and communications.

Code	Action
C10XX C11XX C12XX	1. Reset the malfunction and turn OFF and ON the Power Switch. 2. If the same malfunction persists, check cables and connectors for proper connection. 3. If they are okay, change Image Processing Board, Memory Board, or Hard Disk Drive.
C12CX	1. Run “Hard Disk Format” selected in the following sequence: Tech. Rep. Mode → Function → Image Memory. 2. If the same malfunction persists, change Hard Disk Drive. 3. If the malfunction is detected a third time, change Memory Board.
C1300	1. Reset the malfunction and turn OFF and ON the Power Switch. 2. If the same malfunction persists, check connectors of Polygon Motor and Master Board. 3. If connections are okay, change PH Unit, Master Board, or Power Supply Board.
C1326	1. Reset the malfunction and turn OFF and ON the Power Switch. 2. If the same malfunction persists, change Memory Board or Master Board.
C1330 C1334	1. Reset the malfunction and turn OFF and ON the Power Switch. 2. If the same malfunction persists, run “Mem. → Prn” selected from “I.R. ⇄ Mem. ⇄ Prn” selected in the following sequence: Tech. Rep. Mode → Function → Image Memory. 3. If the malfunction is detected a third time, change Master Board or Image Processing Board.
C133B	1. Reset the malfunction and turn OFF and ON the Power Switch. 2. Check the option I/F cable for proper connection. 3. If the connection is okay, change the CPU Board of the option, or Master Board.
C13F1	1. Reset the malfunction. 2. If the same malfunction persists, check the Image Processing Board connector for proper connection. 3. If the connection is okay, change the PH Unit, Image Processing Board, or Master Board.
C13F4~ C13F8 C13FAB C13FC	1. Reset the malfunction. 2. If the same malfunction persists, change the PH Unit. 3. If the same malfunction is detected again, change the PH Unit. 4. If the malfunction is detected a third time, change Image Processing Board.
C13F9	1. Reset the malfunction. 2. If the same malfunction persists, change the Master Board.

Code	Action
C1401 C1402 C1410 C1426 C1428 C1429 C142A C1430	1. Reset the malfunction. 2. If the same malfunction persists, change the Image Processing Board.
C143E	See the option service manual.
C1440	1. Reset the malfunction. 2. Check that the Original Glass is properly installed. 3. Check the optical system. 4. If the optical system has been checked okay, change Memory Board.
C1441	1. Reset the malfunction. 2. Check that the Original Glass is properly installed. 3. Check for extraneous light and check to see if the CCD Assy and mirrors are installed at the correct positions. 4. If the same malfunction is detected again, change Image Processing Board.
C1450	1. Reset the malfunction. 2. If the same malfunction persists, check the cables, timing belt, and other drive transmission mechanism from the Scanner Motor to the Scanner. 3. If step 2 has been checked okay, change Image Processing Board.
C1461 C1470 C1471 C1472	1. Reset the malfunction. 2. If the same malfunction persists, change Image Processing Board.
C143E	See the option service manual.
C1499	1. Reset the malfunction. 2. If the same malfunction persists, check CN152 of IR Cooling Fan Motor and PJ4IC of SCP Board for proper connection. 3. If the connections are okay, change motor or SCP Board.
C18XX	1. Reset the malfunction. 2. If the same malfunction persists, change Image Processing Board.

(22) Copier does not turn ON.

Relevant Electrical Parts	
Power Switch (S1)	DC Power Supply Main (PU1)
Front Door Interlock Switch (S21)	DC Power Supply Sub (PU2)
Upper Left Door Interlock Switch (S22)	Power Supply Board (PWB-C)
Main Relay (RY1)	Master Board (PWB-A)

• Main Relay does not turn ON.

Step	Check	Result	Action
1	Power supply voltage check: there is a rated AC voltage supply across CN1PU1-1 and 3 of DC Power Supply Main and across PJ1PU2-1 and 3 of DC Power Supply Sub when the power cord is plugged in the power outlet.	NO	Check wall power outlet voltage. Check power cord for continuity. Check harness between DC Power Supply Main and Sub for continuity.
2	DC Power Supply Sub operation: the voltage across PJ2PU2-1 and 2 of DC Power Supply Sub is DC5V when the power cord is plugged in the power outlet.	NO	Change DC Power Supply Sub.
3	DC Power Supply Main operation: the voltage across PJ12PU1-1 and 5 of DC Power Supply Main is DC5V and the voltage across PJ12PU1-2 and 5 of DC Power Supply Main is DC5V when the Power Switch is turned ON.	NO	Check harness.
4	DC Power Supply Main operation: the voltage across PJ12PU1-2 and 5 of DC Power Supply Main is DC0.5V to 1.0V when the Power Switch is turned ON.	NO	Check harness.
		YES	Change DC Power Supply Main.
5	Power Switch operation: the voltage across PJ15A-3 on Master Board and GND is DC5V (switch OFF) and DC0V (switch ON).	NO	Check and change, as necessary, Power Switch.
6	Front Door Interlock Switch operation: the voltage across PJ6C-1 on Power Supply Board and GND is DC0V (Power Switch OFF) and DC24V (Power Switch ON).	NO	Check harness. Change Power Supply Board.
7	Upper Left Door Interlock Switch operation: the voltage across PJ6A-2 on Master Board and GND is DC5V when the Upper Left Door is open.	NO	Check harness. Change Master Board.
8	Front Door Interlock Switch and Upper Left Door Interlock Switch operation: the voltage across PJ6C-2 on Power Supply Board and GND is DC24V when both doors are closed.	NO	Readjust the position of, check, or change Front Door Interlock Switch. Check and change, as necessary, Upper Left Door Interlock Switch.

Step	Check	Result	Action
9	Power Supply Board operation: the voltage across PJ5C-3 on Power Supply Board and GND is AC10V when Power Switch is turned ON.	NO	Change Power Supply Board.
		YES	Check Main Relay.

5. IMAGE FAILURE

5-1. Image Failure Troubleshooting

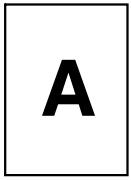
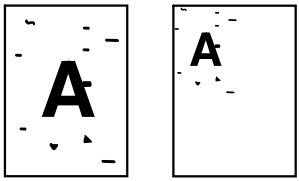
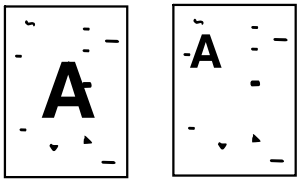
- In this chapter, troubleshooting is divided into “initial checks” and “troubleshooting procedures classified by image failures.”
- If any image failure has occurred, first make the initial checks, then proceed to the corresponding image failure troubleshooting procedure.

5-2. Initial Checks

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

Section	Step	Check	Result	Action
Installation site	1	See “PRECAUTIONS FOR INSTALLATION” in GENERAL.	NO	Change the installation site.
Paper	2	Recommended paper is used.	NO	Instruct user.
	3	Paper is damp.	YES	Change paper. Instruct user in paper storage.
Original	4	Original not flat	YES	Correct.
	5	Faint original	YES	Instruct user.
	6	Highly transparent original (OHP transparencies, etc.)	YES	Instruct user.
	7	Dirty or scratched Original Glass	YES	Clean or change.
PM parts	8	PM parts relating to image formation have reached the end of cleaning/replacement cycles.	YES	Clean or change. (See Maintenance Schedule.)

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

Check	Result	Cause
Copy made at a reduced ratio.  1177T03YA	 1177T04YA	Input system
	 1177T05YA	Output system

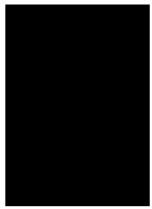
5-3. Troubleshooting Procedures Classified by Image Failure

- Image Failure Samples

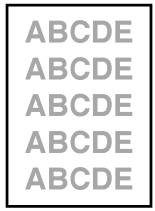
1. Blank copy



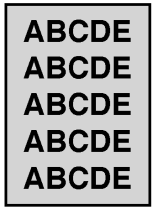
2. Black copy



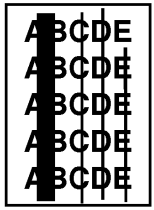
3. Low image density



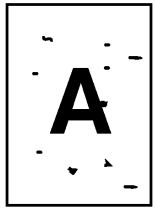
4. Foggy background



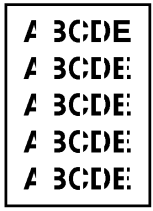
5. Black streaks or bands



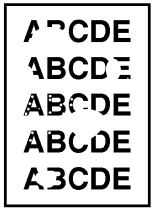
6. Black spots



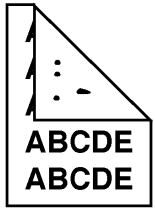
7. Blank streaks or bands



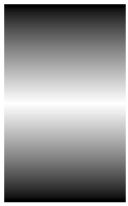
8. Void areas



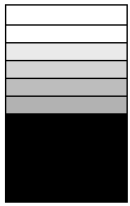
9. Smear on back



10. Uneven image density



11. Gradation reproduction failure



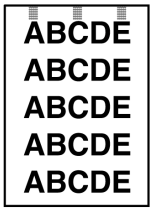
12. Rough image



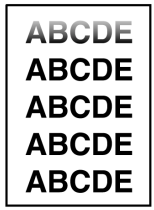
13. Periodically uneven image



14. Traces of PC Drum Paper Separator Fingers



15. Void areas along leading edge



4002T010AA

(1) Blank copy

Section	Step	Check	Result	Action
Engine	1	Developing Unit is installed in position.	NO	Install correctly.
	2	There is drive to the Developing Unit.	NO	Correct or change drive coupling.
	3	Image Transfer Corona wire is installed properly.	NO	Install properly.
	4	Wiring between HV and Image Transfer Corona is connected.	YES	Change HV.
			NO	Connect.
	5	Dust-proof shutter is in correct position.	NO	Correct.
	6	Wiring between PH Unit and Image Processing Board is connected.	YES	Change PH Unit. Change Image Processing Board.
IR	1	Scanner shading position is correct.	NO	Correct IR shading position. (See ADJUSTMENT.)

(2) Black copy

Section	Step	Check	Result	Action
Engine	1	PC Drum Charge Corona is installed correctly.	NO	Install correctly.
	2	Wiring between HV and PC Drum Charge Corona is connected.	NO	Connect.
	3	PC Drum is properly grounded.	NO	Clean or change PC Drum ground plate.
	4	Developing bias contact is dirty or deformed.	YES	Clean or change developing bias contact.
	5	Wiring between HV and developing bias is connected.	YES	Change HV.
			NO	Connect.
	6	Wiring between PH Unit and Master Board is connected.	YES	Change PH Unit. Change Master Board.
IR	1	Exposure Lamp is ON.	NO	Change Exposure Lamp.
	2	CCD Assy is correctly installed.	NO	Correct installed position. (See DISASSEMBLY.)
	3	Wiring between CCD Assy and Image Processing Board is connected.	YES	Change CCD Assy. Change Image Processing Board.
			NO	Connect.

(3) Low image density

Section	Step	Check	Result	Action
Engine	1	Image Transfer Corona is dirty.	YES	Clean or change.
	2	Wiring between HV and Image Transfer Corona is connected.	NO	Connect.
	3	Developing bias contact is dirty or deformed.	YES	Clean or change.
	4	PH lens is dirty.	YES	Clean.
	5	Wiring between HV and developing bias is connected.	NO	Connect.
	6	ATDC Sensor gain value is correct.	NO	Re-input.
IR	1	Shading position is correct.	NO	Correct IR shading position. (See ADJUSTMENT.)

(4) Foggy background

Section	Step	Check	Result	Action
—	1	Extraneous light entered copier.	YES	Protect copier from extraneous light.
Engine	1	Cleaning Blade is dirty with foreign matter and paper dust.	YES	Clean or change.
	2	PC Drum is dirty with foreign matter.	YES	Clean or change.
	3	Sleeve/Magnet Roller is dirty.	YES	Clean.
	4	Developing bias contact is dirty or deformed.	YES	Clean or change.
	5	Main Erase Lamp is dirty.	YES	Clean.
IR	1	Mirrors and lens are dirty.	YES	Clean.

(5) High image density

Section	Step	Check	Result	Action
Engine	1	Image Transfer Corona is dirty.	YES	Clean or change.
	2	Wiring between HV and Image Transfer Corona is connected.	NO	Connect.
	3	Developing bias contact is dirty or deformed.	YES	Clean or change.
	4	Wiring between HV and developing bias is connected.	NO	Connect.
	5	ATDC Sensor gain value is correct.	NO	Re-input.
IR	1	Shading position is correct.	NO	Correct IR shading position. (See ADJUSTMENT.)

(6) Black streaks or bands

Section	Step	Check	Result	Action
Engine	1	PC Drum is dirty.	YES	Clean or change.
	2	Cleaning Blade has correct lateral movement.	NO	Correct lateral movement mechanism.
	3	Cleaning Blade is curled upward or deteriorated.	YES	Change.
	4	Comb Electrode and grid mesh are dirty.	YES	Clean or change.
	5	Upper Fusing Roller is dirty.	YES	Clean.
	6	PH Unit window is dirty.	YES	Clean.
IR	1	Mirrors and lens are dirty.	YES	Clean.
	2	Original Glass is dirty or scratchy.	YES	Clean.
	3	Exposure Lamp is dirty.	YES	Clean.

(7) Black spots

Section	Step	Check	Result	Action
Engine	1	PC Drum is dirty.	YES	Clean or change.
	2	PC Drum Paper Separator Fingers are dirty.	YES	Clean or change.
	3	Toner spilled over areas inside copier.	YES	Clean.
	4	Upper Fusing Roller is dirty.	YES	Clean or change.
	5	Toner is caked in the Developing Unit.	YES	Changer developer.
	6	Main Erase Lamp is dirty.	YES	Clean.
IR	1	Mirrors and lens are dirty.	YES	Clean.
	2	Original Glass is dirty or scratchy.	YES	Clean or change.

(8) Blank streaks or bands

Section	Step	Check	Result	Action
Engine	1	PC Drum is scratchy and dirty.	YES	Clean or change.
	2	PC Drum Paper Separator Fingers are dirty or deformed.	YES	Clean of change.
	3	PC Drum is properly grounded.	NO	Clean or change PC Drum ground plate.
	4	Image Transfer Corona wire is dirty.	YES	Clean or change.
	5	Comb Electrode and grid mesh are dirty.	YES	Clean or change.
	6	Upper Fusing Roller is scratchy or dirty.	YES	Clean or change.
	7	Fusing Paper Separator Fingers are scratchy or dirty.	YES	Change.
	8	DB is plugged with caked toner and foreign matter.	YES	Remove foreign matter. Change developer.
	9	PH Unit window is dirty.	YES	Clean.
IR	1	Mirror is dirty.	YES	Clean.
	2	Shading sheet is dirty.	YES	Clean.
	3	Scanner shading position is correct.	YES	Correct IR shading position. (See ADJUSTMENT.)

(9) Void areas

Section	Step	Check	Result	Action
Engine	1	Image Transfer Corona is installed properly.	NO	Install correctly.
	2	Image Transfer Corona wire is installed correctly.	NO	Install correctly.
	3	Upper Fusing Roller is scratchy or dirty.	YES	Change.
	4	Toner is even on Sleeve/Magnet Roller.	NO	Adjust DB. (See ADJUSTMENT.) Correct developer conveying mechanism.
	5	DB is plugged with caked toner and foreign matter.	YES	Remove foreign matter. Change developer.

(10) Smear on back

Section	Step	Check	Result	Action
Engine	1	Suction Belts are dirty.	YES	Clean.
	2	Image Transfer Corona is dirty.	YES	Clean.
	3	Image Transfer Guide Plate is dirty.	NO	Clean.
	4	Pre-Fusing Guide Plate is dirty.	YES	Clean.
	5	Fusing Rollers are dirty.	YES	Clean or change.
	6	Toner spilled over area inside copier.	YES	Clean.

(11) Uneven image density

Section	Step	Check	Result	Action
Engine	1	PC Drum is properly grounded.	NO	Clean or change PC Drum ground plate.
	2	Comb Electrode and grid mesh are dirty or deteriorated.	YES	Clean or change.
	3	Image Transfer Corona is dirty or deteriorated.	YES	Change.
	4	Toner is even on Sleeve/Magnet Roller.	NO	Adjust DB. (See ADJUSTMENT.) Correct developer conveying mechanism.
IR	1	Mirrors and lens are dirty.	YES	Clean.
	2	Exposure Lamp is dirty or deteriorated.	YES	Clean or change.

(12) Gradation reproduction failure

Section	Step	Check	Result	Action
Engine	1	Wiring between PH Unit and Image Processing Board is connected.	YES	Change PH Unit. Change Image Processing Board.
IR	1	Shading sheet is dirty.	YES	Clean.
	2	Wiring between CCD Assy and Image Processing Board is connected.	YES	Change CCD Assy. Change Image Processing Board.
			NO	Connect.

(13) Rough image

Section	Step	Check	Result	Action
Engine	1	Foreign matter and caked toner inside Developing Unit and DB.	YES	Remove foreign matter and caked toner. Change developer.
	2	Image Transfer Corona wire is dirty or deteriorated.	YES	Clean or change.
	3	Wiring between HV and Image Transfer Corona is connected.	YES	Change HV.
			NO	Connect.
IR	1	Wiring between CCD Assy and Image Processing Board is connected.	YES	Change CCD Assy. Change Image Processing Board.
			NO	Connect.

(14) Traces of PC Drum Paper Separator Fingers

Section	Step	Check	Result	Action
Engine	1	Traces come from PC Drum Paper Separator Fingers.	YES	Adjust Paper Separator Corona output: Change the value to one 3 to 5 steps greater than the current setting. (See the adjustment procedure given below.)

(15) Void areas along leading edge

Section	Step	Check	Result	Action
Engine	1	Image density along the leading edge is low.	YES	Adjust Paper Separator Corona output: Change the value to one 3 to 5 steps greater than the current setting. (See the adjustment procedure given below.)

<Paper Separator Corona Output Adjustment Procedure>
1. Press the Utility key.
2. Touch Meter Count.
3. Press the following keys in this order: Stop → 0 → 0 → Stop → 0 → 1.
4. Select Tech. Rep. Mode.
5. Press the following keys in this order: Stop → Start.
6. Select “Printer” of the Adjust mode.
7. Select “Separator Charge.”
8. Select “1-side” or “2-side.”
9. Press the Clear key and enter a value from the 10-Key Pad.
10. Use the Access key to change the + or – sign.
11. After the setting has been made, go back to the Basic screen.

6. RESETTING THE MAINTENANCE CODE DISPLAY

6-1. Details of Maintenance Codes

Code	Description
M2	The count of “Waste Toner” of the Consumables counter reaches a predetermined value before the setting value.
M3	The count of “Web” of the Consumables counter reaches the setting value.

6-2. Resetting the Maintenance Code Display

(1) Entering the Tech. Rep. Mode

<Procedure>
1. Press the Utility key.
2. Touch Meter Count.
3. Press the following keys in this order: Stop → 0 → 0 → Stop → 0 → 1.
4. Select Tech. Rep. Mode.

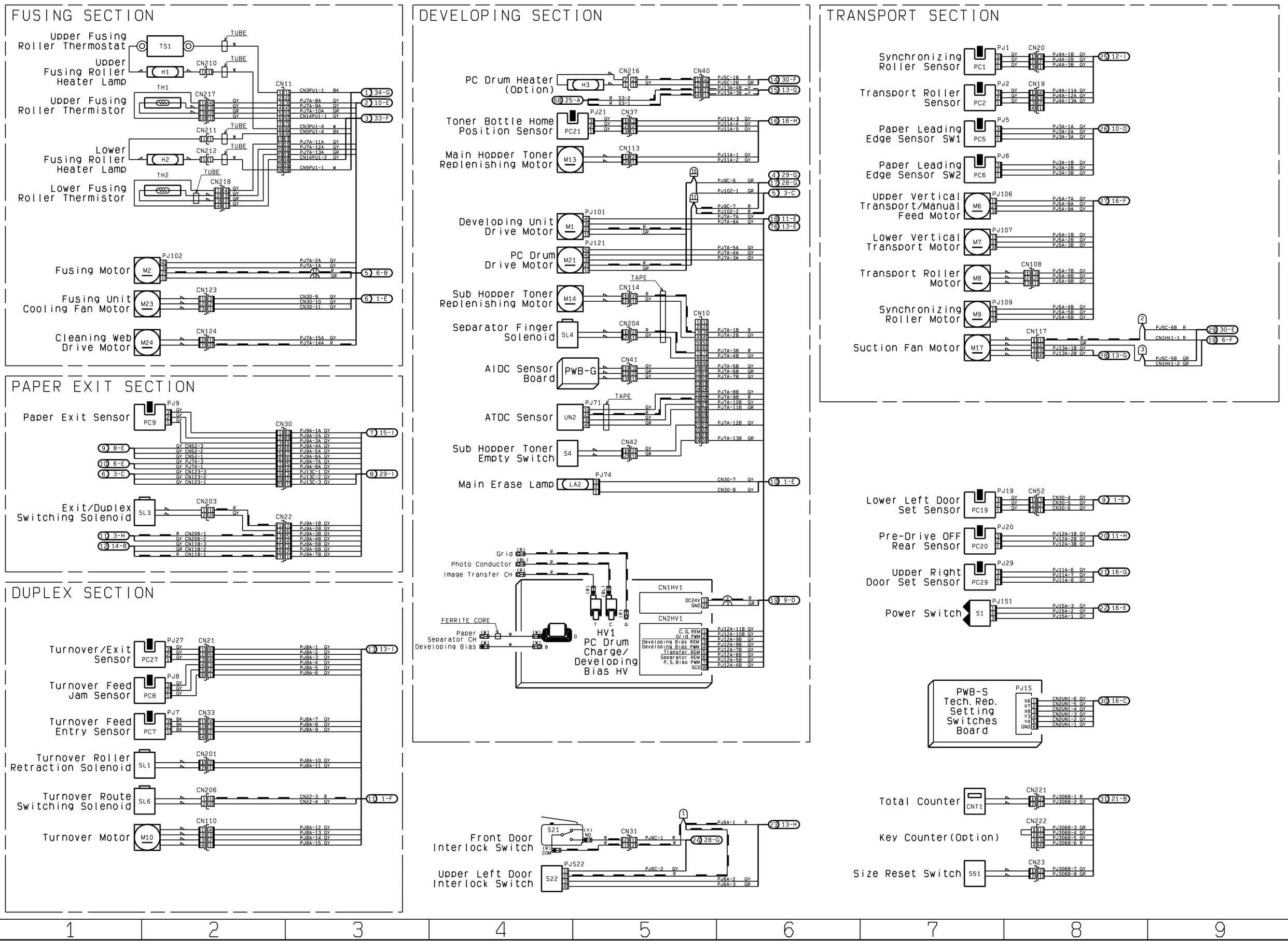
(2) Resetting the Maintenance Code Display

• M2: Waste Toner

<Resetting procedure>
1. Enter the Tech. Rep. mode.
2. Select “Counter.”
3. Select “Consumables.”
4. Select the count of Waste Toner.
5. Press the Clear key.

• M3: Web

<Resetting procedure>
1. Enter the Tech. Rep. mode.
2. Select “Counter.”
3. Select “Consumables.”
4. Select the count of Web.
5. Press the Clear key.


FUSING SECTION
Upper Fusing Roller Thermostat
TS1
TUBE
Upper Fusing Roller Heater Lamp
H1
CN210
Upper Fusing Roller Thermistor
TH1
CN217
CN11
Lower Fusing Roller Heater Lamp
H2
CN211
CN212
Lower Fusing Roller Thermistor
TH2
CN218
Fusing Motor
M2
PJ102
Fusing Unit Cooling Fan Motor
M23
CN123
Cleaning Web Drive Motor
M24
CN124
PAPER EXIT SECTION
Paper Exit Sensor
PC9
PJ9
CN30
Exit/Duplex Switching Solenoid
SL3
CN203
CN22
DUPLEX SECTION
Turnover/Exit Sensor
PC27
PJ27
CN21
Turnover Feed Jam Sensor
PC8
PJ8
Turnover Feed Entry Sensor
PC7
PJ7
CN33
Turnover Roller Retraction Solenoid
SL1
CN201
Turnover Route Switching Solenoid
SL6
CN206
Turnover Motor
M10
CN110
DEVELOPING SECTION
PC Drum Heater (Option)
H3
CN216
CN40
Toner Bottle Home Position Sensor
PC21
PJ21
CN37
Main Hopper Toner Replenishing Motor
M13
CN113
Developing Unit Drive Motor
M1
PJ101
PC Drum Drive Motor
M21
PJ121
Sub Hopper Toner Replenishing Motor
M14
CN114
TAPE
Separator Finger Solenoid
SL4
CN204
CN10
AIDC Sensor Board
PWB-G
CN41
ATDC Sensor
UN2
PJ71
Sub Hopper Toner Empty Switch
S4
CN42
Main Erase Lamp
LA2
PJ74
Grid
Photo Conductor
Image Transfer CH
FERRITE CORE
Paper Separator CH
Developing Bias
HV1
PC Drum Charge/ Developing Bias HV
CN1HV1
CN2HV1
Front Door Interlock Switch
S21
CN31
Upper Left Door Interlock Switch
S22
PJS22
TRANSPORT SECTION
Synchronizing Roller Sensor
PC1
PJ1
CN20
Transport Roller Sensor
PC2
PJ2
CN19
Paper Leading Edge Sensor SW1
PC5
PJ5
Paper Leading Edge Sensor SW2
PC6
PJ6
Upper Vertical Transport/Manual Feed Motor
M6
PJ106
Lower Vertical Transport Motor
M7
PJ107
Transport Roller Motor
M8
CN108
Synchronizing Roller Motor
M9
PJ109
Suction Fan Motor
M17
CN117
Lower Left Door Set Sensor
PC19
PJ19
CN52
Pre-Drive OFF Rear Sensor
PC20
PJ20
Upper Right Door Set Sensor
PC29
PJ29
Power Switch
S1
PJ1S1
PWB-S Tech. Rep. Setting Switches Board
PJ1S
Total Counter
CNT1
CN221
Key Counter(Option)
CN222
Size Reset Switch
S51
CN23

OPTICAL SECTION

Scanner Motor — M51 — PJ151 — PJ3IC

PWB-IC SCP Board — PJ1IC, PJ2IC, PJ4IC

Power Supply Unit Cooling Fan Motor2 — M15 — CN115 — PJ6A-11 R, PJ6A-12 GR, PJ6A-13 GY — (37) 14-H

Power Supply Unit Cooling Fan Motor1 — M16 — PJ3C-1 R, PJ3C-2 BK, PJ3C-3 Y — (79) 30-F

Ventilation Fan Motor — M18 — CN118 — CN22-7 R, CN22-6 GR, CN22-5 GY — (12) 1-F

Scanner Reference Position Sensor — PC51 — PJ51 — PJ306B-10 GR, PJ306B-9 GY, PJ306B-11 Y — (38) 21-B

Original Cover Detecting Sensor — PC52 — PJ52 — PJ5B-4 Y, PJ5B-3 GR, PJ5B-2 GY — (39) 21-G

Original Size Detecting Sensor FD1 (Option) — PC53 — PJ53 — PJ6B-1 GY, PJ6B-2 GY, PJ6B-3 GY, PJ6B-4 GY — (40) 24-B

Original Size Detecting Sensor FD2 — PC54 — PJ54 — PJ6B-10 GY, PJ6B-11 GY, PJ6B-12 GY, PJ6B-13 GY, PJ6B-14 GY

Original Size Detecting Sensor FD3 — PC55 — PJ55 — PJ6B-5 GY, PJ6B-6 GY, PJ6B-7 GY, PJ6B-8 GY, PJ6B-9 GY

Original Size Detecting Sensor CD1 (Option) — PC56 — PJ56 — PJ7B-6 GY, PJ7B-7 GY, PJ7B-8 GY, PJ7B-9 GY, PJ7B-10 GY

Original Size Detecting Sensor CD2 (Option) — PC57 — PJ57 — PJ7B-1 GY, PJ7B-2 GY, PJ7B-3 GY, PJ7B-4 GY, PJ7B-5 GY

UN1 Control Panel — CN2UN1 — CN1UN1 — (41) 21-A — (30) 8-G — (43) 16-E — (42) 19-H

(80) 20-G — PJ10A

PJ19A Not Use

(61) 25-B — (26) 8-G — PJ3A

Not Use — CN2A

PJ17A Not Use

PJ15A — PJ1S1 — (22) 8-F

PJ16A — CN1UN1 — (43) 17-C

PJ14A — CN12PU1, CN2PU1 — (44) 30-H — (45) 34-I

PJ5A — (27) 8-B — (46) 25-B

PJ11A — CN120 — (47) 17-I — (21) 8-F — (16) 6-B

PJ11A — PWB-IA CCD Board — (61) 23-B

For Frash Memory — CN1A

INCH AREA — PJ7A — (18) 6-C

METRIC AREA — PJ7A — (76) 6-C — (62) 29-G

(2) 3-B

±1 D.B. :Developing Bias

PJ2A — (60) 23-I

PJ12A — (59) 25-E — (20) 8-F

PWB-A Master Board

PJ4A — PJ13A — PJ6A — PJ18A — PJ8A — PJ1A — PJ9A

(57) 33-E — (58) 28-E — (15) 6-A — (28) 8-D — (23) 6-I — (37) 14-A — (51) 29-I — (56) 31-A — (52) 19-G — (53) 28-F — (7) 3-E — (55) 30-F — (54) 31-E — (13) 3-G — (25) 8-A

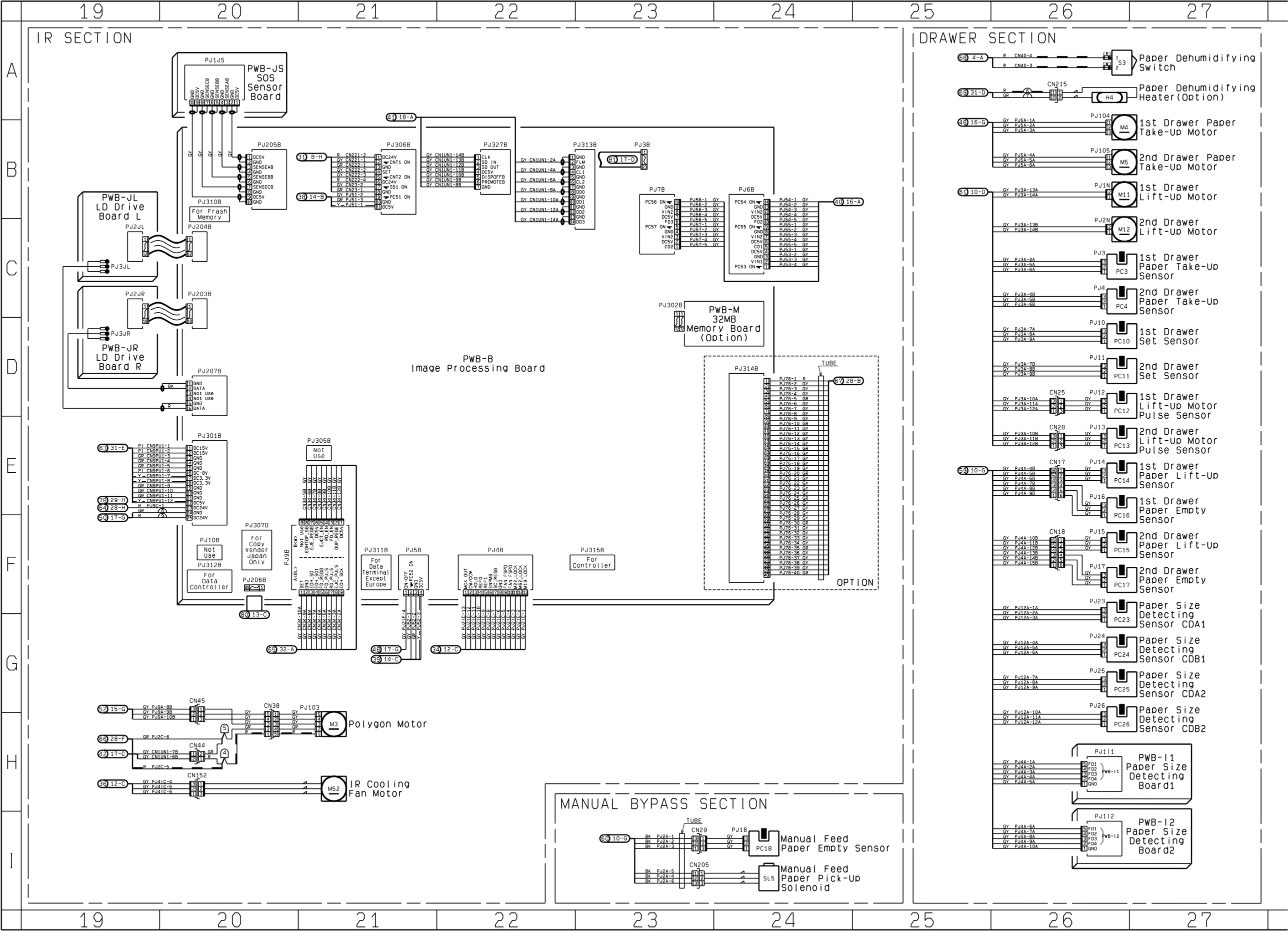
PH SECTION

CN119 — PH Cooling Fan Motor2 — M19 — (35) 12-C

CN122 — PH Cooling Fan Motor1 — M22

CN120 — Beam Interval Correction Motor — M20 — (47) 16-G

CN2 CN1 — FL51 — Exposure Lamp — Inverter Board — Flat Cable — PJ2IF — (48) 21-G — (77) 29-H — (49) 28-H — (50) 19-F — (32) 11-C


IR SECTION
PJ1JS
PWB-JS
SOS
Sensor
Board
PJ205B
PJ306B
PJ327B
PJ313B
PJ3B
41) 18-A
31) 8-H
38) 14-B
81) 17-D
PJ7B
PJ6B
40) 16-A
PWB-JL
LD Drive
Board L
PJ310B
For Frash
Memory
PJ2JL
PJ204B
PJ3JL
PJ2JR
PJ203B
PJ3JR
PWB-JR
LD Drive
Board R
PJ207B
PJ302B
PWB-M
32MB
Memory Board
(Option)
PWB-B
Image Processing Board
PJ314B
TUBE
67) 28-B
OPTION
PJ301B
63) 31-E
78) 29-H
64) 28-H
50) 17-G
PJ305B
Not
Use
PJ307B
For
Copy
Vender
Japan
Only
PJ10B
Not
Use
PJ312B
For
Data
Controller
PJ206B
80) 13-C
PJ9B
PJ311B
For
Data
Terminal
Except
Europe
PJ5B
PJ4B
PJ315B
For
Controller
65) 32-A
48) 17-G
39) 14-C
34) 12-C
52) 15-G
CN45
CN38
PJ103
M3
Polygon Motor
66) 28-F
42) 17-C
CN44
CN152
36) 12-C
M52
IR Cooling
Fan Motor
MANUAL BYPASS SECTION
TUBE
60) 10-G
CN29
PJ18
PC18
Manual Feed
Paper Empty Sensor
CN205
SL5
Manual Feed
Paper Pick-Up
Solenoid
DRAWER SECTION
68) 4-A
CN40-4
CN40-3
S3
Paper Dehumidifying
Switch
59) 31-D
CN215
H4
Paper Dehumidifying
Heater(Option)
46) 16-G
PJ104
M4
1st Drawer Paper
Take-Up Motor
PJ105
M5
2nd Drawer Paper
Take-Up Motor
61) 10-D
PJ1N
M11
1st Drawer
Lift-Up Motor
PJ2N
M12
2nd Drawer
Lift-Up Motor
PJ3
PC3
1st Drawer
Paper Take-Up
Sensor
PJ4
PC4
2nd Drawer
Paper Take-Up
Sensor
PJ10
PC10
1st Drawer
Set Sensor
PJ11
PC11
2nd Drawer
Set Sensor
CN25
PJ12
PC12
1st Drawer
Lift-Up Motor
Pulse Sensor
CN28
PJ13
PC13
2nd Drawer
Lift-Up Motor
Pulse Sensor
59) 10-G
CN17
PJ14
PC14
1st Drawer
Paper Lift-Up
Sensor
PJ16
PC16
1st Drawer
Paper Empty
Sensor
CN18
PJ15
PC15
2nd Drawer
Paper Lift-Up
Sensor
PJ17
PC17
2nd Drawer
Paper Empty
Sensor
PJ23
PC23
Paper Size
Detecting
Sensor CDA1
PJ24
PC24
Paper Size
Detecting
Sensor CDB1
PJ25
PC25
Paper Size
Detecting
Sensor CDA2
PJ26
PC26
Paper Size
Detecting
Sensor CDB2
PJ111
PWB-I1
Paper Size
Detecting
Board1
PJ112
PWB-I2
Paper Size
Detecting
Board2

POWER SUPPLY SECTION

OPTION

PWB-R
HDD Power
Supply Board
(Option)

PJ1R
DC15V
GND
CN46
PJ2R
DC12V
GND
DC5V
GND
PJ75
PJ76

HDD
Hard Disk
Drive
(Option)

PWB-C
Power Supply
Board

For
Controller
PJ14C
PJ5C
PJ2C
PJ6C
PJ7C
PJ9C
PJ3C
PJ1C
PJ4C
PJ12C
PJ13C
PJ8C
PJ11C

INCH AREA
METRIC AREA

FINISHER
CN5

EDH
CN34
CN35
CN36

LCT
CAB
CN12
CN13
CN14

PU1
DC Power
Supply Main
CN8PU1
CN9PU1
CN10PU1
CN7PU1
CN12PU1
CN11PU1
CN14PU1
CN13PU1
CN5PU1
CN3PU1
CN1PU1
CN2PU1
CN15-1
CN15-3
FERRITE CORE
TUBE
CN1

Dehumidifying
Heater SSR(Option)
CN50
CN51
SSR1
CN47
CN48
Fuse
T1
Dehumidifying
Heater Transformer
(Option)

CN26
CN27
R1
Flickerless Resistor
(200V Areas Only)
CN4-1
CN4-2

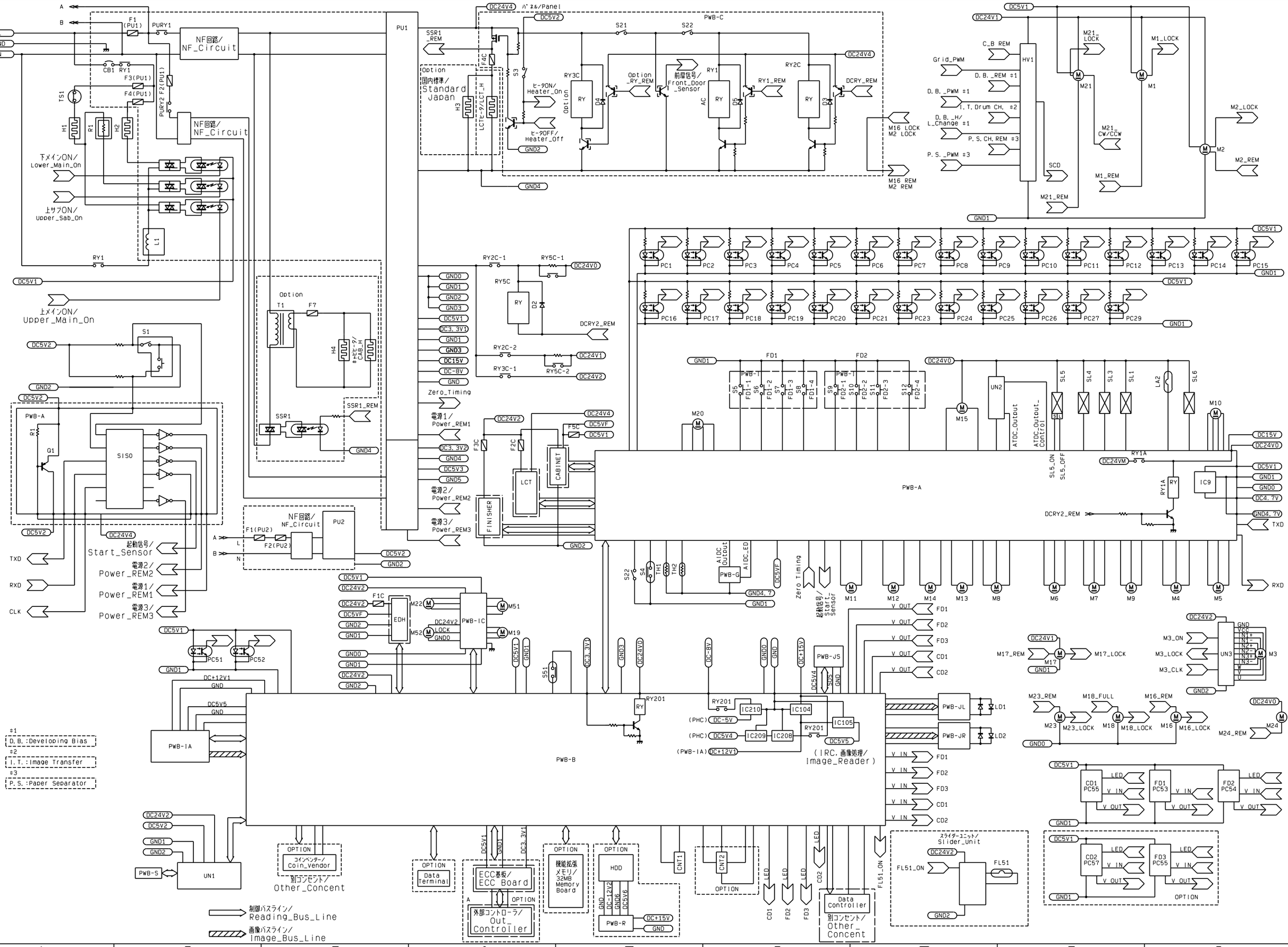
Main Relay
RY1

PU2
DC Power
Supply
Sub
CN6PU1
CN1PU2
CN2PU2

PG1
FERRITE CORE

DESCRIPTION
20 20-I
DESTINATION LOCATION
CLOSE END CONNECTORS LARGE
CLOSE END CONNECTORS MEDIUM
CLOSE END CONNECTORS SMALL
POSITIVE LOCK RECEPTACLE #250 WIHT HOUSING
POSITIVE LOCK RECEPTACLE #187 WIHT HOUSING
OUTPUT OF ACTIVE LOW
OUTPUT OF ACTIVE HIGH
INPUT ACTIVE LOW
INPUT ACTIVE HIGH
OUTPUT OF ACTIVE HIGH OR LOW
INPUT OF ACTIVE HIGH OR LOW
DC24V
DC5V

DWG. NO.	4002-B001-0A
TITLE	WIRING DIAGRAM
MODEL	Di450/Di550
VOLTAGE	AC100/115/120/127/200/220/240V
EFFECTIVE MACHINE NO.	XX0101 AND ONWARD
DATE ISSUED	Aug. 2000

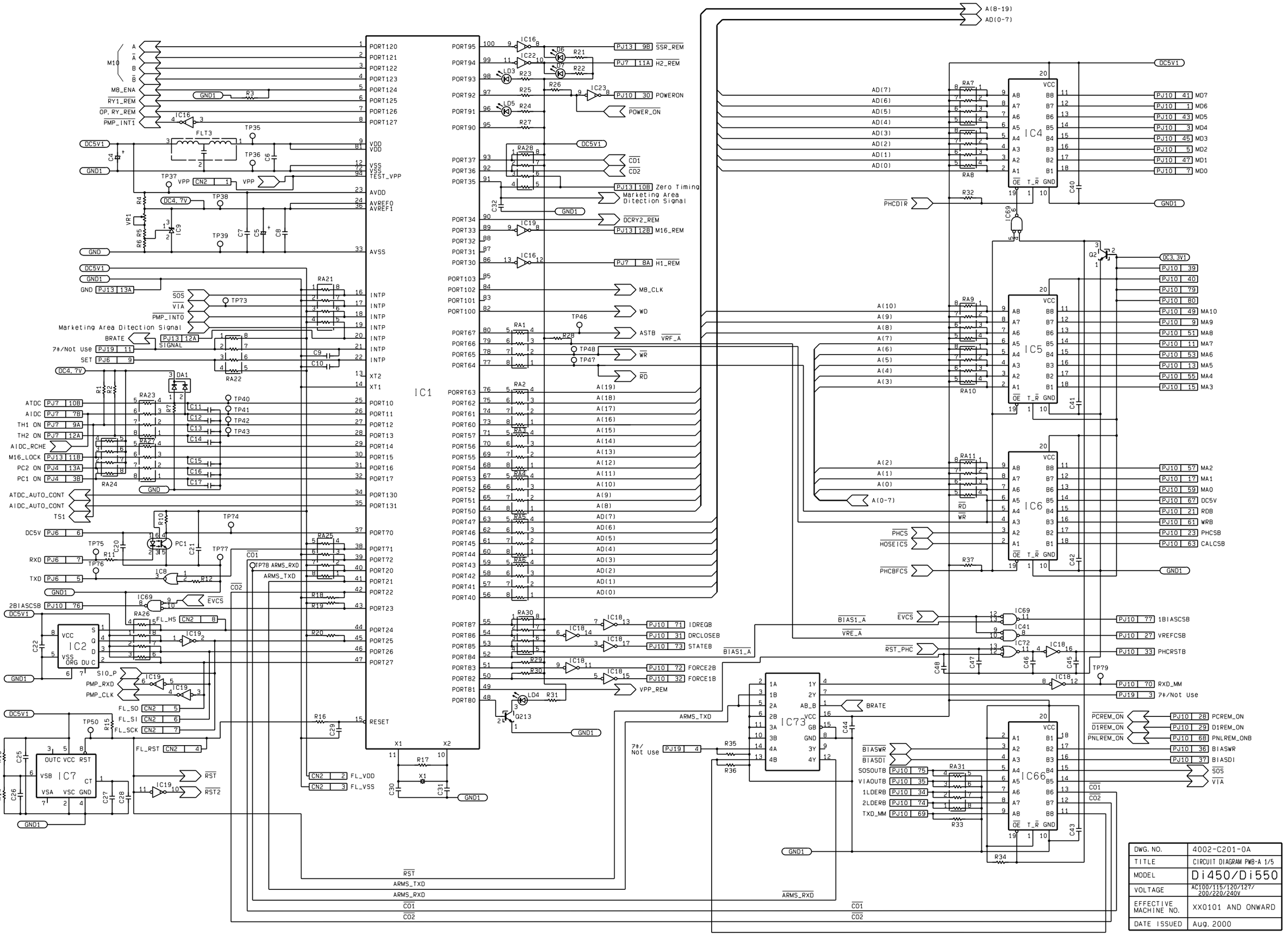

PU1
NF回路/ NF_Circuit
PWB-C
Option 国内標準/ Standard Japan
SSR1 _REM
LCT/ヒータ/LCT_H
ヒータON/ Heater_On
ヒータOFF/ Heater_Off
RY3C
RY1
RY2C
Option _RY_REM
前扉信号/ Front_Door _Sensor
RY1_REM
DCRY_REM
M16 LOCK M2 LOCK
M16 REM M2 REM
C_B REM
Grid_PWM
D. B. _REM ※1
D. B. _PWM ※1
I. T. Drum CH. ※2
D. B. _H/ L_Change ※1
P. S. CH. REM ※3
P. S. _PWM ※3
HV1
SCD
M21_ LOCK
M1_LOCK
M21_ CW/CCW
M1_REM
M21_REM
M2_LOCK
M2_REM
下メインON/ Lower_Main_On
上サブON/ Upper_Sab_On
上メインON/ Upper_Main_On
RY1
L1
T1
F7
ヒータ/ CAB_H
H4
SSR1
SSR1_REM
PWB-A
SISO
Q1
R1
RY2C-1
RY5C-1
RY5C
RY2C-2
RY5C-2
RY3C-1
DCRY2_REM
Zero_Timing
電源1/ Power_REM1
電源2/ Power_REM2
電源3/ Power_REM3
FINISHER
CABINET
LCT
F5C
F3C
F2C
NF回路/ NF_Circuit
PU2
起動信号/ Start_Sensor
TXD
RXD
CLK
EDH
PWB-IC
M51
M19
M22
M52
PC51
PC52
PWB-IA
PWB-B
PWB-S
UN1
PWB-G
AIDC OUTPUT
AIDC_ED
Zero Timing
起動信号/ Start Sensor
PWB-JS
PWB-JL
PWB-JR
LD1
LD2
(IRC, 画像処理/ Image_Reader)
PC1 PC2 PC3 PC4 PC5 PC6 PC7 PC8 PC9 PC10 PC11 PC12 PC13 PC14 PC15
PC16 PC17 PC18 PC19 PC20 PC21 PC23 PC24 PC25 PC26 PC27 PC29
FD1
FD2
PWB-I
M20
M15
UN2
ATDC_Output
ATDC_Output_ Control
SL5
SL4
SL3
SL1
SL6
LA2
M10
SL5_ON
SL5_OFF
RY1A
IC9
M11 M12 M14 M13 M8 M6 M7 M9 M4 M5
V OUT FD1
V OUT FD2
V OUT FD3
V OUT CD1
V OUT CD2
V IN FD1
V IN FD2
V IN FD3
V IN CD1
V IN CD2
M17_REM
M17
M17_LOCK
M3_ON
M3_LOCK
M3_CLK
UN3
M3
M23_REM
M23
M23_LOCK
M18_FULL
M18
M18_LOCK
M16_REM
M16
M16_LOCK
M24_REM
M24
CD1 PC55
FD1 PC53
FD2 PC54
CD2 PC57
FD3 PC55
LED
V IN
V OUT
スライダーユニット/ Slider_Unit
FL51_ON
FL51
Data Controller
別コンセント/ Other_ Concent
OPTION
コインベンダー/ Coin_Vendor
別コンセント/ Other_Concent
Data Terminal
ECC基板/ ECC Board
外部コントローラ/ Out_ Controller
機能拡張メモリ/ 32MB Memory Board
HDD
PWB-R
CNT1
CNT2
※1 D. B. :Developing Bias
※2 I. T. :Image Transfer
※3 P. S. :Paper Separator
制御バスライン/ Reading_Bus_Line
画像バスライン/ Image_Bus_Line

CNT1	トータルカウンタ	Total Counter
CNT2	キーカウンタ(オプション)	Plug-In Counter(OP)
FL51	露光ランプ	Exposure Lamp
H1	定着上ヒータランプ	Upper Fusing Roller Heater Lamp
H2	定着下ヒータランプ	Lower Fusing Roller Heater Lamp
H3	感光体ヒータ	PC Drum Heater(OP)
H4	ペーパー除湿ヒータ	Paper Dehumidifying Heater(OP)
HDD	HDDユニット(※3)	HDD Unit(OP)
HV1	帯電/現像バイアス用高圧ユニット	PC Drum Charge/Developing Bias HV
LA2	メインイレーサランプ	Main Erase Lamp
LD1	レーザダイオード1	Laser Diode1
LD2	レーザダイオード2	Laser Diode2
M1	現像器ユニット駆動モータ	Developing Unit Drive Motor
M2	定着モータ	Fusing Motor
M3	ポリゴンモータ	Polygon Motor
M4	第1トレイ給紙モータ	1st Drawer Paper Take-Up Motor
M5	第2トレイ給紙モータ	2nd Drawer Paper Take-Up Motor
M6	上縦搬送/手差しモータ	Upper Vertical Transport/Manual Feed Motor
M7	下縦搬送モータ	Lower Vertical Transport Motor
M8	中間ローラモータ	Transport Roller Motor
M9	タイミングローラモータ	Synchronizing Roller Motor
M10	反転部反転モータ	Turnover Motor
M11	第1トレイリフトアップモータ	1st Drawer Lift-Up Motor
M12	第2トレイリフトアップモータ	2nd Drawer Lift-Up Motor
M13	メインホッパトナー補給モータ	Main Hopper Toner Replenishing Motor
M14	サブホッパトナー補給モータ	Sub Hopper Toner Replenishing Motor
M15	電源部冷却ファンモータ2	Power Supply Unit Cooling Fan Motor2
M16	電源部冷却ファンモータ1	Power Supply Unit Cooling Fan Motor1
M17	サクションファンモータ	Suction Fan Motor
M18	オゾン排気ファンモータ	Ozone Ventilation Fan Motor
M19	PH冷却ファンモータ2	PH Cooling Fan Motor2
M20	ビーム間隔補正モータ	Beam Interval Correction Motor
M21	感光体モータ	PC Drum Drive Motor
M22	PH冷却ファンモータ1	PH Cooling Fan Motor1
M23	定着部冷却ファンモータ	Fusing Unit Cooling Fan Motor
M24	ウェブ巻き取りモータ	Cleaning Web Drive Motor
M51	スキャナモータ	Scanner Motor
M52	IR冷却ファンモータ	IR Cooling Fan Motor
PC1	タイミングローラ前センサ	Synchronizing Roller Sensor
PC2	中間ローラ前センサ	Transport Roller Sensor
PC3	第1トレイ給紙センサ	1st Drawer Paper Take-Up Sensor
PC4	第2トレイ給紙センサ	2nd Drawer Paper Take-Up Sensor
PC5	ペーパー先端検出センサSW1	Paper Leading Edge Sensor SW1
PC6	ペーパー先端検出センサSW2	Paper Leading Edge Sensor SW2
PC7	反転ペーパー入口センサ	Turnover Feed Entry Sensor
PC8	反転ペーパー残留センサ	Turnover Feed Jam Sensor
PC9	排紙センサ	Paper Exit Sensor
PC10	第1トレイセットセンサ	1st Drawer Set Sensor
PC11	第2トレイセットセンサ	2nd Drawer Set Sensor
PC12	第1トレイリフトアップモータパルスセンサ	1st Drawer Lift-Up Motor Pulse Sensor
PC13	第2トレイリフトアップモータパルスセンサ	2nd Drawer Lift-Up Motor Pulse Sensor
PC14	第1トレイリフトアップセンサ	1st Drawer Paper Lift-Up Sensor
PC15	第2トレイリフトアップセンサ	2nd Drawer Paper Lift-Up Sensor
PC16	第1トレイペーパーエンプティセンサ	1st Drawer Paper Empty Sensor
PC17	第2トレイペーパーエンプティセンサ	2nd Drawer Paper Empty Sensor
PC18	手差しエンプティセンサ	Manual Feed Paper Empty Sensor
PC19	左下ドアセットセンサ	Lower Left Door Set Sensor
PC20	予備回転OFF(後)センサ	Pre-Drive OFF Rear Sensor
PC21	トナーボトル定位置センサ	Toner Bottle Home Position Sensor
PC23	ペーパーサイズ検出センサ(CDA1)	Paper Size Detecting Sensor CDA1
PC24	ペーパーサイズ検出センサ(CDB1)	Paper Size Detecting Sensor CDB1
PC25	ペーパーサイズ検出センサ(CDA2)	Paper Size Detecting Sensor CDA2
PC26	ペーパーサイズ検出センサ(CDB2)	Paper Size Detecting Sensor CDB2
PC27	反転排出センサ	Turnover/Exit Sensor
PC29	右上ドアセットセンサ	Upper Right Set Sensor
PC51	スキャナ基準位置センサ	Scanner Reference Position Sensor
PC52	原稿カバー検出センサ	Original Cover Detecting Sensor
PC53	原稿サイズ検出センサ(FD1)	Original Size Detecting Sensor FD1※1
PC54	原稿サイズ検出センサ(FD2)	Original Size Detecting Sensor FD2
PC55	原稿サイズ検出センサ(FD3) (オプション)	Original Size Detecting Sensor FD3※2
PC56	原稿サイズ検出センサ(CD1)	Original Size Detecting Sensor CD1
PC57	原稿サイズ検出センサ(CD2) (オプション)	Original Size Detecting Sensor CD2※2

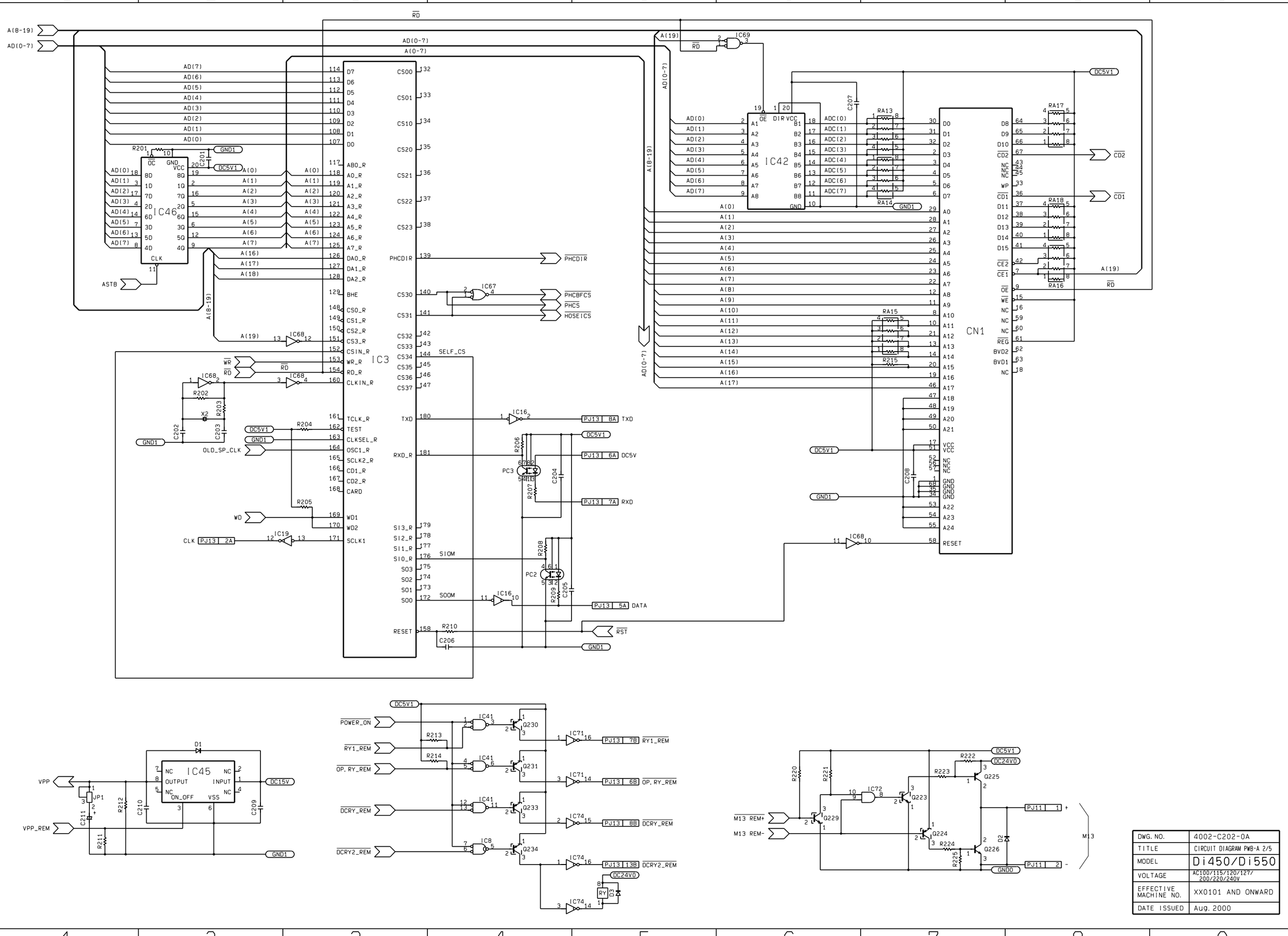
PU1	直流安定化電源メイン	DC Power Supply Main
PU2	直流安定化電源サブ	DC Power Supply Sub
PWB-A	マスタ基板	Master Board
PWB-B	画像処理基板	Image Processing Board
PWB-C	電源基板	Power Supply Board
PWB-G	AIDCセンサ基板	AIDC Sensor Board
PWB-I1	ペーパーサイズ検出基板1	Paper Size Detecting Board1
PWB-I2	ペーパーサイズ検出基板2	Paper Size Detecting Board2
PWB-IA	CCD基板	CCD Board
PWB-IC	SCP基板	SCP Board
PWB-JL	LD基板L	LD Drive Board L
PWB-JR	LD基板R	LD Drive Board R
PWB-JS	SOSセンサ基板	SOS Sensor Board
PWB-M	機能拡張メモリ基板(※3)	32MB Memory Board(OP)
PWB-N	DCモータ駆動基板	DC Motor Drive Board
PWB-R	HDD電源基板(※3)	HDD Power Supply Board(OP)
PWB-S	サービスマン基板	Tech.Rep.Setting Switches Board
R1	フリッカ	Flickerless Resistor
R2	帯電CH用抵抗	Drum Charge Resistor
RY1	メインリレー	Main Relay
S1	メインスイッチ	Power Switch
S3	ペーパー除湿スイッチ	Paper Dehumidifying Switch
S4	サブホッパトナーエンプティスイッチ	Sub Hopper Toner Empty Switch
S21	前ドア安全スイッチ	Front Door Interlock Switch
S22	左上ドア安全スイッチ	Upper Left Door Interlock Switch
S51	サイズリセットスイッチ	Size Reset Switch
SL1	反転ローラ離間ソレノイド	Turnover Roller Retraction Soleonid
SL3	通紙切り換えソレノイド	Exit/Duplex Switching Solenoid
SL4	分離爪ソレノイド	Separator Finger Solenoid
SL5	手差しピックアップソレノイド	Manual Feed Paper Pick-Up Solenoid
SL6	反転排出ソレノイド	Duplex Unit Turnover Exit Soleonid
SSR1	除湿ヒータ用SSR	Dehumidifying Heater SSR
T1	除湿ヒータ用トランス	Dehumidifying Heater Transformer
TH1	定着上サーミスタ	Upper Fusing Roller Thermistor
TH2	定着下サーミスタ	Lower Fusing Roller Thermistor
TS1	定着上サーモスタット	Upper Fusing Roller Thermostat
UN1	操作パネル	Control Panel
UN2	ATDCセンサ	ATDC Sensor

※1:Option=U.S.A
※2:Option=Europe, U.S.A, Korea, Taiwan
※3:Standard=Di550
Option =Di450

DWG. NO.	4002-C101-0A
TITLE	CIRCUIT DIAGRAM
MODEL	Di450/Di550
VOLTAGE	AC100/115/120/127/200/220/240V
EFFECTIVE MACHINE NO.	XX0101 AND ONWARD
DATE ISSUED	Aug. 2000

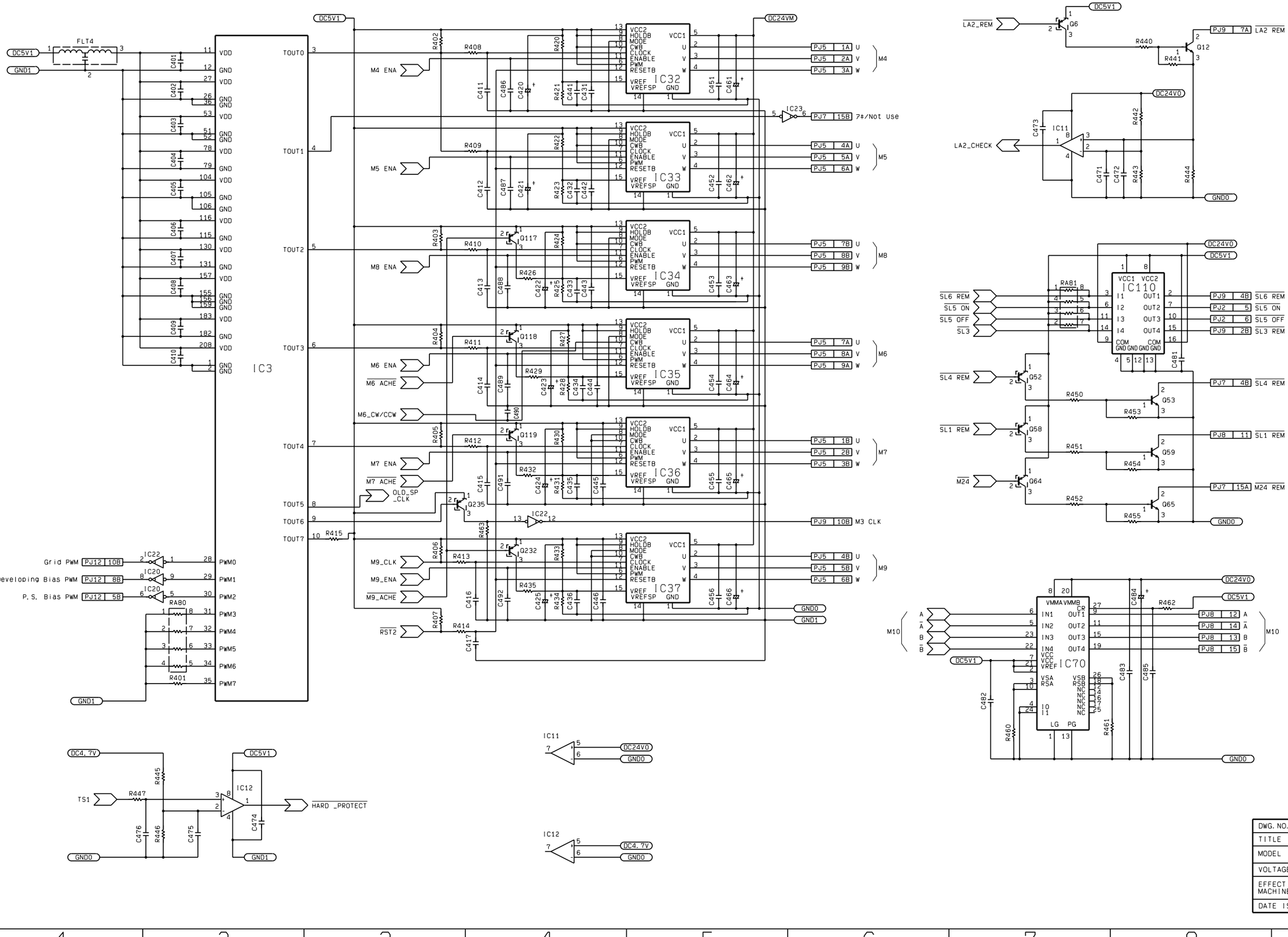


DWG. NO.	4002-C201-0A
TITLE	CIRCUIT DIAGRAM PWB-A 1/5
MODEL	Di450/Di550
VOLTAGE	AC100/115/120/127/ 200/220/240V
EFFECTIVE MACHINE NO.	XX0101 AND ONWARD
DATE ISSUED	Aug. 2000

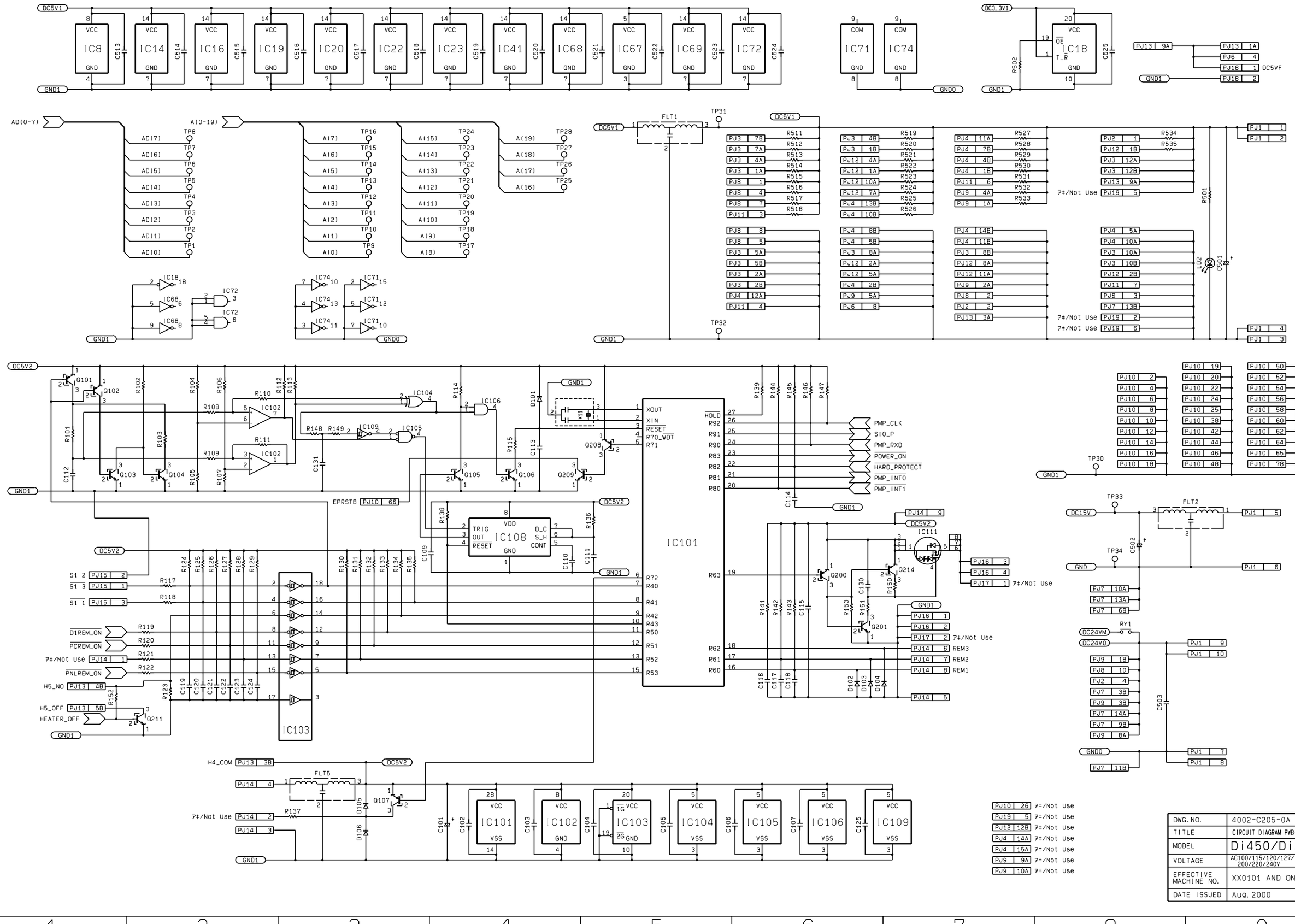


DWG. NO.	4002-C202-0A
TITLE	CIRCUIT DIAGRAM PWB-A 2/5
MODEL	Di450/Di550
VOLTAGE	AC100/115/120/127/ 200/220/240V
EFFECTIVE MACHINE NO.	XX0101 AND ONWARD
DATE ISSUED	Aug. 2000

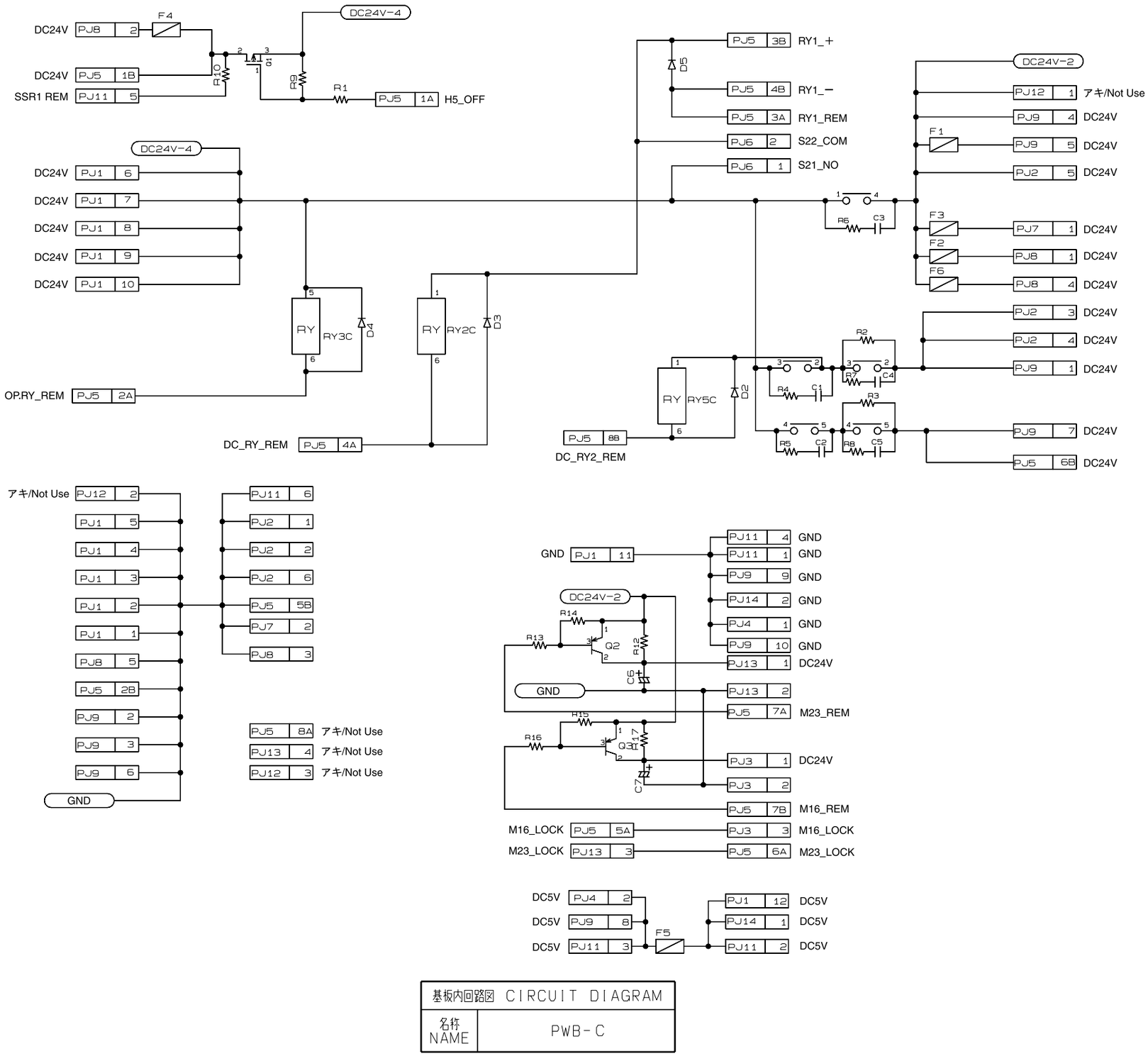
DWG. NO.	4002-C203-0A
TITLE	CIRCUIT DIAGRAM PWB-A 3/5
MODEL	Di450/Di550
VOLTAGE	AC100/115/120/127/ 200/220/240V
EFFECTIVE MACHINE NO.	XX0101 AND ONWARD
DATE ISSUED	Aug. 2000



DWG. NO.	4002-C204-0A
TITLE	CIRCUIT DIAGRAM PWB-A 4/5
MODEL	Di450/Di550
VOLTAGE	AC100/115/120/127/ 200/220/240V
EFFECTIVE MACHINE NO.	XX0101 AND ONWARD
DATE ISSUED	Aug. 2000

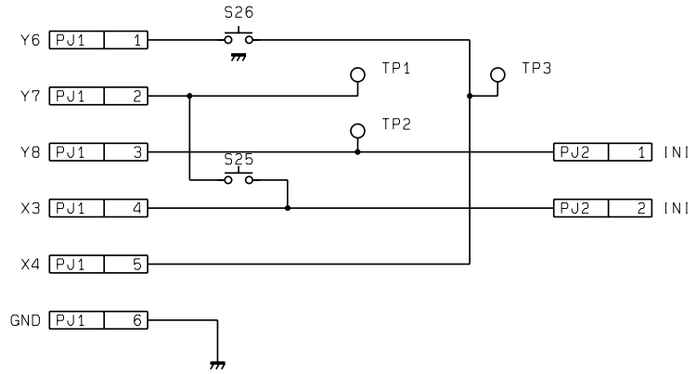


DWG. NO.	4002-C205-0A
TITLE	CIRCUIT DIAGRAM PWB-A 5/5
MODEL	Di450/Di550
VOLTAGE	AC100/115/120/127/200/220/240V
EFFECTIVE MACHINE NO.	XX0101 AND ONWARD
DATE ISSUED	Aug. 2000



基板内回路図 CIRCUIT DIAGRAM

名称 NAME	PWB-C

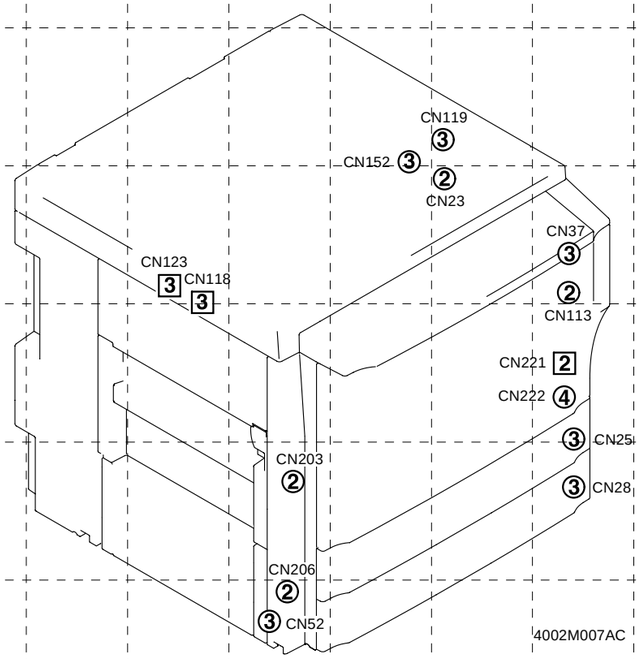


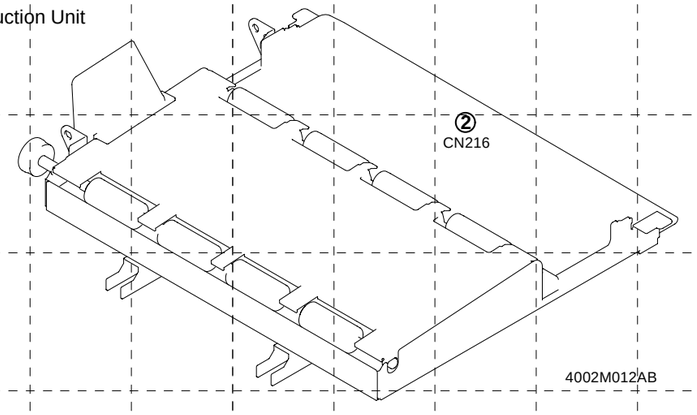
基板内回路図 CIRCUIT DIAGRAM

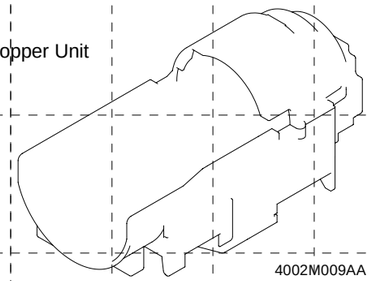
名称 NAME	PWB-S

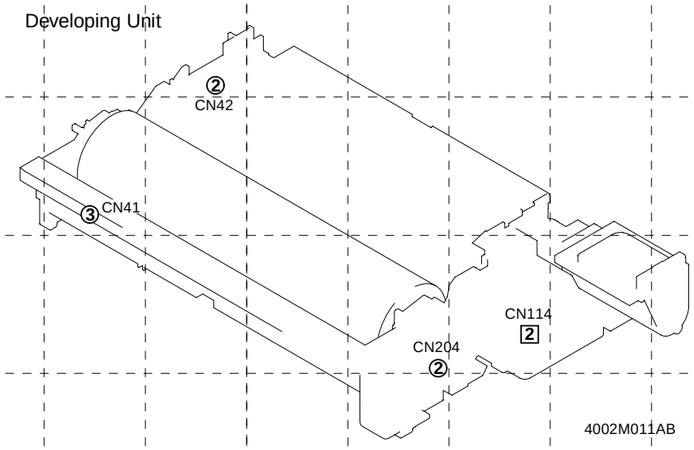
DWG. NO.	4002-C206-0A
TITLE	CIRCUIT DIAGRAM PWB-C,S
MODEL	Di450/Di550
VOLTAGE	AC100/115/120/127/ 200/220/240V
EFFECTIVE MACHINE NO.	XX0101 AND ONWARD
DATE ISSUED	Jul. 2000

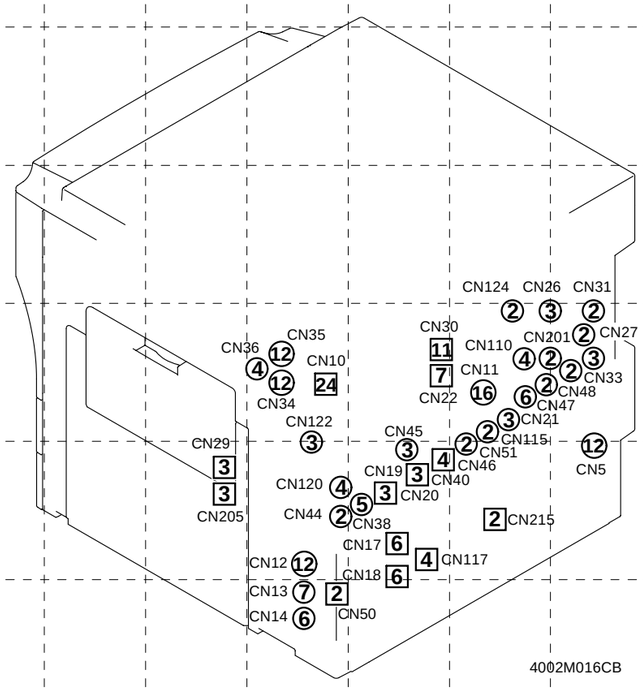
CONNECTORS LAYOUT

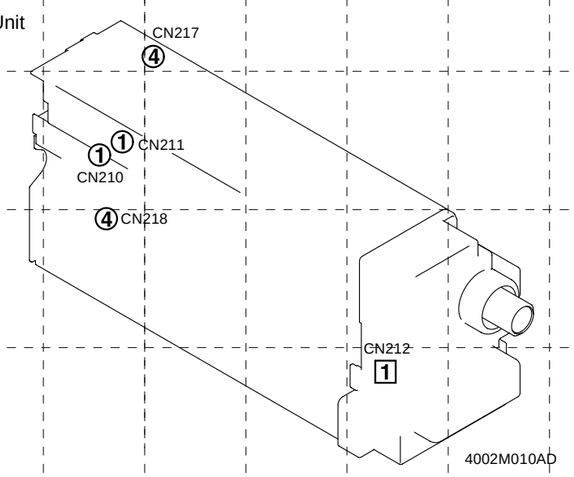












Description

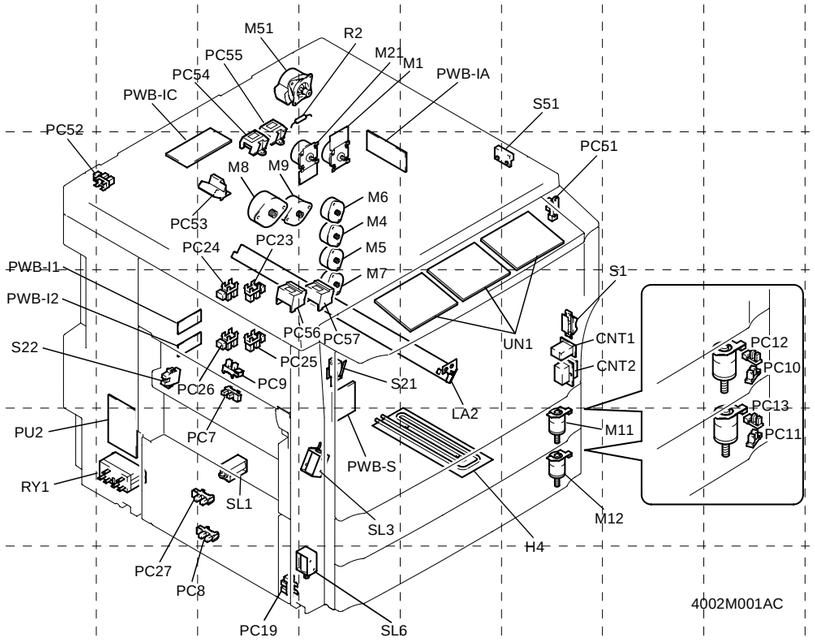
Number of Pin → ① Possible to confirm by removing external cover.

[1] Not possible to confirm by removing external cover.

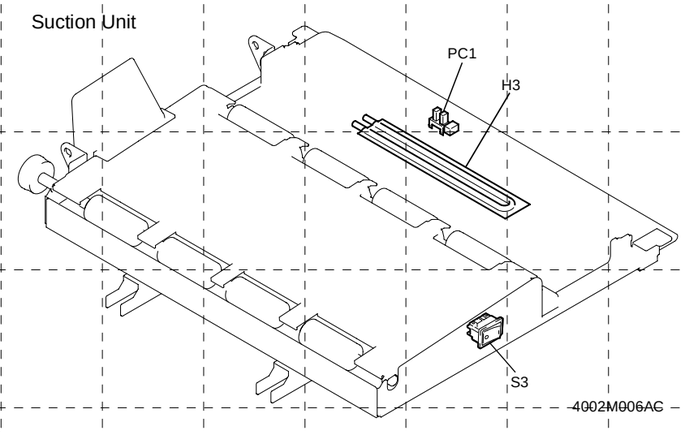
CN No.		LOCATION	GRID
CN5	12P	32-A	7-I~J
CN10	24P	5-D~E	4-I
CN11	16P	2~3-A~B	6-I
CN12	12P	32-B	4-J
CN13	7P	32-C	4-K
CN14	6P	32-D	4-K
CN17	6P	26-E	5-J
CN18	6P	26-F	5-J~K
CN19	4P	8-A~B	5-J
CN20	3P	8-A	5-J
CN21	6P	2-G	6-I
CN22	7P	2~3-F	5-I
CN23	2P	8-I	6-C
CN25	3P	26-D	7-D~E
CN26	3P	32-F	6~7-I
CN27	2P	34-F	7-I
CN28	3P	26-E	7-E
CN29	3P	23-I	3-J
CN30	11P	2~3-E	5-I
CN31	2P	5-I	7-I
CN33	4P	2-H	7-I
CN34	12P	33-A	4-I
CN35	12P	33-B	4-I
CN36	4P	33-C	4-I
CN37	3P	5-B	7-C
CN38	5P	20-H	5-J
CN40	4P	5-A	5-J
CN41	3P	5-D	9-G
CN42	2P	5-E	10-F
CN44	2P	20-H	4-J
CN45	3P	20-G~H	5-J
CN46	2P	29-B	5-J
CN47	2P	33-E	6-I
CN48	2P	33-E	6~7-I
CN50	2P	32-E	4-K
CN51	2P	32-E	6-I~J
CN52	3P	8-E~F	4-F
CN110	4P	2-I	6-I
CN113	2P	5-B	7-C
CN114	2P	5-C	13-H
CN115	3P	13-A	6-I
CN117	4P	8-D	5-J
CN118	3P	13-B	3-C~D
CN119	3P	17-H	6-B
CN120	4P	17-I	4-J
CN122	3P	17-I	4-I~J
CN123	3P	2-C~D	3-C
CN124	2P	2-D	6-I
CN152	3P	20-H	5-B~C
CN201	2P	2-H	6~7-I
CN203	2P	2-E~F	4-E
CN204	2P	5-D	12-H
CN205	3P	23-I	3-J

CN No.		LOCATION	GRID
CN206	2P	2-H	4-F
CN210	1P	2-A	10-J
CN211	1P	2-B	10-J
CN212	1P	2-B	13-L
CN215	2P	26-A	6-J
CN216	2P	5-A	13-B
CN217	4P	2-B	11-I
CN218	4P	2-B~C	10-K
CN221	2P	8-H	7-D
CN222	4P	8-I	7-D

ELECTRICAL PARTS LAYOUT



4002M001AC



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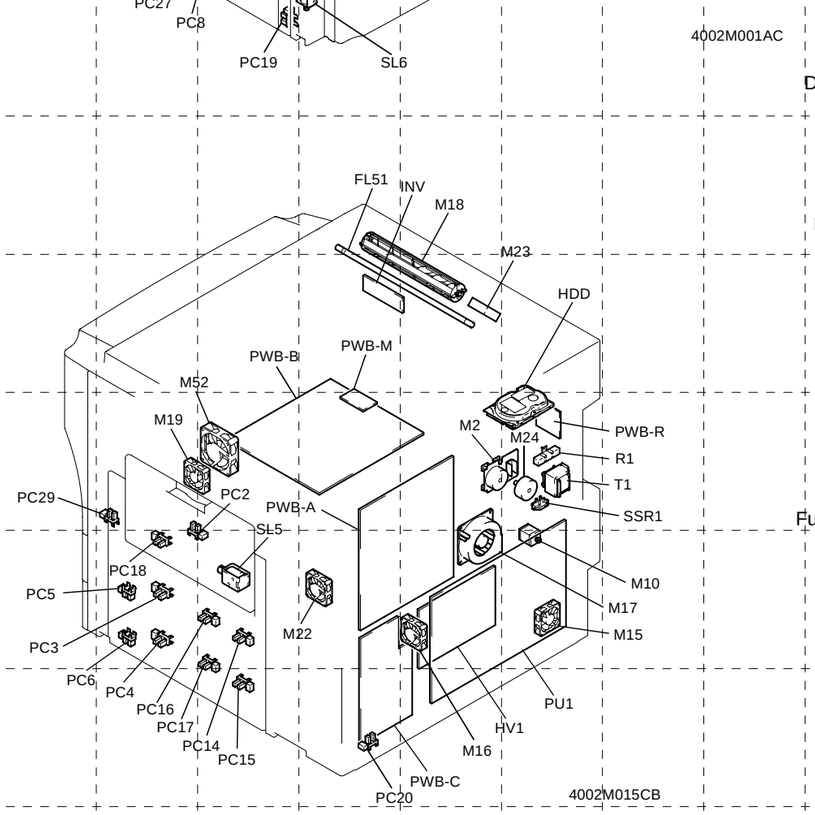
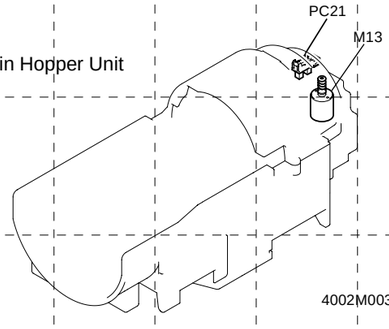


4002M015CB

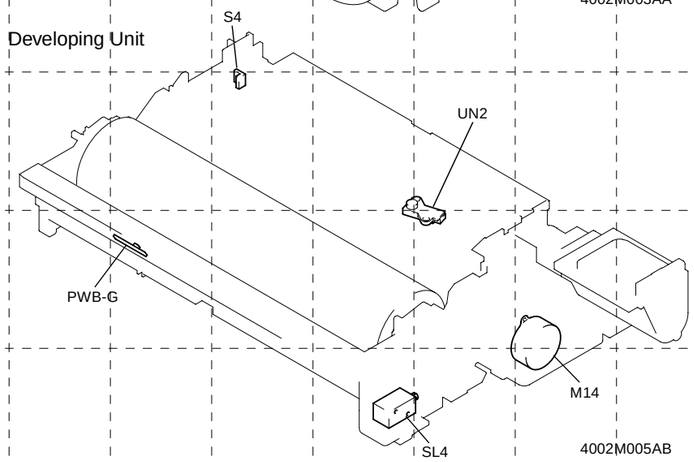
Suction Unit

Main Hopper Unit



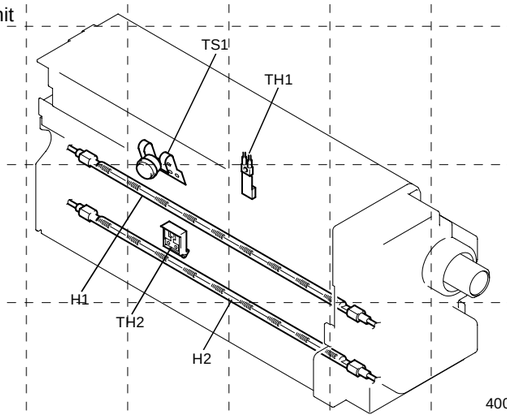
4002M003AA

Developing Unit



4002M005AB

Fusing Unit



4002M004AB

SYMBOL	PART NAME	LOCATION	GRID
CNT1	Total Counter	7-H	6-D
CNT2	Key Counter (OPTION)	—	6-D
FL51	Exposure Lamp	17-F	4~5-H
H1	Upper Fusing Roller Heater Lamp	2-A	10~13-J~L
H2	Lower Fusing Roller Heater Lamp	2-B	10~13-K~L
H3	PC Drum Heater (OPTION)	4~5-A	12~14-A~B
H4	Paper Dehumidifying Heater (OPTION)	26-A	4~5-E
HDD	Hard Disk Drive (OPTION)	29~30-B~E	5~6-I
HV1	PC Drum Charge/Developing Bias HV	4~5-F~G	5-J
INV	Inverter Board	17-E~F	4-H
LA2	Main Erase Lamp	4~5-E	3~5-C~D
M1	Developing Unit Drive Motor	4~5-C	4-C
M2	Fusing Motor	2-C	5~6-I
M3	Polygon Motor	21-H	—
M4	1st Drawer Paper Take-Up Motor	26-A~B	4-C
M5	2nd Drawer Paper Take-Up Motor	26-B	4-C
M6	Upper Vertical Transport/Manual Feed Motor	7-B~C	4-C
M7	Lower Vertical Transport Motor	7-C	4-D
M8	Transport Roller Motor	7-C	3-C
M9	Synchronizing Roller Motor	7-D	3~4-C
M10	Turnover Motor	2-I	6-I~J
M11	1st Drawer Lift-Up Motor	26-B	6-E
M12	2nd Drawer Lift-Up Motor	26-C	6-E
M13	Main Hopper Toner Replenishing Motor	4~5-B	14-D~E
M14	Sub Hopper Toner Replenishing Motor	4~5-C~D	14-H~I
M15	Power Supply Unit Cooling Fan Motor 2	13-A	6-J
M16	Power Supply Unit Cooling Fan Motor 1	13-A~B	5-J
M17	Suction Fan Motor	7-D	5-I~J
M18	Ventilation Fan Motor	13-B	4~5-G~H
M19	PH Cooling Fan Motor 2	18-H	2~3-I
M20	Beam Interval Correction Motor	18-I	—
M21	PC Drum Drive Motor	4~5-C	3~4-C
M22	PH Cooling Fan Motor 1	18-I	4-J
M23	Fusing Unit Cooling Fan Motor	2-C~D	5-H
M24	Cleaning Web Drive Motor	2-D	6-I
M51	Scanner Motor	10-A~B	3~4-B
M52	IR Cooling Fan Motor	21-H	3-I
PC1	Synchronizing Roller Sensor	7-A	13-A
PC2	Transport Roller Sensor	7-A~B	2~3-I~J
PC3	1st Drawer Paper Take-Up Sensor	26-C	2-J
PC4	2nd Drawer Paper Take-Up Sensor	26-C	2-J
PC5	Paper Leading Edge Sensor SW1	7-B	2-J
PC6	Paper Leading Edge Sensor SW2	7-B	2-J
PC7	Turnover Feed Entry Sensor	1~2-H	3-D
PC8	Turnover Feed Jam Sensor	2-G	3-E
PC9	Paper Exit Sensor	2-E	3-D
PC10	1st Drawer Set Sensor	26-D	8-D
PC11	2nd Drawer Set Sensor	26-D	8-E
PC12	1st Drawer Lift-Up Motor Pulse Sensor	26-D	8-D
PC13	2nd Drawer Lift-Up Motor Pulse Sensor	26-E	8-E
PC14	1st Drawer Paper Lift-Up Sensor	26-E	3-J
PC15	2nd Drawer Paper Lift-Up Sensor	26-F	3-K
PC16	1st Drawer Paper Empty Sensor	26-E~F	3-J
PC17	2nd Drawer Paper Empty Sensor	26-F	3-J
PC18	Manual Feed Paper Empty Sensor	24-I	2-J
PC19	Lower Left Door Set Sensor	7-E~F	3-F
PC20	Pre-Drive OFF Rear Sensor	7-F	4-K

SYMBOL	PART NAME	LOCATION	GRID
PC21	Toner Bottle Home Position Sensor	4~5-B	14-D
PC23	Paper Size Detecting Sensor CDA1	26-F~G	3-D
PC24	Paper Size Detecting Sensor CDB1	26-G	3-D
PC25	Paper Size Detecting Sensor CDA2	26-G	3-D
PC26	Paper Size Detecting Sensor CDB2	26-H	3-D
PC27	Turnover/Exit Sensor	2-G	2~3-E
PC29	Upper Right Door Set Sensor	7-F	2-I
PC51	Scanner Reference Position Sensor	13-B	6-C
PC52	Original Cover Detecting Sensor	13-C	2-C
PC53	Original Size Detecting Sensor FD1 (✻1)	15-A	3-C
PC54	Original Size Detecting Sensor FD2	15-A~B	3-C
PC55	Original Size Detecting Sensor FD3 (✻2)	15-B	3-B~C
PC56	Original Size Detecting Sensor CD1	15-B~C	3~4-D
PC57	Original Size Detecting Sensor CD2 (✻2)	15-C	4-D
PU1	DC Power Supply Main	31~33-F~H	5~6-J~K
PU2	DC Power Supply Sub	34-H~I	2-D~E
PWB-A	Master Board	10~16-D~I	4~5-I~J
PWB-B	Image Processing Board	20~24-B~F	3~5-I
PWB-C	Power Supply Board	28~30-E~I	4~5-J~K
PWB-G	AIDC Sensor Board	4~5-D	10-H
PWB-I1	Paper Size Detecting Board 1	26~27-H	2-D
PWB-I2	Paper Size Detecting Board 2	26~27-I	2-D
PWB-IA	CCD Board	17~18-D~E	4-C
PWB-IC	SCP Board	10~12-A~B	2~3-C
PWB-JL	LD Drive Board L	19-B~C	—
PWB-JR	LD Drive Board R	20-C~D	—
PWB-JS	SOS Sensor Board	20-A	—
PWB-M	Memory Board (OPTION)	23~24-C~D	4-I
PWB-N	DC Motor Drive Board	—	—
PWB-R	HDD Power Supply Board (OPTION)	28~29-B	6-I
PWB-S	Tech. Rep. Setting Switches Board	7~8-G~H	4-D~E
R1	Flickerless Resistor (✻3)	34-F	6-I
R2	Drum Charge Resistor	—	3~4-B
RY1	Main Relay	32-I	2-E
S1	Power Switch	7-F~G	6-D
S3	Paper Dehumidifying Switch	26-A	13-C
S4	Sub Hopper Toner Empty Switch	4~5-E	11-G
S21	Front Door Interlock Switch	4~5-I	4-D
S22	Upper Left Door Interlock Switch	4-I	2-D
S51	Size Reset Switch	7-I	5~6-C
SL1	Turnover Roller Retraction Solenoid	1~2-H	3-E
SL3	Exit/Duplex Switching Solenoid	1~2-E~F	4-E
SL4	Separator Finger Solenoid	4~5-D	12-I
SL5	Manual Feed Paper Pick-Up Solenoid	24-I	3-J
SL6	Turnover Route Switching Solenoid	1~2-H	4-F
SSR1	Dehumidifying Heater SSR (OPTION)	32-E	6-I
T1	Dehumidifying Heater Transformer (OPTION)	33-E	6-I
TH1	Upper Fusing Roller Thermistor	2-B	12-J~K
TH2	Lower Fusing Roller Thermistor	2-B	11-K
TS1	Upper Fusing Roller Thermostat	2-A	11-J~K
UN1	Control Panel	17~18-A~C	4~6-C~D
UN2	ATDC Sensor	4~5-E	12~13-G~H

✻1: Optional for the U.S.A., Canada
✻2: Standard for the Other Areas (Except Korea, Taiwan)
✻3: 200V Areas Only