EP1054/EP1085/EP2030

DIS/REASSEMBLY, ADJUSTMENT

MINOLTA

18605

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1 SERVICE INSTRUCTIONS

1-1. INSTRUCTIONS FOR HANDLING THE PWBs WITH MOS ICs

The following precautions must be observed when handling P.W. Boards with MOS (Metal Oxide Semiconductor) ICs.

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.
- 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.

During Replacement:
- 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.
- Before plugging connectors into the Board, make sure that the power cord has been unplugged from the power outlet.

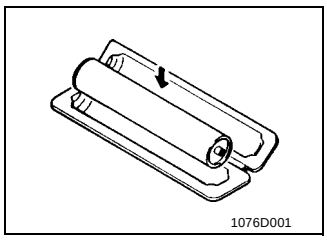
During Inspection:
- Avoid checking the IC directly with a multimeter; use connectors on the Board.
- Never create a closed circuit across IC pins with a metal tool.
- When it is absolutely necessary to touch the ICs and other electrical components on the Board, be sure to ground your body.

1-2. HANDLING OF THE PC DRUM

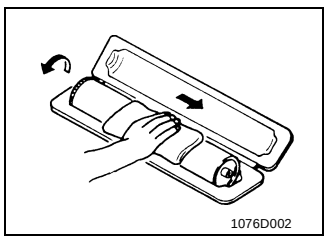
During Transportation/Storage:
- Use the specified carton whenever moving or storing the PC Drum.
- The storage temperature is in the range between –20°C and +40°C.
- In summer, avoid leaving the PC Drum in a car for a long time.

Handling:
- Ensure that the correct PC Drum is used.
- Whenever the PC Drum has been removed from the copier, store it in its container 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 container.

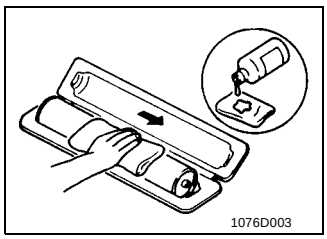


2. Gently wipe the residual toner off the surface of the PC Drum with a dry, Dust-Free Cotton Pad.

A. Rotate 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.

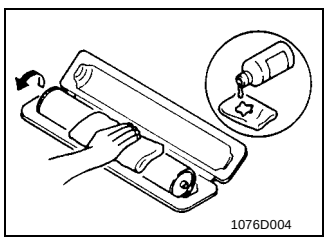
B. Rotate the PC Drum slightly and wipe the newly exposed surface area with a CLEAN face of the Dust-Free Cotton Pad. Repeat this procedure until the entire surface of the PC Drum has been thoroughly cleaned.

✻ 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.

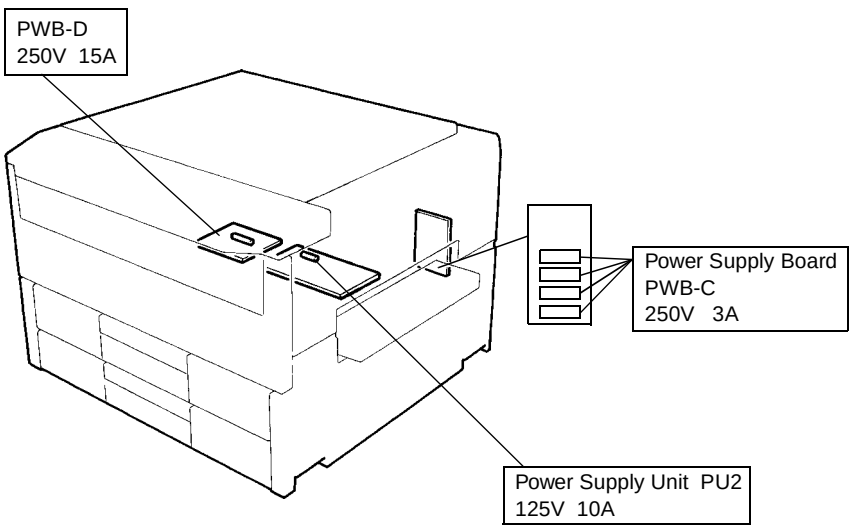


4. Using the SAME face of the Pad, repeat the procedure explained in the latter half of step 3 until the entire surface of the PC Drum has been wiped. Always OVERLAP the areas when wiping. Two complete turns of the PC Drum would be appropriate for cleaning.

NOTES

- *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.*

Identification of Fuses



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1-3. PARTS WHICH MUST NOT BE TOUCHED

(1) Screws

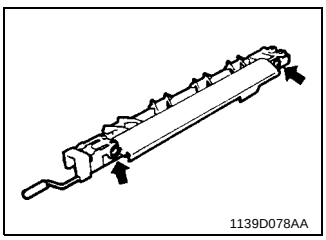
Purpose of Application of Red Paint
Red paint is applied to the screws which cannot be readjusted, set, or reinstalled in he field. The basic rule is not to remove or loosen the screws to which red paint is applied. In addition, be advised that, if two or more screws are designated as those which must not be touched on a single part, only one representative screw may be marked with red paint.

(2) Variable Resistors on Board

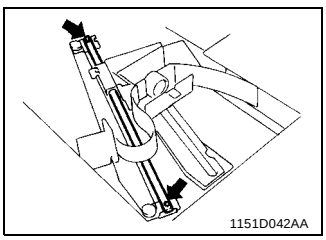
Do not turn the variable resistors on boards for which no adjusting instructions are given in "ADJUSTMENT."

(3) Other Screws

Lower Pre-Image Transfer Guide Plate (2 screws)



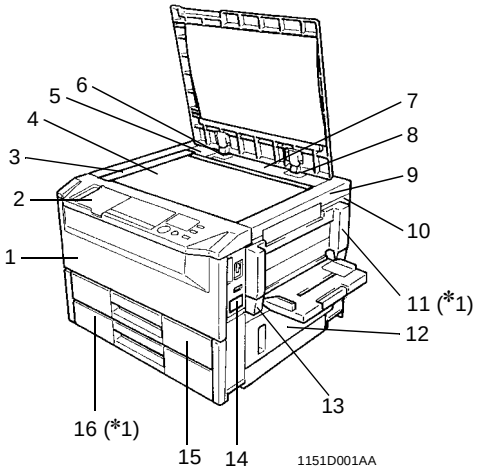
Lens Rail height setting screws (2)



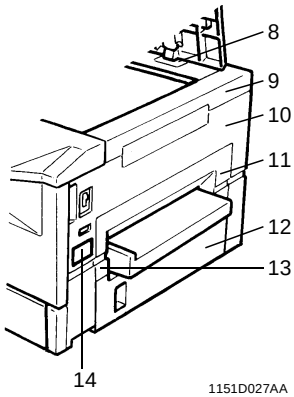
2 DISASSEMBLY/REASSEMBLY

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

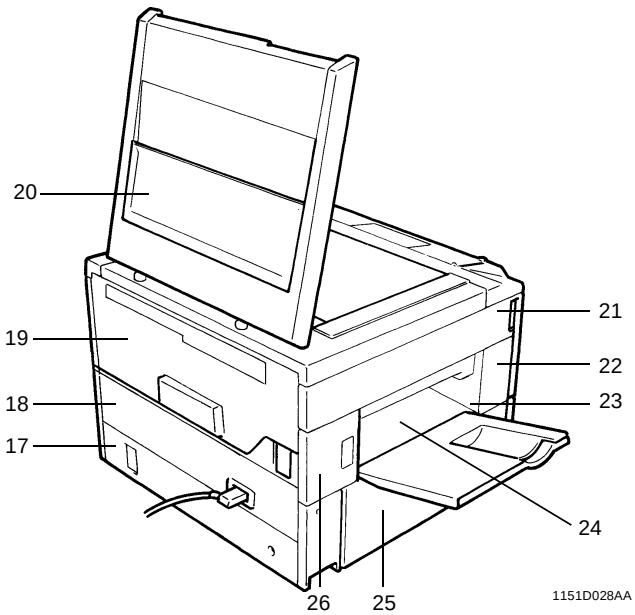
<23 cpm copier>



<15/18 cpm copier>



(*1: 23 cpm copier only)



No.	Part Name	Removal Procedure
1	Front Door	Swing down No.1. → Remove one screw that secures the Belt. → Remove two screws that secure the Front Door (only on one side). → Slide the Door to the side from which the screws have been removed.
2	Control Panel	Swing down No.1. → Remove No.9. → Release and swing up the Upper Half of the copier. → Remove No.21. → Remove two screws that secure the control panel and loosen another five screws that secure the control panel.
3	Original Scales	Remove two screws that secure the Scales.
4	Original Glass	
5	Rear Upper Cover (Small)	Remove the Original Cover. → Release and swing up the Upper Half of the copier. → Remove the Screw Cover and one mounting screw of No.5.
6	Left Hinge Cover	Remove the Original Cover. → Remove one screw that secures the Left Hinge Cover.
7	Rear Upper Cover	Remove the Original Cover. → Remove No.6, 8 and 9. → Remove one screw that secures No.7.
8	Right Hinge Cover	
9	Upper Right Cover	
10	Right Cover	Remove No.11. → Remove No.9. → Remove two screws that secure No.10.
11	Middle Right Cover	Remove screws that secure No.11. (23 cpm copier: three/ 15/18 cpm copier: four).
12	Right Door	Open No.12 and remove it by lifting it up.
13	Multi Bypass Table Mounting Bracket *1	Remove two screws that secure the Multi Bypass Table Mounting Bracket.
14	Counter Cover	Remove No.14 by snapping if off.
15	1st Drawer	Slide out the Drawer and remove one screw that secures the Stopper at the rear left corner.
16	2nd Drawer *2	
17	Lower Rear Cover *2	Remove two screws that secure the Lower Rear Cover.
18	Rear Cover	Swing down No.1. → Release and swing up the Upper Half of the copier. → Remove two screws that secure the Rear Cover.
19	Upper Rear Cover	Swing down No.1. → Release and swing up the Upper Half of the copier. → Remove three screws that secure the Upper Rear Cover.
20	Original Cover	———

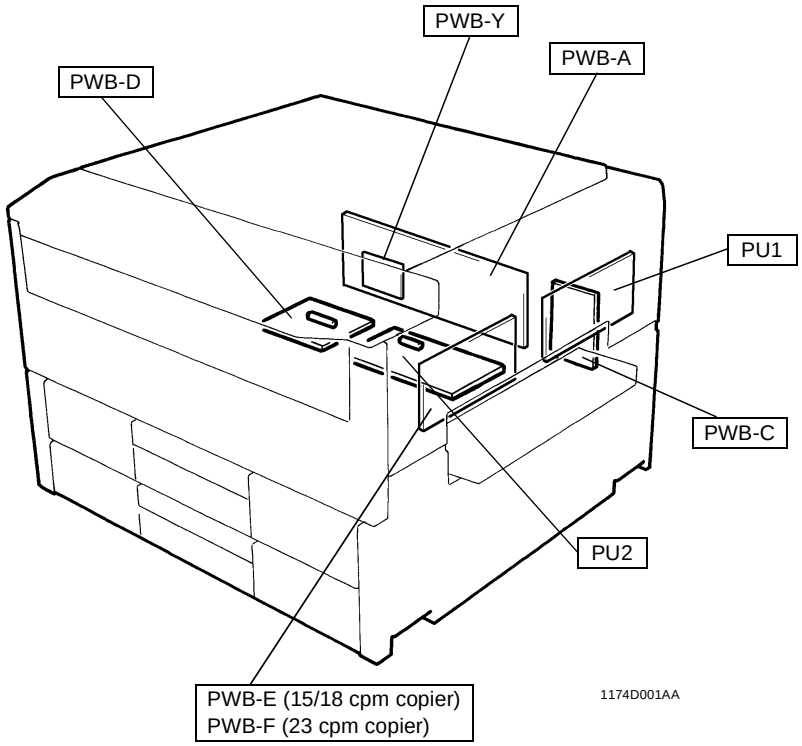
Remove the Original Cover by pulling it up.

No.	Part Name	Removal Procedure
21	Upper Left Cover	Swing down No.1. → Release and swing up the Upper Half of the copier. → Remove four screws that secure the Upper Left Cover.
22	Middle Front Left Cover	Swing down No.1. → Release and swing up the Upper Half of the copier. → Remove one screw that secures the Middle Front Left Cover.
23	Front Exit Cover	Swing down No.1. → Release and swing up the Upper Half of the copier. → Remove No.22. → Remove one screw that secures the Front Exit Cover.
24	Rear Exit Cover	Swing down No.1. → Release and swing up the Upper Half of the copier. → Remove No.26. → Remove one screw that secures the Rear Exit Cover.
25	Lower Left Cover	Remove four screws that secure the Lower Left Cover.
26	Middle Rear Left Cover	Swing down No.1. → Release and swing up the Upper Half of the copier. → Remove one screw that secures the Middle Rear Left Cover.

✻ 1: Multi Bypass Section: 15/18 cpm copier option
✻ 2: 18/23 cpm copier only

2-2. REMOVAL OF PWBs

- When removing a PWB, first go over “PRECAUTIONS FOR HANDLING THE PWBs” contained in SWITCHES ON PWBs and use the removal procedures given on the next page.
- Replacement of a PWB may call for readjustments or resetting of particular items.
- The removal procedures given on the next page omit the steps to unplug connectors and remove the PWB from the PWB support.



Symbol	Part Name	Removal Procedure
PWB-A	Master Board	Open 1. → Release and swing up the Upper Half of the copier. → Remove 19.
PWB-C	Power Supply Board	Open 1. → Release and swing up the Upper Half of the copier. → Remove 17 (18/23 cpm copier only), 18, and 19. → Remove four screws that secure the Power Supply Unit Cover.
PWB-D	Noise Filter Board	
PWB-E (15/18 cpm copier)	Motor Drive Board	Open 1 and 12. → Remove 9, 10, and 11.
PWB-F (23 cpm copier)	Motor Drive Board	Open 1. → Remove 11. → Remove 9 and 10. → Remove the Multi Bypass Unit.
PWB-H	AE Sensor Board	Remove 3 and 4. → Remove the optical cover.
PWB-P	Control Panel	Open 1. → Remove 9. → Release and swing up the Upper Half of the copier. → Remove 21. → Remove seven screws that secure Control Panel.
PWB-Y	RAM Board	Open 1. → Release and swing up the Upper Half of the copier. → Remove 19.
PU1	Power Supply Unit	<18/23 cpm copier> Open 1. → Remove 11. → Remove 9 and 10. → Remove the Multi Bypass Unit.
		<15 cpm copier> Open 1 and 12. → Remove 9, 10, and 11.
PU2	DC Power Supply Unit	Open 1. → Release and swing up the Upper Half of the copier. → Remove 17 (18/23 cpm copier only) and 18.
HV1	High Voltage Unit	Open 1. → Release and swing up the Upper Half of the copier. → Remove 19. → Remove PWB-A.
UN2 (18/23 cpm copier only)	Original Size Detecting Board	Remove 3 and 4. → Remove the optical cover.
UN3	ATDC Sensor	Open 1. → Release and swing up the Upper Half of the copier. → Take out the I/U. → Remove two screws that secure the Synchronizing Roller Guide Unit.

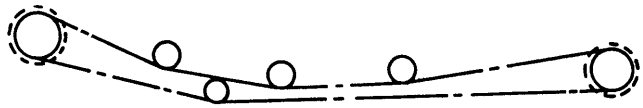
✻ Details of Readjustments/Resetting Involved In Replacement of PWB-Y, UN2 and UN3.

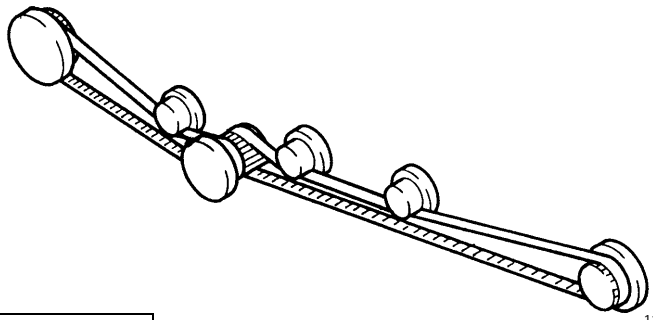
- When PWB-Y is replaced:
  Carry out Memory Clear and then make the Tech. Rep. Program, User's Choice, and Adjust settings again.
- When UN2 is replaced: (18/23 cpm copier only)
  Adjust the Original Size Detecting Board.
- When UN3 is replaced:
  Discard the developer which had been used until UN3 was replaced, charge the Developing Unit with fresh starter, and adjust ATDC.

2-3. BELT INSTALLATIONS

- Rear View

Drive/Suction Unit





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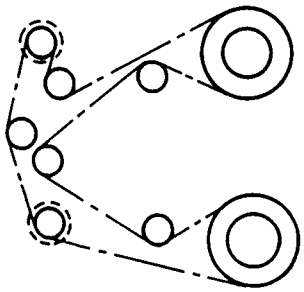
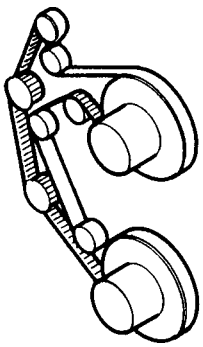
Paper Take-Up Unit

<18/23 cpm copier>





<15 cpm copier>

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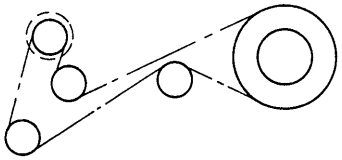

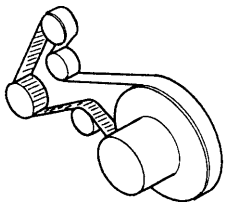

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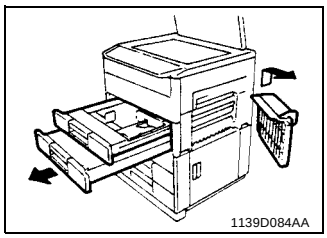
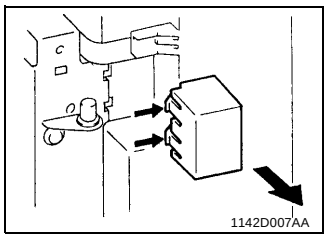
2-4. PAPER TAKE-UP/TRANSPORT SECTIONS

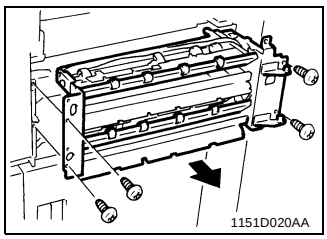
(1) Removal of the Paper Take-Up Unit



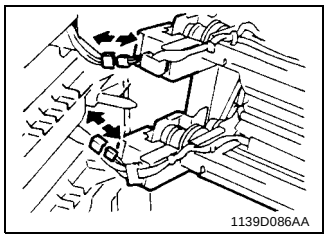
1. Remove the Multi Bypass Table. (15/18 cpm copier: OPTION) See p. D-15. (NO 1 ~ 7)
2. Slide out the 1st and 2nd (23 cpm copier only) Drawers.



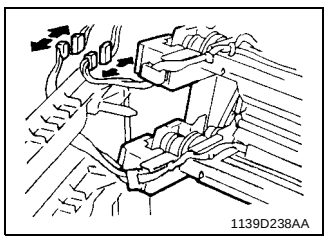
3. Press the tabs at the two places indicated by the arrow and, at the same time, remove the cover. (15/18 cpm copier only)



4. Remove screws and the Paper Take-Up Unit. (23 cpm copier: four screws/15/18 cpm copier: five screws)

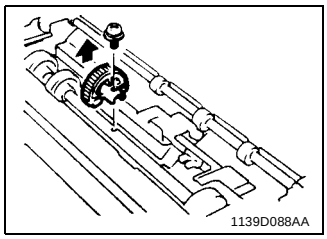


5. Unplug the connectors from the solenoids on the Paper Take-Up Unit. (23 cpm copier: two connectors/15/18 cpm copier: one connector)



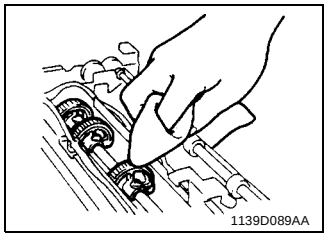
6. Remove the Rear and Rear Upper covers.
7. Remove the DC Power Supply Unit.
8. Remove the harness from the wiring saddle.
9. Unplug the connectors (23 cpm copier: two connectors/15/18 cpm copier: one connector).

(2) Removal of the Paper Take-Up Rolls



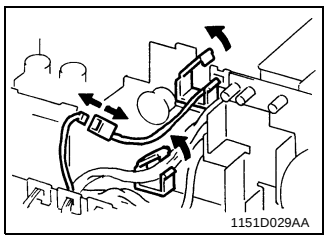
1. Remove one screw to remove the Paper Take-Up Roll.

(3) Cleaning of the Paper Take-Up Rolls

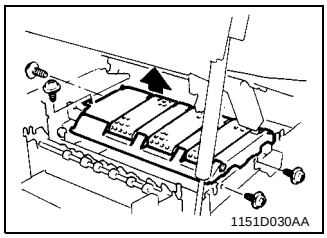


1. Remove the Paper Take-Up Unit from the copier.
2. Using a soft cloth dampened with alcohol, wipe clean the Paper Take-Up Rolls.

(4) Removal of the Suction Unit

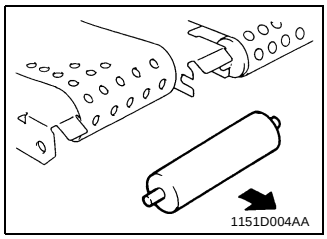


1. Remove the Fusing Unit. (See p. D-40.)
2. Unplug the Suction Fan connector and remove the wire from the clamp.

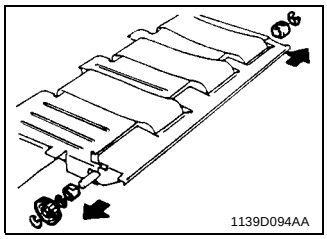


3. Remove four screws to remove the Suction Unit.

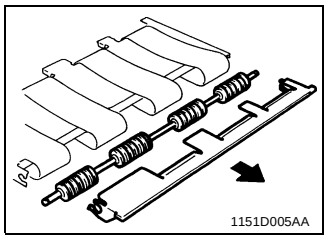
(5) Disassembly of the Suction Unit



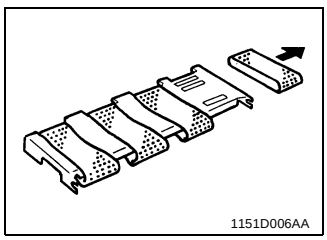
1. Remove the four Suction Drive Rolls and six bushings by pulling them in the direction of the arrow.



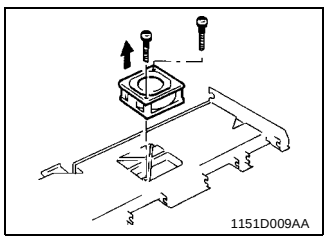
2. Snap off the three E-rings from the Suction Drive Unit.
3. Remove the gear and bushings.



4. Remove the Pre-Fusing Guide Plate.
5. Remove the Suction Drive Unit.



6. Remove the four belts.

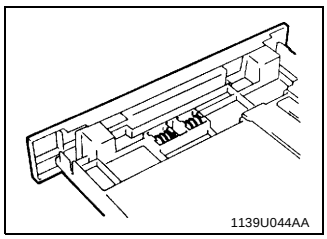


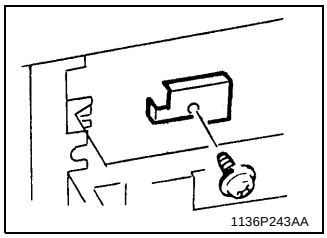
7. Remove the Suction Fan.

(6) Replacement of the Paper Lifting Springs (2nd Drawer): 23 cpm copier only

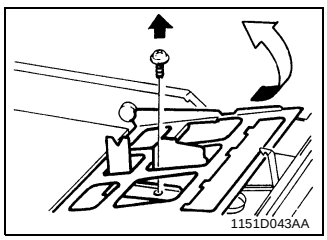
Remark

- The replacement springs are installed on the underside of the 2nd Drawer.

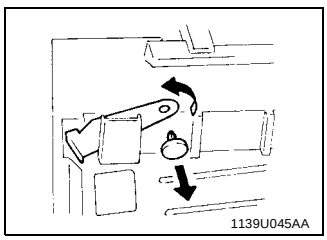




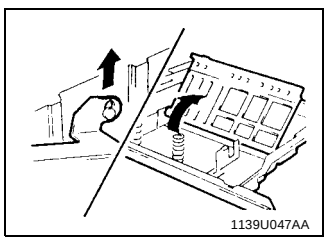
1. Remove the Stoppers of the 2nd Drawer and the 2nd Drawer.



2. Remove one screw and the Edge Guide Unit.

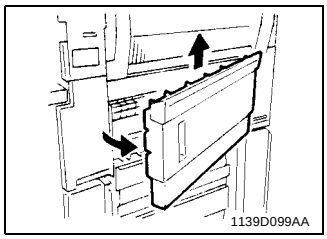


3. Remove the Front Separator Finger by removing its pin.

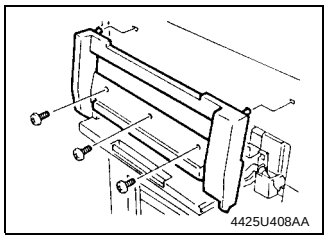


4. Raise the Paper Lifting Plate Unit and replace the Paper Lifting Springs. See p. D-61.

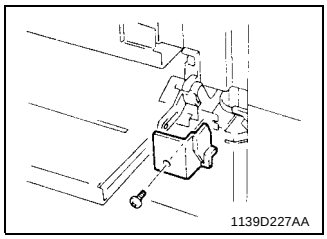
(7) Disassembly of the Multi Bypass Table (15/18 cpm copier: OPTION)



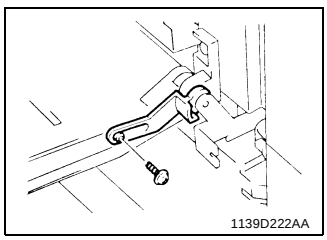
1. Remove the Right Door.



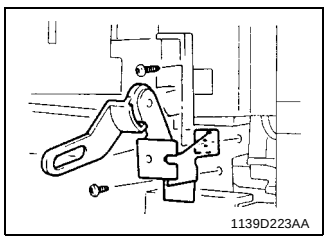
2. Remove three screws and the Large Cover.

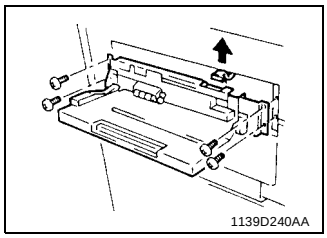


3. Remove one screw and the Small Cover.

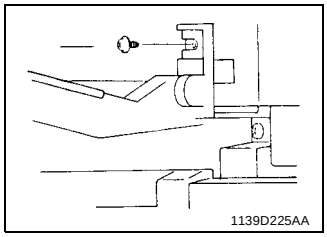


4. Remove three screws and the Guide Lever Unit.

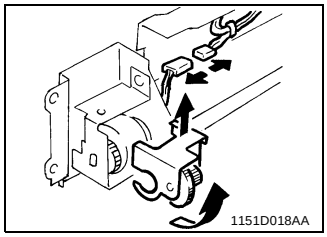




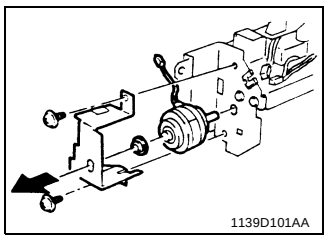
5. Remove four screws and the Multi Bypass Table.
6. Unplug the Multi Bypass Table connector.



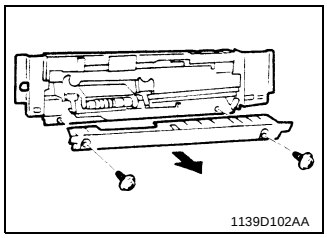
7. Remove one screw and the Multi Bypass Table.



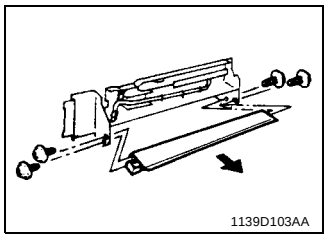
8. Unplug one connector.
9. Remove the Tension Unit.



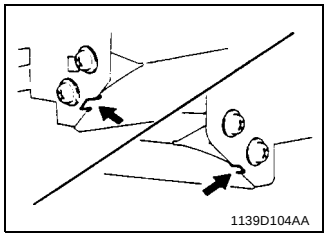
10. Remove two screws and the Clutch Mounting Bracket.



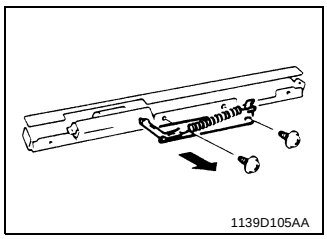
11. Remove two screws and the Lower Guide.



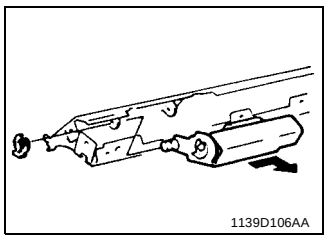
12. Remove four screws and the Separator Guide Plate Unit.



NOTE
When reinstalling the Separator Guide Plate Unit, press the parts shown on the left up against the copier frame (both at front and rear).

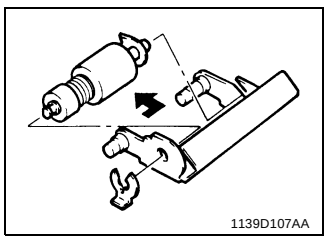


13. Remove two screws and the Lever.

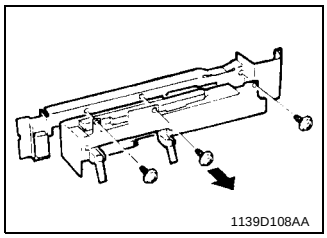


14. Snap off one C-clip and remove the Separator Unit.

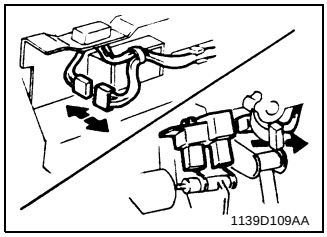
NOTE
- *Please use tweezers when reinstalling the C-clip.*



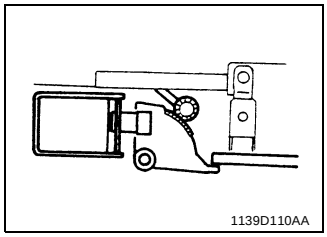
15. Snap off one C-clip and remove the Separator Roll Assy.


1139D108AA

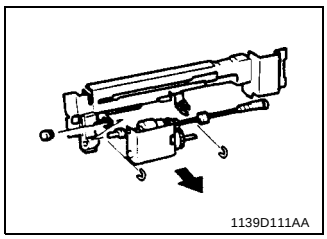
16. Remove three screws and the Solenoid Mounting Bracket.


1139D109AA

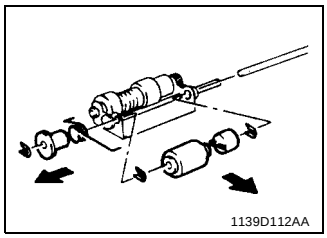
17. Unplug one solenoid connector.
18. Unplug one photosensor connector and remove the harness from the clamp.


1139D110AA

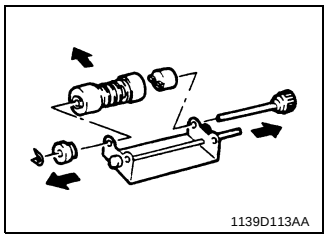
NOTE
When reinstalling the Solenoid Mounting Bracket, make sure that the Solenoid is in the deenergized position.


1139D111AA

19. Snap off the two C-clips to remove the Paper Take-Up Roll Unit.


1139D112AA

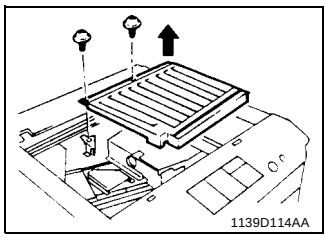
20. Snap off the three C-clips to remove the Paper Feed Roll.



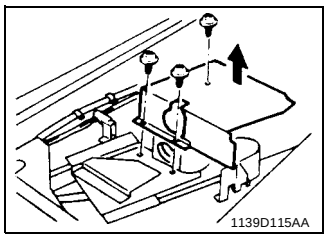
21. Snap off one C-clip and remove the Paper Take-Up Roll.

2-5. OPTICAL SECTION

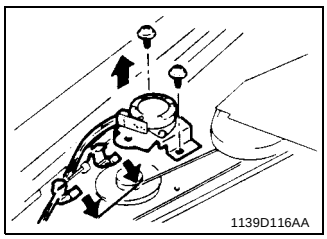
(1) Removal of the Lens Drive Cable



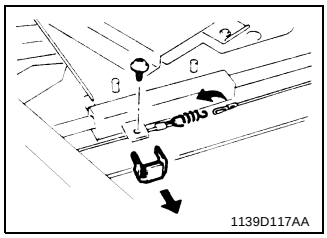
1. Remove two screws and the Optical Section Cover.



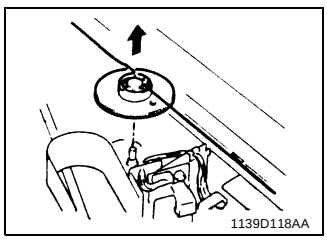
2. Remove three screws and the Lens Cover.



3. Remove two screws, two clamps and the Lens Motor Unit.

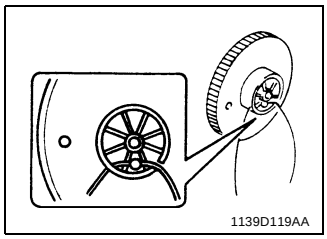


4. Remove one screw and the Cable Fixing Bracket.
5. Remove the spring.

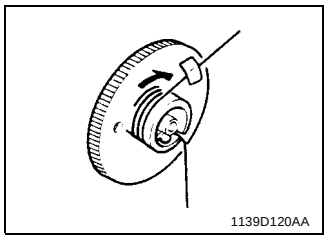


6. Remove the Cable Drive Gear and the Lens Drive Cable.

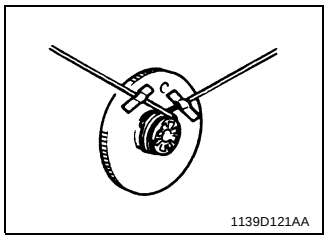
(2) Winding of the Lens Drive Cable



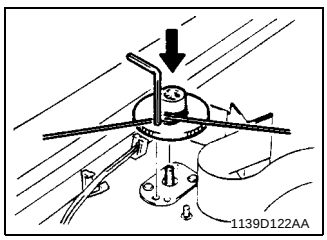
1. Hold the Cable Drive Gear in position with its Bead at the bottom.



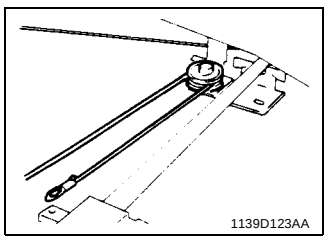
2. Wind the shorter length of the Cable three turns clockwise around the Cable Drive Gear, working from the back to the front side. Then tape it.



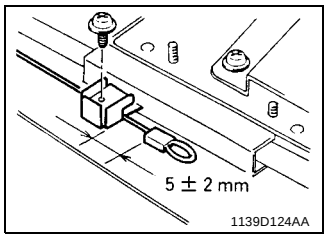
3. Wind the longer length of the Cable five turns counterclockwise around the Cable Drive Gear, working from the front to back side. Then tape it.



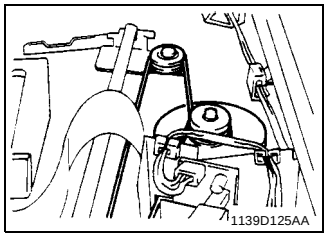
4. Slide the Cable Drive Gear onto its shaft and insert a wrench into the hole to position the Cable Drive Gear.



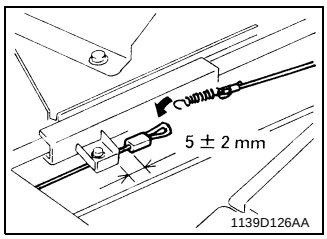
5. Pass the longer length of the Cable through the U-shaped hole in the Light Blocking Plate and wind it around the Pulley farther away from the Cable Drive Gear.



6. Temporarily secure the longer length of the Cable to the Cable Fixing Bracket, ensuring a distance of 5 ± 2 mm for the dimension shown on the left.



7. Wind the shorter length of the Cable around the Pulley which is nearer to the Cable Drive Gear.

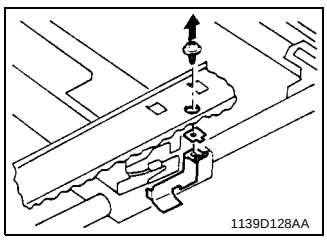


8. Hook the spring onto the shorter length of the Cable and pull it to hook onto the longer length of the Cable.
9. Check that the dimension noted in step 6 above measures 5 ± 2 mm. Then, secure the Cable Fixing Bracket.
10. Remove the wrench and peel off the two pieces of tape.

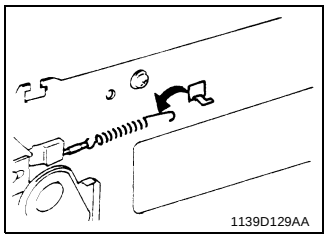
(3) Removal of the Scanner Drive Cable

(23 cpm copier)

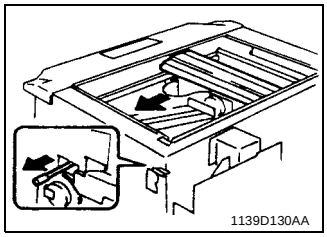
- Remove the Original Cover, Original Scales, and Original Glass.
- Remove the Middle Right, Upper Right, Right, Upper Left, and Upper Rear Covers.
- Remove the Left and Right Hinge Covers, Rear Upper Cover (Small), and Rear Upper Cover.



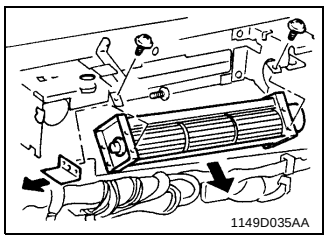
1. Align the Scanner with the rectangular hole in the upper copier frame and remove the screw from the Scanner Fixing Bracket.
2. Remove the Fixing Bracket.



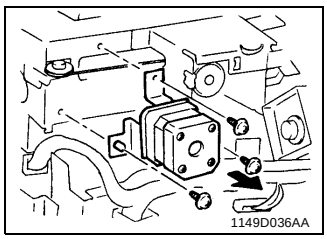
3. Unhook the spring and remove the length of the cable on the right (looking at the copier from the rear).



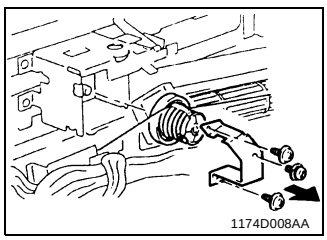
4. Move the 2nd/3rd Mirrors Carriage toward the Scanner Drive Gear so that the cable slacks off and then remove the length of the cable on the left (looking at the copier from the rear).
5. Remove Master Board PWB-A (four screws).



6. Remove Optical Section Cooling Fan Motor M2 (two screws).
7. Remove the ADF fixing bracket (one screw).



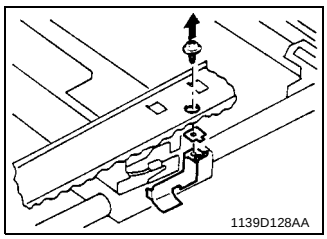
8. Remove Scanner Motor M4 (three screws).



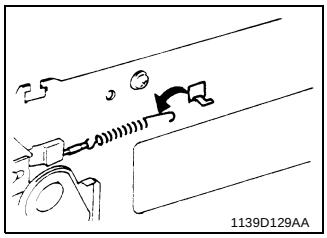
9. Snap off the Support Plate and remove the Scanner Drive Pulley.

(15/18 cpm copier)

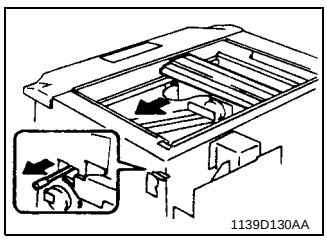
- Remove the Original Cover, Original Scales, and Original Glass.
- Remove the Middle Right, Upper Right, Right, Upper Left, and Upper Rear Covers.
- Remove the Left and Right Hinge Covers, Rear Upper Cover (Small), and Rear Upper Cover.



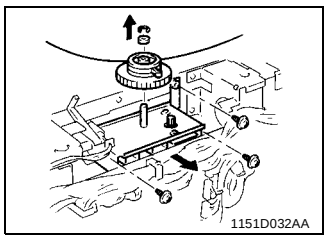
1. Align the Scanner with the rectangular hole in the upper copier frame and remove the screw from the Scanner Fixing Bracket.
2. Remove the Fixing Bracket.



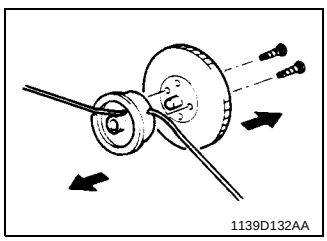
3. Unhook the spring to remove the shorter length of the Cable.



4. Move the 2nd/3rd Mirrors Carriage toward the Scanner Drive Gear so that the cable slacks off and then remove the longer length of the Cable.
5. Remove four screws and PWB-A.



6. Remove three screws and the Scanner Motor Mounting Bracket.
7. Snap off one E-ring and remove the Scanner Drive Gear.



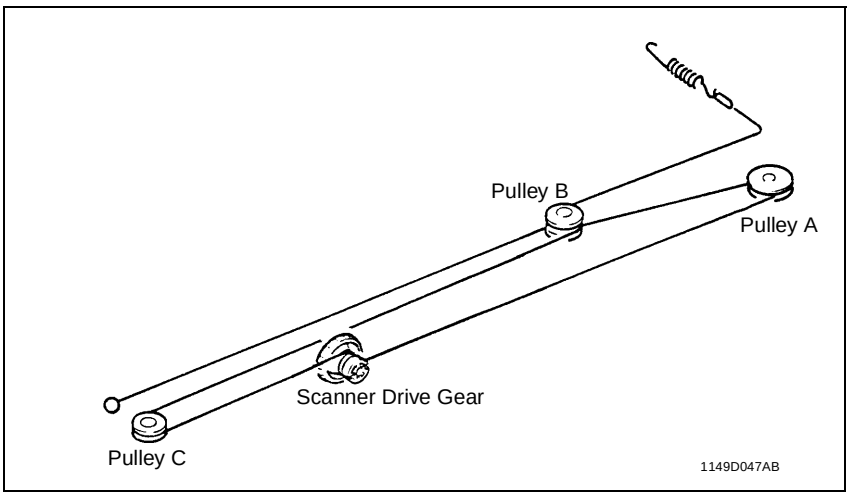
8. Remove two screws and the Pulley.
9. Remove the Cable.

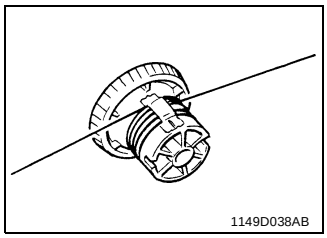
(4) Winding of the Scanner Drive Cable

(23 cpm copier)

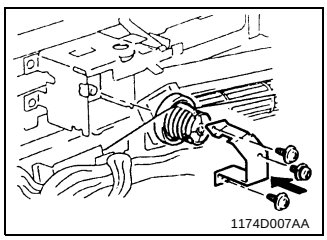
Remark

Whenever the Scanner Drive Cable has been rewound, be sure to make the “Adjustment of the Scanner/Mirrors Carriage Position.” See p. D-69.

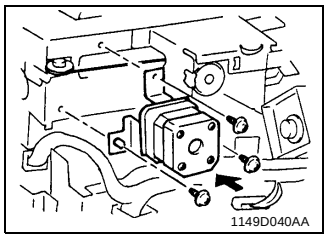




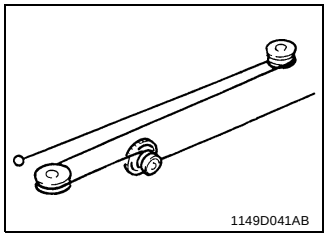
1. (With reference to the center of the entire length of the cable) Wind one length of the cable 5 times counterclockwise around the Pulley, starting with the end of the D-cut on the pulley shank and working from the front to the back side. Then, secure the cable with tape.



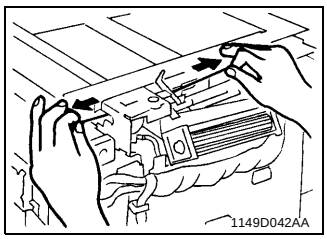
2. Mount the Cable Drive Pulley on the Pulley Shaft and fit the Support Plate.



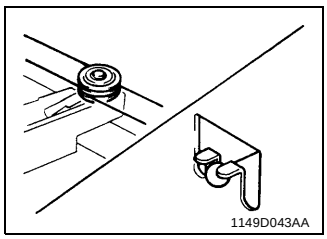
3. Fit the belt in position and secure Scanner Motor M4 (three screws).



4. Hook the length of cable on the left (looking at the copier from the rear), around Pulleys C and B and secure it to the frame.

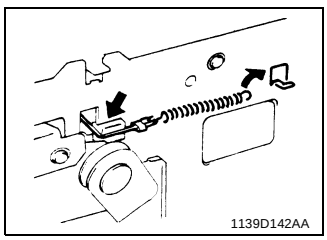


5. Peeling off the tape, pull the length of cable on the right (looking at the copier from the rear) and hook it onto Pulleys A and B.

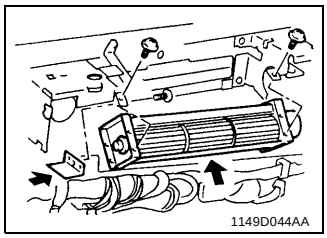


NOTE

- *Hook the length of cable on the left (looking at the copier from the rear) onto the lower groove in Pully B. (Fit the round terminal as illustrated on the left.)*
- *Hook the length of cable on the right (looking at the copier from the rear) onto the upper groove in Pulley B.*



6. Fit the cable into the groove in the cable guide and hook the spring.
7. Mount PWB-A (four screws).

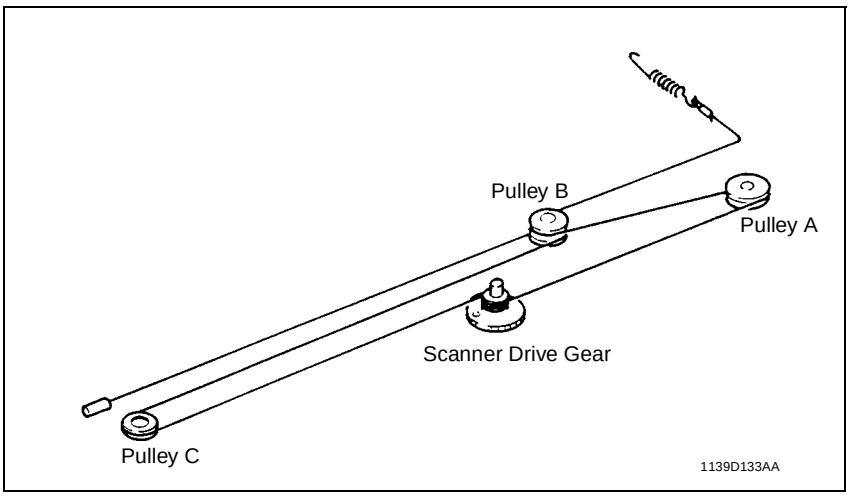


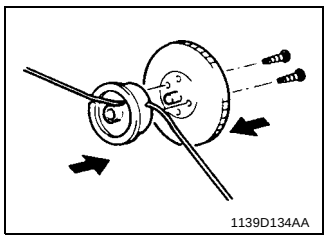
8. Fit the ADF fixing bracket (one screw).
9. Mount M2 (two screws).

(15/18 cpm copier)

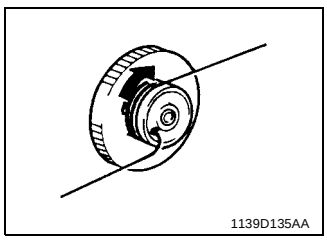
Remark

Whenever the Scanner Drive Cable has been rewound, be sure to make the “Adjustment of the Scanner/Mirrors Carriage Position.” See p. D-69.

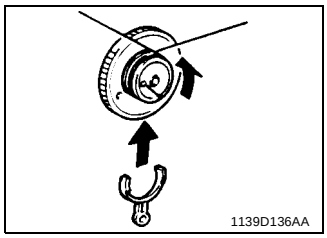




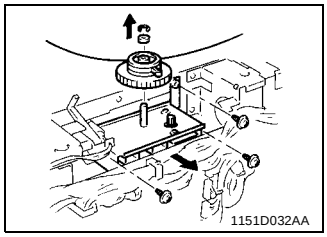
1. Fit the Pulley to the Scanner Drive Gear using two screws.



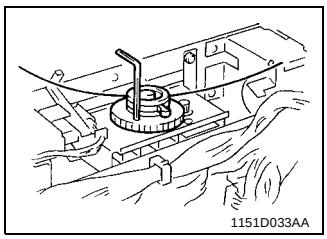
2. Wind the shorter length of the Cable 2 turns clockwise around the Pulley, working from the back to front side.



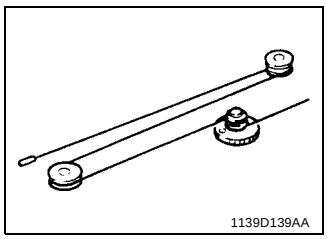
3. Wind the longer length of the Cable 5-3/4 turns counterclockwise around the Pulley, working from the front to back side. Then, slip the Cable Holding Jig onto the Pulley.



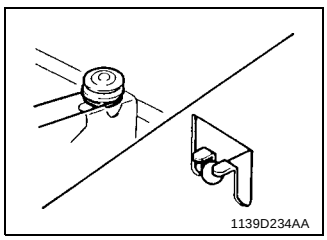
4. Fit the Scanner Drive Gear onto the Scanner Motor Mounting Bracket using one E-ring.
5. Secure the Scanner Motor Mounting Bracket to the frame using three screws.



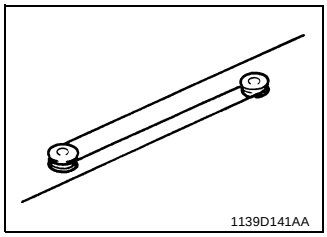
6. Insert a wrench into the holes in the Scanner Drive Gear and the frame to position the Gear.



7. Wind the longer length of the Cable around Pulleys C and B and then secure it to the frame.

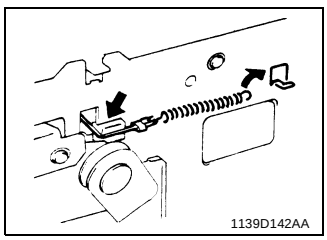


NOTE
Wind the longer length of the Cable around the lower groove in Pulley B (of the two grooves). Position the terminal of the Cable as illustrated on the left.



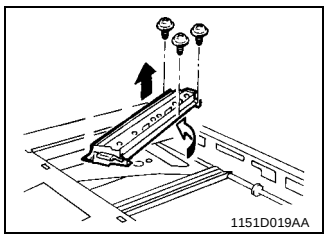
8. Wind the shorter length of the Cable around Pulleys A and B.

NOTE
Wind the shorter length of the Cable around the upper groove in Pulley B (two grooves).



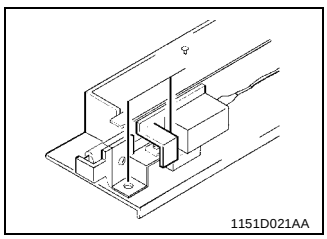
9. Fit the Cable into the groove in the Wire Guide and hook the spring.
10. Remove the wrench and Cable Holding Jig.

(5) Removal of the Scanner

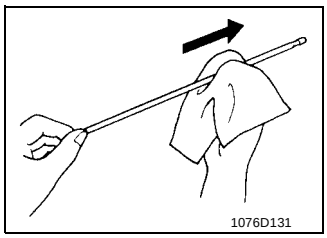


1. Turn the Scanner Drive Gear to move the Scanner to the right-hand side of the copier. Then, remove three screws and the Scanner.

(6) Cleaning of the Exposure Lamp



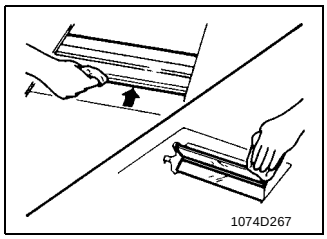
1. Remove two screws and the Exposure Lamp Terminal.
2. Slide out the Exposure Lamp.



3. Using a soft cloth dampened with alcohol, clean the Lamp by wiping its surface gently in one direction.
4. Clean the Lamp Reflector.

NOTE
When reinstalling the Lamp, use care not to allow the protruding navel of the Lamp to hit against the Lamp Reflector and that the protruding navel points toward the opening in the Lamp Reflector.

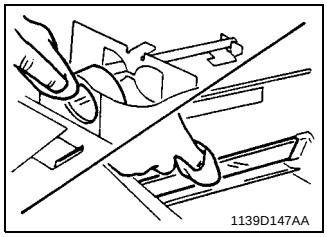
(7) Cleaning of the 1st/2nd/3rd Mirrors



1. Turn the Scanner Drive Gear to move the Scanner away from the Mirrors. Then, wipe clean the 1st/2nd/3rd Mirrors with a soft cloth.

NOTE
An alcohol-dampened cloth may be used if the Mirror is seriously contaminated.

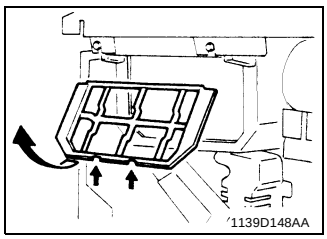
(8) Cleaning of the Lens and 4th Mirror



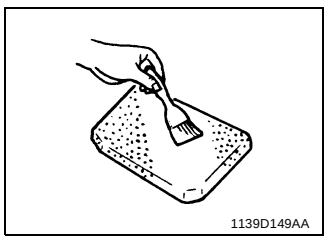
1. Gently dust off the surface of the Lens and 4th Mirror by using a dry soft cloth.

NOTE
An alcohol-dampened cloth may be used if the Lens or Mirror is seriously contaminated.

(9) Cleaning of the Optical Section Cooling Fan Filter (15/18 cpm copier only)



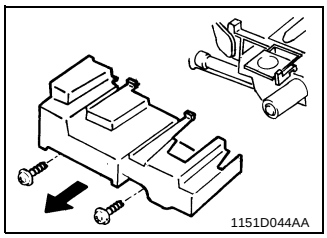
1. Unhook the Fan Cover at the bottom by slightly raising and, at the same time pulling, the two catches on the bottom.



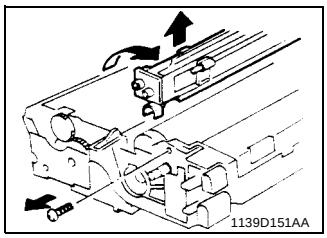
2. Clean the Filter with a brush or a vacuum cleaner.

2-6. IMAGING UNIT

(1) Disassembly, Cleaning, Replacement and Starter Changing of the Imaging Unit

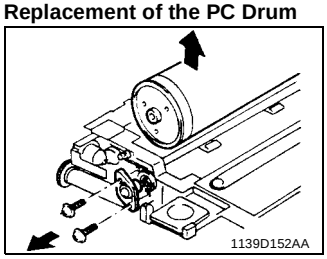


1. Remove the Imaging Unit from the copier.
2. Remove two screws and the Imaging Unit Cover.



3. Remove one screw and the PC Drum Charge Corona Unit.

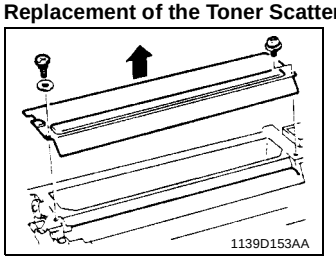
Replacement of the PC Drum



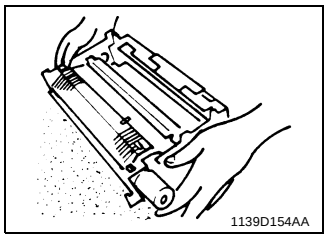
4. Remove two screws and one Drum Pin to remove the PC Drum.

NOTE
Whenever the PC Drum has been replaced, be sure to make the "Adjustments of the Optimum Exposure Setting in the Manual and Auto Mode." See pp. D-55 to D-56.

Replacement of the Toner Scattering Prevention Plate

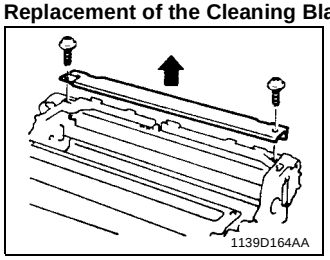


5. Remove one screw, one shoulder screw and the Toner Scattering Prevention Plate.

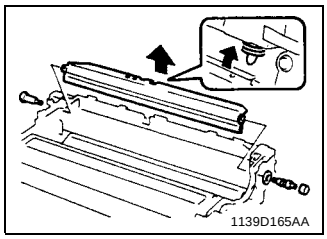


6. Tilt the Developing Unit to remove the developer.

Replacement of the Cleaning Blade



7. Remove two screws and the Lid.



8. Remove the spring.
9. Remove two screws, one spring, one cap and the Cleaning Blade. Replace it with a new one.

NOTE
When the Cleaning Blade has been replaced, apply toner to the entire surface of the new Cleaning Blade.

Applying Toner to Cleaning Blade

Apply toner to the entire surface of the Cleaning Blade.
(Do not forget to coat the surfaces on both ends.)

↓

Install the PC Drum.

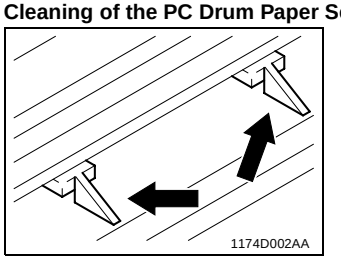
↓

Apply a thin coat of toner to the PC Drum.

↓

Turn the PC Drum 1/2 turns backward, then turn it one complete turn forward.

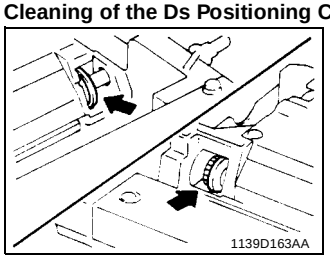
Cleaning of the PC Drum Paper Separator Fingers



10. Using a soft cloth dampened with alcohol, wipe clean the Paper Separator Fingers.

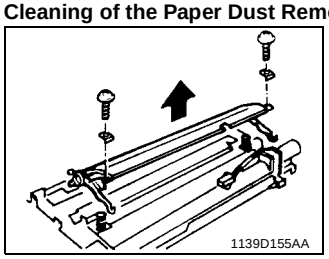
NOTE
Clean the Paper Separator Fingers carefully as its tip is easy to bend.

Cleaning of the Ds Positioning Collars



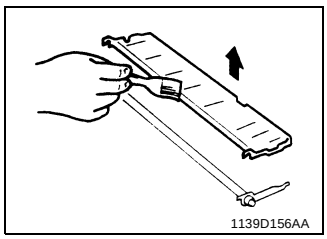
11. Using a soft cloth dampened with alcohol, wipe clean the Ds Positioning Collars.

Cleaning of the Paper Dust Remover



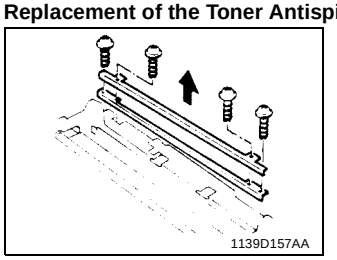
12. Remove two screws, two compression coil springs and the Synchronizing Roller Unit.

NOTE
When removing the Synchronizing Roller Unit, use care not to lose the compression coil springs.
At reinstallation, fit the close-coiled end of the springs to the bosses on the Imaging Unit.

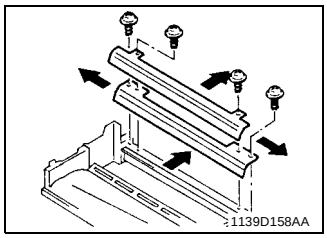


13. Remove the Synchronizing Roller.
14. Using a brush, whisk the dust and dirt off the Filter.

Replacement of the Toner Antispill Mylar

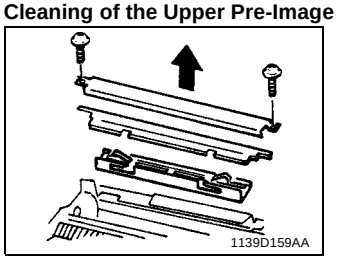


15. Remove two screws and the Bias Seal.
    (No Bias Seals are mounted in the copiers for the U.S.A., Canada, and Europe.)
16. Remove two screws and the Toner Antispill Mylar and replace the Mylar.

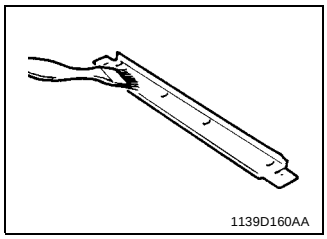


NOTE
At reinstallation, press the Toner Antispill Mylar up against the Imaging Unit Housing and the rear side of the copier (in the directions of the arrows) and press the Bias Seal up against the Imaging Unit Housing and the front side of the copier (in the directions of the arrows).

Cleaning of the Upper Pre-Image Transfer Guide Plate

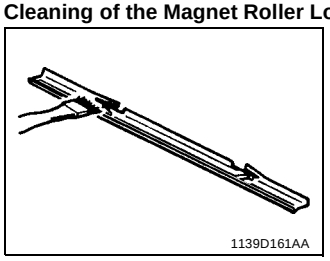


17. Remove two screws and the Upper Pre-Image Transfer Guide Plate.

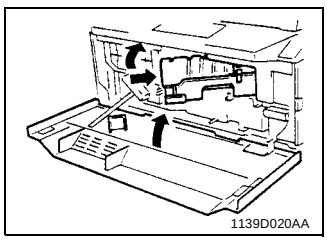


18. Using a brush, whisk toner and dust off the surface of the Upper Pre-Image Transfer Guide Plate.

Cleaning of the Magnet Roller Lower Filter

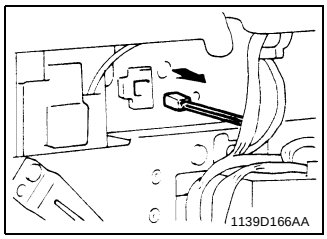


19. Using a brush, whisk toner and dust off the Magnet Roller Lower Filter.
(No Magnet Roller Lower Filters are mounted in the copiers for the U.S.A., Canada, and Europe.)

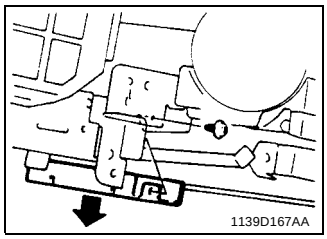


20. Refit the parts to the Imaging Unit and reinstall the Imaging Unit in the copier.
21. Charge fresh starter and make the ATDC adjustment. See p. D-57.

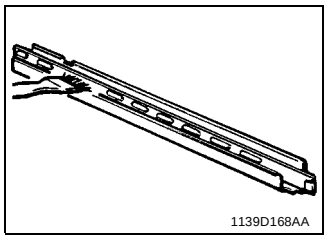
(2) Cleaning of the Main Erase Lamp



1. Remove four screws and PWB-A.
2. Remove three screws and HV1.
3. Unplug the connector of the Main Erase Lamp.



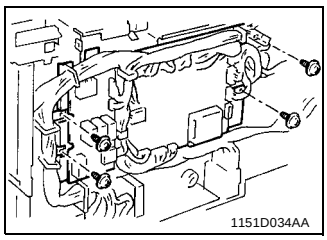
4. Remove the Imaging Unit.
5. Pull out the Toner Bottle Holder to the front.
6. Remove one screw and the Main Erase Lamp.



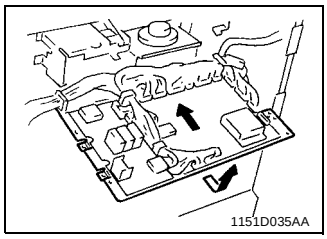
7. Using a brush or a soft cloth dampened with alcohol, clean the Erase Lamp.

NOTE
Do not touch the Lamp with bare hands.

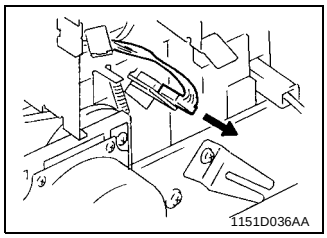
(3) Cleaning of the Image Erase Lamp



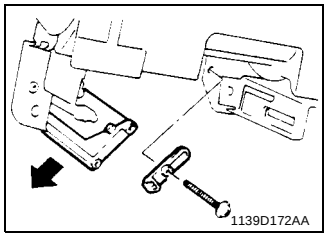
1. Remove four screws and PWB-A.



2. Insert PWB-A into the copier to secure it.

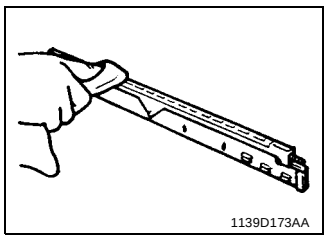


3. Go to the rear of the copier and unplug the connector of Image Erase Lamp.



4. Remove the Imaging Unit.
5. Remove one screw and the Image Erase Lamp.

NOTE
When removing the Erase Lamp, use care not to lose the pressure spring in the rear.

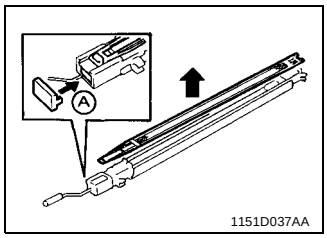


6. Using a brush or a soft cloth dampened with alcohol, clean the Erase Lamp.

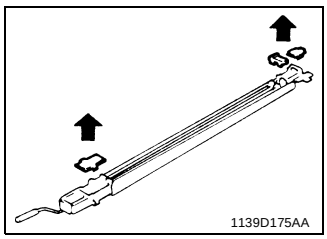
NOTE
After the Erase Lamp has been cleaned, make the "Adjustment of the Image Erase Lamp Position." See p. D-68.

2-7. PC DRUM CHARGE CORONA/IMAGE TRANSFER CORONA UNIT

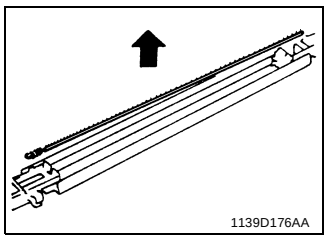
(1) Cleaning of the PC Drum Charge Corona Housing



1. Remove the Imaging Unit.
2. Remove one screw and PC Drum charge Corona Unit.
3. Press the Mesh Holder on the front of the Corona Unit in the direction of arrow A to remove the Grid Mesh.

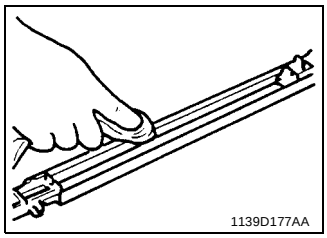


4. Remove the Cleaning Pad Cover.
5. Remove the End Caps from the front and rear ends of the Unit.



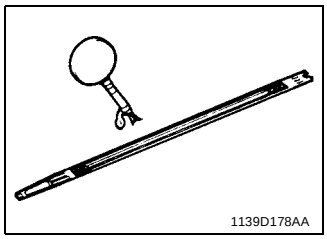
6. Remove the Comb Electrode.

NOTE
Use care not to deform the Electrode. When removing it, first snap off its spring end.



7. Using a soft cloth dampened with alcohol, wipe the Housing clean of dirt.

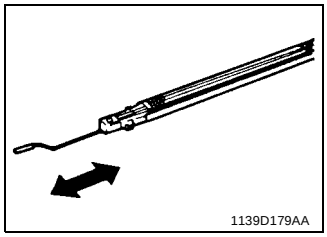
(2) Cleaning of the PC Drum Charge Corona Grid Mesh



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

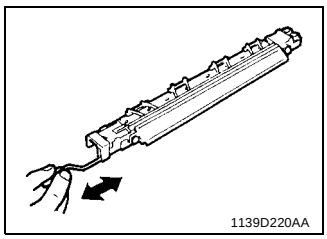
NOTE
If the blower brush is not effective in cleaning the Grid, use a soft cloth dampened with alcohol to clean serious contamination.

(3) Cleaning of the Comb Electrode

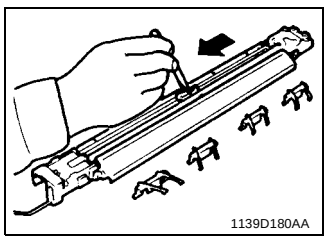


1. Clean the Comb Electrode using the Corona Unit Cleaning Lever.

(4) Cleaning of the Image Transfer/Paper Separator Coronas Wires

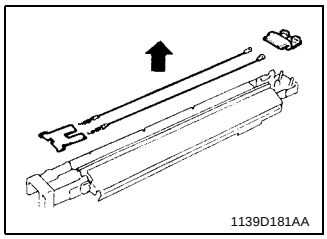


1. Clean the Image Transfer Corona Wire using the Corona Wire Cleaning Lever.



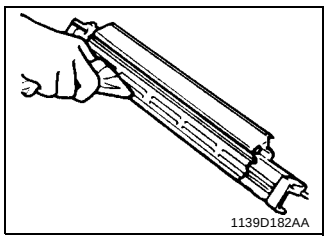
2. Remove the four Paper Guides.
3. Dampen a soft cloth with alcohol, hold it with a pair of tweezers, and wipe the Paper Separator Corona Wire gently in one direction.
(Go from the hook to spring end.)

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



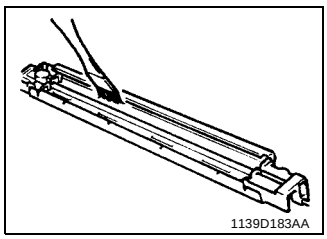
1. Remove the four Paper Guides.
2. Remove the two End Caps.
3. Remove the Image Transfer and Paper Separator Corona Wires.

NOTE
When removing the Wire, unhook the spring end first and use care to prevent break and deformation. (Use a pair of tweezers)
Keep the Corona Wire Cleaning Lever (for the Image Transfer Corona) pressed all the way back in. Do not attempt to remove the Lower Pre-Image Transfer Guide Plate as it has been adjusted for correct height.



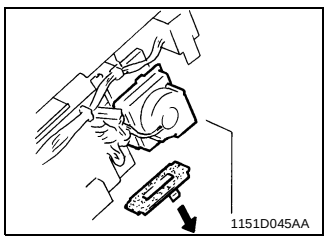
4. Using a soft cloth dampened with alcohol, wipe the Housing clean of dirt.

(6) Cleaning of the Lower Pre-Image Transfer Guide Plate



1. Using a brush, whisk dust off the Lower Pre-Image Transfer Guide Plate.

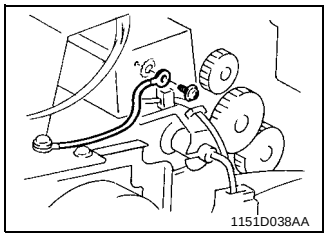
(7) Replacement of the Ozone Filter



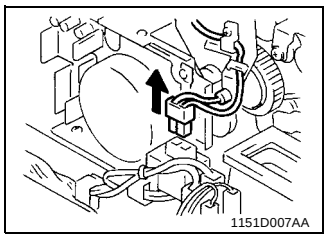
1. Press the Filter Cover Bracket in the direction of the arrows and pull it off.
2. Remove the Filter and replace it with a new one.

2-8. FUSING UNIT

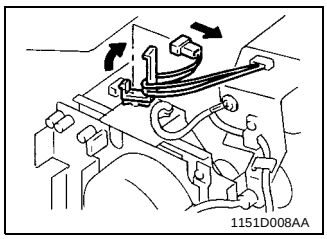
(1) Removal of the Fusing Unit



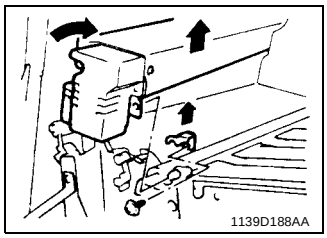
1. Remove one screw and the Ground Wire of the Fusing Unit.



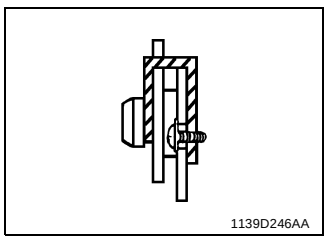
2. Unplug the Fusing Heater Lamp connector and remove the wires from the clamp.



3. Unplug the Fusing Thermistor connector and remove the wires from the two clamps.

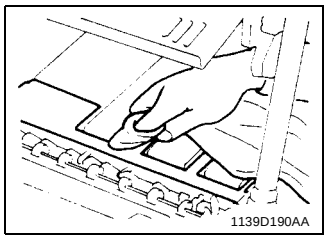


4. Remove one screw and the Fusing Unit Locking Plate.
5. Turning it in the direction of the arrow, remove the Fusing Unit.



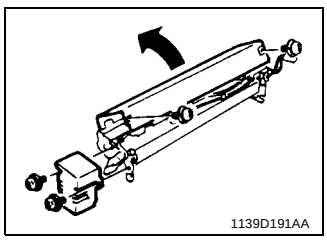
NOTE
When reinstalling the Fusing Unit, install the Locking Plate as illustrated on the left.

(2) Cleaning of the Pre-Fusing Guide Plate

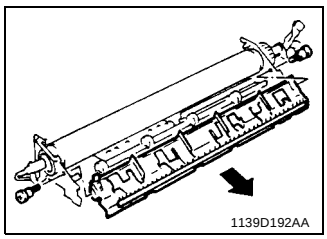


1. Using a soft cloth dampened with alcohol, wipe clean the Guide Plate.

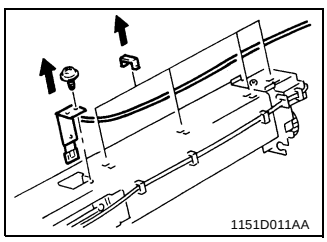
(3) Removal of the Upper Fusing Roller



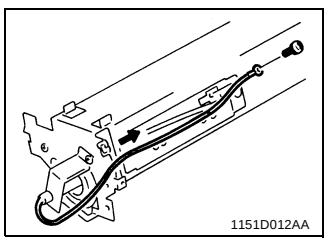
1. Remove two screws and the Fusing Unit Front Cover.
2. Remove two screws and the Fusing Unit Upper Cover.



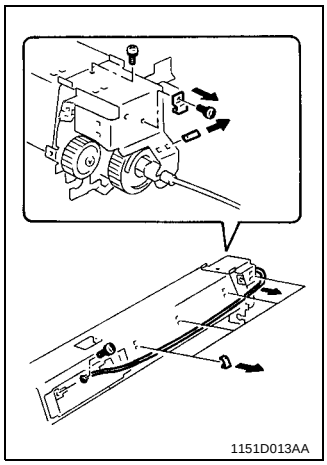
3. Remove two screws and the Upper Paper Separator Fingers Unit.



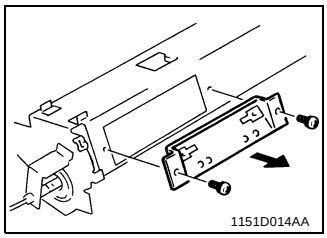
4. Remove four Cord Holders of the Fusing Thermistor.
5. Remove one screw and the Fusing Thermistor.



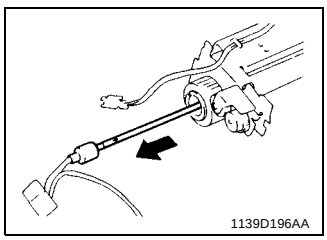
6. Remove the screw and clamp that secure the Lamp harness at the front of the copier.



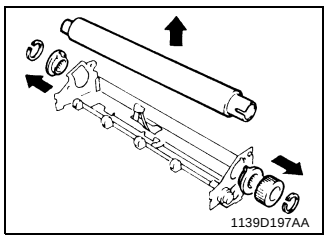
7. Remove the rear lamp harness and harness clamp (six).
8. Remove the mounting bracket (one screw).



9. Remove the Fusing Thermoswitch (two screws).

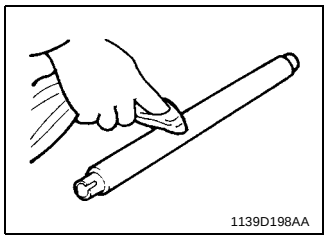


10. Slide out the Fusing Heater Lamp.



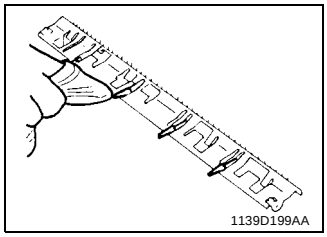
11. Remove two C-clips.
12. Remove one spur gear.
13. Remove two bushings.
14. Remove the Upper Fusing Roller.

(4) Cleaning of the Upper Fusing Roller



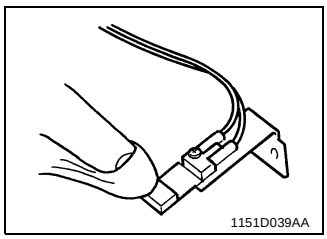
1. Using a soft cloth dampened with alcohol or silicone oil, wipe clean the Upper Fusing Roller.

(5) Cleaning of the Upper Paper Separator Fingers



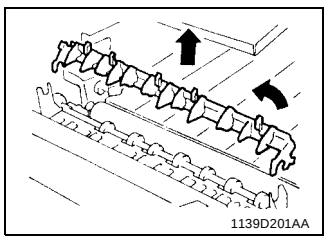
1. Using a soft cloth dampened with alcohol or silicone oil, wipe clean the Upper Separator Fingers.

(6) Cleaning of the Fusing Thermistor

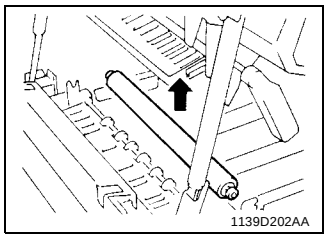


1. Remove one screw to remove the Fusing Thermistor.
2. Using a soft cloth dampened with alcohol or silicone oil, wipe clean the Thermistor.

(7) Removal of the Lower Fusing Roller

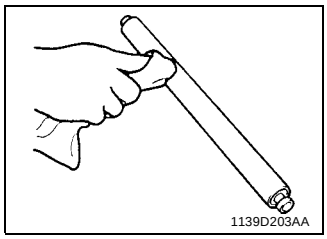


1. Turning it in the direction of the arrow, remove the Lower Separator Fingers Unit.



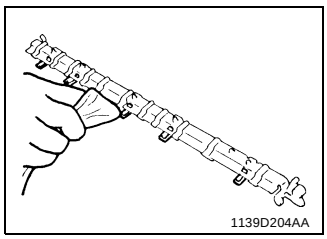
2. Remove the Lower Fusing Roller.

(8) Cleaning of the Lower Fusing Roller



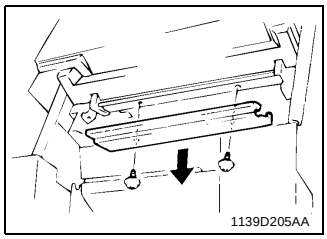
1. Using a soft cloth dampened with alcohol or silicone oil, wipe clean the Lower Fusing Roller.

(9) Cleaning of the Lower Paper Separator Fingers

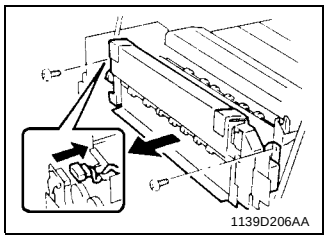


1. Using a soft cloth dampened with alcohol or silicone oil, wipe clean the Lower Separator Fingers.

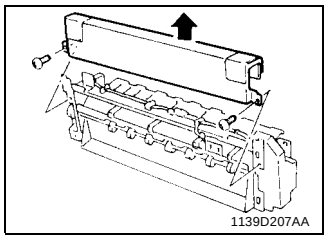
(10) Disassembly of the Exit/Duplex Switching Unit (Option)



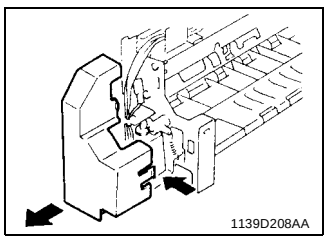
1. Remove two screws and the Upper Guide Plate.



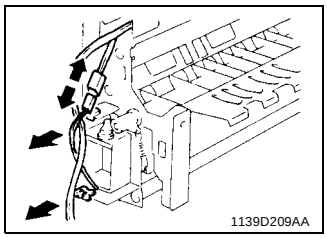
2. Remove two screws and the Exit/Duplex Switching Unit.
3. Unplug one connector.



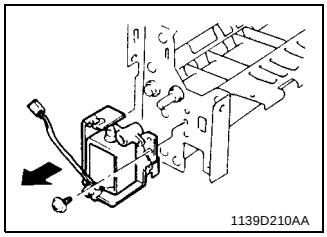
4. Remove two screws and the Cover.



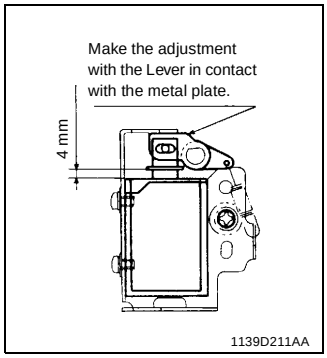
5. Remove the Solenoid Cover by unhooking its catches at three places.



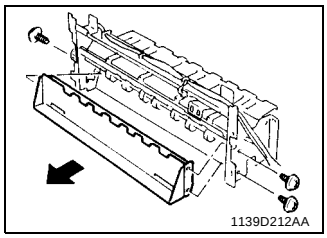
6. Unplug the solenoid connector.
7. Remove the harness from the Solenoid Unit clamps at two places.



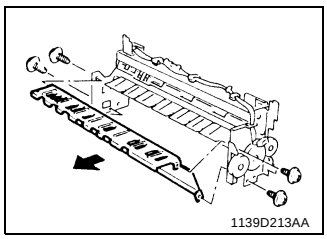
8. Remove one screw and the Solenoid Unit.



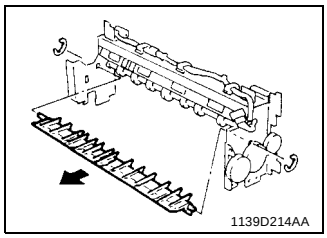
NOTE
If the solenoid has been removed from the Solenoid Unit, make the adjustment shown on the left with the Solenoid Unit installed in the Exit/Duplex Switching Unit.



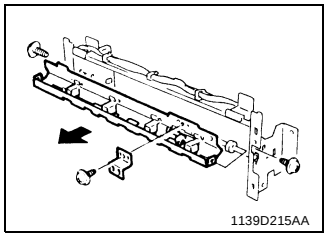
9. Remove three screws and the Copy Tray Holder.



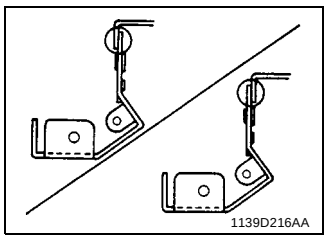
10. Remove four screws and the Lower Guide.



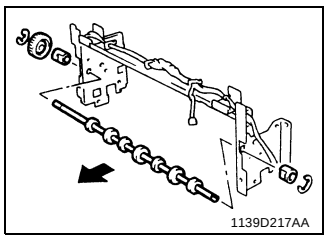
11. Snap off two E-rings to remove the Exit/Duplex Switching Plate.



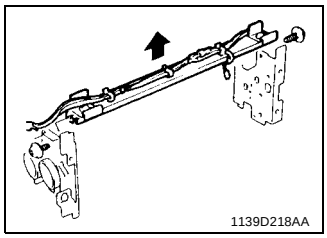
12. Remove one screw and the Photoswitch Mounting Bracket.
13. Remove two screws and the Exit Rolls Mounting Bracket Unit.



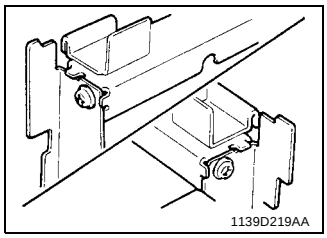
NOTE
When reinstalling the Exit Rolls Mounting Bracket Unit, make sure that the Reinforcement Plate Unit is in contact with the Exit Rolls Mounting Bracket Unit as shown on the left.



14. Snap off two E-rings to remove the Exit Roller.



15. Remove the harness from the clamp.
16. Remove two screws and the Reinforcement Plate Unit.



NOTE
When reinstalling the Reinforcement Plate Unit, make sure that the Unit is in contact with the frame at the front and rear sides of the copier as shown on the left.

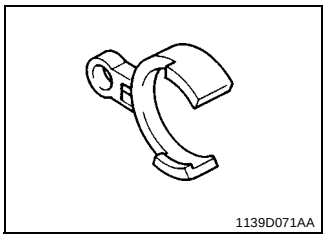
3 ADJUSTMENT

3-1. JIGS AND TOOLS USED

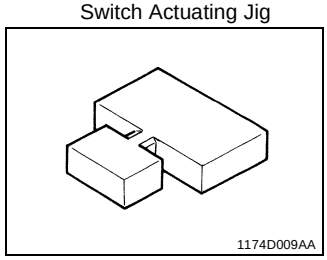
Important

- When adjusting the positions of the Scanner and Mirrors Carriage, use Jigs numbered ③ and ④.
- When adjusting the gap between the Doctor Blade and Sleeve Roller, use Jigs numbered ⑤ and ⑥.

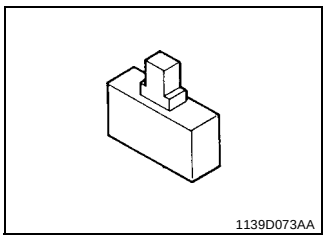
① Cable Holding jig



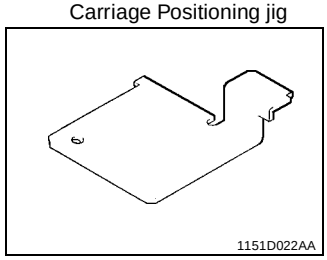
② Front Door Interlock Switch Actuating Jig



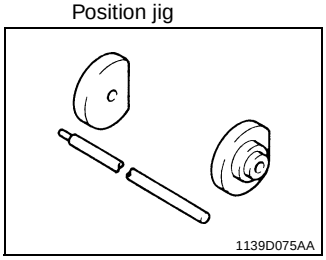
③ Scanner Positioning jig



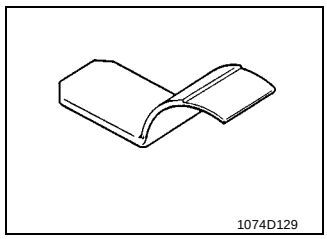
④ Scanner/Mirrors Carriage Positioning jig



⑤ Sleeve/Magnet Roller Position jig



⑥ D.B. Adjusting jigs



3-2. ADJUSTMENT REQUIREMENTS LIST

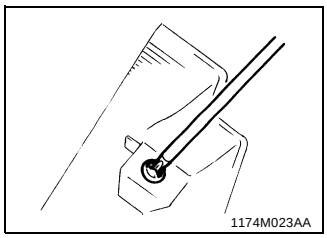
Adjustment Item	Requirements	Adjusting Point	Ref. Page
Max. Exposure Lamp Voltage	100 to 127V areas: 81 ± 1 V 200 to 240V areas: 162 ± 2 V	Control panel	D-52
Optimum Exposure Setting in the Manual Exposure Mode	Kodak Gray Scale: no image of the 1st step, faint image of the 2nd step	Control panel	D-55
Optimum Exposure Setting in the Auto Exposure Mode		Control panel	D-56
Multi Bypass Table Reference Position	(100 %) 20 ± 2 mm	Multi Bypass Table	D-59
1st Drawer Reference Position *1	(100 %) 20 ± 2 mm	Drawer Front Panel	D-60
2nd Drawer Reference Position	(100 %) 20 ± 2 mm	Drawer Front Panel	D-60
Full Size Leading Edge Registration	(100 %) 20 ± 1.5 mm	Control panel	D-62
Enlargement Leading Edge Registration	(200 %) 40 ± 3 mm	Control panel	D-64
Reduction Leading Edge Registration	(50 %) 10 ± 1.5 mm	Control panel	D-65
Image Leading Edge Erase Width	0.5 to 6.5 mm (100%) 1.0~6.5mm (200%) 0.5 ~11mm (50%) 0.5~6.5mm	Control panel	D-66
Image Erase Lamp Position	1 ± 0.5 mm	Adjusting Screw for Image Erase Lamp position	D-68
Adjustment of the Original Size Detecting Board		Control panel	D-71

*1 23 cpm copier only

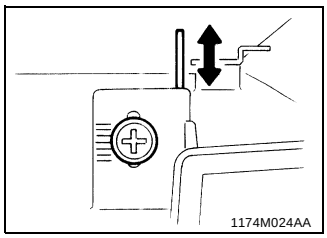
Control Panel Indication
Different indications are given on the control panel (Zoom Ratio Indicator, etc.) between 15,18 and 23 cpm copier. For details, see Service Mode in Switches on PWBs.

3-3. ADJUSTMENT OF SWITCHES

(1) Adjustment of Front Door Interlock Switch S21



1. Open the Front Door.
2. Loosen two screws that secure the Front Door Interlock Switch Actuating Plate to the Front Door.



3. Move the Switch Actuating Plate back and forth to meet the requirements below.
   (Requirements)

- When the Front Door is closed, the Magnetic Catches on both sides are securely touched.
- When the Front Door is closed, Interlock Switch indicator on the Control Panel goes out.

3-4. ELECTRICAL/IMAGE ADJUSTMENTS

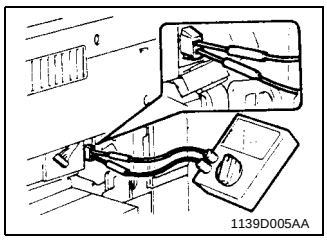
(1) Adjustment of the Maximum Exposure Lamp Voltage for the Manual Mode

Requirement

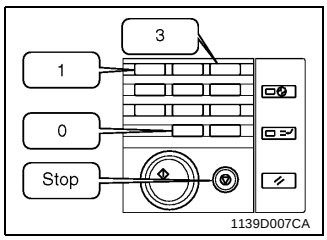
- Maximum Exposure Lamp voltage: 81 ± 1V (RMS value)

Important

- After the maximum Exposure Lamp voltage has been adjusted, be sure to make the following adjustments: Optimum Exposure Setting in the Manual Mode and Optimum Exposure Setting in the Auto Mode.

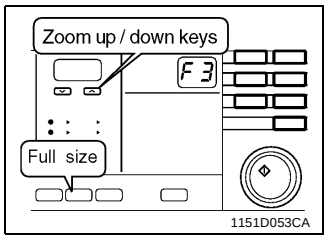

1139D005AA

1. Remove the Large Cover. (3 screws)
2. Insert the probes of the multimeter into the receptacles of the Exposure Lamp voltage measurement connector.



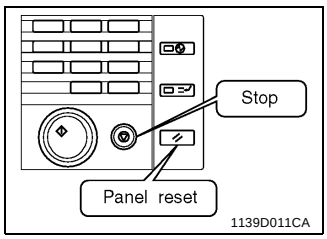
1139D007CA

3. On the control panel, press the Meter Count Key, stop Key, 10-keys “0”, 10-keys “0”, stop Key, 10-keys “0”, 10-keys “1”, 10-keys “1” and then “3” to set the copier into the F3 Test Mode. (At this time, the Magnification Ratio Indicator shows the currently set value and the Multi-Copy Display shown “F3.”)



1151D053CA

4. Press the Full Size Key to select the Lamp voltage setting mode. (The Magnification Ratio Indicator shows “L + current setting.”)
5. Press the Start Key to light up the Exposure Lamp and, using the Zoom Up/Down Keys, adjust to obtain the Lamp voltage of 81V.



1139D011CA

6. Press the Stop Key to stop the F3 operation. (Or, the operation will be automatically completed in about 30 sec.)
7. Press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back into the normal mode.

NOTE
For the Root Mean Square values and Mean values, see p. 53-54. Most testers, voltmeters, or multimeters used in the field show only the mean values.

When using the testers, voltmeters, or multimeters which show only the mean value, not Rms values, carry out the following procedure.

1. Measure the line voltage.
2. Referring to the Mean Value Chart corresponding to each voltage area, see the figure under the voltage obtained in step 1.

If the line voltage is 125 V and Rms value is 81 V, for example, the mean value is 54.5 V. Therefore, it is recommended that the voltage be adjusted so that the mean value is set as close to 54.5 V as possible.

MEAN VALUE
CHART FOR 115/120/127V AREAS

V / Rms	104	105	106	107	108	109	110	111	112	113	
81.0	60.7	60.3	60.0	59.7	59.2	59.0	58.5	58.2	58.0	57.7	MEAN VALUE

V / Rms	114	115	116	117	118	119	120	121	122	123	
81.0	57.3	57.0	56.8	56.5	56.2	56.0	55.7	55.5	55.2	55.0	MEAN VALUE

V / Rms	124	125	126	127	128	129	130	131	132	133	
81.0	54.7	54.5	54.3	54.2	54.0	53.7	53.5	53.2	53.0	52.8	MEAN VALUE

V / Rms	134	135	136	137	138	139	140	
81.0	52.7	52.5	52.2	52.1	52.0	51.7	51.5	MEAN VALUE

MEAN VALUE
CHART FOR 200/220/240V AREAS

V / Rms	180	181	182	183	184	185	186	187	188	189	
162.0	135.9	135.2	134.5	133.8	133.2	132.6	131.9	131.4	130.8	130.2	MEAN VALUE

V / Rms	190	191	192	193	194	195	196	197	198	199	
162.0	129.7	129.1	128.6	128.1	127.6	127.1	126.6	126.1	125.7	125.2	MEAN VALUE

V / Rms	200	201	202	203	204	205	206	207	208	209	
162.0	124.7	124.2	123.9	123.5	123.1	122.7	122.2	121.9	121.5	121.1	MEAN VALUE

V / Rms	210	211	212	213	214	215	216	217	218	219	
162.0	120.7	120.4	120.0	119.7	119.2	119.0	118.6	118.2	118.0	117.6	MEAN VALUE

V / Rms	220	221	222	223	224	225	226	227	228	229	
162.0	117.2	117.0	116.7	116.4	116.1	115.7	115.5	115.2	114.9	114.6	MEAN VALUE

V / Rms	230	231	232	233	234	235	236	237	238	239	
162.0	114.2	114.0	113.7	113.5	113.2	112.9	112.7	112.4	112.1	111.9	MEAN VALUE

V / Rms	240	241	242	243	244	245	246	247	248	249	
162.0	111.6	111.4	111.1	110.9	110.6	110.4	110.2	109.9	109.7	109.5	MEAN VALUE

V / Rms	250	251	252	253	254	255	256	257	258	259	
162.0	109.2	109.0	108.7	108.6	108.2	108.1	107.9	107.7	107.5	107.2	MEAN VALUE

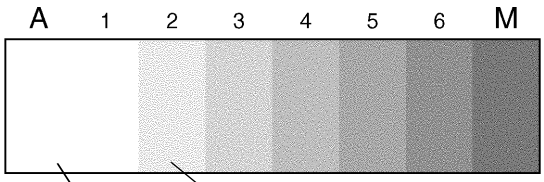
V / Rms	260	261	262	263	264	265	266	267	268	269	
162.0	107.1	106.9	106.6	106.4	106.2	106.0	105.7	105.6	105.4	105.2	MEAN VALUE

V / Rms	270	271	272	273	274	
162.0	105.1	104.9	104.7	104.5	104.2	MEAN VALUE

(2) Adjustment of the Optimum Exposure Setting in the Manual Mode

Requirement

- When the manual exposure setting is at the central indication, no image of step no. 1 of a Kodak Gray Scale should be produced on the copy, but a faint image of step no. 2 should be produced.



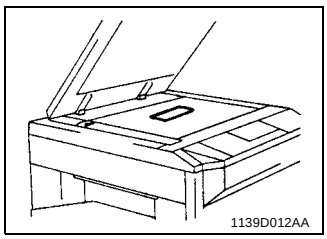
1139D270AA

No image of step no. 1

Faint image of step no. 2

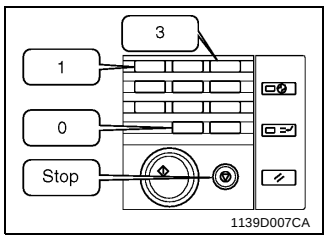
Important

- This adjustment should be carried out only after completing “Adjustment of the Maximum Exposure Lamp Voltage for the Manual Mode” and “Adjustment of the Aperture Blades.”



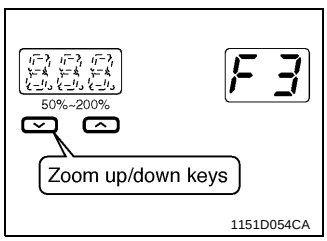
1139D012AA

1. Place the Kodak Gray Scale lengthwise, face down, and at the center on the Original Glass. Place a sheet of pure white A3 or 11” × 17” paper over it and then lower the Original Cover.
2. Set the copier into the Manual Exposure Mode. Set the Exposure Setting to the central or fifth indication and enter 15 copies to be made by using the 10-keys. (Use A3 paper.)
3. Press the Start Key.
   Check that the 15th copy meets the requirement given above.



1139D007CA

4. If the exposure is out of adjustment, press the Meter Count Key, stop Key, 10-keys “0”, 10-keys “0”, stop Key, 10-keys “0”, 10-keys “1”, 10-keys “1” and then “3” to set the copier into the F3 Test Mode. (At this time, the Magnification Ratio Indicator shows the currently set value and the Multi-Copy Display shows “F3.”)



1151D054CA

5. Using the Zoom Up/Down Keys, vary the value on the Magnification Ratio Indicator as necessary.
6. After the adjustment has been made, press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back into the normal mode.

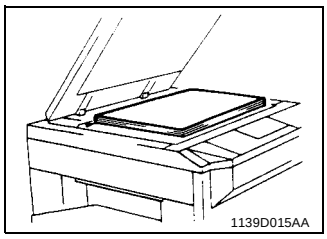
NOTE

Increase the value to make the image lighter.
Decrease the value to make the image darker.

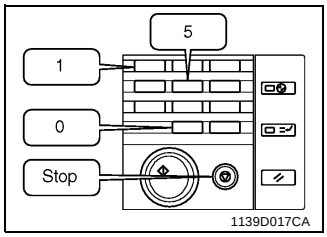
(3) Adjustment of the Optimum Exposure Setting in the Auto Mode

Important

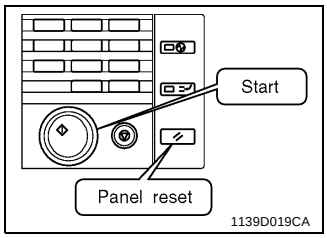
- This adjustment must be made after the optimum exposure setting in the Manual Mode has been adjusted.



1. Place about five sheets of A3 or 11" × 17" paper on the Original Glass and lower the Original Cover.



2. On the control panel, press the Meter Count Key, stop Key, 10-keys "0", 10-keys "0", stop Key, 10-keys "0", 10-keys "1", 10-keys "1" and then "5" to set the copier into the F5 Test Mode. (At this time, the Multi-Copy Display shows "F5.")



3. Press the Start Key to let the copier make the adjustment.
4. After the adjustment has been made, press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back into the normal mode.

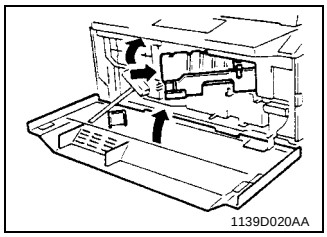
NOTE

Pressing the Start Key lets the copier make the adjustment of optimum exposure setting. During the adjustment, the Start Key is lit up orange. It turns to green as soon as the adjustment is completed. (It takes about 5 sec. to make the adjustment.) The Full Size Key can be used to alternately display on the Magnification Ratio Indicator either the adjusting value (AE Sensor memory level) or the voltage value (AE Sensor output).

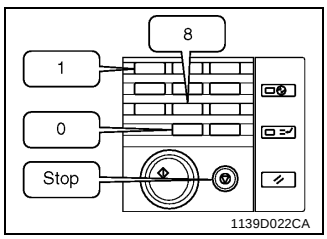
(4) Adjustment of the ATDC Sensor

Important

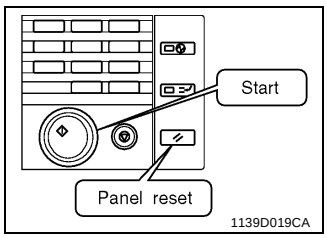
- This adjustment is not necessary when a new Imaging Unit has been installed. (The ATDC Sensor is automatically adjusted when the starter is charged and the Power Switch turn ON.)
- The adjustment must be made whenever the currently used Imaging Unit has been charged with new starter.



1. Load the starter.



2. On the control panel, press the Meter Count Key, stop Key, 10-keys “0”, 10-keys “0”, stop Key, 10-keys “0”, 10-keys “1”, 10-keys “1” and then “8” to set the copier into the F8 Test Mode. (At this time, the Multi-Copy Display shows “F8.”)



3. Press the Start Key to let the copier make the ATDC Sensor adjustment automatically. (It takes about 5 min. for the copier to complete the adjustment procedure.)
4. After the adjustment has been made, press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back into the normal mode.

NOTE

The I/U Counter available from the Consumables counter menu is automatically reset when the ATDC Sensor gain adjustment has been completed.
The Full Size key can be used to alternately display the data on the Magnification Ratio Indicator, either the ATDC Sensor output voltage or ATDC Sensor gain.

(5) Adjustment of the Aperture Blades

Requirement

- There should be no dark or light bands running in the feeding direction on copies produced. (Adjust to obtain the mean image density for all areas.)

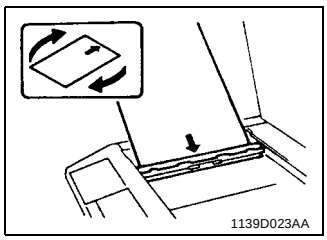
Important

- If dark and light bands running in the feeding direction occur on copies, make this adjustment after checking the following.

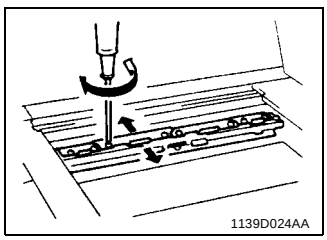
1. The Drum Charge Corona Wire, Grid Mesh, and Image Transfer Corona Wire are free of dirt.
2. The surfaces of the Mirrors and Lens are free of dirt.
3. The surfaces of the Exposure Lamp and Main Erase Lamp are free of scratches and dirt.
4. The Cleaning Blade is free of waviness.

1. Make a copy under the following control panel settings.

Original	: A3 or A4 crosswise, 11" × 17" or 11" × 8-1/2" crosswise
Paper	: A3 or A4 crosswise, 11" × 17" or 11" × 8-1/2" crosswise
Magnification ratio	: 100%
Exposure	: Manual (setting convenient for check)



2. Remove the Original Glass.
3. Turn the copy on the Copy Tray around as shown to reverse the leading and trailing edges and align it with the Aperture Blades.



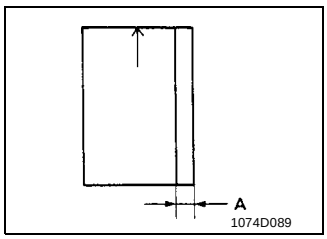
4. Adjust to obtain the mean image density for all areas of the copy.

NOTE

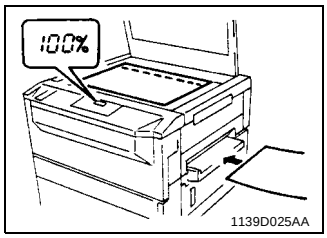
To make the image darker, move the Aperture Blade toward the Auxiliary Reflector.
To make the image lighter, move the Aperture Blade away from the Auxiliary Reflector.

(6) Adjustment of the Multi Bypass Table Reference Position

Requirement

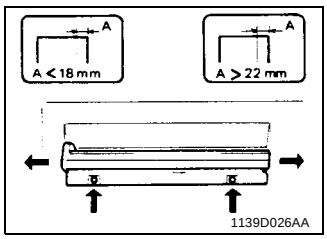


- Ready a test chart (A3 or 11" × 17") as shown on the left. Draw a line on the chart at a point 20 mm from the right edge as shown.
- Dimension A on the copy should measure 20 ± 2.0 mm.



1. Place the test chart face down on the Original Glass and align its rear left corner with the ▷ marker on the Original Width Scale on the left side of the platen.
   Then, lower the Original Cover.
2. Using the Multi Bypass Table, make two full size copies.
3. Using the second copy, compare the position of the reference line on the copy with that on the test chart.

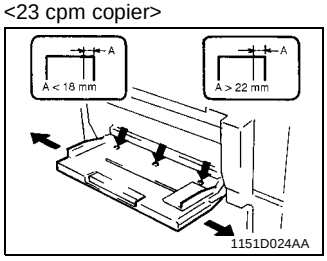
<15/18 cpm copier>



4. If the line does not meet the requirement, loosen the screws (23 cpm copier: three screws/15/18 cpm copier: two screws) that secure the Multi Bypass Table and move the Table as necessary in the direction of the arrows.

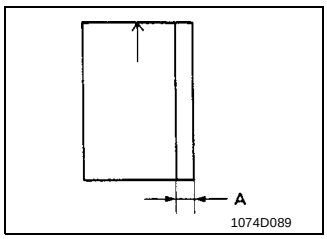
NOTE
If dimension A on the copy is smaller than 18 mm, move the Table to the front. If it is more than 22 mm, move the Table to the rear.
When an Automatic or Duplexing Document Feeder is mounted, it involves changing the Original Glass. This in turn results in the position of the Original Length Scale being slightly shifted toward the rear. This is corrected by installing the Original Positioning Plate.

<23 cpm copier>



(7) Adjustment of the 1st/2nd (23 cpm copier only) Drawer Reference Position

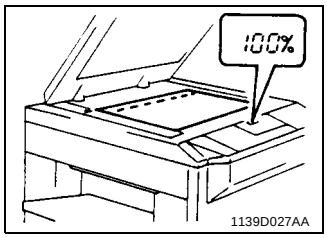
Requirement



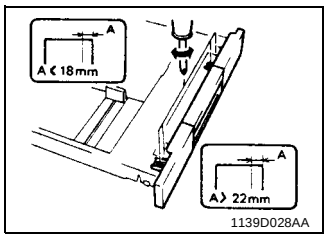
- Ready a test chart (A3 or 11" × 17") as shown on the left. Draw a line on the chart at a point 20 mm from the right edge as shown.
- Dimension A on the copy should measure 20 ± 2.0 mm.

Important

- If the Paper Tray of the Drawer needs to be moved for adjustment, make sure that it is moved straight, not slantwise (as skewed feeding of paper could result).



1. Place the test chart face down on the Original Glass and align its rear left corner with the ▷ marker on the Original Width Scale on the left side of the platen.
   Then, lower the Original Cover.
2. Using the 1st Drawer, make two full size copies. (Use A3 or 11" × 17" paper.)
3. Using the second copy, compare the position of the reference line on the copy with that on the test chart.



4. If the line does not meet the requirement, slide out the 1st Drawer, loosen the four screws shown on the left, and move the Paper Tray as necessary to the front or rear.
5. Using the same steps (1 through 4), adjust the reference position of the 2nd Drawer.

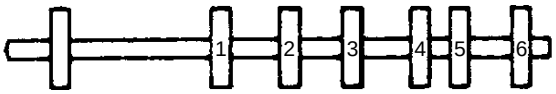
NOTE
If dimension A on the copy is smaller than 18 mm, move the Paper Tray to the rear. If it is more than 22 mm, move the Paper Tray to the front.

(8) Adjustment of the Paper Lifting Plate Springs (2nd Drawer): 23 cpm copier only

Important

- When the paper size loaded in the 2nd Drawer has been changed, be sure to replace the Springs by referring to the Table given below. (For replacement of the Springs, see p. D-13.)
- When the Springs have been replaced, change the position of the 2nd Drawer Paper Take-Up Roll by referring to the Table given below. (For disassembly of the Paper Take-Up Roll Unit, see p. D-11.)
- The Springs for replacement can be found on the underside of the 2nd Drawer.

[Roll Positions]



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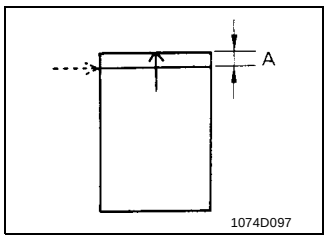
			Positions of 2nd Drawer Spring Installation					2nd Drawer Paper Take-up Roll Position
	NO	2nd Drawer Paper Size Indication	SP1. 1~9 SP2. 10~14	SP2. 12~24	SP1. 6~9 SP2. 10~11	SP1. 2~5	SP1. 1	
Edge Guide	1	A3/A4	SP Silver				SP Silver	6
	2	11 × 17 LTR.				SP Silver		5
	3	G.LTR						5
	4	B4/B5						4
	5	254						4
	6				SP Silver			3
	7	FLS.						3
	8	LTR.						3
	9	A4						3
	10	FLS.	SP Gold		SP Gold			2
	11	B5						2
	12			SP Gold				1
	13	A5						1
	14	INV.						1

(9) Adjustment of the Leading Edge Registration

Full Size
Requirement

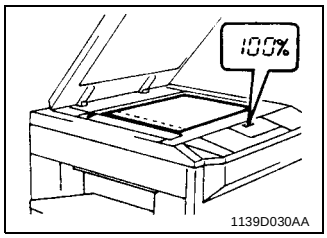


- Ready a test chart (A3 or 11" × 17") as shown on the left. Draw a line across the test chart at a point 20 mm from the leading edge and use it as the reference line.
  Dimension A at the center on the copy should meet the following requirements.

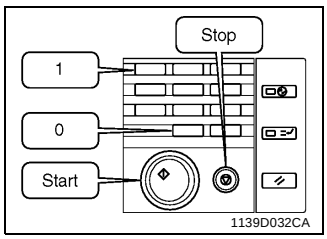
Mag. Ratio	Dimension A (mm)
Full Size (100%)	20.0 ± 1.5
Enlargement (200%)	40.0 ± 3
Reduction(50%)	10.0 ± 1.5

- Setting value range: 30 to 70
- Movement equivalent to 1 step of setting value: 0.28 mm

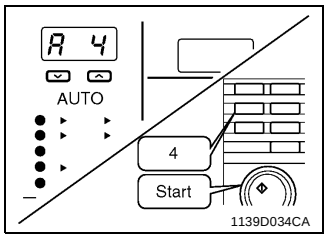
Important
- After having set the copier into the Adjust Mode, make two single copies and use the second copy for the check. (The first copy represents the data before adjustment.)
- When full size leading edge registration has been adjusted, it affects leading edge registration in the enlargement and reduction mode. Be sure, therefore, to check for registration in these modes, too.



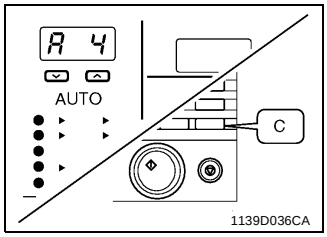
1. Place the test chart face down on the Original Glass and align its rear left corner with the ▷ marker on the Original Width Scale on the left side of the platen. Then, lower the Original Cover.
2. Make two single copies in full size mode (100%) and check for leading edge registration on the second copy.
   (If it meets the requirement, go to "Adjustment of Enlargement Leading Edge Registration.")



3. If the registration does not meet the requirement, go to the control panel and press the Meter Count Key, stop Key, 10-keys "0", 10-keys "0", stop Key, 10-keys "0", 10-keys "1", Stop Key, Start Key to set the copier into the Adjust Mode. (At this time, the Magnification Ratio Indicator shows "A.")

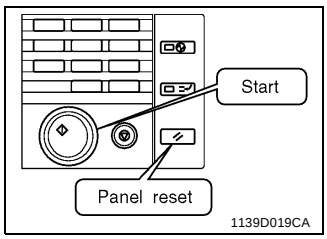


4. Press 10-keys “4” and press the Start Key. (Then, the Magnification Ratio Indicator shows “A4” and the Multi-Copy Display, the current setting value.)



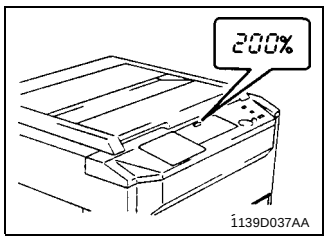
5. Press the Clear Key to clear the current setting value.
6. With the old setting value used as reference, enter the new setting value using the appropriate 10-keys.

NOTE
If dimension A on the copy is smaller than 18.5 mm, decrease the setting value.
If dimension A on the copy is greater than 21.5 mm, increase the setting value.

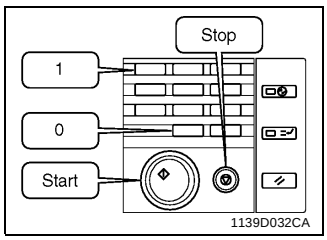


7. Press the Start Key to validate the setting.
8. Press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back to the normal mode.
9. Make two single copies and check for leading edge registration on the second copy. (If it does not meet the requirement, perform steps 3 through 10 again.)

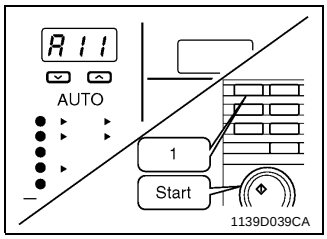
Enlargement



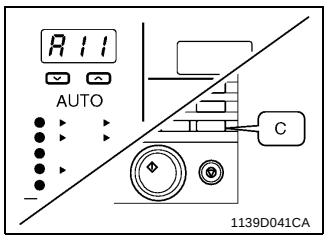
1. After the leading edge registration in the full size mode has been adjusted, make two single copies in an enlargement mode (200%) and check for leading edge registration on the second copy. (If the enlargement leading edge registration meets the requirement, go to “Adjustment of Reduction Leading Edge Registration.”)



2. If the registration does not meet the requirement, go to the control panel and press the Meter Count Key, stop Key, 10-keys “0”, 10-keys “0”, stop Key, 10-keys “0”, 10-keys “1”, Stop Key, Start Key to set the copier into the Adjust Mode. (At this time, the Magnification Ratio Indicator shows “A.”)

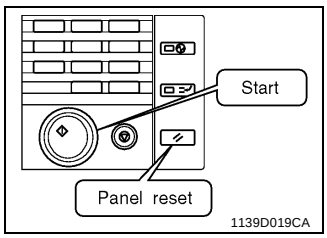


3. Press 10-keys “5” and press the Start Key. (Then, the Magnification Ratio Indicator shows “A5” and the Multi-Copy Display, the current setting value.)



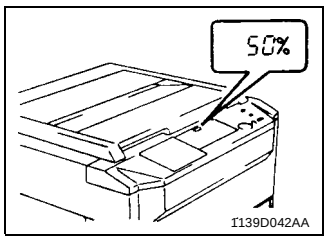
4. Press the Clear Key to clear the current setting value.
5. With the old setting value used as reference, enter the new setting value using the appropriate 10-keys.

NOTE
If dimension A on the copy is smaller than 8.5 mm, decrease the setting value.
If dimension A on the copy is greater than 11.5 mm, increase the setting value.

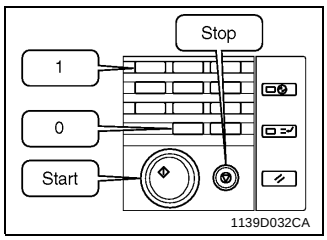


6. Press the Start Key to validate the new setting.
7. Press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back to the normal mode.
8. Make two single copies and check for leading edge registration on the second copy. (If it does not meet the requirement, perform steps 2 through 9 again.)

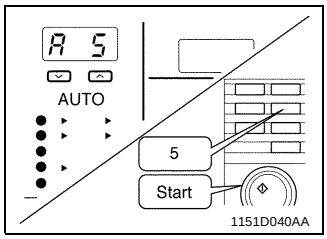
Reduction



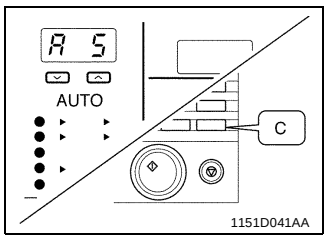
1. After the leading edge registration in an enlargement mode has been adjusted, make two single copies in a reduction mode (50%) and check for leading edge registration on the second copy.



2. If the registration does not meet the requirement, go to the control panel and press the Meter Count Key, stop Key, 10-keys “0”, 10-keys “0”, stop Key, 10-keys “0”, 10-keys “1”, Stop Key, Start Key to set the copier into the Adjust Mode. (At this time, the Magnification Ratio Indicator shows “A.”)

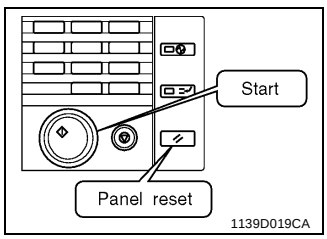


3. Press 10-keys “5” and press the Start Key. (Then, the Magnification Ratio Indicator shows “A 5” and the Multi-Copy Display, the current setting value.)



4. Press the Clear Key to clear the current setting value.
5. With the old setting value used as reference, enter the new setting value using the appropriate 10-keys.

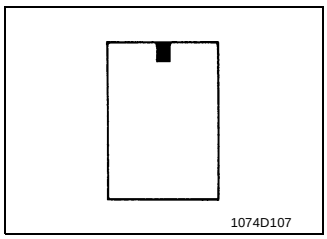
NOTE
If dimension A on the copy is smaller than 8.5 mm, decrease the setting value.
If dimension A on the copy is greater than 11.5 mm, increase the setting value.



6. Press the Start Key to validate the new setting.
7. Press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back to the normal mode.
8. Make two single copies and check for leading edge registration on the second copy. (If it does not meet the requirement, perform steps 2 through 9 again.)

(10) Adjustment of the Image Leading Edge Erase Width

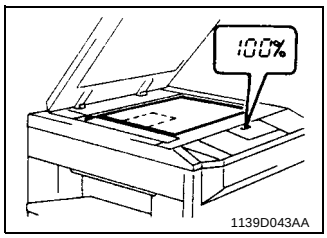
Requirement



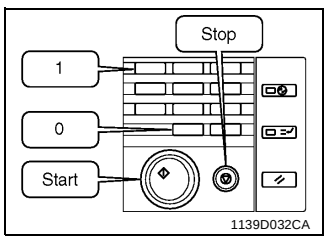
- Ready a test chart (A3 or 11" × 17") as shown on the left. Paint a 20 mm-long rectangle in black at the center of the test chart along its leading edge as shown. Adjust so that the erase width along the leading edge of the painted area measures 0.5 to 6.5 mm.

- Setting value range: 42 to 58
- Movement equivalent to 1 step of setting value: 0.75 mm
- Having a greater setting value results in a greater erase width.
- Having a smaller setting value results in a smaller erase width.

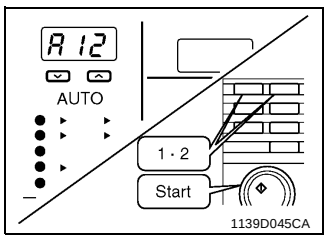
Important
- This adjustment must be made after the leading edge registration adjustment has been completed.



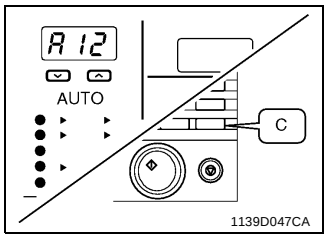
1. Place the test chart face down on the Original Glass and align its rear left corner with the ▷ marker on the Original Width Scale on the left side of the platen.
   Then, lower the Original Cover.
2. Make two single copies in full size mode (100%) and check for leading edge registration on the second copy.



3. If the erase width does not meet the requirement, go to the control panel and press the Meter Count Key, stop Key, 10-keys "0", 10-keys "0", stop Key, 10-keys "0", 10-keys "1", Stop Key, Start Key to set the copier into the Adjust Mode. (At this time, the Magnification Ratio Indicator shows "A.")

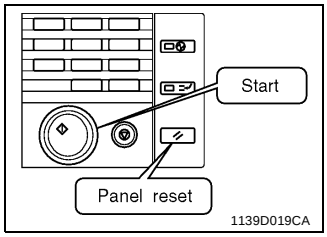


4. Press 10-keys "1 · 2" and press the Start Key. (Then, the Magnification Ratio Indicator shows "A 12" and the Multi-Copy Display, the current setting value.)



5. Press the Clear Key to clear the current setting value.
6. With the old setting value used as reference, enter the new setting value using the appropriate 10-keys.

NOTE
If the erase width on the copy is less than 0.5 mm, increase the setting value.
If the erase width on the copy exceeds 6.5 mm, decrease the setting value.



7. Press the Start Key to validate the setting.
8. Press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back to the normal mode.
9. Make two single copies and check for leading edge erase width on the second copy. (If it does not meet the requirement, perform steps 3 through 9 again.)

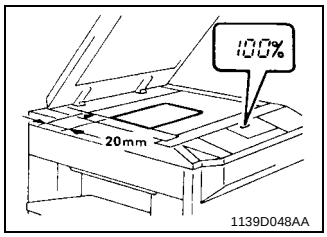
(11) Adjustment of the Image Erase Lamp Position

Requirement

- Image erase width: Within 1 ± 0.5 mm

Important

- This adjustment must be made after the reference positions of the Multi Bypass Table and 1st and 2nd (23 cpm copier only) Drawers have been adjusted.



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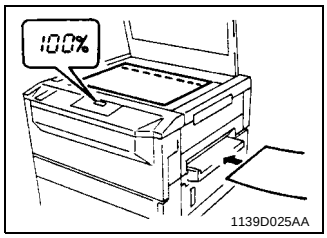
1. With the Original Cover raised, place a sheet of A4 or 8-1/2" × 11" paper lengthwise on the Original Glass.



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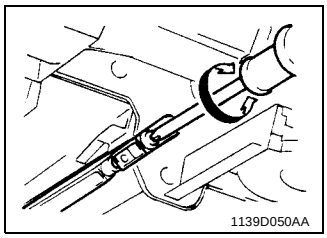
2. With the Original Cover raised, make a full size copy.
3. Check the erase width on the front edge and turn the edge erase width adjusting screw as necessary to obtain an erase width of less than 1 ± 0.5 mm.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NOTE

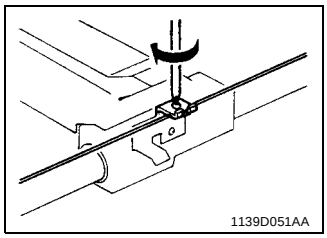
Loosening the screw will make the erase width smaller.
Tightening the screw will make the erase width greater.

3-5. OTHER ADJUSTMENTS

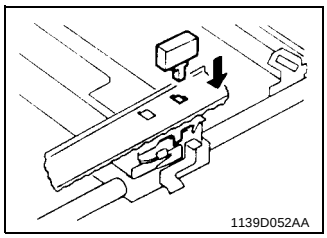
(1) Adjustment of the Scanner/Mirrors Carriage Position

Requirement

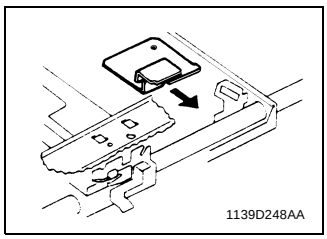
- With the Scanner positioned correctly with reference to the upper copier frame, there should be no gap between the Scanner/Mirrors Carriage and the Scanner/Mirrors Carriage Positioning Jig.



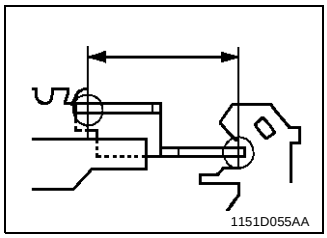
1. Remove the Original Cover, Original Scales, and Original Glass.
2. Temporarily tighten the screw on the Scanner Drive Cable Holding Bracket.



3. Align the rectangular hole in the upper copier frame with the U-groove in the Scanner, then insert the Scanner Positioning Jig into the hole.



4. Install the Scanner/Mirrors Carriage Positioning Jig between the Scanner and Mirrors Carriage.



5. Loosen the screw that has been temporarily tightened in step 2. Turn the helical gear of the Scan Pulley to press the Mirrors Carriage up against the Scanner/Mirrors Carriage Positioning Jig and the Scanner.
6. Tighten the screw on the Scanner Drive Cable Holding Bracket.

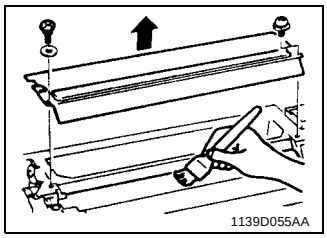
(2) Adjustment of the Gap Between the Doctor Blade and Sleeve Roller

Requirement

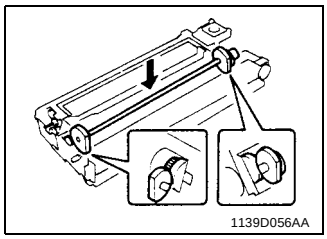
- The gap between the Doctor Blade and the Sleeve Roller should be 0.35 mm ± 0.05 mm.

Important

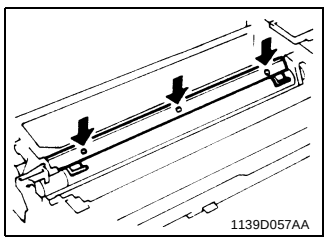
- Cover the PC Drum with the Drum Cloth to prevent it from being scratched.



1. Remove the Developer Scattering Prevention Plate.
2. Wipe the developer off the surface of the Sleeve Roller.



3. Install the Sleeve/Magnet Roller Positioning Jig onto the Imaging Unit.

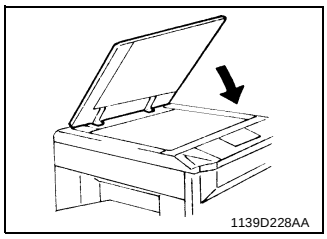


4. Loosen the three screws securing the Doctor Blade in position. Insert the D.B. Adjusting Jigs into the space between the Doctor Blade and Sleeve Roller.
5. Press down the Doctor Blade until it positively contacts the D.B. Adjusting Jigs, then tighten the three screws to secure it in position.

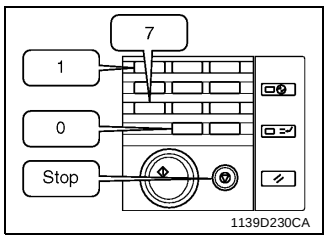
(3) Adjustment of the Original Size Detecting Board

Important

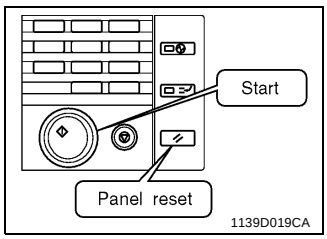
- This adjustment must be made after the Original Size Detecting Board has been replaced.



1. Lower the Original Cover with no paper on the Original Glass.



2. On the control panel, press the Meter Count Key, stop Key, 10-keys “0”, 10-keys “0”, stop Key, 10-keys “0”, 10-keys “1”, 10-keys “1” and then “7” to set the copier into the F7 Test Mode. (At this time, the Multi-Copy Display shows “F7.”)



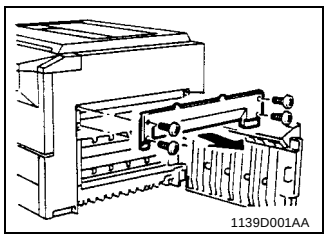
3. Press the Start Key to let the copier make the adjustment.

NOTE
During the adjustment, the Start Key is lit up orange. It turns to green as soon as the adjustment is completed.
(It takes about 2 sec. to make the adjustment.)

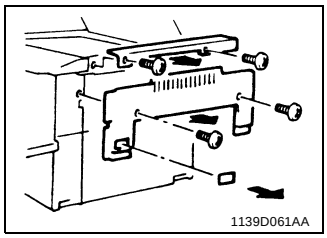
4. After the adjustment has been made, press the Panel Reset Key twice (or turn OFF the Power Switch) to return the copier back into the normal mode.

4 MISCELLANEOUS

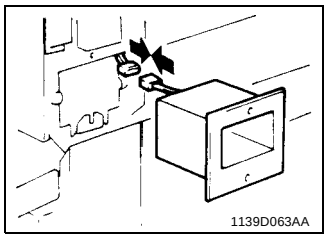
4-1. INSTALLATION OF THE PLUG-IN COUNTER MOUNTING BRACKET (OPTION)



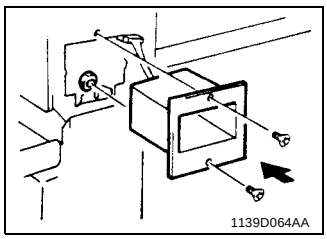
1. Remove the Middle Right Cover.



2. Remove the Counter Cover.
3. Remove the Upper Right Cover.
4. Remove the Right Cover.



5. Connect the Plug-In Counter Connector.



6. Secure the Plug-In Counter Mounting Bracket by tightening the two screws.