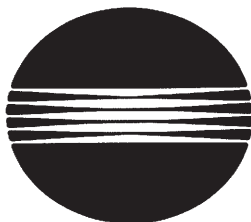

EP8015/EP6001

DIS/REASSEMBLY, ADJUSTMENT



MINOLTA

◆ For the Utmost safety ◆**Warning**

- For replacement parts, use the genuine parts with their part numbers specified in the parts manual. Use of a wrong part could cause an overload or dielectric breakdown resulting in an electric shock or fire.
- Replace a blown fuse or thermal fuse with the corresponding genuine part with its part number specified in the parts manual. Use of a fuse with a different rating or one with the same rating but of a different type can result in a fire.

Especially when a thermal fuse blows frequently, the thermal control system is probably faulty.

Be sure to take necessary action.

- Before attempting to disassemble the machine, be sure to unplug its power cord. The machine contains a high voltage unit and a circuit with a large current capacity that may cause an electric shock or burn from sparking.

The machine also contains quick moving parts, which could injure a person.

If the machine uses a laser, a person can lose his/her eyesight by a laser beam leak.

- Wherever feasible, keep the covers and parts mounted when energizing the machine. If it is absolutely necessary to energize the machine with its cover removed, do not touch an exposed part that is being charged and use care not to allow your clothing to be caught by a timing belt, gear, or other moving part.
- Do not leave the machine unattended while it is being energized.

**Caution**

- To actuate an interlock switch with a cover removed or opened, be sure to use the interlock switch actuating jig. Use of folded paper can damage the interlock switch mechanism.



Caution

- A high voltage is being applied to the part marked with the symbol shown on the right. Touching it can cause an electric shock. Be sure to unplug the power cord when servicing this part or other parts near it.
- When the machine is energized with any of its covers removed, never use a flammable spray near it, as a fire can result.
- Make sure that correct screws (diameter and length of the screw, binding/tapping screws) are used in the correct places when assembling parts. If a wrong screw is used, a short insulating distance could result. It could also result in collapsed threads, which provides only a poor grounding connection, resulting in an electric shock.
- A toothed washer and spring washer, if used originally, must be reinstalled. If they are left out, a contact failure results, causing an electric shock or fire.
- Replace a lithium cell only with one having the part number specified in the parts manual. An explosion could result if the cell is installed with wrong polarity or a wrong cell is installed.
Dispose of a used lithium cell according to the applicable local regulations. Never throw it away or abandon it on the user's premises.



◆ Other Precautions ◆

- While the machine is being energized, do not unplug or plug in a connector on a PWB or relay harness.
- Since the Magnet Roller of the Imaging Unit generates a strong magnetic force, do not bring a CRT, watch, floppy disk, or magnetic card near it.
- Use of an air gun or vacuum generates static electricity which can cause the ATDC Sensor and associated parts to break down. Be sure therefore to use a blower brush or cloth to clean these parts. If a unit is to be cleaned, be sure to remove the sensors in advance.
- MOS ICs are susceptible to static electricity. When handling a PWB loaded with MOS ICs, follow precautions given in "INSTRUCTIONS FOR HANDLING THE PWBs WITH MOS ICs."
- The PC Drum is highly delicate. When handling the PC Drum, follow the precautions given in "HANDLING OF THE PC DRUM."
- To reassemble, reverse the order of disassembly unless otherwise specified.
- Note that replacement of a PWB may call for readjustments or resetting of particular items.

CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISPOSE OF USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

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

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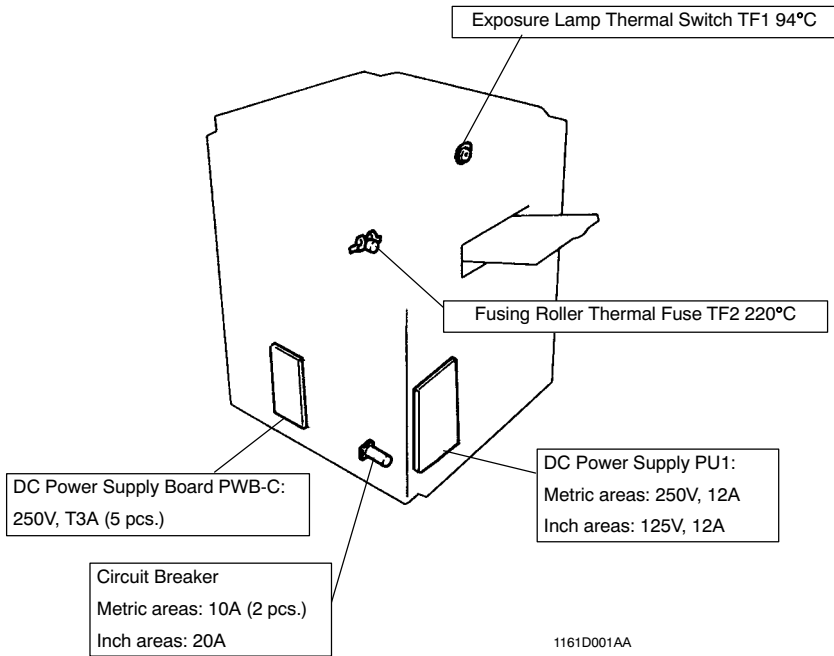
1-1. PRECAUTIONS FOR DISASSEMBLY/ADJUSTMENTS

Observe the following precautions whenever servicing the copier.

- Be sure to unplug the copier from the outlet before attempting to service the copier.
- The basic rule is not to operate the copier anytime during disassembly.
 - If it is absolutely necessary to run the copier with its covers removed, use care not to allow your clothing to be caught in revolving parts such as the timing belt and gears.
- Be sure to use the Interlock Switch Actuating Jig whenever it is necessary to actuate the Interlock Switch with the covers left open or removed.
- Do not plug in or unplug print jacks on the Board or connect or disconnect the Board connectors while power is being supplied to the copier.
- Do not use flammable spray around the copier in operation.
- The Magnet Roller of the Imaging Unit generates strong magnetic force. Do not bring it near a cathode-ray tube or watch.
- The lithium cell in RAM Board PWB-R can burst. At replacement, make sure of the correct polarity and do not change it or create a closed circuit.
 - A used lithium cell should be disposed of according to the local regulations and never be discarded casually or left unattended at the user's premises.
- Do not use an air gun or vacuum cleaner for cleaning the ATDC Sensor and other sensors, as they can cause electrostatic destruction. Use a blower brush and cloth. If a unit containing these sensors is to be cleaned, first remove the sensors from the unit.
- When handling the PWBs with MOS ICs, observe "Instructions for Handling the PWBs with MOS ICs."
- When handling the PC Drum, observe precautions given in "Handling of the PC Drum."
- Note that replacement of a PWB may call for readjustments or resetting of particular items.
- Use the right screw in the right place at reassembly. Note that some are longer and some are thicker than others.
- A toothed washer is used with the screw that secures the ground wire to ensure positive conduction. Do not forget to insert this washer at reassembly.
- To reassemble the copier, reverse the order of disassembly unless otherwise specified.
- If it becomes necessary to replace the thermal fuse or any other fuse mounted on a board, be sure to use one of the rating marked on the blown fuse.
 - Always note the rating marked on the fuse, as the rating and mounting site or number used are subject to change without notice.
- Do not pull out the Toner Hopper while the Toner Bottle is turning, as a damaged Toner Replenishing Motor or locking mechanism could result.
 - If the copier is to be run with the Front Door swung down, make sure that the Toner Hopper is in the locked position.

CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

<Identification of Fuses and Circuit Breakers>



1-2. 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.

1-3. HANDLING OF THE PC DRUM

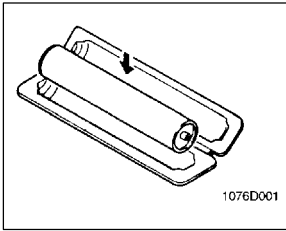
During Transportation/Storage:

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

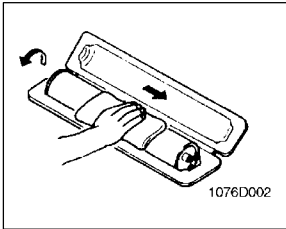
Handling:

- 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.

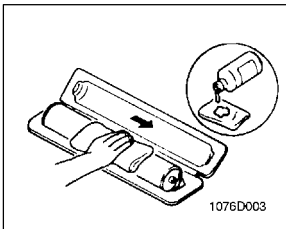


2. Gently wipe the residual toner off the surface of the PC Drum with a dry, Dust-Free Cotton Pad.

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.

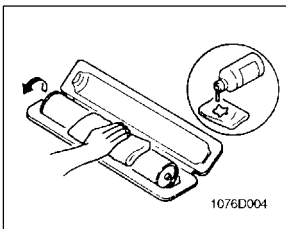
b) Rotate the PC Drum slightly and wipe the newly exposed surface area with a CLEAN face of the Dust-Free Cotton Pad. Repeat this procedure until the entire surface of the PC Drum has been thoroughly cleaned.

* 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.

1-4. PARTS WHICH MUST NOT BE TOUCHED

(1) Red Painted Screws

Purpose of Application of Red Paint

Red painted screws show that the assembly or unit secured can only be adjusted or set at the factory and shall not be readjusted, set, or removed in the field.

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

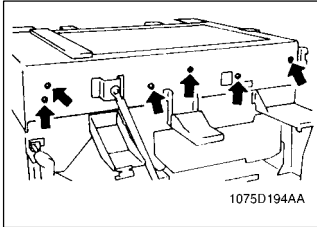
(2) Variable Resistors on Board

Do not turn the variable resistors (potentiometers) on boards to which no adjusting instructions are given in "ADJUSTMENT."

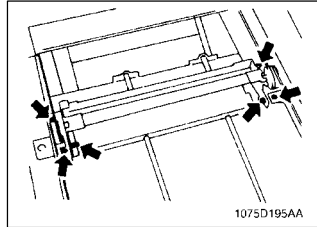
(3) Other Screws

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

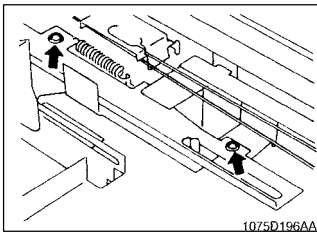
6 screws on the Front and Rear Scanner Rails



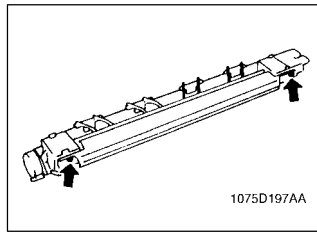
4 screws and 2 set screws on the 2nd/3rd Mirrors Carriage



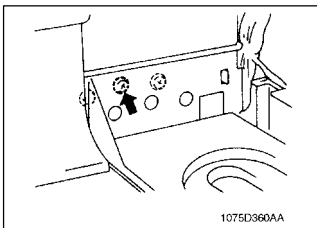
2 screws on the 4th/5th Mirrors Carriage



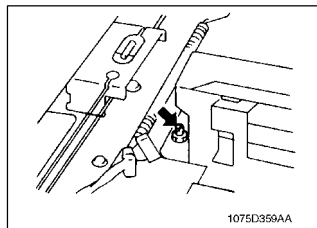
2 screws on the Pre-Image Transfer Guide Plate



4th/5th Mirrors Carriage height adjusting screw (front)

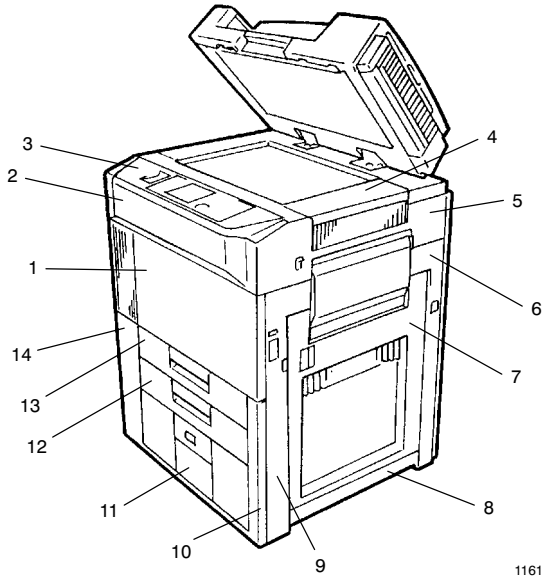


4th/5th Mirrors Carriage height adjusting screw (rear)

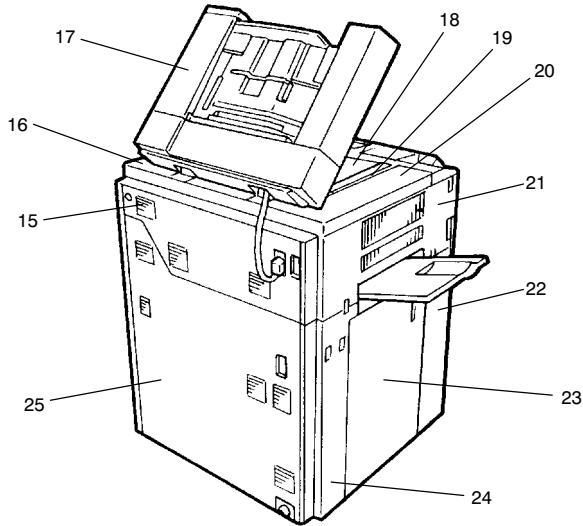


2 DISASSEMBLY/REASSEMBLY

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



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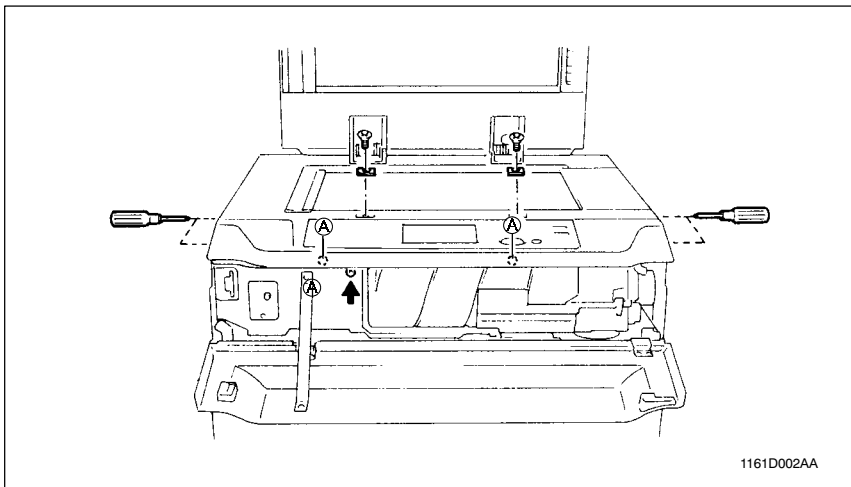
No.	Part Name	Removal Procedure
1	Front Lower Door	Open the Front Lower Door. → Remove 2 belt mounting screws. → Remove 4 Front Lower Door mounting screws.
2	Front Upper Door	Open the Front Upper Door. → Remove 1 belt mounting screw. → Remove 4 Front Upper Door mounting screws.
3	Control Panel Unit	See p. D-8.
4	Upper Right Cover	Remove Ornament Cover → Loosen the center upper mounting screw on the Right Upper Cover. → Pull the Upper Right Cover up.
5	Right Upper Cover	Remove Ornament Cover → Open the Front Upper Door. ⇒ Swing up the Multi Bypass Table. → Remove 4 Right Upper Cover mounting screws.
6	Right Rear Cover	Remove 2 Right Rear Cover mounting screws.
7	Right Door (Multi Bypass Unit)	Remove the Right Rear Cover. ⇒ Remove the harness from one wiring saddle. ⇒ Unplug 3 connectors. → Remove 1 ground wire mounting screw. ⇒ Open the Right Door and pull it up.
8	Right Lower Cover	Open the Right Door. → Remove 2 Right Lower Cover mounting screws.
9	Right Front Cover	Open the Front Lower Door. → Remove 3 Right Front Cover mounting screws.
10	Front Right Cover	Slide out all paper drawers. → Remove 2 Front Right Cover mounting screws.
11	3rd Drawer	See p. D-24.
12	2nd Drawer	Remove the Front Right Cover. ⇒ Remove the Drawer Stopper. ⇒ Slide out the 2nd Drawer and, raising it slightly up, pull it out.
13	1st Drawer	Remove the Front Right Cover. ⇒ Remove the Drawer Stopper. ⇒ Slide out the 1st Drawer and, raising it slightly up, pull it out.
14	Front Left Cover	Slide out all paper drawers. ⇒ Open the Left Door. → Remove 2 Left Front Cover mounting screws. → Remove 2 Front Left Cover mounting screws. (The Front Left Cover and Left Front Cover are secured by means of metal plates.)
22	Left Front Cover	

No.	Part Name	Removal Procedure
15	Rear Upper Cover	Remove 3 Rear Upper Cover mounting screws.
16	Upper Rear Cover	Remove 4 ADF mounting screws. → Remove 4 Ornament Covers. → Remove 4 Upper Rear Cover mounting screws.
17	ADF	Unplug one connector. → Remove 2 ADF mounting screws.
18	Original Glass	Raise the ADF. ⇒ Remove 2 Original Width Scale mounting screws.
19	Original Width Scale	<i>Note: When the Original Width Scale has been removed, use care not to lose two springs.</i>
20	Upper Left Cover	Remove the Upper Rear Cover. → Remove the Control Panel. → Remove 2 Upper Left Cover mounting screws.
21	Left Upper Cover	Open the Front Upper Door. → Remove 4 Left Upper Cover mounting screws.
23	Left Door	Remove the Left Rear Cover. → Open the Left Door and pull it up.
24	Left Rear Cover	Remove 3 Left Rear Cover mounting screws.
25	Rear Lower Cover	Remove 4 Rear Lower Cover mounting screws.

◆ Removal of the Control Panel Unit (No. 3)

1. Remove the Right Upper Cover and Left Upper Cover.
2. Raise the ADF and remove the magnet catches by removing two screws.
3. Loosen four screws on the right and left as illustrated below and remove one screw beside the Toner Bottle.
4. Raising the Control Panel Unit, unplug three connectors. This allows the Control Panel Unit to be removed.

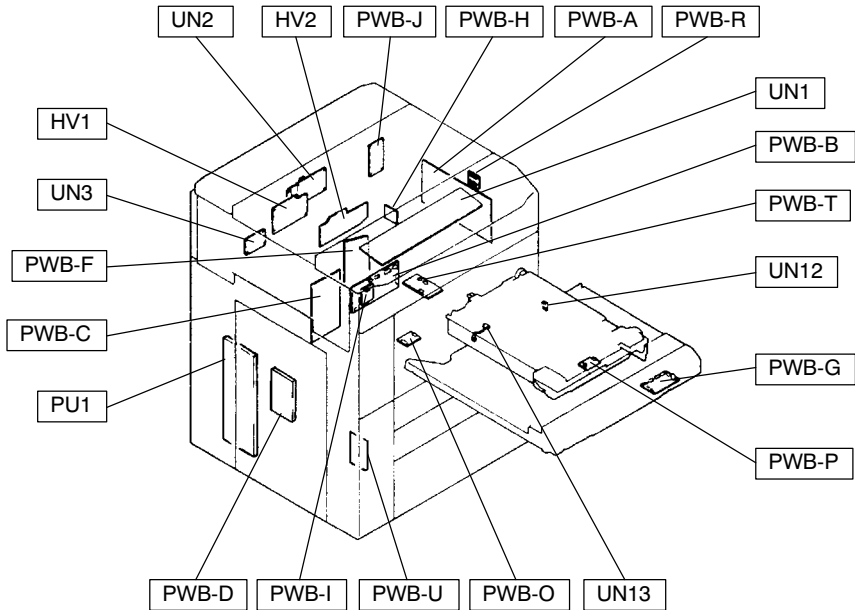
* To remove the Control Panel only, loosen two screws (A) and, raising the Control Panel, unplug two connectors.



1161D002AA

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

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



NOTE

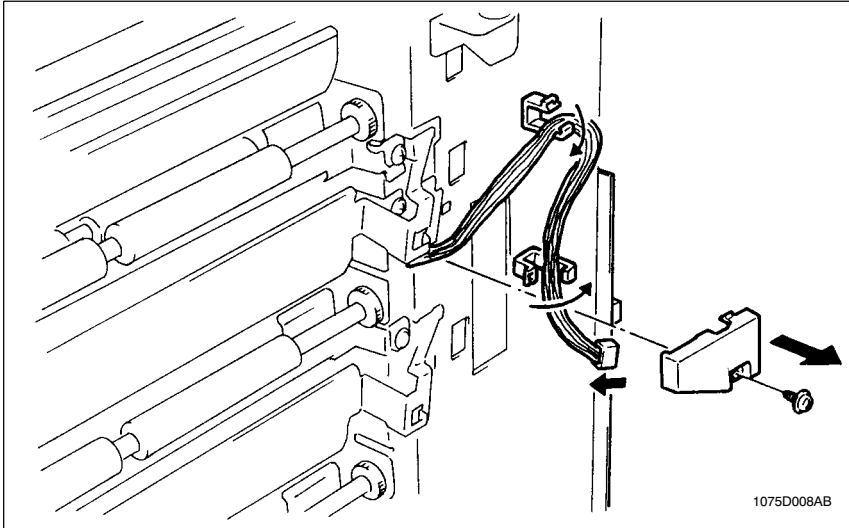
Replacement of PWB-R, UN3, UN12, UN13, and PWB-J calls for readjustments or resetting of particular items. For details, see "ADJUSTMENT."

Symbol	Part Name	Removal Procedure
PWB-A	Master Board	Remove the Right Upper Cover. → Remove PWB-A.
PWB-B	MSC Board	Open the Front Lower Door. → Open the Front Upper Door. → Remove the Panel Lower Cover. → Remove PWB-B.
PWB-C	DC Power Supply Board	Remove the Rear Lower Cover. → Remove PWB-C.
PWB-D	Noise Filter Board	Remove the Rear Lower Cover. → Remove the Power Unit Assy. → Remove PWB-D Box. → Remove PWB-D.
PWB-F	Drawer S/P Board	Remove the Rear Lower Cover. → Remove PWB-F.
PWB-G	Duplex Unit S/P Board	Open the Front Lower Door. → Remove the Duplex Unit Cover. → Remove PWB-G.
PWB-H	AE Sensor Board	Remove the Original Glass. → Remove the Optical Cover. → Remove PWB-H.
PWB-I	Tech. Rep. Setting Switches Board	Open the Front Lower Door. → Open the Front Upper Door. → Remove the Panel Lower Cover. → Remove PWB-I.
PWB-J	Exposure Lamp Regulator	Remove the Rear Upper Cover. → Remove the Upper Rear Cover. → Remove the UN2. → Remove the PWB-J Cover. → Remove PWB-J.
PWB-O	M14/M16/M22 Drive Board	Open the Front Lower Door. → Release and swing up the Upper Half of the copier. → Remove the Image Transfer Cover. → Remove PWB-O.
PWB-P	PC Drum Charge Comb Cleaning Motor Drive Board	Open the Front Lower Door. → Remove the PC Unit Cover. → Remove PWB-P.
PWB-R	RAM Board	Remove the Right Upper Cover. → Remove PWB-R.
PWB-T	Synchronizing Motor Control Board	Open the Front Lower Door. → Remove the Image Transfer Cover. → Remove the Synchronizing Rollers Unit. → Remove PWB-T.
UN1	Control Panel	See p. D-8.
UN2	Scanner Control Processor Board	Remove the Rear Upper Cover. → Remove UN2.
UN3	Original Size Detecting Board	Remove the Rear Upper Cover. → Remove the Left Upper Cover. → Remove UN3.
UN12	ATDC Sensor	Open the Front Lower Door. → Slide out the PC Unit. → Remove the Developing Unit. → Remove the Duct Cover. → Remove UN12.
UN13	AIDC Sensor	Open the Front Lower Door. → Slide out the PC Unit. → Remove the Cleaning Unit. → Remove the PC Drum. → Remove the PC Drum Paper Separator Fingers Assy. → Remove UN13.
PU1	DC Power Supply	Remove the Rear Lower Cover. → Remove the Power Unit Assy. → Remove PU1.
HV1	PC Drum Charge HV	Remove the Rear Upper Cover. → Remove the Upper Rear Cover. → Remove UN2. → Remove the HV1 mounting bracket. → Remove HV1.
HV2	Image Transfer/Paper Separator HV	Remove the Rear Lower Cover. → Remove HV2.

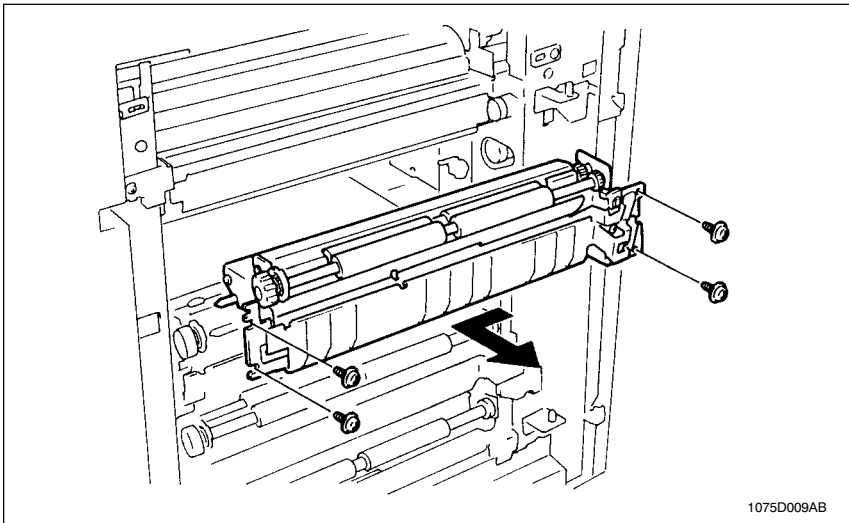
2-3. PAPER TAKE-UP/TRANSPORT SECTIONS

(1) Removal of the Paper Take-Up Unit

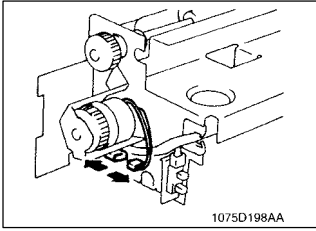
1. Remove the Right Door (Multi Bypass Unit).
2. Slide out the drawer.
3. Remove one screw and the harness cover.
4. Remove the locking wiring saddle.
5. Unplug connectors from Drawer S/P Board PWB-F.



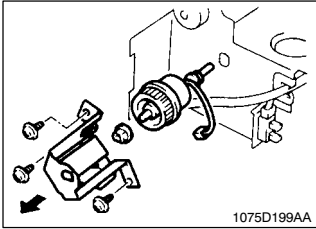
6. Remove four screws each and slide the Paper Take-Up Unit in the direction shown in the illustration.



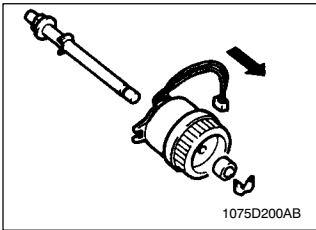
(2) Replacement of the Paper Take-Up Clutch



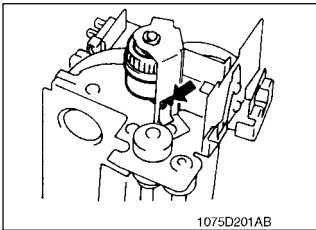
1. Remove the Paper Take-Up Unit.
2. Unplug one connector of the Paper Take-Up Clutch.



3. Remove three screws and the Paper Take-Up Clutch mounting bracket.
4. Remove the bushing and Paper Take-Up Clutch Assy.



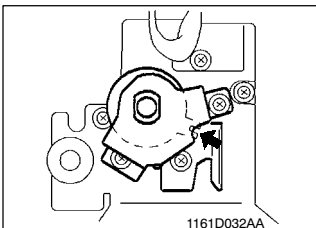
5. Remove the E-ring and Paper Take-Up Clutch.



EP6001

NOTE

When reinstalling the Paper Take-Up Clutch, secure it in position with the protrusion of the clutch aligned with the cutout in the mounting bracket.

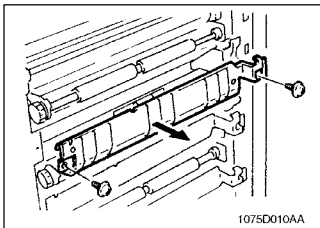


EP8015

NOTE

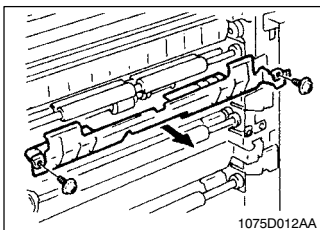
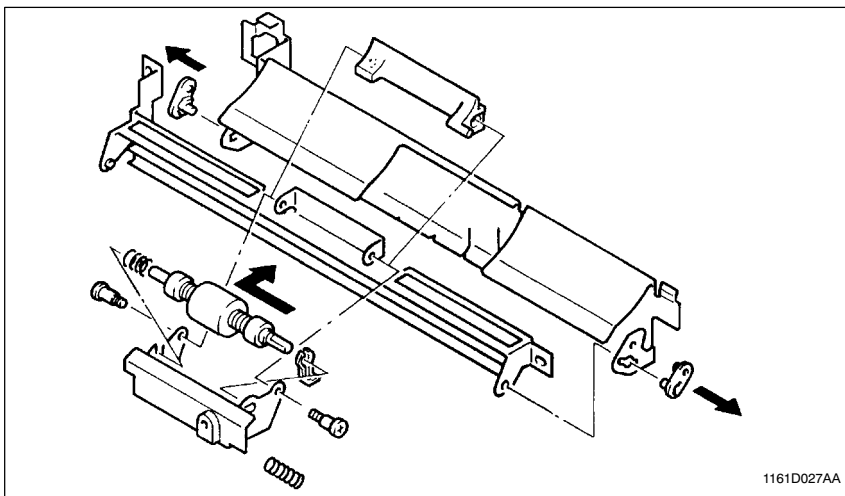
When reinstalling the Paper Take-Up Clutch, secure it in position with its protrusion fitted into the gap between the two legs of the mounting bracket. (See the illustration on the left.)

(3) Replacement of the Paper Take-Up Roll, Paper Feed Roll, and Paper Separator Roll Assy

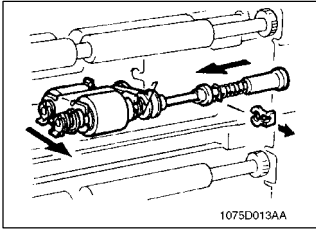


1. Open the Right Door.
2. Remove two screws and the Paper Separator Unit.

3. Remove the pivot pins on both ends and the Guide Plate.
4. Remove two shoulder screws of the Paper Separator Roll Assy.
5. Remove two C-clips and slide the bushing off to remove the Paper Separator Roll Assy.

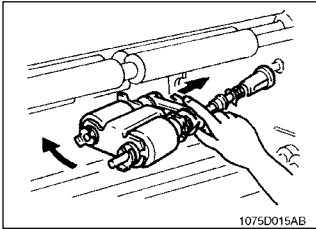
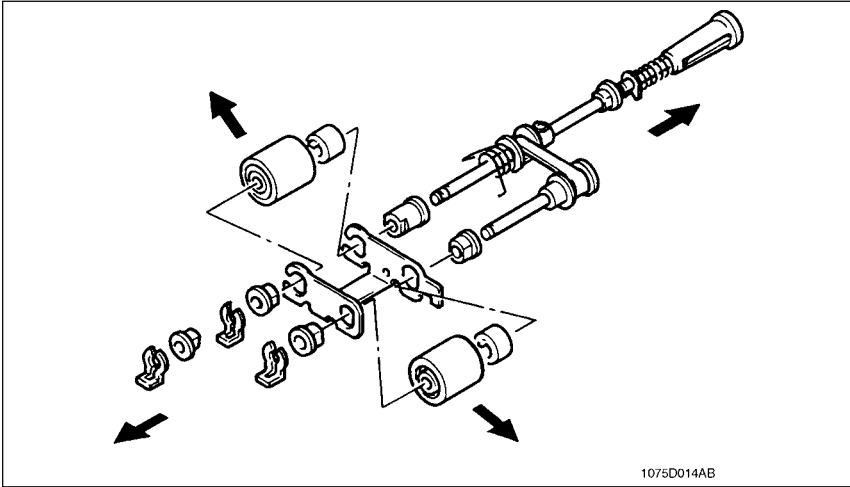


6. Remove two screws and the Paper Guide Plate.



7. Remove the C-clip and slide the bushing to the side.
8. Slide the coupling to the left and remove the Paper Take-Up Roll Assy.

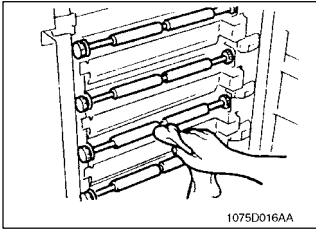
9. Remove the C-clip and slide the bushing off to remove the Paper Take-Up Roll and Feed Roll.



NOTE

When reinstalling the Paper Take-Up Roll Assy, place it horizontally by holding down the torsion spring.

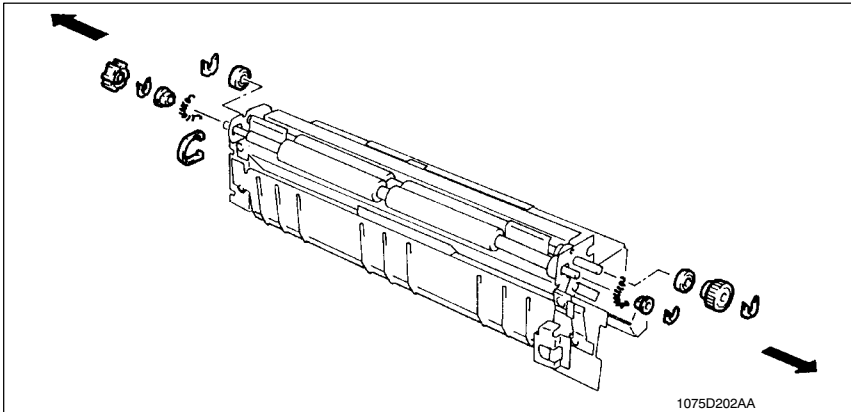
(4) Cleaning of the Vertical Transport Rollers



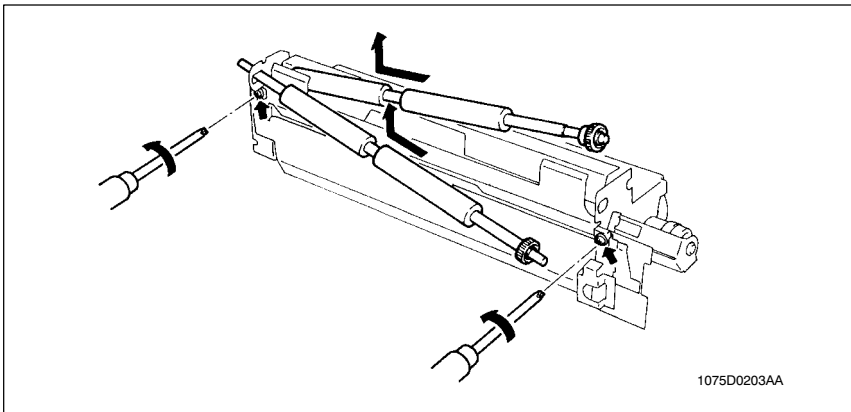
1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe clean each Vertical Transport Roller.

(5) Replacement of the Vertical Transport Rollers

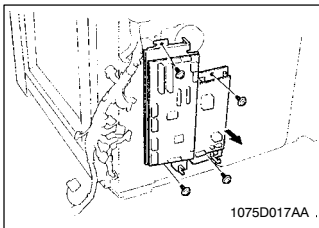
1. Remove the Paper Take-Up Unit.
2. Remove the Misfeed Removal Knob, edge cover, and two pressure springs.
3. Remove four C-clips, two bushings, one gear, and two bearings.



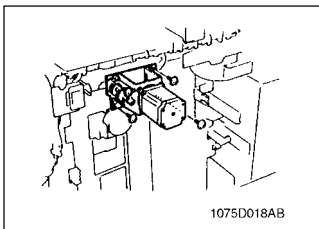
4. Remove the Vertical Transport Roller (white) by sliding it in the direction shown.
5. Loosen two screws on the Paper Guide Plate and remove the Vertical Transport Roller (black) by sliding it in the direction shown.



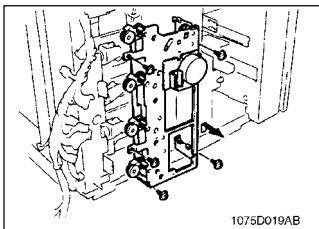
(6) Removal of the Lift-Up Motor (Metric areas only)



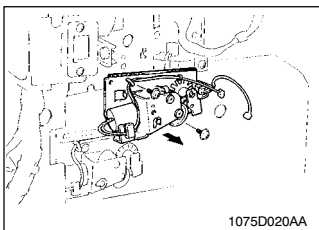
1. Remove the Right Rear Cover and Rear Lower Cover.
2. Unplug the connectors from DC Power Supply Board PWB-C and Drawer S/P Board PWB-F and remove the harness from the wiring saddle.
3. Remove four screws and the mounting brackets for PWB-C and PWB-F.



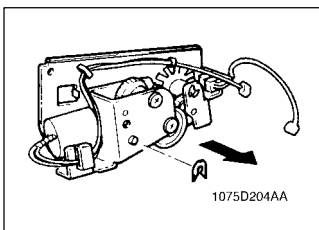
4. Remove the Toner Collecting Bottle. Remove two screws and the metal plate.
5. Remove four screws and unplug one connector to free the Vertical Transport Motor Assy.



6. Remove five screws. Slightly raising the Paper Take-Up Drive Assy, remove it together with the Vertical Transport Motor Assy.

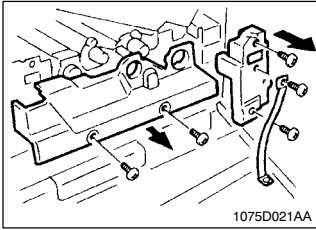


7. Unplug two connectors, remove two screws and the Lift-Up Motor Assy.

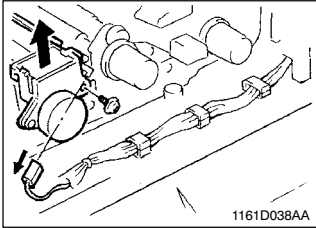


8. Remove the C-clip and the Lift-Up Motor.

(7) Removal of the Synchronizing Rollers Unit

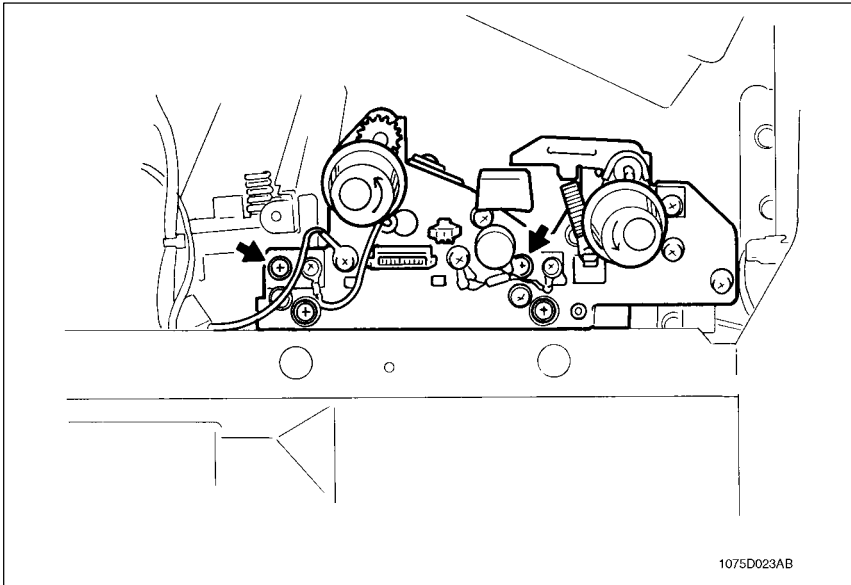


1. Open the Front Lower Door and remove three screws and the Total Counter Cover.
 2. Release and swing up the Upper Half of the copier and remove two screws and the Image Transfer Cover.
- * For EP8015, remove also one screw and the internal cover.

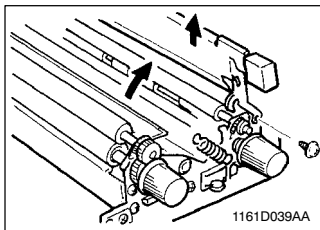


3. Unplug two connectors and remove one screw and the Image Transfer/Paper Separator Coronas.

4. Open the Right Door (Multi Bypass Unit).
5. Unplug two connectors, remove the two screws shown, and pull the Synchronizing Rollers Unit out to the front.



(8) Disassembly of the Synchronizing Rollers Unit

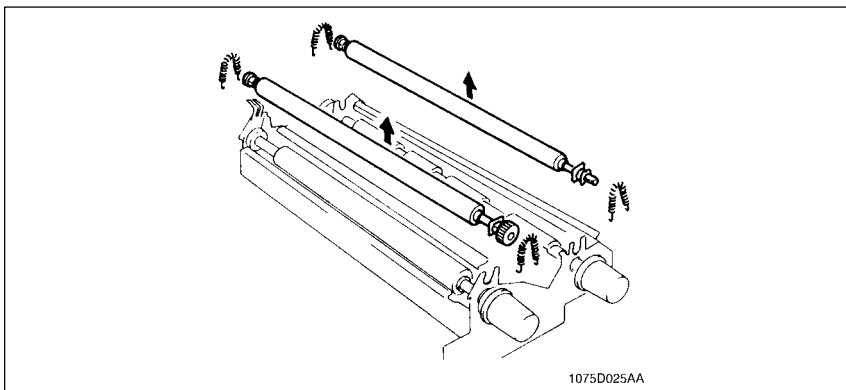


1. Remove the Synchronizing Rollers Unit.
2. Unhook one spring. Remove one pivot screw and lift the unit up.

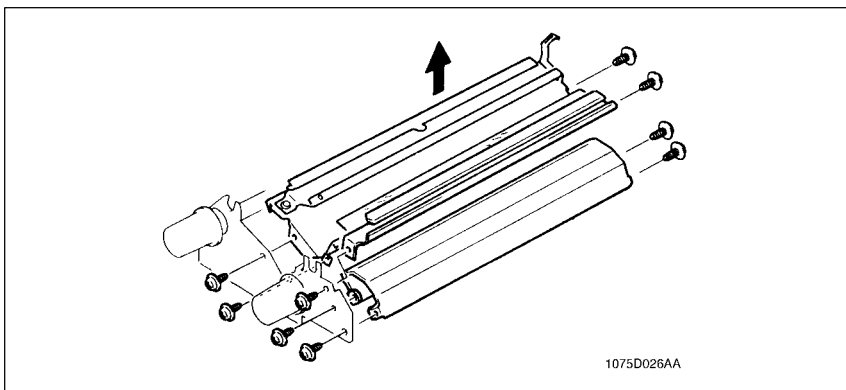
3. Remove the pressure springs at the front and rear, Upper Transport Roller, and Upper Synchronizing Roller.

NOTE

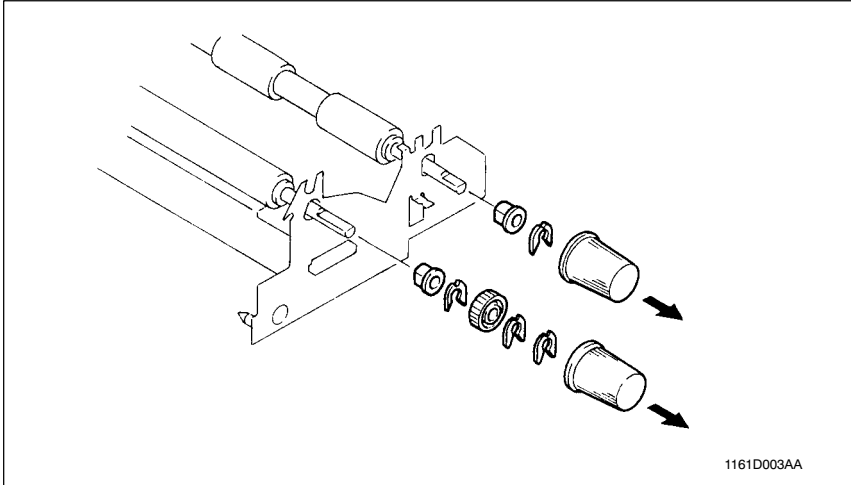
Different types of pressure springs are used for the Transport Roller and Synchronizing Roller. Do not confuse them at reinstallation.



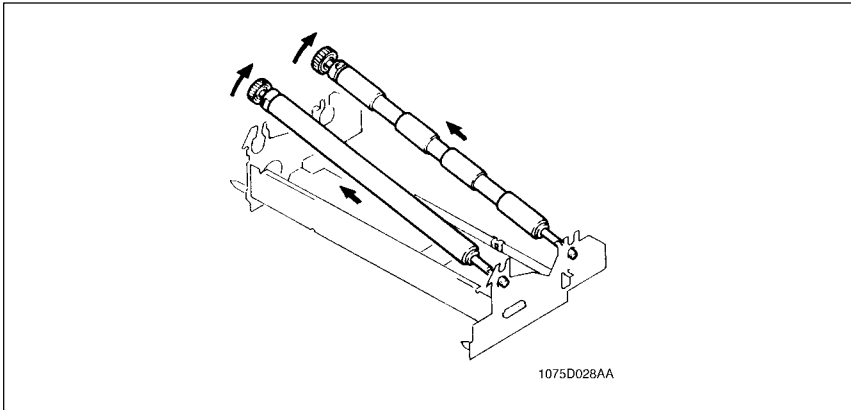
4. Remove four screws, unplug one connector, and remove the Pre-Synchronizing Rollers Guide Plate.
5. Remove five screws, unplug one connector, and remove the Pre-Transport Rollers Guide Plate.



6. Remove the M4 Misfeed Removal Knob and E-ring and pull out the bushing for the Lower Transport Roller.
7. Remove the M2 Misfeed Removal Knob, gear, and E-ring and pull out the bushing for the Lower Synchronizing Roller.



8. Remove the Lower Transport Roller by sliding it in the direction shown.
9. Remove the Lower Synchronizing Roller by sliding it in the direction shown.



(9) Removal of the Suction Belts

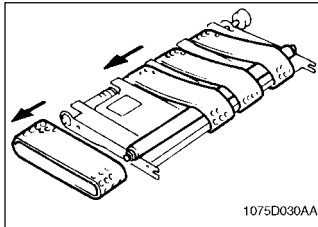
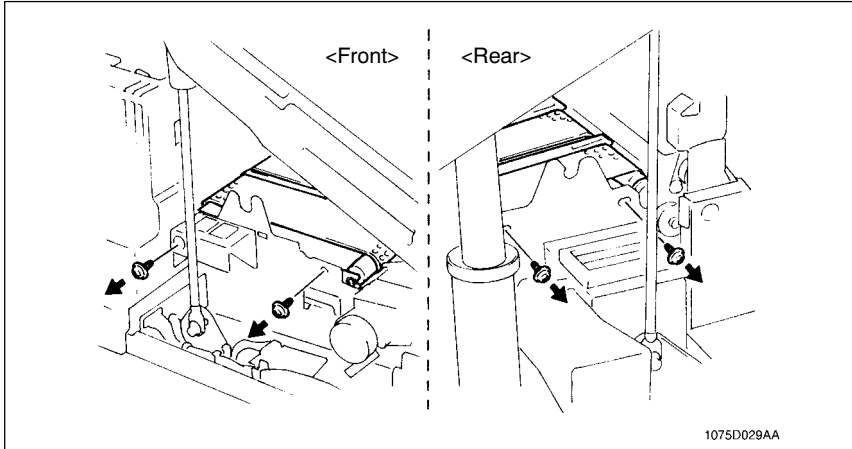
1. Open the Front Lower Door and release and swing up the Upper Half of the copier.
2. Remove two screws and the Image Transfer Cover.
3. Remove four screws and the Suction Unit.

TIP

Remove the Fusing Unit first, which will make the job easier.

NOTE

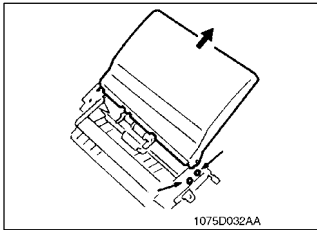
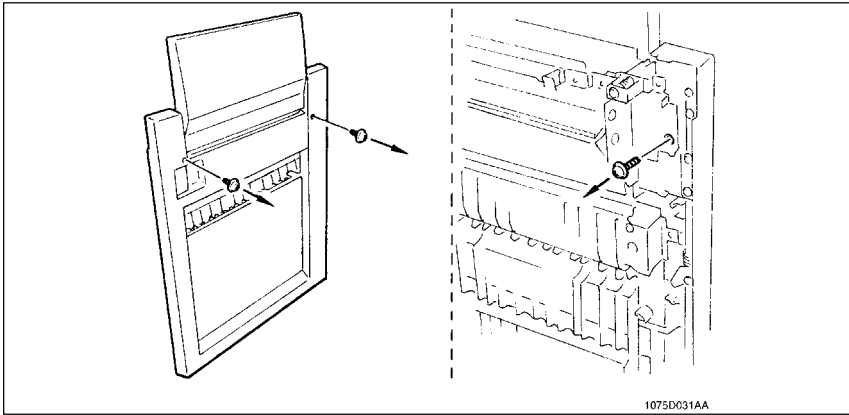
At reinstallation, press the Suction Unit against the Suction Base Plate.



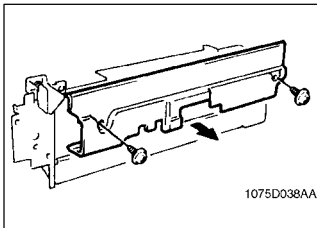
4. Work the Suction Belts Driven Roller off the Suction Unit Frame to remove the Suction Belts.

(10) Disassembly of the Multi Bypass Unit

1. Remove the Right Door (Multi Bypass Unit).
2. Remove the three screws shown and the Multi Bypass Unit.

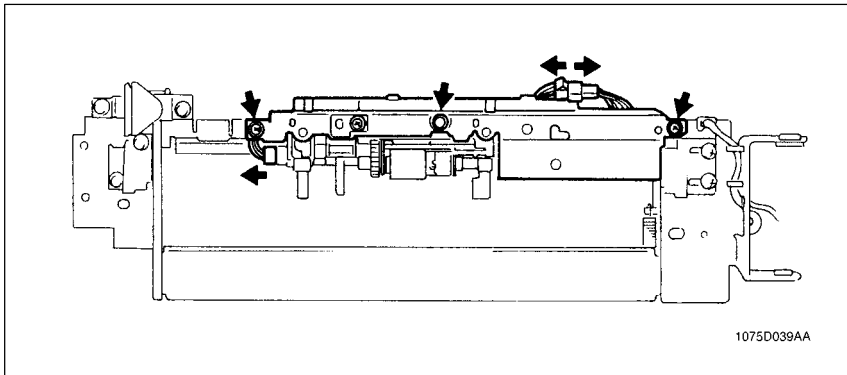


3. Loosen two screws, slide the pivot shaft to the side and remove the Multi Bypass Table.

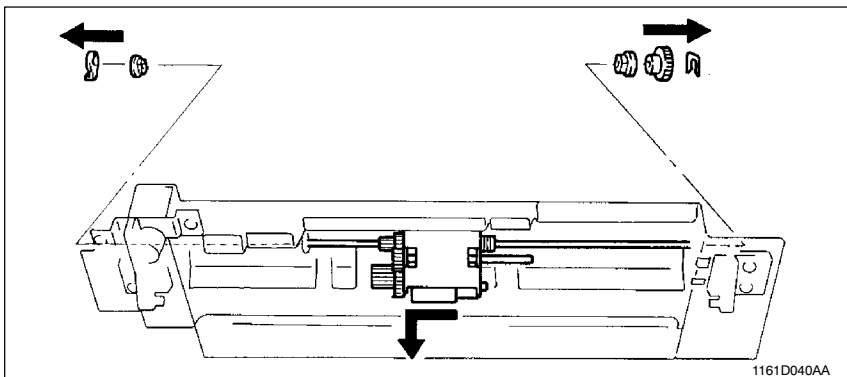


4. Remove two screws and the Manual Feed Paper Pick-Up Solenoid Assy Cover.

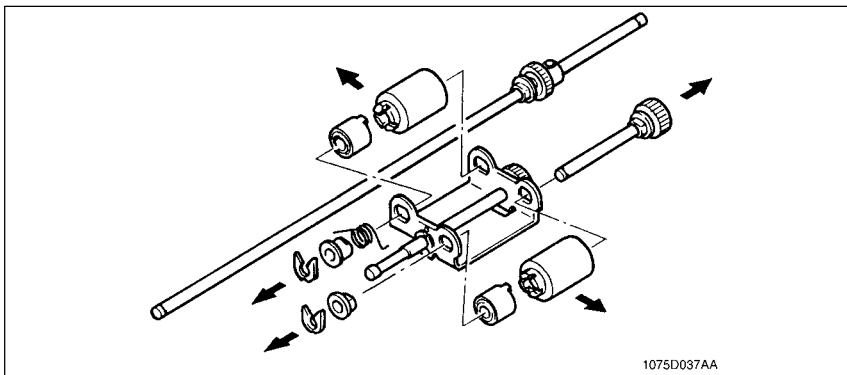
5. Remove three screws, unplug two connectors, and remove the Manual Feed Paper Pick-Up Solenoid Assy.

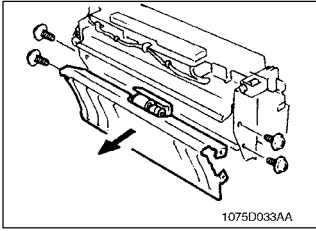


6. Remove the Paper Take-Up Roll Assy by removing the two C-clips, gear, and bushings shown.

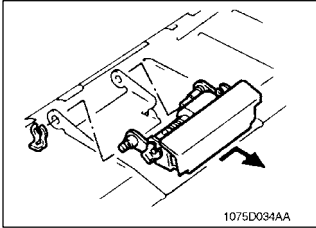


7. Disassemble the Paper Take-Up Roll Assy.

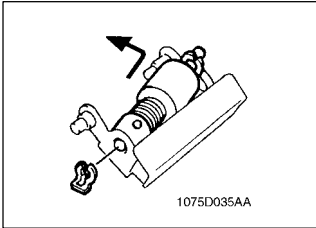




8. Remove four screws and the Guide Plate.

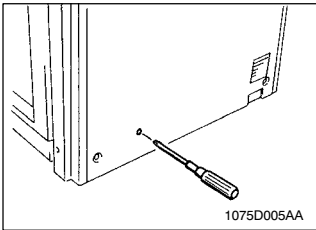


- 9. Remove the Paper Separator Roll pressure spring.
- 10. Remove the C-clip and Paper Separator Assy.

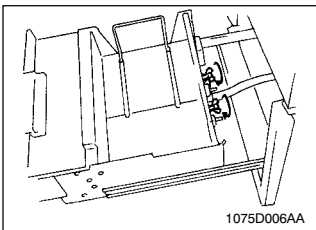


11. Remove the C-clip, slide the bushing off, and remove the Paper Separator Roll Assy.

(11) Removal of the 3rd Drawer



- 1. Press the Paper Descent Key and slide out the 3rd Drawer.
- * If pressing the Paper Descent Key does not allow you to slide out the 3rd Drawer, insert a screwdriver or similar object through the hole in the Rear Lower Cover and unlock the drawer.

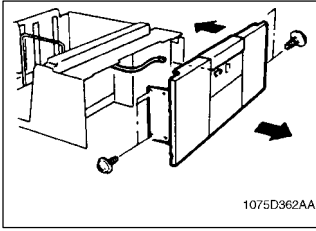


- 2. Remove four screws on the Slide Rails and pull the 3rd Drawer out to the front.
- 3. Unplug one connector, loosen two thumbscrews to remove the Connector Board Assy, and remove the 3rd Drawer.

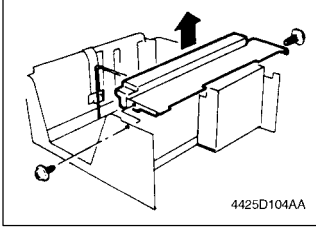
NOTE

During steps 2 and 3, use care not to let the 3rd Drawer fall off the Slide Rails.

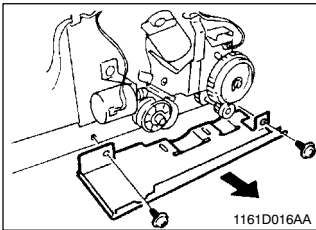
(12) Removal of the 3rd Drawer Wires



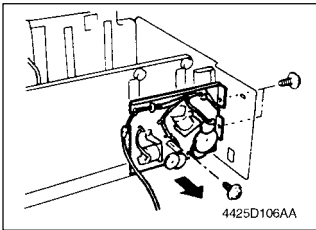
1. Remove the 3rd Drawer.
2. Remove four screws, unplug one connector, and remove the Cover Assy.



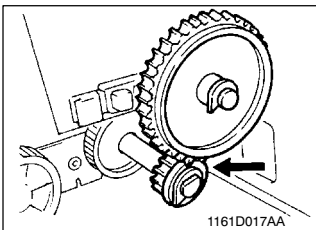
3. Remove two screws and the inner cover.



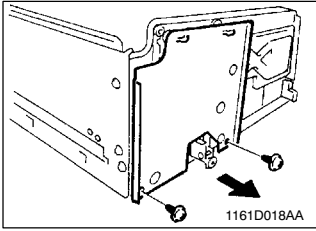
4. Remove two screws and the drive bottom cover.



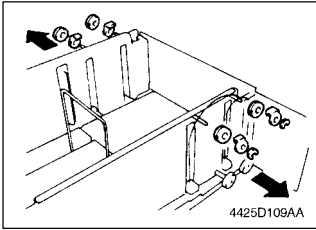
5. Unplug the connector and remove three screws and the drive base plate.



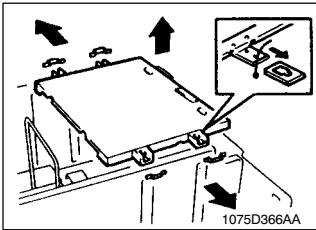
- * Ensure correct meshing of gears at reinstallation.



6. Remove two screws and Rear Cover.



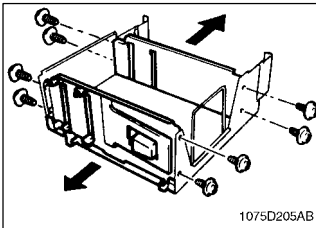
7. Remove two E-rings, four pulley covers and four pulleys.



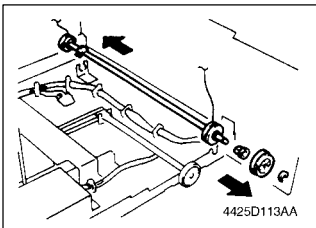
8. Remove four wire holders and the Main Tray.

NOTE

- Use care not to bend the wire.
- Use new wire holders at reinstallation.

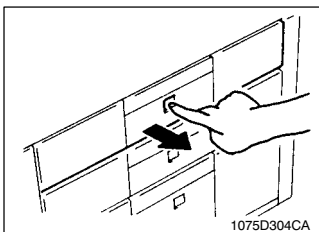


9. Remove four screws each and the Frame Assy at the front and rear.

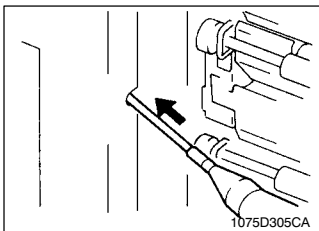


10. Remove the E-ring, slide the bushing off, and remove the Wire Take-Up Pulley Assy.

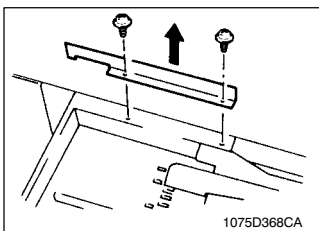
(13) Removal of the Paper Drawer (Inch areas only)



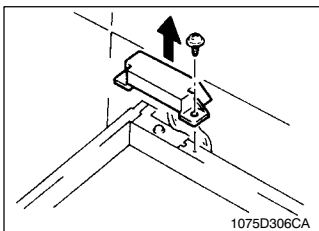
1. Press the Paper Descent Key and slide out the drawer.



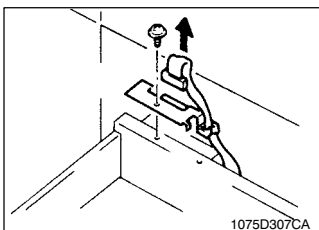
- * If pressing the Paper Descent Key does not allow you to slide out the drawer, open the Right Door and push the Lock Release Lever shown in the illustration with a screwdriver or similar object to unlock the drawer.



2. Remove two screws and the metal plate.

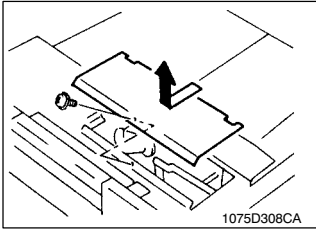


3. Remove one screw and the connector cover.

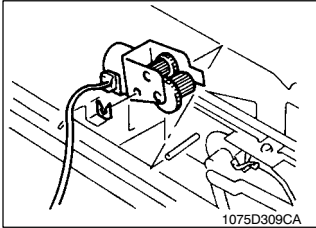


4. Unplug one connector and remove one screw and flat cable mounting bracket.
5. Remove the Front Right Cover, Drawer Stoppers, and the drawer.

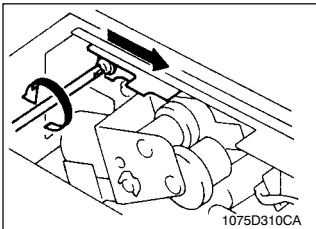
(14) Removal of the Lift-Up Motor (Inch areas only)



1. Slide out the drawer.
2. Remove one screw and the Lift-Up Motor Cover.



3. Unplug one connector.
4. Remove one E-ring and the Lift-Up Motor.

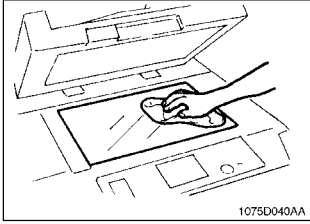


NOTE

If the Lift-Up Motor is replaced with a new one, loosen the screw and, while lightly pressing the Lift-Up Motor fixing bracket in the direction of the arrow, tighten the screw.

2-4. OPTICAL SECTION

(1) Cleaning of the Original Glass

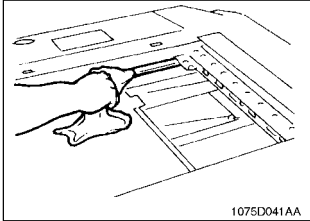


Wipe clean the Original Glass with a soft cloth.

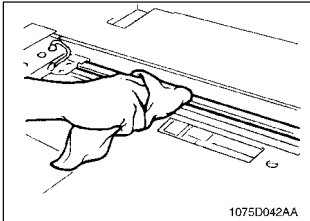
NOTE

The surface of the Original Glass is coated with conductive material. Do not use a wax-based detergent. An alcohol-dampened cloth may be used if the glass is seriously contaminated.

(2) Cleaning of the Scanner Rails/Bushings



1. Remove the Original Glass.
2. Using a soft cloth, wipe clean the Scanner Rails/Bushings (at the front).

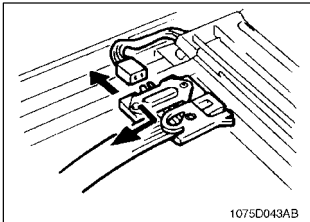


3. Using a soft cloth, wipe clean the Scanner Rails/Bushings (in the rear).

NOTE

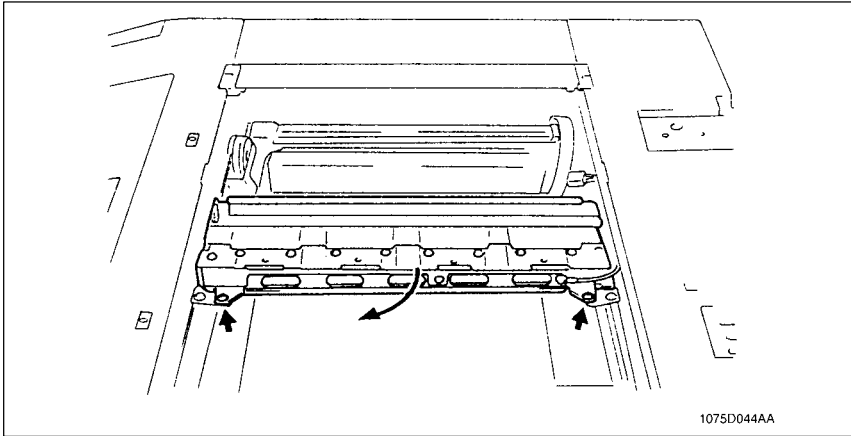
Apply lubricant to the Scanner Rails/Bushings after they have been cleaned.

(3) Removal of the Scanner

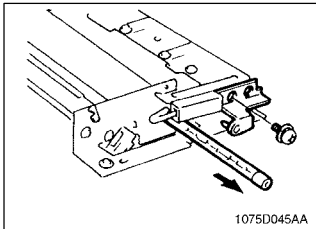


1. Remove the Original Glass.
2. Remove the Exposure Lamp flat cable holder.
3. Unplug one connector.

- Remove two screws shown and turn the Scanner sideways to remove the Scanner from the copier.



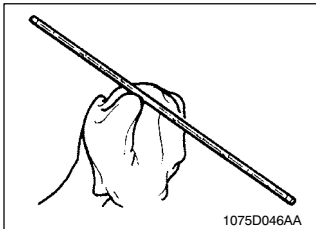
(4) Cleaning of the Exposure Lamp



- Remove the Scanner.
- Remove one screw and the Exposure Lamp terminal.
- Remove the Exposure Lamp.

NOTE

When the Exposure Lamp has been cleaned or replaced, be sure to make the "adjustment of exposure level in the Auto Exposure mode."

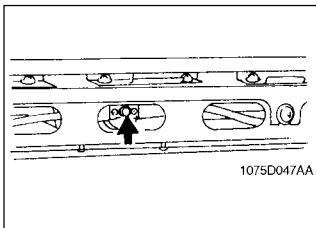


- Using a soft cloth dampened with alcohol, clean the lamp by gently wiping its surface in one direction.

NOTE

When reinstalling the lamp, point the protruding navel of the lamp toward the opening in the Lamp Reflector so that the protruding navel will not hit against the Lamp Reflector.

(5) Resetting of the Exposure Lamp Thermal Switch

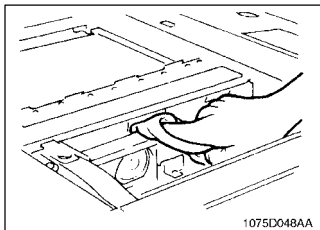


If the Exposure Lamp Thermal Switch has cut off the circuit, press the red reset button shown, which resets the Exposure Lamp Thermal Switch.

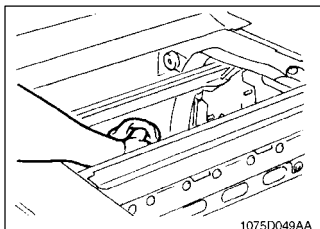
NOTE

Perform this step after unplugging the power cord.

(6) Cleaning of the 1st, 2nd, and 3rd Mirrors and Original Size Detecting Sensors



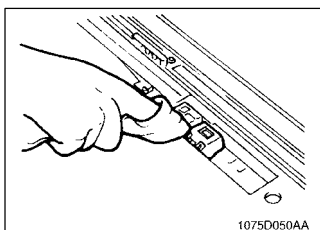
1. Remove the Original Glass.
2. Wipe clean the 1st Mirror with a soft cloth.



3. Wipe clean the 2nd and 3rd Mirrors with a soft cloth.

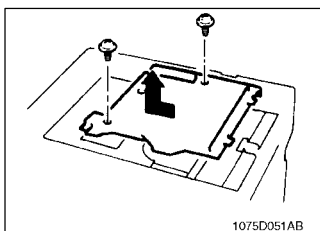
NOTE

After the 1st, 2nd, and 3rd Mirrors have been cleaned, make the "adjustment of exposure level in the Auto Exposure mode."

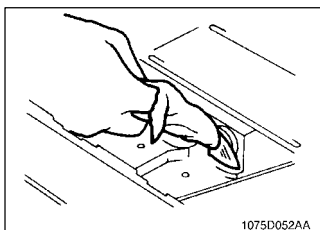


4. Clean the Original Size Detecting Sensors with a soft cloth.

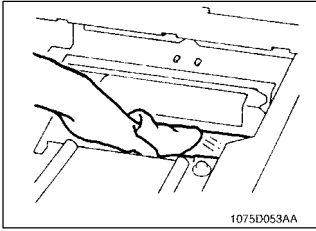
(7) Cleaning of the Lens and 4th and 5th Mirrors



1. Remove the Original Glass.
2. Remove two screws and the Optical Cover.



3. Wipe clean the Lens with a soft cloth.
- * If the Lens is hard to clean, move it in the enlargement or reduction direction as necessary.

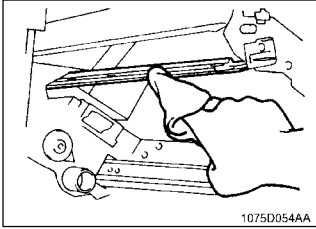


- Wipe clean the 4th and 5th Mirrors with a soft cloth.

NOTE

After the Lens and 4th and 5th Mirrors have been cleaned, make the "adjustment of exposure level in the Auto Exposure mode."

(8) Cleaning of the 6th Mirror and Image Erase Lamp

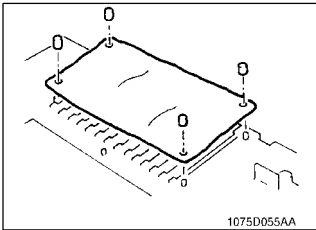


- Open the Front Lower Door, slide out the PC Unit and release and swing up the Upper Half of the copier.
- Wipe clean the 6th Mirror and Image Erase Lamp with a soft cloth.

NOTE

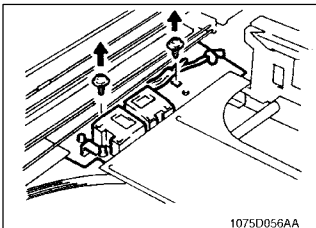
After the 6th Mirror has been cleaned, make the "adjustment of exposure level in the Auto Exposure mode."

(9) Replacement of the Cooling Fan Filter

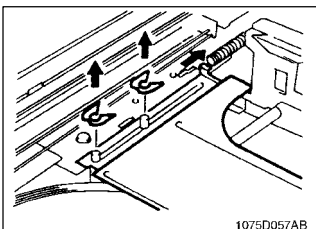


- Remove the Left Upper Cover.
- Remove four rubber stoppers and replace the Cooling Fan Filter.

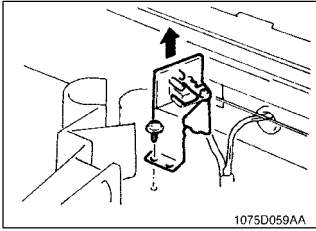
(10) Removal of the Lens Drive Cable



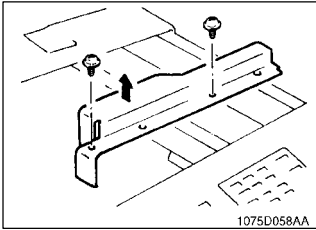
- Remove the Original Glass and Optical Cover.
- Remove two screws to free the Original Size Detecting Sensors mounting bracket.



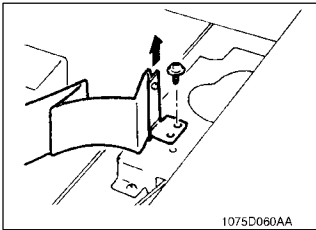
- Remove one spring, two E-rings, and the Lens Cover.



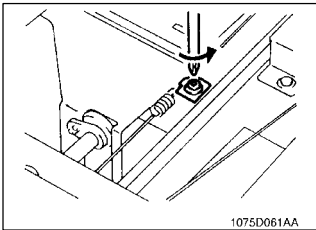
4. Remove one screw and the AE Sensor mounting bracket.



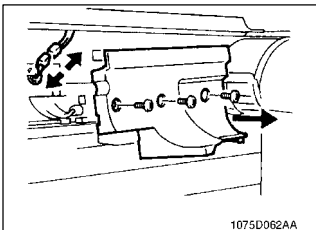
5. Remove two screws and the Lens Drive Cover.



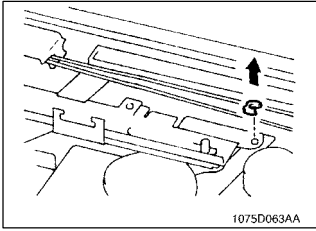
6. Remove one screw and the Light Blocking Mylar mounting bracket.



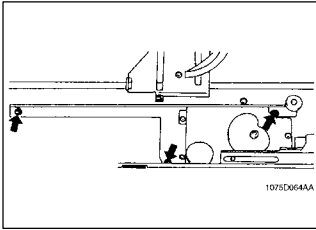
7. Remove one screw that secures the Lens Drive Cable.



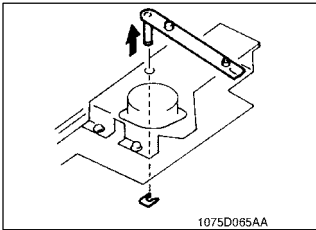
8. Open the Front Upper Door, swing out the Toner Bottle Holder and remove three screws and the cover shown.
9. Unplug the connector of the Lens X Direction Drive Motor.



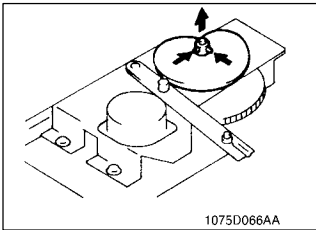
10. Snap off the E-ring that secures the 4th/5th Mirrors Moving Lever.



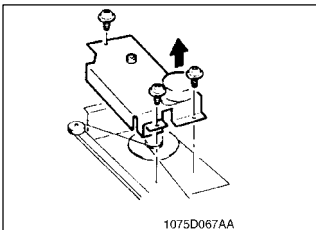
11. Remove three screws and the Lens Drive Motor Assy.



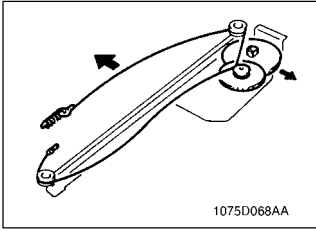
12. Snap off the E-ring and remove the 4th/5th Mirrors Positioning Lever.



13. Loosen the screw that secures the cam and remove the cam.

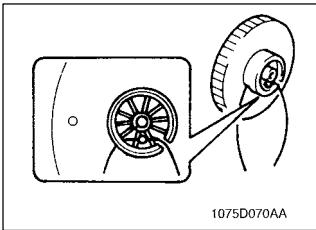
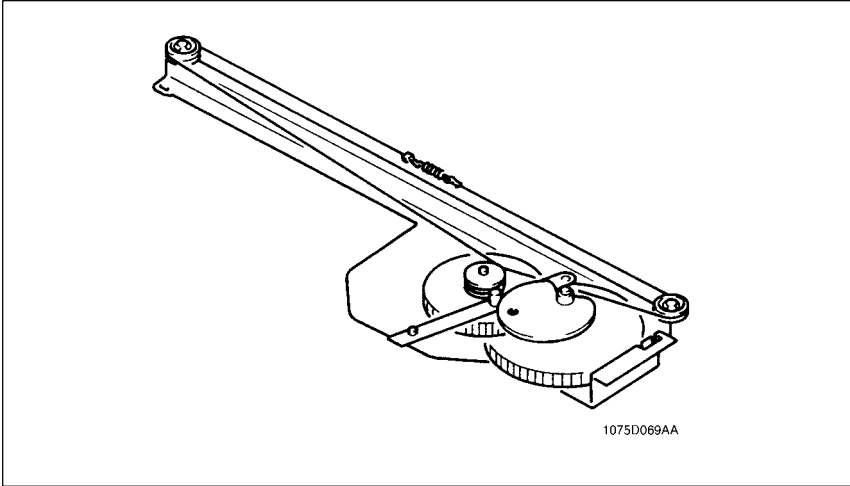


14. Remove three screws and the upper frame.

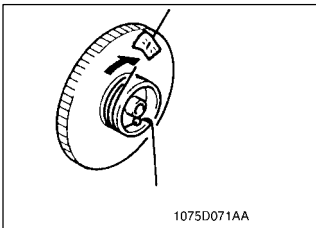


15. Work off the cable and remove the drive gear.

(11) Winding of the Lens Drive Cable



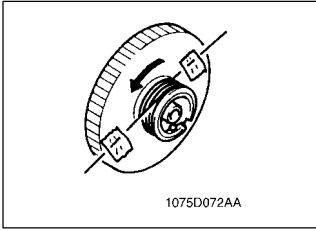
1. Hold the Cable Drive Gear with the bead at the bottom.



2. Wind the length of the cable with a bead on its end four and 1/2 turns clockwise around the Cable Drive Gear, working from the back to the front side. Then, tape it.

NOTE

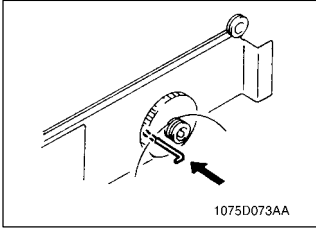
When winding the cable, make sure that no part of the cable rides on the other.



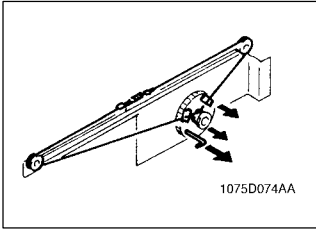
3. Wind the other length of the cable two and 1/2 turns counterclockwise around the Cable Drive Gear, working from the front to back side. Then, tape it.

NOTE

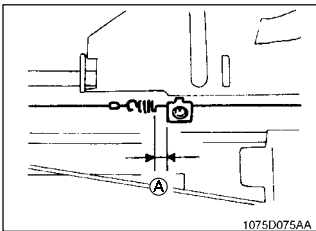
When winding the cable, make sure that no part of the cable rides on the other.



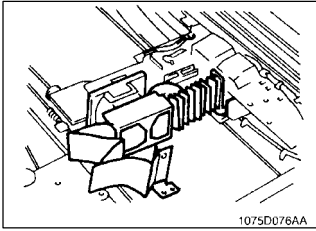
4. Place the Cable Drive Gear onto the lower frame and insert a wrench into the hole to position the gear.



5. Wind both lengths of the cable around the pulleys and pull the spring to connect the two lengths.
6. Remove the wrench and peel off the two pieces of tape.
7. Mount the Lens Drive Motor Assy by reversing the order of disassembly. Do not, however, secure the cam into position.



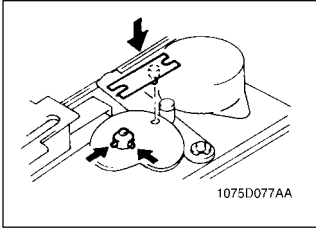
* When securing the cable to the Lens Base Plate, make sure that dimension A shown measures 4 ± 1 mm.



8. Turn ON the Power Switch to bring the Lens to the full size position.

NOTE

Be careful, the Scanner moves when the Power Switch is turned ON.

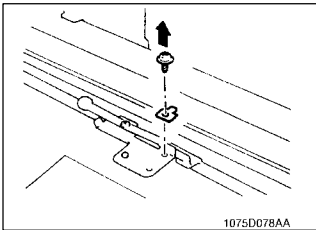


9. Install the 4th/5th Mirrors Positioning Jig and, when the hole in the cam is aligned with the pin on the jig, tighten the set screw.

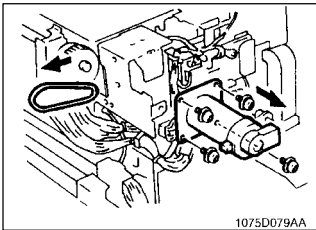
NOTE

From a safety viewpoint, turn OFF the Power Switch before tightening the set screw that secures the cam.

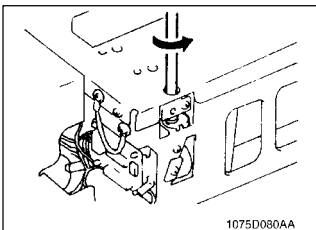
(12) Removal of the Scanner Drive Cables



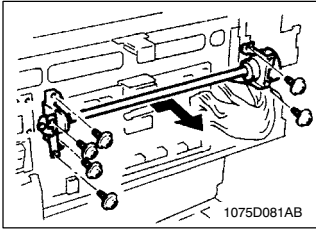
1. Remove the ADF, Rear Upper Cover, Upper Rear Cover, Control Panel Unit, Right Upper Cover, Left Upper Cover, Upper Left Cover, and Original Glass.
2. Remove the Scanner.
3. Remove the Scanner positioning screws, one each at the front and rear, and the Scanner fixing bracket.



4. Unplug one connector and remove four screws and the Scanner Motor.
5. Remove the timing belt.

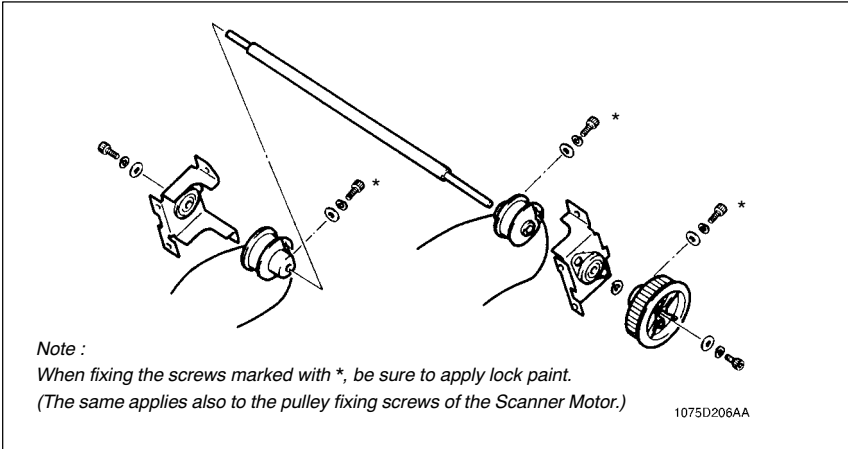


6. Using a flat-blade screwdriver, loosen the spring anchors to unhook the beads of the front and rear Scanner Drive Cables.

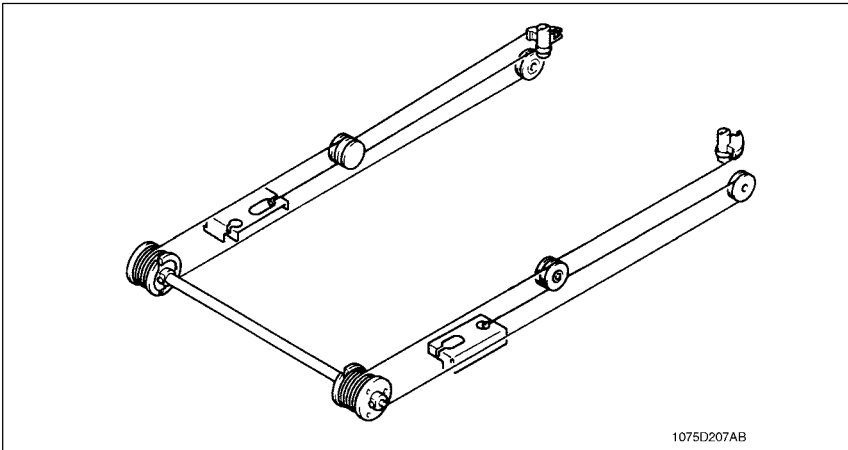


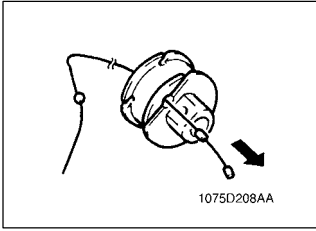
7. Remove six screws. Remove the holding brackets at the front and rear of the Scanner Drive Shaft and the Scanner Drive Shaft Assy.

8. Disassemble the Scanner Drive Shaft Assy as illustrated below.



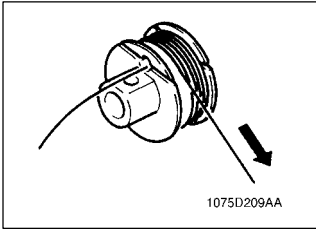
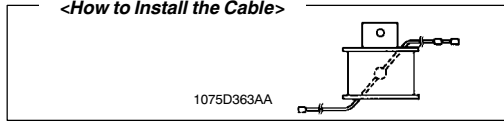
(13) Winding of the Scanner Drive Cables



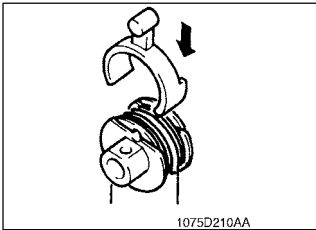


Front

1. Pass the Scanner Drive Cable into the pulley as shown so that the round bead is at the center of the pulley.

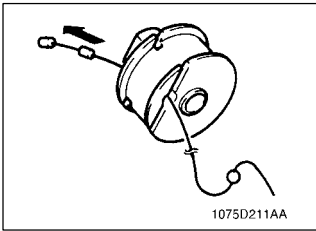


2. Holding the pulley as shown, wind the length of cable with two fixing beads clockwise five turns around the pulley, working from the back to front side.



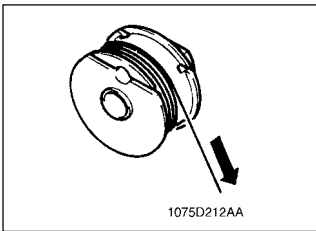
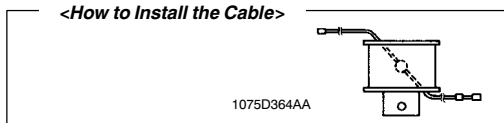
3. Wind the length of cable with only one fixing bead counter-clockwise three turns, working from the front to the back side.
Then, slip the Cable Holding Jig onto the pulley.

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

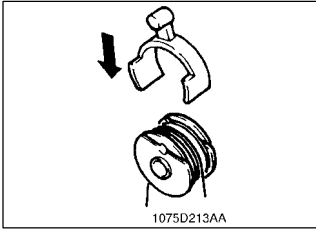


Rear

4. Pass the Scanner Drive Cable into the pulley as shown so that the round bead is at the center of the pulley.



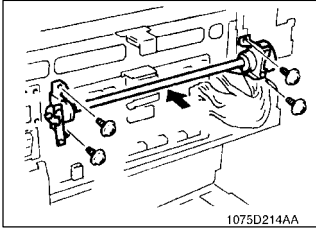
5. Holding the pulley as shown, wind the length of cable with two fixing beads clockwise five turns around the pulley, working from the back to front side.



6. Wind the length of cable with only one fixing bead counter-clockwise three turns, working from the front to the back side. Then, slip the Cable Holding Jig onto the pulley.

NOTE

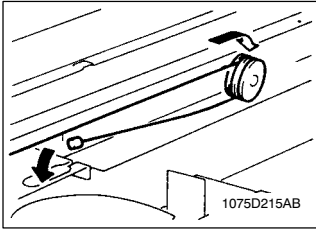
Make sure that no part of the cable rides on the other.



7. Assemble the Scanner Drive Shaft Assy and install it in the copier.

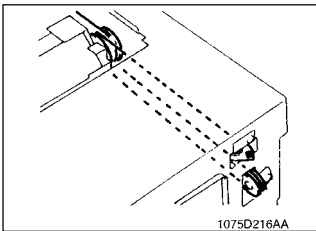
NOTE

When securing the Scanner Drive Shaft Assy, press it against the optical frame.



8. Loop the length of cable with one fixing bead around the outer pulley for the 2nd/3rd Mirrors Carriage and hook the fixing bead to the adjustable anchor.

*The illustration shows the front side of the copier. The same applies to the rear side.



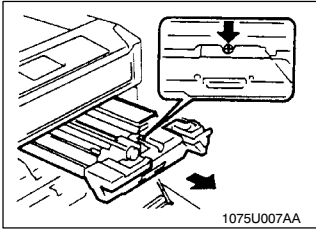
9. Loop the length of cable with two fixing beads around the pulley on the frame and the inner pulley for the 2nd/3rd Mirrors Carriage and hook the fixing bead to the spring anchor.

*The illustration shows the front side of the copier. The same applies to the rear side.

10. Remove the Cable Holding Jigs.
11. Mount the Scanner Motor and timing belt and make the Scanner Motor timing belt adjustment. (For details, see "ADJUSTMENT.")
12. Mount the Scanner and perform the "Focus-Positioning of the Scanner and 2nd/3rd Mirrors Carriage." (For details, see "ADJUSTMENT.")

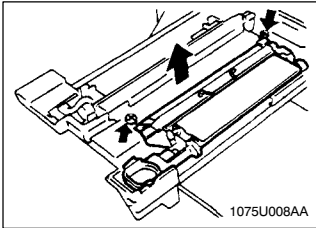
2-5. PC UNIT

(1) Sliding Out the PC Unit



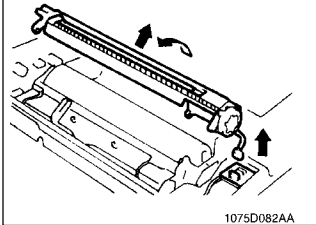
1. Open the Front Lower Door.
2. Loosen one screw and slide out the PC Unit.

(2) Removal of the Developing Unit



1. Slide out the PC Unit.
 2. Loosen two screws and remove the Developing Unit.
- * For the Developing Unit, see 2-7. DEVELOPING UNIT.

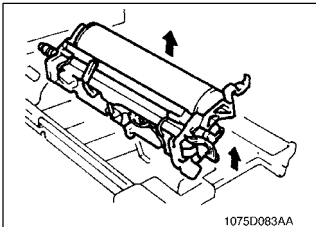
(3) Removal of the PC Drum Charge Corona



1. Remove the Developing Unit.
2. Unplug one connector and remove the PC Drum Charge Corona.

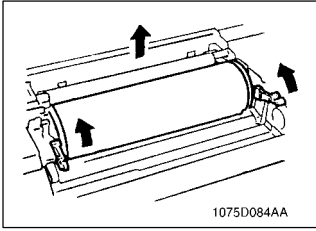
* For the PC Drum Charge Corona, see 2-6. PC DRUM CHARGE CORONA AND IMAGE TRANSFER/PAPER SEPARATOR CORONAS.

(4) Removal of the Cleaning Unit



1. Remove the PC Drum Charge Corona.
2. Unplug one connector and remove the Cleaning Unit.

(5) Replacement of the PC Drum

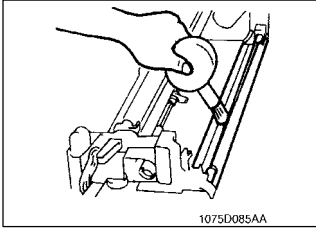


1. Remove the PC Drum Charge Corona.
2. Unlock two PC Drum Lock Levers and remove or replace the PC Drum.

NOTE

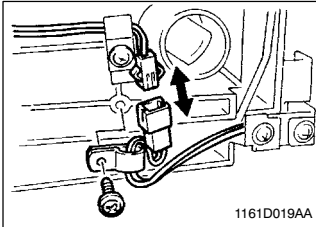
When the PC Drum has been replaced, clear the "PC Drum" count of "Port/Option 3/3" available from "Counter" under the Tech. Rep. mode and make the adjustment of exposure level in the Auto Exposure mode.

(6) Cleaning of the Pre-Image Transfer Erase Lamp

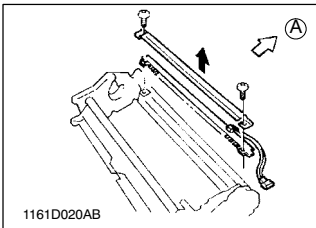


1. Remove the PC Drum.
 2. Blow all foreign matter off the Pre-Image Transfer Erase Lamp with a blower brush.
- * If the lamp is seriously contaminated, wipe its surface clean of dirt with a soft cloth.

(7) Removal of the Pre-Image Transfer Erase Lamp



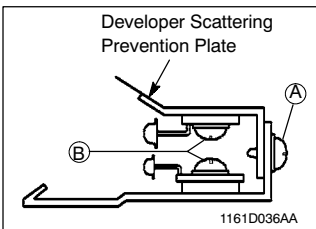
1. Remove the PC Drum and the Cleaning Unit.
2. Remove one screw and cord clamp.
3. Unplug one connector (two for EP8015).



EP6001

4. Remove two screws from the Developer Scattering Prevention Plate and remove the Pre-Image Transfer Erase Lamp.

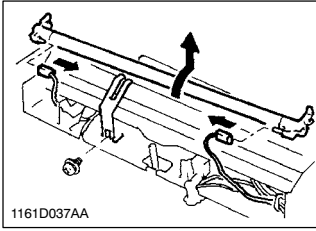
* When reinstalling the Developer Scattering Prevention Plate, secure it in position while pressing it outward (in the direction of (A)).



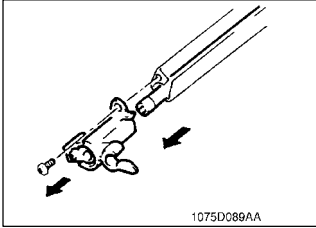
EP8015

4. Remove screw (A) shown and remove the Developer Scattering Prevention Plate.
5. Remove two screws (B) shown and remove the two Pre-Image Transfer Erase Lamps.

(8) Removal of the Main Erase Lamp

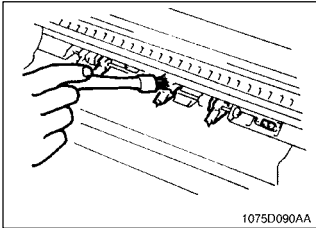


1. Remove the PC Drum.
2. Remove one screw and flat spring.
3. Unplug two connectors and remove the Main Erase Lamp holder.



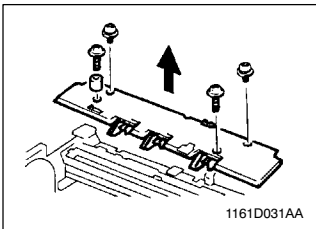
4. Remove one screw and the Main Erase Lamp.

(9) Cleaning of the Pre-Cleaning Erase Lamp, Toner Antispill Seal, AIDC Sensor, and PC Drum Paper Separator Fingers



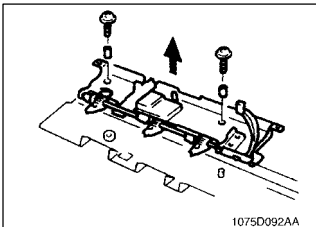
1. Remove the PC Drum.
2. Using a brush or soft cloth, clean the Pre-Cleaning Erase Lamp, Toner Antispill Seal, AIDC Sensor, and PC Drum Paper Separator Fingers.

(10) Disassembly of the PC Drum Paper Separator Fingers Assy



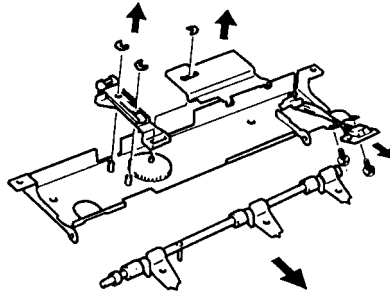
1. Remove the PC Drum.
2. Remove the Cleaning Unit.
3. Turn over the Cleaning Unit, remove four screws, unplug one connector, and remove the PC Drum Paper Separator Fingers Assy.

* One of the screws is provided with a collar. Be careful not to lose it.



4. Remove two screws and PC Drum Paper Separator Fingers mounting bracket.

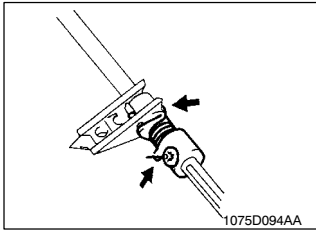
5. Remove the PC Drum Paper Separator Fingers and AIDC Sensor as illustrated below.



1075D093AB

NOTE

During removal and installation of the PC Drum Paper Separator Fingers, use care not to damage the tips of the fingers (scratches, bend, etc.). Be also careful not to hurt yourself with the tips of the fingers.



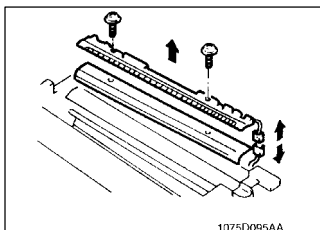
1075D094AA

6. When reinstalling the PC Drum Paper Separator Fingers, be sure to rehook the torsion spring correctly as shown. After reinstallation, check that the fingers move smoothly.

NOTE

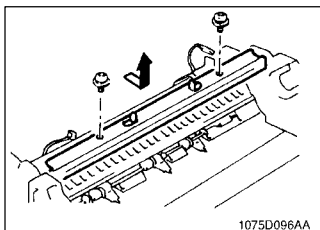
Whenever the PC Drum Paper Separator Fingers have been removed and reinstalled, be sure to adjust the position of the PC Drum Paper Separator Fingers. For details, see "ADJUSTMENT."

(11) Removal of the Toner Antispill Seal and Pre-Cleaning Erase Lamp

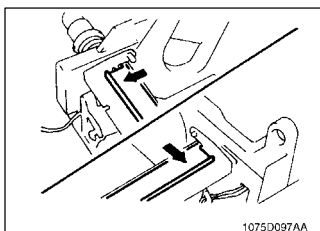


1. Remove the PC Drum Paper Separator Fingers Assy.
2. Remove two screws shown.
3. Unplug one connector and remove the Toner Antispill Seal and Pre-Cleaning Erase Lamp.

(12) Replacement of the Cleaning Blade



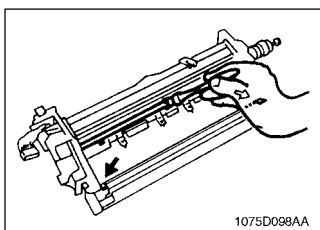
1. Remove the PC Drum and Main Erase Lamp.
2. Remove two screws and the Cleaning Blade and replace it.



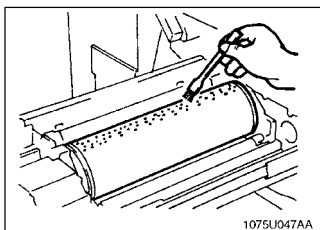
NOTE

When installing the Cleaning Blade, press it against the mounting bracket.

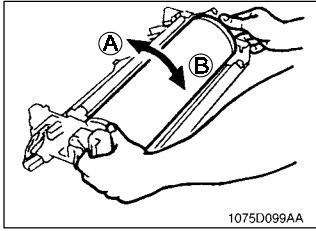
When the Cleaning Blade has been replaced, perform the following steps.



1. Before installing the PC Drum, apply lubricant (shipped with the new Cleaning Blade) to the cleaning felt pads at both ends of the PC Drum. Also apply toner to the entire surface of the Cleaning Blade.

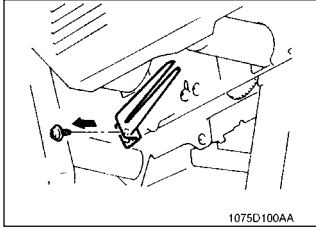


2. Install the PC Drum and apply a thin coat of toner to the surface of the PC Drum.



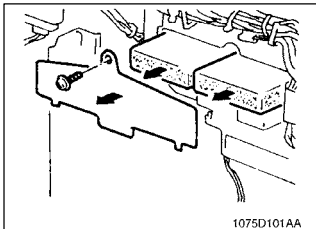
3. Holding onto both ends of the PC Drum, turn the PC Drum 1/2 turn in the direction of arrow A, then turn it one turn in the direction of arrow B.
4. Reinstall the PC Unit and run the FE operation (Blade Priming) of "Function" available from the Tech. Rep. mode.

(13) Replacement of the PC Ground Plate



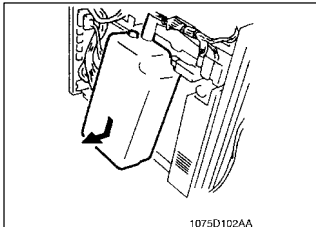
1. Open the Front Lower Door and release and swing up the Upper Half of the copier.
2. Remove one screw and the PC Ground Plate. Replace the PC Ground Plate.

(14) Replacement of the Ozone Filter



1. Remove the Rear Lower Cover.
2. Remove one screw and the Ozone Filter Cover.
3. Pull out the Ozone Filter and replace it.

(15) Replacement of the Toner Collecting Bottle



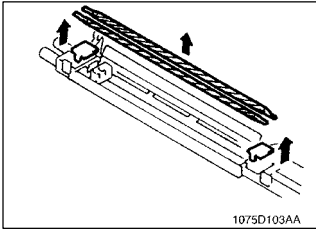
1. Remove the Rear Lower Cover.
2. Remove the Toner Collecting Bottle and replace it.

NOTE

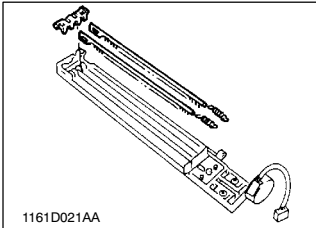
When the Toner Collecting Bottle has been replaced, clear the "Toner Collect" count of "Consumable" available from "Counter" under the Tech. Rep. mode.

2-6. PC DRUM CHARGE CORONA AND IMAGE TRANSFER/PAPER SEPARATOR CORONAS

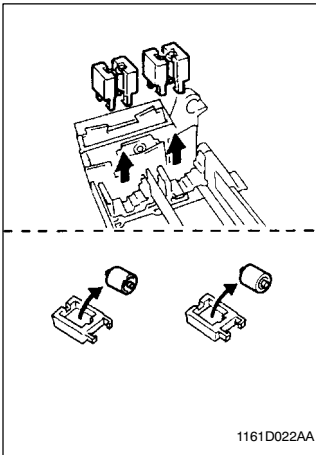
(1) Replacement of the PC Drum Charge Comb Electrode and Cleaners



1. Remove the PC Drum Charge Corona.
2. Remove the grid meshes.
3. Remove the holder covers at the front and rear.

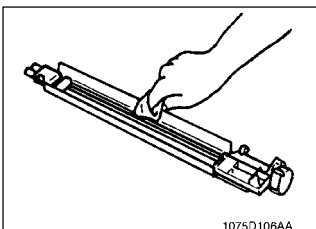


4. Remove the cleaner cover.
5. Extend the springs and remove the comb electrodes.



6. Remove the cleaner assy and remove the cleaning rolls.

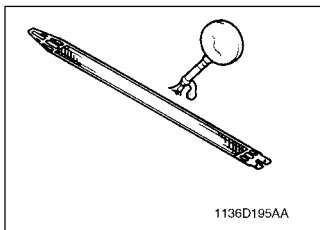
(2) Cleaning of the PC Drum Charge Corona Housing



Using a soft cloth dampened with alcohol, wipe clean the corona housing.

* Use care when cleaning the housing, as it is easy to deform.

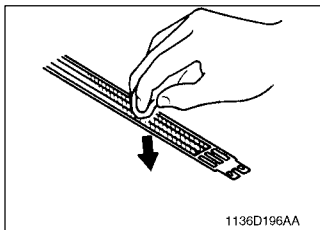
(3) Cleaning and Replacement of the Grid Mesh



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

NOTE

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

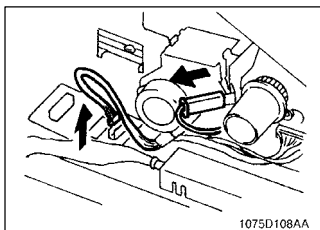


NOTE

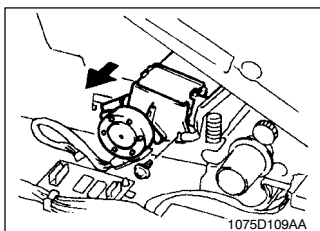
Place the Grid Mesh on a flat surface and sweep the cloth along the mesh.

Do not touch the cleaned Grid Mesh with bare hands.

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

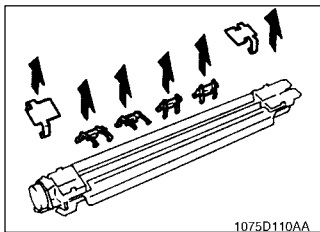


1. Open the Front Lower Door.
2. Remove the Image Transfer Cover.
3. Unplug the connector of the Pre-Image Transfer Guide Plate and that of the Image Transfer/Paper Separator Charge Wire Cleaning Motor.

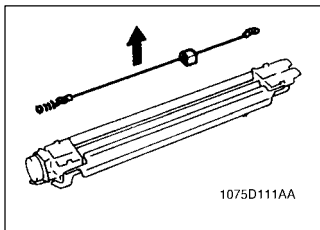


4. Remove one screw and the Image Transfer/Paper Separator Coronas.

(5) Replacement of the Image Transfer/Paper Separator Coronas Wires and Wire Cleaners

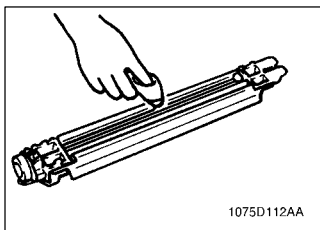


1. Remove the Image Transfer/Paper Separator Coronas.
2. Remove the holder covers at the front and rear and four paper guides.



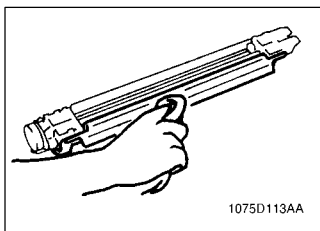
3. Extend the corona wire spring and remove the corona wire and wire cleaner.

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



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

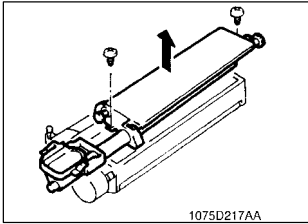
(7) Cleaning of the Pre-Image Transfer Guide Plate



Using a soft cloth dampened with alcohol, wipe the guide plate clean of dirt.

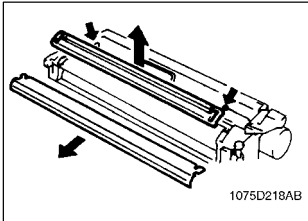
2-7. DEVELOPING UNIT

(1) Removal of the Sub Hopper

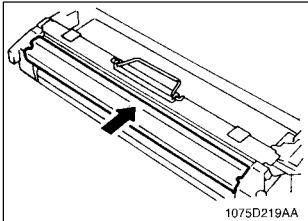


1. Remove the Developing Unit.
2. Remove two screws and the Sub Hopper.

(2) Disassembly of the Developing Unit and Replacement of Parts

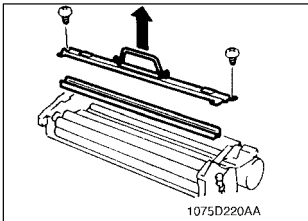


1. Remove the Sub Hopper.
2. Loosen two screws and the Developer Scattering Prevention Plate.
3. Remove the guide.



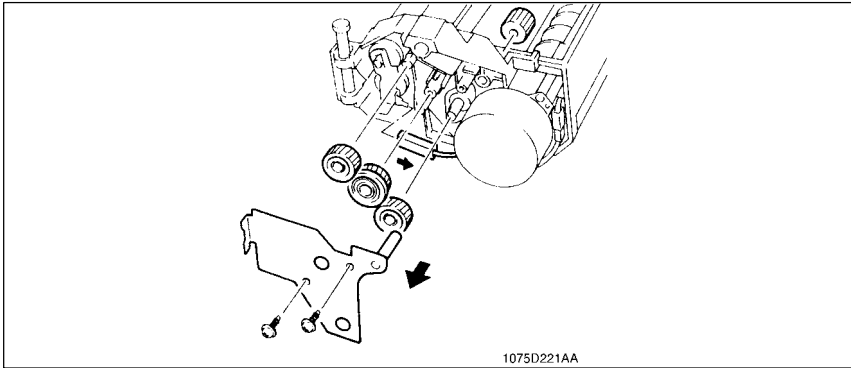
NOTE

When reinstalling the Developer Scattering Prevention Plate, press it against the Developing Unit.

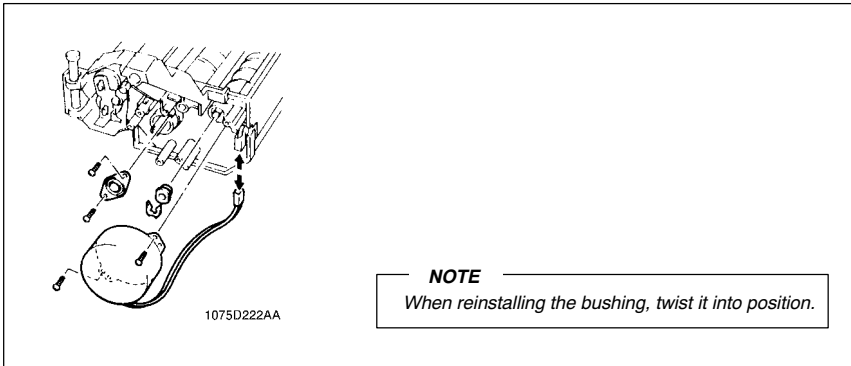


4. Remove two screws and the handle.
5. Remove the Doctor Blade.

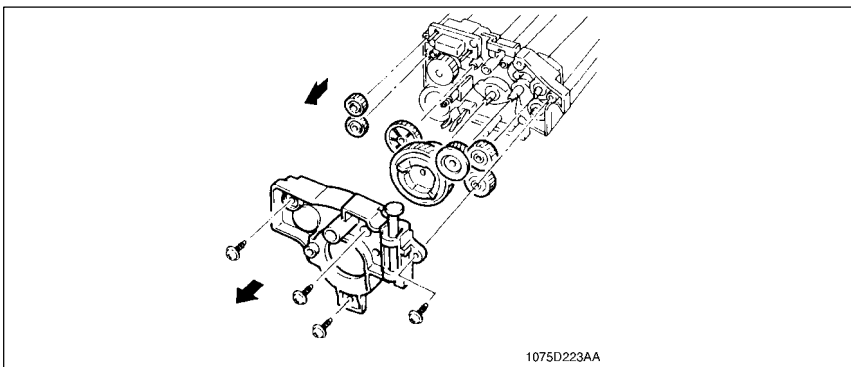
6. Remove two screws and the gear holder at the front of the Developing Unit.
7. Unplug one connector and remove four gears.



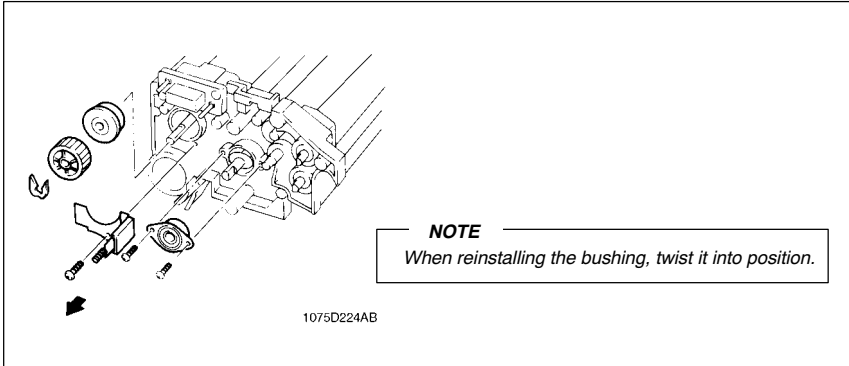
8. Unplug one connector, remove two screws and the Sub Hopper Toner Replenishing Motor.
9. Snap off the E-ring and remove the bushing for the Developer Conveying/Agitating Screw.
10. Remove two screws and the bushing for the Bucket Roller.



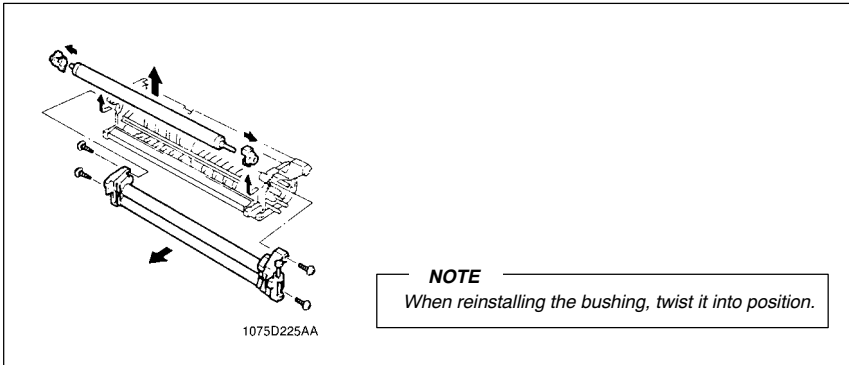
11. Remove four screws and the gear holder in the rear of the Developing Unit.
12. Remove seven gears (three shafts).



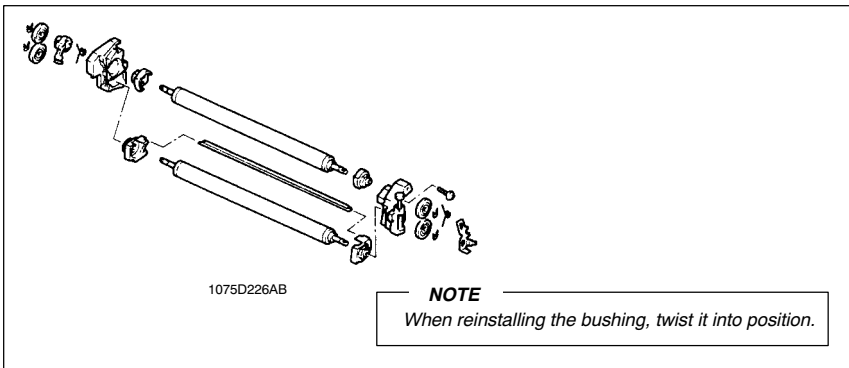
13. Remove the E-ring and gear. Remove one screw and the bias contact plate. Then, remove the bushing for the Developer Conveying/Agitating Screw.
14. Remove two screws and the bushing for the Bucket Roller.



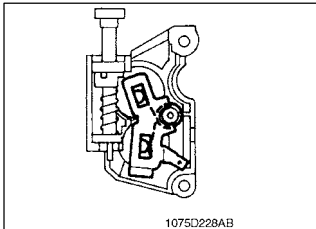
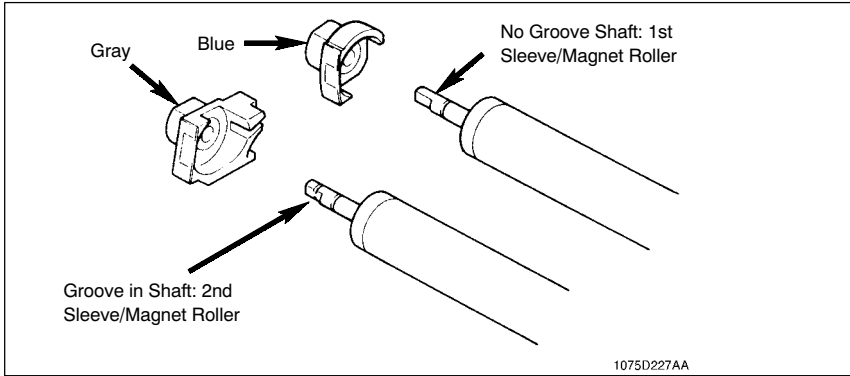
15. Remove two screws each at the front and rear and the 1st/2nd Sleeve/Magnet Rollers Assy.
16. Remove the Toner Replenishing Sleeve/Magnet Roller and the bushings on the front and rear.



17. Disassemble the 1st/2nd Sleeve/Magnet Rollers Assy as illustrated below.

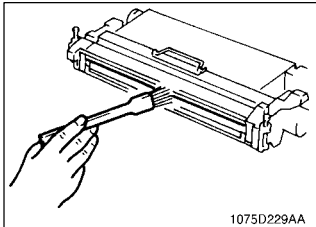


* Identifying the 1st Sleeve/Magnet Roller and its Bushing from the 2nd Sleeve/Magnet Roller and its Bushing



* Install the spring and developing bias terminal as illustrated on the left.

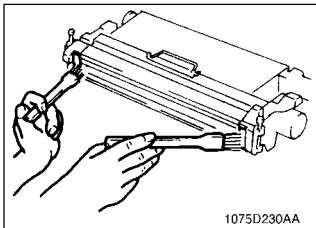
(3) Cleaning and Replacement of the Developer Scattering Prevention Seal



Using a brush, whisk dust and dirt off the seal.

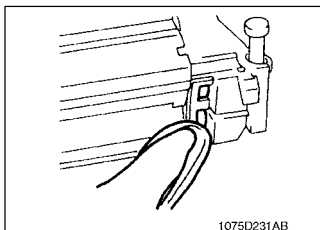
* To replace the seal, first remove the Developer Scattering Prevention Plate.

(4) Cleaning and Replacement of the Side Seals



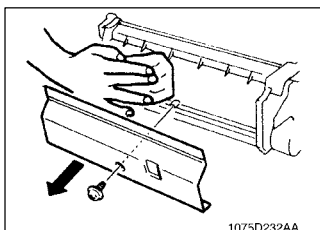
Using a brush, whisk dust and dirt off the side seals.

(5) Cleaning of the Ds Positioning Collars



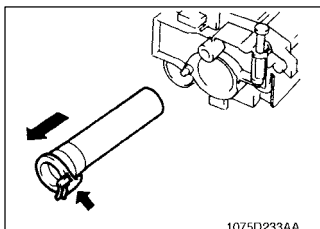
Using a soft cloth dampened with alcohol, wipe the Ds Positioning Collar clean of dirt.

(6) Cleaning of the Duct



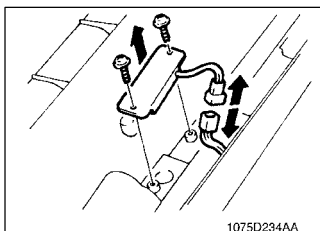
1. Remove one screw and the duct cover.
2. Using a brush, whisk dust and dirt off the duct and the exterior of the Developing Unit and, using a soft cloth dampened with alcohol, wipe clean the surfaces.

(7) Replacement of the Air Filter



Press the lock of the Air Filter, slide out and replace the Air Filter.

(8) Removal of the ATDC Sensor

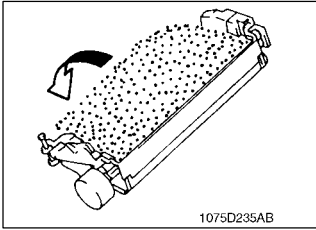


1. Remove the duct cover and sealing material.
2. Unplug one connector, remove two screws and the ATDC Sensor.

NOTE

When the ATDC Sensor has been replaced, change the developer at the same time.

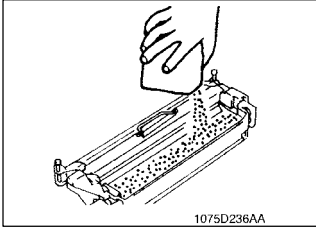
(9) Replacement of the Developer



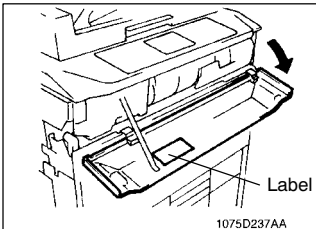
1. Remove the Sub Hopper Assy, Developer Scattering Prevention Plate, guide, handle, and the Doctor Blade.
2. Tilt the Developing Unit and, turning the drive gear, dump the developer out of the unit. Vacuum the developer remaining in the unit.

NOTE

Since vacuuming the developer generates static electricity, be sure first to remove the ATDC Sensor.



3. Reinstall the Doctor Blade, handle, guide, and Developer Scattering Prevention Plate
4. Pour fresh Starter evenly into the chamber.



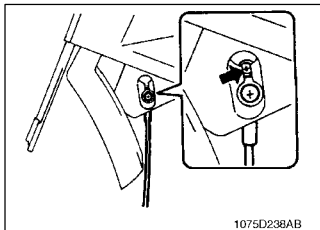
5. Reinstall the Sub Hopper Assy and install the Developing Unit in the copier. Then, make the ATDC adjustment and adjustment of exposure level in the Auto Exposure mode.

NOTE

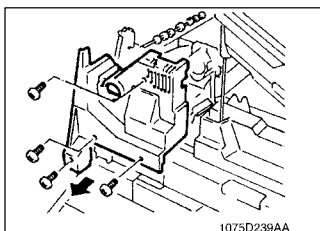
After the ATDC adjustment, check the data for "ATDC Level" of "Level History" available from the Tech. Rep. mode and enter the data onto the label on the inside of the Front Upper Door.

2-8. FUSING UNIT

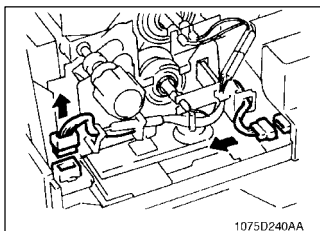
(1) Removal of the Fusing Unit



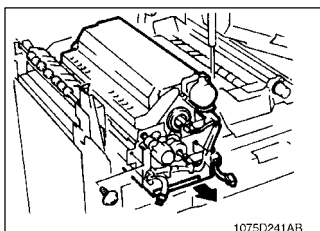
1. Open the Front Lower Door and release and swing up the Upper Half of the copier.
2. Loosen the screw shown and remove the Upper Paper Separator Finger Raising Wire.



3. Remove four screws and the Fusing Cover.

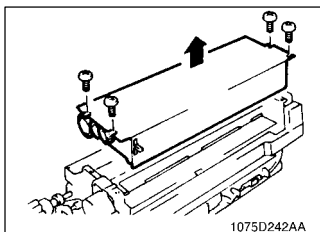


4. Unplug two connectors.



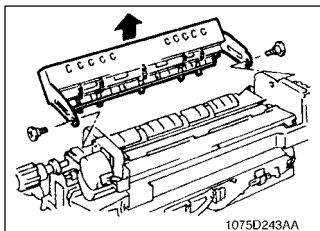
5. Remove one screw and the Fusing Unit.

(2) Disassembly of the Fusing Unit and Replacement of Parts



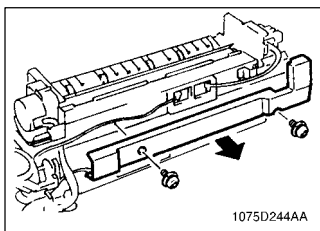
1. Remove the Fusing Unit.
2. Remove four screws and the Web Roller Assy.

* For the Web Roller Assy, see section (8).

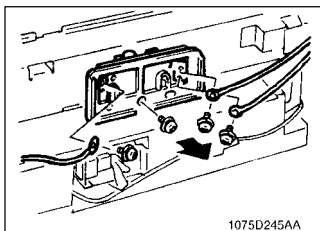


3. Remove one screw each at the front and rear and the Upper Paper Separator Fingers Assy.

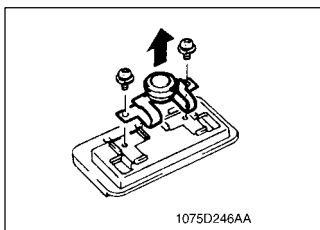
* For the Upper Paper Separator Fingers Assy, see section (3).



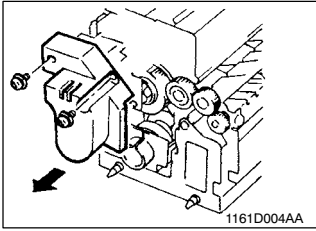
4. Remove two screws and the harness cover.



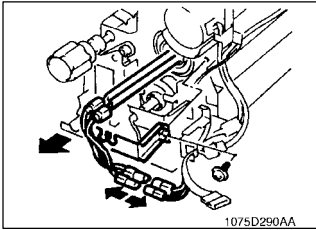
5. Remove one screw and the Fusing Roller Thermal Fuse holder.
6. Remove three screws and the heater harnesses.



7. Remove two screws and the Fusing Roller Thermal Fuse.

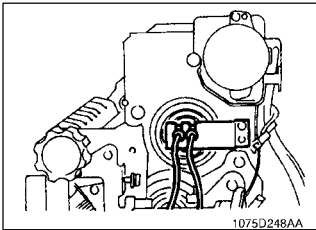


8. Remove two screws and the Fusing Unit Rear Cover.



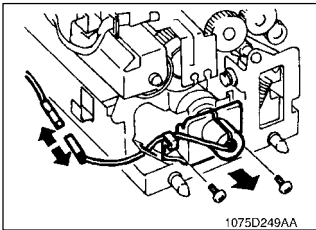
9. Unplug two connectors and remove one screw and the heater lamp holder.

10. Slide out two Upper Fusing Roller Heater Lamps.



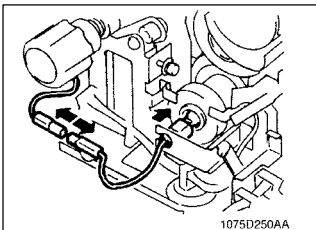
NOTE

When reinstalling the Upper Fusing Roller Heater Lamps, insert the Main Heater Lamp on the thermistor side and the Sub Heater Lamp on the paper separator finger side. Also, make sure that the end of the heater lamp on which its rating is shown faces the front.



11. Remove two screws and the heater lamp holder (rear).

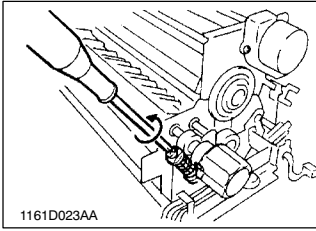
12. Unplug one connector.



13. Unplug one connector at the front. Go to the rear of the Fusing Unit and slide out the Lower Fusing Roller Heater Lamp.

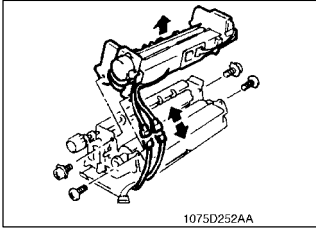
NOTE

When reinstalling the Lower Fusing Roller Heater Lamp, make sure that its end on which its rating is shown is at the rear.



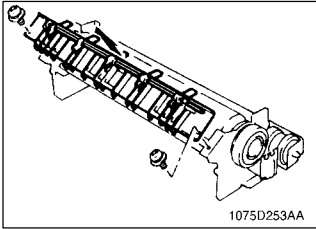
14. Loosen the roller pressure springs at the front and rear to free the Lower Fusing Roller.

* The illustration shows only the front end. Be sure also to loosen the spring in the rear.



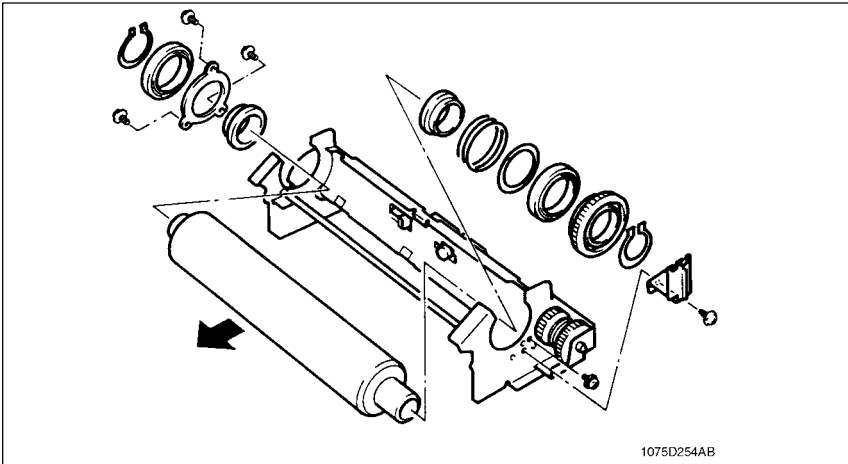
15. Unplug the connectors of the Cleaning Web Drive Motor and Upper Fusing Roller Thermistor.

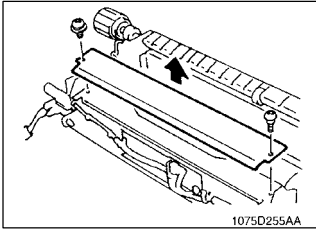
16. Remove four screws and the Upper Fusing Unit.



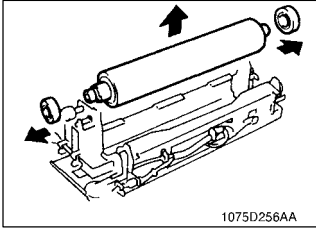
17. Remove two screws and the Lower Paper Separator Fingers Assy.

18. Disassemble the Upper Fusing Unit as illustrated.



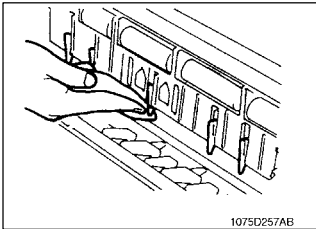


19. Remove two screws and the Pre-Fusing Guide Plate.



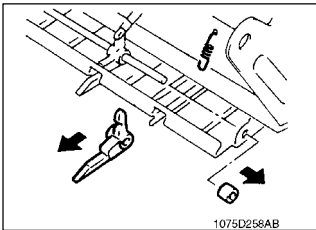
20. Remove the Lower Fusing Roller and bearings.

(3) Cleaning and Replacement of the Upper Paper Separator Fingers



1. Open the Front Lower Door and release and swing up the Upper Half of the copier.
2. Using a soft cloth dampened with silicone oil, wipe clean the Upper Paper Separator Fingers.

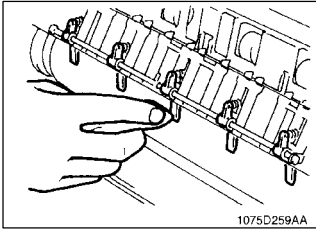
* If the fingers are seriously contaminated, first use a soft cloth dampened with alcohol, then apply silicone oil to the fingers.



Replacement

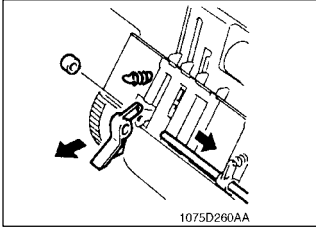
1. Remove the Upper Paper Separator Fingers Assy.
2. Unhook the finger springs, remove the rubber stopper, and slide out the fixing shaft to replace the Upper Paper Separator Fingers.

(4) Cleaning and Replacement of the Lower Paper Separator Fingers



1. Remove the Fusing Unit and loosen the roller pressure springs at the front and rear.
2. Remove two screws and swing up the Upper Fusing Unit.
3. Using a soft cloth dampened with silicone oil, wipe clean the Lower Paper Separator Fingers.

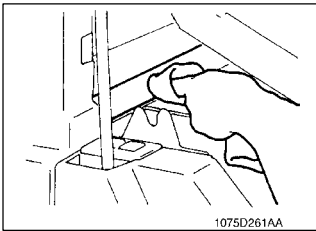
* If the fingers are seriously contaminated, first use a soft cloth dampened with alcohol, then apply silicone oil to the fingers.



Replacement

1. Remove the Fusing Unit and loosen the roller pressure springs at the front and rear.
2. Remove two screws and swing up the Upper Fusing Unit.
3. Unhook the finger springs, remove the rubber stopper, and slide out the fixing shaft to replace the Lower Paper Separator Fingers.

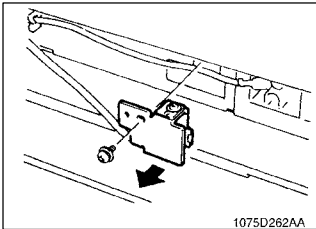
(5) Cleaning and Replacement of the Pre-Fusing Guide Plate



1. Open the Front Lower Door and release and swing up the Upper Half of the copier.
2. Using a soft cloth dampened with alcohol, wipe clean the Pre-Fusing Guide Plate.

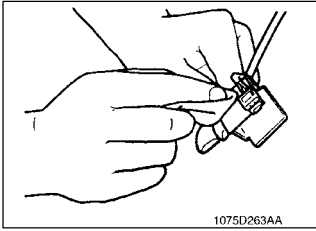
* For replacement of the Pre-Fusing Guide Plate, see section (2) "Disassembly of the Fusing Unit."

(6) Cleaning and Replacement of the Upper Fusing Roller Thermistor



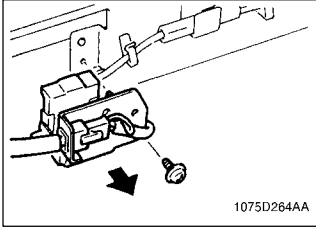
1. Remove the Fusing Unit and harness cover.
2. Unplug one connector and remove one screw and the Upper Fusing Roller Thermistor Assy.

* To replace the thermistor, remove one screw and the thermistor from the Upper Fusing Roller Thermistor Assy.

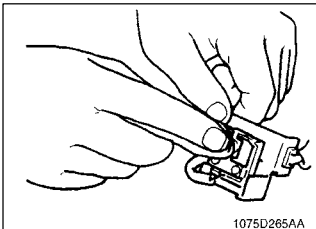


3. Using a soft cloth dampened with silicone oil, wipe clean the Upper Fusing Roller Thermistor.
- * If the thermistor is seriously contaminated, first use a soft cloth dampened with alcohol, then apply silicone oil to the thermistor.

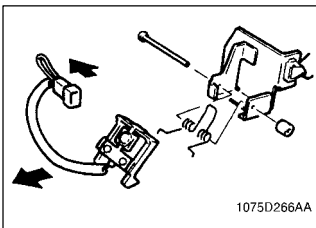
(7) Cleaning and Replacement of the Lower Fusing Roller Thermistor



1. Remove the Fusing Unit.
2. Remove one screw to free the Lower Fusing Roller Thermistor Assy.



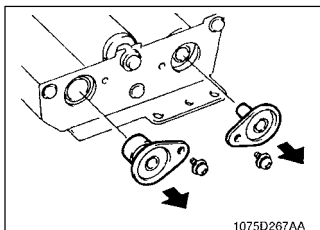
3. Using a soft cloth dampened with silicone oil, wipe clean the Lower Fusing Roller Thermistor.
- * If the thermistor is seriously contaminated, first use a soft cloth dampened with alcohol, then apply silicone oil to the thermistor.



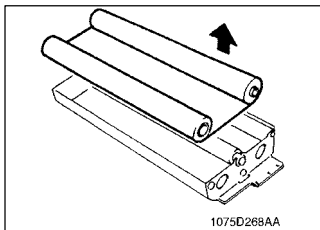
Replacement

1. Free the Lower Fusing Roller Thermistor.
2. Unplug one connector, remove the rubber stopper, and slide out the shaft to remove the Lower Fusing Roller Thermistor.

(8) Replacement of the Web Roller

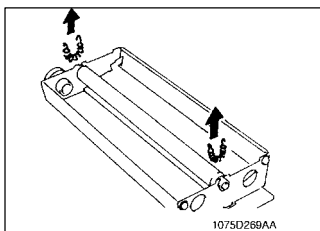


1. Remove the Fusing Unit. Remove the Web Roller Assy from the Fusing Unit.
2. Remove one screw each from the Web Roller bushing, and Web Take-Up Roller bushing.

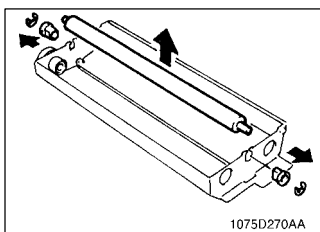


3. Remove the Web Roller and Web Take-Up Roller.

(9) Replacement of the Oil Supply/Web Feeding Roller

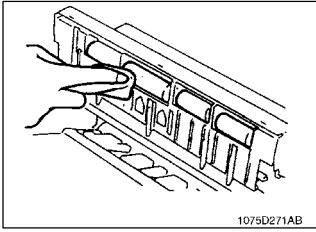


1. Remove the Web Roller and Web Take-Up Roller.
2. Remove the pressure springs at the front and rear.



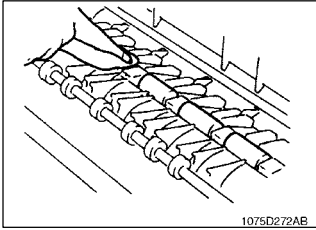
3. Remove the E-rings and bushings from the front and rear ends and remove the Oil Supply/Web Feeding Roller.

(10) Cleaning of the Upper Transport Roller



1. Open the Front Lower Door and release and swing up the Upper Half of the copier.
2. Using a soft cloth dampened with alcohol, wipe clean the Upper Transport Roller.

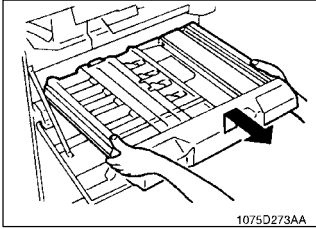
(11) Cleaning of the Lower Transport Roller



1. Open the Front Lower Door and release and swing up the Upper Half of the copier.
2. Using a soft cloth dampened with alcohol, wipe clean the Lower Transport Roller.

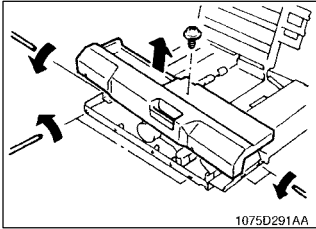
2-9. DUPLEX UNIT

(1) Removal of the Duplex Unit

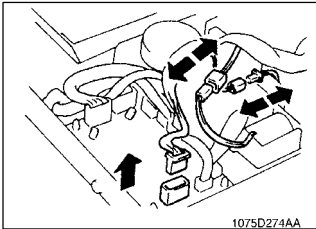


Open the Front Lower Door. Slide out the Duplex Unit and, slightly lifting it up, remove it from the copier.

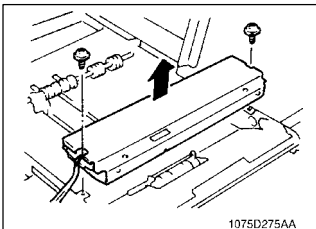
(2) Replacement of the Duplex Paper Take-Up and Feed Rolls



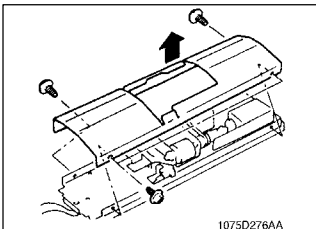
1. Remove one screw.
2. Loosen five screws and remove the Duplex Unit Cover.



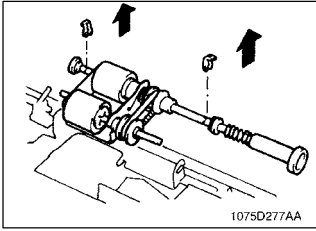
3. Unplug three connectors.



4. Remove two screws and the Duplex Paper Take-Up Roll Assy.

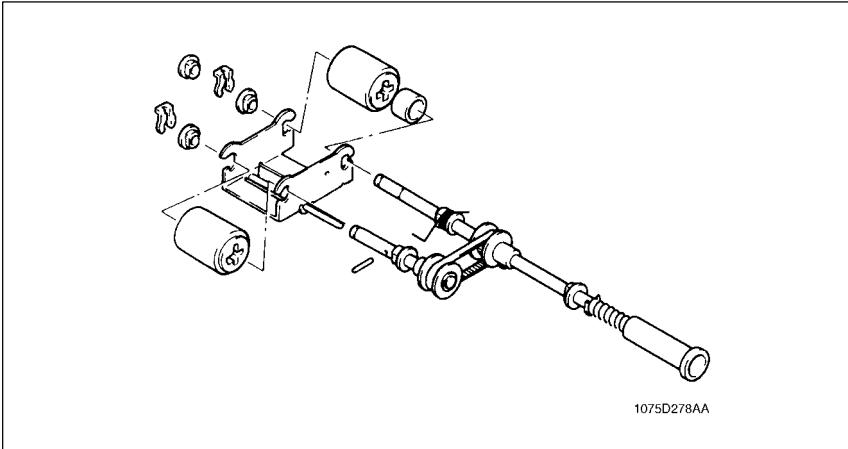


5. Remove four screws and the Duplex Paper Take-Up Assy Cover.

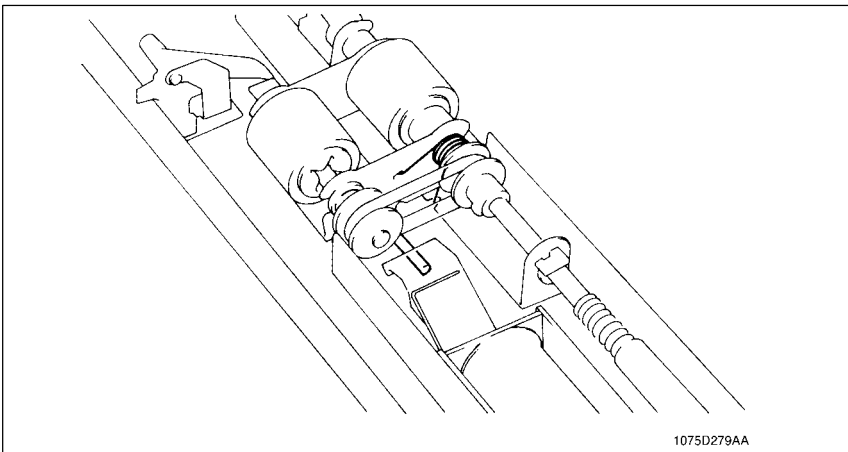


6. Snap off two C-clips and remove the Duplex Paper Take-Up Roll Assy.

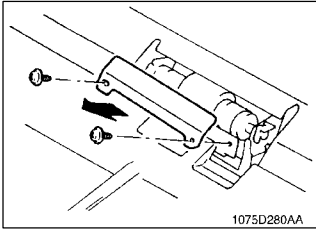
7. Disassemble the Duplex Paper Take-Up Roll Assy as illustrated below.



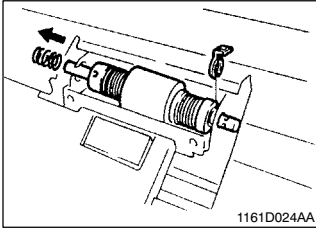
* When reassembling the Duplex Paper Take-Up Roll Assy, make sure that the torsion spring and the drive lever of the Duplex Unit Pick-Up Solenoid are installed at the correct positions.



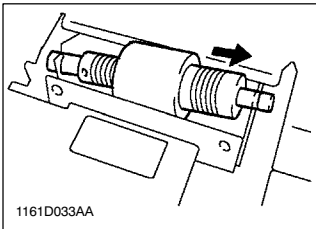
(3) Replacement of the Duplex Separator Roll Assy



1. Remove the Duplex Paper Take-Up Roll Assy.
2. Remove two screws and the Pre-Duplex Separator Roll Guide Plate.



3. Snap off the C-clip, slide the Separator Roll Assy, and unhook the spring.



4. Slide to remove the Separator Roll Assy.

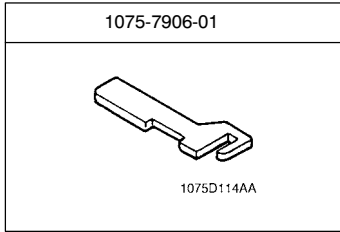
3 ADJUSTMENT

3-1. ADJUSTMENT JIGS AND TOOLS USED

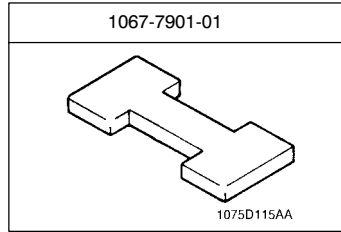
NOTE

The number above the illustration of each jig is the Jig part number.

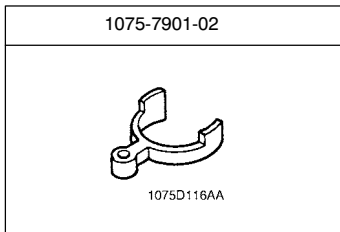
① Front Lower Door Interlock Switch Actuating Jig



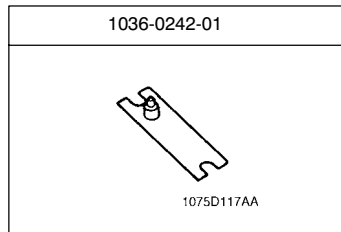
② Predrive Inhibit Switch Actuating Jig



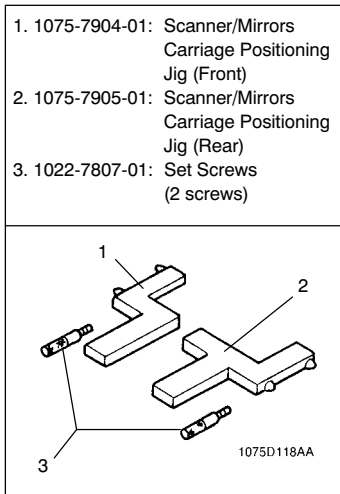
③ Scanner Drive Cable Holding Jig



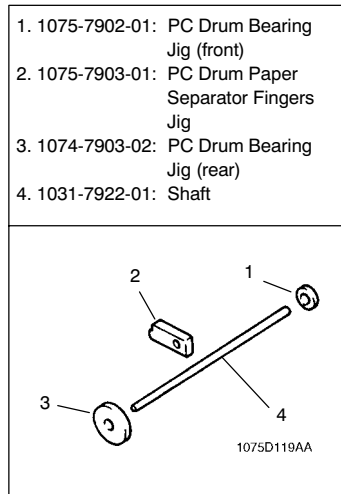
④ 4th/5th Mirrors Positioning Jig



⑤ Scanner/Mirrors Carriage Positioning Jig



⑥ PC Drum Paper Separator Fingers Jig

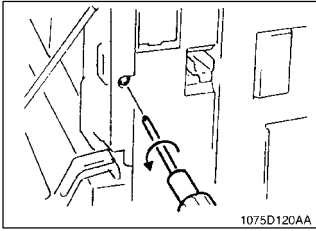


3-2. ADJUSTMENT REQUIREMENTS LIST

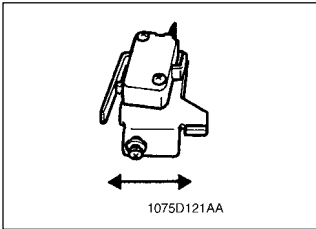
Adjustment Item	Requirements	Adjustment Point	Ref. page
Optimum exposure in the Manual Exposure mode	Kodak Gray Scale: no image of the 1st step, faint image of the 2nd step	Control panel	D-86
Crosswise direction zoom ratio, full size	($\times 1.000$) 200 ± 1.0 mm	↑	D-92
Feeding direction zoom ratio, full size	($\times 1.000$) 300 ± 1.5 mm	↑	D-94
Multi Bypass Table reference position	($\times 1.000$) 20 ± 2.0 mm	Multi Bypass Table	D-96
1st/2nd Drawers reference position	($\times 1.000$) 20 ± 2.0 mm	Drawer Positioning Plate	D-97
3rd Drawer reference position	($\times 1.000$) 20 ± 2.0 mm	Drawer Adjustment Screw	D-98
Duplex Unit reference position	($\times 1.000$) 20 ± 3.0 mm	Front/Rear Edge Guide Plate	D-99
Leading edge registration, full size	($\times 1.000$) 20 ± 2.0 mm	Control panel	D-101
Leading edge registration, reduction	($\times 0.500$) 10 ± 2.0 mm	↑	D-103
Leading edge registration, enlargement	($\times 2.000$) 40 ± 4.0 mm	↑	D-105
Leading edge registration, book second page	($\times 1.000$) 20 ± 3.5 mm	↑	D-107
Image leading edge erase width	($\times 1.000$) $0.5 \sim 6.5$ mm	↑	D-110
Image trailing edge erase width	($\times 1.000$) $0.5 \sim 7.5$ mm	↑	D-112
Image Erase Lamp position	($\times 1.000$) 1 ± 0.5 mm	Image Erase Lamp Adjusting Screw	D-114
Focusing	($\times 1.000$) Resolution 5.6 is readable	Lens Drive Cable	D-118

3-3. ADJUSTMENT OF SWITCHES

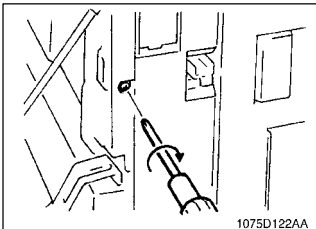
Adjustment of the Front Lower Door Interlock Switch (S2) Position



1. Open the Front Lower Door.
2. Accessing through the notch in the Right Front Cover, loosen the screw that secures the S2 Assy.



3. If S2 is OFF when the Front Lower Door is closed, move the S2 Assy towards the front. When the Front Lower Door cannot be closed because S2 is moved too much towards the front, shift it back.



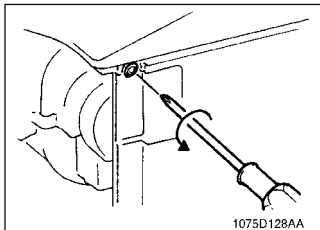
4. After the S2 Assy is moved, tighten the mounting screw.
5. Check that S2 switches ON/OFF by closing and opening the Front Lower Door.

Reference

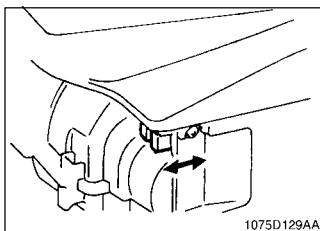
An NO type switch is used for S2.

3-4. SENSOR ADJUSTMENT

Adjustment of Front Upper Door Set Sensor (PC31) Position



1. Open the Front Upper Door.
2. Accessing through the notch in the Right Front Cover, loosen the screw by which the PC31 Assy is mounted.



3. Since PC31 and the magnet catch are located on the same mounting bracket, move them so that the Front Upper Door is securely locked when it is closed.
4. After PC31 and the magnet catch are moved, tighten the mounting screw.
5. Check that PC31 is activated and deactivated and the door locks by closing and opening the Front Upper Door.

3-5. ADJUSTMENT OF BELT TENSION

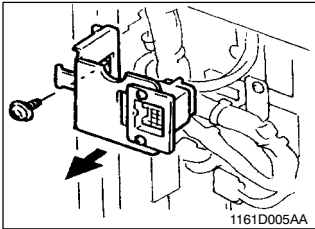
Checks after Adjustment

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

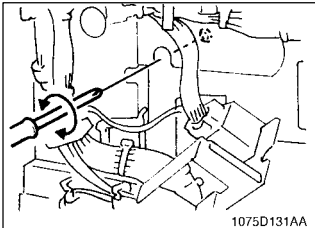
Reference

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

(1) Adjustment of the Vertical Transport Section Timing Belt

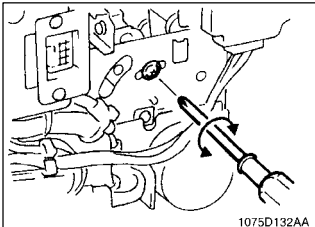


1. Remove four screws and the Rear Lower Cover.
2. Remove one screw and the Large Capacity Cassette Lattice Connector mounting bracket.



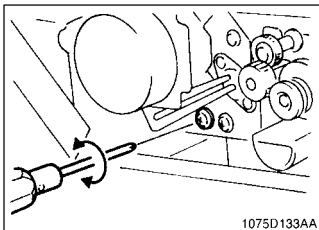
3. Through the notch, loosen screw by which the Tension Lever is mounted as shown on the left and then re-tighten it.

(2) Adjustment of the Paper Take-Up Unit Timing Belt



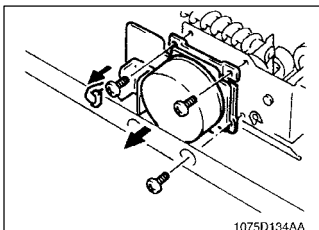
1. Remove four screws and the Rear Lower Cover.
2. Loosen the screw by which the Tension Lever is mounted as shown on the left and then re-tighten it.

(3) Adjustment of the Developing Unit Timing Belt

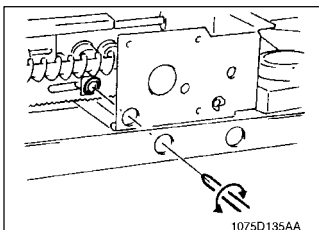


1. Remove three screws and the Rear Upper Cover.
2. Loosen the screw by which the Tension Lever is mounted as shown on the left and then re-tighten it.

(4) Adjustment of the Duplex Unit Timing Belt

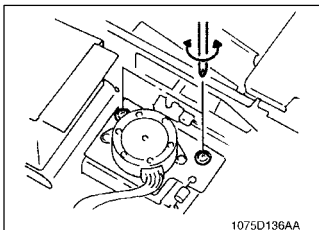


1. Open the Front Lower Door and pull out the Duplex Unit.
2. Remove the Duplex Unit Cover.
3. Remove three screws and the Duplex Unit Drive Motor (M7).



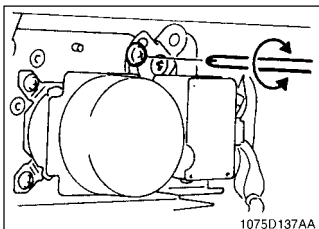
4. Loosen the screw by which the Tension Lever is mounted using a long Phillips screwdriver as shown on the left and then re-tighten it.

(5) Adjustment of the Duplex Unit Front/Rear Edge Guide Timing Belt



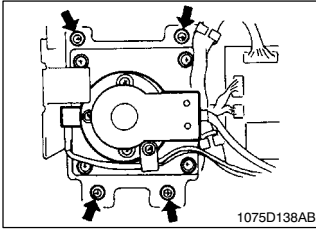
1. Open the Front Lower Door and pull out the Duplex Unit.
2. Remove one screw, loosen five screws and remove the Duplex Unit Cover.
3. Loosen the two screws retaining the Duplex Unit Front/Rear Edge Guide Drive Motor (M10) Assy and then re-tighten them.

(6) Adjustment of the Paper Exit Timing Belt



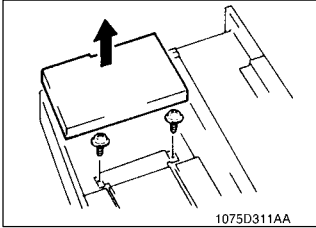
1. Remove four screws and the Rear Lower Cover.
2. Loosen the screw by which the Tension Lever is mounted as shown on the left and then re-tighten it.

(7) Adjustment of the Scanner Motor (M11) Timing Belt



1. Remove three screws and the Rear Upper Cover.
2. Loosen four screws on the Scanner Motor (M11) mounting bracket and then re-tighten them.

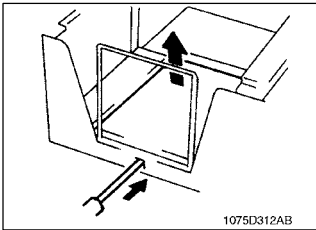
(8) Adjustment of the 3rd Drawer Timing Belt



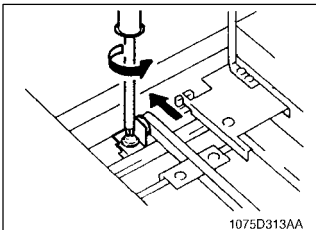
1. Pull out the 3rd Drawer and remove it.
2. Lift up the Main Tray and remove the two screws by which the Shift Tray is fixed.

NOTE

Be careful, the Main Tray wire easily comes off at reassembly.

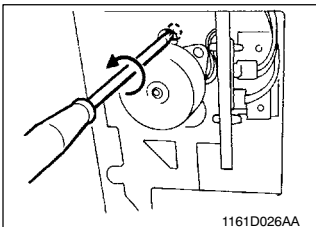


3. Release the lock by pressing the lock lever of the Shift Tray using a screwdriver, etc., as shown on the left.
4. Remove the Shift Tray.



5. Loosen the screw by which the Tension Pulley Assy is mounted and move the assy in the direction of the arrow.
6. After moving it, tighten the mounting screw.

(9) Adjustment of the Turnover Unit Timing Belt



1. Remove the Front Left Cover and Left Front Cover.
2. Loosen the screw that secures the Tension Pulley Assy and then tighten it again.

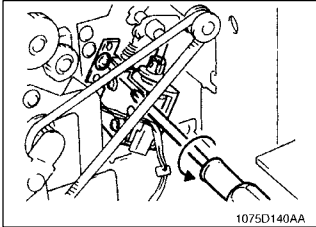
3-6. SOLENOID POSITION ADJUSTMENT

(1) Adjustment of the Exit/Duplex Switching Solenoid (SL1) Position

Requirement

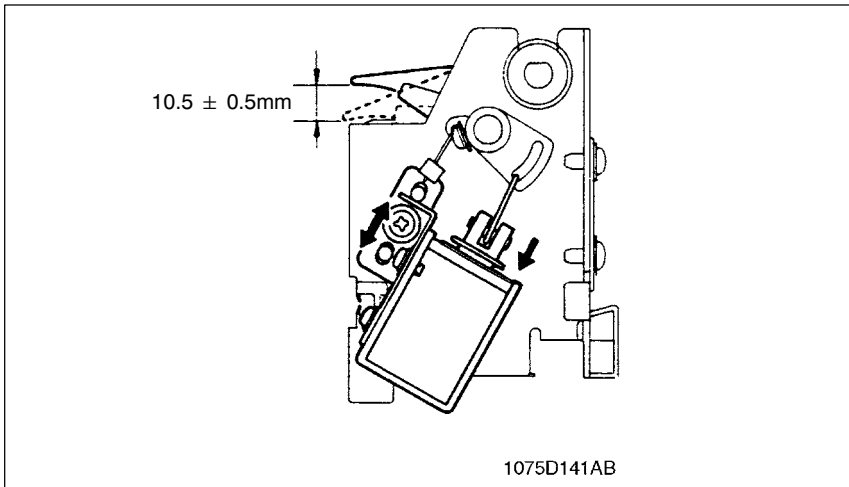
The gap between the Guide Plate and the Exit/Duplex Switching Plate should be 10.5 ± 0.5 mm when SL1 is ON.

Adjustment Procedure



1. Open the Front Lower Door and release and swing up the Upper Half of the copier.
2. Remove four screws and the Rear Lower Cover.
3. Loosen the screw by which the SL1 Assy is mounted.

4. Adjust the position of the SL1 Assy so that the gap between the Guide Plate and the Exit/Duplex Switching Plate is 10.5 ± 0.5 mm when SL1 is set to ON.



5. After the adjustment is completed, tighten the SL1 Assy mounting screw.

Checks after Adjustment

- After tightening the SL1 Assy mounting bracket, be sure to check that the projection fits in the slot.
- Check that the SL1 plunger and the Exit/Duplex Switching Plate can be moved smoothly.
- Check that the Exit/Duplex Switching Plate does not touch the Paper Exit Roller Shaft. (If adjustment is insufficient, they touch.)

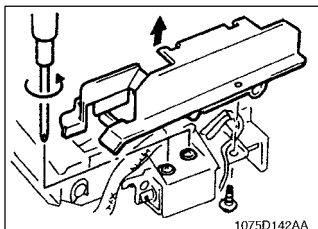
(2) Adjustment of the Duplex Unit Gate Switching Solenoid (SL2) Position

Requirement

- The gap between the Trailing Gate Switching Lever and Gate 2 Transport Roller should be 11 mm or more when SL2 is ON.
- The Trailing Gate Switching Lever should be brought into close contact with the frame when SL2 is OFF. (Refer to the following procedure for details.)

Adjustment Procedure

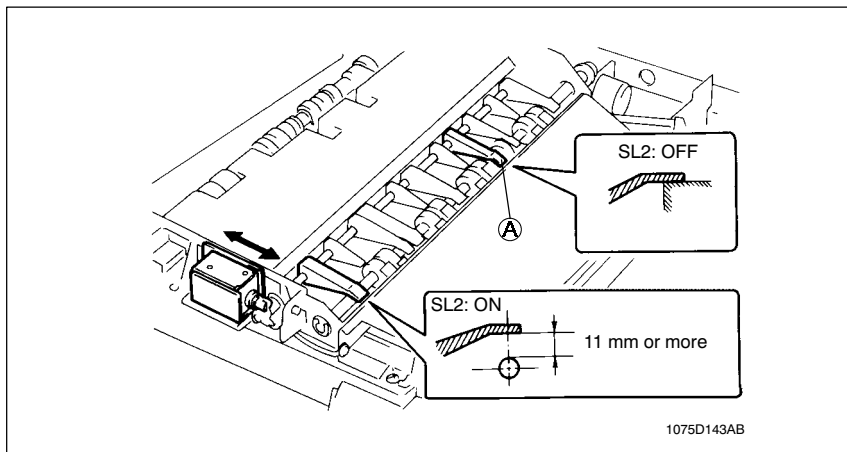
1. Open the Front Lower Door.
2. Take out the Duplex Unit.
3. Remove the Duplex Unit Upper Guide Plate.
4. Remove the Duplex Unit Cover.
5. Remove the Trailing Gate Unit.



6. Remove one screw from the back of the Trailing Gate Unit and remove the Harness Cover.
7. Loosen the two screws by which SL2 Assy is mounted.

8. Move the SL2 unit so that the gap between the Gate Switching Lever and Gate 2 Transport Roller is 11 mm or more when SL2 is ON.

Check that the Gate Switching Lever is brought into close contact with the frame at section Ⓐ when SL2 is OFF.



9. After the adjustment is completed, tighten the two mounting screws.

Check after Adjustment

Make a two-sided copy using A3/A4L or 11" × 17"/8-1/2" × 11" paper and check the paper feeding condition. (If adjustment is insufficient, a paper misfeed may occur in the Duplex Unit Gate Switching Lever section.)

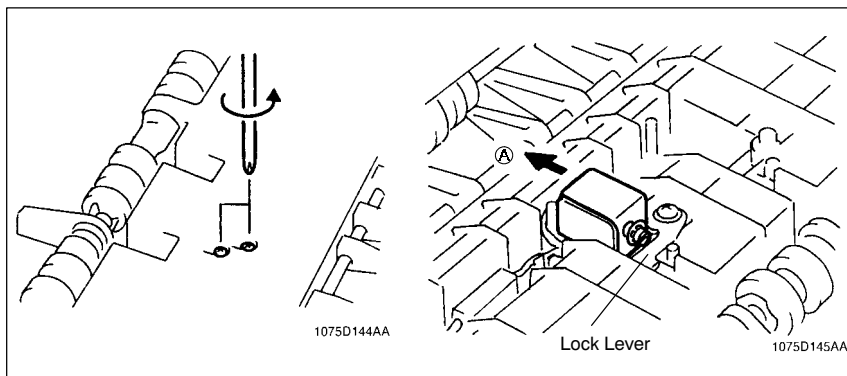
(3) Adjustment of the Duplex Unit Paper Finger Solenoid (SL3) Position

Requirement

When installing, shift SL3 to the left (viewed from the front) and then tighten the screws.

Adjustment Procedure

1. Open the Front Lower Door.
2. Remove the Duplex Unit.
3. Remove the Duplex Unit Upper Guide Plate.
4. Remove the Duplex Unit Cover.
5. Remove the Trailing Gate Unit.
6. Loosen the two screws by which SL3 is mounted and shift SL3 in the direction of arrow **A**.



7. After shifting it, tighten the two mounting screws.

Check after Adjustment

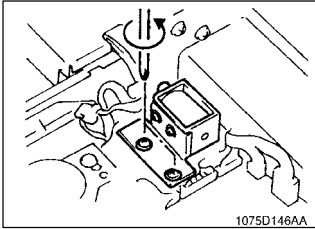
Check that the Duplex Unit Paper Finger of the Gate 1 Transport Roller can be turned smoothly when the Lock Lever is moved by setting SL3 to ON. (If adjustment is insufficient, the Duplex Unit Paper Finger touches the Lock Lever and it cannot be moved smoothly.)

(4) Adjustment of the Duplex Unit Leading Edge Solenoid (SL5) Position

Requirement

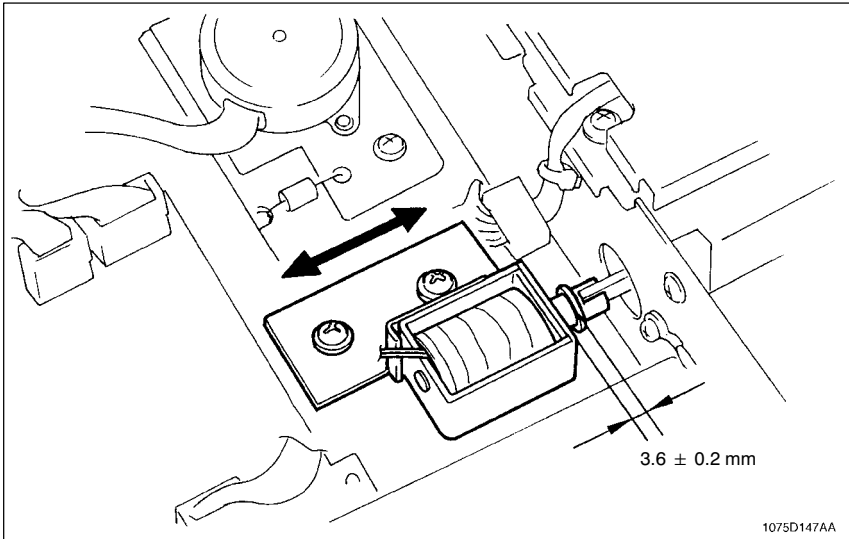
The gap between the plunger E-ring and the SL5 body should be 3.6 ± 0.2 mm when SL5 is OFF.

Adjustment Procedure



1. Open the Front Lower Door.
2. Pull out the Duplex Unit.
3. Remove the Duplex Unit Cover.
4. Loosen two screws by which the SL5 Assy is mounted.

5. Move the SL5 Assy so that the gap between the E-ring of the plunger and the SL5 unit is 3.6 ± 0.2 mm when SL 5 is OFF.



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

Check after Adjustment

Check that the Leading Edge Guide Plate is positioned under the top surface of the Guide Plate when SL5 is ON. This can be checked by removing the Duplex Take-Up Roll Assy. (If adjustment is insufficient, a paper misfeed may occur in the Duplex Unit.)

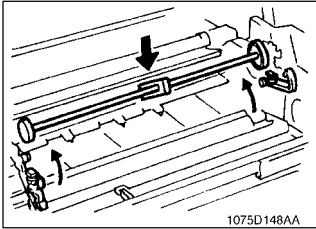
(5) Positioning of the PC Drum Paper Separator Fingers [Separator Finger Solenoid (SL6)]

Requirement

The gap between the three PC Drum Paper Separator Fingers and the PC Drum should be 1 ± 0.5 mm when SL6 is OFF.

Adjustment Procedure

1. Open the Front Lower Door and loosen one screw to pull out the PC Unit.
2. Remove the Developing Unit and take out the PC Drum.

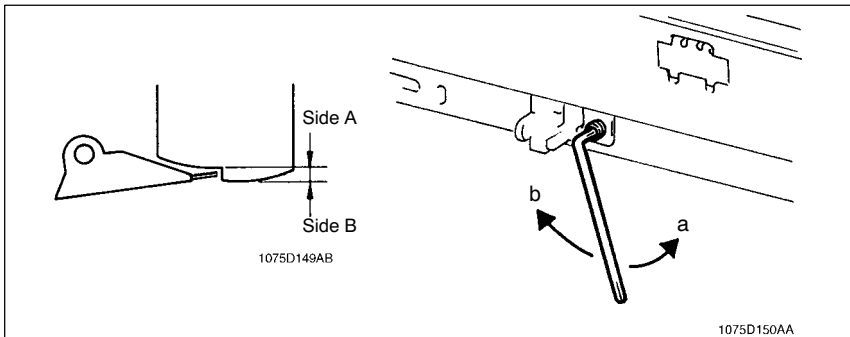


3. Set the PC Drum Separator Fingers Jig against the Cleaning Unit and fix it with the Front and Rear PC Drum Lock Levers.

4. Move the PC Drum Separator Fingers Jig over the PC Drum Separator Fingers.
5. Adjust so that the tips of each separator finger matches the center between side A and side B of the PC Drum Separator Fingers Jig when SL6 is OFF.

When the mounting angles of the three separator fingers are slightly uneven, it is acceptable if the three separator fingers are positioned between side A and side B. To adjust, turn the adjustment screw with a 3 mm Allen wrench.

- Turning in direction "a" lowers the tip of the separator finger.
- Turning in direction "b" lifts the tip of the separator finger.



Checks after Adjustment

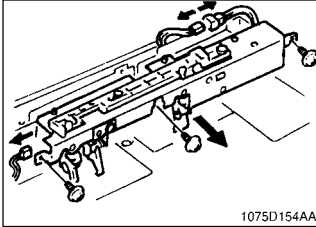
- Check that the three PC Drum Separator Fingers can be moved smoothly by turning SL6 ON and OFF.
- Check that the separator fingers touch the PC Drum when SL6 is ON. (If adjustment is insufficient, a PC Drum Separator Misfeed may occur.)

(6) Adjustment of Manual Feed Paper Pick-Up Solenoid (SL8) Position

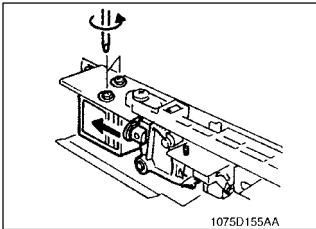
Requirement

The Paper Stoppers should be fixed perpendicularly when SL8 is ON.

Adjustment Procedure



1. Remove the Right Rear Cover and the Right Door.
2. Remove two screws and the Multi-Bypass Unit Cover.
3. Remove the Multi-Bypass Unit.
4. Remove three screws and the SL8 Assy.
5. Remove one connector and one print jack.



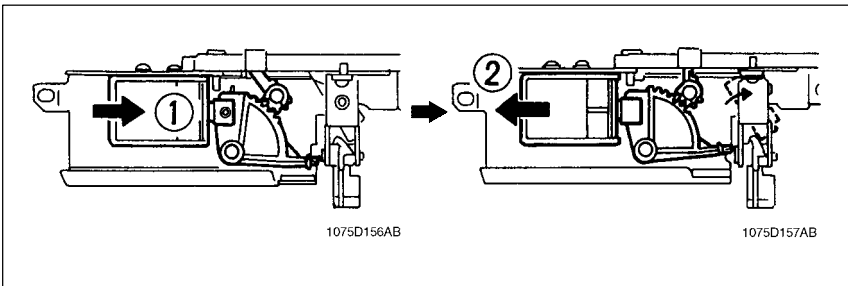
6. Set SL8 to ON.

Reference

Since a keeper solenoid is used as SL8, the set condition is kept when SL8 is ON.

7. Loosen the two screws by which SL8 is mounted.

8. Move SL8 in the direction of arrow ①, then slowly move it in the direction of arrow ②.
9. Move SL8 up to the position where the Lock Lever of the Paper Stopper becomes perpendicular (the position where the Paper Stopper is locked).
Be careful since if SL8 is moved too much, the set condition is released. If the set condition is released, set SL8 to ON again and repeat from step 7.
10. Tighten the two SL8 mounting screws.



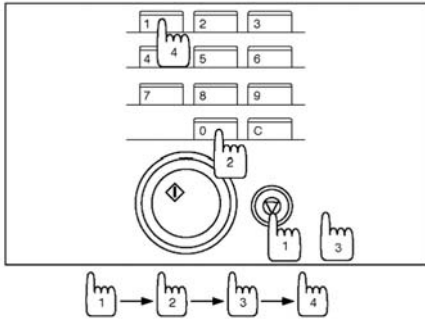
Check after Adjustment

Check that the Paper Stopper is securely locked perpendicularly when SL8 is ON. (If adjustment is insufficient, the Paper Stopper may not be locked or the set condition may not be kept even when SL8 is ON.)

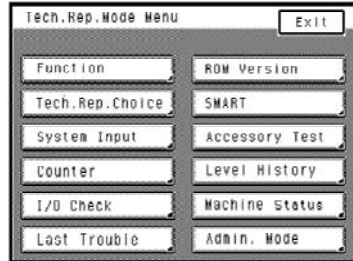
3-7. ACCESSING THE TECH. REP. MODE AND ADJUST MODE

(1) Accessing the Tech. Rep. Mode

To access the Tech. Rep. Mode, press the following keys in that order.



1134D069AA

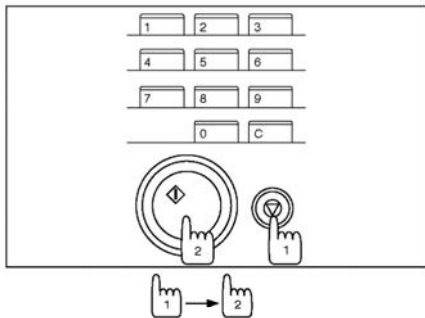
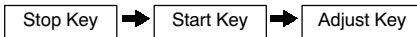


1156D134CA

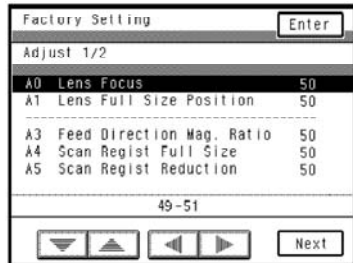
Press the keys in order of [1], [2], [3] and [4].

(2) Accessing the Adjust Mode

To access the Adjust mode, press the following keys in that order with the Tech. Rep. mode menu on the screen.



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1161D041CA

Press the keys in order of [1] and [2].

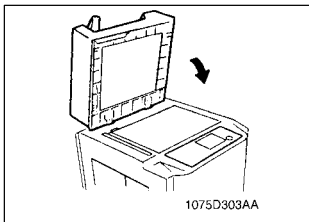
3-8. ELECTRICAL/IMAGE ADJUSTMENTS

(1) Initial Adjustment of Original Size Detection (F7 Mode)

When is this adjustment required?

- Be sure to perform the Original Size Detection Adjustment (F7 mode) after the following items have been done.
 - Memory clear
 - Original Size Detecting Board (UN3) replacement
 - RAM Board (PWB-R) replacement
 - Original Size Detecting Sensor replacement/addition

Adjustment Procedure



1. Lower the ADF with no original placed on the Original Glass.

2. Call the Tech. Rep. mode menu to the screen.
3. Touch [Function] to show the Function menu on the screen.
4. Touch [F7 Orig. Sensor].
5. Press the Start Key to let the copier make the initial adjustment of the Original Size Detecting Board.

NOTE

While the copier is in the adjustment cycle, the Start Key is lit up orange. The key turns green as soon as the adjustment cycle is completed.

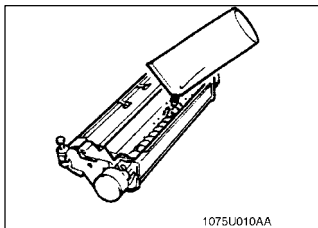
6. After the adjustment has been made, press the Panel Reset Key to return the copier to the normal operating state.

(2) ATDC Adjustment (F8 Mode)

When is this adjustment required?

- Be sure to perform the ATDC Adjustment (F8 mode) after the following item has been done.
 - Starter replacement
- When the ATDC Sensor is to be replaced, it is also necessary to replace the starter, so perform this adjustment.

Adjustment Procedure



1. Load the Developing Unit with two packs of fresh starter.
2. Set the Developing Unit into the PC Unit.
3. Reinstall the PC Unit into the copier.

4. Turn the Power Switch ON.
5. Call the Tech. Rep. mode menu to the screen.
6. Touch [Function] to show the Function menu on the screen.
7. Touch [Developer] → [F8 ATDC Adjust].
8. Press the Start Key to let the copier make the ATDC adjustment. (It will run for about 3 minutes.)

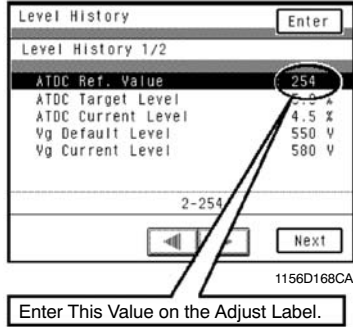
NOTES

- While the copier is in the adjustment cycle, the Start Key is lit up orange. The key turns green as soon as the adjustment cycle is completed.
- Pressing of the Start Key will automatically start the ATDC adjustment cycle. Be sure to run this cycle only after the starter has been replaced.

TIPS

- If the starter and Cleaning Blade have been replaced at the same time, release the Cleaning Blade Pressure Lever to retract the Cleaning Blade before running the F8 operation.
- After the F8 operation has been run, actuate the Cleaning Blade Pressure Lever to press the Cleaning Blade up against the surface of the PC Drum before running the next FE operation.
- Only when the starter and Cleaning Blade have been replaced at the same time, run the test operations in the order of F8, FE, and F5.

9. Touch [Menu] on the screen to show the Tech. Rep. mode menu again.
10. Touch [Level History] and enter the value for the "ATDC Set Level" on the Adjust Label affixed inside the Front Upper Door.

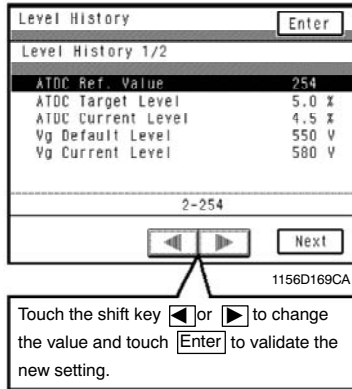


11. After entering the value, return to the Function menu screen in the Tech. Rep. mode and touch [F5 Optimum & AE] to perform Auto Exposure adjustment.

Caution

Be sure to perform Auto Exposure adjustment after the ATDC (F8) has been adjusted.

- ◆ Should the F8 operation be run when the starter has not been replaced, check that the "ATDC Set Level" value on the "Level History" screen matches that written on the Adjust Label. If they do not agree with each other, change the "ATDC Set Level" value on the screen so that it matches the value on the Adjust Label.



(3) Adjustment of the Aperture Plates

Requirement

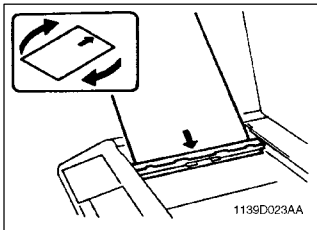
There should be no dark or light bands running in the feeding direction on the copies produced.

Items to be checked before adjustment

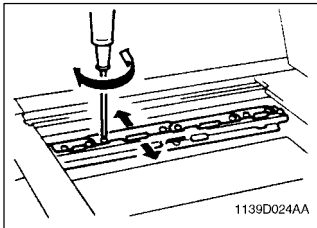
- If dark or light bands running in the feeding direction occur on the copies, check the following items before starting adjustment.
 1. The PC Drum Corona wires, grid mesh, and the Image Transfer Corona wire are all free of dirt.
 2. The surface of the Mirrors and Lens are free of dirt.
 3. The surface of the Exposure Lamp and Main Erase Lamp are free of dirt.
 4. The Cleaning Blade has not deteriorated or hardened and is not wavy.

Adjustment Procedure

1. Make a copy with the following settings.
 - Original: A3 or A4 crosswise, 11" × 17" or 8-1/2" × 11" crosswise
 - Paper : A3 or A4 crosswise, 11" × 17" or 8-1/2" × 11" crosswise
 - Zoom ratio: × 1.000
 - Exposure: Manual (setting convenient for checking)



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



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

NOTES

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

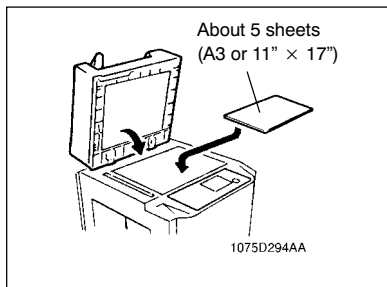
(4) Adjustment of Exposure Level in the Auto Exposure Mode (F5 Mode)

When is this adjustment required?

- Be sure to perform Auto Exposure adjustment (F5 mode) after the following items have been done.
 - PC Drum replacement (PCDrum Counter Clear)
 - Memory clear
 - RAM Board (PWB-R) replacement
 - Exposure Lamp (LA1) replacement
 - Exposure Lamp Regulator (PWB-J) replacement
 - AE Sensor Board (PWB-H) replacement
 - AIDC Sensor (UN13) replacement
 - Adjustment of the Aperture Plates
 - ATDC adjustment (F8)
 - Cleaning of the Optical Section
 - Change of the setting for "Exp. Lamp Manual Adj."

Adjustment procedure

1. Make sure that the Auto Exposure mode is selected on the Touch Panel. Then, place about five blank sheets of A3 or 11" × 17" paper one on top of the other on the Original Glass and lower the ADF.



2. Call the Tech. Rep. mode menu to the screen.
3. Touch [Function] to show the Function menu on the screen.
4. Touch [F5 Optimum & AE].
5. Press the Start Key to let the copier adjust the exposure level in the Auto Exposure mode. [It will run for about 30 sec.]

NOTE

While the copier is in the adjustment cycle, the Start Key is lit up orange. The key turns green as soon as the adjustment cycle is completed.

6. After the adjustment, press the Panel Reset Key to return the copier to the normal operating state.
7. Check the optimum exposure setting in the Manual Exposure mode.

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

When is this adjustment required?

- Be sure to perform Manual Exposure adjustment after the following item has been done.
 - Adjustment of Exposure Level in the Auto Exposure Mode (F5)

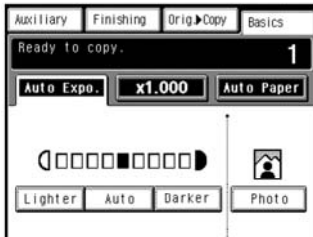
Requirement

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 when the manual exposure mode is set to EXP. 5.



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Adjustment Procedure



1156D137CB

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 ADF.
2. Set the copier into the Manual Exposure mode and set the exposure level to Exp. 5 (center value). Make about 3 copies using A3 or 11" × 17" paper (so that the PC Drum sensitivity stabilizes). Then, check that the 3rd copy meets the requirement given above.

* If the image density is outside the specifications, make the following adjustment.

3. Call the Tech. Rep. mode menu to the screen.
4. Touch [Function] to show the "Function" menu on the screen.

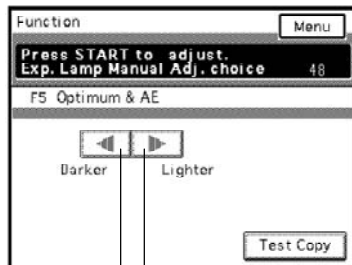
5. Touch [F5 Optimum & AE].
6. Study the sample copy for image density and touch the Darker [◀] or Lighter [▶] key as necessary to change the setting for Exp. Lamp Manual Adj.
7. Touch [Test Copy] and check the copy for image density.

Setting Procedure

If the image density is:

- Low Decrease the setting value.
- High Increase the setting value.

* If the change of the setting does not bring the image density into the specified range, try another setting.



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Touch when ID is high.

Touch when ID is low.

8. Run F5 again.

NOTE

The F5 operation is canceled if the ATDC level falls outside the target range of -2% to +1%. In this case, run Toner Replenisher or make a copy and then readjust.

(6) Adjustment of the Reference Value for Manual Bypass Paper Width Detection and 2nd Drawer Paper Width Detection (FD Mode)

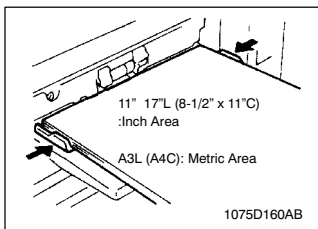
<Manual Bypass Paper Width>

When is this adjustment required?

- The following adjustment must be made when the memory has been cleared, RAM Board PWB-R or Multi Bypass Table Assy has been replaced, or when Manual Feed Size Detecting Resistor VR1 has been removed and reinstalled.

Adjustment Procedure

1. Show the Tech. Rep. mode menu on the screen.
2. Touch [Function] to show the Function menu on the screen.
3. Touch [FD Paper Width] to show the FD operation screen.



4. Swing down the Multi Bypass Table.
5. Place several sheets of paper of the following size on the Multi Bypass Table and slide the Edge Guides to the size of the paper
 - Inch Areas: 11" x 17"L or 8-1/2" x 11"C
 - Metric Areas: A3L or A4C

NOTES

- Press the Edge Guides tightly up against the edges of the paper.
- If paper of a wrong size is placed or Edge Guides are not slid to the exact size of the paper, the copier may give a malfunction code (C0F66) as a warning.

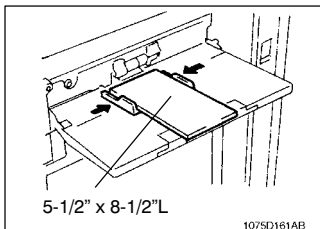
*Go to step 6 for the inch areas and step 10 for the metric areas.

<Inch Areas>

6. Check that "Fd-0" is shown on the FD operation screen. Then, press the Start Key to run the Fd-0 operation.

NOTE

The Start Key is lit up orange during the operation and turns green as soon as the operation is completed.



7. Place several sheets of 5-1/2" x 8-1/2" lengthwise paper on the Multi Bypass Table and slide the Edge Guides to the size of the paper.

NOTES

- *Press the Edge Guides tightly up against the edges of the paper.*
- *If paper of a wrong size is placed or Edge Guides are not slid to the exact size of the paper, the copier may give a malfunction code (C0F66) as a warning.*

8. Touch the select key [▲] on the screen once to set "Fd-1," then press the Start Key to run the Fd-1 operation.

NOTE

The Start Key is lit up orange during the operation and turns green as soon as the operation is completed.

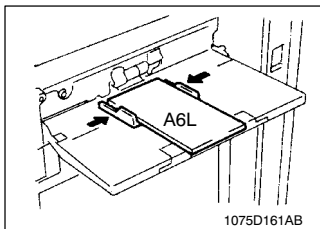
9. After the adjustment has been made, press the Panel Reset Key to return the copier to the normal operating state.

<Metric Areas>

10. Touch the select key [▲] on the screen twice to set "Fd-2," then press the Start Key to run the Fd-2 operation.

NOTE

The Start Key is lit up orange during the operation and turns green as soon as the operation is completed.



11. Place several sheets of A6 lengthwise paper on the Multi Bypass Table and slide the Edge Guides to the size of the paper.

NOTES

- Press the Edge Guides tightly up against the edges of the paper.
- If paper of a wrong size is placed or Edge Guides are not slid to the exact size of the paper, the copier may give a malfunction code (C0F66) as a warning.

12. Touch the select key [▲] on the screen once to set "Fd-3," then press the Start Key to run the Fd-3 operation.

NOTE

The Start Key is lit up orange during the operation and turns green as soon as the operation is completed.

13. After the adjustment has been made, press the Panel Reset Key to return the copier to the normal operating state.

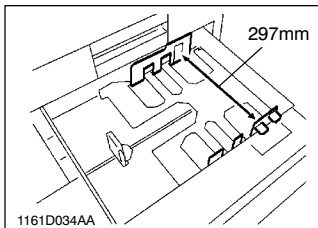
<2nd Drawer Paper Width Detection>

When is this adjustment required?

The following adjustment must be made when memory has been cleared or when RAM Board PWB-R or 2nd Drawer Paper Size Detecting Resistor VR2 has been replaced.

Adjustment Procedure

1. Show the Tech. Rep. mode menu on the screen.
2. Touch [Function] to show the Function menu on the screen.
3. Touch [FD Paper Width] to show the FD operation screen.



4. Slide out the 2nd Drawer.
5. Slide the Edge Guide of the drawer to the 297 mm width position and slide the 2nd Drawer back to the copier.

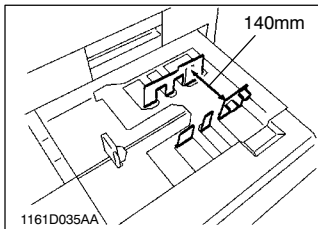
NOTES

- Be sure to slide the Edge Guide to the exact 297 mm width position.
- If it is slid to a wrong position or it is not moved at all, malfunction code C0F61 can appear as a warning.

6. Touch the select key (▲ key) on the screen four times to set "Fd-4," then press the Start key to run the Fd-4 operation.

NOTE

The Start key is lit up orange during the operation and turns green as soon as the operation is completed.



7. Slide out the 2nd Drawer. Slide the Edge Guide of the drawer to the 140 mm width position and slide the 2nd Drawer back into the copier.

NOTES

- Be sure to slide the Edge Guide to the exact 140 mm width position.
- If it is slid to a wrong position or it is not moved at all, malfunction code C0F61 can appear as a warning.

8. Touch the select key (▲ key) on the screen once to set "Fd-5," then press the Start key to run the operation to set the minimum value of the Edge Guide.

NOTE

● The Start key is lit up orange during the operation and turns green as soon as the operation is completed.

9. After the adjustment has been made, press the Panel Reset key to return the copier to the normal operating state.

(7) Adjustment of Zoom Ratio in the Crosswise Direction (“Adjust 1/2: A1 Lens Full Size Position”)

Requirements

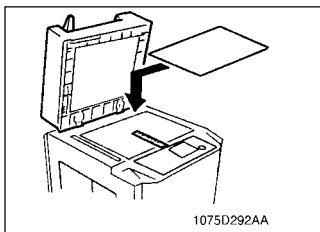
- The difference should be within $\pm 0.5\%$ of the actual length.
- Adjust so that the following specifications are satisfied with a scale length of 200 mm.

Zoom Ratio	Specification	Adjusting Mode	Setting Range
Full size (x1.000)	200 ± 1.0 mm	A1 Lens Full Size Position	43 to 58

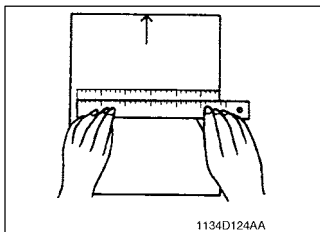
NOTE

This adjustment must be made before the “Drawers, Multi-Bypass Table, Duplex Unit Reference Position Adjustment”.

Adjustment Procedure



1. Place a scale in parallel with the Original Width Scale and make a copy.
 - * Use the full size (x1.000) mode and 200-mm-or-wider paper.
 - * If the scale is of plastic and transparent, place a blank sheet of paper over it.



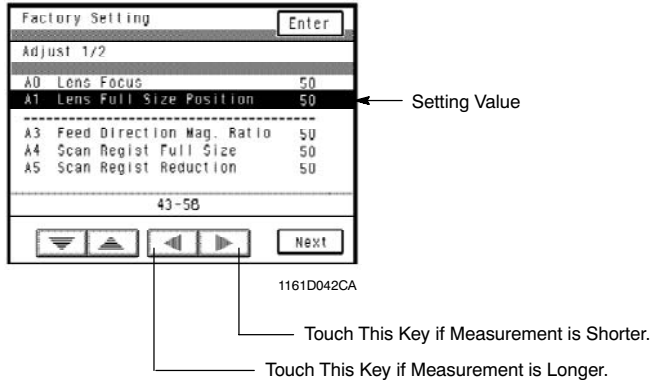
2. Measure the length of the scale on the copy to find the difference.
 - * If the difference is outside the specification, adjust by following the procedure shown below.

3. Call the “Adjust 1/2” menu to the screen.
4. Touch the select key [▼] to highlight “A1 Lens Full Size Position.”

5. Touch the shift key [◀] or [▶] to change the set value.

Setting Instructions

- If the scale on the copy is longer than the actual scale, decrease the setting value.
 - If the scale on the copy is shorter than the actual scale, increase the setting value.
- * If the measurement does not fall within the specifications through one setting, try another setting.



6. Touch the [Enter] key to validate the setting.
7. Open and close the Front Lower Door or turn OFF and ON Power Switch S1 to change the full size position of the Lens.

NOTES

- Be aware that the previous data is restored if the Panel Reset Key is pressed to return the copier to the normal operating state. Be sure to touch [Enter] and then [Exit] to resume the normal operating state.
- After [Enter] has been touched to validate the setting, open and close the Front Lower Door or turn OFF and ON Power Switch S1. This procedure is necessary to change the full size position of the Lens.

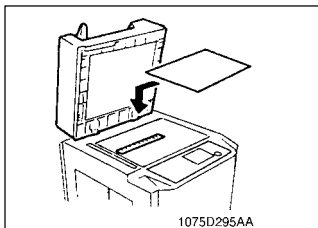
(8) Adjustment of the Zoom Ratio in the Feeding Direction (“Adjust 1/2: A3 Feed Direction Mag. Ratio”)

Requirements

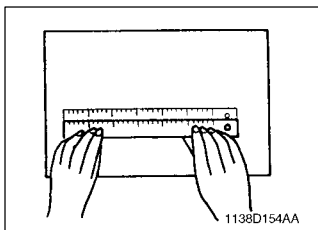
- The difference should be within $\pm 0.5\%$ of the actual length.
- Adjust so that the following specifications are satisfied with a scale length of 300 mm.

Zoom Ratio	Specification	Adjusting Mode	Setting Range
Full size (x1.000)	300 \pm 1.5 mm	A3 Feed Direction Mag. Ratio	46 to 54

Adjusting Mode



1. Place a scale in parallel with the Original Length Scale (Perpendicular to the Original Width Scale) and make a copy.
 - * Use the full size (x1.000) mode and A3 or 11" x 17" paper.
 - * If the scale is of plastic and transparent, place a blank sheet of paper over it.



2. Measure the length of the scale on the copy to find the difference.
 - * If the difference is outside the specification, adjust following the procedure shown below.

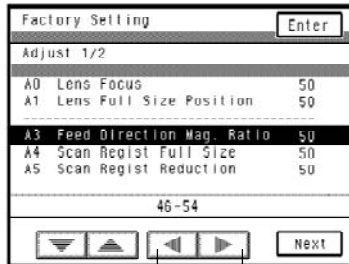
3. Call the “Adjust 1/2” menu to the screen.
4. Touch the select key [▼] to highlight “A3 Feed Direction Mag. Ratio.”

5. Touch the shift key [◀] or [▶] to change the set value.

Setting Instructions

- If the scale on the copy is longer than the actual scale, decrease the setting value.
- If the scale on the copy is shorter than the actual scale, increase the setting value.

* If the measurement does not fall within the specifications through one setting, try another setting.



Setting Value

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Touch This Key if Measurement is Shorter.

Touch This Key if Measurement is Longer.

6. Touch [Enter] to validate the setting.

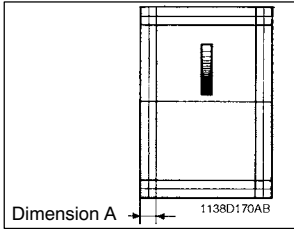
NOTE

Be sure to touch [Enter] before returning the copier to the normal operating state. If the Panel Reset Key is used the old setting remains valid.

(9) Adjustment of the Reference Position of the Multi-Bypass Table, 1st and 2nd Drawers, 3rd Drawer, and Duplex Unit

Requirement

Adjust the position of the Multi-Bypass Table, 1st and 2nd Drawers, 3rd Drawer, and Duplex Unit so that dimension A (20 mm) of the GTC-test chart is within the specification shown below.



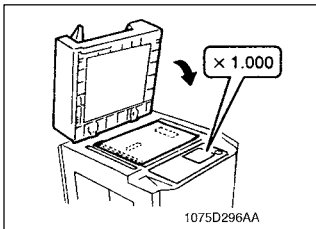
	Zoom Ratio	Specification
Multi-Bypass Table, 1st and 2nd Drawers, 3rd Drawer	Full size (x 1.000)	20 ± 2.0 mm
Duplex Unit		20 ± 3.0 mm

NOTE

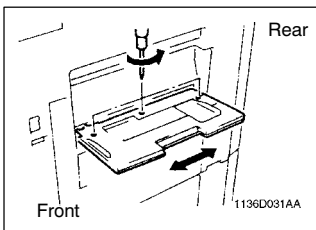
This adjustment should be made after the "adjustment of the zoom ratio in the crosswise direction".

<Adjustment of the Multi-bypass Table Reference Position>

Adjustment Procedure



1. Place the GTC-test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the ADF.
2. Feeding a sheet of A3 or 11" x 17" paper through the Multi-Bypass Table, make one full-size copy.
3. Check if dimension A (from the edge up to the reference line) on the copy meets the specifications.



4. If dimension A deviates from the specifications, loosen three screws that secure the Multi-Bypass Table and move the table in the direction of the arrow as necessary.

NOTES

- If dimension A (20 mm) on the copy is shorter than 18 mm, move the table to the front of the copier.
- If dimension A (20 mm) on the copy is longer than 22 mm, move the table to the rear of the copier.

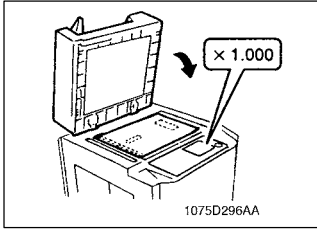
5. After the adjustment is completed, tighten the three mounting screws.

NOTE

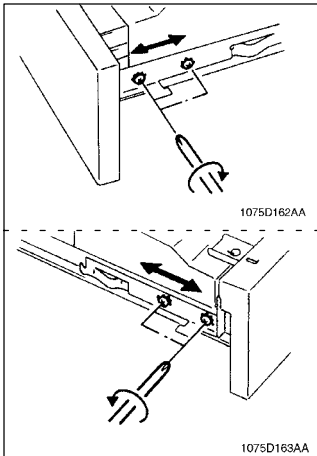
If the specification is not satisfied by this adjustment, perform Adjust 2/2: A10 Lens Position Adjust.

<Adjustment of Reference Position of 1st/2nd Drawers>

Adjustment Procedure



1. Place the GTC-test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the AFR-9.
2. Feeding two sheets of A3 or 11" x 17" paper from the 1st Drawer, make two full-size copies.
3. Check if dimension A (from the edge up to the reference line) on the second copy meets the specifications.



4. If dimension A deviates from the specification, slide out the 1st Drawer. Then, loosen four screws shown on the left and move the Drawer Positioning Plate to the front or rear as necessary.

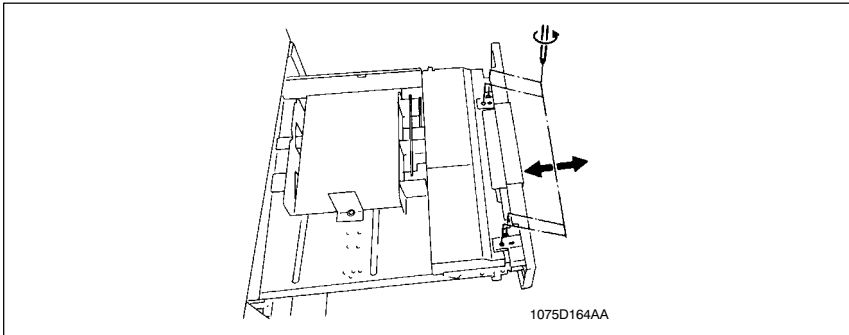
Adjusting Instructions

- If dimension A (20 mm) on the copy is 18 mm or shorter, move the Positioning Plate backwards.
- If dimension A (20 mm) on the copy is 22 mm or longer, move the Positioning Plate towards the front.

NOTE

Align the left and right Positioning Plates with the scale printed on the Drawer Slide Rail.

5. After the adjustment is completed, tighten two mounting screws of both left and right Positioning Plates to fix them.
6. Loosen four screws shown below and perform the Drawer Cover positioning adjustment.



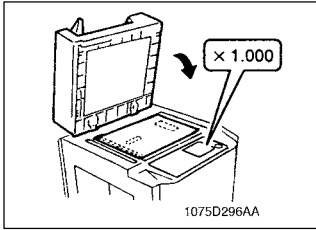
* In the same way as the 1st Drawer, perform the adjustment of reference position of the 2nd Drawer.

NOTE

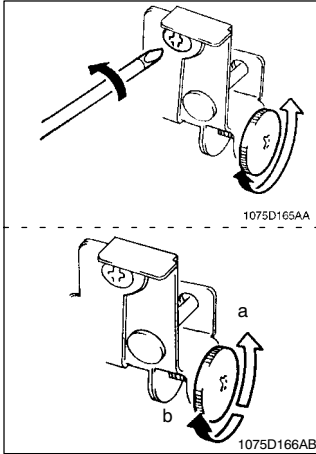
If the specification is not satisfied by this adjustment, perform Adjust 2/2: A10 Lens Position Adjust.

<Adjustment of Reference Position of 3rd Drawer>

Adjustment Procedure



1. Place the GTC-test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the ADF.
2. Feed two sheets of A4 crosswise paper from the 3rd Drawer and make two full size copies.
3. Check if dimension A on the second copy meets the specifications.

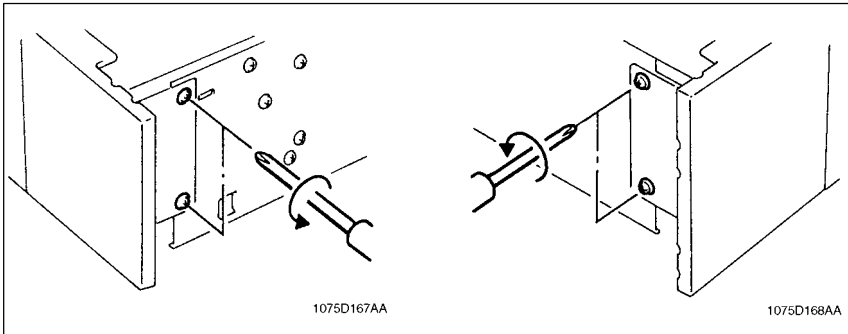


4. If dimension A deviates from the specification, press the Paper Descent Key and slide out the 3rd Drawer.
5. Slide out the 1st and 2nd Drawers and remove two screws and the Front Right Cover.
6. Loosen one screw and adjust by turning the shoulder screw.

Adjusting Instructions

- If dimension A (20 mm) on the copy is 18 mm or shorter, turn the shoulder screw counterclockwise (direction a).
- If dimension A (20 mm) on the copy is 22 mm or longer, turn the shoulder screw clockwise (direction b).

7. After the adjustment is completed, tighten the screw.
8. Loosen the four screws shown below and perform the Drawer Cover positioning adjustment.

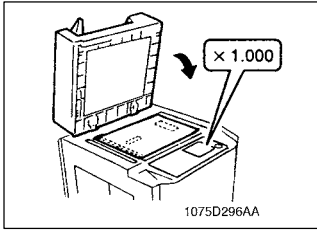


NOTE

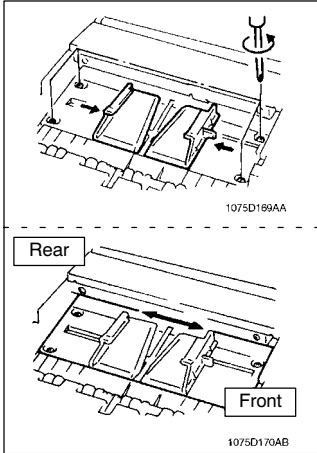
If the specification is not satisfied by this adjustment, perform Adjust 2/2: A10 Lens Position Adjust.

<Adjustment of Reference Position of Duplex Unit>

Adjustment Procedure



1. Place the GTC-test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the ADF.
2. Touch [Orig. ► Copy], then touch [1 ► 2] to set the copier into the mode for making 2-sided copies.
3. Make two full size copies on A3 or 11" x 17" paper.
4. Check if dimension A on the copy meets the specification. (Use the top face of the second copy.)



5. If dimension A deviates from the specification, open the Front Lower Door and release and swing up the Upper Half of the copier.
6. Slide out the Duplex Unit and open the Duplex Unit Upper Guide Plate.
7. Slide the Front/Rear Edge Guide Plates to the center, loosen four screws and move the Front/Rear Edge Guide Plates Assy as instructed below.

Adjusting Instructions

- If dimension A (20 mm) on the copy is 17 mm or shorter, move the plates assy toward the front.
- If dimension A (20 mm) of the copy is 23 mm or longer, move the plates assy backward.

8. After the adjustment is completed, tighten the four screws to fix the plates assy.

NOTE

If the specification is not satisfied by this adjustment, perform Adjust 2/2: A10 Lens Position Adjust.

<Adjust 2/2: A10 Lens Position Adjust>

When is this adjustment required?

Perform the following adjustment if the specifications are not satisfied when the adjustment of the reference position for the Multi-Bypass Table, 1st and 2nd Drawers, 3rd Drawer, and Duplex Unit has been done.

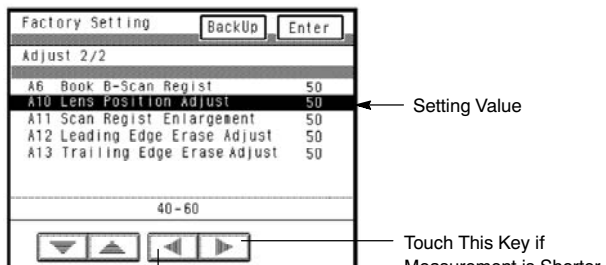
Adjustment Procedure

1. Call the "Adjust 1/2" menu to the screen and touch [Next] to show the "Adjust 2/2" menu.
2. Touch the select key [▼] or [▲] to select "A10 Lens Position Adjust."
3. Touch the shift key [◀] or [▶] to change the setting value of the lens position adjustment.

Setting Instructions

When dimension A (20 mm) on the copy deviates from the specification, change the setting value of the lens position adjustment.

- If it is shorter than the specification, increase the setting value (Example: Setting value: 50 to 51).
- If it is longer than the specification, decrease the setting value (Example: Setting value: 50 to 49).



Touch This Key if Measurement is Longer.

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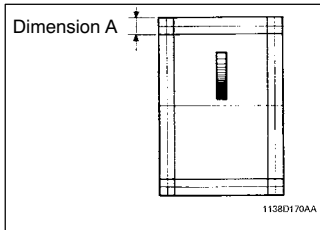
4. Touch [Enter] to validate the setting value.
5. Open and close the Front Lower Door or turn OFF and ON Power Switch S1 to change the lens position.
6. Check the adjustment of the reference positions of all drawers, Duplex Unit and the Multi-Bypass Table.

NOTES

- Be sure to touch the Enter key before returning to the normal operation mode. If the Panel Reset Key is used, the previous setting remains valid. After touching the Enter key to validate the set value, be sure to open/close the Front Lower Door or turn OFF/ON the Power Switch.
- After the adjustment has been completed, be sure to adjust (check) the reference positions of all drawers, Duplex Unit and the Multi-Bypass Table.

(10) Adjustment of the Leading Edge Registration in the Full Size Mode (Adjust 1/2: A4 Scan Regist Full Size)

Requirement



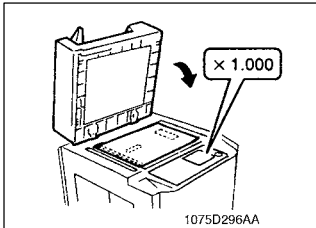
Dimension A on the copy of the GTC-test chart should meet the specification shown below.

Zoom Ratio	Specification	Adjusting Mode	Setting Range
Full size (x1.000)	20 ± 2.0 mm	A4 Scan Regist Full Size	40 to 60

NOTE

This adjustment should be performed after the adjustment of zoom ratio in the feeding direction (Adjust 1/2: A3 Feed Direction Mag. Ratio) has been completed.

Adjustment Procedure



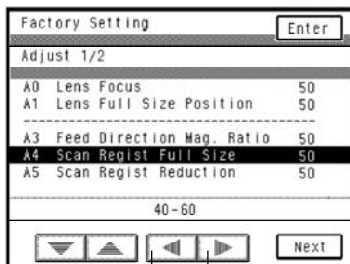
1. Place the GTC-test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the ADF.
2. Make two copies on A3 or 11" x 17" paper in the full size mode.
3. Check if dimension A on the copy meets the specification. (Check using the second copy.) If dimension A deviates from the specification, adjust by following the procedure shown below.
4. Call the "Adjust 1/2" menu to the screen.
5. Touch the select key [▼] or [▲] to select "A4 Scan Regist Full Size."

6. Touch the shift key [◀] or [▶] to change the setting value.

Setting Instructions

When dimension A (20 mm) on the copy deviates from the specification, change the setting value of the leading edge registration adjustment in the full size mode.

- If it is 22.0 mm or longer, increase the setting value (Example: Setting value: 50 to 51).
- If it is 18.0 mm or shorter, decrease the setting value (Example: Setting value: 50 to 49).



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Touch This Key if Measurement is Longer.

Touch This Key if Measurement is Shorter.

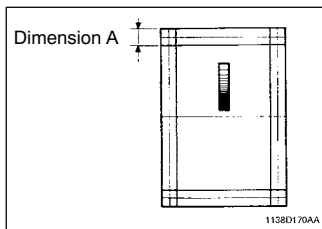
7. Touch the Enter key to validate the setting value.

Caution

Be sure to touch the Enter key before returning to the normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

(11) Adjustment of the Leading Edge Registration in the Reduction Mode (Adjust 1/2: A5 Scan Regist Reduction)

Requirement



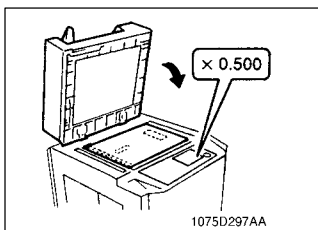
Dimension A on the copy should meet the specification shown below.

Zoom Ratio	Specification	Adjusting Mode	Setting Range
Reduction ($\times 0.500$)	10 ± 2.0 mm	A5 Scan Regist Reduction	40 to 60

NOTE

This adjustment should be performed after the adjustment of the zoom ratio in the feeding direction (Adjust 1/2: A3 Feed Direction Mag. Ratio) has been completed.

Adjustment Procedure



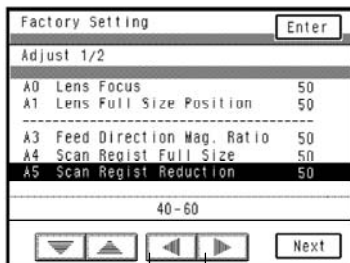
1. Place the GTC-test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the ADF.
2. Make two copies on A3 or 11" \times 17" paper in the reduction ($\times 0.500$) mode.
3. Check if dimension A on the copy meets the specification. (Check using the second copy.) If dimension A deviates from the specification, adjust by following the procedure shown below.
4. Call the "Adjust 1/2" menu to the screen.
5. Touch the select key [\blacktriangledown] or [\blacktriangle] to select "A5 Scan Regist Reduction".

6. Touch the shift key [◀] or [▶] to change the setting value.

Setting Instructions

When dimension A (20 mm) on the copy deviates from the specification, change the setting value of the leading edge registration adjustment in the reduction mode.

- If it is 12.0 mm or longer, increase the setting value (Example: Setting value: 50 to 51).
- If it is 8.0 mm or shorter, decrease the setting value (Example: Setting value: 50 to 49).



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Touch This Key if Measurement is Longer.

Touch This Key if Measurement is Shorter.

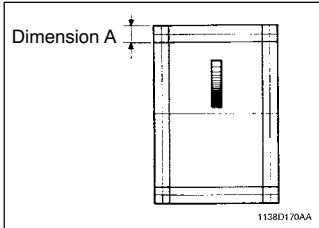
7. Touch the Enter key to validate the setting value.

NOTE

Be sure to touch the Enter key before returning to the normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

(12) Adjustment of the Leading Edge Registration in the Enlargement Mode (Adjust 2/2: A11 Scan Regist Enlargement)

Requirement



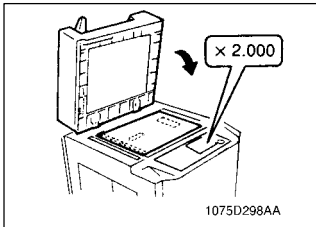
Dimension A on the copy should meet the specification shown below.

Zoom Ratio	Specification	Adjusting Mode	Setting Range
Enlargement ($\times 2.000$)	40 ± 4.0 mm	A11 Scan Regist Enlargement	40 to 60

NOTE

This adjustment should be performed after the adjustment of the zoom ratio in the feeding direction (Adjust 1/2: A3 Feed Direction Mag. Ratio) has been completed.

Adjustment Procedure



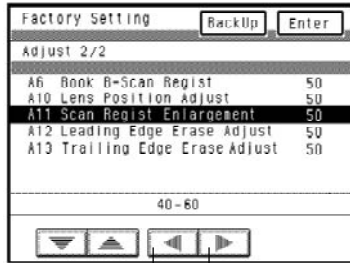
1. Place the GTC-test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the ADF.
2. Make two copies on A3 or 11" \times 17" paper in the enlargement ($\times 2.000$) mode.
3. Check if dimension A on the copy meets the specification. (Check using the second copy.) If dimension A deviates from the specification, adjust by following the procedure shown below.
4. Call the "Adjust 1/2" menu to the screen and touch [Next] to show the "Adjust 2/2" menu.
5. Touch the select key [▼] or [▲] to select "A11 Scan Regist Enlargement."

6. Touch the shift key [◀] or [▶] to change the setting value.

Setting Instructions

When dimension A (20 mm) on the copy deviates from the specification, change the setting value of the leading edge registration adjustment in the enlargement mode.

- If it is 42.0 mm or longer, increase the setting value (Example: Setting value: 50 to 51).
- If it is 38.0 mm or shorter, decrease the setting value (Example: Setting value: 50 to 49).



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Touch This Key if Measurement is Longer.

Touch This Key if Measurement is Shorter.

7. Touch the Enter key to validate the setting value.

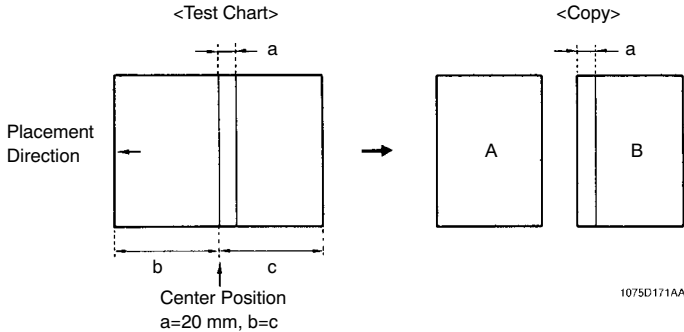
NOTE

Be sure to touch the Enter key before returning to the normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

(13) Adjustment of the Leading Edge Registration for Book Second Page (Adjust 2/2: A6 Book B-Scan Regist.)

Requirement

Dimension *a* on the side *B* copy made in the Book mode of a test chart (A3 or 11" x 17") as shown below should measure as follows.



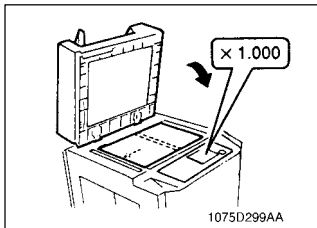
Copy mode	Specification	Adjusting Mode	Setting Range
Full size, Book copy	20 ± 3.5 mm	A6 Book B-Scan Regist.	45 to 55

NOTE

This adjustment should be performed after the following adjustments have been completed.

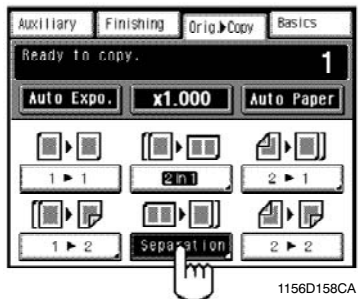
- Adjustment of the leading edge registration in the full size mode (Adjust 1/2: A4 Scan Regist Full Size)
- Adjustment of the leading edge registration in the reduction mode (Adjust 1/2: A5 Scan Regist Reduction)
- Adjustment of the leading edge registration in the enlargement mode (Adjust 2/2: A11 Scan Regist Enlargement)

Adjustment Procedure

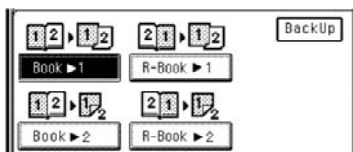


1. Place the test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the ADF.

- On the Basic screen, touch [Orig. ► Copy]; then, select [Separation].



- Select [Book ► 1] and make three single copies on A4 crosswise paper at full size ($\times 1.000$) mode. Check the third copy for the leading edge registration.



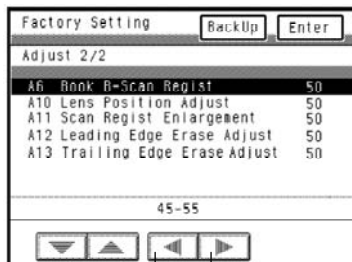
- Check if dimension a on the side B copy meets the specification. If dimension a deviates from the specification, adjust by following the procedure shown below.
- With the "Adjust 1/2" menu on the screen, touch [Next] to show the "Adjust 2/2" menu.
- Check that "A6 Book B-Scan Regist" is highlighted.

7. Touch the shift key [◀] or [▶] to change the setting value.

Setting Instructions

When dimension a (20 mm) on the side B copy deviates from the specification, change the setting value of the Book B-Scan Regist adjustment.

- If it is 23.5 mm or longer, increase the setting value (Example: Setting value: 50 to 51).
- If it is 16.5 mm or shorter, decrease the setting value (Example: Setting value: 50 to 49).



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Touch This Key if Measurement is Longer.

Touch This Key if Measurement is Shorter.

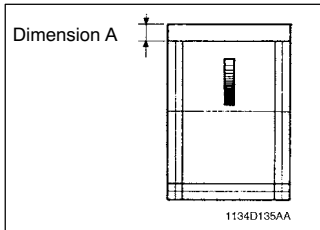
8. Touch the Enter key to validate the setting value.

NOTE

Be sure to touch the Enter key before returning to the normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

(14) Adjustment of the Image Leading Edge Erase Width (Adjust 2/2: A12 Leading Edge Erase Adjust)

Requirement



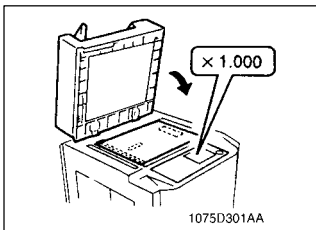
- Dimension A (erase width) on the copy of the GTC-test chart should meet the specification shown below.
- “Leading Edge Erase” of the Tech. Rep. Choice mode 2/3 should be set to ON.

Zoom Ratio	Specification	Adjusting Mode	Setting Range
Full size (× 1.000)	0.5 to 6.5 mm	A12 Leading Edge Erase Adjust	42 to 58

NOTES

- This adjustment should be performed after the following adjustments have been completed.
 - Adjustment of the leading edge registration in the full size mode (Adjust 1/2: A4 Scan Regist Full Size)
 - Adjustment of the leading edge registration in the reduction mode (Adjust 1/2: A5 Scan Regist Reduction)
 - Adjustment of the leading edge registration in the enlargement mode (Adjust 2/2: A11 Scan Regist Enlargement)
 - Adjustment of the leading edge registration for book second page (Adjust 2/2: A6 Book B-Scan Regist)
- Be sure to set “Leading Edge Erase” of the Tech. Rep. Choice mode to ON before starting this adjustment.

Adjustment Procedure



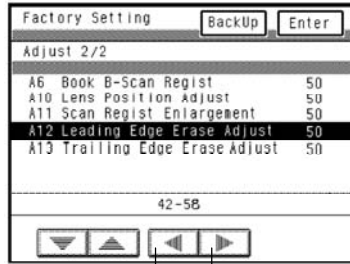
1. Place the GTC-test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the ADF.
2. Make two copies on A3 or 11" × 17" paper in the full size mode.
3. Check if dimension A (erase width) of the test chart on the copy meets the specification. (Check using the second copy.)
If dimension A deviates from the specification, adjust by following the procedure shown below.

4. With the the “Adjust 1/2” menu on the screen, touch [Next] to show the “Adjust 2/2” menu.
5. Touch the select key [▼] or [▲] to select “A12 Leading Edge Erase Adjust.”
6. Touch the shift key [◀] or [▶] to change the setting value.

Setting Instructions

When dimension A (erase width) on the copy deviates from the specification, change the setting value of the leading edge erase width adjustment.

- *If the erase width is longer, decrease the setting value (Example: Setting value: 50 to 49).*
- *If the erase width is shorter, increase the setting value (Example: Setting value: 50 to 51).*



1161D049CA

Touch This Key if Measurement is Longer.

Touch This Key if Measurement is Shorter.

7. Touch the Enter key to validate the setting value.

NOTE

Be sure to touch the Enter key before returning to the normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

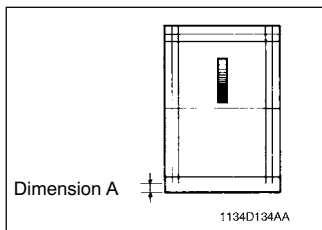
8. After the adjustment has been completed, set the “Leading Edge Erase” of the Tech. Rep. Choice mode to OFF and check that there is no black band at the image leading edge.

NOTE

If the leading edge registration adjustment has been set to the maximum value and the leading edge erase width is shortened (2 mm or shorter), a black band (shadow of the edge of the Original Glass) can be produced in the crosswise direction.

(15) Adjustment of the Image Trailing Edge Erase Width (Adjust 2/2: A13 Trailing Edge Erase Adjust)

Requirement



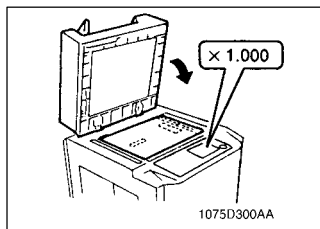
- Dimension A (erase width) on the copy of the GTC-test chart should meet the specification shown below.
- "Trailing Edge Erase" of the Tech. Rep. Choice mode 2/3 should be set to ON.

Zoom Ratio	Specification	Adjusting Mode	Setting Range
Full size (× 1.000)	0.5 to 7.5 mm	A13 Trailing Edge Erase Adjust	42 to 58

NOTES

- This adjustment should be performed after the adjustment of the image leading edge erase width has been completed.
- Be sure to set "Trailing Edge Erase" of the Tech. Rep. Choice mode 2/3 to ON before starting this adjustment.

Adjustment Procedure



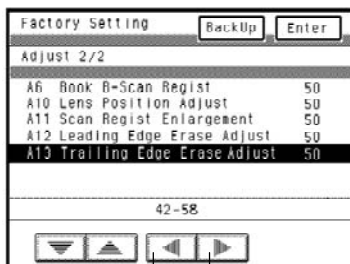
1. Place the GTC-test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the ADF.
2. Make two copies on A3 or 11" × 17" paper in the full size mode.
3. Check if dimension A (erase width) on the copy meets the specification. (Check using the second copy.)
If dimension A deviates from the specification, adjust by following the procedure shown below.
4. With the the "Adjust 1/2" menu on the screen, touch [Next] to show the "Adjust 2/2" menu.
5. Touch the select key [▼] or [▲] to select "A13 Trailing Edge Erase Adjust."

6. Touch the shift key [◀] or [▶] to change the setting value.

Setting Instructions

When dimension A (erase width) on the copy deviates from the specification, change the setting value of the trailing edge erase width adjustment.

- If the erase width is longer, decrease the setting value (Example: Setting value: 50 to 49).
- If the erase width is shorter, increase the setting value (Example: Setting value: 50 to 51).



1161D050CA

Touch This Key if Measurement is Longer.

Touch This Key if Measurement is Shorter.

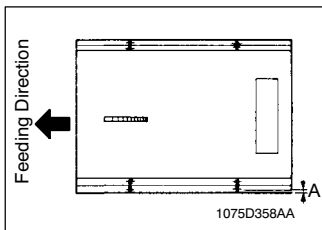
7. Touch the Enter key to validate the setting value.

NOTE

Be sure to touch the Enter key before returning to the normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

(16) Adjustment of the Image Erase Lamp Position

Requirement



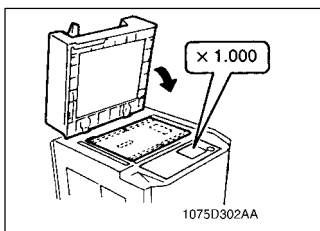
Dimension A (erase width) on the copy of the GTC-test chart should meet the specification shown below.

Zoom Ratio	Specification
Full size ($\times 2.000$)	1 ± 0.5 mm

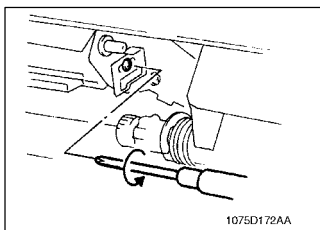
NOTE

This adjustment should be performed after the adjustment of the Multi-Bypass Table, 1st and 2nd Drawers, 3rd Drawer, and Duplex Unit reference positions has been completed.

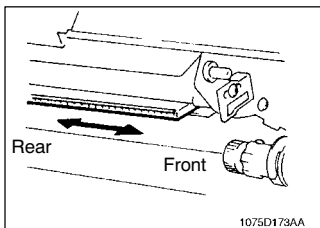
Adjustment Procedure



1. Place the GTC-test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the ADF.
2. Make two copies on A3 or A4 crosswise paper in the full size mode.
3. Check if dimension A (erase width) on the copy meets the specification. (Check using the second copy.) If dimension A deviates from the specification, adjust by following the procedure shown below.



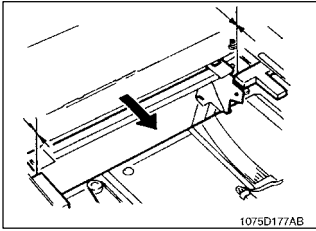
4. Open the Front Lower Door and release and swing up the Upper Half of the copier.
5. Pull out the PC Unit and cover the PC Drum with the PC Drum Cloth.
6. Loosen the Image Erase Lamp adjustment screw and adjust the position of the lamp by following the adjustment instructions shown below.



Adjusting Instructions

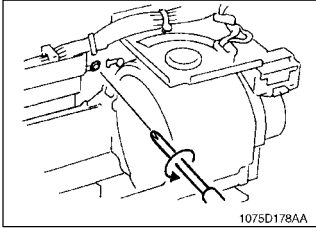
- When dimension A (erase width) on the copy deviates from the specification, adjust the Image Erase Lamp position.
 - If dimension A is 1.5 mm or longer, move the lamp towards the front.
 - If dimension A is 0.5 mm or shorter, move the lamp backwards.

7. After the position adjustment has been completed, tighten the Image Erase Lamp adjustment screw.

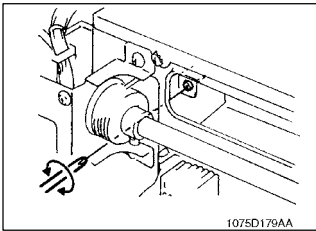


6. Press the 2nd/3rd Mirrors Carriage up against the jig and check if there is no gap between the mirrors carriage and the front jig and also between the mirrors carriage and rear jig. If there is a gap, adjust by following the procedure shown below.

<When there is a gap at the front side of the 2nd/3rd Mirrors Carriage>

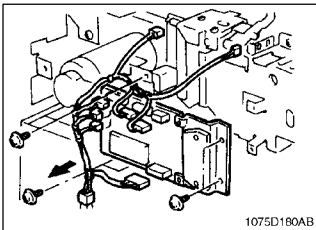


- (1) Open the Front Upper Door. Swing out the bottle holder to remove the Toner Bottle.
- (2) Swing the bottle holder closed and loosen the cable fixing screw shown.

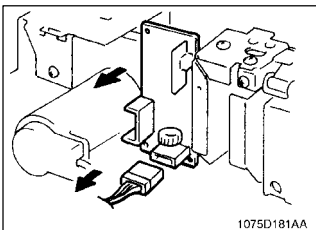


- (3) Turn the adjusting screw at the front adjustable anchor so that there is no gap between the 2nd/3rd Mirrors Carriage and the jig.
- (4) Tighten the cable fixing screw.

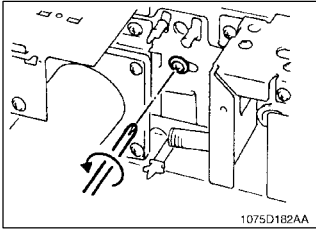
<When there is a gap at the rear side of the 2nd/3rd Mirrors Carriage>



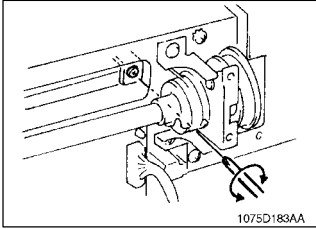
- (1) Remove eight connectors and five screws, and remove the Scanner Control Processor Board mounting bracket.



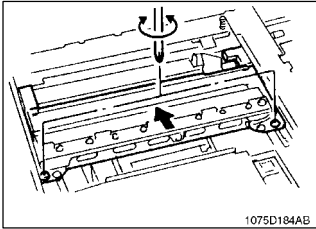
- (2) Unplug one connector and remove the Exposure Lamp Regulator.



- (3) Loosen the cable fixing screw shown on the left.



- (4) Turn the adjusting screw at the rear adjustable anchor so that there is no gap between the 2nd/3rd Mirrors Carriage and the jig.
- (5) After the adjustment is completed, tighten the cable fixing screw.

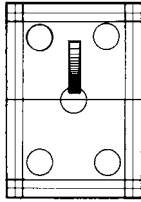


7. Press the Scanner up against the jig and tighten the Scanner positioning screws at both the front and rear.
8. Remove one set screw from each of the Front and Rear Scanner/Mirrors Carriage Positioning Jigs. Then, remove the jigs.

(18) Focus Adjustment

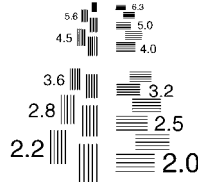
Requirement

Each line of the Resolution Bars "5.6" on the copy of the GTC-test chart should be clearly discernible.



1075D185AA

Enlarged View of  Part on the Left



1075D186AA

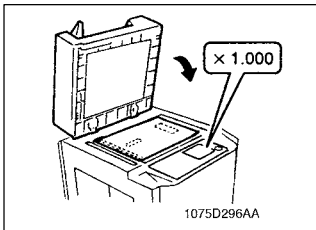
Zoom Ratio	Specification
Full size (× 1.000)	Resolution Bars 5.6 are discernible.

NOTE

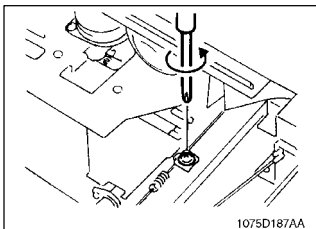
This adjustment should be performed after the positioning of the Scanner and 2nd/3rd Mirrors Carriage and positioning of the 4th/5th Mirrors (*1) have been completed.

(*1) Refer to (11) Winding of the Lens Drive Cable for the positioning of the 4th/5th Mirrors Carriage

Adjustment Procedure

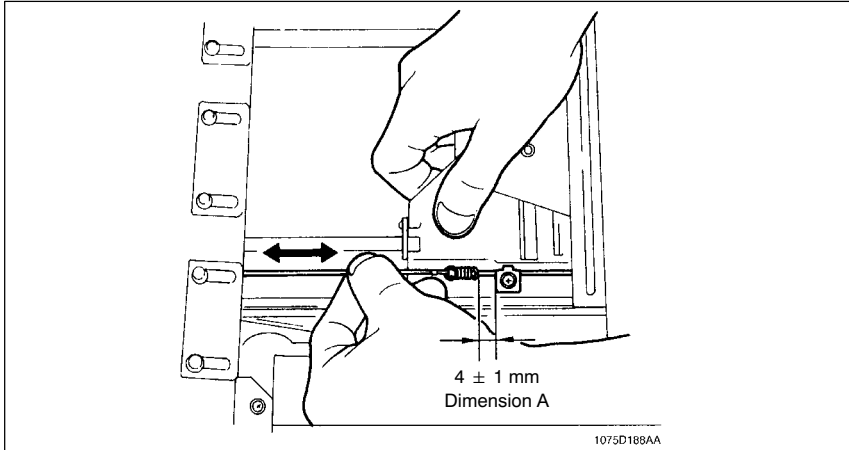


1. Place the GTC-test chart face down on the Original Glass and align its rear left corner with the reference marker on the Original Width Scale on the left side of the platen. Then, lower the ADF.
2. Make two full size copies on A3 or 11" × 17" paper. (Set the image density so it is convenient for checking.)
3. Check if each line of Resolution Bars 5.6 on the copy is clearly discernible. (check using the second copy.)
If bars 5.6 are indiscernible, adjust by following the procedure shown below.



4. Remove the Original Glass.
5. Loosen the Lens Drive Cable fixing screw.

6. Hold the Lens Base Plate and gradually move the Lens Drive Cable by hand within 4 ± 1 mm of dimension A in the illustration shown below.



NOTE

After the Lens Drive Cable has been moved, turn ON the Power Switch and make the adjustment of the zoom ratio in the crosswise direction (Adjust 1/2: A1 Lens Full Size Position).

7. After the Lens Drive Cable has been moved, tighten the Lens Drive Cable fixing screw.
8. Make two full size copies again to check to see if the specification is met. If it is not met, repeat the steps beginning with step 5.
9. After the adjustment has been made, make the adjustment of the zoom ratio in the crosswise direction (Adjust 1/2: A1 Lens Full Size Position).

(19) Adjustment of the Image Transfer/Paper Separator Coronas Height

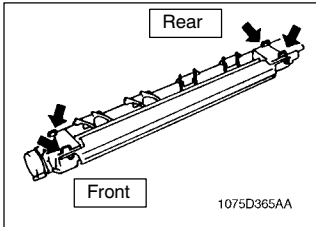
When is this adjustment required?

- After the Image Transfer/Paper Separator Coronas Retracting Assy has been removed and reinstalled.
- When an image problem (poor image transfer, faulty paper separation) has occurred.

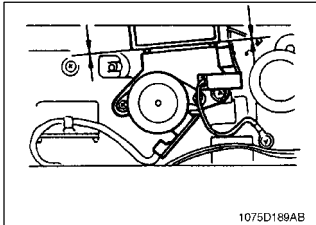
Requirement

With the Upper Half of the copier locked in position, there should be no gap at the front two positioning points for the Image Transfer/Paper Separator Coronas Unit and at the front frame (plastic part) of the Cleaning Unit.

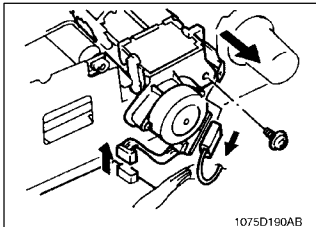
Adjustment Procedure



1. Open the Front Lower Door.
2. Remove the image transfer section cover and the PC Unit cover.
3. Remove the Rear Lower Cover.
4. Check to see if there is any gap at the front and rear positioning points at four places for the Image Transfer/Paper Separator Coronas Unit and at the front and rear frames (plastic parts) of the Cleaning Unit.

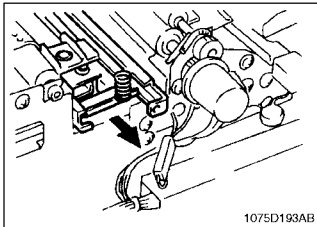
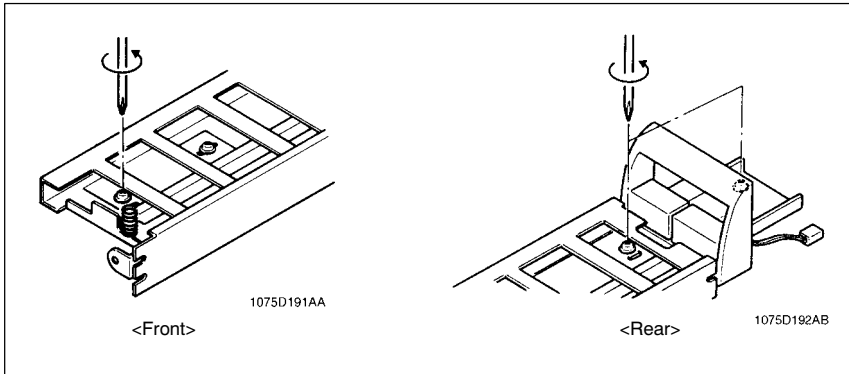


- * Shown on the left are the front positioning points for the Image Transfer/Paper Separator Coronas Unit. Since it is hard to see the rear positioning points, move the unit up and down to check for a possible gap in the rear.
5. If there is any gap at the front or rear positioning points of the Image Transfer/Paper Separator Coronas Unit, perform the following steps.



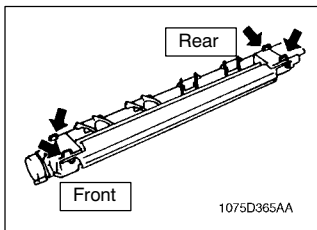
6. Release and swing up the Upper Half of the copier.
7. Unplug one connector of the M14/M16/M22 Drive Board and remove one ground terminal.
8. Remove one screw and the Image Transfer/Paper Separator Coronas.

9. Slide out the PC Unit and cover the PC Drum with the PC Drum Cloth.
10. Loosen one mounting screw at the front of the Image Transfer/Paper Separator Coronas Retracting Assy.
11. Remove the Rear Lower Cover and loosen two mounting screws in the rear of the Image Transfer/Paper Separator Coronas Retracting Assy.

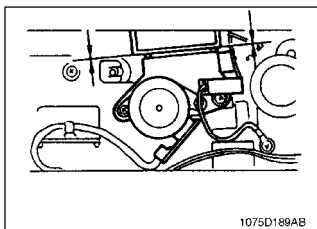


12. Move the Image Transfer/Paper Separator Coronas Retracting Assy to the front of the copier.
13. Then, tighten the three mounting screws to secure the Image Transfer/Paper Separator Coronas Retracting Assy.
14. Remove the PC Drum Cloth and slide the PC Unit back into the copier.

15. Install the Image Transfer/Paper Separator Coronas Unit and tighten one screw.
16. Plug in one connector of the M14/M16/M22 Drive Board and fit one ground terminal.



17. Swing down the Upper Half of the copier and check for any gap at the front and rear positioning points at four places for the Image Transfer/Paper Separator Coronas Unit and at the front and rear frames (plastic parts) of the Cleaning Unit.



- * Shown on the left are the front positioning points for the Image Transfer/Paper Separator Coronas Unit. Since it is hard to see the rear positioning points, move the unit up and down to check for a possible gap in the rear.
18. Readjust if there is still a gap.

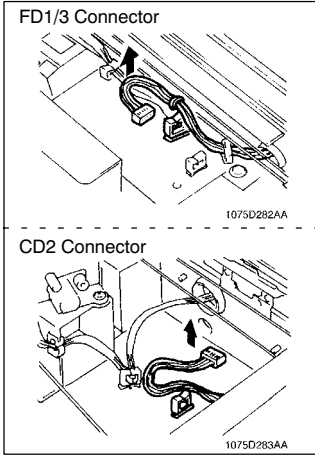
4 MISCELLANEOUS

1161SBD0401A

4-1. INSTALLATION OF THE ORIGINAL SIZE DETECTING SENSORS (OPTION) (Except for Hong Kong)

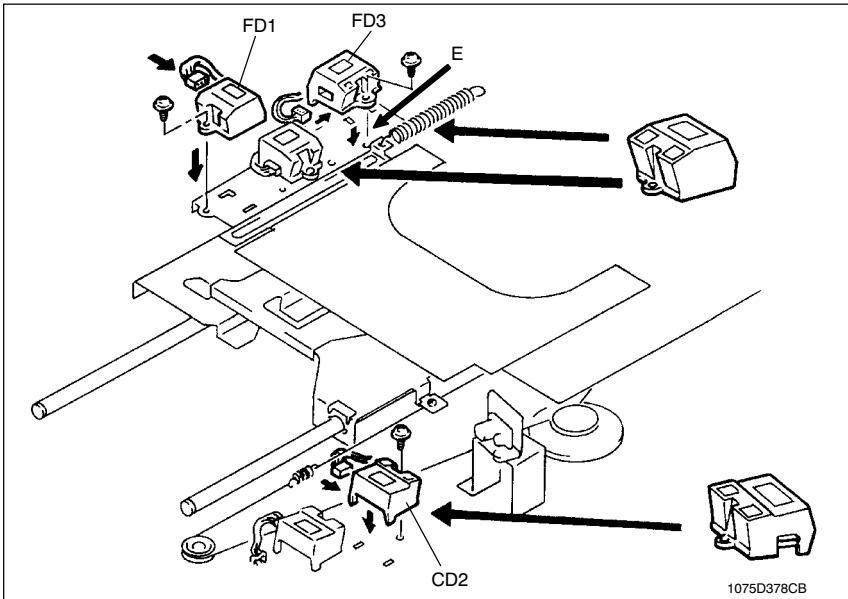
<Inch Areas>

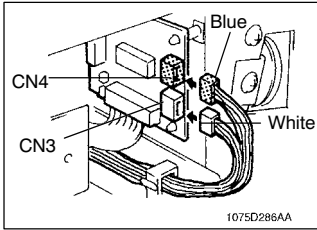
Installation procedure



1. Remove the Original Glass.
2. Remove the Optical Cover.
3. Remove the connectors (5-pin) for FD1 and FD3 and the connector (5-pin) for CD2 illustrated on the left from the wiring saddles.

4. Plug in the connectors to the Original Size Detecting Sensors FD1, FD3, and CD2 and install the sensors at the locations shown below.

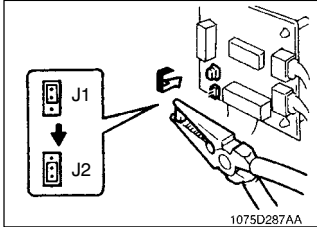




5. Remove the Left Upper Cover.
6. Connect the FD3 and CD2 connectors (white and blue) to Original Size Detecting Board UN3.

NOTES

- Plug the blue connector into CN4 of UN3 and the white connector into CN3.
- The FD5 signal line is contained in CN2 (already connected).



7. Change the position of the short-circuit connector of jumper connectors J1 and J2 on UN3 as shown on the left.

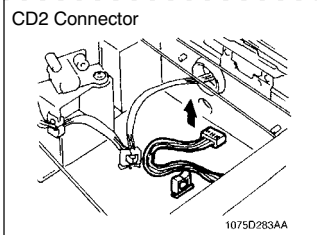
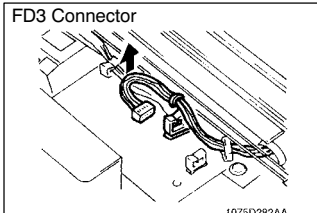
8. After these steps have been performed, turn ON Power Switch S1 and run the F7 (Orig. Sensor) operation. For details, see (1) Initial Adjustment of Original Size Detection (F7 Mode).

NOTE

Be sure to run the F7 operation after the Original Size Detecting Sensors FD1, FD3, and CD2 have been installed or an erroneous detection of paper size results.

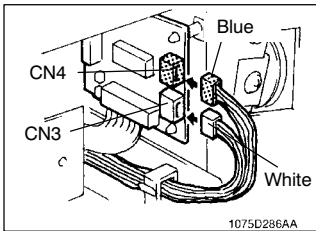
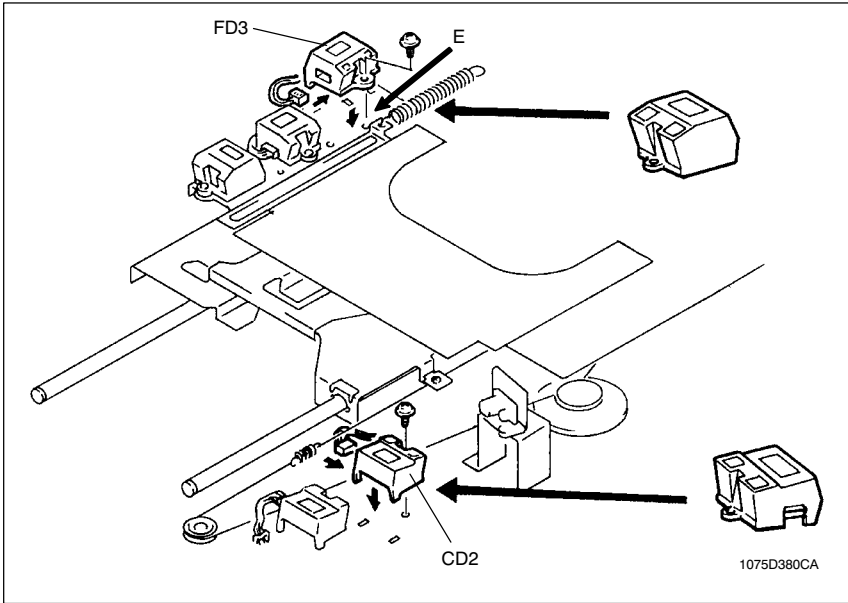
<Metric Areas>

Installation Procedure



1. Remove the Original Glass.
2. Remove the Optical Cover.
3. Remove the connectors (5-pin) for FD3 and CD2 illustrated on the left from the wiring saddles.

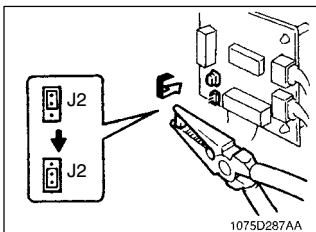
4. Plug in the connectors to the Original Size Detecting Sensors FD3 and CD2 and install the sensors at the locations shown below.



5. Remove the Left Upper Cover.
6. Connect the FD3 and CD2 connectors (white and blue) to Original Size Detecting Board UN3 as shown.

NOTE

Plug the blue connector into CN4 of UN3 and the white connector into CN3.



7. Change the position of the short-circuit connector of jumper connector J2 on UN3 as shown on the left.

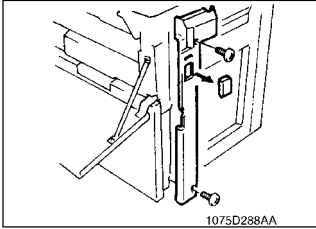
8. After these steps have been performed, turn ON Power Switch S1 and run the F7 (Orig. Sensor) operation. For details, see (1) Initial Adjustment of Original Size Detection (F7 Mode).

NOTE

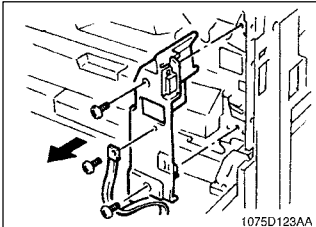
Be sure to run the F7 operation after the Original Size Detecting Sensors FD3 and CD2 have been installed or an erroneous detection of paper size results.

4-2. INSTALLATION OF THE PLUG-IN COUNTER (OPTION) MOUNTING BRACKET

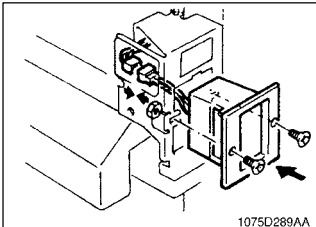
Installation Procedure



1. Remove the counter cover from the Right Front Cover.
2. Open the Front Lower Door.



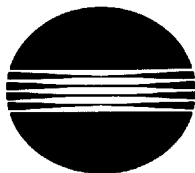
3. Remove the Right Front Cover.
4. Remove the Total Counter cover.



5. Connect the connector (4-pin) of the Plug-In Counter mounting bracket.
6. Install the Plug-In Counter mounting bracket with one screw (at the rear), and one screw and nut (at the front).

NOTE

When the Plug-In Counter mounting bracket is installed, be sure to set the "Plug-In Counter" of "System Input" available from the Tech. Rep. Mode to ON.



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