Di350

DIS/REASSEMBLY, ADJUSTMENT

MINOLTA

18605

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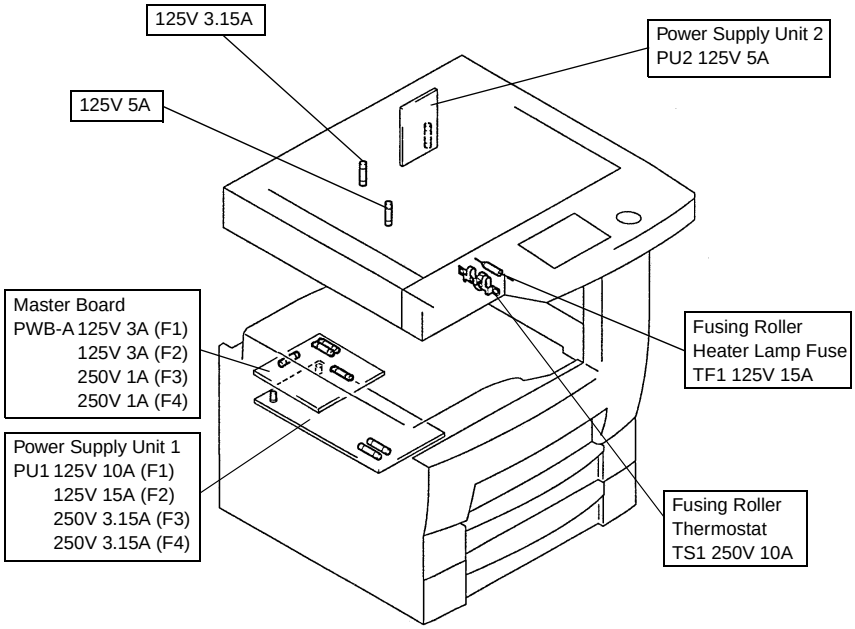
1 SERVICE INSTRUCTIONS

1-1. IDENTIFICATION OF FUSES AND CIRCUIT BREAKERS



1-2. PRECAUTIONS FOR HANDLING THE LASER EQUIPMENT

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

Max. power:	5mW
Output wavelength:	770~80nm

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

1-3. 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 PW Board, be sure to ground your body.

1-4. HANDLING OF THE IMAGING CARTRIDGE

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

Handling:
- Ensure that the correct Imaging Cartridge is used.
- Store the Imaging Cartridge in a site that is not exposed to direct sunlight.

Precautionary Information on the PC Drum Inside the Imaging Cartridge:
- 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.

1-5. PARTS WHICH MUST NOT BE TOUCHED

(1) Red painted Screws

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

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

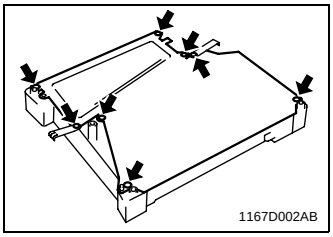
(2) Variable Resistors on Board

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

(3) Other Screws

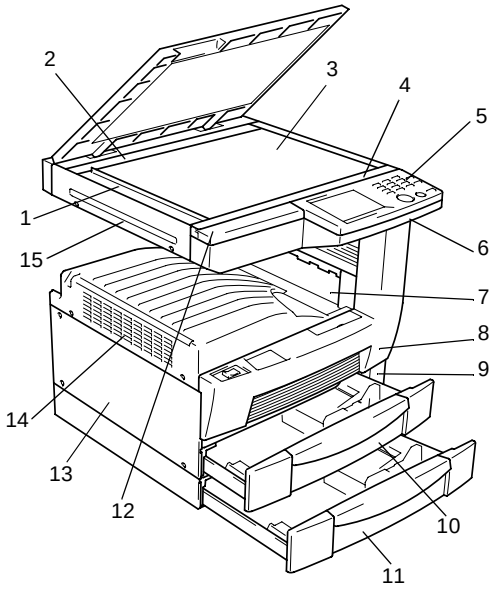
Although not marked with red paint, the following screws must not be loosened or readjusted.

8 screws on the PH Unit Cover



2 DISASSEMBLY/REASSEMBLY

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



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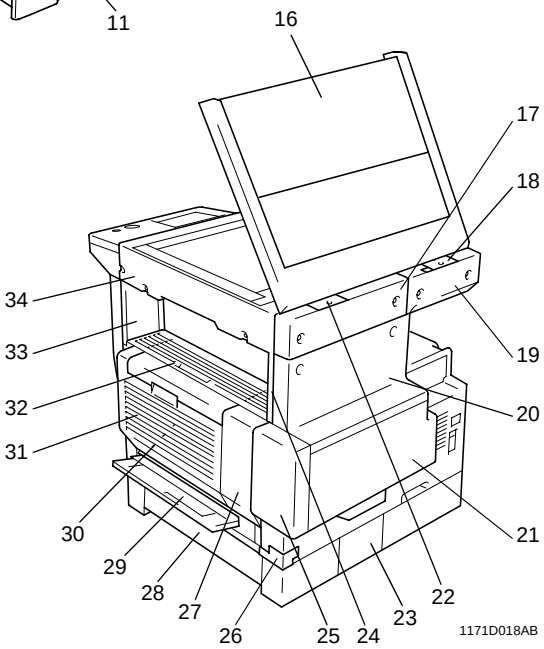

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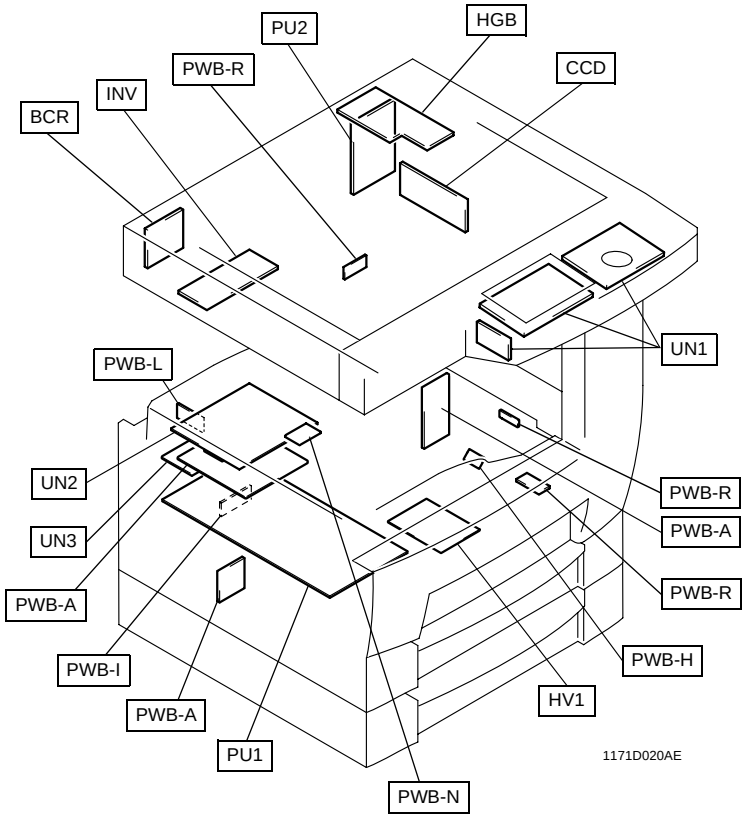
No.	Part Name	Removal Procedure
1	ADF Glass Assy.	Remove No. 2, 4. → Remove two holding brackets. → Remove two screw caps. → Remove two screws that secure the ADF Glass Assy.
2	Rear Holding Bracket	Remove No. 17, 18. → Remove two screw caps. → Remove two screws that secure the Rear Holding Bracket.
3	Original Glass	Remove No. 4. → Remove two holding brackets.
4	Front Holding Bracket	Remove two screw caps. → Remove two screws that secure the Front Holding Bracket.
5	Control Panel	Remove No. 8. → Remove No. 6. → Remove No. 4. → Remove No. 12. → Remove five screws that secure the control panel and unplug one connector.
6	Front Upper Cover	Remove No. 8. → Remove No. 12. → Remove six screws that secure the Front Upper Cover.
7	Exit Lower Cover	Remove No. 32. → Remove No. 24. → Unhook the two tabs of the Exit Lower Cover and remove the Exit Lower Cover.
8	Front Cover	Slide out No. 10. → Open No. 25. → Remove three screws that secure the Front Cover.
9	LED Cover	Slide out No. 10. → Remove one screw that secure the LED Cover.
10	MP Cassette	Slide out the MP Cassette. → Pushing the tab on the right rail, pull out the cassette.
11	500-Sheet Cassette	Slide out the 500-Sheet Cassette. → Pushing the tabs on both the right and left rails, pull out the cassette.
12	Upper Front Left Cover	Remove No. 4. → Remove two screws that secure the Upper Front Left Cover.
13	Left Cover	Remove six screws that secure the Left Cover.
14	Upper Cover	Remove two screws that secure the Upper Cover.
15	Left IR Cover	Remove two screws that secure the Left IR Cover.
16	Original Cover	———
17	Rear Right IR Cover	Remove No. 22. → Remove No. 19. → Remove two screws that secure the Rear Right IR Cover.
18	Left Hinge Cover	Remove one screw that secure the Left Hinge Cover.
19	Rear Left IR Cover	Remove No. 17. → Remove two screws that secure the Rear Left IR Cover.
20	Rear Upper Cover	Remove No. 21. → Remove No. 17. → Remove No. 19. → Remove four screws that secure Rear Upper Cover.
21	Rear Lower Cover	Remove No. 26. → Remove No. 25. → Open No. 30. → Open No. 32. → Remove five screws that secure the Rear Lower Cover.
22	Right Hinge Cover	Remove one screw that secure the Right Hinge Cover.
23	Connector Cover	Remove one screw that secure the Connector Cover.
24	Rear Inside Cover	Remove No. 22. → Remove three screws that secure the Rear Inside Cover.

No.	Part Name	Removal Procedure
25	Toner Bottle Cover	Open the Toner Bottle Cover. → Unhook the dowels at four places of the Toner Bottle Cover.
26	Harness Cover	Remove one screw that secure the Harness Cover.
27	Duplex Unit Rear Cover	Remove No. 31. → Remove two screws that secure the Duplex Unit Rear Cover.
28	500-Sheet Cassette Side Cover	Open the Side Cover. → Slide the Side Cover to the front and, at the same time, pull the rear side out of the frame.
29	Manual Bypass Tray	Remove No. 26. → Unplug one connector. → Remove three screws that secure the Manual Bypass Tray.
30	Side Cover	———
31	Duplex Unit	Remove two screws that secure the Duplex Unit.
32	Fusing Unit	See D-26.
33	Front Inside Cover	Remove No. 8. → Remove No. 32. → Remove two screws that secure the Front Inside Cover.
34	Right IR Cover	Remove three screws that secure the Right IR Cover.

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

- 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.

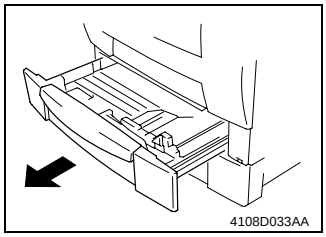


Symbol	Part Name	Removal Procedure
PWB-A	Master Board	Remove the Upper Cover. → Remove nine screws and the MFB Box Cover. → Remove two screws and the MFB Box Assy. → PWB-A
PWB-A	Cassette Main Board	Remove the Connector Cover. → PWB-A
PWB-A	Duplex Main Board	Remove the Duplex Unit. → Remove the Duplex Unit Rear Cover. → PWB-A
PWB-H	Double Feed Detecting Board	Slide out the MP Cassette. → Remove one screw and the PWB-H Mounting Bracket Assy. → PWB-H
PWB-I	Paper Size Detecting Board	Remove the Harness Cover. → Remove the Rear Cover. → Remove two screws and the PW Board Cover. → PWB-I
PWB-L	PPM Switching Board	Remove the Harness Cover. → Remove the Rear Cover. → Remove one screw and the PWB-L Mounting Bracket Assy. → PWB-L
PWB-N	RAM Board	Remove the Upper Cover. → Remove nine screws and the MFB Box Cover. → PWB-N
PWB-R	Fuser Frame Register Board	Remove the Fusing Unit. → Remove the rear lamp cover. → PWB-R
PWB-R	Pre-Transfer Guide Plate Register Board 1	Remove the Vertical Transport Unit. → Remove two screws and two ground plates. → PWB-R
PWB-R	Pre-Transfer Guide Plate Register Board 2	Open the Side Cover. → Remove the Imaging Cartridge. → Remove one screw and the PW Board Cover. → PWB-R
PU1	Power Supply Board 1	Remove the Harness Cover. → Remove the Rear Cover. → Remove the Left Cover. → Remove five screws and the Reinforcement Bracket. → Remove three screws and the PU1 Mounting Bracket Assy. → PU1
PU2	Power Supply Board 2	Remove the Harness Cover. → Remove the Rear Cover. → PU2
HV1	High Voltage Unit	Open the Side Cover. → Remove the Imaging Cartridge. → Remove two screws and the HV1 Cover. → HV1
INV	Inverter Board	Remove the Original Glass. → INV
BCR	BCR Board	Remove the Rear Left IR Cover. → Remove three screws and the Harness Cover. → BCR
HGB	HGB Board	Remove the Original Glass. → Remove the Right IR Cover. → Remove the Optical Cover. → Remove the Rear Lower Cover. → Remove the Rear Upper Cover. → Remove the Shielding Plate. (U.S.A. and Canada only) → Remove one screw and the Harness Cover. → Unplug nine connectors. → Remove five screws and the HGB Mounting Bracket Assy. → HGB
CCD	CCD Board	See D-15.

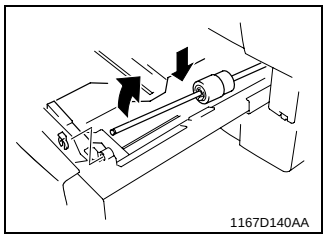
Symbol	Part Name	Removal Procedure
UN2	MFB Board	Remove the Upper Cover. → Remove nine screws and the MFB Box Cover. → UN2
UN3	Polygon Motor Drive Board	Remove the PH Unit. → UN3

2-3. PAPER TAKE-UP/TRANSPORT SECTION

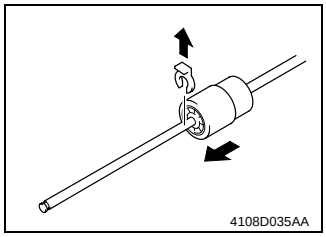
(1) Replacement of the Paper Take-Up Roll



1. Slide out the MP Cassette.

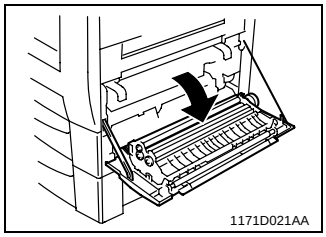


2. Lock the Paper Lifting Plate.
3. Snap off one C-clip of the Paper Take-Up Roll Assy.
4. Slide the Paper Take-Up Roll Assy to the rear so that it can be pulled off the bushing at the front.

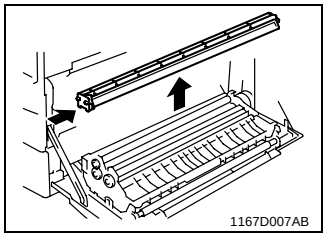


5. Snap off one C-clip and remove and replace the Paper Take-Up Roll.

(2) Replacement of the Paper Dust Remover

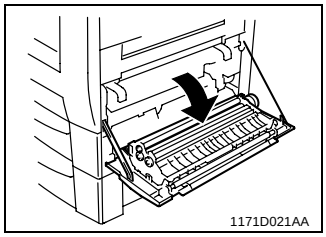


1. Open the Side Cover.

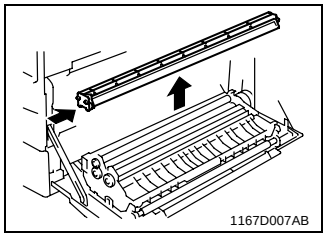


2. Remove the Paper Dust Remover and replace it.

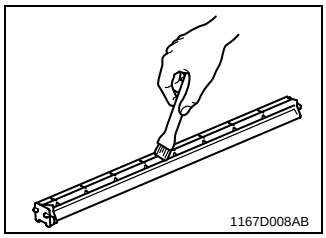
(3) Cleaning of the Paper Dust Remover



1. Open the Side Cover.

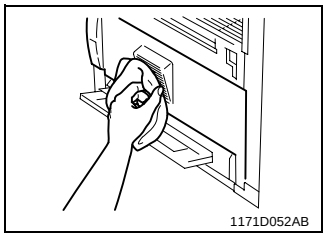


2. Remove the Paper Dust Remover.



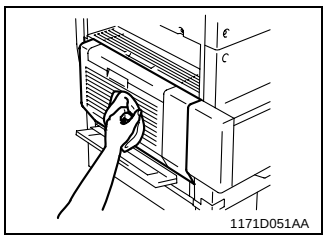
3. Using a brush, whisk dust and dirt off the Paper Dust Remover.

(4) Cleaning of the Side Cover



Using a soft cloth dampened with alcohol, wipe the Side Cover.

(5) Cleaning of the Duplex Unit Cover

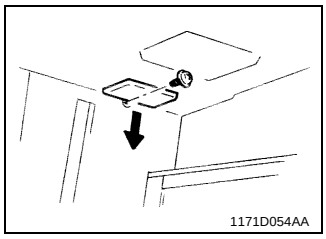


Using a soft cloth dampened with alcohol, wipe the Duplex Unit Cover.

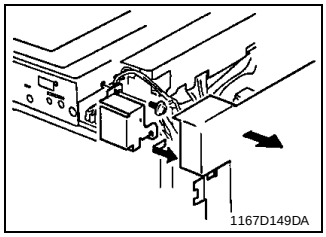
2-4. OPTICAL SECTION

(1) Removal of the IR Unit

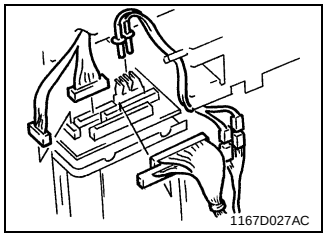
1. Remove the Original Cover, Front Holding Bracket, Upper Front Left Cover, Front Cover, Front Upper Cover, Rear Right IR Cover, Rear Left IR Cover, Rear Lower Cover, Rear Upper Cover, and Front Inside Cover.



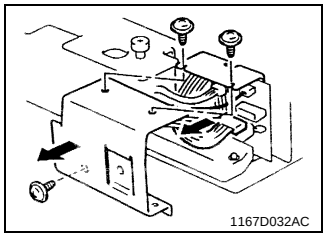
2. Remove one screw and the Motor Cover.



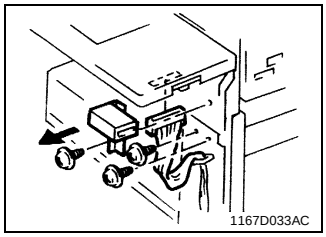
3. Remove the Shielding Plate. (U.S.A. and Canada only)
4. Remove one screw and the Harness Cover.



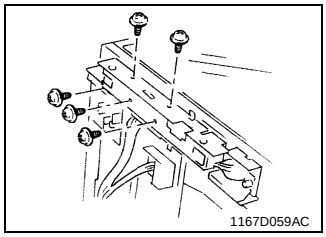
5. Unplug eight connectors of the HGB Board.



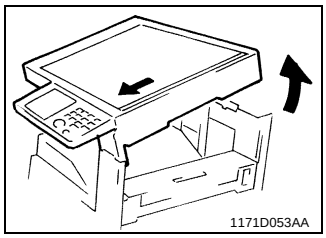
6. Remove three screws and the Harness Cover.
7. Unplug one connector of the BCR Board.



8. Remove one screw and the Total Counter Mounting Bracket Assy.
9. Unplug one connector of the Control Panel.
10. Remove two screws that secure the front end of the frame.



11. Remove five screws that secure the rear end of the frame.

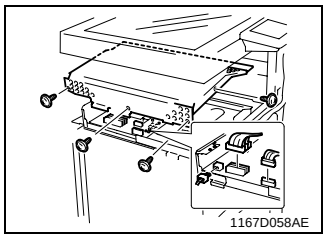


12. Raise the rear end of the IR Unit and pull the unit out toward front.

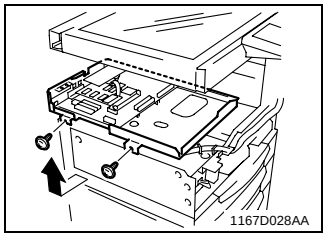
(2) Removal of the PH Unit

NOTES

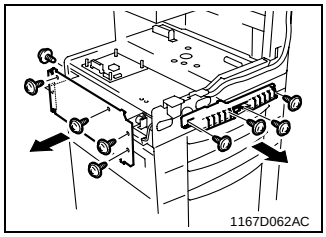
- *Do not place the PH Unit upside down or subject it to excessive shock.*
- *Replace the PH Unit as one unit.*
- *NEVER attempt to disassemble or adjust the PH Unit.*
- *Whenever the PH Unit has been removed, make the following adjustments: Edge Erase, Registration (CD, FD) (Printer), Registration (IR).*



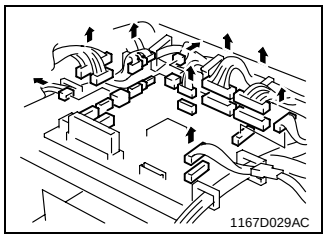
1. Remove the Upper Cover, Front Cover, Left Cover, and Rear Cover.
2. Remove four screws and the MFB Box Cover.
3. Unplug five connectors of the MFB Board.



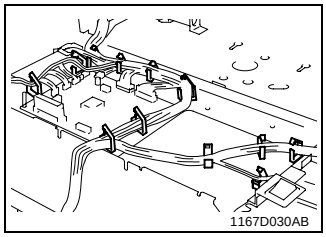
4. Remove two screws and the MFB Box Assy.



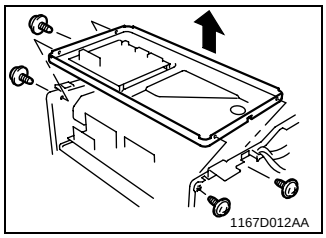
5. Remove five screws and the Reinforcement Bracket.
6. Remove four screws and the handle.



7. Unplug all connectors (13) from Master Board PWB-A.

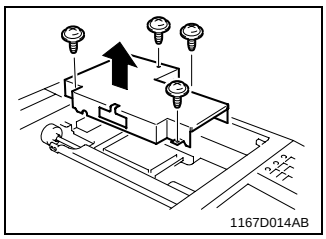


8. Remove the harness from all cord clamps (12) on the PH Base Plate.



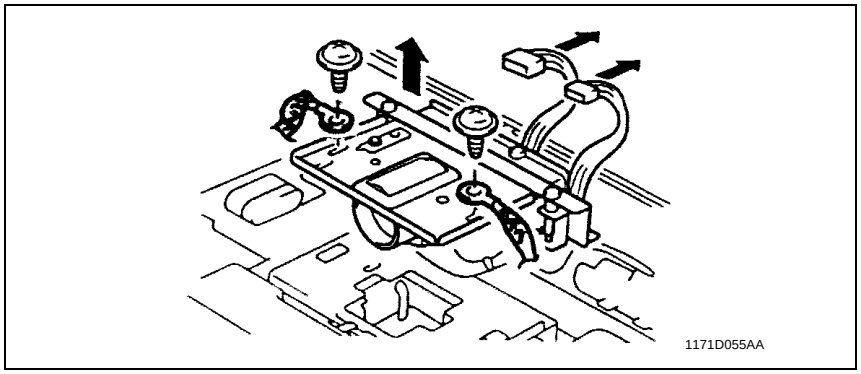
9. Remove four screws and the PH Unit.

(3) Removal of the CCD Unit



1. Remove the Original Glass.
2. Remove four screws and the Cover.

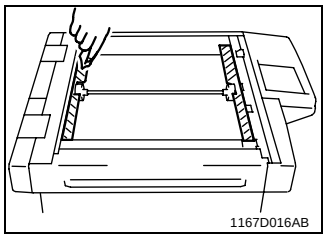
3. Unplug two connectors of the CCD Unit.
4. Remove two screws and the CCD Unit.



NOTES

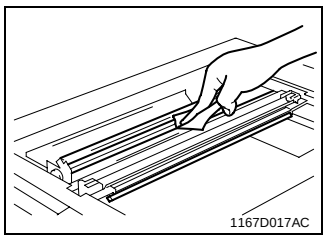
1. When removing the CCD Unit, remove only those screws and parts that are specified. (Remove the CCD Unit as one unit.)
2. Whenever the CCD Unit has been replaced, make the following adjustment: FD of Zoom Adjust (IR).

(4) Cleaning of the Scanner Rails/Bushings



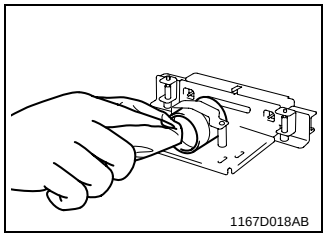
1. Remove the Original Glass.
2. Using a soft cloth, wipe clean the Scanner Rails and Bushings.

(5) Cleaning of the Mirrors



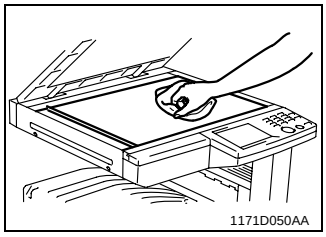
1. Remove the Original Glass.
2. Wipe clean the Mirrors with a soft cloth.

(6) Cleaning of the Lens



1. Remove the CCD Unit.
2. Wipe clean the Lens with a soft cloth.

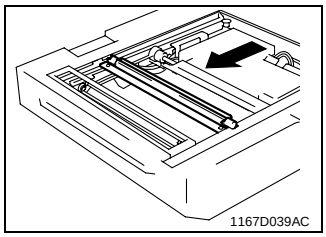
(7) Cleaning of the Original Glass



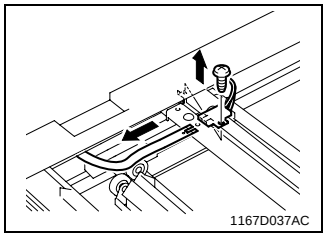
Wipe clean the Original Glass with a soft cloth.

(8) Removal of the Scanner

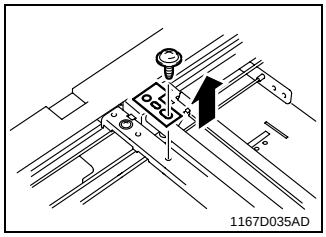
1. Remove the Original Glass.
2. Remove the Rear Holding Bracket.



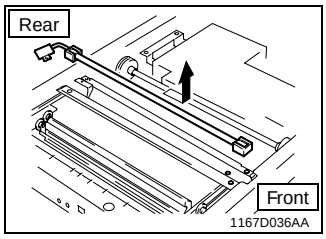
3. Slide the Scanner to the position shown.



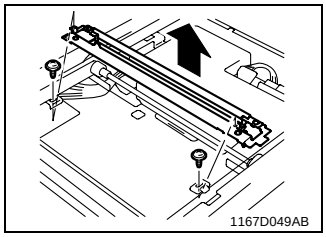
4. Remove one screw and unplug the connector of the Exposure Lamp.
5. Remove the flat cable of the Exposure Lamp.



6. Remove one screw and the Lamp Fixing Bracket.



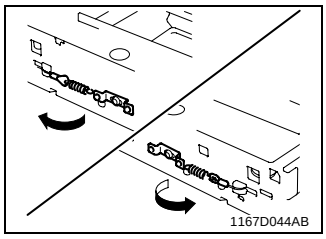
7. Slide the Exposure Lamp to the front and remove it.



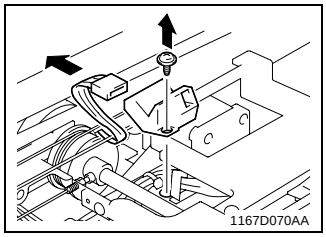
8. Remove two screws and the Scanner.

(9) Removal of the Scanner Drive Cables

1. Remove the Original Glass and ADF Glass Assy.
2. Remove the Left IR Cover.
3. Remove the Scanner.

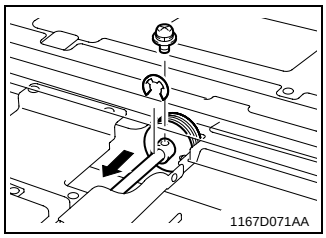


4. Unhook the spring of the cable on the hook side, one each at the front and in the rear.

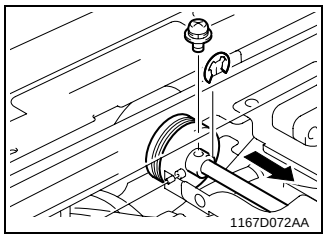


5. Remove one screw and the Original Size Detection Sensor.

✻ Inch Areas Option.



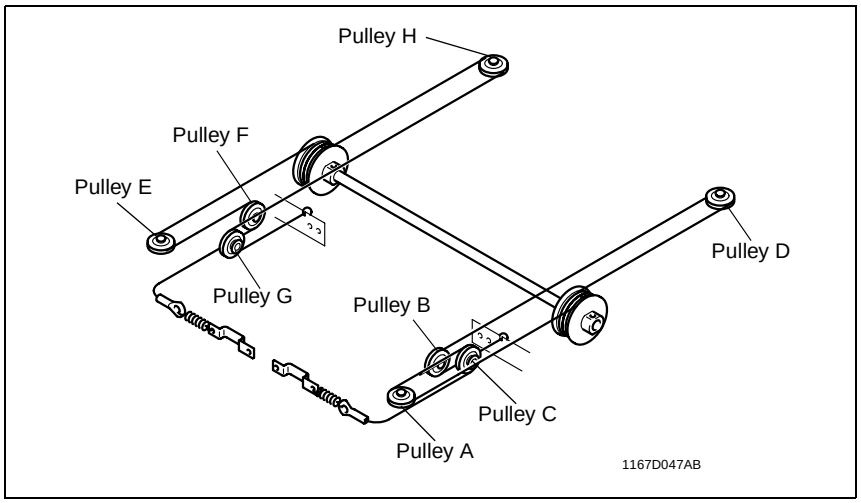
6. Snap off one E-ring and remove one mounting screw from the front pulley and slide the pulley to the rear.

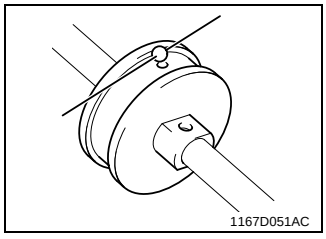


7. Snap off one E-ring and remove one mounting screw from the rear pulley and slide the pulley to the front.

8. Remove the Scanner Drive Cable, hook end first.

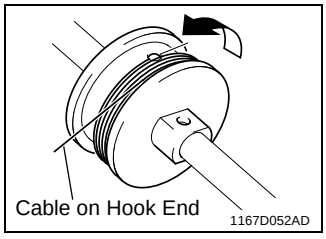
(10) Winding of the Scanner Drive Cables



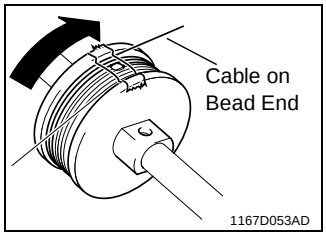


Front

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

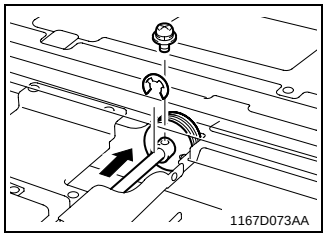


2. Wind the hook end of the Scanner Drive Cable two turns counterclockwise from the rear side to the front.

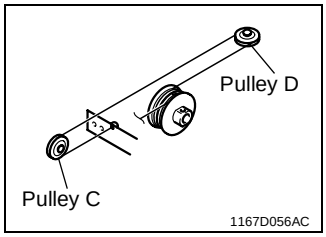


3. Wind the bead end of the cable four turns clockwise from the front to the rear. Then, secure the cable with tape.

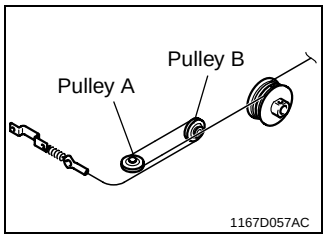
NOTE
Make sure that no part of the cable rides on the other.



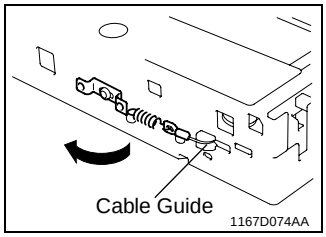
4. Slide the pulley to the front and install one mounting screw and one E-ring.



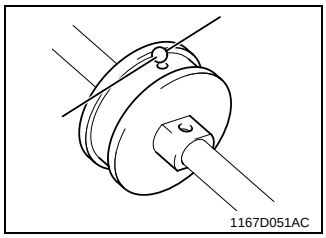
5. Wind the bead end of the cable around pulley D and pulley C, then hook the bead onto the Adjustable Anchor.



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

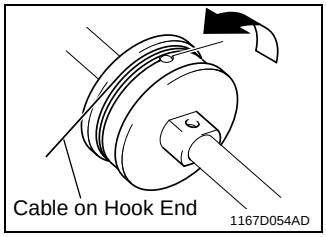


7. Fit the hook end of the cable into the groove in the Cable Guide and hook the spring.

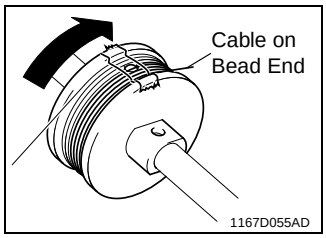


Rear

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

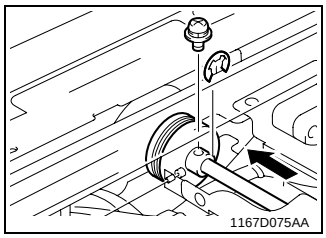


9. Wind the hook end of the cable two turns counter-clockwise from the front to the rear.

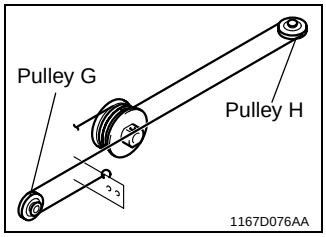


10. Wind the bead end of the cable four turns clockwise from the rear to the front. Then, secure the cable with tape.

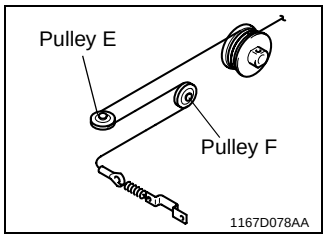
NOTE
Make sure that no part of the cable rides on the other.



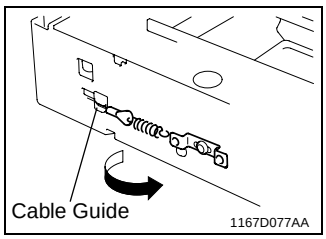
11. Slide the pulley toward the rear and install one mounting screw and one E-ring.



12. Wind the bead end of the cable around pulley H and pulley G and hook the bead onto the Adjustable Anchor.



13. Wind the hook end of the cable around pulley E and pulley F.



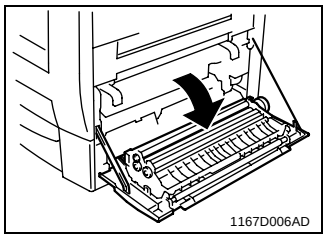
14. Fit the hook end of the cable into the groove in the Cable Guide and hook the spring.

15. Peel off the tape from the pulleys at the front and rear.
16. Mount the Scanner.
17. Mount the Original Size Detection Sensor.
18. Reinstall the Left IR Cover.
19. Reinstall the Original Glass and ADF Glass Assy.
20. Perform the Focus-Positioning of the Scanner and 2nd/3rd Mirrors Carriage. (For details, see ADJUSTMENT.)

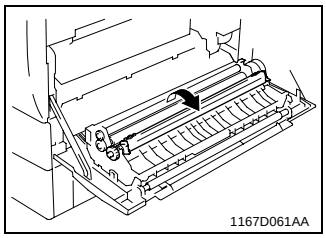
NOTE
Whenever the Scanner Drive Cables have been removed, be sure to make the following adjustment: CD of Zoom Adjust (IR).

2-5. IMAGE TRANSFER SECTION

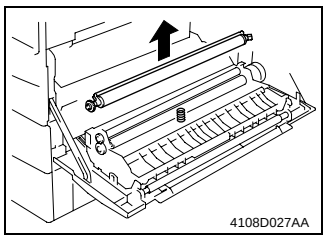
(1) Removal of the Image Transfer Roller



1. Open the Side Cover.



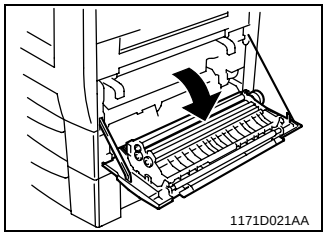
2. Raise the Image Transfer Guide Plate.



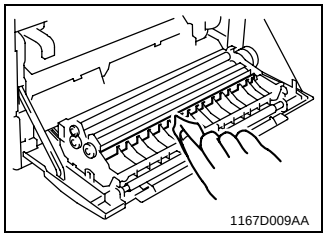
3. Remove the Image Transfer Roller and replace it.

NOTE
Do not touch the surface of the Image Transfer Roller directly with bare hands.

(2) Cleaning of the Comb Electrode



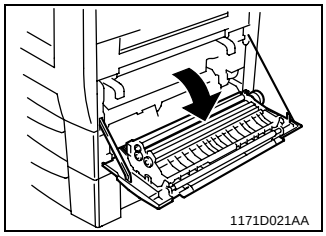
1. Open the Side Cover.



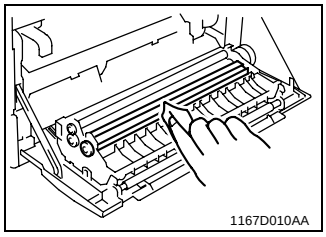
2. Using a soft cloth dampened with alcohol, wipe the Comb Electrode.

NOTES
- *Make sure the alcohol does not touch the surface of the Image Transfer Roller.*
- *When wiping the Comb Electrode, make sure the cloth is not caught by the ends of the combs.*

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



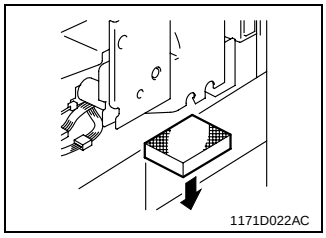
1. Open the Side Cover.



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

NOTE
Make sure the alcohol does not touch the surface of the Image Transfer Roller.

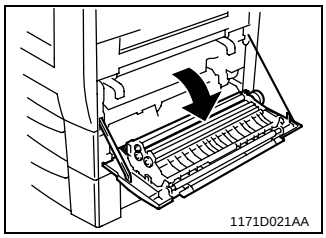
(4) Replacement of the Ozone Filter



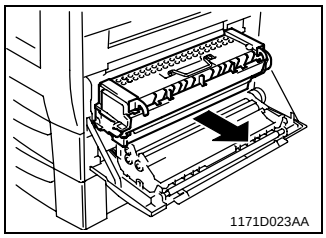
1. Remove the Rear Lower Cover.
2. Pull out the Ozone Filter and replace it.

2-6. DEVELOPING SECTION

(1) Removal of the Imaging Cartridge



1. Open the Side Cover.

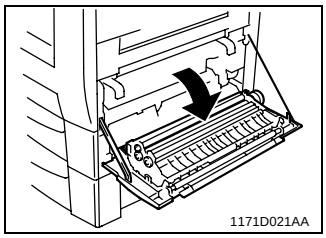


2. Holding onto the green handles, slide the Imaging Cartridge part of the way out.
3. Then grasp the handle on top of the cartridge and pull the cartridge out.

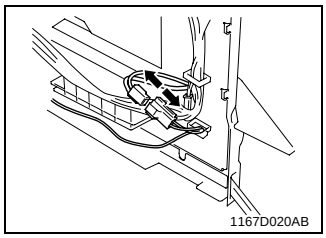
NOTE
When installing the Imaging Cartridge, push it all the way into the machine.
If the cartridge is not properly installed, the PC Drum protective shutter of the cartridge may not be opened or may even be damaged.

2-7. FUSING SECTION

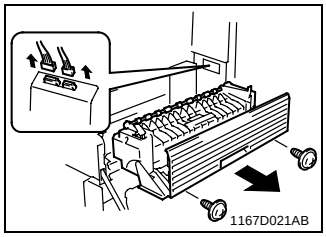
(1) Removal of the Fusing Unit



1. Open the Side Cover.

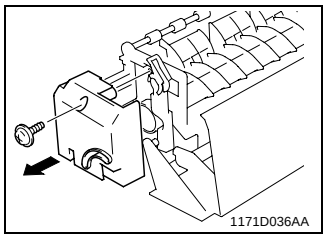


2. Remove the Front Cover.
3. Unplug one connector at the front.

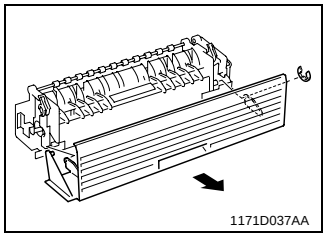


4. Open the Exit Cover and unplug two connectors in the rear.
5. Close the Exit Cover and remove two screws and the Fusing Unit.

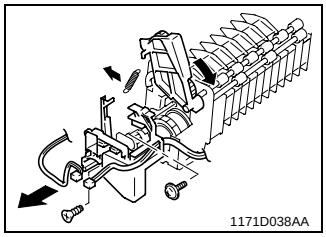
(2) Removal of the Fusing Roller Heater Lamp, Fusing Right Roller, Fusing Left Roller, Fusing Roller Thermistor, Fusing Roller Thermostat, and Fusing Roller Heater Lamp Fuse



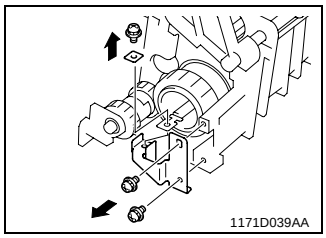
1. Open the Exit Cover.
2. Remove one screw and the Fusing Front Cover.



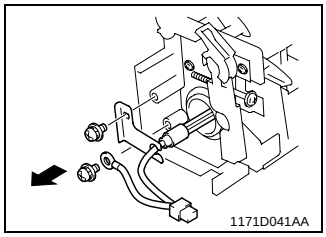
3. Snap off one E-ring and remove the Exit Cover.



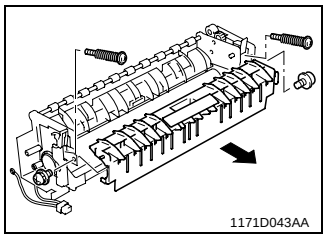
4. Unhook one spring to free the Idle Lever.
5. Remove two harnesses.
6. Remove two screws and the Rear Cover.



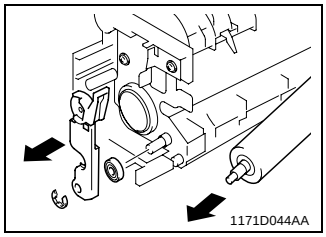
7. Remove three screws and the rear Lamp Holder.



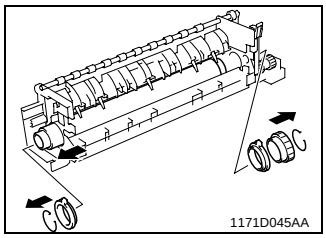
8. Remove one screw and the front Lamp Holder.
9. Remove one screw and the Fusing Roller Heater Lamp.



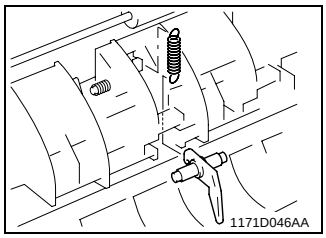
10. Remove two screws and the Fusing Rear Guide Assy.
11. Remove two pressure springs.



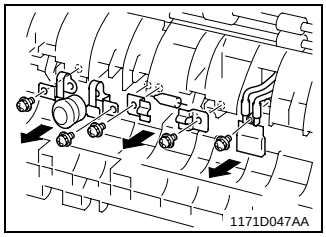
12. Snap off one E-ring and remove the front Misfeed Clearing Lever Assy and bearing.
13. Remove the Fusing Right Roller.



14. Snap off two retaining rings.
15. Remove one gear and two bushings.
16. Remove the Fusing Left Roller.



NOTE
When the Fusing Left Roller is removed, it can cause the spring to come off the Separator Finger. After the Fusing Left Roller has later been reinstalled, be sure to hook the spring onto the Separator Finger.

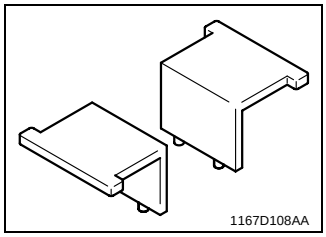


17. Remove one screw and the Fusing Roller Thermistor.
18. Remove two screws and the Fusing Roller Heater Lamp Fuse.
19. Remove two screws and the Fusing Roller Thermostat.

3 ADJUSTMENT

3-1. ADJUSTMENT JIGS AND TOOLS USED

1. Scanner/Mirrors Carriage Positioning Jigs

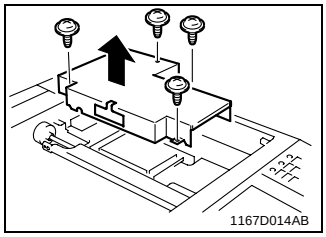


3-2. ADJUSTMENT REQUIREMENT LIST

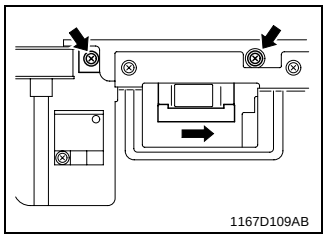
Adjustment Item	Requirements	Adjustment Point	Ref. Page
Touch Panel Adj.	Automatically adjusted	Control Panel	D-32
Original Size Detecting Sensor Adjustment	↑	↑	D-33
Loop Adjustment	—	↑	D-34
Edge Erase			
Leading	—	↑	D-35
Trailing	—	↑	D-36
Right/Left	—	↑	D-37
Registration (CD) (Printer)	10 ± 2.0 mm	↑	D-38
Registration (FD) (Printer)	↑	↑	D-40
Registration (IR)			
CD	↑	↑	D-42
FD	↑	↑	D-44
Zoom Adjust (IR)			
CD	200 ±1.0 mm	↑	D-46
FD	300 ±1.5 mm	↑	D-48
IR-Erasure Width	—	↑	D-50

3-3. ADJUSTMENT OF BELT TENSION

- Adjustment of the Scanner Motor Timing Belt



1. Remove the Original Glass.
2. Remove four screws and the Cover.



3. Loosen the two screws that secure the Scanner Motor. Using a bar tension gage, pull the motor to the right with a tension of 1000 g ±50 g and, at the same time, tighten the mounting screws.

NOTE
After the adjustment, turn the timing belt to check that the belt teeth are in mesh with the pulley grooves.

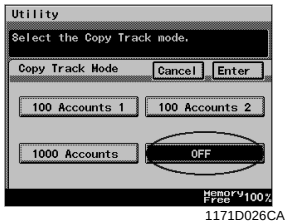
3-4. TEST PRINT

NOTES

This function is used to make the following electrical and image adjustments:

- *Registration (CD) (Printer)*
- *Registration (FD) (Printer)*
- *Registration (IR)*
- *Zoom Adjust (IR)*

◎ Adjustment Procedure



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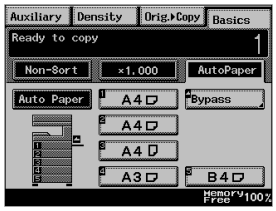
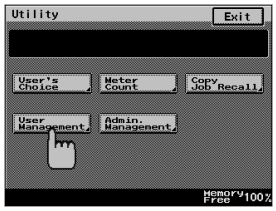
1. Check that “Copy Track Mode” of “Copy Track” under “Admin. Management” available from “Utility” is “OFF.”



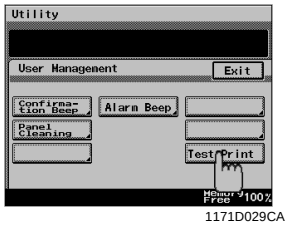
1171D027CA

2. Select the paper source for the test print.



1171D028CA

3. Press the Utility key on the control panel and touch [User Management].



1171D029CA

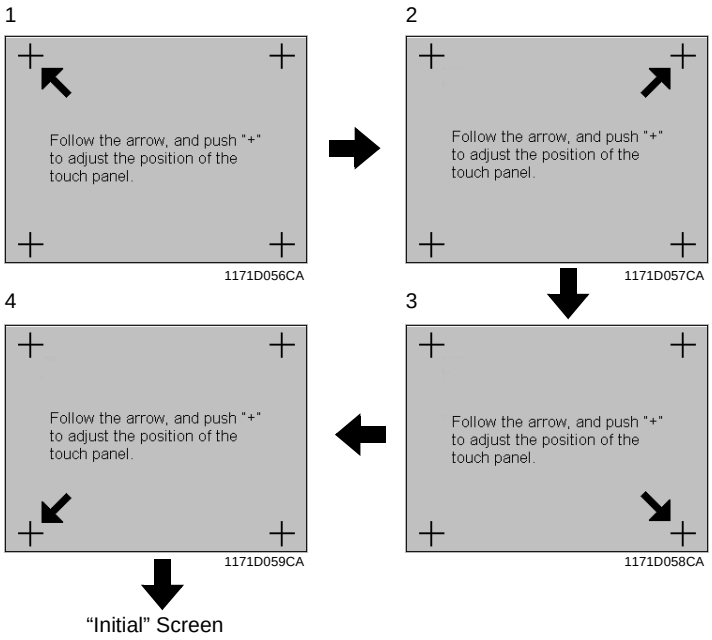
4. Touch [Test Print] to produce a test pattern.

3-5. ELECTRICAL/IMAGE ADJUSTMENT

(1) Touch Panel Adj.

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

◎ Adjustment Procedure
1. Call the Initial mode to the screen. (For details, see SWITCHES ON PWBs, TECH. REP. SETTINGS.)
2. Touch [Touch Panel Adj.].



3. Touch + on screen 1.

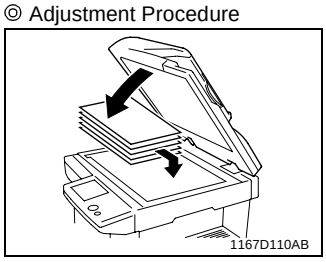
NOTE
At this time, ensure that the very center of "+" is touched using the tip of a ballpoint pen or similar device.

4. Touch + on screen 2.
5. Touch + on screen 3.
6. Touch + on screen 4.

(2) Original Size Detecting Sensor Adjustment (F7-1)

NOTE
Make this adjustment after any of the following procedures have been performed:
- *Memory Clear*
- *A faulty original size detection occurs*
- *Replacement of the CCD Unit and Scanner parts (including the Exposure Lamp)*
- *RAM Board replacement*

◎ Adjustment Procedure



1. Stack five sheets of blank A3 or 11" × 17" paper on the Original Glass and lower the Original Cover.
2. Call the Tech. Rep. mode to the screen.
3. Touch [Function] to call the Function menu.
4. Touch F7-1 Original Size Detecting Sensor Adjustment.
5. Press the Start key to run the Original Size Detecting Sensor Adjustment function.

NOTE
The Start key remains lit up orange while this function is being run and lights up green as soon as the sequence is completed.

(3) Loop Adjustment

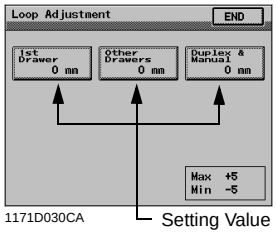
Requirement
Adjust so that a correct loop is formed before the Synchronizing Rollers when paper is fed through.

Adjust Mode	Setting Value
Loop Adjustment	-5 to +5

NOTE
This adjustment is to be made when any of the following symptoms occurs: variations in the amount of print leading edge void, paper skew, and misfeed.

◎ Adjustment Procedure
1. Call the Tech. Rep. mode to the screen.
2. Touch [Tech. Rep. Choice], then [Printer].
3. Touch [Loop Adjustment] to enter the Loop Adjustment mode.
4. Select the paper source for which the adjustment is to be made.
5. Press the Clear key to clear the current setting.
6. Enter the new setting value from the 10-Key Pad.

Setting Instructions
Change the setting value as necessary until there are no variations in the amount of void image along the leading edge, skewed feeding, dog-ear, or misfeed.



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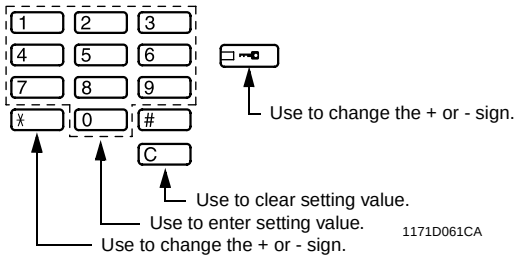

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7. Touch the [END] key to validate the setting value.

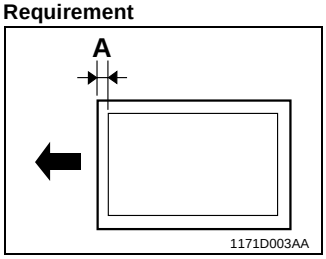
Caution
Be sure to touch the END key before returning to normal operation mode. If the Panel Reset Key is used, the previous setting remains valid.

8. Perform the same steps to adjust for the other paper sources.

(4) Edge Erase

1. Leading

Requirement



Adjust so that the erase width on the leading edge falls within the range of 0 to 5 mm.

Adjust Mode	Setting Range
Edge Erase/Leading	0 to 5

NOTE

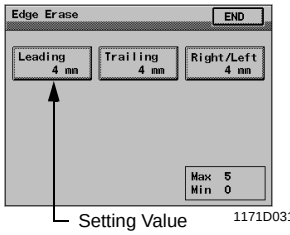
This adjustment must be made when the PH Unit has been replaced and after Registration (CD/FD) (Printer) has been made.

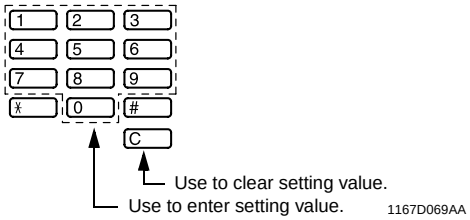
◎ Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch [Tech. Rep. Choice], then [Printer].
3. Touch [Edge Erase] and then [Leading] to enter the Leading Edge Erase adjustment mode.
4. Press the Clear key to clear the current setting.
5. Enter the new setting value from the 10-Key Pad.

Setting Instructions

To make the edge erase width smaller, decrease the setting value.
To make the edge erase width greater, increase the setting value.





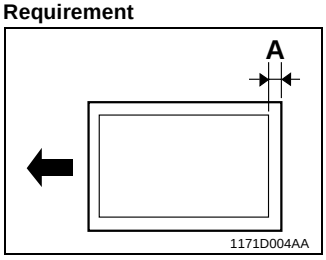
6. Touch the [END] key to validate the setting value.

Caution

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

2. Trailing

Requirement



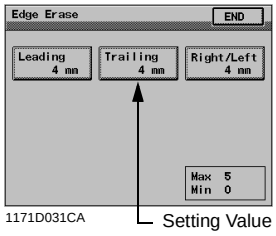
Adjust so that the erase width on the trailing edge falls within the range of 0 to 5 mm.

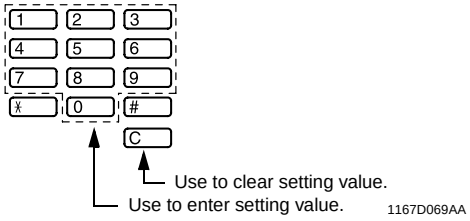
Adjust Mode	Setting Range
Edge Erase/Trailing	0 to 5

NOTE
This adjustment must be made when the PH Unit has been replaced and after Registration (CD/FD) (Printer) has been made.

◎ Adjustment Procedure
1. Call the Tech. Rep. mode to the screen.
2. Touch [Tech. Rep. Choice], then [Printer].
3. Touch [Edge Erase] and then [Trailing] to enter the Trailing Edge Erase adjustment mode.
4. Press the Clear key to clear the current setting.
5. Enter the new setting value from the 10-Key Pad.

Setting Instructions
To make the edge erase width smaller, decrease the setting value.
To make the edge erase width greater, increase the setting value.



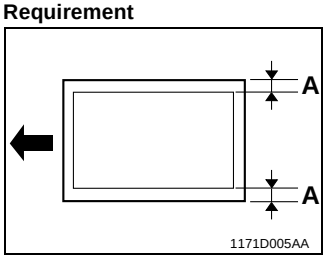


6. Touch the [END] key to validate the setting value.

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

3. Right/Left

Requirement



Adjust so that the erase width on the right/left edge falls within the range of 0 to 5 mm.

Adjust Mode	Setting Range
Edge Erase/Right/Left	0 to 5

NOTE

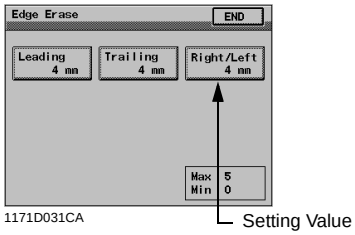
This adjustment must be made when the PH Unit has been replaced and after Registration (CD) (Printer) have been made.

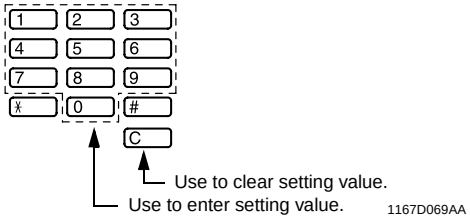
◎ Adjustment Procedure

1. Call the Tech. Rep. mode to the screen.
2. Touch [Tech. Rep. Choice], then [Printer].
3. Touch [Edge Erase] and then [Right/Left] to enter the Right/Left Edge Erase adjustment mode.
4. Press the Clear key to clear the current setting.
5. Enter the new setting value from the 10-Key Pad.

Setting Instructions

To make the edge erase width smaller, decrease the setting value.
To make the edge erase width greater, increase the setting value.





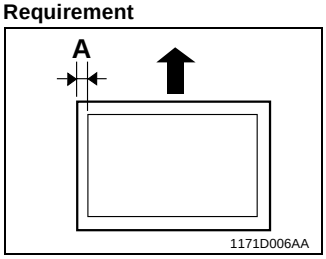
6. Touch the [END] key to validate the setting value.

Caution

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

(5) Registration (CD) (Printer)

Requirement



Adjust so that width A on the test pattern output falls within the following range.

Specification	Adjust Mode	Setting Range
1-Sided: 10 ±2.0 mm 2-Sided: 10 ±3.0 mm	Registration (CD)	-4.0 to +4.0

NOTE

This adjustment must be made when the PH Unit has been replaced and, for 2-sided, after Registration (CD) (Printer) for each paper source for 1-sided and Registration (FD) (Printer) have been made.

◎ Adjustment Procedure

1. Produce a test pattern. (For details, see 3-4. TEST PRINT.)
2. 1-Sided: Check to see if width A on the test pattern meets the specifications.
   2-Sided: Using the test pattern output as the original, make an ordinary 2-sided copy. Check to see if width A on the second side of the 2-sided copy meets the specifications.

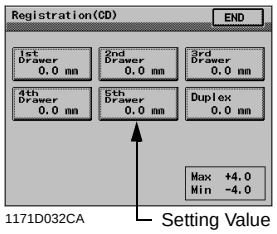
   If width A falls outside the specified range, perform these steps to make the adjustment.

3. Call the Adjust mode to the screen.
4. Touch [Printer] and [Registration (CD)], in that order.
5. Select the paper source for which the adjustment is to be made.
6. Press the Clear key to clear the current setting.
7. Enter the new setting value from the 10-Key Pad.

Setting Instructions

If width A is wider than specifications, make the setting value smaller than the current one. If width A is narrower than specifications, make the setting value greater than the current one.

✻ If a single adjustment procedure does not successfully bring width A into the specified range, try another setting value.



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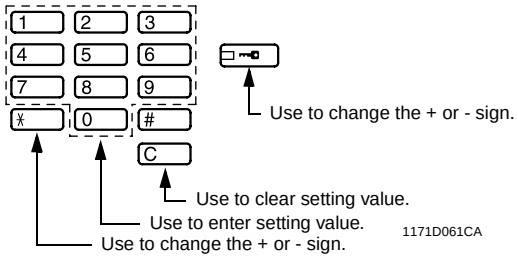

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8. Touch the [END] key to validate the setting value.

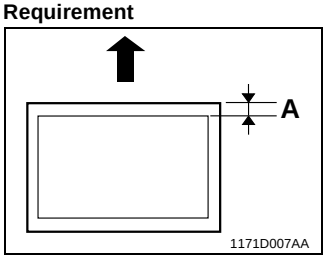
Caution

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

9. Perform the same steps to adjust for the other paper sources.

(6) Registration (FD) (Printer)

Requirement



Adjust so that width A on the test pattern output falls within the following range.

Specification	Adjust Mode	Setting Range
10 ±2.0 mm	Registration (FD)	-19 to +19

NOTE

This adjustment must be made when the PH Unit has been replaced and after Registration (CD) (Printer) has been made.

◎ Adjustment Procedure

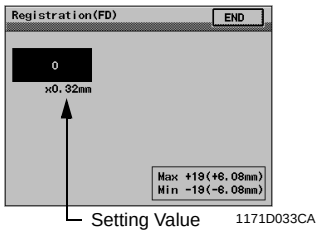
1. Produce a test pattern. (For details, see 3-4. TEST PRINT.)
2. Check to see if width A on the test pattern meets the specifications.
   If width A falls outside the specified range, perform these steps to make the adjustment.

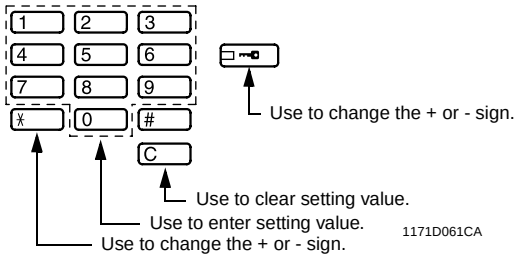
3. Call the Adjust mode to the screen.
4. Touch [Printer] and [Registration (FD)], in that order.
5. Select the paper source for which the adjustment is to be made.
6. Press the Clear key to clear the current setting.
7. Enter the new setting value from the 10-Key Pad.

Setting Instructions

If width A is wider than specifications, make the setting value smaller than the current one. If width A is narrower than specifications, make the setting value greater than the current one.

✻ If a single adjustment procedure does not successfully bring width A into the specified range, try another setting value.





8. Touch the [END] key to validate the setting value.

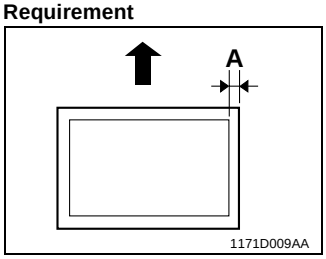
Caution

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

(7) Registration (IR)

1. CD

Requirement



Place the test pattern output after the adjustments of Registration (CD and FD) (Printer) have been completed on the Original Glass and make a copy of it. Adjust so that width A on the test pattern copy falls within the following range.

Specification	Adjust Mode	Setting Range
10 ±2.0 mm	Registration (CD)	-127 to +127

NOTE

This adjustment must be made when the PH Unit has been replaced and after the adjustments of Registration (CD and FD) (Printer) and CD of Zoom Adjust (IR) have been made.

◎ Adjustment Procedure

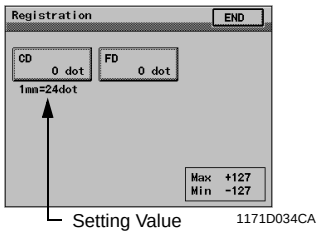
1. After the adjustments of Registration (CD and FD) (Printer) and CD of Zoom Adjust (IR) have been completed, produce a test pattern. (For details, see 3-4. TEST PRINT.)
2. Place the test pattern output on the Original Glass and make a copy of it.
3. Check to see if width A on the test pattern copy meets the specifications.
   If width A falls outside the specified range, perform these steps to make the adjustment.

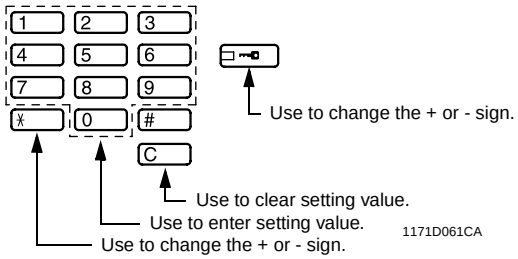
4. Call the Adjust mode to the screen.
5. Touch [IR], [Registration], and [CD], in that order.
6. Press the Clear key to clear the current setting.
7. Enter the new setting value from the 10-Key Pad.

Setting Instructions

If width A is wider than specifications, make the setting value smaller than the current one. If width A is narrower than specifications, make the setting value greater than the current one.

✻ If a single adjustment procedure does not successfully bring width A into the specified range, try another setting value.





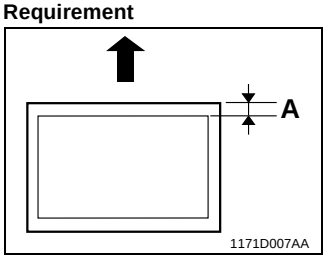
8. Touch the [END] key to validate the setting value.

Caution

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

2. FD

Requirement



Place the test pattern output after the adjustments of Registration (CD and FD) (Printer) have been completed on the Original Glass and make a copy of it. Adjust so that width A on the test pattern copy falls within the following range.

Specification	Adjust Mode	Setting Range
10 ±2.0 mm	Registration (FD)	-127 to +127

NOTE

This adjustment must be made when the PH Unit has been replaced and after the adjustments of Registration (CD and FD) (Printer) and FD of Zoom Adjust (IR) have been made.

◎ Adjustment Procedure

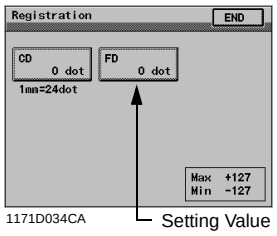
1. After the adjustments of Registration (CD and FD) (Printer) and FD of Zoom Adjust (IR) have been completed, produce a test pattern. (For details, see 3-4. TEST PRINT.)
2. Place the test pattern output on the Original Glass and make a copy of it.
3. Check to see if width A on the test pattern copy meets the specifications.
   If width A falls outside the specified range, perform these steps to make the adjustment.

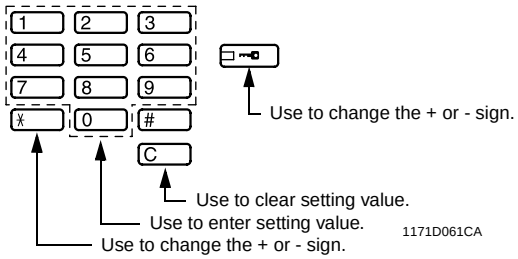
4. Call the Adjust mode to the screen.
5. Touch [IR], [Registration], and [FD], in that order.
6. Press the Clear key to clear the current setting.
7. Enter the new setting value from the 10-Key Pad.

Setting Instructions

If width A is wider than specifications, make the setting value smaller than the current one.
If width A is narrower than specifications, make the setting value greater than the current one.

✻ If a single adjustment procedure does not successfully bring width A into the specified range, try another setting value.





8. Touch the [END] key to validate the setting value.

Caution

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

(8) Zoom Adjust (IR)

1. CD

Requirement

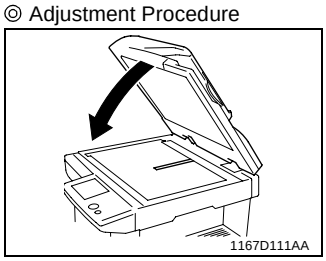
1. The difference should be within ±1.0% of the actual length.
2. Adjust so that the following specifications are satisfied with a scale length of 300 mm.

Zoom Ratio	Specification	Adjust Mode	Setting Range
Full size (×1.000)	300 ±3.0 mm	Zoom Adjust (CD)	0.990 to 1.010

NOTE

This adjustment must be made when the Scanner Drive Cables have been replaced and after the adjustments of Registration (CD and FD) (Printer) have been made.

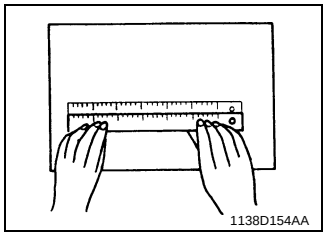
◎ Adjustment Procedure



1. Place a scale in parallel with the Original Width Scale and make a copy. (Note that the scale is perpendicular to the Original Length Scale.)

✻ Use the full size (×1.000) mode and A3 or 11" × 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.

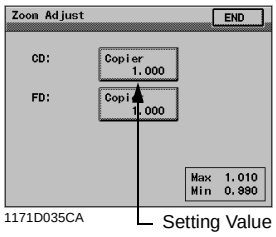
✻ If the difference is outside the specification, adjust by following the procedure shown below.

3. Call the Adjust mode to the screen.
4. Touch [IR], [Zoom Adjust], and [CD], in that order.
5. Press the Clear key to clear the current setting.
6. Enter the new setting value from the 10-Key Pad.

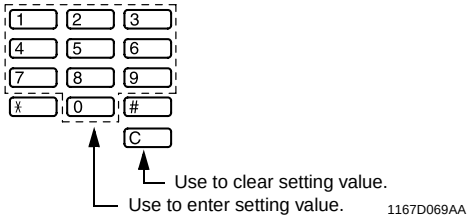
Setting Instructions

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.



1171D035CA



1167D069AA

7. Touch the [END] key to validate the setting value.

Caution

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

2. FD

Requirement

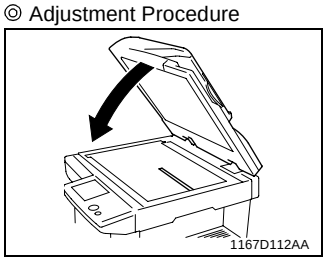
1. The difference should be within ±1.0% of the actual length.
2. Adjust so that the following specifications are satisfied with a scale length of 200 mm.

Zoom Ratio	Specification	Adjust Mode	Setting Range
Full size (×1.000)	200 ±2.0 mm	Zoom Adjust (FD)	0.990 to 1.010

NOTE

This adjustment must be made when the CCD Unit has been replaced and after the adjustments of Registration (CD and FD) (Printer) have been made.

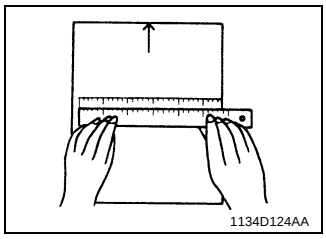
◎ Adjustment Procedure



1. Place a scale in parallel with the Original Length Scale and make a copy.

✻ Use the full size (X1.000) mode and paper with a width of 200 mm or more.

✻ 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.

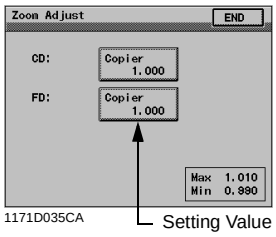
✻ If the difference is outside the specification, adjust by following the procedure shown below.

3. Call the Adjust mode to the screen.
4. Touch [IR], [Zoom Adjust], and [FD], in that order.
5. Press the Clear key to clear the current setting.
6. Enter the new setting value from the 10-Key Pad.

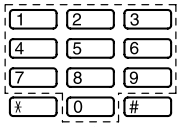
Setting Instructions

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.



1171D035CA



Use to clear setting value.
Use to enter setting value.

1167D069AA

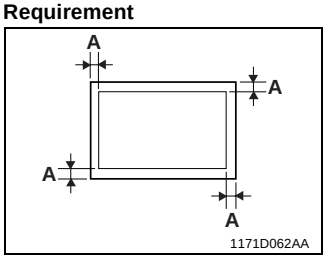
7. Touch the [END] key to validate the setting value.

Caution

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

(9) IR-Erasure Width

Requirement



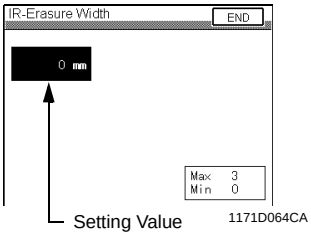
Set so that the erase width along four edges of the paper falls within the range of 0 to 3 mm.

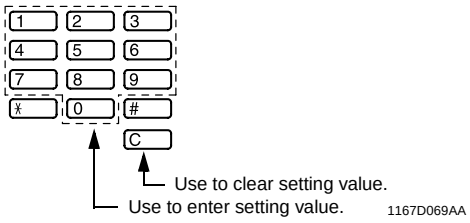
Adjust Mode	Setting Range
IR-Erasure Width	0 to 3

NOTE
This adjustment must be made when a shadow is produced from the Original Scale.

◎ Adjustment Procedure
1. Call the Tech. Rep. mode to the screen.
2. Touch [Tech. Rep. Choice].
3. Touch [IR-Erasure Width] to enter the IR-Erasure Width mode.
4. Press the Clear key to clear the current setting.
5. Enter the new setting value from the 10-Key Pad.

Setting Instructions
To make the erase width along four edges of the paper smaller, decrease the setting value.
To make the erase width along four edges of the paper greater, increase the setting value.





6. Touch the [END] key to validate the setting value.

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

3-6. OTHER ADJUSTMENTS

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

NOTE

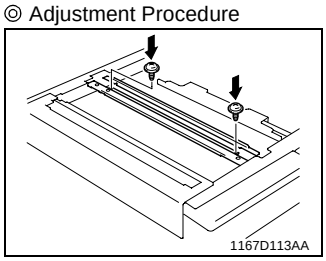
Make this adjustment after any of the following procedures has been performed:

- *After the Scanner Drive Cable has been replaced.*
- *When the Scanner Fixing Bracket has been removed from the Scanner Drive Cable.*
- *When the Scanner Drive Cable comes unwound.*

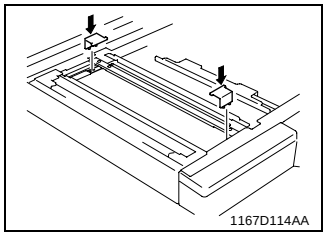
Requirement

With the Scanner fixed to the Scanner Drive Cables, there should be no gap between the Scanner/Mirrors Carriage Positioning Jig and the Scanner and also between the Scanner/ Mirrors Carriage Positioning Jig and the 2nd/3rd Mirrors Carriage.

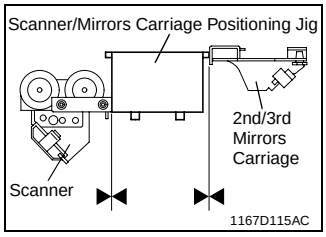
◎ Adjustment Procedure



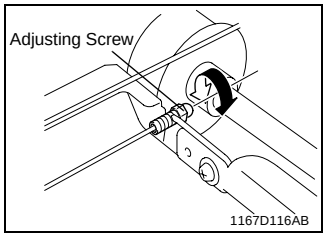
1. Remove the Exposure Lamp. (For details, see steps 1 through 7, (8) Removal of the Scanner, 2-4 OPTICAL SECTION.)
2. Temporarily loosen the set screws of the cable holding plate of the Scanner Drive Cable.



3. Fit the Scanner/Mirrors Carriage Positioning Jigs in the space between the Scanner and 2nd/3rd Mirrors Carriage.

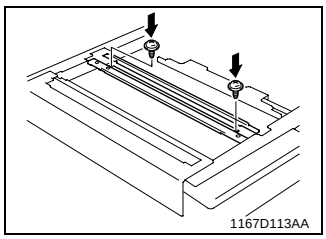


4. Press the Scanner up against the jig and 2nd/3rd Mirrors Carriage and, at the same time, tighten the set screws of the cable holding plate.

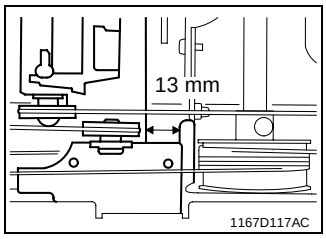


NOTE
If the Scanner does not run parallel with the 2nd/3rd Mirrors Carriage when the Scanner/Mirrors Carriage Positioning Jigs are in position, turn the adjusting screw for the rear Scanner Drive Cable as necessary.

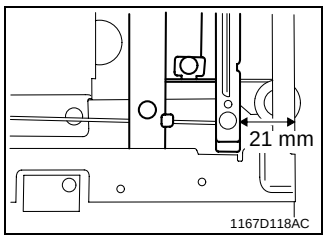
✻ If the Scanner/Mirrors Carriage Positioning Jigs are not available, follow these steps to make the adjustment.



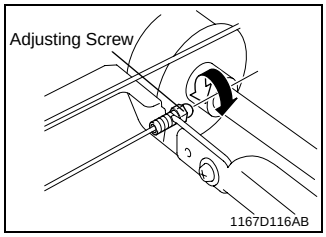
1. Temporarily loosen the set screws of the cable holding plate of the Scanner Drive Cable.



2. Obtain a distance of 13 mm between the 2nd/3rd Mirrors Carriage and rail.



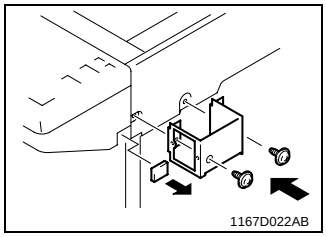
3. Secure the Scanner where it is located at a position 21 mm from the right side face.
4. Tighten the set screws of the cable holding plate.



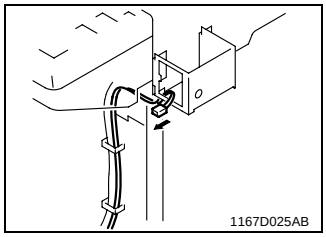
NOTE
If the Scanner does not run parallel with the 2nd/3rd Mirrors Carriage, turn the adjusting screw for the rear Scanner Drive Cable as necessary.

4 MISCELLANEOUS

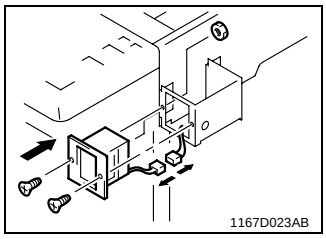
4-1. INSTALLATION OF THE KEY COUNTER SOCKET (OPTION)



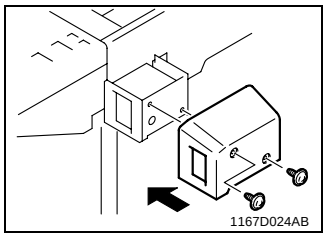
1. Remove the Front Cover.
2. Remove the knockout from the Front Upper Cover.
3. Using two screws, secure the Counter Mounting Bracket.



4. Route the harness of the Key Counter as shown.



5. Connect the Key Counter Socket connector.
6. Using one screw and one screw and nut, secure the counter socket.



7. Using two screws, secure the Key Counter Cover.

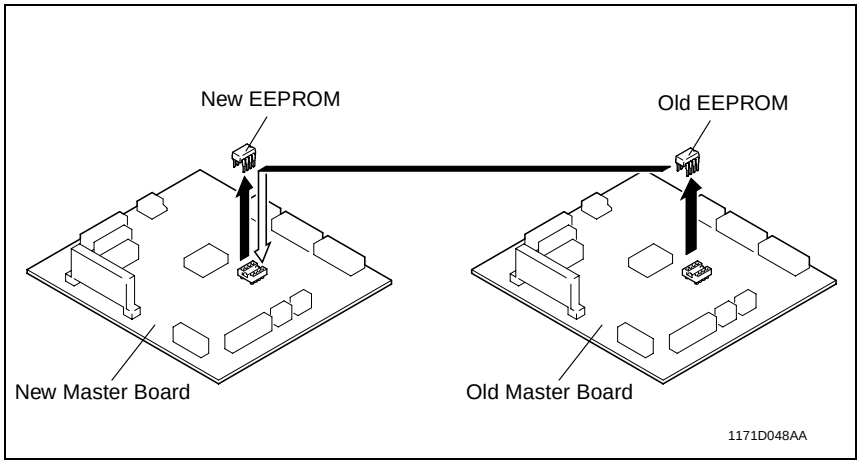
NOTE
When the Key Counter Socket is mounted, set to "ON" the "Key Counter" available from the Security mode.

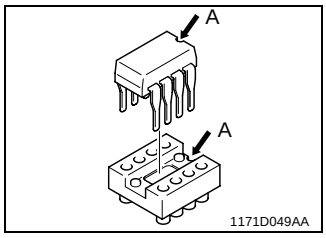
4-2. REMOUNTING THE EEPROM (IC3A)

NOTES

- *If the Imaging Cartridge is not to be replaced after the Master Board has been replaced with a new one, be sure to remount the EEPROM (IC3A) from the old to new Master Board.*
- *If the Master Board has been replaced with a new one and the EEPROM (IC3A) has not been remounted, be sure to replace the Imaging Cartridge with a new one. Because the EEPROM contains no data in this case, make settings and readjustments as necessary.*

1. Remove the Master Board. (For details, see 2-2. REMOVAL OF CIRCUIT BOARDS AND OTHER ELECTRICAL COMPONENTS.)
2. Demount the EEPROM (IC3A) from the new Master Board.
3. Demount the EEPROM (IC3A) from the old Master Board and remount it onto the new Master Board.





NOTE

Note the alignment notch on the EEPROM (IC3A) when mounting the IC.