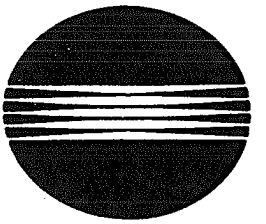
AD-7

SERVICE MANUAL



MINOLTA

CONTENTS

GENERAL, MECHANICAL/ELECTRICAL

DIS/REASSEMBLY, ADJUSTMENT

TROUBLESHOOTING

GENERAL, MECHANICAL/ ELECTRICAL

1 SPECIFICATIONS

Type	: Sheet turnover device for making automatic 2-sided copies
Installation	: Mounted to the copier
Modes	: Exit mode Duplex mode (single- and two-sheet paper attraction)
Max. Storage Capacity	: 2 (A4 crosswise or smaller, two-sheet paper attraction mode)
Exit Tray Capacity	: 250 sheets of 90-g/m^2 or 24-lb. paper
Registration	: Center
Power Source	: DC24V (supplied from copier)
Power Consumption	: 30W or less
Dimensions	: Width ..... 121 mm or 4-3/4" Depth ..... 536 mm or 21" Height .... 345 mm or 13-1/2"
Weight	: 8.9 kg or 19-1/2 lbs. (including the mount)
Environmental Requirements	: Same as copier

Paper Requirements

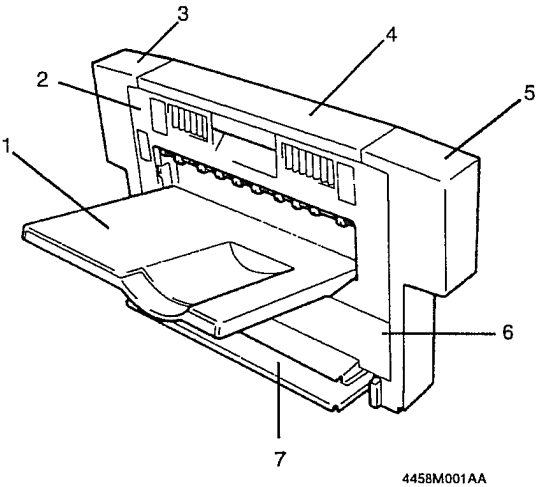
- Exit mode -

Type of Paper	: Recommended paper weighing 60 to 90 g/m^2 or 16 to 24 lbs., OHP transparencies, thick paper weighing 157 g/m^2 or 42 lbs. max.
Paper Size	: A5 lengthwise to A3 lengthwise and A3 Wide or 5-1/2" × 8-1/2" lengthwise to 11" × 17" lengthwise and Full Bleed

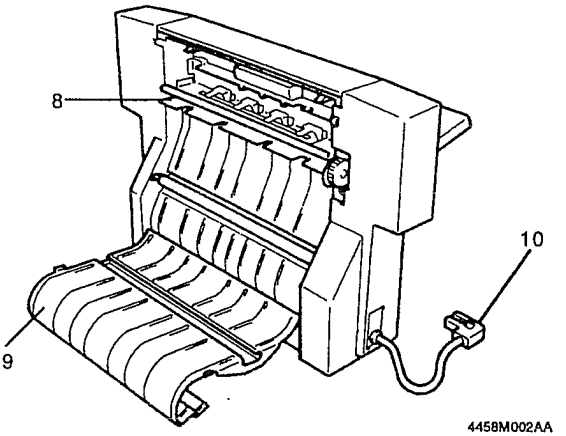
- Duplex mode -

Type of Paper	: Recommended paper weighing 60 to 90 g/m^2 or 16 to 24 lbs.
Paper Size	: A5 lengthwise to A3 lengthwise or 5-1/2" × 8-1/2" lengthwise to 11" × 17" lengthwise

2 PARTS IDENTIFICATION



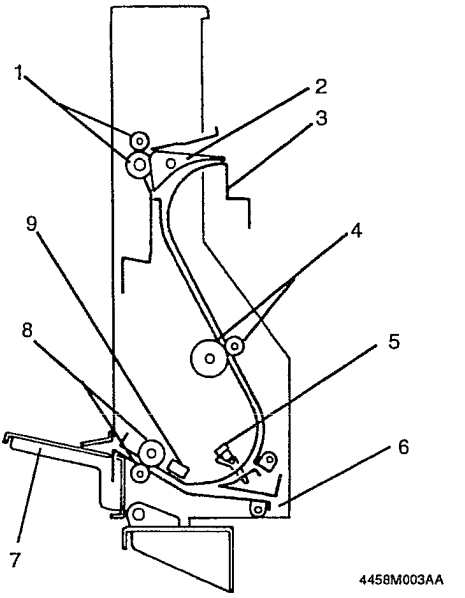
4458M001AA



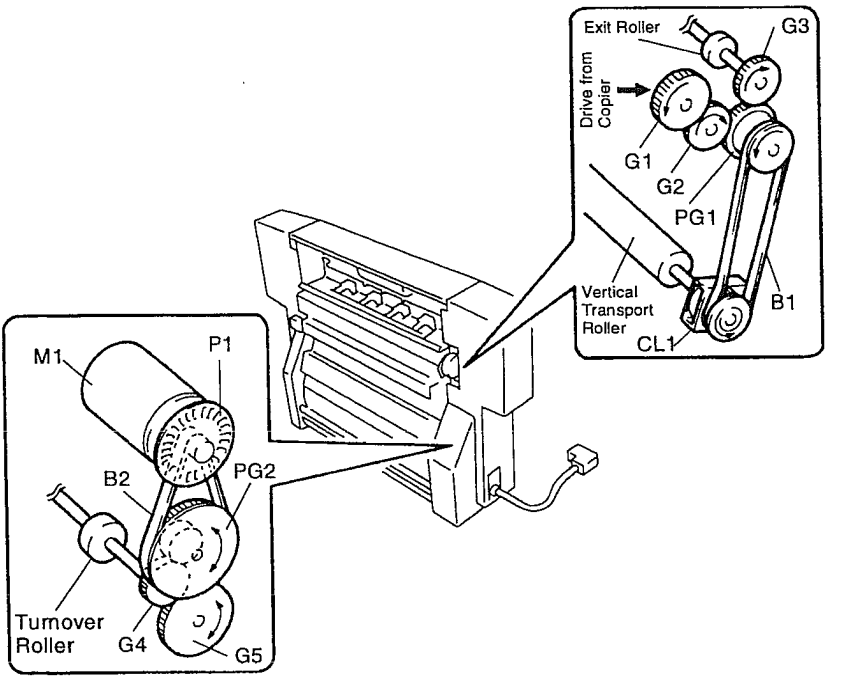
4458M002AA

No.	Name	No.	Name
1	Exit Tray	6	Exit Section Lower Cover
2	Exit Section Cover	7	Turnover Tray
3	Rear Cover	8	Exit/Turnover Switching Finger
4	Top Cover	9	Vertical Transport Guide
5	Front Cover	10	Hookup Cord

3 CROSS-SECTIONAL VIEW



No.	Name	Function
1	Exit Rollers	Feed the copy out onto the Exit Tray.
2	Exit/Turnover Switching Finger	Directs a copy for exit or turnover depending on the operating mode.
3	Vertical Transport Guide	Serves as a guide for the copy for turnover. Used also for clearing a misfeed.
4	Vertical Transport Rollers	Transports the copy for turnover. Also removes the fuser oil from the copy.
5	Vertical Transport Sensor PC3	Detects a copy to be later turned over. Serves also as a misfeed sensor.
6	Duplex Paper Take-Up Port	The port through which the copy which has been turned over is taken up and fed into the copier for the second copy cycle.
7	Turnover Tray	Prevents the portion of the copy out of the Duplex Unit for turnover from drooping down.
8	Turnover Rollers	Reverse the copy fed from the vertical transport section (switchback motion) so that it can be taken up and fed again into the copier.
9	Switchback Sensor PC1	Detects the reference timing for the switchback motion of the copy fed from the vertical transport section.



4458M004AA

Gear

Symbol	No. of Teeth
G1	30
G2	24
G3	24
G4	19
G5	33

Pulley

Symbol	No. of Teeth, Gear	No. of Teeth, Pulley
PG1	31	28
PG2	15	64

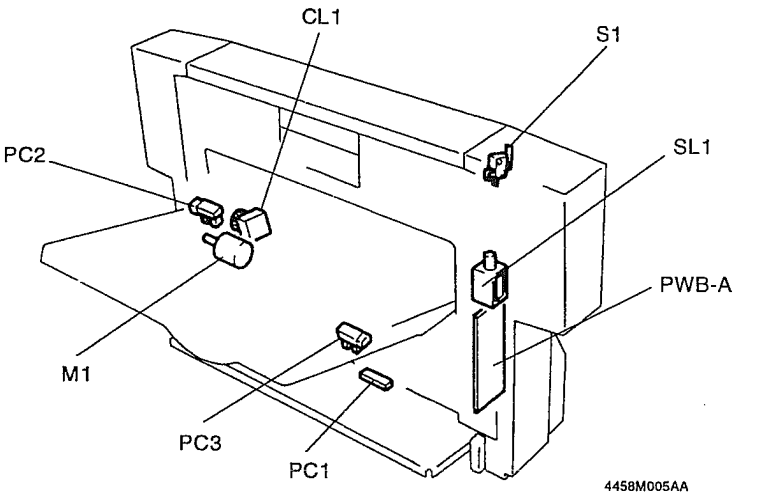
Pulley

Symbol	No. of Teeth
P1	16

Belt

Symbol	Length (mm)
B1	288
B2	191.01

5 ELECTRICAL COMPONENTS LAYOUT



◆ Function of Each Component

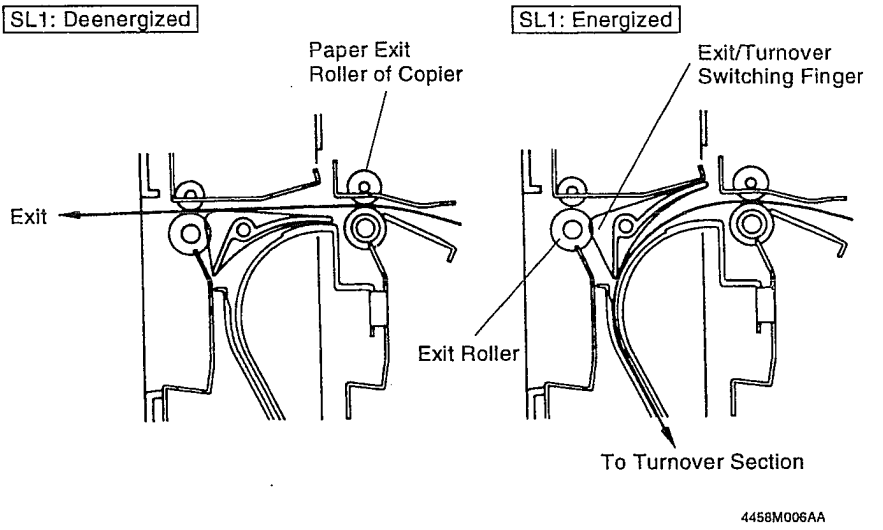
Symbol	Name	Input Signals (*)	Function
PWB-A	Drive Board		Performs communication with the copier and controls the electrical components of the Duplex Unit.
M1	Turnover Motor		Drives the Turnover Rollers to effect a switchback motion.
SL1	Exit/Turnover Switching Solenoid		Moves the Exit/Turnover Switching Finger to change the paper path.
CL1	Vertical Transport Clutch		Controls the start and stop of the Vertical Transport Rollers to keep the copy in the standby state.
PC1 (PJ2A-8)	Switchback Sensor	Paper present: [L] Paper not present: [H]	Detects the reference timing for a switchback motion.
PC2 (PJ3A-2)	Motor Pulse Sensor	Unblocked: [H] Blocked: [L]	Detects the speed of M1.
PC3 (PJ2A-9)	Vertical Transport Sensor	Paper present: [L] Paper not present: [H]	Detects the copy present at the vertical transport section.
S1 (PJ2A-6)	Duplex Unit Set Switch	Unit in position: [L] Unit out of position: [H]	Detects whether or not the Duplex Unit is installed in position.

* Signals at the print jack on PWB-A.

6 DESCRIPTION OF EACH MECHANISM AND CONTROL

6-1. Exit/Turnover Switching Mechanism

- The exit/turnover switching mechanism uses the Exit/Turnover Switching Finger that is moved to change the paper path either for exit or turnover.
- When in the Exit mode or when the copy is to be fed out in the Duplex mode, Exit/Turnover Switching Solenoid SL1 remains deenergized and the copy moves above the Exit/Turnover Switching Finger and is fed out of the copier by the Exit Rollers.
- When the copy is to be turned over in the Duplex mode, SL1 is energized and the copy moves beneath and along the Exit/Turnover Switching Finger and is fed by the Vertical Transport Rollers of the Duplex Unit down towards the turnover section.
- As noted above, SL1 moves the Exit/Turnover Switching Finger to change the paper path. It is energized when a LOW signal from the copier is input to PJ2A-1 on PWB-A.



6-2. Fuser Oil Cleaning Mechanism

- Since fuser oil is on the front side of the paper after the fusing process, it is transferred onto the surface of the PC Drum via the Transfer Film during the second copy process of 2-sided copying, which results in image problems. Silicone rubber rollers are used as the Vertical Transport Rollers of the Duplex Unit. They function to recover fuser oil from the surface of the paper.

6-3. Paper Standby Control

- In a Duplex mode making two or more copy sets of an original set (which involves two-sheet paper attraction), two sheets of paper are present in the Duplex Unit, one waiting for take-up from the Duplex Unit following the turnover cycle and the other remaining stationary at the vertical transport section. (See "7. OPERATION AND CONTROL" that follows.)
- There is no problem with the paper waiting for take-up from the Duplex Unit as it is driven independently of the copier drive. The paper at the vertical transport section is, however, being transported and the drive from the copier must be cut off. To accomplish this, Vertical Transport Clutch CL1 is mounted on the shaft of the Vertical Transport Roller and it couples or cuts off the copier drive to the roller.
- CL1 is energized to stop the Vertical Transport Roller rotation when a LOW signal from the copier is input to PJ2A-4 on PWB-A.

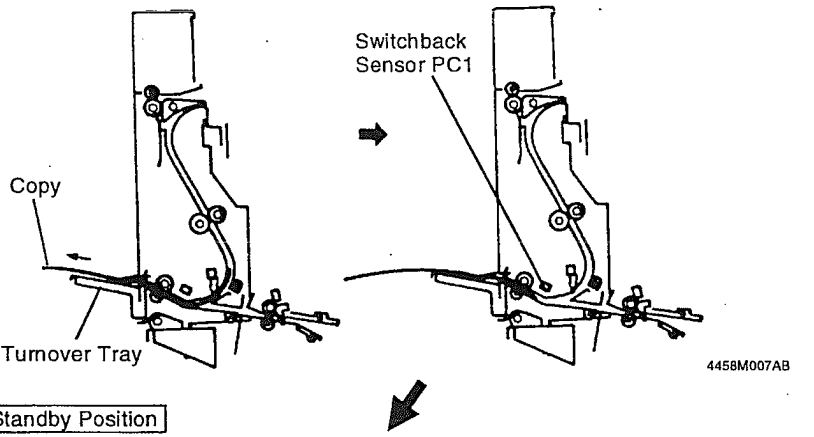
6-4. Switchback Operation (Turnover)

- The Turnover Roller turns forward to transport the copy to the turnover section and, as soon as the trailing edge of the copy moves past Switchback Sensor PC1, it stops turning. The Turnover Roller then turns backward to turn over the copy and feed it back into the copier.
- The drive for the Turnover Roller comes from Turnover Motor M1 which is turned forward, backward, or stopped by the signals fed from the copier as follows.

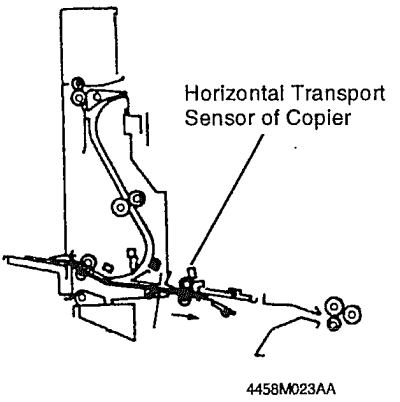
	PJ2A-2	PJ2A-3	Copy Motion
Turning forward	L	H	Transported towards Turnover Tray
Turning backward	H	L	Transported towards Duplex paper take-up side
Stopped	H	H	Stationary

Copy Transported Towards Turnover Tray

Turnover Position (Copy is temporarily stationary)



Standby Position



7-1. No. of Multiple 2-Sided Copies

- The Duplex Unit can store only up to two copies in it and the copier does not store in memory the image data it scanned. For these reasons, the number of multiple 2-sided copies that can be made varies depending on the paper size, copying mode, and whether the Duplexing Document Feeder is used or not. Here are the details.

	Copy Paper Size	A5, A4C (*1)		A4L, B4L, A3L	
Copying Mode	Original Placement	ADF	Glass	ADF	Glass
	1-sided → 2-sided	99 sets (*2)	2 sets (*3)	2 sets (*4)	1 set
	2-sided → 2-sided	2 sets (*4)	———	2 sets (*4)	———
	Book → 2-sided	———	99 sets (*5)	———	———

L: Lengthwise; C: Crosswise; ADF: Duplexing Document Feeder

*1: Only when two sheets of paper are to be attracted to the Transfer Drum. If a particular copy cycle does not involve attraction of two sheets of paper, the same control is provided as that for the paper size of B5L or larger.

*2: The originals are fed by the 2-in-1 mode and a book copy cycle is repeated in which four 2-sided copies are made.

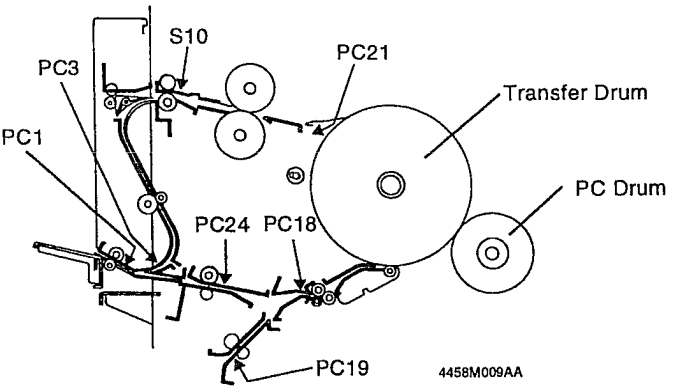
*3: Only when Auto Color Select is disabled.

*4: Only when Auto Exposure, Auto Color Select, and Auto Paper/Size are disabled.

*5: A cycle is repeated in which four 2-sided copies are made.

7-2. Sensor Locations

- The illustration below locates different sensors that provide reference for paper movement throughout the Duplex Unit.



Duplex Unit Side

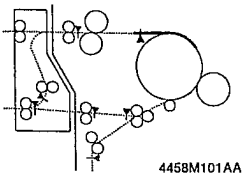
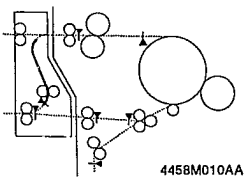
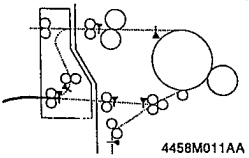
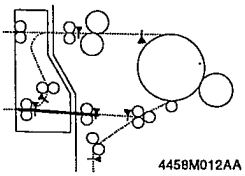
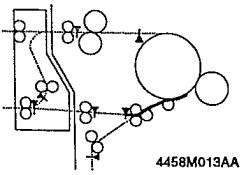
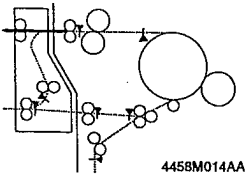
- PC1: Switchback Sensor
- PC3: Vertical Transport Sensor

Copier Side

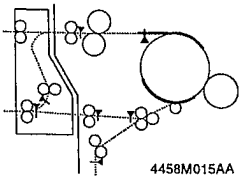
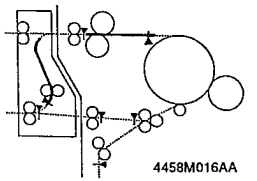
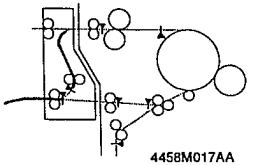
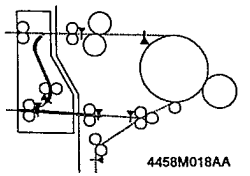
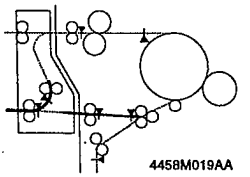
- PC18: Paper Leading Edge Detecting Sensor
- PC19: Transport Roller Sensor
- PC21: Separating Failure Detecting Sensor
- PC24: Horizontal Transport Sensor
- S10: Paper Exit Switch

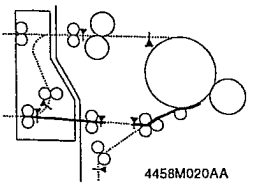
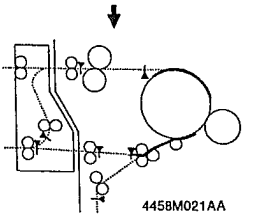
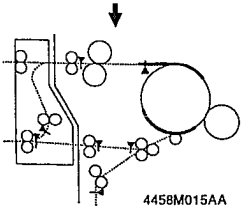
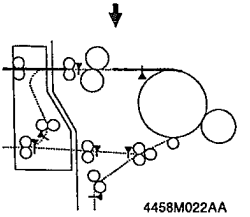
7-3. 2-Sided Copying Operation

1) Making 2-Sided Copies from 2-Sided Original Using ADF (One A4C original, one copy set)

Paper Position	Operation Sequence
 4458M101AA	The copy is separated from the Transfer Drum after the image transfer process.
	↓
	Separating Failure Detecting Sensor PC21 is activated.
	↓
	The copy reaches Paper Exit Switch S10.
	↓
	Exit/Turnover Switching Solenoid SL1 is energized.
	↓
 4458M010AA	The copy is transported to the vertical transport section to reach Vertical Transport Sensor PC3.
	↓
	Turnover Motor M1 turns forward.
	↓
	The copy reaches Switchback Sensor PC1.
	↓
 4458M011AA	Turnover Motor M1 turns forward to transport the copy onto the Turnover Tray.
	↓
	The trailing edge of the copy moves past PC1.
	↓
	M1 is temporarily deenergized and then starts turning backward. (The copy is turned over, and then taken up and fed into the copier.)
	↓
 4458M012AA	The copy reaches Horizontal Transport Sensor PC24.
	↓
 4458M013AA	As Horizontal Transport Drive Clutch CL23 is energized, the copy is fed onto the Synchronizing Rollers.
	↓
 4458M014AA	The image transfer to the second face of the copy is completed and then the copy undergoes separation and fusing before being fed out of the copier.

2) Making 2-Sided Copies from 1-Sided Originals Using ADF (Two A4C originals, two copy sets)

Paper Position	Operation Sequence
 4458M015AA	Two sheets of paper for the first original are separated from the Transfer Drum after the image transfer process.
	↓
	The first copy activates Separating Failure Detecting Sensor PC21.
	↓
	The first copy reaches Paper Exit Switch S10.
	↓
	Exit/Turnover Switching Solenoid SL1 is energized.
	↓
 4458M016AA	The first copy is transported to the vertical transport section to reach Vertical Transport Sensor PC3.
	↓
	Turnover Motor M1 turns forward.
	↓
	The first copy reaches Switchback Sensor PC1.
	↓
	Turnover Motor M1 turns forward to transport the first copy onto the Turnover Tray.
	↓
 4458M017AA	As Vertical Transport Clutch CL1 is energized, the second copy is stationary at the vertical transport section.
	↓
	The trailing edge of the first copy moves past PC1.
	↓
	M1 is temporarily deenergized and then starts turning backward. (The first copy is turned over, and then taken up and fed into the copier.)
	↓
 4458M018AA	The first copy reaches Horizontal Transport Sensor PC24.
	↓
	As Horizontal Transport Drive Clutch CL23 is energized, the first copy is fed onto the Synchronizing Rollers.
	↓
 4458M019AA	The first copy reaches Paper Leading Edge Detecting Sensor PC18 and stops at the Synchronizing Rollers.
↓	↓
①	②

Paper Position	Operation Sequence
①  4458M020AA  4458M021AA  4458M015AA  4458M022AA	② As CL1 is deenergized and M17 is energized, the second copy is transported to the turnover section. The second copy reaches PC1. M1 turns forward to transport the second copy to the Turnover Tray. The trailing edge of the second copy moves past PC1. M1 is temporarily deenergized and then starts turning backward. (The second copy is turned over, and then taken up and fed into the copier.) At the same time, the first copy is again attracted to the Transfer Drum. The first and second copies are attracted to the Transfer Drum. When the image transfer to the second faces of the copies is completed, the copies undergo separation and fusing before being fed out of the copier.

DIS/REASSEMBLY, ADJUSTMENT

Precautions for Disassembly, Reassembly and Adjustment

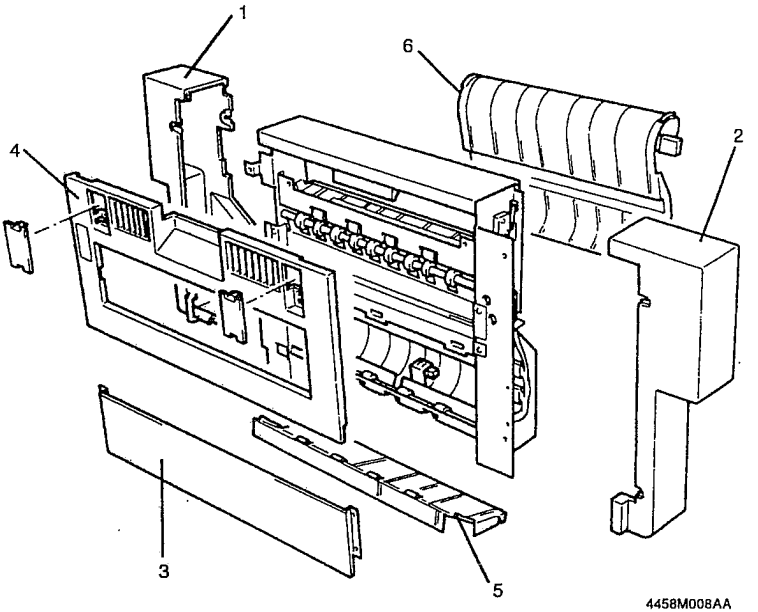
1. Before attempting to disassemble the unit, always make sure that no power is being supplied from the copier.
2. While power is being supplied to the unit, do not attempt to remove/install the print jacks from/to the PWBs or unplug/plug in the connectors.
3. If the unit is run with its covers removed, use care not to allow your clothing to be caught in revolving parts such as the timing belt.
4. The basic rule is do not run the unit any time during dis/reassembly.
5. 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.
6. To reassemble the unit, reverse the order of disassembly unless otherwise specified.
7. Do not attempt to loosen or remove the screw to which red paint has been applied.
8. The screw to which blue paint has been applied may be removed, but needs to be adjusted whenever it has been removed.

Purpose of Applying Red Paint

Red paint is applied to those screws that cannot be readjusted or reinstalled in the field.

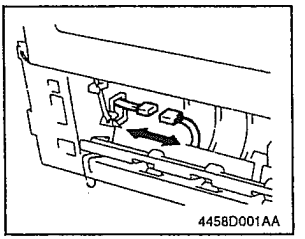
1 DISASSEMBLY

1-1. Removal of the Exterior Covers and Guides

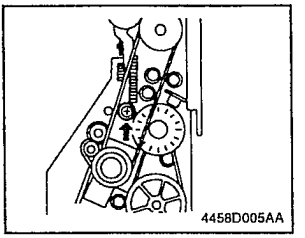


No.	Cover/Guide Name	No. of Screws	Steps Required Before Removal
1	Rear Cover	4	None
2	Front Cover	4	None
3	Exit Section Lower Cover	4	Removal of the Front and Rear Covers
4	Exit Section Cover	2	Removal of two ornamental covers
5	Turnover Lower Guide	2	Removal of the Front and Rear Covers
6	Vertical Transport Guide	2	Removal of the Front and Rear Covers

1-2. Removal of Vertical Transport Clutch CL1

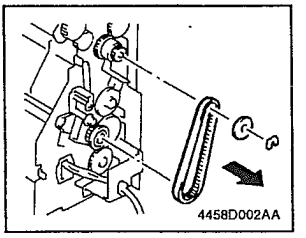


1. Remove the Front and Rear Covers.
2. Remove the Exit Section Lower Cover.
3. Unplug the connector of CL1.

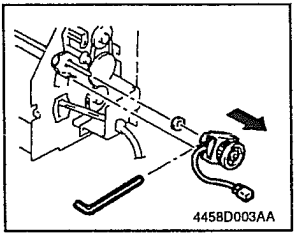


4. Loosen the screw shown to release the belt tension.

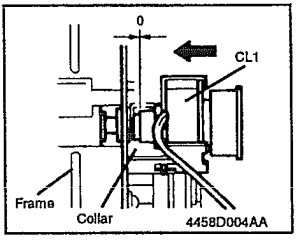
   *Do not forget to tighten this screw at reinstallation.



5. Snap off one plastic ring and remove the flange and belt.

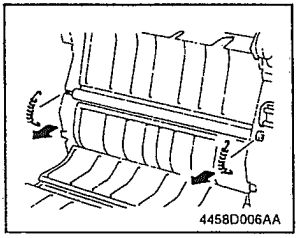


6. Loosen one screw with an Allen wrench to remove CL1 and the collar.

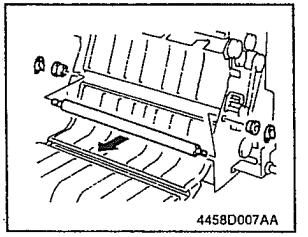


*When reinstalling CL1, press it against the collar and, at the same time, tighten the screw.
Hook the lock of the clutch onto the frame.

1-3. Removal of the Vertical Transport Roller (Metallic One)

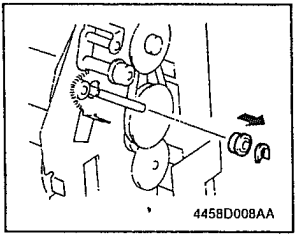


1. Remove the Front and Rear Covers.
2. Unhook two tension coil springs.

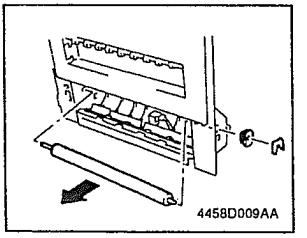


3. Remove the plastic rings and bushings from the front and rear ends and then remove the Vertical Transport Roller.

1-4. Removal of the Vertical Transport Roller (Rubber One)

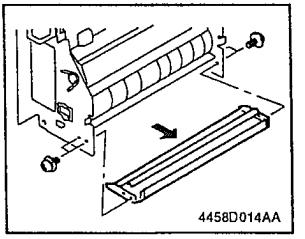


1. Remove the Front and Rear Covers.
2. Remove the Exit Section Lower Cover.
3. Remove Vertical Transport Clutch CL1 and collar.
4. Remove the plastic ring and bearing from the rear end.

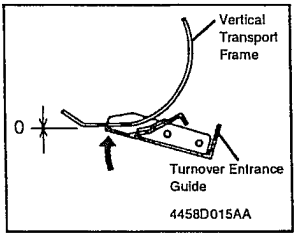


5. Remove the plastic rings and bushings from the front end.
6. Remove the Vertical Transport Roller.

1-5. Removal of the Turnover Entrance Guide



1. Remove the Front and Rear Covers.
2. Remove the Turnover Lower Guide.
3. Remove four screws at the front and rear and the Turnover Entrance Guide.

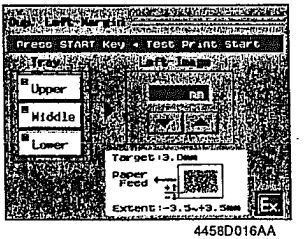


*Try to press the Turnover Entrance Guide up as shown at reinstallation.

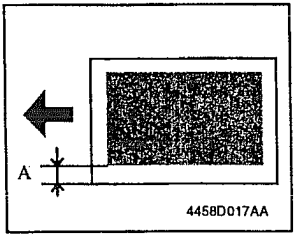
2 ADJUSTMENTS

2-1. Adjustment of Dup. Left-Margin

Requirements: The distance between the front edge of the paper and the front edge of the test pattern should be 3 ±1.5mm.



1. Set the copier into the Service mode and select the following functions in that order:
"Machine Adjust," "PRT Area," and "Dup. Left-Margin."

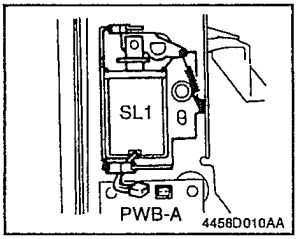


2. Select the drawer to be adjusted and press the Start key.
3. Measure dimension "A" on the test print fed out of the copier.

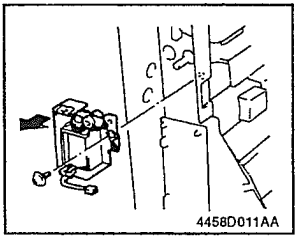
   *: No adjustments are necessary if the measurement is 3 ±1.5mm.

4. If the measurement taken in step 3 falls outside the specified range, adjust using the ▲ or ▼ key.

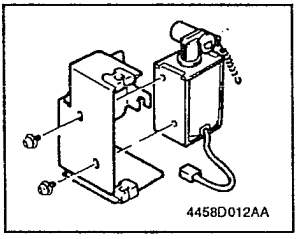
2-2. Adjustment of Exit/Turnover Switching Solenoid SL1



1. Remove the Front Cover.
2. Remove the harness of Duplex Unit Set Switch S1 from the edge cover.
3. Unplug the connector from Drive Board PWB-A.

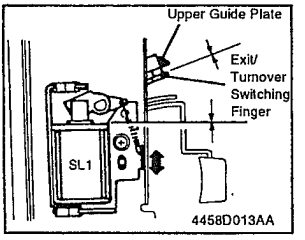


4. Remove one screw and the solenoid assy.



5. Unhook the tension coil spring.
6. Remove two screws and the solenoid.

*When securing the solenoid at reinstallation, slide it downward as far as it will go.



*When securing the solenoid assy, ensure that the Exit/Turnover Switching Finger is in contact with the sponge of the Upper Guide Plate with the solenoid in the energized position.

After reinstallation, check that the switching finger operates smoothly.

TROUBLESHOOTING

General Precautions

1. When servicing the unit with its covers removed, use utmost care to prevent your hands, clothing, and tools from being caught in revolving parts.
2. Before attempting to replace parts and unplugging connectors, make sure that no power is being supplied from the copier.
3. Never create a closed circuit across connector pins except those authorized in the text and on the PWB.
4. When creating a closed circuit and measuring a voltage across connector pins specified in the text, be sure to use the green wire (GND).
5. Keep all disassembled parts in good order and keep tools under control so that none will be lost or damaged.

Reading the Text

1. If a component on a PWB or any other functional part including a motor is defective, the text only instructs you to replace the whole PWB or functional part and does not give troubleshooting procedure applicable within the defective part.
2. The text assumes that there are no breaks in the harnesses and cords and all connectors are plugged into the right positions.

1 MISFEED DETECTION

1-1. Misfeed Detection Conditions

- A misfeed in the Duplex Unit is detected under any of the following conditions and a misfeed indication is given on the control panel of the copier. A misfeed can be reset by unlocking and locking the Duplex Unit.

- A misfeed at the vertical transport section

Type	Detection Timing
Paper left	Vertical Transport Sensor PC3 is unblocked ([L]) when the Power Switch is turned ON, a misfeed is reset, or the Front Door is opened and closed.
Leading edge of paper	PC3 is not unblocked ([L]) even after the lapse of approx. 3.3 sec. after Paper Exit Switch S10 of the copier has detected the leading edge of the paper.
Trailing edge of paper	PC3 is not blocked ([H]) even after the lapse of approx. 3.3 sec. after S10 of the copier has detected the trailing edge of the paper.

- A misfeed at the turnover section

Type	Detection Timing
Paper left	Switchback Sensor PC1 is activated ([L]) when the Power Switch is turned ON, a misfeed is reset, or the Front Door is opened and closed.
Leading edge of paper	PC1 is not activated ([H]) even after the lapse of approx. 1.2 sec. after PC3 has detected the leading edge of the paper.
Trailing edge of paper	PC1 is activated ([L]) even after the lapse of approx. 4.8 sec. after PC1 has detected the leading edge of the paper.
Paper which has been turned over	PC1 detects no paper at a timing when it should have detected paper after it has been turned over (e.g., when the paper which has been turned over is pulled out).

- A misfeed at the Duplex paper take-up section

Type	Detection Timing
Paper left	Horizontal Transport Sensor PC24 of the copier is blocked ([L]) when the Power Switch is turned ON, a misfeed is reset, or the Front Door is opened and closed.
Leading edge of paper	PC24 of the copier is not blocked ([L]) even after the lapse of approx. 1.8 sec. after PC1 has detected the leading edge of the paper which was turned over.
Trailing edge of paper	PC24 is not unblocked ([H]) even after the lapse of approx. 1.8 sec. after PC1 has detected the trailing edge of the paper which was turned over.

1-2. Misfeed Troubleshooting Procedures

• A Misfeed at the Vertical Transport Section

Symptom	Step No.	Check Item	Result	Action
A misfeed occurs immediately after the Power Switch has been turned ON.	1	Is Vertical Transport Sensor PC3 unblocked by a sheet of paper present at the vertical transport section of the Duplex Unit?	YES	Remove the paper from the vertical transport section.
	2	Does the actuator of PC3 operate properly?	NO	Check the installed position of PC3 and check the actuator for deformation and foreign matter.
	3	Is the voltage across PJ2A-9 on PWB-A and GND DC5V? Does that voltage change to DC0V when PC3 is unblocked?	YES	Make checks on the copier side.
			NO	Check the wiring between PWB-A and PC3 and, if it is intact, replace PC3 or PWB-A.
A misfeed occurs before paper reaches the vertical transport section.	1	Is Exit/Turnover Switching Solenoid SL1 energized during the Duplex mode?	YES	Go to step 3.
	2	Does the voltage across PJ2A-1 on PWB-A and GND change from DC5V to DC0V when SL1 is energized?	YES	Check the wiring between PWB-A and SL1 and, if it is intact, replace SL1 or PWB-A.
			NO	Make checks on the copier side.
	3	Has the Exit/Turnover Switching Finger been adjusted properly?	YES	Clean the Exit/Turnover Switching Finger and guide plate.
			NO	Adjust SL1.
A misfeed occurs before paper reaches PC3.	1	Do the Vertical Transport Rollers turn when drive is transmitted from the copier?	YES	Go to step 3.
	2	Is the voltage across PJ2A-4 on PWB-A and GND DC5V normally?	YES	Check the wiring between PWB-A and Vertical Transport Clutch CL1 and, if it is intact, replace CL1 or PWB-A.
			NO	Make checks on the copier side.
	3	Are the Vertical Transport Rollers dirty or scratched?	YES	Clean or replace the defective Vertical Transport Roller.
			NO	Clean the Vertical Transport Guide and check it for deformation.

• A Misfeed at the Vertical Transport Section

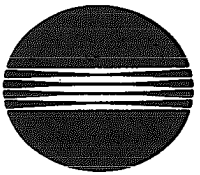
Symptom	Step No.	Check Item	Result	Action
A misfeed occurs after paper has reached Vertical Transport Sensor PC3.	1	Does Turnover Motor M1 turn when paper is fed into the Duplex Unit?	YES	Go to step 3.
	2	Does the voltage across PJ2A-2 on PWB-A and GND change from DC5V to DC0V when M1 is energized?	YES	Check the wiring between PWB-A and M1 and, if it is intact, replace M1 or PWB-A.
			NO	Make checks on the copier side.
	3	Does the actuator of PC3 operate properly?	NO	Check the installed position of PC3 and check the actuator for deformation and foreign matter.
	4	Is the voltage across PJ2A-9 on PWB-A and GND DC5V? Does that voltage change to DC0V when PC3 is unblocked?	YES	Make checks on the copier side.
			NO	Check the wiring between PWB-A and PC3 and, if it is intact, replace PC3 or PWB-A.

• A Misfeed at the Turnover Section

Symptom	Step No.	Check Item	Result	Action
A misfeed occurs immediately after the Power Switch has been turned ON.	1	Is Switchback Sensor PC1 activated by a sheet of paper present at the turnover section of the Duplex Unit (or dust on the underside of the sensor)?	YES	Remove the paper from the turnover section. Or clean the underside of the sensor.
	2	Is PC1 installed correctly?	NO	Correct the installed position of PC1.
	3	Is the voltage across PJ2A-8 on PWB-A and GND DC5V? Does that voltage change to DC0V when a sheet of paper is inserted to activate PC1?	YES	Make checks on the copier side.
			NO	Check the wiring between PWB-A and PC1 and, if it is intact, replace PC1 or PWB-A.
Paper is yet to reach PC1.	1	Is the Turnover Entrance Guide deformed or dirty?	YES	Clean or replace the Turnover Entrance Guide.
			NO	Check the Vertical Transport Guide and Vertical Transport Rollers for dirt and deformation.
Paper is stationary at the Turnover Rollers.	1	Does Turnover Motor M1 turn when paper is fed into the Duplex Unit?	YES	Clean the Turnover Rollers and Turnover Guide.
	2	Does the voltage across PJ2A-2 on PWB-A and GND change from DC5V to DC0V when M1 is energized?	YES	Check the wiring between PWB-A and M1 and, if it is intact, replace M1 or PWB-A.
			NO	Make checks on the copier side.
Paper is not transported to the Duplex paper take-up side.	1	Does M1 turn backward after paper has been fed out onto the Turnover Tray?	YES	Clean the Turnover Rollers and Turnover Guide.
	2	Does the voltage across PJ2A-3 on PWB-A and GND change from DC5V to DC0V when M1 is energized?	YES	Check the wiring between PWB-A and M1 and, if it is intact, replace M1 or PWB-A.
			NO	Make checks on the copier side.

• A Misfeed at the Duplex Paper Take-Up Section

Symptom	Step No.	Check Item	Result	Action
A misfeed occurs immediately after the Power Switch has been turned ON.	1	See TROUBLESHOOTING of the copier.		
A misfeed occurs before paper reaches Horizontal Transport Sensor PC24.	1	Is the Turnover Entrance Guide or Turnover Lower Guide deformed or dirty?	YES	Clean or replace the Turnover Entrance Guide or Turnover Lower Guide.
	2	Is the Turnover Roller or the Duplex Paper Take-Up Guide of the copier deformed or dirty?	YES	Clean or replace the Turnover Roller or the Duplex Paper Take-Up Guide of the copier.
			NO	Check Horizontal Transport Drive Clutch CL23 of the copier.
A misfeed occurs after paper has reached PC24 of the copier.	1	See TROUBLESHOOTING of the copier.		



MINOLTA

Use of this manual should be strictly supervised to avoid disclosure of confidential information.

MINOLTA CO., LTD.

4458-7990-11 96031600
Printed in Japan