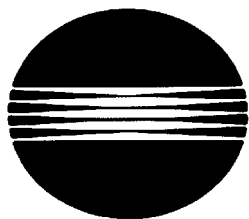


# AFR-1000

---

## SERVICE MANUAL

---



MINOLTA

# CONTENTS

## GENERAL/MECHANICAL/ELECTRICAL

1. SPECIFICATIONS .....	M- 1
2. COMPONENT IDENTIFICATION .....	M- 3
3. CROSS-SECTIONAL VIEW .....	M- 4
4. DRIVE SYSTEM .....	M- 5
5. ELECTRICAL COMPONENT LAYOUT .....	M- 6
6. DESCRIPTION OF MODES .....	M- 7
6-1. Mixed Original Mode .....	M- 7
6-2. 1-Sided Original Mode .....	M- 7
6-3. 2-Sided Mode .....	M- 7
6-4. 2-in-1 Mode .....	M- 7
6-5. Single Feed Mode .....	M- 7
6-6. Thin Mode .....	M- 7
7. DOCUMENT TAKE-UP/FEEDING MECHANISM .....	M- 8
7-1. Construction .....	M- 8
7-2. Document Pick-Up Mechanism .....	M- 9
7-3. Document Take-Up Mechanism .....	M-13
7-4. Document Pressure Mechanism .....	M-14
7-5. Document Separating Mechanism .....	M-15
7-6. Single Feed Mechanism .....	M-16
8. DOCUMENT TRANSPORT MECHANISM .....	M-17
8-1. Construction .....	M-17
8-2. Document Transport Mechanism .....	M-17
8-3. Original Width Scale Retraction Mechanism .....	M-18
8-4. Exit Document Leading Edge Stoppers .....	M-19
8-5. Document Moving Mechanism .....	M-22
9. TURNOVER/EXIT MECHANISM .....	M-24
9-1. Construction .....	M-24
9-2. Turnover/Exit Document Transport Mechanism .....	M-25
9-3. Exit Document Restraint Lever .....	M-26
9-4. Turnover/Exit Switching Mechanism .....	M-27
10. MISCELLANEOUS .....	M-28
10-1. Document Size Detection Mechanism .....	M-28
10-2. 15° Detection Mechanism .....	M-28
10-3. AFR-1000 Raised/Lowered Position Detection Mechanism ..	M-29

## TEST MODES

1-1. Test Mode (Tech. Rep. Mode) .....	S- 1
1-1-1. Paper Passage & Input Check .....	S- 3
1-1-2. Output Check .....	S- 4
1-2. Test Mode (DIP Switch) .....	S- 6
1-2-1. Paper Passage Check .....	S- 7
1-2-2. Unit Check .....	S- 9
1-2-3. Sensor Check .....	S-13

## DIS/REASSEMBLY, ADJUSTMENT

1. DISASSEMBLY .....	D- 1
1-1. Removal of the Document Transport Belt .....	D- 1
1-2. Removal of the Document Take-Up and Separator Rollers ...	D- 2
1-3. Removal of the Separator Pad .....	D- 3
2. ADJUSTMENTS .....	D- 4
2-1. Adjustment of Magnet Height .....	D- 4
2-2. Adjustment of the Document Feed Table Reference Position .	D- 5
2-3. Adjustment of the Single Feed Tray Reference Position ....	D- 6
2-4. Adjustment of the Document Stop Position in the	
1-Sided Mode .....	D- 7
2-5. Adjustment of the Document Stop Position in the	
2-Sided Mode .....	D- 8
2-6. Adjustment of the Document Stop Position	
in the 2-in-1 Mode .....	D- 9
2-7. Adjustment of the Distance Between Documents	
in the 2-in-1 Mode .....	D-10
2-8. Adjustment of the Document Stop Position in the	
Single Feed Mode .....	D-11
2-9. Adjustment of the Registration Loop .....	D-12
2-10. Adjustment of Turnover/Exit Switching Solenoid SL2 ....	D-13
2-11. Adjustment of the Distance Between Separator Rollers ....	D-14
2-12. Adjustment of the Turnover Guide Plate .....	D-18

## TROUBLESHOOTING

1. MISFEED DETECTION .....	T- 1
2. TROUBLESHOOTING PROCEDURES .....	T- 3
3. MALFUNCTION DETECTION .....	T- 7
4. TROUBLESHOOTING PROCEDURES .....	T- 8

**GENERAL  
MECHANICAL  
ELECTRICAL**

# 1 SPECIFICATIONS

Name	: Automatic Recycling Document Feeder with Turnover Unit AFR-1000
Type	: Paper take-up: Take up from bottom of stack, U-turn feeding Transport: Automatic single-belt transport system Turnover: Loop turnover system Ejection: U-turn ejection
Installation	: Mounted onto the copier
Type of Document	: Plain paper 1-sided and 2-in-1 mode : 50 to 100 g/m <sup>2</sup> 2-sided mode : 60 to 90 g/m <sup>2</sup> Mixed Original mode : 60 to 90 g/m <sup>2</sup> Single Feed mode : 35 to 200 g/m <sup>2</sup>
Detectable Document Sizes:	A3L, B4L, A4LC, B5LC, A5L, 11" × 17"L, 8-1/2" × 14"L, 8-1/2" × 11"LC, 11" × 15"L, 8-1/4" × 13"L
Capacity	: Document Feed Table: A4 or smaller 60 sheets (of paper weighing 80 g/m <sup>2</sup> ) B4 or larger 30 sheets (of paper weighing 80 g/m <sup>2</sup> ) Document Exit Table: A4 or smaller 60 sheets (of paper weighing 80 g/m <sup>2</sup> ) B4 or larger 30 sheets (of paper weighing 80 g/m <sup>2</sup> )
Alignment	: Aligned along the rear Document Edge Guide
Document Loading	: Face up (face down for Single Feed mode)
Modes	: 1-Sided Original 2-Sided Original 2-in-1 Mixed Original Single Feed
	The "Original Thickness" function of User's Choice provided by the copier permits selection between plain paper and thin paper mode.
Power Source	: DC24V, DC38V (supplied from the copier)
Power Consumption	: 90W or less
Dimensions	: Width 644 mm Depth 505 mm Height 166 mm
Weight	: 19 kg

Documents which should never be used : The following documents, if used in the AFR-1000, are very likely to cause trouble.

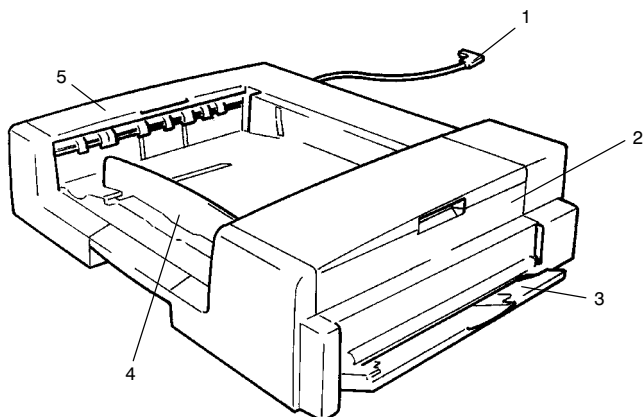
Type of Document	Possible Trouble
Documents stapled or clipped together	Take-up failure, damaged document, defective drive train due to jammed staples or clips.
Documents glued together	Take-up failure, damaged document
Documents folded, torn, or wrinkled	Take-up failure, damaged document
Documents severely curled	Document mis-fed due to being dog-eared or skewed.

Documents for which reliable feeding cannot be guaranteed :

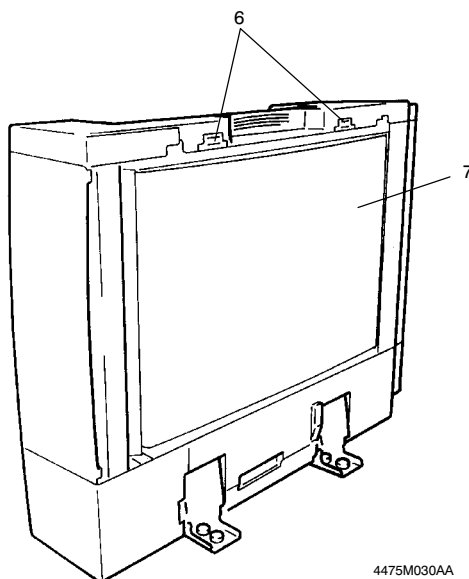
The following documents, if used in the AFR-1000, may or may not cause trouble.

Type of Document	Possible Trouble
Slightly curled documents	Dog-eared pages, ejection failure
Heat-sensitive paper for facsimile	Crease, ejection failure
Coated documents	Take-up failure, transport failure
Documents with uneven surface (letterhead, etc.)	Take-up failure
Translucent paper	Take-up failure, transport failure
Paper just fed out of the copier	Take-up failure, transport failure
Perforated documents (loose-leaf paper, etc.)	Take-up failure, transport failure
Documents weighing 40 to 50 g/m <sup>2</sup>	Folded leading edge, transport failure
Folded documents	Transport failure, distorted image

## 2 COMPONENT IDENTIFICATION



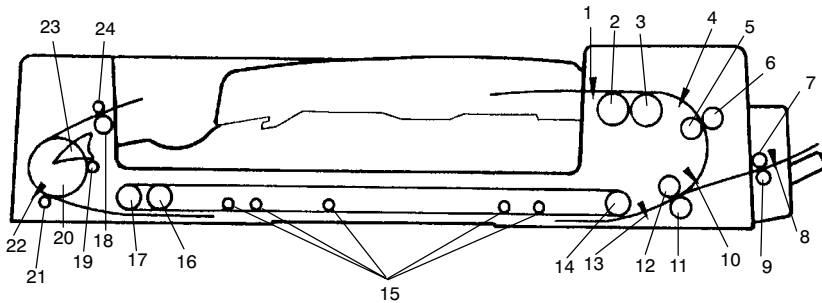
4475M029AA



4475M030AA

- |                        |                        |
|------------------------|------------------------|
| 1. Hookup Cord         | 5. Turnover/Exit Cover |
| 2. Take-Up Cover       | 6. Magnetic Catches    |
| 3. Single Feed Tray    | 7. Transport Belt      |
| 4. Document Edge Guide |                        |

### 3 CROSS-SECTIONAL VIEW

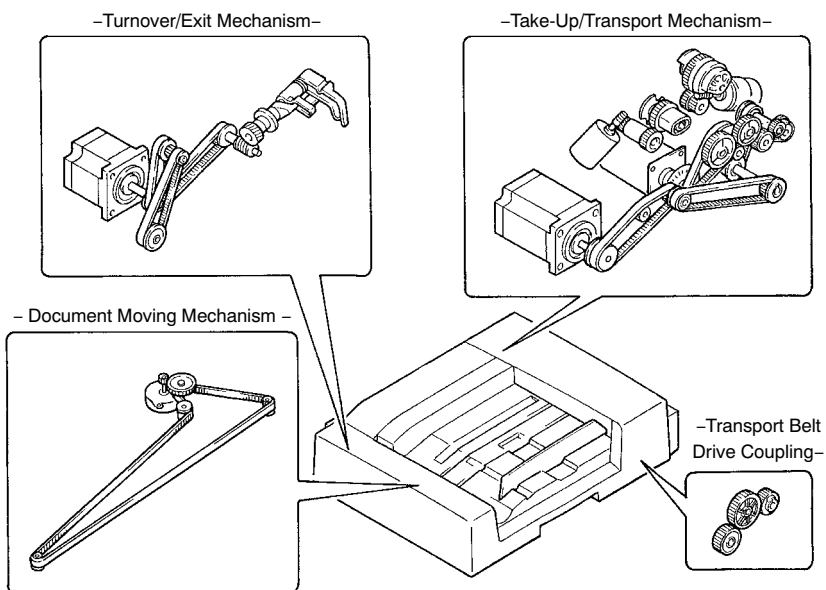


4475M031AB

- |                                   |                                   |
|-----------------------------------|-----------------------------------|
| 1. Document Detecting Sensor PC1  | 13. Registration Sensor PC3       |
| 2. Document Take-Up Roller        | 14. Transport Belt Drive Roller   |
| 3. Document Separator Roller      | 15. Transport Rolls               |
| 4. Document Feed Sensor PC2       | 16. Transport Belt Guide Roller   |
| 5. Transport Drive Roller         | 17. Transport Belt Driven Roller  |
| 6. Transport Driven Roller        | 18. Exit Roller                   |
| 7. Single Feed Transport Roller   | 19. Transport Rolls               |
| 8. Single Feed Take-Up Sensor PC5 | 20. Turnover Roller               |
| 9. Single Feed Transport Roll     | 21. Turnover Roll                 |
| 10. Size Sensor A/B/C PC6/7/8     | 22. Exit Sensor PC4               |
| 11. Registration Driven Roller    | 23. Turnover/Exit Switching Plate |
| 12. Registration Drive Roller     | 24. Exit Roll                     |

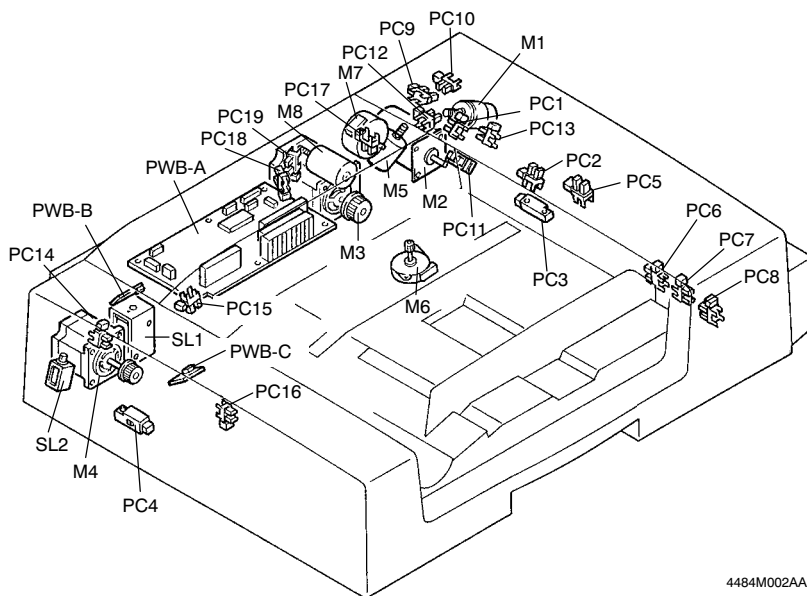


## 4 DRIVE SYSTEM



4484M001AA

## 5 ELECTRICAL COMPONENT LAYOUT



4484M002AA

Code	Name	Code	Name
PWB-A	Main Control Board	PC5	Manual Feed Take-Up Sensor
PWB-B	Document Exit Table Receiver Sensor Board	PC6	Size Sensor A
PWB-C	Document Exit Table Oscillator Sensor Board	PC7	Size Sensor B
M1	Pick-Up Motor	PC8	Size Sensor C
M2	Take-Up Motor	PC9	Pick-Up Sensor A
M3	Main Motor	PC10	Pick-Up Sensor B
M4	Turnover/Exit Motor	PC11	Take-Up Motor Pulse Sensor
M5	Document Pressure Motor	PC12	Document Pressure Sensor
M6	Document Moving Motor	PC13	Take-Up Cover Set Sensor
M7	Leading Edge Guide Plate Motor	PC14	Turnover Cover Set Sensor
M8	Rear Edge Guide Plate Motor	PC15	Exit Document Hold Down Lever Sensor
SL1	Scale Solenoid	PC16	Document Moving Lever Home Position Sensor
SL2	Turnover/Exit Switching Solenoid	PC17	Leading Edge Guide Plate Home Position Sensor
PC1	Document Detecting Sensor	PC18	Rear Edge Guide Plate Home Position Sensor
PC2	Document Feed Sensor	PC19	Rear Edge Sensor
PC3	Registration Sensor		
PC4	Exit Sensor		

## 6 DESCRIPTION OF MODES

4475SBM0601A

### 6-1. Mixed Original Mode

- If the Mixed Orig key on the Touch Panel is touched when the copier is set in 1 or 2-sided mode, or 2-in-1 mode, the copier detects the size of the document each time a document is taken up and fed in. The copier feeds the copy paper of a size selected from among the available paper sources according to the document size detected.

4475SBM0602A

### 6-2. 1-Sided Original Mode

- When in this mode, the copier detects the size of the document which is taken up and fed in first.
- The copier therefore needs to determine the size of the copy paper only once based on the detected document size and the copying setting made on the control panel. This makes for faster paper feed timing on the part of the copier.

Note:

If a set of documents of varying sizes are used in this mode, image trouble could result including missing copy image. (The system does not force a misfeed condition.)

4475SBM0603A

### 6-3. 2-Sided Mode

- The copier automatically turns over the 2-sided document for a speedy copying operation (copies are made in the order of the first and second pages).

4486SBM0604A

### 6-4. 2-in-1 Mode

- When in this mode, the copier positions two different documents on the Original Glass side-by-side for making a copy of the two documents onto one side of a single sheet of paper in a single copy run.
- If this mode is to be used for a set of documents of different widths, the Mixed Orig key shown on the Touch Panel must first be touched.

4484SBM0605A

### 6-5. S-ADF (Single Feed) Mode

- When a single document is placed in the Single Feed Tray, the AFR-1000 automatically takes it up and feeds it in to let the copier run a single copy cycle.

Note:

The AFR-1000 automatically takes up and feeds in documents even when two or more of them are placed on the Single Feed Tray; however, it could result in a double feed or other faulty condition. Only one document should therefore be loaded.

4484SBM0606A

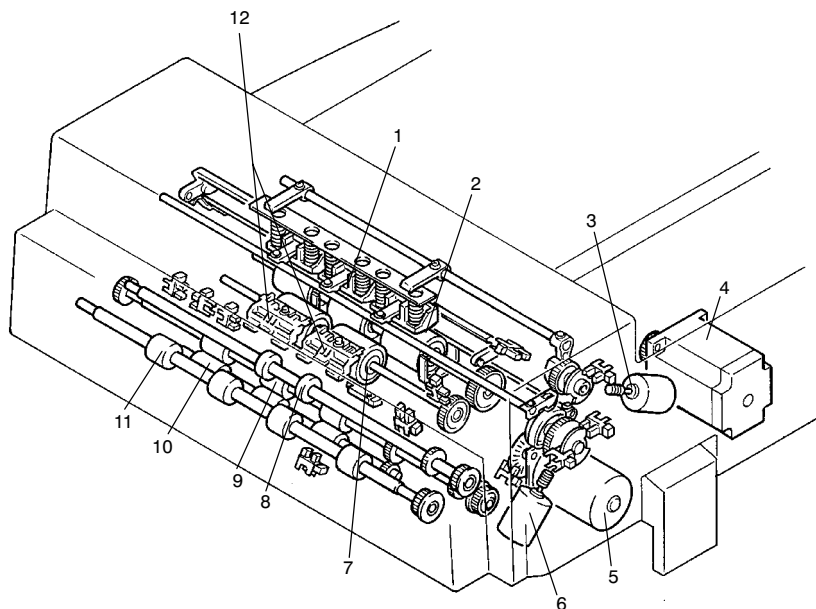
### 6-6. Thin Mode (As set by “Original Thickness” of User’s Mode)

- When in this mode, the AFR-1000 transports the document at a low speed and stops it without letting it hit against the Original Width Scale.

## 7 DOCUMENT TAKE-UP/FEEDING MECHANISM

4475SBM0701A

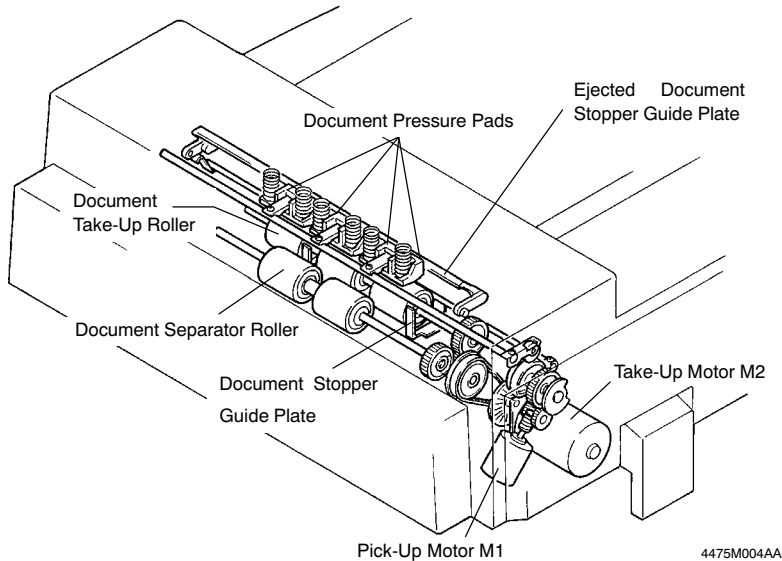
### 7-1. Construction



4475M003AA

No.	Name	No.	Name
1	Document Pressure Pad	7	Document Separator Roller
2	Document Take-Up Roller	8	Transport Drive Roller
3	Document Pressure Motor M5	9	Registration Drive Roller
4	Main Motor M3	10	Registration Drive Roller
5	Take-Up Motor M2	11	Single Feed Transport Roller
6	Pick-Up Motor M1	12	Separator Pad

## 7-2. Document Pick-Up Mechanism



- The document pick-up mechanism consists of the Document Pressure Pads, Document Stopper Guide Plate, Ejected Document Stopper Guide Plate, and Document Take-Up Roller.
- When documents are loaded in the Document Feed Table, they are pressed against the Document Take-Up Roller by the Document Pressure Pads. They are then taken up by the Document Take-Up Roller one by one, starting with the bottom one of the stack.
- The Document Stopper Guide Plate determines the leading edge position of the documents loaded in the AFR-1000. It is in the raised position while in the standby state and is lowered at the start of the pick-up motion.
- The Ejected Document Stopper Guide Plate prevents an ejected document from entering the document pick-up mechanism. It is lowered when the Document Pressure Pads press the document up against the Document Take-Up Roller and raised when the Document Stopper Guide Plate is raised.
- The Document Pressure Pads, Document Stopper Guide Plate, and Ejected Document Stopper Guide Plate are moved by Pick-Up Motor M1.

## ◆ M1 Control

### <Forward/Backward Rotation and Stop Control>

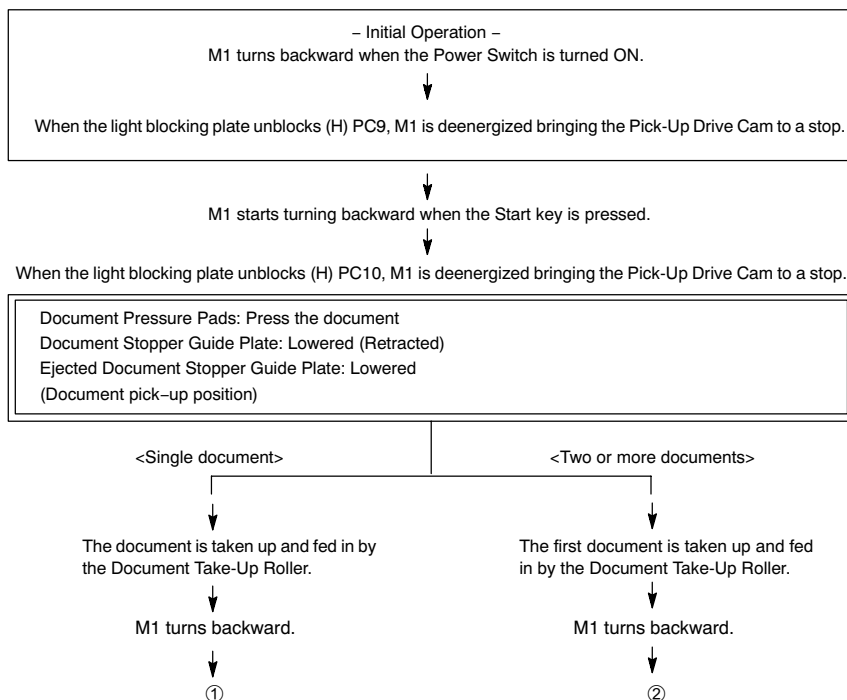
- M1 is turned forward (clockwise as viewed from the back of the AFR-1000) or backward (counterclockwise as viewed from the back of the unit) or stopped by the output signals from IC12A-3 and - 18.

M1	IC12A-3	IC12A-18
Turns Forward	L	H
Turns Backward	H	L
Stops	–	–

### ◆ Operation of the Document Pressure Pads, Document Stopper Guide Plate, and Ejected Document Stopper Guide Plate

The Document Pressure Pads, Document Stopper Guide Plate, and Ejected Document Stopper Guide Plate are driven by Pick-Up Motor M1. The Pick-Up Drive Cam is turned or stopped by M1 as the light blocking plate mounted on the same shaft as the drive cam blocks (L) or unblocks (H) Pick-Up Sensor A/B PC9/10.

#### <Operation>



①



When the light blocking plate blocks (L) PC10, M1 is deenergized bringing the Pick-Up Drive Cam to a stop.

Document Pressure	
Pads :	Release the document
Document Stopper	
Guide Plate :	Lowered (Retracted)
Ejected Document	
Stopper Guide Plate :	Lowered



M1 turns backward.



When the light blocking plate unblocks (H) PC9, M1 is deenergized bringing the Pick-Up Drive Cam to a stop.

Home position detected
------------------------

②



When the light blocking plate blocks (L) PC10, M1 is deenergized bringing the Pick-Up Drive Cam to a stop.

Document Pressure	
Pads :	Release the document
Document Stopper	
Guide Plate :	Lowered (Retracted)
Ejected Document	
Stopper Guide Plate :	Lowered



M1 turns forward.



When the light blocking plate unblocks (H) PC9, M1 is deenergized bringing the Pick-Up Drive Cam to a stop.

Document Pressure	
Pads :	Press the document
Document Stopper	
Guide Plate :	Lowered (Retracted)
Ejected Document	
Stopper Guide Plate :	Lowered



The second document is taken up and fed in by the Document Take-Up Roller.



M1 turns backward.



When the light blocking plate blocks (L) PC10, M1 is deenergized bringing the Pick-Up Drive Cam to a stop.

Document Pressure	
Pads :	Release the document
Document Stopper	
Guide Plate :	Lowered (Retracted)
Ejected Document	
Stopper Guide Plate :	Lowered

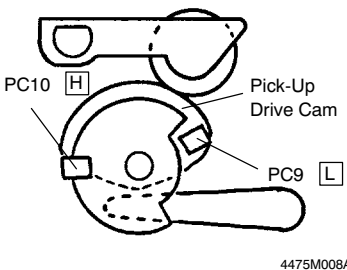
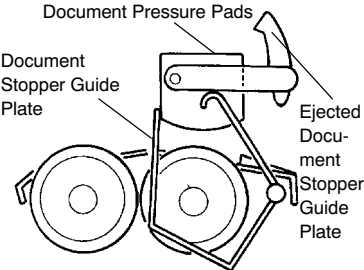
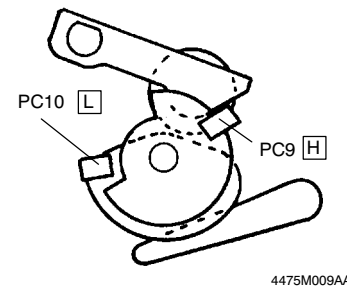
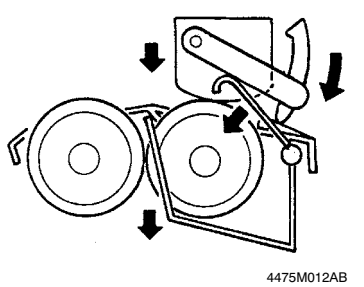
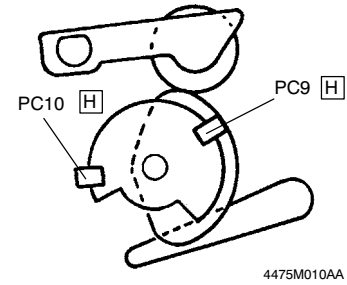
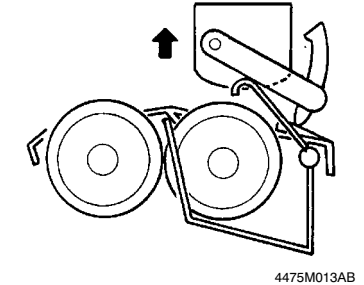
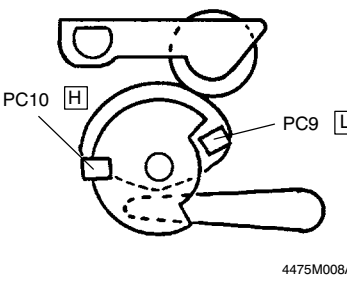
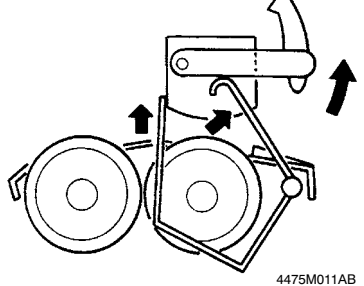


M1 turns backward.



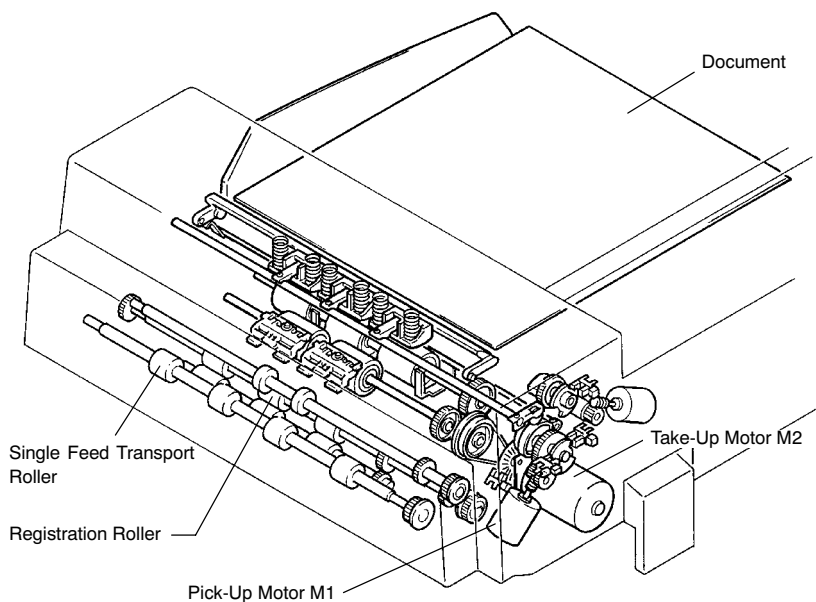
When the light blocking plate unblocks (H) PC9, M1 is deenergized bringing the Pick-Up Drive Cam to a stop.

Home position detected
------------------------

	Pick-Up Drive Cam Operation	Document Pressure Pads, Document Stopper Guide Plate, and Ejected Document Stopper Guide Plate
Home position		
At document pick-up		
During document transport		
Home position		



### 7-3. Document Take-Up Mechanism



4475M005AA

- The document take-up mechanism takes up a document from the bottom of a set of documents loaded in the Document Feed Table and feeds it up to the Registration Rollers. It is driven by Take-Up Motor M2.
- M2 turns forward to drive the Document Take-Up Roller, Document Separator Roller, and Transport Rollers, and turns backward to drive the Single Feed Transport Roller.

#### ◆ M2 Control

##### <Forward/Backward Rotation and Stop Control>

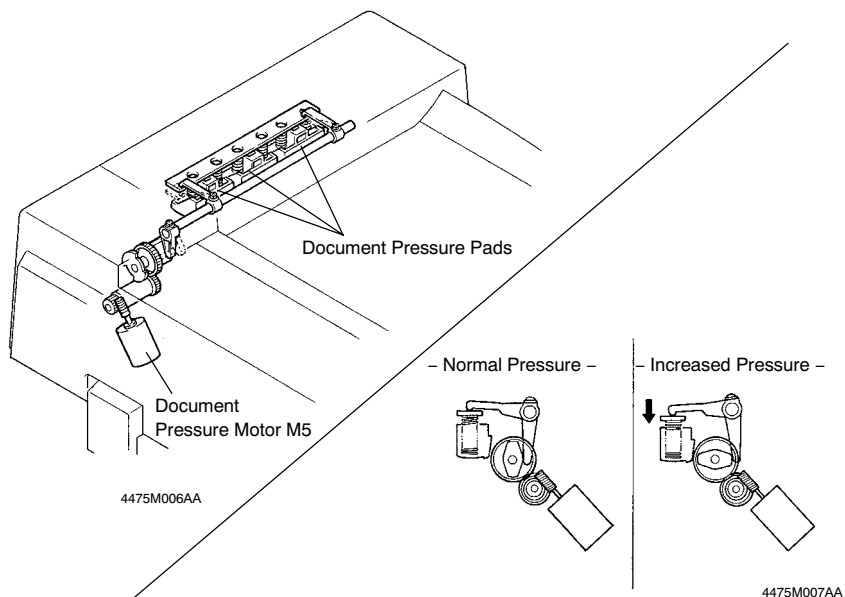
- M2 is controlled by the input signals to IC17A-13 and -15.

M1	IC17A-13	IC17A-15
Turns Forward	L	H
Turns Backward	H	L
Stops	—	—

##### <Speed Control>

- The speed of M2 is detected by the pulse disk mounted on the motor output shaft and Take-Up Motor Pulse Sensor PC11.  
When M2 pulses are input to IC1A-75, the output from IC17A-14 is varied according to the number of pulses applied, thereby keeping constant the motor speed.

## 7-4. Document Pressure Mechanism



- The pressure at which the document is pressed against the Document Take-Up Roller is varied in two steps, as determined by whether the document size is smaller than B4, Legal lengthwise or not. Document Pressure Motor M5 is used to vary this pressure level.
- For a document smaller than B4, Legal lengthwise, M5 remains deenergized and the document is pressed at the normal pressure.
- When two or more documents of B4, Legal lengthwise or larger are loaded and if the first document has been found to be B4, Legal lengthwise or larger through size detection, M5 is energized each time the second and subsequent documents are taken up, thereby increasing the pressure exerted by the Document Pressure Pads. This helps enhance document take-up reliability for documents size B4, Legal lengthwise or larger.

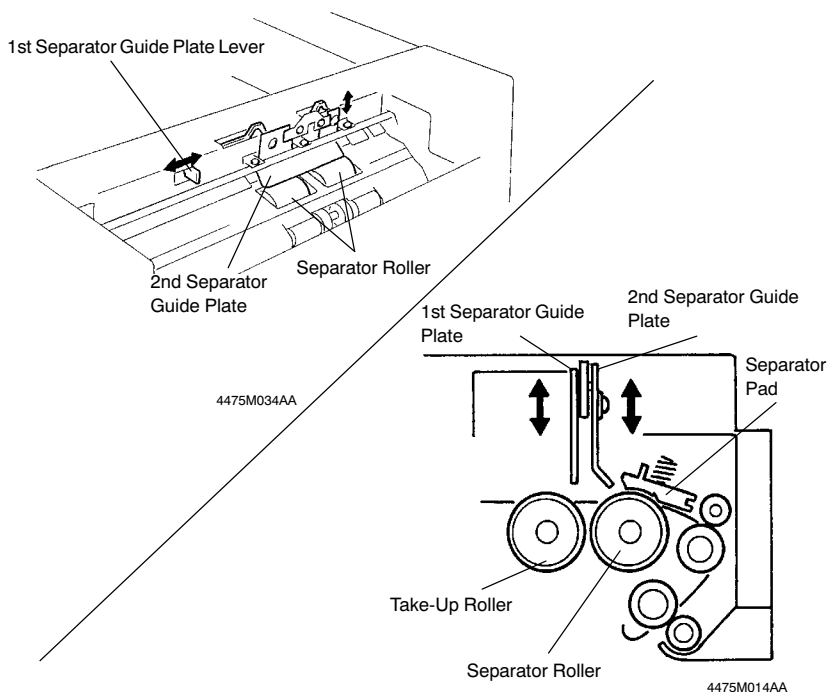
### ◆ M5 Control

#### <Rotation/Stop Control>

M5 is energized or deenergized by the output signal from IC5A-20 and it is deenergized when a LOW signal from Document Pressure Sensor PC12 is input to IC5A-38.

M1	IC5A-20	IC5A-38
Turns	L	–
Stops	H	L

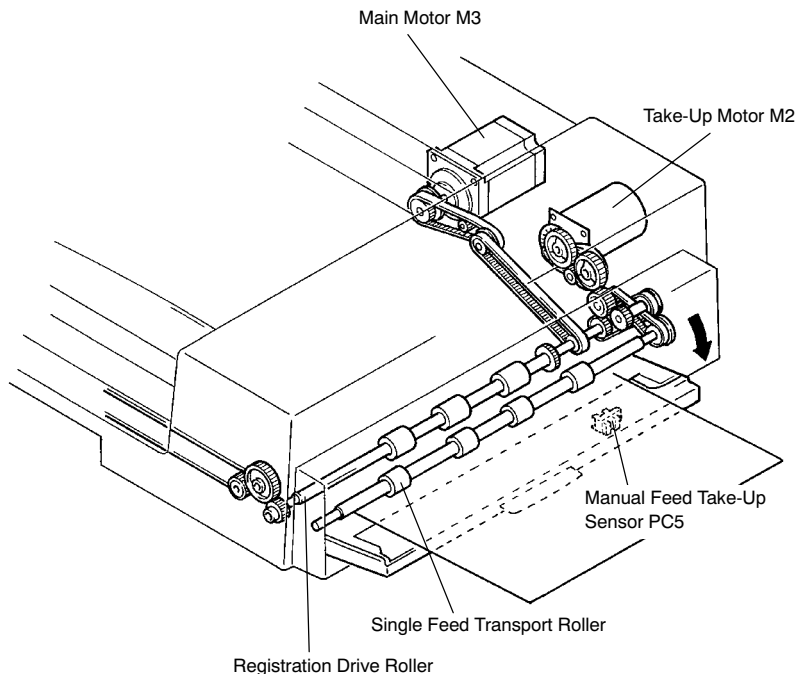
## 7-5. Document Separating Mechanism



- Movable separator guide plates are used in the document separating mechanism. The height of the 1st and 2nd Separator Guide Plates can be adjusted by a lever and screws, respectively.
  - If a smudge is evident on the back side of the document along its trailing edge, lowering the guide plates can be effective in reducing it by restricting the number of documents that hit against the Separator Roller.
- Note: Both 1st and 2nd Separator Guide Plates have been factory-set in the raised position.
- The Separator Pad is designed to be pressed against the Separator Rollers. This prevents a double feed even when two or more documents are taken up and fed in.

## 7-6. Single Feed Mechanism

- The single feed mechanism is used to copy only a single document at a time.
- Open the Single Feed Tray and insert a document. When Manual Feed Take-Up Sensor PC5 detects (L) the document, it starts the Single Feed Transport Roller and Registration Drive Roller, the document is taken up and the copy cycle automatically starts without the Start key being pressed.

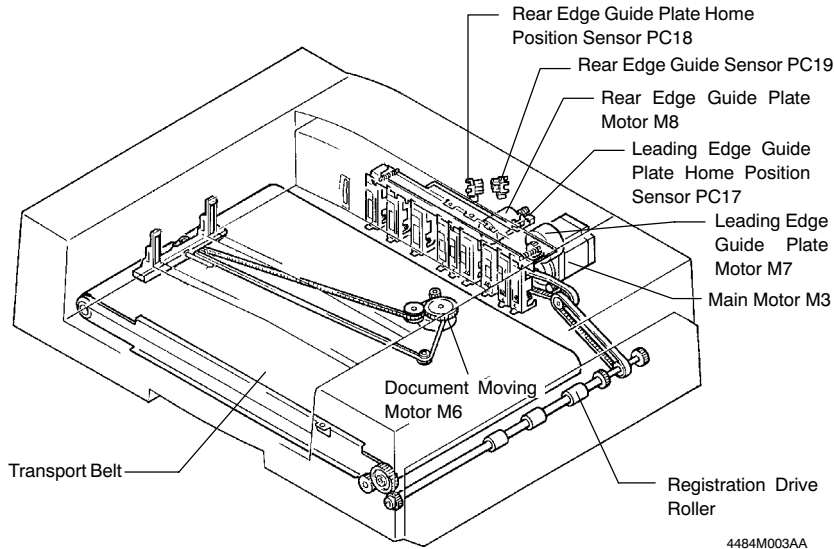


4475M015AB

8

DOCUMENT TRANSPORT MECHANISM

8-1. Construction



8-2. Document Transport Mechanism

- The document transport mechanism transports the document, which has been fed up to the Registration Roller from the document take-up mechanism, up to the Original Width Scale by means of the Document Transport Belt.
- During the turnover motion, the Document Transport Belt is turned to transport the document toward the take-up end.

◆ M3 Control

Whether M3 is turned forward or backward is determined by the combination of the following signals output from IC15A on PWB-A.

IC15	Procedure			
	Step 1	Step 2	Step 3	Step 4
Pin 2	H	H	L	L
Pin 3	L	L	H	H
Pin 6	L	H	H	L
Pin 7	H	L	L	H
Forward Rotation	→			
Backward Rotation	←			

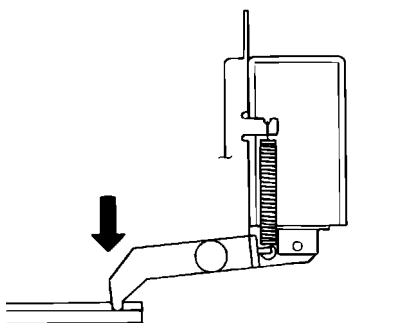
### 8-3. Original Width Scale Retraction Mechanism

- When the document is positioned on the Original Glass, the leading edge of the document is pressed against the Original Width Scale to enhance positioning accuracy. During turnover and ejection motion, however, the document must move over the Original Width Scale. For this reason, the Original Width Scale retraction mechanism is employed.
- Scale Solenoid SL1 is used to drive this retraction mechanism.

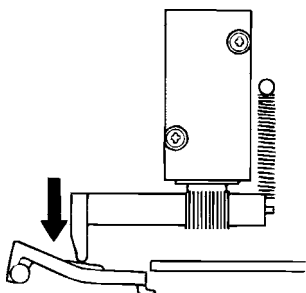
#### <Operation>

- When the document is positioned : SL1 is deenergized and the Original Width Scale is raised by the tension of the spring.
- While the document is being transported and during a copy cycle : SL1 is energized and the Original Width Scale is pressed downward by the Original Width Scale Drive Lever and spring.

<SL1 : Energized>

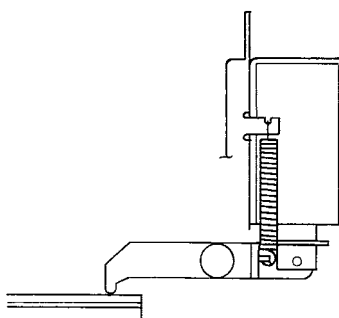


4486D029AA

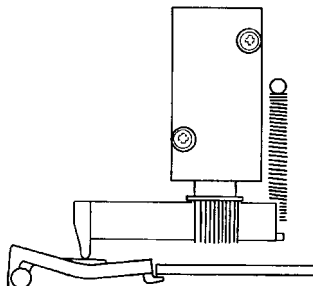


4486D030AA

<SL1 : Deenergized>



4475M035AA



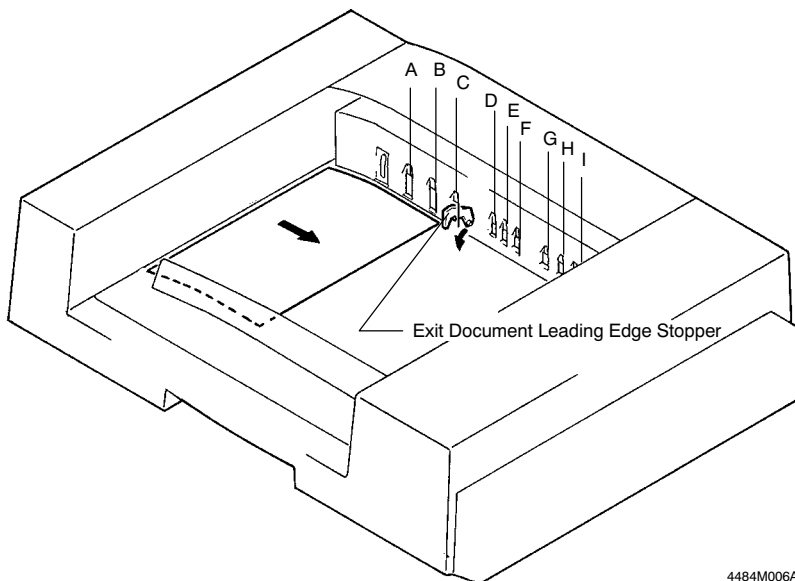
4475M036AA

#### ◆ SL1 Control

SL1 is energized and deenergized by the signal output from IC12A on PWB-A.

SL1	IC12A-13
Energized	L
Deenergized	H

## 8-4. Exit Document Leading Edge Stoppers



4484M006AA

- There are nine Exit Document Leading Edge Stoppers installed. The stopper corresponding to the size of the document is swung downward to block the document being ejected, thereby aligning the leading edge of each document. If a document size that is different from that detected for the first page of the document is detected, the stopper is swung upward or retracted and, thereafter, ejected documents will no longer be stopped.

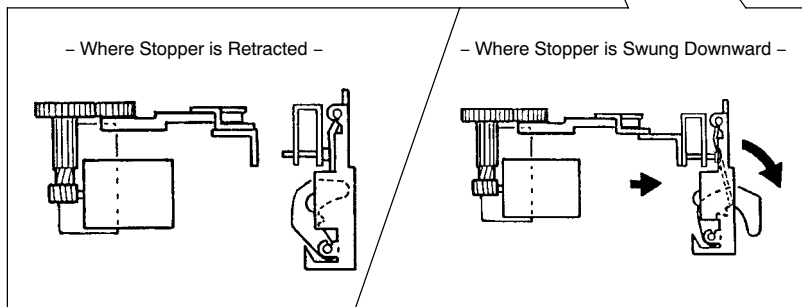
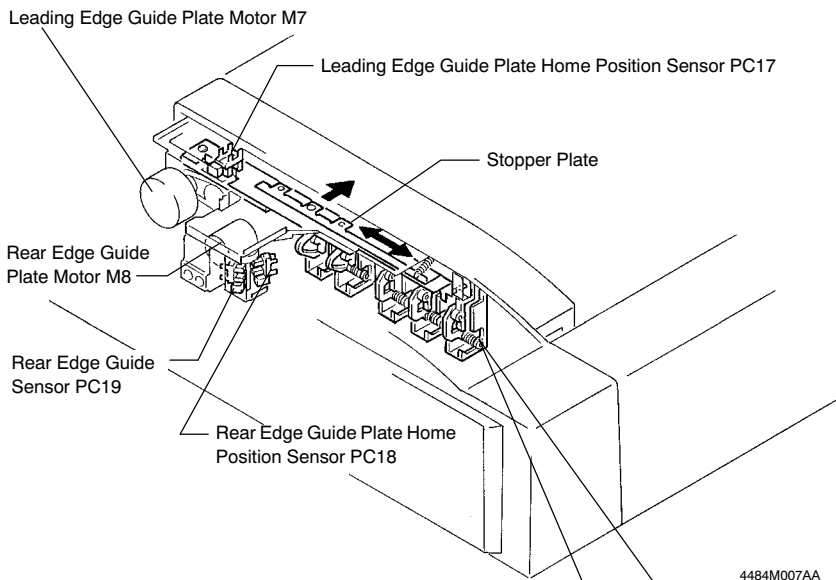
Stopper	Document Size	Stopper	Document Size
A	A5C, Invoice C	F	A4L
B	B5C	G	FLS L
C	A4C, Letter C	H	Legal L
D	B5L	I	B4L
E	Letter L		

Note: For an A3 lengthwise or 11" × 17" lengthwise document, the Ejected Document Stopper Guide Plate of the Document Take-Up Mechanism functions to block its leading edge.

### ◆ Operation of the Exit Document Leading Edge Stopper

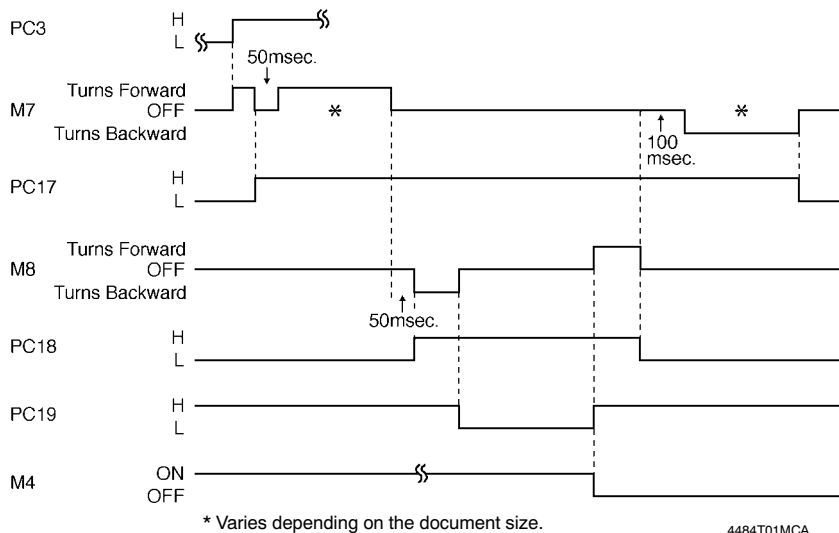
Drive for the Exit Document Leading Edge Stopper comes from Leading Edge Guide Plate Motor M7 and Rear Edge Guide Plate Motor M8.

M7 moves the Stopper Plate to the position of the pin corresponding to the document size and M8 pushes the Stopper Plate to push the pin. This in turn pushes the stopper and swings it downward. After the stopper is swung upward or retracted, the Stopper Plate returns to its home position.





## <Timing>



### ◆ M7 Control

Whether M7 is turned forward or backward is determined by the combination of signals output from IC21A on PWB-A.

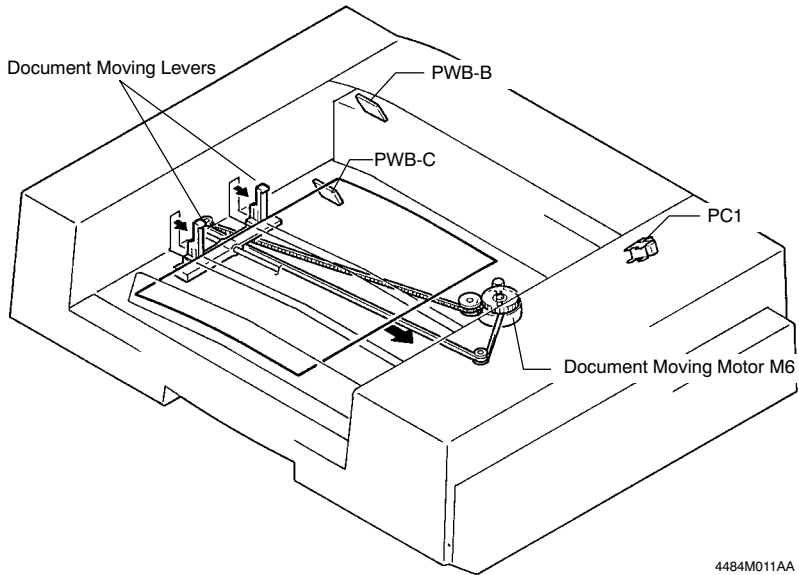
IC21A	Procedure			
	Step 1	Step 2	Step 3	Step 4
2	H	H	L	L
7	L	L	H	H
10	L	H	H	L
15	H	L	L	H
Forward Rotation	→			
Backward Rotation	←			

### ◆ M8 Control

Whether M8 is turned forward or backward is determined by the combination of signals output from IC20A on PWB-A.

M8	IC20A-3	IC20A-18
Turns Forward	L	H
Turns Backward	H	L
Stops	—	—

## 8-5. Document Moving Mechanism



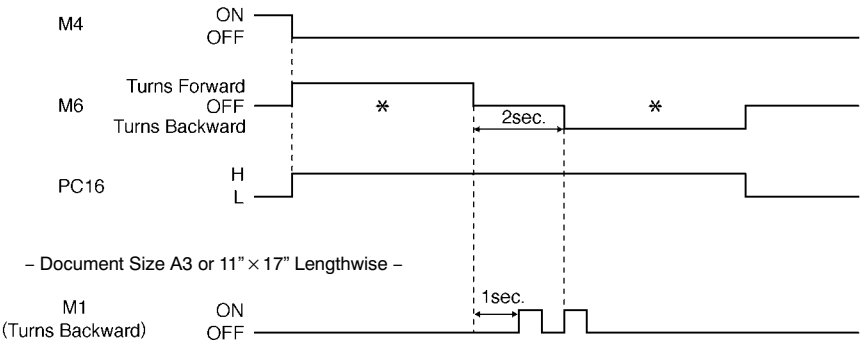
4484M011AA

- When the user makes 21 or more copy sets using a system equipped with an ST-1000/1100, the ejected document is moved by the Document Moving Levers to the document take-up port to allow the system to make copies for the 21st and subsequent copy sets.
- If "Automatic Feeding Adjust" of "Tech. Rep. Choice" is set to "Yes" on the copier, the document is moved after a misfeed in the copier has been cleared.

<A document moving sequence does not occur or is interrupted under any of the following conditions>

- ① Document Detecting Sensor PC1 is activated at the start of a document moving sequence.
- ② Document Exit Table Receiver/Oscillator Sensor Board PWB-B/C does not detect a document at the start of a document moving sequence.
- ③ Document Exit Table Receiver/Oscillator Sensor Board PWB-B/C detects a document when the Document Moving Levers start returning to the home position.

<Timing>



\* Varies depending on the document size. 4484T02MCA

◆ M6 Control

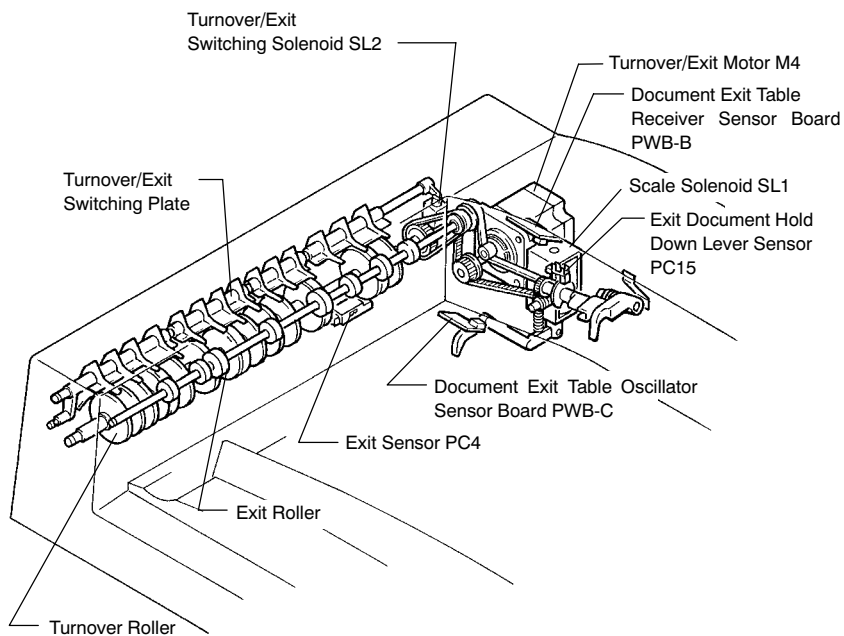
Whether M6 is turned forward or backward is determined by the combination of the signals output from IC18A on PWB-A.

IC18A	Procedure			
	Step 1	Step 2	Step 3	Step 4
2	H	H	L	L
7	L	L	H	H
10	L	H	H	L
15	H	L	L	H
Forward Rotation	→			
Backward Rotation	←			

## 9 TURNOVER/EXIT MECHANISM

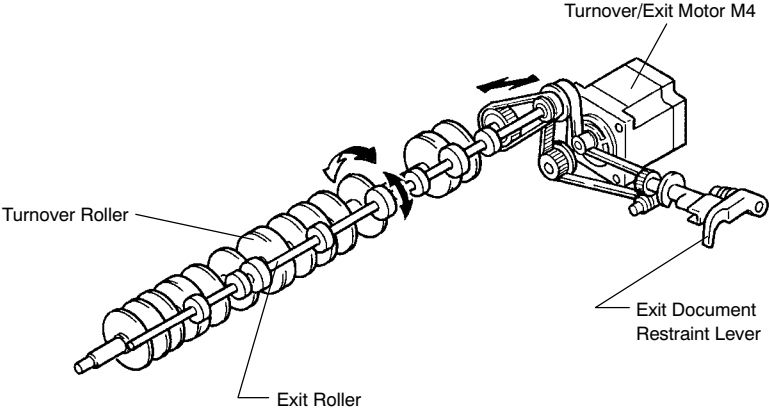
4484SBM0901A

### 9-1. Construction



4484M004AA

9-2. Turnover/Exit Document Transport Mechanism



4484M005AA

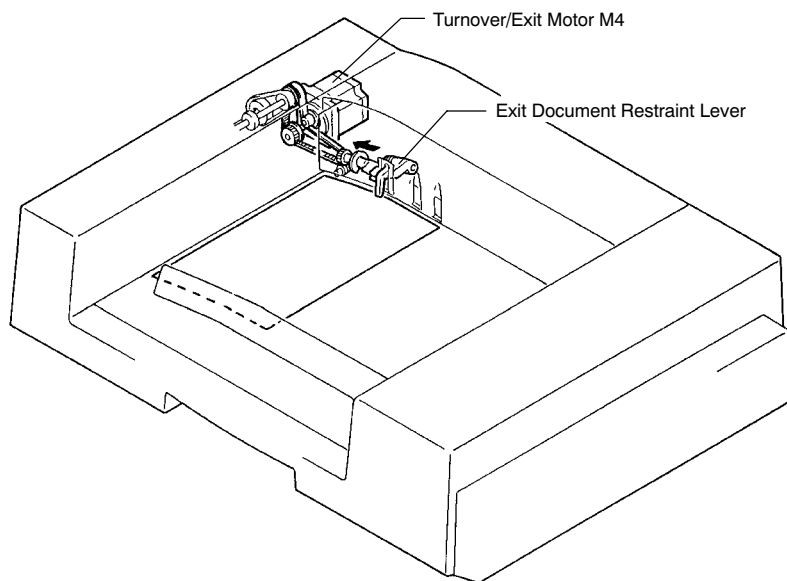
- The turnover/exit document transport mechanism turns over and ejects the document which has been transported by the document transport mechanism. It is driven by Turnover/Exit Motor M4.
- M4 turns both the Turnover Roller and Exit Roller. These rollers are turned in the same direction regardless of whether a document is turned over or ejected from the AFR-1000.

◆ M4 Control

Whether M4 is turned forward or backward is determined by the combination of the following signals output from IC16A on PWB-A.

IC16	Procedure			
	Step 1	Step 2	Step 3	Step 4
Pin 2	H	H	L	L
Pin 3	L	L	H	H
Pin 6	L	H	H	L
Pin 7	H	L	L	H
Forward Rotation	→			
Backward Rotation	←			

### 9-3. Exit Document Restraint Lever



4484M010AA

- When a paper misfeed or malfunction occurs in the copier, all pages of the document are ejected and the Exit Document Restraint Lever holds them in position. It prevents the documents from falling off even when the clamshell of the copier is raised.
- The Exit Document Restraint Lever is driven by Turnover/Exit Motor M4. Since it is operated when M4 turns backward, a one-way clutch is built into the drive pulley to cut off the drive when M4 turns forward.

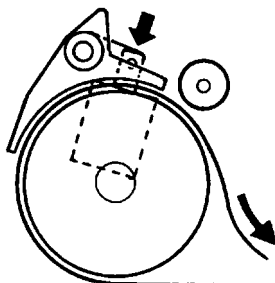
**NOTE**

- *The same mechanism is installed on the AFR-13; however, it functions only when the copier is a clam-shell construction.*

## 9-4. Turnover/Exit Switching Mechanism

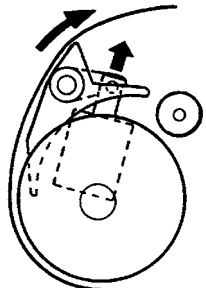
- The turnover/exit switching mechanism uses the Turnover/Exit Switching Plate which is swung downward or upward to change the document path, thereby allowing the document to be turned over or ejected from the AFR-1000. This plate is actuated by Turnover/Exit Switching Solenoid SL2.

<For Turnover : Energized>



4475M019AA

<For Exit : Deenergized>



4475M020AA

### ◆ SL2 Control

SL2 is energized and deenergized by the signal output from IC1A on PWB-A.

SL2	IC1A-49
Energized	L
Deenergized	H

## 10 MISCELLANEOUS

4484SBM1001A

### 10-1. Document Size Detection Mechanism

#### 1) Width Detection

- The width of the document is detected by Size Sensors A, B, and C (PC6, 7, and 8).
- PC6, 7, and 8 are activated and deactivated by their corresponding actuators installed at a position about 236 mm, 268 mm, and 288 mm, respectively, from the Rear Guide Plate reference.

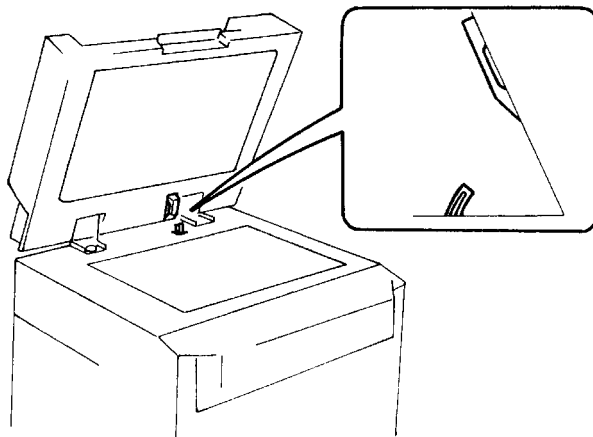
#### 2) Length Detection

- The length of the document is detected by the number of pulses generated by Main Motor M3 in the period from when the Registration Roller starts turning until the trailing edge of the document moves past (H) Registration Sensor PC3.

4484SBM1002A

### 10-2. 15° Detection Mechanism

- The 15° detection mechanism allows the copier to detect the size of the document when the AFR-1000 is used merely as an original cover.
- When the AFR-1000 is raised and lowered, the lever fitted to the AFR-1000 operates the original cover detection lever on the copier, which in turn activates and deactivates Original Cover Detecting Sensor PC111 of the copier.

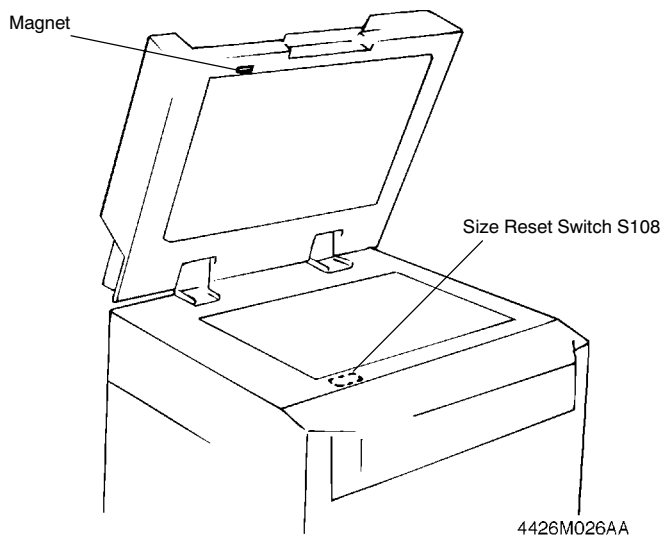


4426M025AA



### 10-3. AFR-1000 Raised/Lowered Position Detection Mechanism

- Size Reset Switch S108 is located at the front left corner of the copier and a magnet is mounted in the front left of the AFR-1000. The position of the AFR-1000, whether raised or lowered, can be detected as the reed switch (S108) is turned ON and OFF by the magnet.
- Raising and lowering the AFR-1000 serves to reset a misfeed condition and allows selection of a Test Mode operation.



# TEST MODES

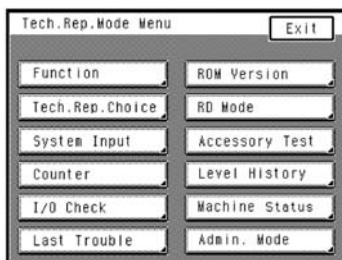
# 1 TEST MODES

- The test modes for the AFR-1000 can be initiated from the "Tech. Rep. Mode Menu" provided for the copier or by changing the position of a DIP switch key on PWB-A of the AFR-1000.

4484SBS0101A

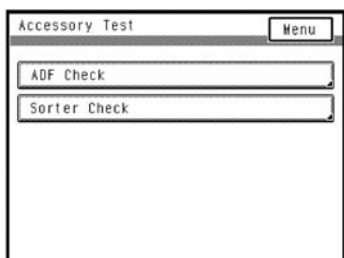
## 1-1. Test Mode (Tech. Rep. Mode)

1. On the copier control panel, press the following keys in this order to set the copier into the Tech. Rep. mode: Stop key → 0 → Stop key → 1. Then, select "Accessory Test."

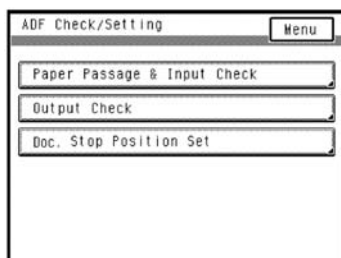


4484S001CA

2. Touch "ADF Check" to enter the ADF Check/Setting mode.



4475S008CA



4475S009CA

3. Select the desired function to start it.

The following is an outline of each function. Details will be found on the following pages.

- Paper Passage & Input Check: ..... Load documents and press the Start key to check for paper passage in different operating modes. This function also allows the Tech. Rep. to check sensors for operation.
- Output Check: ..... This function allows the Tech. Rep. to check each electrical part.
- Doc. Stop Position Set: ..... This function is used to adjust the document stop position. For details, see DIS/REASSEMBLY, ADJUSTMENT.

◆ **Conditions for Starting Each Test Mode Operation (Closure Failure)**

- Some of the test mode operations do not start if a cover in the take-up or transport section of the AFR-1000 is open. If any of the test operations is not activated, first check to see if a cover is left open.

		Take-Up Section	Transport Section	Turnover Section
Paper Passage & Input Check		×	×	×
Output Check	M3	×	×	○
	M1, M2, M4, M5	○	×	○
	SL1, SL2	○	×	○

○: Enabled    ×: Disabled when a cover is open.

- The control panel indication identifies whether a disabled test mode operation is due to a closure failure or actual component malfunction.

	Closure Failure	Malfunction
Start Key	Green → Orange → Green	Green → Orange
Selected Key	Not highlighted	Remains highlighted
Multi-Copy Display (for Output Check only)	Remains "0"	* "0" → "1"

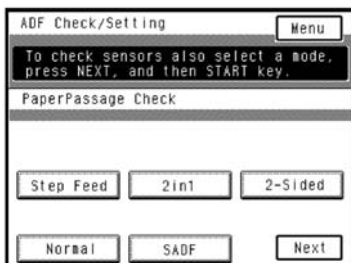
\* : Remains "0" for M1.

Note: With "Paper Passage & Input Check," the same indication is given as for closure failure when documents are not loaded.

## 1-1-1. Paper Passage & Input Check

### ◆ Using the Paper Passage Check

1. The following screen appears when "Paper Passage & Input Check" is touched on the ADF Check/Set-ting screen.



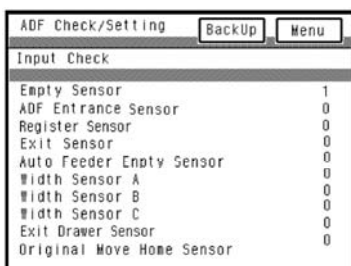
4475S010CA

2. Select the operating mode in which to check for paper passage.
3. Place documents onto the Document Feed Table and press the Start key. This will start the paper passage check in the operating mode selected and it will run until all documents are fed through the AFR-1000.

Pressing the Start key while the check is being made interrupts the check. If the key is then pressed again, the check will be resumed. Pressing the Stop key will eject all documents out of the AFR-1000, terminating the test mode operation.

### ◆ Input Check (Sensor Check)

- The following screen appears when "Next" is touched on the Paper Passage & Input Check screen.



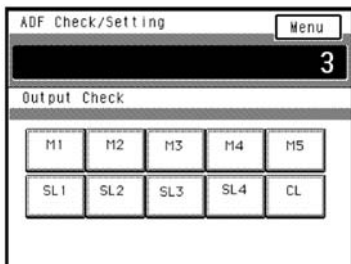
4475S011CA

- If Next is touched and the Start key is pressed while Paper Passage Check is being run or after Paper Passage Check has been selected, the sensors can be checked for operation while documents are fed through the AFR-1000. It is also possible to check each individual sensor by activating and deactivating it using paper or a finger with the necessary covers opened.
- Whether a particular sensor is activated or deactivated is indicated by "0" or "1." A "1" is shown if paper is present at a sensor along the paper path.

## 1-1-2. Output Check

### ◆ Using the Output Check

1. The following screen appears when "Output Check" is touched on the ADF Check/Setting screen.



4475S012CA

2. Touch the key corresponding to the component to be checked.
3. Press the Start key, which will start the component selected. For detailed operation, see below.

Each press of the Start key causes the component to start a new operation as detailed below. Pressing the Stop key will terminate the test mode in mid operation. A particular number shown on the Multi-Copy Display within the Touch Panel gives you a key to a particular operation.

### ◆ Details of Output Check

– Pick-Up Motor M1 –  
Document Pressure Motor M5

No. of Times Start Key is Pressed	Touch Panel Multi-Copy Display	Operation
0	0	Standby (stationary)
1	1	M1: Initial operation
2	2	M1: Pressure
3	3	M1: Pressure release
4	4	M1: Moves to home position
5	5	M5: Initial operation

– Take-Up Motor M2 –

No. of Times Start Key is Pressed	Touch Panel Multi-Copy Display	Operation
0	0	Standby (stationary)
1	1	Turns forward
2	2	Stop
3	3	Turns backward

**Note:** It is not possible to check M5 only for operation. It can only be checked as part of the check sequence for M1.

– Main Motor M3 –

No. of Times Start Key is Pressed	Touch Panel Multi-Copy Display	Operation
0	0	Standby (stationary)
1	1	Turns forward (1200 mm/s)
2	2	Stationary
3	3	Turns forward (1000 mm/s)
4	4	Stationary
5	5	Turns backward (1000 mm/s)
6	6	Stationary
7	7	Turns forward (650 mm/s)
8	8	Stationary
9	9	Turns backward (650 mm/s)
10	0	Stationary
11	1	Turns forward (450 mm/s)
12	2	Stationary
13	3	Turns backward (450 mm/s)
14	4	Stationary
15	5	Turns forward (300 mm/s)
16	6	Stationary
17	7	Turns backward (300 mm/s)

– Turnover/Exit Motor M4 –

No. of Times Start Key is Pressed	Touch Panel Multi-Copy Display	Operation
0	0	Standby (stationary)
1	1	Turns forward (1200 mm/s)
2	2	Stationary
3	3	Turns forward (1000 mm/s)
4	4	Stationary
5	5	Turns forward (650 mm/s)
6	6	Stationary
7	7	Turns forward (450 mm/s)
8	8	Stationary
9	9	Turns forward (300 mm/s)
10	0	Stationary
11	1→2	Turns backward (Exit Document Restraint Lever pressure applied)
12	3	Turns backward (Exit Document Restraint Lever pressure released)

– Document Moving Motor M6, Leading Edge Guide Plate Motor M7, Rear Edge Guide Plate Motor M8 –

No. of Times Start Key is Pressed	Touch Panel Multi-Copy Display	Operation
0	0	Standby (stationary)
1	1	M6: Moves the Document Moving Levers (for A5 crosswise position)
2	2	M7: Moves the Leading Edge Guide Plate. M8: Moves the Rear Edge Guide Plate (for A4 crosswise position).

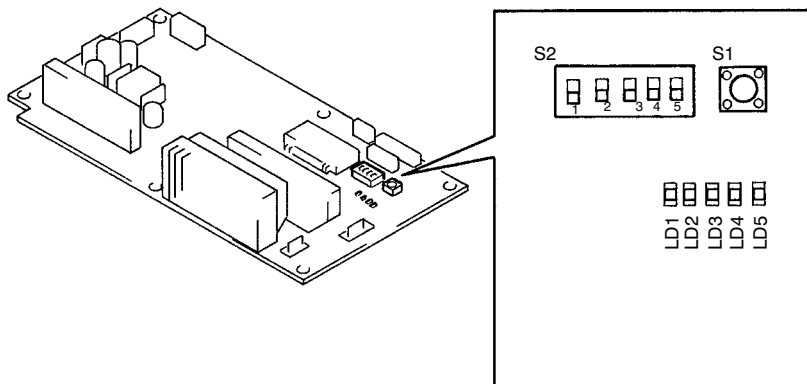
– Scale Solenoid SL1 –

No. of Times Start Key is Pressed	Touch Panel Multi-Copy Display	Operation
0	0	Energized
1	1	Deenergized

– Turnover/Exit Switching Solenoid SL2 –

No. of Times Start Key is Pressed	Touch Panel Multi-Copy Display	Operation
0	0	Energized
1	1	Deenergized

## 1-2. Test Mode (DIP Switch)



4484M013AA

### <Entering the Test Mode>

1. Flip the following DIP switch key to the ON position with the Power Switch of the copier OFF, then turn ON the Power Switch. This initiates the test mode.

SW2-5	ON	Test Mode
	OFF	Normal Mode

2. Various test mode operations are available. Each can be selected by different settings of the keys of the DIP switch (SW2-1 to 5).



## 1-2-1. Paper Passage Check

1. With the Power Switch OFF, select the desired test speed.

Transport Speed	SW2				
	1	2	3	4	5
1200mm/s	OFF	OFF	OFF	–	ON
1000mm/s	ON	OFF	OFF	–	ON
650mm/s	OFF	ON	OFF	–	ON
400mm/s	ON	ON	OFF	–	ON

2. Select whether the document is to be fed consecutively or intermittently.

<b>Feed Setting</b>	SW2-4
<b>Consecutive</b>	OFF
<b>Intermittent</b>	ON

Note: In the Intermittent setting, paper is fed through each time SW1 is pressed.

3. Select the ADF mode.

<b>Normal or continuous</b>	After the feed setting has been selected, turn On the Power Switch.
<b>Recycling</b>	After the feed setting has been selected, turn On the Power Switch with SW1 ON.

Recycling repeats document take-up, ejection, and moving repeatedly.

Note: To stop this operation, press SW1.

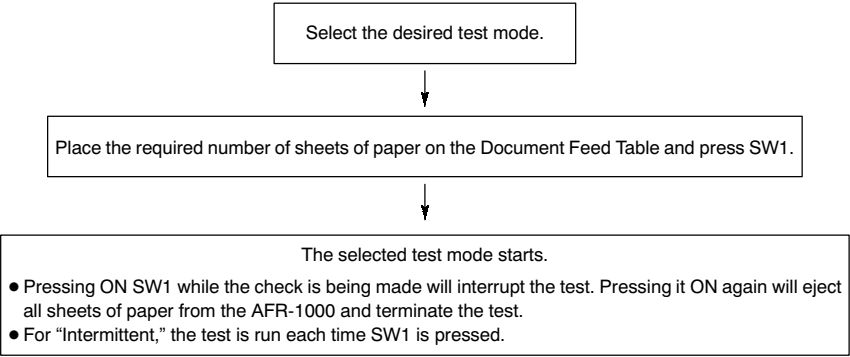
4. Select the desired test mode from among those listed below, then raise and lower the ADF to validate the selection.

Test Mode	SW2				
	1	2	3	4	5
1-sided, non-mixed (high-speed)	OFF	OFF	–	–	ON
1-sided mixed (normal)	ON	OFF	–	–	ON
2-sided	ON	ON	–	–	ON
2-in-1	OFF	ON	–	–	ON

5. Select the type of paper and then raise and lower the ADF to validate the paper type setting.

<b>Paper Type</b>	SW2-3	SW2-5
<b>Plain Paper</b>	OFF	ON
<b>Thin Paper</b>	ON	ON

◆ Paper Passage Test Procedure



◆ Indication by LEDs in Paper Passage Test Standby State

- A closure failure is indicated as detailed below while the copier is in the standby state for the paper passage test. If there is no closure failure, LEDs 2 to 5 are all OFF.

LED					Description
1	2	3	4	5	
⊙	○	○	○	●	Take-Up Cover
⊙	○	○	●	○	AFR-1000 cover
⊙	○	●	○	○	Turnover/Exit Cover

⊙ : Power monitoring    ○: OFF  
● : ON

Note: LED1 blinks at all times.

## 1-2-2. Unit Check

1. Flip SW2-5 ON with the Power Switch OFF.
2. Select the particular mode you want to use.

Mode	SW2-4
Normal	OFF
Durability	ON

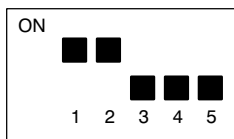
3. Turn ON the Power Switch and select the desired check function. Then, raise and lower the ADF to validate the selection.

Function	SW2				
	1	2	3	4	5
Pick-Up Motor check Document Pressure Motor check	ON	ON	OFF	OFF	OFF
Take-Up Motor check Transport Roller brake check	OFF	OFF	ON	OFF	OFF
Main Motor check	ON	OFF	ON	OFF	OFF
Turnover/Exit Motor check	OFF	ON	ON	OFF	OFF
Solenoid check	ON	ON	ON	OFF	OFF
Document Moving Motor check	OFF	OFF	OFF	ON	OFF
Leading/Rear Edge Guide Plate Motor check	ON	OFF	OFF	ON	OFF

4. Press SW1 to start the check.

Note: When the durability mode is selected, the check sequence, once started, is repeated until SW1 is pressed again.

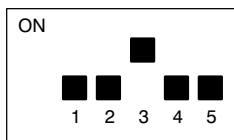
– Pick-Up Motor M1/Document Pressure Motor M5 Check –



LED					No. of Times SW1 is Pressed	Operation
1	2	2	3	4		
⊙	○	○	○	○	0	Standby (stationary)
⊙	○	○	○	◆	1	Pick-up initial operation
⊙	○	○	◆	○	2	Pick-up pressure
⊙	○	○	◆	◆	3	Pick-up pressure release
⊙	○	◆	○	○	4	Moves to pick-up home position
⊙	○	◆	○	◆	5	Documents being pressed

⊙ : For monitoring    ○: OFF    ◆: Blinking

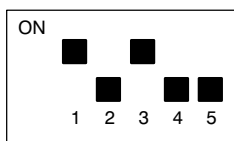
– Take-Up Motor M2 Check –



LED					No. of Times SW1 is Pressed	Operation
1	2	2	3	4		
⊙	○	○	○	○	0	Standby (stationary)
⊙	○	○	○	●	1	Turns forward (at low speed)
⊙	○	○	○	◆	2	Stationary
⊙	○	○	●	○	3	Turns forward (at high speed)
⊙	○	○	◆	○	4	Stationary
⊙	○	○	●	●	5	Transport Roller brake applied/released

⊙ : For monitoring    ○: OFF    ●: ON    ◆: Blinking

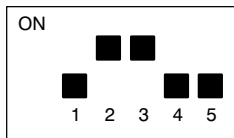
– Main Motor M3 Check –



LED					No. of Times SW1 is Pressed	Operation
1	2	2	3	4		
⊙	○	○	○	○	0	Standby (stationary)
⊙	○	○	○	●	1	Turns forward (1200 mm/s)
⊙	○	○	○	◆	2	Stationary
⊙	○	○	●	○	3	Turns backward (1200 mm/s)
⊙	○	○	◆	○	4	Stationary
⊙	○	○	●	●	5	Turns forward (1000 mm/s)
⊙	○	○	◆	◆	6	Stationary
⊙	○	●	○	○	7	Turns backward (1000 mm/s)
⊙	○	◆	○	○	8	Stationary
⊙	○	●	○	●	9	Turns forward (650 mm/s)
⊙	○	◆	○	◆	10	Stationary
⊙	○	●	●	○	11	Turns backward (650 mm/s)
⊙	○	◆	◆	○	12	Stationary
⊙	○	●	●	●	13	Turns forward (450 mm/s)
⊙	○	◆	◆	◆	14	Stationary
⊙	●	○	○	○	15	Turns backward (450 mm/s)
⊙	◆	○	○	○	16	Stationary
⊙	●	○	○	●	17	Turns forward (300 mm/s)

⊙ : For monitoring    ○: OFF    ●: ON    ◆: Blinking

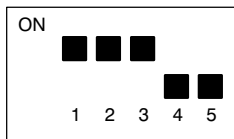
– Turnover/Exit Motor M4 Check –



LED					No. of Times SW1 is Pressed	Operation
1	2	3	4	5		
⊙	○	○	○	○	0	Standby (stationary)
⊙	○	○	○	●	1	Turns forward (1200 mm/s)
⊙	○	○	○	◆	2	Stationary
⊙	○	○	●	○	3	Turns forward (1000 mm/s)
⊙	○	○	◆	○	4	Stationary
⊙	○	○	●	●	5	Turns forward (650 mm/s)
⊙	○	○	◆	◆	6	Stationary
⊙	○	●	○	○	7	Turns forward (450 mm/s)
⊙	○	◆	○	○	8	Stationary
⊙	○	●	○	●	9	Turns forward (300 mm/s)
⊙	○	◆	○	◆	10	Stationary
⊙	○	●	●	○	11	Turns backward (Exit Document Restraint Lever pressure applied)
⊙	○	◆	◆	○	12	Stationary
⊙	○	●	●	●	13	Turns backward (Exit Document Restraint Lever pressure released)

⊙ : For monitoring    ○: OFF    ●: ON    ◆: Blinking

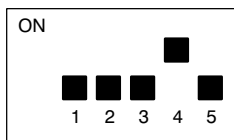
– Solenoid (SL1/2) Check –



LED					No. of Times SW1 is Pressed	Operation
1	2	3	4	5		
⊙	○	○	○	○	0	Standby (stationary)
⊙	○	○	○	●	1	SL1 energized
⊙	○	○	○	◆	2	SL1 deenergized
⊙	○	○	●	○	3	SL2 energized

⊙ : For monitoring    ○: OFF    ●: ON    ◆: Blinking

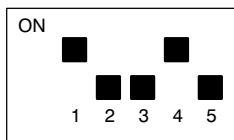
– Document Moving Motor M6 Check –



LED					No. of Times SW1 is Pressed	Operation
1	2	3	4	5		
⊙	○	○	○	○	0	Standby (stationary)
⊙	○	○	○	●	1	Drives the Document Moving Levers.
⊙	○	○	●	○	2	Returns the Document Moving Levers to home.

⊙ : For monitoring    ○: OFF    ●: ON    ◆: Blinking

– Leading/Rear Edge Guide Plate Motor M7/M8 Check –



LED					No. of Times SW1 is Pressed	Operation
1	2	3	4	5		
⊙	○	○	○	○	0	Standby (stationary)
⊙	○	○	○	●	1	Operate guide plates for A5 crosswise position.
⊙	○	○	●	○	2	Operate guide plates for B5 crosswise position.
⊙	○	○	●	●	3	Operate guide plates for A4 crosswise position.
⊙	○	●	○	○	4	Operate guide plates for Letter crosswise position.
⊙	○	●	○	●	5	Operate guide plates for B5 lengthwise position.
⊙	○	●	●	○	6	Operate guide plates for Letter lengthwise position.
⊙	○	●	●	●	7	Operate guide plates for A4 lengthwise position.
⊙	●	○	○	○	8	Operate guide plates for FLS position.
⊙	●	○	○	●	9	Operate guide plates for Legal position.
⊙	●	○	●	●	10	Operate guide plates for B4 crosswise position.

⊙ : For monitoring    ○: OFF    ●: ON    ◆: Blinking

## 1-2-3. Sensor Check

1. Flip SW2-5 ON with the Power Switch OFF.
2. Turn ON the Power Switch. Then, select the desired check and raise and lower the AFR-1000 to validate the check selection.

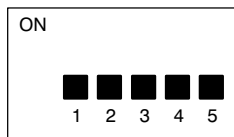
Check	SW2				
	1	2	3	4	5
Sensor Check 1	OFF	OFF	OFF	OFF	OFF
Sensor Check 2	ON	OFF	OFF	OFF	OFF
Sensor Check 3	OFF	ON	OFF	OFF	OFF

3. Block each sensor with a piece of paper to check to see if the corresponding LED lights up.

### LED Display

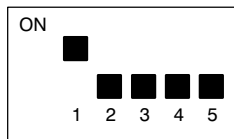
Paper present : ON      Paper not present : OFF

#### – Sensor Check 1 –



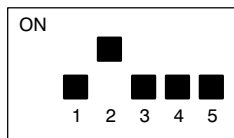
LED2 : Exit Sensor PC4  
 LED3 : Registration Sensor PC3  
 LED4 : Document Feed Sensor PC2  
 LED5 : Document Detecting Sensor PC1

#### – Sensor Check 2 –



LED2 : Manual Feed Take-Up Sensor PC5  
 LED3 : Size Sensor C PC8  
 LED4 : Size Sensor B PC7  
 LED5 : Size Sensor A PC6

#### – Sensor Check 3 –



LED2 : Not Used  
 LED3 : Take-Up Motor Pulse Sensor PC11  
 LED4 : Document Guide Lever Home Position Sensor PC16  
 LED5 : Document Exit Table Sensor Board PWB-B/C

Note: For PC11, the LED lights up when it is blocked and turns OFF when it is unblocked.

DIS/REASSEMBLY,  
ADJUSTMENT

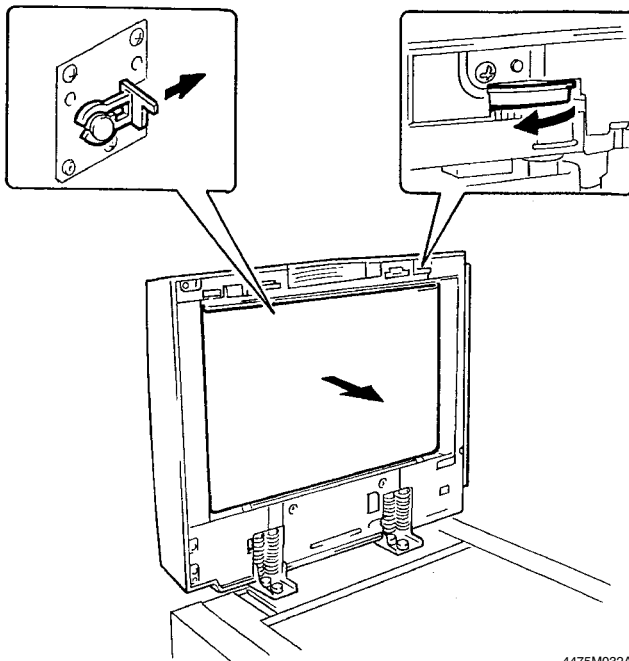


# 1 DISASSEMBLY

4484SBD0101A

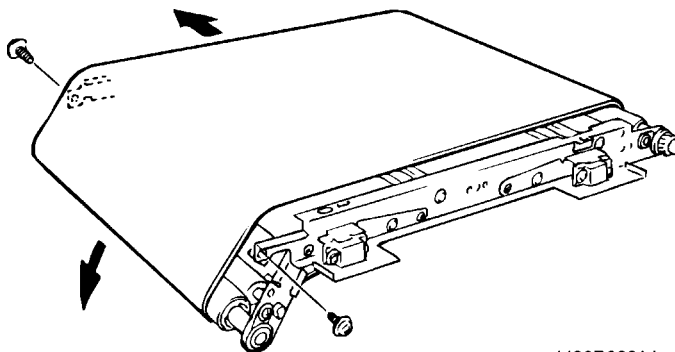
## 1-1. Removal of the Document Transport Belt

1. Push the lever to the left and snap off the C-clip to release the Belt assy.
2. Grasp the top of the Belt assy and pull it toward you to remove it.



4475M032AA

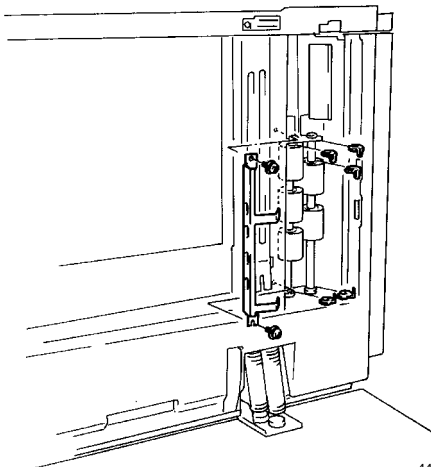
3. Remove the two screws shown, then bend the Exit Roller side to remove the Transport Belt.



4486D002AA

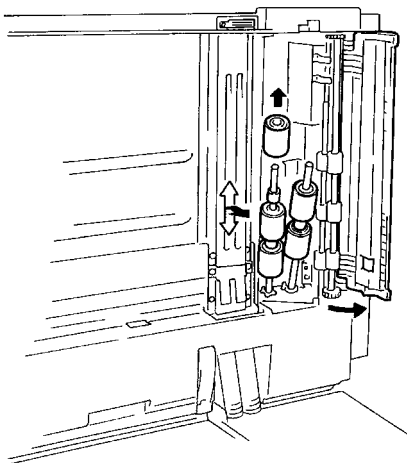
## 1-2. Removal of the Document Take-Up and Separator Rollers

1. Open the Take-Up Cover and remove the Transport Belt. Remove the Document Stopper Guide Plate.
2. Snap off five C-clips.



4475M022AA

3. Move the shaft up and down to unhook it from the bushing, then tilt the shaft forward.
4. Pull each roller and collar off of its shaft.



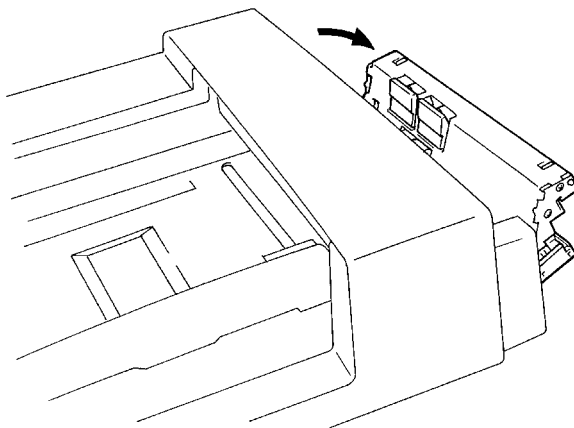
4475M023AB

### NOTE

- When reinstalling each of the Document Take-Up/Separator Rollers, make sure that its one-way bearing side (blue) is located on the motor side (lower side).

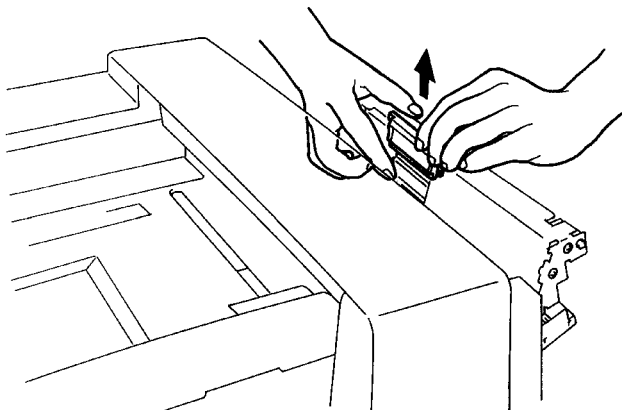
### 1-3. Removal of the Separator Pad

1. Open the Take-Up Cover.



4475M024AA

2. Pull the Separator Pad up in the direction of the arrow.



4475M025AA

## 2 ADJUSTMENTS

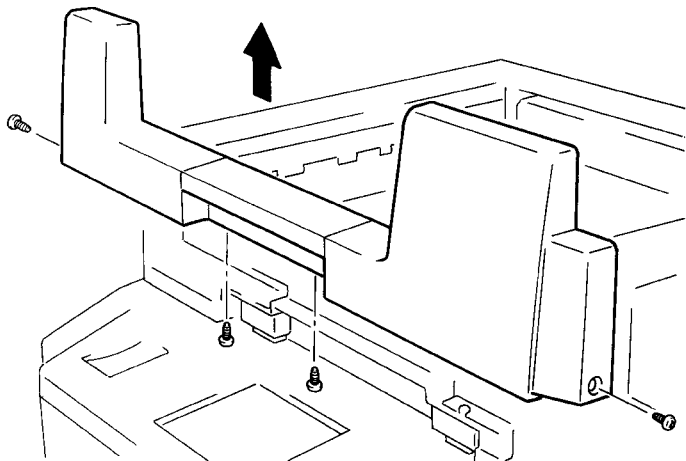
4484SBD0201A

### 2-1. Adjustment of Magnet Height

#### Requirement

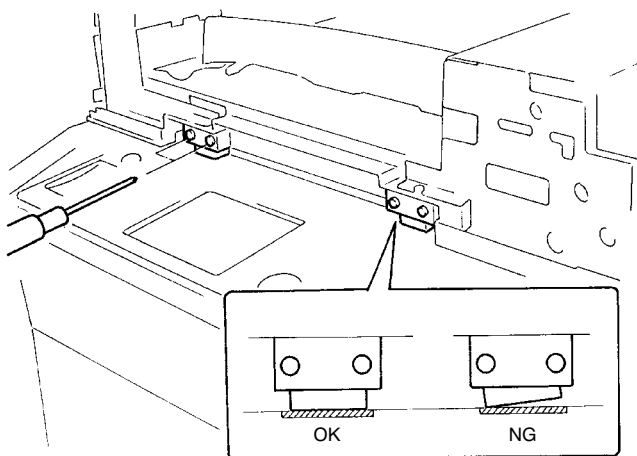
- The clearance between the Magnetic Catch and Original Glass should be 0 to 0.5 mm.

1. Remove four screws and the Front Cover.
2. Lower the AFR-1000 and loosen two adjusting screws on each Magnetic Catch.



4475D002AA

3. Make sure that the Magnetic Catches are positioned properly, then tighten the adjusting screws.



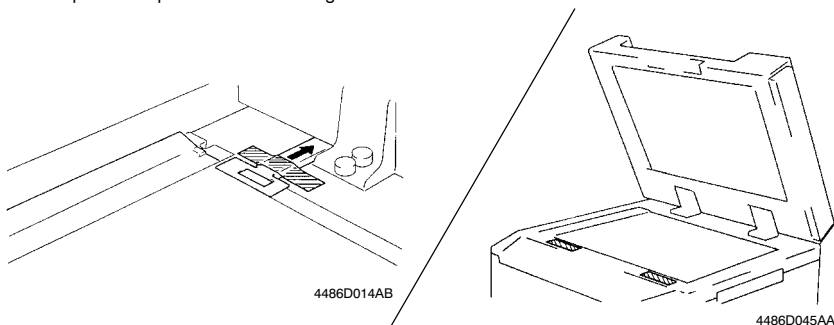
4475D003AB

## 2-2. Adjustment of the Document Feed Table Reference Position

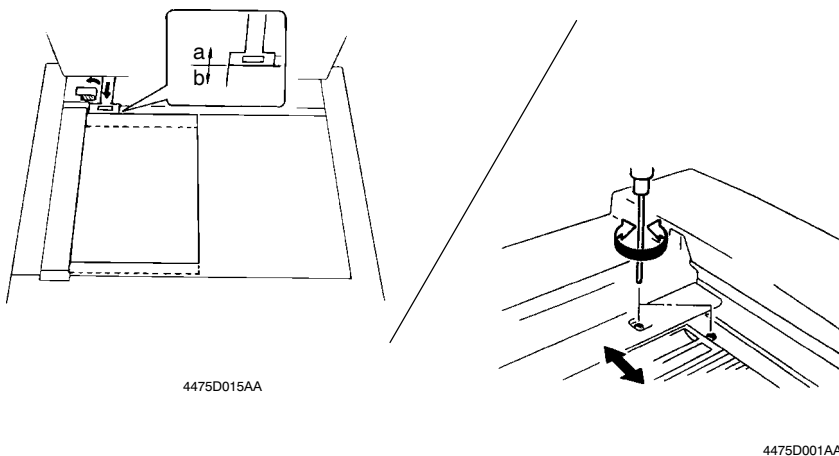
### Requirement

- The Document Feed Table should be positioned within  $0 \pm 1$  mm from the edge of the Document Positioning Plate.

1. Slide the Document Positioning Plate towards the rear and secure it with tape.
2. Affix a piece of tape to each of the Magnet Catch Plates.



3. Place a document on the Document Feed Table and set the 1 → 1 copy mode.
4. Press the Start key, then press the Stop key immediately.
5. Gently raise the AFR-1000 and, taking care not to move the document, remove the tape from the Document Positioning Plate.
6. Check whether the document is aligned with the edge of the Document Positioning Plate.
7. If the document is off in direction "a," move the Document Feed Table towards you. If the document is off in direction "b," move the Document Feed Table towards the rear.

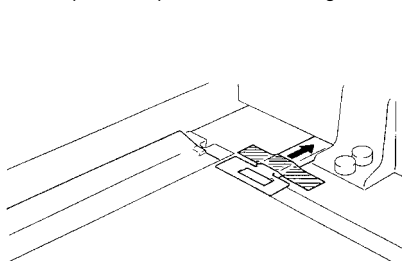


## 2-3. Adjustment of the Single Feed Tray Reference Position

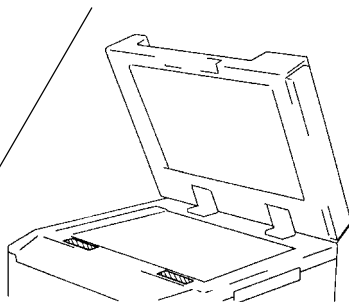
### Requirement

- The Single Feed Tray should be positioned within  $0 \pm 1$  mm from the edge of the Document Positioning Plate.

1. Slide the Document Positioning Plate towards the rear and secure it with tape.
2. Affix a piece of tape to each of the Magnet Catch Plates.

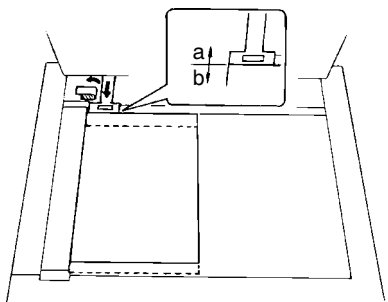


4486D014AB

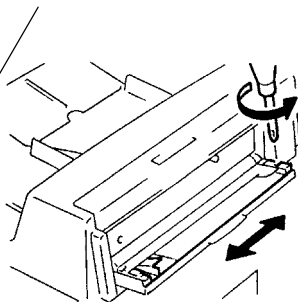


4486D045AA

3. Set the 1 → 1 copy mode and insert a document into the Single Feed Tray.
4. Press the Stop key immediately.
5. Gently raise the AFR-1000 and, taking care not to move the document, remove the tape from the Document Positioning Plate.
6. Check whether the document is aligned with the edge of the Document Positioning Plate.
7. If the document is off in direction "a," move the Single Feed Tray towards you. If the document is off in direction "b," move the Single Feed Tray towards the rear.



4486D015AA



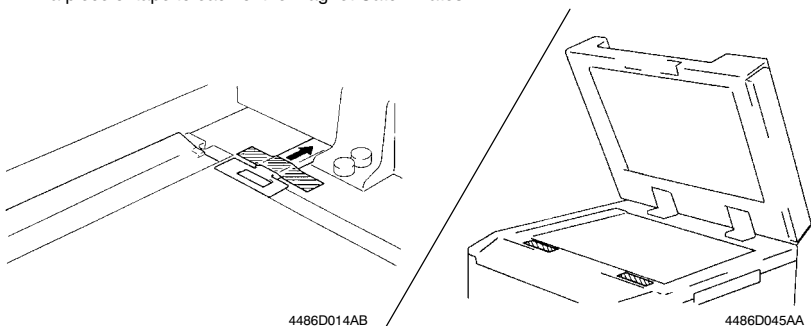
4474U008AA

## 2-4. Adjustment of the Document Stop Position in the 1-Sided Mode

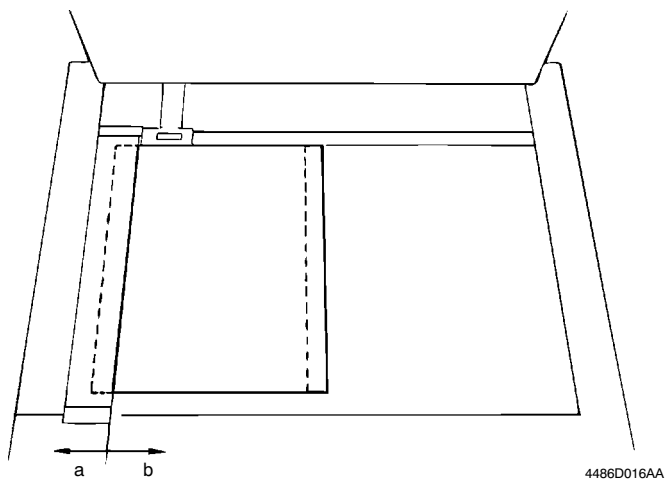
### Requirement

- The document should be 0 to 1 mm in the direction of "b" from the end face of the Original Width Scale.

1. Set "Original Thickness" of User's Choice 4/6 to "Thin."
2. Slide the Document Positioning Plate towards the rear and secure it with tape.
3. Affix a piece of tape to each of the Magnet Catch Plates.



4. Place a document on the Document Feed Table and set the 1 → 1 copy mode.
5. Press the Start key, then press the Stop key immediately.
6. Gently raise the AFR-1000 and check whether the document is aligned with the edge of the Original Glass to determine how much (in mm) it is off in direction "a" or "b."
7. In the Tech. Rep. mode touch "Accessory Test", "ADF check", "Doc. stop Position Set", then select "1-sided".
8. Referring to the table shown on p. D-12, adjust the document stop position.

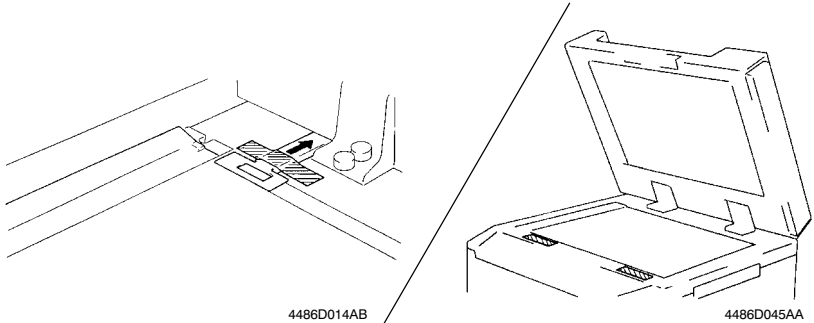


## 2-5. Adjustment of the Document Stop Position in the 2-Sided Mode

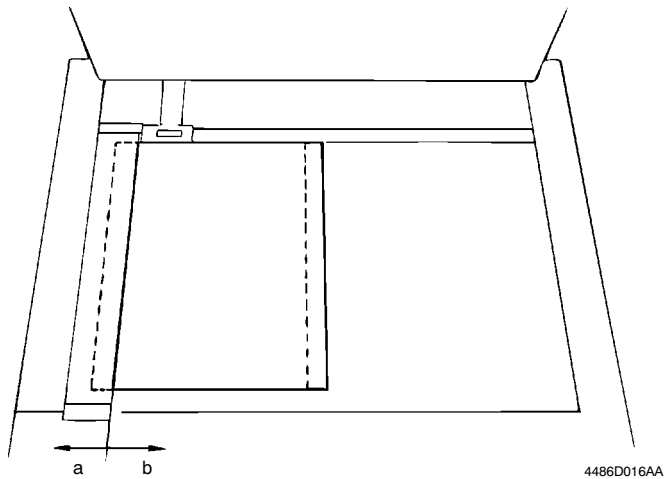
### Requirement

- The document should be 0 to 1 mm in the direction of "b" from the end face of the Original Width Scale.

1. Set "Original Thickness" of User's Choice 4/6 to "Thin."
2. Slide the Document Positioning Plate towards the rear and secure it with tape.
3. Affix a piece of tape to each of the Magnet Catch Plates.



4. Place a document on the Document Feed Table and set the 2 → 1 copy mode.
5. Press the Start key, then press the Stop key immediately.
6. Gently raise the AFR-1000 and check whether the document is aligned with the edge of the Original Glass to determine how much (in mm) it is off in direction "a" or "b."
7. In the Tech. Rep. mode touch "Accessory Test", "ADF check", "Doc. stop Position Set", then select "2-Sided".
8. Referring to the table shown on p. D-12, adjust the document stop position.



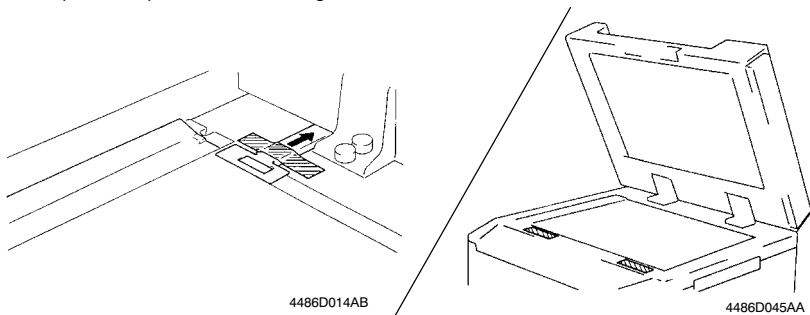


## 2-6. Adjustment of the Document Stop Position in the 2-in-1 Mode

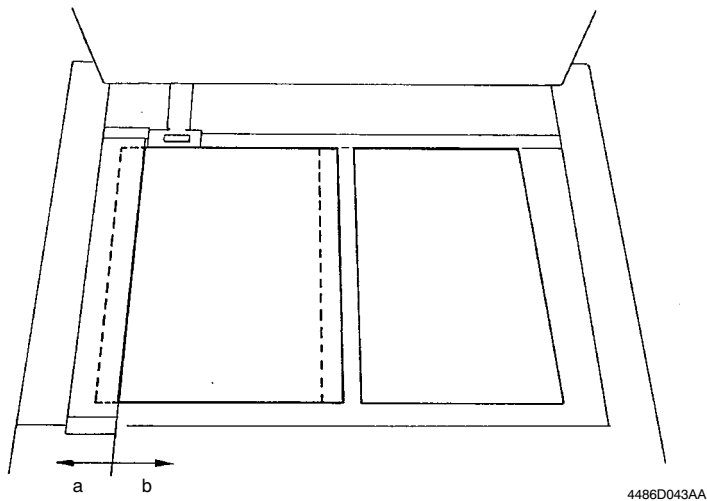
### Requirement

- The document should be 0 to 1 mm in the direction of "b" from the end face of the Original Width Scale.

1. Set "Original Thickness" of User's Choice 4/6 to "Thin."
2. Slide the Document Positioning Plate towards the rear and secure it with tape.
3. Affix a piece of tape to each of the Magnet Catch Plates.



4. Place two A4 crosswise documents on the Document Feed Table and set the 1 → 1 [2in1] copy mode.
5. Press the Start key, then press the Stop key immediately.
6. Gently raise the AFR-1000 and check whether the document is aligned with the edge of the Original Glass to determine how much (in mm) it is off in direction "a" or "b."
7. In the Tech. Rep. mode touch "Accessory Test", "ADF check", "Doc. Stop Position Set", then select "2 in 1".
8. Referring to the table shown on p. D-12, adjust the document stop position.

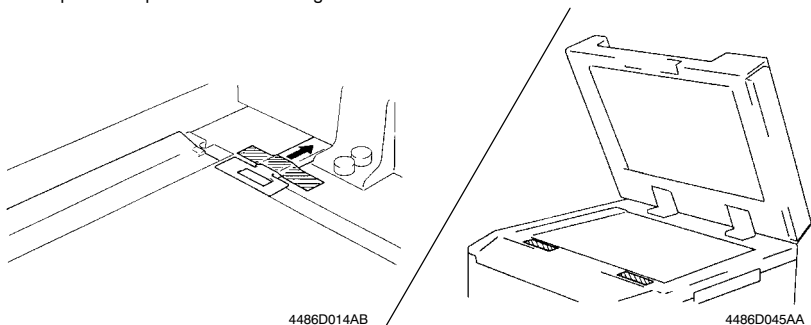


## 2-7. Adjustment of the Distance Between Documents in the 2-in-1 Mode

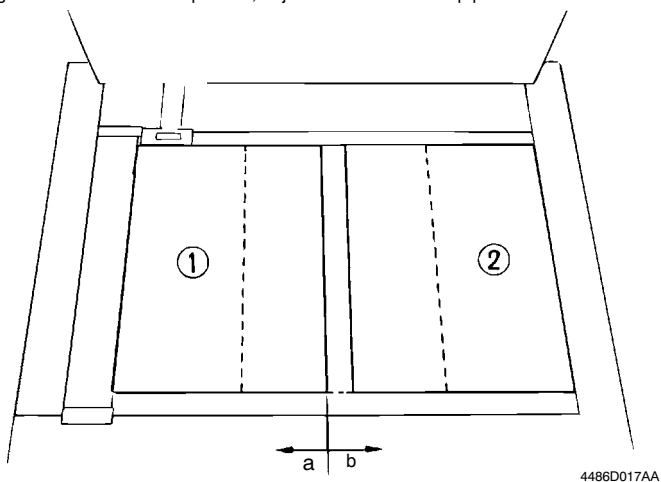
### Requirement

- The distance between the two documents should be 0 to 1 mm.

1. Set "Original Thickness" of User's Choice 4/6 to "Thin."
2. Slide the Document Positioning Plate towards the rear and secure it with tape.
3. Affix a piece of tape to each of the Magnet Catch Plates.



4. Place two A4 crosswise documents on the Document Feed Table and set the 1 → 1 [2in1] copy mode.
5. Press the Start key, then press the Stop key immediately.
6. Gently raise the AFR-1000 and check to determine how much (in mm) the second document is off in direction "a" or "b" from the first one.
7. In the Tech. Rep. mode touch "Accessory Test", "ADF check", "Doc. Stop Position Set", then select "2 in 1 Space in between orig's".
8. Referring to the table shown on p. D-12, adjust the document stop position.

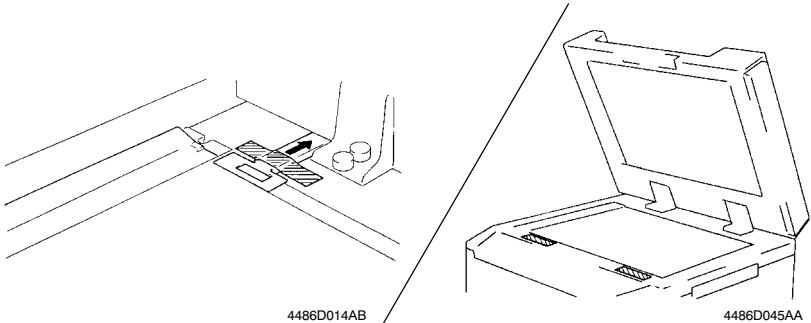


## 2-8. Adjustment of the Document Stop Position in the Single Feed Mode

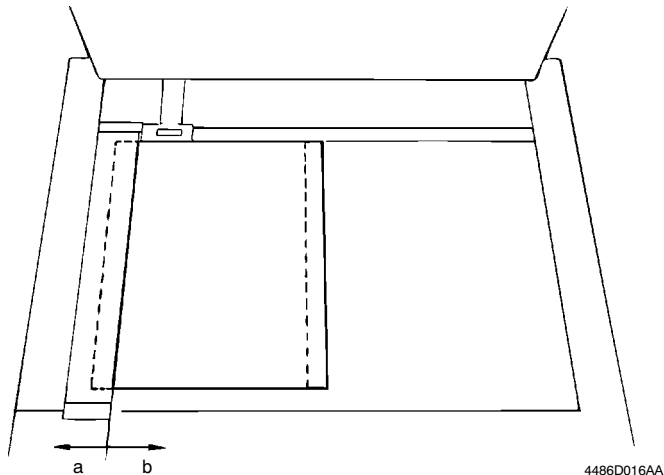
### Requirement

- The document should be 0 to 1 mm in the direction of "b" from the end face of the Original Width Scale.

1. Set "Original Thickness" of User's Choice 4/6 to "Thin."
2. Slide the Document Positioning Plate towards the rear and secure it with tape.
3. Affix a piece of tape to each of the Magnet Catch Plates.



4. Insert a document into the Single Feed Tray and press the Stop key immediately.
5. Gently raise the AFR-1000 and check whether the document is aligned with the edge of the Original Glass to determine how much (in mm) it is off in direction "a" or "b."
6. In the Tech. Rep. mode touch "Accessory Test", "ADF Check", "Doc. Stop Position Set", then select "Auto Feeder".
7. Referring to the table shown on p. D-12, adjust the document stop position.



## 2-9. Adjustment of the Registration Loop

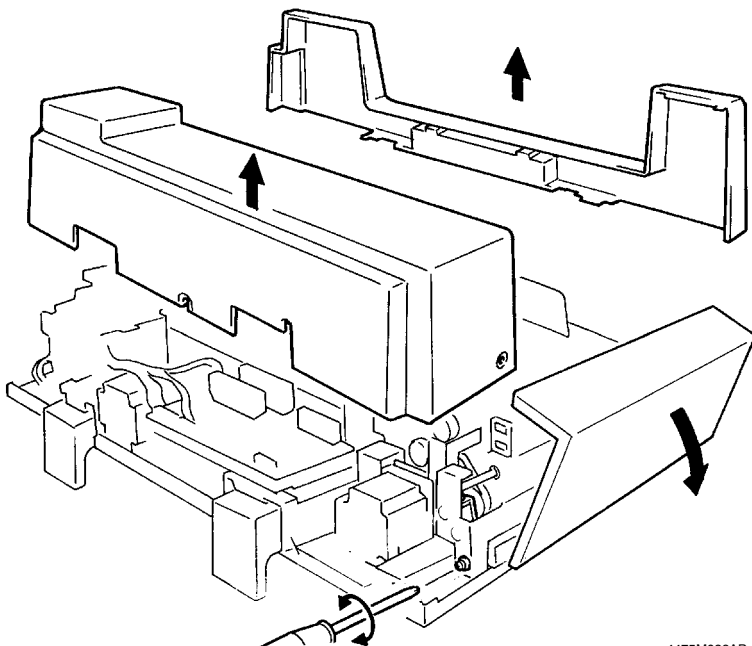
1. Place a document on the Document Feed Table and press the Start key.
2. In the Tech. Rep. mode touch "Accessory Test", "ADF check", "Doc. Stop Position Set", then select "Regist Loop". Vary the setting for "Regist Loop", then refeed the document again.
3. Referring to the table below, repeat steps 1 and 2 until the document is positioned so that it can be transported by the Transport Belt.

– Stop Position Adjustment Table –

Setting (by 10-key)	Deviation (mm)	Direction	Setting (by 10-key)	Deviation (mm)	Direction
43	7	Moves in direction "a" (towards the Original Width Scale).	51	1	Moves in direction "b" (towards the document take-up side). Greater amount of regis- tration loop.
44	6		52	2	
45	5		53	3	
46	4		54	4	
47	3		55	5	
48	2		56	6	
49	1		57	7	
50	0	Default	58	8	

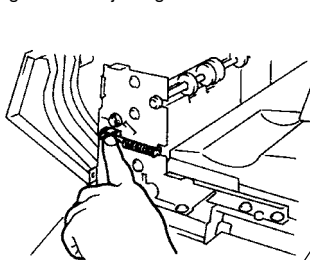
## 2-10. Adjustment of Turnover/Exit Switching Solenoid SL2

1. Open the Turnover/Exit Cover, remove the Front Cover and Rear Cover, and loosen one adjusting screw of the solenoid mounting bracket.

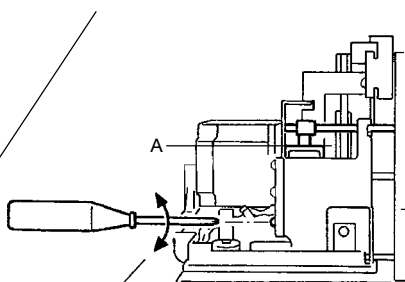


4475M026AB

2. Pressing the Turnover/Exit Switching Plate Lever to retract the Solenoid plunger (on position), move the solenoid mounting bracket up or down to obtain a zero clearance at "A". ("A" is where the ring on the solenoid plunger makes contact with the solenoid.)
3. Tighten the adjusting screw.



4475M027AA



4475M028AB

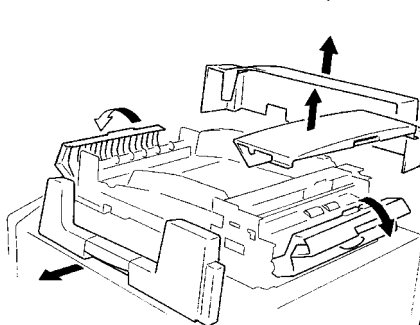
## 2-11. Adjustment of the Distance Between Separator Rollers

### Requirement

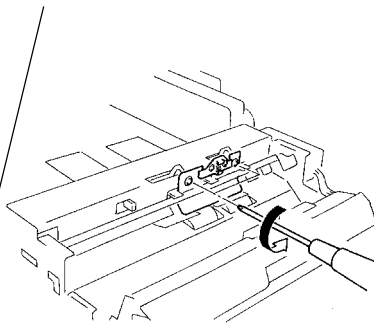
- When the 2nd Separator Guide Plate is lowered, one sheet of paper can pass through, but not two, so that two sheets of paper are properly separated from each other.

<When the Separator Rollers are in contact with the 2nd Separator Guide Plate>

1. Open the Take-Up Cover and Turnover/Exit Cover, and remove the Front Cover, Rear Cover, and Take-Up Upper Cover.
2. Loosen the two screws on the 2nd Separator Guide Plate.



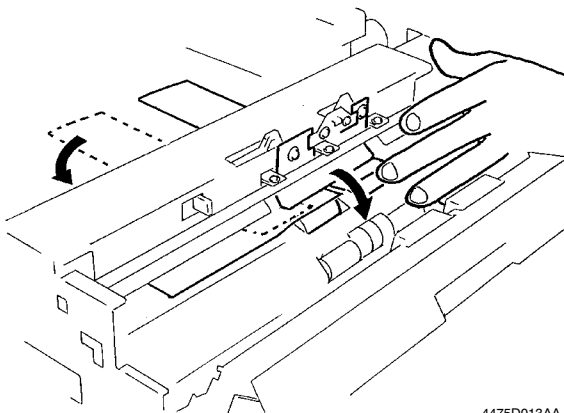
4475D007AA



4475D012AA

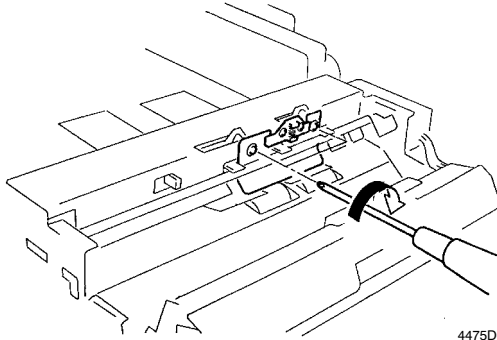
3. Cut out two pieces of paper, each measuring about 200 mm by 50 mm, and insert one each between the guide plate and roller from the take-up side as you turn the roller.

Note: After a piece of paper has been inserted between the guide plate and the roller toward the front side, turn the trailing edge of paper 90° counterclockwise so that the roller is completely covered by the paper.



4475D013AA

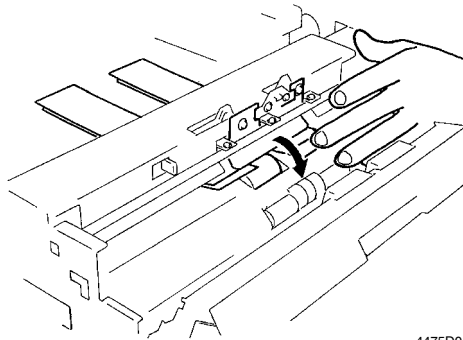
4. While holding down the 2nd Separator Guide Plate mounting bracket so that the spring tension from the bracket acts on the paper uniformly on the front and rear sides, tighten the two screws.



4475D014AA

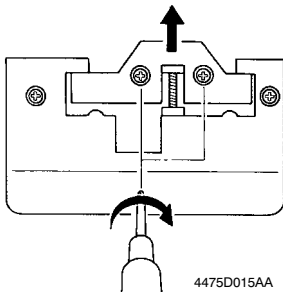
5. Remove the paper. Place one piece of paper on top of another and place the two pieces of paper at the separating position from the take-up side.
6. Turn the Separator Rollers and check that the two pieces of paper are properly separated from each other by the guide plate and only one piece of paper is taken up and fed in. Make this check for the front and rear Separator Rollers.

Note: If two pieces of paper are taken up and fed in, or if the Separator Rollers are in contact with the 2nd Separator Guide Plate when they are turned with no paper placed, start the procedure over beginning with step 3.

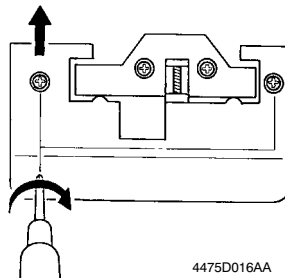


4475D010AA

7. Loosen the two screws on the mounting bracket. Raise the mounting bracket as far as it will go and, keeping the bracket in that position, tighten the two screws.
8. Loosen the two screws that secure the 2nd Separator Guide Plate in position. Raise the guide plate as far as it will go and, keeping the plate in that position, tighten the two screws.



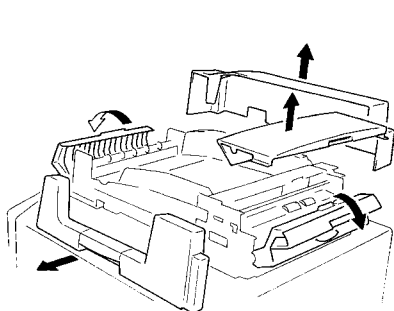
4475D015AA



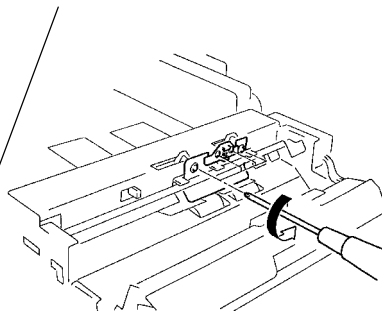
4475D016AA

<When there is a gap between the Separator Roller and 2nd Separator Guide Plate wide enough to allow two or more sheets of paper to pass through>

1. Open the Take-Up Cover and Turnover/Exit Cover, and remove the Front Cover, Rear Cover, and Take-Up Upper Cover.
2. Loosen the two screws on the 2nd Separator Guide Plate and 2nd Separator Guide Adjusting Plate.



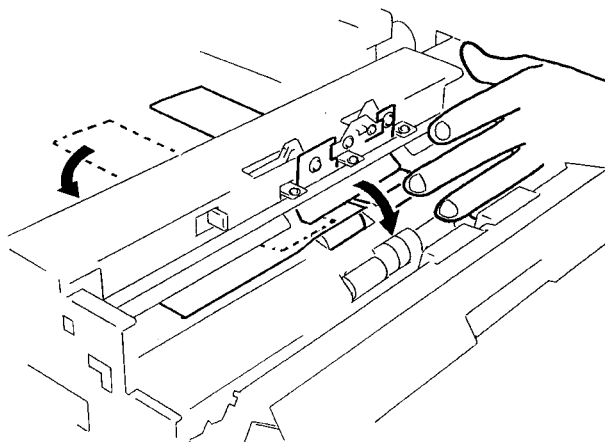
4475D007AA



4475D017AA

3. Cut out two pieces of paper, each measuring about 200 mm by 50 mm, and insert one each between the guide plate and roller from the take-up side as you turn the roller.

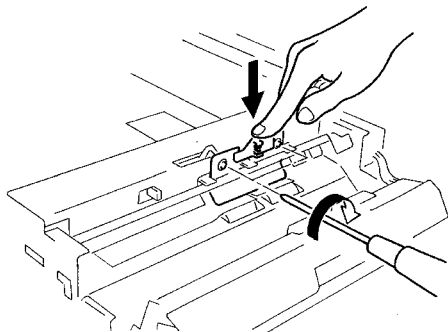
Note: After a piece of paper has been inserted between the guide plate and the roller toward the front side, turn the trailing edge of paper 90° counterclockwise so that the roller is completely covered by the paper.



4475D013AA



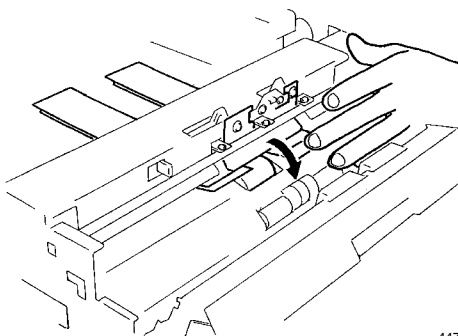
4. Lightly press the adjusting plate from above (with a force equivalent to spring tension), tighten the two screws on the guide plate.



4475D018AA

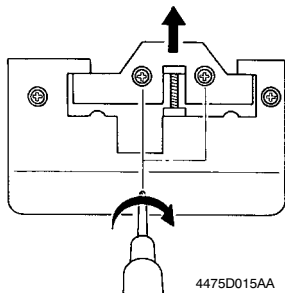
5. Remove the paper. Place one piece of paper on top of another and place the two pieces of paper at the separating position from the take-up side.
6. Turn the Separator Rollers and check that the two pieces of paper are properly separated from each other by the guide plate and only one piece of paper is taken up and fed in. Make this check for the front and rear Separator Rollers.

Note: If two pieces of paper are taken up and fed in, or if the Separator Rollers are in contact with the 2nd Separator Guide Plate when they are turned with no paper placed, start the procedure over beginning with step 3.

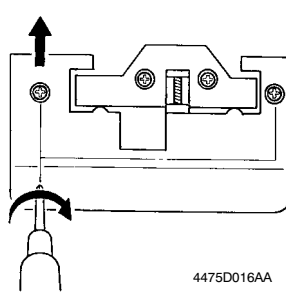


4475D010AA

7. Loosen the two screws on the adjusting plate. Raise the adjusting plate as far as it will go and, keeping the plate in that position, tighten the two screws.
8. Loosen the two screws that secure the 2nd Separator Guide Plate in position. Raise the guide plate as far as it will go and, keeping the plate in that position, tighten the two screws.



4475D015AA



4475D016AA

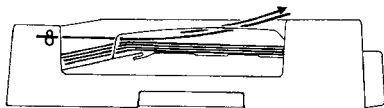
## 2-12. Adjustment of the Turnover Guide Plate

Condition 1: When feeding Legal or A3 size originals through the document feeder, some of the ejected pages tend to overlap the take-up section.

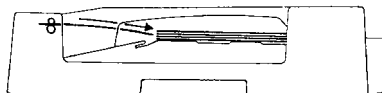
Condition 2: During paper feeding, some of the ejected pages tend to butt into the trailing edge of the ejected stack.

– Condition 1 –

– Condition 2 –

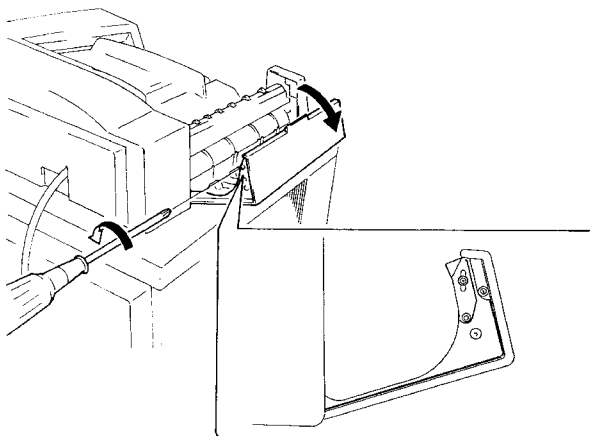


4475D019AA



4475D020AA

1. Open the turnover cover and remove the screw from the Turnover Guide Plate.



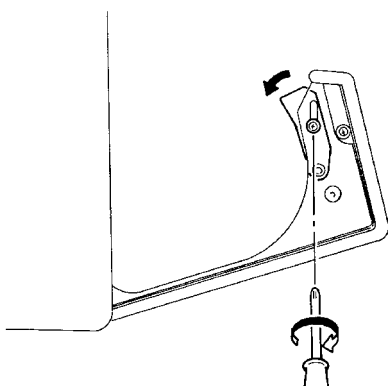
4475D021AA

2. For condition 1: Reset the screw into the lower position of the guide plate.

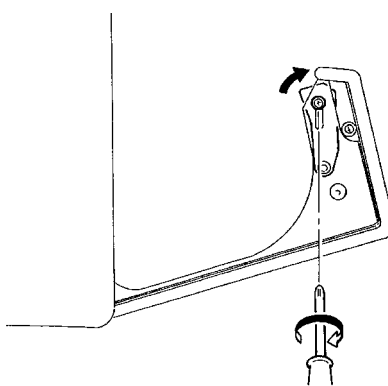
For condition 2: Reset the screw into the upper position of the guide plate.

– Condition 1 –

– Condition 2 –



4475D022AA



4475D023AA

# TROUBLESHOOTING

# 1 MISFEED DETECTION

## ● Misfeed at the Take-Up/Single Feed Take-Up Section

Description	Detection Timing
Document not reaching Registration Sensor PC3	<p>&lt;Take-up section&gt; PC3 is not activated even after the lapse of approx. 0.6 sec. or more after Take-Up Motor M2 has been energized.</p> <p>&lt;Single feed take-up section&gt; PC3 is not activated even after the lapse of approx. 0.4 sec. or more after Take-Up Motor M2 has been energized.</p>
Pick-Up Motor M1 malfunction	Pick-Up Sensor A/B PC9/10 is not activated even after the lapse of approx. 1 sec. or more after M1 has been energized.
Take-Up Motor M2 malfunction	Take-Up Motor Pulse Sensor PC11 is not activated even after the lapse of approx. 0.05 sec. or more after M2 has been energized.
Document Pressure Motor M5 malfunction	Document Pressure Sensor PC12 is not activated even after the lapse of approx. 1 sec. or more after M5 has been energized.
Turnover/Exit Motor M4 malfunction	Exit Document Restraint Lever Sensor PC15 is not activated even after the lapse of approx. 3 sec. or more after M4 has started turning backward.

## ● Misfeed at the Transport Section

Description	Detection Timing
Document Staying at Registration Sensor PC3	<p>&lt;EP8015&gt; PC3 is not deactivated even after the lapse of approx. 0.6 sec. or more after Main Motor M3 has been energized.</p> <p>&lt;EP6001&gt; PC3 is not deactivated even after the lapse of approx. 0.7 sec. or more after M3 has been energized.</p>

- Misfeed at the Turnover/Exit Section (in a mode other than 2-Sided)

Description	Detection Timing
Document not reaching Exit Sensor PC4	<p>&lt;EP8015&gt; PC4 is not activated even after the lapse of approx. 0.28 sec. or more after Main Motor M3 has been energized.</p> <p>&lt;EP6001&gt; PC4 is not activated even after the lapse of approx. 0.3 sec. or more after M3 has been energized.</p>
Document staying at PC4	<p>&lt;EP8015&gt; PC4 is not deactivated even after the lapse of approx. 0.7 sec. or more after M3 has been energized.</p> <p>&lt;EP6001&gt; PC4 is not deactivated even after the lapse of approx. 0.9 sec. or more after M3 has been energized.</p>

- Misfeed at the Turnover/Exit Section (in 2-Sided mode)

Description	Detection Timing
Document not reaching PC4	<p>&lt;EP8015&gt; PC4 is not activated even after the lapse of approx. 1.1 sec. or more after M3 has been energized.</p> <p>&lt;EP6001&gt; PC4 is not activated even after the lapse of approx. 0.9 sec. or more after M3 has been energized.</p> <p>Note: These detection timings are those when the first document is taken up and fed in. For the second and subsequent documents, the timings in a mode other than 2-Sided apply.</p>
Document staying at PC4	<p>&lt;EP8015&gt; PC4 is not deactivated even after the lapse of approx. 0.5 sec. or more after M3 has been energized.</p> <p>&lt;EP6001&gt; PC4 is not deactivated even after the lapse of approx. 0.6 sec. or more after M3 has been energized.</p>

## 2 TROUBLESHOOTING PROCEDURES

### 1) Misfeed at the Take-Up/Single Feed Take-Up Section

Symptom	Step No.	Check Item	Result	Action
The document is not taken up at all.	1	Does the document used meet the specifications for reliable feeding?	NO	Instruct the user to use documents that meet the specifications for reliable feeding.
	2	Has the capacity of the Document Feed Table been exceeded?	YES	Instruct the user not to exceed the capacity.
	3	Is the Document Take-Up Roller, Document Separator Roller, or Document Separator Pad deformed, worn, or dirty with paper dust?	YES	Clean or replace the defective part.
	4	Carry out a unit test of Pick-Up Sensor A/B PC9/10 to check whether it is operational.	YES	Go to step 6.
	5	Does the voltage across PJ12A-5/8 on PWB-A and GND change from DC5V to DC0V when the Start key is pressed?	YES	Replace PWB-A.
			NO	Replace the defective sensor.
	6	Carry out a unit test of Pick-Up Motor M1 to check whether it is operational.	YES	Check gears for damage.
	7	Does the voltage across PJ8A-2 on PWB-A and GND change from LOW to HIGH when the Start key is pressed?	YES	Replace M1.
			NO	Replace PWB-A.
	8	Is the pulse disk for Take-Up Motor Pulse Sensor PC11 deformed or damaged?	YES	Replace the pulse disk.
	9	Does the voltage across PJ12A-2 on PWB-A and GND change to HIGH when PC11 is unblocked and LOW when PC11 is blocked, as the pulse disk is turned by hand?	YES	Replace PWB-A.
			NO	Replace PC11.
	10	Carry out a unit test of Take-Up Motor M2 to check whether it is operational.	YES	Check gears for damage.
	11	Does the voltage across PJ8A-3 on PWB-A and GND change from LOW to HIGH when the Start key is pressed?	YES	Replace M2.
			NO	Replace PWB-A.
	12	Carry out a unit test of Document Pressure Motor M5 to check whether it is operational.	YES	Check gears for damage.
	13	Does the voltage across PJ8A-6 on PWB-A and GND change from DC24V when the Start key is pressed?	YES	Replace M5.
			NO	Replace PWB-A.

2) Misfeed at the Transport Section

Symptom	Step No.	Check Item	Result	Action
The document has stopped near the Registration Roller.	1	Does the document used meet the specifications for reliable feeding?	NO	Instruct the user to use documents that meet the specifications for reliable feeding.
	2	Is the Registration Roller deformed, worn, or dirty?	YES	Clean the Registration Rollers.
	3	Is the Transport Belt installed properly?	NO	Install it properly.
	4	Carry out a unit test of Registration Sensor PC3 to check whether it is operational.	YES	Go to step 6.
	5	Does the voltage across PJ10A-5 on PWB-A and GND change from DC5V to DC0V when PC3 is blocked with a piece of paper?	YES	Replace PWB-A.
			NO	Replace PC3.
	6	Carry out a unit test of Main Motor M3 to check whether it is operational.	YES	Check gears for damage.
	7	Is the voltage across PJ7A-3 on PWB-A and GND DC24V?	YES	Replace M3.
			NO	Replace PWB-A.

3) Misfeed at the Turnover/Exit Section

Symptom	Step No.	Check Item	Result	Action
The document is caught by the Original Width Scale. The document has slipped between the Original Glass and Original Width Scale.	1	Does the document used meet the specifications for reliable feeding?	NO	Instruct the user to use documents that meet the specifications for reliable feeding.
	2	Is the Transport Belt installed properly?	NO	Install it properly.
	3	Is the Original Width Scale returned to the correct position by the tension of the spring when it is pushed by hand and then released?	NO	Check the position of the spring hooked under the Original Width Scale and replace it as necessary.
	4	Carry out a unit test of Scale Solenoid SL1 to check whether it is operational.	YES	Go to step 6.
	5	Does the voltage across PJ5A-3 on PWB-A and GND change from DC24V after start of transport?	YES	Replace SL1.
			NO	Replace PWB-A.
	6	Carry out a unit test of Main Motor M3 to check whether it is operational.	YES	Check gears for damage.
	7	Is the voltage across PJ7A-3 on PWB-A and GND DC24V?	YES	Replace M3.
			NO	Replace PWB-A.

Symptom	Step No.	Check Item	Result	Action
The document has stopped near Exit Sensor PC4.	1	Is the Exit Roller deformed, worn, or dirty?	YES	Clean or replace the Exit Roller.
	2	Carry out a unit test of PC4 to check whether it is operational.	YES	Go to step 4.
	3	Does the voltage across PJ3A-5 on PWB-A and GND change from DC5V to DC0V when PC4 is blocked with a piece of paper?	YES	Replace PWB-A.
			NO	Replace PC4.
	4	Carry out a unit test of Turnover/Exit Motor M4 to check whether it is operational.	YES	Check gears for damage.
	5	Is the voltage across PJ4A-3 on PWB-A and GND DC24V?	YES	Replace M4.
			NO	Replace PWB-A.
The document has stopped near Exit Sensor PC4 (in the 2-sided mode).	1	Is the Exit Roller deformed, worn, or dirty?	YES	Clean or replace the Exit Roller.
	2	Carry out a unit test of PC4 to check whether it is operational.	YES	Go to step 4.
	3	Does the voltage across PJ3A-5 on PWB-A and GND change from DC5V to DC0V when PC4 is blocked with a piece of paper?	YES	Replace PWB-A.
			NO	Replace PC4.
	4	Carry out a unit test of Turnover/Exit Switching Solenoid SL2 to check whether it is operational.	YES	Go to step 6.
	5	Is the voltage across PJ6A-2 on PWB-A and GND DC24V?	YES	Replace SL2.
			NO	Replace PWB-A.
	6	Carry out a unit test of Turnover/Exit Motor M4 to check whether it is operational.	YES	Check gears for damage.
	7	Does the voltage across PJ4A-3 on PWB-A and GND change from DC24V?	YES	Replace M4.
			NO	Replace PWB-A.



#### 4) Misfeed Detected When Documents are Loaded

Symptom	Step No.	Check Item	Result	Action
The panel indicates a misfeed in the AFR-1000 when a document is placed on the Document Feed Table.	1	Is there a document left in the AFR-1000?	YES	Remove the document.
	2	Carry out a unit test of Registration Sensor PC3 to check whether it is operational.	YES	Go to step 4.
	3	Does the voltage across PJ10A-5 on PWB-A and GND change from DC5V to DC0V when PC3 is blocked with a piece of paper?	YES	Replace PWB-A.
			NO	Replace PC3.
	4	Carry out a unit test of Size Sensor A/B/C PC6/7/8 to check whether it is operational.	YES	Go to step 6.
	5	Does the voltage across PJ9A-2/5/8 on PWB-A and GND change from DC5V to DC0V when PC6/7/8 is blocked with a piece of paper?	YES	Replace PWB-A.
			NO	Replace the defective sensor.
	6	Does the actuator of each size sensor operate properly?	NO	Repair or replace the defective actuator.
	7	Carry out a unit test of Exit Sensor PC4 to check whether it is operational.	NO	Clean PC4.
	8	Does the voltage across PJ3A-5 on PWB-A and GND change from DC5V to DC0V when PC4 is blocked with a piece of paper?	YES	Replace PWB-A.
			NO	Replace PC4.

### 3 MALFUNCTION DETECTION

● Document Moving and Leading/Rear Edge Guide Plate Malfunction

Description	Malfunction Code	Detection Timing
Document Moving Motor M6 malfunction	C0700	Document Moving Lever Home Position Sensor PC16 is not deactivated even with 270 pulses driving M6 after M6 has started turning forward (to move the Document Moving Levers toward the take-up port). PC16 is not activated even after the lapse of approx. 6 sec. or more after M6 has started turning backward (to bring the Document Moving Levers back to the home position).
Leading Edge Guide Plate Motor M7 malfunction	C0710	Leading Edge Guide Plate Home Position Sensor PC17 is not activated or deactivated even after the lapse of approx. 0.4 sec. after M7 has been energized.
Rear Edge Guide Plate Motor M8 malfunction	C0711	Rear Edge Guide Plate Home Position Sensor PC18 is not activated even after the lapse of approx. 0.4 sec. after M8 has been energized.
	C0712	Rear Edge Guide Sensor PC19 is not activated even after the lapse of approx. 0.4 sec. after M8 has been energized.

## 4 TROUBLESHOOTING PROCEDURES

### Document Moving Misfeed

Symptom	Step No.	Check Item	Result	Action
· The Exit Document Leading Edge Stoppers do not operate.	1	Check Leading Edge Guide Plate Home Position Sensor PC17, Rear Edge Guide Plate Home Position Sensor PC18, and Rear Edge Guide Sensor PC19. Does the voltage across PJ15A-2 (PC17)/PJ15A-5 (PC18)/PJ15A-8 (PC19) on PWB-A and GND change from DC5V to DC0V when the sensor is blocked?	NO	Change the defective sensor.
	2	Check Leading Edge Guide Plate Motor M7 and Rear Edge Guide Plate Motor M8. Is the voltage across PJ16A-3 (M7)/PJ16A-6 (M8) on PWB-A and GND DC24V?	YES	Change the defective motor.
			NO	Change PWB-A.
· The Document Moving Levers do not move the document (do not operate).	1	Check Document Moving Lever Home Position Sensor PC16. Does the voltage across PJ14A-4 on PWB-A and GND change from DC5V to DC0V when PC16 is blocked?	NO	Change PC16.
	2	Has Document Detecting Sensor PC1 detected a document (the sensor being blocked)?	YES	Correct or change the actuator.
	3	Check to see if Document Exit Table Receiver/Oscillator Sensor Board PWB-B/C has detected a document. Does the voltage across PJ17A-3 on PWB-A and GND change from DC0V to DC5V when PWB-B is blocked? Is the output from PWB-C DC5V, as checked with the voltage across PJ14A-1 on PWB-A and GND?	NO	Change PWB-B or C.
	4	Is the gear of Document Moving Motor M6 damaged or belt out of position?	YES	Change the gear and re-mount the belt in position.
	5	Check M6. Is the voltage across PJ13A-3 on PWB-A and GND DC24V?	YES	Change M6.
			NO	Change PWB-A.

Symptom	Step No.	Check Item	Result	Action
· The panel indicates a misfeed in the AFR-1000 when the Start key is pressed, though no documents are placed on the Document Feed Tray.	1	Does the actuator of Document Detecting Sensor PC1 operate properly?	NO	Repair or replace the actuator.
	2	Carry out a unit test of PC1 to check whether it is operational?	YES	Check the copier.
	3	Does the voltage across PJ12A-14 on PWB-A and GND change from DC5V to DC0V when the actuator is pushed up by a finger?	YES	Replace PWB-A.
			NO	Replace PC1.
· The document is not taken up in single feed mode.	1	Is the Single Feed Transport Roller dirty?	YES	Clean the Single Feed Transport Roller.
	2	Does the actuator of Manual Feed Take-Up Sensor PC5 operate properly?	NO	Repair or replace the actuator.
	3	Carry out a unit test of PC5 to check whether it is operational?	YES	Perform step 8 and onward of the 1 <sup>st</sup> section. ( p. T-3 )
	4	Does the voltage across PJ11A-5 on PWB-A and GND change from DC5V to DC0V when the actuator is pushed up by a finger?	YES	Replace PWB-A.
			NO	Replace PC5.



***Copyright***  
***1997 MINOLTA Co., Ltd.***  
***Printed in Japan***

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