MK-1

Service Manual

19971

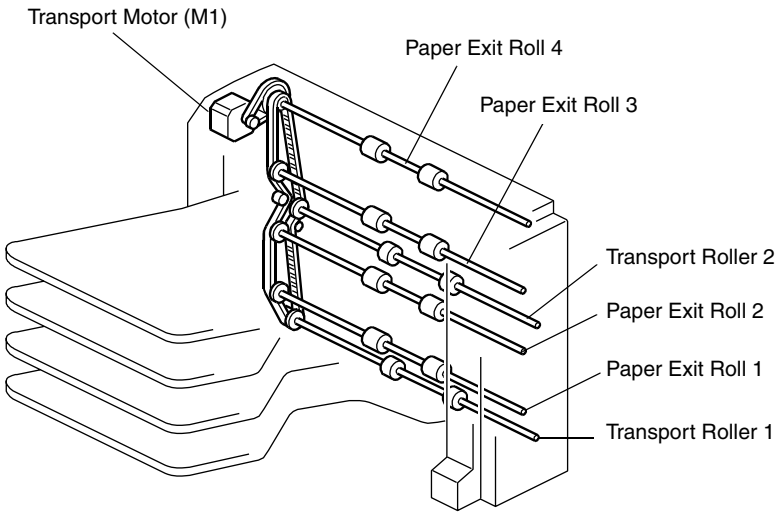
CONTENTS

GENERAL

1. Specifications

Name	:	Mail Bin Kit
Installation	:	Install at the top section of the Finisher Elevator Tray.
Number of Bins	:	4 bins
Number of Sheets Stored per Bin	:	125 sheets 21.3lb. (80 g/m^2)
Storable Paper	:	Plain paper 15lb. to 24lb. (56 to 90 g/m^2), recycled paper 16lb. to 24lb. (60 to 90 g/m^2)
Storable Paper Size	:	A5L, B5C, and A4C (5-1/2L, 8-1/2 x 11C)
Power Requirements	:	DC 24 V (supplied from the Finisher) DC 5 V (generated inside the Mail Bin)
Dimensions	:	624(W) x 390(H) x 503(D) mm 24-1/2 x 15-1/4 x 19-3/4
Weight	:	8 kg (17-3/4 lbs)
Operating Environment	:	Conforms to the operating environment of the copier.

2. Revolving Parts Layout Drawing



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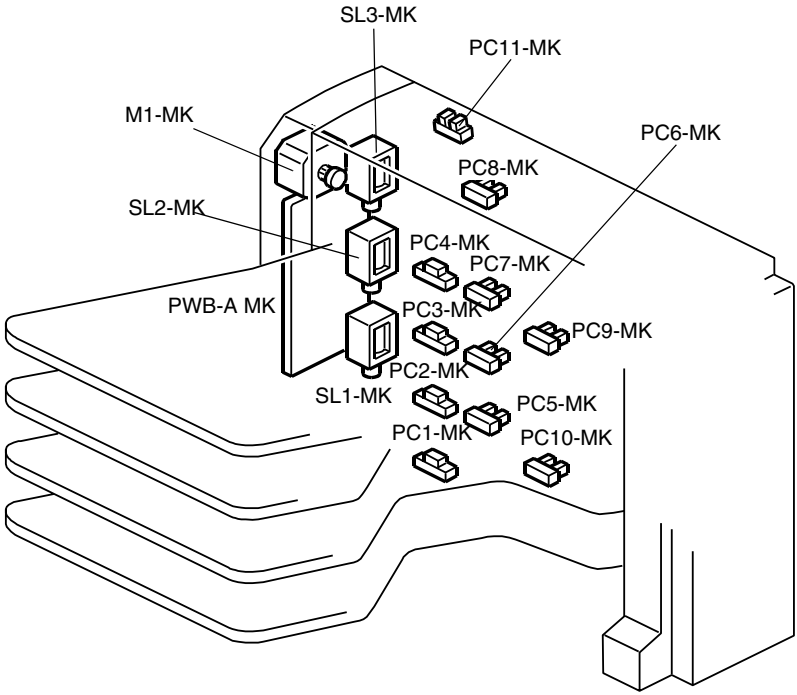
3. Electric Parts Layout Drawing



Symbol	Name	Symbol	Name
PWB-A MK	Control Board	PC4-MK	Paper Detection Sensor 4
M1-MK	Transport Motor	PC5-MK	Bin 1 Paper Full Detecting Sensor
SL1-MK	Bin Switching Solenoid 1	PC6-MK	Bin 2 Paper Full Detecting Sensor
SL2-MK	Bin Switching Solenoid 2	PC7-MK	Bin 3 Paper Full Detecting Sensor
SL3-MK	Bin Switching Solenoid 3	PC8-MK	Bin 4 Paper Full Detecting Sensor
PC1-MK	Paper Detection Sensor 1	PC9-MK	Upper Transport Sensor
PC2-MK	Paper Detection Sensor 2	PC10-MK	Lower Transport Sensor
PC3-MK	Paper Detection Sensor 3	PC11-MK	Cover Open/Close Sensor

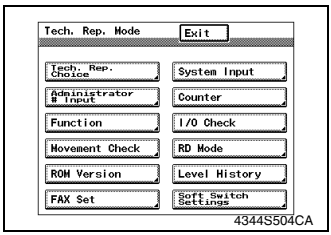
TEST MODES

1. Test Mode Operations

- The Test Mode is performed from the copier's Tech. Rep. Mode.

1-1. Entering the Tech. Rep. Mode

1. Press the Utility key.
2. Touch [Total Check].



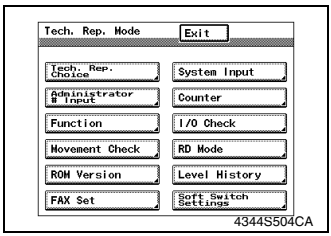
3. Press the following keys in order: Stop → 0 → 0 → Stop → 0 → 1.

NOTE

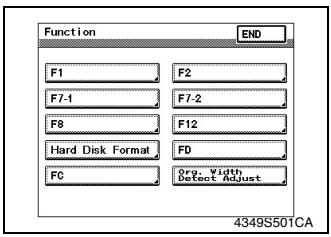
- *Be sure to keep the display procedure for the Tech. Rep. Mode from any unauthorized persons not involved with service operations.*

1-2. Entering Function Mode

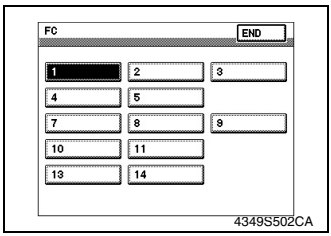
1. Display the Tech. Rep. Mode screen.



2. Touch [Function].



3. Touch [FC].



4. Touch [12].

1-3. Function Modes

The following item is available under “FC” in the Function Mode.

- 12: Mailbin solenoid drive mode

(1) Mailbin Solenoid Drive Mode

- Bin Entrance Switching Solenoids 1, 2 and 3 switch, in order, at the predetermined times.
  →Bin Entrance Switching Solenoid 1 (SL1-MK) activates for the predetermined time.
  →Bin Entrance Switching Solenoid 2 (SL2-MK) activates for the predetermined time.
  →Bin Entrance Switching Solenoid 3 (SL3-MK) activates for the predetermined time.
  →All Bin Entrance Switching Solenoids deactivate.
  →The operation is finished.

DIS/REASSEMBLY, ADJUSTMENT

1. Maintenance Schedule

- To ensure that the copier produces good copies and to extend its service life, it is recommended that the maintenance jobs described in this schedule be carried out as instructed.

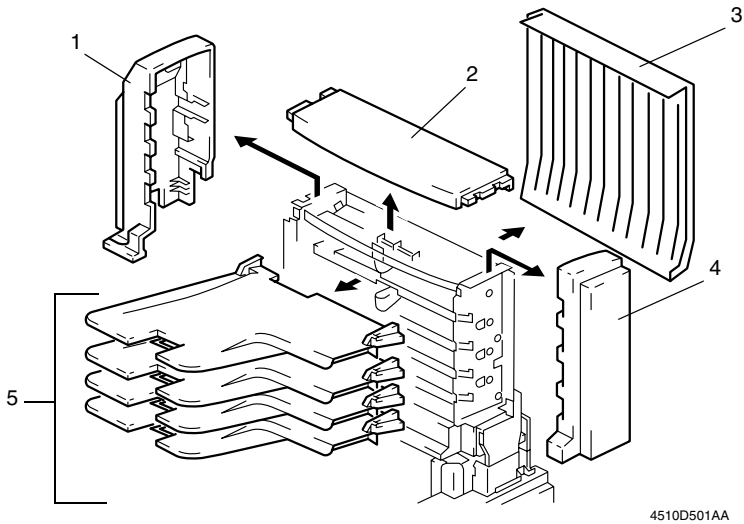
PM Parts	Job		Item Used for Cleaning	Qty	Ref. Page
	Clean	Replace			
Roller	300k	—	Alcohol and soft cloth	2	☞ D-2
Roll	300k	—		6	☞ D-2

NOTES

- *K = 1,000 copies*
- *The contents of this maintenance schedule are subject to change without notice.*
- *For part numbers, see Parts Manual and Parts Modification Notice.*

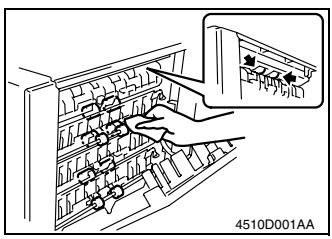
2. Disassembly and Cleaning

2-1. Removal of the Outer Cover



No.	Name	Removal Procedure
1	Rear Cover	Remove one screw.
2	Upper Cover	Remove the Rear Cover. → Remove the Front Cover. → Remove the Upper Cover.
3	Right Cover	Remove one screw and stopper. → Remove the Right Cover.
4	Front Cover	Remove one screw.
5	Paper Output Tray	Remove the Rear Cover. → Remove the Paper Output Trays.

2-2. Cleaning of the Roller and Roll



1. Open the Right Door.
2. Using a soft cloth dampened with alcohol, wipe the roller and roll.

TROUBLESHOOTING

1. Introduction

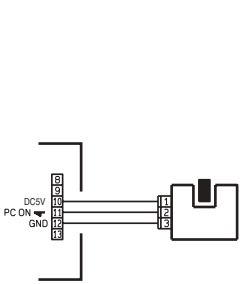
- Information required for troubleshooting and steps that must be performed are described in this chapter.

1-1. Electrical Components Check Procedure

- If a paper misfeed or malfunction occurs, perform the following operation to check the condition of the electrical components.

(1) Sensor

Step	Check	Result	Action
1	Does the input signal of the control board change when the sensor light is interrupted? (H → L, L → H)	NO	Replace the sensor.
		YES	Replace the control board.



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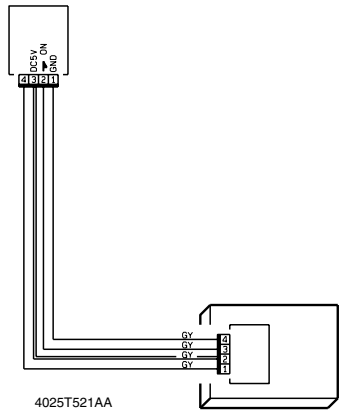

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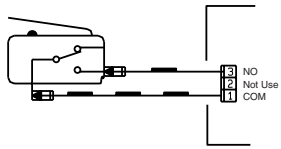
(2) Switch

Step	Check	Result	Action
1	Does the input signal (NO) of the control board change from L to H when the switch is turned on?	NO	Replace the switch.
		YES	Replace the control board.



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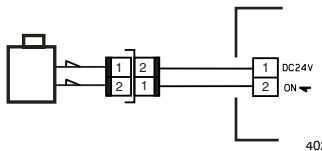
(3) Solenoid

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the solenoid is activated?	NO	Replace the control board.
		YES	Replace the solenoid.



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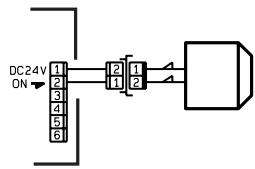
(4) Clutch

Step	Check	Result	Action
1	Does the output signal of the control board change from H to L when the clutch is activated?	NO	Replace the control board.
		YES	Replace the clutch.



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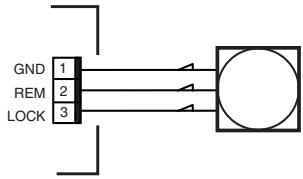
(5) Motor

Step	Check	Result	Action
1	Does the LOCK signal of the control board switch to H when the machine goes into standby?	NO	Replace the control board. Replace the motor.
2	Does the REM signal of the control board change from H to L when the motor is turned on?	YES	Replace the motor.
		NO	Replace the control board.



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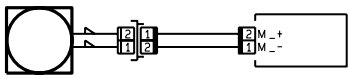
Step	Check	Result	Action
1	Does the input signal of the control board change from H to L when the motor is turned on? (Input signals differ according to the direction of rotation)	YES	Replace the motor.
		NO	Replace the control board.



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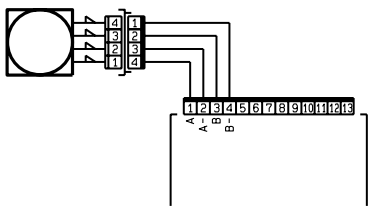
Step	Check	Result	Action
1	Are the relay connector of the motor and the print jack of the control board correctly connected?	YES	Replace the motor or the control board.
		NO	Connect the connector or the print jack.



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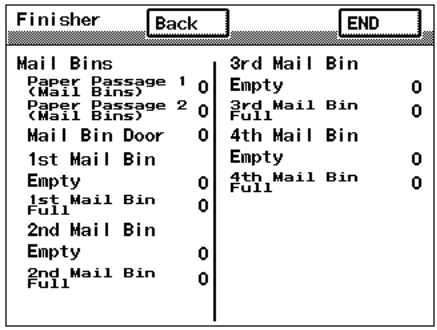
2. I/O CHECK

- For an easy and safe operation check of the sensors, the sensor input data is checked when the copier is in standby (including when a misfeed or a malfunction occurs or when a part is not correctly closed) to determine if signals are properly input.

1. Display the Tech. Rep. Mode screen.
2. Touch [I/O CHECK].
3. Touch [Finisher].
4. Touch [Next] three times.
5. Using a sheet of paper, activate the sensor and check the display in the Touch Panel. (Paper present: 1; Paper not present: 0)



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2-1. I/O Check List

Symbol	Panel Display	Parts/Signal Name	Operation Characteristics/ Panel Display		Input Board	CN/PJ No.
			1	0		
PC10-MK	Mailbin Transport1	Lower Transport Sensor	Paper present	Paper not present	Control Board (PWB-A MK)	CN102A MK-8
PC9-MK	Mailbin Transport2	Upper Transport Sensor	Paper present	Paper not present		CN101A MK-8
PC11-MK	Mailbin Door Open/ Close Sensor	Cover Open/Close Sensor	Open	Closed		CN100A MK-2
PC1-MK	Mailbin 1 Empty Detection	Paper Detecting Sensor 1	Paper not present	Paper present		CN102A MK-11
PC5-MK	Mailbin 1 Full Detection	Mailbin 1 Paper Full Detecting Sensor	Blocked	Unblocked		CN102A MK-5
PC2-MK	Mailbin 2 Empty Detection	Paper Detecting Sensor 2	Paper not present	Paper present		CN102A MK-2
PC6-MK	Mailbin 2 Full Detection	Mailbin 2 Paper Full Detecting Sensor	Blocked	Unblocked		CN101A MK-5
PC3-MK	Mailbin 3 Empty Detection	Paper Detecting Sensor 3	Paper not present	Paper present		CN101A MK-2
PC7-MK	Mailbin 3 Full Detection	Mailbin 3 Paper Full Detecting Sensor	Blocked	Unblocked		CN100A MK-11
PC4-MK	Mailbin 4 Empty Detection	Paper Detecting Sensor 4	Paper not present	Paper present		CN100A MK-8
PC8-MK	Mailbin 4 Full Detection	Mailbin 4 Paper Full Detecting Sensor	Blocked	Unblocked		CN100A MK-5

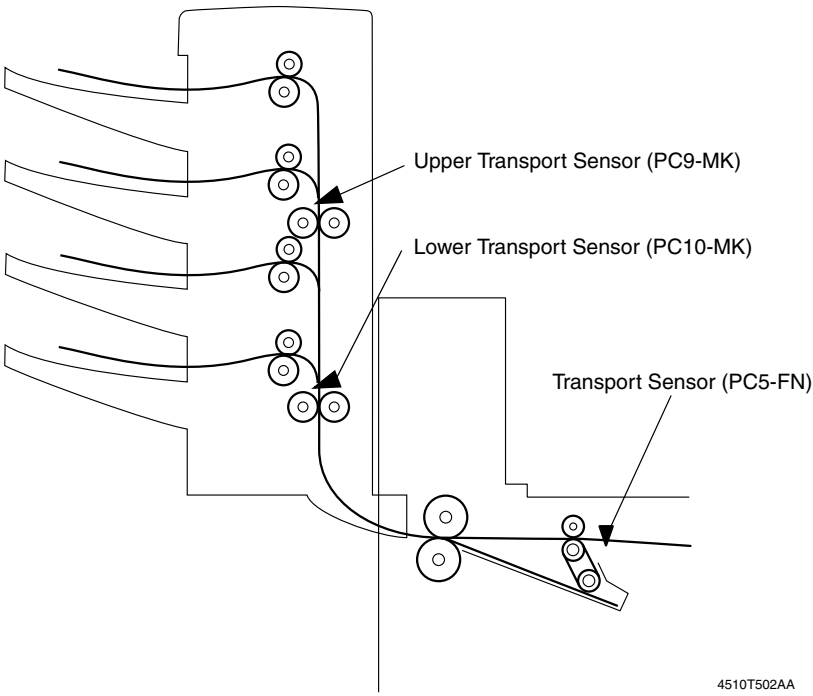
3. Misfeed Detection/Troubleshooting Procedures

3-1. Initial Checks

- When a paper misfeed occurs, first perform the following initial checks.

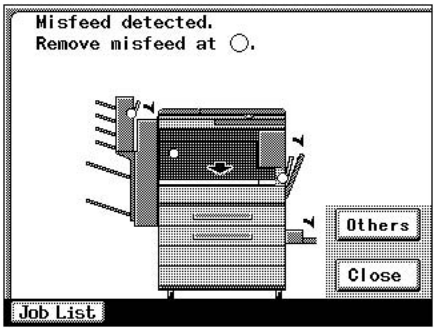
Check Item	Action
Does paper meet product specifications?	Replace paper.
Is the paper curled, wavy, or damp?	Replace paper. Instruct the user on the correct paper storage procedures.
Is a foreign object present along the paper path, or is the paper path deformed or worn?	Remove object or replace the damaged paper path.
Are the Paper Separator Fingers dirty, deformed, or worn?	Clean or replace the defective Paper Separator Finger.
Are rolls/rollers dirty, deformed, or worn?	Clean or replace the defective roll/roller.
Are the Edge Guide and Trailing Edge Stop at the correct position to accommodate the paper?	Set as necessary.
Are the actuators operating correctly?	Correct or replace the defective actuator.

3-2. Misfeed-Detecting Sensor Layout



3-3. Misfeed Detected

When a paper misfeed occurs, the misfeed message, misfeed location (⊗), and paper location (❍) are displayed on the Touch Panel of the copier.



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3-4. Misfeed Detection Timing/Troubleshooting Procedures

(1) Transport Section Misfeed

<Detection Timing>

Type	Description
Transport Section misfeed detection	The Lower Transport Sensor (PC10-MK) is not blocked even after the set period of time has elapsed after the Transport Sensor (PC5-FN) is unblocked by the paper.
	The Upper Transport Sensor (PC9-MK) is not blocked even after the set period of time has elapsed after the Lower Transport Sensor (PC10-MK) is blocked by the paper.
Detection of paper remaining in the Transport Section	The Lower Transport Sensor (PC10-MK) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.
	The Upper Transport Sensor (PC9-MK) is blocked when the Power Switch is set to ON, a door or cover is opened and closed, or a misfeed or malfunction is reset.

Action

Relevant Electrical Components	
Transport Sensor (PC5-FN) Lower Transport Sensor (PC10-MK) Upper Transport Sensor (PC9-MK)	Control Board (PWB-A)

Step	Operations	Ref. Page	WIRING DIAGRAM	
			Control signal	Location (Electrical Components)
1	Initial checks	☞ T-6	—	—
2	PC5-FN sensor check	☞ T-1	PWB-A FN PJ20A FN-9	E-7
3	PC10-MK sensor check	☞ T-1	PWB-A MK CN102A MK-8	D-7
4	PC9-MK sensor check	☞ T-1	PWB-A MK CN101A MK-8	B-7
5	PWB-A MK replacement	—	—	E-4