FOUR-BIN MAILBOX

(Machine Code: G696)

1. OVERALL MACHINE INFORMATION

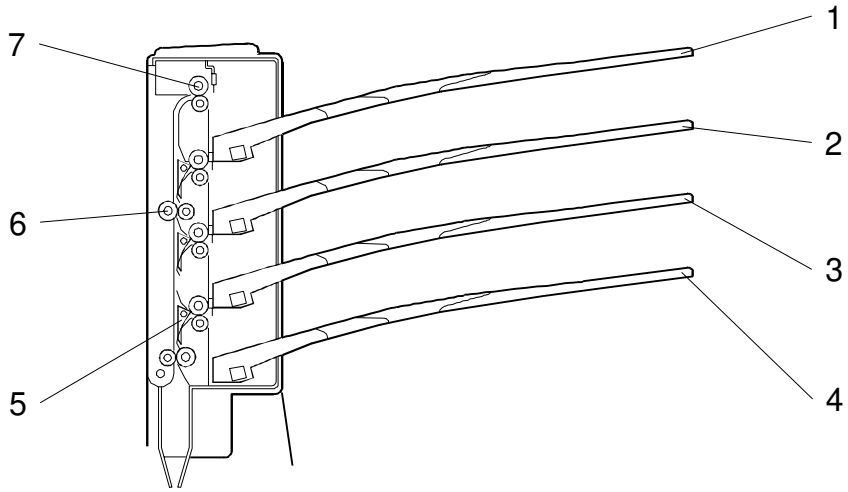
1.1 SPECIFICATIONS

Number of Trays	4
Tray Capacity:	125 sheets (80 g/m^2, 20lb)
Paper Size for Trays:	Maximum: A3 or 11" x 17" Minimum: A5 (LEF) or 11" x 8 1/2" Executive SEF (7.25" x 10.5") can be used
Paper Weight:	60 ~ 90 g/m^2, 16 ~ 24 lb
Power Consumption:	20 W or less (average)
Power Source:	DC24 V, 5 V (from the printer)
Dimensions (W x D x H):	465 x 490 x 370 mm (18.3" x 19.3" x 14.6")
Weight:	7 kg, 15.4 lb

- Specifications are subject to change without notice.

1.2 COMPONENT LAYOUT

1.2.1 MECHANICAL COMPONENT LAYOUT



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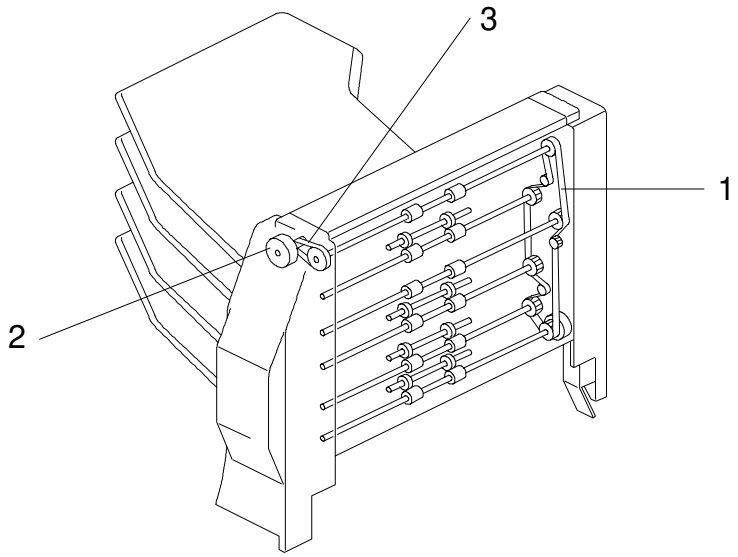
1. 5th Tray
2. 4th Tray
3. 3rd Tray
4. 2nd Tray
5. Turn Gate
6. Vertical Transport Roller
7. Tray Feed Out Roller

1.2.2 DRIVE LAYOUT



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1. Timing Belt
2. Main Motor
3. Main Motor Timing Belt

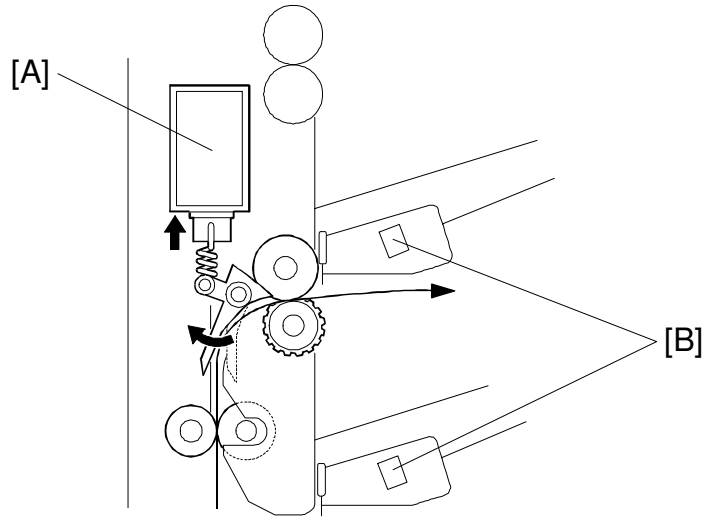
1.3 ELECTRICAL COMPONENT DESCRIPTIONS

Refer to the electrical component layout and the point-to-point diagram on the waterproof paper in the pocket for symbols and index numbers.

Symbols	Name	Function	Index No.
Motors			
M1	Main	Drives all the mailbox rollers.	12
Sensors			
S1	Tray 5 Paper	Detects if there is paper in the 5th tray.	2
S2	Tray 4 Paper	Detects if there is paper in the 4th tray.	3
S3	Upper Transport	Detects misfeeds.	4
S4	Tray 3 Paper	Detects if there is paper in the 3rd tray.	5
S5	Lower Transport	Detects misfeeds, and controls the 3rd and 4th tray solenoid on/off timing.	6
S6	Tray 2 Paper	Detects if there is paper in the 2nd tray.	7
Solenoids			
SOL1	2nd Tray	Opens and closes the 2nd tray gate.	8
SOL2	Turn Gate	Opens and closes the turn gate to direct paper into either the 1st tray (the base machine's output tray) or to the mailbox.	9
SOL3	3rd Tray	Opens and closes the 3rd tray gate.	11
SOL4	4th Tray	Opens and closes the 4th tray gate.	13
PCBs			
PCB1	Main Control	Controls all sorter functions	10
Switches			
SW1	Door Safety	Cuts the dc power line when the transport cover is opened.	1

2. DETAILED DESCRIPTIONS

2.1 BASIC OPERATION



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The four-bin mailbox is electrically connected to the base printer by an eight-pin connector. One of these pins acts as a connection detection mechanism.

Feed

When the mailbox is selected as the output tray and the lower exit sensor of the base printer is actuated by the leading edge of the paper, the mailbox main motor turns on, turning the transport rollers.

Soon after the main motor starts, the turn gate solenoid energizes to direct the paper to the four-bin mailbox. (If the standard output tray is selected, the turn gate solenoid does not energize.) Then the selected tray solenoid [A] energizes, to direct the paper to that tray. (If the 5th tray is selected, no solenoid turns on.)

When the last printout passes the transport sensor and feeds out, the tray solenoid and the main motor turn off.

Normally, the paper transport speed is 180 mm/s. This speed is reduced to 114 mm/s when a large paper size is used (such as DLT or A3), to synchronize feed speed with the fusing unit while part of the paper is still left in the fusing unit.

Jam Detection

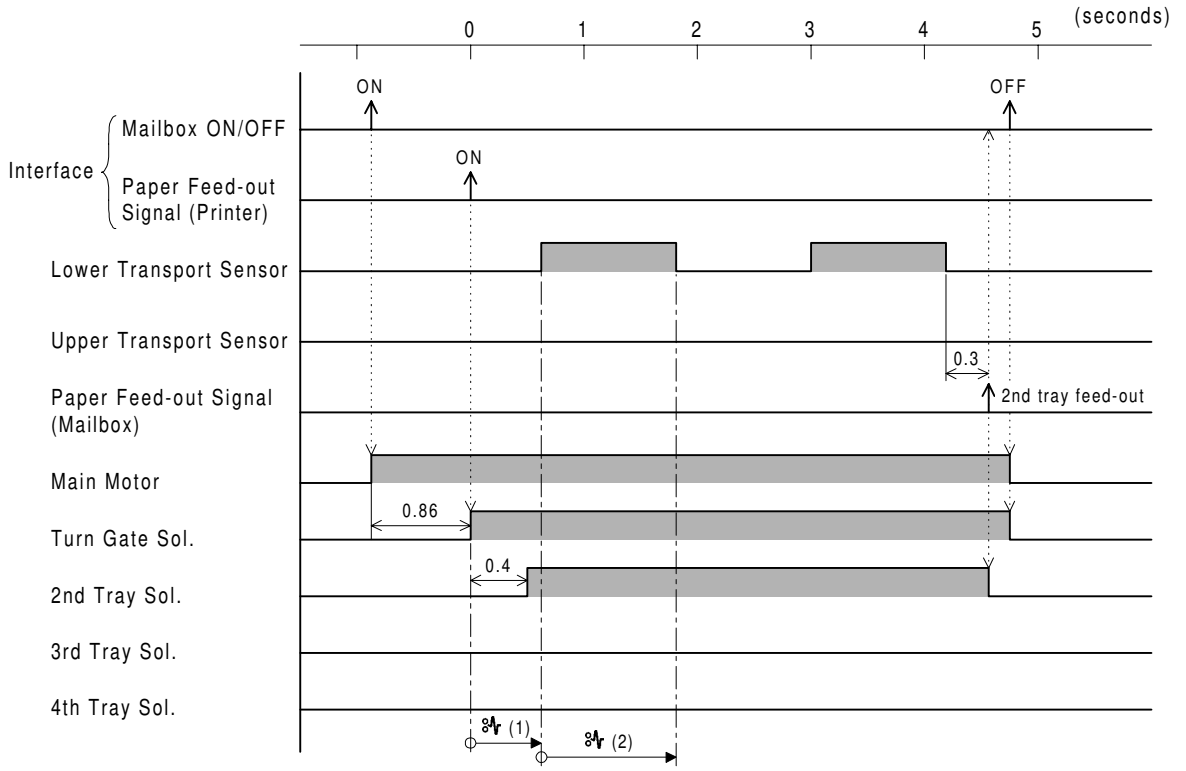
Two transport sensors, lower and upper, detect misfeeds within the unit. When the 2nd or 3rd tray is selected, the lower transport sensor (located just before the feed-out section of the 2nd tray) monitors misfeeds. When the 4th or 5th tray is selected, both sensors monitor misfeeds. Only the lower transport sensor is used to control the on/off timing of the tray solenoids for prints that are fed out to the 3rd and 4th trays. (For details, refer to the timing charts.)

Paper Sensors

Each tray has a paper sensor [B] to detect paper in the tray. Each tray is monitored to ensure that the tray does not contain more than 125 prints. If a print job of more than 125 sheets is executed, the base printer will do up to 125 prints, then an error message will appear in the printer display panel and the printing job is stopped. Once the output stack is removed, the printing job automatically continues.

2.2 TIMING CHART AND MISFEED DETECTION

2ND TRAY



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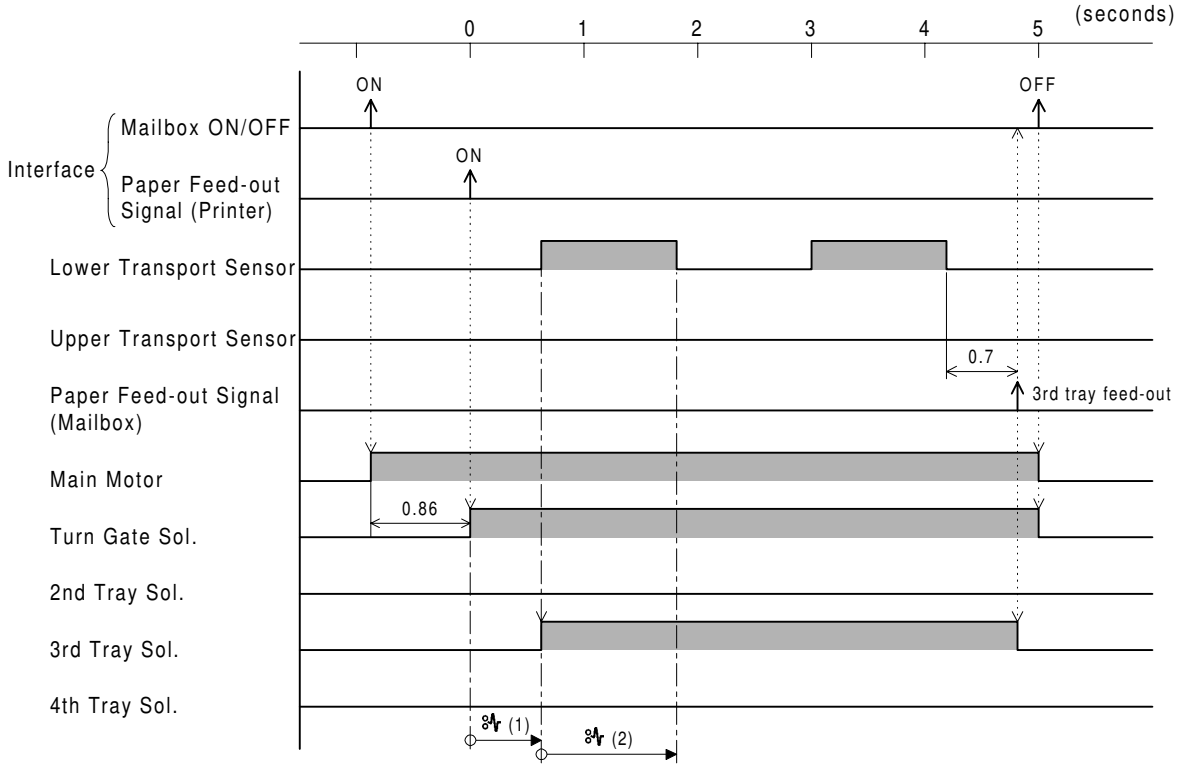
NOTE: 1) Print size: LT (LEF)
2) Number of prints: 2

(1): Checks whether the lower transport sensor is actuated within 4.09 seconds after the paper feed-out signal from the printer.

(2): Checks whether the paper has passed through the lower transport sensor 2.92 seconds after it has been actuated.

3RD TRAY



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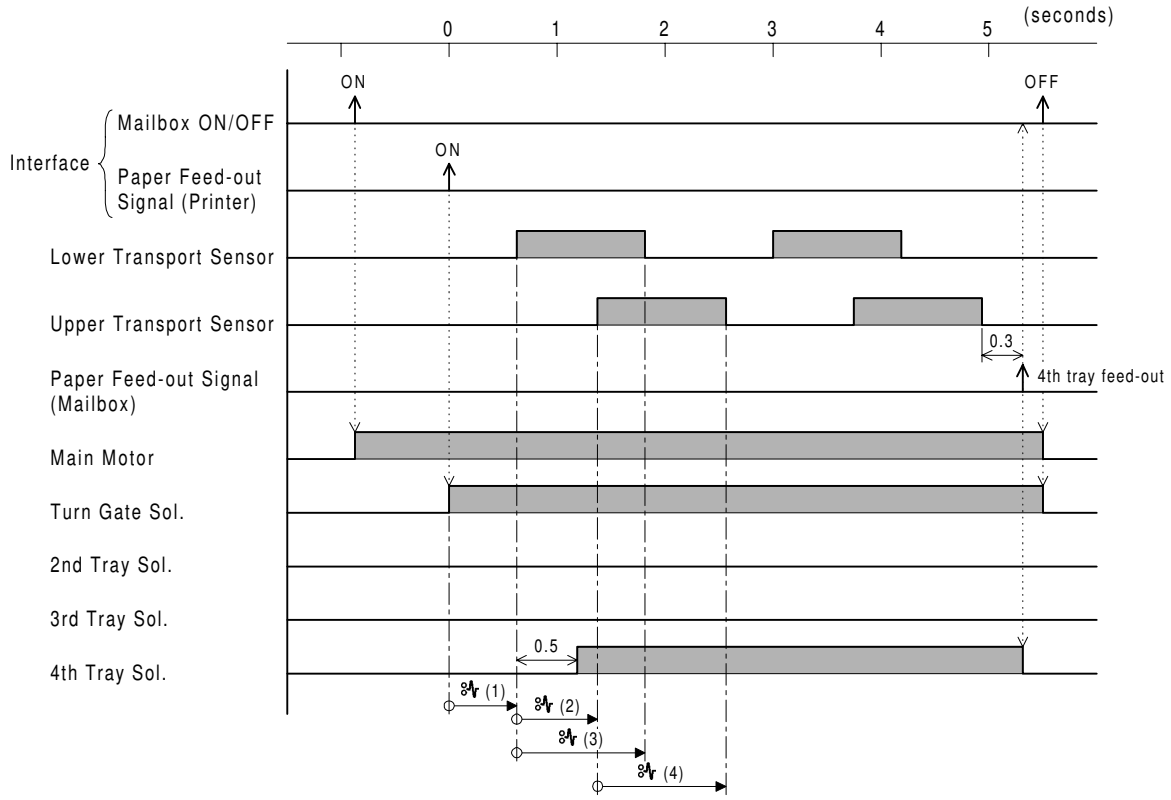
NOTE: 1) Print size: LT (LEF)
2) Number of prints: 2

(1): Checks whether the lower transport sensor is actuated within 4.09 seconds after the paper feed-out signal from the printer.

(2): Checks whether the paper has passed through the lower transport sensor 2.92 seconds after it has been actuated.

Options

4TH TRAY



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NOTE: 1) Print size: LT (LEF)
2) Number of prints: 2

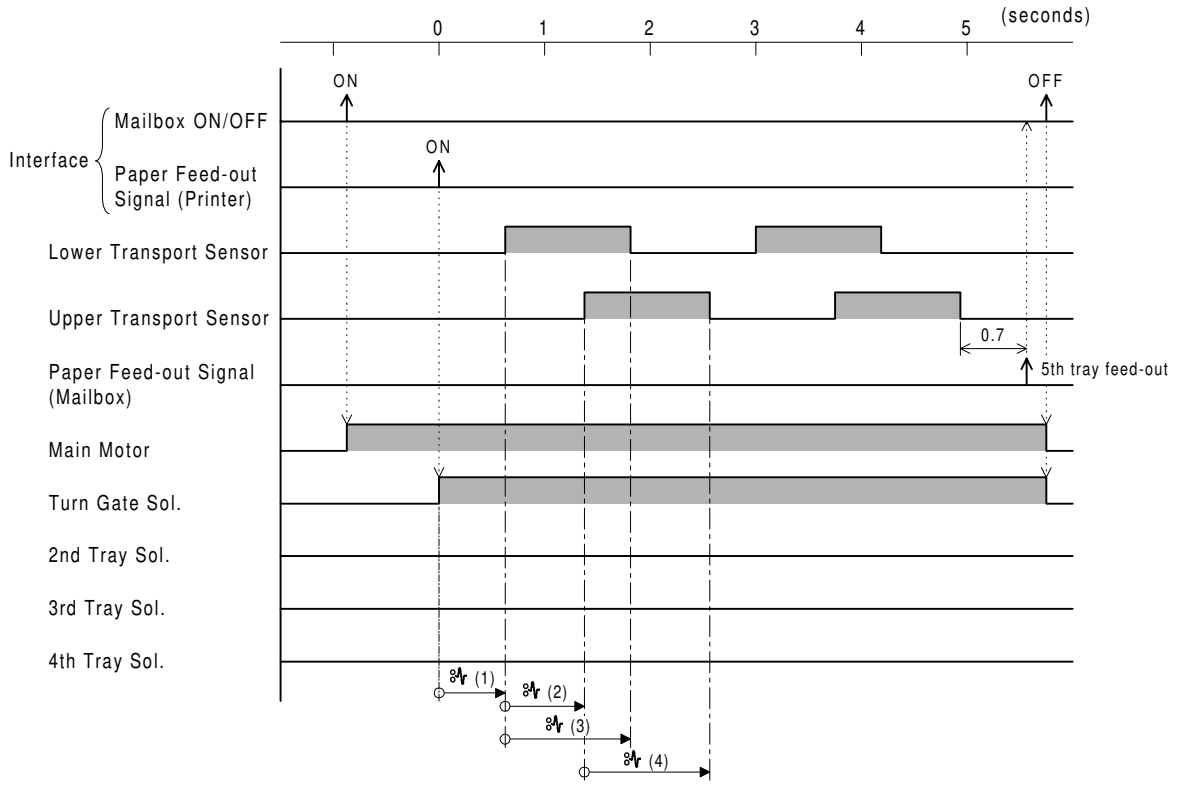
(1): Checks whether the lower transport sensor is actuated within 4.09 seconds after the paper feed-out signal from the printer.

(2): Checks whether the upper transport sensor is actuated within 1.06 seconds after the lower transport sensor is actuated.

(3): Checks whether the paper has passed through the lower transport sensor 2.92 seconds after it has been actuated.

(4): Checks whether the paper has passed through the upper transport sensor 2.92 seconds after it has been actuated.

5TH TRAY



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NOTE: 1) Print size: LT (LEF)
2) Number of prints: 2

(1): Checks whether the lower transport sensor is actuated within 4.09 seconds after the paper feed-out signal from the printer.

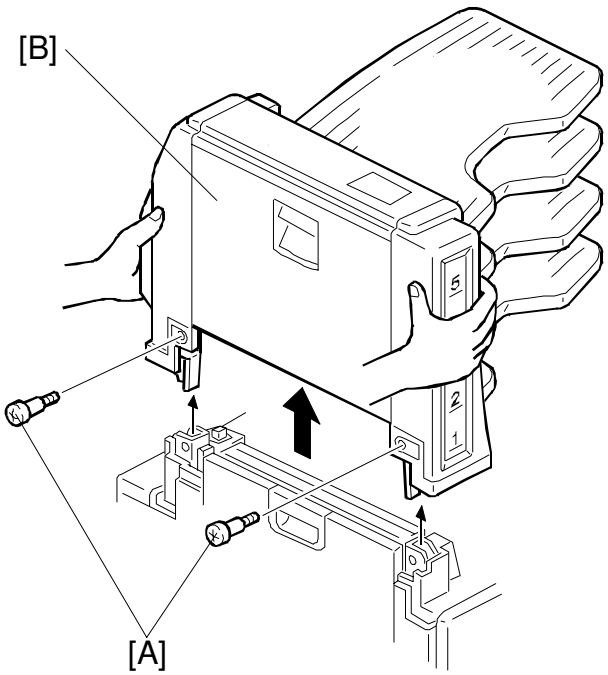
(2): Checks whether the upper transport sensor is actuated within 1.06 seconds after the lower transport sensor is actuated.

(3): Checks whether the paper has passed through the lower transport sensor 2.92 seconds after it has been actuated.

(4): Checks whether the paper has passed through the upper transport sensor 2.92 seconds after it has been actuated.

3. REPLACEMENT AND ADJUSTMENT

3.1 MAILBOX REMOVAL



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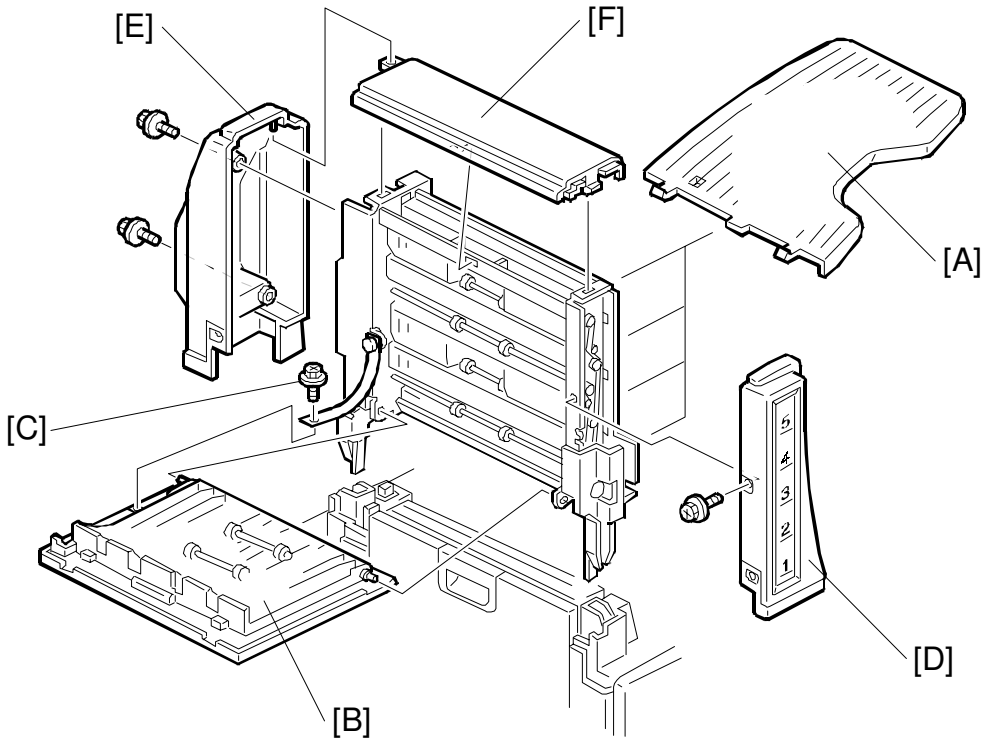
1. Turn off the main switch and unplug the power cord.
2. Remove the two knob screws [A] securing the mailbox [B].
3. Remove the mailbox as shown.

3.2 EXTERIOR COVER REMOVAL



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Tray Removal

1. Remove the trays [A].

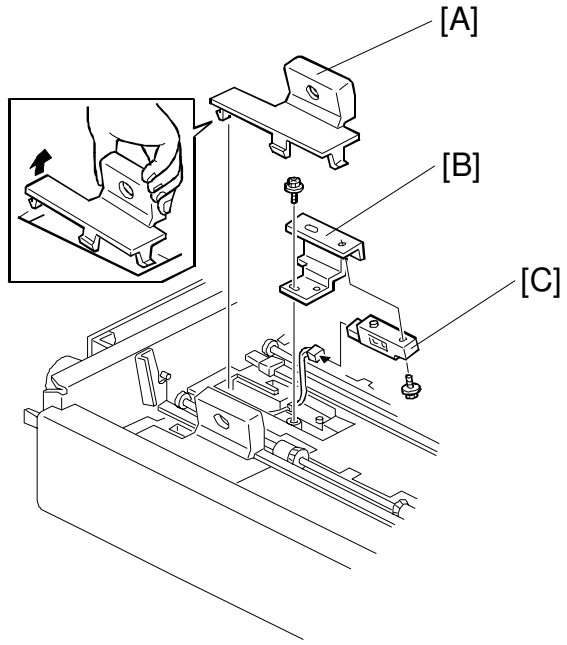
Vertical Transport Cover

1. Open the vertical transport cover [B] and remove it (1 screw [C]).

Front/Rear/Top Cover

1. Remove the mailbox. (See Mailbox Removal.)
2. Remove the front cover [D] (1 screw).
3. Remove the rear cover [E] (2 screws).
4. Remove the top cover [F].

3.3 TRAY PAPER SENSOR AND TRANSPORT SENSOR REPLACEMENT



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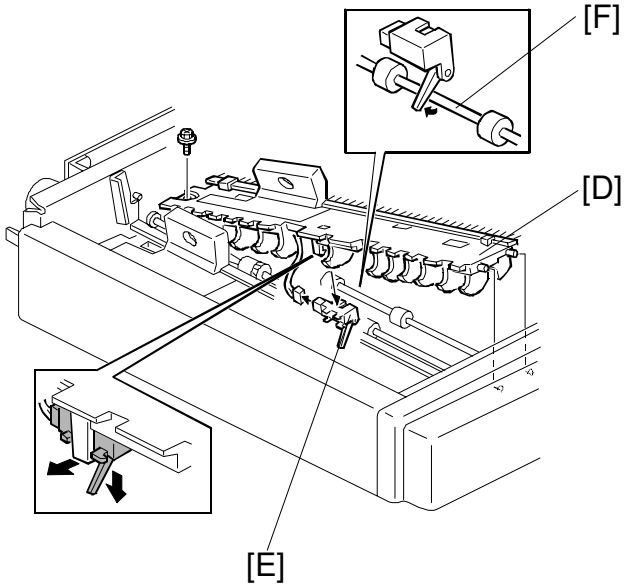

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1. Turn off the main switch and unplug the printer.
2. Remove the mailbox from the printer. (See Mailbox Removal.)
3. Remove the rear cover. (See Exterior Cover Removal.)

Tray Paper Sensor

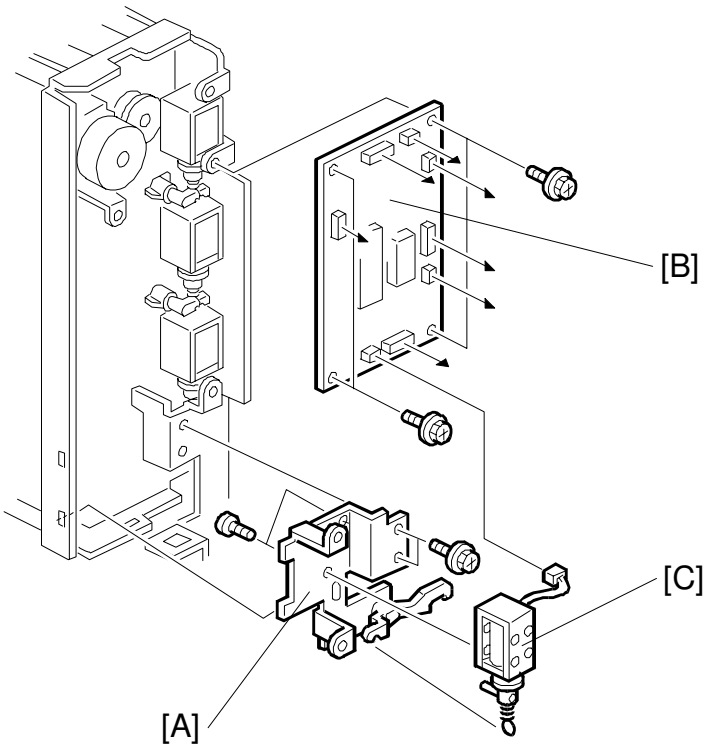
4. Remove the paper sensor cover [A] (3 snap fits).
5. Remove the tray paper sensor bracket [B] (1 screw and 1 connector).
6. Replace the tray paper sensor [C] (1 screw).

Transport Sensor

4. Free the tray feed-out cover [D] (1 screw).
5. Replace the transport sensor [E] (1 snap fit and 1 connector).

NOTE: When reinstalling the tray feed-out cover, make sure that the transport sensor actuator rests above the vertical transport roller shaft [F], as shown.

3.4 TURN GATE SOLENOID REPLACEMENT



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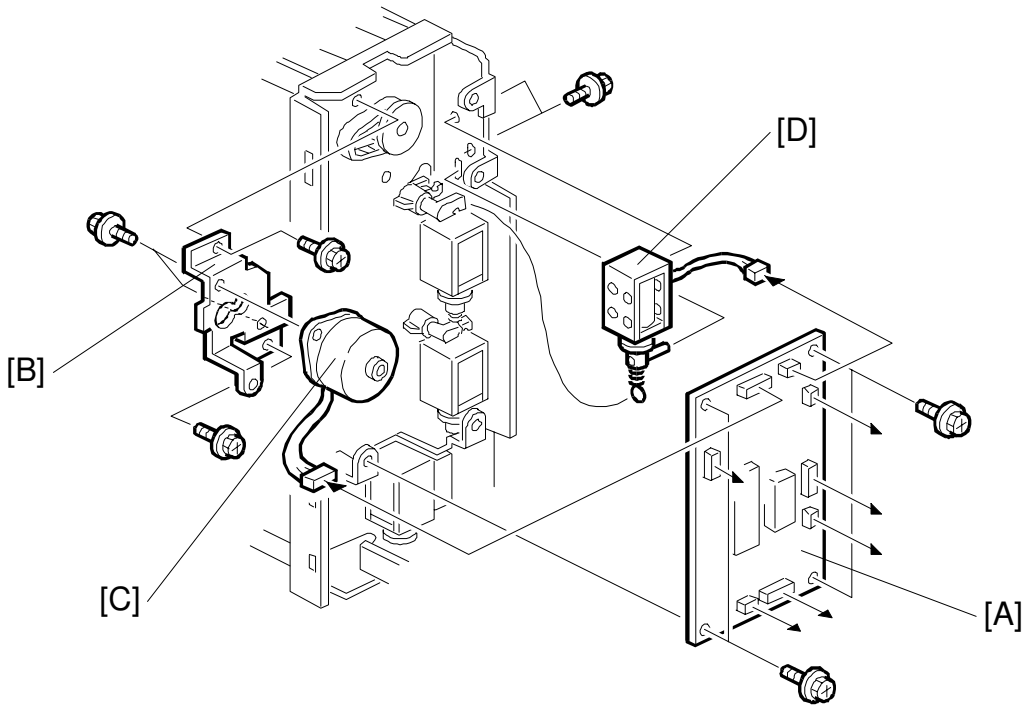
1. Turn off the main switch and unplug the printer.
2. Remove the mailbox from the printer. (See Mailbox Removal.)
3. Remove the rear cover. (See Exterior Cover Removal.)
4. Remove the turn gate solenoid with the bracket [A] (3 screws and 1 connector).
   NOTE: Remove the main control board [B] (4 screws and all the connectors) if the turn gate solenoid bracket can not be removed smoothly.
5. Replace the turn gate solenoid [C] (2 screws).
   NOTE: Make sure the solenoid's plunger pin is installed in the cutout in the frame.

3.5 MAIN MOTOR AND TRAY SOLENOID REPLACEMENT



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1. Turn off the main switch and unplug the printer.
2. Remove the mailbox from the printer. (See Mailbox Removal.)
3. Remove the rear cover. (See Exterior Cover Removal.)
4. Remove the main control board [A] (4 screws and all the connectors).

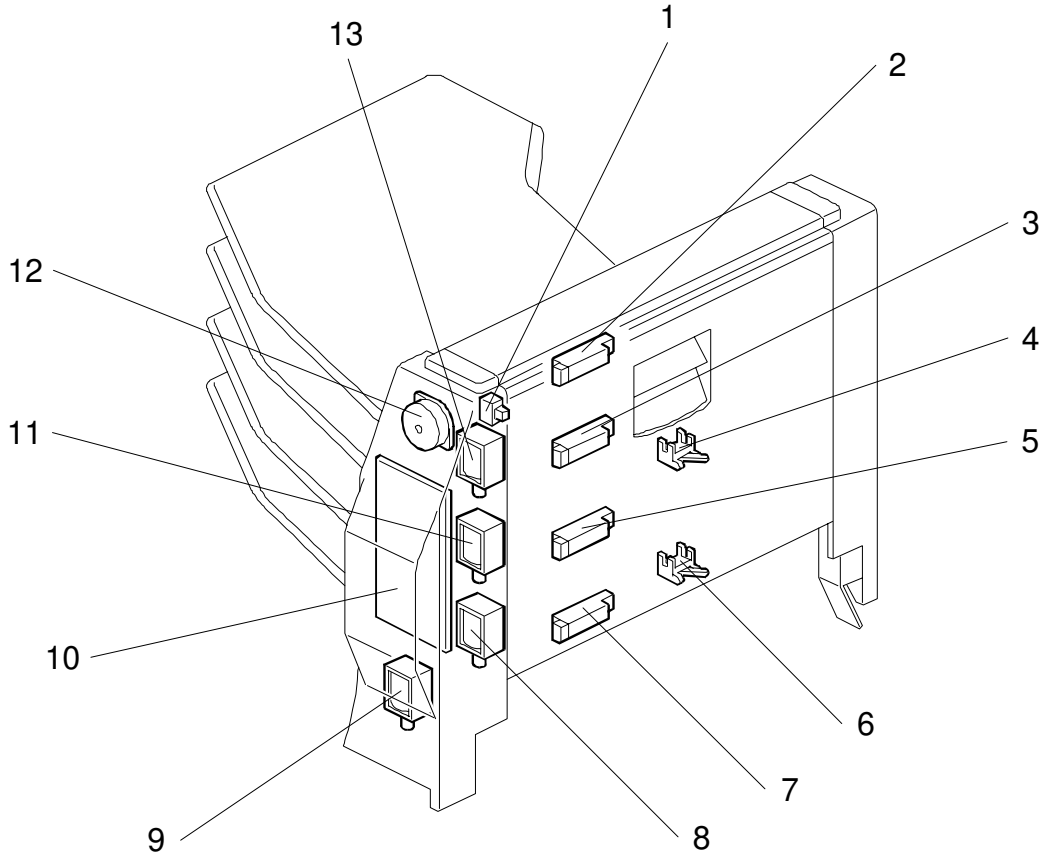
Main Motor

5. Remove the main motor bracket [B] (2 screws and a timing belt).
6. Replace the main motor [C] (2 screws).

Tray Solenoid

5. Replace the desired tray solenoid [D] (2 screws).
   NOTE: Make sure the solenoid's plunger pin is installed in the cutout in the frame.

4 BIN MAILBOX (G696) ELECTRICAL COMPONENT LAYOUT



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Description	Index No.	P-to-P Location
Door Safety Switch (SW1)	1	D2
Tray 5 Paper Sensor (S1)	2	F2
Tray 4 Paper Sensor (S2)	3	J2
Upper Transport Sensor (S3)	4	K2
Tray 3 Paper Sensor (S4)	5	E2
Lower Transport Sensor (S5)	6	I2
Tray 2 Paper Sensor (S6)	7	H2
2nd Tray Solenoid (SOL1)	8	G16
Turn Gate Solenoid (SOL2)	9	E16
Main Control Board (PCB1)	10	K12
3rd Tray Solenoid (SOL3)	11	H16
Main Motor (M1)	12	B16
4th Tray Solenoid (SOL4)	13	J16

MAIL BOX (G696) POINT TO POINT DIAGRAM

DATE: September 5th '97