

**LCT**  
**(A667)**

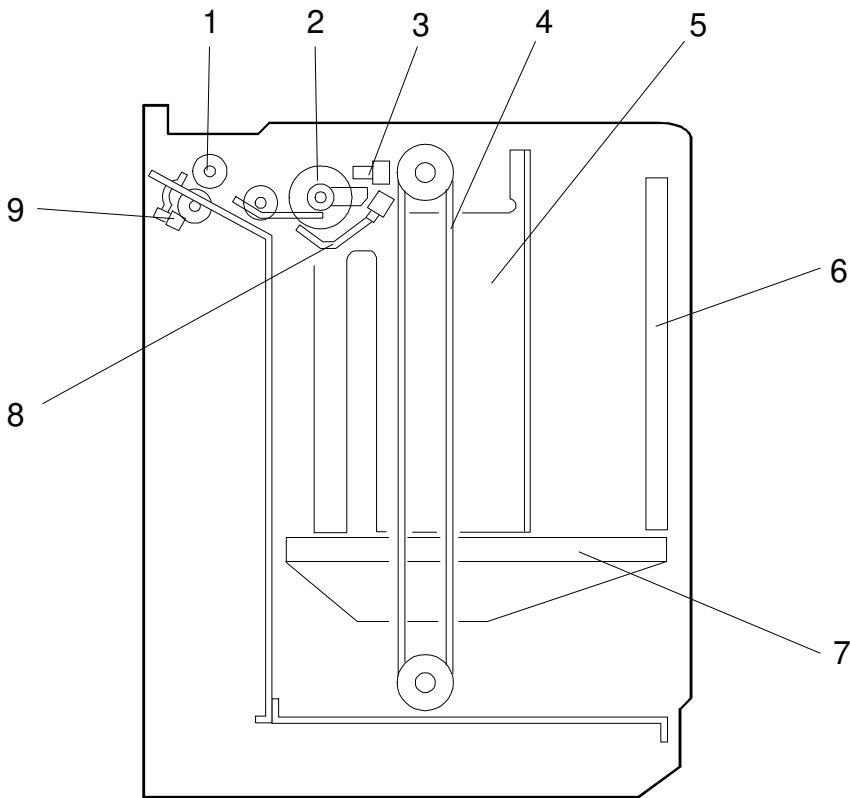
# 1. SPECIFICATIONS

Copy Paper Size:	A4 sideways or 11" x 8 1/2"
Copy Paper Weight:	60 g/m <sup>2</sup> to 90 g/m <sup>2</sup> (16 lb to 24 lb)
Tray Capacity:	Sheets: 1500 (80 g/m <sup>2</sup> ) or Stack height: Less than 180 mm (7")
Power Source	+ 24Vdc and +5Vdc from the main machine
Power Consumption:	22.1 W
Dimensions (W x D x H):	290 x 440 x 545 mm (11.4" x 17.3" x 21.5")
Weight:	13 kg (28.6 lb)

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## 2. COMPONENT LAYOUT

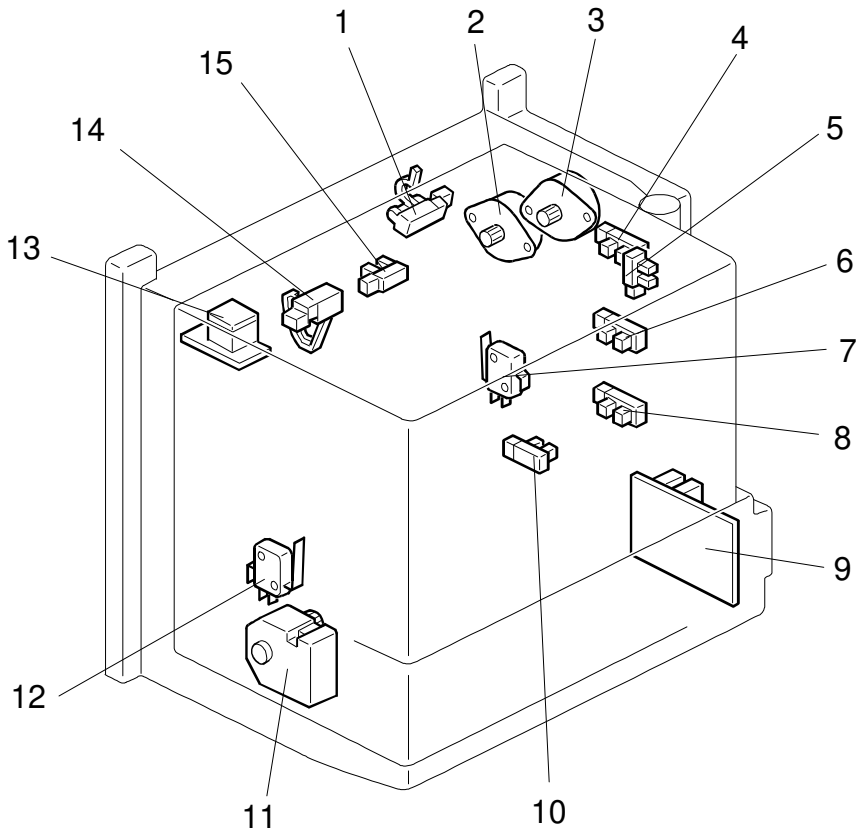
### 2.1 MECHANICAL COMPONENT LAYOUT



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- |                       |                     |
|-----------------------|---------------------|
| 1. Relay Roller       | 6. End Fence        |
| 2. Paper Feed Roller  | 7. Bottom Plate     |
| 3. Upper Limit Sensor | 8. Paper End Sensor |
| 4. Timing Belt        | 9. Relay Sensor     |
| 5. Side Fence         |                     |

## 2.2 ELECTRICAL COMPONENT LAYOUT



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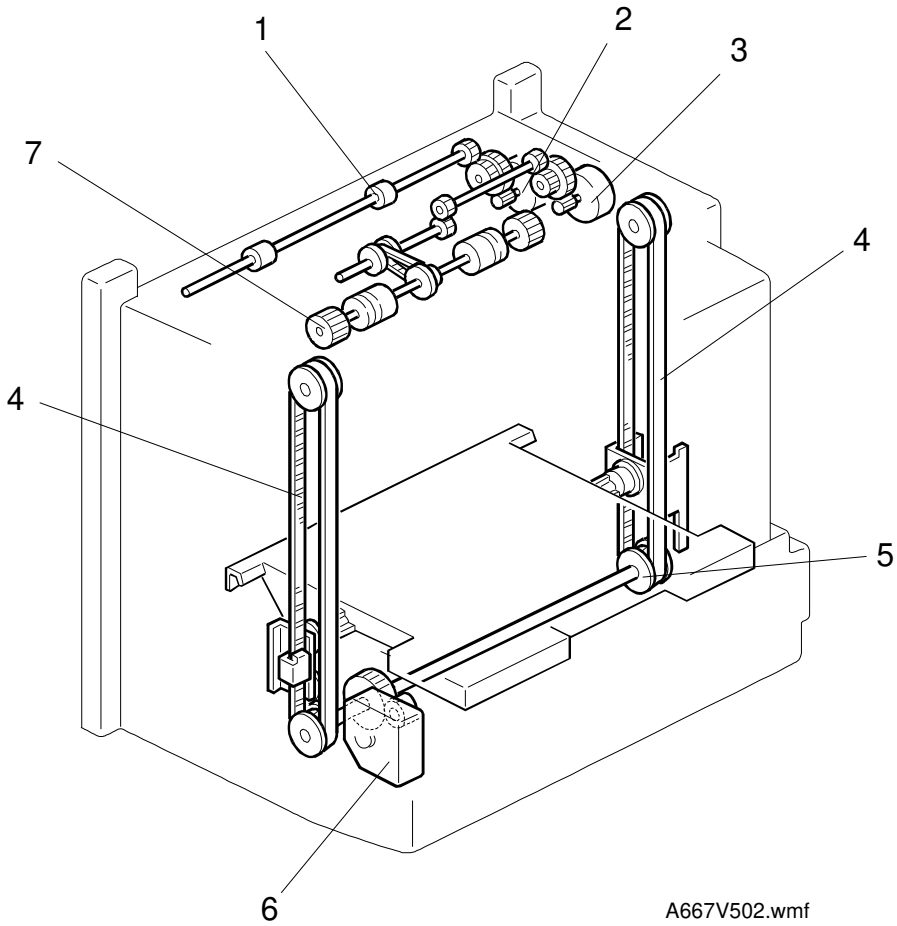
- |                          |                        |
|--------------------------|------------------------|
| 1. Relay Sensor          | 9. LCT Drive Board     |
| 2. Transport Motor       | 10. Lower Limit Sensor |
| 3. Paper Feed Motor      | 11. Tray Lift Motor    |
| 4. Stack Height Sensor 3 | 12. LCT Cover Switch   |
| 5. Paper Size Sensor     | 13. Tray Down Switch   |
| 6. Stack Height Sensor 2 | 14. Paper End Sensor   |
| 7. Unit Set Switch       | 15. Upper Limit Sensor |
| 8. Stack Height Sensor 1 |                        |

2.3 ELECTRICAL COMPONENT DESCRIPTIONS

Refer to the point-to-point diagram on the waterproof paper for the locations of these components.

Symbol	Index No.	Description	Notes
Printed Circuit Board			
PCB 1	9	LCT Drive	Interfaces the sensor signals with the main machine, and transfers the motor drive signals from the main machine.
Motors			
M 1	2	Transport	Drives the transfer roller.
M 2	3	Paper Feed	Drives the paper feed roller.
M 3	11	Tray Lift	Lifts up and lowers the bottom plate.
Sensors			
S 1	1	Relay	Detects the leading edge of paper to determine the paper feed motor stop timing. Also detects misfeeds.
S 2	8	Paper Near-end 1	Detects the amount of paper in the LCT. <b>Note that these sensors may not be used, depending on the main machine.</b>
S 3	6	Paper Near-end 2	
S 4	4	Paper Near-end 3	
S 5	5	Paper Size	Detects whether A4 size paper or Letter size paper is being used.
S 6	10	Lower Limit	Detects when the bottom plate is at its lowest position.
S 7	14	Paper End	Detects the paper end condition.
S8	15	Upper Limit	Detects when the paper stack in the paper tray is at the correct height to stop the tray lift motor.
Switches			
SW 1	7	Unit Set	Cuts the dc power line and detects whether the LCT is open or not.
SW 2	12	LCT Cover	Cuts the dc power line of the lift motor and detects whether the LCT cover is open or not.
SW 3	13	Tray Down	Lowens the bottom plate.

## 2.4 DRIVE LAYOUT



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1. Relay Rolller

2. Transport Motor

3. Paper Feed Motor

4. Timing Belt

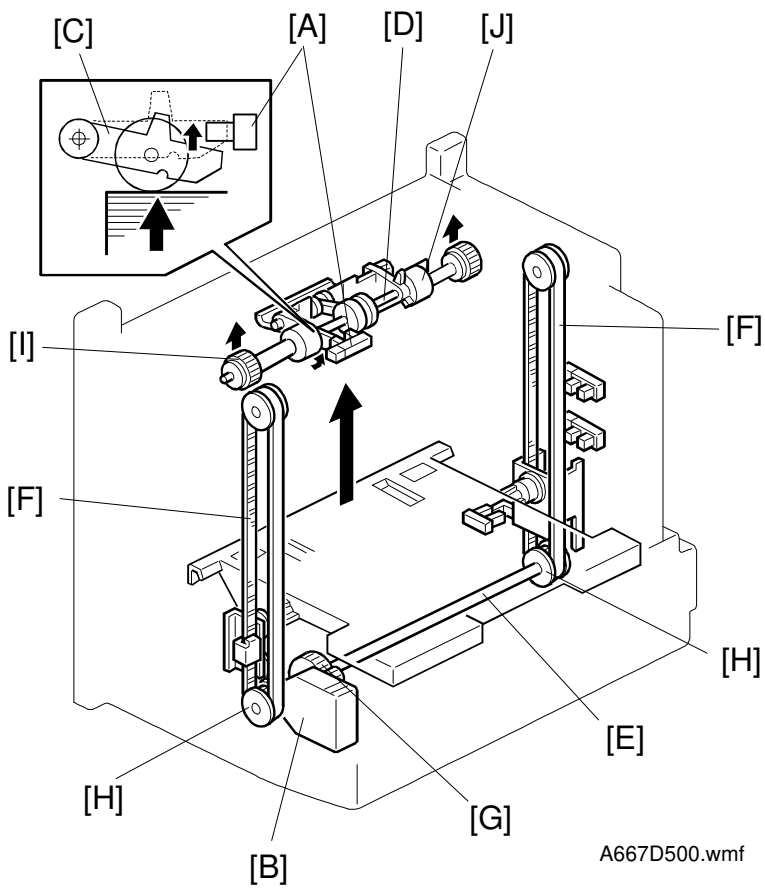
5. Drive Pulley

6. Tray Lift Motor

7. Paper Feed Roller

# 3. DETAILED SECTION DESCRIPTIONS

## 3.1 PAPER LIFT MECHANISM



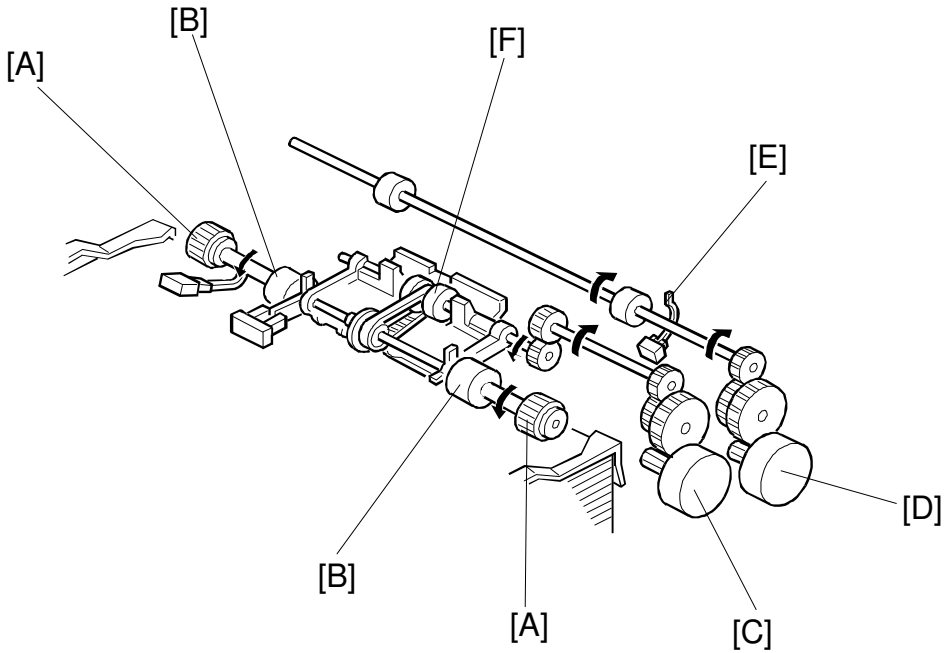
The upper limit sensor [A] controls the tray lift motor [B]. The actuator [C] for the sensors on the feed roller shaft [D]. The tray lift motor drives the bottom plate [E] which is attached to the timing belts [F] through the gear [G] and drive pulleys [H].

The paper feed rollers [I] are always lowered by the weights [J]. When the LCT cover is closed, the tray lift motor starts rotating and the bottom plate starts lifting.

When the top sheet of the paper stack raises the paper feed roller, the upper limit sensor is activated and the tray lift motor stops.

During copying, when the level of the paper stack has fallen past a certain point (when the actuator [C] exits the upper limit sensor), the tray lift motor turns on to maintain the correct level for paper feed.

### 3.2 PAPER FEED MECHANISM

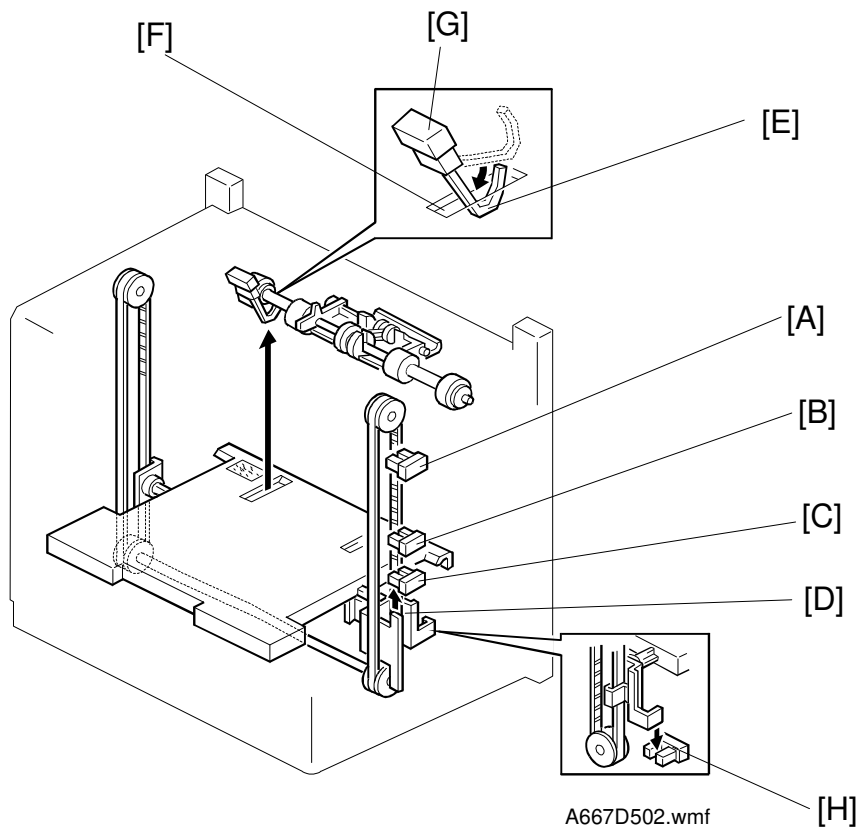


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The LCT uses the corner separator system. The paper feed rollers [A] always contact the top of the paper stack because of the weights [B] on the paper feed shaft. When the LCT receives the paper feed start command, the paper feed motor [C] and the transport motor [D] start to feed the paper. When the leading edge of the paper activates the relay sensor [E], the paper feed motor stops but the transport motor stays on to feed the paper continuously. At this time, the paper feed roller is also rotating to help feed the paper. The gear inside the one-way clutch [F] allows this movement. When the leading edge of the paper activates the registration sensor of the main machine, the transport motor stops.



3.3 PAPER NEAR-END/END DETECTION



This LCT can detect four paper near-end condition levels and the paper end condition.

**NOTE:** The number of paper near-end detection levels actually used depends on the main machine.

The paper near-end condition is detected by three near-end sensors [A, B, and C] and the actuator [D] attached to the bottom plate. The elevation of the bottom plate varies with the amount of the paper remaining in the LCT. The actuator enters and leaves the sensors as the bottom plate moves up and down.

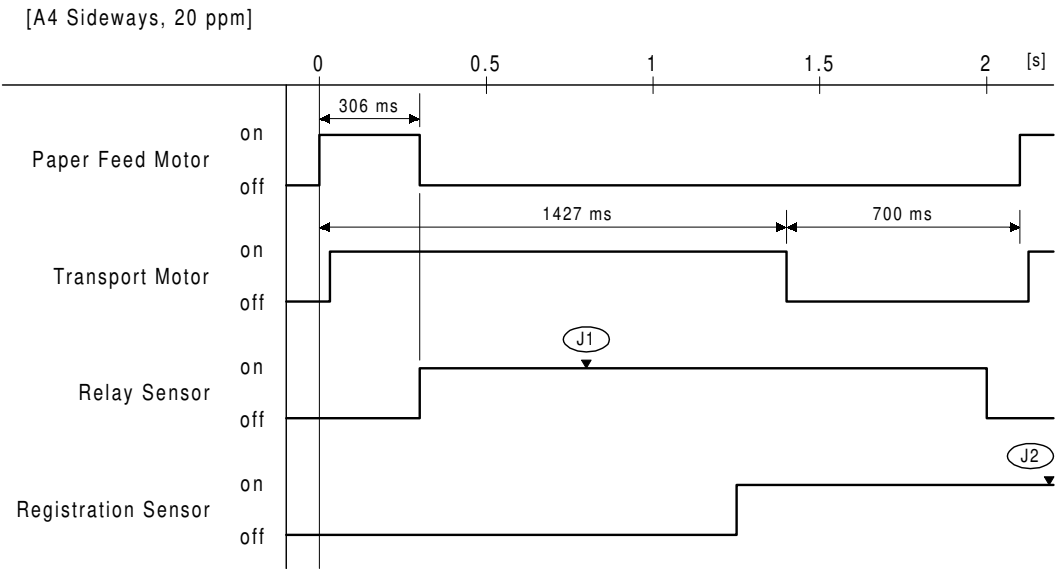
When the LCT runs out of paper, the paper end feeler [E] drops into the cutout [F] in the tray bottom plate and the paper end sensor [G] is activated. When a paper end condition occurs, the tray lift motor lowers the bottom plate. When the lower limit sensor [H] is activated by the bottom plate, the tray lift motor stops.

The relationship between the sensors and the paper near-end/end level is as follows.

	Near-end Sn [C]	Near-end Sn [B]	Near-end Sn [A]	End Sn [G]
Paper tray full	OFF	OFF	OFF	OFF
75% full	ON	OFF	OFF	OFF
50% full	ON	ON	OFF	OFF
25% full	OFF	ON	OFF	OFF
Near-end (about 70 sheets remaining)	OFF	—	ON	OFF
Paper end	OFF	OFF	—	ON

ON: Activated (actuator inside the sensor)  
OFF: Not activated  
—:Not specified

3.4 PAPER FEED TIMING AND JAM DETECTION



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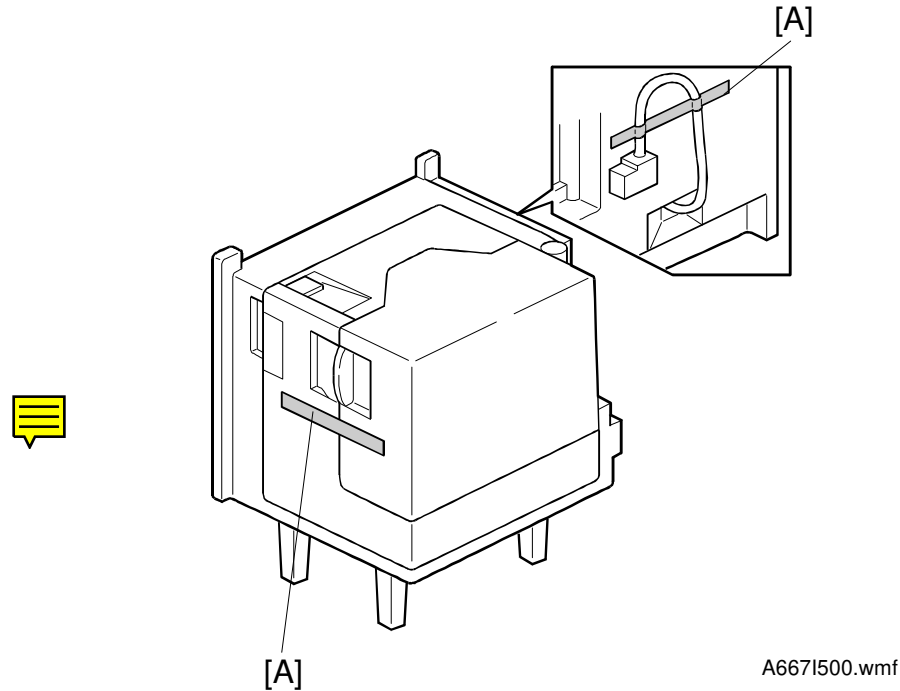
- J1: Checks whether the relay sensor is activated within 0.8 s after the paper feed motor has been energized.
- J2: Checks whether the registration sensor is activated within 2.01 s after the relay sensor has been activated.

# 4. INSTALLATION

## 4.1 ACCESSORY CHECK

No.	Description	Q'ty
1	Philips Screw - M3x8	2
2	Stepped Screw - M3x6	2
3	Installation Procedure	1
4	NECR (Ricoh version only)	1

## 4.2 INSTALLATION PROCEDURE

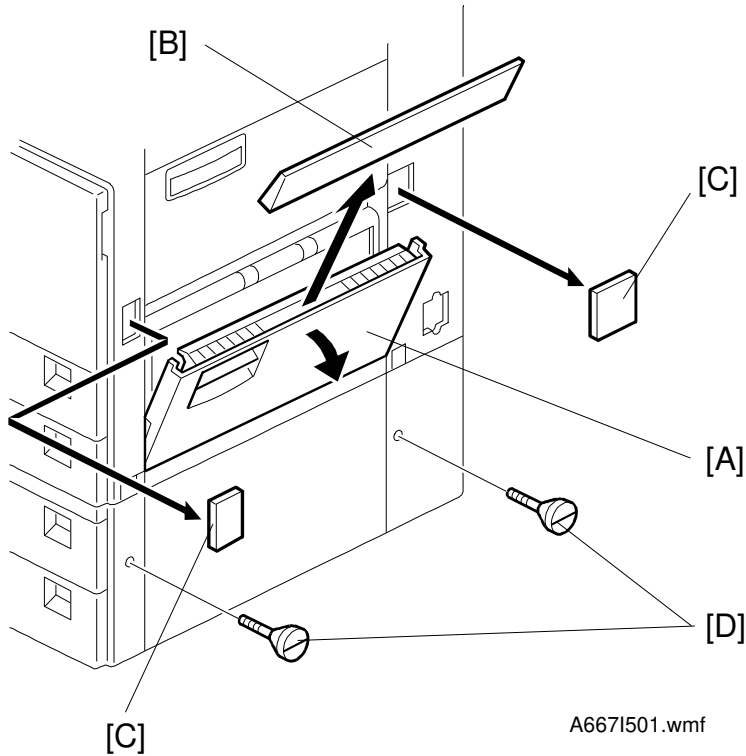


**NOTE:** The optional paper feed unit (G697) or the optional table must be installed before installing the LCIT.

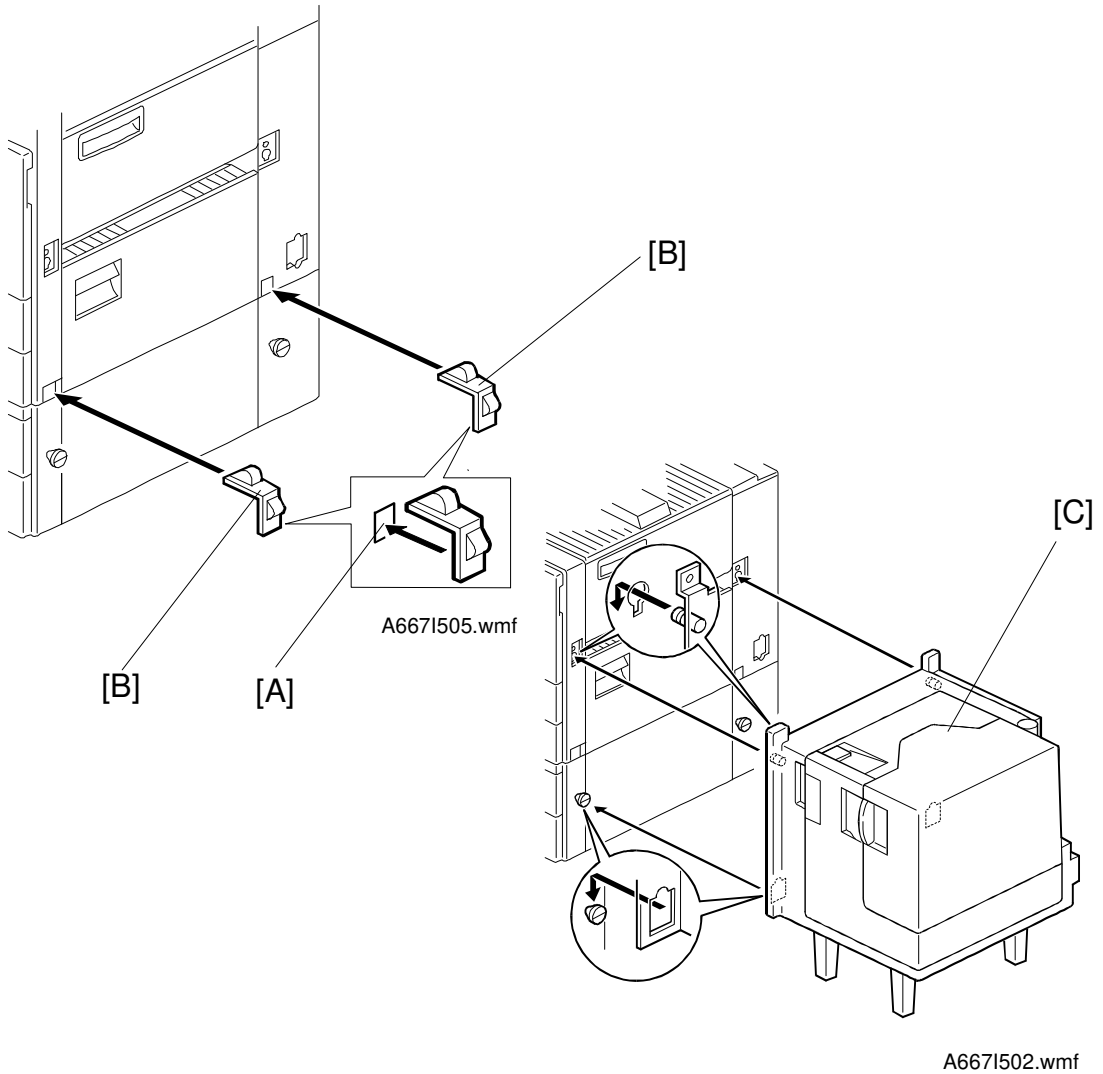
 **CAUTION**

Unplug the main machine power cord before starting the following procedure.

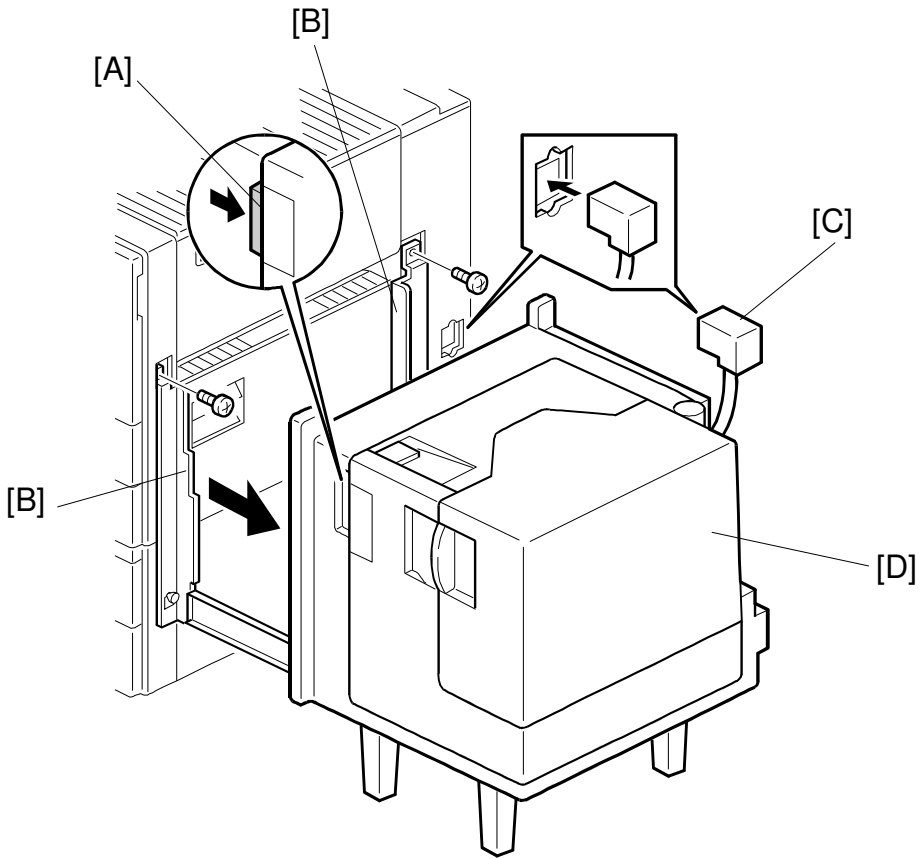
1. Remove the two strips of tape [A].



2. Open the right lower cover [A] of the main machine.
3. Remove the paper entrance cover [B] from the right lower cover [A].
4. Remove two caps [C].
5. Install two stepped screws [D] on either the optional paper feed unit or the optional table (long stepped screws for the optional paper feed unit, short stepped screws for the optional table).



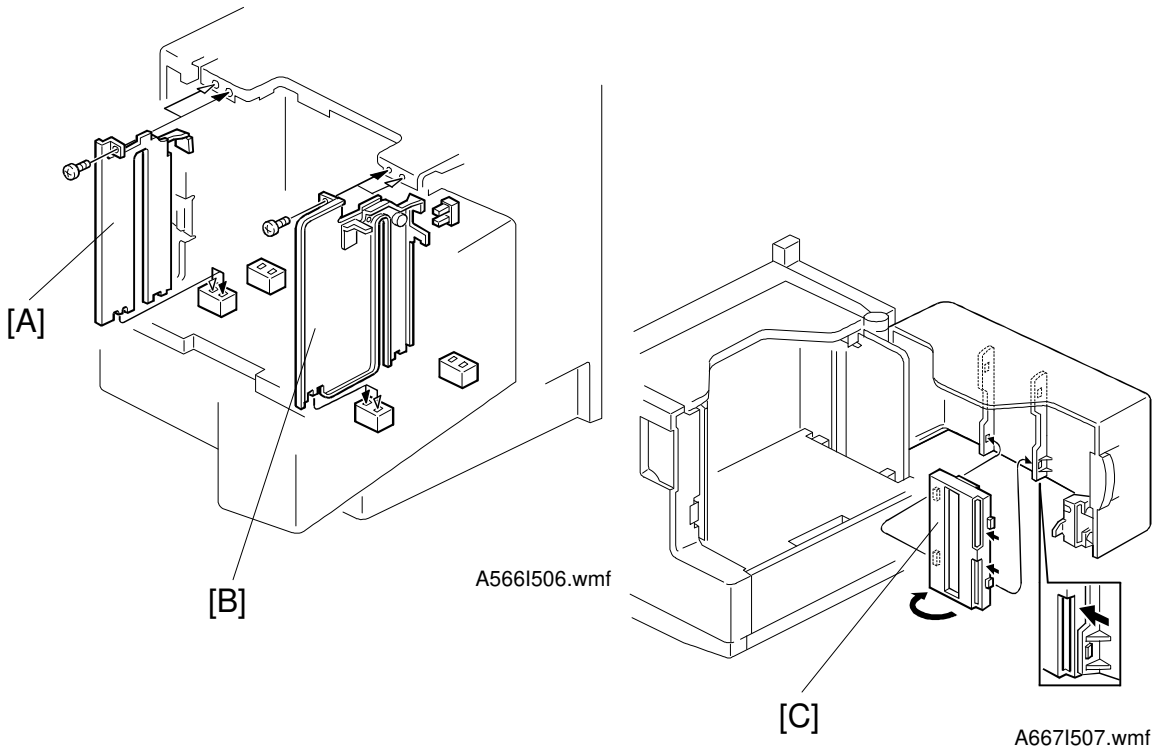
6. Peel off the backing [A] of the double side tape attached to the rear side of the bracket [B].
7. Install two brackets [B] in the area between the main machine and the optional paper feed unit or table, as shown.
8. Install the LCIT [C], as shown.



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9. Push the release lever [A] and slide the LCIT to the right (front view), then secure the brackets [B] (2 screws).
10. Return the LCIT to the previous position.
11. Connect the LCIT cable [C] to the main machine.
12. Swing open the LCIT cover [D] and load the paper.
13. Plug in the power cord and turn on the main switch, then check the LCIT operation.

### 4.3 PAPER SIZE CHANGE



1. Open the LCT cover.
2. Move the front side plate [A] and rear side plate [B] to the appropriate position.
3. Move the end fence [C] to the appropriate size position (take it out and turn it around).



## 5. PREVENTIVE MAINTENANCE TABLE

**NOTE:** The amounts mentioned as the PM interval indicate the number of prints.

Symbol Key: C: Clean, R: Replace, L: Lubricate, I: Inspect

Item	EM	200k	400k	600k	NOTE
Feed Roller		R	R	R	
Transport Roller	C	C	C	C	Dry cloth or water
Paper Bottom Plate Pad	C	C	C	C	Dry cloth or water

## 6. SERVICE TABLES

### 6.1 TEST POINT TABLE

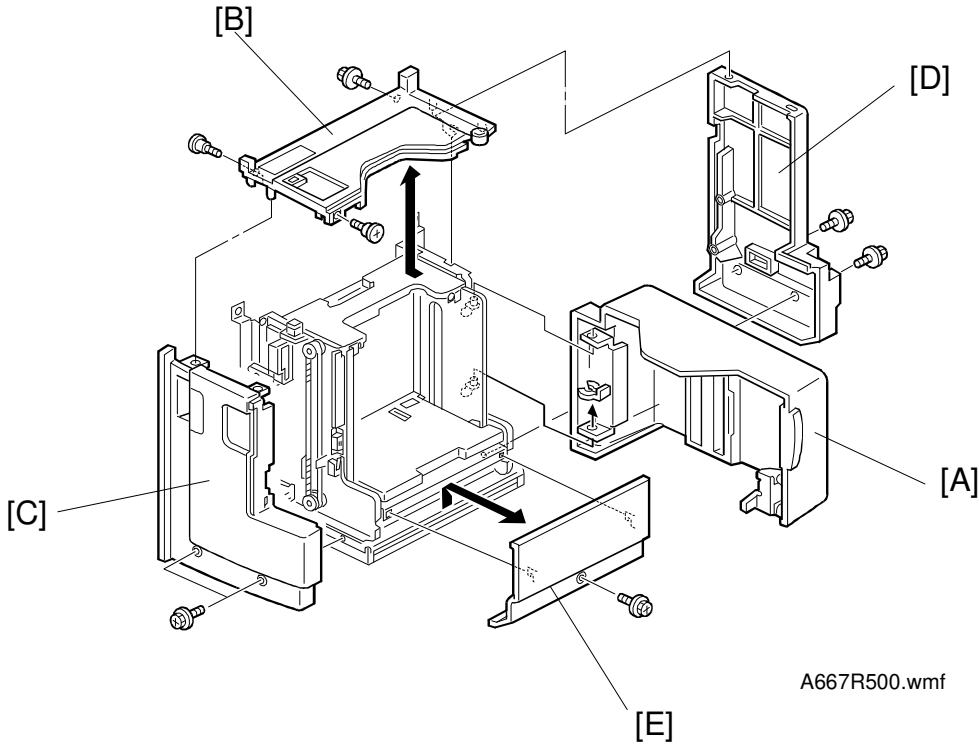
Number	Function
TP101	GND
TP102	+ 24V
TP103	+ 5V
TP104	GND

### 6.2 FUSE TABLE

Number	Rating	Function
FUSE 101	6.3A, 125V	Protects the +24V line.

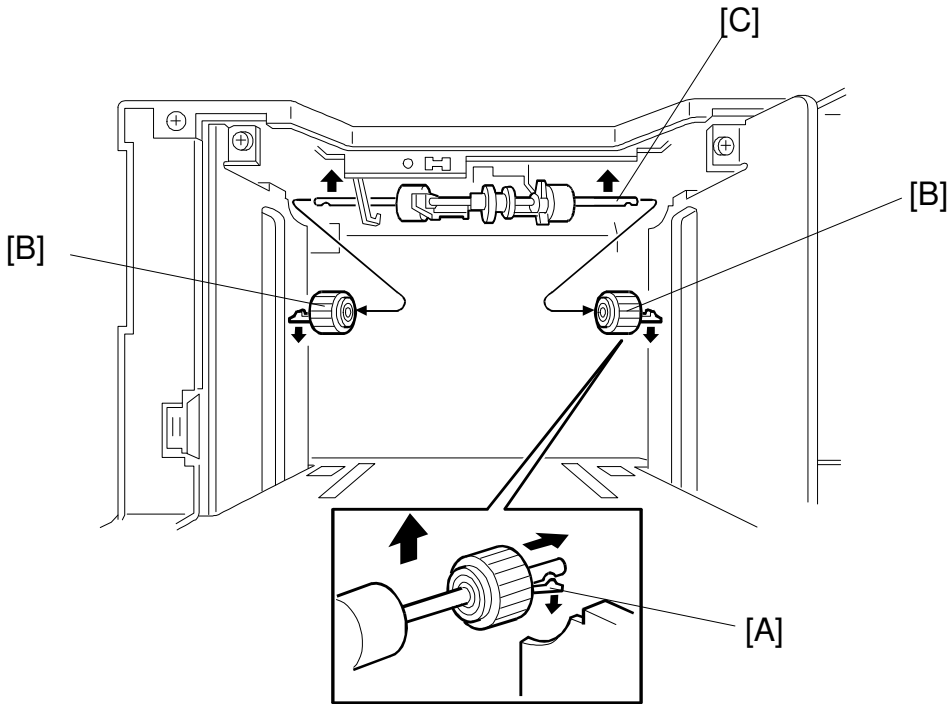
## 7. REPLACEMENT AND ADJUSTMENT

### 7.1 EXTERIOR COVER REMOVAL



1. Top Cover  
Open the LCT cover [A], then remove the top cover [B] (3 screws).
2. Front Cover  
Remove the front cover [C] (2 screws).
3. Rear Cover  
Remove the rear cover [D] (2 screws).
4. Right Cover  
Open the LCT cover, then remove the right cover [E] (1 screw).
5. LCT Cover  
Open the LCT cover, then remove the LCT cover [A] (1 clip).

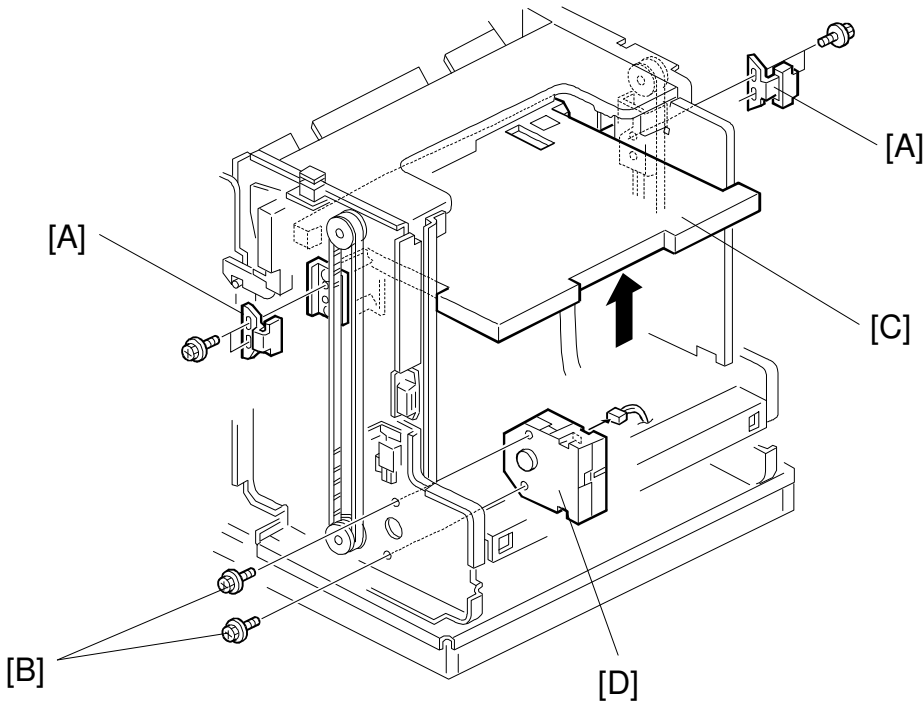
## 7.2 PAPER FEED ROLLER REMOVAL



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1. Open the LCT cover.
2. Release the hook [A] of the paper feed roller [B].
3. Lift up the paper feed roller shaft [C], then remove the paper feed roller.

## 7.3 TRAY LIFT MOTOR REMOVAL

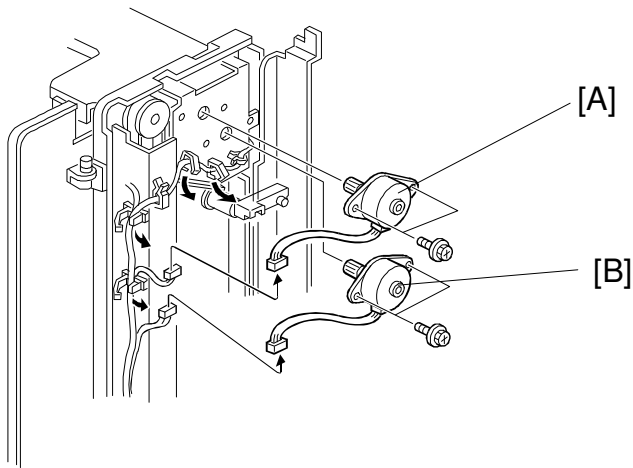


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1. Remove the top cover, front cover, and rear cover (see Exterior Cover Removal).
2. Remove the belt stoppers [A] (2 screws each).
3. Remove the two screws [B] holding the tray lift motor.
4. Lift up the bottom plate [C], then take out the tray lift motor [D] (1 connector).

**NOTE:** When reinstalling the belt stoppers [A], move the bottom plate to its lowest possible position.

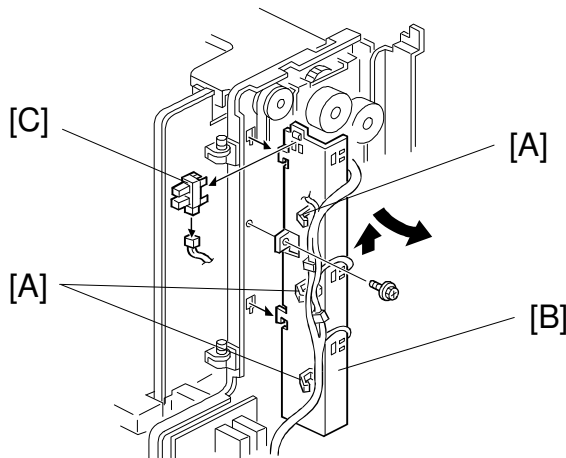
## 7.4 PAPER FEED MOTOR AND TRNSPORT MOTOR



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1. Remove the top cover and rear cover (see Exterior Cover Removal).
2. Remove the paper feed motor [A] (2 screws, 1 connector).
3. Remove the transport motor [B] (2 screws, 1 connector).

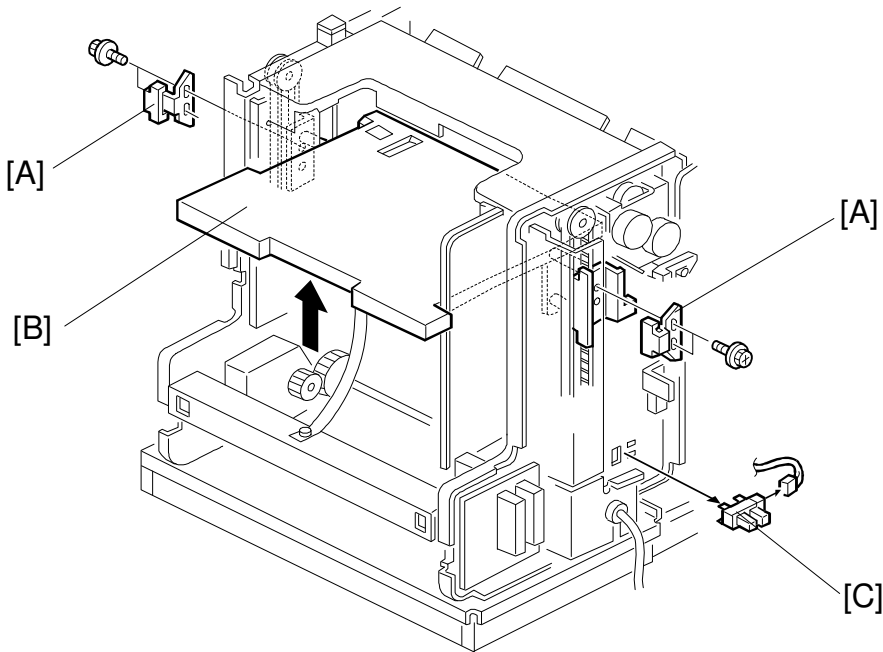
## 7.5 PAPER SIZE SENSOR



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1. Remove the top cover and rear cover (see Exterior Cover Removal).
2. Unclamp the harnesses from the clamps [A] on the sensor bracket [B].
3. Remove the sensor bracket [B] (1 screw).
4. Remove the paper size sensor [C] (1 connector).

## 7.6 LOWER LIMIT SENSOR



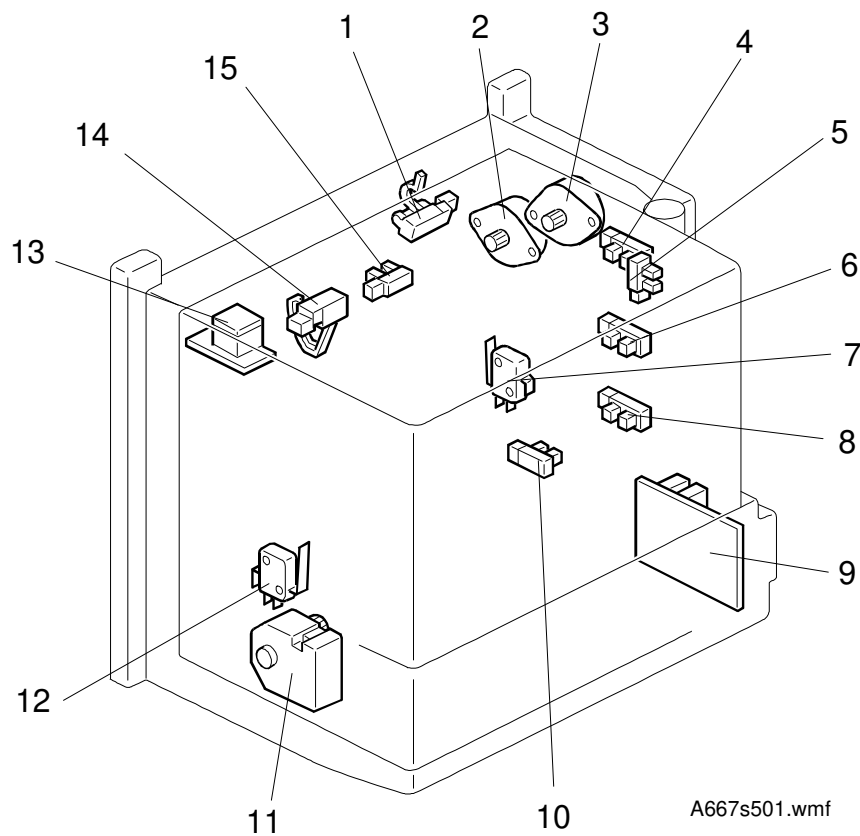
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1. Remove the top cover, front cover, and rear cover (see Exterior Cover Removal).
2. Remove the belt stoppers [A] (2 screws each).
3. Lift up the bottom plate [B], then remove the lower limit sensor [C] (1 connector).

**NOTE:** When reinstalling the belt stoppers [A], move the bottom plate to its lowest possible position.

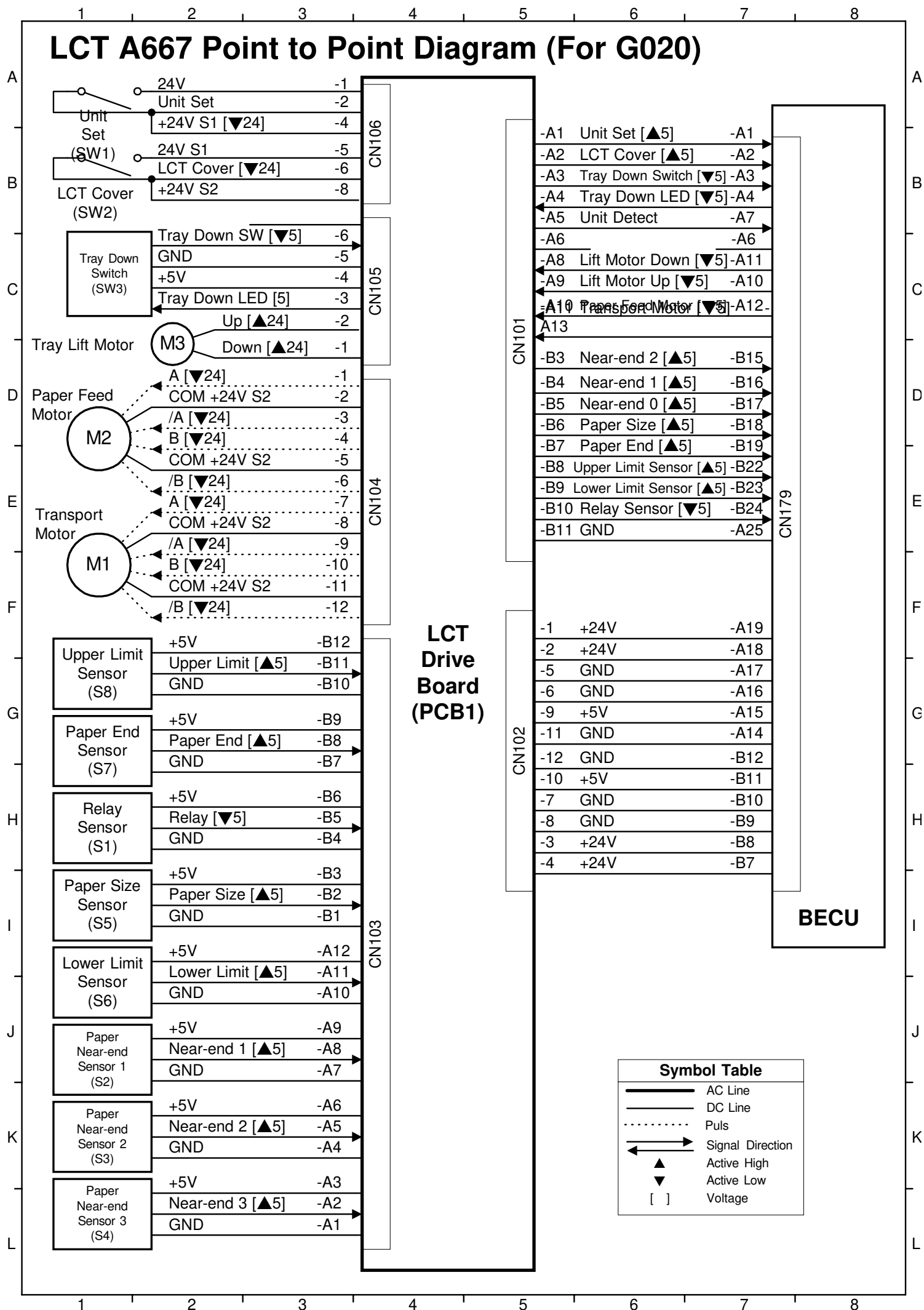
# ELECTRICAL COMPONENT LAYOUT

## LCT (A667)



Symbol	Index No.	Name	P to P
<b>Printed Circuit Board</b>			
PCB 1	9	LCT Drive	F4
<b>Motors</b>			
M 1	2	Transport	F1
M 2	3	Paper Feed	D1
M 3	11	Tray Lift	D1
<b>Sensors</b>			
S 1	1	Relay	H1
S 2	8	Paper Near-end 1	J1
S 3	6	Paper Near-end 2	K1
S 4	4	Paper Near-end 3	L1
S 5	5	Paper Size	I1
S 6	10	Lower Limit	I1
S 7	14	Paper End	G1
S8	15	Upper Limit	G1
<b>Switches</b>			
SW 1	7	Unit Set	A1
SW 2	12	LCT Cover	B1
SW 3	13	Tray Down	C1





## **4.1 INSTALLATION PROCEDURE (FOR THE G020)**

The LCT unit will be installed by a user.

Follow the directions on the LCT installation procedure sheet that comes with the LCT.