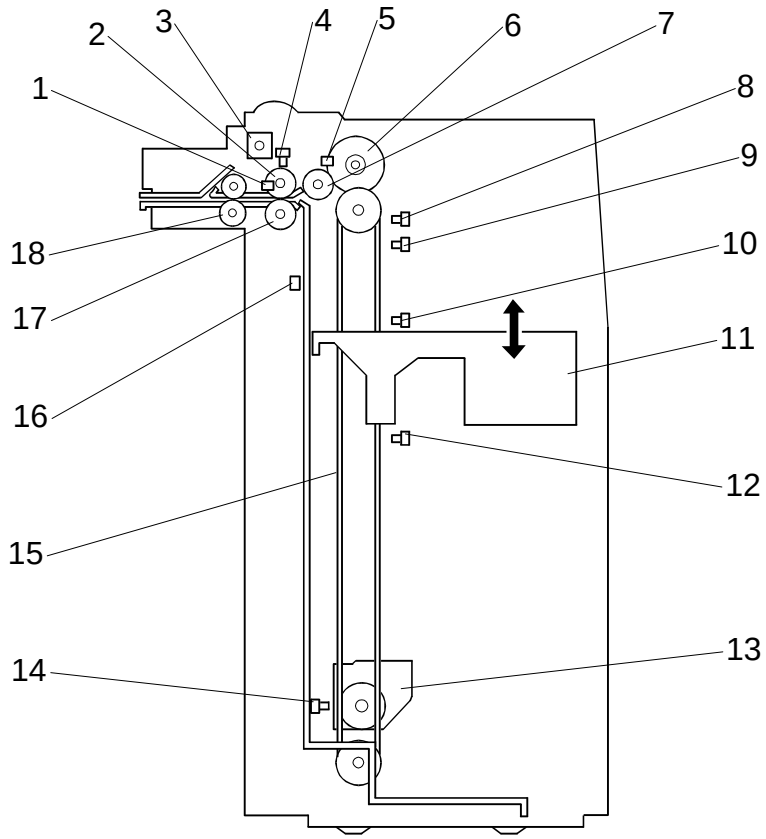
LCT
(Machine Code: A698/B587)

1. OVERALL MACHINE INFORMATION

1.1 SPECIFICATIONS

Paper Size:	A4 sideways, B5 sideways, LT sideways
Paper Weight:	64 g/m^2 ~ 105 g/m^2, 16 lb ~ 24 lb
Tray Capacity:	3,500 sheets (80 g/m^2, 20 lb)
Remaining Paper Detection:	4 steps
Power Source:	24 Vdc, 5 Vdc (from copier)
Power Consumption:	48 W
Weight:	22 kg
Size (W x D x H):	403 mm x 529 mm x 608 mm

1.2 MECHANICAL COMPONENT LAYOUT



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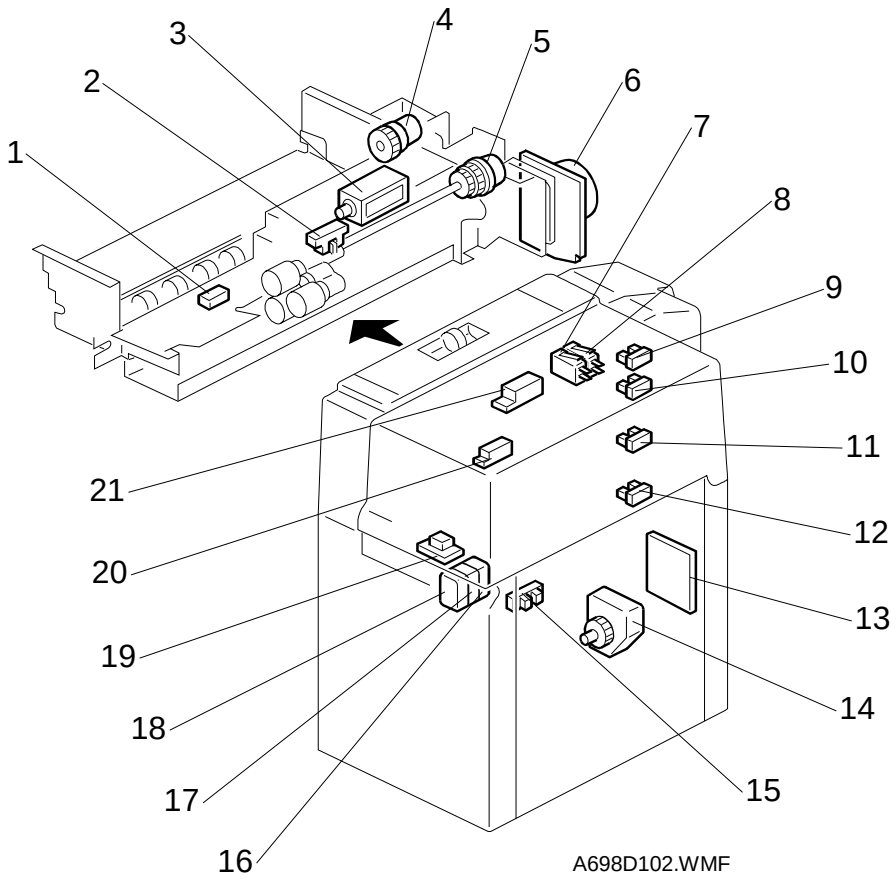
1. Paper Feed Sensor
2. Paper Feed Roller
3. Pick-up Solenoid
4. Lift Sensor
5. Paper End Sensor
6. LCT Motor
7. Pick-up Roller
8. Paper Near End Sensor
9. Paper Height Sensor 1
10. Paper Height Sensor 2
11. Paper Tray
12. Paper Height Sensor 3
13. Lift Motor
14. Down Sensor
15. Tray Drive Belt
16. Paper Position Sensor
17. Separation Roller
18. Relay Roller

1.3 ELECTRICAL COMPONENT LAYOUT

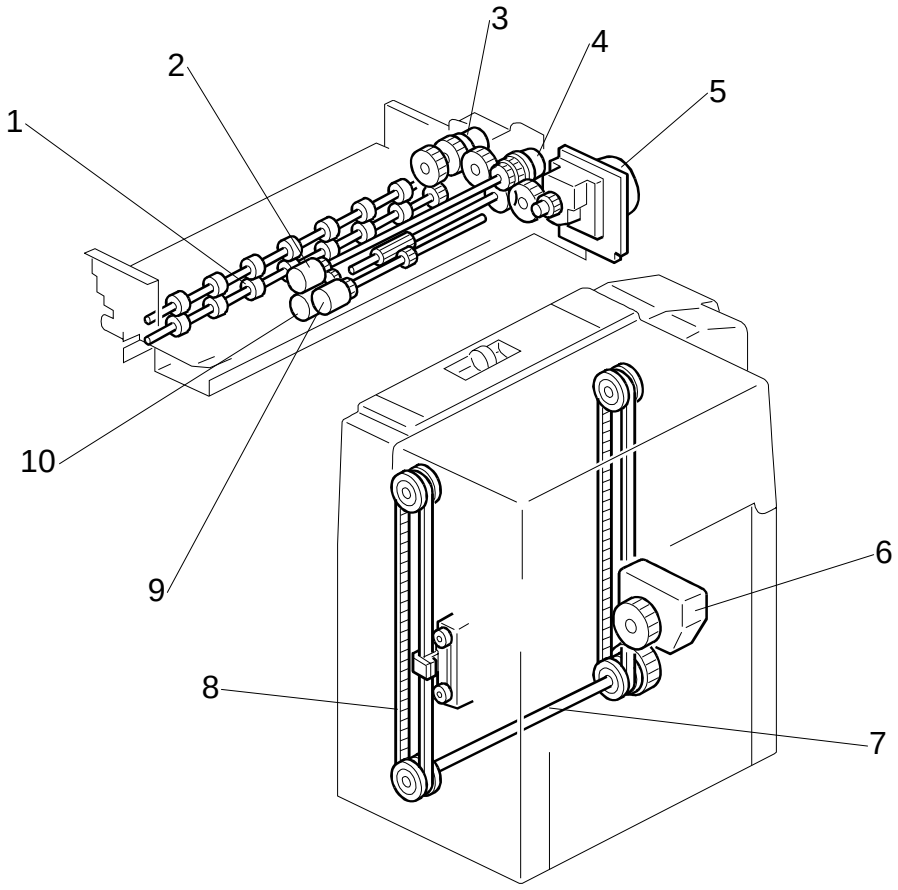


1. Paper Feed Sensor
2. Lift Sensor
3. Pick-up Solenoid
4. Relay Clutch
5. Paper Feed Clutch
6. LCT Motor
7. Feed Unit Cover Switch 1
8. Feed Unit Cover Switch 2
9. Near End Sensor
10. Paper Height Sensor 1
11. Paper Height Sensor 2
12. Paper Height Sensor 3
13. LCT Interface Board
14. Lift Motor
15. Down Sensor
16. Tray Cover Switch 1
17. Tray Cover Switch 2
18. Tray Cover Switch 3
19. Down Switch
20. Paper Position Sensor
21. Paper End Sensor

1.4 ELECTRICAL COMPONENT DESCRIPTIONS

Symbol	Name	Function	Index No.
Motors			
M1	LCT	Drives all rollers.	6
M2	Lift	Drives the paper tray up or down.	14
Sensors			
S1	Paper End	Informs the copier when the paper has run out.	21
S2	Paper Feed	Detects the copy paper coming to the relay roller and checks for misfeeds.	1
S3	Lift	Detects when the paper is at the correct paper feed height.	2
S4	Down	Detects when the tray is completely lowered, to stop the LCT motor.	15
S5	Paper Height 1	Detects the paper height.	10
S6	Paper Height 2	Detects the paper height.	11
S7	Paper Height 3	Detects the paper height.	12
S8	Near End	Detects the paper height.	9
S9	Paper Position	Detects when the top of the paper stack is at the correct position for paper feed.	20
Switches			
SW1	Tray Cover 1	Detects whether the tray cover is opened or not.	16
SW2	Tray Cover 2	Ensures that +24V can be passed to the lift motor whether the cover is open or closed.	17
SW3	Tray Cover 3		18
SW4	Feed Unit Cover 1	Detects whether the feed unit cover is opened or not.	7
SW5	Feed Unit Cover 2	Ensures that +24V can be passed to the lift motor whether the cover is open or closed.	8
SW6	Down	Lowers the LCT bottom plate if pressed.	19
Solenoids			
SOL1	Pick-up	Controls up-down movement of the pick-up roller.	3
Magnetic Clutches			
MC1	Paper Feed	Drives the paper feed roller.	5
MC2	Relay	Drives the relay roller.	4
PCBs			
PCB1	LCT Interface	Controls the LCT and communicates with the copier.	13

1.5 DRIVE LAYOUT



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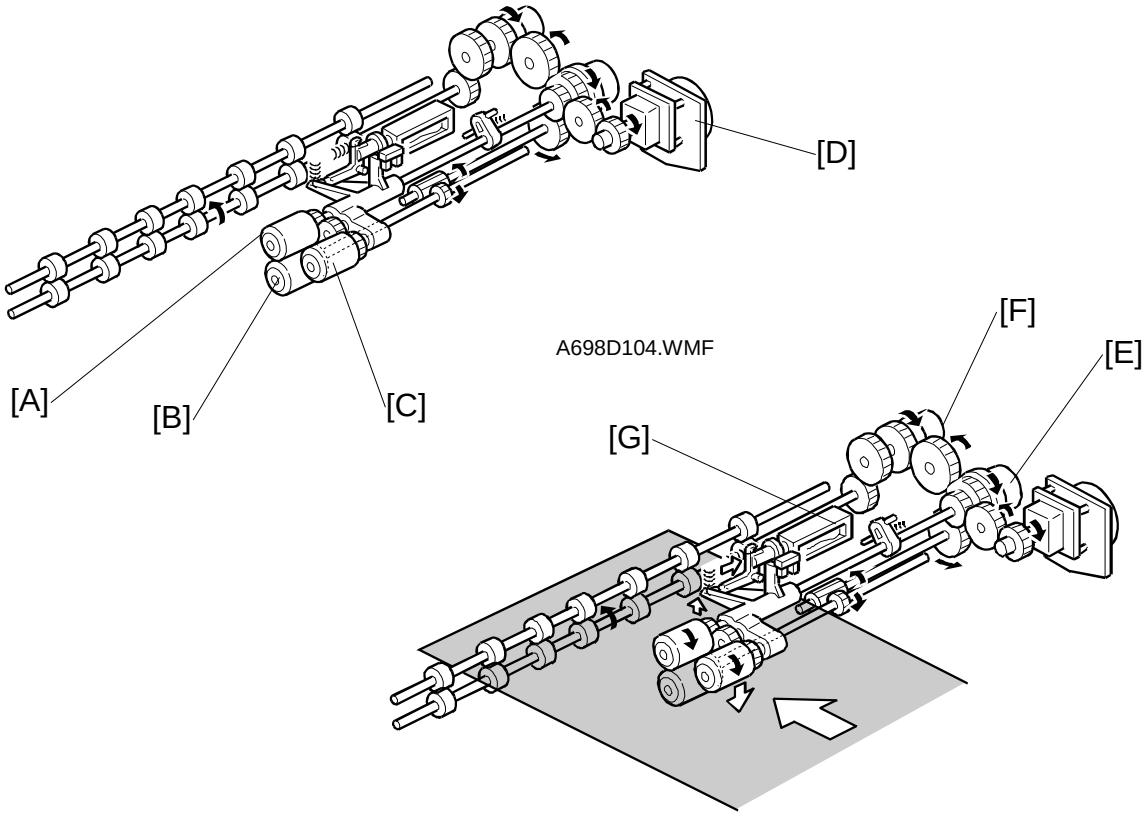
1. Relay Roller
2. Paper Feed Roller
3. Relay Clutch
4. Paper Feed Clutch
5. LCT Motor
6. Lift Motor
7. Tray Drive Shaft
8. Tray Drive Belt
9. Pick-up Roller
10. Separation Roller

2. DETAILED DESCRIPTIONS

2.1 PAPER FEED MECHANISM

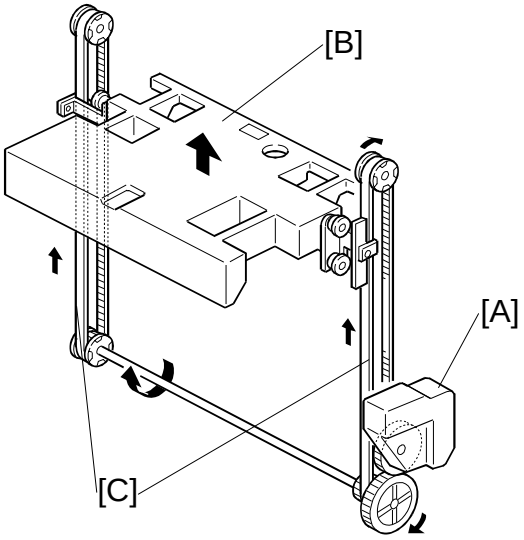


This LCT uses an FRR paper feed system (paper feed roller [A], separation roller [B], pick-up roller [C]), and those rollers are driven by the LCT motor [D].

When the start key is pressed, the paper feed clutch [E], relay clutch [F], and pick-up solenoid [G] energize. The pick-up roller touches the paper and feeds it to the copier.

When the leading edge of the paper reaches the paper feed sensor, the pick-up solenoid turns off and the pick-up roller lifts away from the paper.

2.2 TRAY LIFT MECHANISM



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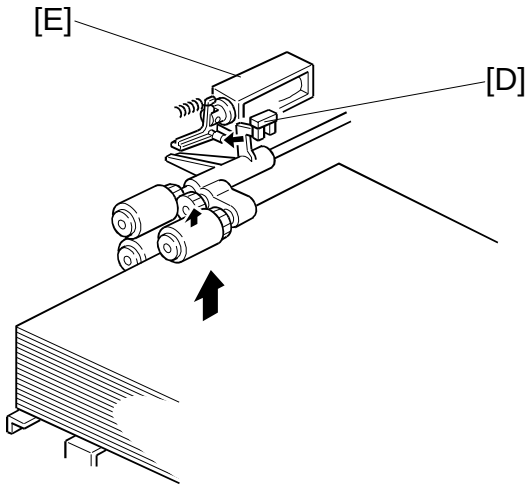

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The lift motor [A] controls the vertical position of the tray bottom plate [B] through gears and timing belts [C].

Tray lifting conditions

When the lift sensor [D] turns off during copying, the tray lift motor raises the tray bottom plate until the tray lift sensor turns on again.

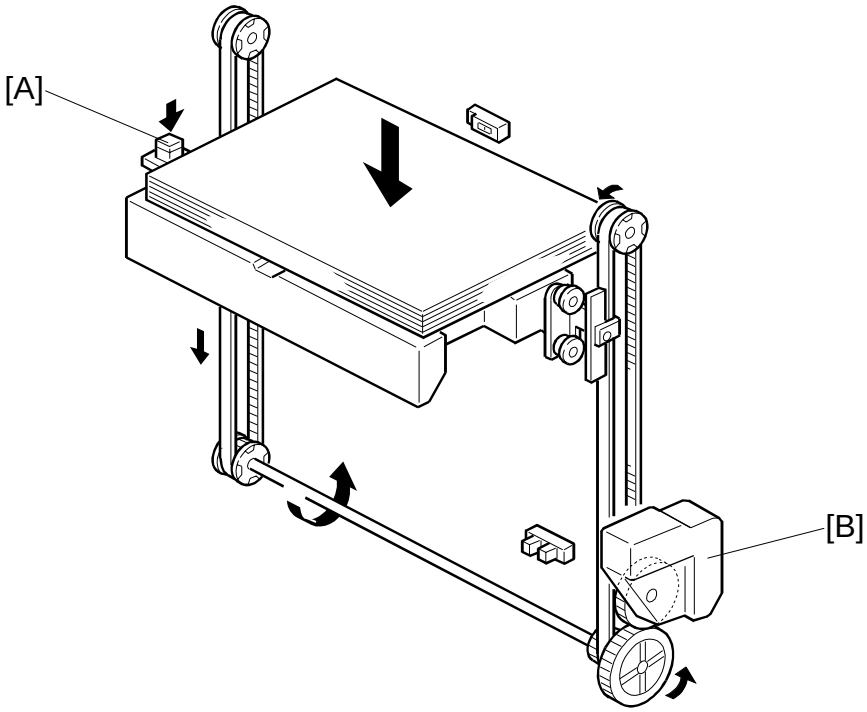
To position the top of the paper stack at the correct height, the pick-up solenoid [E] turns on to lower the pick-up roller onto the paper and the lift motor raises the tray bottom plate until the tray lift sensor turns on. Then the motor turns in reverse to lower the tray until the lift sensor turns off, then it changes direction again to lift the tray until the lift sensor turns on again, then it stops. The above procedure is done in the following conditions.

- Just after the main switch is turned on
- Just after the tray cover is closed
- Just after leaving the energy saving mode

Tray lowering conditions

In the following conditions, the lift motor lowers the tray bottom plate until the down sensor turns on.

- Just after the paper end sensor turns on
- Just after the down switch is pressed by the user



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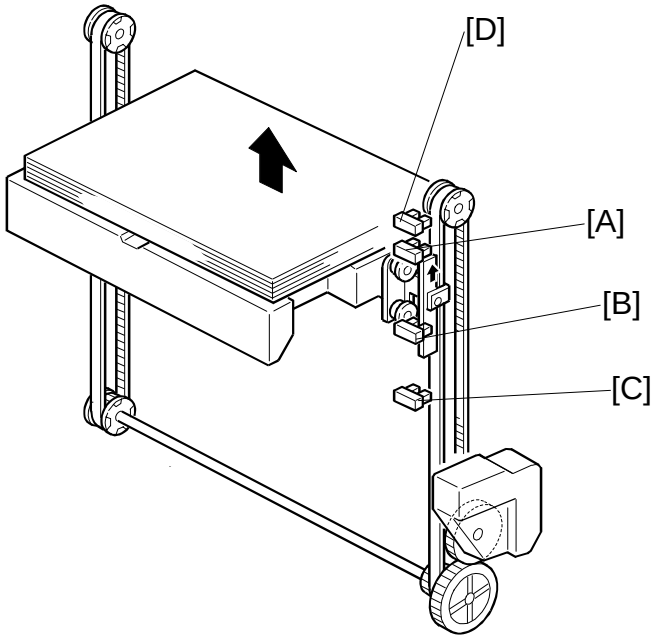
If the down switch [A] is pressed, or paper runs out, or a paper jam occurs in the LCT, the LCT motor [B] lowers the bottom plate until the paper position sensor [C] activates. At this point, the bottom plate (or the top sheet of paper) is positioned about 5 cm below the paper feed height. This gives enough space for the user to add about 500 sheets of paper.

If the down switch is then pressed again, the bottom plate moves down once again until the top sheet of paper just passes the paper position sensor. In this way, the bottom plate lowers 5 cm at each press of the down switch. This allows the customer to replenish paper in convenient amounts and at the same position.

2.3 PAPER STACK HEIGHT DETECTION



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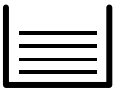
The amount of the paper in the tray is detected by four sensors (paper height sensor 1 [A], 2 [B], 3 [C] and near end sensor [D].)

Sensor	Remaining amount	Display
Near End Sensor	Approx. 80 sheets	 A698D510.WMF
Paper Height 1 Sensor	Approx. 300 sheets	 A698D511.WMF
Paper Height 2 Sensor	Approx. 1000 sheets	 A698D512.WMF
Paper Height 3 Sensor	Approx. 2000 sheets	 A698D513.WMF

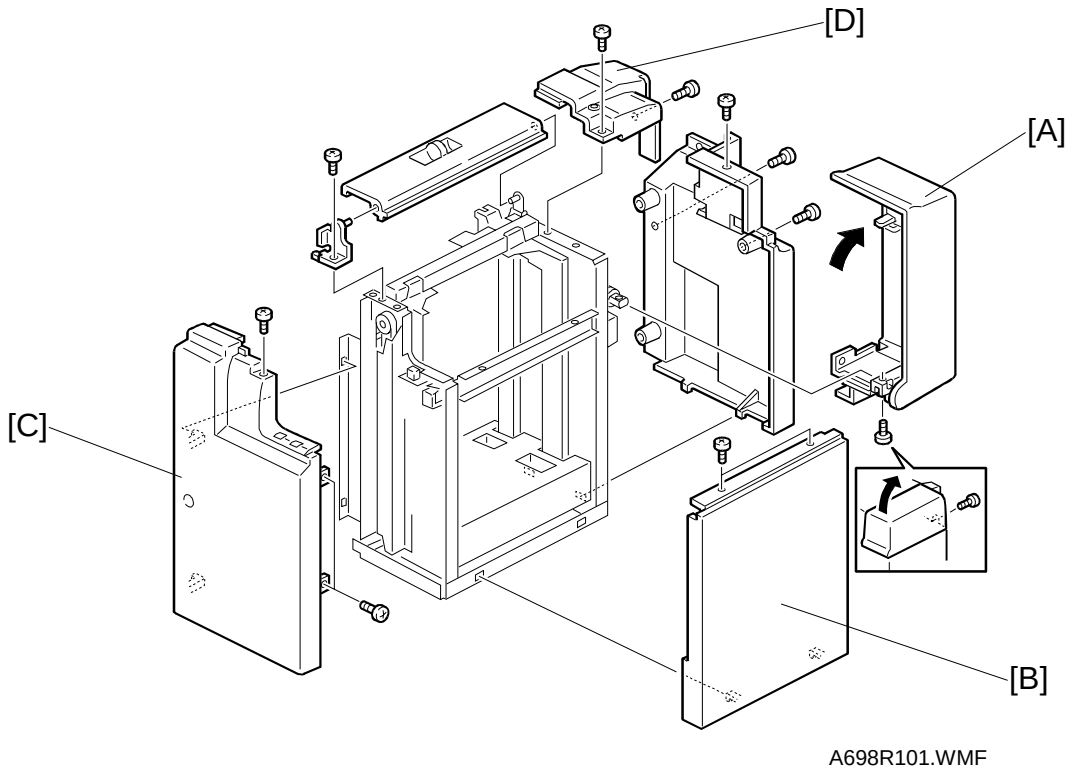
3. SERVICE TABLES

3.1 TEST POINTS

No.	Label	Monitored Signal
TP100	24 V	+24 V
TP101	GND	Ground
TP102	CGND	Ground
TP103	Vcc	+5 V

4. REPLACEMENT AND ADJUSTMENT

4.1 COVER REMOVAL



Tray Cover

1. Remove the tray cover [A] (1 screw).

Right Cover

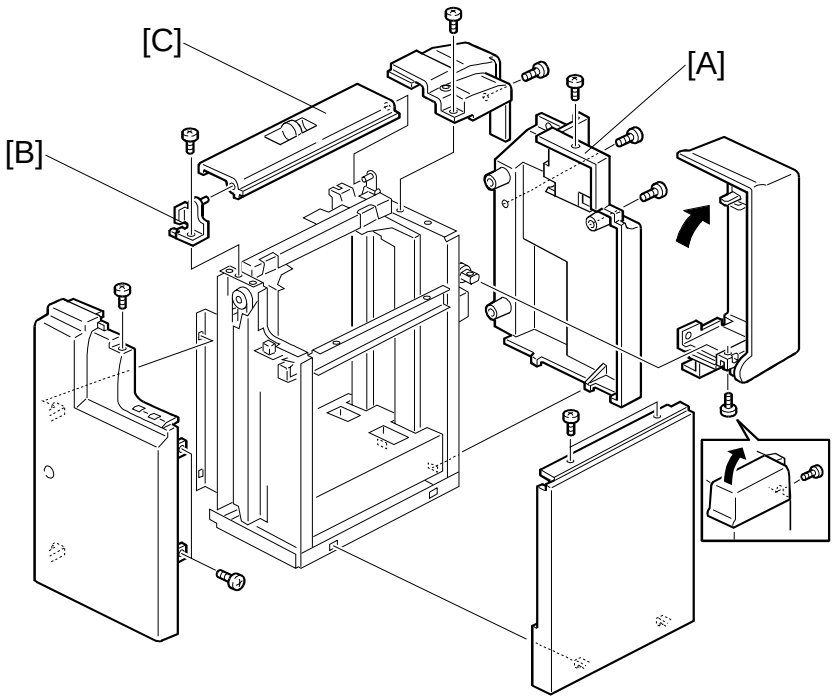
1. Remove the right cover [B] (2 screws).

Front Cover

1. Remove the right cover.
2. Remove the front cover [C] (3 screws).

Upper Rear Cover

1. Remove the upper rear cover [D] (2 screws).



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Lower Rear Cover

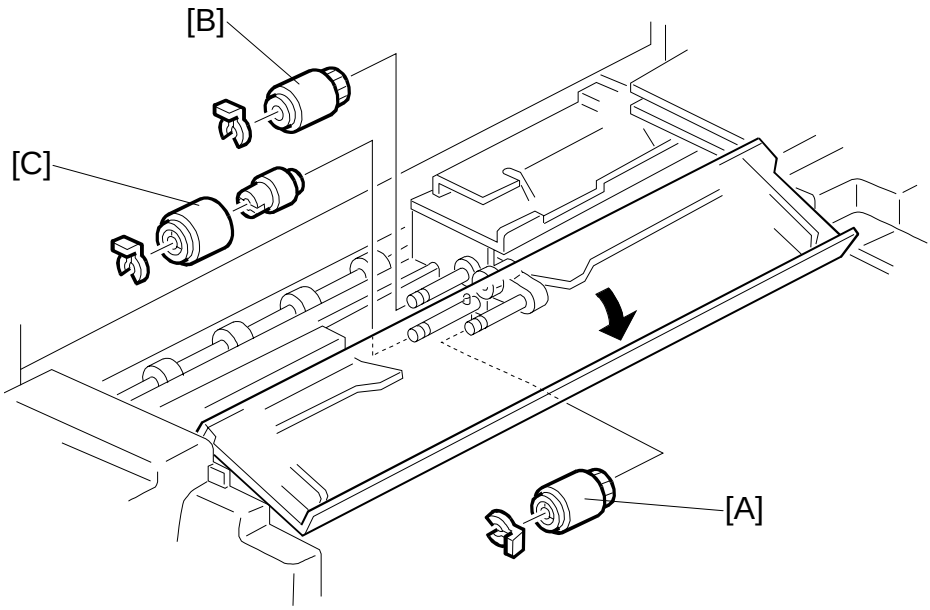
1. Remove the tray cover.
2. Remove the upper rear cover.
3. Remove the lower rear cover [A] (3 screws).

Feed Unit Cover

1. Remove the front cover.
2. Remove the front hinge cover [B] (1 screw).
3. Remove the feed unit cover [C].

4.2 ROLLER REPLACEMENT

4.2.1 PAPER FEED, SEPARATION, AND PICK-UP ROLLERS



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1. Push the down switch to lower the tray bottom plate.
2. Open the feed unit cover.

Pick-up Roller

3. Replace the pick-up roller [A] (1 snap ring).

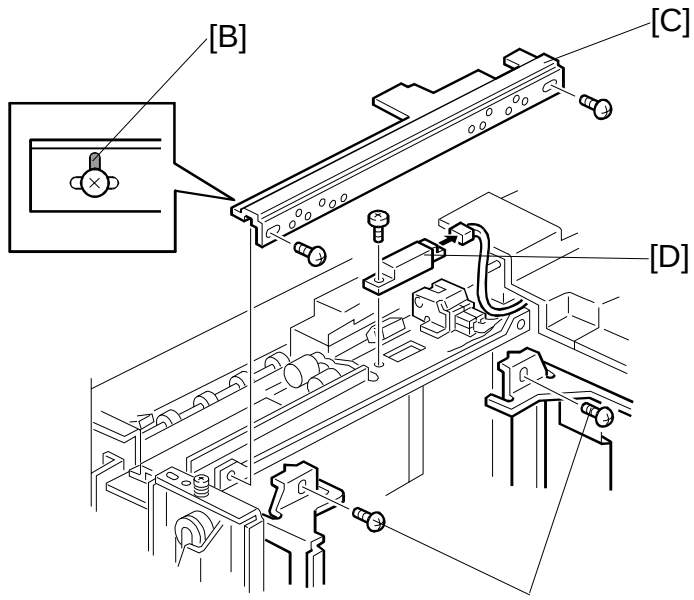
Paper Feed Roller

3. Replace the paper feed roller [B] (1 snap ring).

Separation Roller

3. Replace the separation roller [C] (1 snap ring).

4.3 PAPER END SENSOR REPLACEMENT



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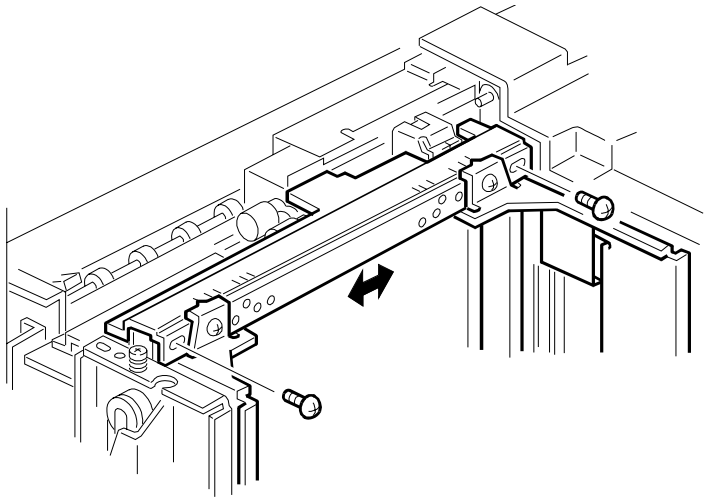

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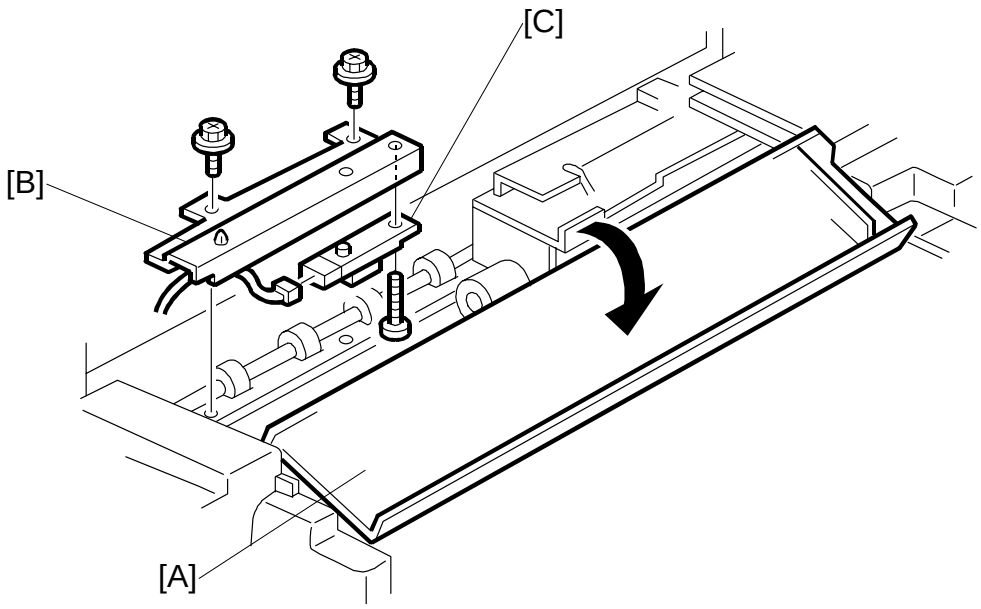
1. Push the down switch to lower the tray.
2. Remove the feed unit and tray cover.
3. Remove the side fence screws [A].
4. Mark the stay position [B]
5. Remove the stay [C] (2 screw).
6. Replace the paper end sensor [D] (1 screw, 1 connector).

NOTE: When reinstalling the stay, make sure that the side-to side registration is correct (make a test copy). If it must be adjusted, move the stay across as shown in the above drawing (an SP can also be adjusted).

4.4 PAPER FEED SENSOR REPLACEMENT



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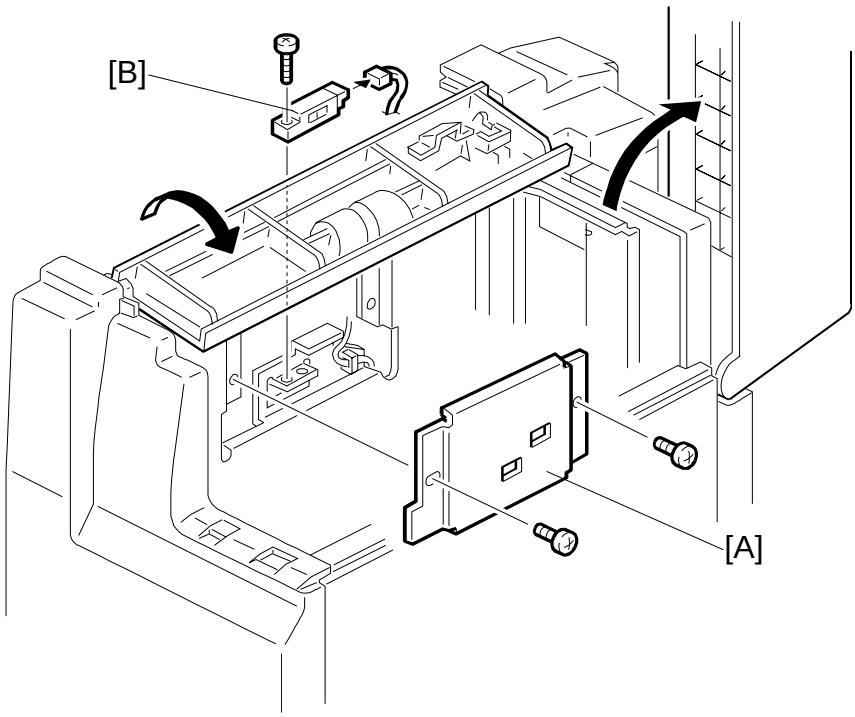
1. Open the feed unit cover [A].
2. Remove the paper feed sensor bracket [B] (2 screws).
3. Replace the paper feed sensor [C] (1 screw, 1 connector).

4.5 PAPER POSITION SENSOR REPLACEMENT



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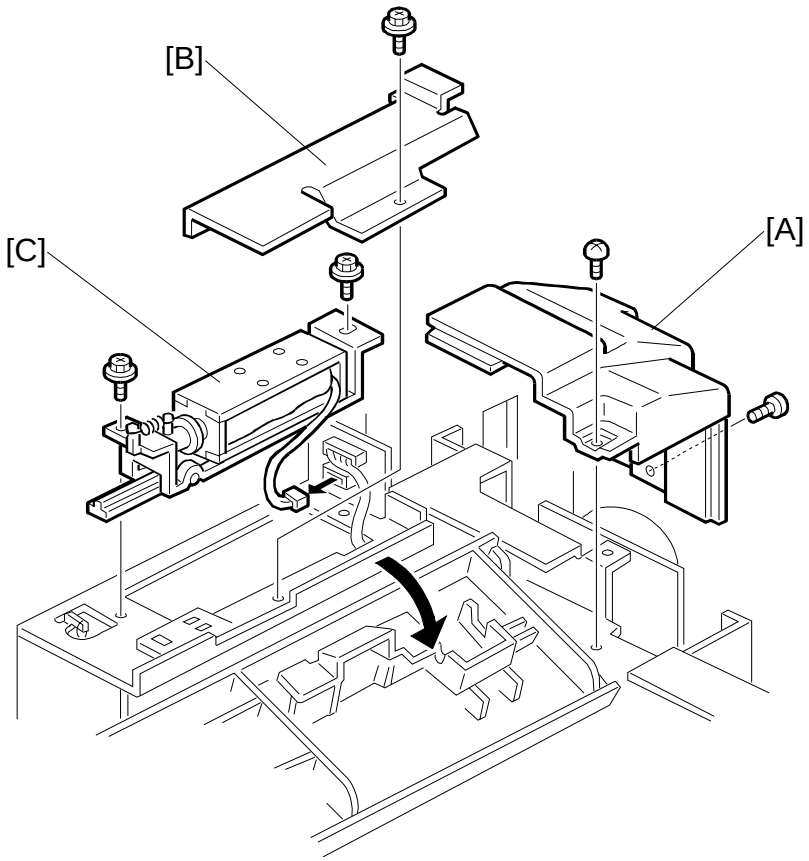
1. Remove the LCT.
2. Open the tray cover and feed unit cover.
3. Remove the sensor cover [A] (2 screws).
4. Replace the paper position sensor [B] (1 screw, 1 connector).

4.6 PICK-UP SOLENOID REPLACEMENT



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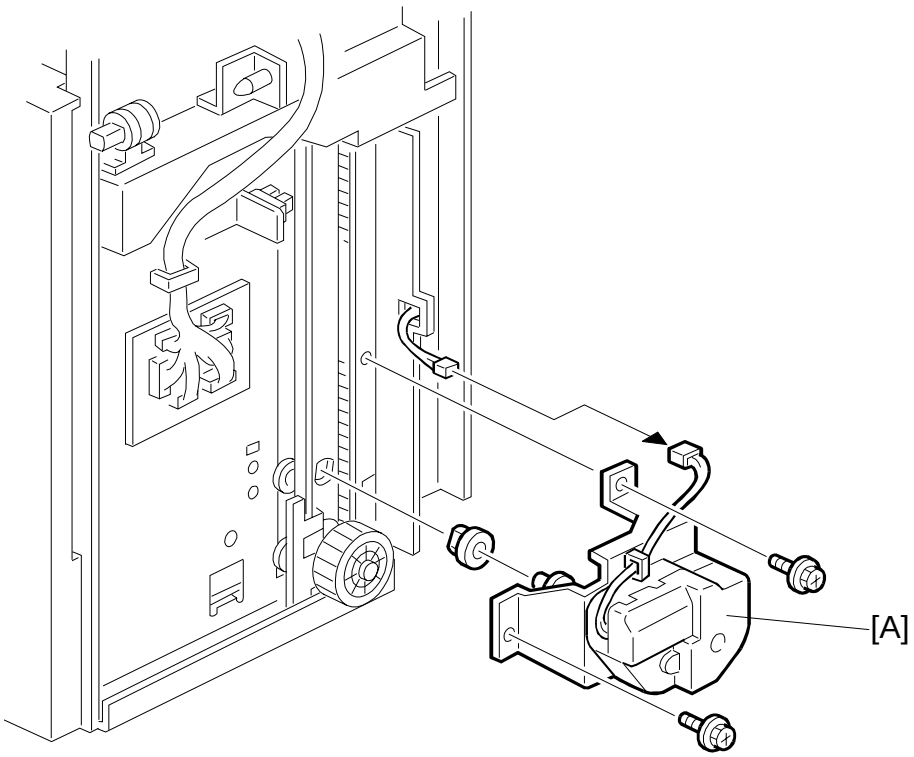
1. Open the feed unit cover.
2. Remove the upper rear cover [A] (2 screws).
3. Remover the solenoid cover [B] (1 screw).
4. Replace the pick-up solenoid [C] (2 screws, 1 connector).

4.7 LIFT MOTOR REPLACEMENT



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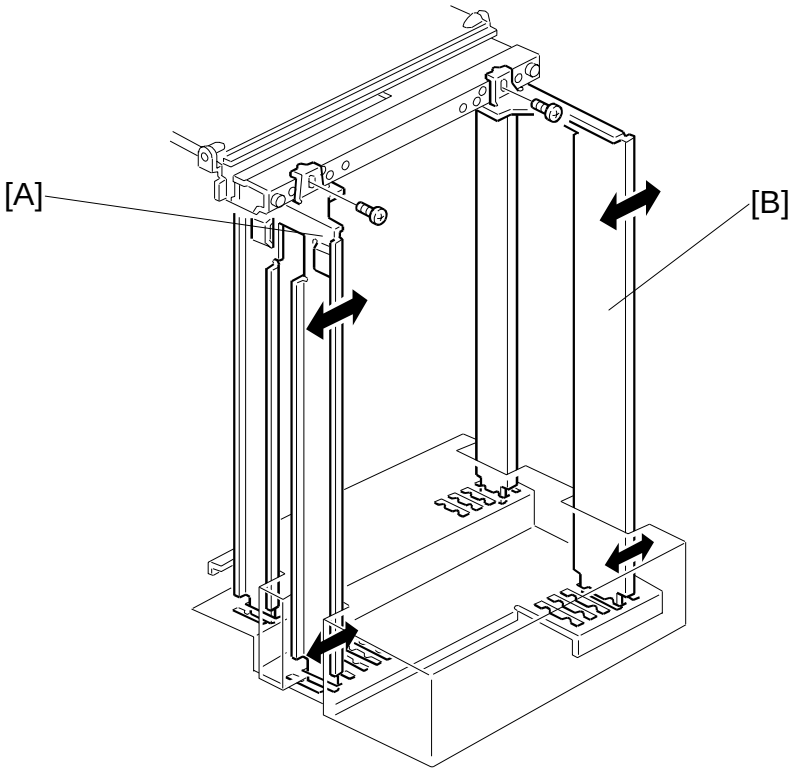
1. Remove the upper and lower rear covers.
2. Replace the lift motor [A] (2 screws, 1 connector).

4.8 SIDE FENCE POSITION CHANGE



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1. Cover the paper position sensor.
2. Push the down switch to lower the tray bottom plate to its lowest position.
3. Open the tray cover.
4. Remove the right cover.
5. Remove the front and rear side fences [A, B] (1 screw each).
6. Install the side fences in the correct position.
7. Input the paper size with SP5-019.