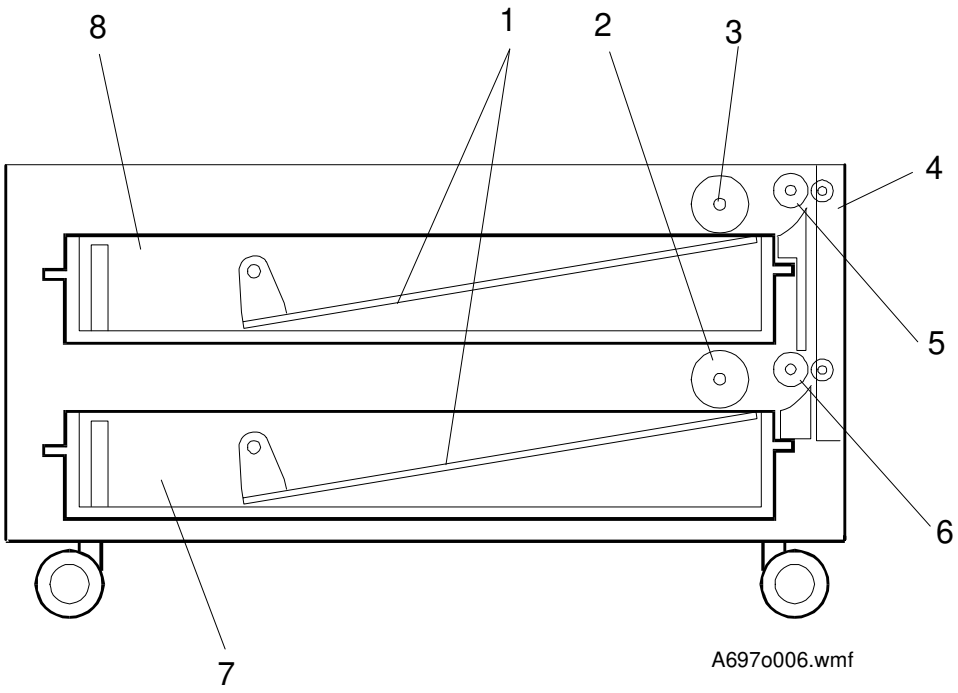
PAPER TRAY UNIT (G697)

1. SPECIFICATIONS

Copy Paper Size:	A3 to A5 sideways
Paper Weight:	60 g to 90 g
Tray Capacity:	500 sheets (70 kg)
Power Source:	24 & 5 Vdc from the copier
Power Consumption:	40 W
Dimensions (W x D x H):	530 x 565 x 255 mm
Weight:	20 kg

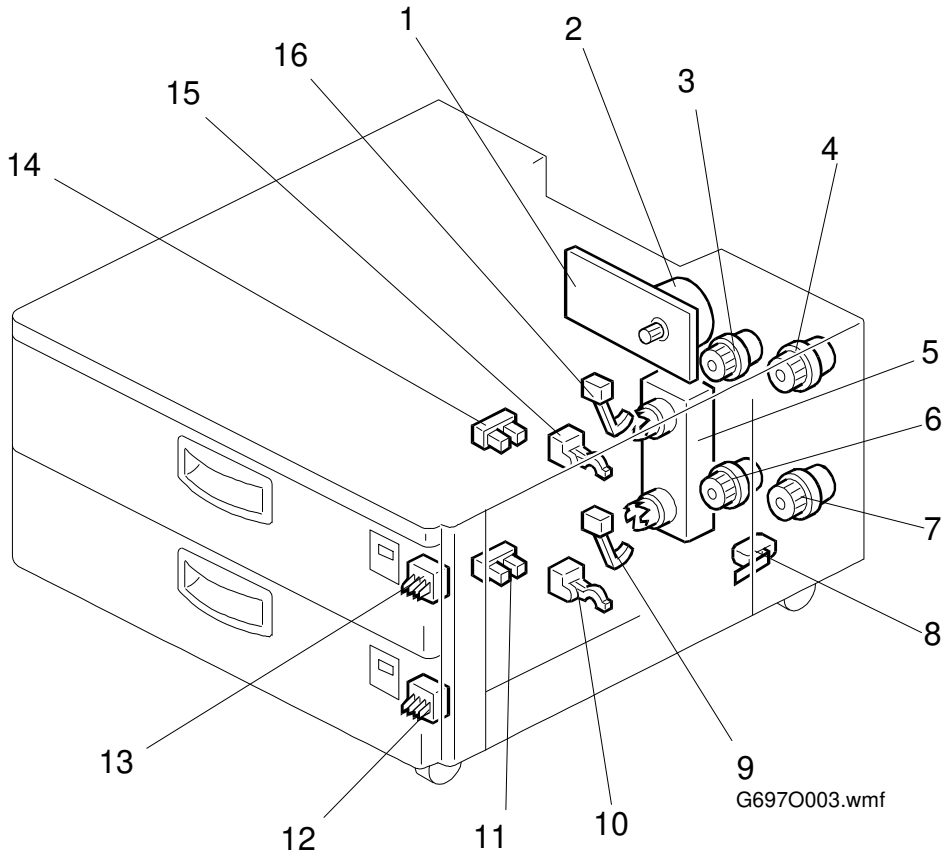
2. COMPONENT LAYOUT

2.1 MECHANICAL COMPONENT LAYOUT



1. Bottom Plate
2. Lower Paper Feed Roller
3. Upper Paper Feed Roller
4. Bank Door
5. Upper Relay Roller
6. Lower Relay Roller
7. Lower Tray
8. Upper Tray

2.2 ELECTRICAL COMPONENT LAYOUT



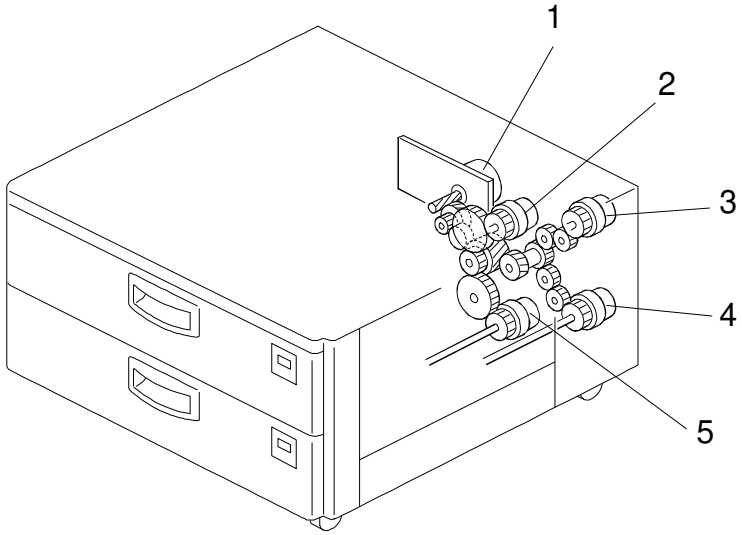
1. Paper Tray Unit Drive Board
2. Paper Feed Motor
3. Upper Paper Feed Clutch
4. Upper Relay Clutch
5. Upper/Lower Lift Motor
6. Lower Paper Feed Clutch
7. Lower Relay Clutch
8. Tray Cover Switch
9. Lower Paper End Sensor
10. Lower Relay Sensor
11. Lower Tray Upper Limit Sensor
12. Lower Paper Size Sensor
13. Upper Paper Size Sensor
14. Upper Tray Upper Limit Sensor
15. Upper Relay Sensor
16. Upper Paper End Sensor

2.3 ELECTRICAL COMPONENT DESCRIPTION

Symbol	Name	Function Motors	Index. No.
Motors			
M1	Paper Feed	Drives all the rollers.	2
M2	Upper Lift	Lifts and lowers the upper tray bottom plate.	5
M3	Lower Lift	Lifts and lowers the lower tray bottom plate.	5
Sensors			
S1	Upper Paper End	Informs the CPU when there is no paper in the upper tray.	16
S2	Lower Paper End	Informs the CPU when there is no paper in the lower tray.	9
S3	Upper Tray Upper Limit	Detects when the paper in the upper tray is at the correct height for paper feed.	14
S4	Lower Tray Upper Limit	Detects when the paper in the lower tray is at the correct height for paper feed.	11
S5	Upper Relay	Detects misfeeds and controls the upper paper feed clutch off timing.	15
S6	Lower Relay	Detects misfeeds and controls the lower paper feed clutch off timing.	10
S7	Upper Paper Size	Determines what paper size is in the upper tray.	12
S8	Lower Paper Size	Determines what paper size is in the lower tray.	13
Clutches			
MC1	Upper Paper Feed	Starts paper feed from the upper feed tray.	3
MC2	Lower Paper Feed	Starts paper feed from the lower feed tray.	6
MC3	Upper Relay	Starts the upper relay roller.	4
MC4	Lower Relay	Starts the lower relay roller.	7
PCBs			
PCB1	Paper Tray Unit Drive	Interfaces the sensor signals to the copier and transfers the magnetic clutch, heater, and motor drive signals from the copier.	1

Optional tray heaters are also available.

2.4 DRIVE LAYOUT



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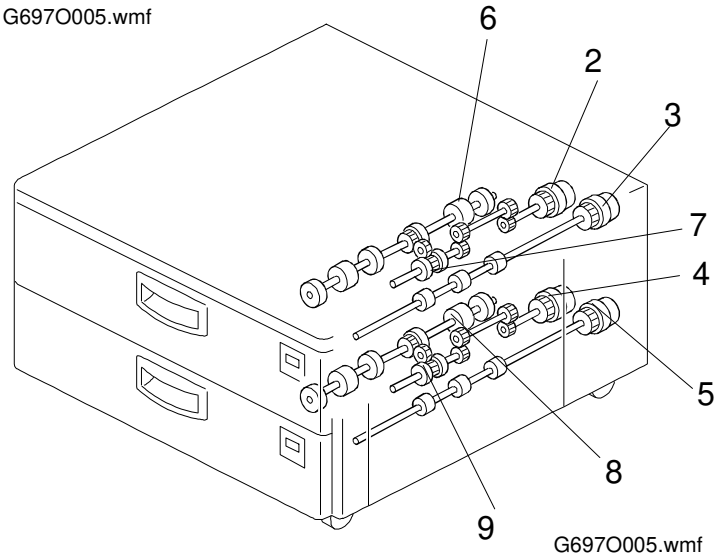

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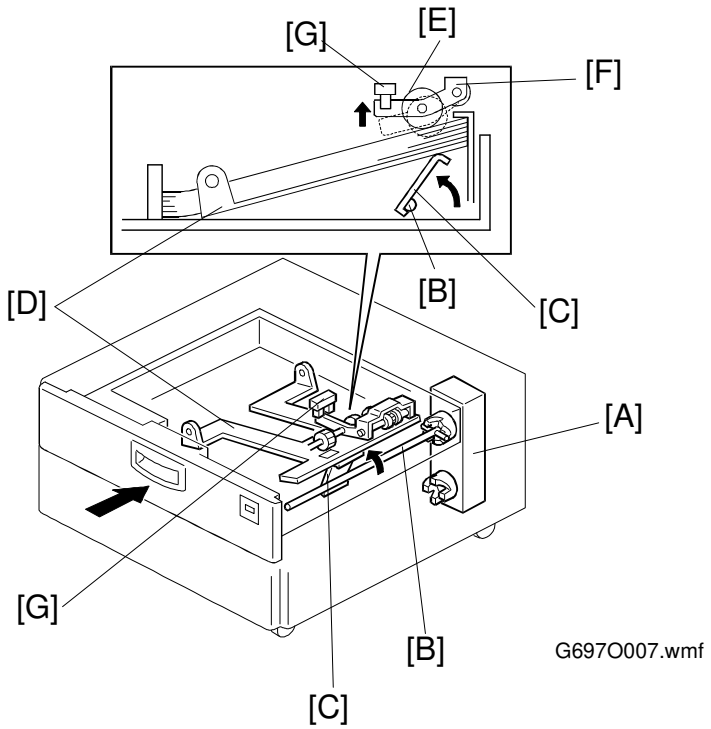
1. Paper Feed Motor
2. Upper Paper Feed Clutch
3. Upper Relay Clutch
4. Lower Relay Clutch
5. Lower Paper Feed Roller
6. Upper Paper Feed Roller
7. Drive Gear - Upper Paper Feed Roller
8. Lower Paper Feed Roller
9. Drive Gear - Lower Paper Feed Roller

3. DETAILED DESCRIPTION

3.1 PAPER FEED AND TRAY LIFT/LOWER MECHANISM



This paper tray unit has two trays. Each paper tray is a drawer type that can hold up to 500 sheets of paper. The mechanism is the same as for the main machine, except for the lifting and lowering mechanism of the tray bottom plate.

When the tray is slid into the machine, the lift motor [A] turns on. The paper size sensor works as the tray detector. When the sensor detects the tray, the lift motor turns the tray arm shaft [B], and the tray arm [C] lifts the tray bottom plate [D].

The tray bottom plate lifts the paper feed roller [E]. When the shutter on the paper feed roller holder [F] turns on the lift sensor [G], the lift motor turns off. When the lift sensor turns off during multicopying, the lift motor turns on until lift sensor turns on again. Between copies, the bottom plate is lowered (see below). This mechanism gives a stable paper feed pressure.

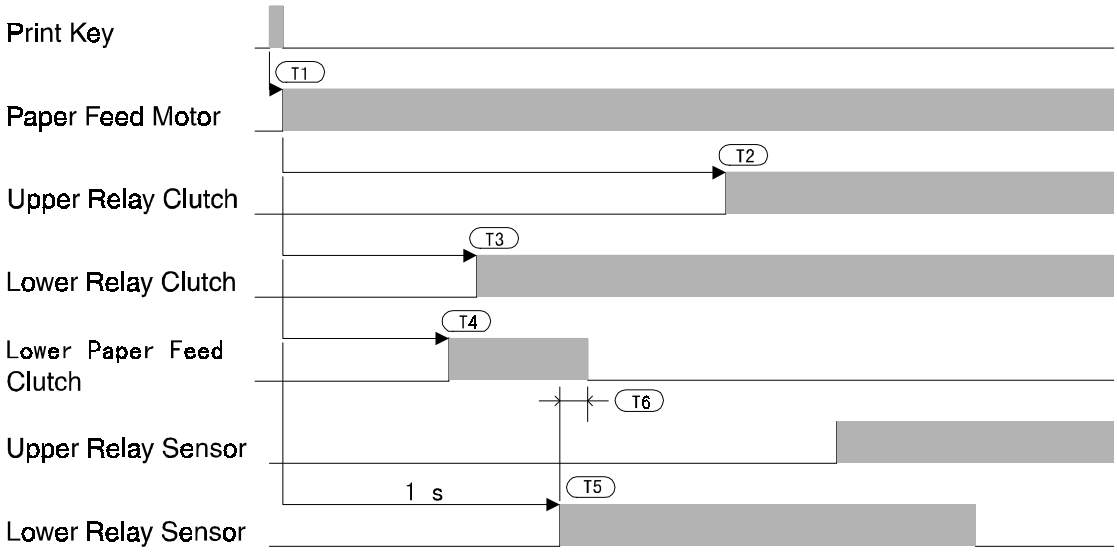
In the following conditions, the lift motor turns on clockwise for approximately 1 second to lower the tray. This mechanism prevents paper feed roller marks from appearing on the paper and stabilizes the paper transport.

- 30 s after the paper feed clutch turns off for the last sheet of a copy job.
- When the tray becomes empty.

3.2 TIMING CHART

Conditions:

- A4 sideways
- Lower paper tray
- The tray bottom plate is at the upper limit.



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T1: 50 ms after the print key is pressed, the paper feed motor turns on.

T2: 1.6 s after the paper feed motor turns on, the upper relay clutch turns on.

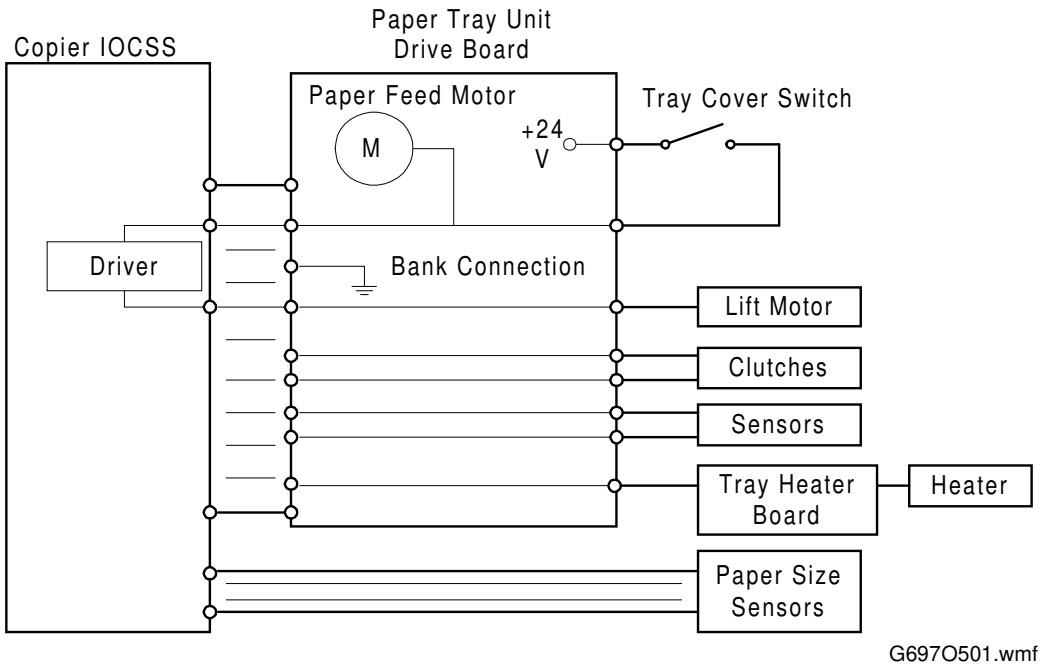
T3: 700 ms after the paper feed motor turns on, the lower relay clutch turns on.

T4: 600 ms after the paper feed motor turns on, the lower paper feed clutch turns on.

T5: 1 s after the paper feed motor turns on, the lower relay sensor should turn on.

T6: 100 ms after the lower relay sensor turns on, the lower feed clutch turns on.

3.3 OVERALL ELECTRICAL CIRCUIT



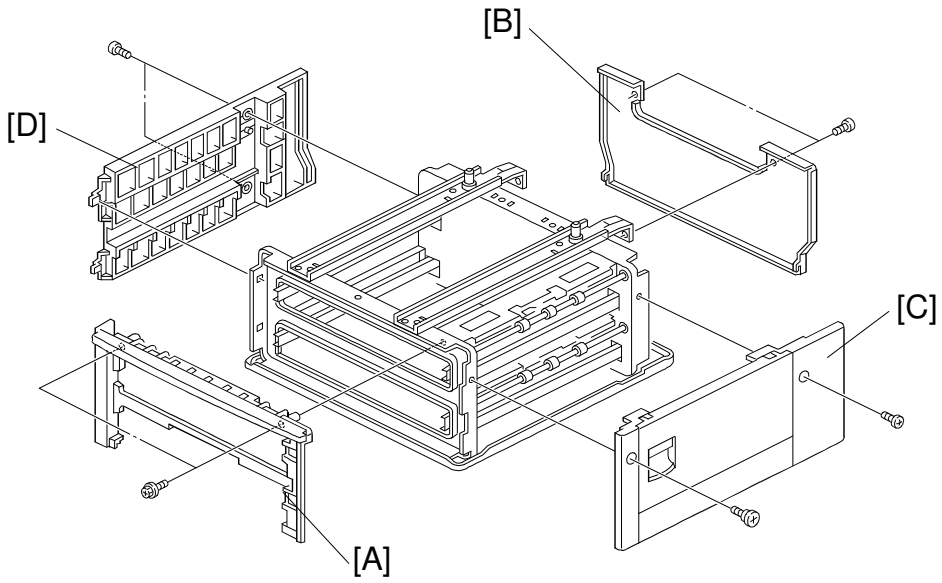
The lift motors, clutches, and tray heater are directly controlled by the copier through the paper tray unit drive board. The sensor signals are directly sent to the copier.

The power for the paper feed motor and lift motors is supplied through the tray cover switch.

When the bank connector is connected to the copier IOCSS board, the bank connection signal to the copier is grounded. Then the copier detects that the paper tray unit is connected.

4. REPLACEMENT AND ADJUSTMENT

4.1 EXTERIOR COVER REMOVAL



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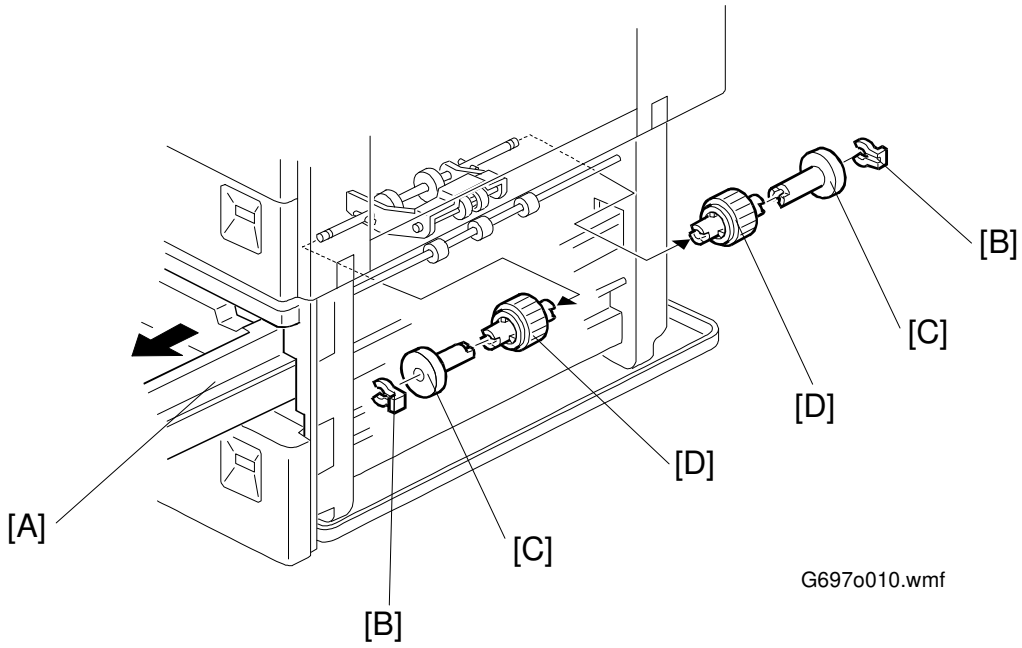
Front Cover

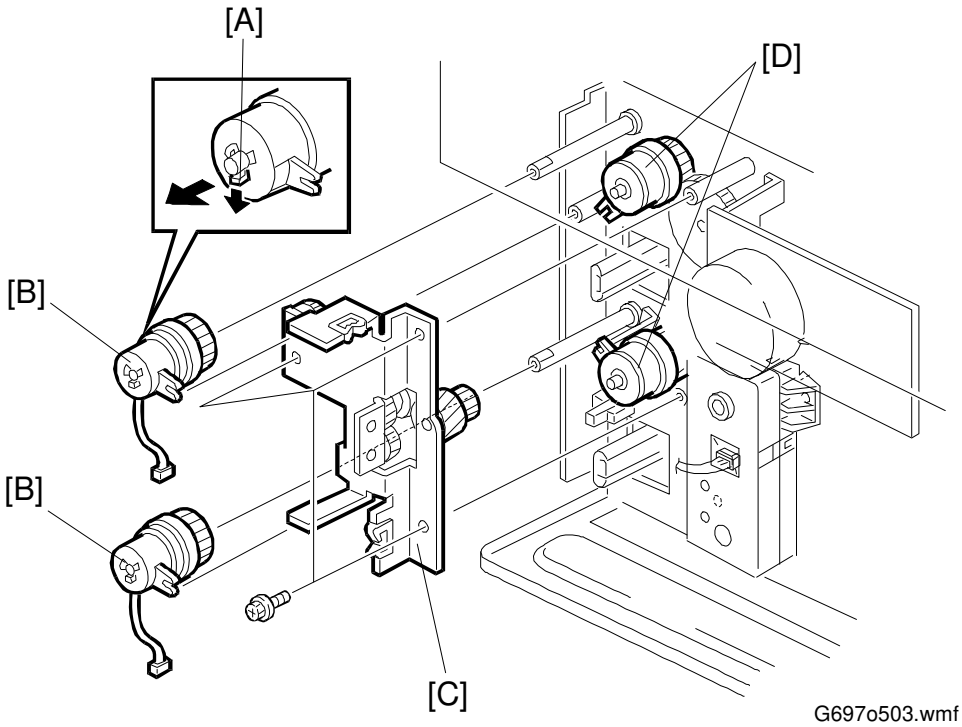
1. Remove the upper tray and lower tray (4 screws each).
2. Remove the front cover [A] (2 screws).
   Rear Cover [B] (2 screws).
   Right Cover [C] (2 screws).
   Left Cover [D] (2 screws).

4.2 PAPER FEED ROLLER REPLACEMENT



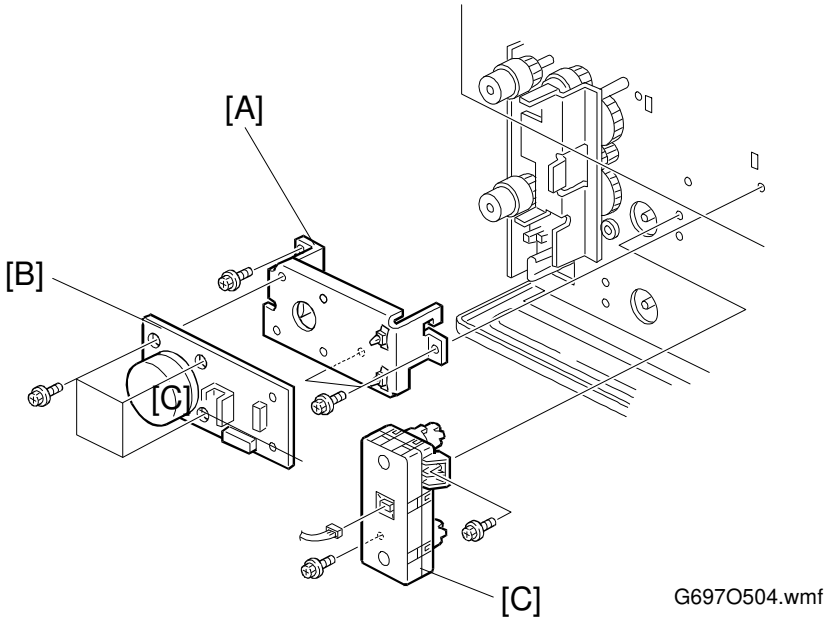
1. Remove the right cover.
2. Pull out the tray [A].
3. Remove the snap ring [B].
4. Remove the auxiliary roller [C].
5. Replace the paper feed roller [D].

4.3 PAPER FEED AND RELAY CLUTCH REPLACEMENT



1. Remove the rear cover.
2. Remove the right cover.
3. Release the hook [A] and remove (replace) the relay clutches [B].
4. Remove the drive unit [C] (3 screws).
5. Replace the paper feed clutches [D] (1 E-ring each).

4.4 PAPER FEED MOTOR REPLACEMENT

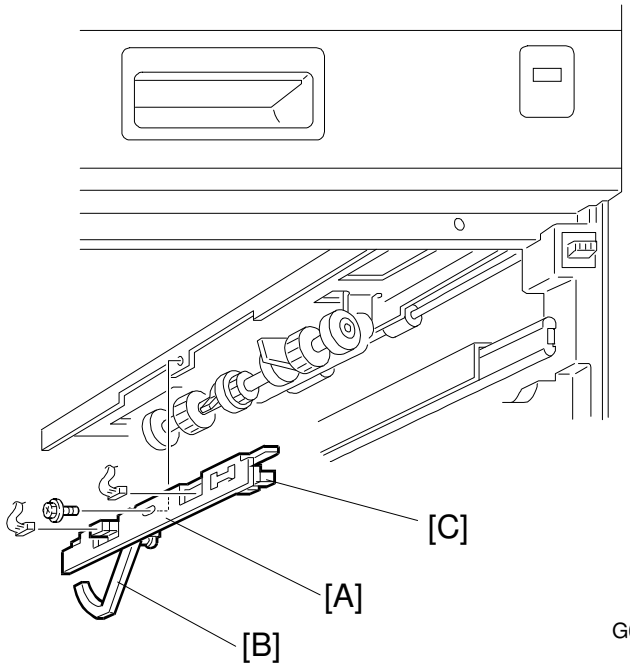


1. Remove the rear cover.
2. Disconnect the 3 connectors on the paper tray unit drive board.
3. Remove the paper tray unit drive board ass'y [A] (3 screws).
4. Replace the paper feed motor [B] (4 screws, 2 hooks).

4.5 LIFT MOTOR REPLACEMENT

1. Remove the rear cover.
2. Pull out the tray.
3. Replace the lift motor [C] (2 screws, 1 connector).

4.6 PAPER END AND UPPER LIMIT SENSOR REPLACEMENT



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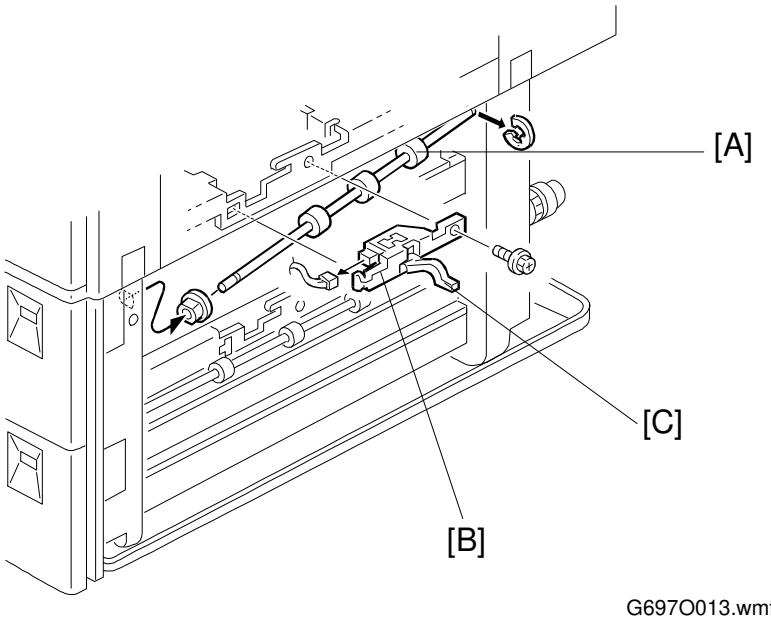
1. Remove the paper tray.
2. Remove the paper end and upper limit sensor with bracket [A] (1 screw, 2 connectors).
3. Replace the paper end sensor [B] or replace the upper limit sensor [C].

NOTE: When reinstalling the sensor ass'y, put the harness in the clamp to prevent the harness from touching the paper.

4.7 UPPER RELAY SENSOR REPLACEMENT



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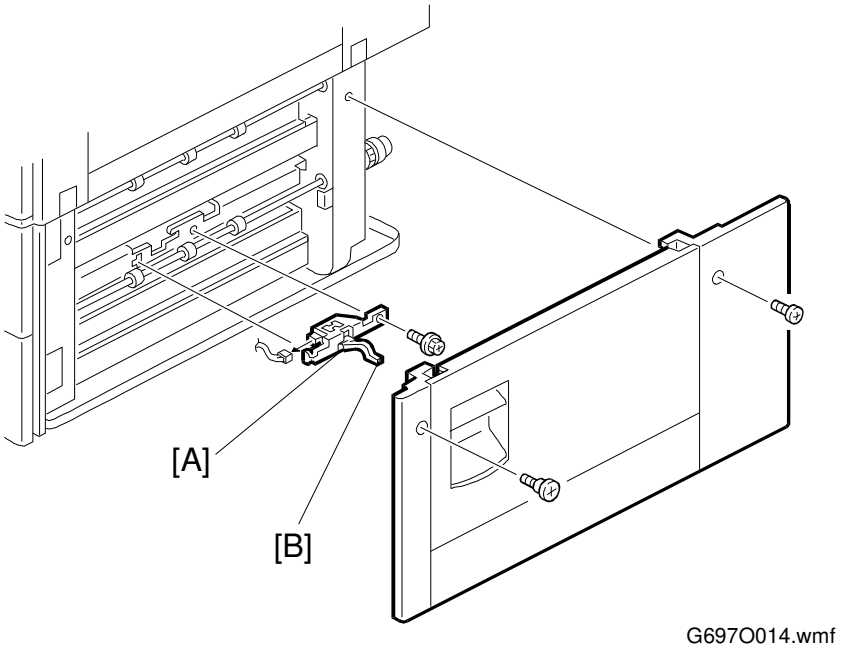
1. Remove the right cover.
2. Remove the upper relay roller [A] (1 E-ring, 1 bushing).
3. Remove the upper relay sensor with bracket [B] (1 screw, 1 connector).
4. Replace the upper relay sensor [C].

4.8 LOWER RELAY SENSOR REPLACEMENT



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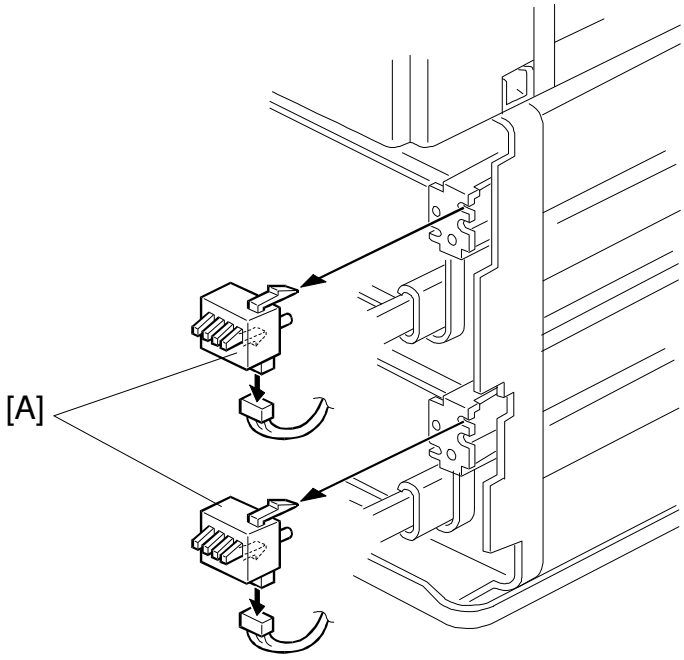
1. Remove the right cover.
2. Remove the lower relay sensor with bracket [A] (1 screw, 1 connector).
3. Replace the lower relay sensor [B].

4.9 PAPER SIZE SENSORS



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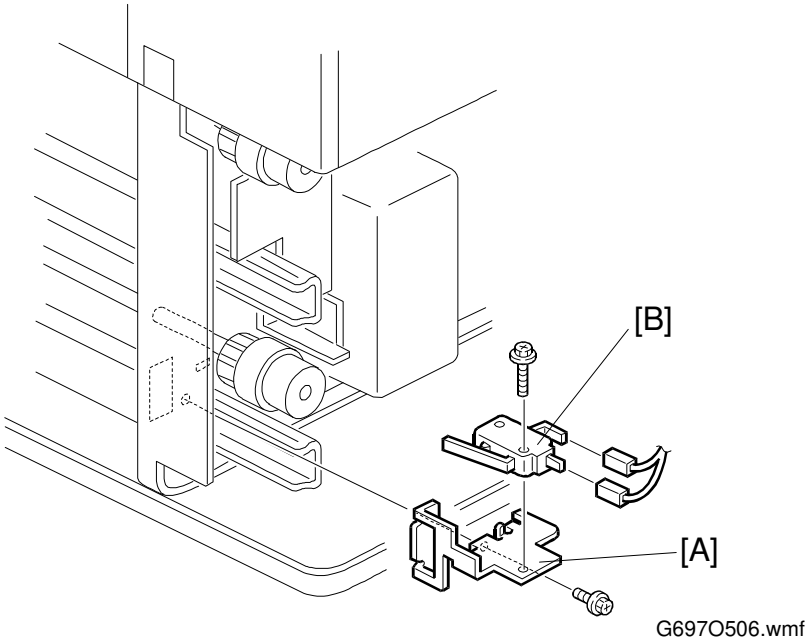
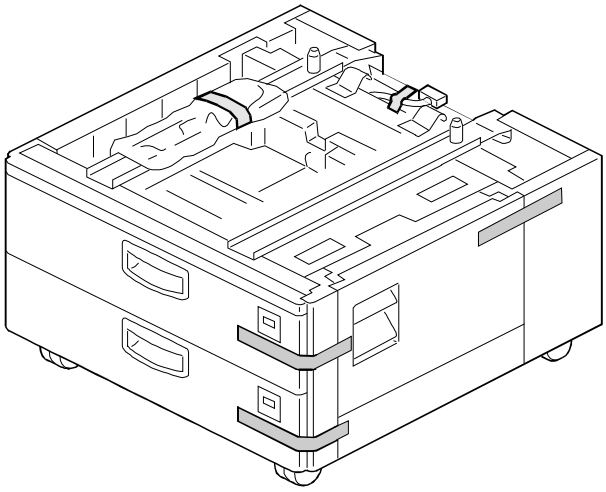
1. Remove the front cover.
2. Remove the left cover.
3. Replace the paper size sensors [A] (1 connector).

4.10 TRAY COVER SWITCH REPLACEMENT



1. Remove the left cover
2. Remove the rear cover.
3. Remove the tray cover switch with bracket [A] (1 screw, 2 connectors).
4. Replace the tray cover switch [B] (1 screw).

PAPER TRAY UNIT INSTALLATION



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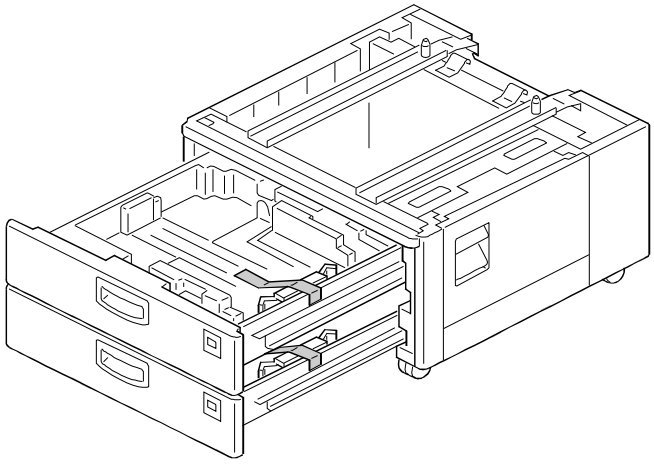

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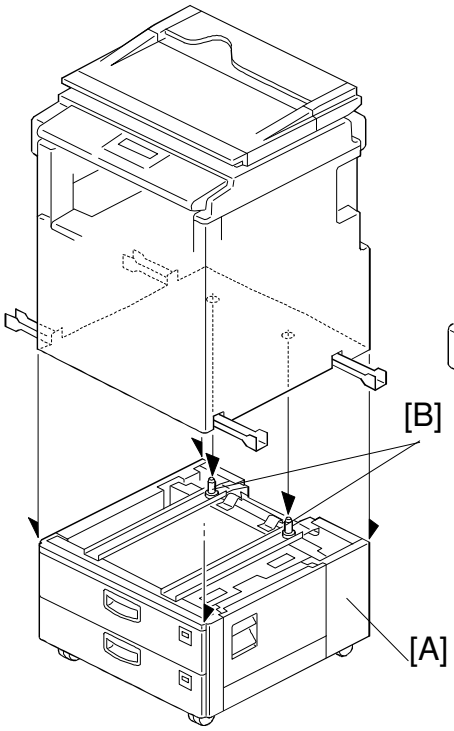
⚠ CAUTION

Unplug the copier power cord before starting the following procedure.

1. Unpack the paper tray unit. Then, remove the tapes (7 tapes).



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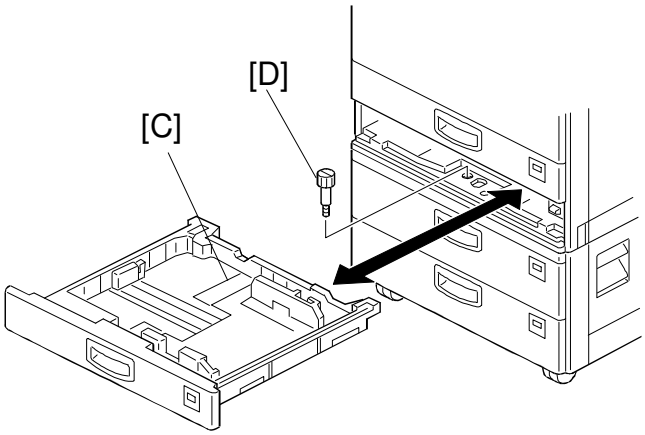

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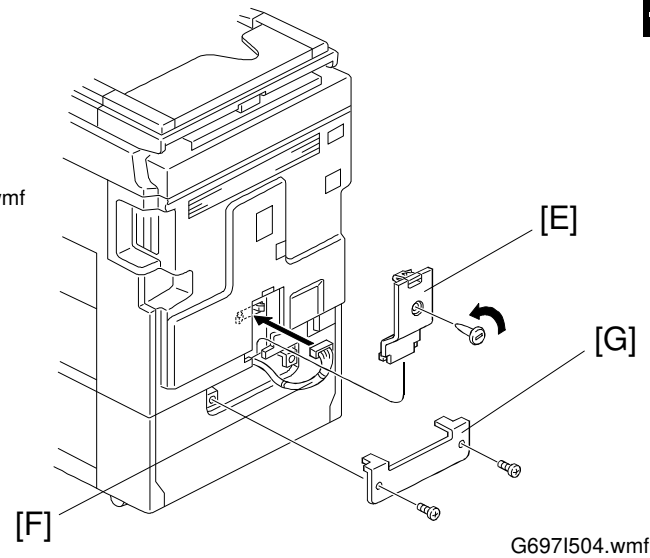

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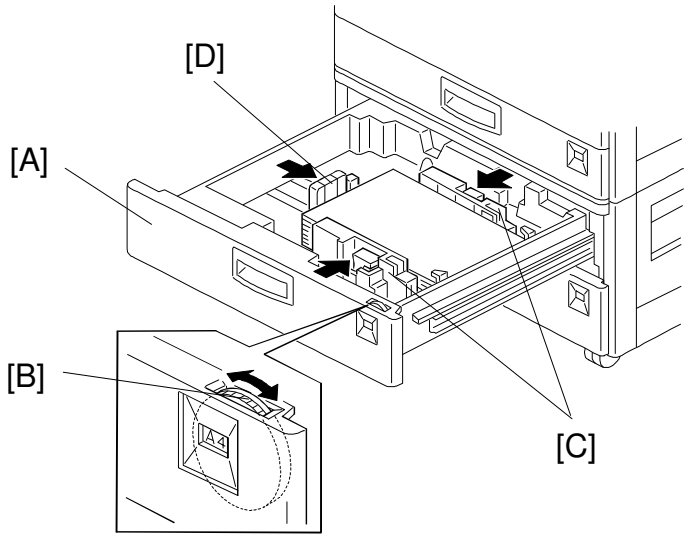
2. Place the copier on the paper tray unit [A] with the pegs [B] fitting into the copier's peg holes.
3. Remove the copier's second paper tray [C].
4. Secure the knob screw [D].
5. Push the copier's second paper tray back into the copier.
6. Remove the connector cover [E].
7. Connect the paper feed unit harness [F] to the copier.
8. Reinstall the connector cover.
9. Secure the joint bracket [G] to the copier (2 screws).

   NOTE: Do not pinch the harness.



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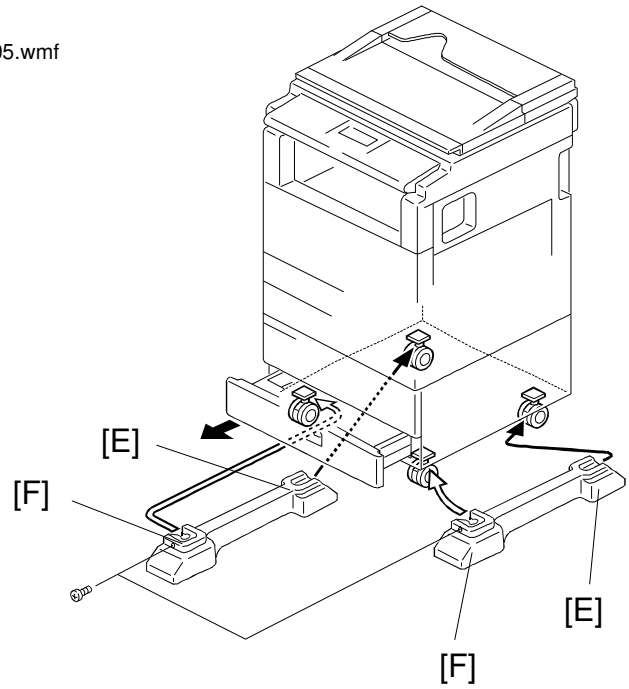

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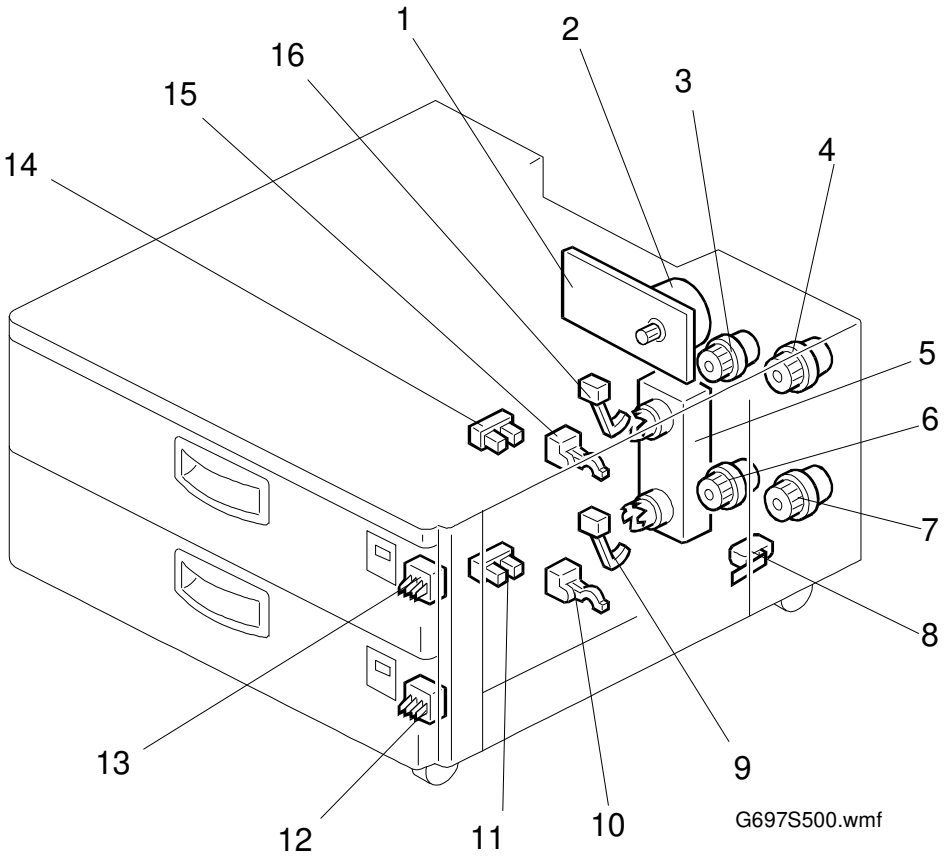
10. Pull out the paper tray [A] and turn the paper size dial [B] to select the appropriate size. Then, adjust the side guides [C] and end guide [D] to match the paper size.
11. Turn the ac and main switches on. Then, check if the paper tray unit works properly.
12. Install the rear hooks of the stands [E] until they snap into place (1 screw).
13. Install the front hooks of the stands [F] until they snap into place (1 screw).

Paper Tray Unit (G697)



Paper Tray Unit (G697)

Symbol	Index. No.	Description	P to P (1/2)
Motors			
M1	2	Paper Feed	L9
M2	5	Upper Lift	L9
M3	5	Lower Lift	M9
Sensors			
S1	16	Upper Paper End	J9
S2	9	Lower Paper End	J9
S3	14	Upper Tray Upper Limit	M9
S4	11	Lower Tray Upper Limit	M9
S5	15	Upper Relay	J9
S6	10	Lower Relay	J9
S7	12	Upper Paper Size	I9
S8	13	Lower Paper Size	I9
Clutches			
MC1	3	Upper Paper Feed	K9
MC2	6	Lower Paper Feed	K9
MC3	4	Upper Relay	K9
MC4	7	Lower Relay	L9
PCBs			
PCB1	1	Paper Tray Unit Drive	K11