# PAPER TRAY UNIT
## (Machine Code: G313)

# 1. REPLACEMENT AND ADJUSTMENT

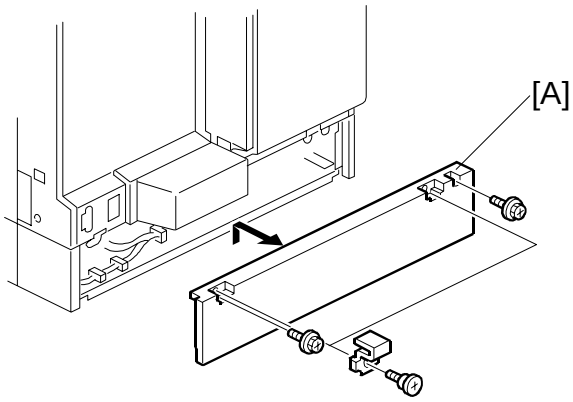
**⚠CAUTION**

**Turn off the main power switch and unplug the machine before beginning any of the procedures in this section.**

**NOTE:** This manual uses the following symbols.
☛ : See or Refer to  : Screws  : Connector  : Clip ring

## 1.1 REAR COVER

1. 2 brackets (1 Cylinder-headed screw for each)
2. Rear cover [A] ( x 2)

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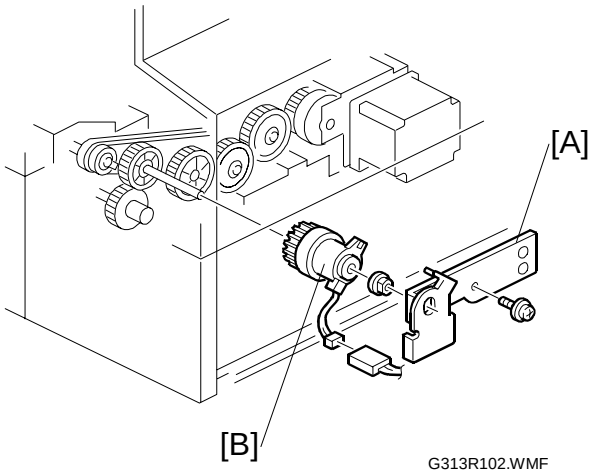
## 1.2 PAPER FEED CLUTCH

1. Rear cover (☛ 1.1)
2. Bracket [A] ( x 1)
3. Clutch [B] (1 bearing,  x 1)

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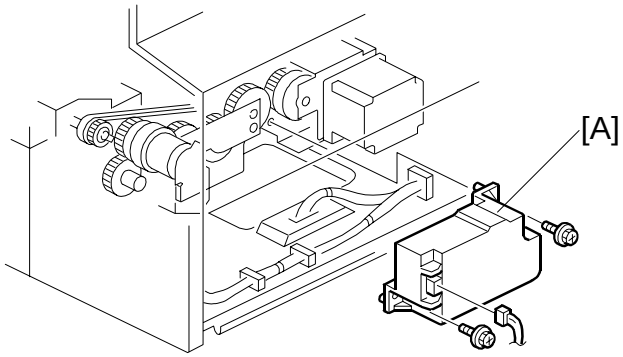
## 1.3 LIFT MOTOR

1. Rear cover (☛ 1.1)
2. Lift motor [A] (🔩 x 2, ✋ x 1)

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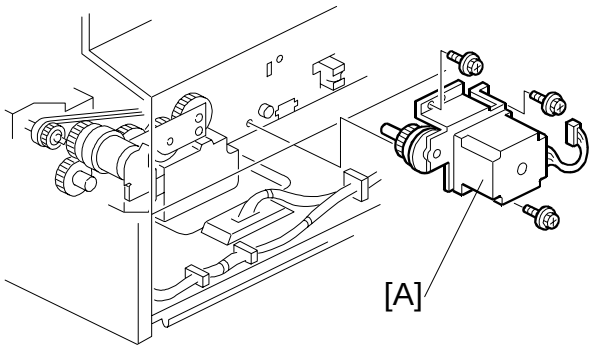
## 1.4 PAPER FEED MOTOR

1. Rear cover (☛ 1.1)
2. Paper feed motor [A] (✋ x 1, 🔩 x 3)
   **NOTE:** Remove the motor with its bracket, then separate the motor from the bracket.

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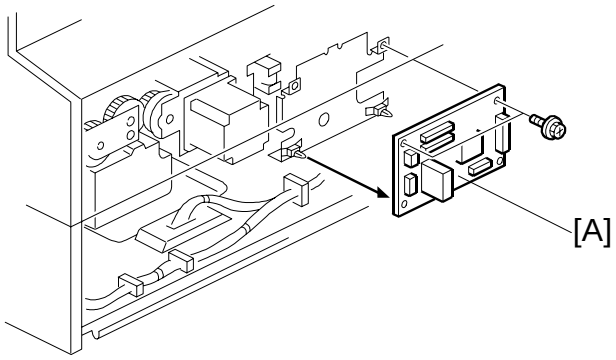
## 1.5 CONTROLLER BOARD

1. Rear cover (☛ 1.1)
2. Controller board [A] (✋ x 7, 🔩 x 2)

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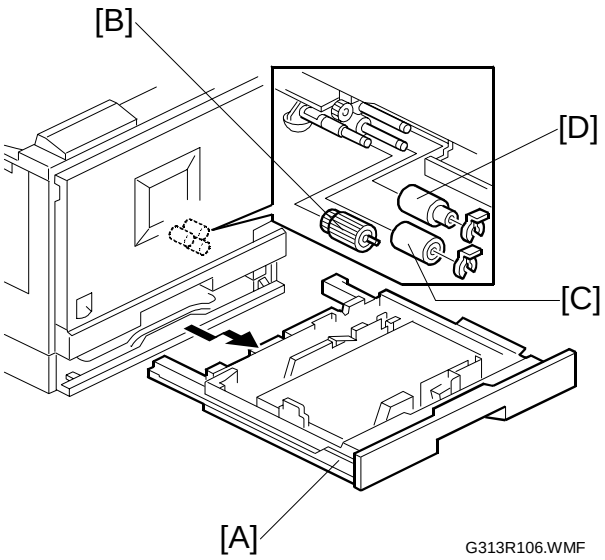
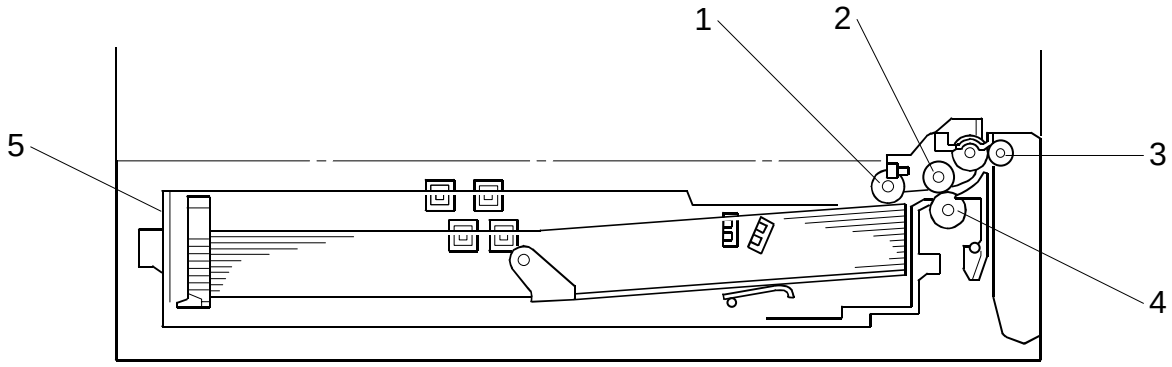
# 1.6 PICK-UP/FEED/SEPARATION ROLLERS

1. Paper tray [A]
2. Pick-up roller [B] (1 hook)
3. Paper feed roller [C] (x 1)
4. Separation roller [D] (x 1)



# 2. DETAILED DESCRIPTIONS

## 2.1 MECHANICAL COMPONENT LAYOUT

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1. Pick-up roller
2. Feed roller
3. Relay roller
4. Separation roller
5. Tray

### *Feed and Reverse Roller (FRR)*

☛ CT Handling Paper – Paper Feed – Paper Feed Methods

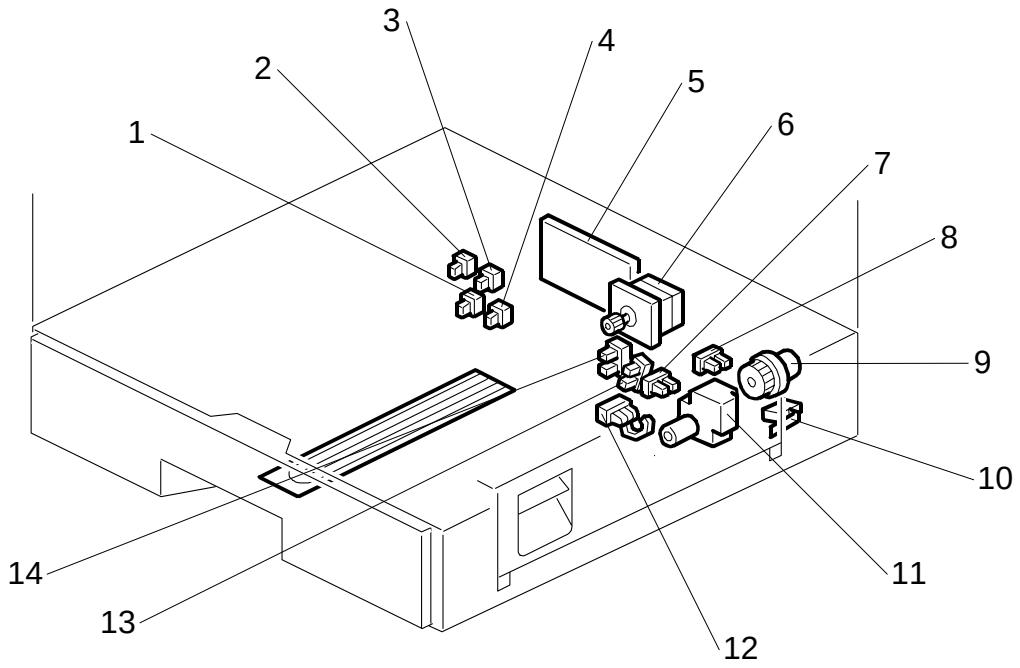
### *Drive Path*

Paper feed motor → Timing belt → Gears → Paper feed clutch → Rollers

### *Paper End Feeler Method*

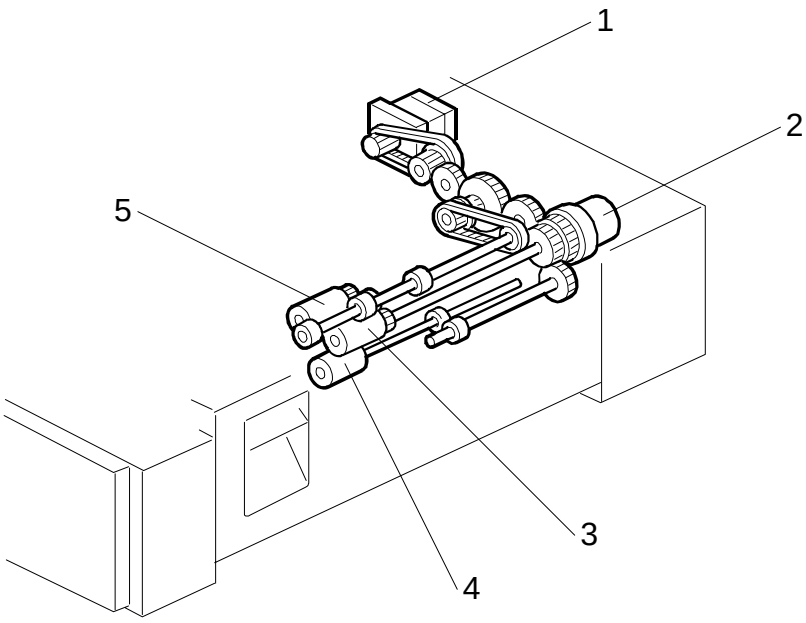
☛ CT Handling Paper – Paper End Detection

# 2.2 ELECTRICAL COMPONENT LAYOUT




1. Paper size switch 2
2. Paper size switch 1
3. Paper size switch 3
4. Paper size switch 4
5. Main board
6. Paper feed motor
7. Paper end sensor
8. Lift sensor
9. Paper feed clutch
10. Vertical guide switch
11. Tray lift motor
12. Relay sensor
13. Paper height 2 sensor
14. Paper height 1 sensor

# 2.3 DRIVE LAYOUT

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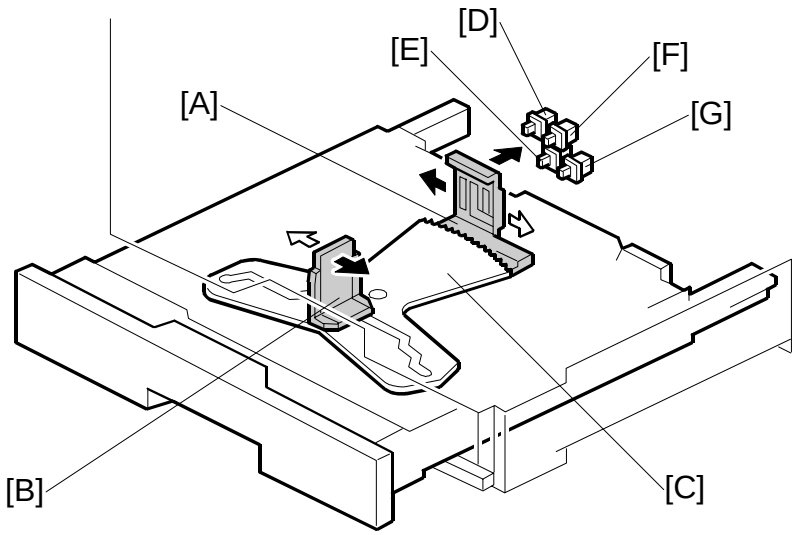
1. Paper feed motor
2. Paper feed clutch
3. Paper feed roller
4. Separation roller
5. Pick-up roller

# 2.4 PAPER SIZE DETECTION

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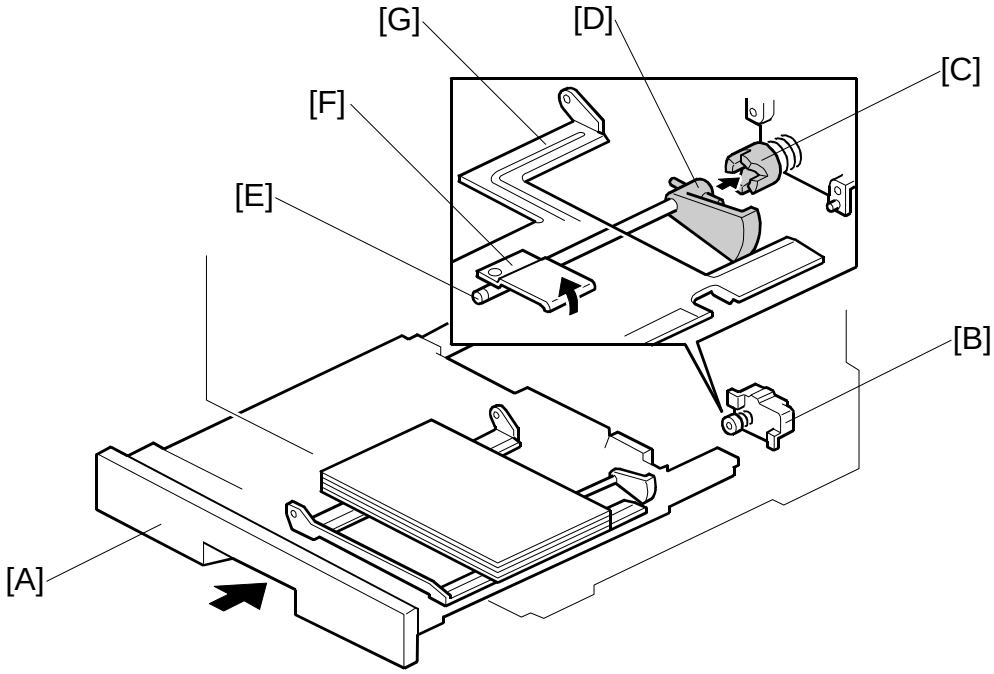
Four paper size switches [D] to [G], working in combination, detect the paper size as shown in the table below. The actuators are on the side plate [A]. The side plate is moved by the end plate [B] through a cam [C].

| Models | | Switch Location | | | |
|---|---|---|---|---|---|
| **North America** | **Europe/Asia** | **1 [D]** | **2 [E]** | **3 [F]** | **4 [G]** |
| 11" x 17" SEF | 11" x 17" SEF | 0 | 0 | 1 | 0 |
| A3 SEF | A3 SEF | 0 | 1 | 0 | 1 |
| 8 1/2" x 14" SEF | B4 SEF | 1 | 0 | 1 | 1 |
| 8 1/2" x 11" SEF | A4 SEF | 0 | 1 | 1 | 0 |
| 11" x 8 1/2" LEF | 11" x 8 1/2" LEF | 1 | 1 | 0 | 1 |
| A4 LEF | A4 LEF | 1 | 0 | 1 | 0 |
| B5 LEF | B5 LEF | 0 | 1 | 0 | 0 |
| A5 LEF | A5 LEF | 1 | 0 | 0 | 0 |

1: Pushed

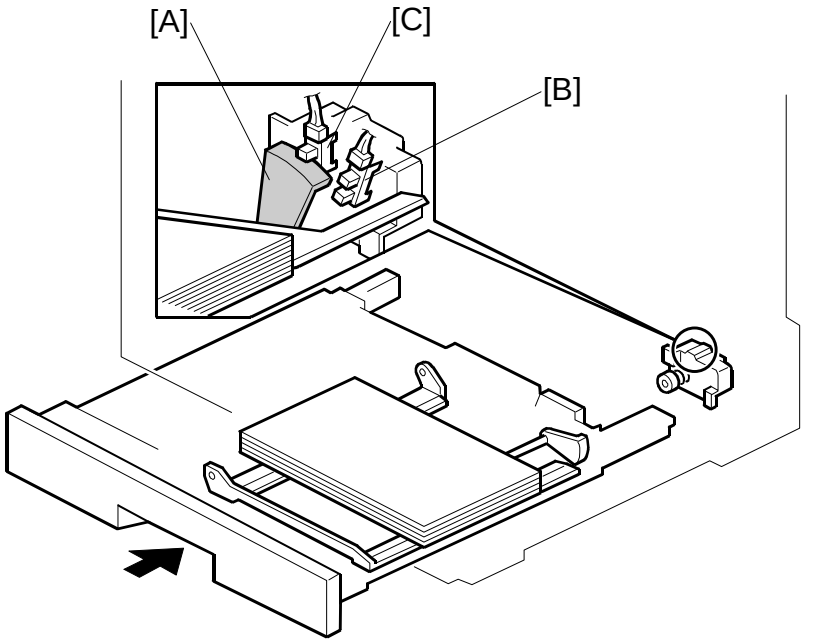
**NOTE:** 1) Other paper sizes cannot be automatically detected. Use the user tool to select them.
2) The machine disables feed from a tray if the paper size cannot be detected (when the paper size actuator is broken or no tray is installed).

# 2.5 PAPER LIFT




The paper size switches (☛ 2.4) detect when the paper tray [A] is placed in the machine. When the machine detects that a tray has been placed in the machine, the tray lift motor [B] rotates and the coupling gear [C] on the tray lift motor engages the pin [D] on the lift arm shaft [E]. Then the tray lift arm [F] lifts the tray bottom plate [G] until the paper lift sensor for the tray detects that the top of the stack is at the paper feed position.

# 2.6 PAPER HEIGHT AND END DETECTION

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### *Paper Height Detection*

Two paper height sensors, working in combination, detect the amount of paper in the tray.
When the amount of paper decreases, the bottom plate pressure lever moves up and the actuator [A] (on the pressure lever drive shaft) rotates.

| Remaining paper | Paper height sensor 2 [B] | Paper height sensor 1 [C] |
|---|---|---|
| Full | ON | ON |
| Nearly full | OFF | ON |
| Near end | OFF | OFF |

On: Actuator inside sensor, Off: Actuator not inside sensor

### *Paper End Detection*

If there is some paper in the paper tray, the paper stack raises the paper end feeler and the paper end sensor deactivates.
When the paper tray runs out of paper, the paper end feeler drops into the cutout in the tray bottom plate, and this activates the paper end sensor.