








Paper Feed Unit PB3250
Machine Code: M495
Field Service Manual
Ver 1.0

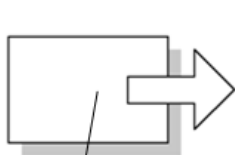
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Symbols, Abbreviations and Trademarks

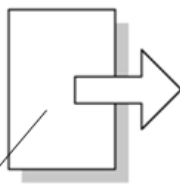
Symbols, Abbreviations

This manual uses several symbols and abbreviations. The meaning of those symbols and abbreviations are as follows:

Symbol	What it means
	Clip ring
	Screw
	Connector
	Clamp
	E-ring
	Flat Flexible Cable
	Timing Belt
SEF	Short Edge Feed
LEF	Long Edge Feed
K	Black
C	Cyan
M	Magenta
Y	Yellow
B/W, BW	Black and White
FC	Full color



[A]



[B]

c2790086

[A] Short Edge Feed (SEF)

[B] Long Edge Feed (LEF)

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1. Replacement and Adjustment

Precautions Concerning Stabilizers

Stabilizers are necessary for meeting the requirements of IEC60950-1, the international standard for safety.

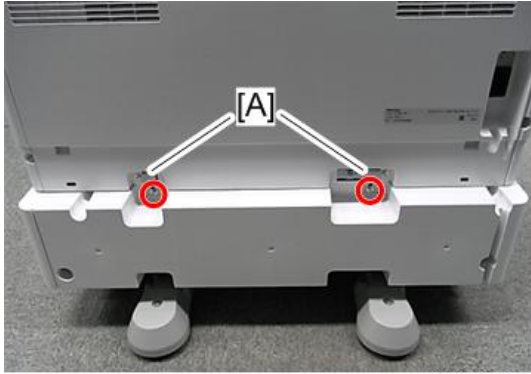
The aim of these components is to prevent the products, which are heavy, from toppling as a result of people running into or leaning on them, which can lead to serious accidents such as persons becoming trapped under the product. (U.S.: UL60950-1, Europe: EN60950-1)

Therefore, removal of such components must always be with the consent of the customer.

Do not remove them under your own judgment.

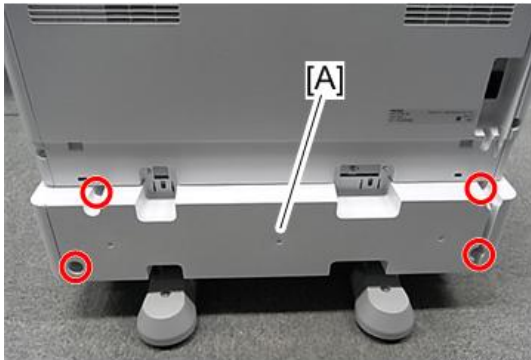
Rear Cover

1. Remove the securing brackets [A] (⌀×1 each).



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2. Remove the rear cover [A] (⌀×4).

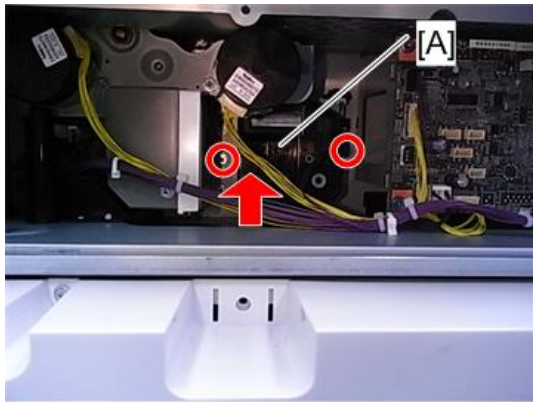


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1.Replacement and Adjustment

Tray Lift Motor

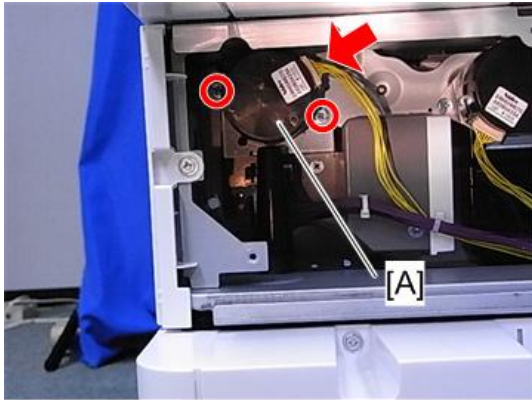
1. Remove the rear cover. ([Rear Cover](#))
2. Remove the tray lift motor [A] (🔩×2, 📦×1).



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Transport Motor

1. Remove the rear cover. ([Rear Cover](#))
2. Remove the transport motor [A] (⚙️ ×2, 📦 ×1).

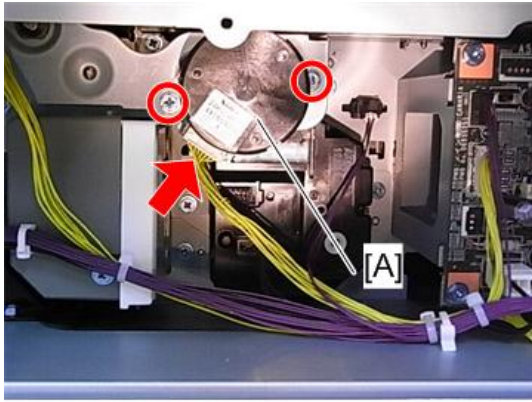


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1.Replacement and Adjustment

Paper Feed Motor

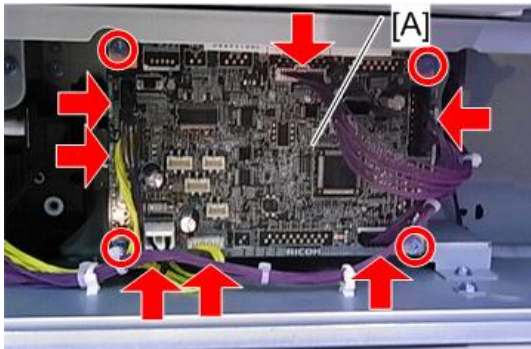
1. Remove the rear cover. ([Rear Cover](#))
2. Remove the paper feed motor [A] (⌀ ×2, ☐ ×1).



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Controller Board

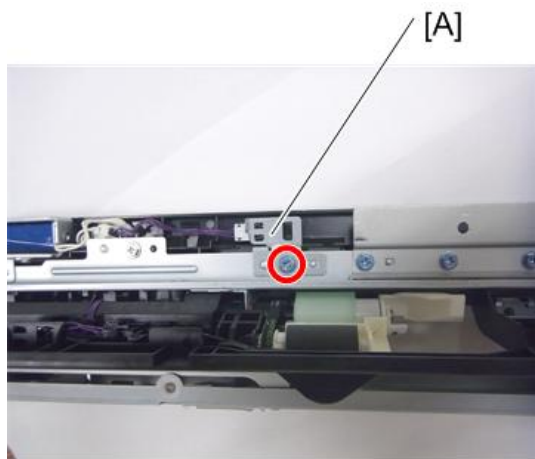
1. Remove the rear cover. ([Rear Cover](#))
2. Remove the controller board [A] (⌀×4, ☐×7).



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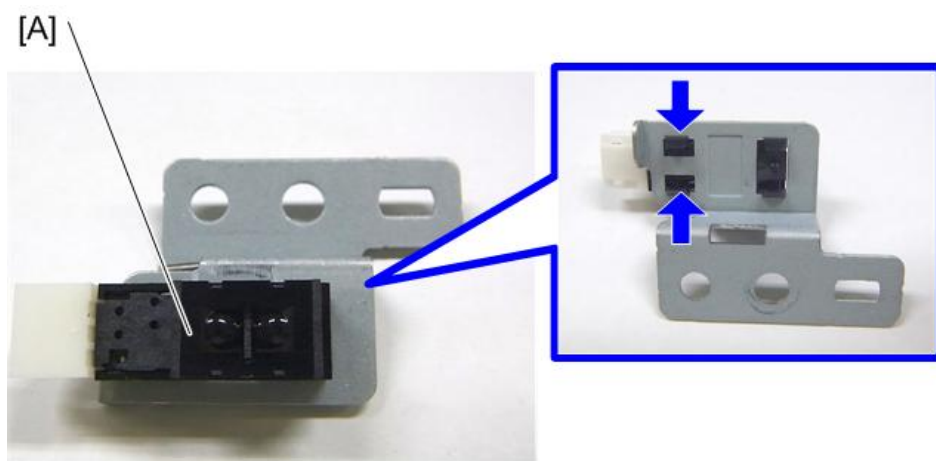
Transport Sensor, Upper Limit Sensor, Paper End Sensor, Paper Feed Sensor

1. Remove the paper feed unit. ([Paper Feed Unit](#))
2. Remove the transport sensor bracket [A] (⚙️×1, 📦×1).



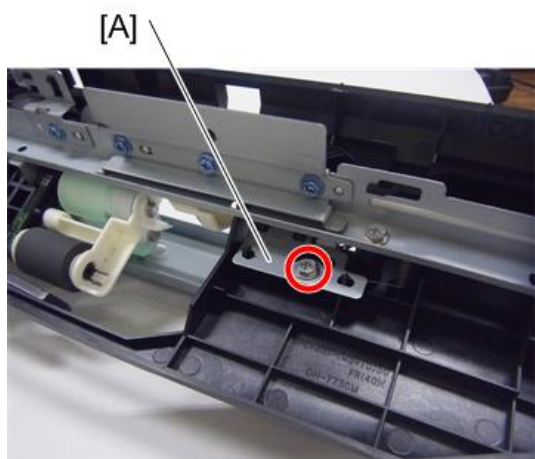
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3. Remove the transport sensor [A].



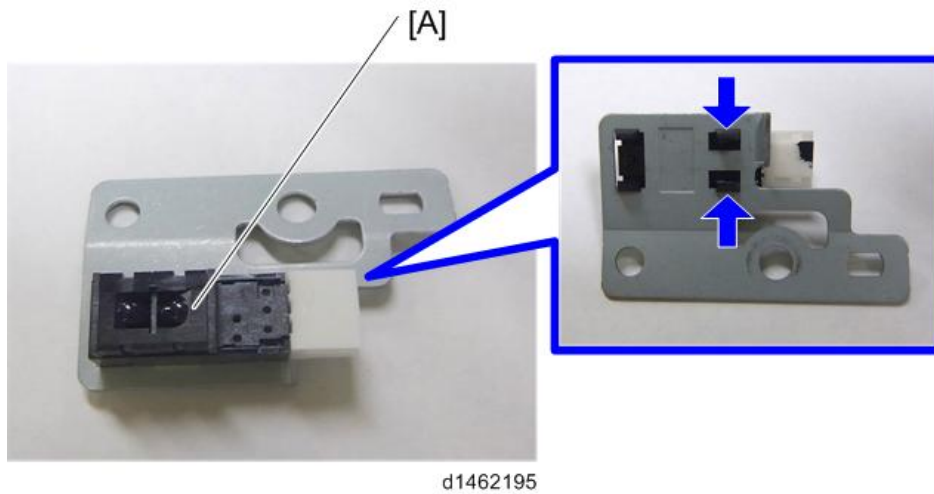
d1462197

4. Remove the paper feed sensor bracket [A] (⚙️×1, 📦×1).

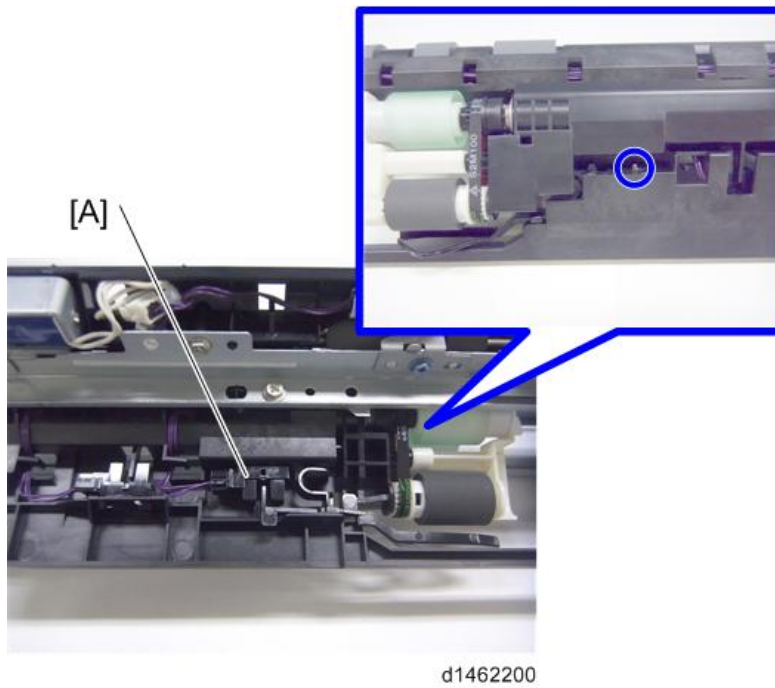


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5. Remove the paper feed sensor [A].

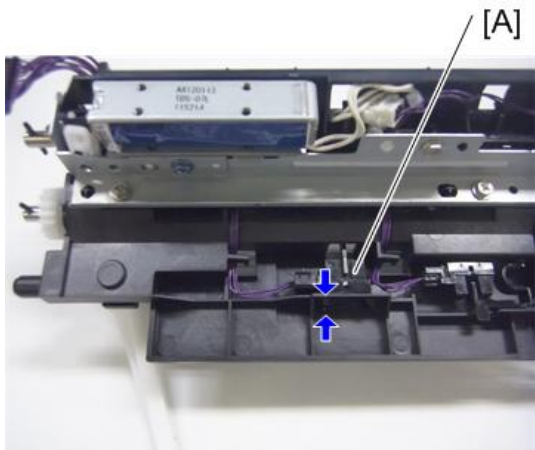


6. Remove the paper end sensor [A] (📦 ×1).



1.Replacement and Adjustment

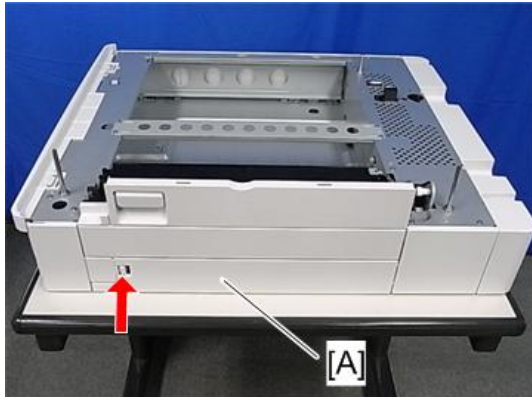
7. Remove the upper limit sensor [A] (📦 ×1).



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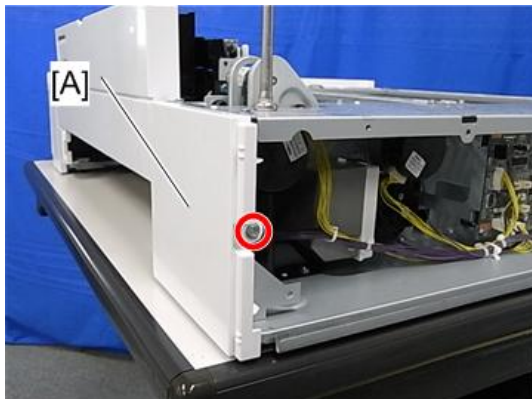
Paper Feed Unit

1. Pull out the paper tray.
2. Remove the rear cover. ([Rear Cover](#))
3. Remove the right lower cover [A] (hook ×1).



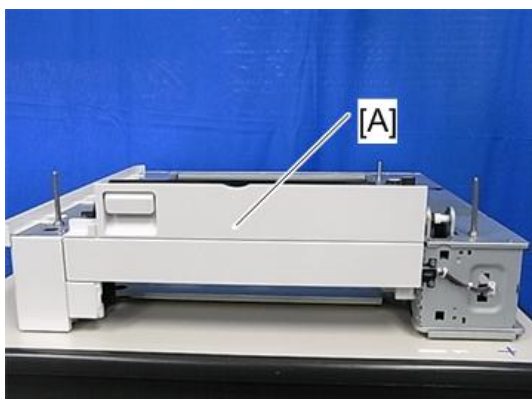
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4. Remove the right rear cover [A] (⌀×1).



d146z0076

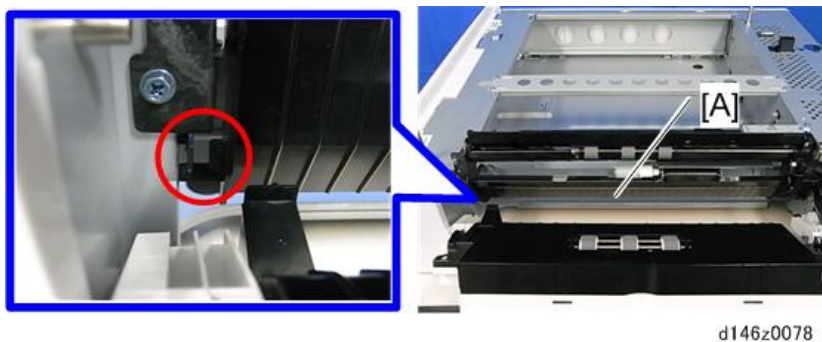
5. Open the transport cover [A].



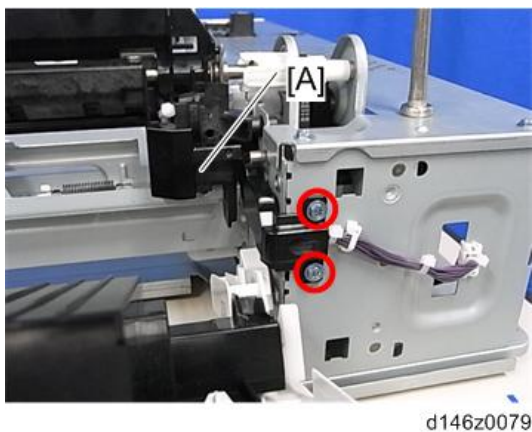
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1.Replacement and Adjustment

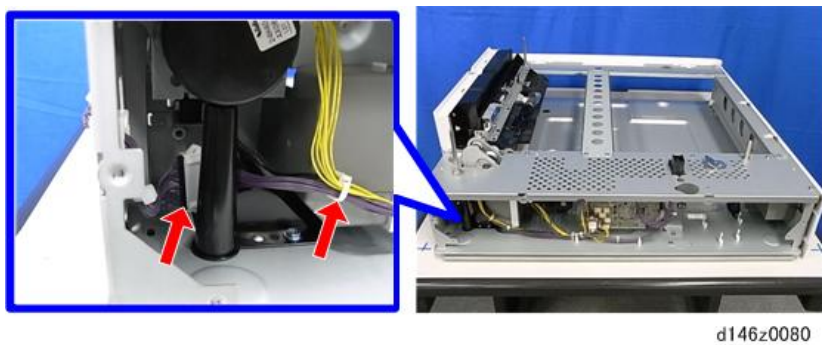
- 6.** Remove the transport guide [A] (tab ×1).



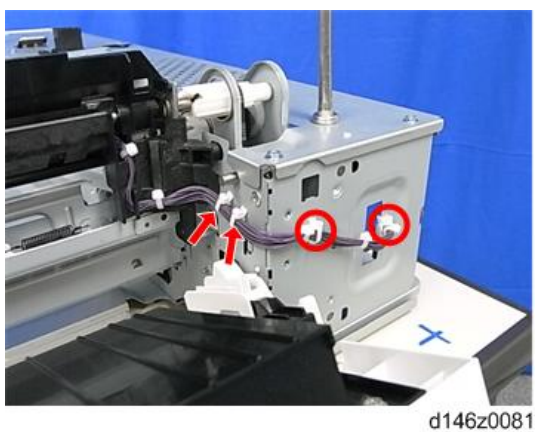
- 7.** Remove the harness guide [A] (⌚ ×2).



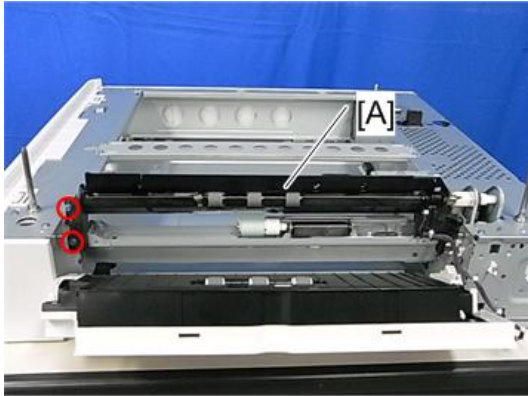
- 8.** Release the clamp, and then disconnect the harness at the right rear of the unit (🔌 ×1, 🧰 ×1).



- 9.** Release the four clamps (🧰 ×4).



- 10.** Remove the paper feed unit [A] (⌘×2).

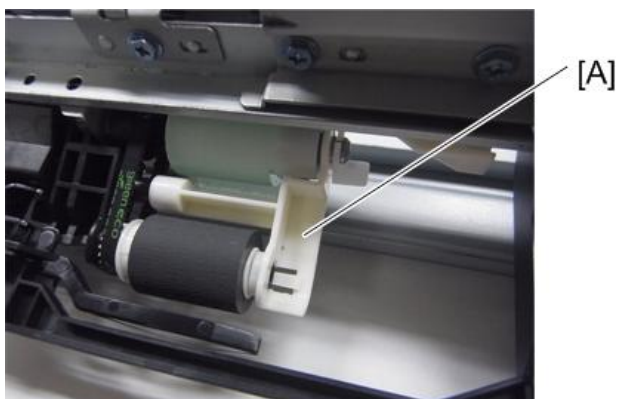


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1.Replacement and Adjustment

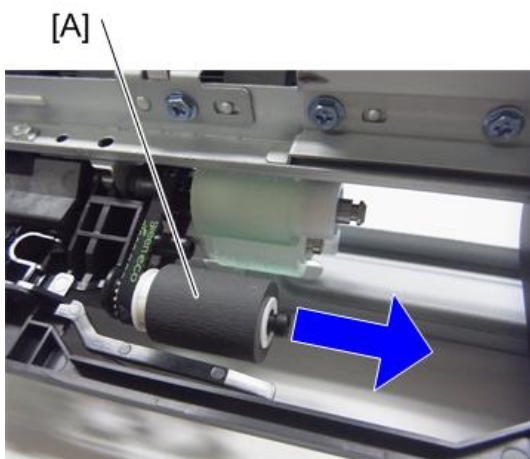
Pick-up Roller, Feed Roller, Friction Roller

1. Remove the paper feed unit. ([Paper Feed Unit](#))
2. Remove the holder [A] (⑧×1).



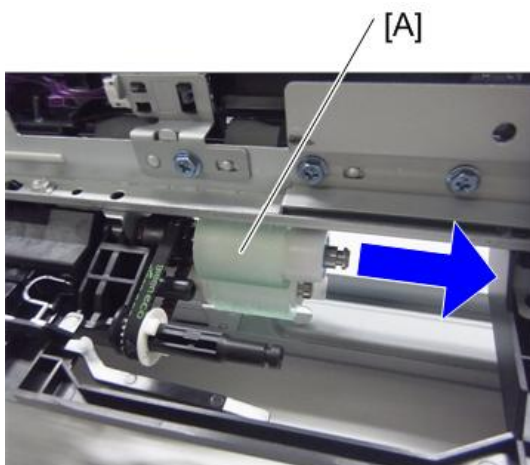
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3. Remove the pick-up roller [A].



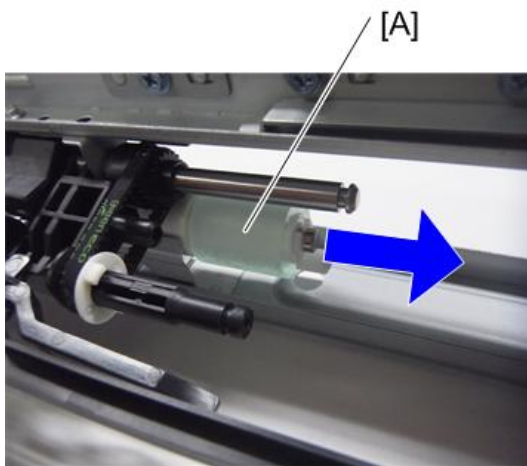
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4. Remove the feed roller [A].



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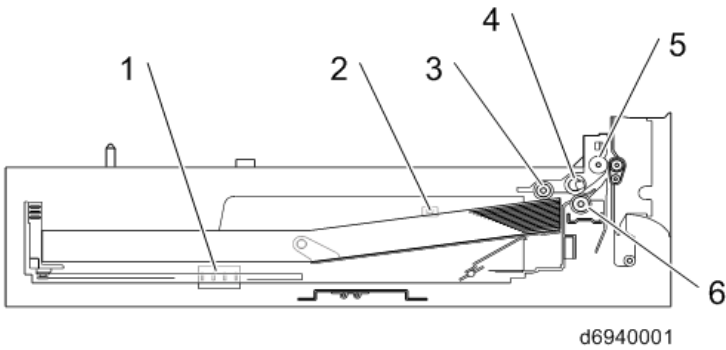
5. Remove the friction roller [A] (1×1).



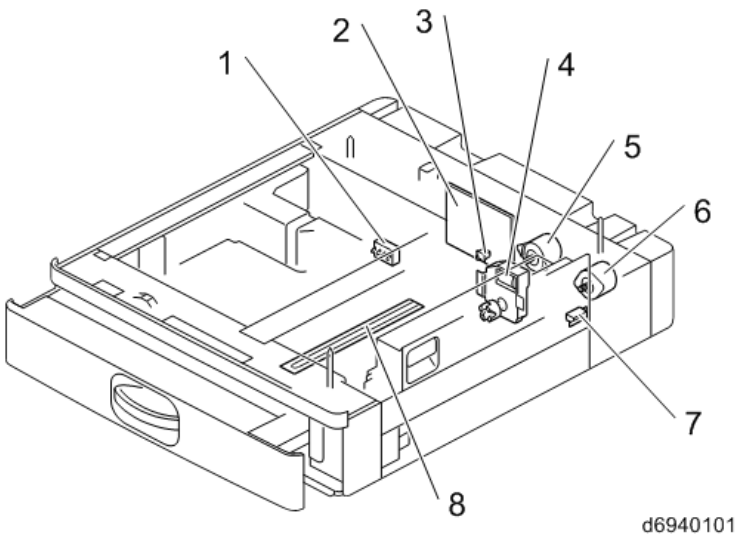
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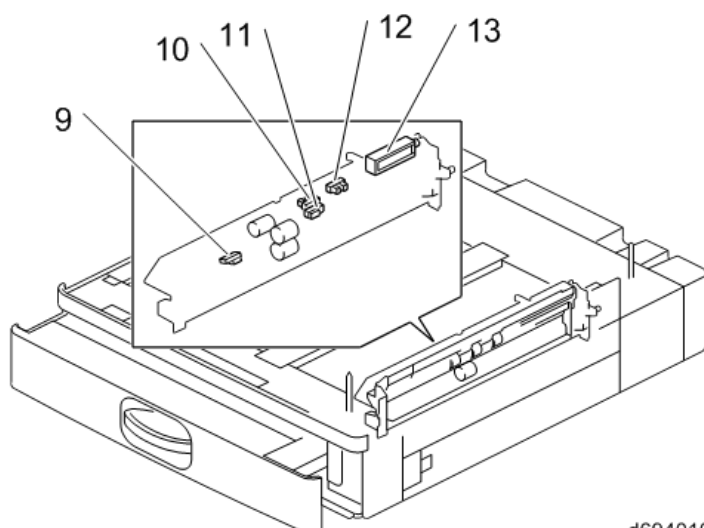
2. Detailed Descriptions

Parts Layout



No.	Description	No.	Description
1	Paper size switch	4	Feed roller
2	Tray set switch	5	Transport roller
3	Pick-up roller	6	Friction roller





d6940102

No.	Description	No.	Description
1	Paper size switch	8	Anti-condensation heater
2	Controller board	9	Paper feed sensor
3	Tray set switch	10	Paper end sensor
4	Tray lift motor	11	Vertical transport sensor
5	Paper feed motor	12	Upper limit sensor
6	Transport motor	13	Pick-up solenoid
7	Vertical transport cover open/closed switch		

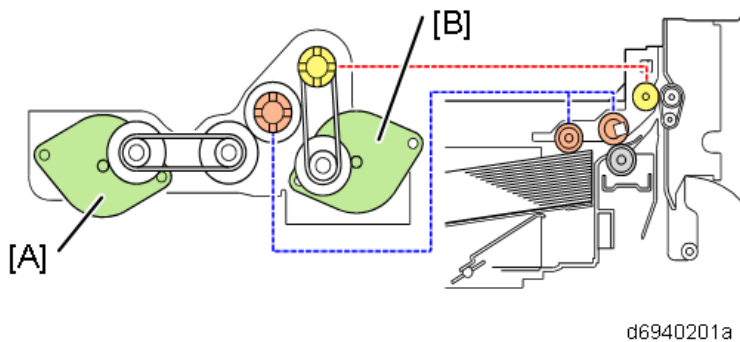
Mechanism

Paper Feed Separation Mechanism

The feed system is a RF paper feed system. The paper feed unit has a pick-up roller, feed roller, and friction roller. The feed roller and friction roller are high durability rollers.

Drive Mechanism

The pick-up roller and feed roller are driven by the paper feed motor [A]. The transport roller is driven by the transport motor [B]. The friction roller is not driven.



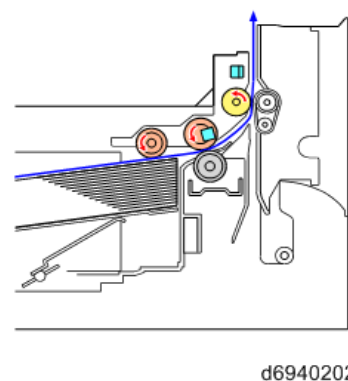
Friction Roller/Pick-Up Roller Release Mechanism

When the tray is set, the friction roller comes in contact with the feed roller. The pick-up roller touches the top sheet of paper.

When the tray is opened, contact between the feed roller and friction roller, and contact between the pick-up roller and paper are released.

Paper Feed Transport Mechanism

In order to feed the paper at regular intervals, there is a paper feed sensor near the pick-up roller, and this sensor is used to adjust the paper feed timing.



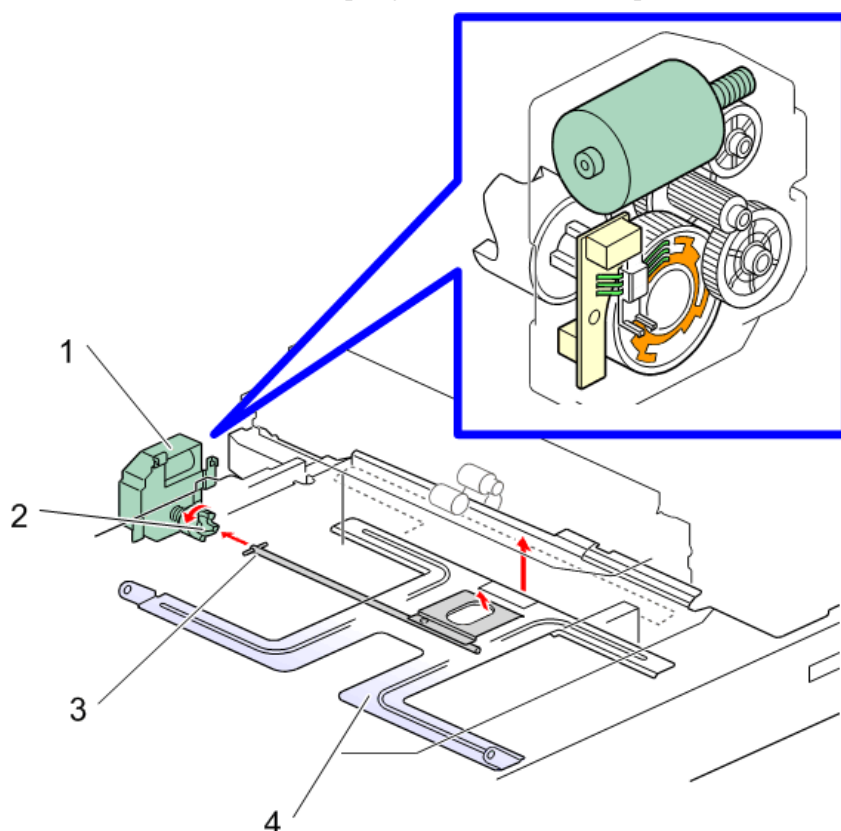
- 1.** The paper feed motor turns ON, and feeds the first sheet of paper.
- 2.** To prevent the next sheet from being fed, the pick-up solenoid turns ON just before the trailing edge of the first sheet passes through the pick-up roller, and the pick-up roller leaves the paper surface.

- 3.** Slightly before the trailing edge of the first sheet leaves the paper feed roller, the paper feed motor turns OFF. However, at this time, if the paper feed sensor does not detect paper (the second sheet is not fed to the paper feed sensor position), the paper feed motor does not turn OFF. Pre-feed is performed as follows:
 1. The pick-up solenoid turns OFF, and the second sheet of paper is fed to the paper feed sensor position.
 2. When the trailing edge of the second sheet passes the feed roller, the paper feed motor is turned OFF. The pick-up solenoid remains OFF.
- 4.** Just when the trailing edge of the first sheet passes the feed roller, the pick-up solenoid turns OFF. The pick-up roller is brought into contact with the paper surface.
- 5.** When the first sheet has been fed a specified distance by the downstream transport roller, the paper feed motor turns ON to feed the second sheet.

Tray Bottom Plate Lift

When the paper feed tray is set in the main frame, the tray set sensor switch turns ON. The coupling of the lift motor connects with the shaft at the rear of the tray, and the motor rotates to lift the tray bottom plate. The tray bottom plate rises until the paper surface lifts up the pick-up roller and the upper limit sensor turns OFF (the sensor is blocked). The tray is now ready to feed.

When the paper feed tray is removed, the coupling is disengaged, and the bottom plate descends. At this time, the lift motor rotates until the coupling returns to the home position.

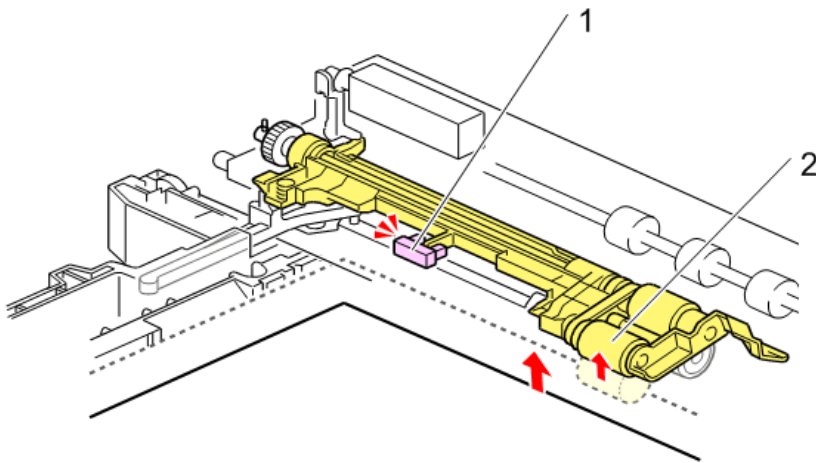


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No.	Description	No.	Description
1	Lift motor	3	Tray shaft (rear)

2.Detailed Descriptions

No.	Description	No.	Description
2	Coupling	4	Tray bottom plate



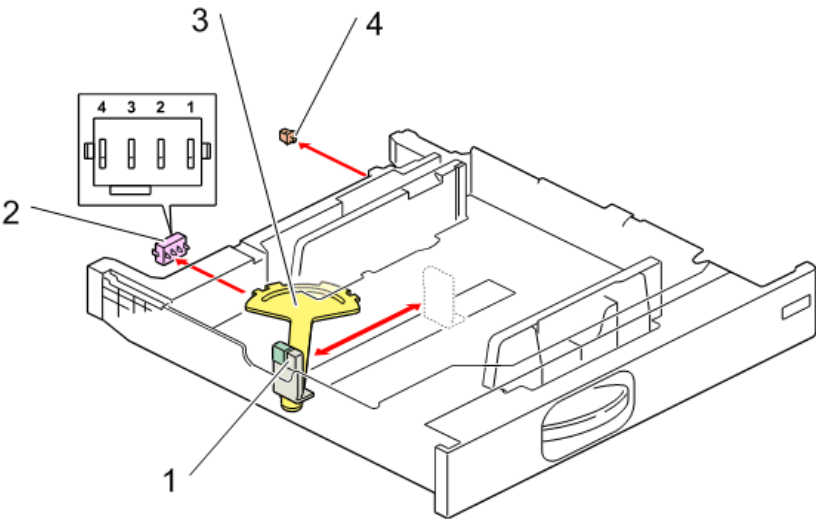
d1359609

No.	Description	No.	Description
1	Upper limit sensor	2	Pick-up roller

Paper Size Detection

The end fence is linked mechanically with the size detection actuator. When the end fence is moved, the size detection actuator also moves.

When the paper feed tray is set, 4 paper size switches turn ON/OFF depending on the position of the size detection actuator. Paper size is detected by the detected combination of these switches.



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No.	Description	No.	Description
1	End fence	3	Size detection actuator
2	Paper size switch	4	Tray set switch

Paper size switch operation

Paper size	Paper size switch			
	SW4	SW3	SW2	SW1
SRA3 (12"×18")	1	0	1	0
A3 (DLT)	0	1	0	0
B4 (LG)	0	0	1	1
	0	1	1	1
A4_SEF	1	1	1	0
LT_SEF	1	1	0	0
B5_SEF	1	0	0	0
A4_LEF (LT_LEF)	0	0	0	1
B5_LEF (Exe_LEF)	0	0	1	0
A5_LEF	0	1	0	1

Remaining Paper/Paper End Detection**Remaining paper detection**

Remaining paper in the paper feed tray is detected by a combination of ON/OFF status (contact/non-contact) of contact-type remaining paper sensors (boards) CN-3 and CN-5.

When the amount of remaining paper decreases, and the lift motor rotates, the remaining paper sensors CN-3 and CN-5 in the motor are turned ON/OFF.

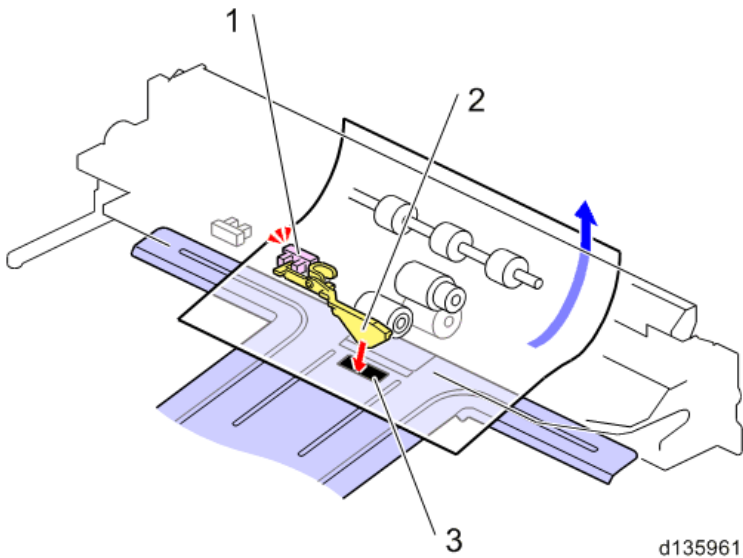
The following 4 levels of remaining paper can be detected.

Remaining paper	100%	70%	30%	10%
CN-3	OFF	ON	ON	OFF
CN-5	OFF	OFF	ON	ON
Control panel display	4 bars	3 bars	2 bars	1 bar

Paper end detection

When there is no more paper in the paper feed tray, the paper end feeler turns ON the paper end sensor (the sensor is unblocked).

2.Detailed Descriptions



d1359611

No.	Description	No.	Description
1	Paper end sensor	3	Slot in the tray base plate
2	End feeler		