

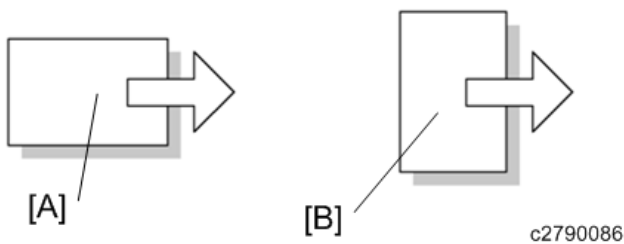
Paper Feed Unit PB1120/ PB1110
Machine Code: D3ER, D3EQ
Field Service Manual
Ver 1.0

Initial Release: February, 2019
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Symbols and Abbreviations

This manual uses several symbols.

Symbol	What it means
	Screw
	Connector
	Clip ring
	Clamp
SEF	Short Edge Feed
LEF	Long Edge Feed



[A] Short Edge Feed (SEF)

[B] Long Edge Feed (LEF)

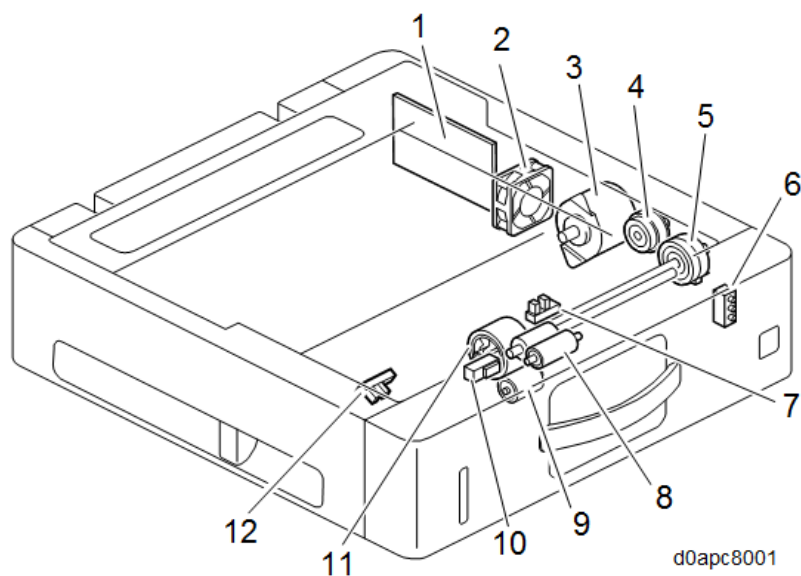
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1. Detailed Descriptions

Overview

Mechanical Components



No.	Item	No.	Item
1	Controller board (PCB1)	7	Paper end sensor (S1)
2	Bank cooling fan (FAN1)	8	Paper transport roller
3	Bank drive motor (M1)	9	Friction roller
4	Paper transport clutch (CL2)	10	Paper transport sensor (S3)
5	Paper feed clutch (CL1)	11	Paper feed roller
6	Paper size switch (SW1)	12	Paper near-end sensor (S2)

Paper Feed Operation

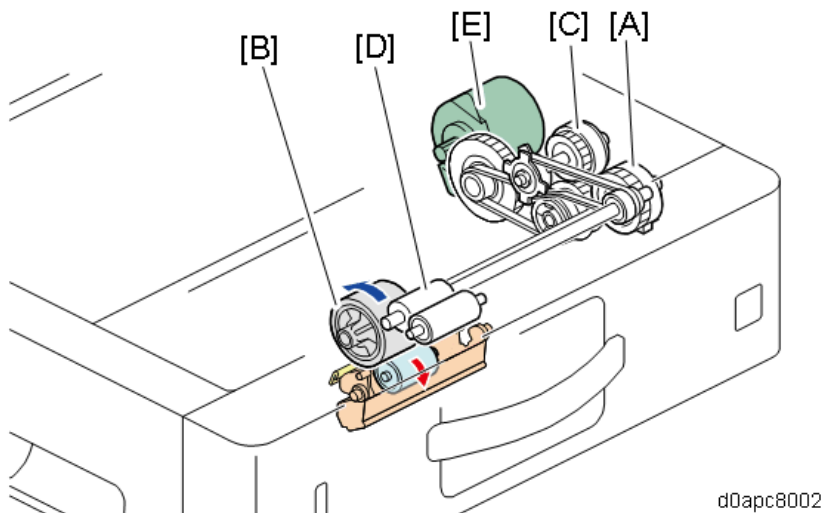
Paper Feeding

The paper feed tray of the main machine employs the RF (Roller Friction) method for paper separation. The RF mechanism comprises a separation roller with a torque limiter attached that forces paper separation (no reverse drive is used).

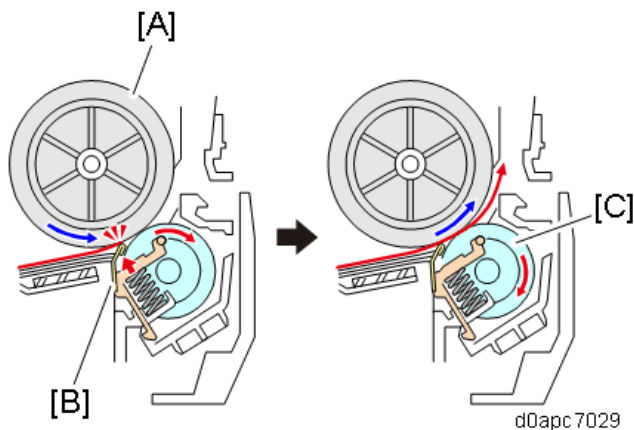
A paper feed signal switches on the paper feed clutch (CL1) [A] and starts rotating the paper feed roller [B] which feeds the paper. At the same time, switches on the paper transport clutch (CL2) [C] and starts rotating the paper transport roller [D] which feeds the paper.

When the leading edge of the moving paper switches on the registration sensor, this switches the paper feed clutch (CL1) and paper transport clutch (CL2) off. Image position timing starts while the registration sensor is on, and then the paper is transported to the transfer unit.

The paper feed clutch (CL1) and paper transport clutch (CL2) are driven by the bank drive motor (M1) [E].



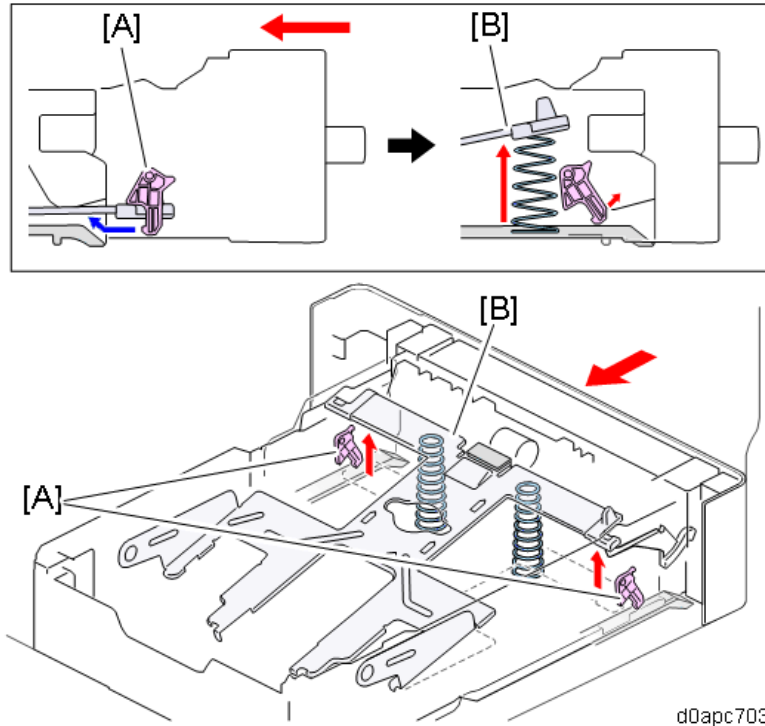
In front of the feed roller [A] a pre-separation plate [B] is installed to block the top of the stack from entering past the feed roller. The friction roller [C] separates the first sheet from the top of the stack so only the top sheet feeds.



1.Detailed Descriptions

Bottom Plate Lift Mechanism

When a paper tray is set in the machine, a catch on the frame of the machine snags the bottom plate lock lever [A] and releases it. When the lock is released, a spring raises the bottom plate [B] and paper stack to the feed roller.



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Also, the bottom plate and end fence are linked, so when the bottom tray rises, the end fence shifts forward against the trailing edge of the stack. This keeps the edge of the stack against the fence to prevent misfeeds.

Tray Paper Detection

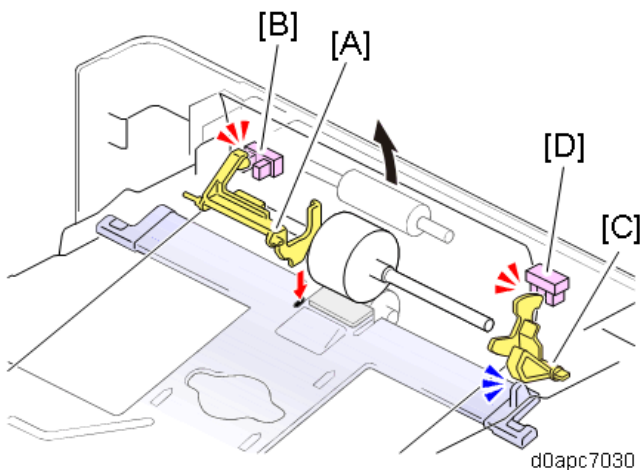
Paper End/ Paper Near End Detection

When the tray runs out of paper, one end of the paper end feeler [A] drops through the cut out on the bottom plate into the gap while the other end of the feeler pops up into the paper end sensor (S1) [B] and turns it off. When paper end is detected, the paper out message is displayed on the operation panel.

This machine is provided with a new paper near-end sensor.

A paper near-end feeler [C], installed on the corner of the bottom plate, detects the bottom plate as it rises. As sheets of paper feed out, the bottom plate rises. This also raises the feeler of the paper near-end sensor (S2) [D] until it blocks the gap of the sensor and switches it off. Paper near-end is detected when there are about 75 ± 50 sheets of paper (0.1 mm thick) remaining in the tray. When paper near-end is detected, the operation panel displays the paper near-end message.

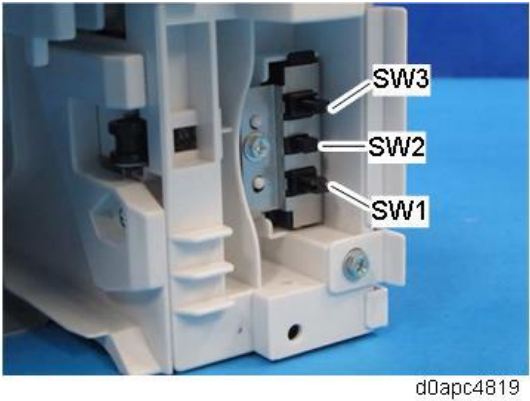
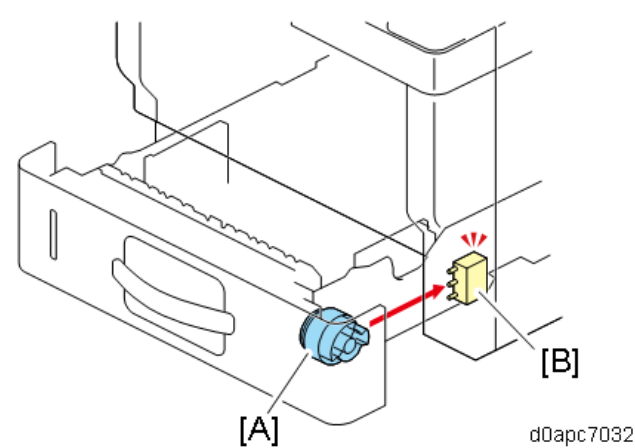
If paper end is detected before paper near-end, paper end takes precedence.



Paper Size Detection

When the paper tray is set in the machine, the paper size dial [A] installed on the right corner of the of the tray pushes onto the three grooves of the paper size switch (SW1) [B]. This sets the reading for the dial paper size setting. When more than one of these switches are set to "L" (ON") the machine knows the paper tray is installed.

1.Detailed Descriptions



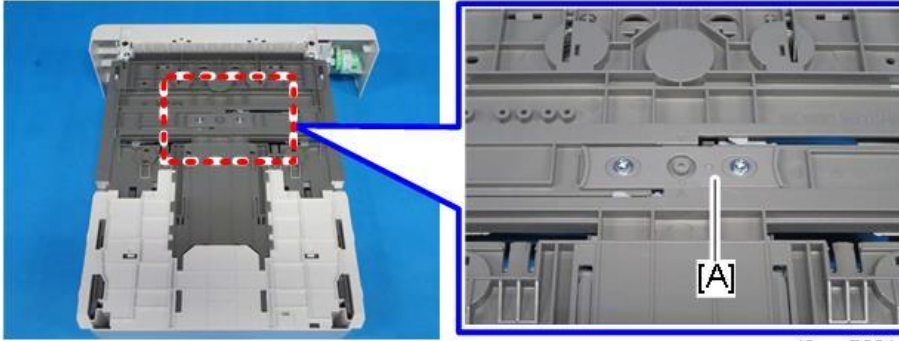
Value	SW 1	SW 2	SW 3	Paper size
1	L	L	L	A4 SEF
2	L	H	L	A5 SEF
3	H	L	L	A6 SEF
4	H	H	L	Legal SEF
5	L	L	H	Letter SEF
6	L	H	H	-
7	H	L	H	Half letter SEF
8	H	H	H	Paper cassette is not set.

L: Switch is pressed

Side-to-side Registration Adjustment in the Optional Paper Tray

To adjust side-to-side registration, loosen the two screws on the underside of the tray and move the rack and pinion mechanism of the side guides from side to side.

The holder [A] can move to right or left (up to 2mm). When at the default (± 0) position, the holder position is the triangle marked area.



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2. Replacement and Adjustment

Note

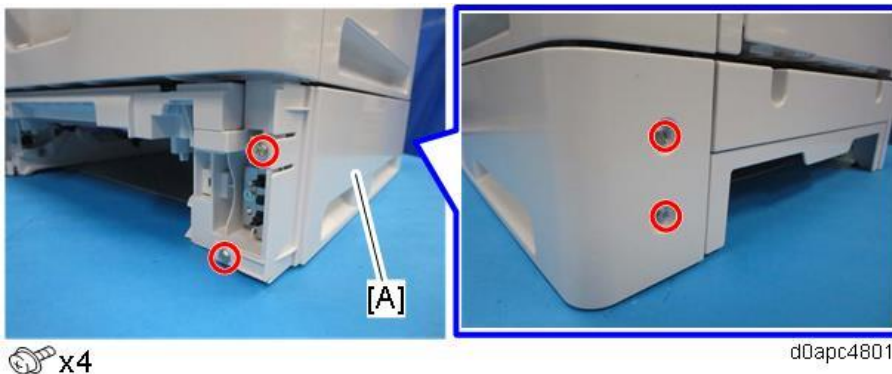
The parts and components of the Paper Feed Unit PB1120 (500 sheets) and Paper Feed Unit PB1110 (250 sheets) are the same. The replacement procedures described below apply to both units.

Right Cover

Note

The right cover can be removed with the main machine mounted on the paper feed unit.

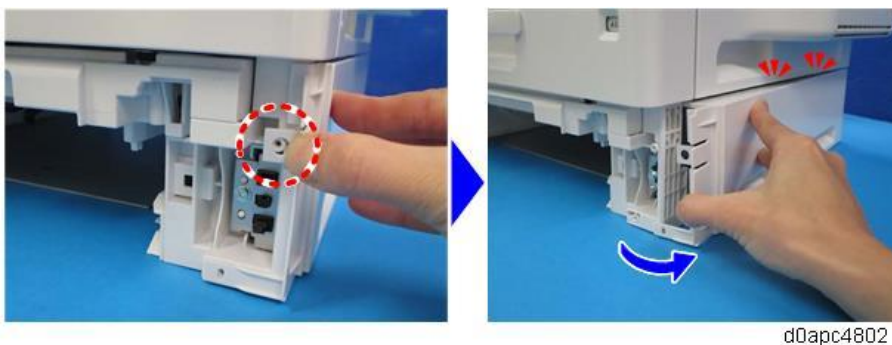
1. Remove the paper cassette.
2. Remove the right cover [A].



Note

Paper Feed Unit PB1110 (250 sheets):

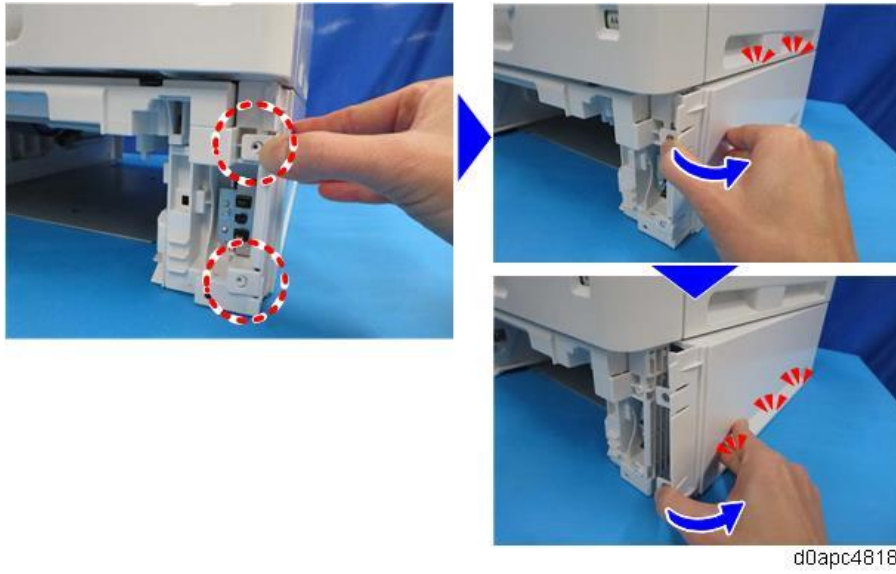
Disconnect the boss, and then open the right cover by holding the bottom part of it to release two hooks.



Paper Feed Unit PB1120 (500 sheets):

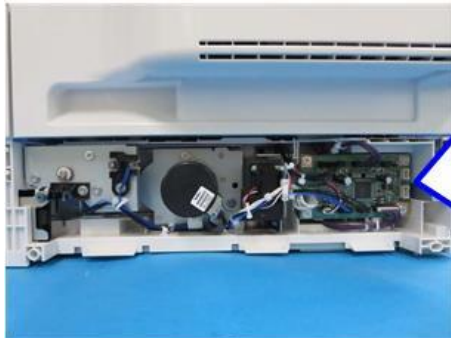
1. Disconnect the two bosses, and then open the right cover by holding the upper side of the right cover to release two upper hooks.
2. Open the right cover with holding the bottom side of right cover to release three lower hooks.

2.Replacement and Adjustment

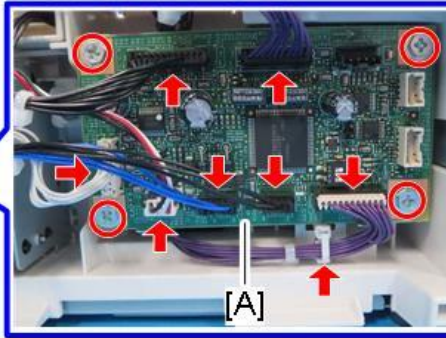


Controller Board (PCB1)

1. Remove the right cover. ([Right Cover](#))
2. Remove the controller board (PCB1) [A].



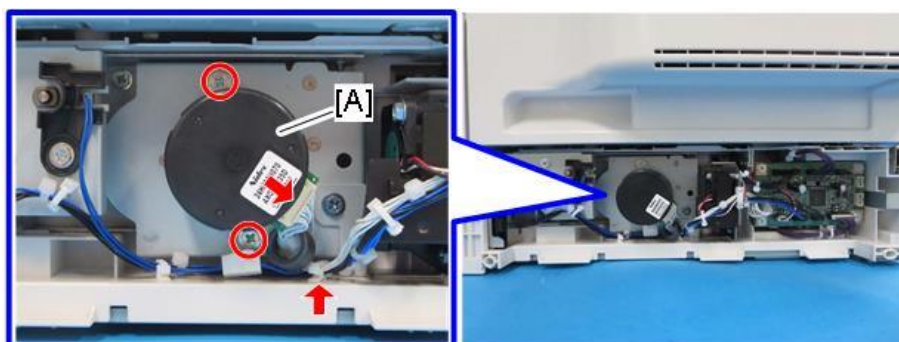
 x4  x7  x1



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Bank Drive Motor (M1)

1. Remove the right cover. (Right Cover)
2. Remove the bank drive motor (M1) [A].



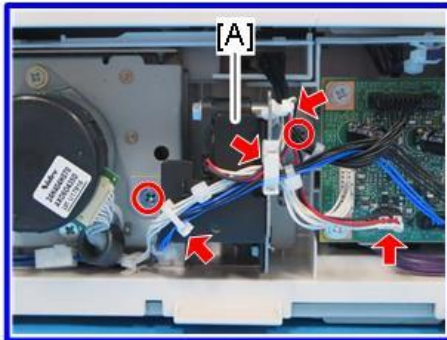
 x2  x1  x1

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2.Replacement and Adjustment

Bank Cooling Fan (FAN1)

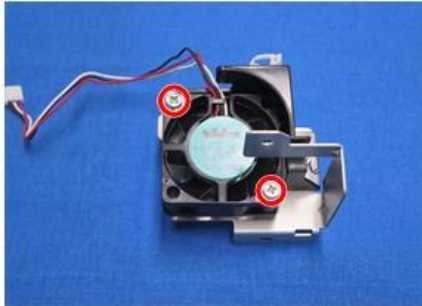
1. Remove the right cover. ([Right Cover](#))
2. Remove the bank cooling fan (FAN1) [A] with the bracket.



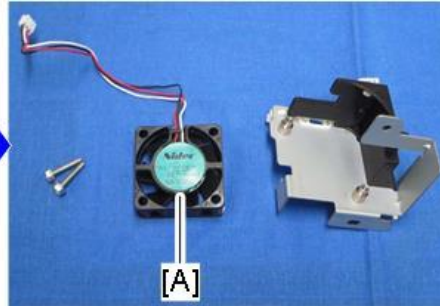
 x2  x1  x3

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3. Remove the bank cooling fan (FAN1) [A] from the bracket.



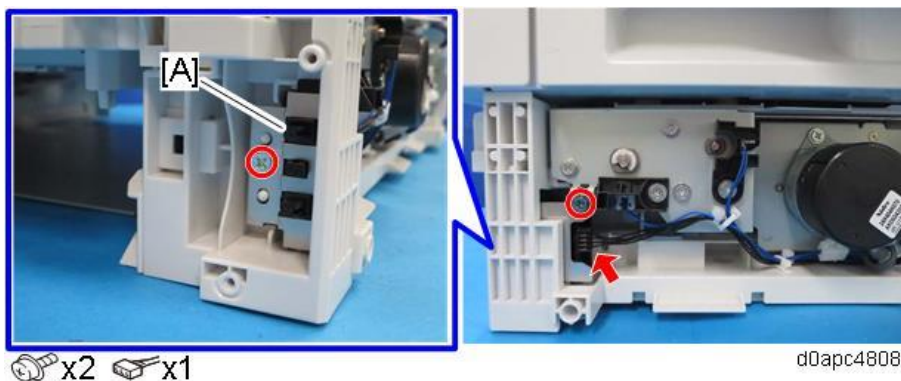
 x2



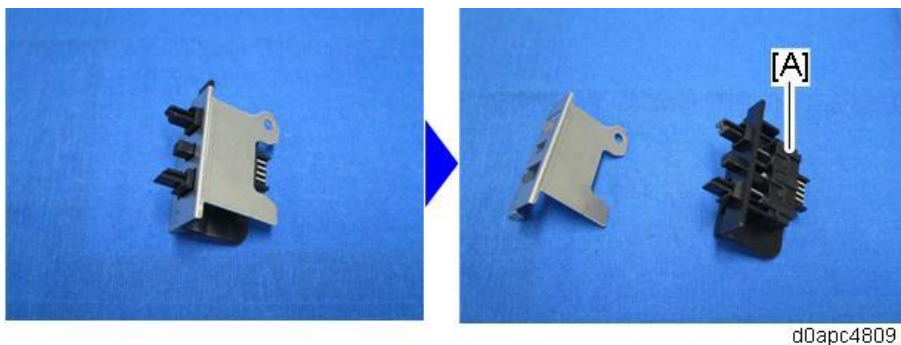
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Paper Size Switch (SW1)

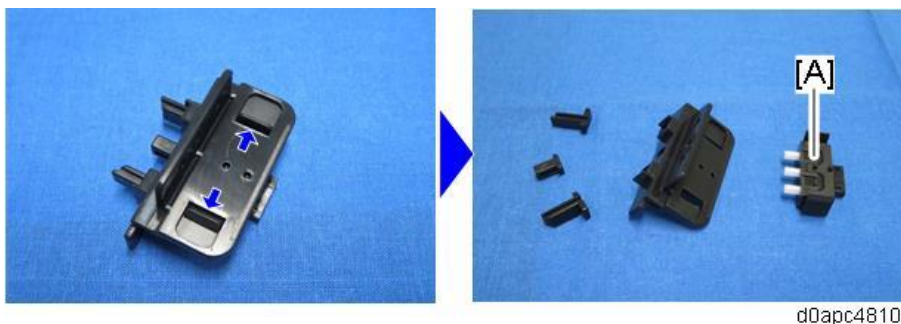
1. Remove the right cover. ([Right Cover](#))
2. Remove the paper size switch (SW1) [A] with its bracket.



3. Deattach the paper size switch (SW1) [A] from the bracket.

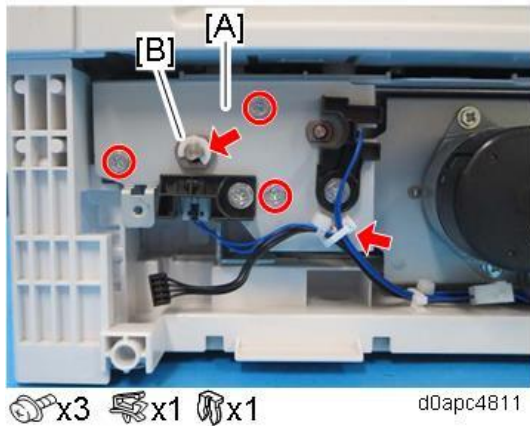


4. Release the two hooks to remove the paper size switch (SW1) [A].

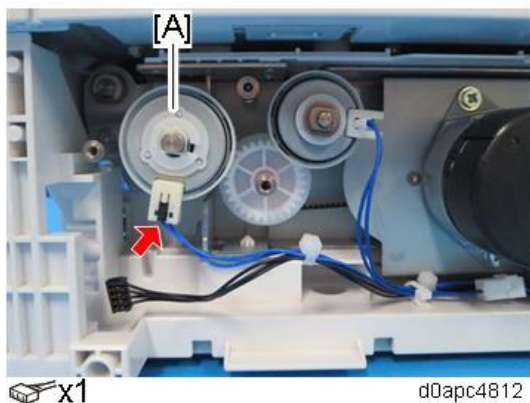


Paper Feed Clutch (CL1), Paper Transport Clutch (CL2)

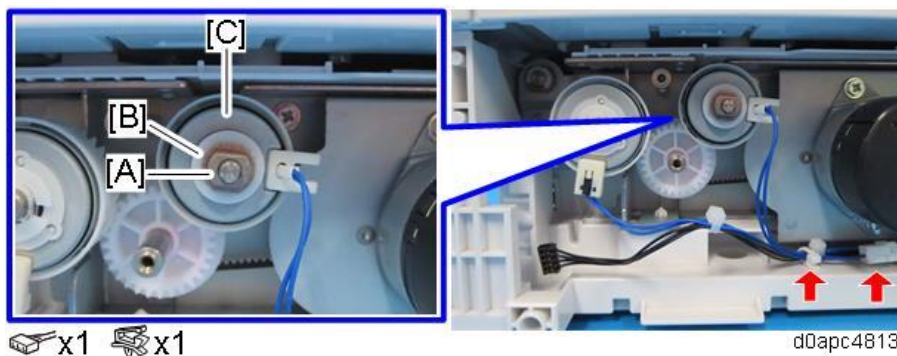
- 1.** Remove the right cover. ([Right Cover](#))
- 2.** Remove the paper size switch (SW1). ([Paper Size Switch \(SW1\)](#))
- 3.** Release the clip to remove the bearing [B], and then remove the bracket [A].



- 4.** Remove the paper feed clutch (CL1) [A].



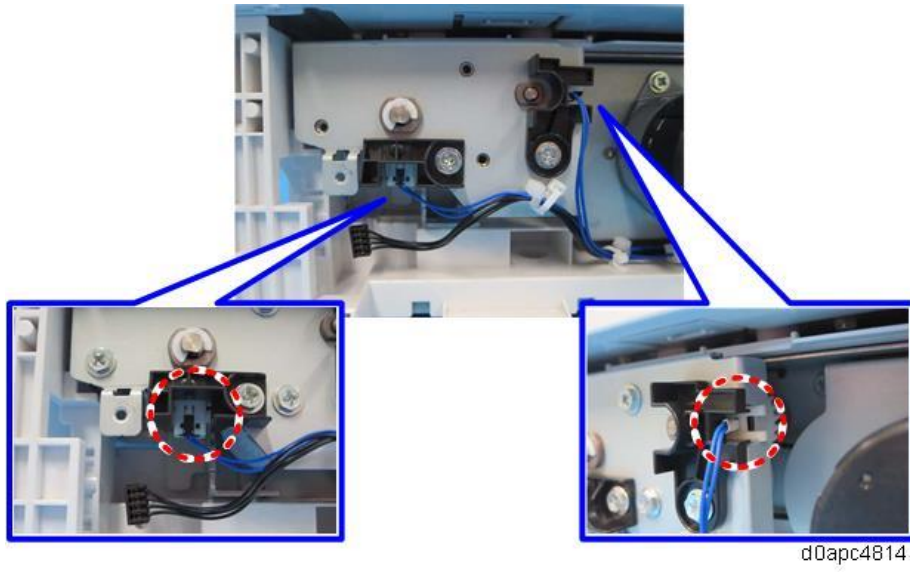
- 5.** Remove the bearing [A] and flange [B] to remove the paper transport clutch (CL2) [C].



Note

When attaching the bracket removed in Step 3, make sure that the clutch connectors are seated correctly on the holder.

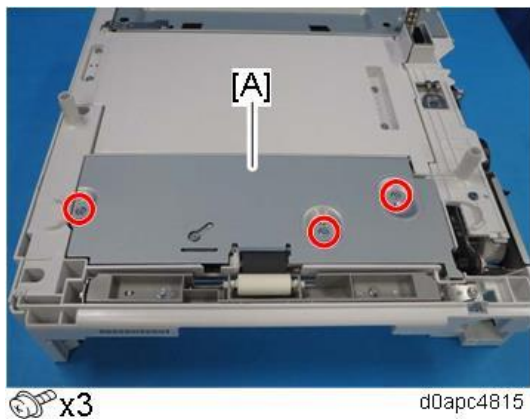
2.Replacement and Adjustment



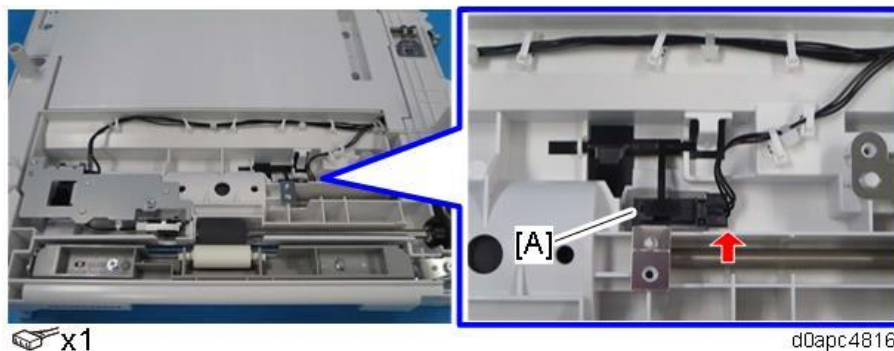
2.Replacement and Adjustment

Paper End Sensor (S1)

1. Remove the main machine from the paper feed unit.
2. Remove the paper cassette.
3. Remove the top cover [A].

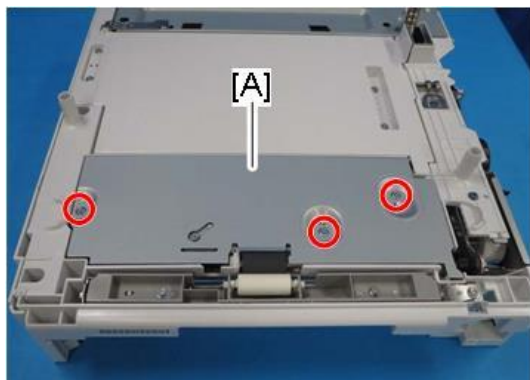


4. Remove the paper end sensor (S1) [A].



Paper Near-end Sensor (S2), Paper Transport Sensor (S3)

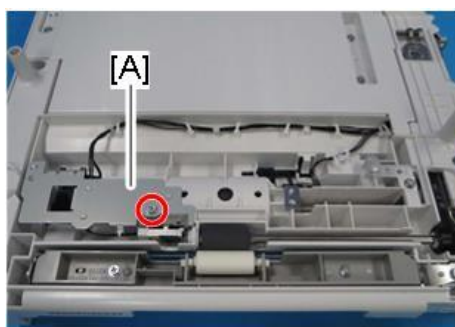
1. Remove the main machine from the paper feed unit.
2. Remove the paper cassette.
3. Remove the top cover [A].



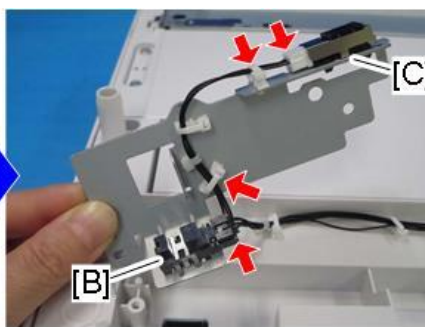
 x3

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4. Remove the bracket [A].
5. Remove the paper near-end sensor (S2) [B].
6. Remove the paper transport sensor (S3) [C].



 x1



 x2

 x2

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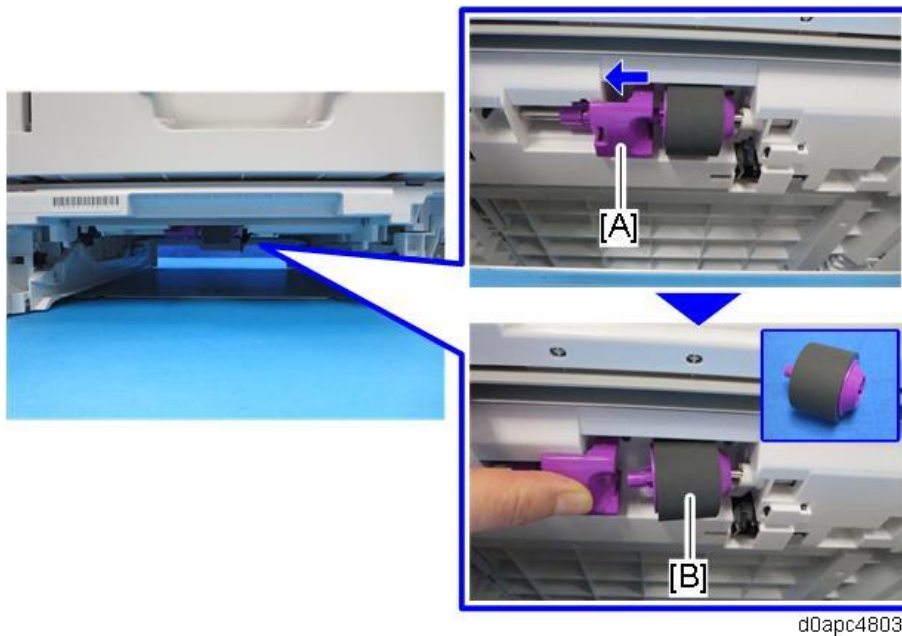
Paper Feed Roller

★ Important

Before replacing the paper feed roller, reset the PM counter.

- 1.** Turn the power ON and enter the SP mode.
- 2.** Execute the following SP corresponding to the part to be replaced to reset the PM counter.
 - SP7-804-051 (Rset PM Counter: Feed Bank1)
 - SP7-804-053 (Rset PM Counter: Feed Bank2)
 - SP7-804-055 (Rset PM Counter: Feed Bank3)
- 3.** Turn the power OFF.

- 1.** Remove the paper cassette.
- 2.** Slide the lever [A] to the left as shown below to remove the paper feed roller [B].



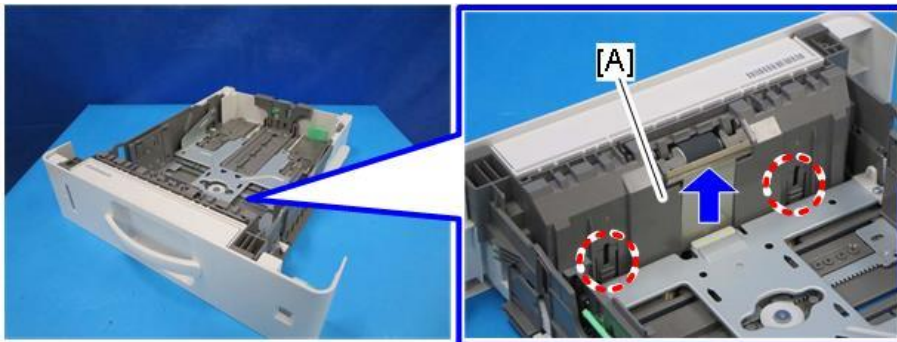
Separation Roller

★ Important

Before replacing the separation roller, reset the PM counter.

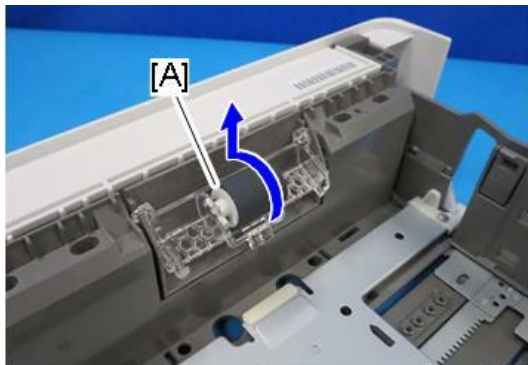
1. Turn the power ON and enter the SP mode.
2. Execute the following SP corresponding to the part to be replaced to reset the PM counter.
 - SP7-804-052 (Rset PM Counter: Spr. Bank1)
 - SP7-804-054 (Rset PM Counter: Spr. Bank2)
 - SP7-804-056 (Rset PM Counter: Spr. Bank3)
3. Turn the power OFF.

1. Remove the paper cassette.
2. Remove the inner cover [A] while pressing the two lock buttons in the paper tray.



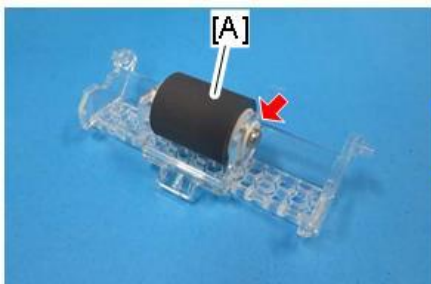
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3. Raise the holder of the separation roller [A] and remove it.



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4. Remove the separation roller [A] from the holder.



x1



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