Paper Feed Unit PB3280 / Paper Feed Unit PB3300
Machine Code: D3FY / D3FZ
Field Service Manual
Ver. 1.0

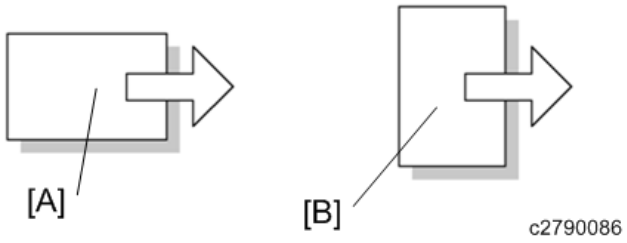
Latest Release: December, 2018
Initial Release: December, 2018

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] Short Edge Feed (SEF)

[B] Long Edge Feed (LEF)

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Microsoft® Windows Server® 2012 R2 Standard

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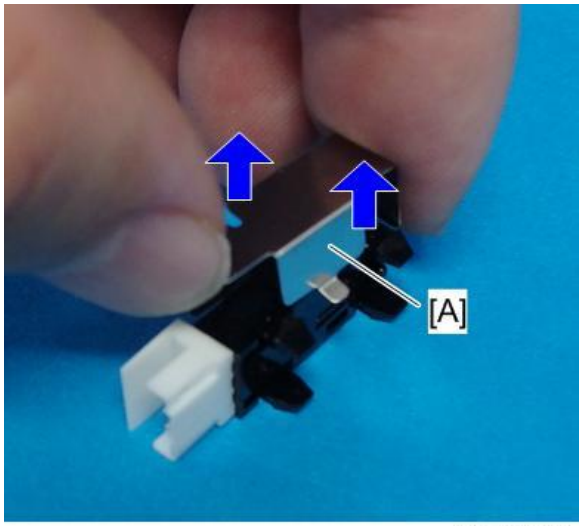
1. Detailed Descriptions

Changes from the Previous Machine

- **Making it Easier to Attach/Detach the Paper Feed Unit**
  Changes have been made to the screw position and wiring to make it easier to attach and detach the paper feed unit.
  For details about the replacement procedure, refer to “Paper Feed Unit”.
- **Antistatic Control**
  Metal cover [A] for antistatic control has been added to the transport sensor.
  When replacing the sensor, this cover will also be used after replacement, so remove it from the old sensor. When you do so, be careful not to deform or damage anything.



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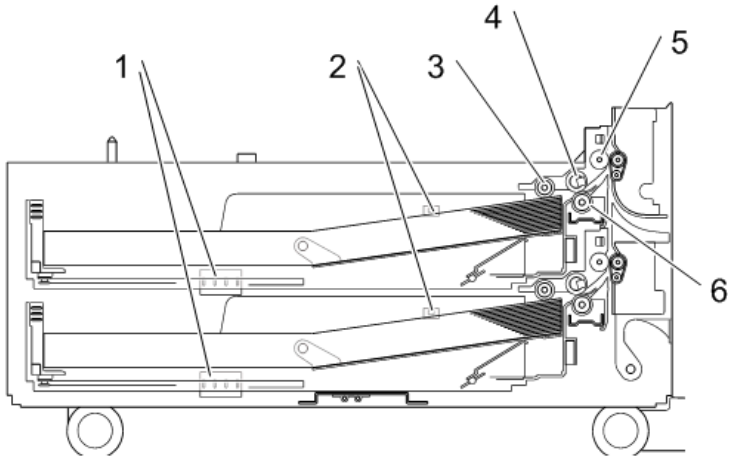
Specifications

Item	Specifications
Feed system:	Paper Feed Unit PB3280: RF (Roller Friction) paper feed system+ Pick-up solenoid Paper Feed Unit PB3300: RF (Roller Friction) paper feed system
Paper size:	• **Paper sizes that can be detected automatically** EU: A3 SEF, A4 LEF/SEF, A5 LEF, B4 JIS SEF, B5 JIS LEF/SEF, 8 1/2 × 11 SEF, SRA3 SEF NA: A4 LEF, A5 SEF, A6 SEF, B4 JIS SEF, B5 JIS LEF, B6 JIS SEF, 8 1/2 × 13 SEF, 8 1/4 × 14 SEF, 8 1/4 × 13 SEF, 8 × 13 SEF, 8 × 10 SEF, 7 1/4 × 10 1/2 SEF, 5 1/2 × 8 1/2 SEF, 8K SEF, 16K LEF/SEF, 11 × 15 SEF, 10 × 14 SEF, SRA3 SEF • **Select the paper size using the Tray Paper Settings menu** EU: A5 SEF, A6 SEF, B6 JIS SEF, 11 × 17 SEF, 8 1/2 × 14 SEF, 8 1/2 × 13 SEF, 8 1/2 × 11LEF, 8 1/4 × 14 SEF, 8 1/4 × 13 SEF, 8 × 13 SEF, 8 × 10 SEF, 7 1/4 × 10 1/2 LEF/SEF, 5 1/2 × 8 1/2 SEF, 8K SEF, 16K LEF/SEF, 12 × 18 SEF, 11 × 15 SEF, 10 × 14 SEF, 8 1/2 × 13 2/5 SEF NA: A3 SEF, A4 LEF, A5 SEF, A6 SEF, B4 JIS SEF, B5 JIS LEF, B6 JIS SEF, 8 1/2 × 13 SEF, 8 1/4 × 14 SEF, 8 1/4 × 13 SEF, 8 × 13 SEF, 8 × 10 SEF, 7 1/4 × 10 1/2 SEF, 5 1/2 × 8 1/2 SEF, 8K SEF, 16K LEF/SEF, 11 × 15 SEF, 10 × 14 SEF, SRA3 SEF • **Custom size** Vertical: 90.0–320.0 mm Horizontal: 148.0–457.2 mm
Paper weight:	60–300 g/m2 (16 lb. Bond–110 lb. Cover) Plain Paper 1–Thick Paper 4
Paper capacity (80 g/m^2, 20 lb. Bond):	550 sheets x 2 trays
Power consumption:	21 W (Power is supplied from the main unit.)
Dimensions (W x D x H):	587 x 685 x 247 mm (23.2 x 27.0 x 9.8 inches)
Weight:	Approx. 23 kg (50.8 lb.)

Parts Layout



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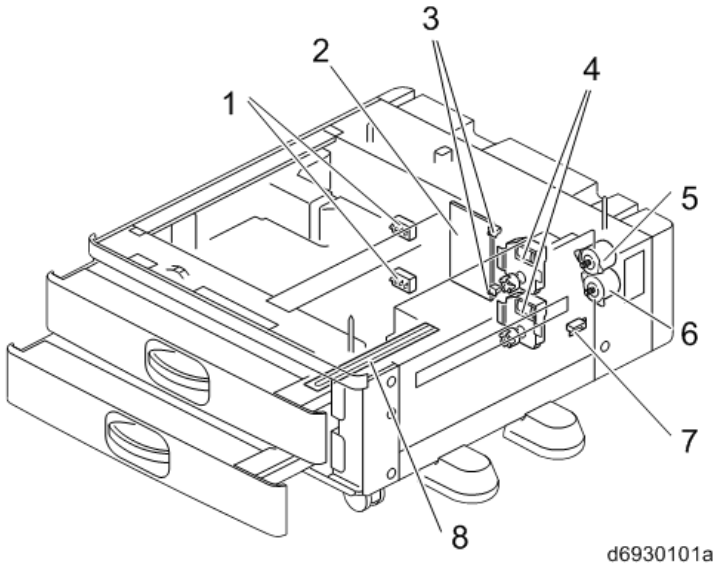
No.	Description
1	Paper size detection switch (SW1) (SW3)
2	Tray set detection switch (SW2) (SW4)
3	Pick-up roller
4	Feed roller
5	Transport roller
6	Friction roller



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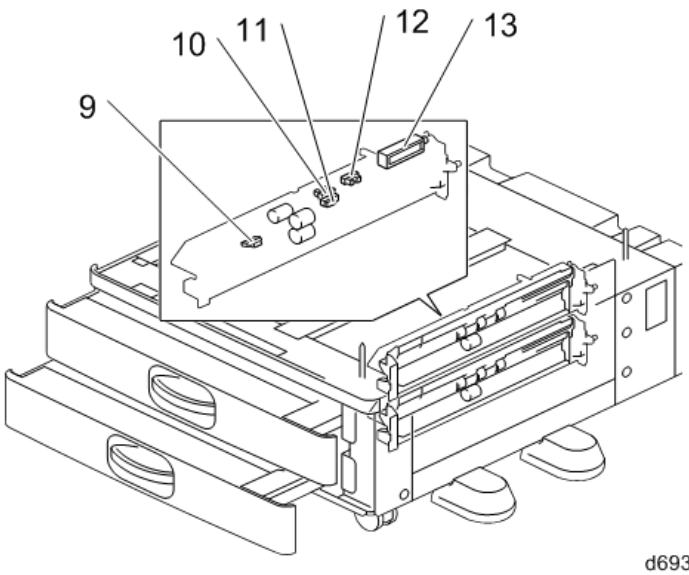

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No.	Description	No.	Description
1	Paper size detection switch (SW1) (SW3)	8	Dehumidification heater (Option) (H1)
2	Controller board (PCB1)	9	Paper feed sensor (S1) (S9)
3	Tray set detection switch (SW2) (SW4)	10	Paper end sensor (S3) (S8)
4	Tray lift motor (M3) (M4)	11	Transport sensor (S2) (S7)
5	Paper feed motor (M2)	12	Limit sensor (S4) (S9)
6	Transport motor (M1)	13	Pick-up solenoid (SOL1) (SOL2)
7	Transport cover switch (SW5)	-	-

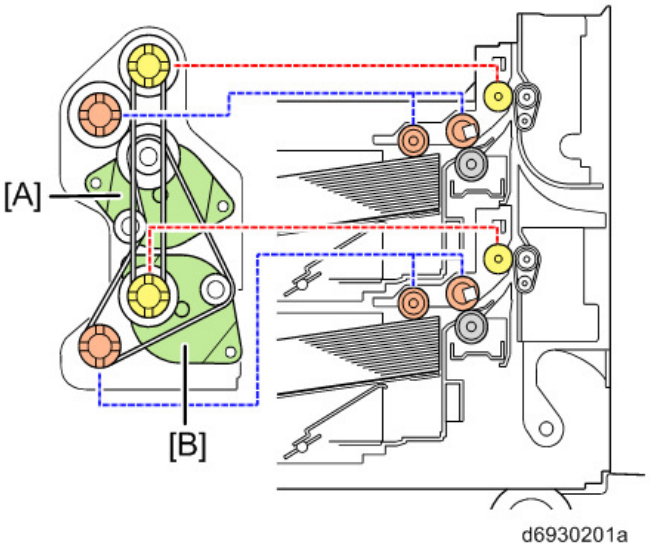
Mechanism

Paper Feed Separation Mechanism

Paper feed is an RF paper feed system. The paper feed unit comprises a Pick-up roller, Feed roller and Friction roller. These rollers are high durability.
In the RF system, paper separation is assisted by the resistance of a separating roller with a torque limiter (reverse drive is not performed).

Drive Mechanism

Pick-up roller and Feed roller are driven by the paper feed motor (M2) [A]. Transport roller is driven by the transport motor (M1) [B]. Friction roller is not driven.

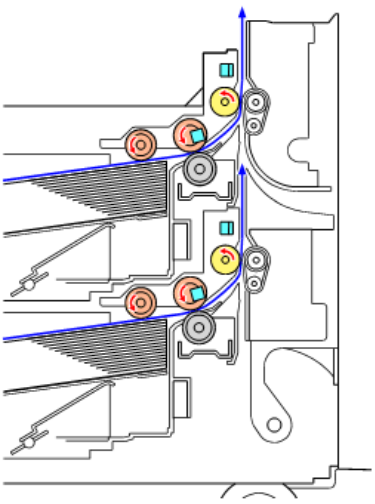


Friction Roller/ Pick-up Roller Release Mechanism

When the paper feed tray is set, the Friction roller comes in contact with the Feed roller, and the Pick-up roller contacts the uppermost transfer sheet.
However, when the paper feed tray is pulled out, to prevent paper dropout, the contact between the Feed roller and Friction roller, and between pick-up roller and paper is released.

Paper Feed Transport Mechanism

In this MFP, to maintain a fixed clearance between sheets, a paper feed sensor (S1) is provided between the Pickup roller and the Feed roller, which adjusts the paper feed timing.



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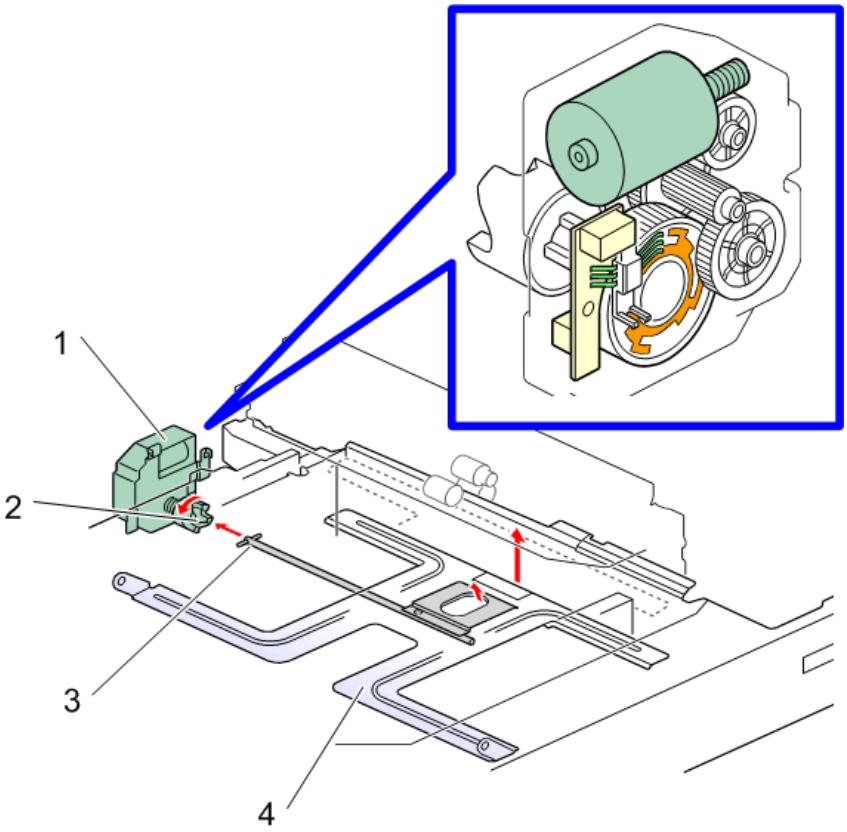
1. The paper feed motor (M2) turns ON, and supplies the first sheet.
2. To prevent transport of the next sheet, the pickup solenoid (SOL1) switches ON just before the trailing edge of the first sheet leaves the Pickup roller, and the Pickup roller separates from the paper surface.
3. Just before the trailing edge of the first sheet leaves the paper feed motor (M2), the paper feed motor (M2) switches OFF.
   However, at this time, when the paper feed sensor (S1) detects no sheet (when the second sheet is not transported to the paper feed sensor position), pre-feed is performed without switching the Paper feed motor OFF.
   Pre-feed is as follows.
   1. The pickup solenoid (SOL1) switches OFF, and the second sheet of paper is transported to the paper feed sensor position.
   2. When the trailing edge of the second sheet passes the Feed roller, the paper feed motor (M2) is switched OFF. The pickup solenoid (SOL1) remains OFF.
4. Just before the trailing edge of the first sheet passes the Feed roller, the pickup solenoid (SOL1) is switched OFF, and the pickup roller is brought in contact with the paper surface.
5. When the first sheet is transported a predetermined distance by the downstream transport roller, the paper feed motor (M2) is switched ON to supply the second sheet.

Tray Base Plate Lift

When the paper feed tray is set in the main unit, the tray set detection switch (SW2) switches ON, and it is detected that the tray is set. At this time, the coupling of the lift motor engages with the shaft at the rear of the tray, the motor rotates, and the tray base plate is lifted up. The paper surface pushes up the pickup roller, the tray base plate is lifted until the upper limit sensor (S4) switches OFF (blocked), and the printer enters the standby mode.

When the paper feed tray is removed, the coupling is disengaged, and the base plate descends. At this time, the tray lift motor (M3) rotates until the coupling returns to the home position.

1.Detailed Descriptions



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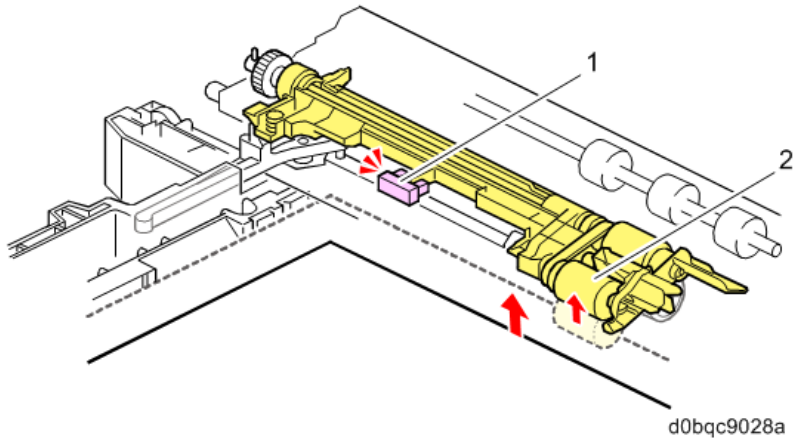
No.	Description	No.	Description
1	Tray Lift motor (M3)	3	Tray rear side shaft
2	Coupling	4	Tray base plate



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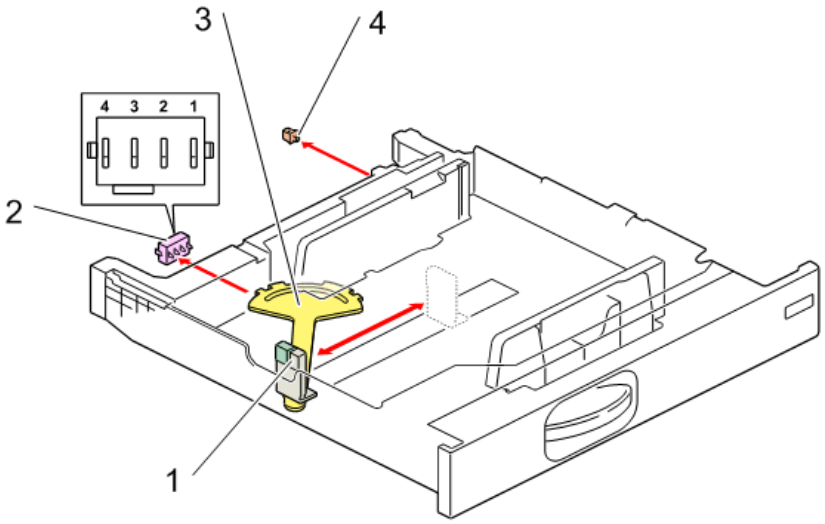
No.	Description	No.	Description
1	Upper limit sensor (S4)	2	Pick-up roller

Paper Size Detection

The end fence interlocks mechanically with the size detection actuator, and when the end fence is moved, the size detection actuator also moves.

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



No.	Description	No.	Description
1	End fence	3	Size detection actuator
2	Paper size detection switch (SW1)	4	Tray set detection switch (SW2)

Size detection switch operation

Paper size	Size detection 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 Detection/Paper End Detection

Remaining paper detection

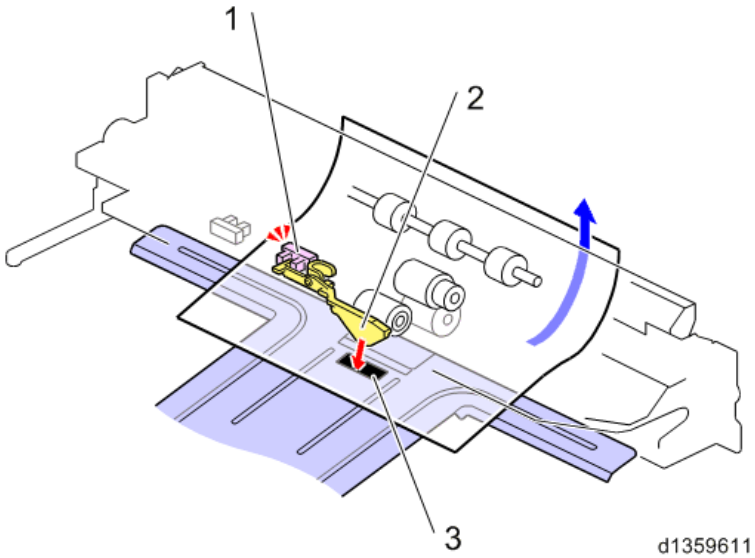
Detection of paper remaining in the Paper feed tray is performed by a combination of ON/OFF (contact/non-contact) of contact-type remaining detection plates (printed circuits) CN-3, CN-5.
When the amount of remaining paper decreases, and the tray lift motor (M3) rotates, the remaining paper sensors CN-3 and CN-5 in the motor are turned ON/OFF.
The following 4 levels of remaining paper can be detected:

Amount remaining	100%	70%	30%	10%
CN-3	OFF	ON	ON	OFF

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

Paper end detection

When the paper feed tray is empty, the paper end sensor (S3) switches ON (unblocked) due to the end feeler.



No.	Description	No.	Description
1	Paper end sensor (S3)	3	Slot in the tray base plate
2	End feeler	-	-

2. Replacement and Adjustment

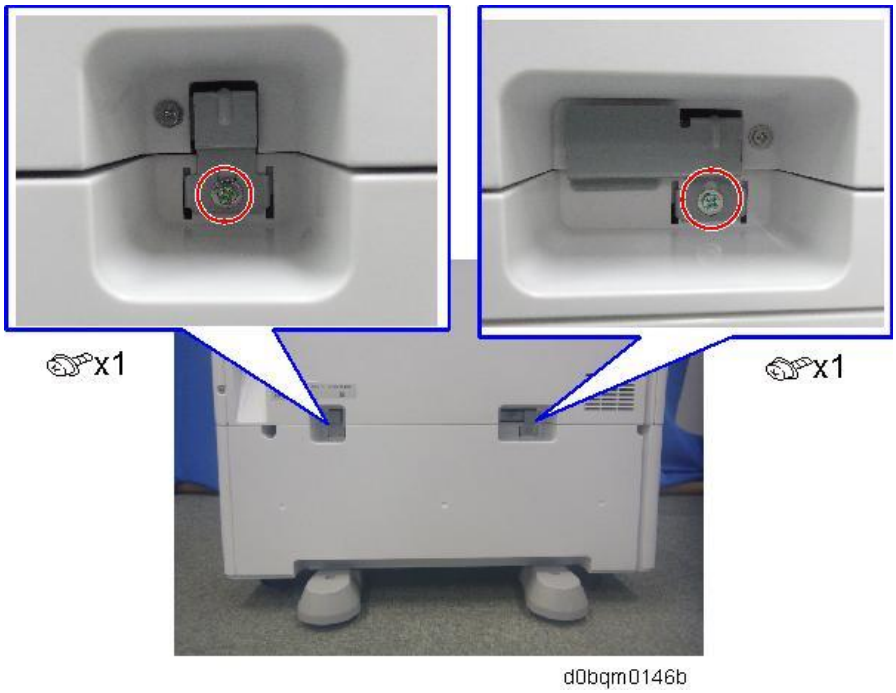
Exterior Cover

The Aim of Anti-tip Components and Precautions

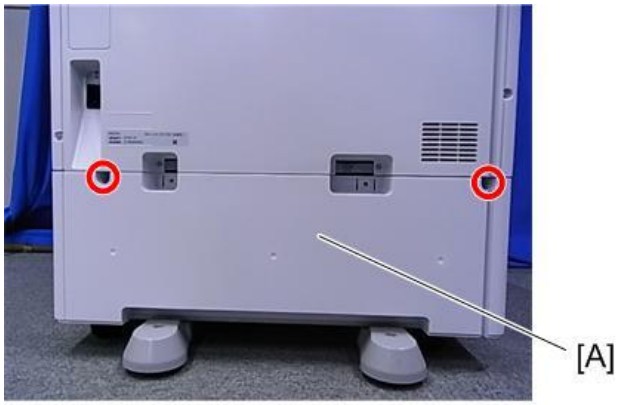
The anti-tip components are necessary for meeting the requirements of IEC60950-1, the international standard for safety.
The aim of these components is to prevent the products, which are heavy in weight, from toppling as a result of people running into or leaning onto the products, which can lead to 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 at your own judgment.

Rear Cover

1. Remove the securing brackets.



2. Remove the rear cover [A] (×2).



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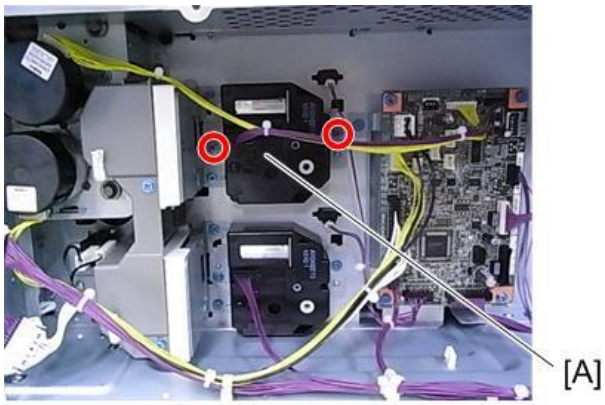
Motors

Tray Lift Motor 1 (M3)

1. Remove the rear cover (Rear Cover).
2. Remove the tray lift motor 1(M3) [A] (×2, ×1).



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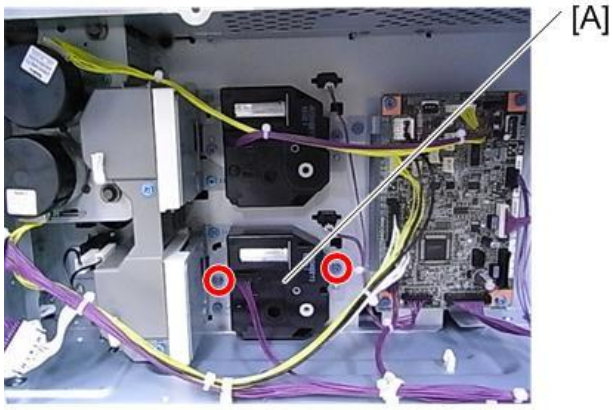
Tray Lift Motor 2 (M4)

1. Remove the rear cover (Rear Cover).
2. Remove the tray lift motor 2 (M4) [A] (×2, ×1).



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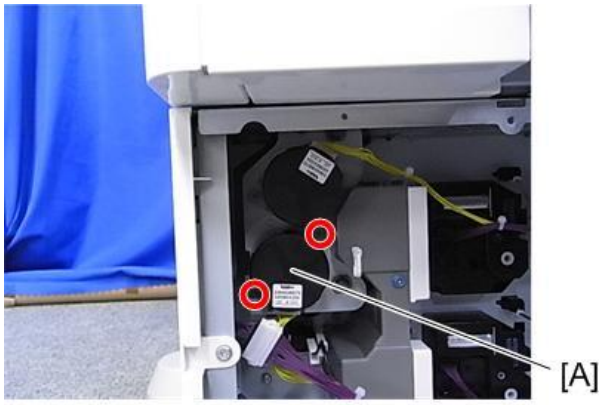
Transport Motor (M1)

1. Remove the rear cover (Rear Cover).

2. Remove the transport motor (M4) [A] (×2, ×1).



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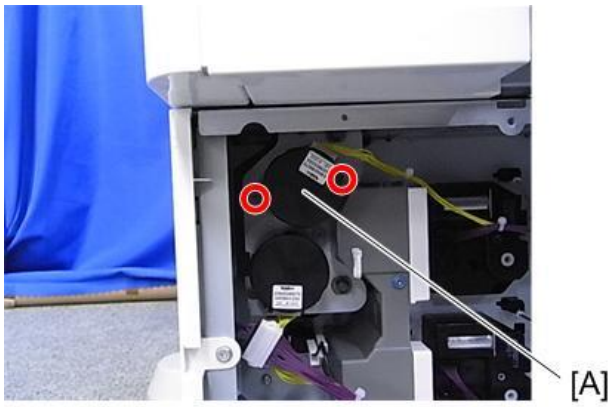
Paper Feed Motor (M2)

1. Remove the rear cover (Rear Cover).

2. Remove the paper feed motor (M2) [A] (×2, ×1).



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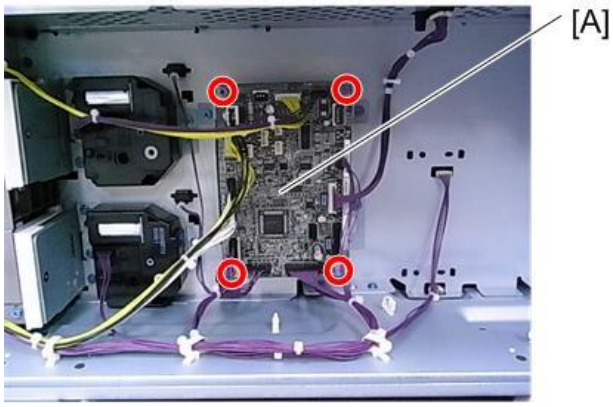
Board

Controller Board (PCB1)

1. Remove the rear cover (Rear Cover).
2. Remove the controller board (PCB1) [A] (×4, ×10).



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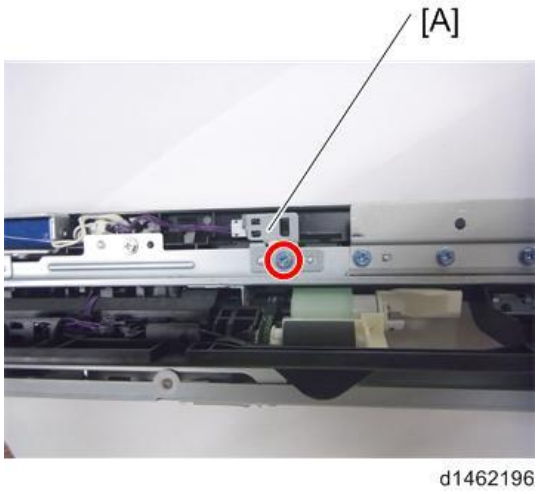
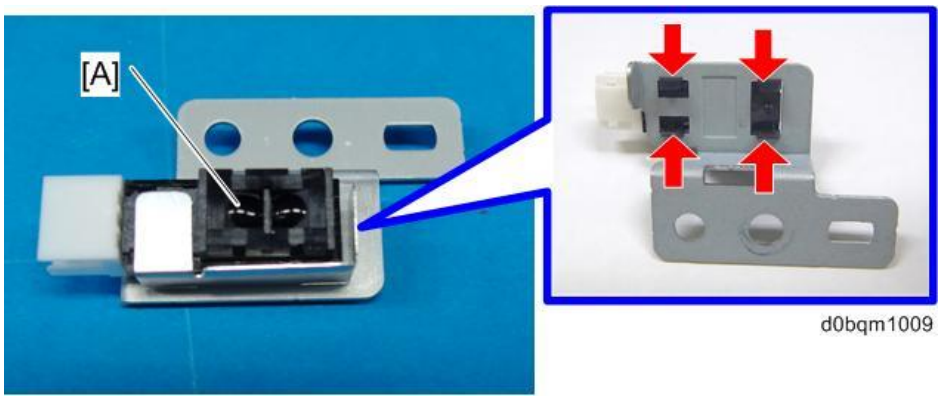
Sensors

Transport Sensor (S2) (S7)

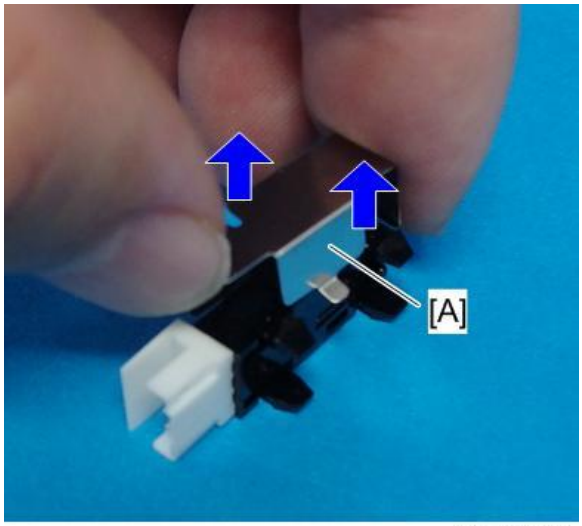
1. Remove the paper feed unit (2nd Paper Feed Unit, 1st Paper Feed Unit).
2. Remove the transport sensor bracket [A] (×1).



3. Remove the transport sensor (S2) (S7) [A] (×1).



Metal cover [A] for antistatic control has been added to the transport sensor.
When replacing the sensor, this cover will also be used after replacement, so remove it from the old sensor. When you do so, be careful not to deform or damage anything.



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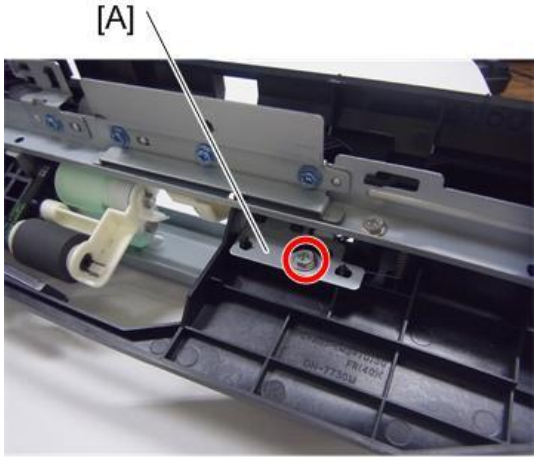
Paper Feed Sensor (S1) (S6)

1. Remove the paper feed unit (2nd Paper Feed Unit, 1st Paper Feed Unit).
2. Remove the paper feed sensor bracket [A] (×1).



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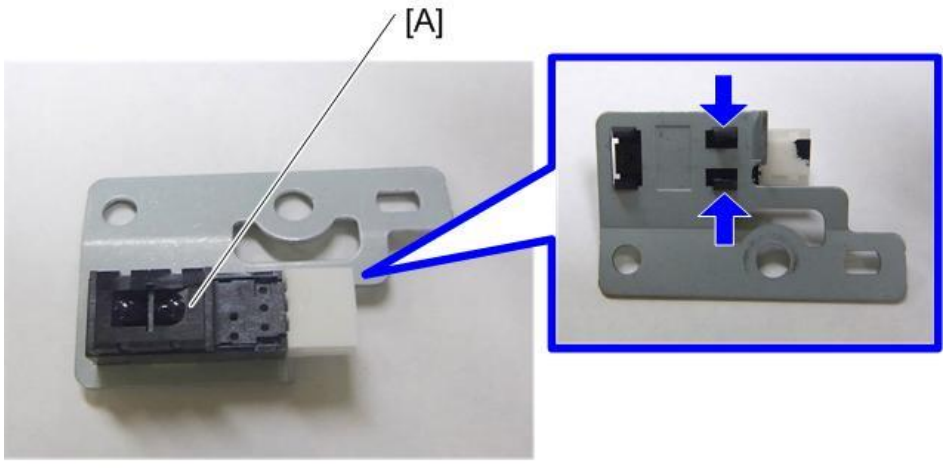
3. Remove the paper feed sensor (S1) (S6) [A] (×1).



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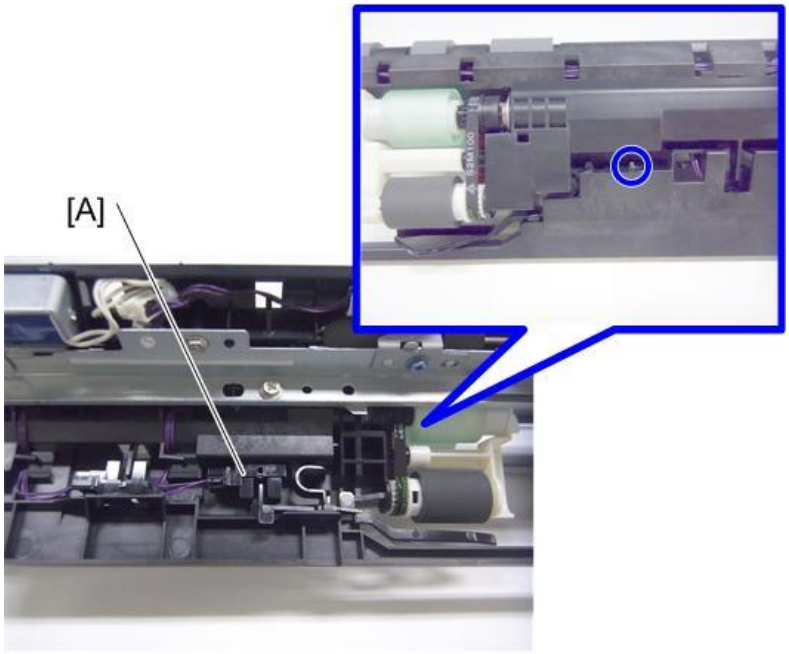
Paper End Sensor (S3) (S8)

1. Remove the paper feed unit (2nd Paper Feed Unit, 1st Paper Feed Unit).
2. Remove the paper end sensor (S3) (S8) [A] (×1).



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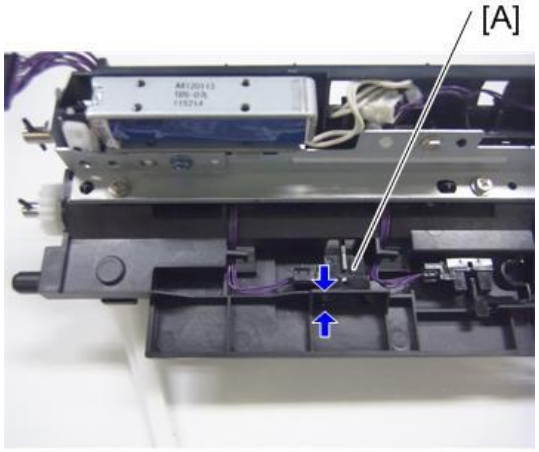
Limit Sensor (S4) (S9)

1. Remove the paper feed unit (2nd Paper Feed Unit, 1st Paper Feed Unit).
2. Remove the limit sensor (S4) (S9) [A] (×1).



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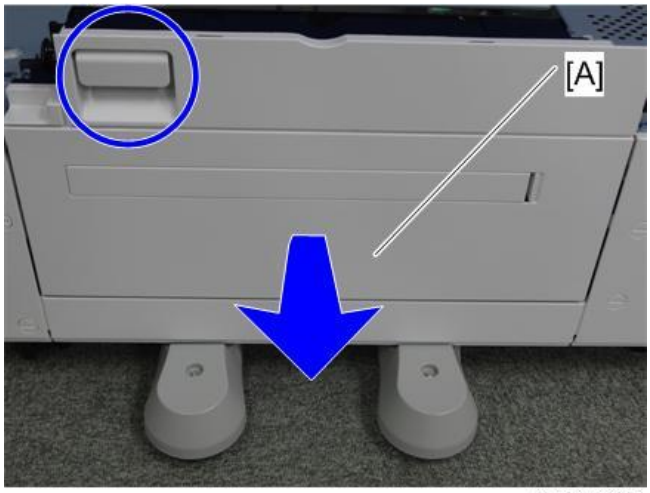
Paper Feed Unit

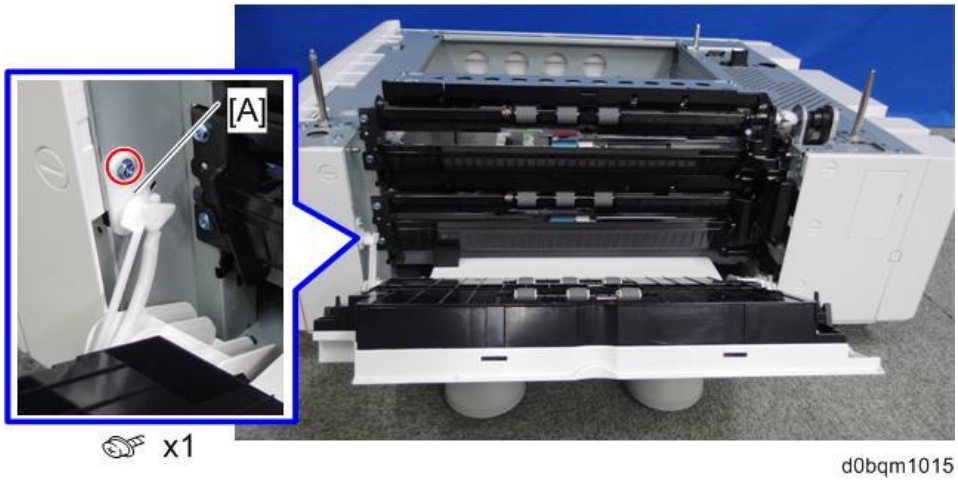
2nd Paper Feed Unit

1. Pull out the paper trays.
2. Open the Transport cover [A].



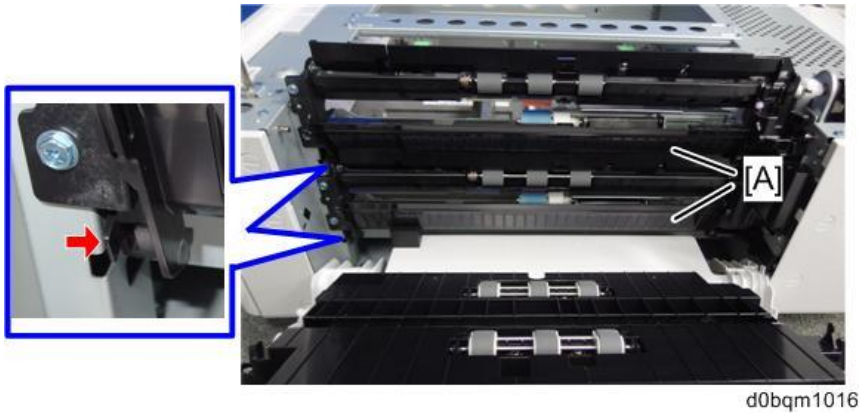
d0bqm1014

3. Remove the stopper [A] (×1).



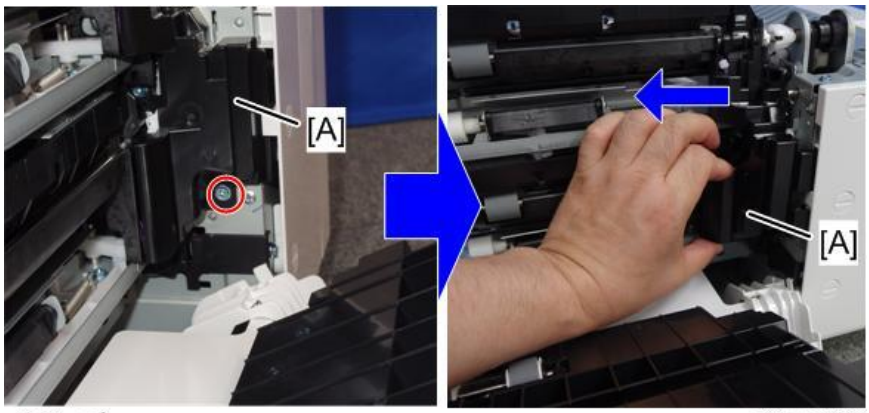
d0bqm1015

4. Release the latch, and then remove the top and bottom paper feed guides [A].

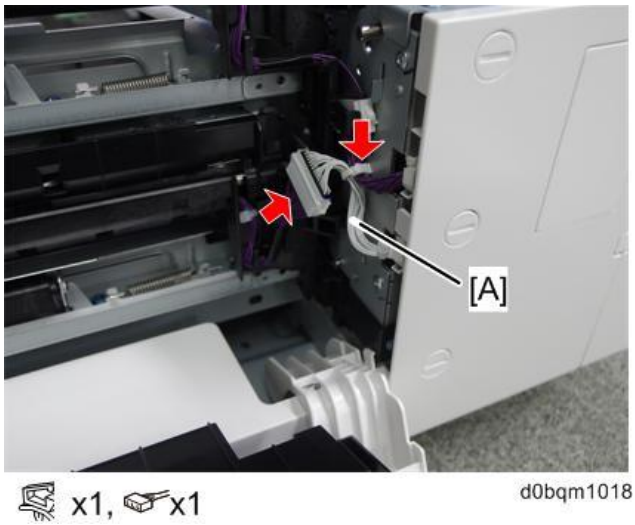


d0bqm1016

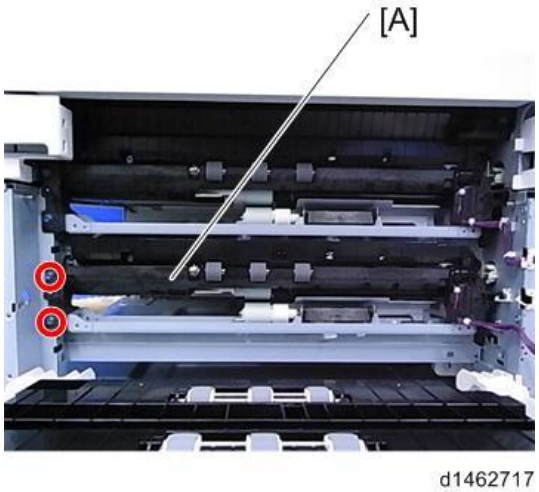
5. Remove the harness cover [A].



6. Remove the harness [A] (×1,×4).



7. Remove the 2nd Paper feed unit [A] (×2).



1st Paper Feed Unit

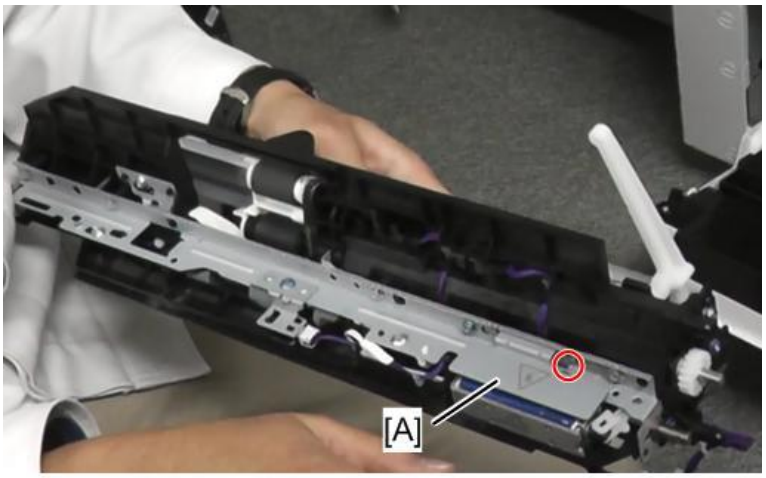
Important

- Both Paper Trays 1 and 2 share the paper feed unit, but when replacing the 1st paper feed

unit, be sure to remove the cover [A] of the solenoid.

1st paper feed unit: Attach the paper feed unit with a solenoid cover.

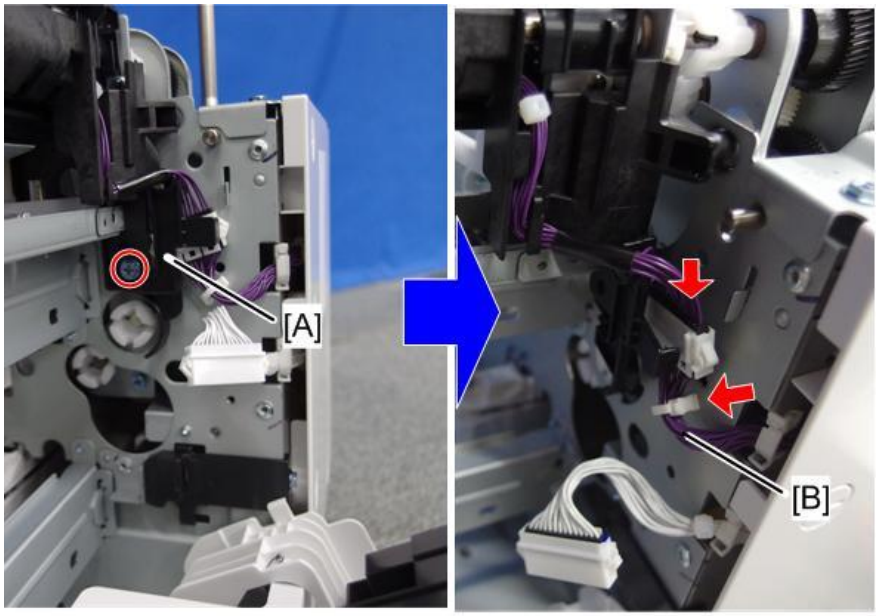
2nd paper feed unit: Attach the paper feed unit without a solenoid cover.



x1 d0bqm1020

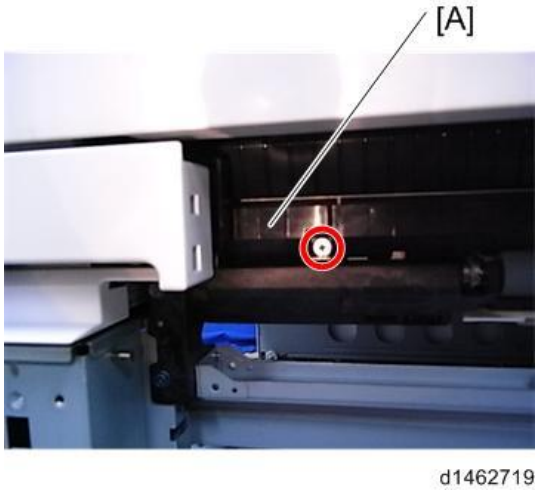
1. Remove the 2nd Paper feed unit (2nd Paper Feed Unit).
2. Remove the connector cover [A], and then remove the harness [B].

If it is difficult to remove the cover, you can remove its screw and simply unfasten the cover.

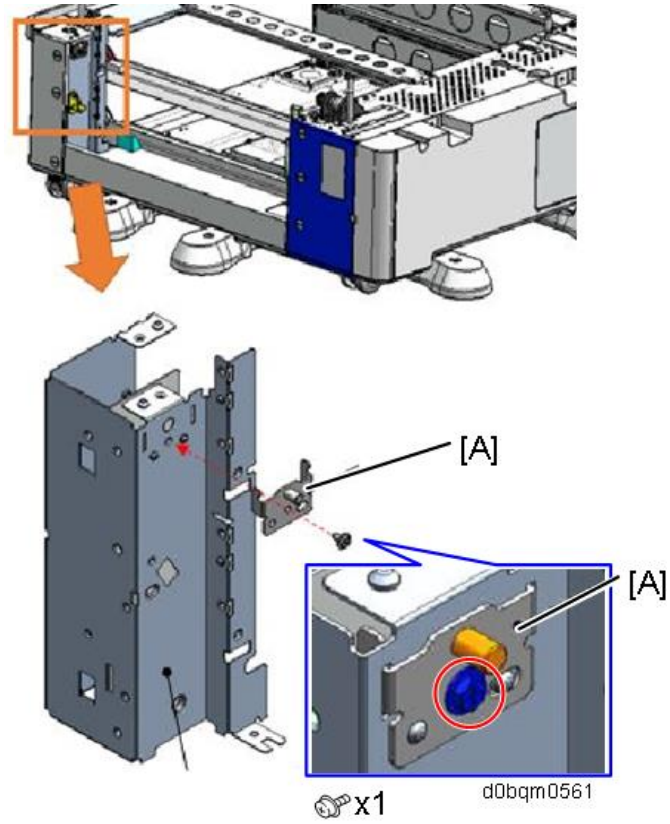


x1, x1, x1 d0bqm1019

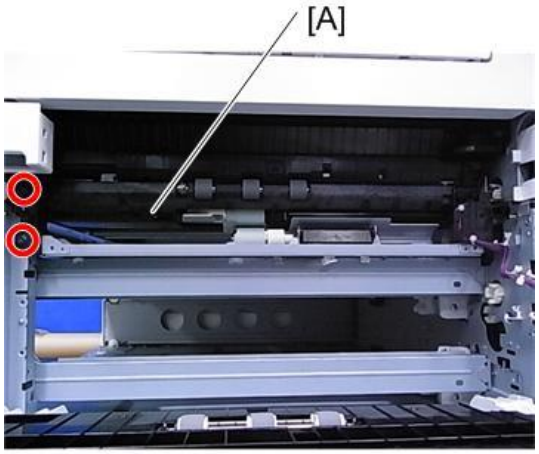
3. Remove the guide [A] (×1).



4. Remove the bracket [A].



5. Remove the 1st Paper feed unit [A] (×2).

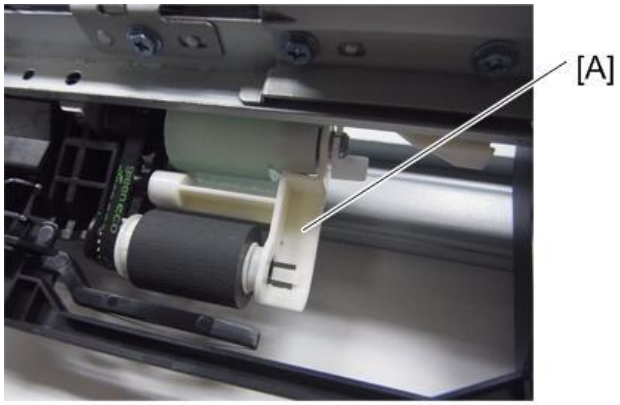


d1462720

Rollers

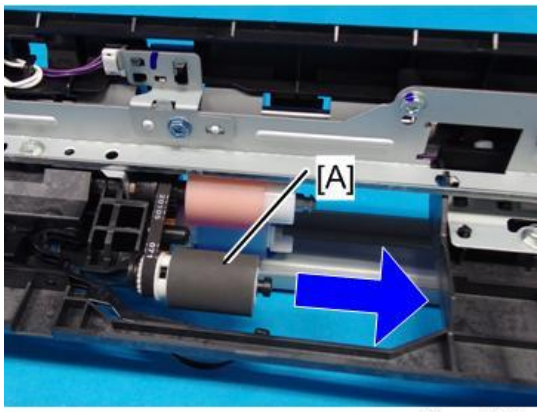
Pick-up Roller

1. Remove the paper feed unit (2nd Paper Feed Unit, 1st Paper Feed Unit).
2. Remove the holder [A].(x1)



d1462188

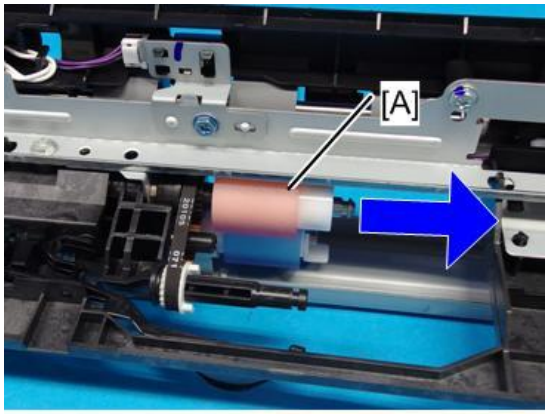
3. Remove the pick-up roller [A].



d0bqm1021

Feed Roller

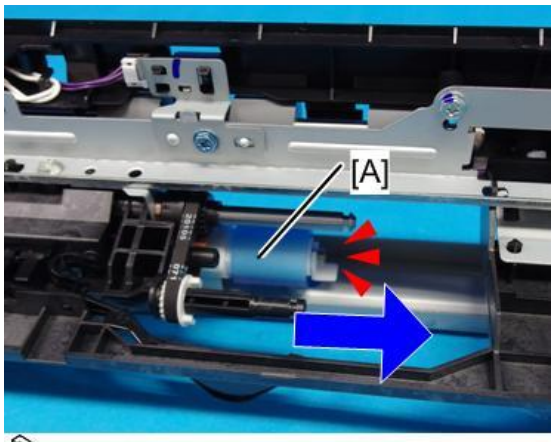
1. Remove the pick-up roller (Pick-up Roller).
2. Remove the feed roller [A].



d0bqm1022

Friction Roller

1. Remove the feed roller (Feed Roller).
2. Remove the friction roller [A].



x1 d0bqm1023