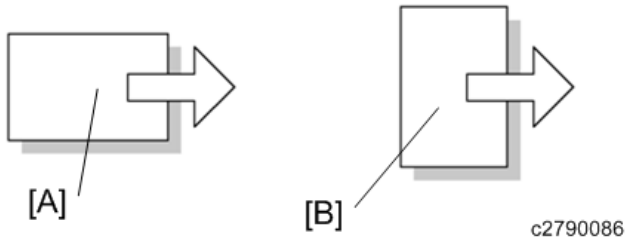
High Capacity Stacker SK5040
Machine Code: D3DK
Field Service Manual
Ver 1.0

Latest Release: Feb, 2018
Initial Release: Feb, 2018

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)

Table of Contents

1. Replacement and Adjustment

Common Procedures

Roll-Away Cart D456

Important

- To prevent damage to the tray switches at the back of the machine, always remove the tray cart before moving the stacker unit.
- Always remove the cart before servicing.

1. Open the front door.
2. Pull out the cart.

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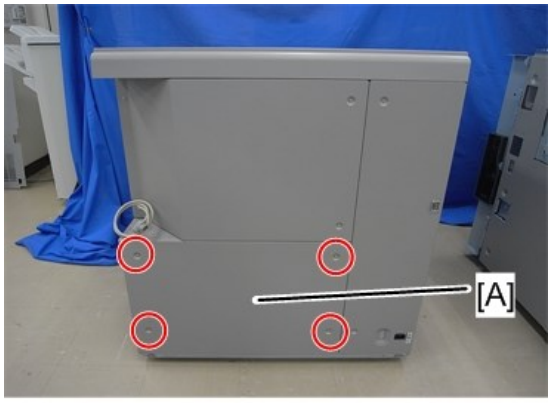
Covers

Rear Lower Cover, Rear Upper Cover

The rear lower cover should be removed before the rear upper cover.

1. Remove the rear lower cover [A] (x4)



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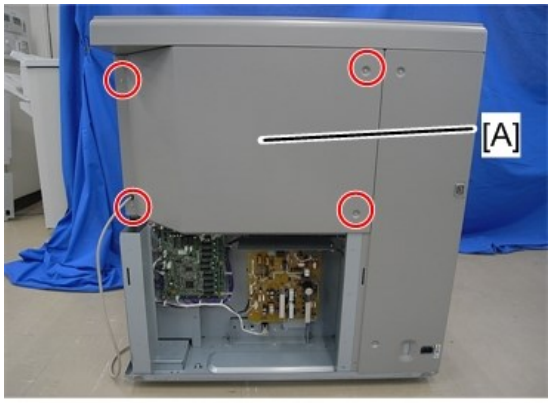
2. Remove the rear upper cover [A] (x4)



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Corner Cover

1. Remove the rear lower cover and rear upper cover (see the previous section).
2. Remove the corner cover [A] (x4).

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Left Exit Cover Plate

If a peripheral unit has been installed downstream of the stacker, this cover was removed at installation.

1. Remove the left exit cover plate [A] (x2)

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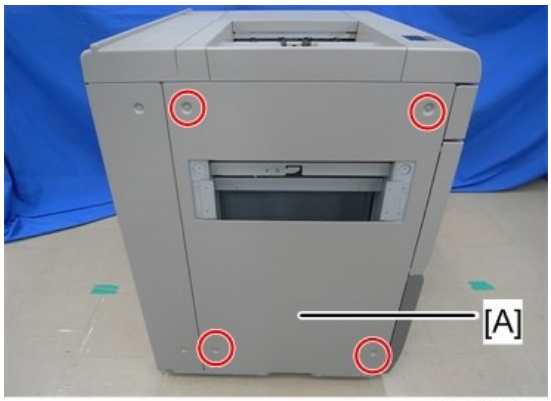
Left Cover

1. Remove the left exit cover plate (Left Exit Cover Plate)
2. Remove the left cover [A] (x4)



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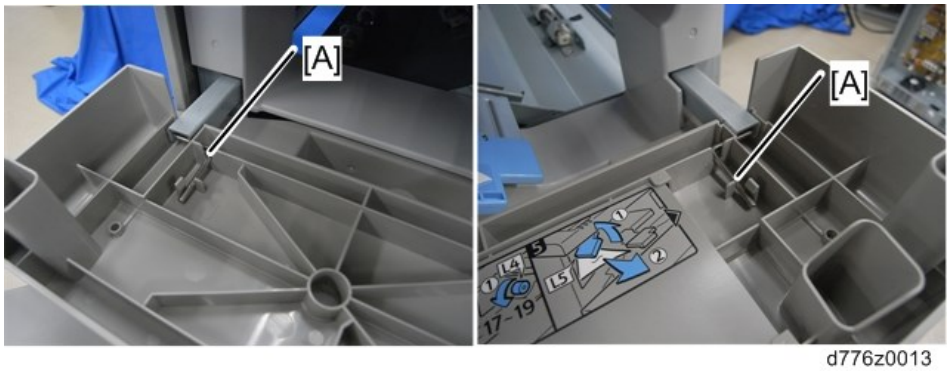
⚠CAUTION

- Remove the last screw carefully. The left cover may fall suddenly because there are no hooks holding it in place.
- Never place your hand or fingers below the bottom edge of the cover when removing it.

Top Door

1. Open the top door.
2. Remove the "L" hinges [A] from the right and left ends of the door.

3. Pull the door away from the stacker.



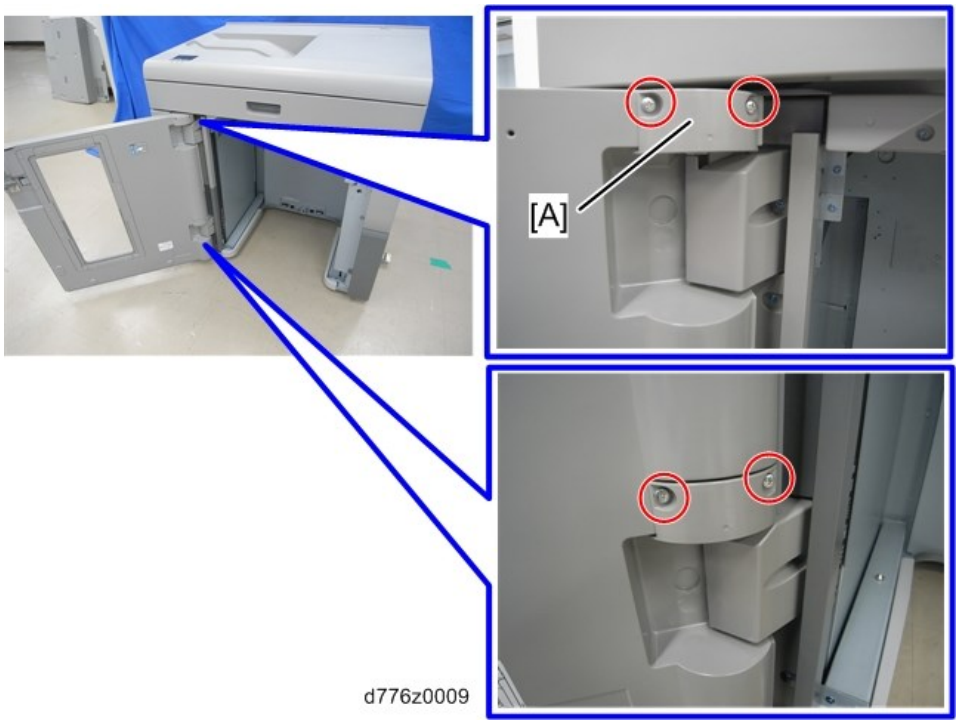
4. You may want to re-insert the "L" hinges in their holes so that they do not get misplaced.

Front Door

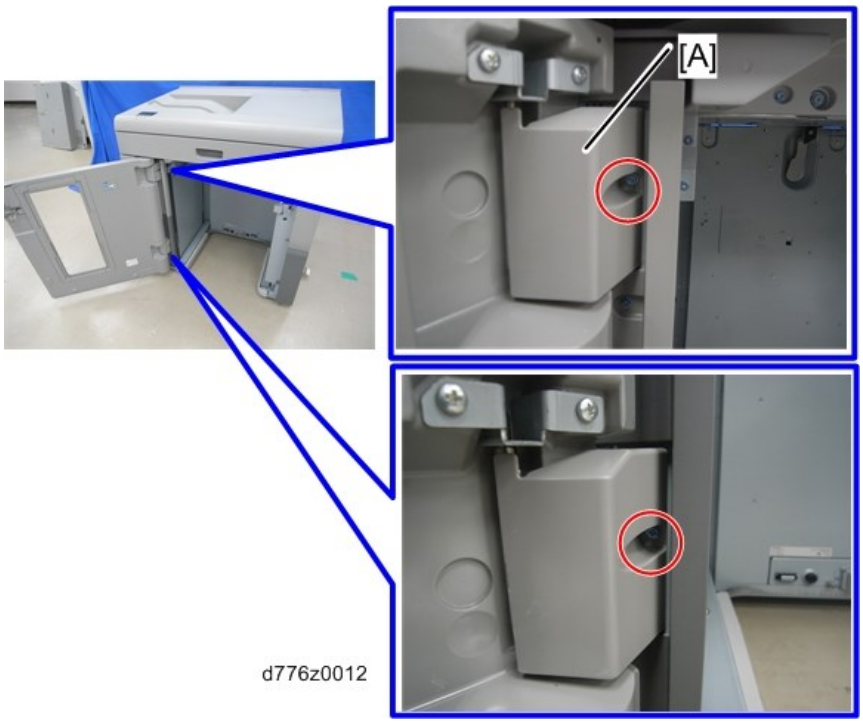
1. Remove the top door (Top Door)

2. Open the front door.

3. Remove the covers [A] (x2 each)

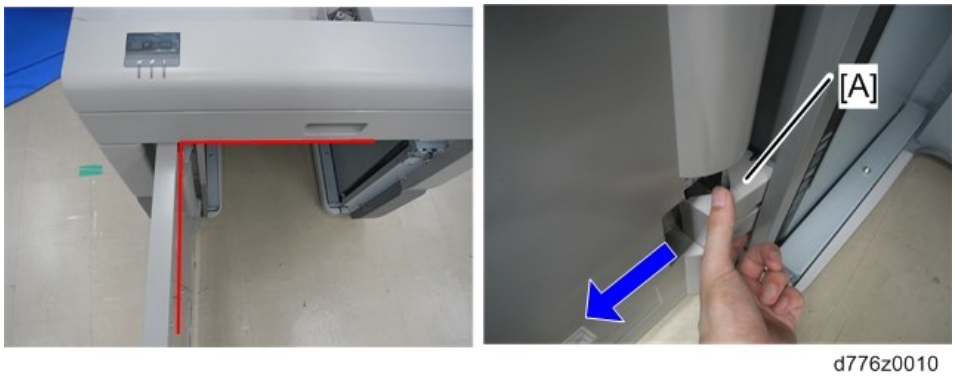


4. Remove screws from the hinge covers [A] (x1 each).

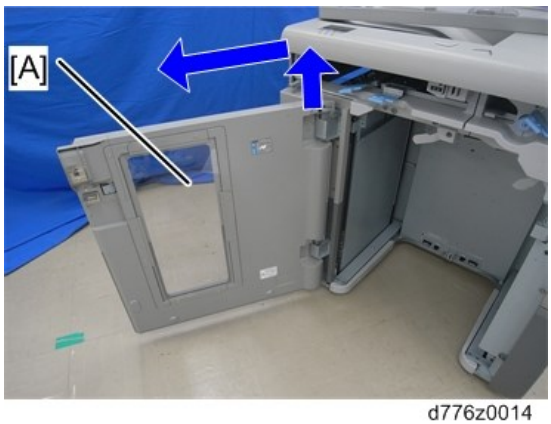


5. Open the front door so it is at a 90 degree angle to the unit.

6. Slide the hinge cover [A] toward you and remove it.

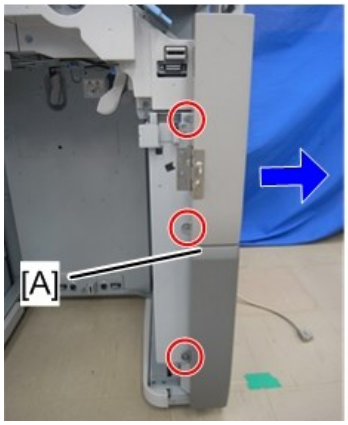


7. Lift the front door [A] and remove it.



Front Right Cover

1. Push the front right cover [A] to the right to remove it (x3).



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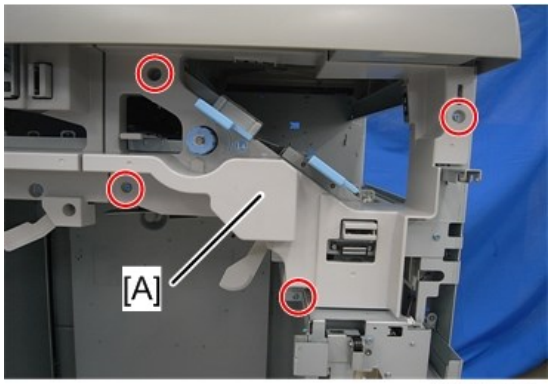
Right Inner Cover

1. Remove the front right cover (Front Right Cover)
2. Remove the top door. (Top Door)
3. Remove the right inner cover [A] (x4)



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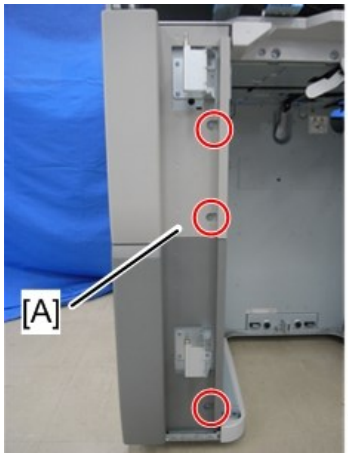
Front Left Cover

1. Remove the front door (Front Door)
2. Remove the front left cover [A] (x3)



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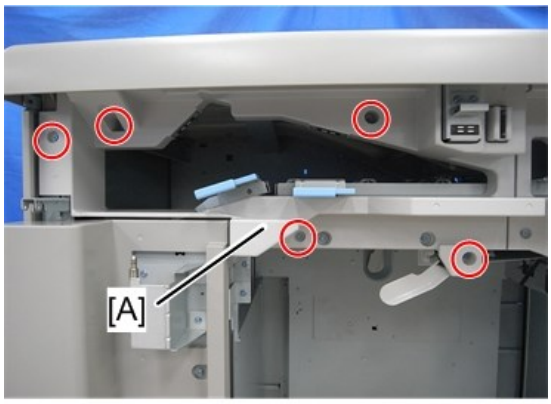
Left Inner Cover

1. Remove the front left cover (Front Left Cover)
2. Remove the left inner cover [A] (x5)

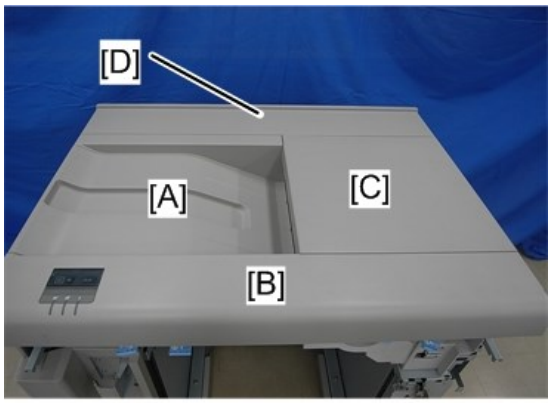


d776z0018

Proof Tray, Top Front Cover, Top Center Cover, Top Rear Cover

Note

- Remove these covers in the following order.
- Proof tray [A] → Top front cover [B] → Top center cover [C] → Top rear cover [D]



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Proof Tray

1. Remove the left cover (Left Cover)
2. Remove the proof tray [A] (x2)

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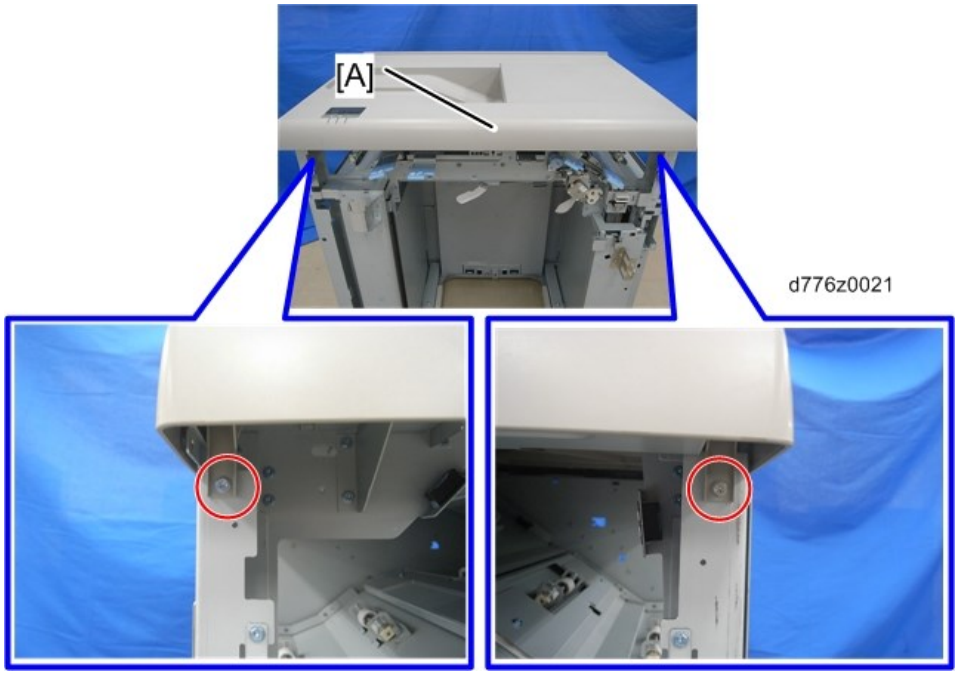
Top Front Cover

1. Remove the right inner cover (Right Inner Cover)
2. Remove the left inner cover (Left Inner Cover)
3. Remove the proof tray
4. Remove the top front cover [A] (x1, x2)

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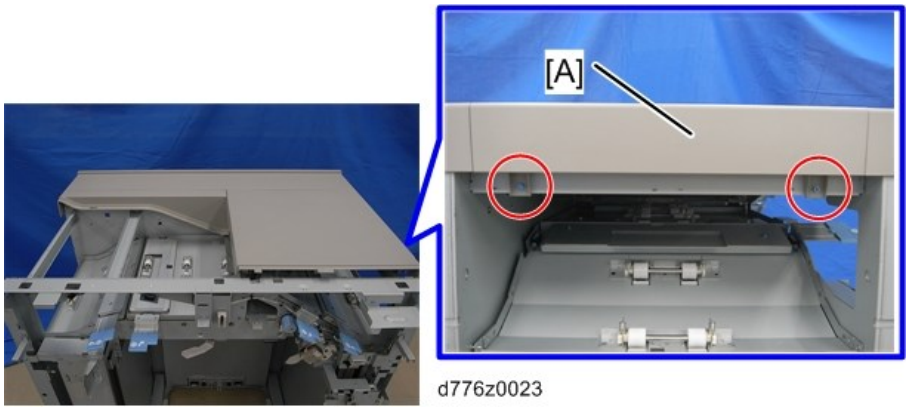
Top Center Cover

1. Remove the proof tray
2. Remove the top front cover

3. Remove the top center cover [A] (x2)



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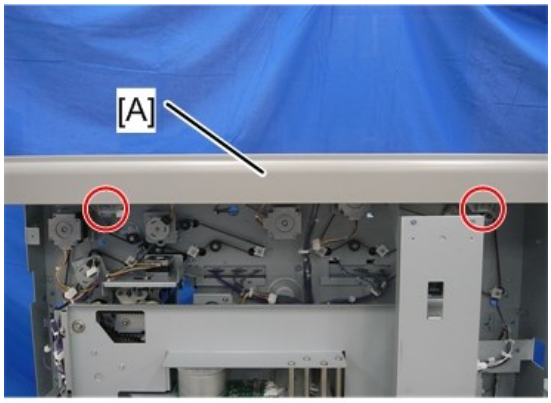
Top Rear Cover

1. Remove the proof tray
2. Remove the top front cover
3. Remove the top center cover
4. Remove the top rear cover [A] (x2)



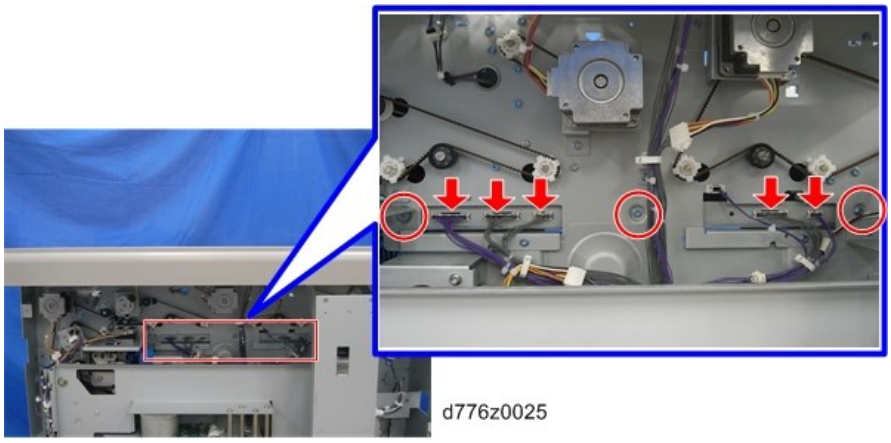
d776z0024

Jogger Unit

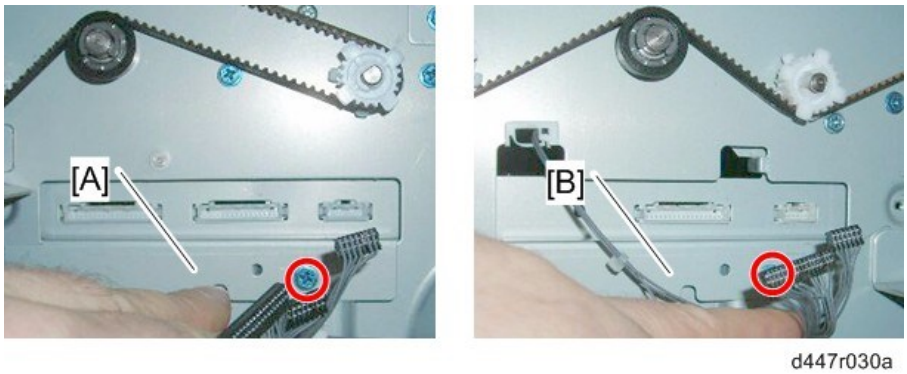
Jogger Unit Removal

1. Remove the rear lower cover and rear upper cover (Rear Lower Cover, Rear Upper Cover)
2. Remove the right inner cover (Right Inner Cover)
3. Remove the left inner cover (Left Inner Cover)

4. At the rear, remove three screws and disconnect five connectors (x3, x5).

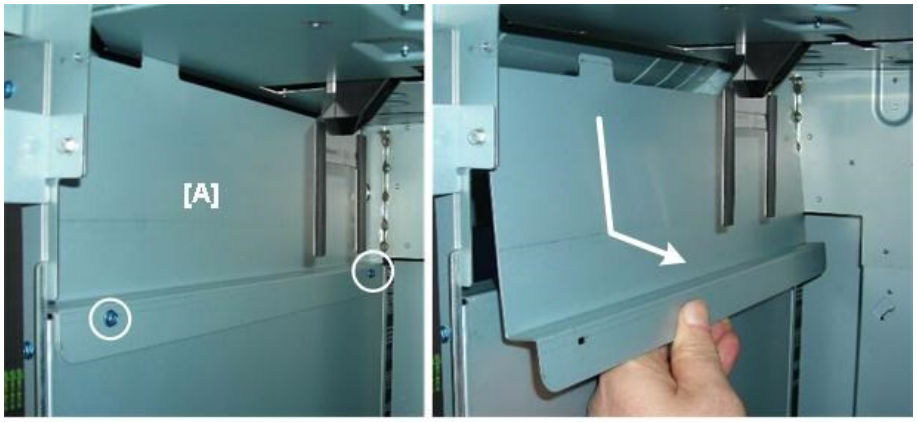


5. Remove the center plate [A] and right plate [B] (x1 each).



6. Remove the four steel jogger unit legs.

7. Remove the lock plate [A] (x2)



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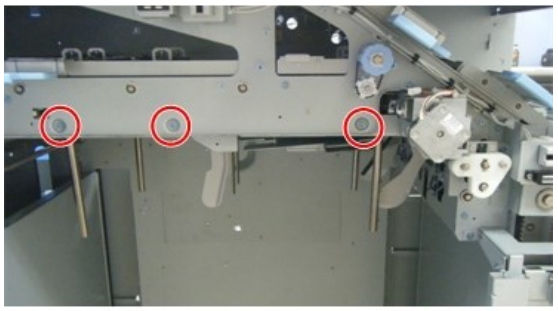
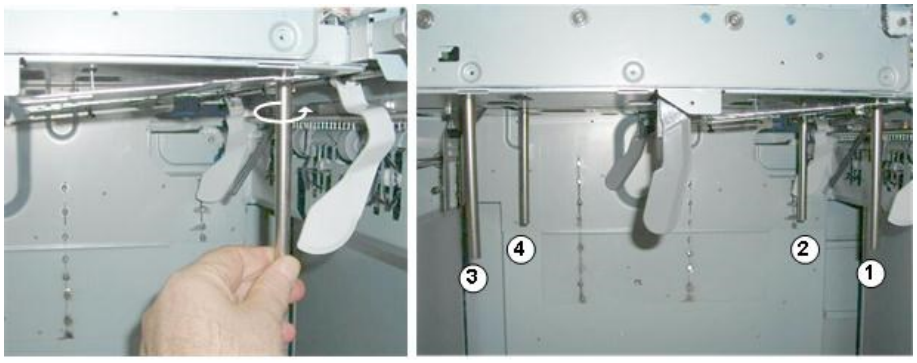
8. Disconnect the jogger unit (x3).

The jogger unit is held in place by four hooks. It will not fall after the screws have been removed.



d194z0306

9. Screw each leg removed in step 6 into the bottom of the jogger unit.



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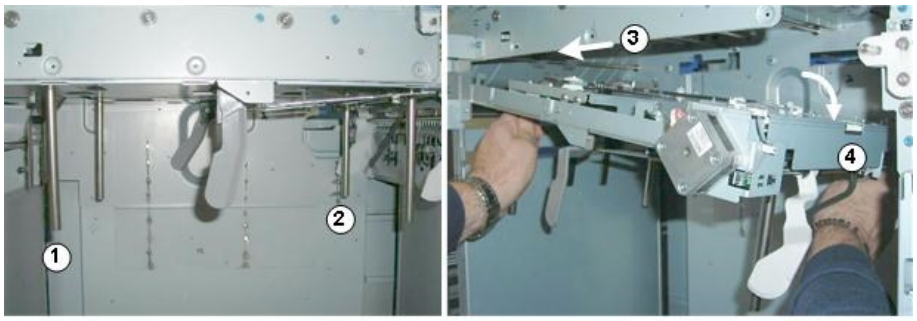
10. Grip one leg at the front ①, and one at the rear ②.

11. Push the jogger unit to the left ③ to disengage the hooks.

12. Slowly lower the jogger unit to the right ④ and pull it out of the stacker.



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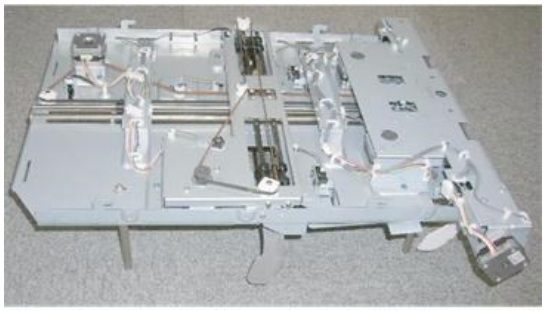
13. Set the jogger unit on a flat surface.



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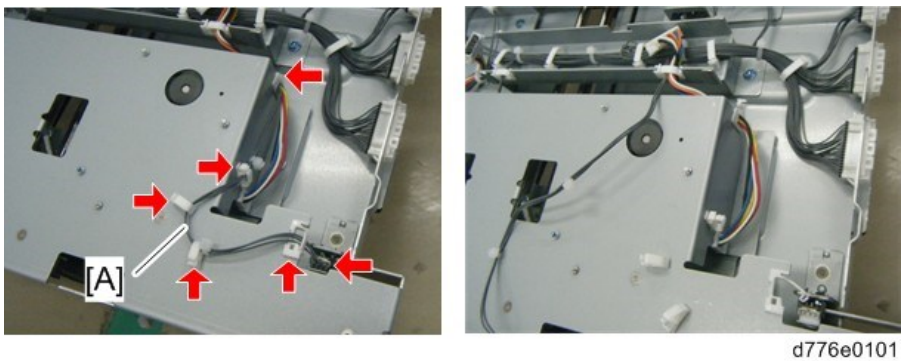
Main Jogger Cover Plate

The main jogger cover plate must be removed to service these parts:

- Main jogger front fence motor and HP sensor
- Main jogger rear fence motor and HP sensor
- Shift tray paper sensor

1. Disconnect the rear fence HP sensor harness [A] (x1, x5).

Rear



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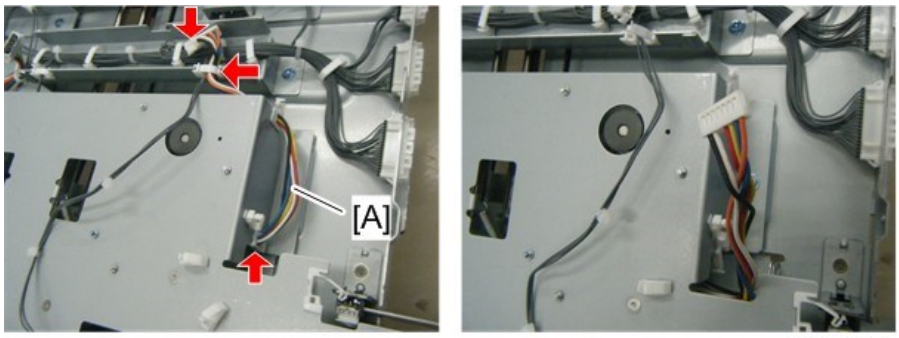
2. Disconnect the rear fence motor harness [A] (x1, x2).

Rear



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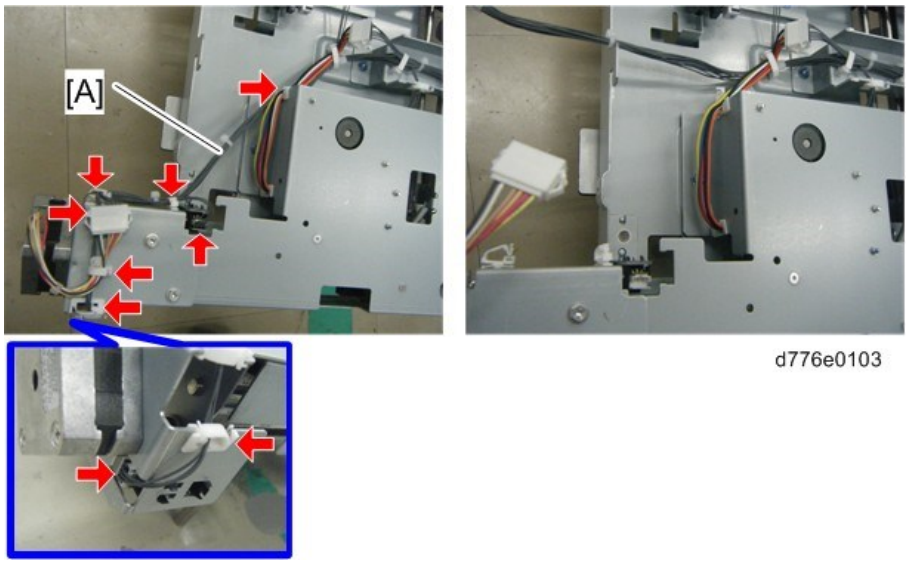
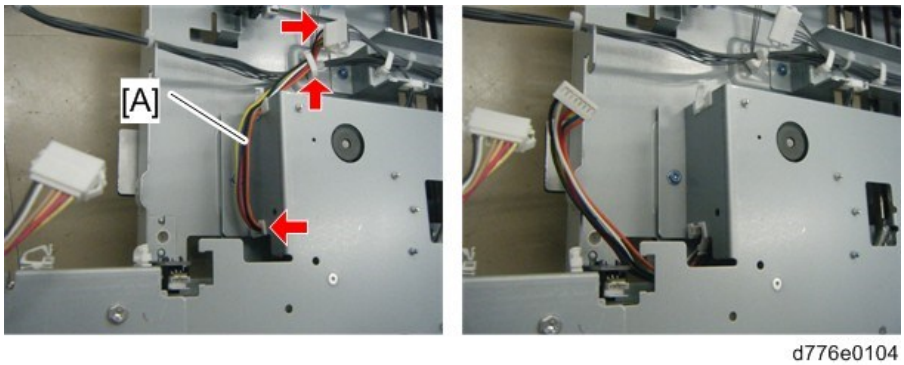
3. Disconnect the dual harness [A] for the main jogger fence retraction HP sensor and front fence HP sensor (x3,x6).

Front



d776e0103

4. Disconnect the front fence motor harness [A] (x1, x2).



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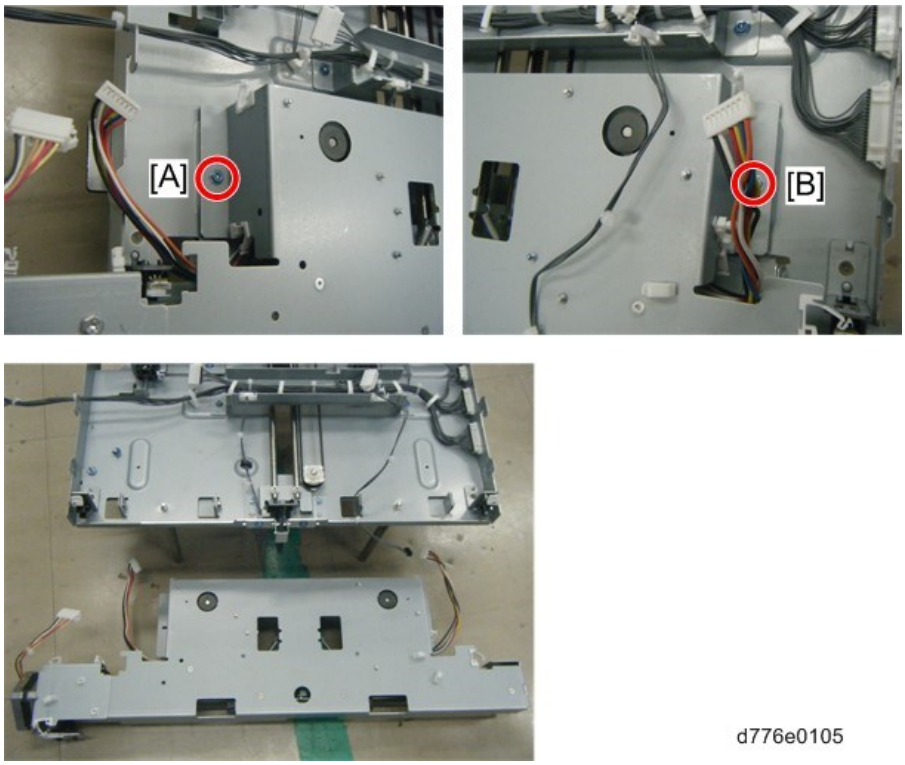
5. Remove the plate:

[A] Front (x1)

[B] Rear (x1)



d776e0105

Straight Paper Path

Motors

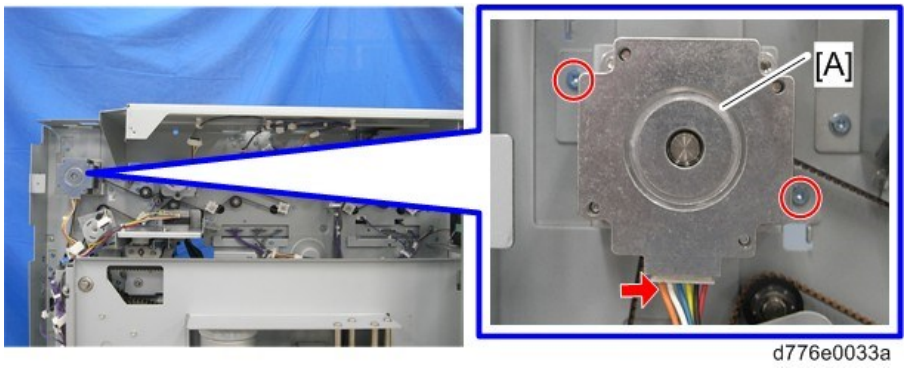
Entrance Motor

Preparation

Remove these parts:

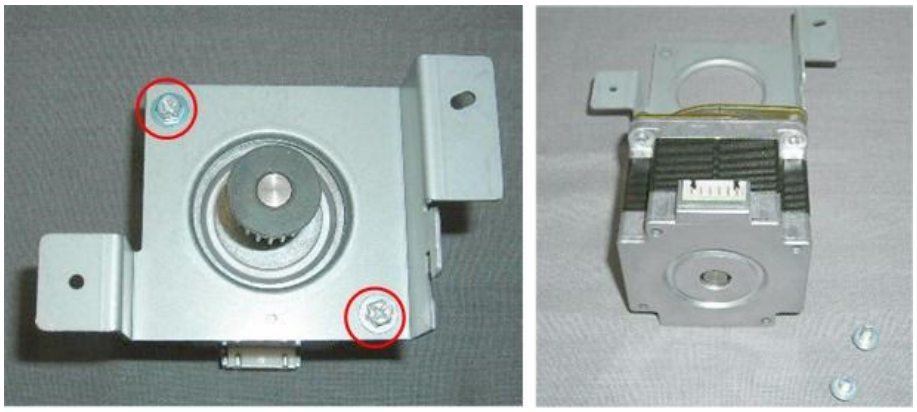
- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)

1. Remove the motor bracket [A] (x1, x2)



d776e0033a

2. Separate the entrance motor and the bracket (x2).



d447r045

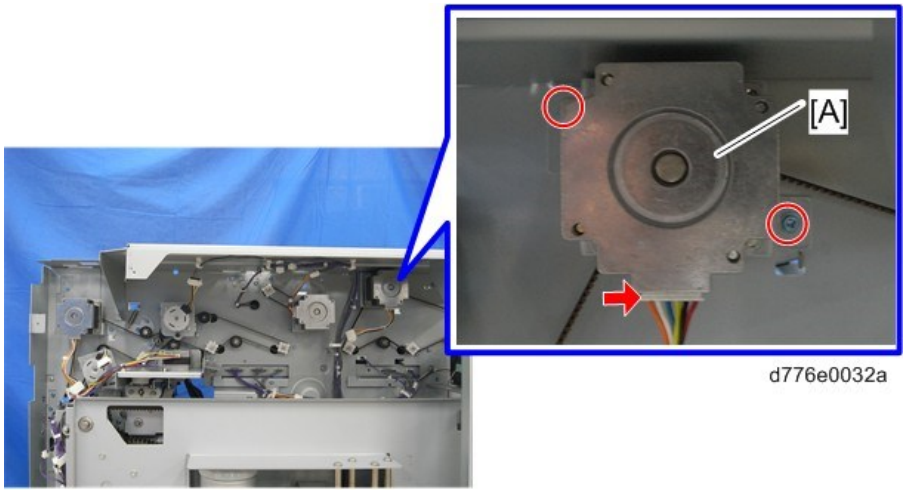
Transport Motor

Preparation

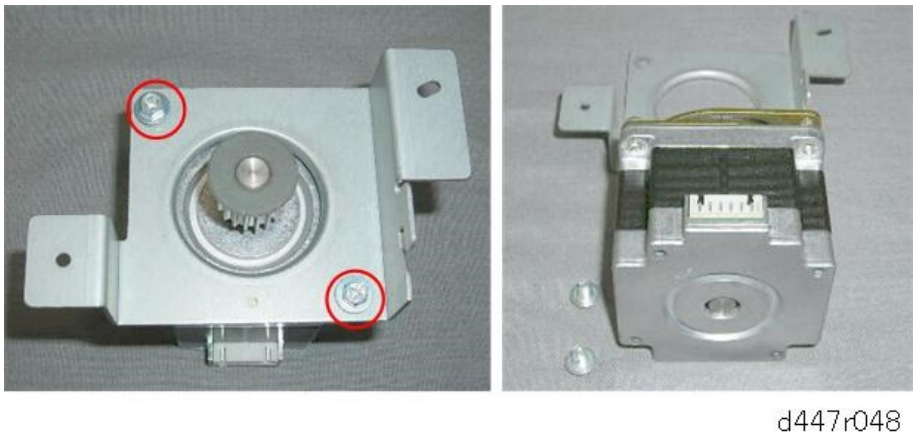
Remove these parts:

- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)

1. Remove the motor bracket [A] (x1,x2)



2. Separate the transport motor and the bracket (x2)

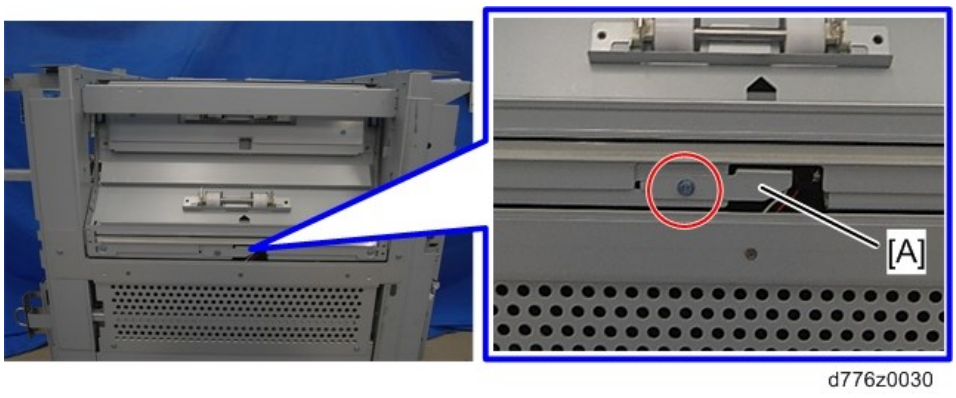


Sensors

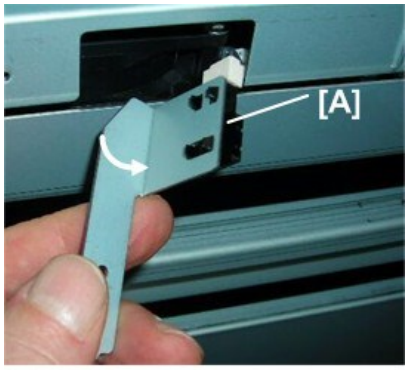
Entrance Sensor

The entrance sensor is on the right side of the stacker.

1. Remove the sensor bracket [A] (x1)



2. Remove the entrance sensor [A] (x1, x4)



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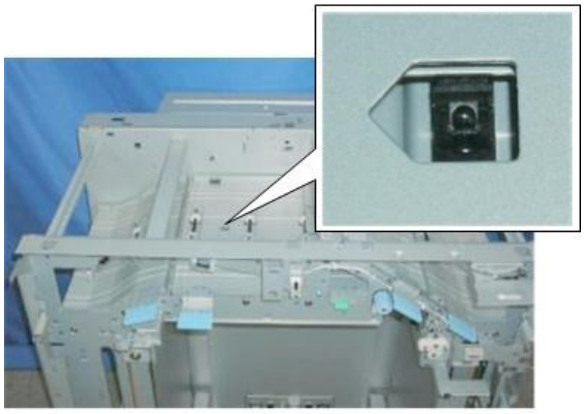
Transport Sensor

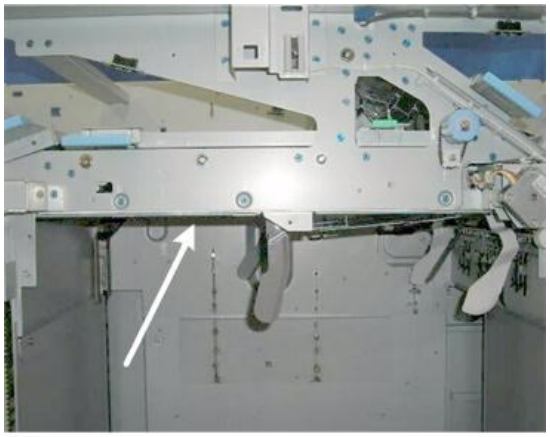
You can see the sensor bracket on the bottom of the transport plate from inside the stacker.



d447r051

Preparation

- Remove the jogger unit (Jogger Unit Removal)



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1. Remove the sensor bracket [A] (x1)

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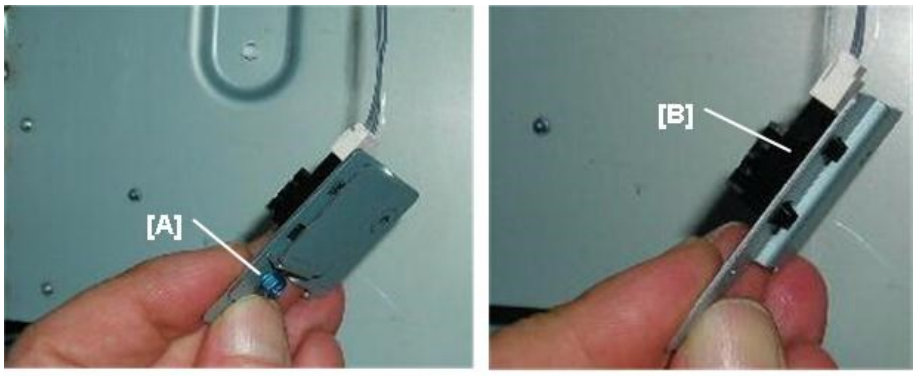
2. Remove the sensor plate [A] (x1)
3. Remove the transport sensor [B] (x1, x4)



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Exit Sensor

Preparation

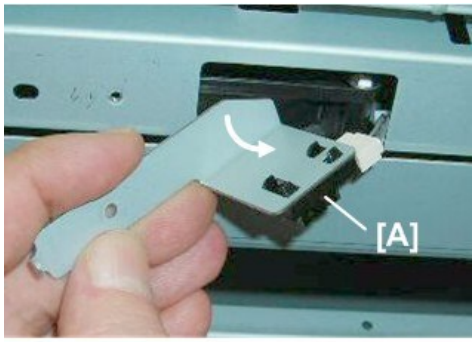
- Remove the Left Exit Cover Plate (Left Exit Cover Plate)

Note: The illustration below shows the left cover removed, but this is not required.

1. Remove the sensor bracket [A] (x1)

d776z0031

2. Remove the exit sensor [A] (x1, x4)



d447e056a

Proof Tray

Motors

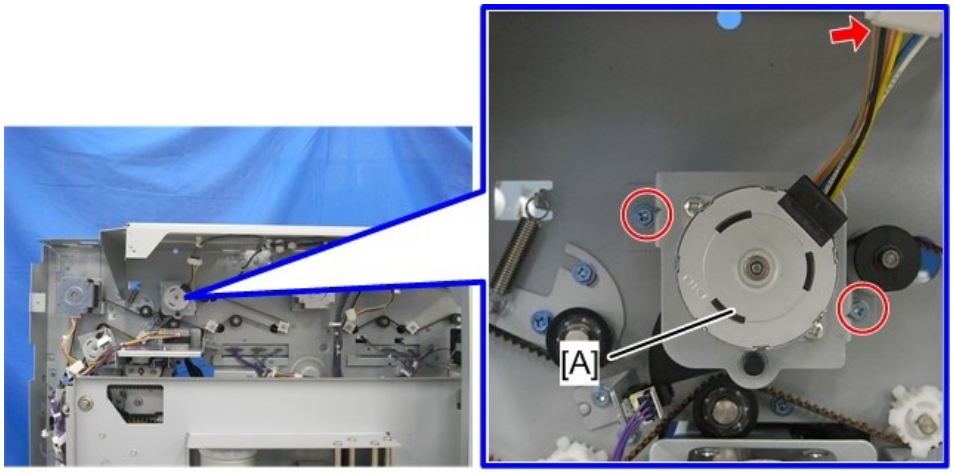
Proof Tray JG Motor

Preparation

Remove these parts:

- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)

1. Remove the proof tray JG motor [A] (x1, x2)



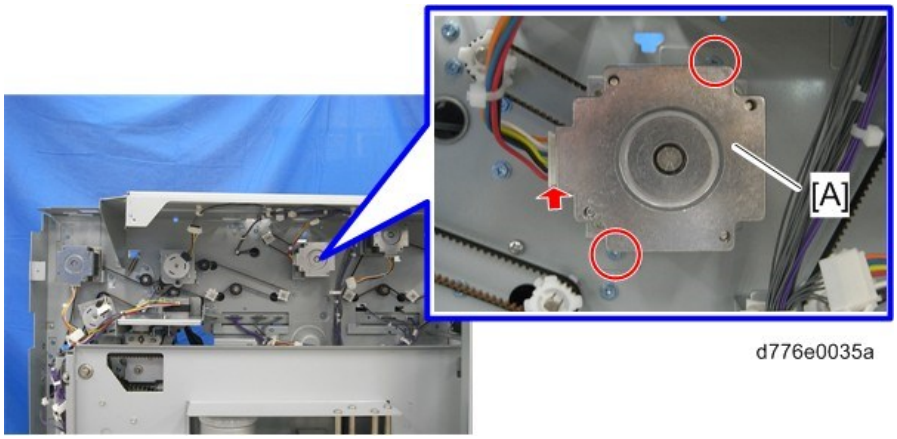
Proof Tray Exit Motor

Preparation

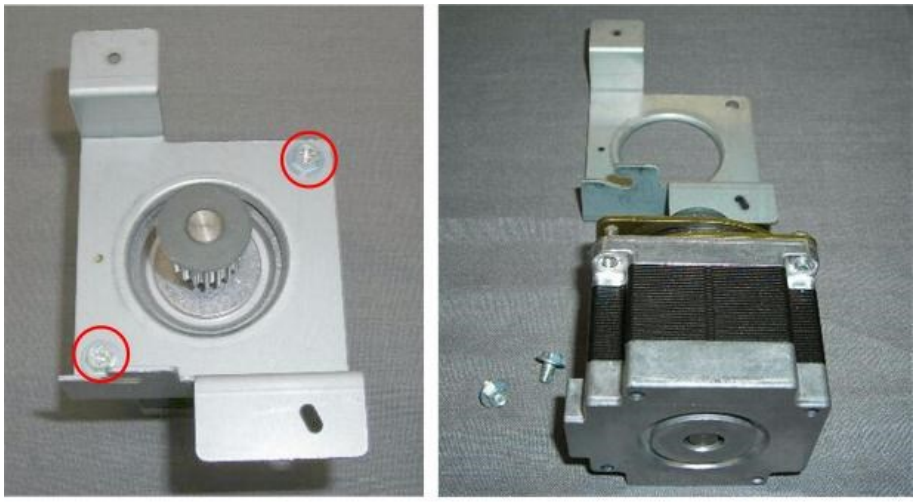
Remove these parts:

- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)

1. Remove the motor bracket [A] (x1, x2, x1, x1)



2. Separate the proof tray exit motor and the bracket (x2)



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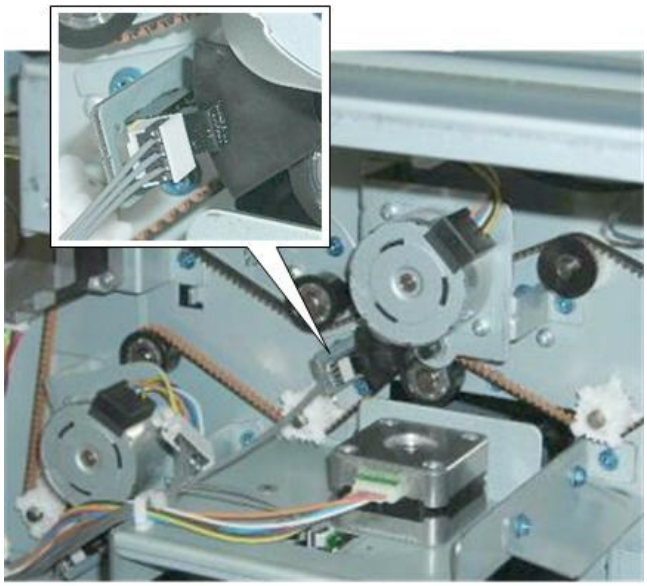
Sensors

Proof Tray JG HP Sensor



d447r063

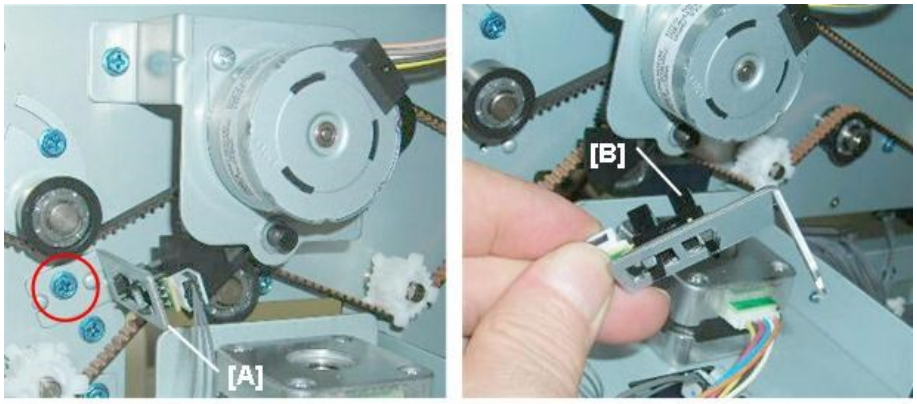
Preparation

Remove these parts:

- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)

1. Remove the sensor bracket [A] (x1)

2. Remove the proof tray JG HP sensor [B] (x1, x5)



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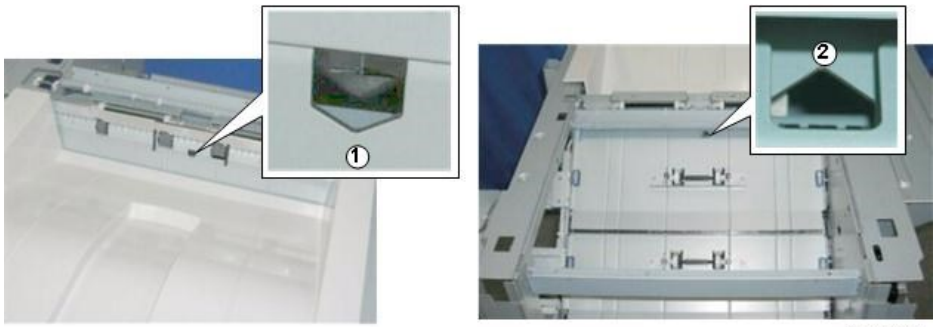
Proof Tray Exit Sensor, Proof Tray Full Sensor



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①	Proof Tray Full Sensor	Located above the proof tray.
②	Proof Tray Exit Sensor	Shown with the top center cover removed.

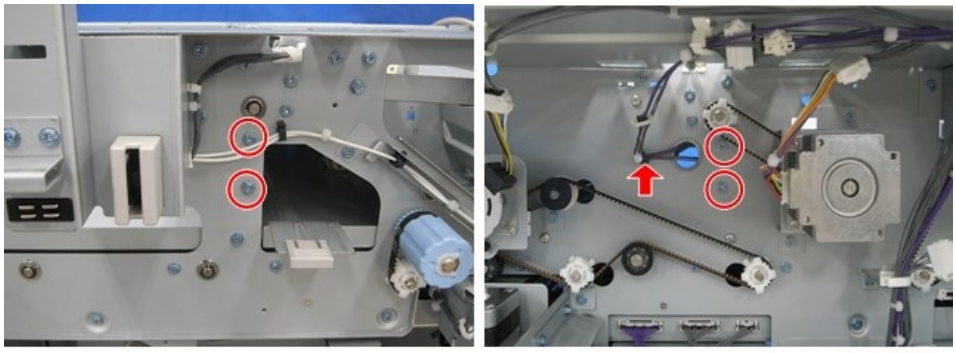
Preparation

Remove these parts:

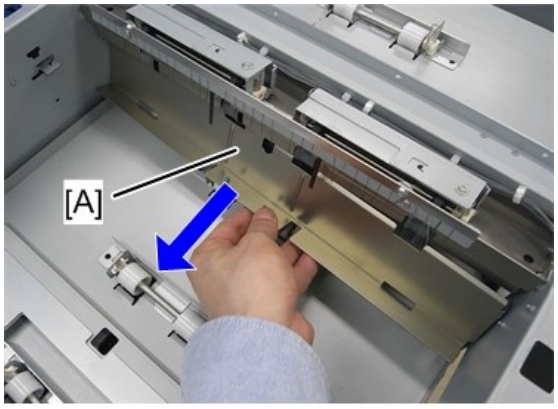
- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)
- Proof tray (Proof Tray, Top Front Cover, Top Center Cover, Top Rear Cover)
- Top center cover (Proof Tray, Top Front Cover, Top Center Cover, Top Rear Cover)
- Top rear cover (Proof Tray, Top Front Cover, Top Center Cover, Top Rear Cover)

Common Procedure

1. Pull away the plate [A] (x1,x4).



d776z0026

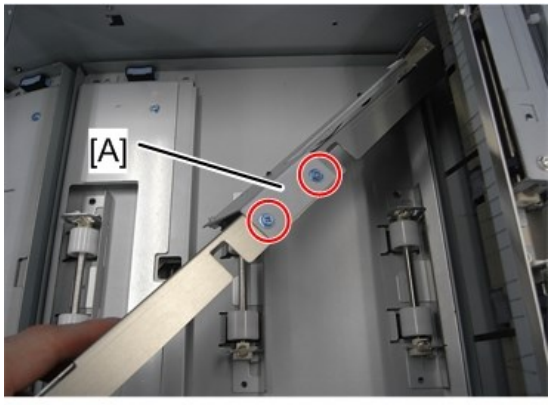


d776z0027

2. Remove the tray full sensor, or the tray exit sensor. See below.

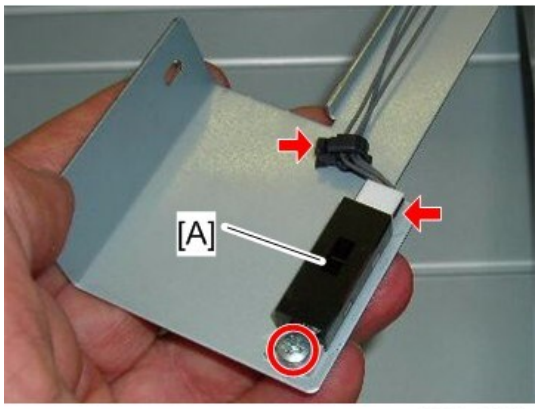
Tray Full Sensor

1. Turn the plate over.
2. Remove the sensor bracket [A] (x2)



d776z0028

3. Remove the proof tray full sensor [A] (x1, x1, x1)

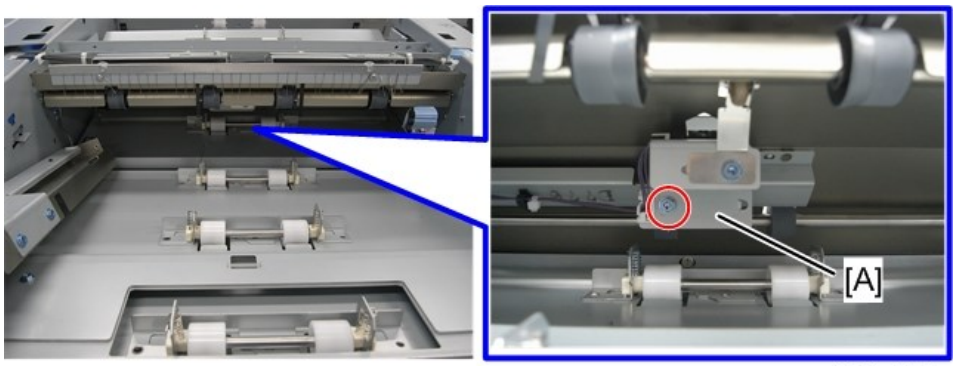


d776e0106

Tray Exit Sensor

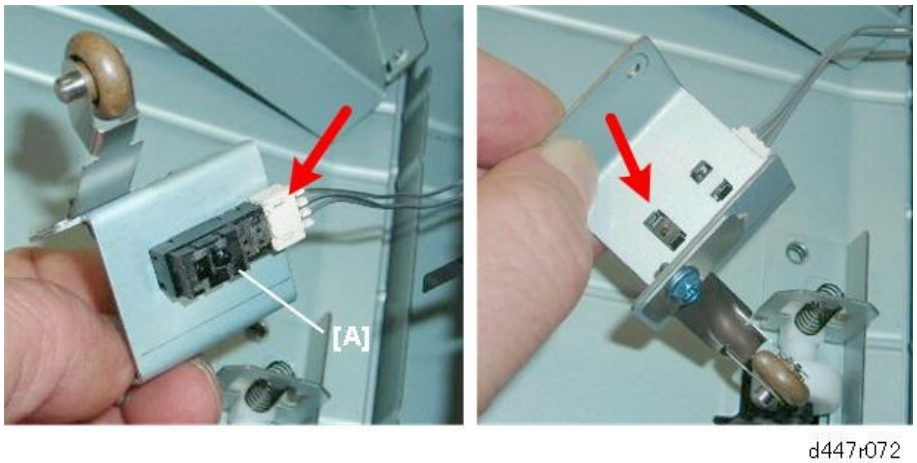
1. Remove the sensor bracket [A] (x1)

Remove the lower screw, not the upper screw.



d776z0029

2. Remove the proof tray exit sensor [A] (x1, x5)



d447r072

Shift Tray

Paper Shift Operation

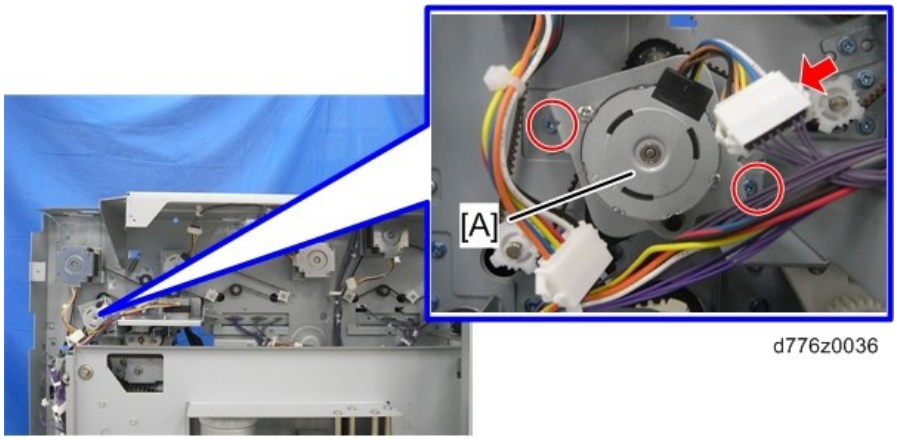
Shift Tray JG Motor

Preparation

Remove these parts:

- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)

1. Remove the shift tray JG motor [A] (x1, x2)



Shift Tray JG HP Sensor

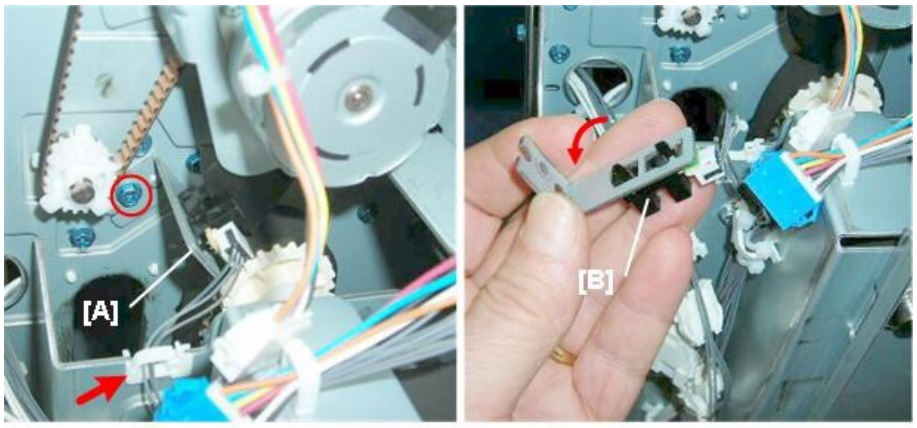
Preparation

Remove these parts:

- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)

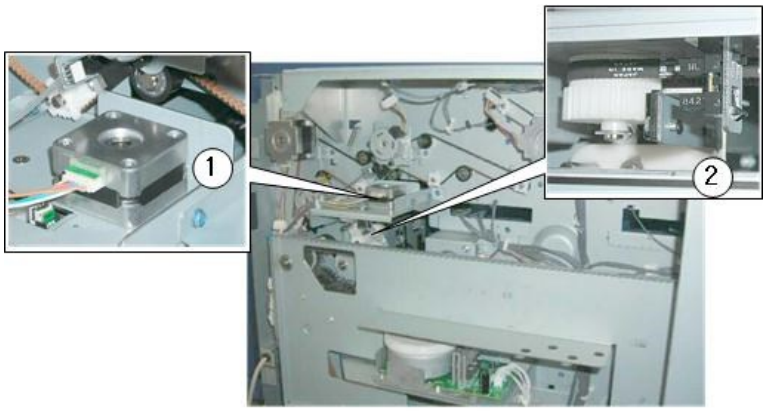
1. Remove the sensor bracket [A] (x1, x1)

2. Remove the shift tray JG HP sensor [B] (x1, x5)



d447r078

Shift Motor, Shift HP Sensor



d447r079

①	Shift Motor
②	Shift HP Sensor

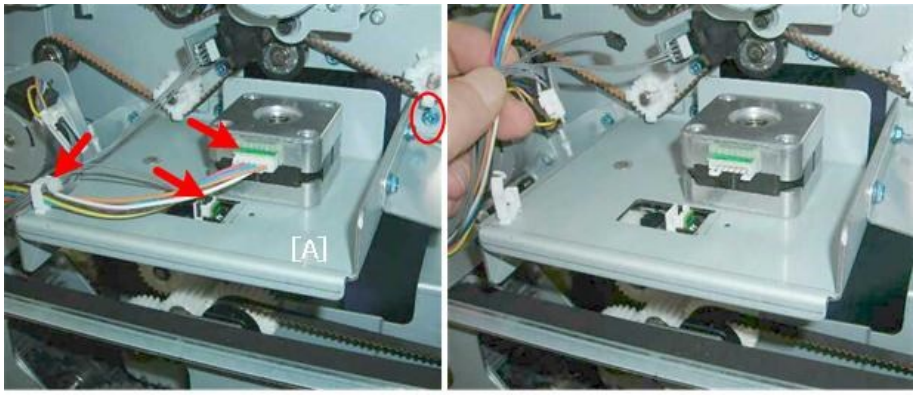
Preparation

Remove these parts:

- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)

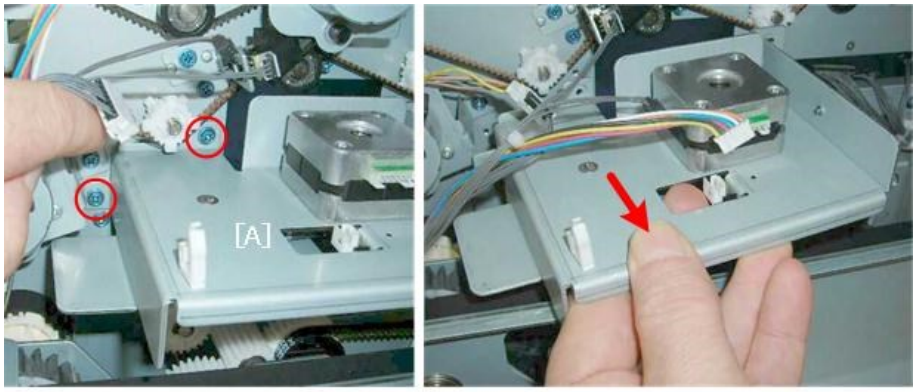
Common

1. Disconnect the motor bracket [A] (x1, x2, x1).



d447r080

2. Remove the motor bracket [A] (x2).



d447r081

d447r082

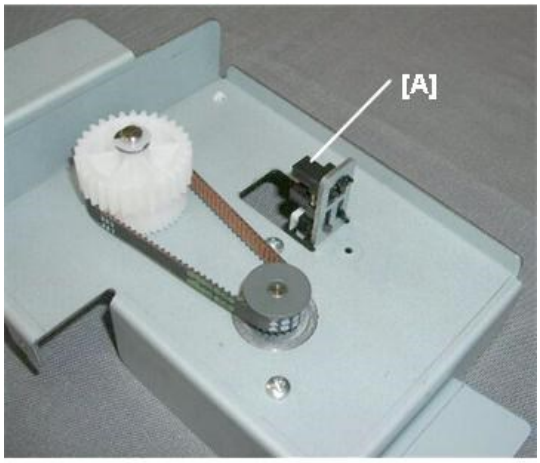
Shift Motor

1. Separate the bracket and the shift motor (x2)

d447r083

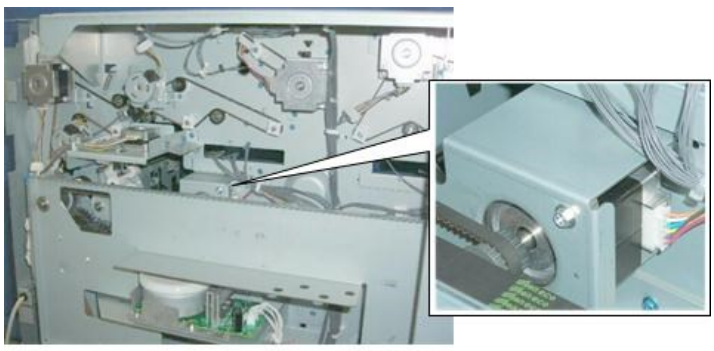
Shift HP Sensor

1. Remove the shift HP sensor [A] (x5)



d447r084

Shift Exit Motor



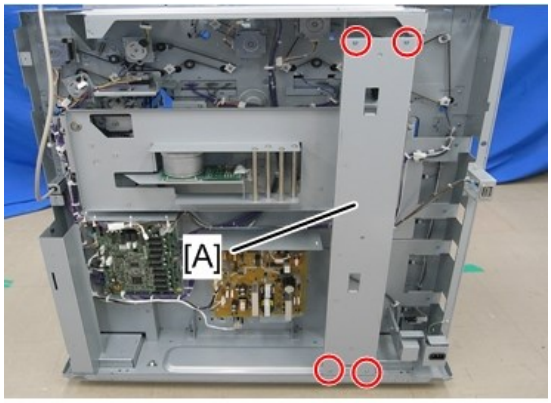
d447r085

Preparation

Remove these parts:

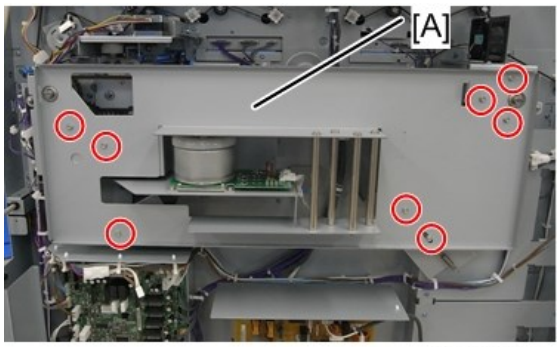
- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)

1. Remove the vertical plate [A] (x4)



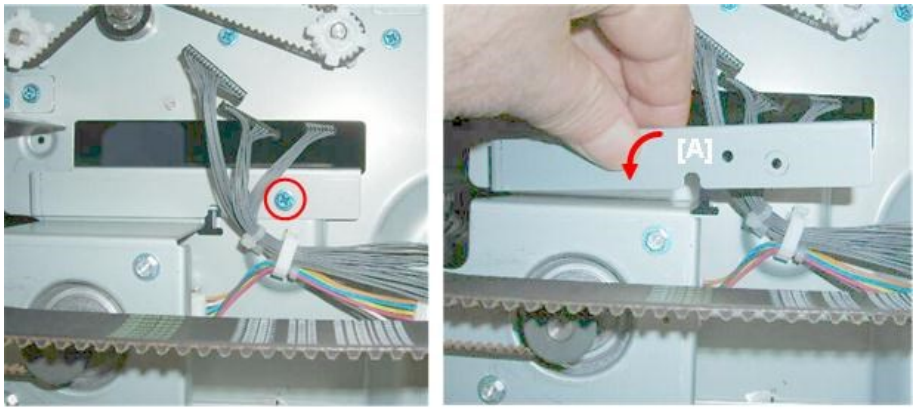
d776z0037

2. Remove the belt cover plate [A] (x8)



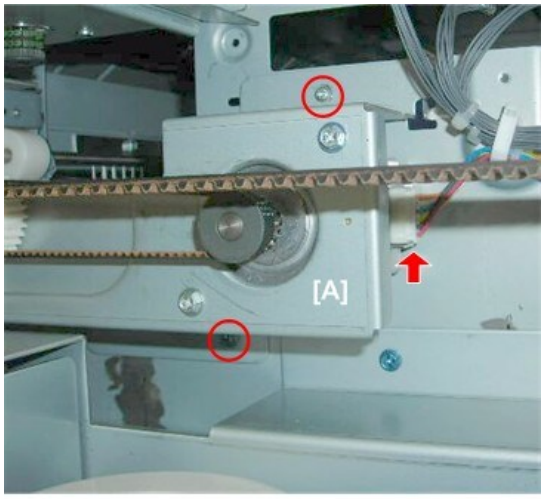
d776z0038

3. Remove the plate [A] (x1)



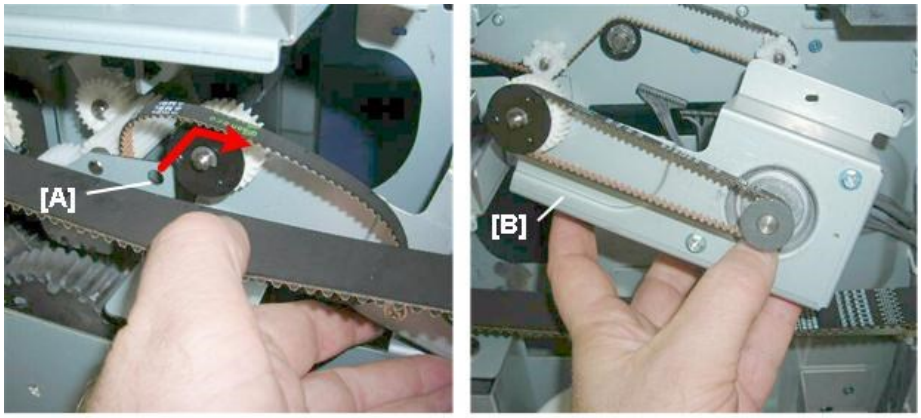
d447r089

4. Disconnect the motor bracket [A] (x2)



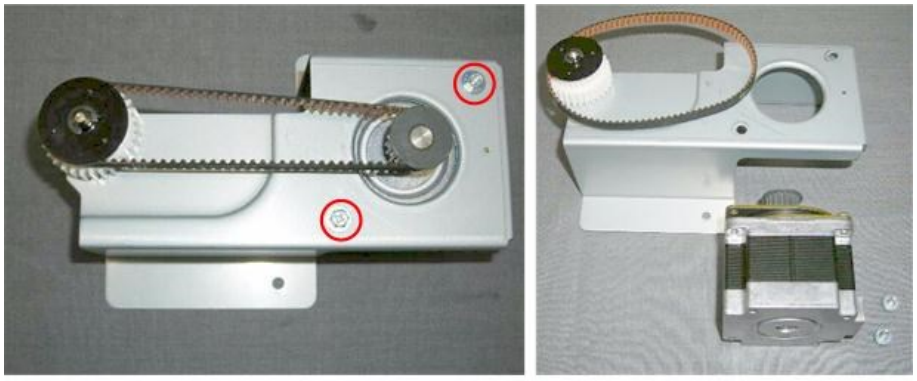
d447r090

5. Push the shaft [A] out of the hole and remove the motor bracket [B].



d447r091

6. Separate the shift exit motor and the bracket (x2)



d447r092

Shift Tray Exit Unit

Preparation

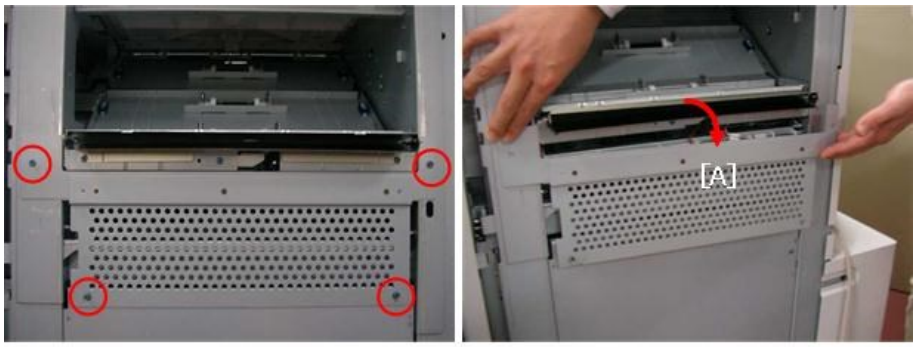
Remove these parts:

- Rear lower cover (Rear Lower Cover, Rear Upper Cover)

- Rear upper cover (Rear Lower Cover, Rear Upper Cover)
- Jogger unit (Jogger Unit Removal)

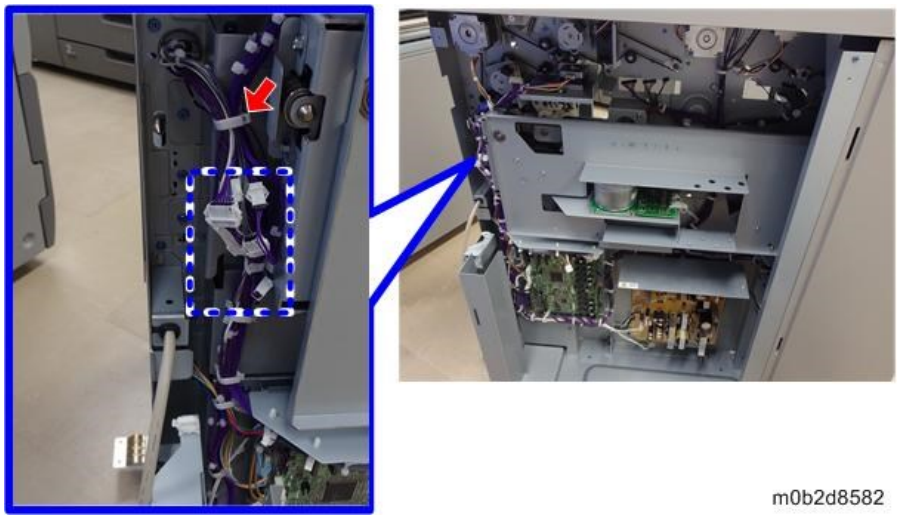
Common

1. Remove the plate [A] (x4)



d447r170

2. Release the clamp and disconnect the five connectors as shown and noted below. (x1, x5)



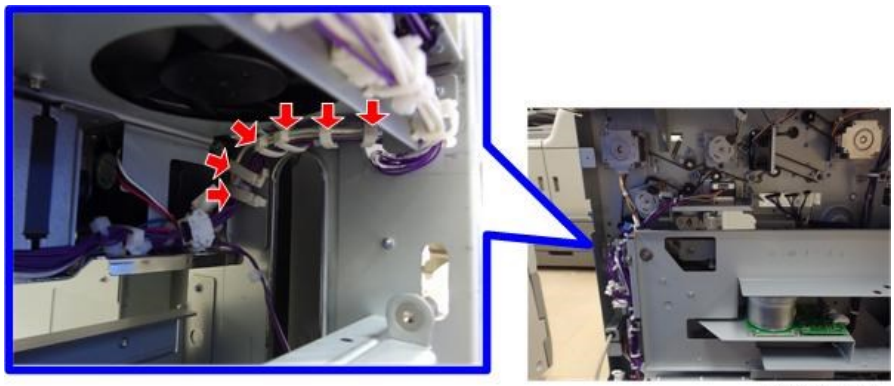
m0b2d8582

Note

Disconnect the white and gray harness connectors, and the three purple harness connectors (twelve, seven, and four pins) as shown in the diagram below.

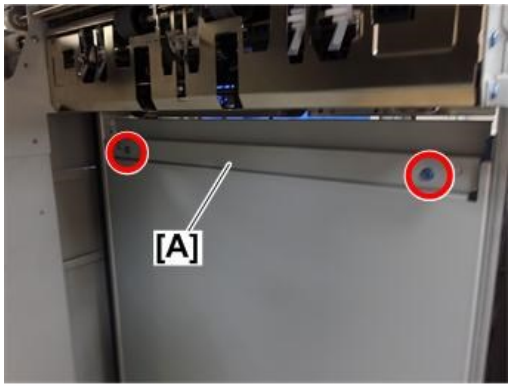
m0b2d8583

3. Release the six clamps. (x6)



m0b2d8570

4. Remove the inner cover [A]. (x2)



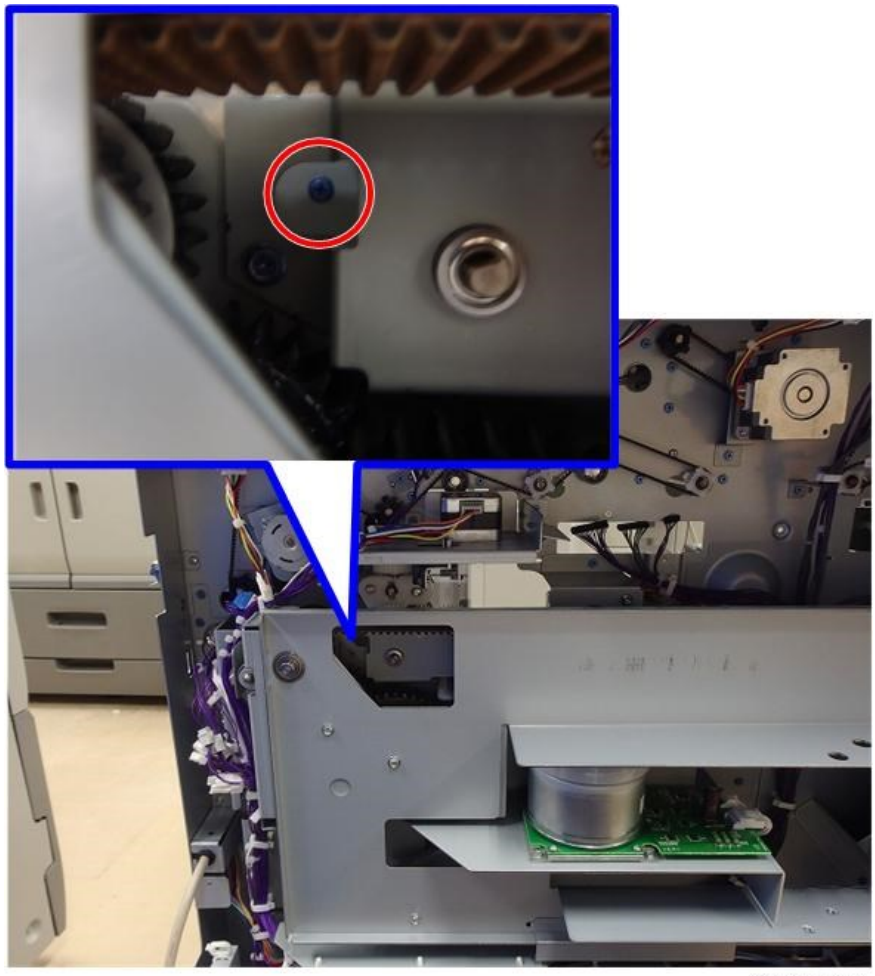
m0b2d8571

5. Remove the bracket [A]. (x4, x1)

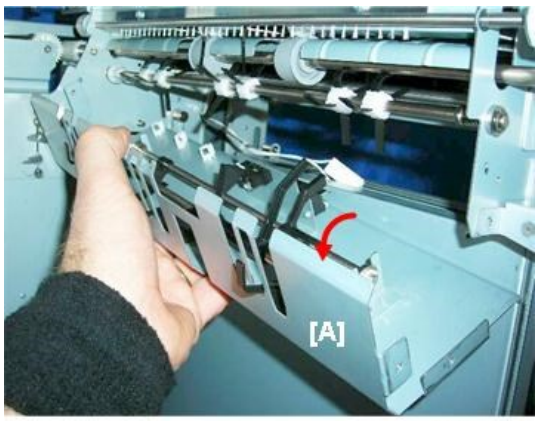
m0b2d8584

6. Remove the shift tray exit unit [A]. (x3)

m0b2d8585



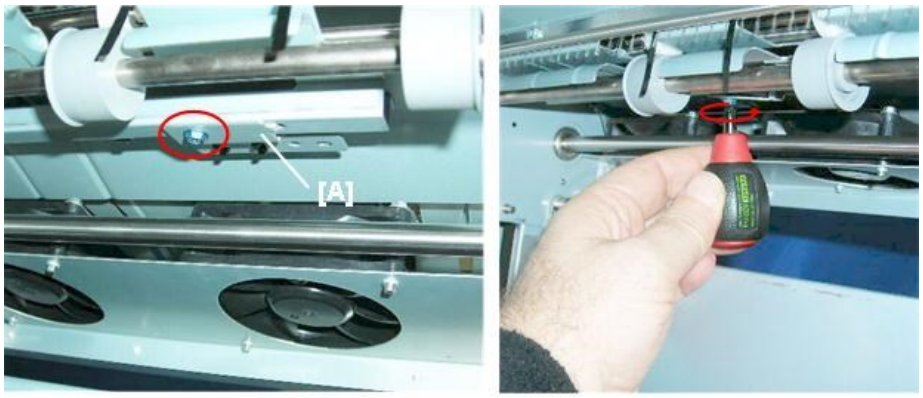
m0b2d8586



d447r097

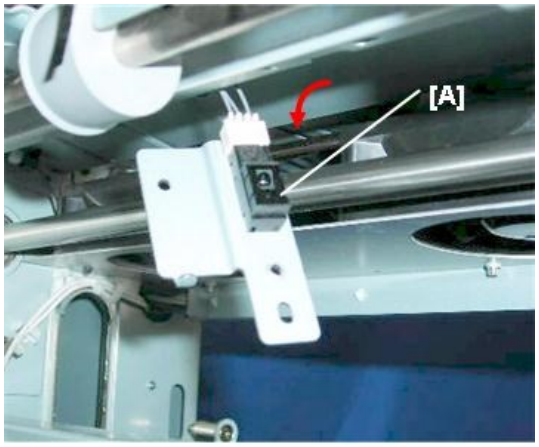
Shift Tray Exit Sensor

1. Remove the shift tray exit unit. (Shift Tray Exit Unit)
2. Use a short screwdriver to remove the sensor bracket [A] (x1)



d447r100

3. Remove the shift tray exit sensor [A] (x1)

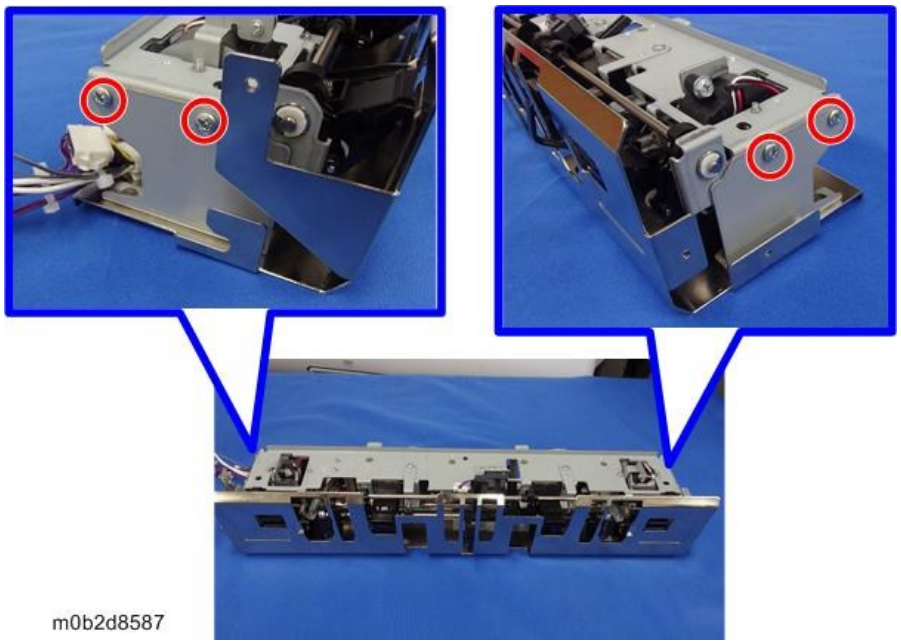


d447r101

Shift Tray Exit Fan, Shutter Motor, Shutter Home Position Sensor, Paper Height Sensor (Inside the Paper Exit Unit)

1. Remove the shift tray exit unit. (Shift Tray Exit Unit)

2. Remove four screws as shown below. (x4)



Note

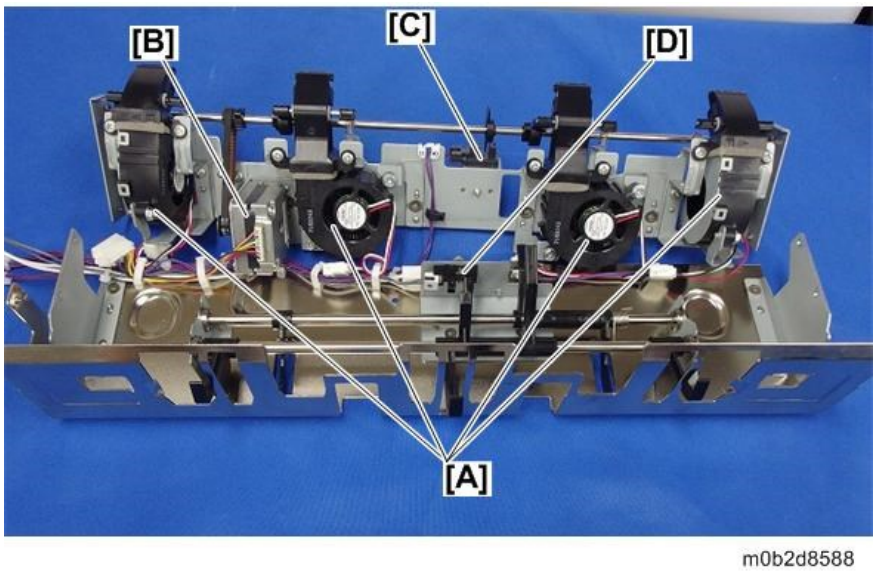
The diagram below shows the locations of these components in the shift tray exit unit.

[A] Shift Tray Exit Fan

[B] Shutter Motor

[C] Shutter Home Position Sensor

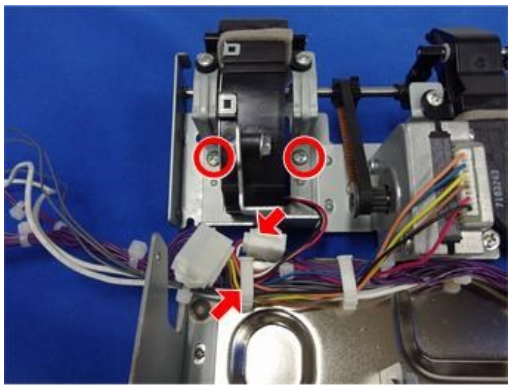
[D] Paper Height Sensor



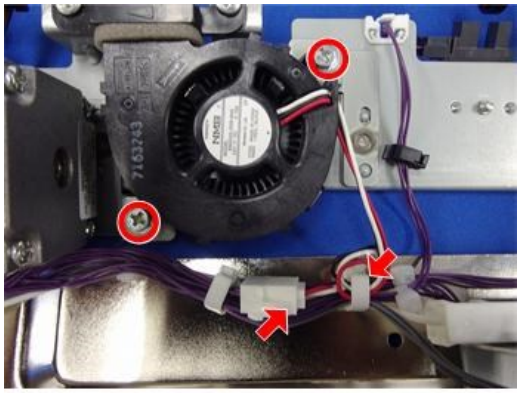
m0b2d8588

Shift Tray Exit Fan

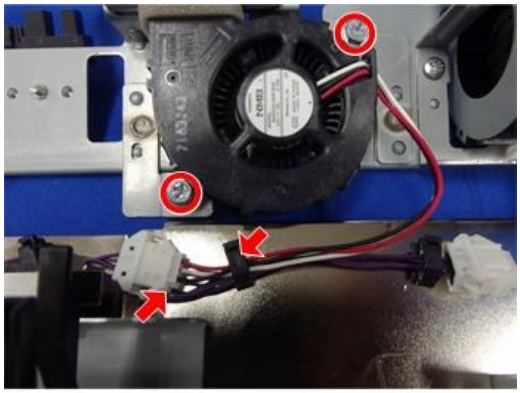
Remove the screws and connector of each of the fans, and then, if necessary, release the clamp. (x2, x1, x1)



m0b2d8589



m0b2d8590

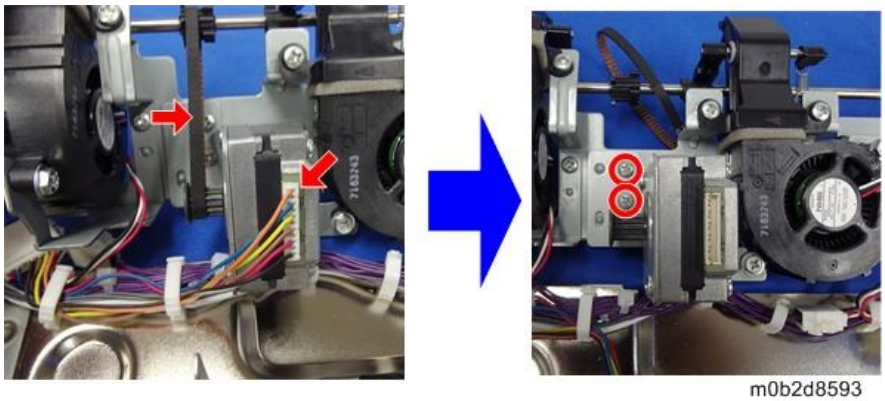


m0b2d8591

m0b2d8592

Shutter Motor

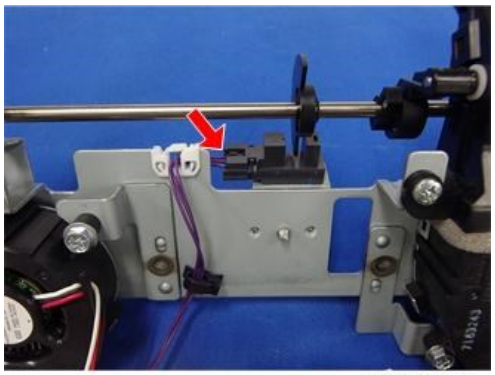
Remove and disconnect the belt and connector, and then remove the screws. (x1, x2)



m0b2d8593

Shutter Home Position Sensor

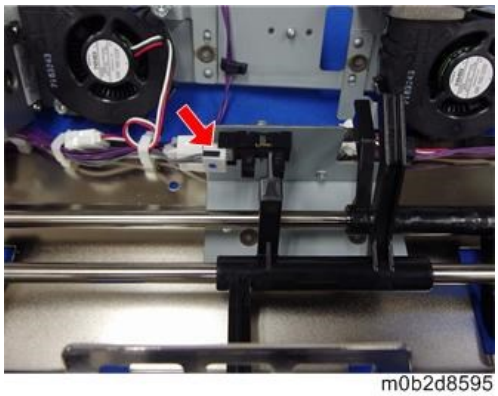
Disconnect the connector and release the hooks. (x1)



m0b2d8594

Paper Height Sensor

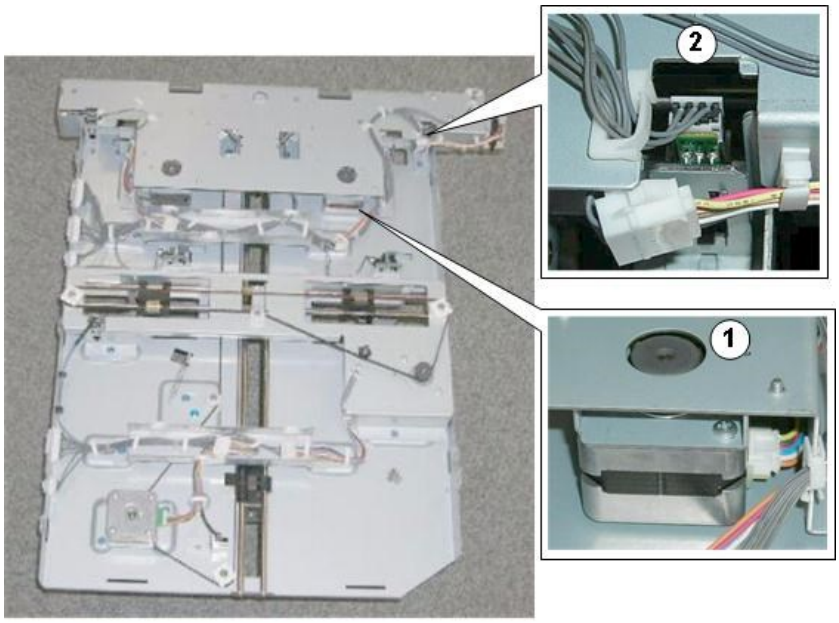
Disconnect the connector and release the hooks. (x1)



m0b2d8595

Paper Jogging

Main Jogger Front Fence Motor, Front Fence HP Sensor



d447r102

①	Main Jogger Front Fence Motor
②	Main Jogger Front Fence HP Sensor

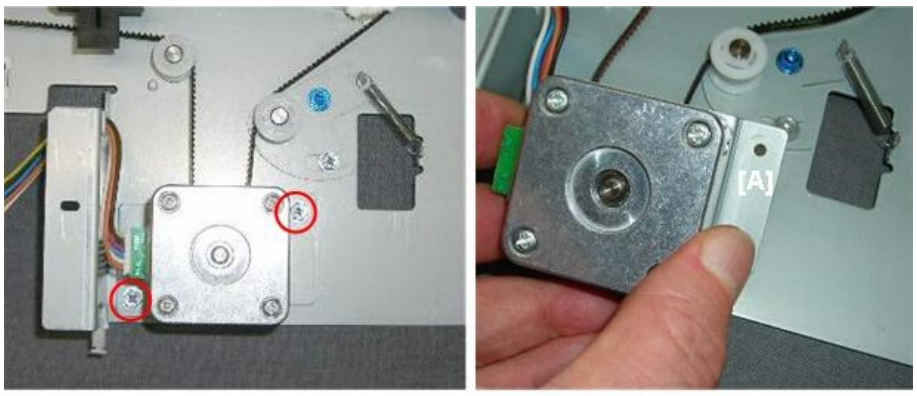
Preparation

Remove these parts:

- Jogger unit (Jogger Unit Removal)
- Main jogger cover plate (Main Jogger Cover Plate)

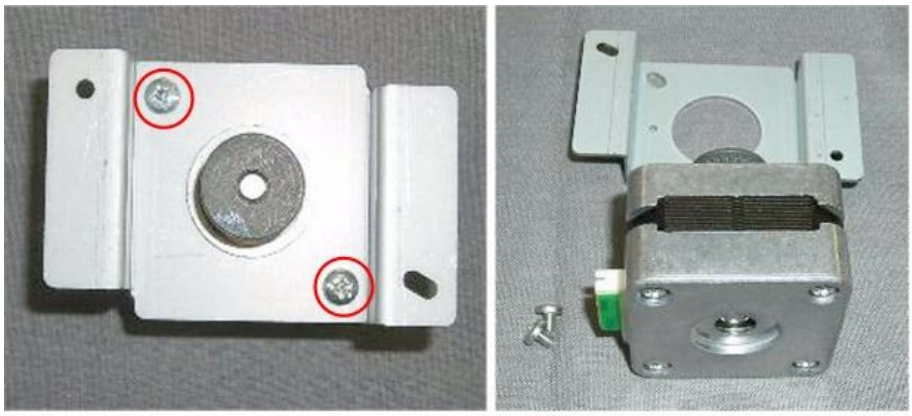
Front Fence Motor

1. Remove the motor bracket [A] (x2, x1, Belt x1)



d447r103

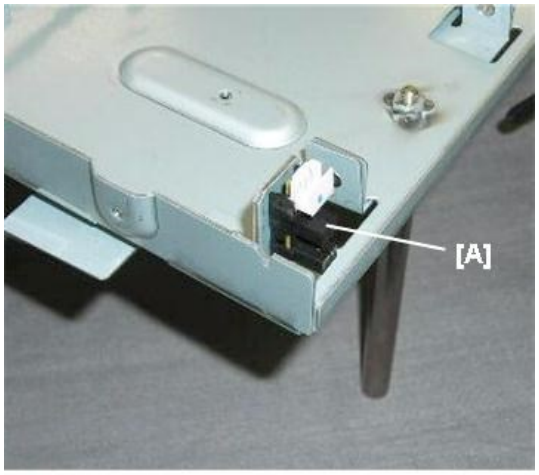
2. Separate the front fence motor and the bracket (x2)



d447r104

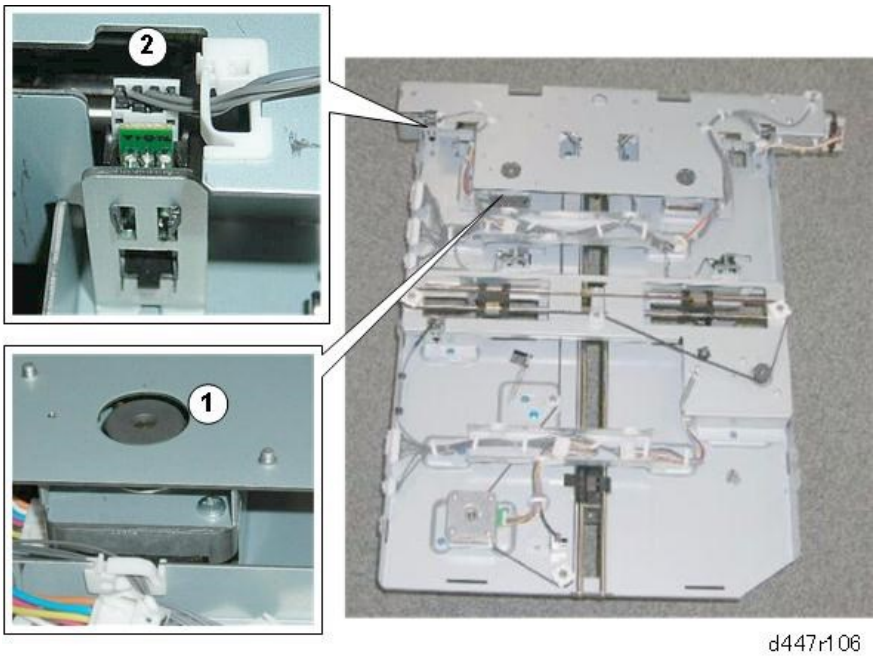
Front Fence HP Sensor

1. Remove the front fence HP sensor [A] (x5)



d447r105

Main Jogger Rear Fence Motor, Rear Fence HP Sensor



d447r106

①	Main Jogger Rear Fence Motor
②	Main Jogger Rear Fence HP Sensor

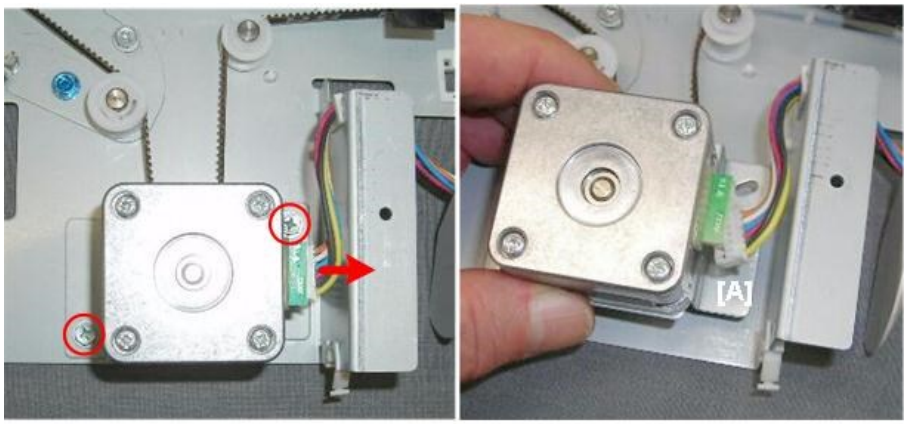
Preparation

Remove these parts:

- Jogger unit (Jogger Unit Removal)
- Main jogger cover plate (Main Jogger Cover Plate)

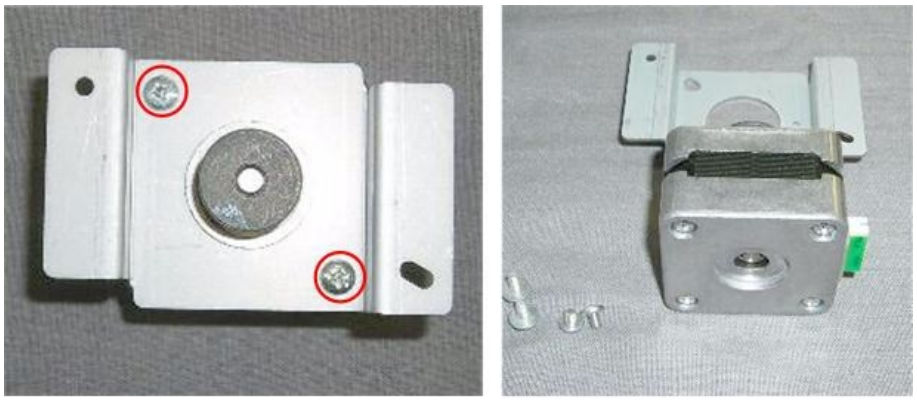
Rear Fence Motor

1. Remove the motor bracket [A] (x2, x1, Belt x1)



d447r107

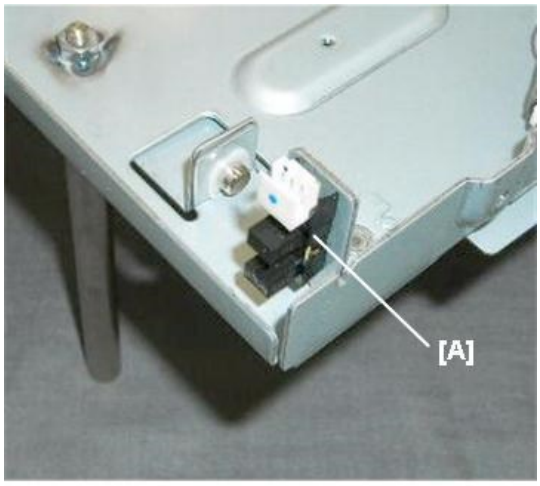
2. Separate the rear fence motor and the bracket (x2)



d447r108

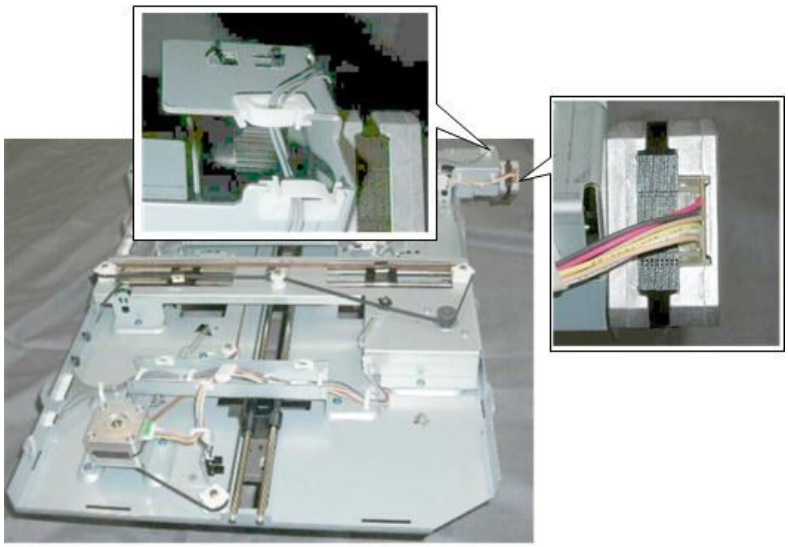
Rear Fence HP Sensor

1. Remove the rear fence HP sensor [A] (x5)



d447r109

Main Jogger Fence Retraction Motor, Fence Retraction HP Sensor



d447r110

Preparation

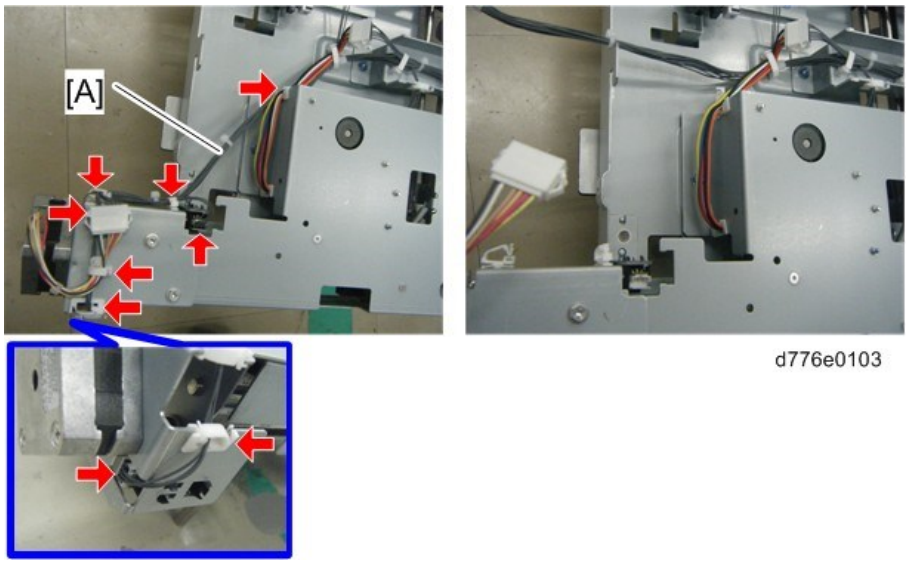
Remove these parts:

- Jogger unit (Jogger Unit Removal)

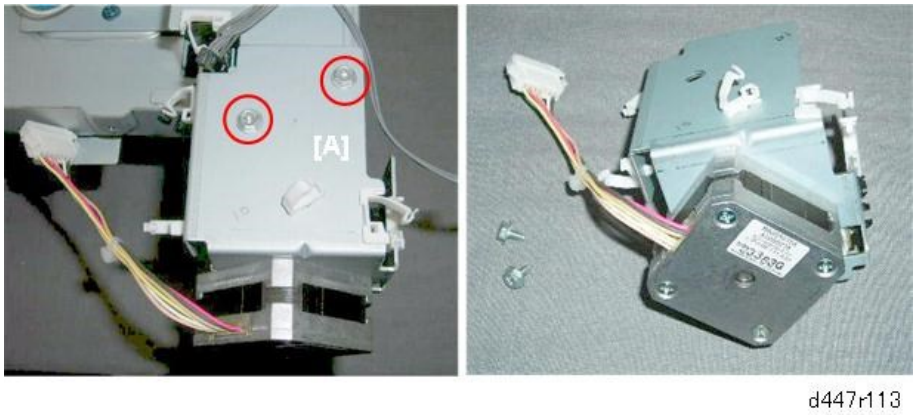
Fence Retraction Motor

1. Disconnect the dual harness [A] for the main jogger fence retraction HP sensor and front fence HP sensor (x3,x6).

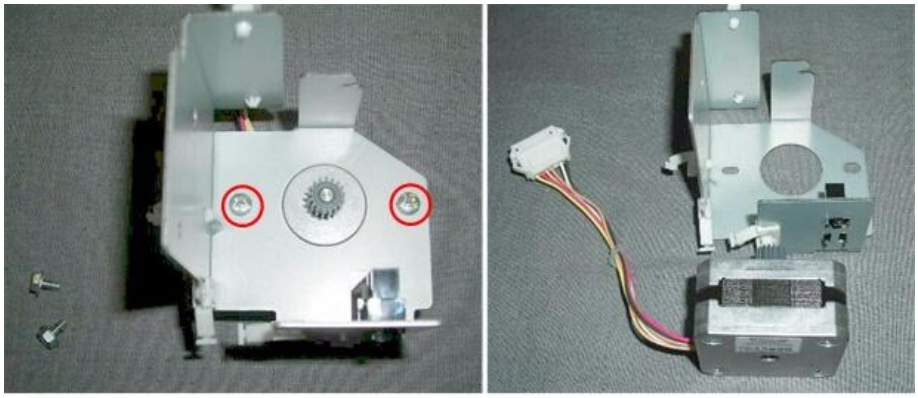
Front



2. Remove the motor bracket [A] (x2)



3. Separate the fence retraction motor and the bracket (x2)

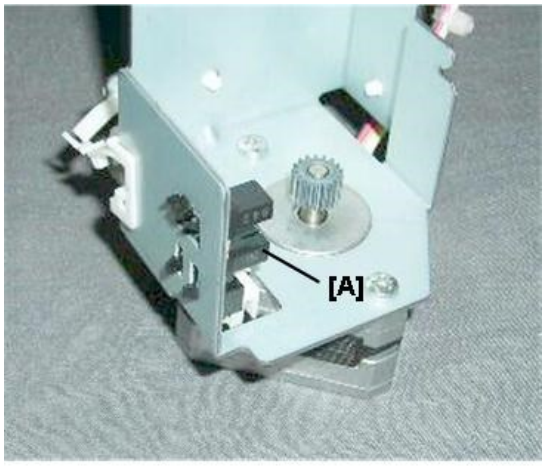


d447r114

Fence Retraction HP Sensor

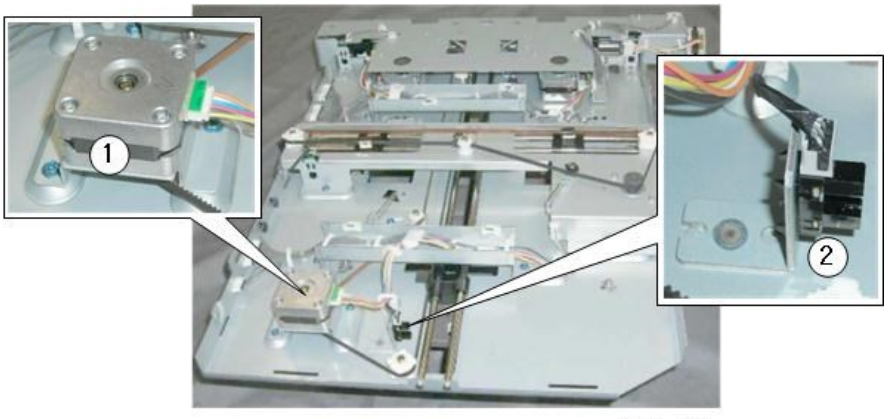
1. Remove the motor bracket

2. Remove the fence retraction HP sensor [A] (x5)



d447r115

LE Stopper Motor, LE Stopper HP Sensor



d447r116

①	LE Stopper Motor
②	LE Stopper HP Sensor

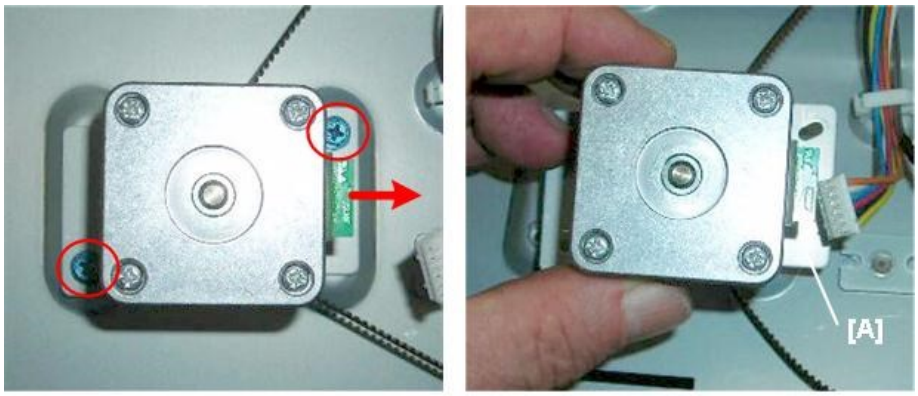
Preparation

Remove these parts:

- Jogger unit (Jogger Unit Removal)

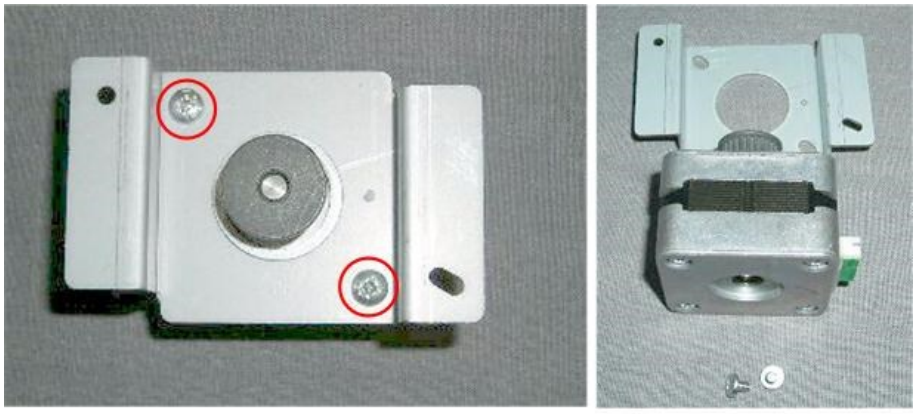
LE Stopper Motor

1. Remove the motor bracket [A] (x2, x1)



d447r117

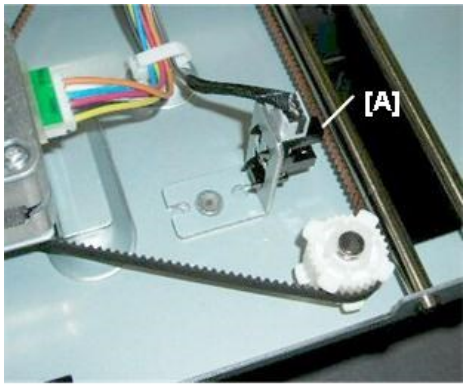
2. Separate the LE stopper motor and the bracket (x2)



d447r118

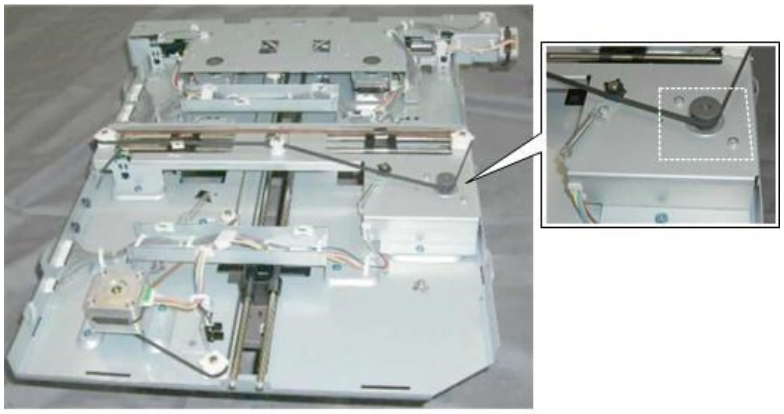
LE Stopper HP Sensor

1. Remove the sensor [A] (x1, x5)



d447r119

Sub Jogger Motor



d447r120

Preparation

- Jogger unit (Jogger Unit Removal)

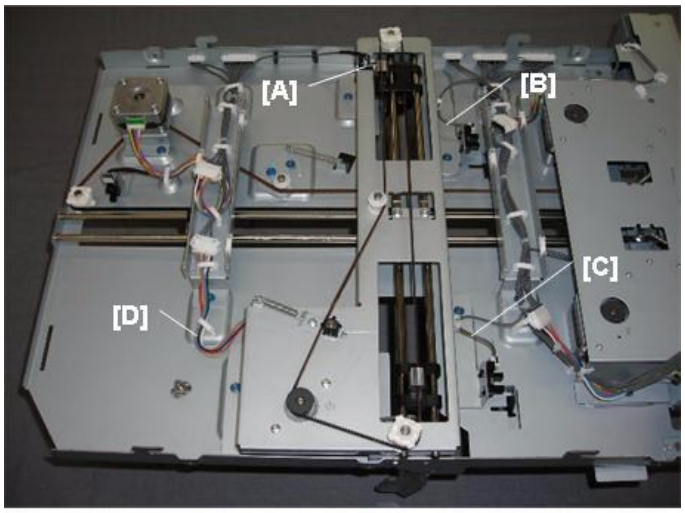
1. Disconnect these harnesses:

[A] Sub jogger fence HP sensor (x1,x1)

[B] Tray guard sensor 1 (x1,x1)

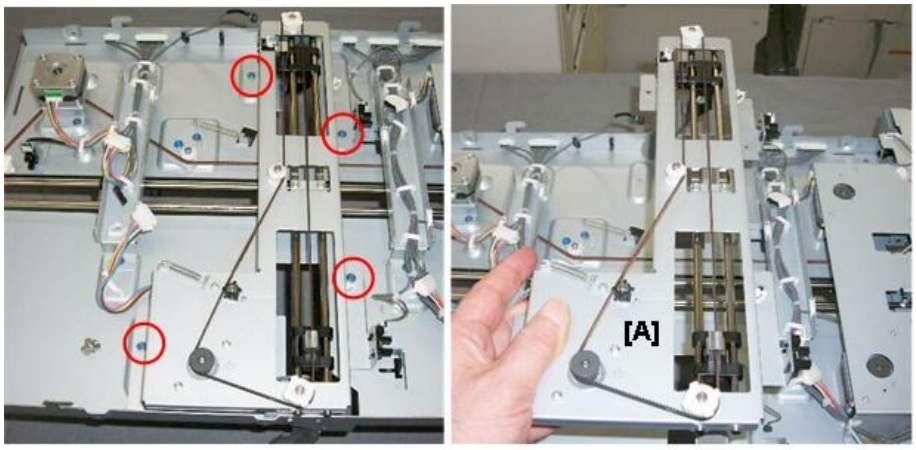
[C] Tray guard sensor 2 (x1,x1)

[D] Sub jogger motor (x1,x1)



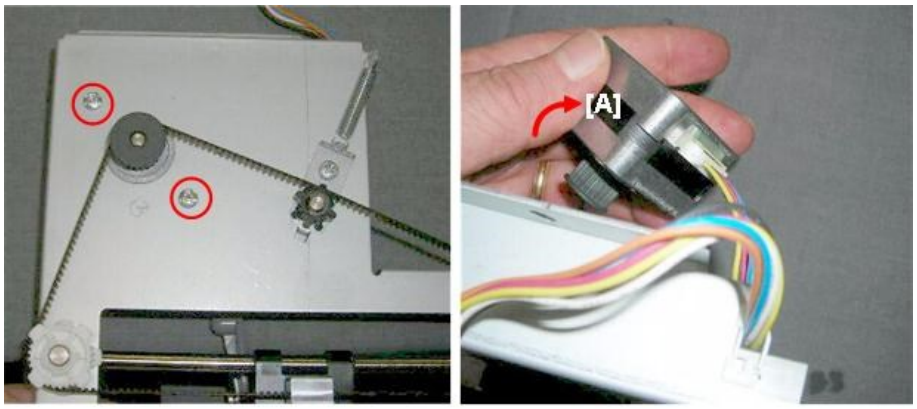
d447r121

2. Remove the cover [A] (x4)



d447r122

3. Remove the sub jogger motor [A] (x2, Belt x1, x1)



d447r123

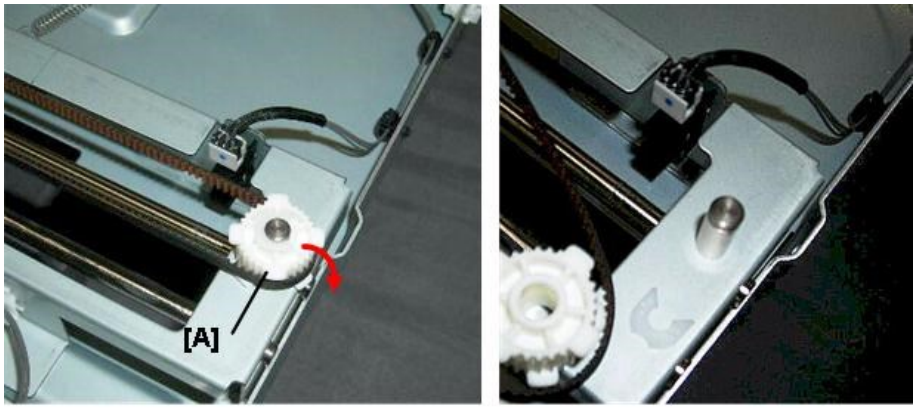
d447r124

Sub Jogger HP Sensor

Preparation

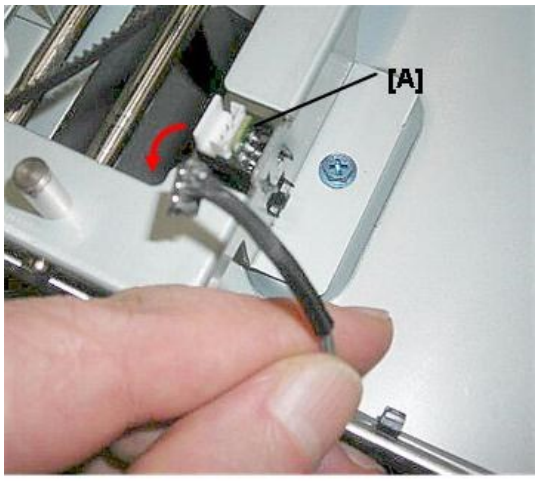
- Jogger unit (Jogger Unit Removal)

1. Disconnect pulley [A] and belt (x1, Pulley x1, Belt x1).



d447r125

2. Remove the sub jogger HP sensor [A] (x1, x5)



d447r126

Shift Tray Lift Control

Roll Away Cart Set Switch

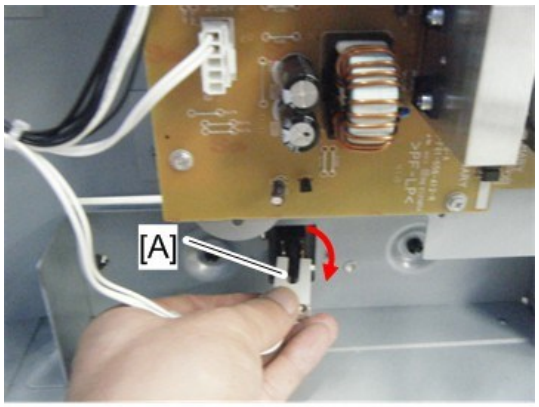
d776e0107

Preparation

Remove these parts:

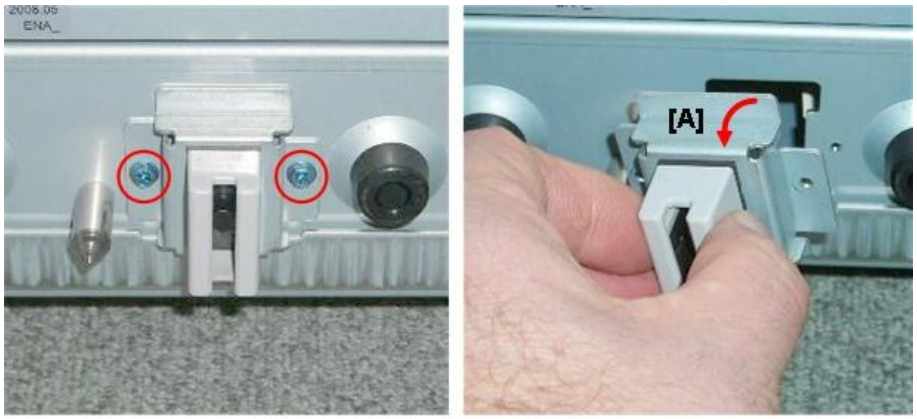
- Cart (Roll-Away Cart D456)
- Rear lower cover (Rear Lower Cover, Rear Upper Cover)

1. At the rear, disconnect the connector [A] (x1).



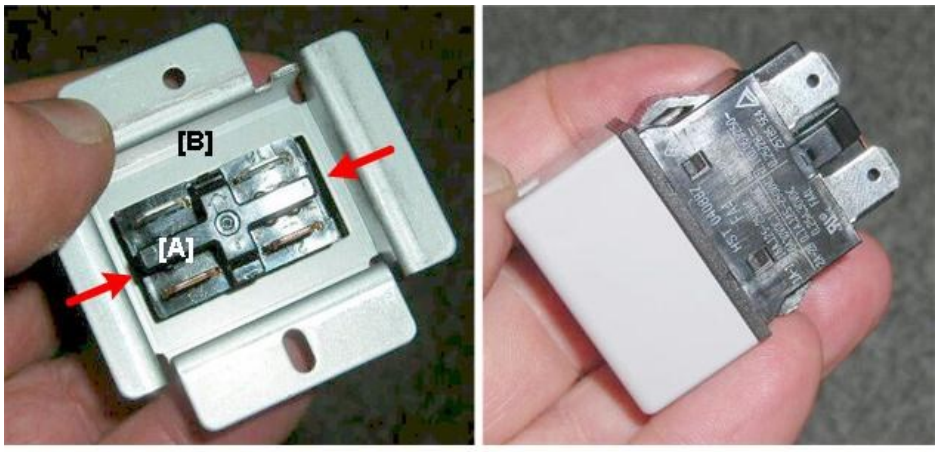
d776e0108

2. At the inside, remove the switch with the bracket [A] (x2).



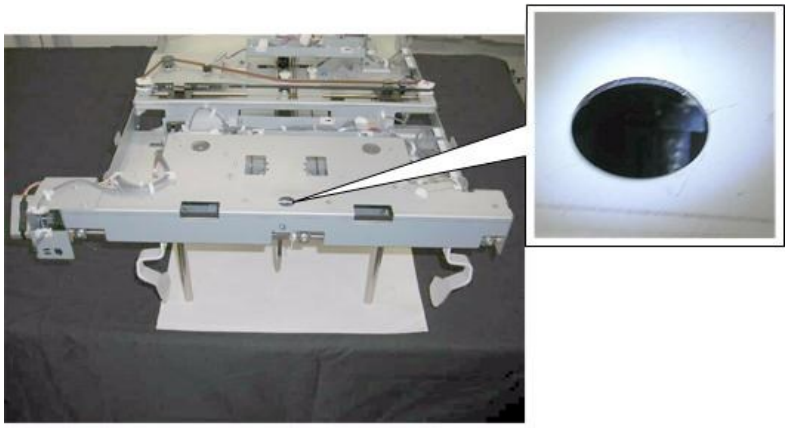
d447r129

3. Depress the hooks on both sides of the switch [A] and separate the switch from the bracket [B].



d447r130

Shift Tray Paper Sensor



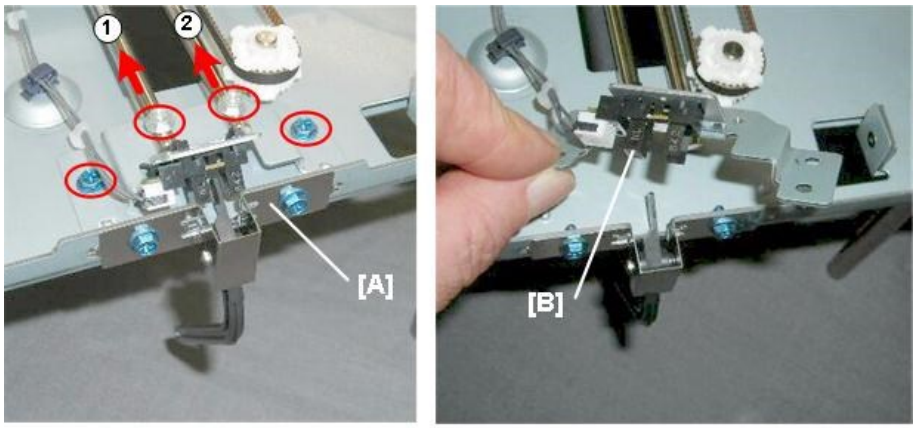
d447r131

Preparation

Remove these parts:

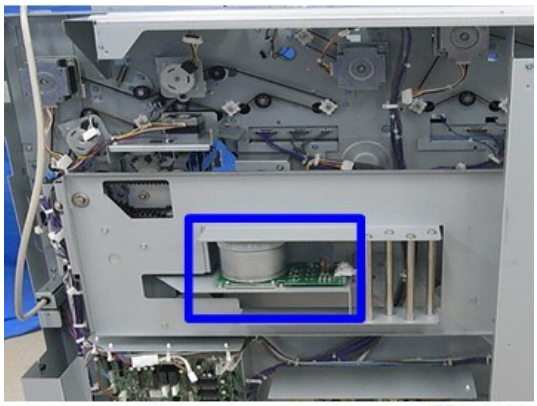
- Jogger unit (Jogger Unit Removal)
- Main jogger cover plate (Main Jogger Cover Plate)

1. Disconnect sensor bracket [A] and rails ① and ② (x4).
2. Slide the rails to the rear.
3. Remove the shift tray paper sensor [B] (x1, x5)



d447r132

Tray Lift Motor



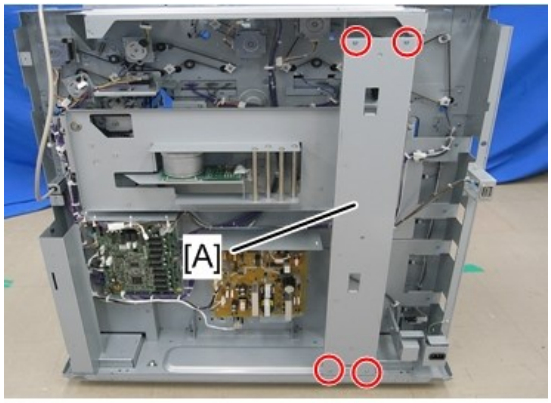
d776e0109

Preparation

Remove these parts:

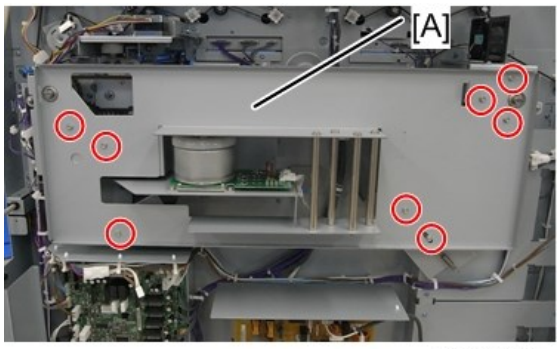
- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)

1. Remove the vertical plate [A] (x4)



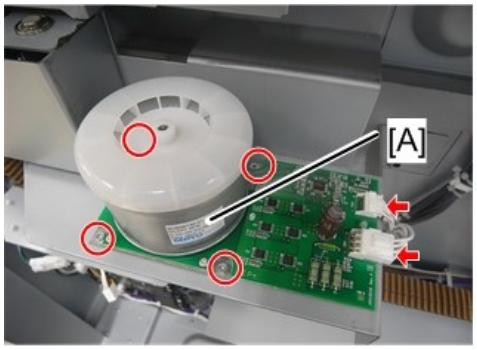
d776z0037

2. Remove the belt cover plate [A] (x8)



d776z0038

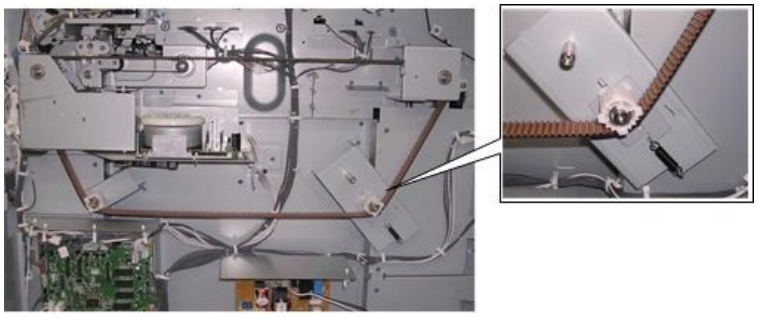
3. Remove the tray lift motor [A] (x4, x2)



d194z0290

Re-installation

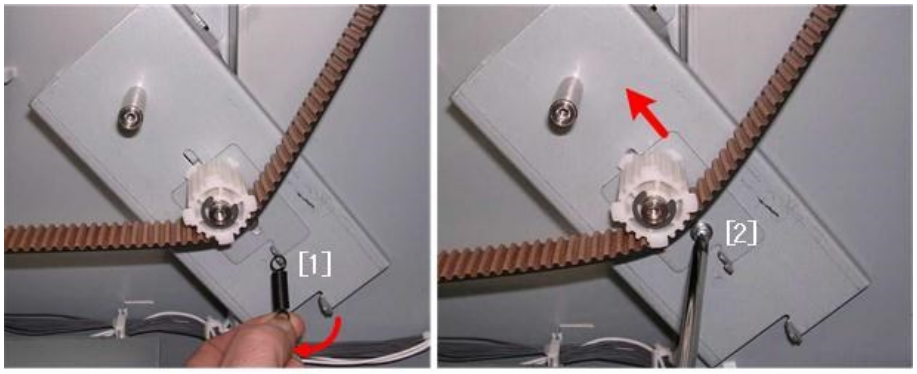
Whenever the belt cover plate has been removed, you should check and re-set the tension of the transverse belt before re-attaching the belt cover plate.



d447r201

1. Remove the spring [1].

2. Loosen screw [2] (do not remove it) to raise the tension bracket to the left.



d447r202

3. Hang the belt cover plate [A] on the hook ①.

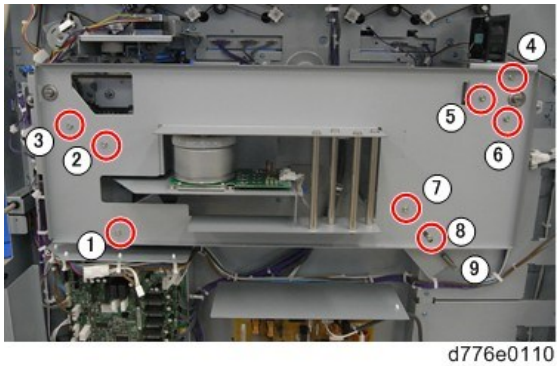
4. Make sure the bearings ② and ③ are snug in the holes.

d447r203

5. Attach screws ①, ②, ③, ④, ⑤, ⑥ and tighten.

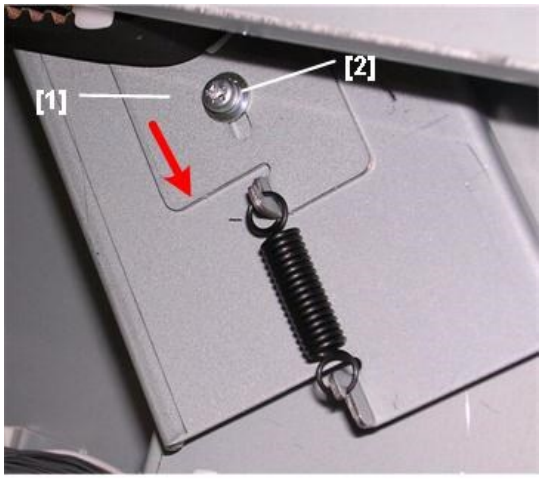
6. Attach screws ⑦, ⑧ but do not tighten.

7. Re-attach the removed spring ⑨.



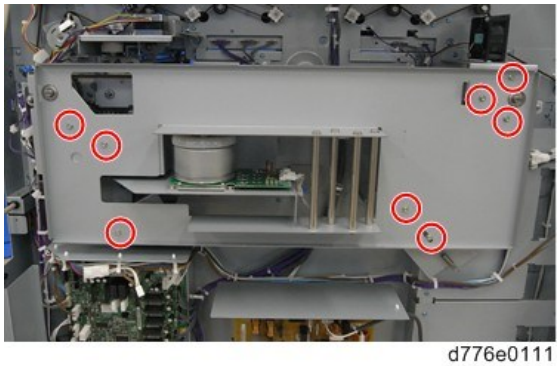
d776e0110

8. Above the spring, pull the tension bracket down [1] as far as it will go, and tighten the tension screw [2]



d447r205

9. Tighten all the screws (x8).



d776e0111

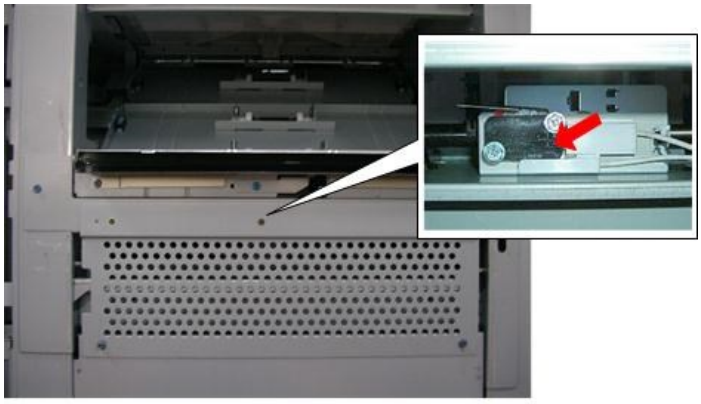
Paper Height Sensor

The paper height sensor is mounted on the same bracket as the shift entrance sensor.

For details about this procedure, please refer to Shift Tray Exit Sensor, Paper Height Sensor (after the Shift Tray Exit Unit removal procedure).

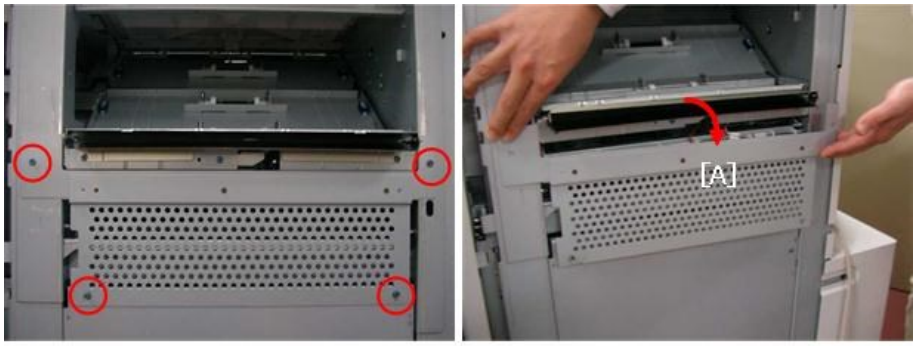
Tray High Limit Switch

This switch is on the right side of the stacker.



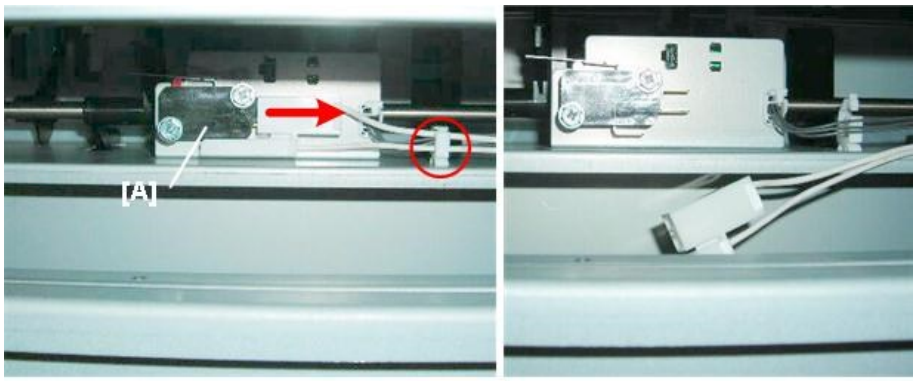
d447r140

1. Remove the plate [A] (x4)



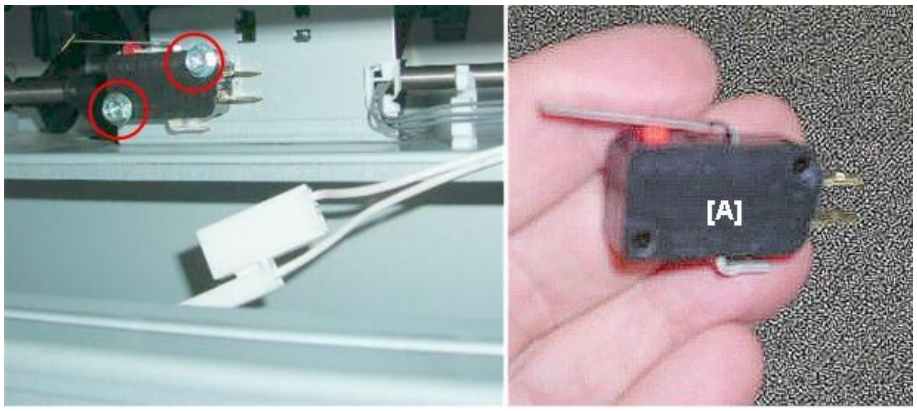
d447r170

2. Disconnect the tray high limit switch [A] (x1,x1)



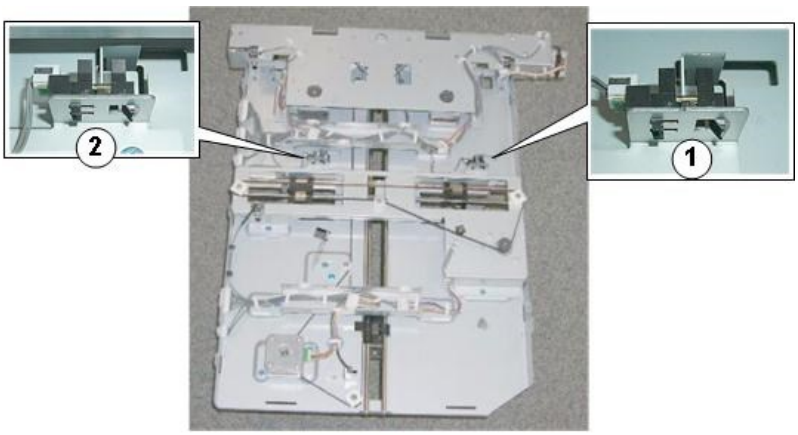
d447r141

3. Remove the tray high limit switch [A] (x2).



d447r142

Tray Guard Sensors 1, 2



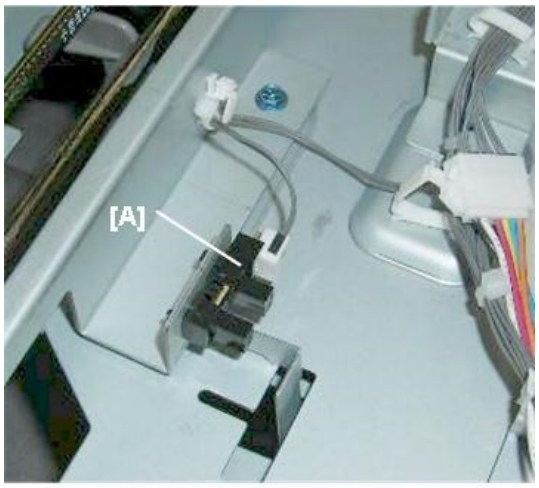
d447r143

Preparation

- Jogger unit (Jogger Unit Removal)

Tray Guard Sensor 1

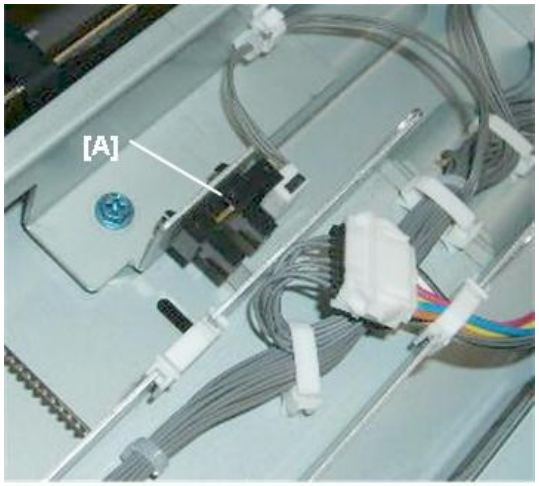
1. Remove tray guard sensor 1 [A] (x1, x3)



d447r144

Tray Guard Sensor 2

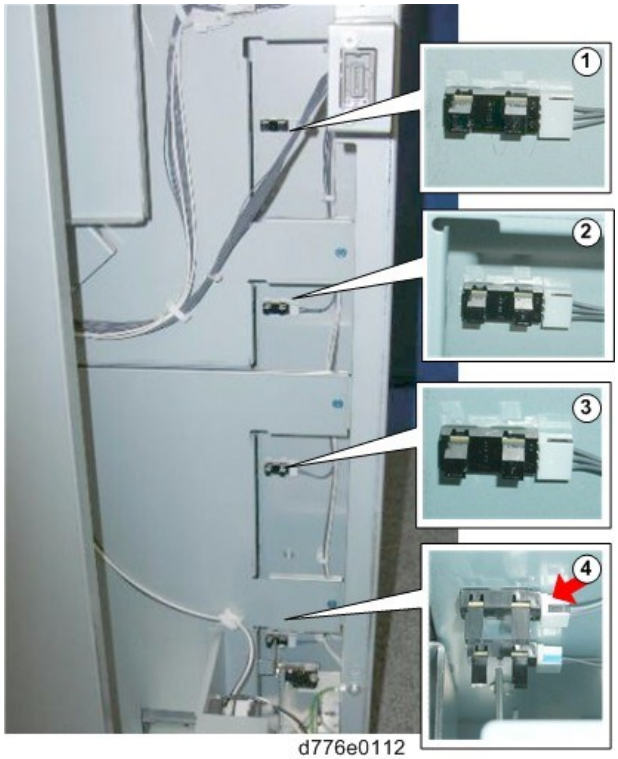
1. Remove tray guard sensor 2 [A] (x1, x3)



d447r145

Tray Full Sensors 1, 2, 3, 4

There are four tray full sensors mounted on the same vertical support.



①	Tray Full Sensor 1: 25%
②	Tray Full Sensor 2: 50%
③	Tray Full Sensor 3: 75%
④	Tray Full Sensor 4: 100%

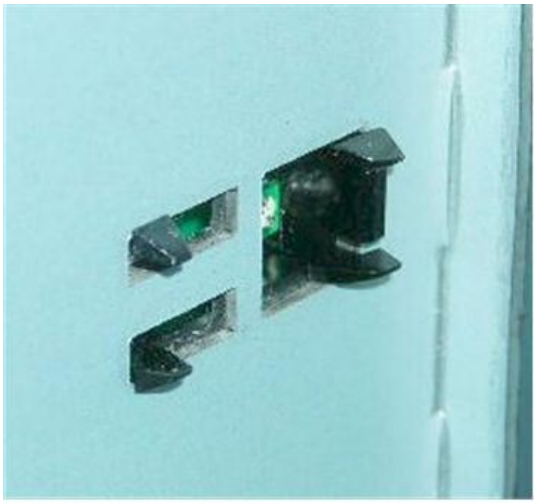
Preparation

Remove these parts:

- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)
- Left cover (Left Cover)

Tray Full Sensors 1, 2, 3

1. The pawls of these sensors are visible behind the frame (x1, x5 each)

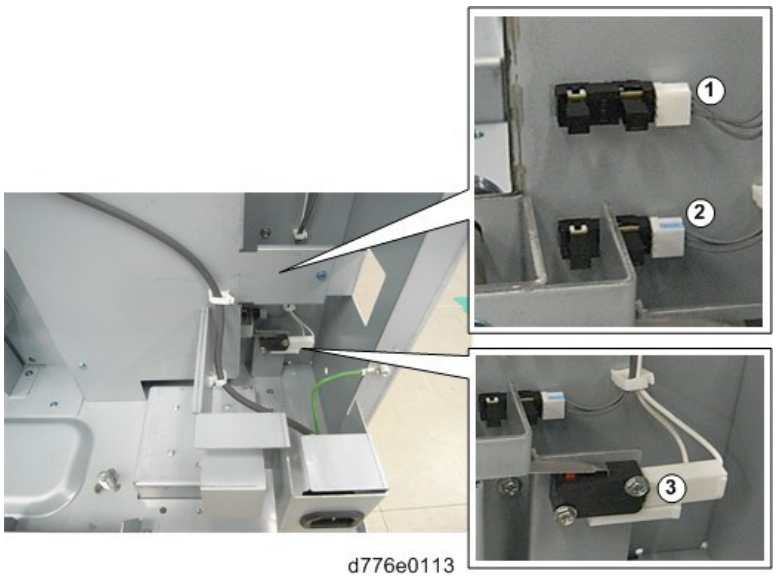


d447r147

Tray Full Sensor 4

See the next procedure below.

Tray Full Sensor 4, Tray Low Limit Sensor, Tray Low Limit Switch



d776e0113

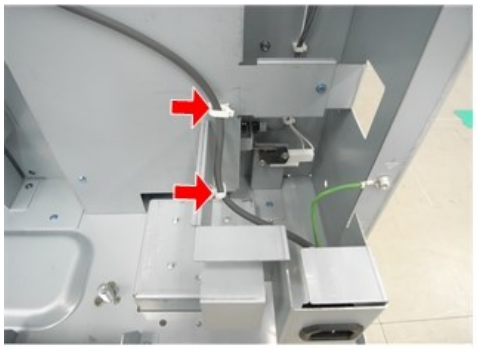
①	Tray Full Sensor 4 100%
②	Tray Low Limit Sensor
③	Tray Low Limit Switch

Preparation

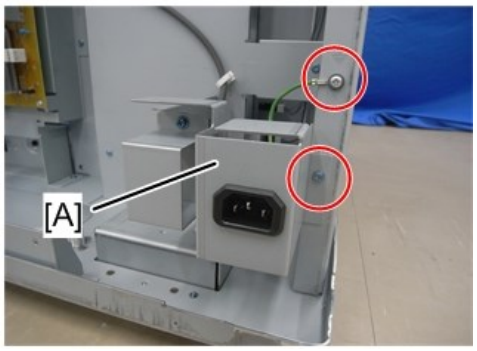
Remove these parts:

- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Left cover (Left Cover)

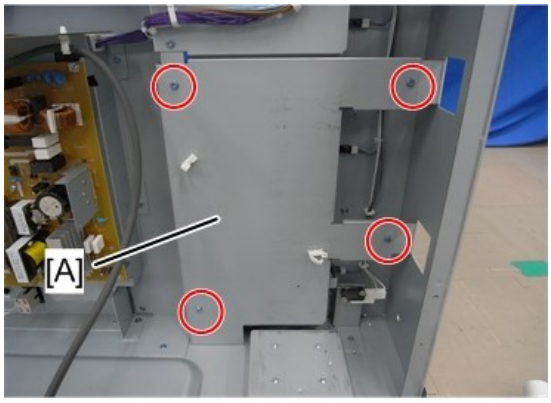
1. Remove the switch bracket [A] (x1, ground screw x1,x2)



d776z0040



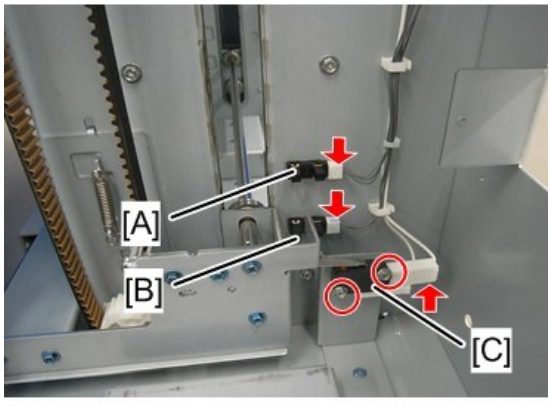
2. Remove the cover plate [A] (x4)



d776z0041

3. Remove (in any order):

- Tray full sensor 4 [A] (x1,x5)
- Tray low limit sensor [B] (x1, x5)
- Tray low limit switch [C] (x1,x2)



d776z0042

Shift Tray Level Adjustment

The shift tray timing belts can be adjusted to ensure that the shift tray is level:

- **Front-to-rear**. This adjustment is done first.
- **Left-to-right**. This adjustment is done after front-to-rear adjustment.

Important

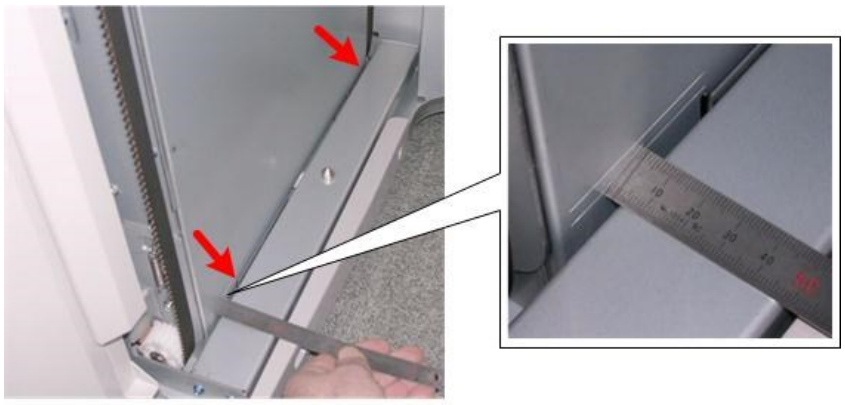
- Always do the front-to-rear adjustment first on both sides and then do the left-to-right adjustment.
- Never do the front-to-rear adjustments without later checking and setting the left-to-right alignment of the tray.

Checking that the Tray is Level

Right Side

1. Press the button on the stacker operation panel to lower the shift tray.
2. Open the front door and pull out the tray cart.
3. Check that the tray is level. To do this, check the markings at the front and rear of the tray brackets on the left and right sides.

   Front left, below stacker exit



d447r207

   Front right, below stacker entrance

d447r208

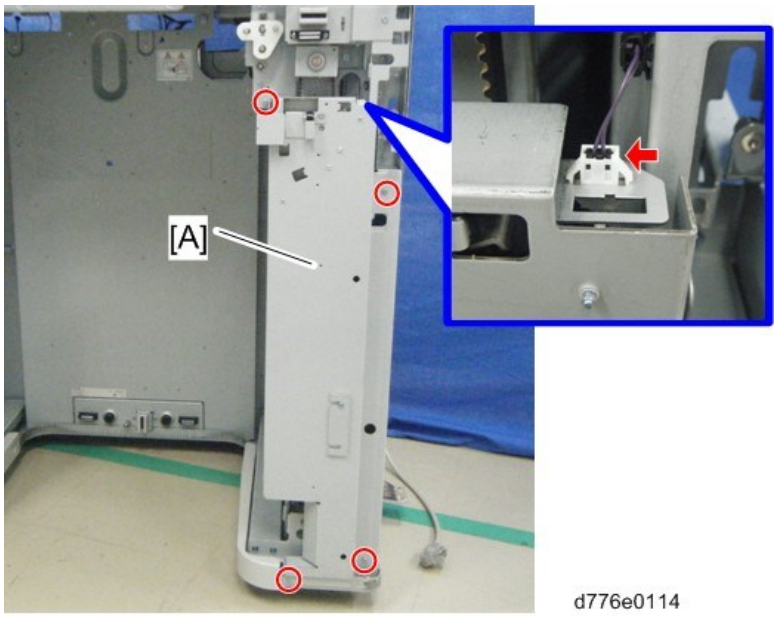
4. If the brackets are at the same level, no adjustment is required.

If they are not at the same level, do the front-to-rear adjustment, then the left-to-right adjustment.

Front-to-Rear Adjustment

Right Side

1. Remove:
   - Top door (Top Door)
   - Front right cover (Front Right Cover)
   - Right inner cover (Right Inner Cover)
2. Remove the right vertical stay [A] (x4, x1)

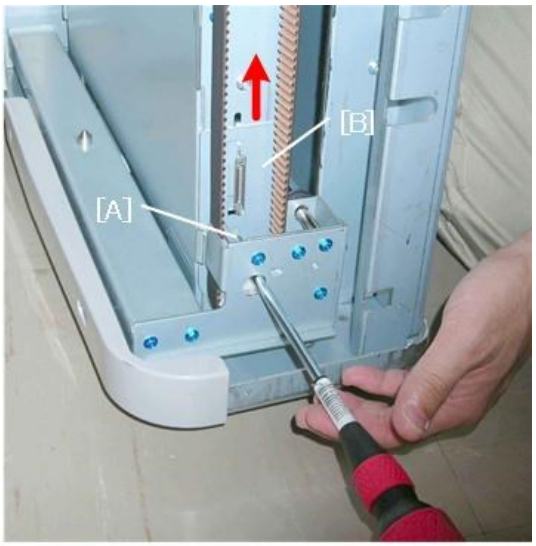


d776e0114

3. Remove the screws of the front door switch bracket [A] (x2). You do not need to remove the bracket.

d447r210

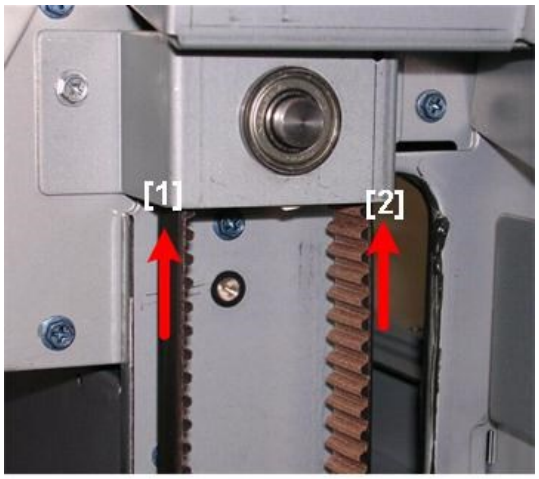
4. Loosen the tension on the belt:
   - Loosen screw [A].
   - The tension bracket [B] will rise.
   - Tighten screw [A].



d447r211

5. Adjust the belt:

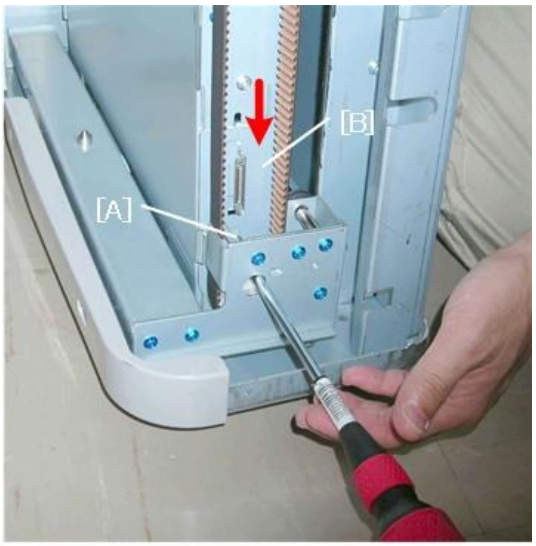
- If the front end is low, pull up the left side of the belt [1] to raise the front.
- If the front end is high, pull up the right side of the belt [2] to lower the front.
- Every notch adjustment (you will be able to hear it click) adjusts the height of the front by 5 mm.



d447r212

6. Re-set the belt tension:

- Loosen screw [A].
- Pull down the spring [B] to apply tension to the belt.
- Tighten screw [A] with the bracket pulled down.



d447r213

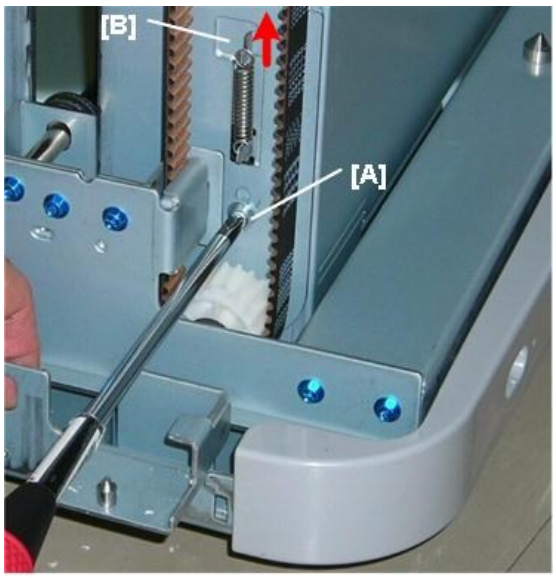
Left Side

1. Remove:

- Top door (Top Door)
- Front door (Front Door)
- Front left cover (Front Left Cover)

2. Loosen the tension on the belt:

- Loosen tension screw [A].
- The tension bracket [B] will rise.
- Tighten screw [A].

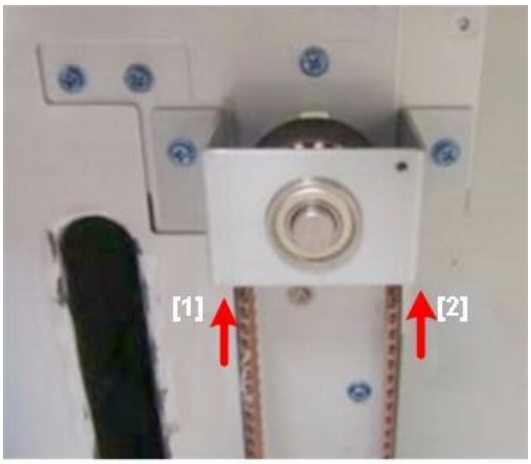


d447r214

3. Adjust the belt:

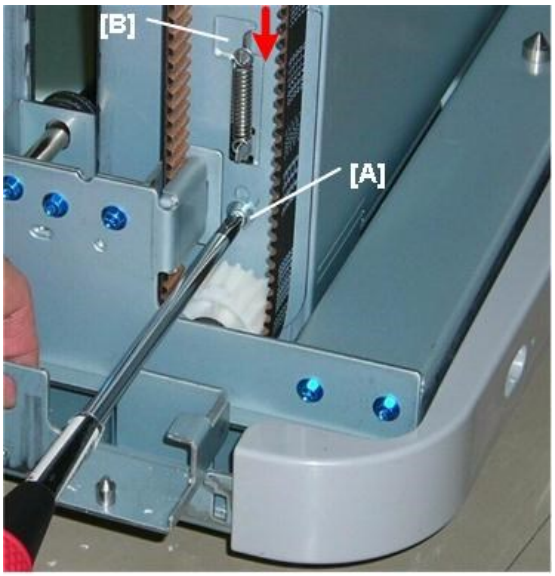
- If the front end is low, pull up the left side of the belt [1] to raise the front.
- If the front end is high, pull up the right side of the belt [2] to lower the front.
- Every notch adjustment (you will be able to hear it click) adjusts the height of the front by 5

mm.



d447r215

4. Set the belt tension:
   - Loosen screw [A].
   - Pull down the spring [B] to apply tension to the belt.
   - Tighten screw [A] with the bracket down.

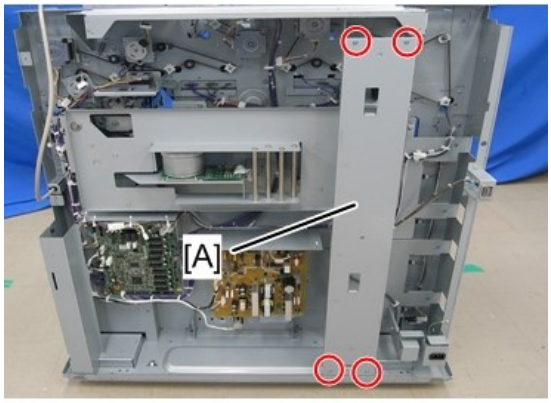


d447r216

Left-to-Right Adjustment

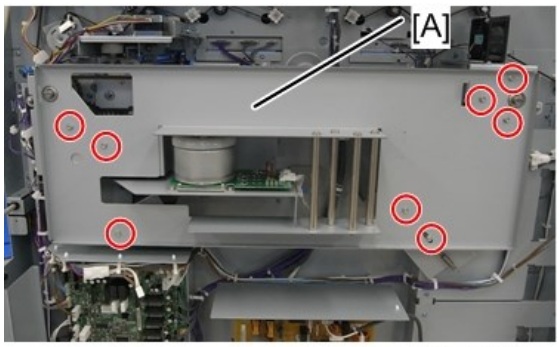
1. Check the markings on the tray brackets to determine if the tray is slanting to the left or right.
2. Remove:
   - Rear lower cover (Rear Lower Cover, Rear Upper Cover)
   - Rear upper cover (Rear Lower Cover, Rear Upper Cover)
   - Corner cover (Corner Cover)

3. Remove the vertical plate [A] (x4)



d776z0037

4. Remove the belt cover plate [A] (x8)



d776z0038

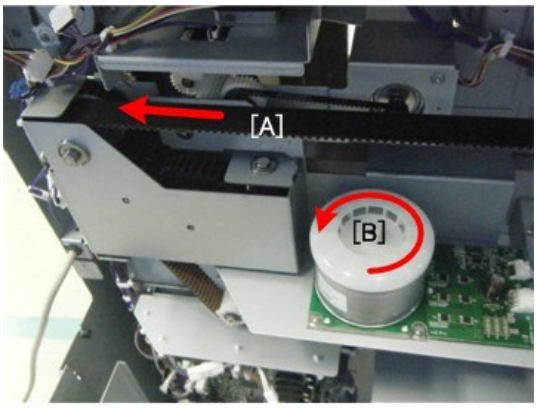
5. Release the tension on the timing belt:

- Remove spring [1].
- Loosen tension screw [2].
- Slide bracket [3] up to the left.

d776e0115

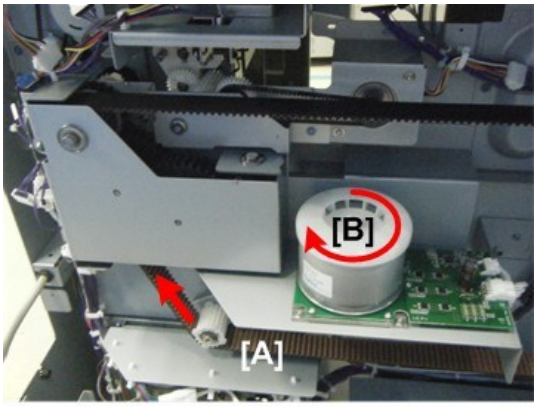
6. Adjust the belt position:

- To lower the right side of the tray below the stacker entrance, pull the belt in the direction of the arrow at [A] while rotating the top of the tray lift motor [B] counter-clockwise.



d776e0116

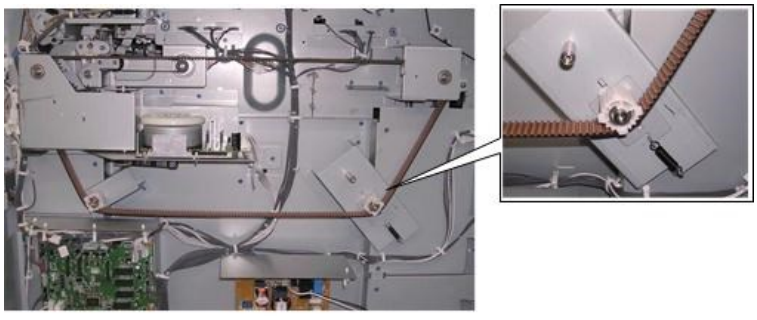
- To raise the right side of the tray below the stacker entrance, pull the belt in the direction of the arrow at [A] while rotating the top of the tray lift motor [B] clockwise.



d776e0117

Re-installation

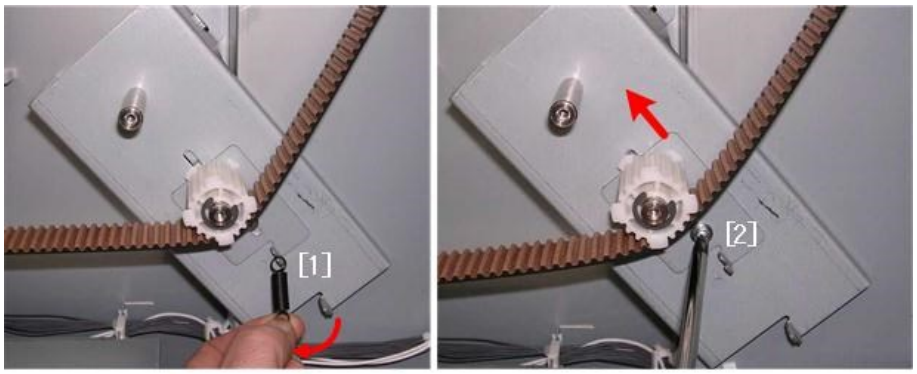
Whenever the belt cover plate has been removed, you should check and re-set the tension of the transverse belt before re-attaching the belt cover plate.



d447r201

1. Remove the spring [1].

2. Loosen screw [2] (do not remove it) to raise the tension bracket to the left.



d447r202

3. Hang the belt cover plate [A] on the hook ①.

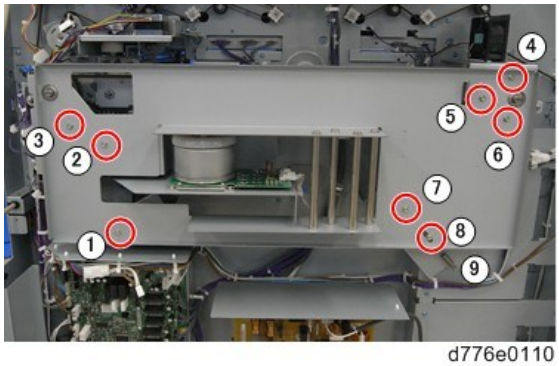
4. Make sure the bearings ② and ③ are snug in the holes.

d447r203

5. Attach screws ①, ②, ③, ④, ⑤, ⑥ and tighten.

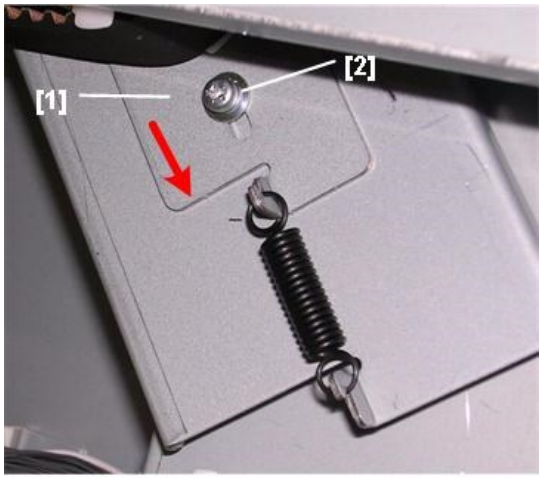
6. Attach screws ⑦, ⑧ but do not tighten.

7. Re-attach the removed spring ⑨.



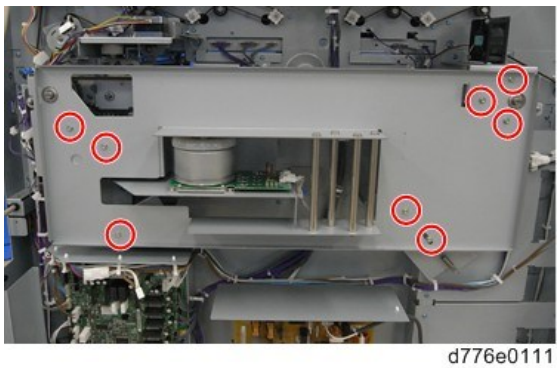
d776e0110

8. Above the spring, pull the tension bracket down [1] as far as it will go, and tighten the tension screw [2]



d447r205

9. Tighten all the screws (x8).



d776e0111

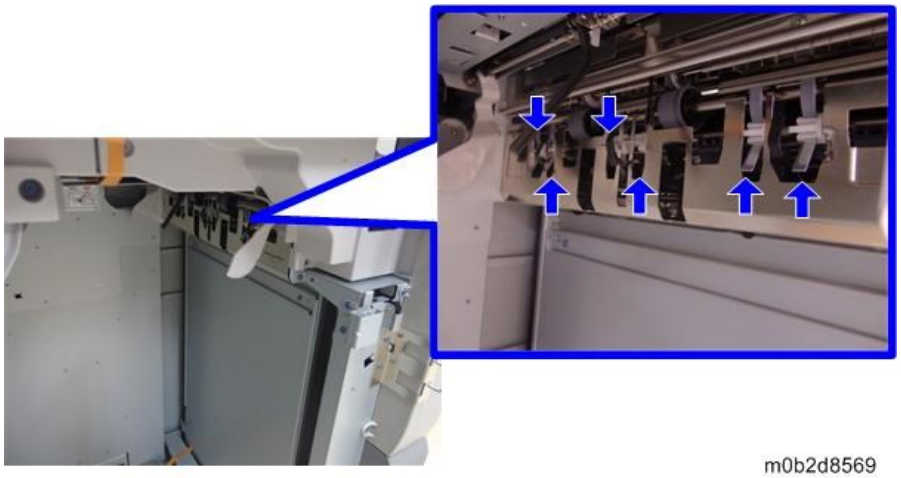
Paddle Roller

Paddle Roller Cleaning

Preparation

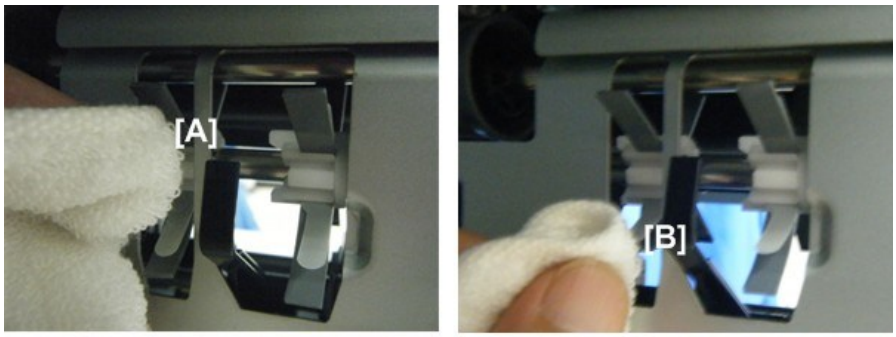
- Open the front door
- Remove the roll-away cart (Roll-Away Cart D456)

1. You can see the paddles at six locations behind on the right side between the jogger fences.



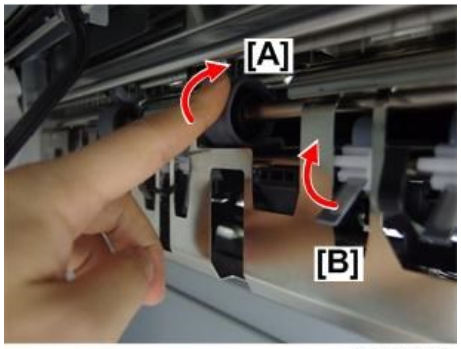
m0b2d8569

2. Use a dry cloth to clean:
   [A]: Top and bottom surfaces of each paddle
   [B]: Tip of each paddle



d776e0119

3. Rotate the exit roller [A] to expose the next paddle [B].



m0b2d8567

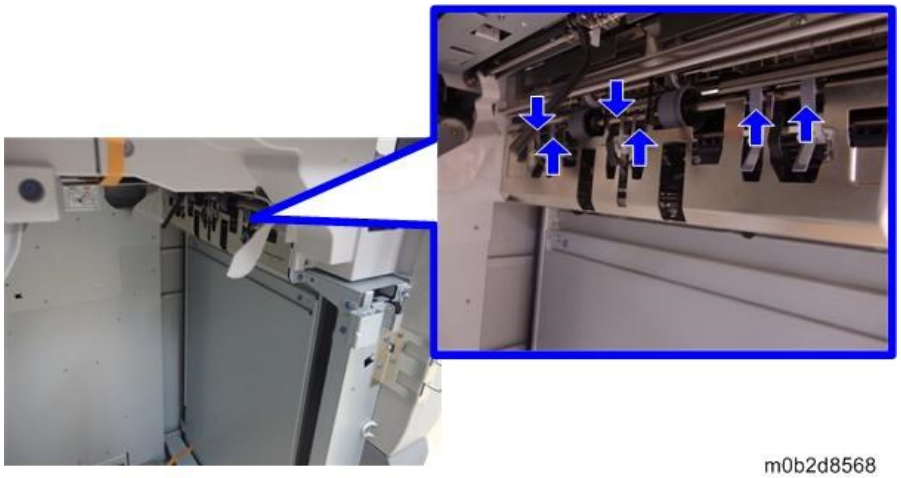
4. Repeat steps 1 and 2 at each location until all the paddles have been cleaned.
   There are four paddles at each of the six locations where the paddles are exposed.

Cleaning the Exit/Shift Rollers and Shafts

Preparation

- Open the front door
- Remove the roll-away cart (Roll-Away Cart D456)

1. You can see the roller shaft exposed at six cutouts above the paddles of the paddle roller.

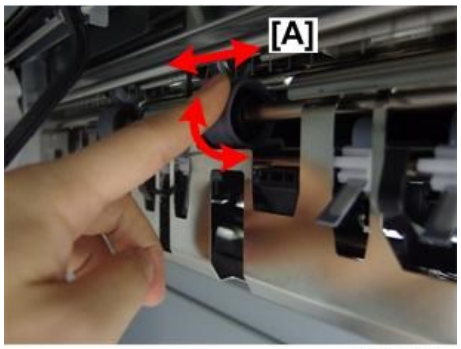


m0b2d8568

2. Use a soft dry cloth to clean the shaft.

d447r264

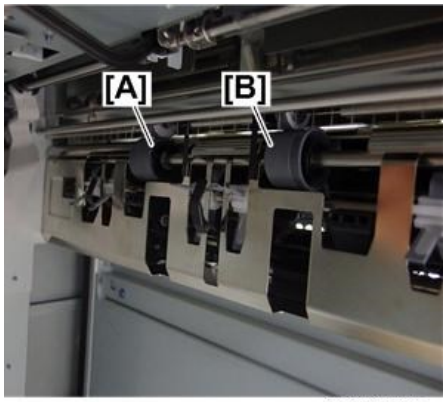
3. Rotate the exit roller [A] and push it from side to side while holding the cloth in place.



m0b2d8566

4. Repeat steps 1 and 2 at each location.

5. Clean the rollers [A] and [B].



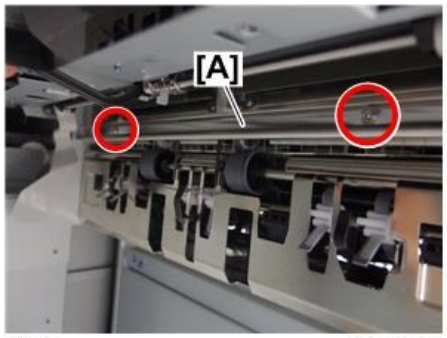
m0b2d8565

Anti-Static Brush Replacement

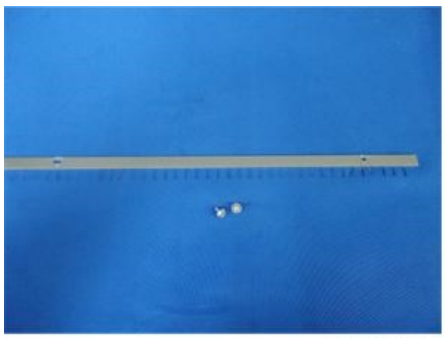
Preparation

- Open the front door
- Remove the roll-away cart (Roll-Away Cart D456)

1. Remove the anti-static brush [A].



x2 m0b2d8564

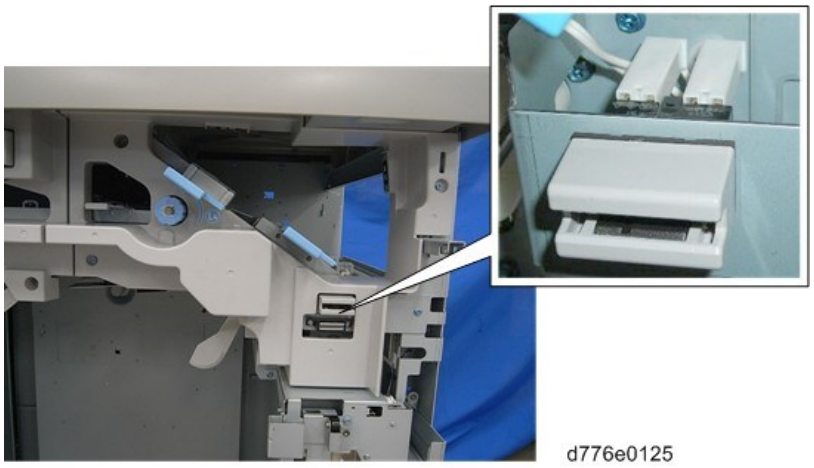


m0b2d8563

Switches, Solenoid

Door Switches

Front Door Switch

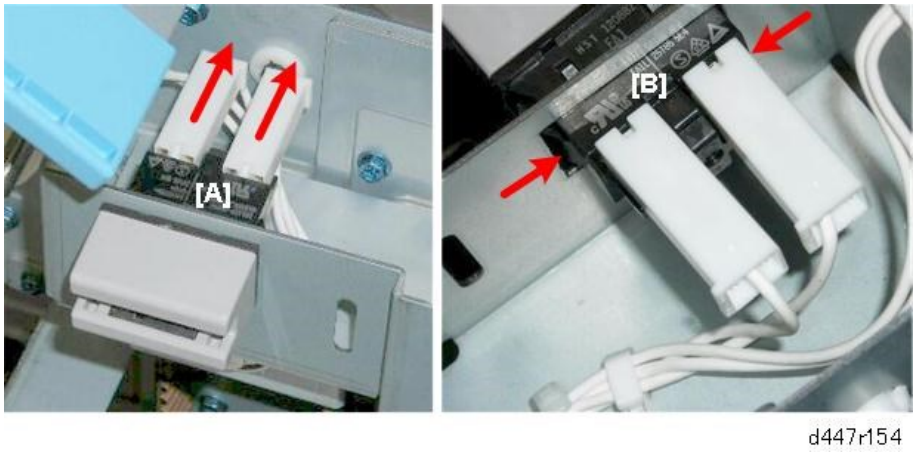


Preparation

Remove these parts:

- Top front cover (Proof Tray, Top Front Cover, Top Center Cover, Top Rear Cover)
- Top center cover (Proof Tray, Top Front Cover, Top Center Cover, Top Rear Cover)

1. Loosen the connectors [A] (x2)
2. Depress the releases [B] on both sides of the switch and remove the switch (x2).



d447r155

Top Door Switch

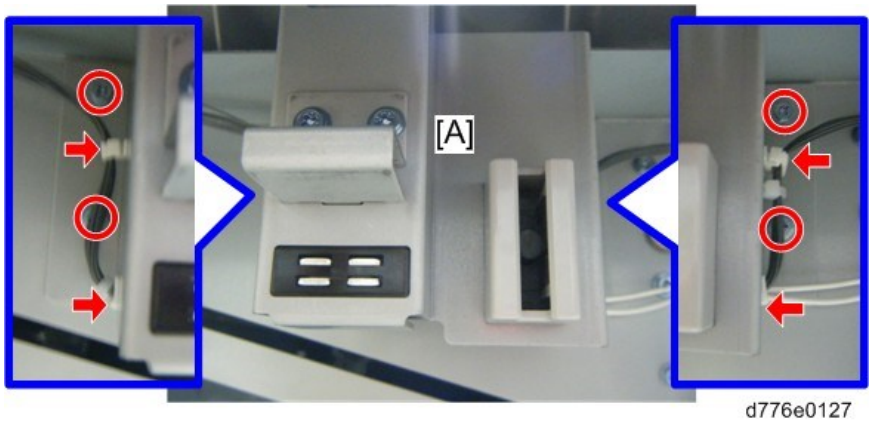
d776e0126

Preparation

Remove these parts:

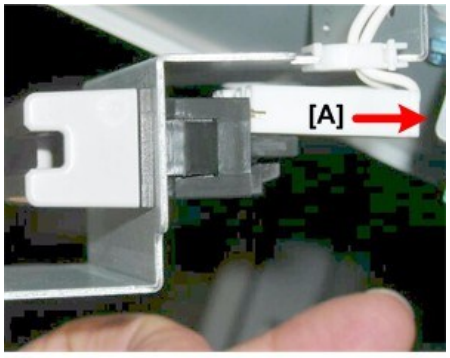
- Top front cover (Proof Tray, Top Front Cover, Top Center Cover, Top Rear Cover)
- Top center cover (Proof Tray, Top Front Cover, Top Center Cover, Top Rear Cover)

1. Remove the bracket [A] (x4, x4)



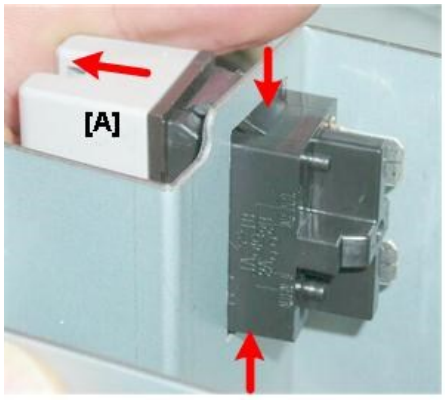
d776e0127

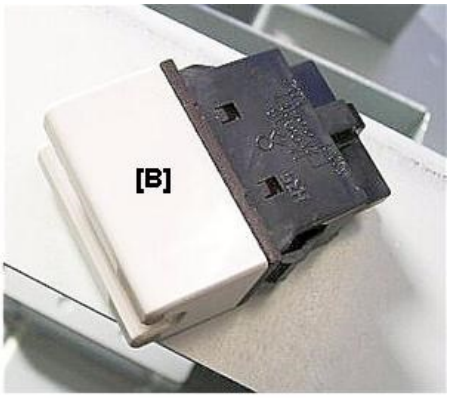
2. Disconnect the connector [A] (x1)



d776e0128

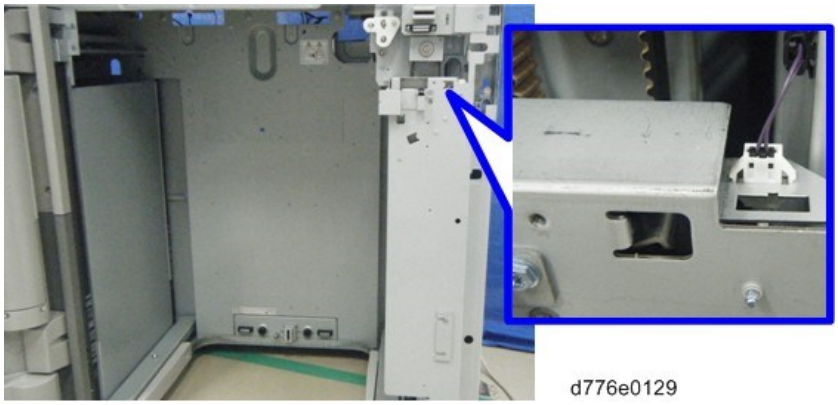
3. Depress the release [A] then remove the switch [B].





d447r158

Front Door Lock Solenoid

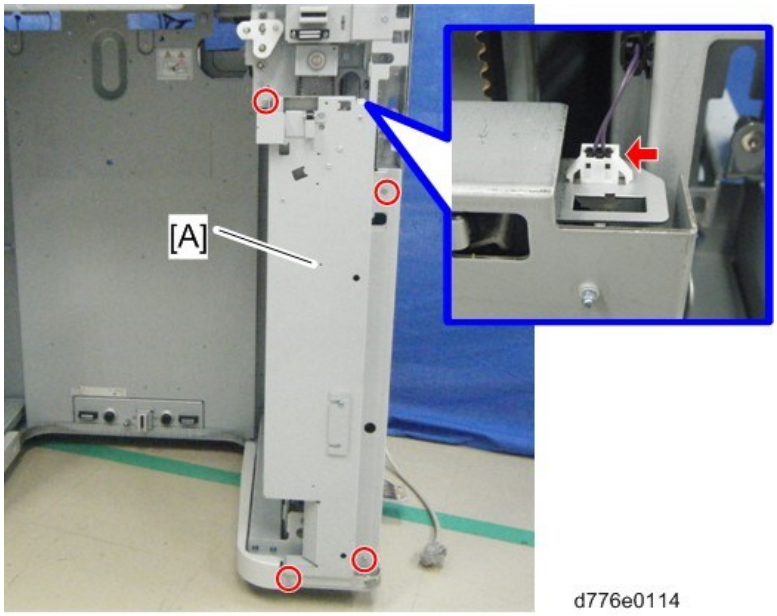


d776e0129

Preparation

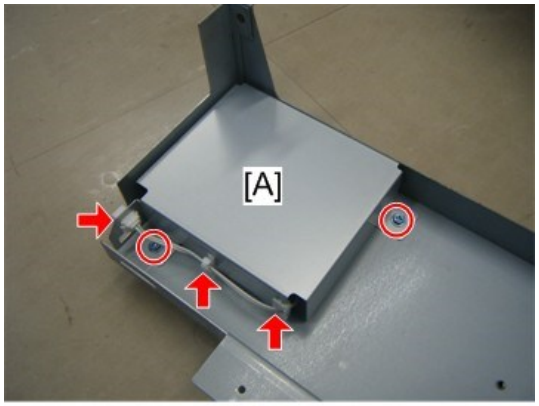
- Open the front door
- Remove the front right cover (Front Right Cover)

1. Remove the right vertical stay [A] (x4, x1)



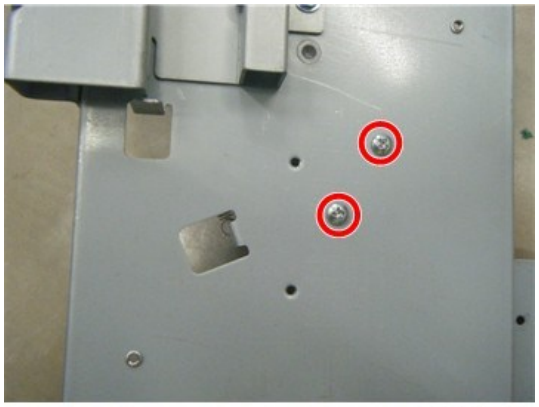
d776e0114

2. Remove the cover plate [A] from the right vertical stay (x1, x2, x2).



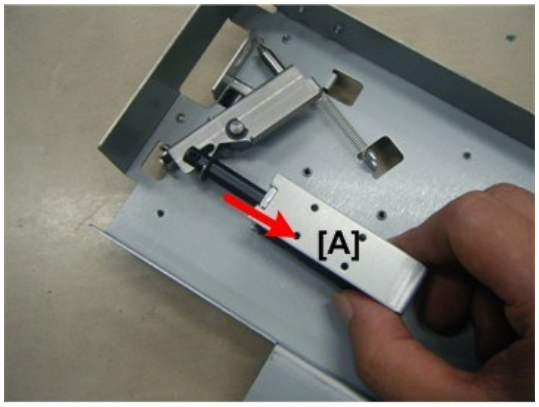
d776e0130

3. Turn the right vertical stay over and then remove two screws (x2).



d776e0131

4. Turn the right vertical stay over again and then remove the front door lock solenoid [A].



d776e0132

Fans

Cooling Fan Motor for Paper Transport Motors

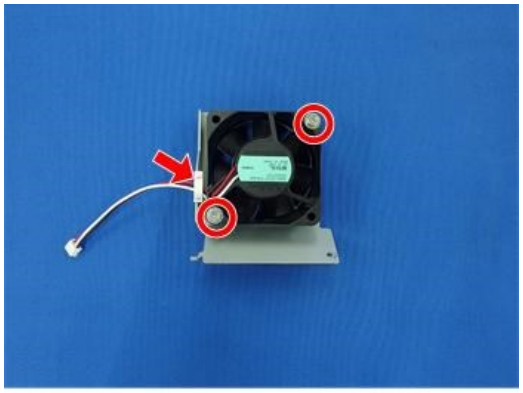
Preparation

- Remove the rear lower cover and rear upper cover. (Rear Lower Cover, Rear Upper Cover)

1. Remove the cooling fan motor with the bracket (x1, x1).

m0b2d8596

2. Remove the cooling fan motor (x2, x1)

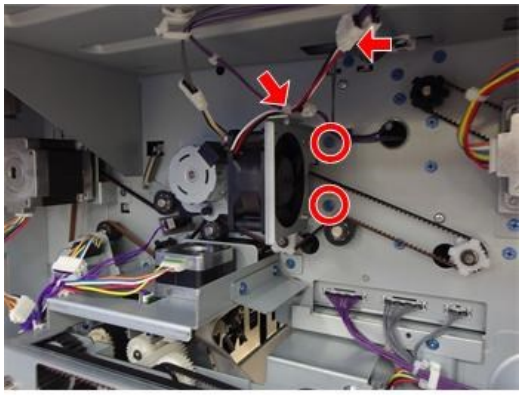


m0b2d8597

Cooling Fan for Entrance Motor

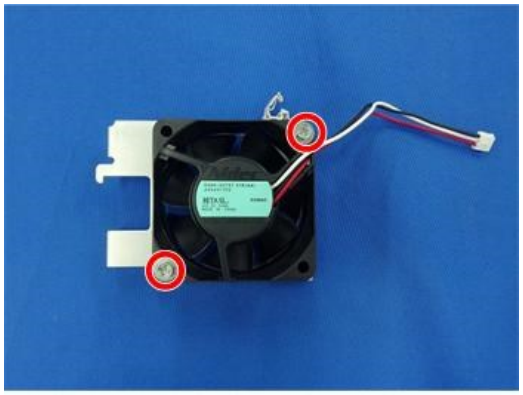
1. Remove the rear lower cover and rear upper cover. (Rear Lower Cover, Rear Upper Cover)

2. Remove the cooling fan motor with the bracket. (x1 , x1 , x2)



m0b2d8598

3. Remove the cooling fan motor. (x2)

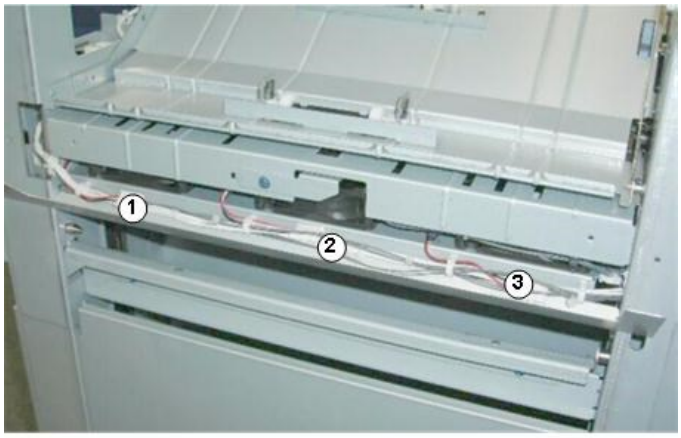


m0b2d8599

Paper Cooling Fan Motors

Below the stacker entrance, three fan motors are mounted on the same plate:

- Fan Motor 1
- Fan Motor 2
- Fan Motor 3



d447r169

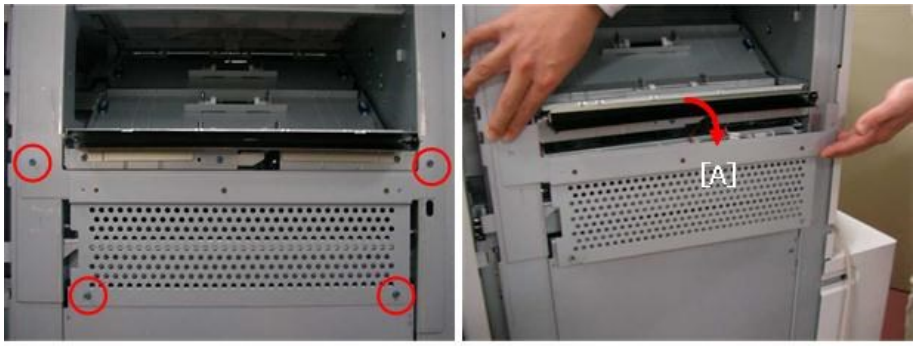
Preparation

1.Replacement and Adjustment

Remove these parts:

- Rear lower cover (Rear Lower Cover, Rear Upper Cover)
- Rear upper cover (Rear Lower Cover, Rear Upper Cover)
- Right inner cover (Right Inner Cover)
- Top center cover (Proof Tray, Top Front Cover, Top Center Cover, Top Rear Cover)

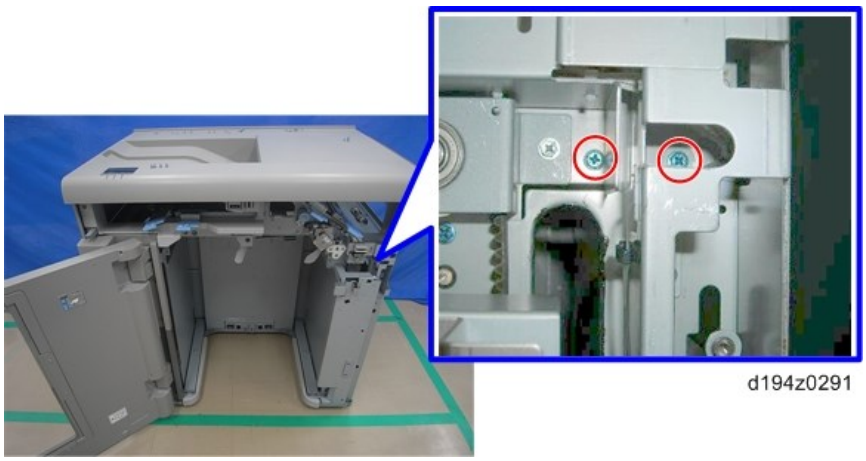
1. Remove the plate [A] (x4)



d447r170

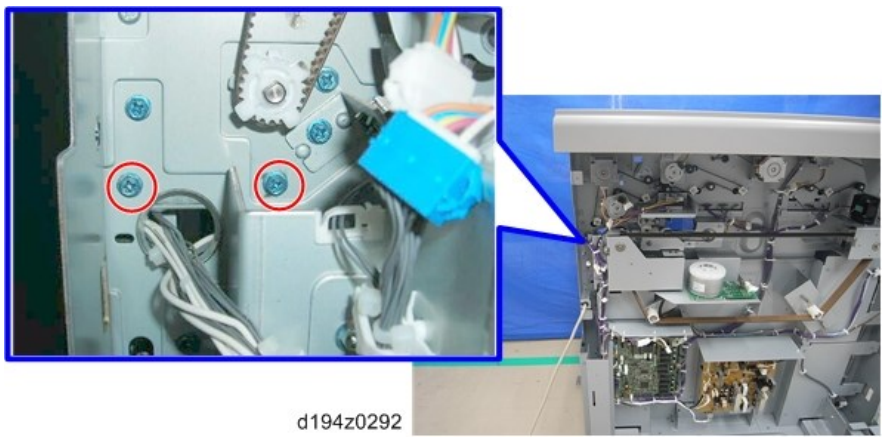
2. Disconnect the motor mount.

Front (x2)



d194z0291

Rear (x2)

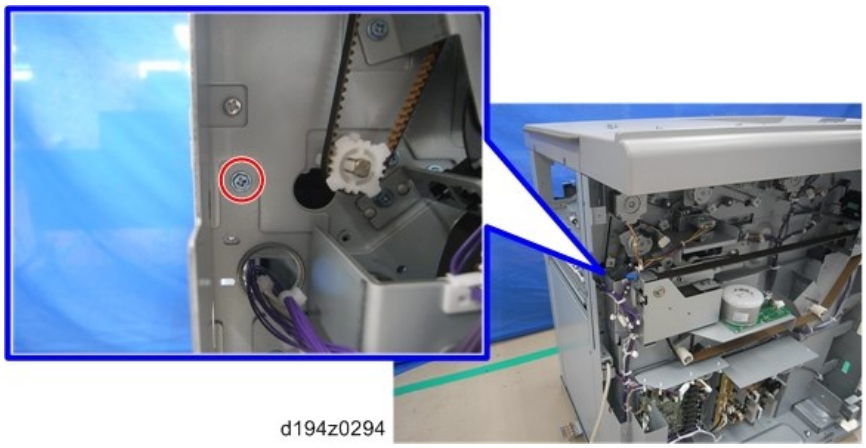


d194z0292

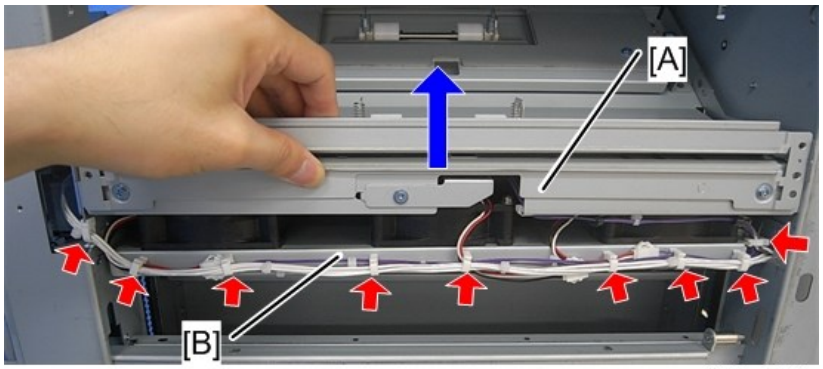
3. Remove the cover plate screws.

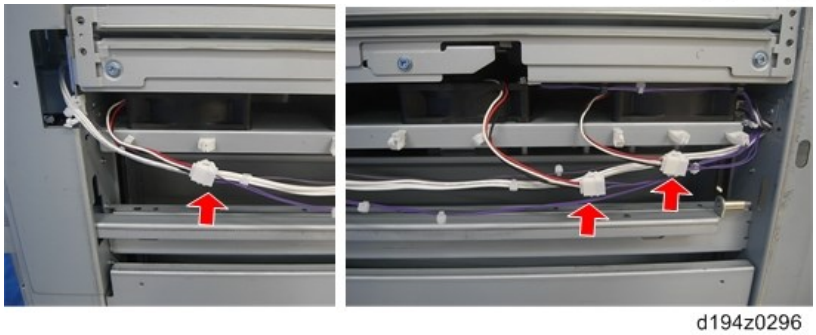
Front (x1)

Rear (x1)

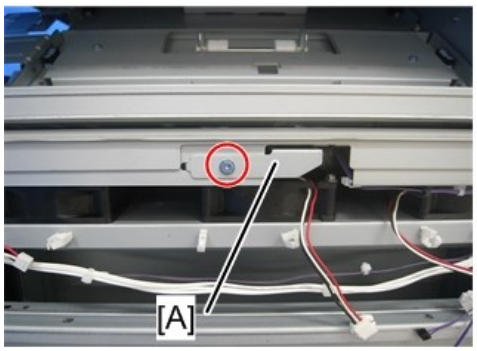


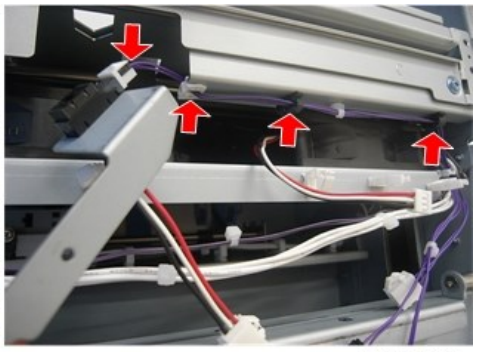
4. Raise the cover plate [A] as high as possible.
5. Disconnect the harnesses and fans to clear the area in front of the motor mount [B] (x9, x3).





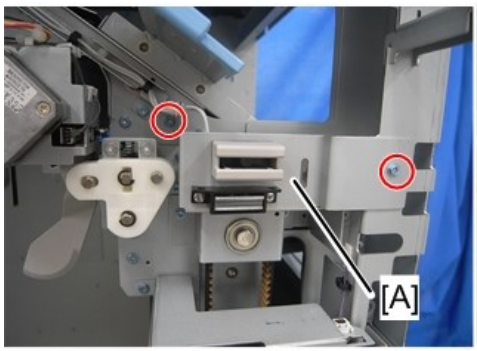
6. Disconnect the entrance sensor bracket [A] and pull it aside (x1,x1,x3)

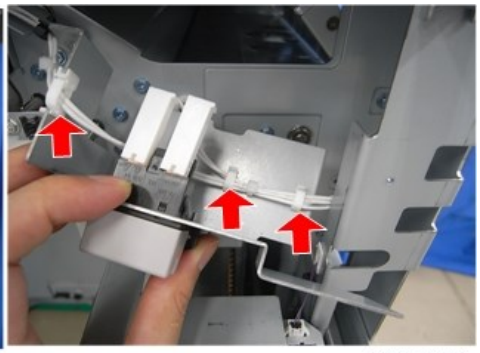




d194z0297

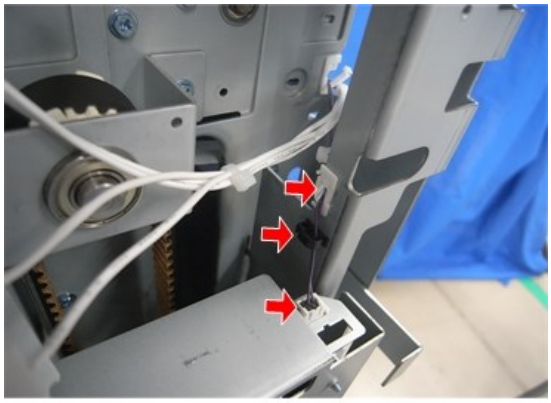
7. Disconnect the front door switch bracket [A] to create some slack in the white harness (x2,x2)





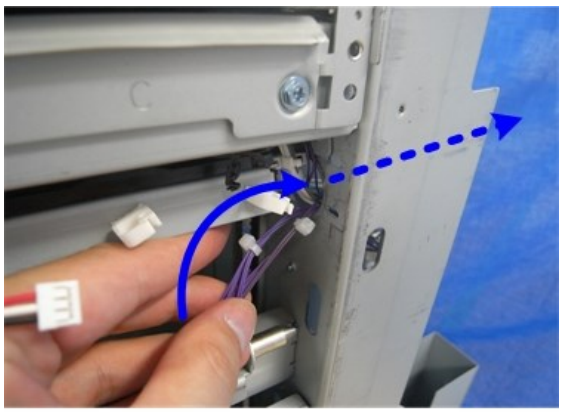
d194z0299

8. Disconnect the tray high limit switch harness (x1,x2).



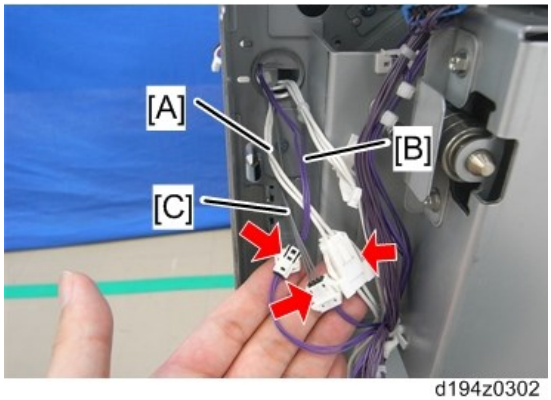
d194z0300

9. Pass the paper cooling fan motor harnesses, entrance sensor harness and tray high limit switch harness through the hole to the rear side.

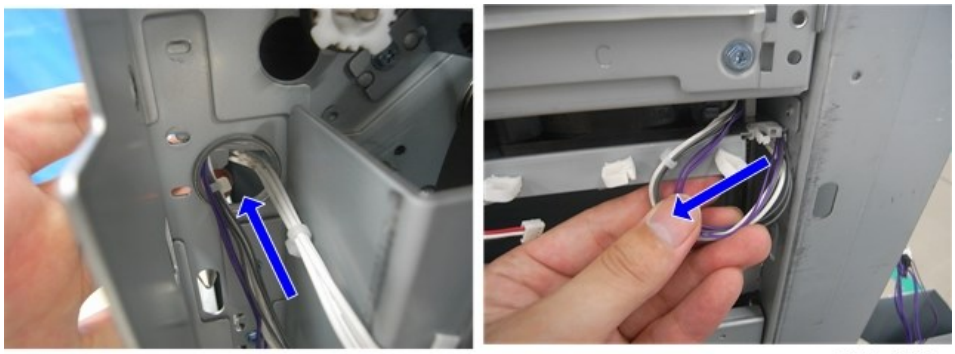


d194z0301

10. Pass the harnesses [A][B][C] from the rear side through the hole to the right side (x3). These harnesses are removed from the fan motor mount in the next step.

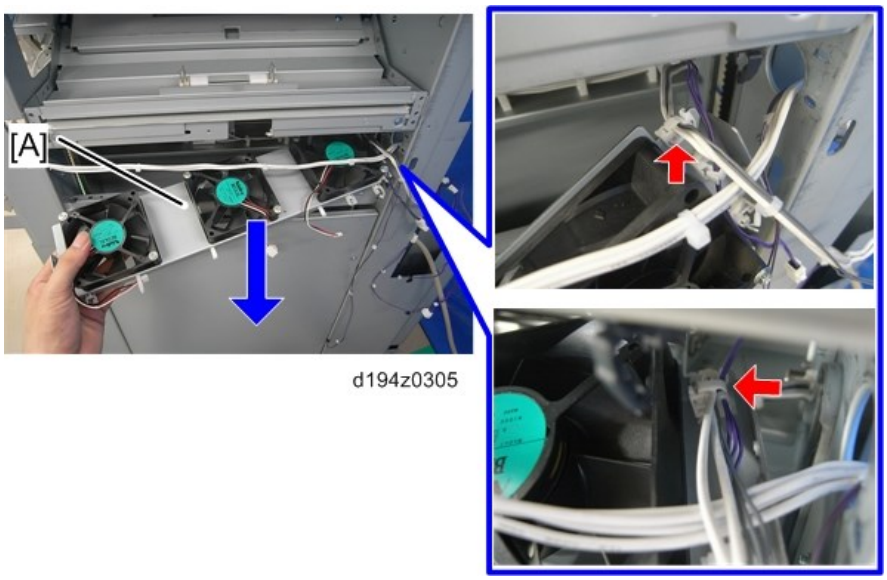


d194z0302



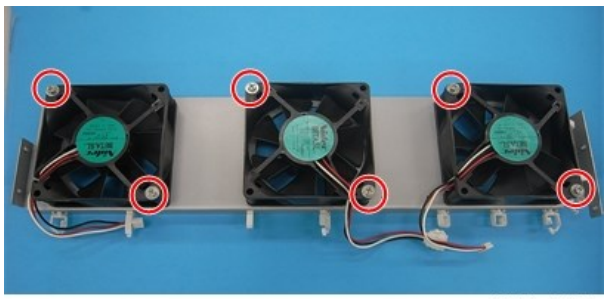
d194z0304

11. Pull out the fan motor mount [A] (x2).



d194z0305

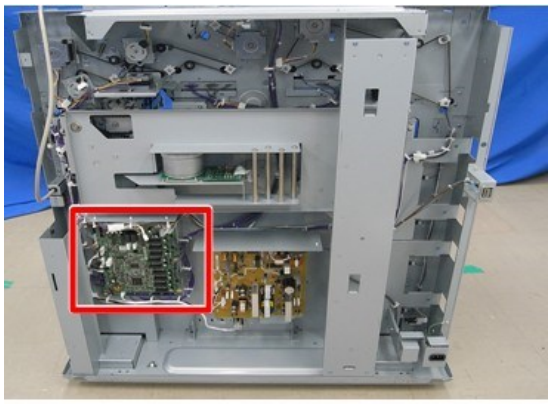
12. Remove each of the fan motors (x2 each)



d194z0298

Boards

Main Board

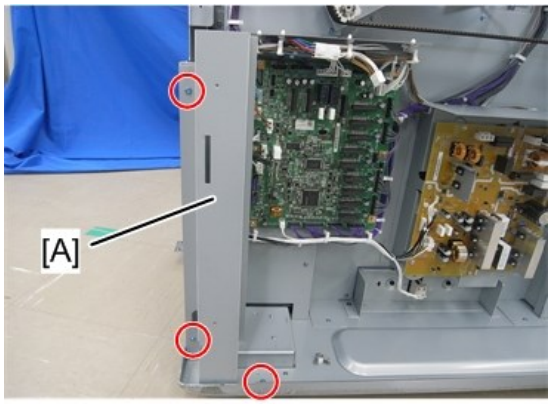


d776e0134

Preparation

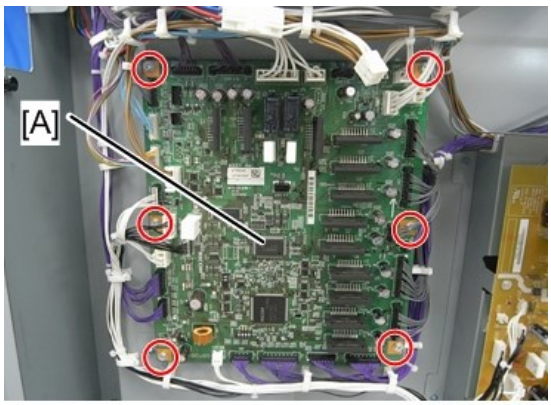
- Remove the rear lower cover (Rear Lower Cover, Rear Upper Cover)

1. Remove the stay [A] (x3)



d776z0043

2. Remove the main board [A] (x all, x6)

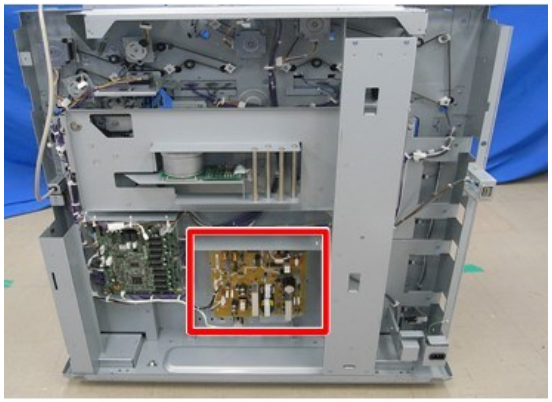


d776z0044

PSU

⚠CAUTION

- Do not touch solder connections or electronic parts on the PSU after removing it because electrical charge can remain on the PSU even after it has been removed.
- After removing the PSU, never place put it on a conductive material such as metal.

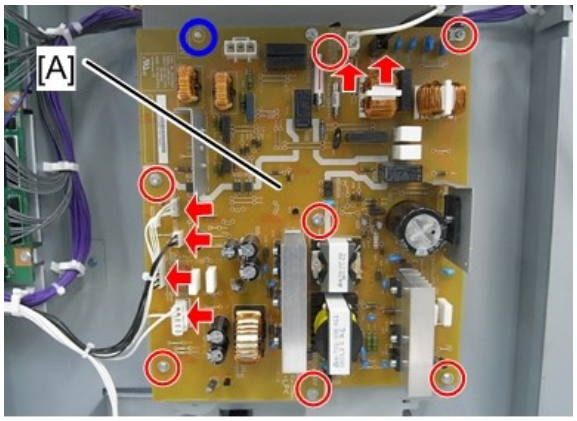


d776e0135

Preparation

- Remove the rear lower cover (Rear Lower Cover, Rear Upper Cover)

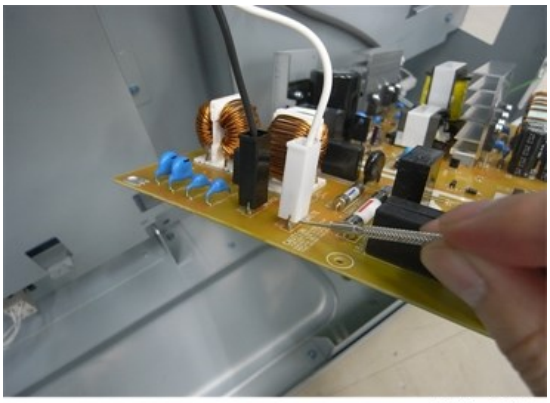
1. Remove the PSU [A] (x6, x7, x1)
Upper right screw: round screw with washer



d776z0045

Note

- Bayonet connectors may be too stiff to disconnect before removing the board. Disconnect these after removing the board.



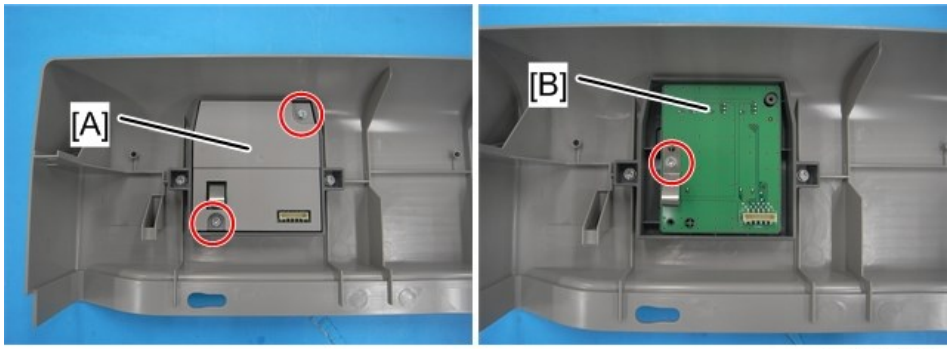
d776z0046

Operation Panel PCB

Preparation

- Remove the top front cover (Proof Tray, Top Front Cover, Top Center Cover, Top Rear Cover)

1. Turn over the top front cover.
2. Remove the cover [A] (x2)
3. Remove the operation panel PCB [B] (x1).



d776z0050

Registration Adjustment / Skew Correction

Important

Before the adjustment, when you undock the stacker from the upstream unit, be sure to remove the roll-away cart from the stacker. Otherwise, the cart set switch can be damaged.

Skew Check

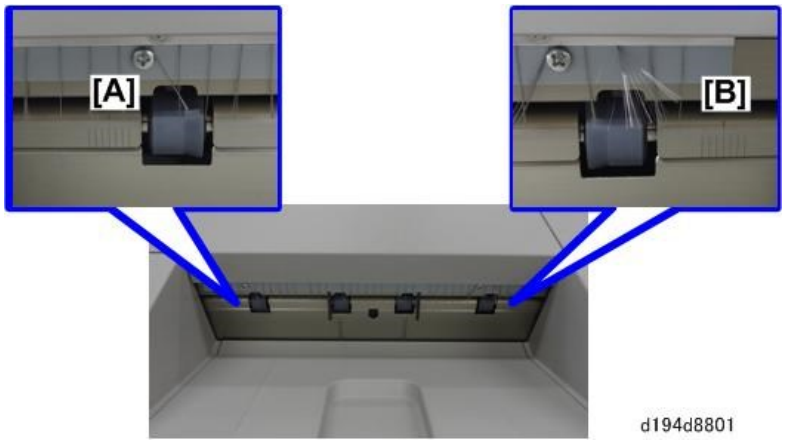
1. Let the main machine feed A3 or 11"x17" paper from tray 2 (simplex mode) and output it to the stacker tray.
2. Check the output with the skew checking scale shown below. If skew is within less than 1 division (2mm), it is no problem.

   Note

   If the skew is 1 division or more, refer to the following sections to minimize it within 1 division.

   [A]: Skew checking scale for 11"x17" (DLT)

   [B]: Skew checking scale for A3

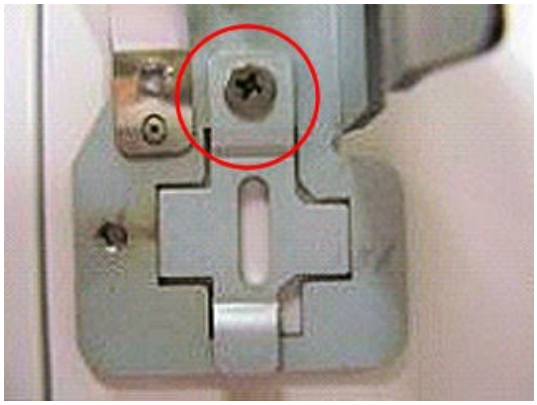


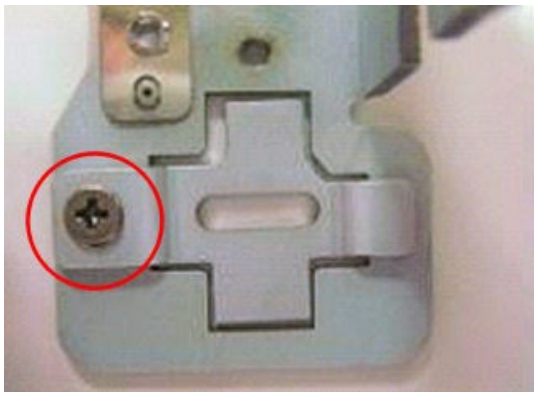
Registration Adjustment

1. Undock the stacker from the upstream unit. Release the stand.

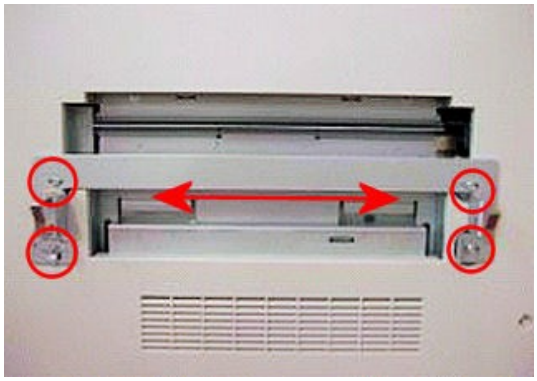
2. Detach the cross-shaped bracket of the docking bracket and rotate it 90 degrees. Re-fasten the

screw. (x1)





3. Loosen the screws on the docking bracket and slide the bracket to adjust the registration, and then secure the screws. (x4)



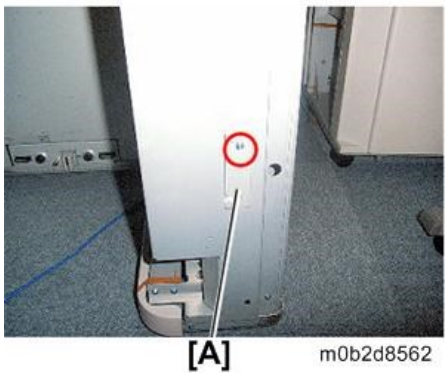
4. Dock the stacker to the docking bracket and check the registration. If the skew is 1 or more division, do the adjustment procedure again.
5. If there is no problem, dock the stacker to the upstream unit. Secure the stand.

Skew Correction

1. Undock the stacker from the upstream unit. Release the stand.

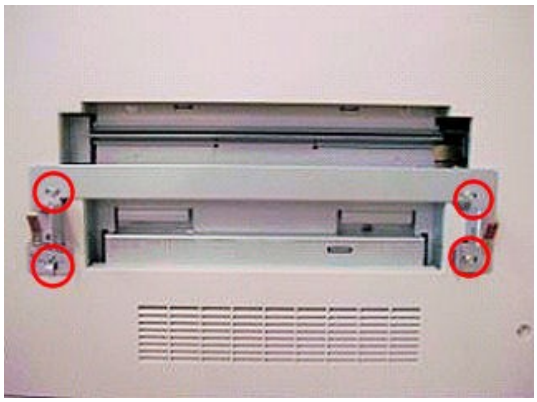
2. Remove the right front cover (x3).

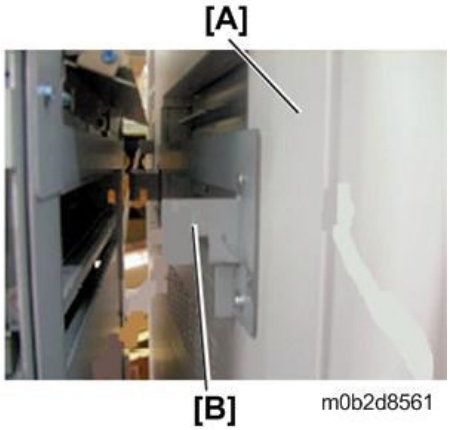
3. Remove the spacers (x1).



[A]: Spacer

4. Loosen the screws on the docking bracket and insert the spacer under the end (either the right or left end) of the docking bracket. Then, secure the docking bracket.





[A]: Upstream unit

[B]: Docking bracket

Note

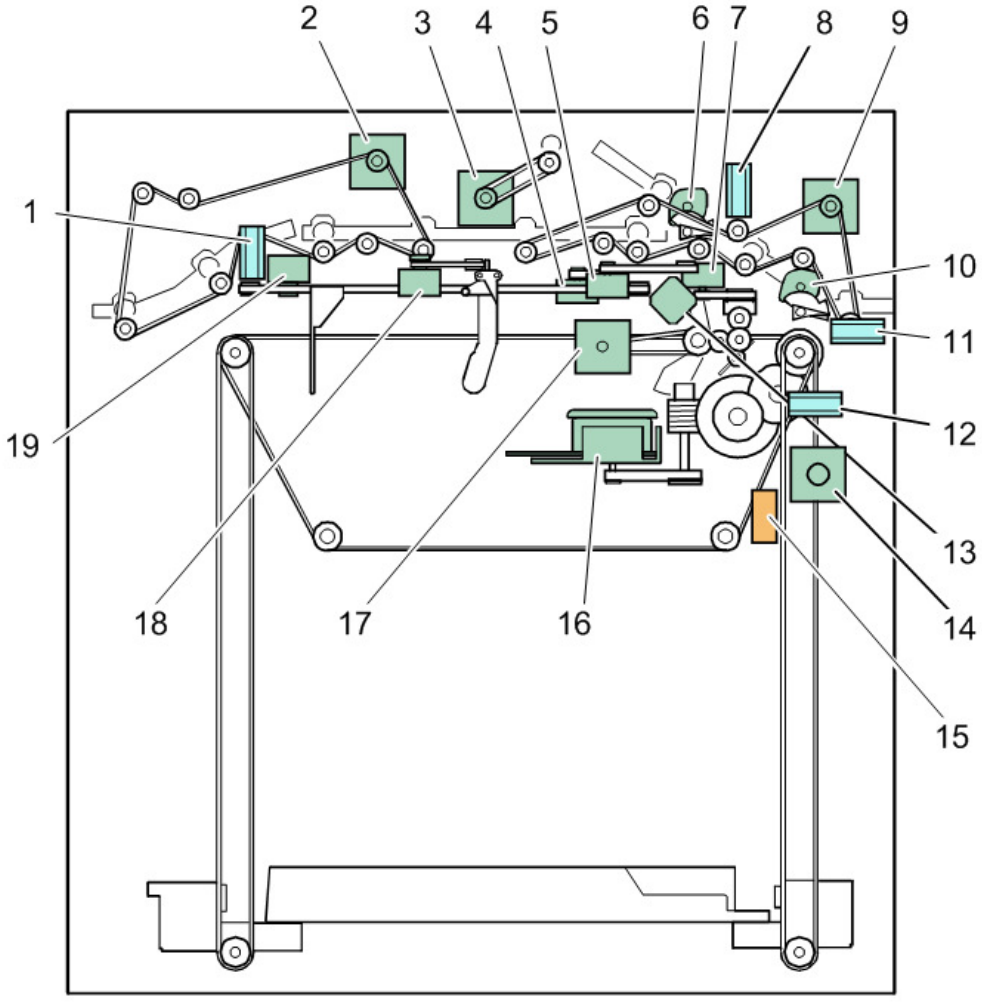
The thickness of the spacer is 2mm. Insert the required number of spacers (up to 2).

5. Dock the stacker to the docking bracket and check the skew. If the skew is 1 or more division, do the adjustment procedure again.
6. If there is no problem, re-attach the right front cover and dock the stacker to the upstream unit. Secure the stand.

2. Detailed Descriptions

Overview

Main Motors

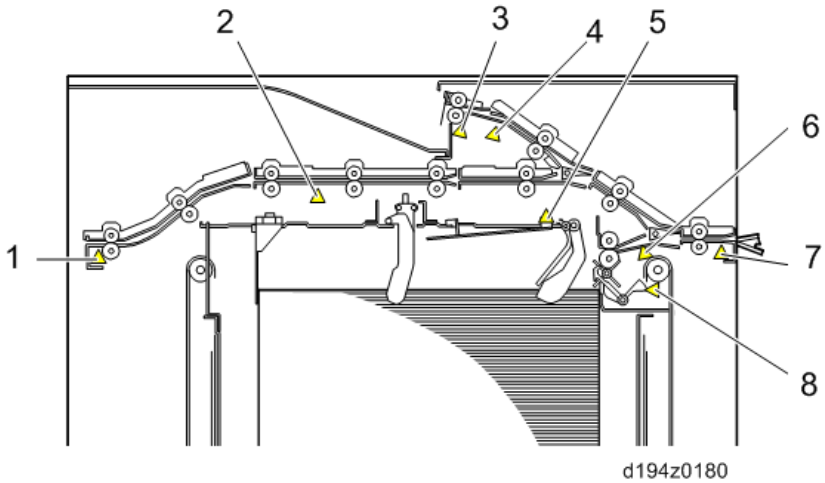


No.	Name	No.	Name
1	Cooling Fan Motor for Paper Transport Motors	11	Paper Cooling Fan Motor 1 / 2 / 3
2	Transport Motor	12	Shift Tray Exit Fan 1 / 2 / 3 / 4
3	Proof Tray Exit Motor	13	Main Jogger Fence Retraction Motor
4	Main Jogger Rear Fence Motor	14	Shutter Motor
5	Main Jogger Front Fence Motor	15	Front Door Lock Solenoid
6	Proof Tray JG Motor	16	Tray Lift Motor
7	Shift Motor	17	Shift Exit Motor
8	Cooling Fan Motor for Entrance Motor	18	Sub Jogger Motor

No.	Name	No.	Name
9	Entrance Motor	19	LE Stopper Motor
10	Shift Tray JG Motor	-	-

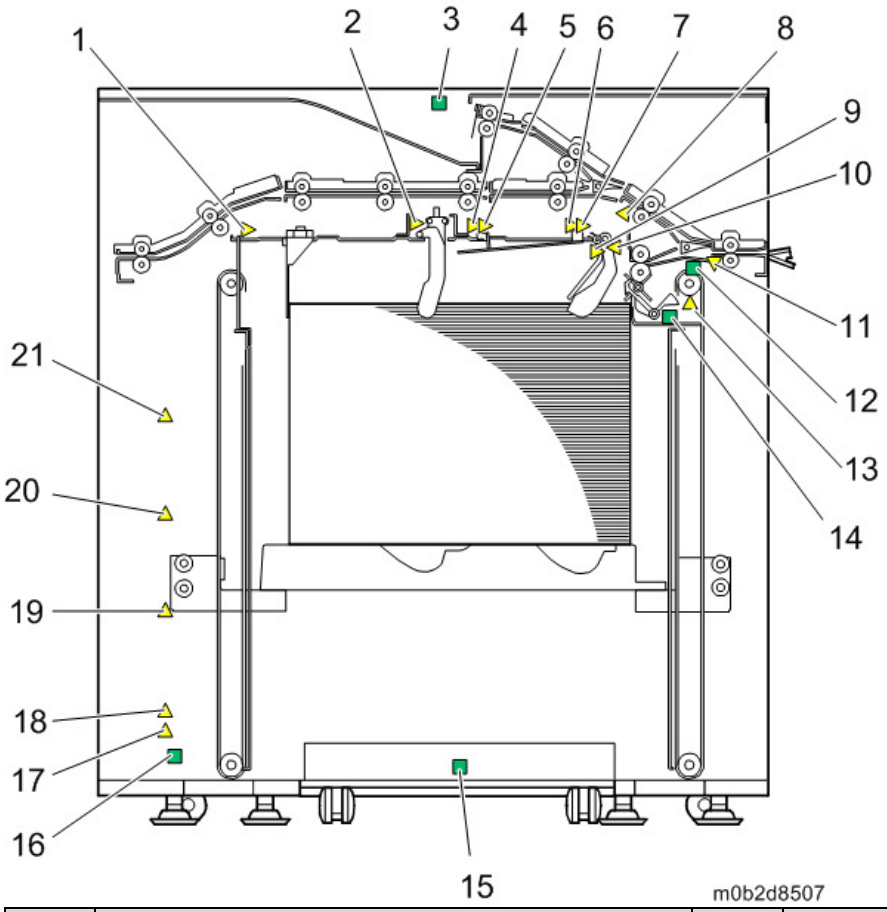
Sensors

Transport



No.	Name	No.	Name
1	Exit Sensor	5	Shift Tray Paper Sensor
2	Transport Sensor	6	Shift Tray Exit Sensor
3	Proof Tray Full Sensor	7	Entrance Sensor
4	Proof Tray Exit Sensor	8	Paper Height Sensor

Mechanism



No.	Name	No.	Name
1	LE Stopper HP Sensor	12	Front Door SW
2	Sub Jogger HP Sensor	13	Shutter Home Position Sensor
3	Top Door SW	14	Tray High Limit SW
4	Tray Guard Sensor 2	15	Roll Away Cart Set SW
5	Tray Guard Sensor 1	16	Tray Low Limit SW
6	Rear Fence HP Sensor	17	Tray Low Limit Sensor
7	Front Fence HP Sensor	18	Tray Full Sensor 4: 100%
8	Proof Tray JG HP Sensor	19	Tray Full Sensor 3: 75%
9	Shift HP Sensor	20	Tray Full Sensor 2: 50%
10	Jogger Fence Retraction HP Sensor	21	Tray Full Sensor 1: 25%
11	Shift Tray JG HP Sensor	-	-

Electrical Components

Motors	
Entrance Motor	Drives the entrance rollers that feed each sheet of paper as it enters the stacker.
Shift Tray JG Motor	Opens the shift junction gate that directs paper to the shift tray. Paper goes past this junction gate to the proof tray or stacker exit when it is closed.

Motors	
Transport Motor	Drives the transport rollers that feed paper through the finisher between the entrance and the exit.
Shift Exit Motor	Drives the shift exit rollers that output paper to the shift tray.
Shift Motor	Moves the shift roller set (drive roller and idle roller) to the front and back. For every other document set, the shift roller will take each sheet of paper and move it to the front so every other stack is staggered.
Proof Tray Exit Motor	Drives the proof tray exit roller that outputs each sheet of paper to the proof tray on top of the stacker.
Proof Tray JG Motor	Opens the shift junction gate that directs the paper to the proof tray on top of the stacker. When this gate is closed, paper goes past this gate and goes to the stacker exit.
Main Jogger Front Fence Motor	Moves the front jogger fence of the main jogger unit that aligns the front edge of the paper on the shift tray (near the front corner of the trailing edge).
Main Jogger Rear Fence Motor	Moves the rear jogger fence of the main jogger unit that aligns the rear edge of the paper on the shift tray (near the rear corner of the trailing edge).
Main Jogger Fence Retraction Motor	Raises both the rear and front jogger fences of the main jogger unit after each set is output to the shift tray and aligned. The fences are raised to position them for the next shifted set.
Cooling Fan Motor for Paper Transport Motors	Cools the entrance motor, proof tray exit motor, and transport motor.
LE Stopper Motor	Moves the leading edge stopper to the leading edge of the paper on the shift tray and stops. The leading edge of each sheet of paper is aligned against this stationary stopper. This aligns the stack in the direction of paper feed.
Sub Jogger Motor	Operates the front and back fences of the sub jogger. The sub jogger is used to align either the front or rear edge of the stack near the front or rear corner at the LE stopper. This motor controls the movement of both the front and rear fence with a single belt. (The front and rear fence of the main jogger unit have independent motors and drive belts.)
Tray Lift Motor	Raises and lowers the shift tray mounted on the roll-away cart.
Paper Cooling Fan Motor 1	These fans cool the area directly below the stacker entrance where paper enters the stacker and the shift tray.
Paper Cooling Fan Motor 2	
Paper Cooling	

Motors	
Fan Motor 3	
Cooling Fan for Entrance Motor	Cools the entrance motor.
Shutter Motor	Switches the shutters for the shift tray exit fans on/off.
Shift Tray Exit Fan	When thin or coated paper is used, this fan assists in preventing the paper from getting buckled while the paper stacks up on the shift tray.

Sensors	
Entrance Sensor	Detects each sheet of paper as it enters the stacker. Also signals a jam if the paper fails to arrive or leave within the prescribed time.
Shift Tray Exit Sensor	Detects each sheet of paper as it enters the shift tray. Also signals a jam if the paper fails to arrive or leave within the prescribed time.
Proof Tray Exit Sensor	Detects each sheet of paper as it is output to the proof tray. Also signals a jam if the paper fails to arrive or leave within the prescribed time.
Proof Tray Full Sensor	When this photo-sensor detects the top of the stack in the proof tray, it signals that the proof tray is full and stops the stacking operation.
Paper Height Sensor	Detects the height of the paper stack on the shift tray. The readings of this sensor are used to keep the tray at its optimum height for paper stacking.
Shift Tray JG HP Sensor	Detects the shift tray junction gate when it reaches its home position and switches off the shift tray JG motor.
Proof Tray JG HP Sensor	Detects the proof tray junction gate when it reaches its home position and switches off the proof tray JG motor.
Shift HP Sensor	Detects the home position of the shift rollers and switches off the shift motor.
Front Fence HP Sensor	Detects the home position of the front fence of the main jogger unit and switches off the front fence jogger motor.
Rear Fence HP Sensor	Detects the home position of the rear fence of the main jogger unit and switches off the rear fence jogger motor.
Jogger Fence Retraction HP Sensor	Detects the home position of the front and rear fences after they have been lowered by the main jogger fence retraction motor and switches off the retraction motor.
Shift Tray Paper Sensor	Detects the presence or absence of paper on the shift tray.
Tray Guard Sensor 1	Switches off the stacker if the top of the stack pushes up the front or back plate and actuates the sensor. This stops stacker output (the straight-through and proof paper paths can still be used.)
Tray Guard Sensor 2	
Exit Sensor	Detects paper as it exits to the finisher downstream.

Sensors	
Transport Sensor	Monitors the passage of each sheet of paper in the feed path between the entrance and exit of the stacker.
LE Stopper HP Sensor	Detects the leading edge stopper when it reaches its home position and switches off the LE stopper motor
Sub Jogger HP Sensor	Detects the sub jogger when it reaches its home position and switches off the sub jogger motor.
Tray Full Sensor 1: 25%	Detects when the shift tray is 25% full.
Tray Full Sensor 2: 50%	Detects when the shift tray is 50% full.
Tray Full Sensor 3: 75%	Detects when the shift tray is 75% full.
Tray Full Sensor 4: 100%	Detects when the shift tray is 100% full. Signals tray full and shuts down the stacker.
Tray Low Limit Sensor	Detects the low limit of the shift tray and signals that the tray must be removed.
Shutter Home Position Sensor	Detects whether the shift tray exit fan shutter is open or closed.

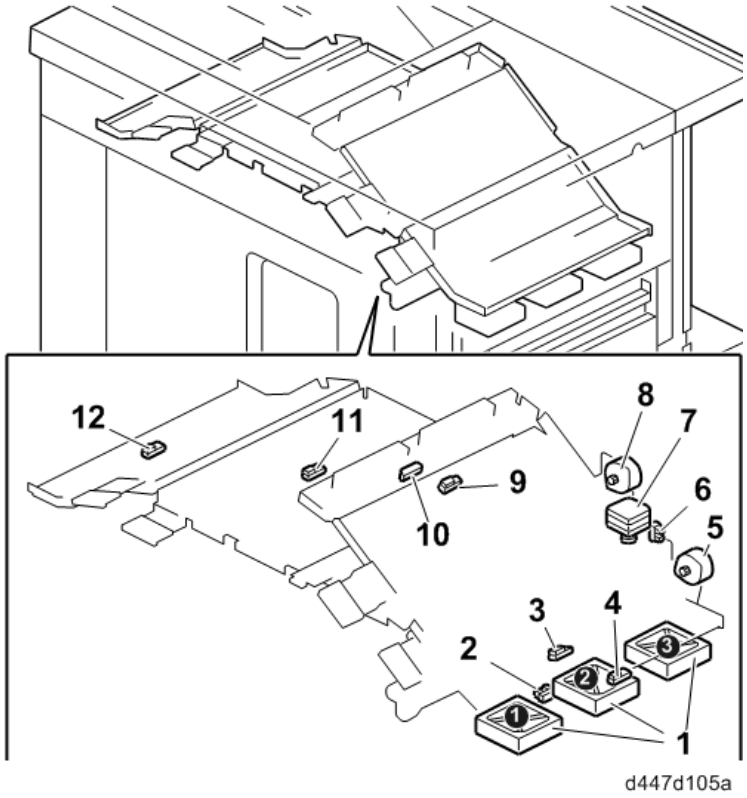
Boards	
Main Board	Performs overall control of the stacker.
PSU	Steps down power source voltage to 24V power supply.
Operation Panel PCB	Controls the buttons used for manual operation of the stacker tray, and contains the LEDs that indicate the status of the stacker.

Solenoid	
Front Door Lock SOL	Keeps the front door of the stacker locked so it cannot be opened while the stacker is operating.

Switches	
Top Door SW	Detects when the top door is open. While the top door is open, the power supply to the proof tray and straight-through paper path remains off.
Front Door SW	Detects when the front door is opened. While the front door is open, the power supply to the tray lift motor and the stacker drive system remains off.
Tray High Limit SW	A micro-switch that detects the high limit for shift tray operation and cuts power to the tray lift motor to shut it off.
Tray Low Limit	Detects the lower limit for shift tray operation and cuts power to the tray lift motor

Switches	
SW	to shut it off.
Roll Away Cart Set SW	Detects when the tray cart is in the stacker. If the tray cart is not set inside the stacker, the power supply to the tray lift motor and the stacker drive system remains off.
Breaker Switch	Shuts down the operation of the stacker in the event of a power surge.

Paper Path



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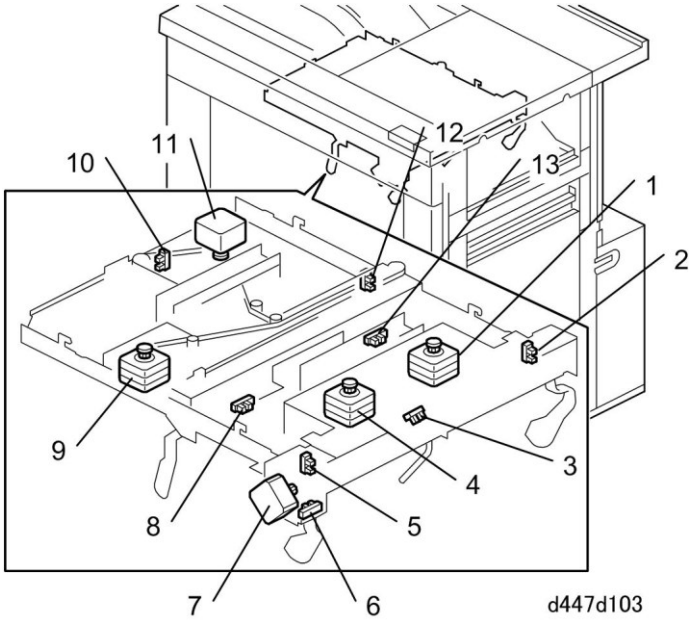
No.	Name	No.	Name
1.	Paper Cooling Fan Motor 1, 2, 3	7.	Shift Motor
2.	Shift Tray Exit Sensor	8.	Proof Tray JG Motor
3.	Paper Height Sensor	9.	Proof Tray Exit Sensor
4.	Tray High Limit Switch	10.	Proof Tray Full Sensor
5.	Shift Tray JG Motor	11.	Transport Sensor
6.	Shift HP Sensor	12.	Exit Sensor

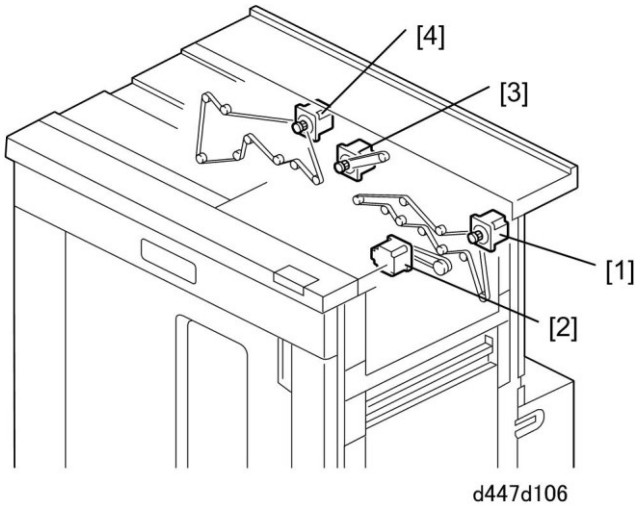
Jogger Unit



No.	Name	No.	Name
1.	Main Jogger Rear Fence Motor	8.	Tray Guard Sensor 1
2.	Rear Fence HP Sensor	9.	Sub Jogger Fence Motor
3.	Shift Tray Paper Sensor	10.	LE Stopper HP Sensor
4.	Main Jogger Front Fence Motor	11.	LE Stopper Motor
5.	Front Fence HP Sensor	12.	Sub Jogger Fence HP Sensor
6.	Main Jogger Fence Retraction HP Sensor	13.	Tray Guard Sensor 2
7.	Main Jogger Fence Retraction Motor		

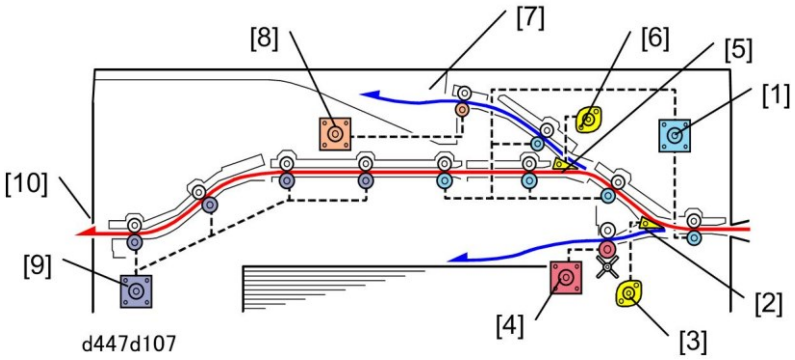
Paper Path

Paper Path Motors



These are the motors that drive the rollers of the stacker:

- [1] **Entrance motor**. Drives the entrance rollers and other transport rollers that feed the paper straight through the stacker to the transport motor.
- [2] **Shift tray exit motor**. Drives the rollers that feed paper from the shift tray junction gate onto the shift tray.
- [3] **Proof tray exit motor**. Drives the rollers that feed paper up from the proof tray junction gate to the proof tray on top of the stacker.
- [4] **Transport motor**. Drives the rollers that feed paper out of the stacker from the straight-through paper path.



This is a cross-sectional view of the paper feed path and the motors.

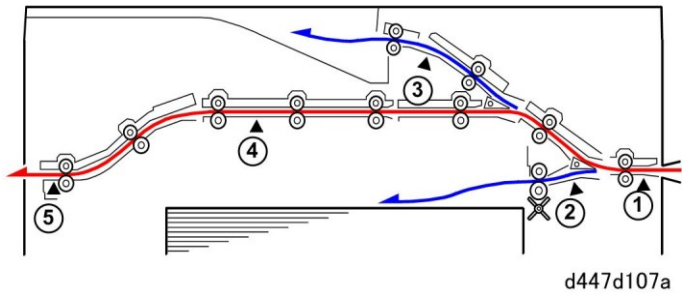
The entrance motor [1] drives not only the entrance roller but several other feed rollers as well.

The shift tray junction gate [2] is opened by the shift tray junction gate motor [3]. When the junction gate is opened, paper is guided to the shift tray. The shift tray exit motor [4] drives the shift rollers that feed the paper onto the shift tray. When the shift tray junction gate is closed, paper passes over to the proof tray junction gate.

The proof tray junction gate [5] is closed by the proof junction gate motor [6]. When the gate is closed,

paper passes over the junction gate into the paper path for the proof tray [7] above. The proof tray exit motor [8] drives the rollers in the paper path to the proof tray. When the proof tray junction gate is open, the paper passes below the junction gate towards the stacker exit.
Once the paper has passed both junction gates, the paper will be fed by the rollers driven by the transport motor [9] until it exits the stacker at [10].

Paper Path Sensors

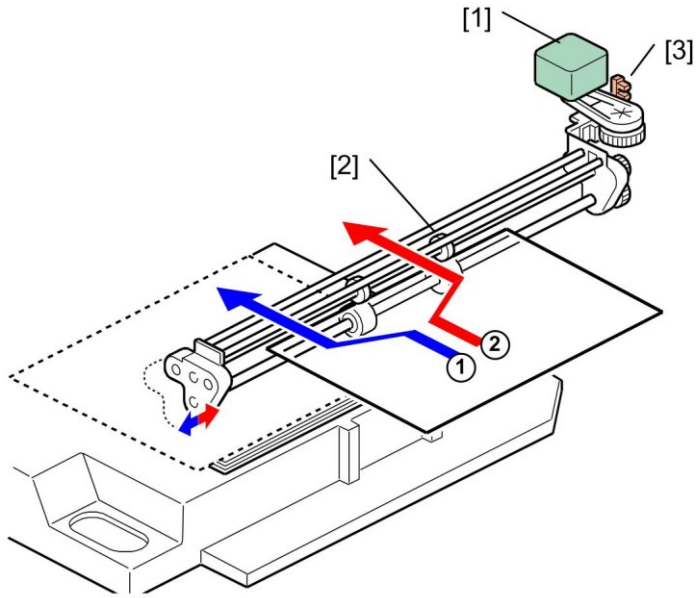


There are five main sensors at critical points in the paper paths. Each sensor detects the leading and trailing edge of each sheet of paper as it passes. If the paper fails to arrive (late error) or leave (lag error) within the prescribed time interval. The sensor will signal a jam.

① Entrance sensor
② Shift tray exit sensor
③ Proof tray exit sensor
④ Transport sensor
⑤ Exit sensor

Paper Shift and Alignment

Paper Shift



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In the shift mode, the paper is fed past the open shift tray junction gate and onto the shift tray.

1. When the first set ① starts to feed:
   - The leading edge of the paper is fed into the nip of the shift rollers (drive and idle roller pair.)
   - After the trailing edge of the sheet leaves the nip of the upstream rollers, the shift motor [1] switches on.
   - The belt pushes the shift rollers [2] with the paper still feeding between them to the front and stops.
   - The paper feeds onto the tray at the forward position.
   - The shift motor reverses and rotates the belt until the shift rollers return to the home position. The shift HP sensor [3] detects the home position of the rollers and switches off the shift motor.
   - This sequence repeats for the 1st set until the last sheet has been fed.
   - The amount of shift from the center is fixed at 10 mm. (This cannot be adjusted.)
2. When the second set ② starts to feed:
   - The leading edge of the paper is fed into the nip of the shift rollers (drive and idle roller pair.)
   - After the trailing edge of the sheet leaves the nip of the upstream rollers, the shift motor [1] switches on.
   - The belt pulls the shift rollers [2] with the paper still feeding between them to the rear and stops.
   - The paper feeds onto the tray at the rear position.
   - The shift motor reverses and rotates the belt until the shift rollers return the home position. The shift HP sensor [3] detects the home position of the rollers and switches off the shift motor.
   - This sequence repeats for the 2nd set until the last sheet has been fed.

- The amount of shift from the center is fixed at 10 mm. (This cannot be adjusted.)

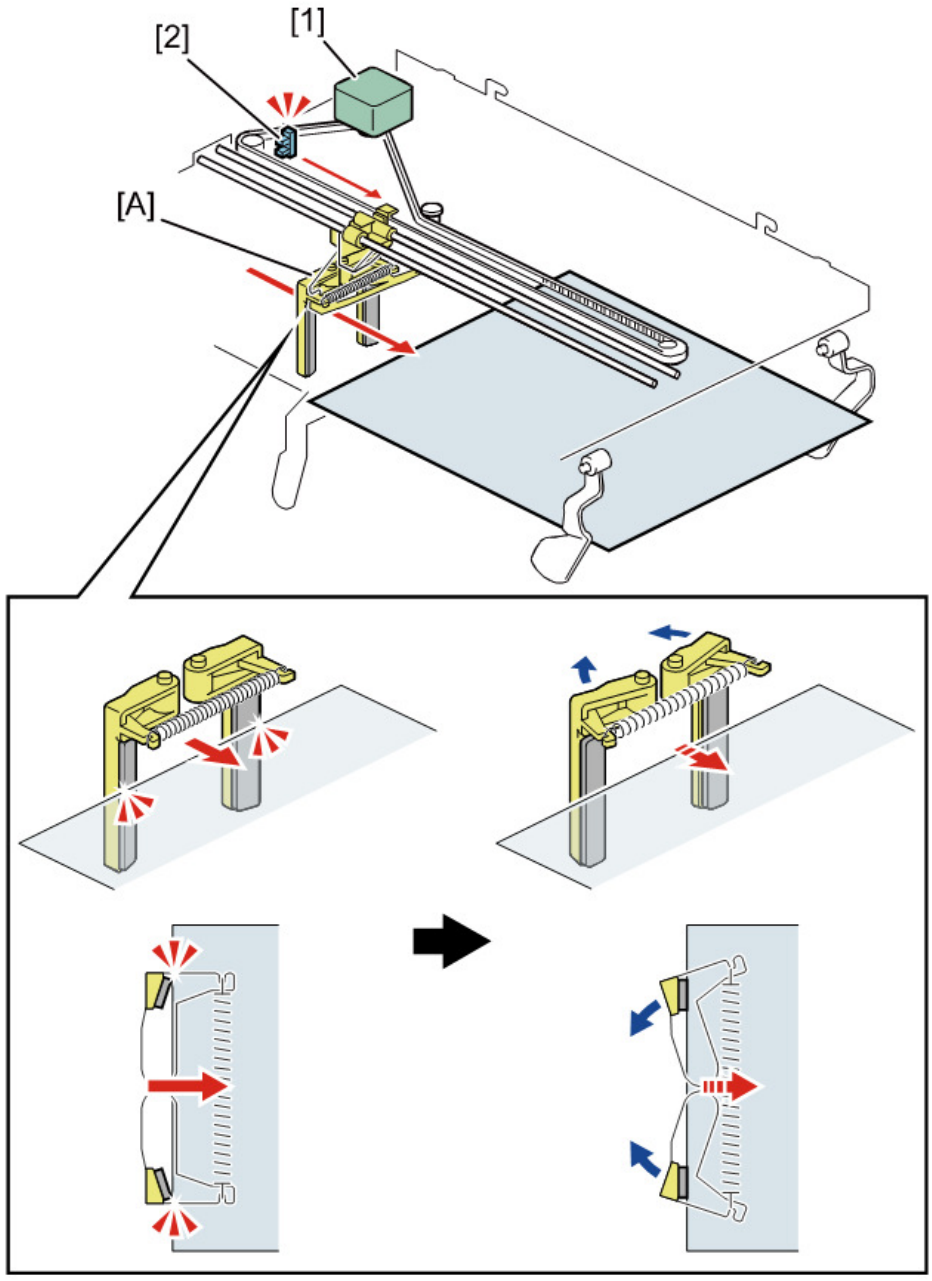
Paper Alignment: Jogging

Leading Edge

To keep the leading edges of the stacks aligned:

- At the start of a job in the shift mode, the LE stopper motor [1] switches on.
- The belt moves the leading edge stopper [A] to a position 15 mm away from the leading edge of the paper selected for the job.
- The leading edge stopper moves right and left to align the leading edge of each sheet as it is fed.
- At the end of the job, the LE stopper motor reverses, and the belt moves the leading edge stopper to its home position.
- When the LE stopper HP sensor [2] detects the stopper at its home position, this switches off the motor.

The leading edge stopper [A] has a spring absorbing mechanism.
The LE stopper motor [1] moves and pushes the stopper against the leading edge of the paper, and each of the bars of the stopper spreads right and left in order to push the bars against the leading edge firmly.
This mechanism lets the stopper push against the paper more strongly than previous models, leading to improving the quality of the leading edge alignment.



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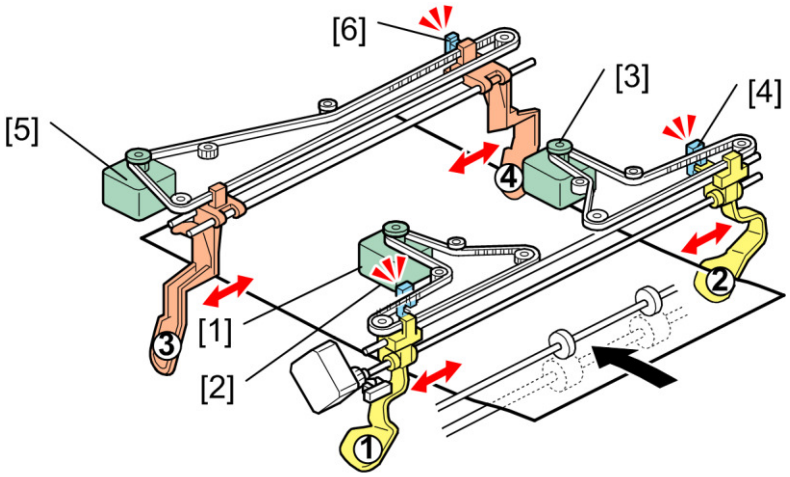
No.	Part Name
1	LE Stopper Motor
2	LE Stopper HP Sensor

Main, Sub Jogger



The following parts comprise the main jogger which operates the front fence ① and rear fence ②:

[1] Front fence motor

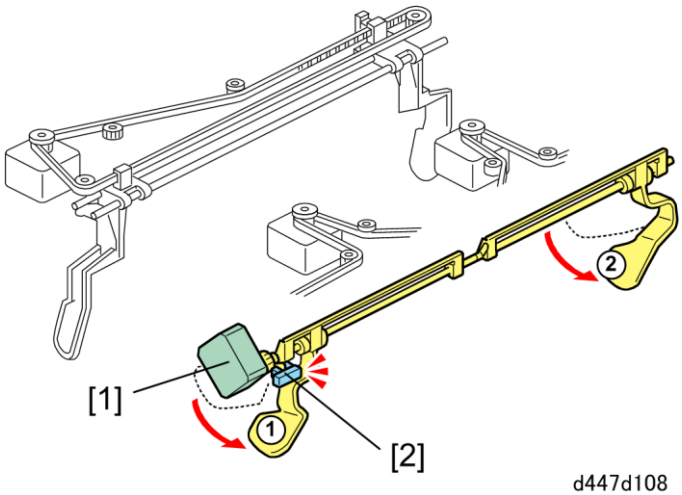
[2] Front fence HP sensor

[3] Rear fence motor

[4] Rear fence HP sensor

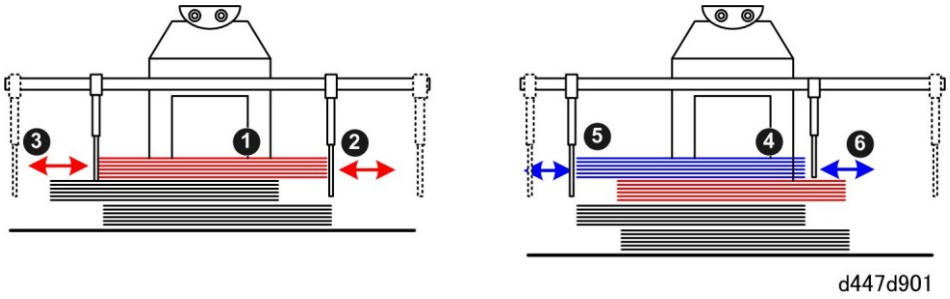
The movements of the front fence ① and rear fence ② during jogging (paper edge alignment) are controlled independently by two separate motors.

Unlike the main jogger fences the front fence ③ and rear fence ④ of the sub jogger unit are controlled by one motor, the sub jogger fence motor [5]. The motor switches on, and the belt drives the fences in. Then, the motor reverses and when the sub jogger HP sensor [6] detects the fences at their home positions, it switches off the sub jogger fence motor.



The main jogger also has a fence retraction mechanism that raises the front and rear fences after each set has been aligned. The main jogger fence retraction motor [1] switches on and raises both the front fence ① and rear fence ② together after the edge of each set is aligned. Then the motor reverses and lowers both fences, and when the fence retraction HP sensor [2] detects the home position of the fences, this switches off the motor. The sub jogger has no such mechanism.

Jog points: Smaller Than 300 mm



The jogger unit uses only the main jogger to align paper sizes smaller than 300 mm. The sub jogger does not operate.

Set 1

- The shift motor switches on and off, moving the shift rollers and each sheet 10 mm to the rear.
- The leading edge of each shifted sheet output to the shift tray is aligned by the leading edge stopper ①.
- The main jogger rear and front jogger fence motors switch on and push the rear and front fence against the shifted edge of the stack at ② and③.
- The front fence moves on top of the stack below. The front fence is light so it does not interfere with the top sheet of the stack below.
- After the last sheet of the set has fed and been aligned, the main jogger retraction motor raises both fences and positions them at the front for the next set.

Set 2

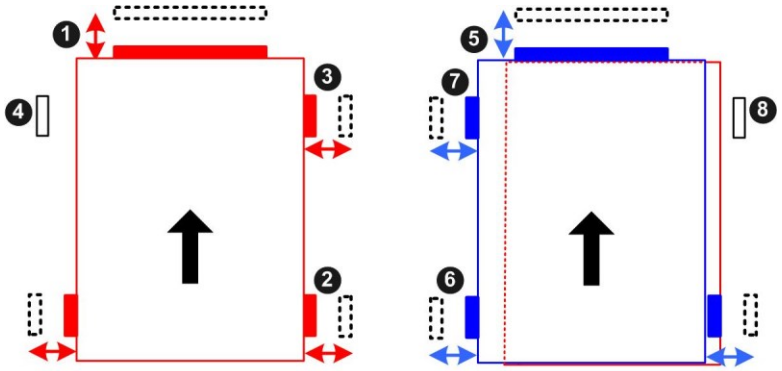
When the next set (blue above) is output to the shift tray in shift mode:

- The shift motor switches on and off, moving the shift rollers and each sheet 10 mm to the front.
- The leading edge of each shifted sheet output to the shift tray is aligned by the leading edge stopper ④.
- The main jogger front fence and rear fence motors switch on and push the front and rear fence against the edges of the stack at ⑤ and ⑥.
- The rear fence moves on top of the stack below. The rear fence is light so it does not interfere with the top sheet of the stack below.
- After the last sheet of the set has fed and been aligned, the main jogger retraction motor raises both fences and positions them at the rear for the next set.

At the end of the job, the rear and front fence motors reverse and move the rear and front fences back to the home position and stop.

The stack is jogged at three points: at the leading edge by the LE stopper, and at the front and rear of the trailing edge by the main jogger unit.

Jog points: 300 mm and Larger



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The jogger unit uses both the main jogger and one fence of the sub jogger to align paper of sizes 300 mm and larger.

Set 1

- The set (red above) is shifted and output to the tray.
- The LE stopper ① jogs the leading edge of the stack.
- The front and rear main jogger fences ② align the front and rear of the trailing edge. (This is the same operation as for smaller paper sizes.)
- The sub jogger fence motor switches on and moves its front and rear fence. Only the rear fence ③ touches the rear corner of the stack near the LE stopper. The front fence ④ also moves but does not touch the front edge of the stack. (There is only one sub jogger motor, so both sub jogger fences move.)

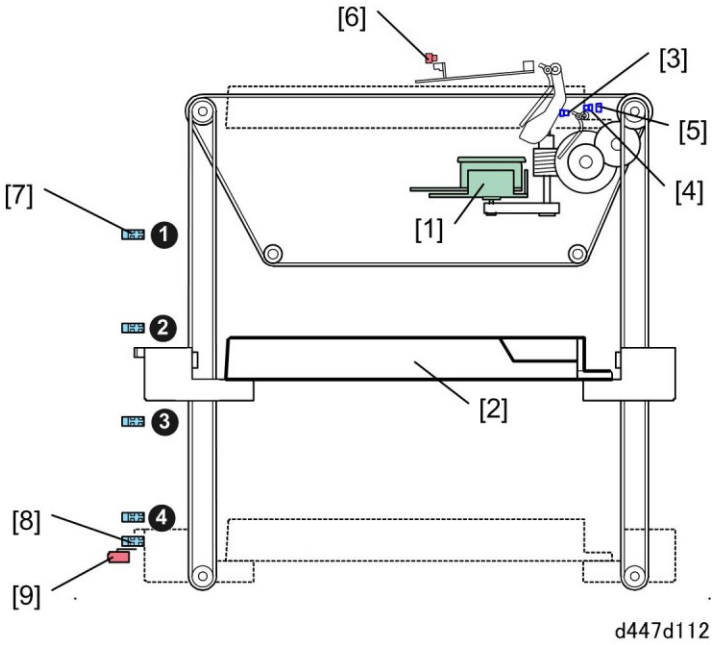
The paper is aligned at four points: at the leading edge by the LE stopper, at the front and rear corners of the trailing edge by the main jogger fences, and at the rear corner near the leading edge by the sub jogger rear fence.

Set 2

- The set (blue above) is shifted and output to the tray.
- The LE stopper ⑤ jogs the leading edge of the stack.
- The main jogger fences ⑥ align the paper at the front and rear of the trailing edge. (This is the same operation as for smaller paper sizes.)
- The sub jogger fence motor switches on and moves both the front and rear fence. Only the front fence ⑦ touches the front corner of the stack near the LE stopper. The rear fence ⑧ also moves but does not touch the rear edge of the stack. (There is only one sub jogger motor, so both sub jogger fences move.)

The paper is aligned at four points: at the leading edge by the LE stopper, at the front and rear corners of the trailing edge by the main jogger fences, and at the front corner near the leading edge by the sub jogger front fence.

Shift Tray Lift and Height Adjustment



No.	Item
1.	Tray Lift Motor
2.	Shift Tray
3.	Shift Tray Paper Sensor (in jogger unit)
4.	Paper Height Sensor
5.	Tray High Limit Switch (micro-switch)
6.	Tray Guard Sensors 1, 2
7.	Tray Full Sensors 1, 2, 3, 4 (25%, 50%, 75%, 100%)
8.	Tray Low Limit Sensor
9.	Tray Low Limit Switch (micro-switch)

Sensor, Switch Summary

The tray lift motor [1] raises and lowers the tray [2].

The shift tray paper sensor [3] is mounted in the jogger unit.

- When there is no paper on the tray, its actuator falls into a cutout in the tray and signals no paper on the tray.
- When there is paper on the tray (at least one sheet), the actuator remains up signaling paper on the tray.

When the top of the stack grows high enough as paper is output onto the tray, the actuator enters the gap of the paper height sensor [4]. This signals the tray lift motor to lower the tray the prescribed distance so the tray can accept more paper. This sequence is repeated until the tray is full.

The tray upper limit switch [5] is mounted behind the paper height sensor. If the edge of the tray (not the stack) raises high enough to push up the actuator along the length of the tray edge, this will trigger the micro-switch, signalling the high limit of the tray switch and this turns off the stacking operation.

There are two tray guard sensors [6] mounted side by side in the jogger unit. Each sensor is mounted above a swinging plate with an actuator on top. If the top of the stack pushes up either plate far enough to activate either sensor, this will shut down operation of the stacker immediately. These sensors are also fail-safe mechanisms. If the stack on the tray skews and either the paper height sensor or tray high limit switch fail to detect the top of the stack, one of the guard sensors will trigger a signal to shut down the stacker. This prevents the top of the stack (or empty tray) from striking the bottom of the paper transport plates above and causing damage.

The four tray full sensors [7] signal the status of the tray on the main machine operation panel at each stage: 25% full, 50% full, 75% full, 100% full. When the actuator on the tray reaches tray full sensor 4 (100%), the stacking operation will stop, signaling the operator that the cart is full and must be emptied.

The tray low limit sensor [8] signals when the tray is down (the cart can be removed).

The tray low limit switch [9] will shut down the stacker if the edge of the tray hits this micro-switch. This is one additional fail-safe mechanism designed to shut down the stacker if either sensor above (Tray Full 4, Tray Low Limit Sensor) fails to signal tray full.

Power Off

At the end of the job:

- The tray does not lower.
- The operator must press the DOWN button on the stacker operation panel to lower the tray and remove the paper stacked on the cart.

Power ON

If there is no paper on the tray:

- The shift paper sensor [3] detects no paper.
- The tray lift motor raises the tray until the paper height sensor [4] is pushed up far enough to detect the top of the tray and then stops.
- The tray lift motor reverses and lowers the tray to the start position.

If there is paper on the tray:

- The shift paper sensor [3] detects paper.
- The tray lift motor raises the tray until the paper height sensor [4] detects the top of the stack and then stops.
- The tray lift motor reverses and lowers the tray far enough to accept more paper.

Cooling Mechanisms

Paper Cooling Fan Motor 1, 2, 3

In order to prevent the cart stacker from being blocked, the paper being transported from the main unit is cooled at the entrance by 3 fans, which blow from the underside.

Cooling Fan Motor for Paper Transport Motors / Cooling Fan Motor for Entrance Motor

The entrance motor, proof tray exit motor, and transport motor are cooled by fans.

Air Assistance

The paper exit for the shift tray has four air nozzles.

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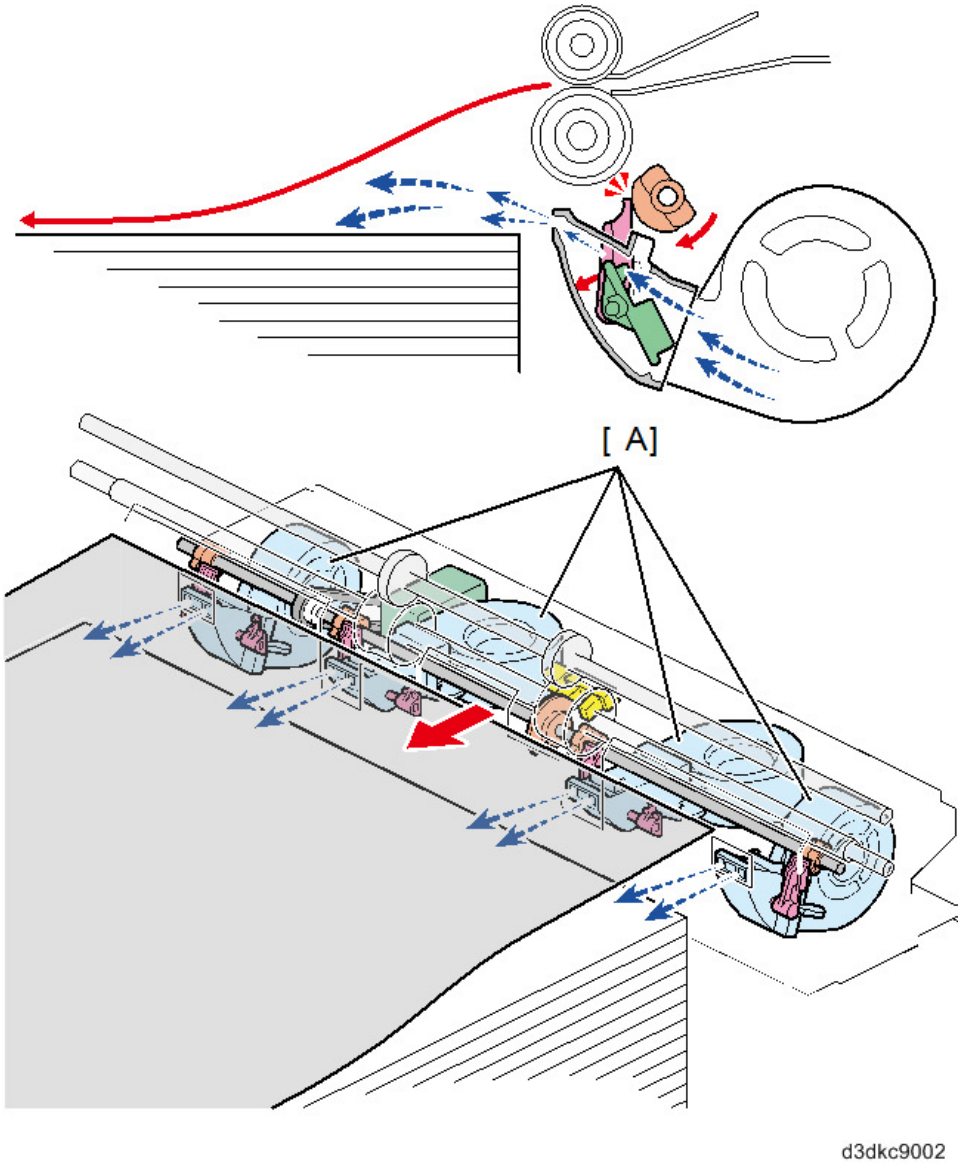
From these nozzles, the shift exit fans [A] blow into the space between the ejected paper and the stacked paper in order to make an air layer there.
This prevents the ejected sheet, especially thin paper, from getting buckled.



Related SP

SP Name	SP No.	Option
Stacker1 Air Assist Vol Adj	SP6-605-001 : A3 SEF -002: B4 SEF -003: A4 SEF -004: A4 LEF -005: A5 SEF -006: A5 LEF -007: B5 SEF -008: B5 LEF -009: DLT SEF -010: LG SEF	[0]: High [1]: Low [2]: Off (Default)

SP Name	SP No.	Option
	-011: LT SEF -012: LT LEF -013: HLT SEF -014: HLT LEF -015: Other	
Stacker2 Air Assist Vol Adj	SP6-611-001: A3 SEF -002: B4 SEF -003: A4 SEF -004: A4 LEF -005: A5 SEF -006: A5 LEF -007: B5 SEF -008: B5 LEF -009: DLT SEF -010: LG SEF -011: LT SEF -012: LT LEF -013: HLT SEF -014: HLT LEF -015: Other	[0]: High [1]: Low [2]: Off (Default)
Stacker1 Air Assist Setting	SP6-615-001	[0]: Auto (Default) [1]: ON [2]: OFF
Stacker2 Air Assist Setting	SP6-616-001	