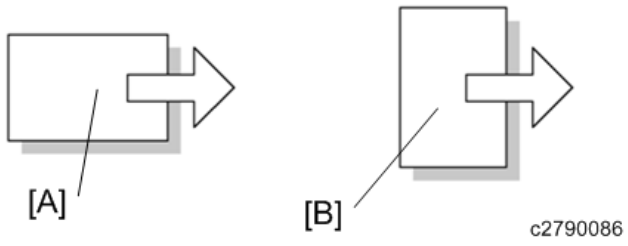
Trimmer Unit TR5050
Machine Code: D3GG
Field Service Manual
Ver 1.0

Latest Release: March, 2019
Initial Release: March, 2019

Symbols, Abbreviations

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

Symbol	Meaning
	Clip ring
	Screw
	Connector
	Clamp
	E-ring
	Flat flexible cable
	Timing belt
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. Detailed Descriptions

Specifications

Item	Specification	Note
Configuration	Small console	
Line Speed	349.3 mm/s (Between each stack: 8.2 secs or longer)	
Supported Paper Sizes	13 x 19.2, 13 x 19, 12.6 x 19.2, 12.6 x 18.5, 13 x 18, SRA3 (320 x 420 mm), 12 x 18, A3, B4, SRA4 (320 x 225 mm), 226 x 310 mm, A4, B5, DLT, LG, LT **Custom Size** Width: 182 - 330 mm Length: 257 - 488 mm (before folding)	
Paper Capacity	Up to 30 sheets	Folded and saddle-stitched
Dimensions	1,115 x 591 x 555 mm (43.9 x 23.3 x 21.9 inches)	
Weight	75 kg (165.4 lb) or less	
Power requirements	100 - 240 V, 2 A, 50/60 Hz	
Power consumption	75 W Maximum: 250 W	

Trimmer

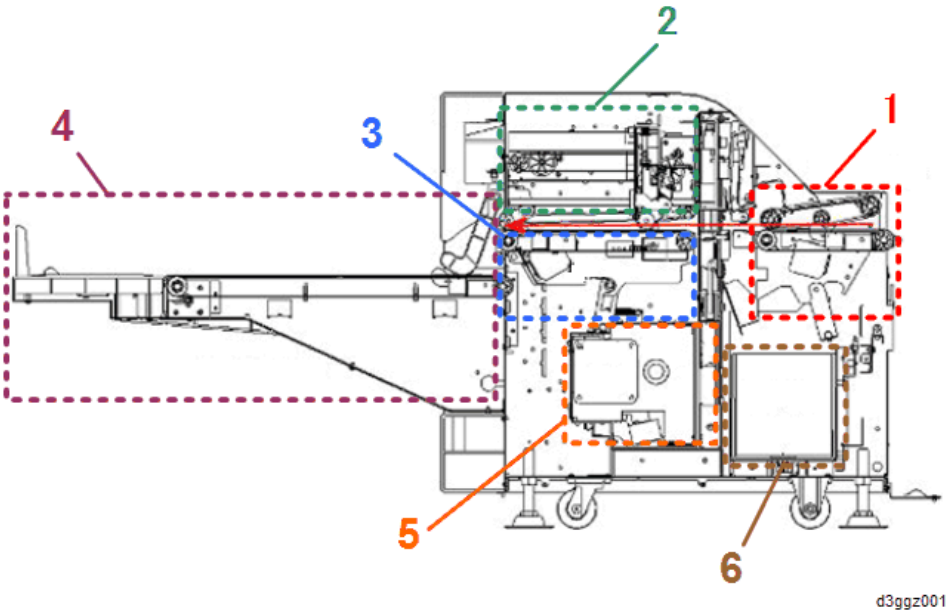
Item	Specification	Note
Cutter Type	Guillotine	
Trim Capability	60 sheets (80g/m^2)	Folded and saddle-stitched

Exit Tray

Booklet Length After Trimming (mm)		Typical Sizes	1-5 Sheets	6-10 Sheets	11-15 Sheets	16-20 Sheets	21-30 Sheets
118.5 or longer	Shorter than 133.0	B5	60	35	25	20	20
133.0 or longer	Shorter than 160.0	A4, LT	60	35	25	20	20
160.0 or longer	Shorter than 190.1	B4, LG	60	40	25	20	20
191.0 or longer	Shorter than 242.0	A3, DLT	60	40	25	25	20

Layout

General Layout



1. Feed unit
2. Trim positioning unit
3. Transport unit
4. Tray unit
5. Cutter unit
6. Scrap hopper

Paper is fed from the finisher or interposer tray and saddle stitched. The booklet exits the finisher from its spine, and goes into the trimmer unit.

Feed Unit

The booklet enters the trimmer via the entrance guide plate, and is transported between the upper and lower feed guides. The upper guide has a round cross-section belt, and the lower guide has a flat one. In order to transport booklets of various thicknesses, the upper paper feed guide rotates around a fulcrum on the entrance side, adjusting the gap between the upper and lower guides according to the thickness of the booklet.

Trim Positioning Unit

The booklet is transported from the feed unit to the trim positioning unit. The trim positioning unit has a transport mechanism with a flat belt similar to that of the lower feed guide of the feed unit. On the upper side, it has an edge stopper that can be moved according to the booklet size and trimming width.
The spine of the booklet is pushed to the claws of the edge stopper (claw unit), at a position determined using booklet size and trim position information from the imaging device. Then, a press mechanism

consisting of a claw unit press motor holds down and flattens the booklet in preparation for trimming.

Cutter Unit

There is a cutter unit between the feed unit and the trim positioning unit. The unit has a guillotine cutter: the upper blade has a sharp edge and moves according to the shearing angle, while the lower blade is blunt and is fixed at an obtuse edge of about 90 degrees. The upper blade of the cutter unit drops down to cut the booklet at the specified trim position. In order to prevent the stack of sheets from shifting during trimming, a press mechanism firmly holds down the booklet near its trim edge, before the upper blade is lowered.

Scrap Hopper

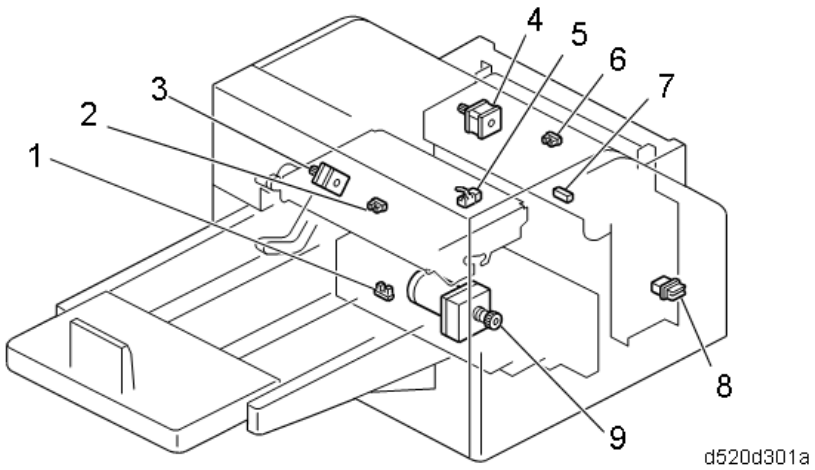
Paper scraps drop down from the cutter unit into the scrap hopper underneath the cutting section. Sensors detect if the scrap hopper is set, and when it is full.

Tray Unit

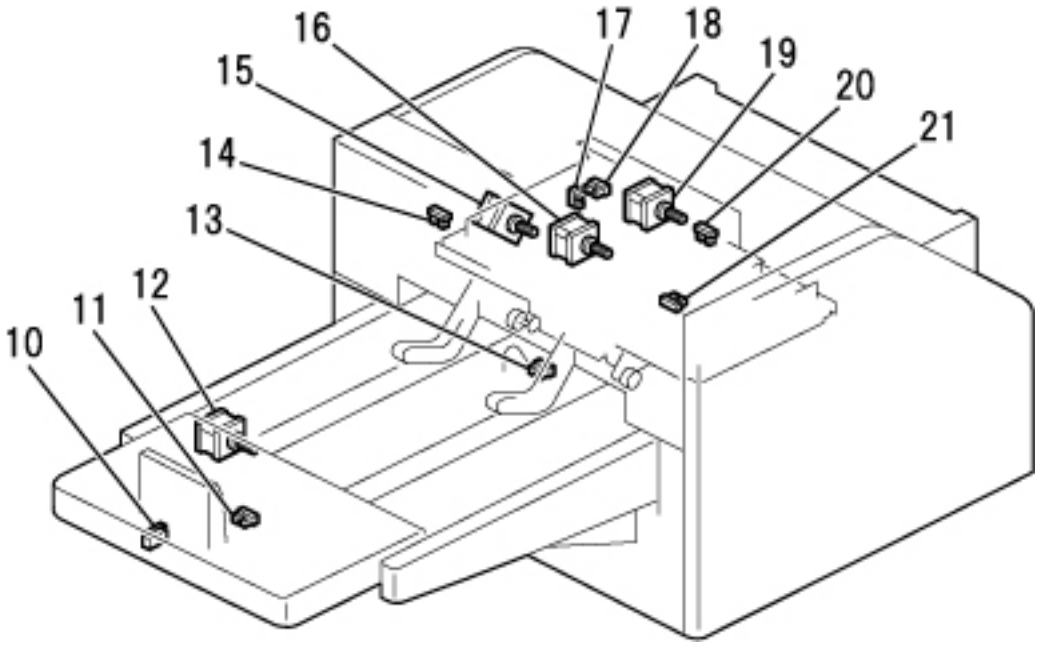
After the booklet is trimmed, pressure on the booklet is released, and it is transported to the exit of the trim positioning unit by a transport mechanism at the lower end of the unit. The booklet is then output to the tray by paper exit rollers (not shown in diagram). A flat belt is driven to transfer each booklet slowly onto the output tray, so as to ensure that they are stacked properly. By changing the amount that the belt moves according to the size and thickness of the booklet, the overlap amount between booklets can be adjusted, so that stacking and stack capacity can be assured.

Tray Full is detected using a combination of Exit Tray Sensor 2, which detects the rotation angle of the paper exit lever at the paper exit, and Exit Tray Sensor 1 at the front edge of the paper exit tray, Specifically, when the Paper Remaining Sensor and Exit Tray Sensor 1 turn on, and Exit Tray Sensor 2 reaches a certain angle, a tray full signal is sent.

Electrical Component Layout



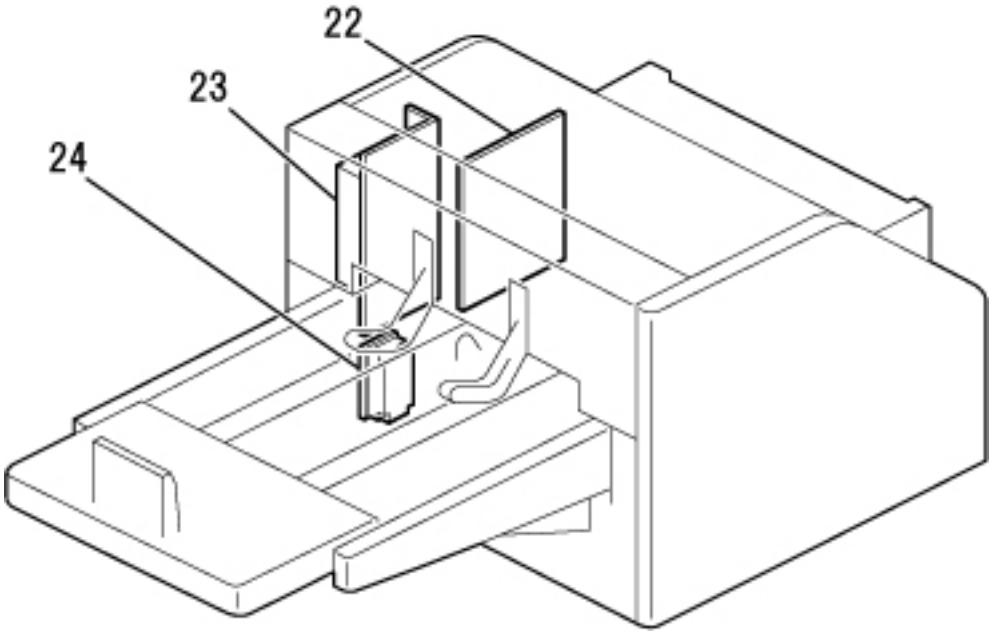
No.	Part	Description
1	Cut HP sensor	Detects the home position of the movable blade of the cutter unit.
2	Exit sensor	Detects that a trimmed paper stack is output to the paper tray.
3	Exit motor	Transports the trimmed paper stack to the output tray.
4	Feed motor	Moves the transport belt in the feed unit.
5	Scrap hopper HP sensor	Detects the home position of the scrap hopper.
6	Entrance sensor	Detects the feeding of paper.
7	Scrap hopper full sensor	Detects when the scrap hopper is full.
8	Door switch	Detects when the door is open, and cuts off the power voltage.
9	Cutter motor	Drives the cutter unit.



No.	Part	Description
10	End Fence Switch	Turns off when the user removes the stopper, and automatically switches to limitless mode.
11	Exit tray sensor 3	Third sensor detecting exit tray full.
12	Tray motor	Moves the transport belt of the tray.
13	Exit tray sensor 2	Second sensor detecting exit tray full.
14	Exit tray sensor 1	First sensor detecting exit tray full.
15	Cut position Motor	Moves the stopper that determines the trim position of the booklet.
16	Press Stopper motor	Lowers/ raises the stopper plate. Also presses the folded end of the booklet after the trim position is determined.
17	Stopper assembly HP sensor	Detects the home position of the stopper assembly.
18	Press Stopper HP	Detects the home position of the press stopper and the pressure plate.

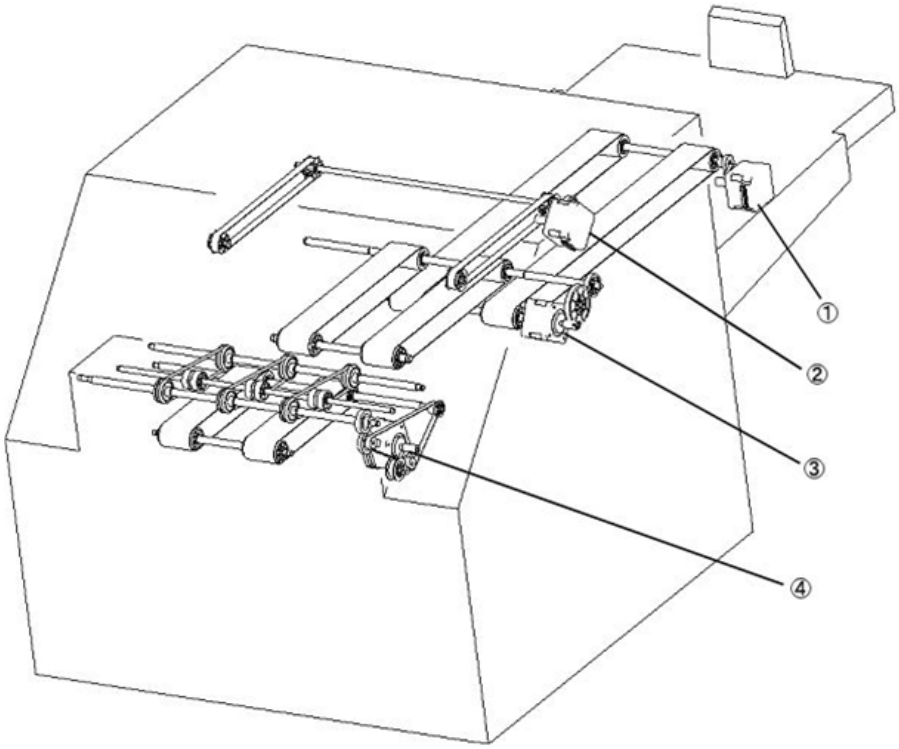
1.Detailed Descriptions

No.	Part	Description
	Sensor	
19	Press Roller Motor	Drives rhe press rollers at the entrance of the trim positioning unit.
20	Press Roller HP Sensor	Detects the home position of the pressure roller.
21	Stopper Sensor	Detects when the booklet is near the stopper.



No.	Part	Description
22	Main Board	Circuit board controlling the entire trimmer.
23	PSU	Converts alternating current to direct current, and sends current of the specified voltage to the main board.
24	Breaker Switch	Turns ON/ OFF the power supply. Also shuts off the supply of voltage when a leakage occurs.

Motor Layout



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No.	Part
1	Tray motor
2	Cut position motor
3	Exit motor
4	Feed motor

Unlocking the Cutter

If an SC is generated due to cutter lock, release it using the following method.

1. Turn the power OFF and then ON

   If the cutter was locked due to reasons such as a common jam, after restarting the machine the cutter will rotate in reverse and recover automatically.

   Note

   - When the cutter is locked, the cutting edge of the cutter may be chipped. After unlocking the cutter, check if there is any problem with the cutting edge.

2. If the problem is not resolved even after turning the power OFF and then ON, use the cutter shifting button at the lower left of the board to move the cutter to its home position.

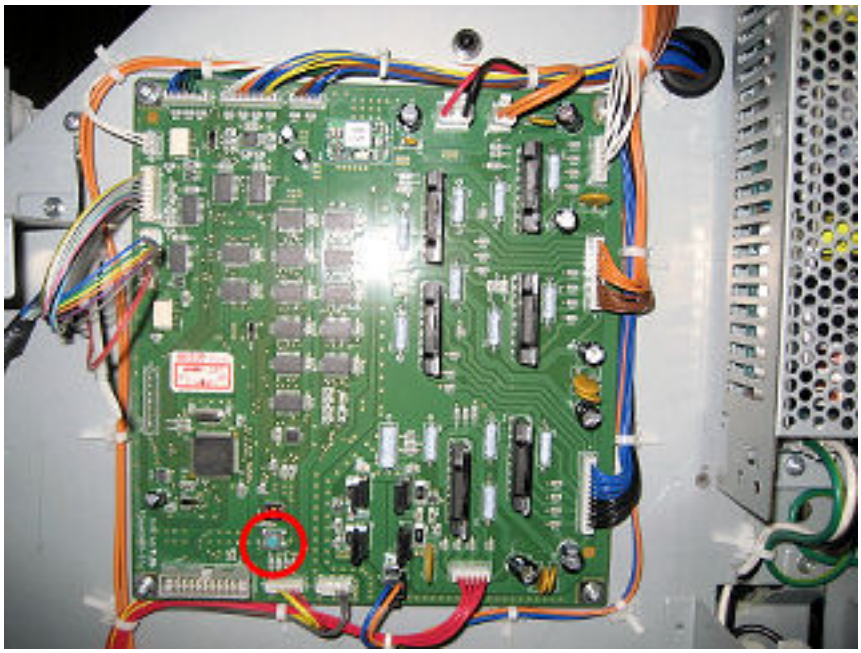
   Pressing the button once will trigger a recovery movement (cutter reverse rotation) for 0.1 sec only. Holding down the button will not lengthen the cutter's reverse rotation. Therefore, press the button several times slowly (at about 1 sec pitch).

Note

- When the cutter is locked, the cutting edge of the cutter may be chipped. After unlocking the cutter, check if there is any problem with the cutting edge.

Unlocking Procedure

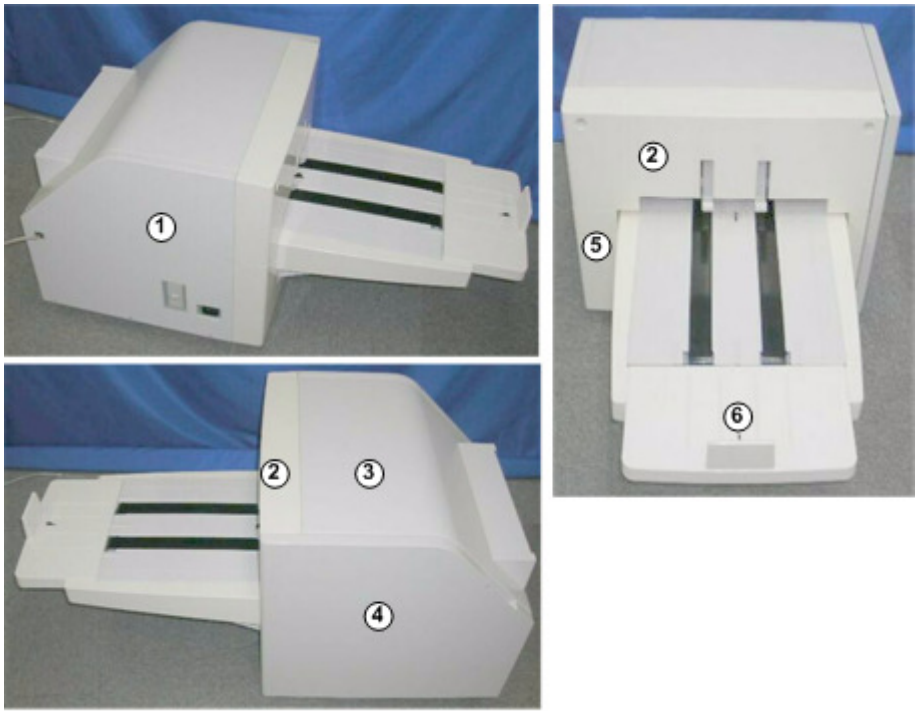
1. Remove the rear cover. (Rear Cover)
2. Press the cutter shifting button at the lower left of the board to move the cutter to its home position.



2. Replacement and Adjustment

Common Procedures

Before You Begin



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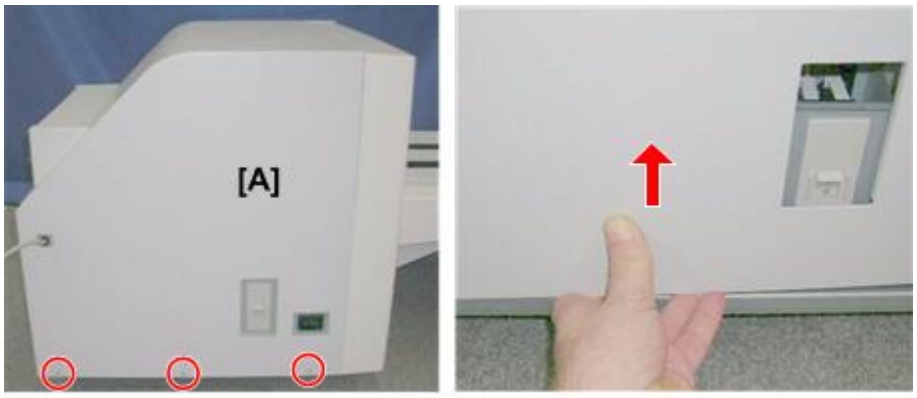
Remove the covers, door, and tray in this order for major maintenance and cleaning:

①	Rear cover (x3)
②	Left upper cover (x2)
③	Top cover (x5)
④	Front door (x4)
⑤	Left bottom cover (x2)
⑥	Tray unit (x2, x2)

Covers, Tray Unit, Door

Rear Cover

1. Remove the rear cover [A] by lifting it upwards. (x3)



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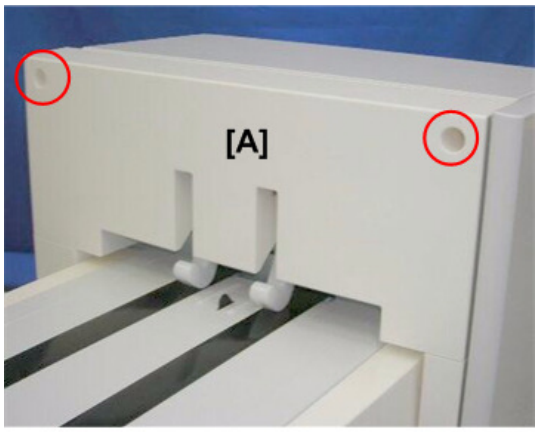
Left Upper Cover

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



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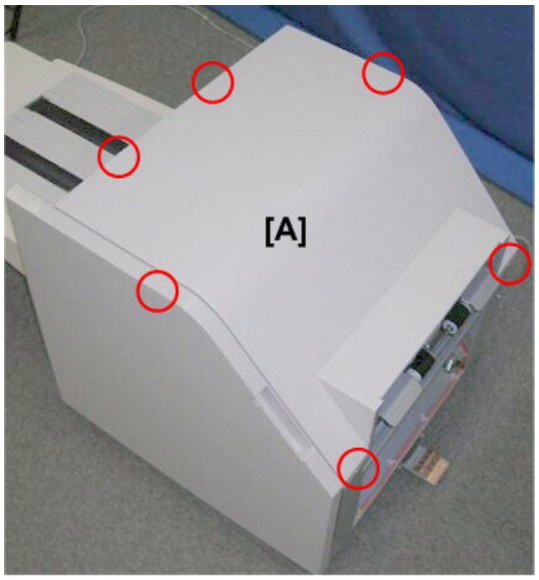
Top Cover

1. Remove the screws fixing the top cover [A]. (x 6)



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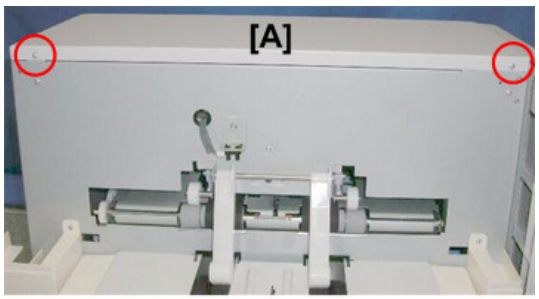
2. Remove the screws in the following positions:

[A] Left (x2)



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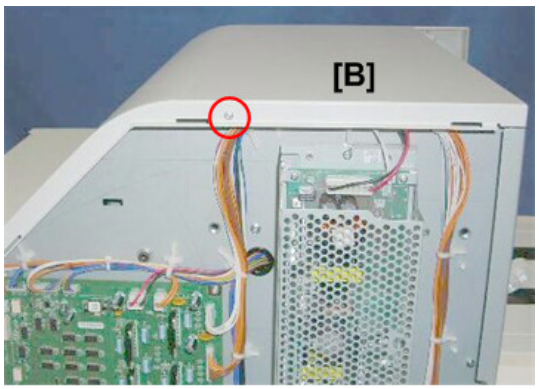
[B] Rear (x1)



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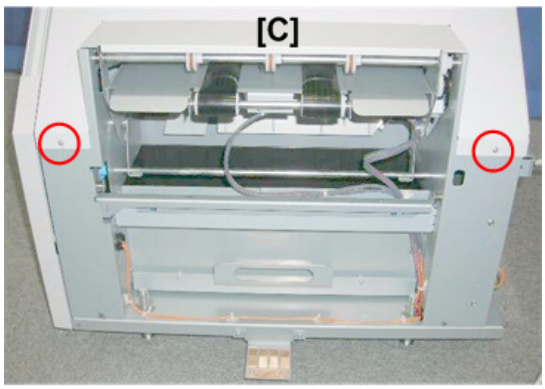
[C] Front (x2)



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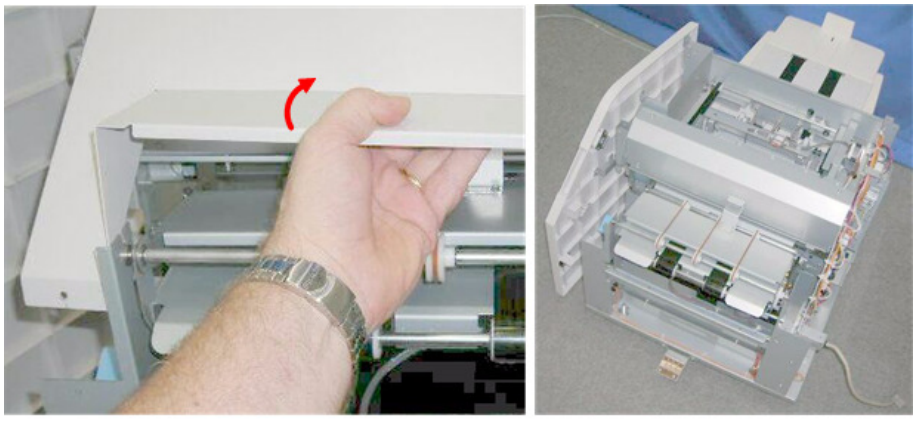
3. Lift off the top cover.



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Door

1. Remove the rear cover. (Rear Cover)
2. Remove the top cover. (Top Cover)
3. Open the front door.

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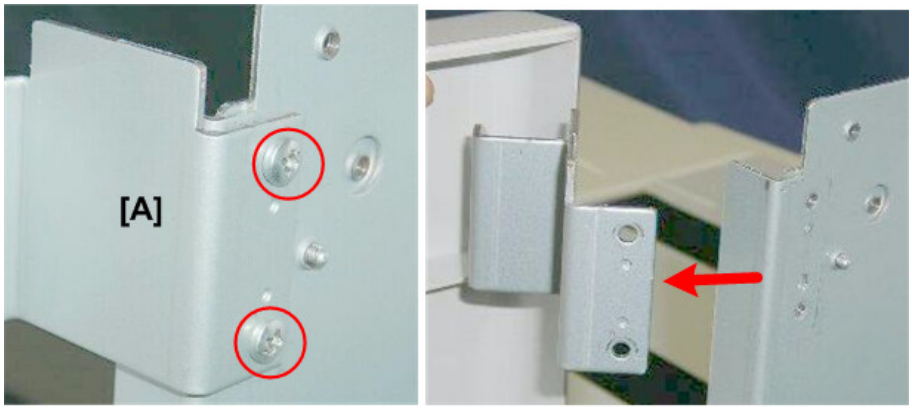
4. Remove the top hinge [A] (x2).



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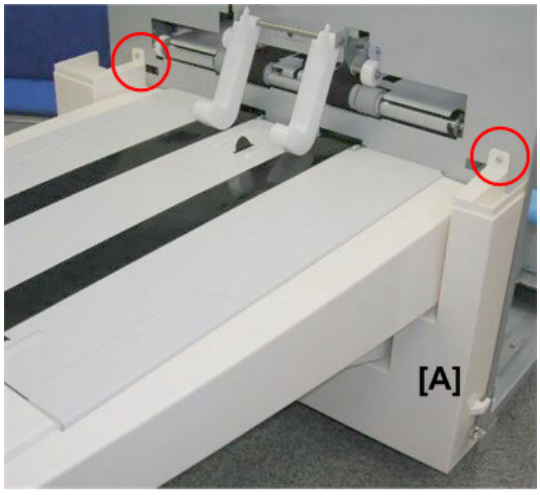
5. Lift the door off.

Left Lower Cover

1. Remove the door. (Door)
2. Remove the left upper cover. (Left Upper Cover)
3. Remove the left lower cover [A] (x2)



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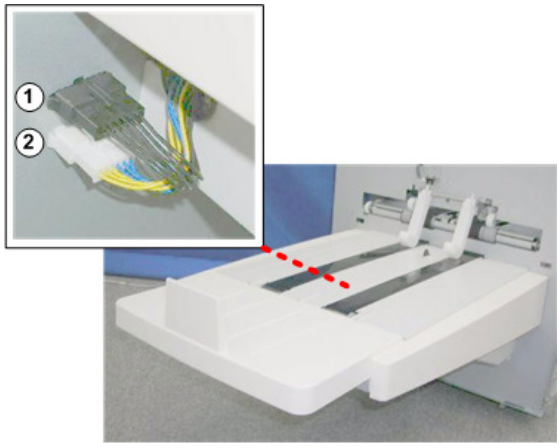
Tray Unit

1. Remove the left upper cover. (Left Upper Cover)
2. Remove the door. (Door)
3. Remove the left lower cover. (Left Lower Cover)

4. Remove the connectors in the rear left corner. (x2).



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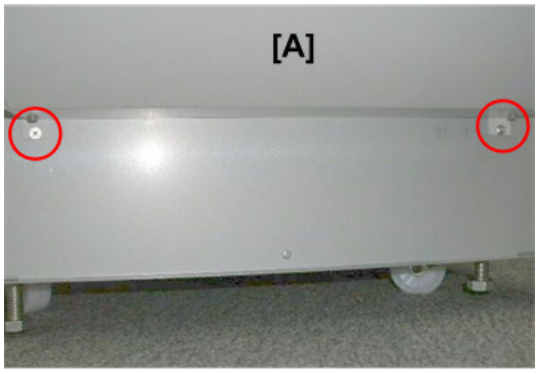
5. Remove the screws near the bottom of the tray [A]. (x2).



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6. Grip both sides of the tray [A]. Lift it straight up to disengage the four metal hooks from their holes, and then pull the tray away from the side of the trimmer unit.

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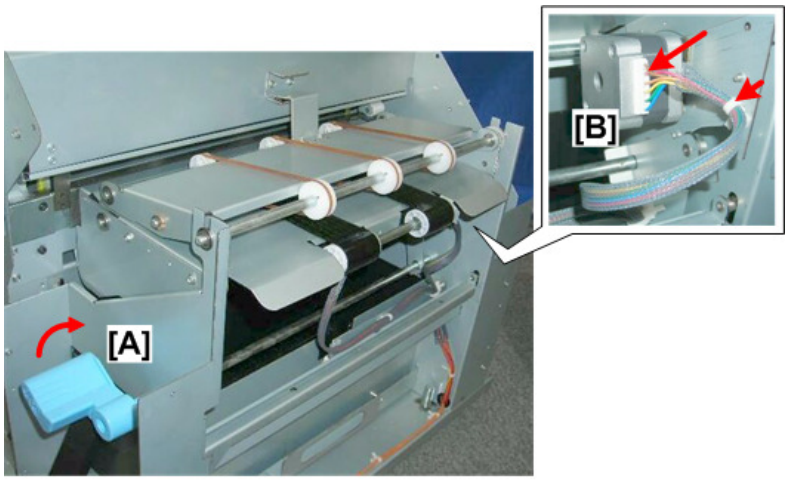
Feed Unit

1. Remove the rear cover. (Rear Cover)
2. Remove the top cover. (Top Cover)

3. Rotate Lever A1 [A] clockwise to lower the feed unit. Disconnect the feed motor [B]. (x1, x1)



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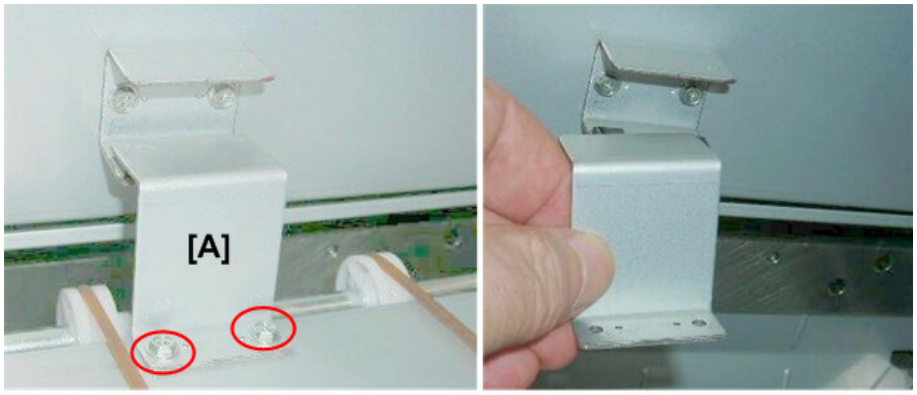
4. Disconnect the arm [A]. (x2).



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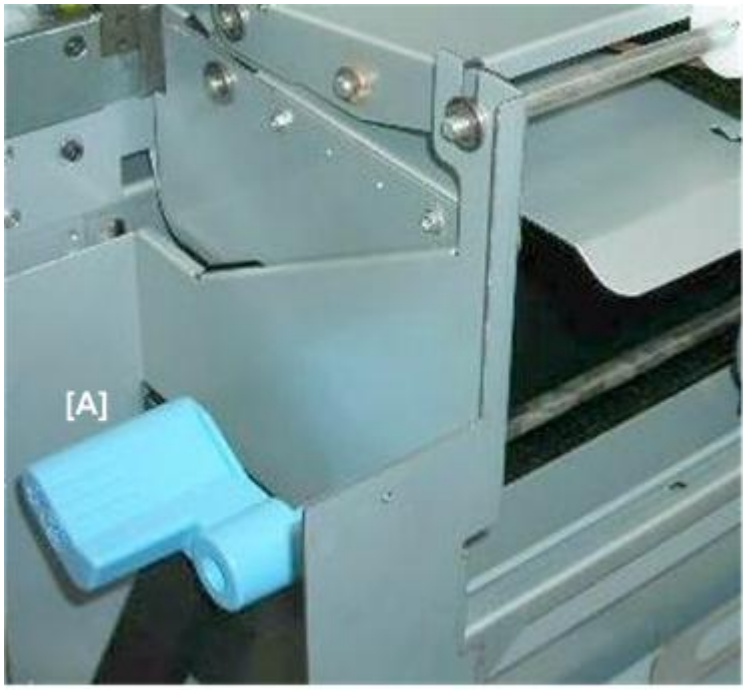
5. Rotate Lever A1 [A], and remove the swing plates.



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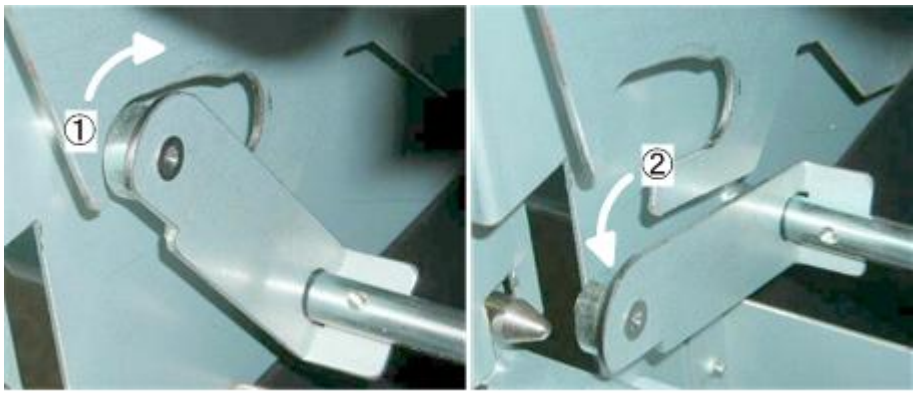

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6. Remove the e-rings at both ends of of the shaft [A]. (x2).

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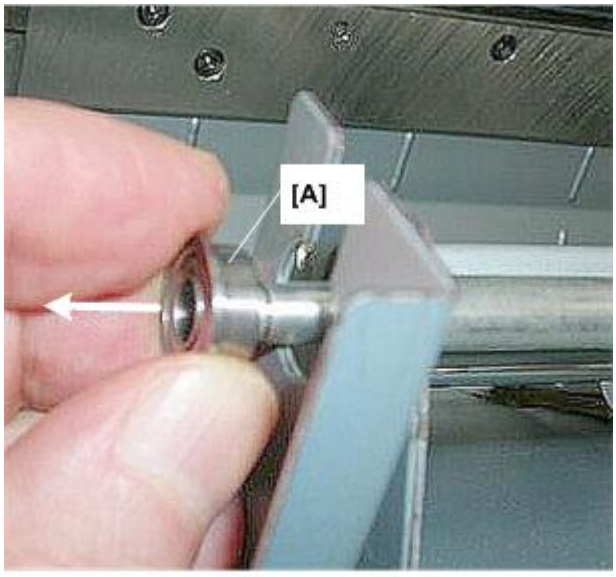
Pull out the shaft.



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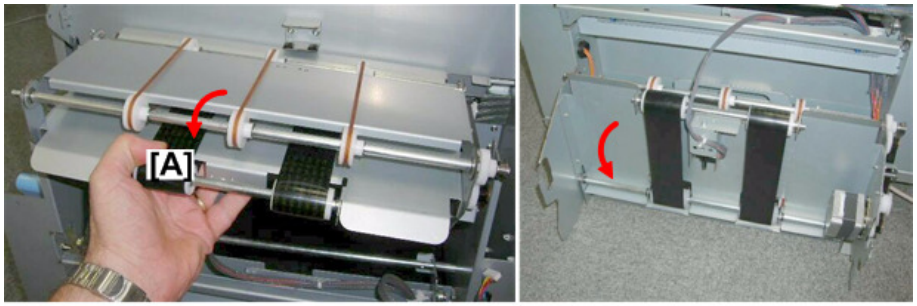
7. Slowly lift the feed unit [A] and set it down against the trimmer unit as shown below.



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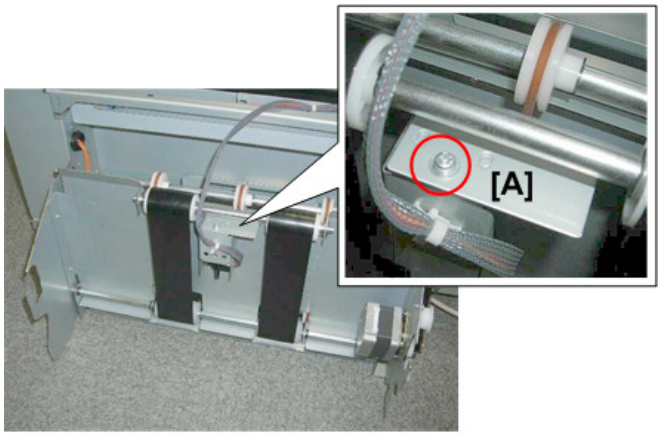
Important

- Do not try to pull the feed unit away from the trimmer unit. A harness is still connected below the feed unit.

8. Disconnect and remove the sensor bracket [A] (x1).



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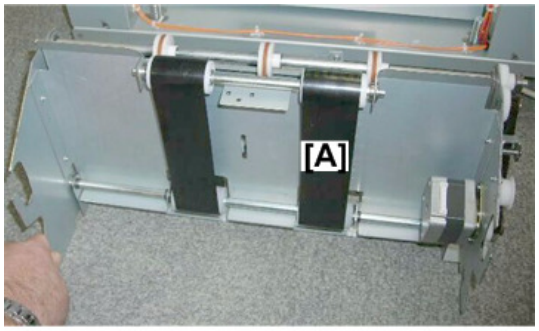
The feed unit [A] is now completely separated from the trimmer unit.



d455r038

Trim Positioning Unit

1. Remove the rear cover. (Rear Cover)
2. Remove the top cover. (Top Cover)
3. Remove the door. (Door)
4. Remove the left upper cover. (Left Upper Cover)
5. Remove the left lower cover. (Left Lower Cover)

6. Remove the tray unit. (Tray Unit)

7. Disconnect the sensor [A]. (x1).

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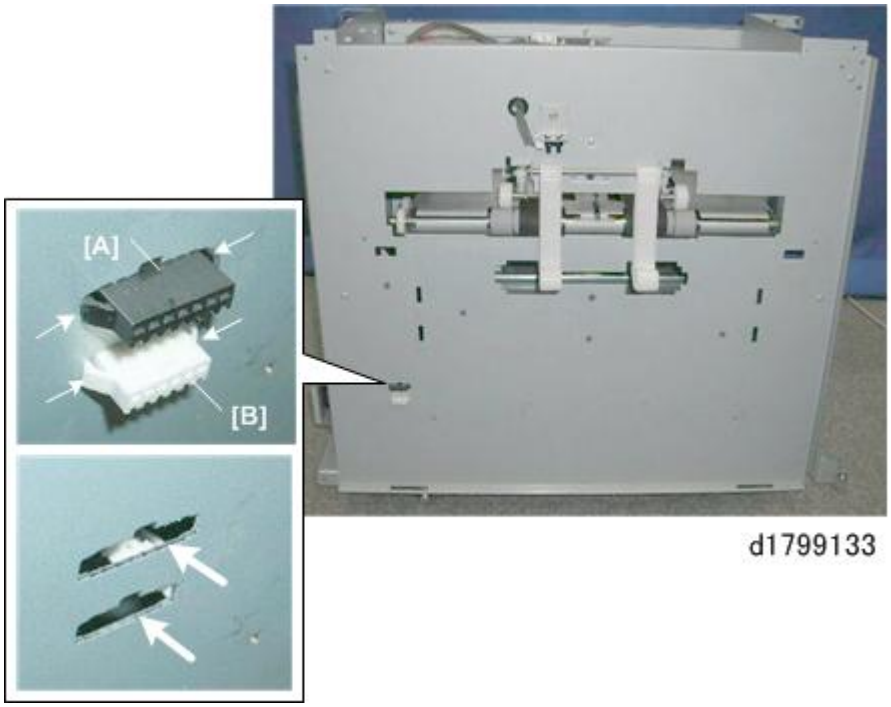
8. Disconnect the connectors on the sensor. Push in the connectors [A] [B].



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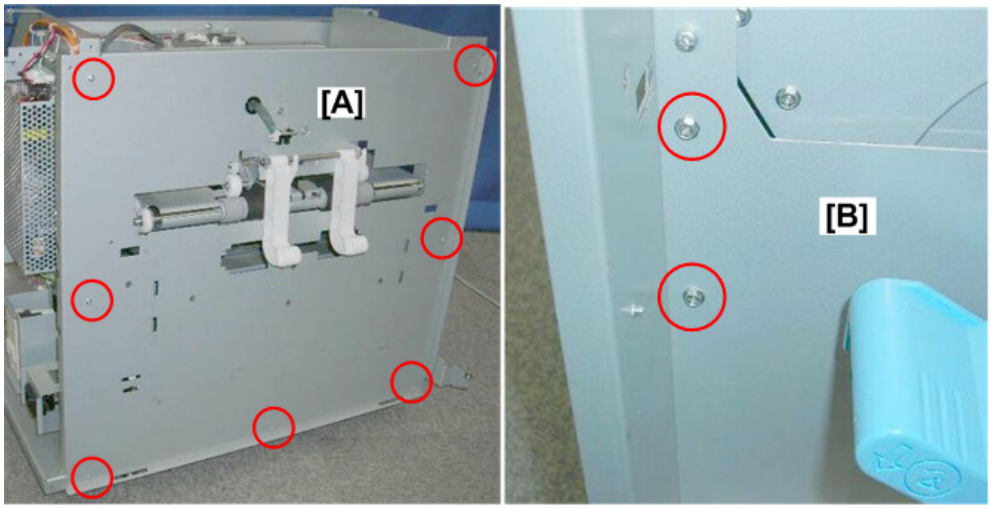
9. Remove the left cover plate:

[A] Left (x7)

[B] Front (x2)



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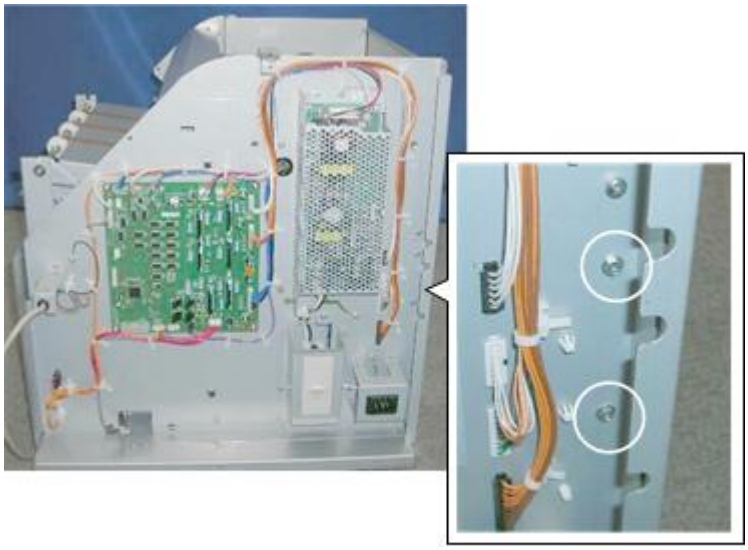
Rear (x2)



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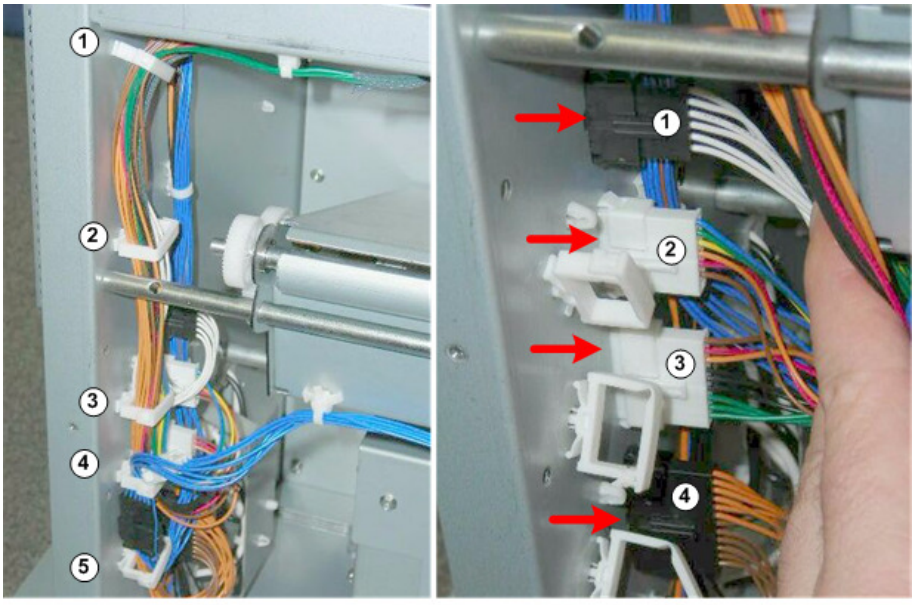
Remove the plate.

d1799137

10. Open the harness clamps and pull out the harnesses (x4, x5).



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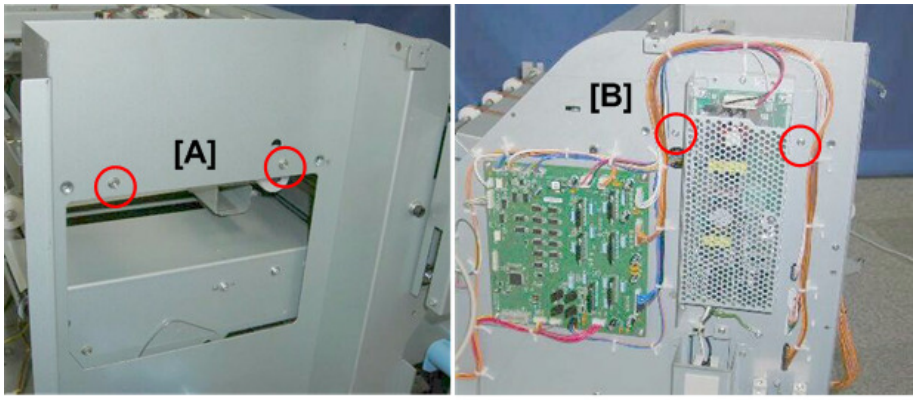
Note

- Close the harness clamps to prevent entangling the loose harnesses when the unit is removed.

11. Remove the trim positioning unit:

[A] Front (x2)

[B] Rear (x2)



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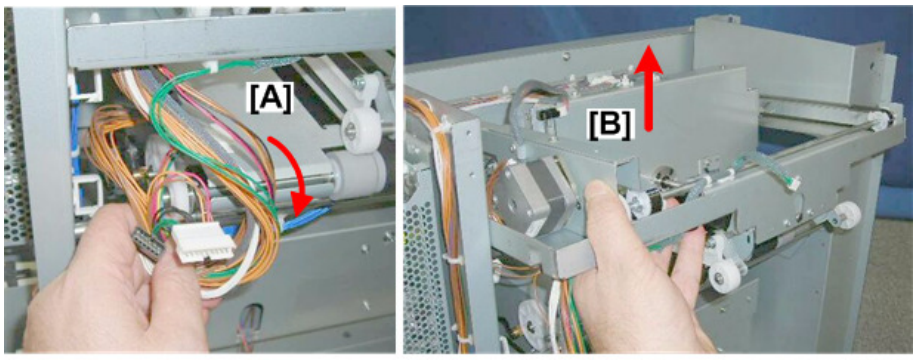
12. Pull the harnesses [A] out from behind the shaft. Lift the trim positioning unit [B] straight up and remove it.



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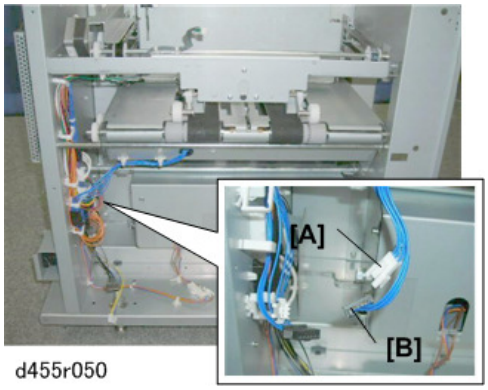
Transport Unit

1. Remove the trim positioning unit. (Trim Positioning Unit)

2. Remove the connectors [A] and [B]. (x2)



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3. Remove the shafts.

[A] Front(x1)

[B] Rear (x1).

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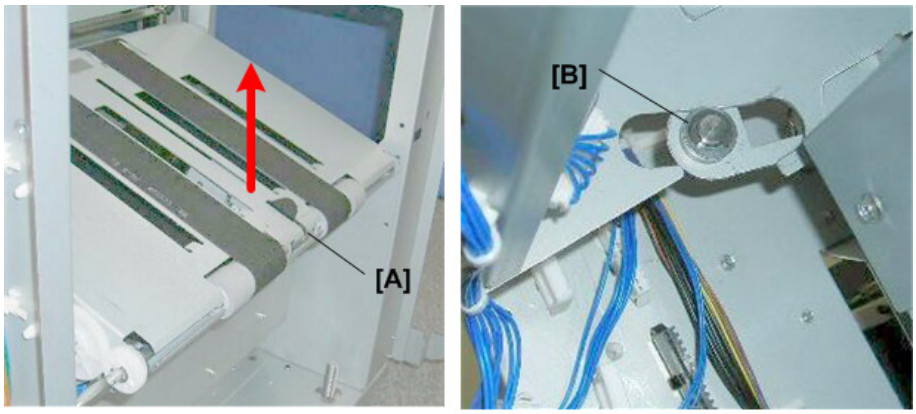
4. Lift the transport unit [A] with both hands. Remove the roller at the rear, and remove the transport unit.



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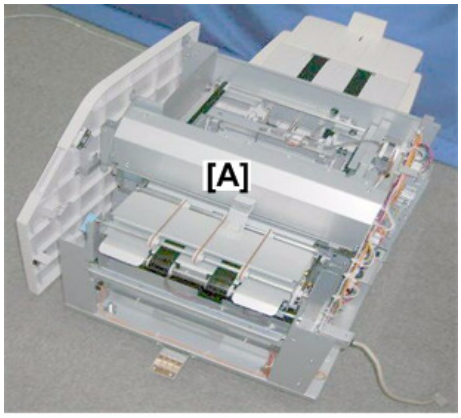
Trimming Blade, Blade Cradle

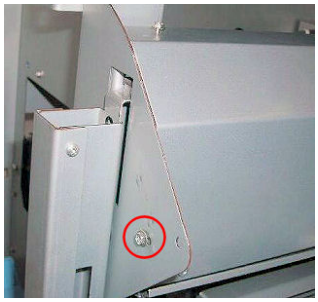
Trimming Blade Cover

The trimming blade [A] cover protects the trimming blade



d455r060

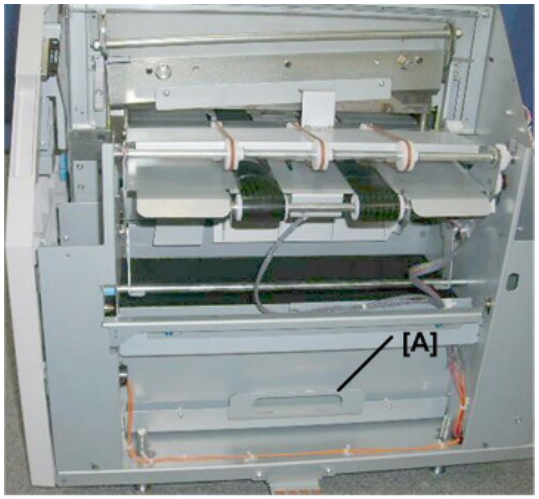
1. Remove the rear cover. (Rear Cover)
2. Remove the left upper cover. (Left Upper Cover)
3. Remove the top cover. (Top Cover)
4. Remove the trimming blade cover. (x 5)



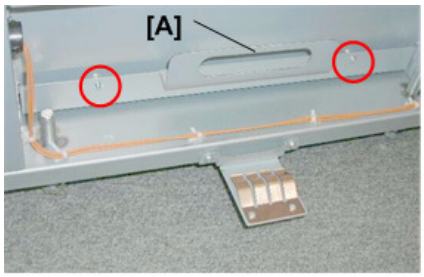
Trimming Blade

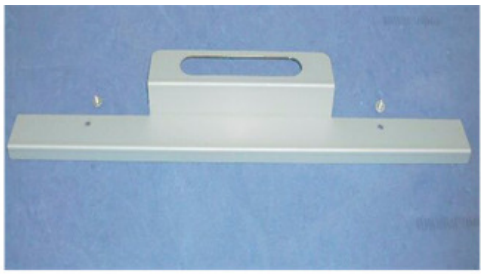
1. Remove the rear cover. (Rear Cover)
2. Remove the left upper cover. (Left Upper Cover)
3. Remove the top cover. (Top Cover)
4. Remove the trimming blade cover. (Trimming Blade Cover)

5. Remove the handle [A], which is attached to the frame of the trimmer unit.



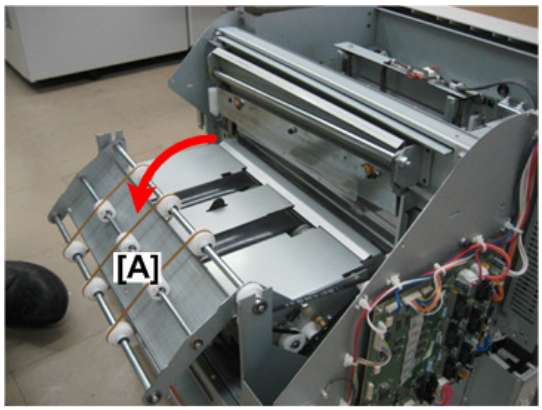
d455r070





d455r071

6. Open the feed unit [A].



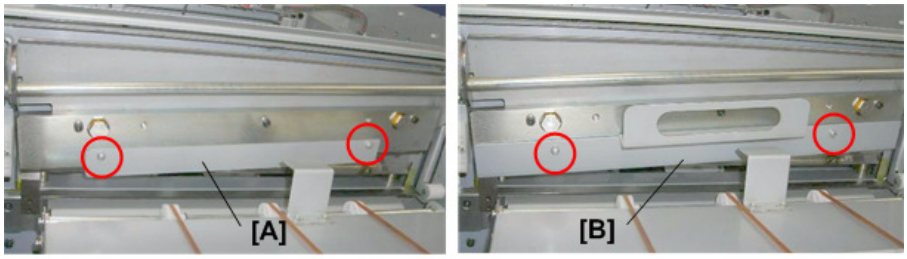
d455r071a

7. Remove the screws on the guard plate [A] (x2).

Important

- The guard plate is permanently attached to the blade; it will not come off even if the screws are removed.

8. Use the guard plate screws to attach the handle [B] to the side of the guard plate (x2).



d455r072

9. Use the Allen key (provided with the new blade) to remove the blade hex screws.

Important

- The blade is held down by these screws and three very strong springs.

1. Insert the Allen key into the first hex screw [A].
2. Attach an adjustable wrench [B] as shown.
3. Raise the wrench to relieve the tension on the springs.
4. Loosen each screw a full turn each to gradually relieve the tension on each screw.
5. Continue to loosen each screw in turns to remove them.

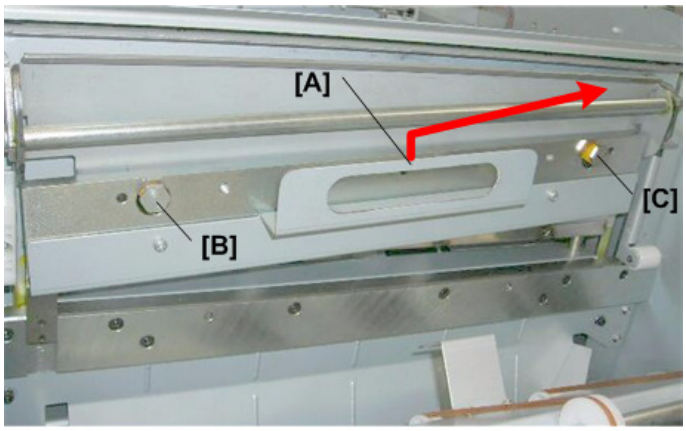
d455r073b

Important

- The screws should be removed gradually. To avoid stripping the threads of the other holes or screws, never completely remove any screw before the others.
- Loosen and remove the screws in the order from (1) to (3).

d1799143

10. Grip the handle [A] and slowly lift the blade off the heads of the large hex bolts [B] and [C].



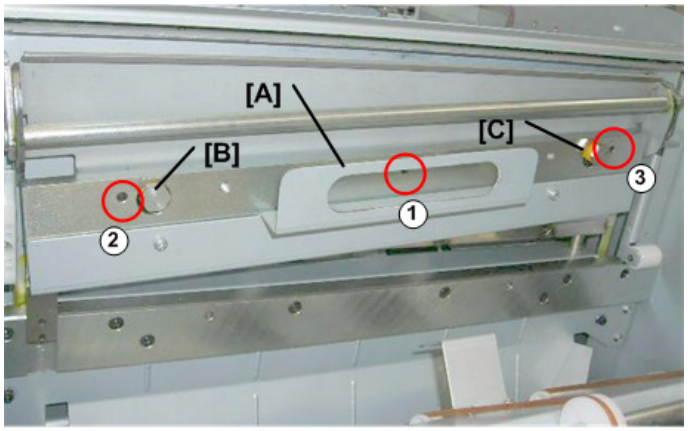
d455r074

Important

- Obey local laws and regulations regarding the disposal of items such as the used trimming blade.

Re-installation

1. Grip the new blade by the handle [A] and set it on the heads [B] and [C] of the hex bolts.



d455r075

2. Position the screw [A] at the first hole.

3. Raise the plate with the wrench [B].

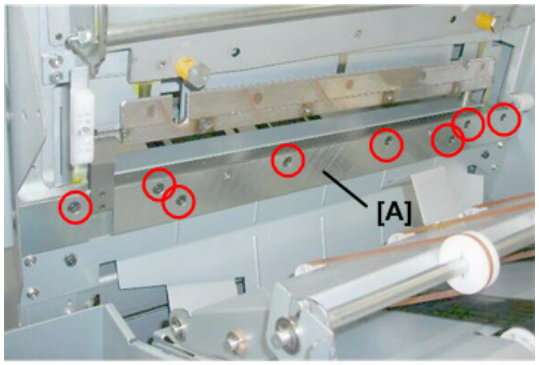
d455r073b

4. Insert the first screw in the hole, then turn it until the screw is firmly attached. Do not tighten it completely.

5. Insert the other two screws in their holes while continuing to relieve tension on the springs with the wrench.
6. After all the screws have been attached, tighten them one by one by about one full turn until they are all tightened completely.
7. Attach the provided plastic sheet to the new blade.

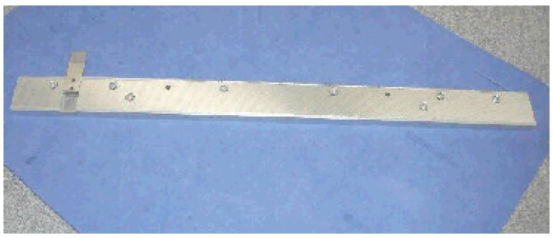
Blade Cradle

1. Remove the trimming blade cover. (Trimming Blade Cover)
2. Remove the trimming blade. (Trimming Blade)
3. Use an Allen key to remove the hex bolts of the blade cradle [A] (x8)



d455r080

4. Remove the cradle and set it on a flat surface.



d455r081

Note

- Attach a film sheet to the blade cradle.

Important

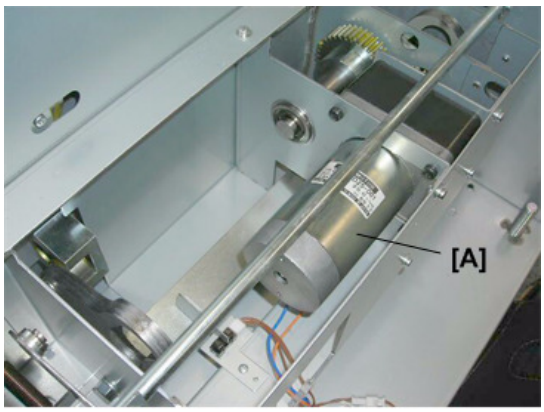
- Obey local laws and regulations regarding the disposal of items such as the blade cradle.

Motors

Cutter Motor

Important

- Never attempt to remove the cutter motor [A]. Removing it is dangerous.
- If the cutter motor fails, the trimmer unit must be replaced.

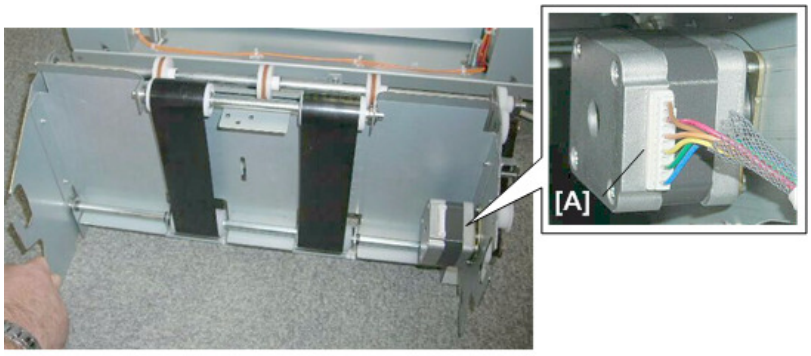


d455r925

Feed Unit

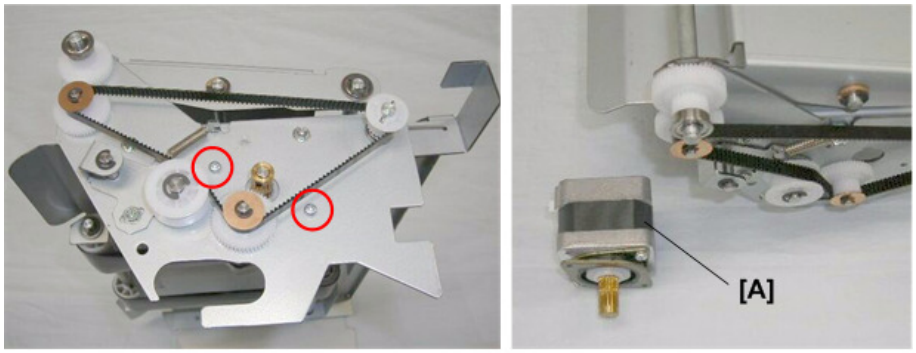
Feed Motor

1. Remove the feed unit. (Feed Unit)
2. Disconnect the feed motor harness [A]. (x1)



d455r090

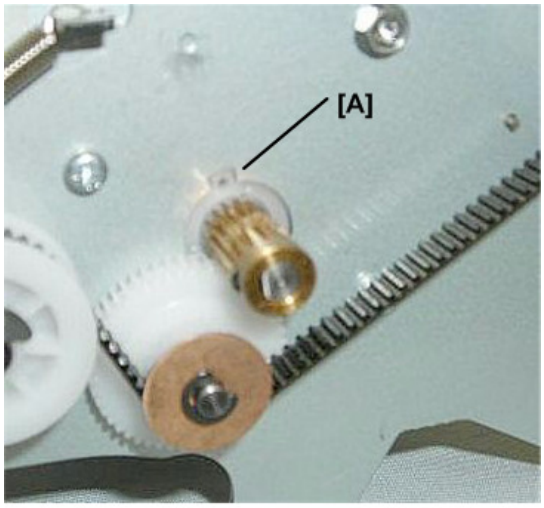
3. Remove the motor [A]. (x2)



d455r091

Re-installation

1. Position the motor behind the frame.
2. Align the notch on the motor with the tooth [A].
3. Press the motor against the frame and re-fasten the screws (x2).



d455r092

Important

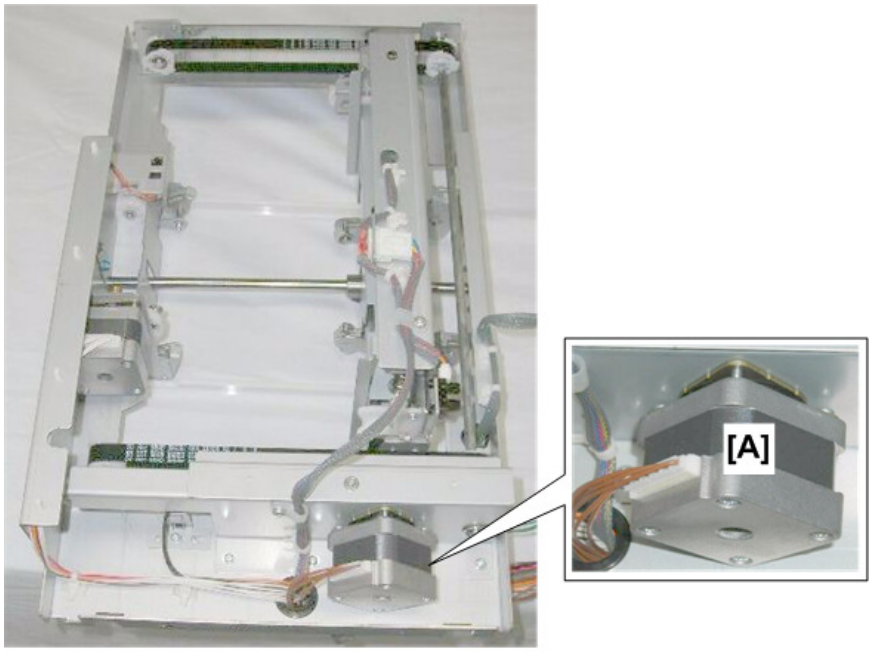
- The tooth must be fitted properly in the notch, so that the motor mount is flat against the back of the frame. Otherwise the motor will not be straight and the gears will not mesh properly.

Trim Positioning Unit

Cut Position Motor

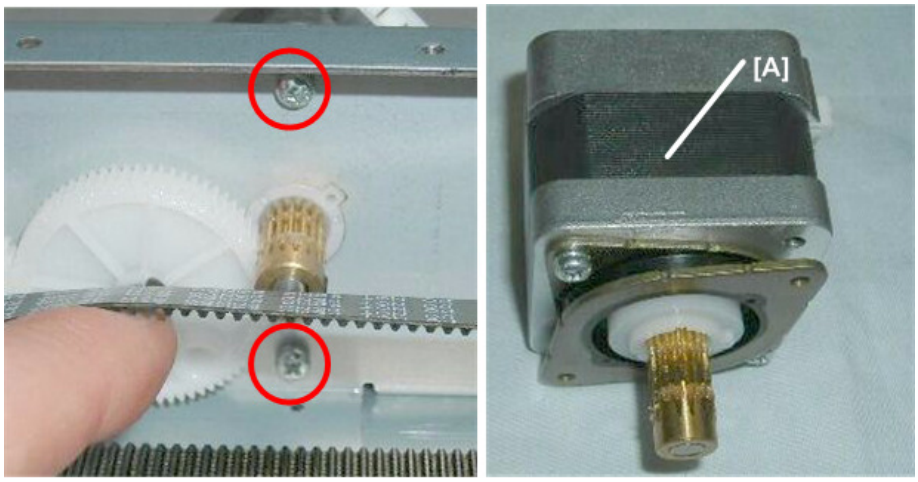
1. Remove the trim positioning unit. (Trim Positioning Unit)

2. Remove the motor harness [A]. (x1)



d455r100

3. Remove the screws on the other side, then remove the motor [A] (x2).



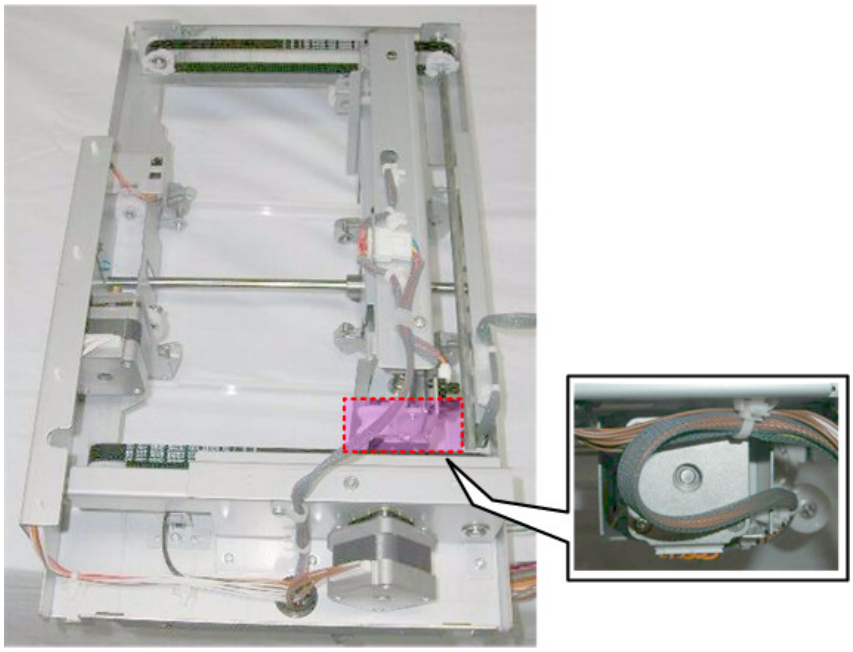
d455r101

Press Stopper Motor

1. Remove the trim positioning unit. (Trim Positioning Unit)

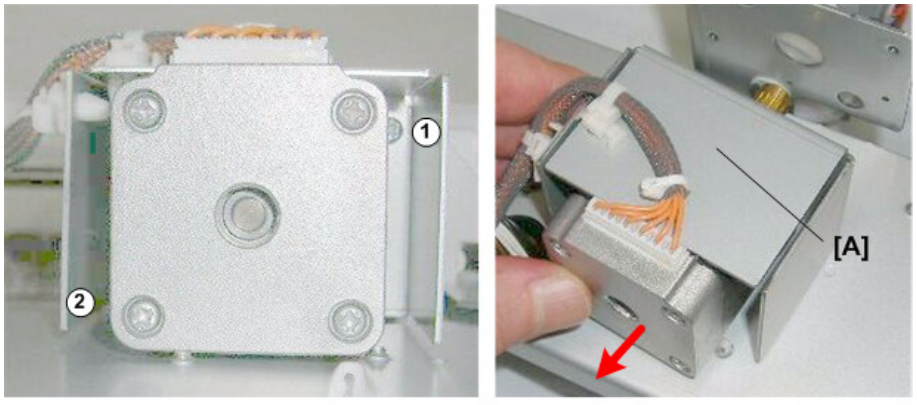
2. Turn over the trim positioning unit so that you can see the press stopper motor, which is under the

unit.



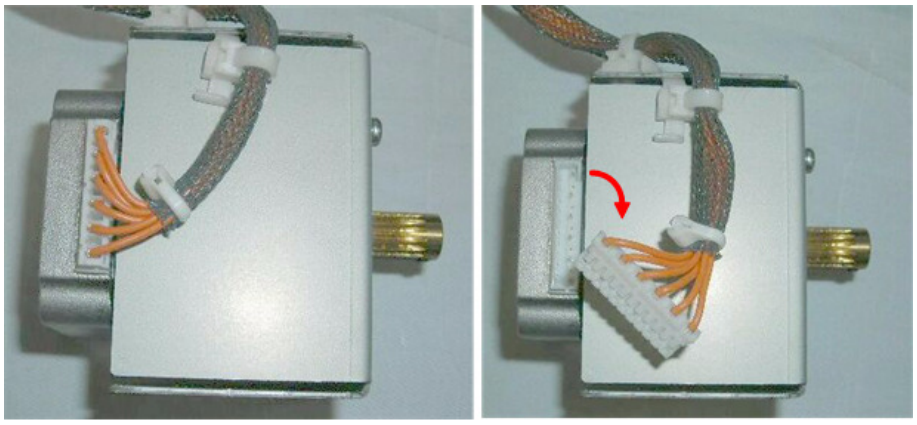
d455r110

3. Remove the bracket screws ① and ②. (x2)
Detach the bracket [A] with the motor.



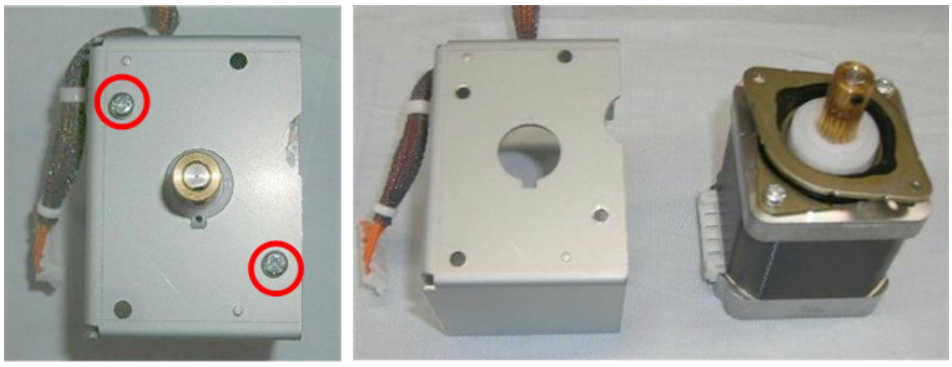
d455r111

4. Disconnect the motor (x1).



d455r112

5. Remove the motor from the bracket (x2).

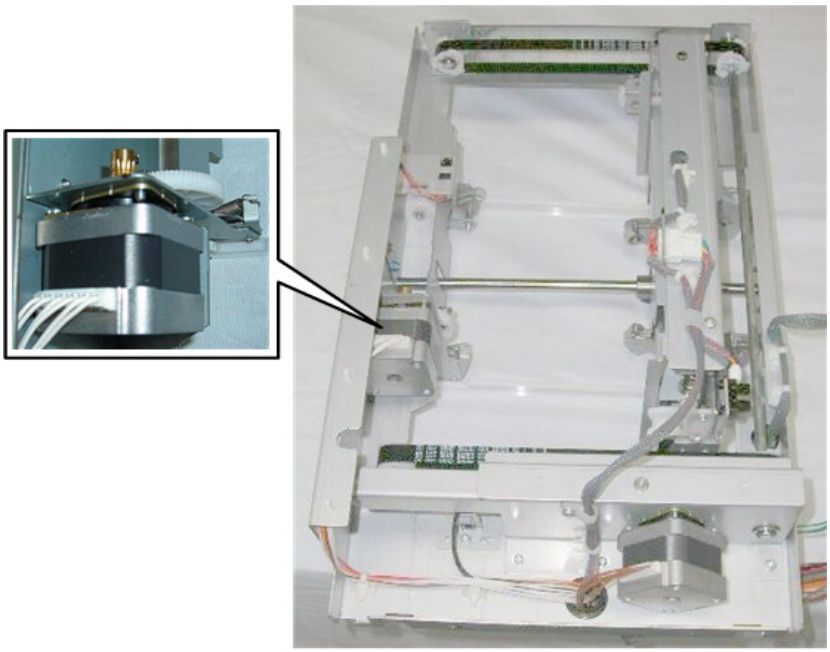


d455r113

Press Roller Motor

Note

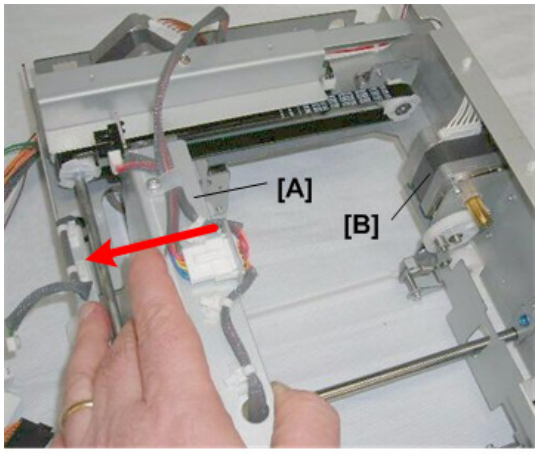
- The press roller motor is visible from the top of the trim positioning unit, near the center.



d455r120

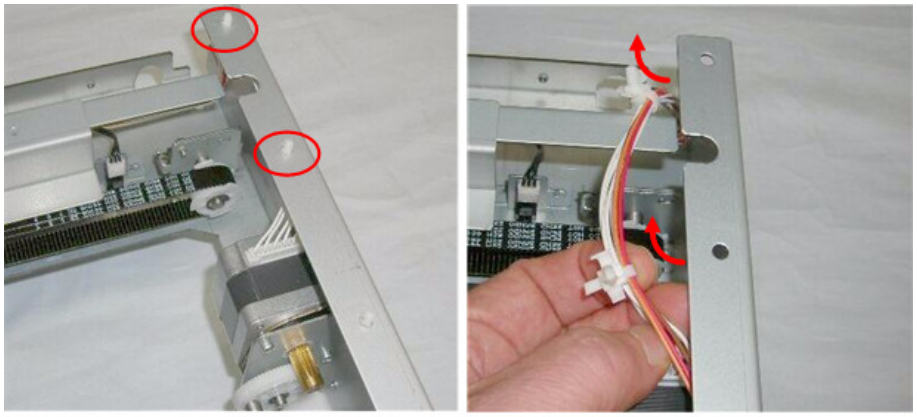
1. Remove the trim positioning unit. (Trim Positioning Unit)

2. Move the stopper assembly [A] away from the motor [B].



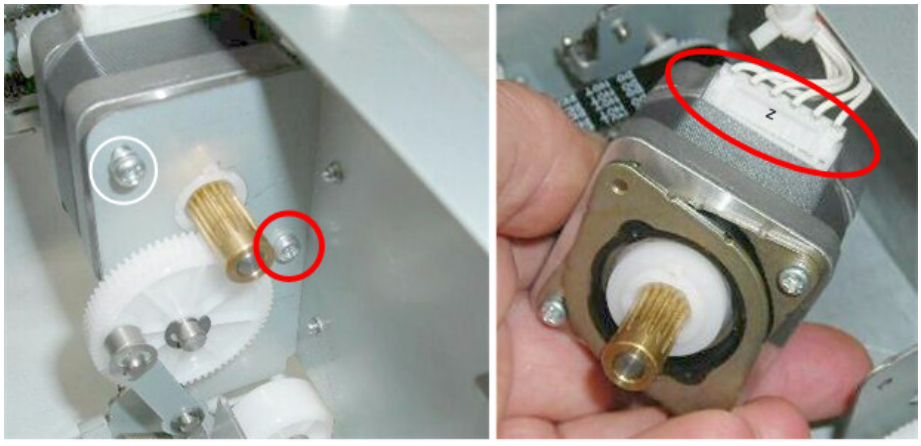
d455r121

3. Remove the two standoffs.



d455r122

4. Disconnect the motor (x1, x2).



d455r123

5. Remove the motor.

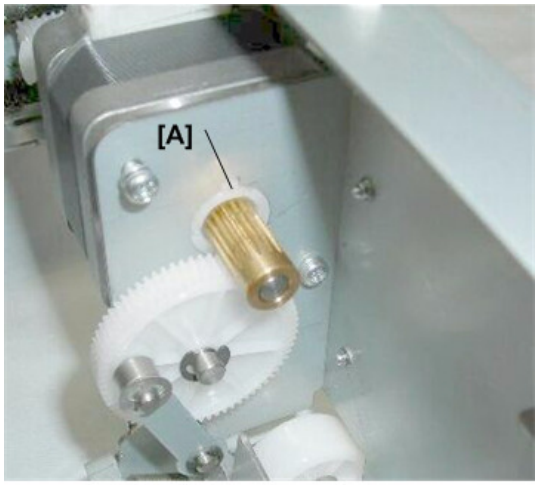
d455r124

Re-installation

1. Position the motor behind the frame.

2. Align the notch on the motor with the tooth [A].

3. Press the motor against the frame and re-fasten the screws (x2).



d455r125

Important

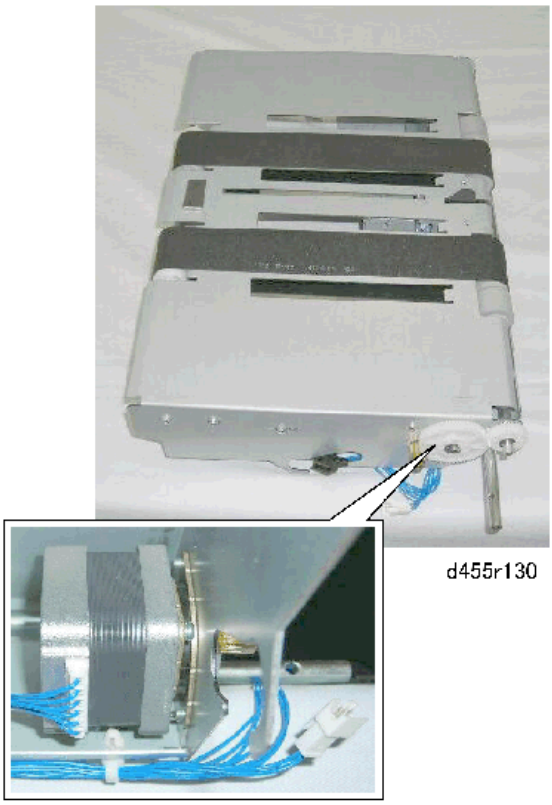
- The tooth must be fitted properly in the notch, so that the motor mount is flat against the back of the frame. Otherwise the motor will not be straight and the gears will not mesh properly.

Transport Unit

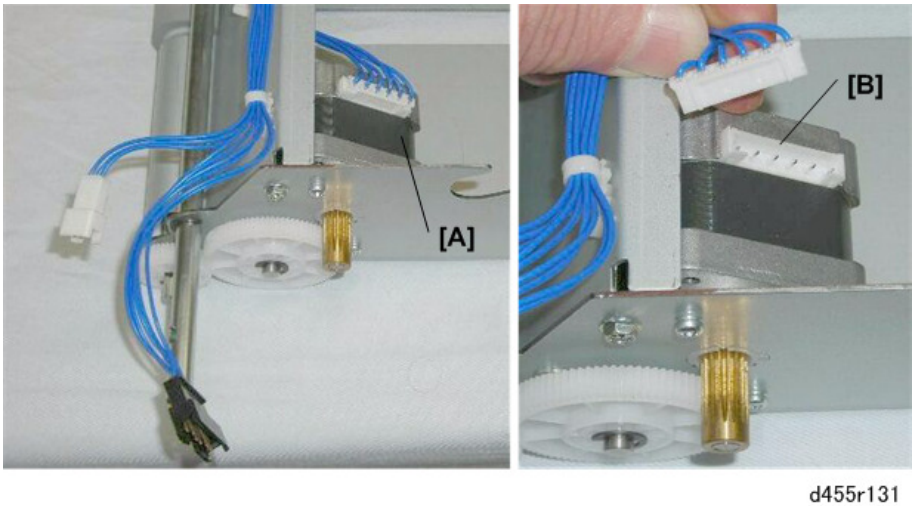
Exit Motor

Note

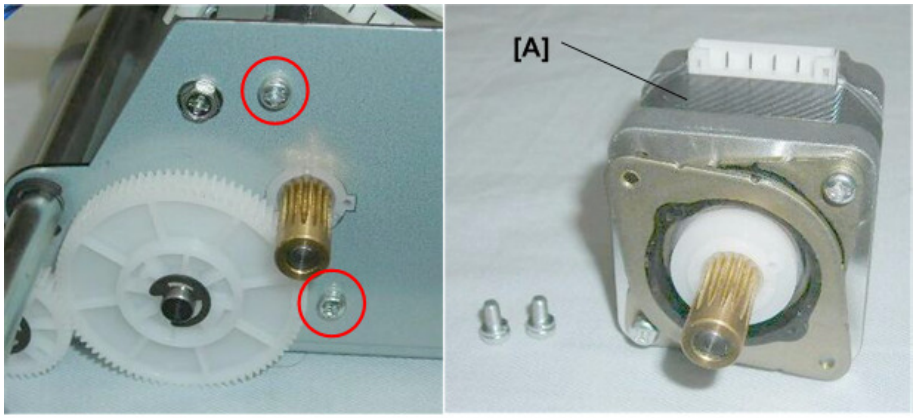
- The exit motor is under the left rear corner of the transport unit.



1. Remove the trim positioning unit. (Trim Positioning Unit)
2. Remove the transport unit. (Transport Unit)
3. Turn the transport unit over so that you can see the motor [A]. Disconnect the harness [B]. (x1)



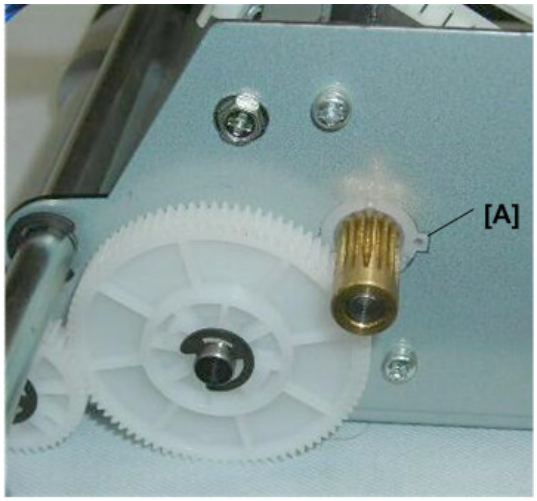
4. Remove the motor [A] (x2).



d455r132

Re-installation

1. Position the motor behind the frame.
2. Align the notch on the motor with the tooth [A].
3. Press the motor against the frame and re-fasten the screws (x2).



d455r133

Important

- The tooth must be fitted properly in the notch, so that the motor mount is flat against the back of the frame. Otherwise the motor will not be straight and the gears will not mesh properly.

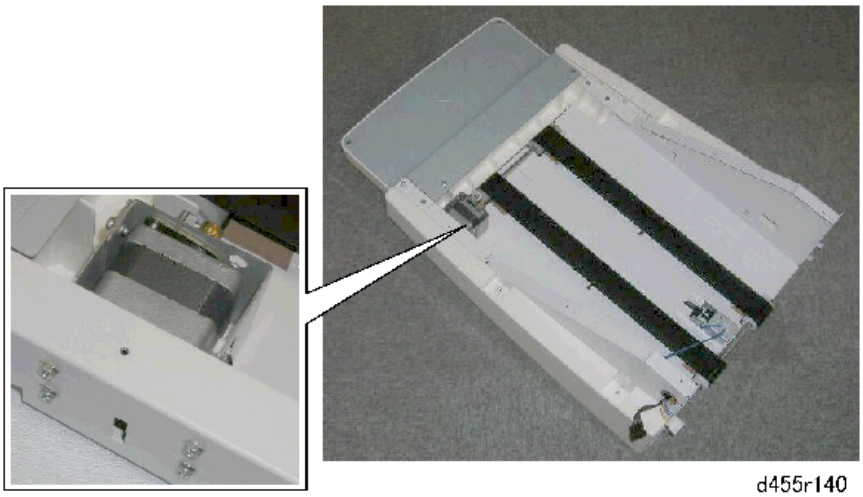
Tray Unit

Tray Motor

Note

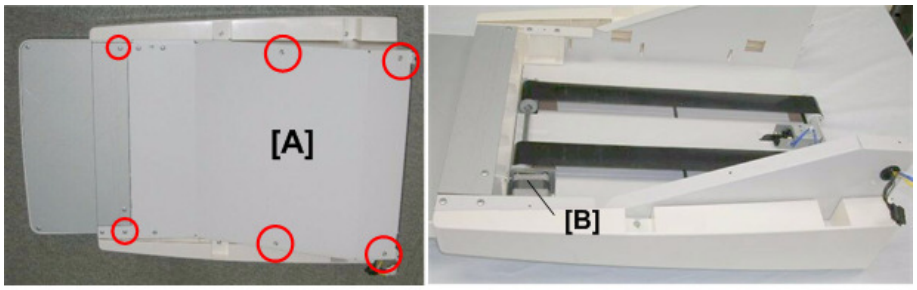
- The tray motor is on the bottom of the tray unit and covered by the bottom plate. (The photo

below shows the tray unit with its bottom plate removed.)



d455r140

1. Remove the left upper cover. (Left Upper Cover)
2. Remove the left lower cover. (Left Lower Cover)
3. Remove the tray unit. (Tray Unit)
4. Turn over the tray unit and lay it down on a flat surface.
5. Remove the bottom cover [A] so that you can see the motor [B]. (x 6)

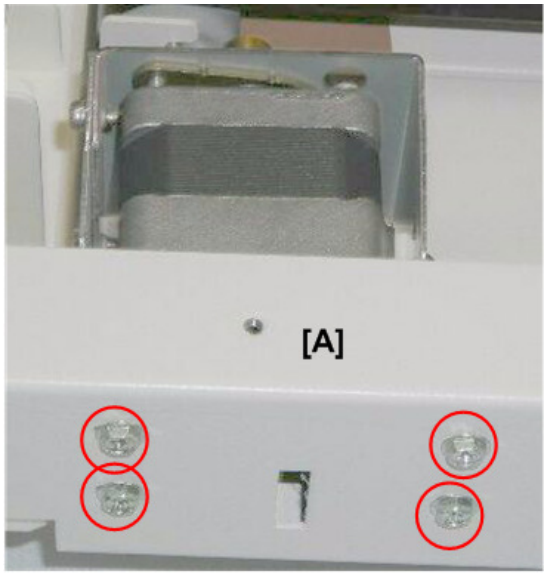


d455r141

6. Remove the side panel [A]. (x 2)

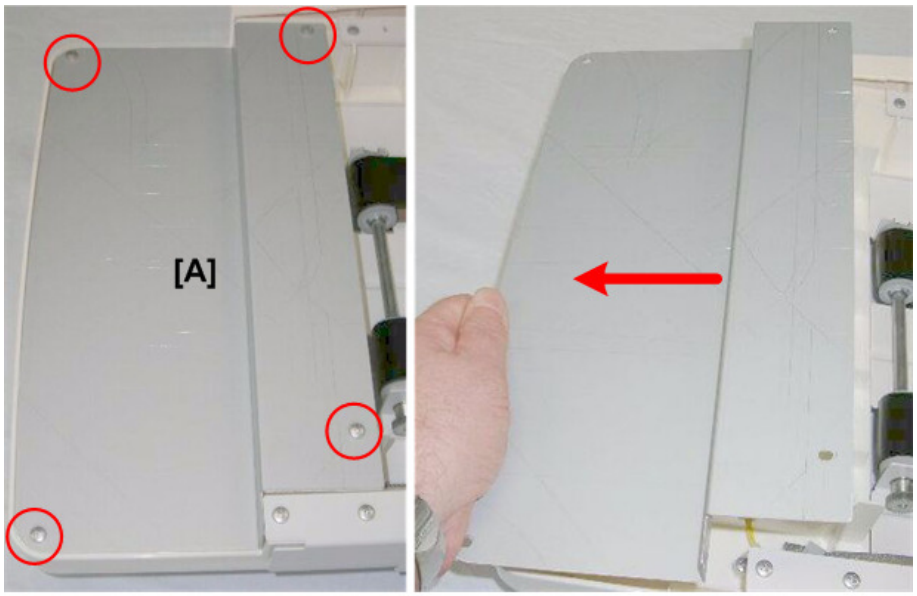
d455r142

7. Disconnect the motor bracket [A] (x4).



d455r143

8. Remove the bottom end cover [A] (x4).

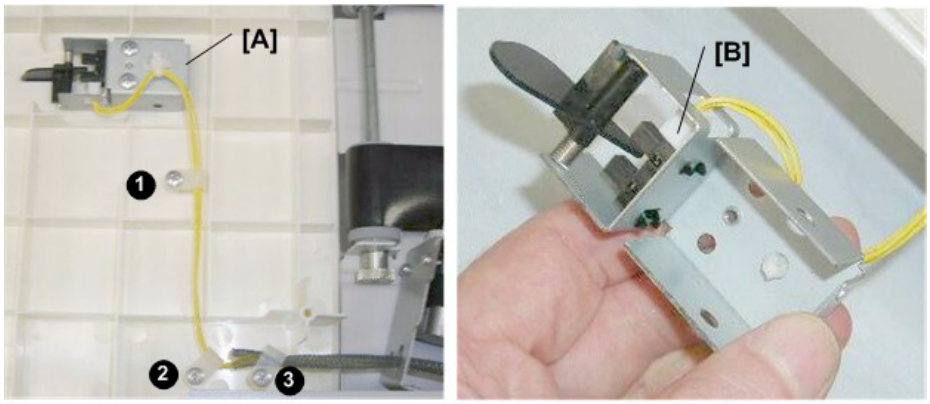


d455r144

9. Remove the screws ,①②, ③ (x3).

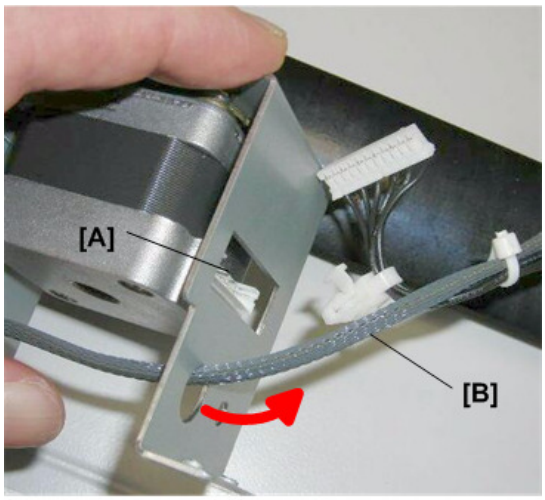
10. Disconnect the sensor bracket [A] (x2)

11. Disconnect the sensor [B] (x1)



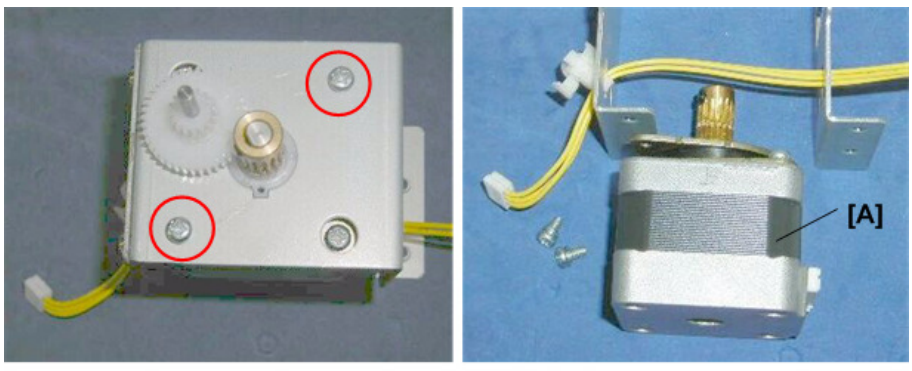
d455r145

12. Disconnect the motor [A] (x1). Pull the harness [B] through the hole.



d455r146

13. Remove the motor [A] (x2).



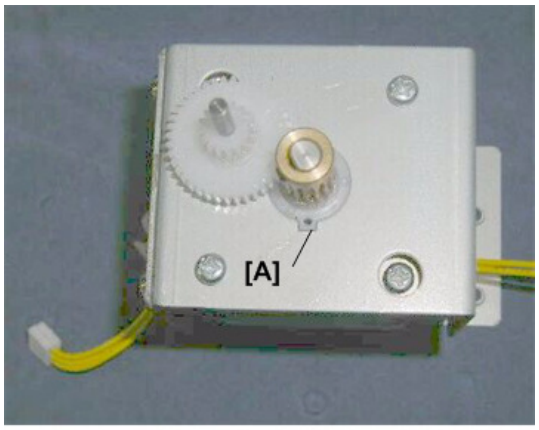
d455r147

Re-installation

1. Position the motor behind the frame.

2. Align the notch on the motor with the tooth [A].

3. Press the motor against the frame and re-fasten the screws (☞x2).



d455r148

Important

- The tooth must be fitted properly in the notch, so that the motor mount is flat against the back of the frame. Otherwise the motor will not be straight and the gears will not mesh properly.

Sensors, Switches

Feed Unit

Entrance Sensor

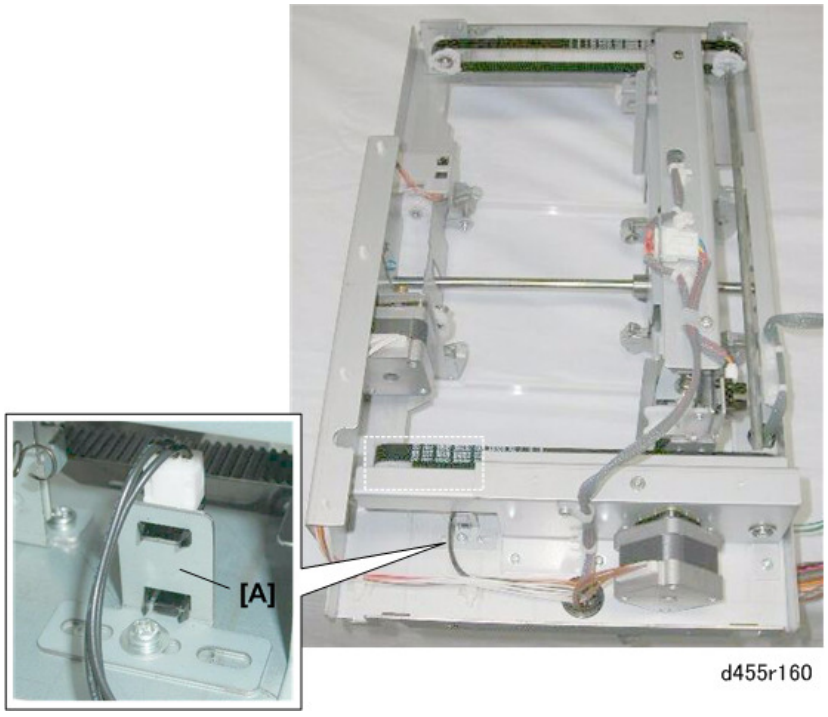
1. Remove the feed unit. (Feed Unit)
2. Disconnect and remove the sensor [A] (x1, x1, x5)

d455r150

Trim Positioning Unit

Stopper Assembly HP Sensor

1. Remove the trim positioning unit. (Trim Positioning Unit)
2. Remove the bracket with the sensor [A]. (x 1)



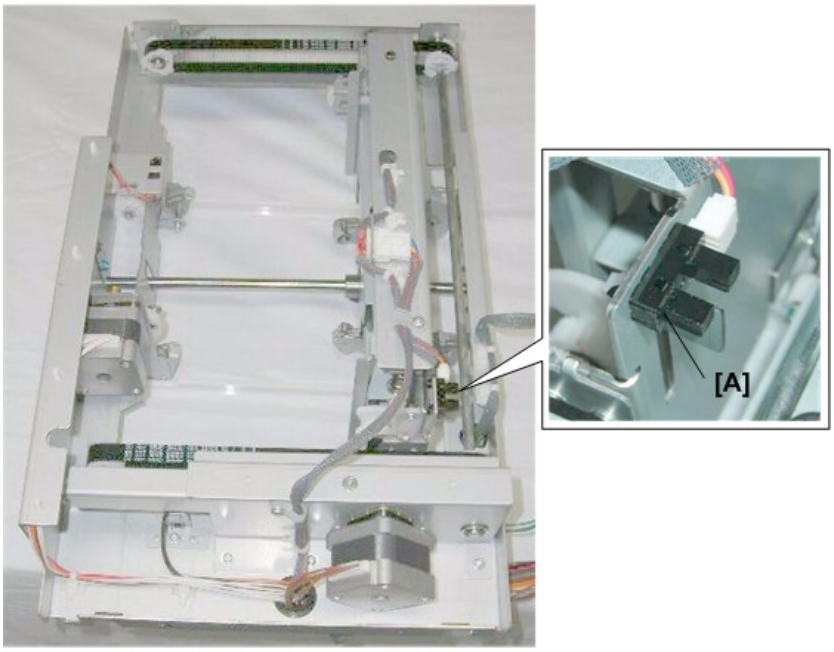
d455r160

3. Detach the stopper assembly HP sensor from its bracket. (x 1)

Press Stopper HP Sensor

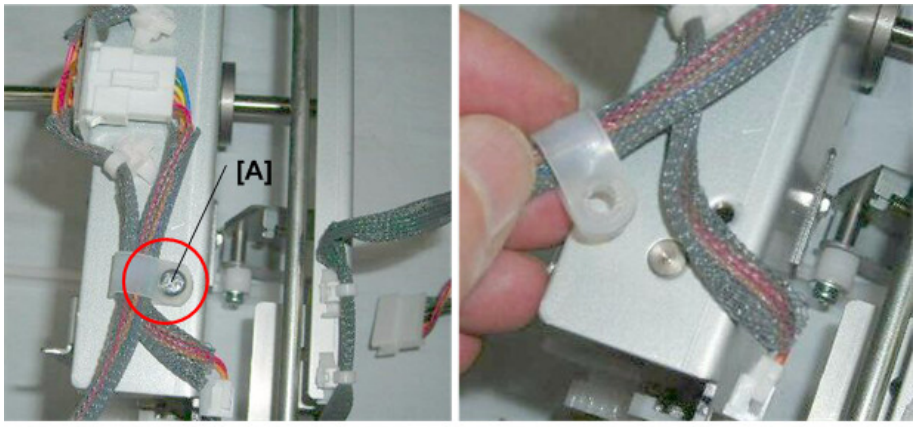
Note

- The press stopper HP sensor [A] is located near the left rear corner of the trim positioning unit.



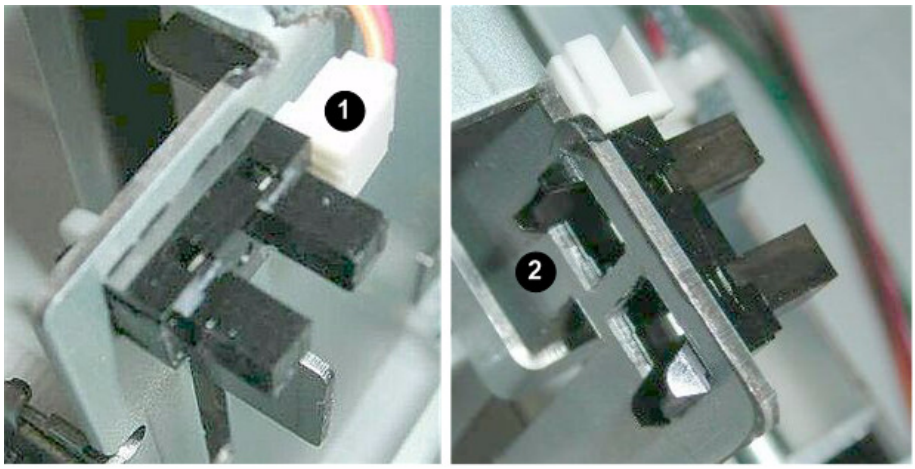
d455r170

1. Remove the trim positioning unit. (Trim Positioning Unit)
2. Remove the clamp screw [A] (x1).
   This creates enough slack in the harness so that you can detach and re-attach the sensor connector.



d455r171

3. Disconnect the sensor (x1, x5).

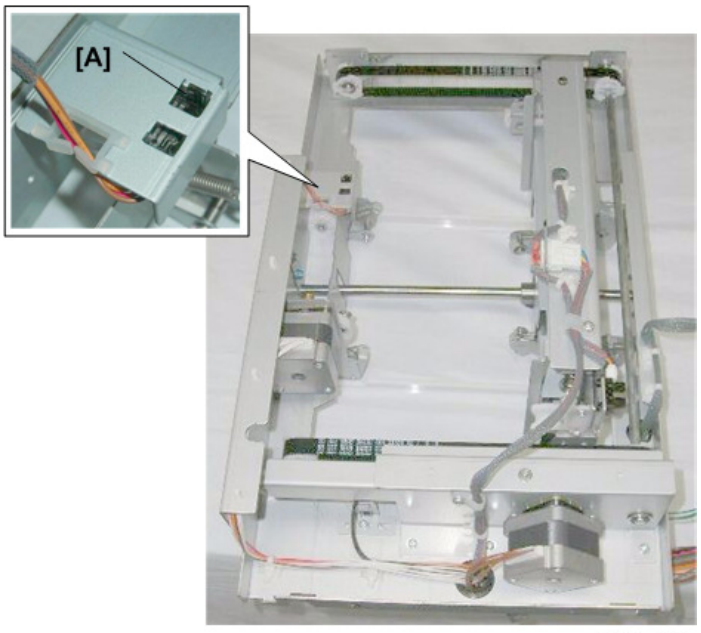


d455r172

Press Roller HP Sensor

Note

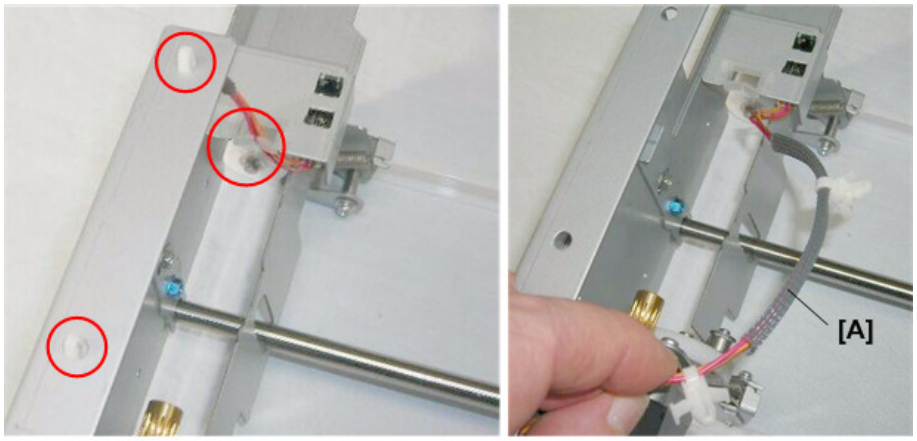
- The press roller HP sensor [A] is at the side, facing down.



d455r180

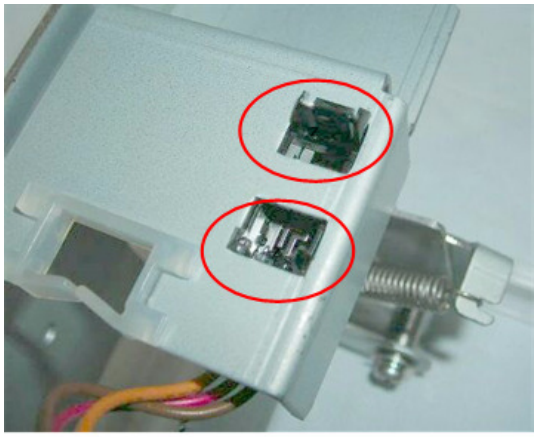
1. Remove the trim positioning unit. (Trim Positioning Unit)

2. Free the harness [A] (x2,x1).



d455r181

3. Remove the sensor (x1, x5).

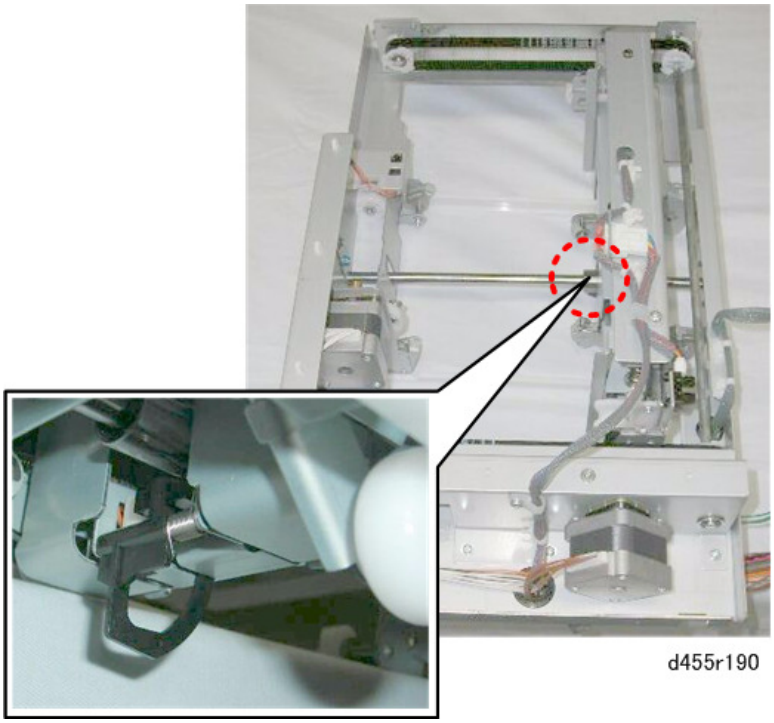


d455r182

Stopper Sensor

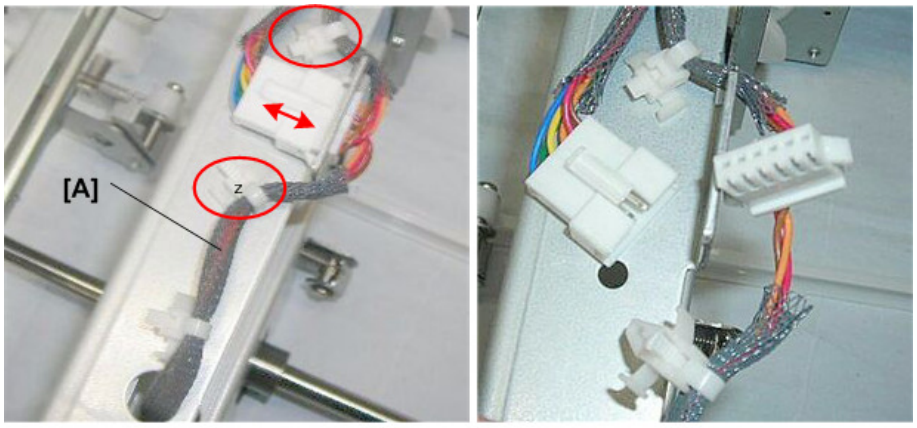
Note

- The stopper sensor is on the right side of the trim positioning unit, below the center.



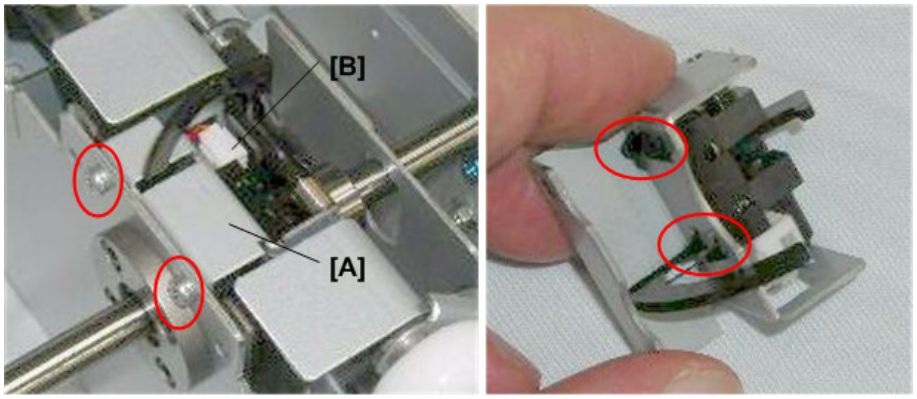
d455r190

1. Remove the trim positioning unit. (Trim Positioning Unit)
2. Turn the trim positioning unit over so that you can see the sensor.
3. Free the harness [A] (x2, x1).



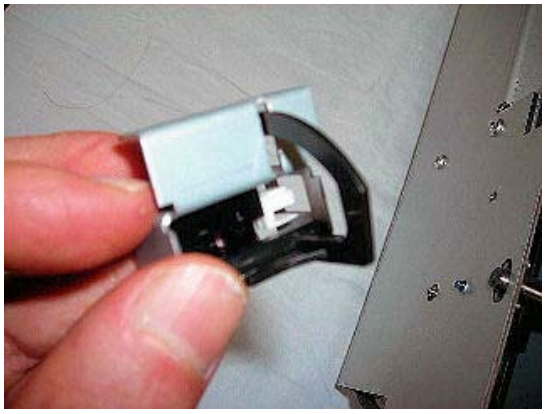
d455r192

4. Disconnect the sensor bracket [A] and sensor harness [B] (x2, x1).



d455r193

5. Remove the sensor from the bracket.



Trimming Unit

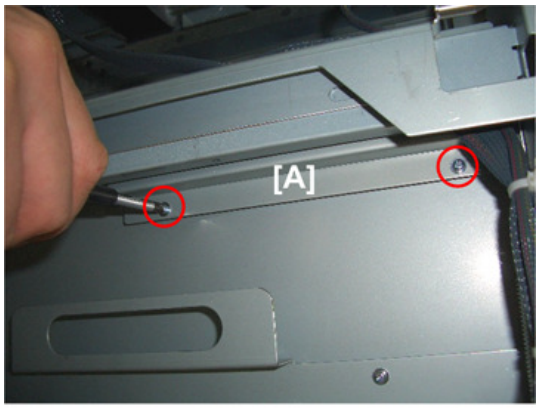
Scrap Hopper Full Sensor

1. Remove the feed unit. (Feed Unit)

The scrap hopper full sensor is on the right side of the trimmer unit, below the entrance.

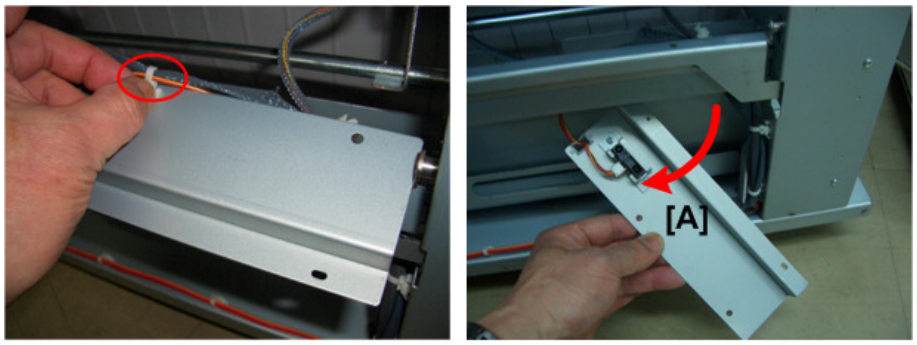
d455r200

2. Disconnect the plate [A] (x2).



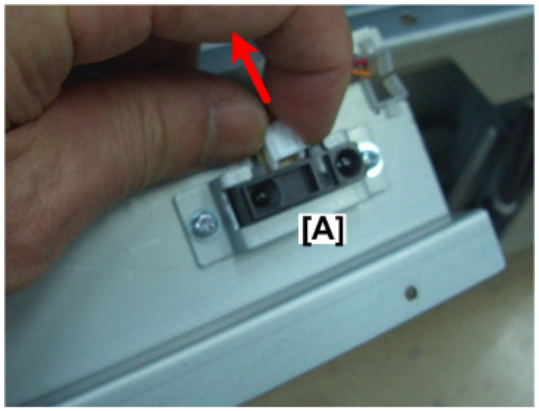
d455r201

3. Disconnect the harness and remove plate [A] (x1).



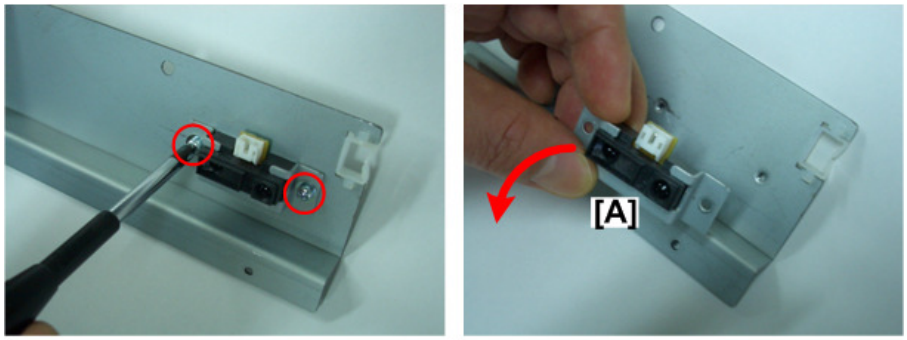
d455r202

4. Disconnect sensor [A] (x1).



d455r203

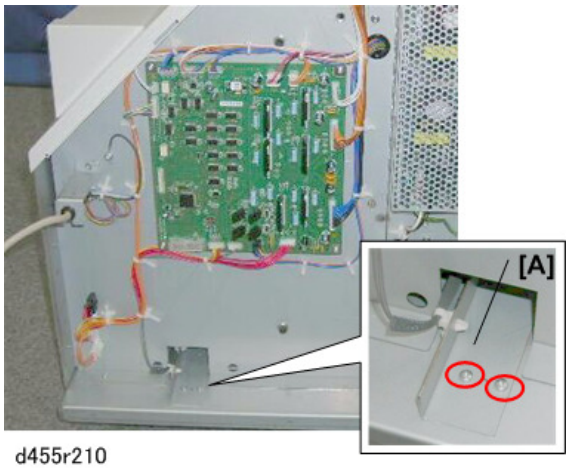
5. Remove the sensor and bracket [A] (x2).



d455r203a

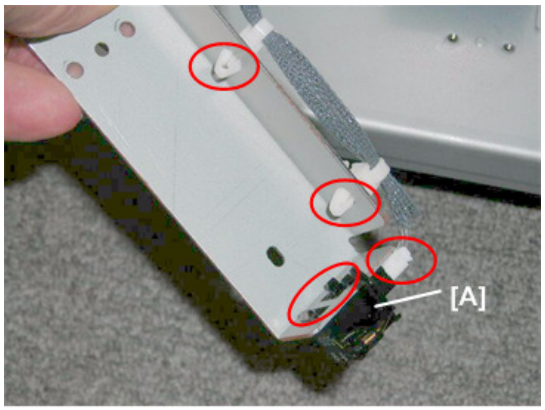
Scrap Hopper HP Sensor

1. Remove the rear cover. (Rear Cover)
2. Remove the sensor bracket [A] (x2).



d455r210

3. Disconnect and remove the sensor [A] (x2, x1, x5).

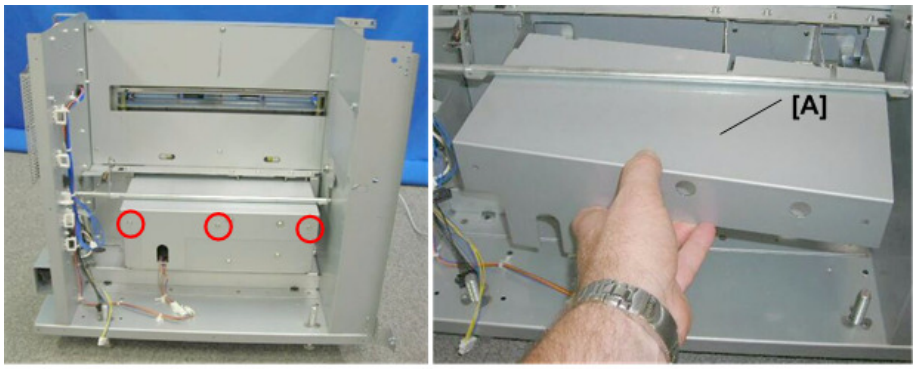


d455r211

Cut HP Sensor

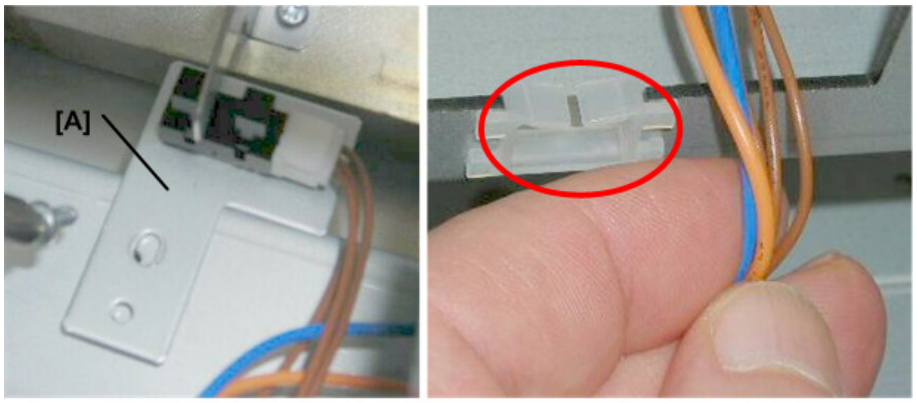
1. Remove the trim positioning unit. (Trim Positioning Unit)
2. Remove the transport unit. (Transport Unit)

3. Remove the blade motor cover [A] (x3).



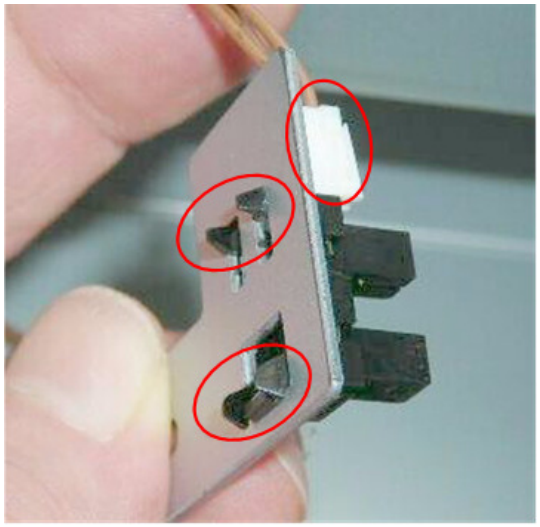
d455r221

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



d455r222

5. Disconnect and remove the sensor (x1, x5)



d455r223

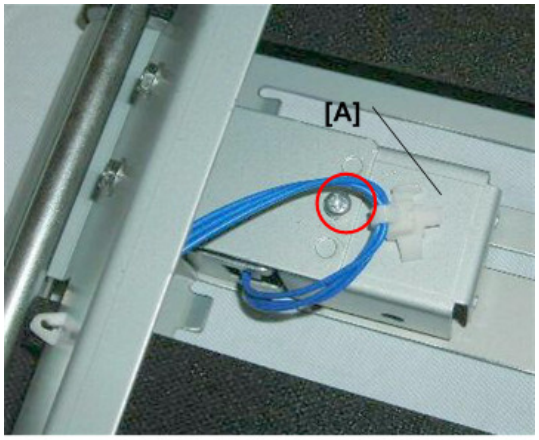
Exit Sensor

Note

- The exit sensor is under the transport unit.

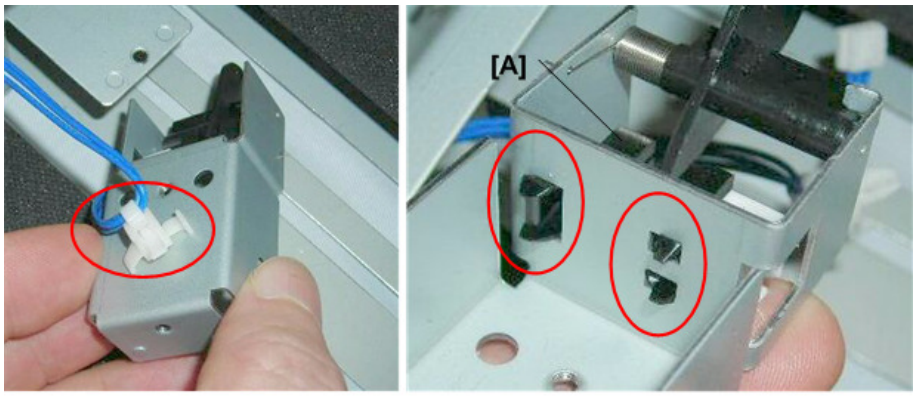
d455r230

1. Remove the trim positioning unit. (Trim Positioning Unit)
2. Remove the transport unit. (Transport Unit)
3. Turn the transport unit over so that you can see the sensor.
4. Disconnect the sensor bracket [A] (x1).



d455r231

5. Disconnect and remove the sensor [A] (x1, x1, x5)

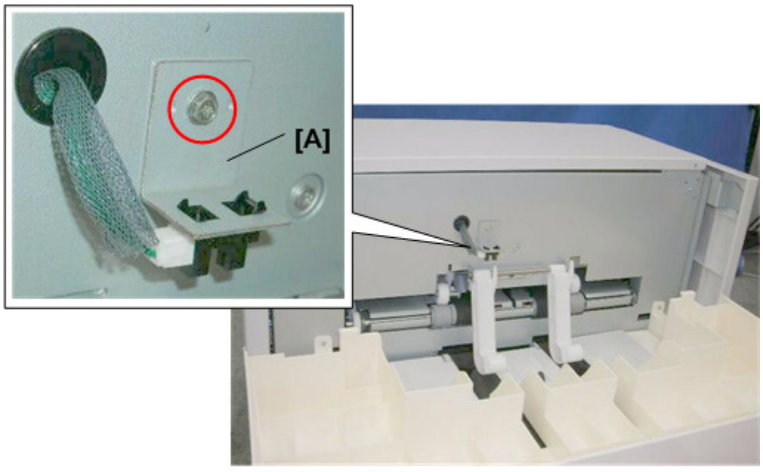


d455r232

Tray Unit

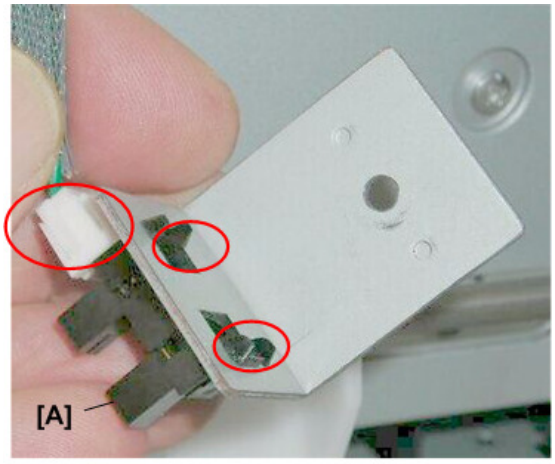
Exit Tray Sensor 1

1. Remove the left upper cover. (Left Upper Cover)
2. Disconnect the sensor bracket [A] (x1).



d455r240

3. Disconnect and remove the sensor [A] (x1, x5)

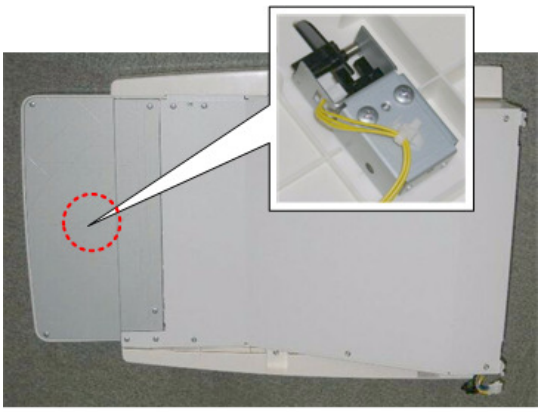


d455r241

Exit Tray Sensor 3

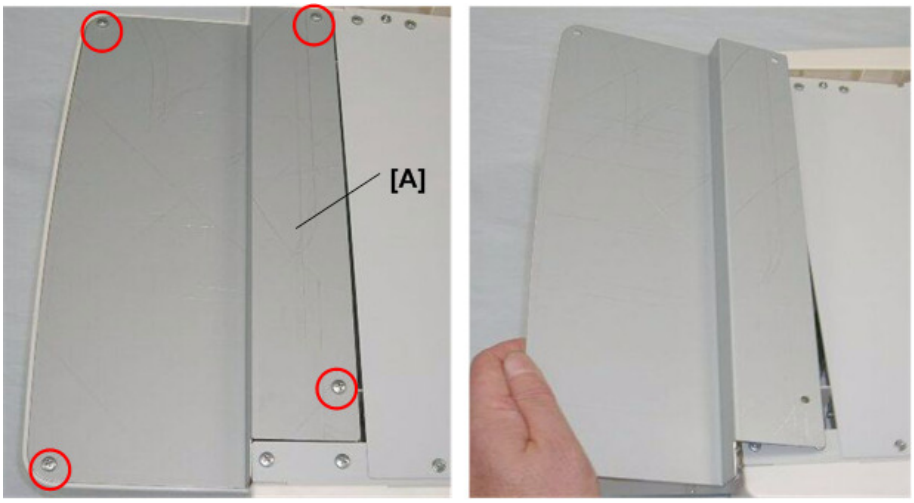
Note

- Exit Tray Sensor 3 is under the bottom end plate of the tray unit.



d455r250

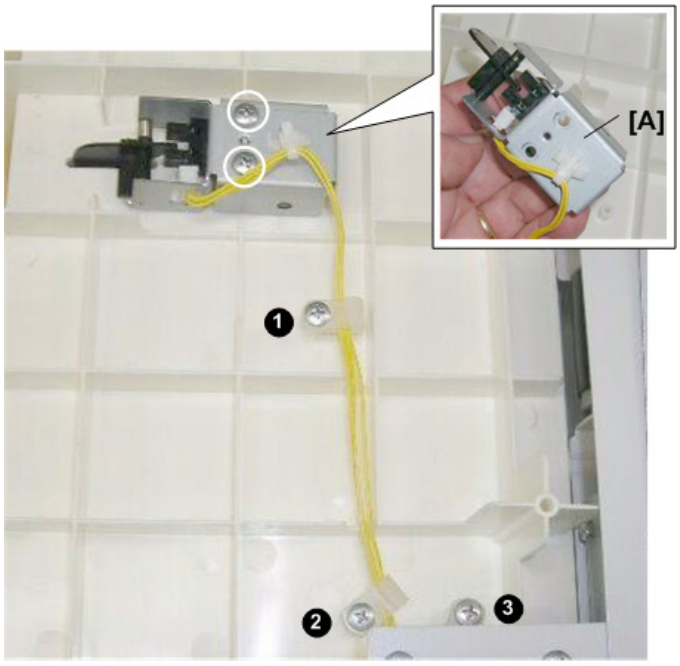
1. Remove the tray unit. (Tray Unit)
2. Remove the bottom end cover [A] (x4).



d455r251

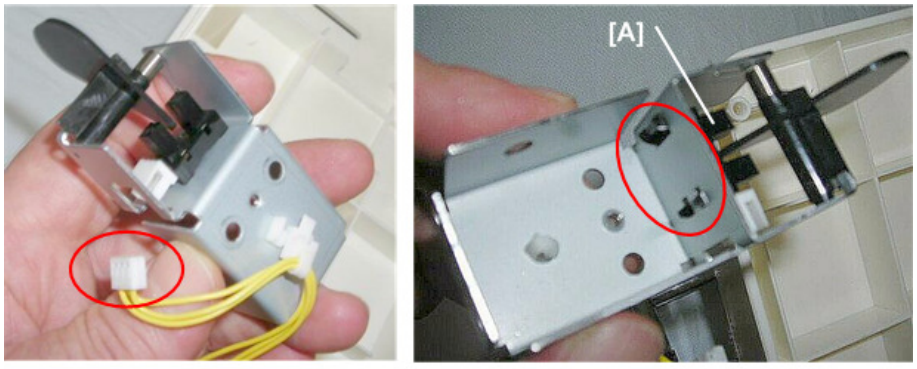
3. Disconnect the sensor bracket [A] (x2).

4. Remove the harness clamp screws ①, ②, ③ (x3).



d455r252

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

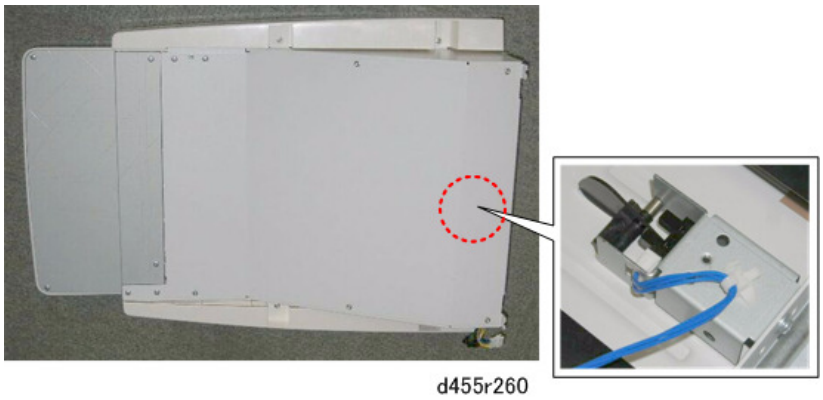


d455r253

Exit Tray Sensor 2

1. Remove the left upper cover. (Left Upper Cover)
2. Remove the ledt lower cover. (Left Lower Cover)
3. Remove the tray unit. (Tray Unit)

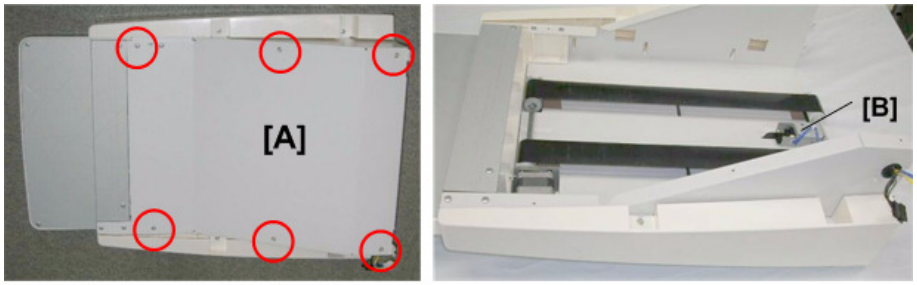
   The sensor is located under the bottom cover of the tray unit.



d455r260

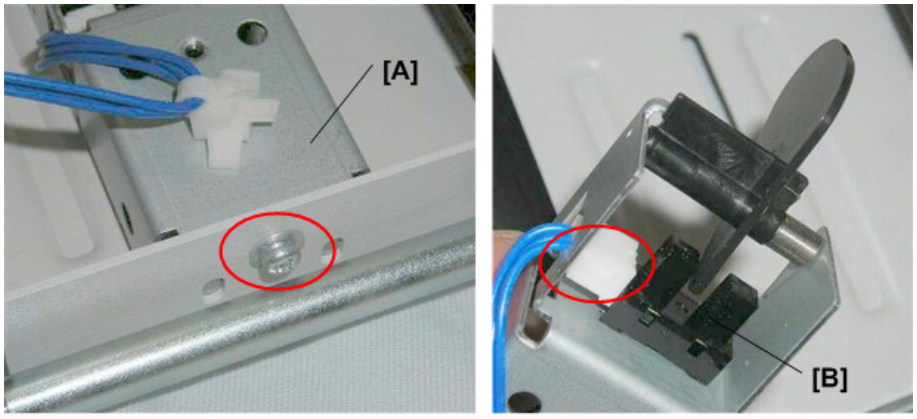
4. Lay the tray unit upside down on a flat surface.

5. Remove the bottom cover [A] (x6) so that you can see the sensor [B].



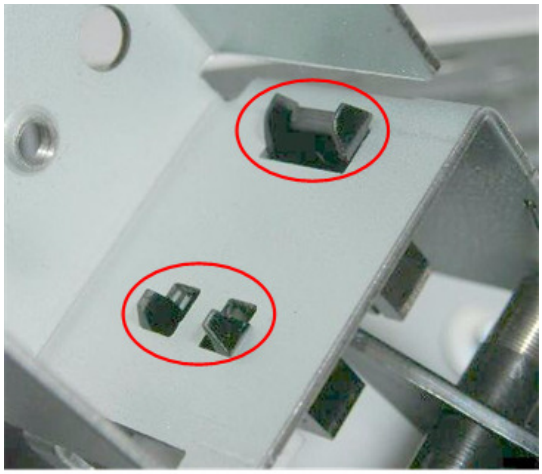
d455r261

6. Disconnect the sensor bracket [A] and sensor [B] (x1, x1).



d455r262

7. Remove the sensor (x5)



d455r263

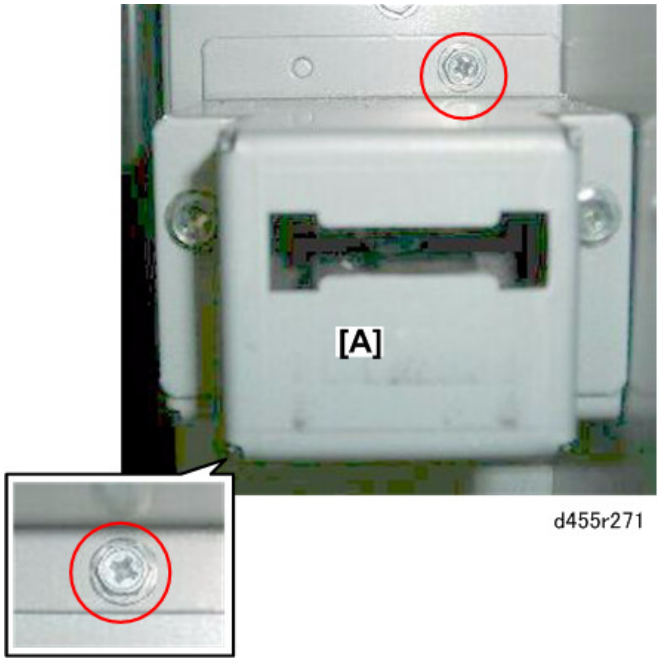
Switches

Door Switch

1. Open the front door and locate the switch [A].

d455r270

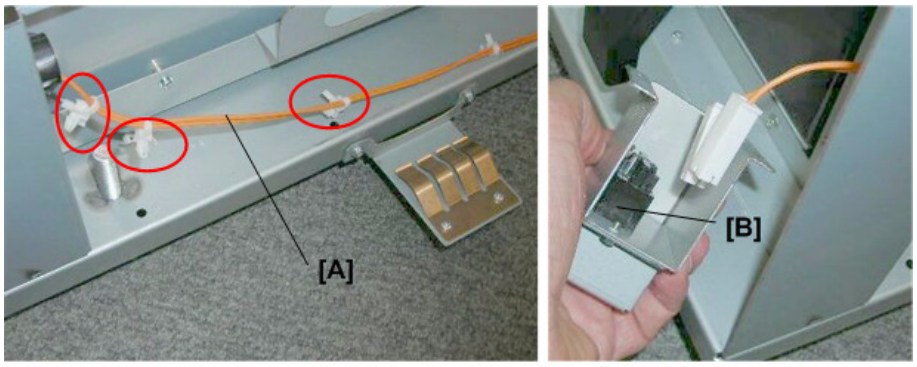
2. Remove the switch bracket [A] (x2).



d455r271

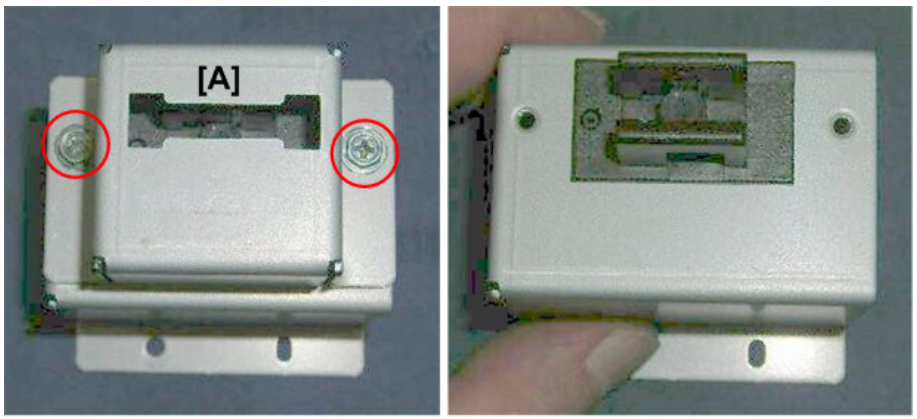
3. On the side, pull out three standoffs to free the harness [A].

4. Disconnect the switch [B] (x2).



d455r272

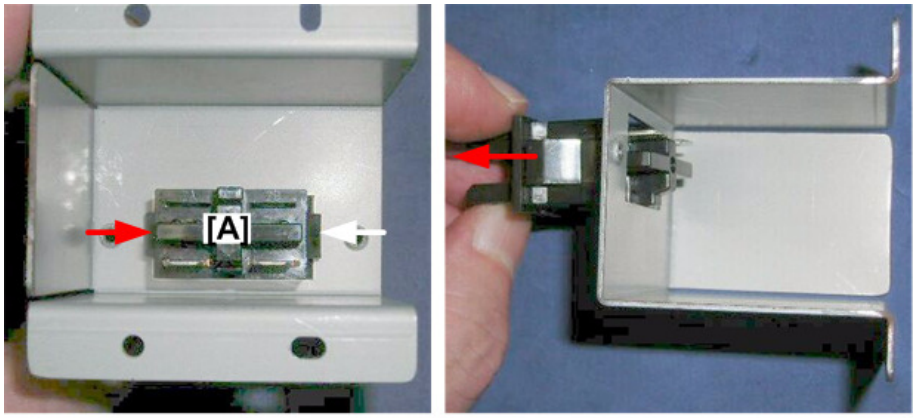
5. Remove the switch cover [A] (x2).



d455r273

6. Press in on both sides of the switch [A].

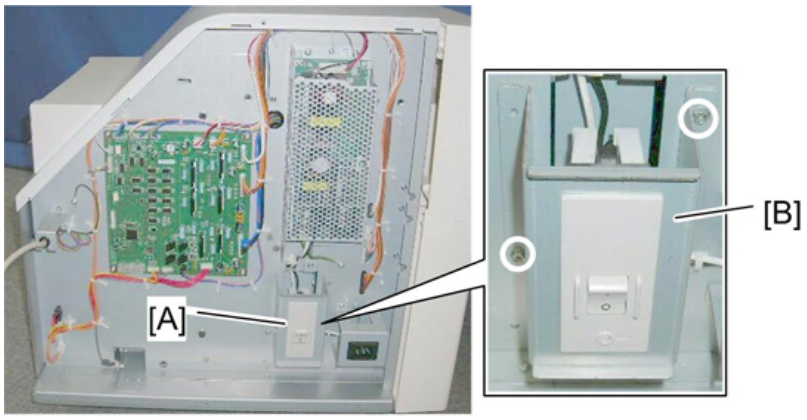
7. Push the switch through the bracket and remove it.



d455r274

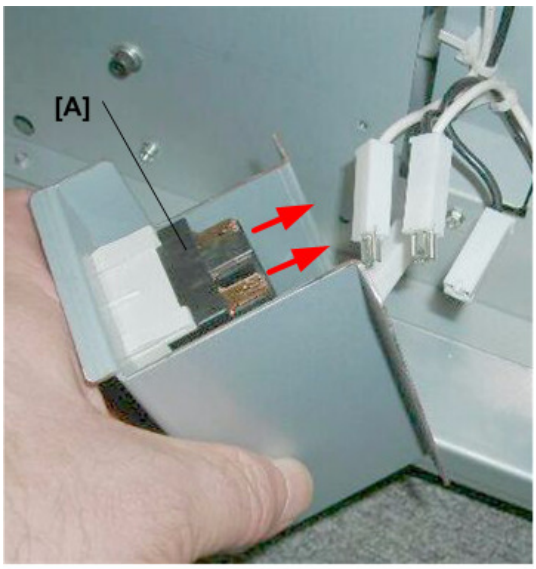
Breaker Switch

1. Remove the rear cover. (Rear Cover)
2. Locate the breaker switch [A] at the rear.
3. Disconnect the switch bracket [B] (x2).



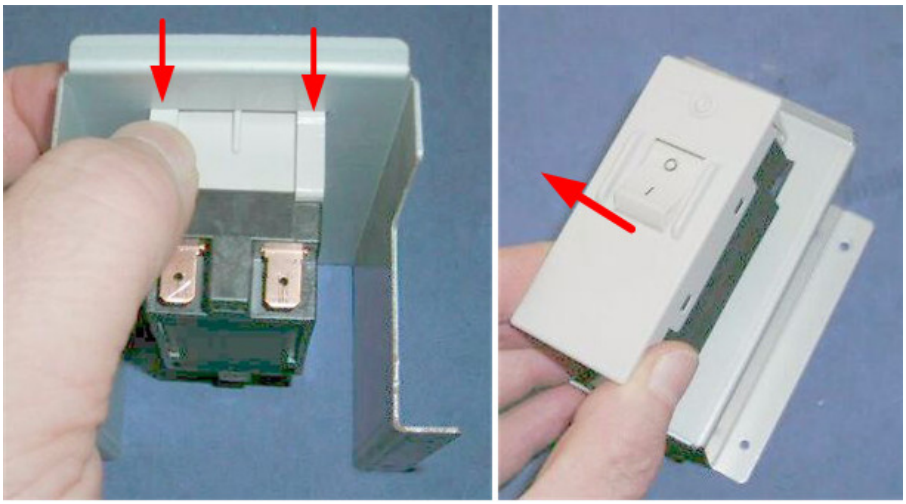
d455r280

4. Disconnect the breaker switch [A] (x4).



d455r281

5. At each corner, press down the release and push the corner out.



d455r282

6. Pull the switch out of the bracket.

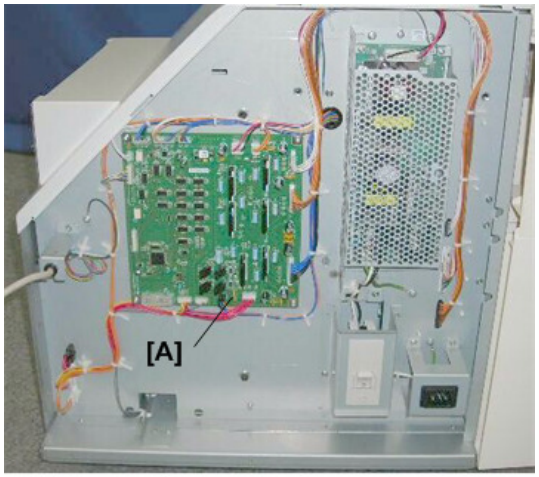
d455r283

Boards

Main Board

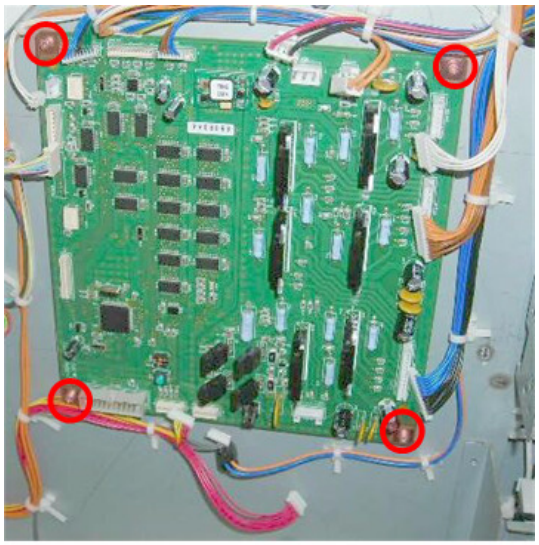
1. Remove the rear cover. (Rear Cover)

The main board [A] is on the left side.



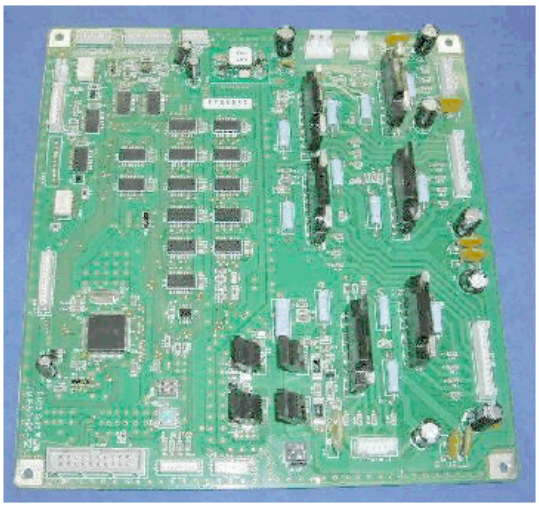
d455r290

2. Remove the main board (x14, x4).



d455r291

3. Lay the board on a flat, clean surface.

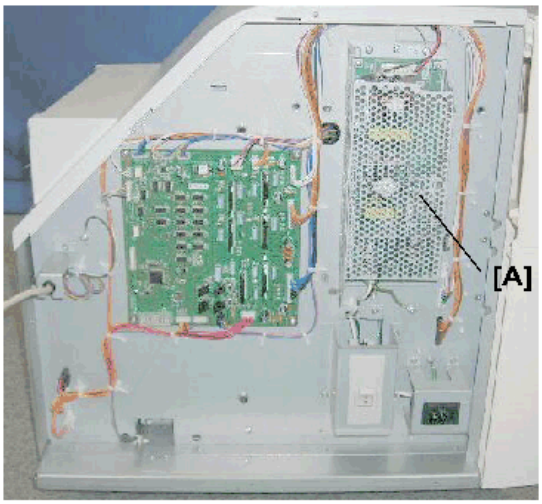


d455r292

Voltage Regulator

1. Remove the rear cover. (Rear Cover)

   The voltage regulator [A] is the board on the right side, covered by wire mesh.

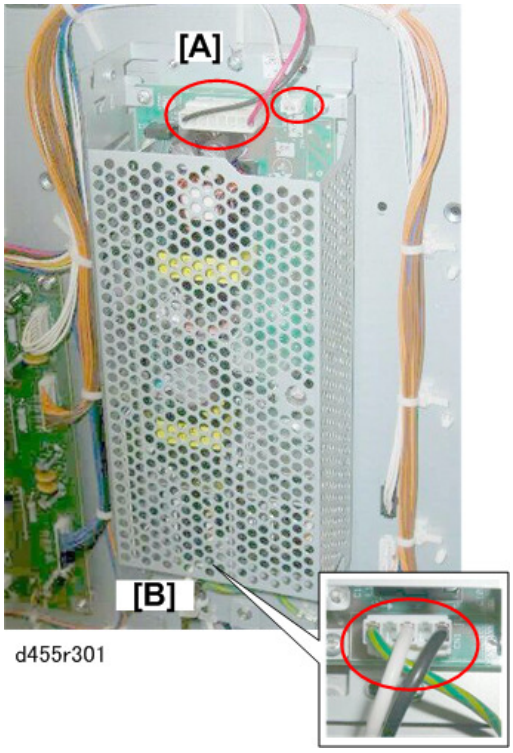


d455r300

2. Disconnect the board:

   [A] Top (x2)

   [B] Bottom (x1)

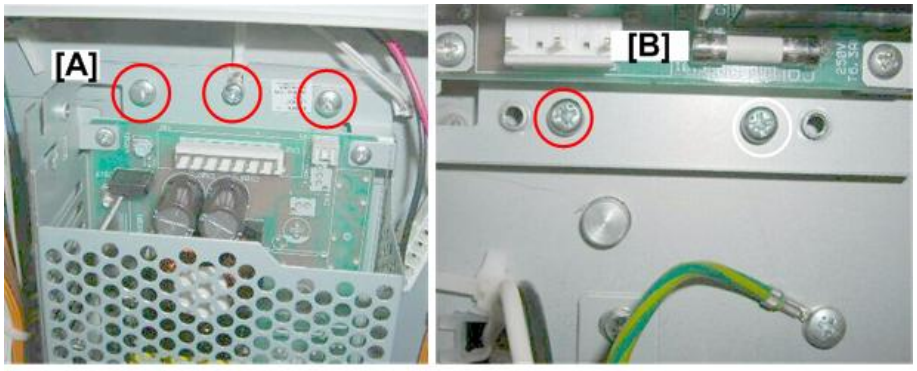


d455r301

3. Detach the board bracket:

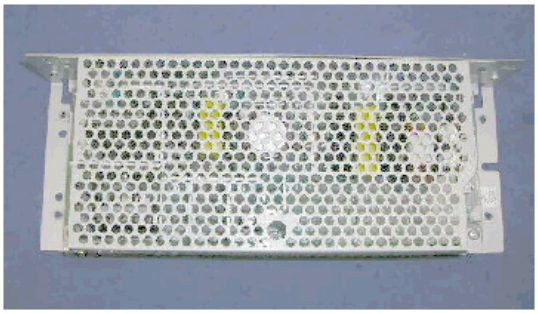
[A] Top (x3)

[B] Bottom (x2)



d455r302

4. Lay the board on a flat surface.

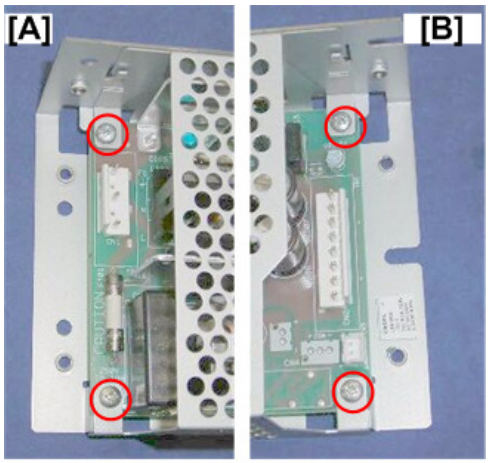


d455r303

5. Remove the cover:

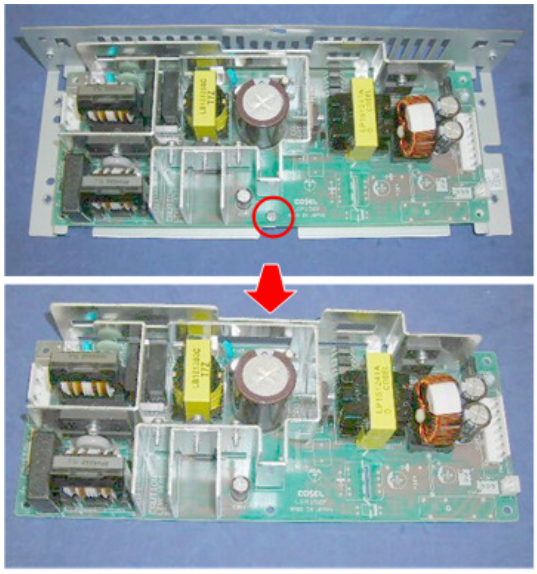
[A] Left side (x2)

[B] Right side (x2).



d455r304

6. Remove the board (x1).



d455r305