








**Decurl Unit DU5020**  
**Machine Code: D727**  
**Field Service Manual**  
**Ver 1.00**

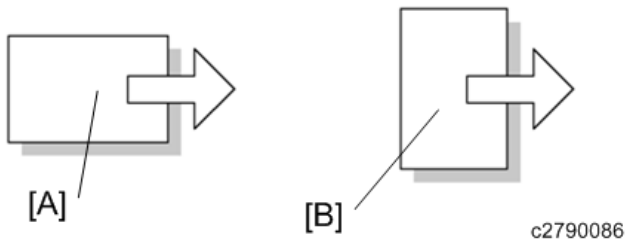
**Latest Release: Jan, 2017**  
**Initial Release: Jan, 2017**  
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# Symbols, Abbreviations

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

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



[A] Short Edge Feed (SEF)

[B] Long Edge Feed (LEF)



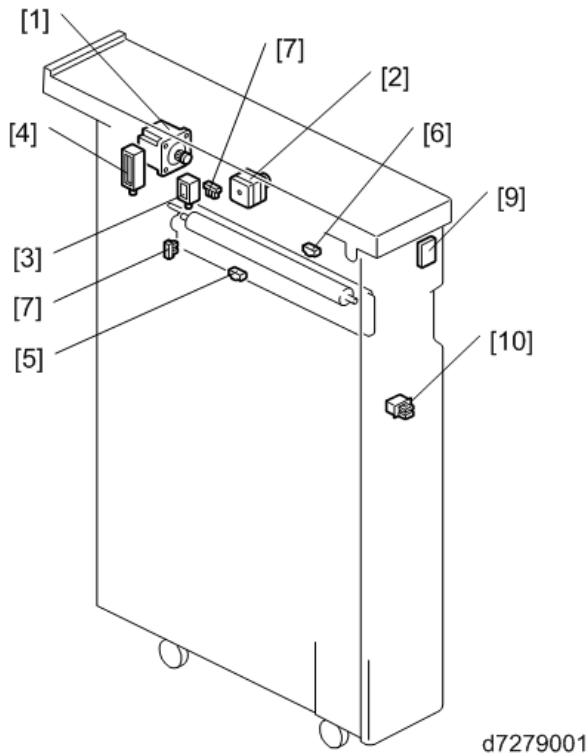
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# 1. Detailed Descriptions

## Mechanism Descriptions

### Electrical Components

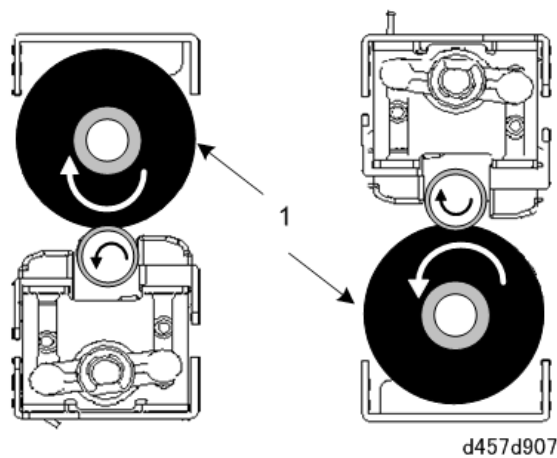


Name	Role
1: Transport Motor	Drives the entrance rollers, the exit rollers, and the decurler rollers.
2: Decurl Pressure Adjustment Motor	Adjusts the strength of the pressure of the decurler rollers.
3: Exit Guide Solenoid	Opens the exit guide plate when jam detection occurs downstream.
4: Entrance Sensor	The sensor is 9.8mm before the entrance roller in order to detect paper coming from the print engine.
5: Exit Sensor	Installed 11.8mm before the exit roller.
6: Soft Roller HP Sensor	Detects the home position for the control mechanism of decurl pressure. The control is done after the roller returns to the home position.
7: Decurler Roller Unit Set Sensor	Detects whether the roller unit is installed or not.
8: Front Door Jam LED	Lights when a jam occurs.
9: Inner Jam LED	Lights when paper is in the purge tray. It cannot be seen unless the front cover is open.
10: Front Door SW	Interlock switch. Detects when the front cover opens/closes. When the cover is

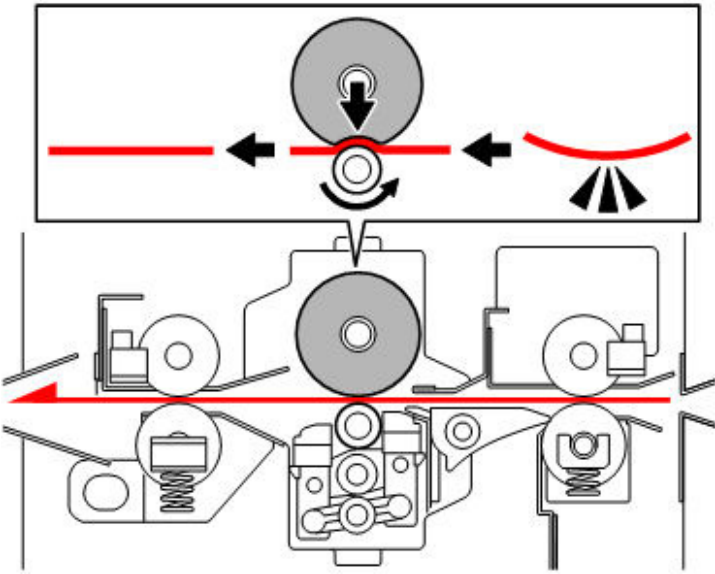
	open, the 24V power supply stops.
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Mechanism Details

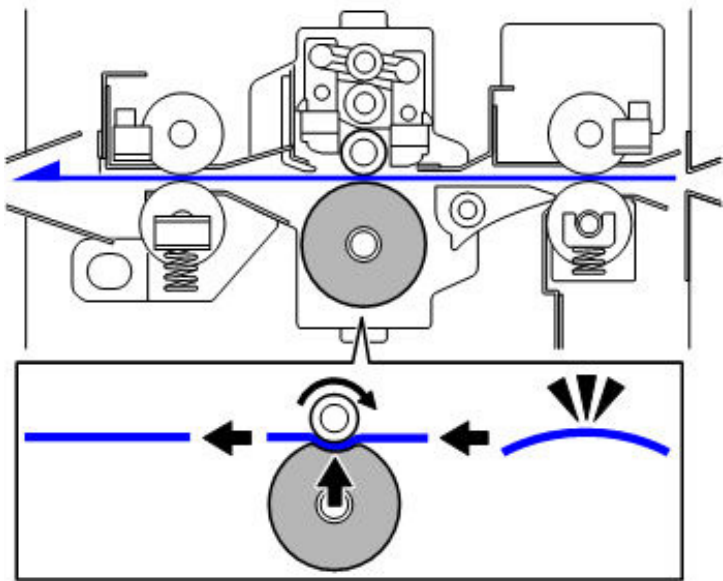
Decurler Roller Unit



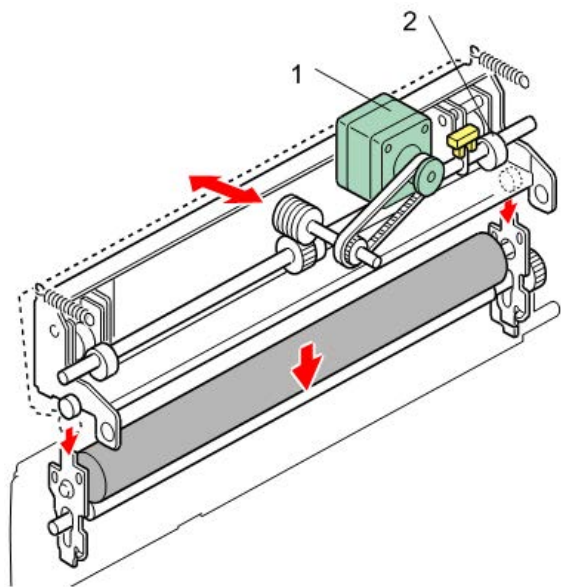
No.	Description
1	Soft Roller







To correct concave curling, the soft roller in the decurler roller unit must be on the upper side to let paper pass under the roller. To correct convex curling, the soft roller must be on the lower side to let paper pass over the roller.



d457d107

No.	Description	No.	Description
1	Decurl Pressure Adjustment Motor	2	Soft Roller HP Sensor

The decurl pressure adjustment motor drives the cam that drives the roller bracket through the gear, which pushes the soft roller in on the metal roller.

The soft roller HP sensor detects the cam when the soft roller is released.

## 2. Replacement and Adjustment

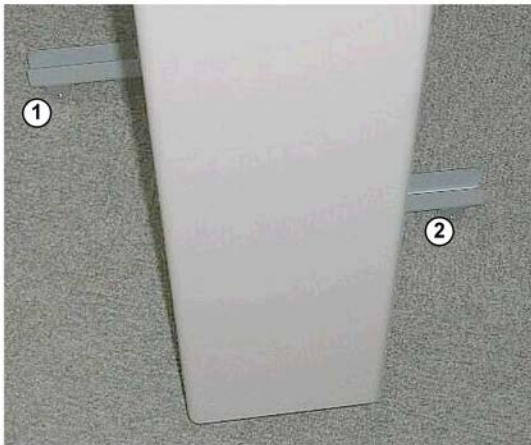
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### Common Procedures

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#### Preparation for Safe Servicing

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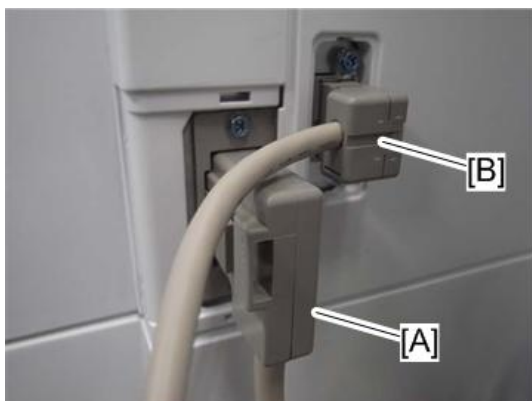
#### **⚠ CAUTION**

- The De-curl Unit is top heavy, has an extremely narrow base, and can fall easily.
- Always attach the stabilizer legs before servicing the De-curl Unit.
- Never leave the De-curl Unit unattended in the work area without the stabilizer legs ① and ② attached.
- The stabilizer legs must be installed on the left and right sides as shown above.

#### Disconnecting the Downstream Unit

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1. Disconnect the De-curl Unit [A] and the downstream unit [B] from the main machine.



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2. Open the front door of the downstream unit.

3. Remove the lock bar screw [A] (🔩 x1)

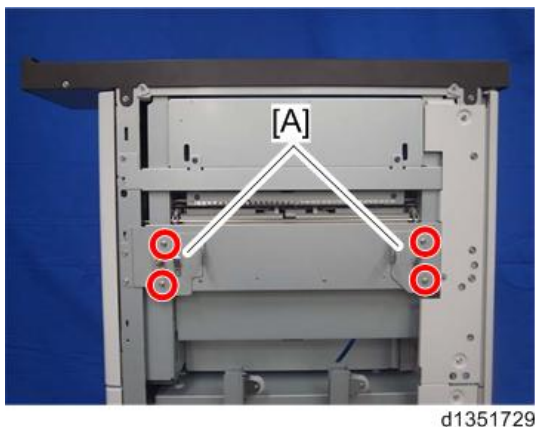


d1351195

4. Pull the lock bar out until it stops.
5. Pull the downstream unit away from the De-curl Unit.
6. Push the lock bar in and re-attach the screw removed in **Step 3** so that you do not lose it.

### Disconnecting the De-curl Unit

1. Remove the joint bracket [A] from the left side of the de-curl Unit (🔩 x4).



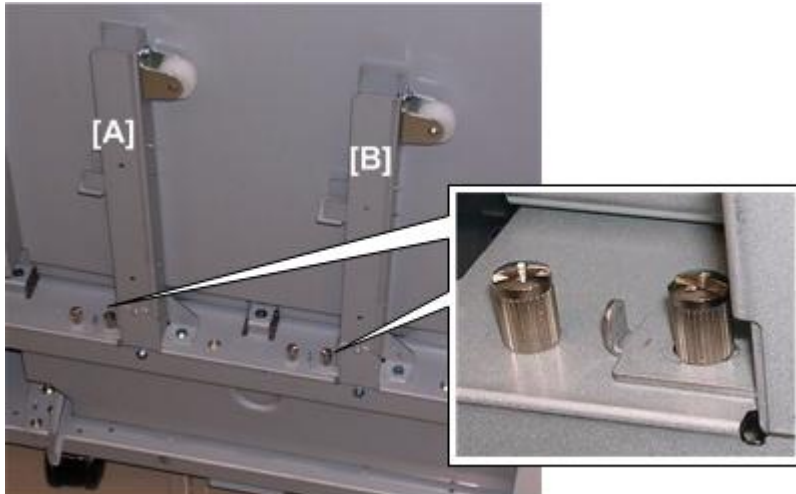
d1351729

### ⚠ CAUTION

- The corners and edges of the joint bracket are sharp.
- Remove the joint bracket to prevent injury while working around the De-curl Unit.
- We recommend that you ask someone to hold the top of the de-curl unit while you attach the stabilizer legs. (This procedure requires about 10 minutes.)

2. On the left side, remove:  
[A] Stabilizer leg (🔩 x2, Knob screws)  
[B] Stabilizer leg (🔩 x2, Knob screws)

## 2.Replacement and Adjustment



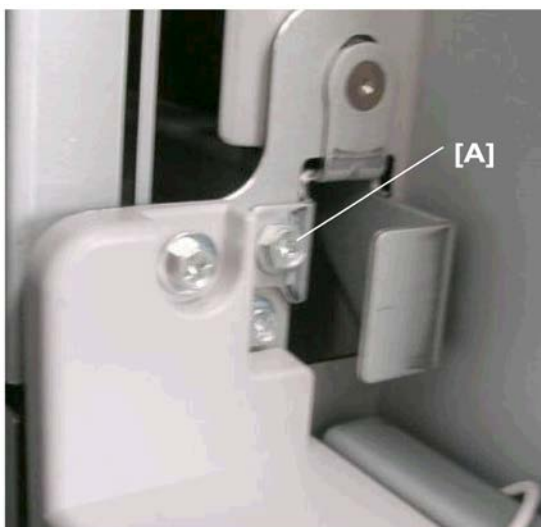
d457r006

3. Set the stabilizer legs and the knob screws aside.



d457r007

4. Open the front door of the De-curl Unit.
5. Remove the lock bar screw [A] (x1)



d457r008

6. Pull out the lock bar until it stops.
7. Pull the De-curl Unit away from the main machine until you can see the ends of the joint bracket [A], then stop.



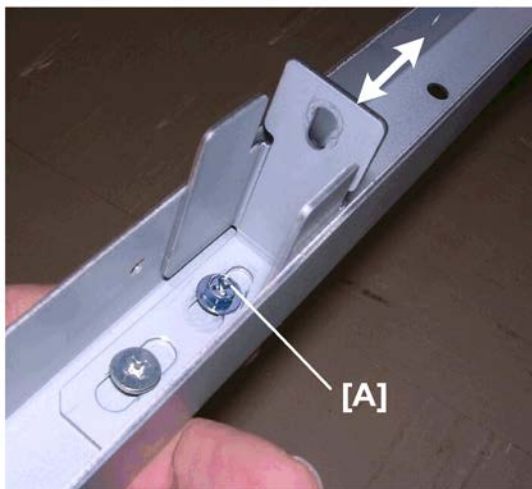
d457r009

8. Push in the lock bar, and re-attach the screw that you removed in **Step 5** so that you will not lose it.

### Stabilizing the De-curl Unit

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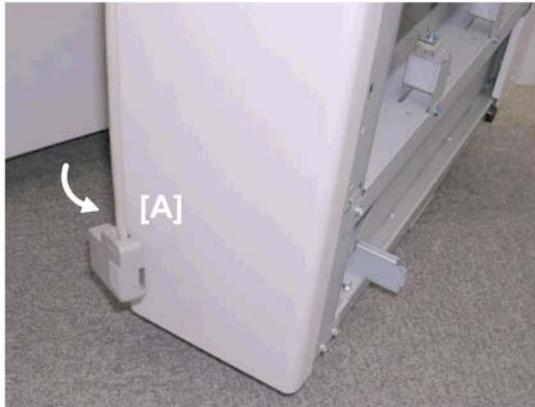
1. For each stabilizer leg:
  - Loosen screw [A] (do not remove it) so that the bracket moves freely from side to side.
  - Do not loosen the other screw!



d457r010

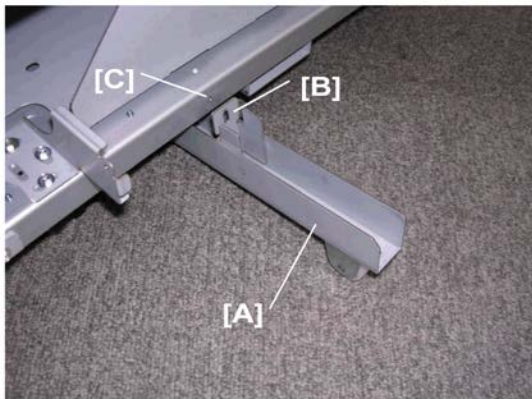
## 2.Replacement and Adjustment

2. Pull the right rear corner [A] of the De-curl Unit a short distance away from the main machine.



d457r011

3. Set one stabilizer leg [A] under the rear left side, with the bracket [B] aligned with hole [C].



d457r012

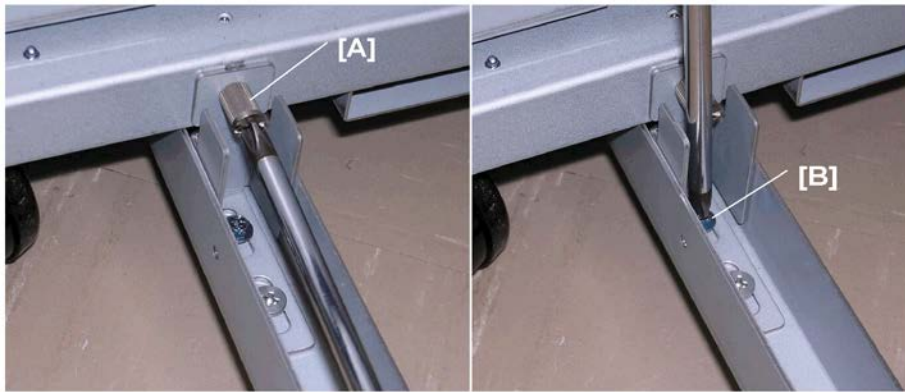
4. On the right side:
  - Align the stabilizer leg [A] with the hole.
  - Hook the stabilizer leg onto the frame with the holes aligned.
  - Use a knob screw [B] to fasten the stabilizer leg.



d457r013

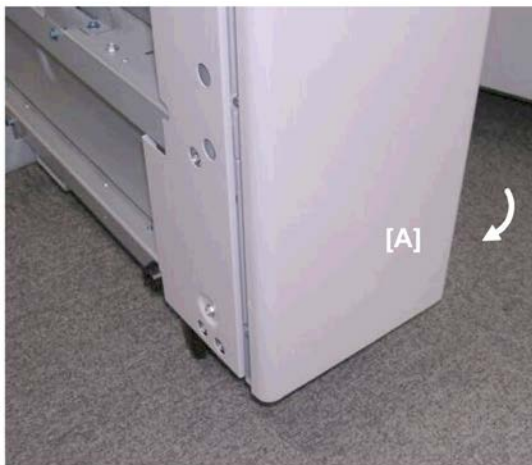
5. On the left side:
  - Attach knob screw [A]
  - Tighten screw [B]





d457r014

6. Pull the right front corner [A] of the De-curl Unit a short distance away from the main machine.



d457r015

7. Do Steps 3 to 5 to attach the other stabilizer leg to the right side of the unit.
8. The De-curl Unit can now be moved safely for servicing.

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### De-curl Roller Unit

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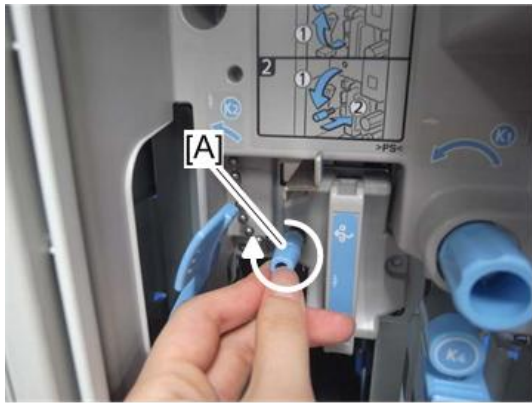
1. Open the front door.
2. Push lever **K2** [A] to the left.



d1351730

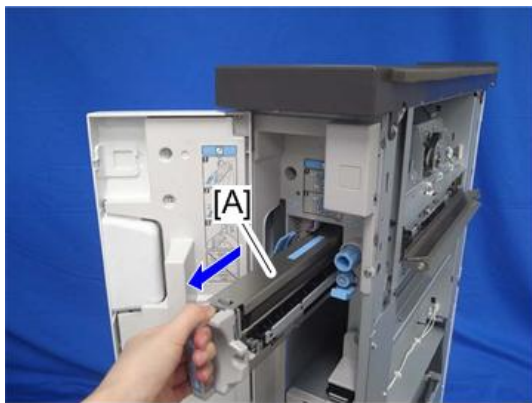
## 2.Replacement and Adjustment

3. Unscrew the chained screw [A] (leave the chain attached).



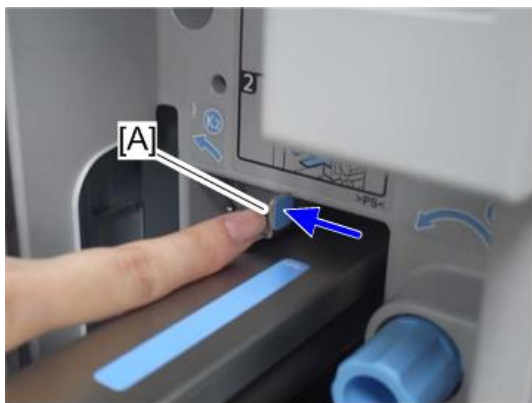
d1351731

4. Pull out the de-curl roller unit [A] until it stops.



d1351732

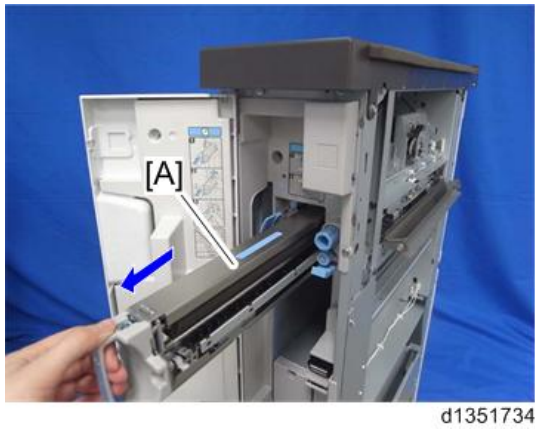
5. Push the release lever [A] to the left.



d1351733



6. De-curl roller unit [A]



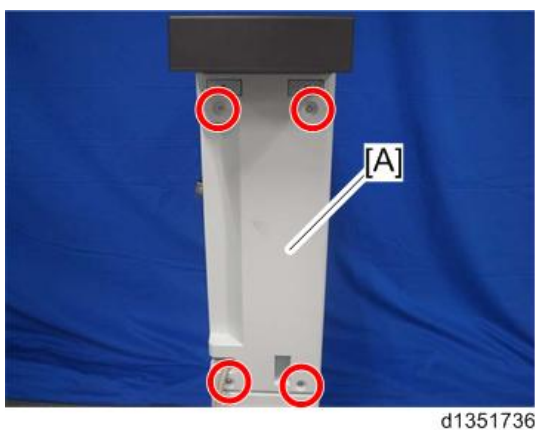
## Rear Covers

**Note**

- The rear upper cover ① must be removed before the rear lower cover ②.



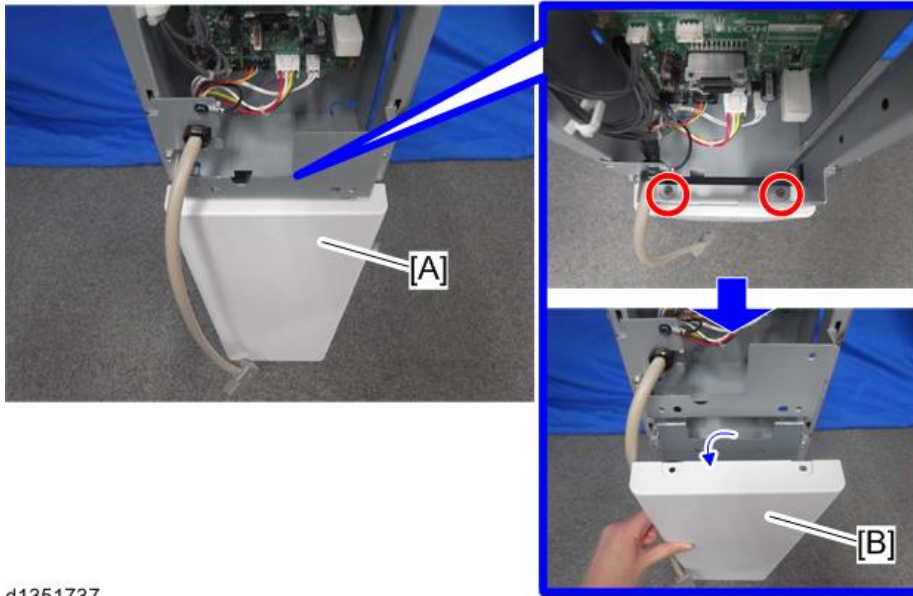
1. Rear upper cover [A] (⌘ x4)



2. Remove the screws of the rear lower cover [A] (⌘ x2)

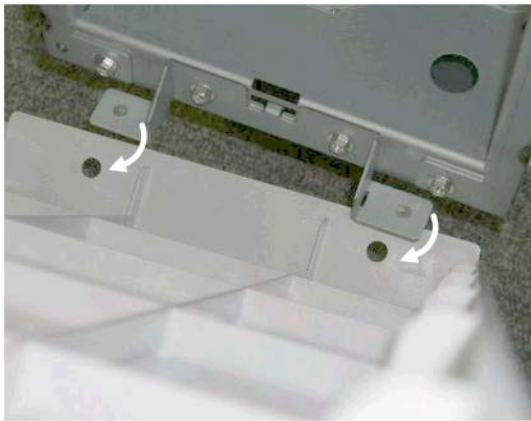
## 2.Replacement and Adjustment

3. Pull the top [B] of the cover away.



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4. Disconnect the bottom holes from the posts.



d457r025

### Note

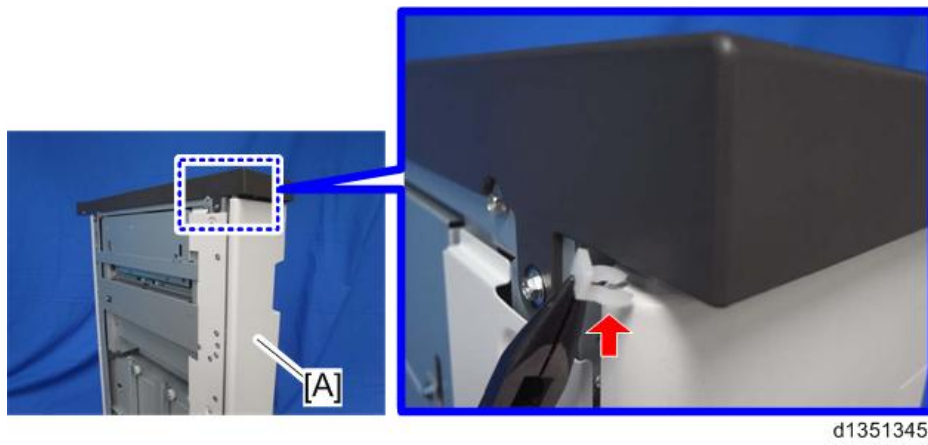
- The holes in the top edge of the rear lower cover are recessed, as shown below. When installing the rear lower cover, engage the holes in the bottom of the cover with the posts below.



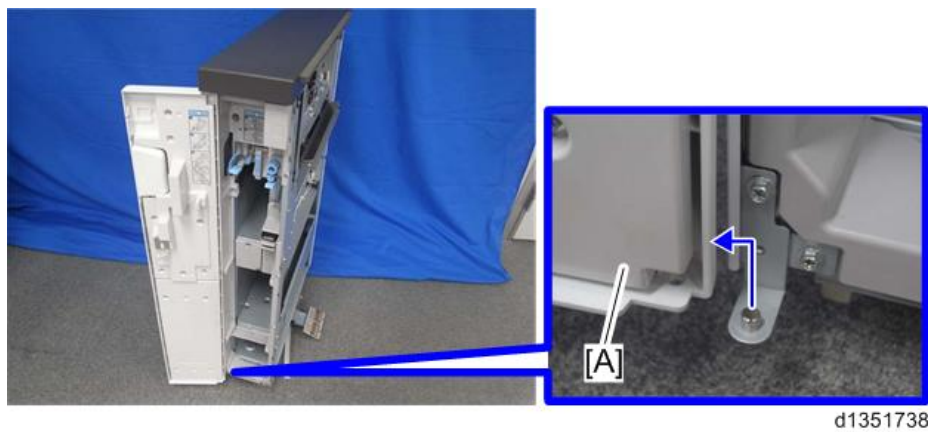
d457r026

## Front Door

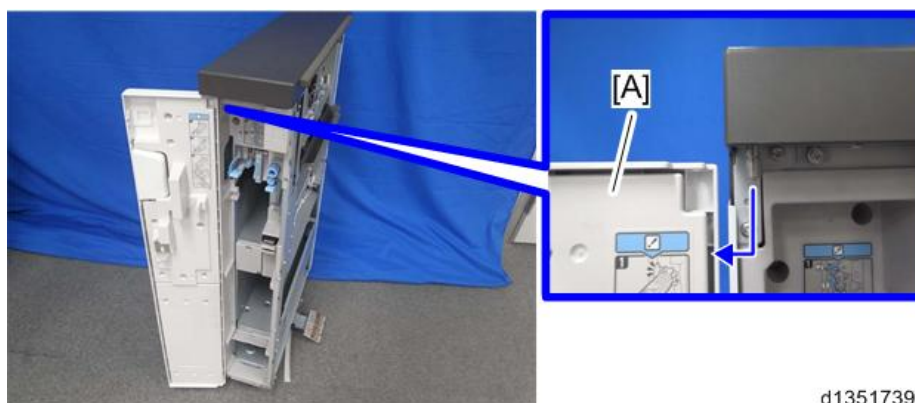
1. Remove the clip. (⌀x1)



2. Open the front door.
3. Raise the bottom of the door [A] to lift it off its bottom post.



4. Lower the top of the door [A] to remove it from its top post.

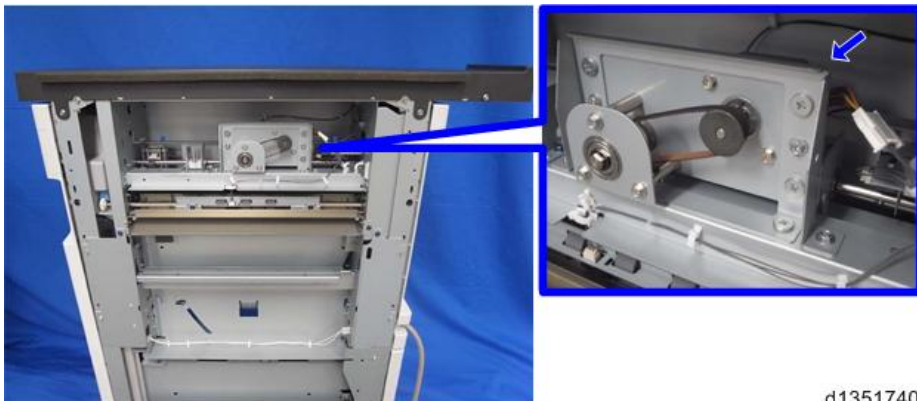


## Motors


### De-curl Pressure Adjustment Motor

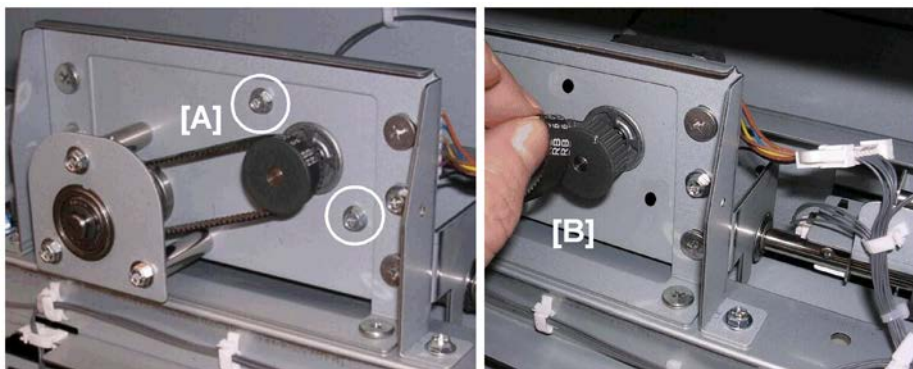
**Note**

- The De-curl Pressure Adjustment Motor is on the right side, behind the bracket.



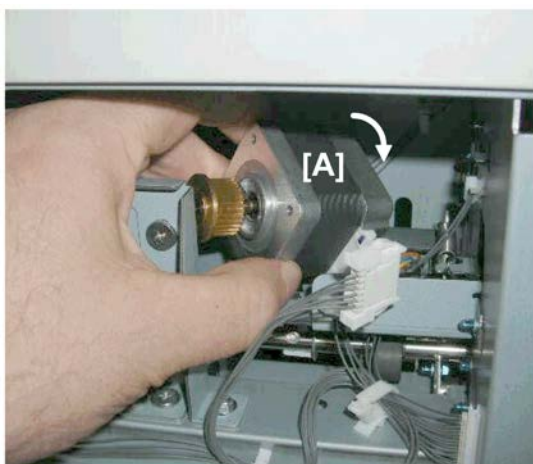
d1351740

1. Put both stabilizer legs on. ( [Stabilizing the De-curl Unit](#) )
2. Pull the de-curl roller unit out. ( [De-curl Roller Unit](#) )
3. Remove the screws [A] (  x2 ).
4. Disconnect timing belt [B].



d457r032

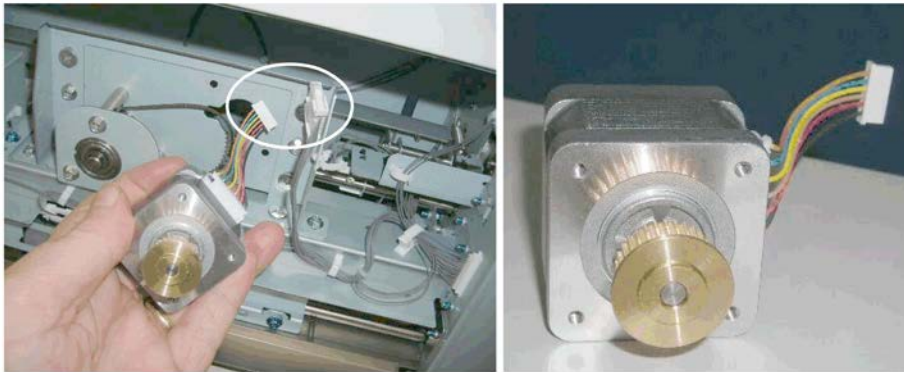
5. Pull the motor [A] out from the side from behind the bracket.



d457r033



6. Disconnect the motor (🔌 x1).



d457r034

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### Transport Motor

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1. Put both stabilizer legs on. ([Stabilizing the De-curl Unit](#))
2. Pull the de-curl roller unit out. ([De-curl Roller Unit](#))
3. Remove the rear upper cover. ([Rear Covers](#))

**Note**

- The transport motor [A] is under the rear top edge of the unit.

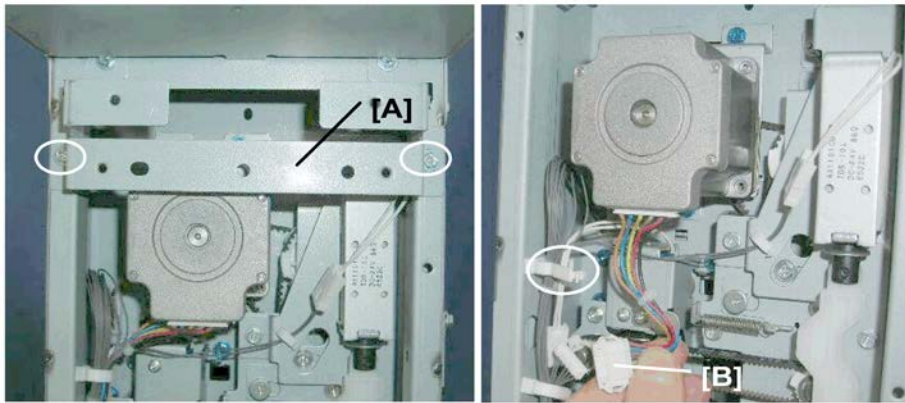


d457r035

4. Remove the cover brace [A] (🔧 x2).

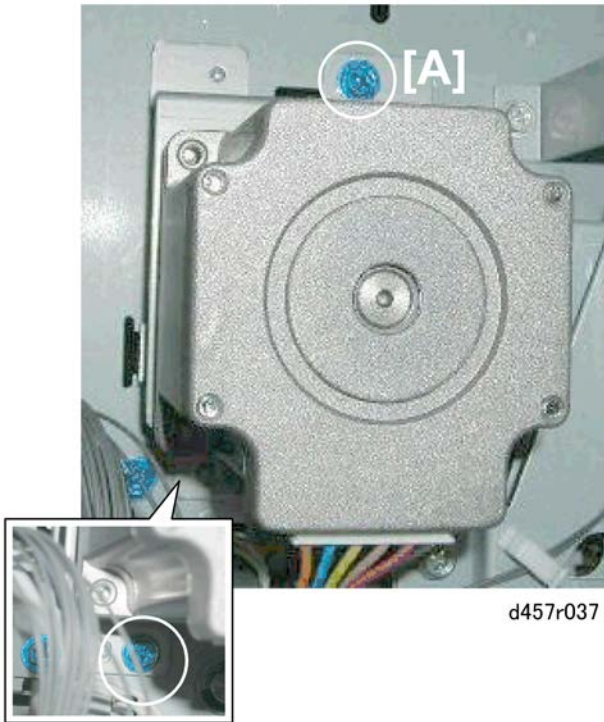
## 2.Replacement and Adjustment

5. Disconnect the motor harness [B]. (🔌 x1, 📡 x1)



d457r036

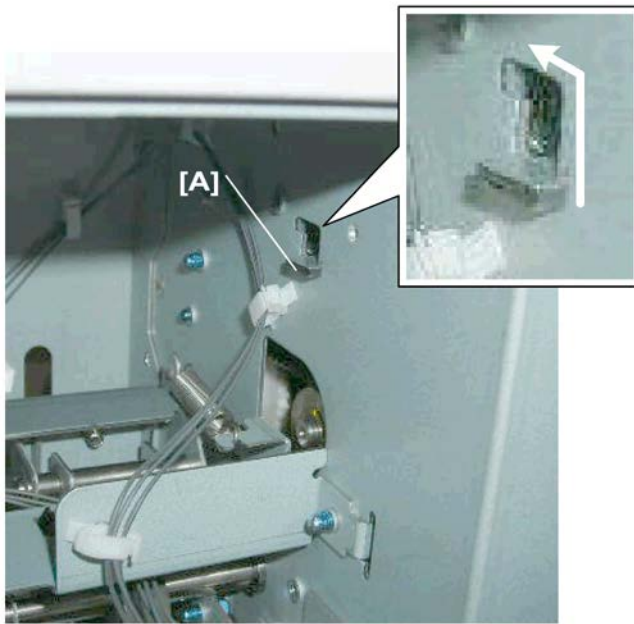
6. Remove two screws [A]. (🔧 x2)



d457r037

7. From the rear, raise the motor unit, slide it up then to the right to disengage the hook [A] (as shown

below), then remove the motor unit from the other side.



d457r038

8. Remove the motor from its bracket. (⚙ x2).



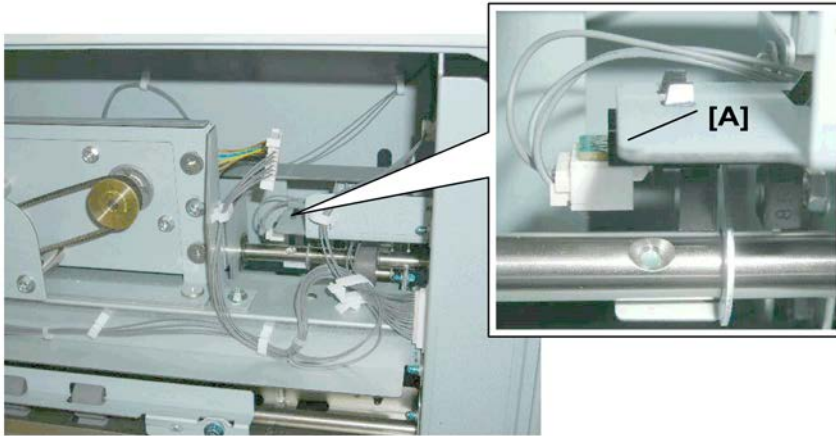
d457r039

## Sensors

### De-Curl Roller HP Sensor

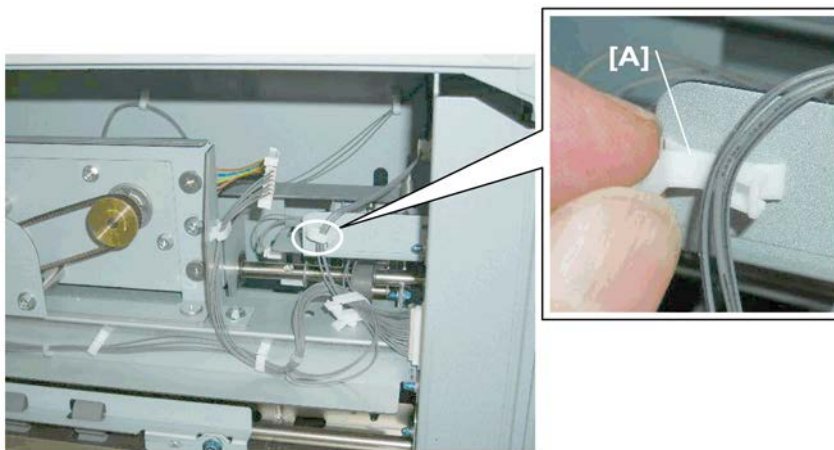
**Note**

- The de-curler roller HP sensor [A] is located on the right side at the rear.



d457r040

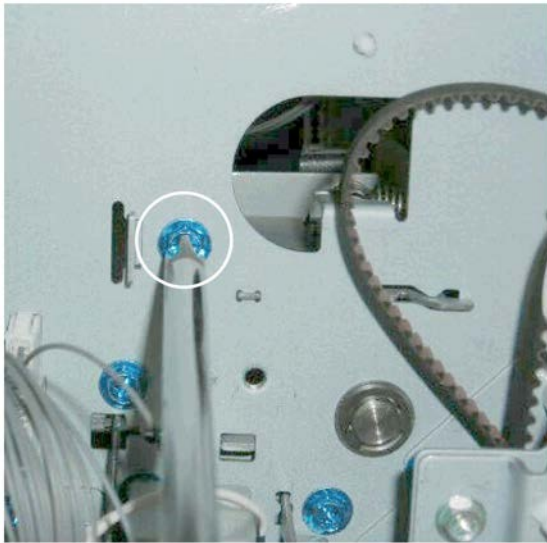
1. Put both stabilizer legs on. (☛ [Stabilizing the De-curl Unit](#))
2. Pull the de-curl roller unit out. (☛ [De-curl Roller Unit](#))
3. Remove the rear upper cover. (☛ [Rear Covers](#))
4. Remove the transport motor unit. (☛ [Transport Motor](#))
5. Free the harness [A] (🔧 x1)



d457r041

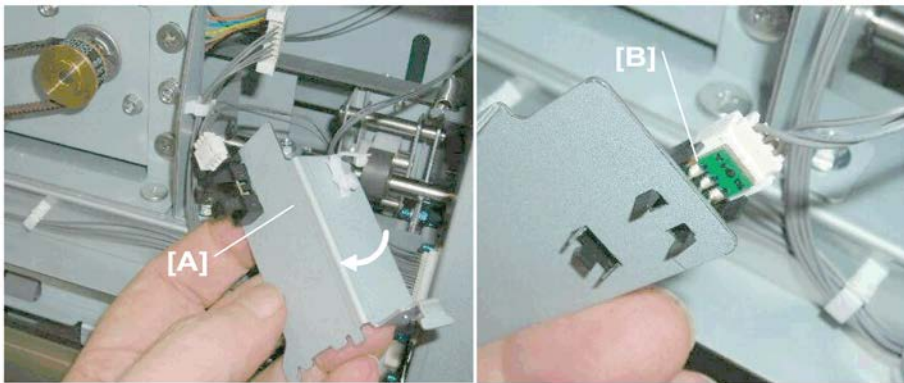


6. Remove the screw where the transport motor was removed.



d457r042

7. Pull out the HP sensor bracket [A].
8. Remove the HP sensor [B]. (x1)



d457r043

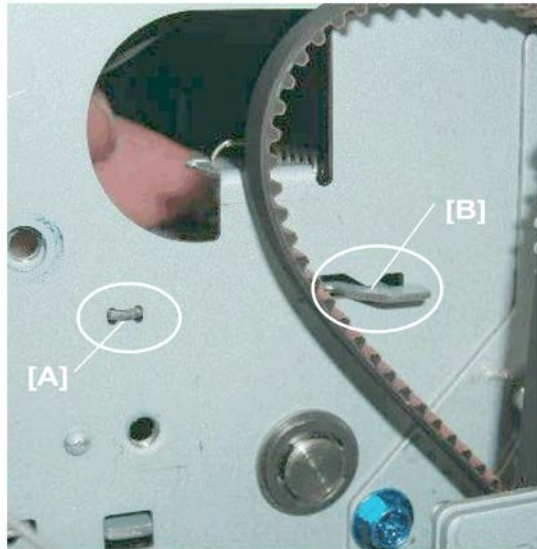
### Re-installation

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When re-attaching the HP sensor bracket:

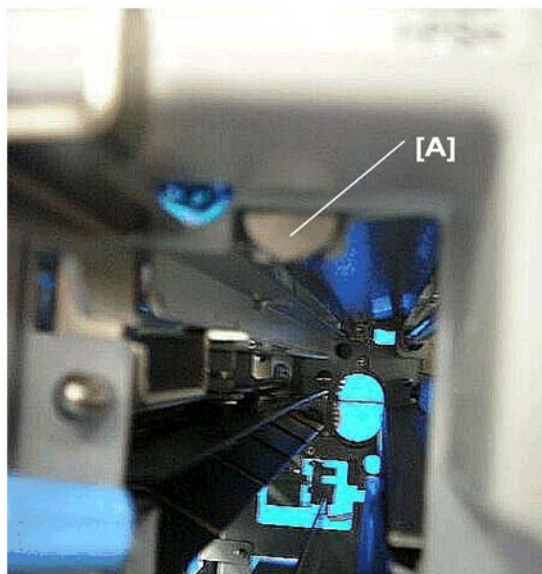
- Confirm that hooks [A] and [B] are firmly inserted and locked in place.  
The HP sensor will fail to operate correctly if the bracket is not positioned correctly.

## 2.Replacement and Adjustment



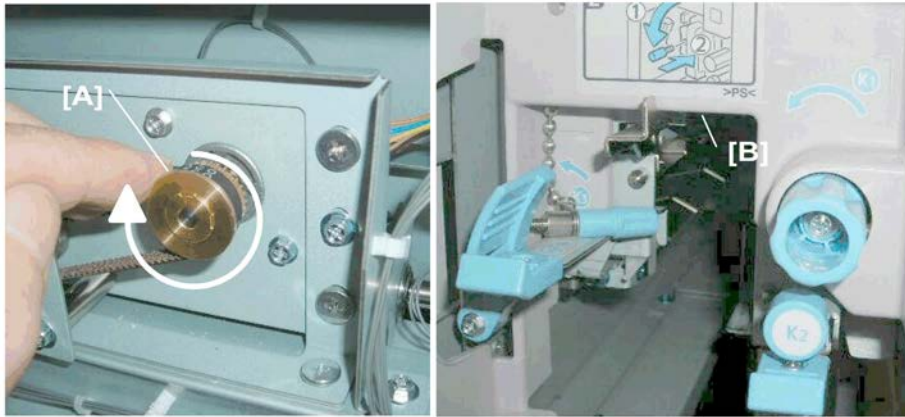
d457r044

- Check the front of the unit where the de-curl roller unit was removed.  
The plunger [A] should not be visible. If the depressor [A] is down and visible, it will interfere with the re-installation of the de-curl roller unit. You need to raise the depressor.



d457r045

To raise the depressor, rotate the timing belt [A] and the drive gear of the de-curl pressure adjustment motor counterclockwise until you can no longer see the plunger at [B].

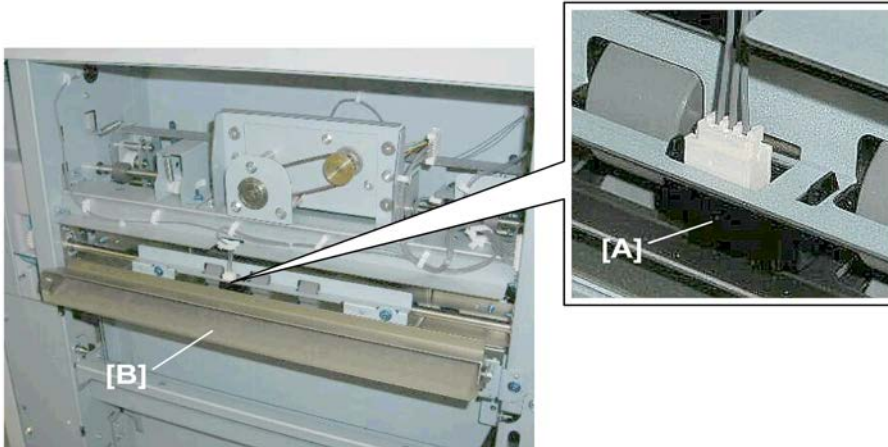


d457r046

### Entrance Sensor

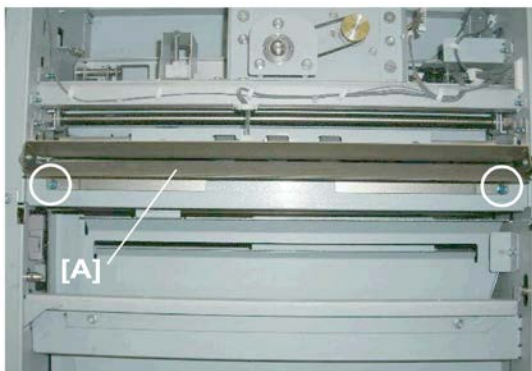
#### Note

- The entrance sensor [A] is on the right side, behind the center of the paper guide [B].



d457r047

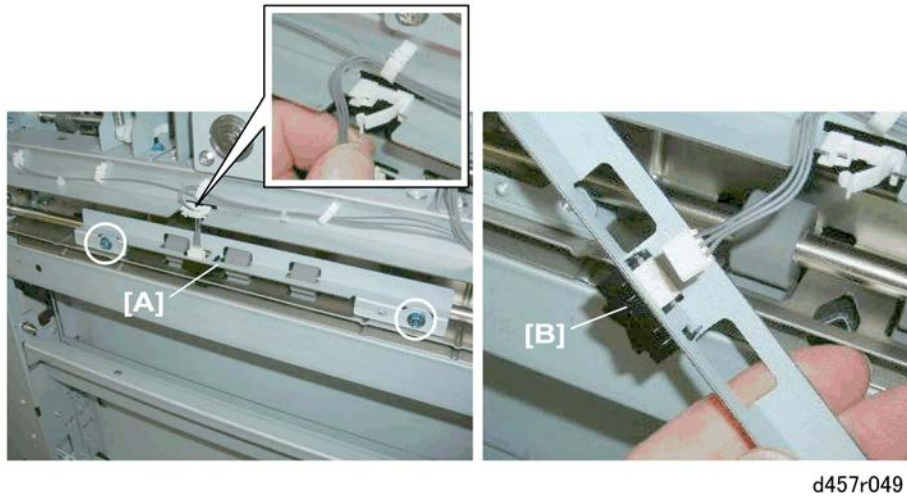
- Put both stabilizer legs on. ([Stabilizing the De-curl Unit](#))
- Paper guide [A] (🔧 x2)



d457r048

- Remove:
  - [A] Entrance sensor bracket (🔧 x1, 🔧 x2)
  - [B] Entrance sensor (🔧 x1)

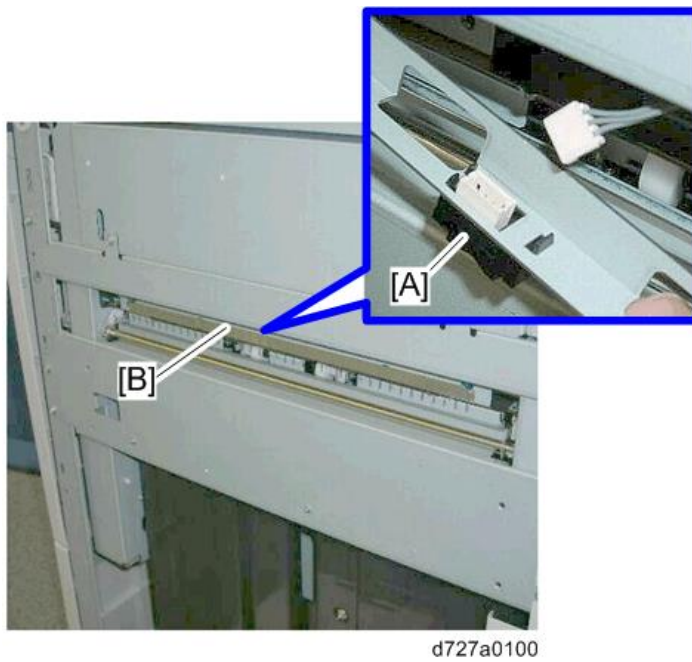
## 2.Replacement and Adjustment



### Exit Sensor

#### Note

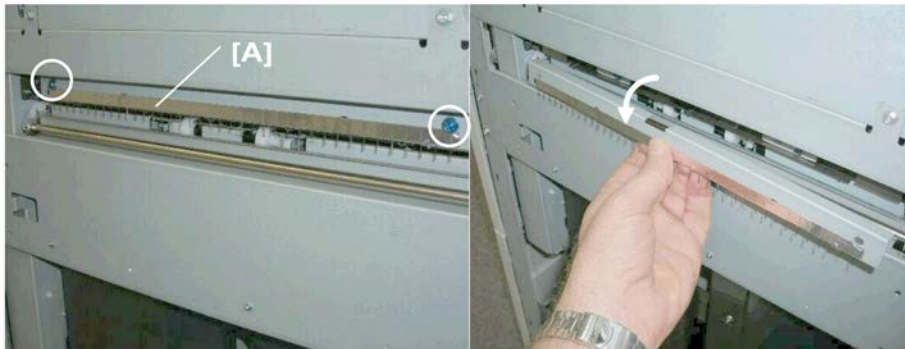
- The exit sensor [A] is on the left side behind the discharge brush [B].



- Put both stabilizer legs on. ([Stabilizing the De-curl Unit](#))

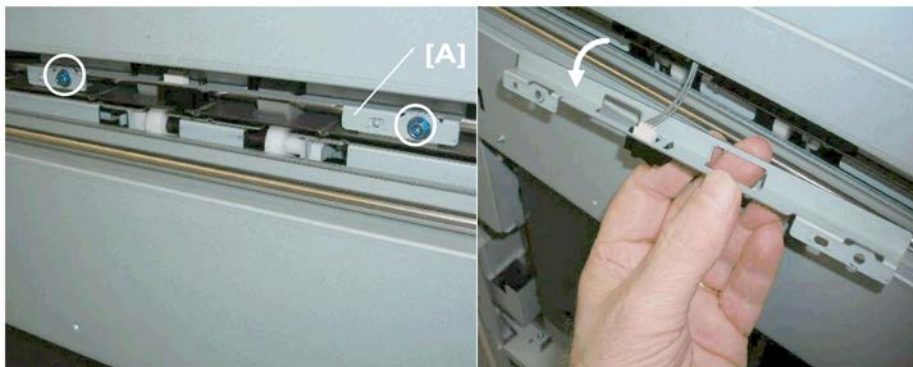


2. Discharge brush [A] (🔧 x2)



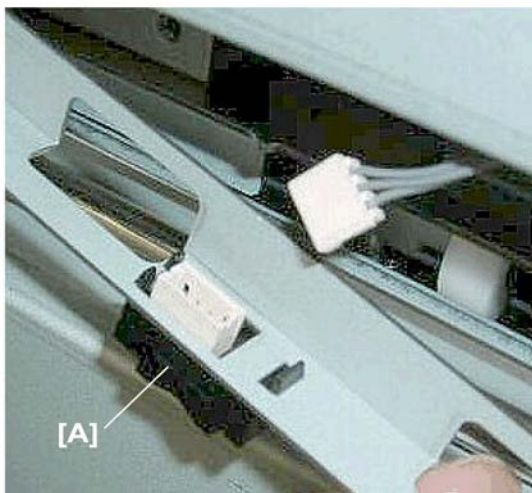
d457r051

3. Exit sensor bracket [A] (🔧 x2)



d457r052

4. Disconnect the sensor [A] (🔧 x1).



d457r053

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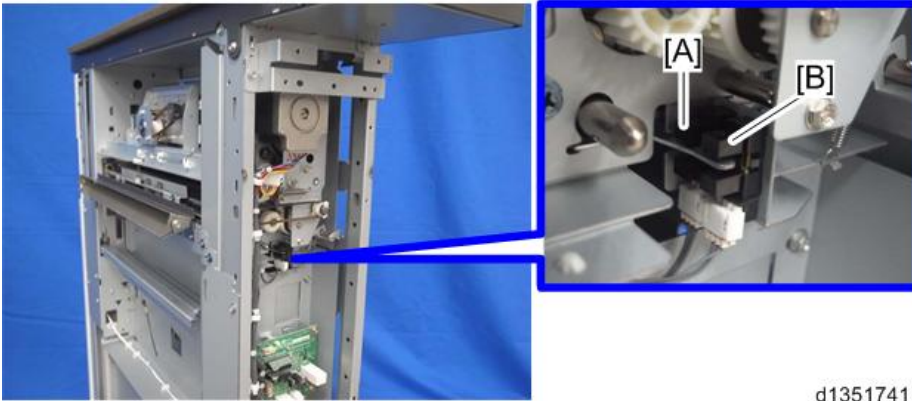
## De-curl Roller Unit Set Sensor, De-curl Roller Set Direction Sensor

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**Note**

- The de-curl roller unit set sensor [A] and de-curl roller set direction sensor [B] are on the rear side.

## 2.Replacement and Adjustment



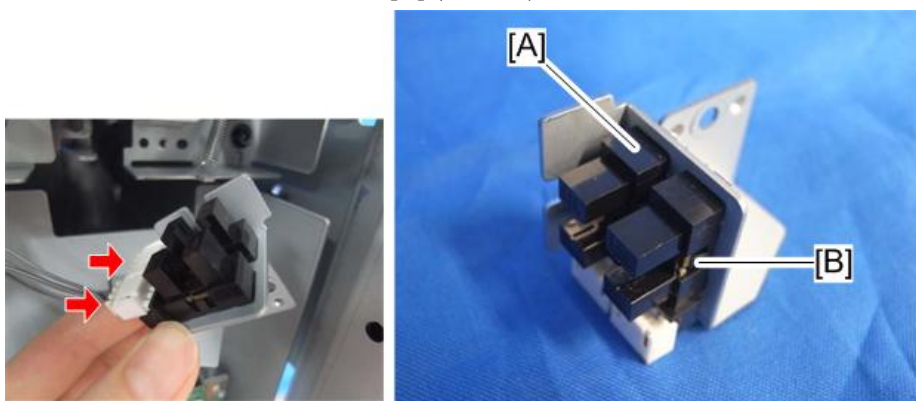
d1351741

1. Put both stabilizer legs on. (Stabilizing the De-curl Unit)
2. Pull the de-curl roller unit out. (De-curl Roller Unit)
3. Remove the rear upper cover. (Rear Covers)
4. Bracket [A] of the de-curl roller unit set sensor and de-curl roller set direction sensor (x 1)



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5. De-curl roller unit set sensor [A] (x 1)
6. De-curl roller set direction sensor [B] (x 1)



d1351344

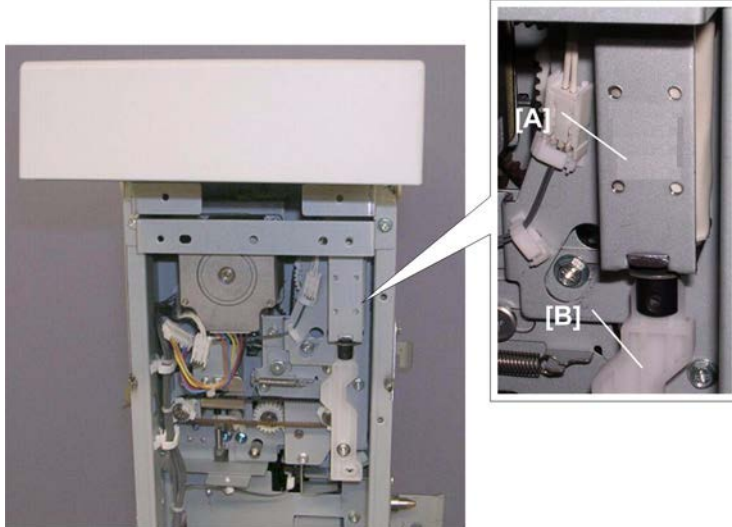
## Solenoids

### Exit Guide Solenoid

1. Put both stabilizer legs on. ([Stabilizing the De-curl Unit](#))
2. Pull the de-curl roller unit out. ([De-curl Roller Unit](#))
3. Remove the rear upper cover. ([Rear Covers](#))

**Note**

- The exit guide solenoid [A] and plunger [B] are at the left rear corner.

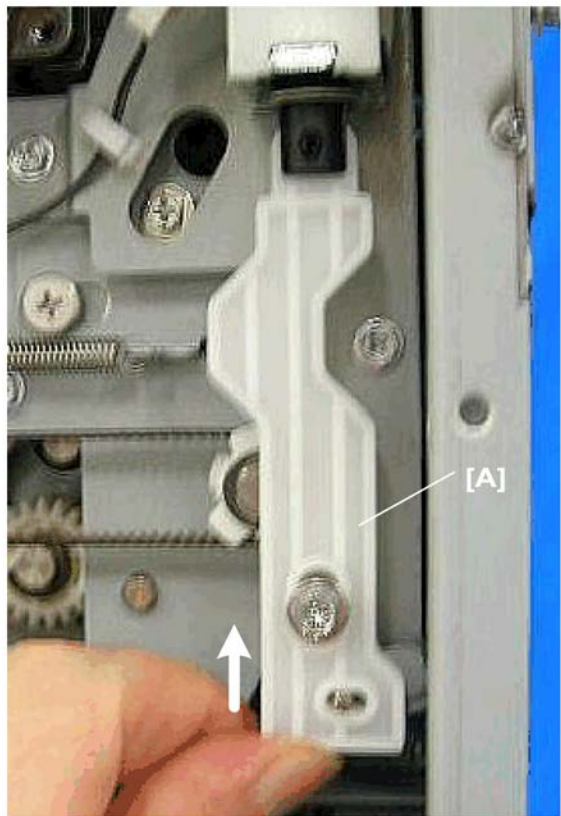


d457r058

4. Remove the transport motor unit. ([Transport Motor](#))
5. Press up the bottom of the plunger [A] to drop the exit guide. (This relieves tension on the plunger and

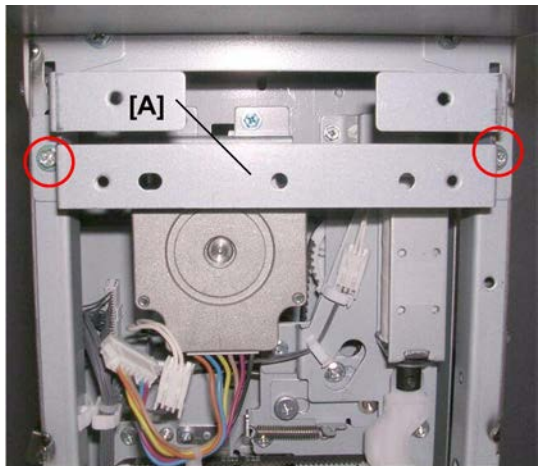
2.Replacement and Adjustment

spring.)



d457r059

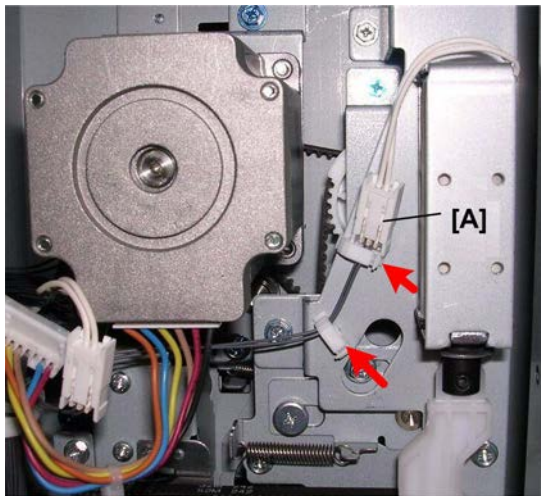
6. Remove the cover brace [A] (⚙ x2)



d457r060

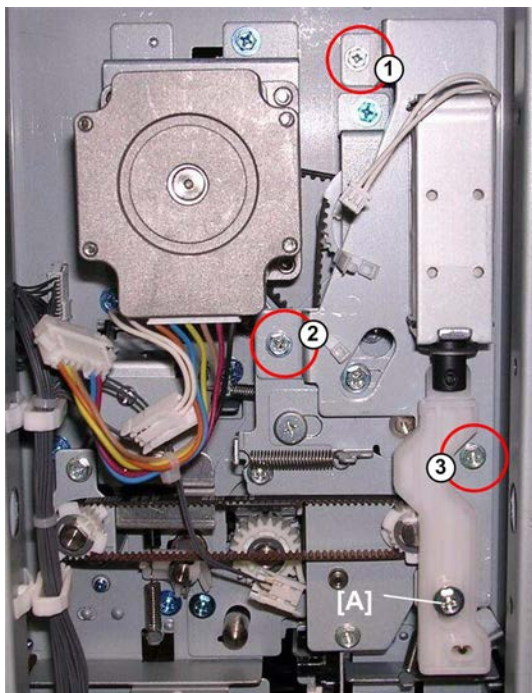


7. Disconnect the solenoid [A] (🔌 x2, 🛠️ x1)



d457r061

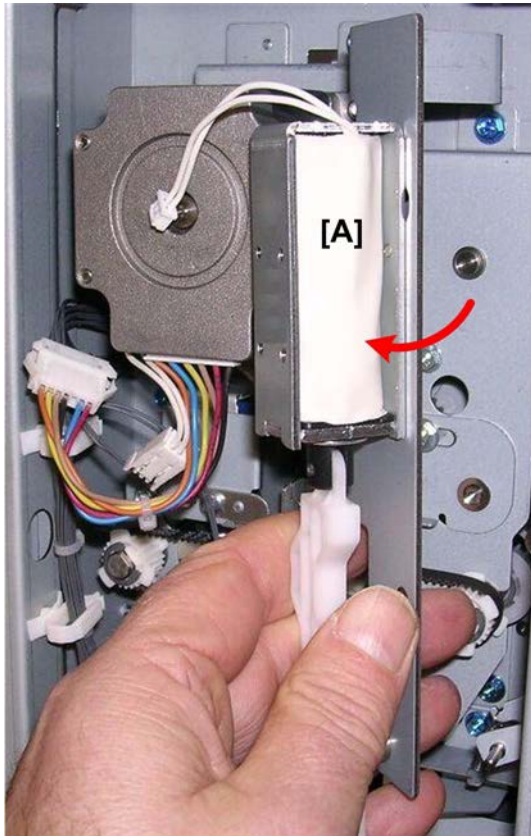
8. Loosen the plunger screw [A] (🛠️ x1).  
9. Remove three screws ①, ②, ③ (🛠️ x3).



d457r062

## 2.Replacement and Adjustment

10. Remove the solenoid unit [A].



d457r063

11. Set the bracket on a flat surface.
12. Turn it over, and remove the solenoid. (⌀x2)



d457r064

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### Paper Path JG Solenoid

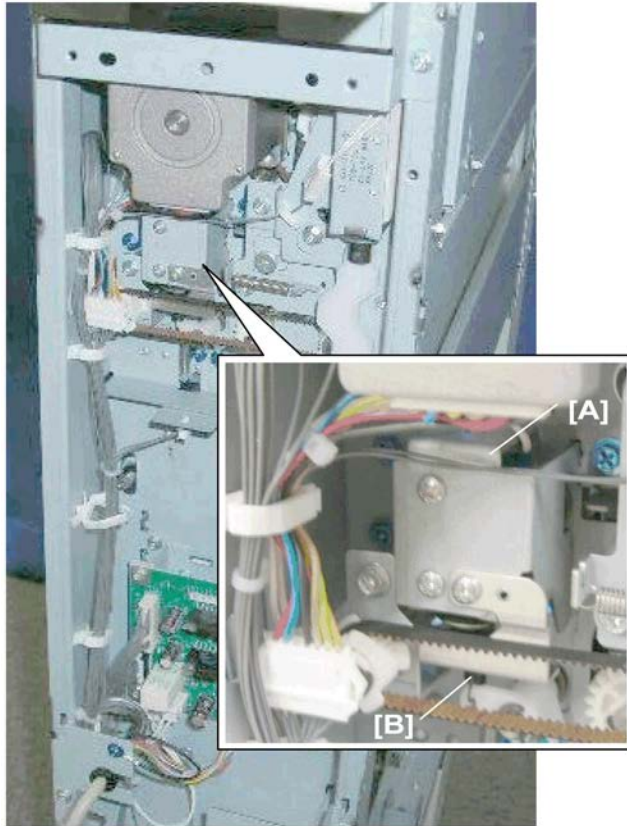
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1. Put both stabilizer legs on. ([Stabilizing the De-curl Unit](#))
2. Pull the de-curl roller unit out. ([De-curl Roller Unit](#))

3. Remove the rear upper cover. ([Rear Covers](#))

**Note**

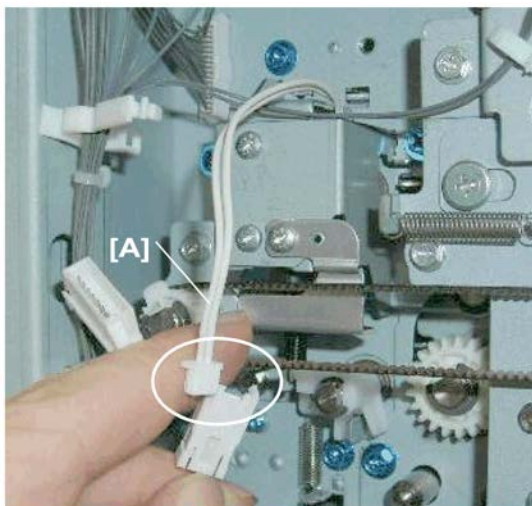
- The paper path junction gate solenoid [A] is at the rear, below the transport motor



d457r065

4. Remove the transport motor unit. ([Transport Motor](#))

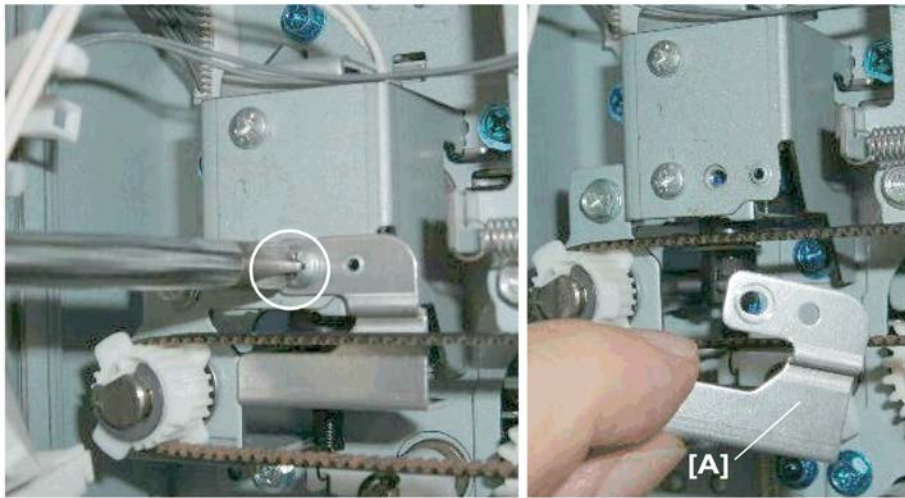
5. Disconnect the harness [A] of the solenoid (🔧 x1).



d457r066

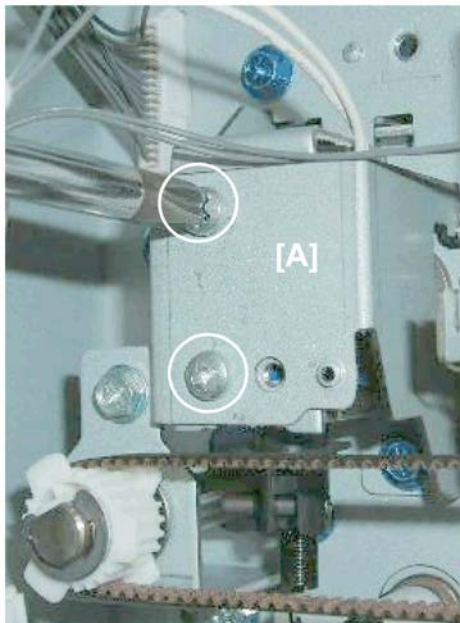
## 2.Replacement and Adjustment

6. Remove plunger collar [A] (🔩 x1).



d457r067

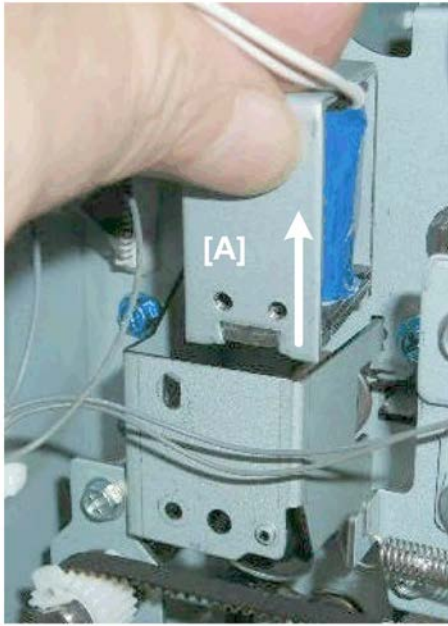
7. Disconnect the solenoid from the bracket [A] (🔩 x2).



d457r068

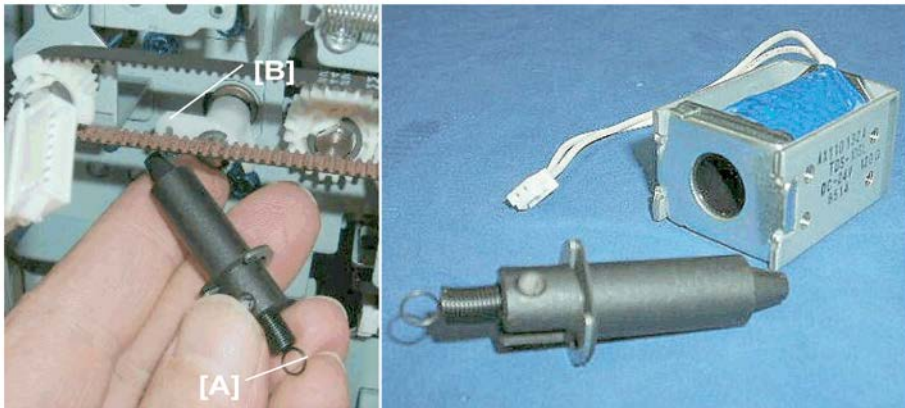


8. Pull the solenoid [A] out from the top.



d457r068

9. Unhook the plunger spring [A] from the junction gate [B] and remove the plunger.



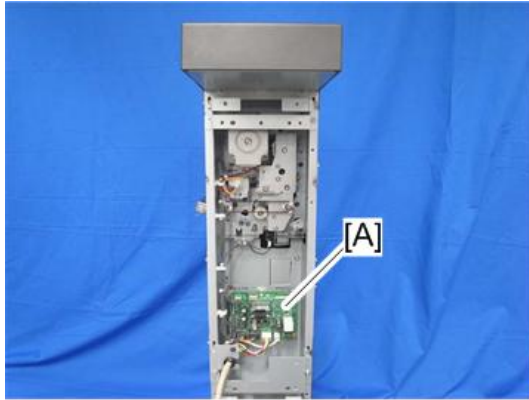
d457r070

## Main Board

1. Put both stabilizer legs on. ([Stabilizing the De-curl Unit](#))
2. Remove the rear upper cover. ([Rear Covers](#))

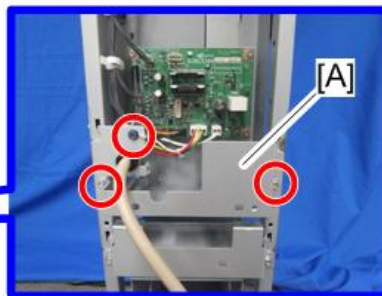
**Note**

- The main board [A] is on the rear, just above the top of the rear bottom cover.



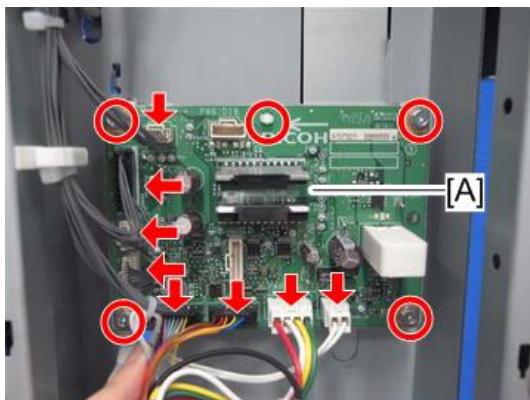
d1351742

3. Remove the cover brace [A] (⚙ x 2, Ground screw x 1)



d1351347

4. Main board [A] (⚙ x 4, standoff 1, ⚙ x 8)



d1351348

## Other

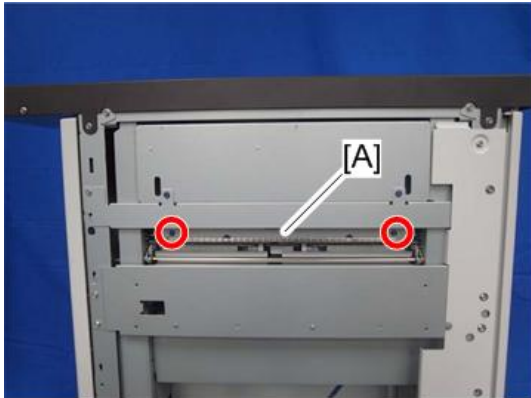
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### Discharge Brush

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#### ↓ Note

- The discharge brush is on the left side of the De-curl Unit.
1. Put both stabilizer legs on. ([Stabilizing the De-curl Unit](#))
  2. Discharge brush [A] (🔧 x2)



d1351743

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### Front Door Switch, Inner LED Board

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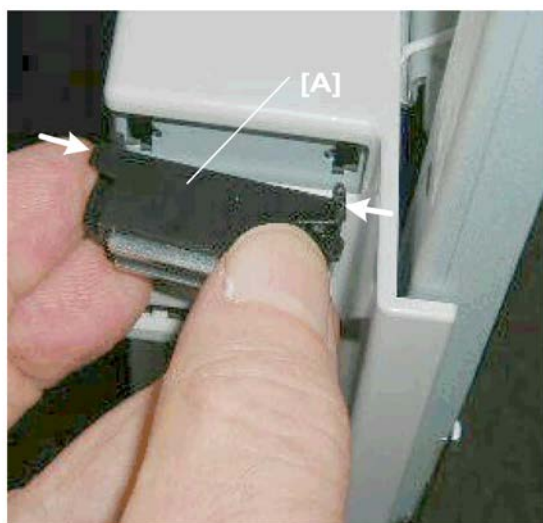
1. Open the front door.  
The front door switch [A] is next to handle **K5** of the purge tray.



d1351744

## 2.Replacement and Adjustment

2. Pinch the side releases of the magnet [A] and remove it.



d457r082

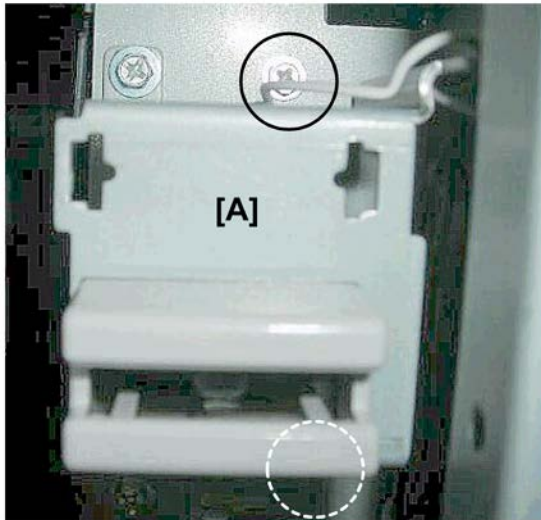
3. Cover [A] (⌘ x4)



d457r083

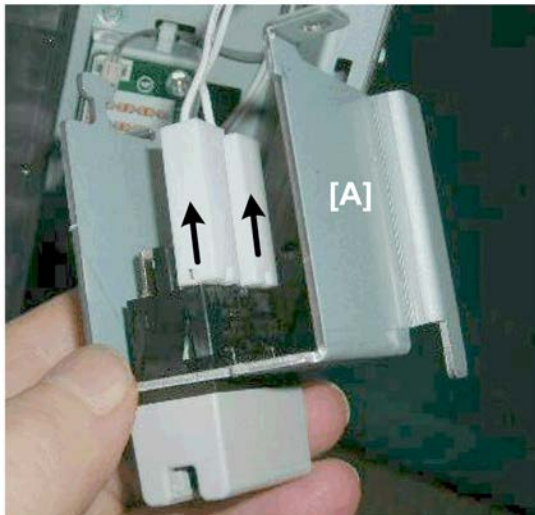


4. Switch bracket [A] (🔩 x2)



d457r084

5. Disconnect the switch [A] (🔧 x2).



d457r085

## 2.Replacement and Adjustment

6. LED PCB [A] (🔧 x2, 📏 x1)



d457r086