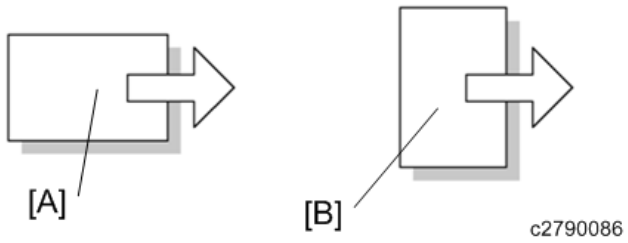
Decurl Unit DU5070
Machine Code:D3DR
Field Service Manual
Ver 1.0

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	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)

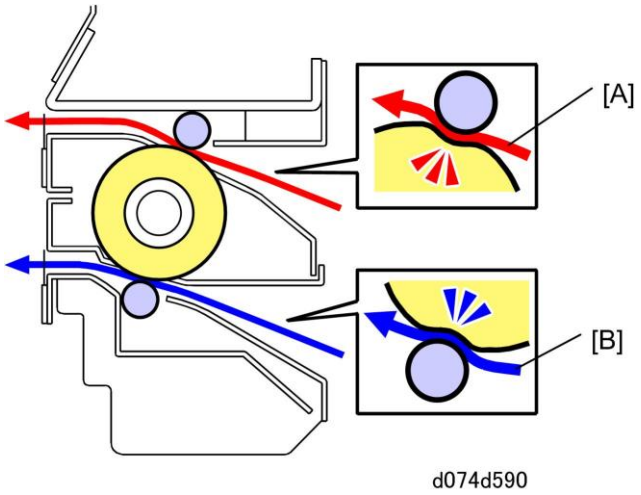
Table of Contents

1. Detailed Descriptions

Specifications

Paper size	A3 SEF, A4 LEF SEF, A5 LEF SEF, A6 SEF, B4 SEF, B5 JIS LEF SEF, B6 JIS SEF, 11"x17" SEF, 8 1/2"x14" SEF, 8 1/2"x13" SEF, 8 1/2"x11" LEF SEF, 8 1/4"x14" SEF, 8 1/4"x13" SEF, 8"x13" SEF, 8"x10" SEF, 7 1/4"x10 1/2" LEF SEF, 5 1/2"x8 1/2" LEF SEF, 8K SEF, 16K LEF SEF, 12"x18" SEF, 11"x15" SEF, 11"x14" SEF, 10"x15" SEF, 10"x14" SEF, 13"x19 1/5" SEF, 13"x19" SEF, 12 3/5"x19 1/5" SEF, 12 3/5"x18 1/2" SEF, 13"x18" SEF, SRA3 SEF, SRA4 LEF SEF, 226x310 mm LEF SEF, 310x432 mm SEF, 8 1/2"x13 2/5" SEF, 8 1/2"x13 1/2" SEF, custom Size
Paper weight	40.0–350.0 g/m ^{2} (10.7 lb. Bond–193.3 lb. Index)
Power consumption	30 W or less (Power is supplied from the main unit.)
Dimensions (W × D × H)	54.5 × 482.7 × 188.7 mm (2.2 × 19.1 × 7.5 inches)
Weight	5 kg (11.1 lb.) or less

Decurl Unit Operation



There are two decurl paths in the decurl unit.

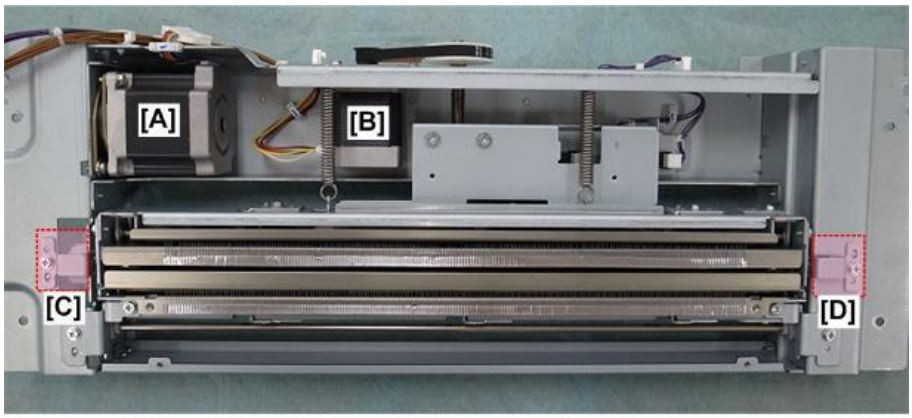
- The upper path [A] is used to correct back curl (convex, leading and trailing edges curling under)
- The lower path [B] is used to correct front curl. (concave, leading and trailing edges curling up)

The upper path is used for all printing modes and paper types, adjustable with SP1906-1 to 12. There is one SP setting for each of the 12 paper feed sources: Tray 1, 2, 3 (main machine), Trays 4, 5, 6 (LCIT), Tray 7 (Multi Bypass), and Tray T1, T2, T3, T4 (Vacuum Feed LCIT).

The decurl unit settings are as follows.

User Setting	Decurl Path	Decurl Roller Nip
Front curl correction (weak)	Lower path	1.5 mm
Front curl correction (strong)	Lower path	1.8 mm
Normal (decurl not selected)	Upper path	0.3 mm
Back curl correction (weak)	Upper path	1.5 mm
Back curl correction (strong)	Upper path	1.8 mm

Decurl Unit Movement



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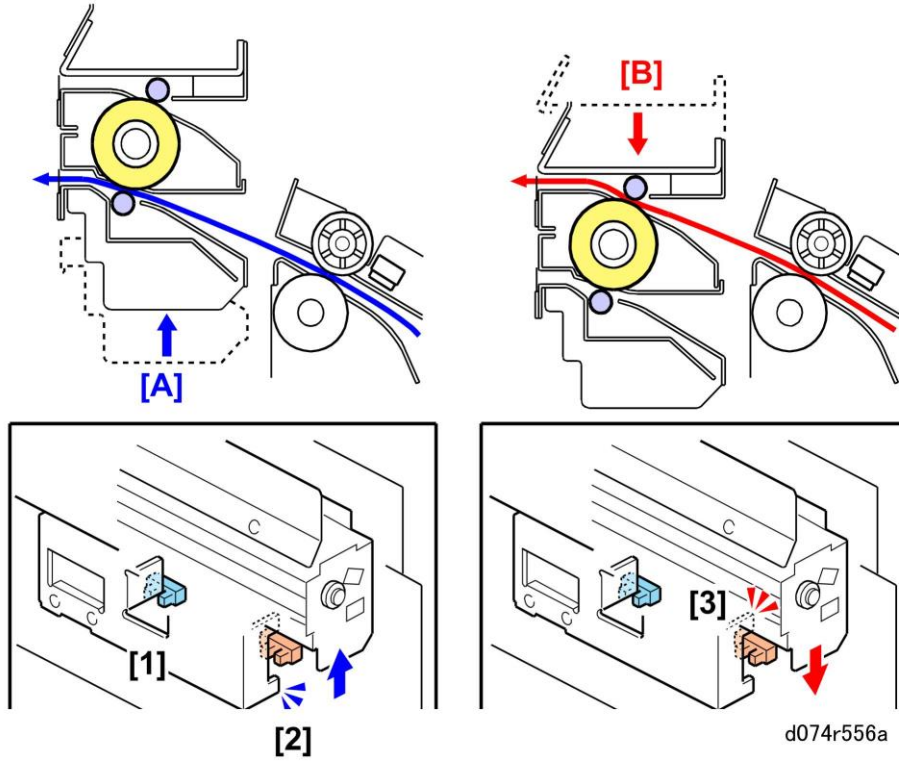
The illustration shows the decurl unit removed from the left side of the main machine.

- The decurl feed motor [A] drives the rollers that feed paper through the decurl unit.
- The decurl unit motor [B] drives the timing belt and gear that raise and lower the decurl unit on the paired rack and pinions at the rear [C] and front [D].



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The up and down movement of the decurl unit is controlled by two sensors.

- Before a print job, the decurl unit HP sensor [1] detects the home position of the decurl unit.
- To correct front curl (concave) , the unit is raised [A] the distance specified by the user. If the decurl unit limit sensor [2] detects the bottom actuator, this triggers the over limit error (**SC582**).
- To correct back curl (convex), the unit is lowered [B] the distance specified by the user. If the decurl unit limit sensor [3] detects the top actuator, this triggers the over limit error (**SC582**).

Moving the decurl roller up or down changes the amount of pressure applied to the paper to correct paper curl. The maximum range of the decurl unit movement is ±13.15 mm from the home position of

the decurl unit.

The amount of pressure applied to correct paper curl can be adjusted with the "Adjustment Settings for Skilled Operators".

1. Press the [User Tools] button on the operation panel.
2. Touch "Adjustment Settings for Skilled Operators" and log in.
3. Touch "0310 Adjust Paper Curl".
    - The next screen presents options for adjusting the amount of curl applied (Weak or Strong) for all the trays (Tray 1 to 12).
    - To adjust the amount of pressure applied for "Weak" or "Strong", use SP1906-1 to 12.

2. Replacement and Adjustment

Decurler Unit and Electrical Components

Decurl Unit

Removal Procedure

⚠CAUTION

- Most parts in the decurl unit have been precisely adjusted at the factory. Do not remove the parts for which replacement procedures are not mentioned in this manual. Otherwise, adjustment for the decurl unit requires special tools.

Only the following parts can be replaced without decurl unit adjustment.

- DDRB (Decurl Drive Board)
- Decurl Unit Motor
- Decurl Feed Motor
- Decurl Unit HP and Limit Sensor
- Decurl Unit Fan

1. Remove the left cover of the main machine (x7)

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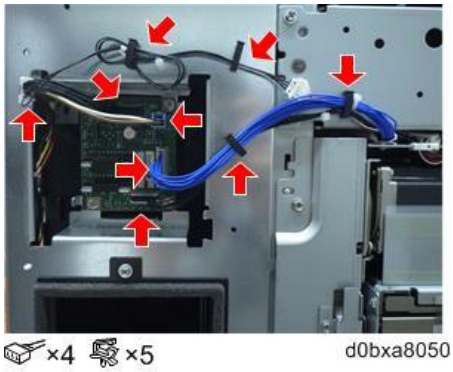
2. Disconnect the DDRB.



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3. Remove the lower bracket.

×2 d0bxa8051

4. Remove the decurl unit.

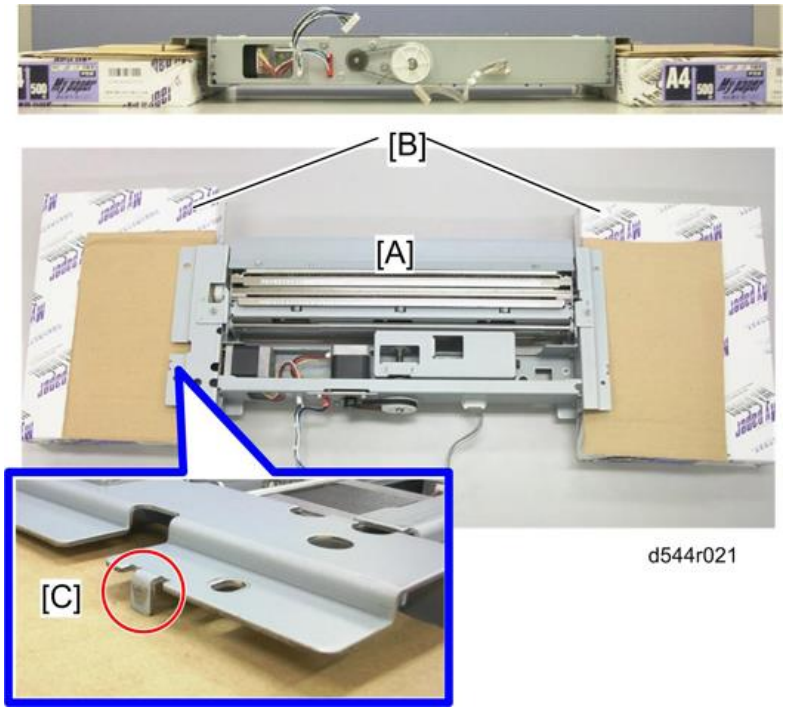
×4 d0bxa8052

Maintenance Position

Lay the Decurl Unit [A] on temporary supports [B].

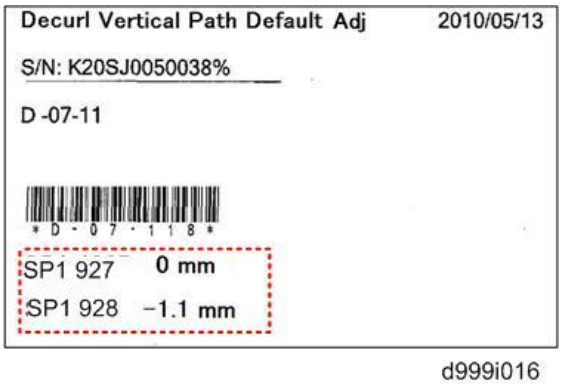
- The entrance guide of the decurl unit must not touch the floor or any object. Otherwise, the mylars on the entrance gate may be bent or folded.
- Keep this position during maintenance.
- Place an object like a sheet of cardboard on the supports so that the frame projection [C] does not

damage the supports.



SP Settings After Installing a New Decurl Unit

1. Switch on the machine and enter the SP mode.
2. Refer to the accessory sheet and enter the settings for SP1927 and SP1928.



3. Exit SP mode and turn off the main machine.

DDRB

1. Remove the left cover of the machine (x7).

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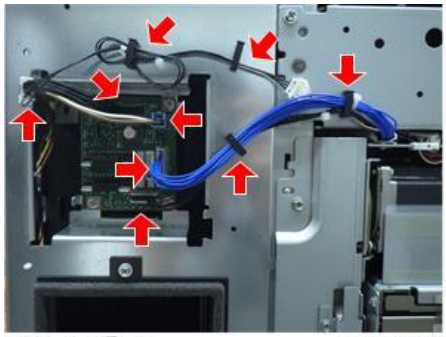
2. Disconnect the DDRB.



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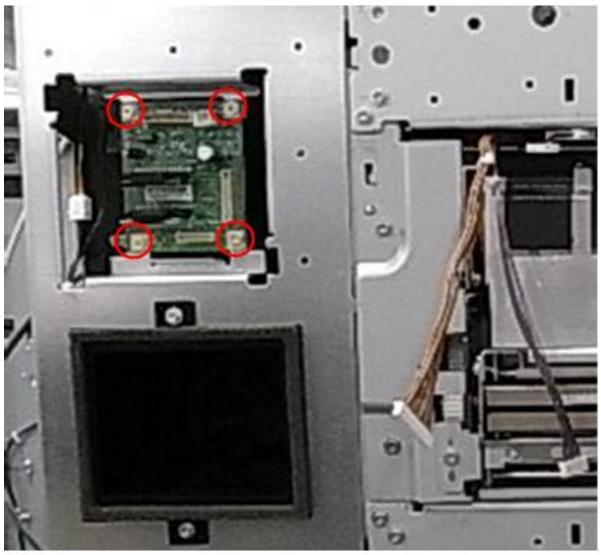
3. Remove the DDRB (x4).



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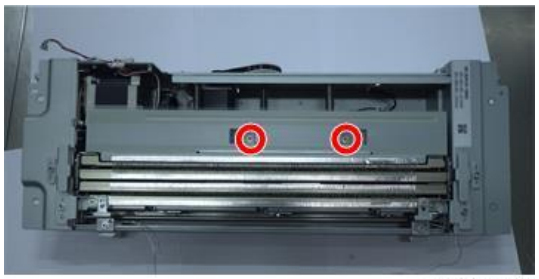
Decurl Unit Motor

1. Remove the decurl unit (Decurl Unit)

2. Remove the decurl unit cover bracket (x2).



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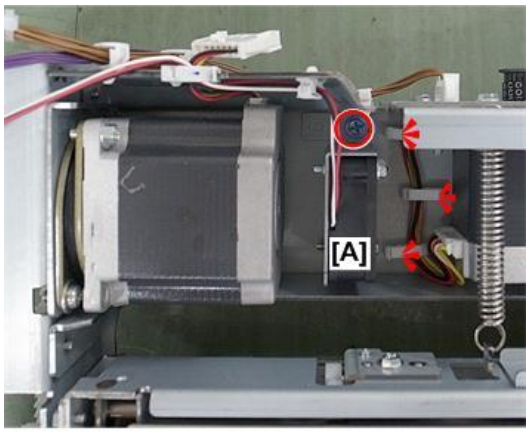
3. Disconnect the fan bracket [A] and free the harness so that you can move it to access the motor (x1, x3).



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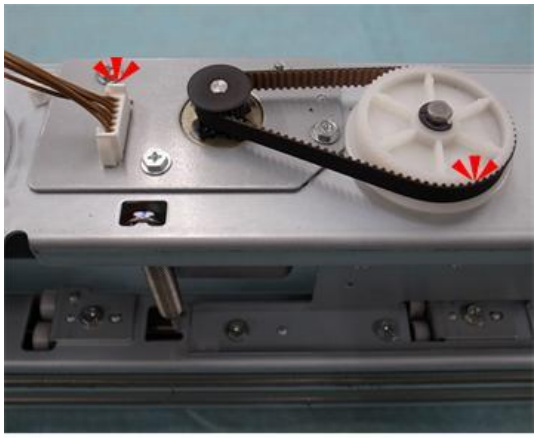
4. Disconnect the connector and remove the belt (x1, x1).



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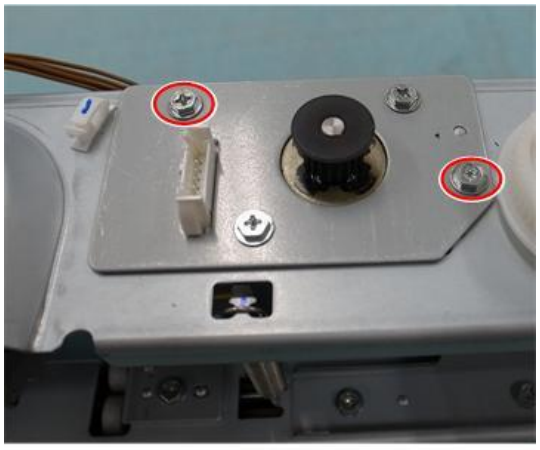
5. Remove the motor bracket (with motor attached) (x2).



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6. Separate the motor and bracket (x1, x2).

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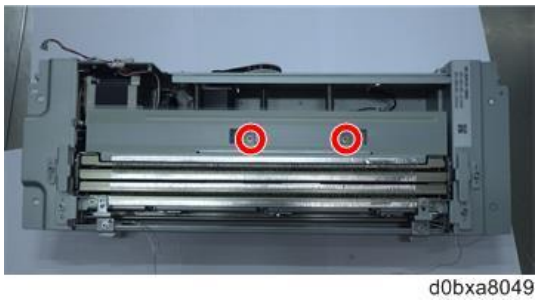
Decurl Unit Fan

1. Remove the decurl unit. (Decurl Unit)
2. Remove the decurl unit cover bracket (x2).



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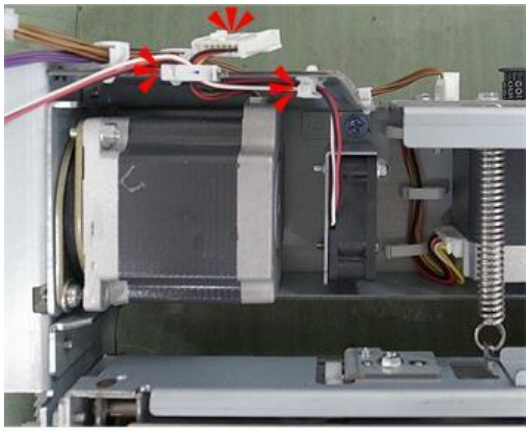
3. Disconnect the fan harness (x2, x1).



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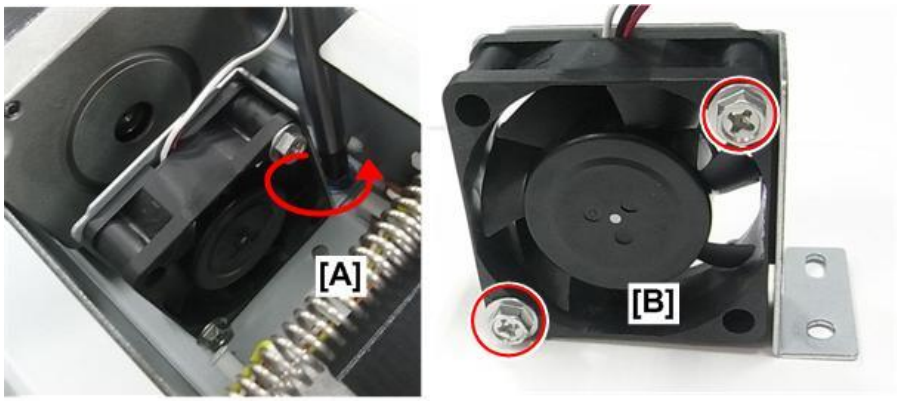
4. Remove the fan bracket [A] (with fan attached) (x1).
5. Separate the fan [B] and bracket (x2).



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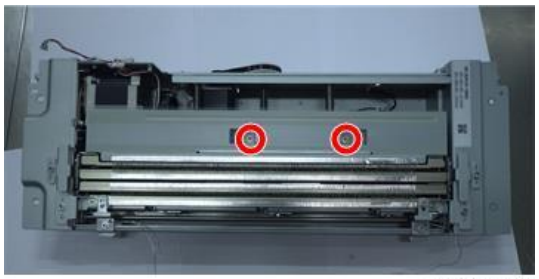
Decurl Feed Motor

1. Remove the decurl unit. (Decurl Unit)
2. Remove the decurl unit cover bracket (x2).



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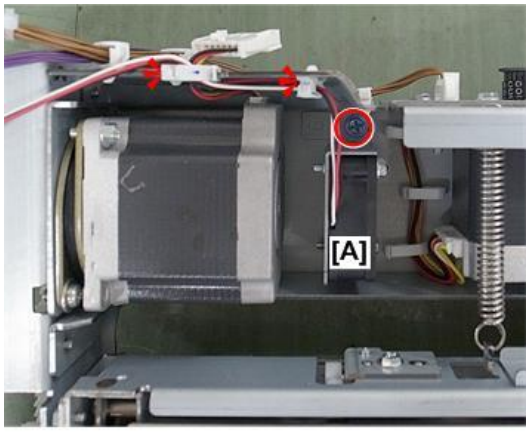
3. Disconnect the fan bracket [A] and free the harness so that you can move it to access the motor

(x1, x2).



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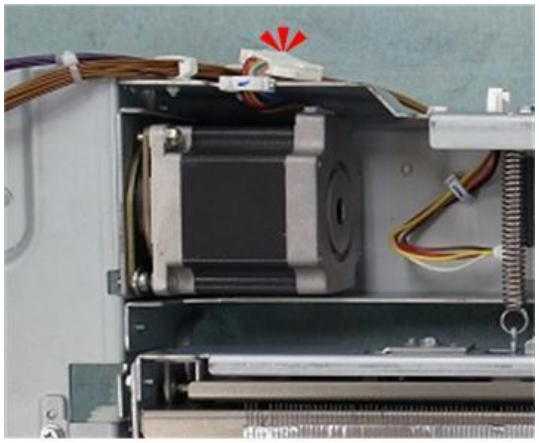
4. Disconnect the motor harness (x1).



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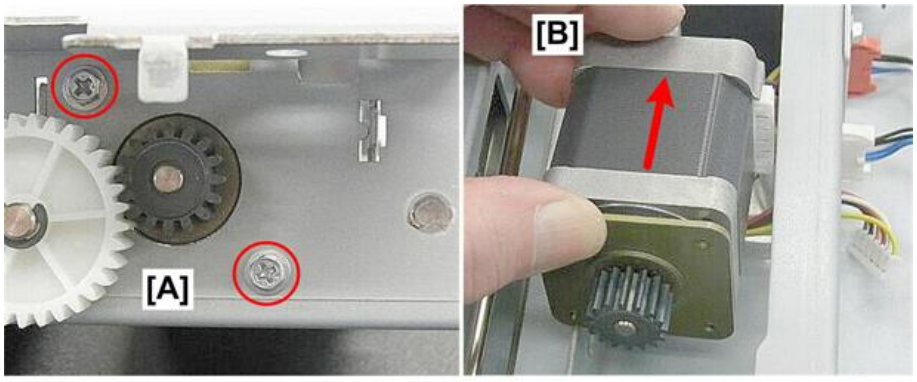
5. At the rear side of the unit [A], disconnect the motor (x2).

6. Pull the motor [B] out from rear to front.



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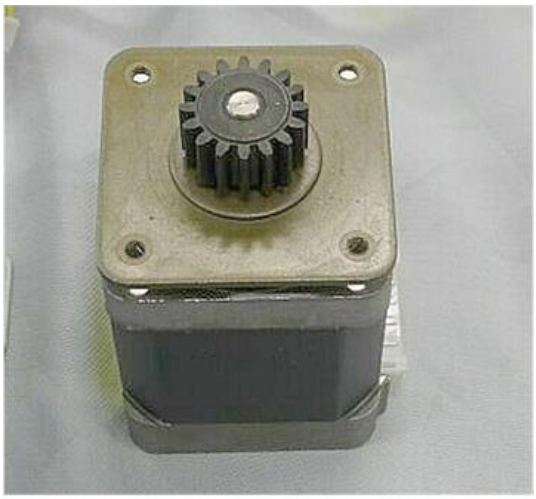
7. Remove the motor.



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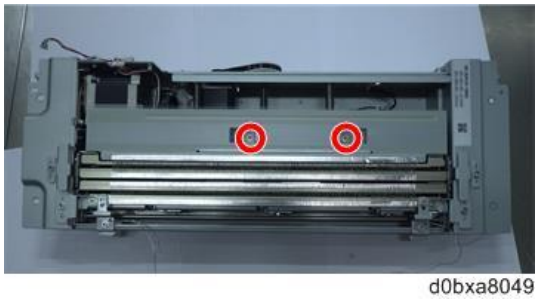
Decurl Unit HP and Limit Sensor

1. Remove the decurl unit. (Decurl Unit)
2. Remove the decurl unit cover bracket (x2).



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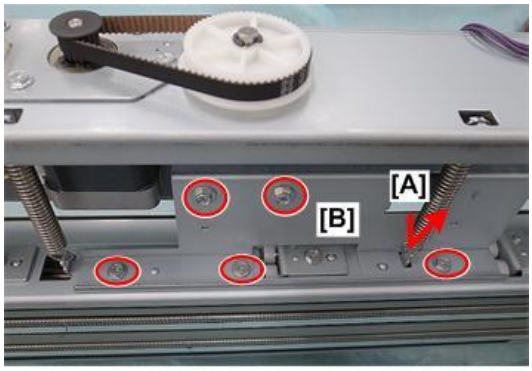
3. Remove the right spring [A] (x1).
4. Remove the cover bracket [B] (x5).



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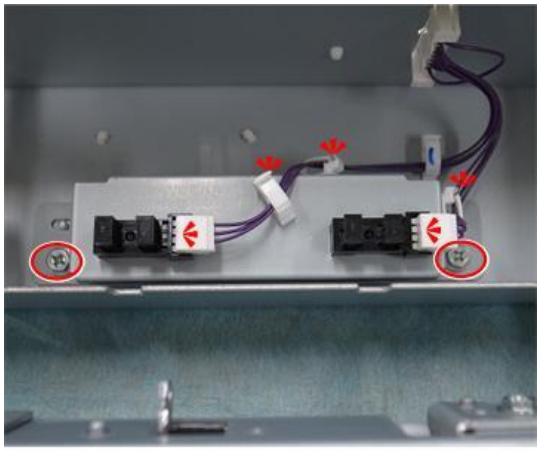
5. Remove the sensor bracket (with sensors attached) (x3, x2, x2).



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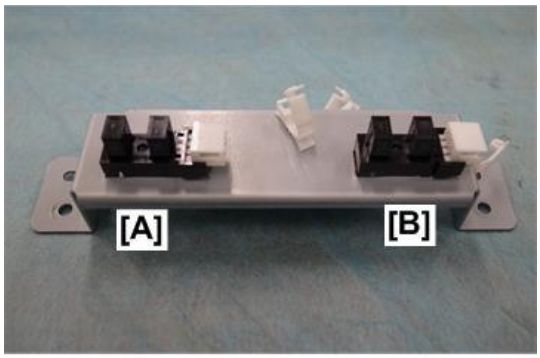
[A]	Decurl unit HP sensor
[B]	Decurl unit limit sensor



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