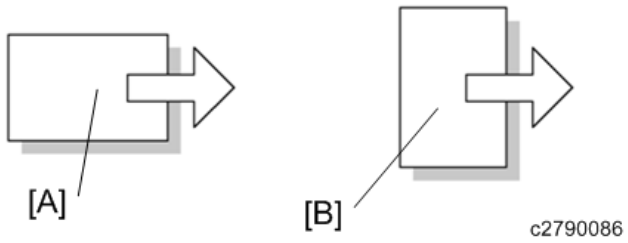
Decurl Unit DU5060
Machine Code:D3FA
Field Service Manual
Ver 1.0

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

Symbols, Abbreviations

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

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



[A] Short Edge Feed (SEF)

[B] Long Edge Feed (LEF)

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1. Replacement and Adjustment

Decurler Unit and Electrical Components

Decurler Unit

Removal Procedure

Important

- Most parts in the decurler unit have been precisely adjusted at the factory. Do not remove the parts for which replacement procedures are not mentioned in this manual. Otherwise, special tools will be needed in order to re-adjust the decurler unit.

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

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

1. Remove the I/F cover [A] of the main machine (☞x1).

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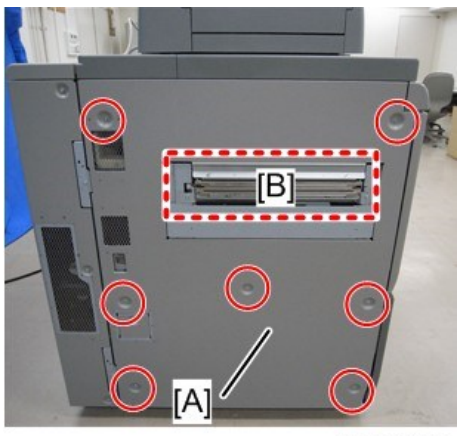
2. Remove the left cover [A] of the main machine (☞x7).

[B]: Decurler Unit



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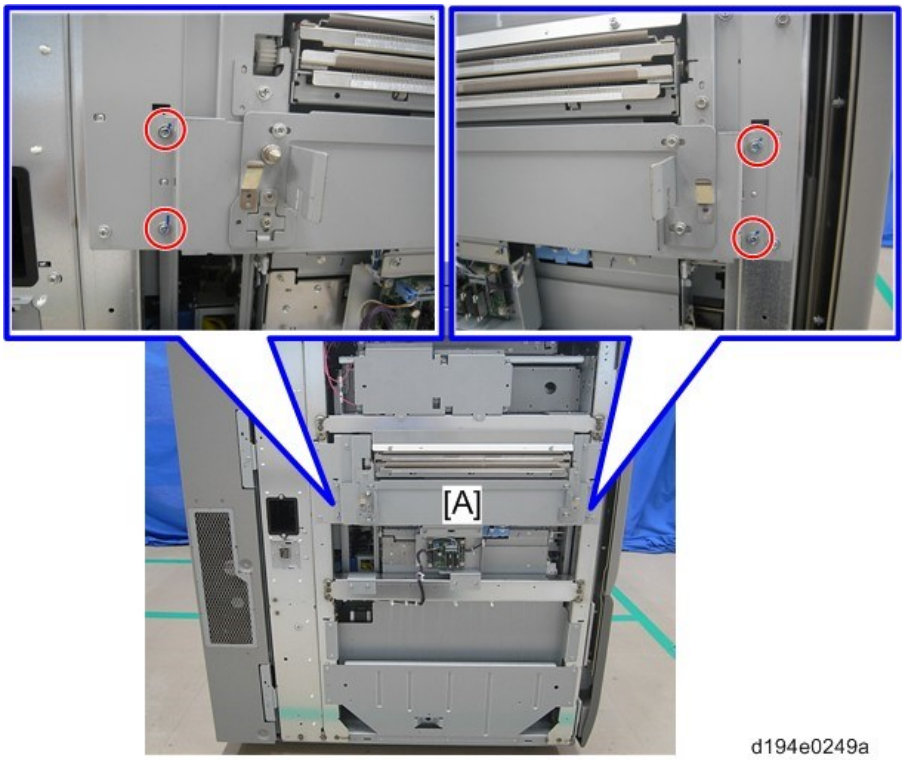
3. Disconnect the stay [A] of the main machine (x4).



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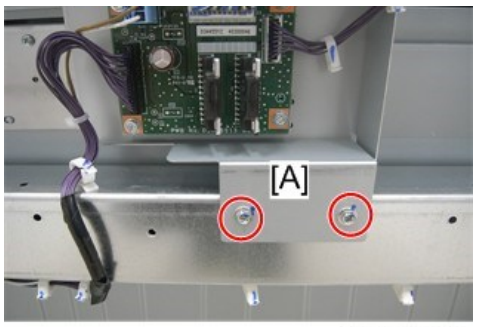
4. Disconnect the DDRB bracket [A] (x2).



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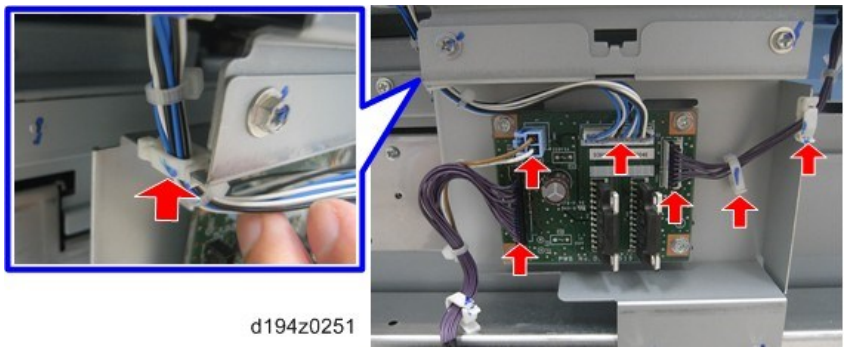
5. Remove the stay [A] with the DDRB bracket [B] (x4,x3).



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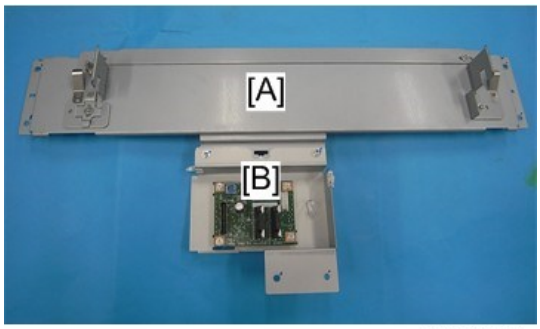

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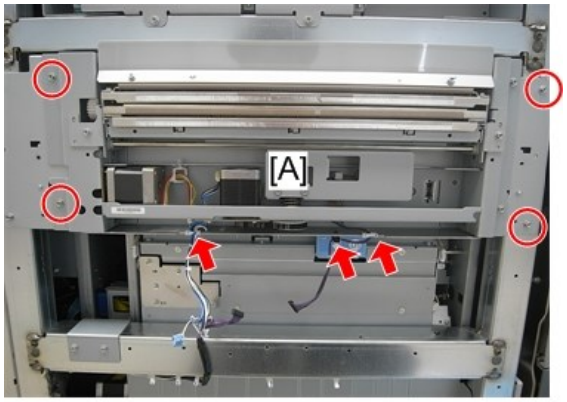
6. Remove the decurler unit [A] from the left side of the main machine (x4, x3).



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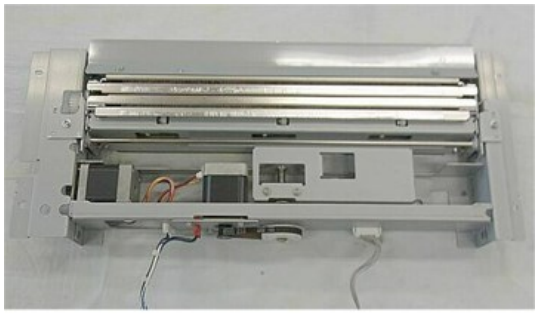

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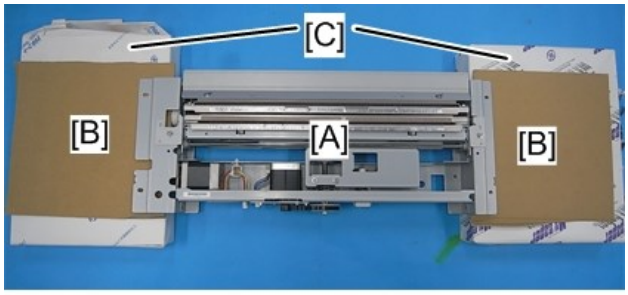
7. Keep the decurler unit in the “Maintenance Position” as described in the next section.

Maintenance Position

Place the decurler unit [A] on temporary supports [C] as shown below, such that the entrance guide of the decurler unit does not touch the floor or any object. Otherwise, the sheets on the entrance gate could be bent or folded.

- Keep the unit in this position during maintenance.
- Place sheets of cardboard [B] on the supports to protect them.



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Side View

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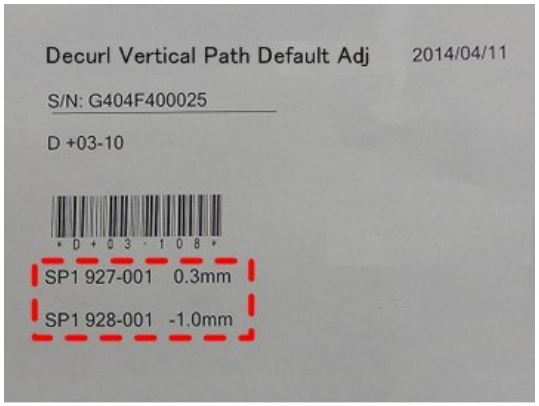
SP Settings After Installing a New Decurler Unit

1. Turn ON the main machine.
2. Enter the SP mode.
3. Refer to the accessory sheet. Key in the settings for SP1-927-001 and SP1-928-001.



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4. Exit the SP mode.
5. Turn OFF the main machine.

DDRB

1. Remove the I/F cover [A] of the main machine (x1).

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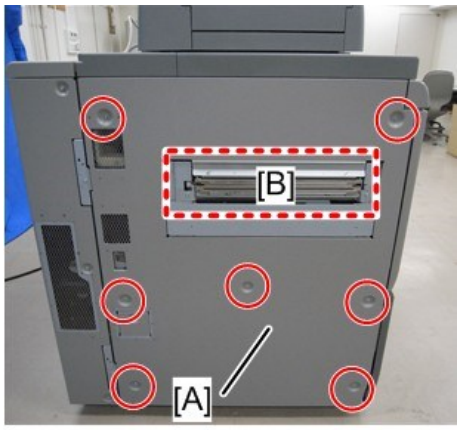
2. Remove the left cover [A] of the main machine (x7).

[B]: Decurler Unit



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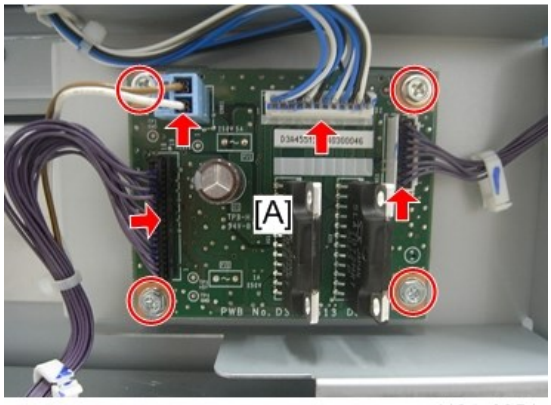
3. Remove the DDRB [A] (x4, x4).



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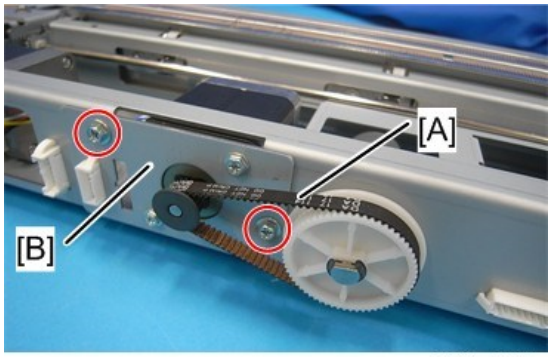
Decurler Unit Motor

1. Remove the decurler unit (Decurler Unit).

2. Remove the timing belt [A] and then remove the motor bracket [B] (X1, X2).



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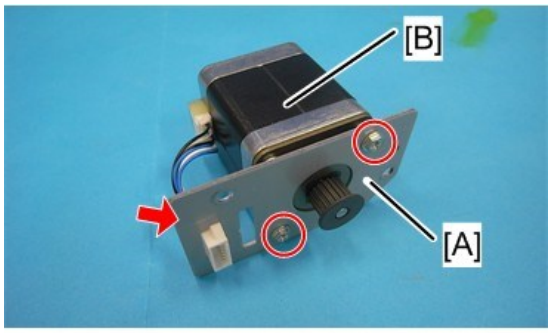
3. Separate the bracket [A] and decurler unit motor [B] (X2, x1).



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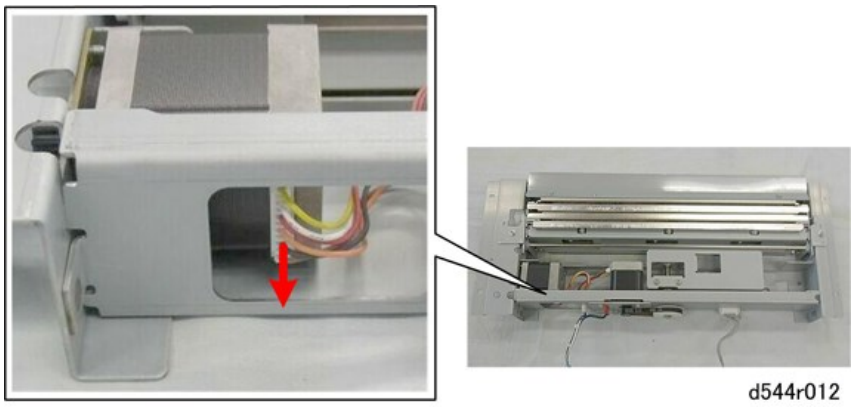
Decurler Feed Motor

1. Remove the decurler unit (Decurler Unit).
2. On the rear side, disconnect the motor (x1).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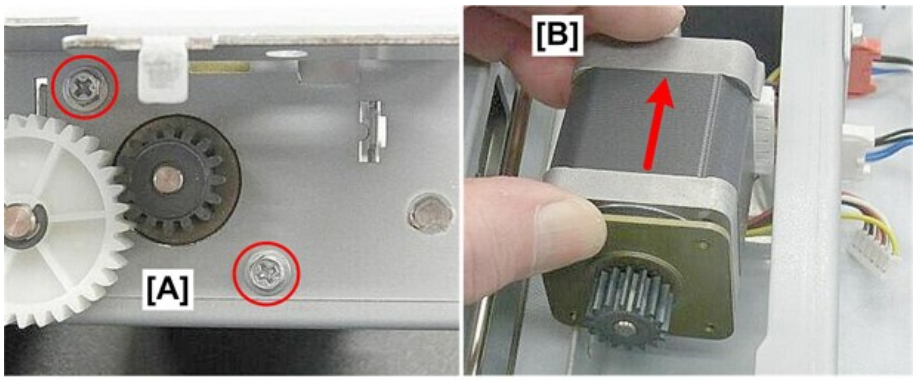
3. On the rear side of the unit [A], disconnect the motor (x2).

4. Slide the motor [B] towards the front of the unit.



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5. Remove the motor.

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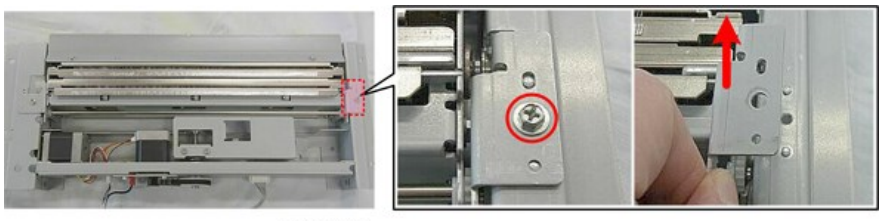
Decurler Unit HP Sensor and Limit Sensor

1. Remove the decurler unit (Decurler Unit)

2. On the front side, remove the rack of the front pinion gear (x1).



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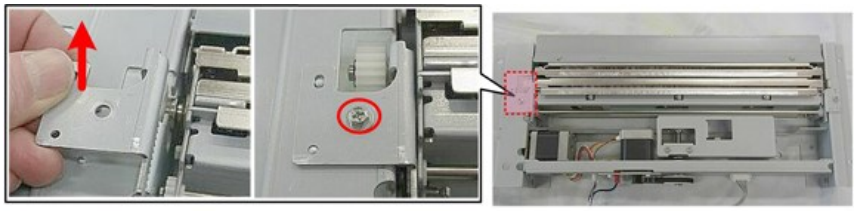
3. On the rear side, remove the rack of the rear pinion gear (x1).



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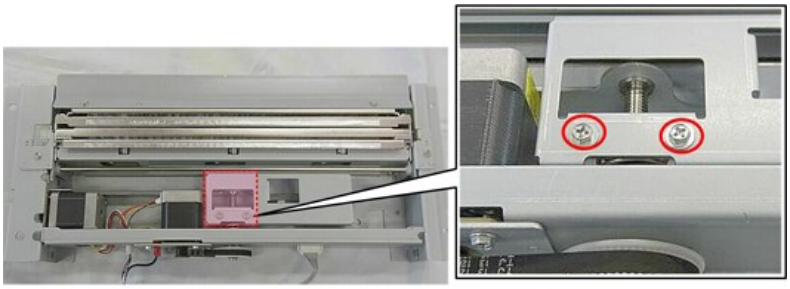
4. In the center, disconnect the tongue bracket (x2).



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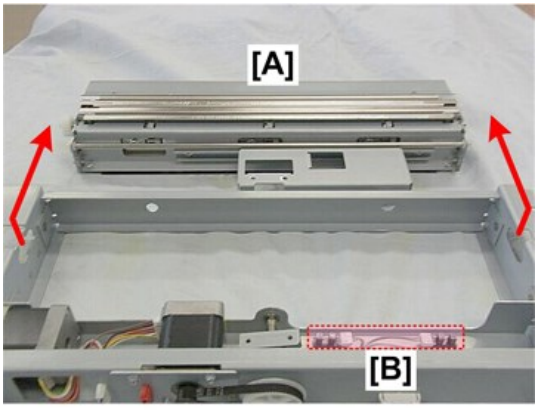
5. Remove the decurler unit assembly [A] so that you can see both sensors [B].



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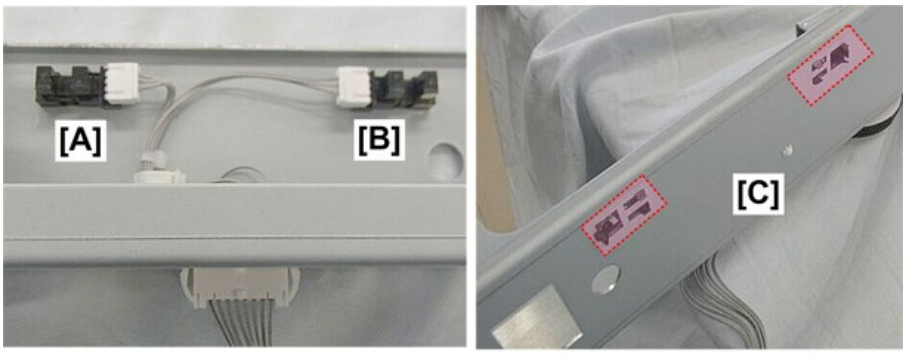
Note

- [A] is the decurler unit HP sensor and [B] is the decurler unit limit sensor.



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6. Disconnect the sensor that you wish to replace (x1).

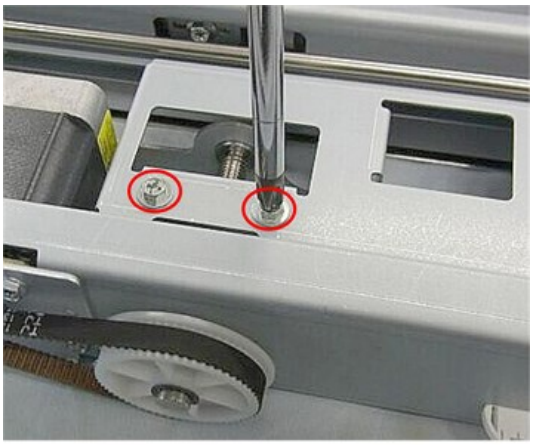
7. On the other side [C] (shown above) of the unit, release the sensor (x3).

Re-installation

1. Set the decurler unit assembly in the frame.

2. Fasten the tongue bracket before you attach the front and rear racks (x2).

- This will ensure that the assembly is properly aligned so that the front and rear racks fit correctly with the front and rear pinion gears below.
- When re-attaching the front and rear racks, make sure that the racks are flat and that they fit correctly with the pinion gears below, before re-fastening the screws.



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2. Detailed Descriptions

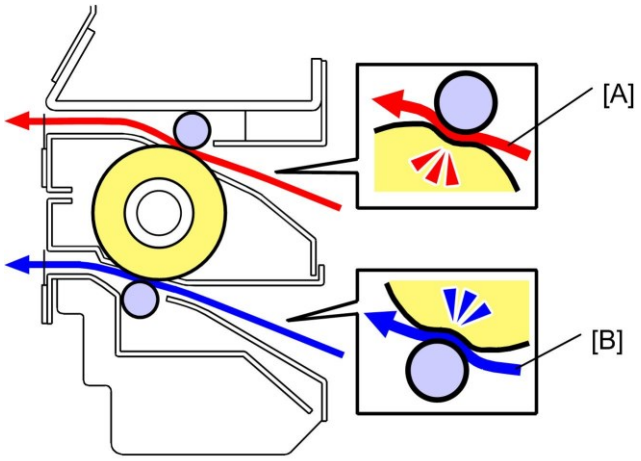
Specifications

Item		Specification	
Dimensions (W x D x H)		71 x 509 x 181mm Not including the safety plate	
Weight		Less than 5kg	
Type		Internal Module to be installed in the mainframe (Option)	
Power Consumption		Less than 30W	
Power Supply		From the mainframe	
Paper Size		100 x 139.7mm to 330.2 x 487.7mm	
Paper Weight		40 – 360gsm	
Decurl Function	Pressure Adjustment	3 steps	From the operation panel
	Curl Type	Back curl/Face curl	From the operation panel

Decurler Unit Operation

There are two decurler paths in the decurler unit.

- The upper path [A] is used to correct back curl
- The lower path [B] is used to correct face curl.



The upper path is used for all printing modes and paper types. It can be adjusted using **SP1906-1 to 12**. There is one SP setting for each of the twelve paper feed sources: Trays 1, 2 (main machine), Trays 3, 4, 5 (LCIT), Tray 6 (Multi Bypass), and Trays 7, 8, 9,10,11,12 (Vacuum Feed LCIT).

The decurler unit settings are as follows.

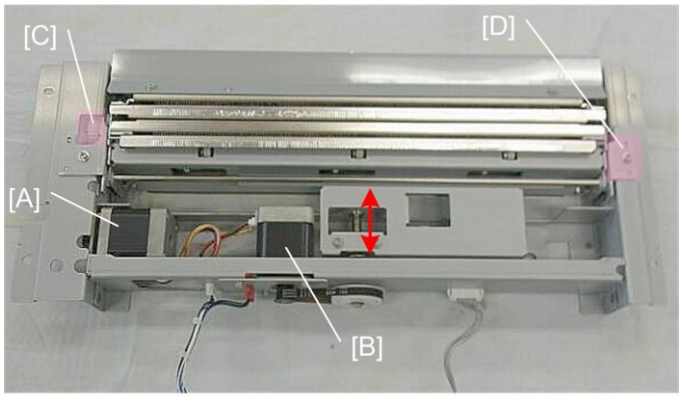
User Setting	Decurler Path	Decurler Roller Nip
Normal (not selected)	Lower path	0.3 mm
Face curl correction (weak)	Lower path	0.6 mm
Face curl correction (strong)	Lower path	0.7 mm
Normal (not selected)	Upper path	0.3 mm
Back curl correction (weak)	Upper path	1.2 mm
Back curl correction (strong)	Upper path	1.5 mm

Decurler Unit Movement

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

- The decurler feed motor [A] drives the rollers that feed paper through the decurler unit.
- The decurler unit motor [B] drives the timing belt and gear that raise and lower the decurler unit on

the paired rack and pinions at the rear [C] and front [D].



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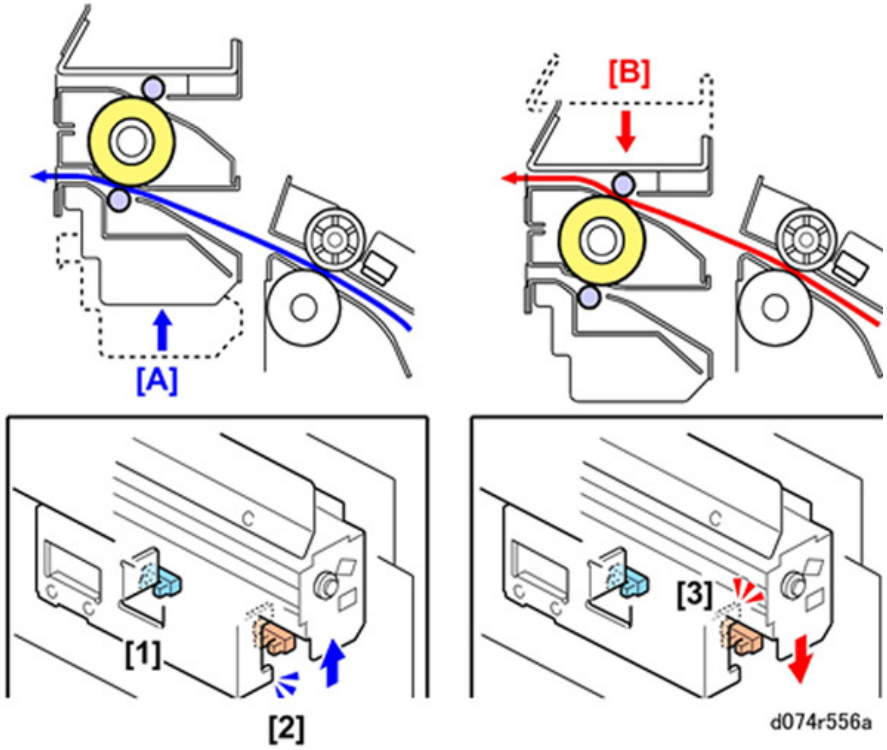
The up and down movement of the decurler unit is controlled by two sensors.

- Before a print job, the decurler unit HP sensor [1] detects the home position of the decurler unit.
- To correct face curl, the unit is raised [A] the distance specified by the user. If the decurler unit limit sensor [2] detects the bottom actuator, this triggers the over limit error (**SC593**).
- To correct back curl, the unit is lowered [B] the distance specified by the user. If the decurler unit limit sensor [3] detects the top actuator, this triggers the over limit error (**SC593**).



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Moving the decurler roller up or down changes the amount of pressure applied to the paper to correct paper curl. The maximum range of the decurler unit movement is ±13.85 mm from the home position of the decurler unit.

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

1. Log in as the machine administrator from the operation panel.
2. Touch "Adjustment Settings for Operators".

3. Touch No. 0304 "Correct Output Paper Curl".

- Settings are displayed for adjusting the amount of pressure (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.