

4-4 HEAD ALIGNMENT (Referential Time : 30 min._1 Head Alignment)

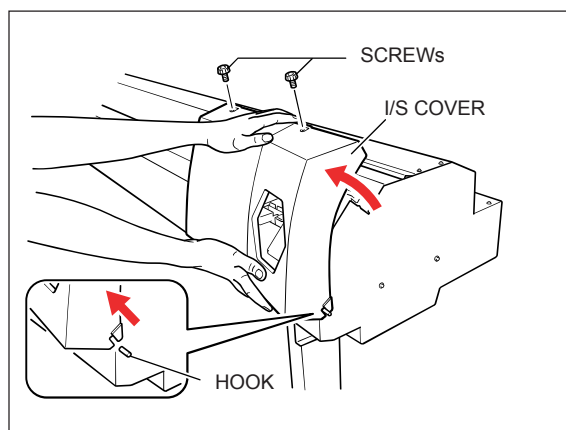
This is necessary to obtain the good printing quality. Be sure to operate this alignment when the head is replaced.

If the heads are not aligned, printing problems such as banding, fine lines and gap between bands could occur.

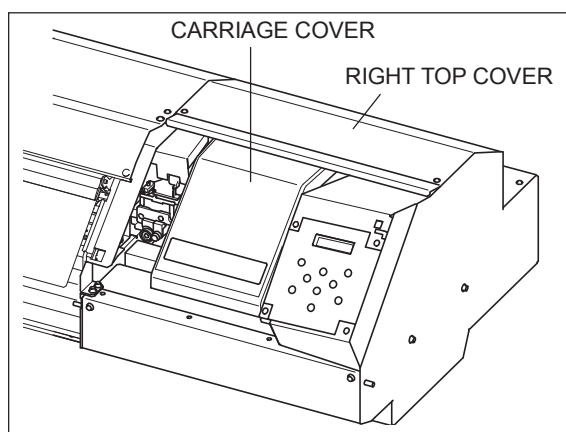
The PET-G is required for this alignment.

Please DO NOT use Take-Up Unit for this alignment.

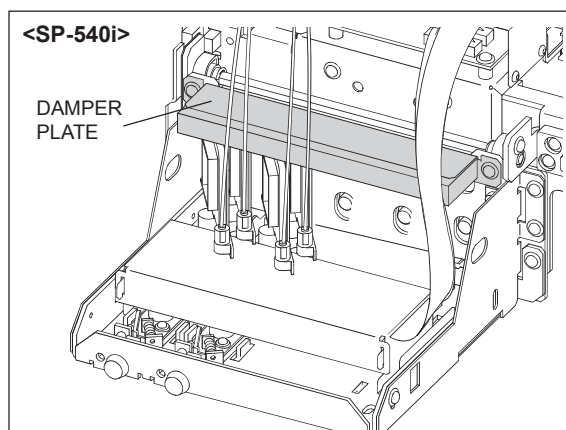
- 1 Remove the I/S Cover.

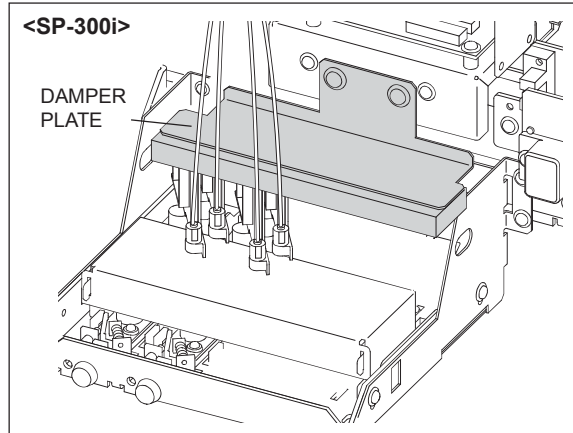


- 2 Remove the Carriage Cover and Right Top Cover.



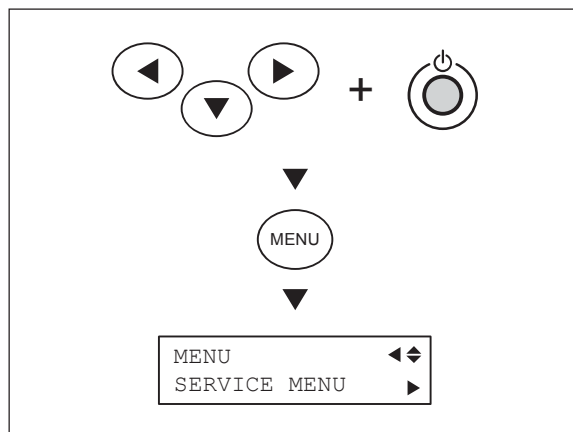
- 3 Remove the Damper Plate.



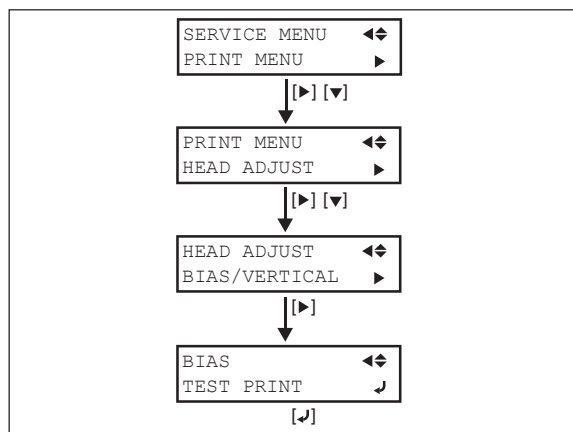


- 4 Turn on the Sub Power SW while pressing [◀], [▼] and [▶] keys to enter the Service Mode.

Set up the PET-G on the machine.



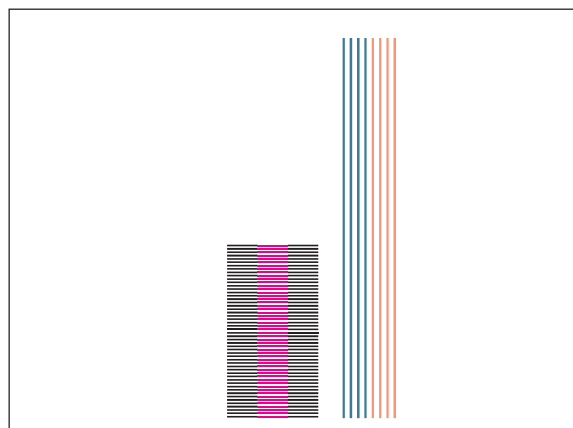
- 5 Select [PRINT MENU]> [HEAD ADJUST]> [BIAS/VERTICAL], and press [ENTER] key.



- 6 Test pattern as shown in the figure will be printed.



Test pattern can be moved by [▼] and [▲] keys.



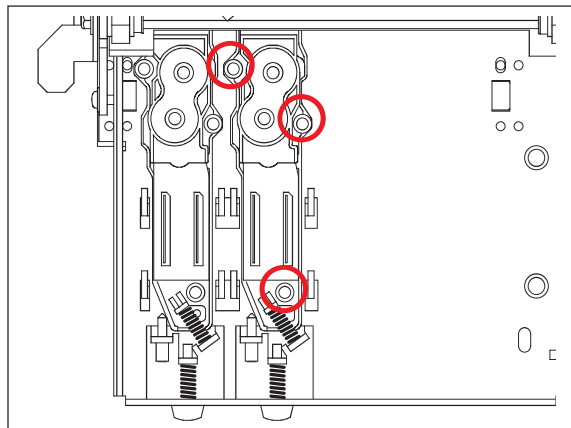
7 [BIAS ADJUSTMENT]

Loosen the 3 screws fixing the head.



Loosen the screws fixing the head for 1/2 turn.

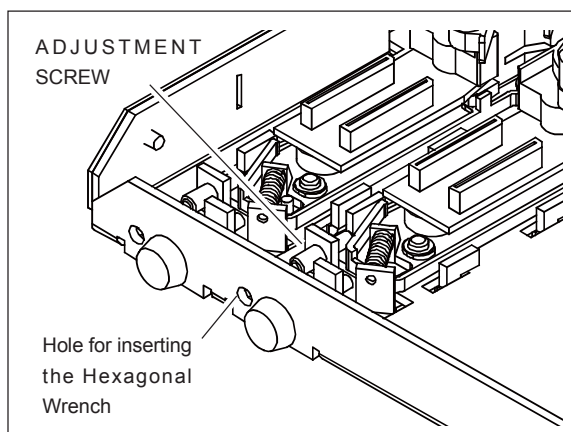
If the screws are loosened too much, the alignment cannot be done correctly.



8 Insert the 1.5 mm Hexagonal Wrench through the hole of the Head Carriage, then turn the Adjustment Screw to make the lines of each color in the test pattern straight.

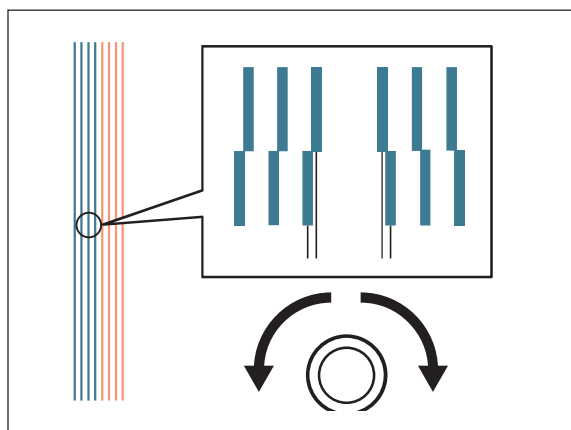


Position of the printing moves 1 line by turning the screw 2/3 turn.



When the upper lines are shifting towards the left of the lower lines, turn the screw CW.

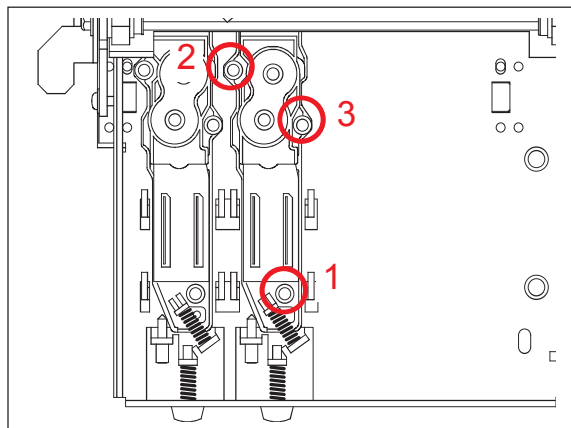
When the upper lines are shifting towards the right of the lower lines, turn the screw CCW.



9 Tighten the screws fixing the head in order as shown in the figure, using the Torque Driver (ST-056).



Torque for tightening is **2kgf • cm (20cNm)**. Make sure not to tighten the screws too strong.



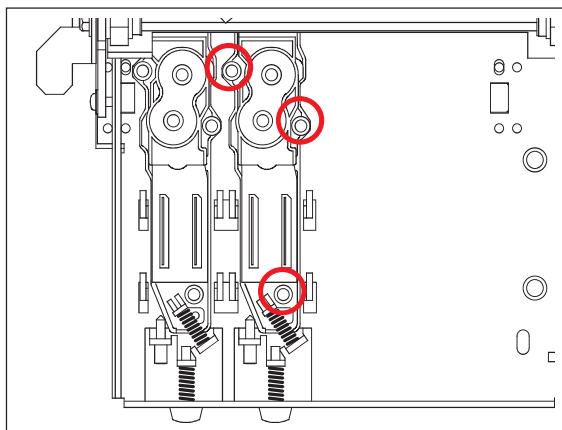
10 [VERTICAL ADJUSTMENT]

Loosen the 3 screws fixing the head.



Loosen the screws fixing the head for 1/2 turn.

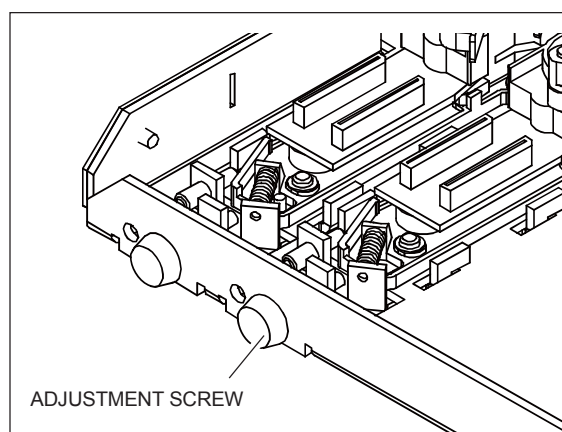
If the screws are loosened too much, the alignment cannot be done correctly.



11 Turn the Adjustment Screw to make the lines of each color in the test pattern straight.



Position of the printing moves 1 line by turning the screw 1/6 turn.

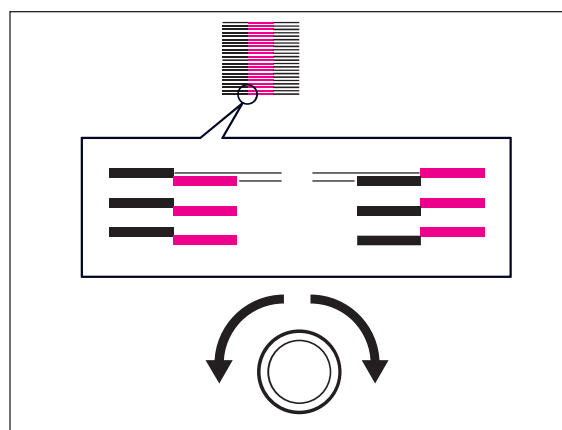


12 When the lines other than K are above the K lines, turn the Adjustment Screw CW.

When the lines other than K are below the K lines, turn the Adjustment Screw CCW.



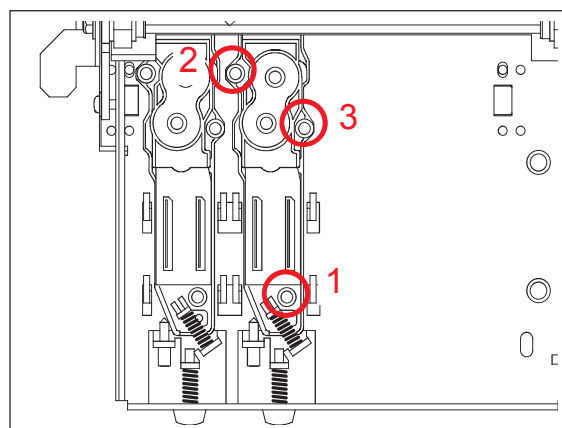
Adjust the head positions referring to the left-end K head as the base position. The position of K head on the left end does not need to be adjusted.



13 Tighten the screws fixing the head in order as shown in the figure, using the Torque Driver (ST-056).



Torque for tightening is **2kgf • cm (20cNm)**. Make sure not to tighten the screws too strong.



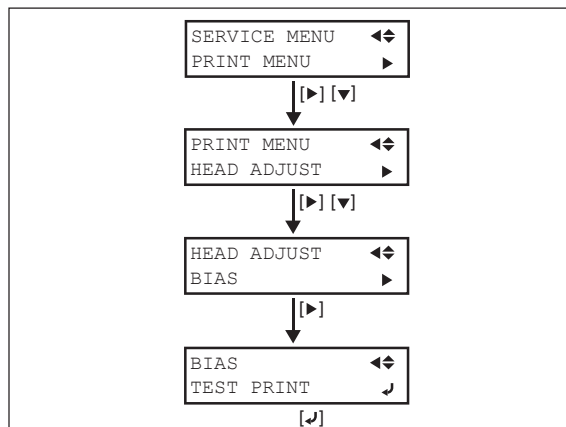
- 14** Print the test pattern again.
If the result is not satisfactory, repeat step 5 to 13.

If the VERTICAL test print result is satisfactory, select [HEAD ADJUST]> [BIAS/VERTICAL]> [TEST PRINT], and print the test pattern again.

If the BIAS test print result is not satisfactory, repeat BIAS ADJUSTMENT.

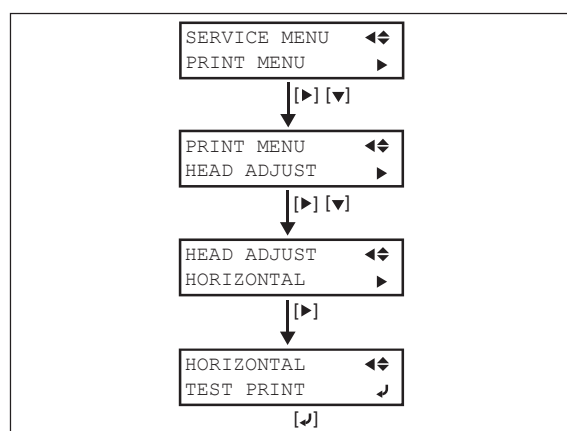


The shifting of lines should be smaller than 1/2 dot.



15 [HORIZONTAL ADJUSTMENT]

Select [PRINT MENU]> [HEAD ADJUST]> [HORIZONTAL]> [TEST PRINT], and press [ENTER] key.



- 16** Test Pattern will be printed.

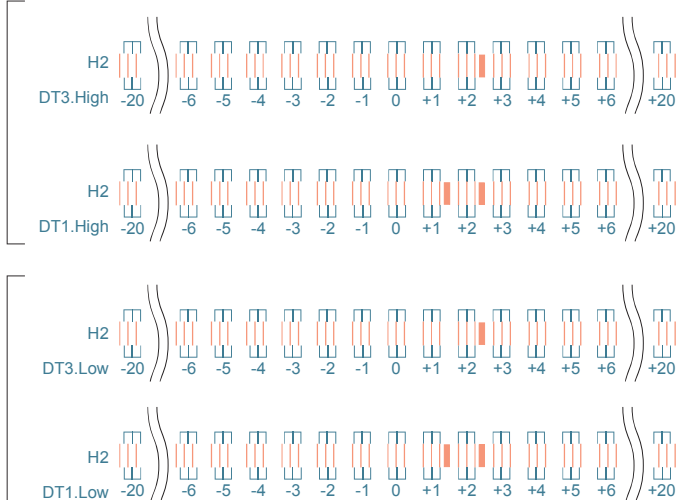
Find the position where the line of each color matches the K line and check the number.

In case of having problem selecting one between 2 numbers, 1/2 is also available when setting up the value.

The number with ■ is the current setting.

Head Position:
High
(SP-540i only)

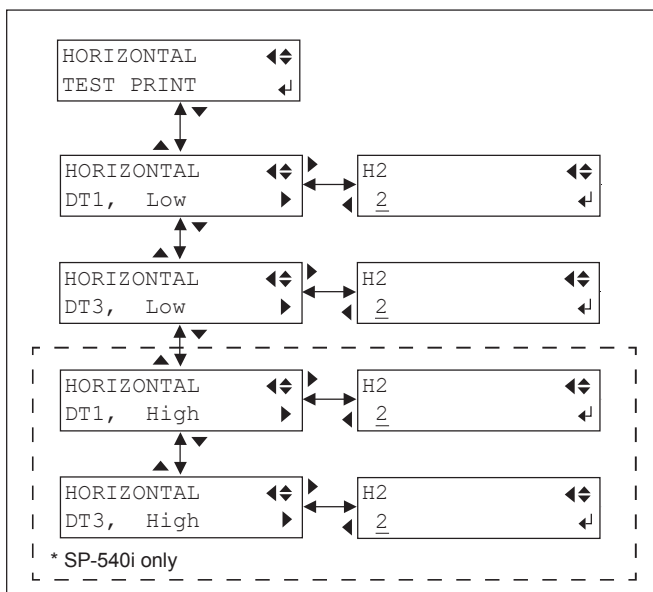
Head Position:
Low



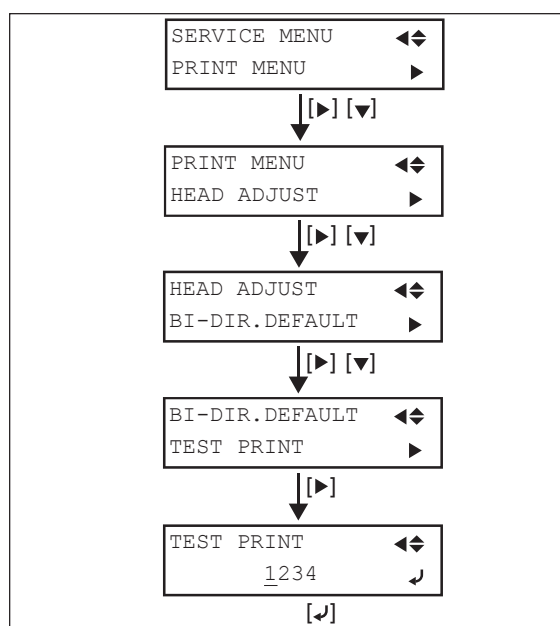
- 17** Select [DT1, Low], [DT3, Low], [DT1, HIGH] and [DT3, HIGH] in the [HEAD ADJUST] menu and enter the parameters checked at step 18 with [▲] and [▼] keys. Press [ENTER] key to save the settings.



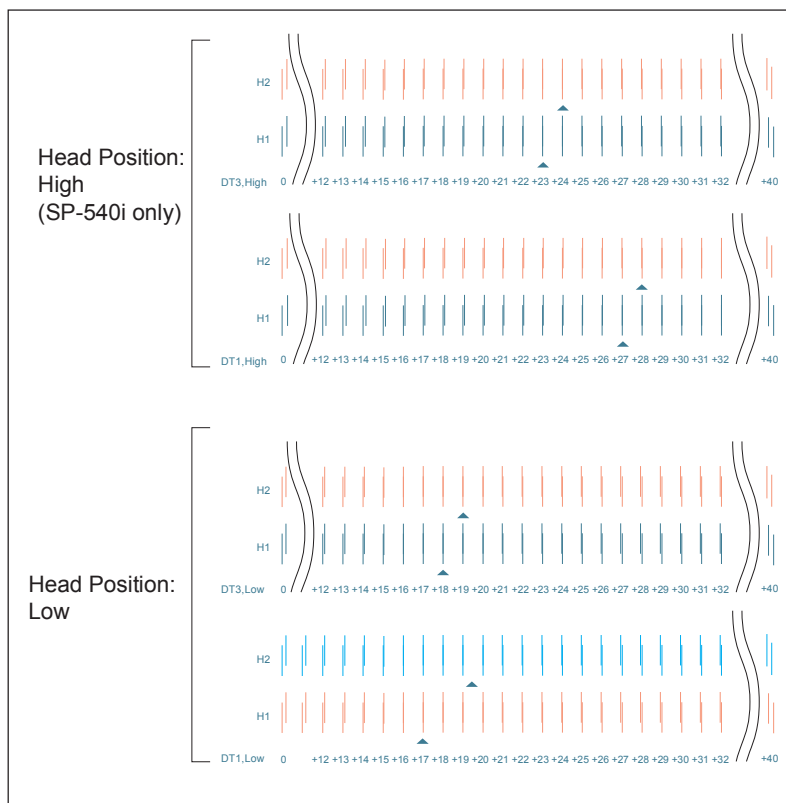
Parameters can be entered with an increment of 1/2.



- 18 [BIDIRECTIONAL ADJUSTMENT]** Select [PRINT MENU]> [HEAD ADJUST]> [BI-DIR.DE-FAULT]> [TEST PRINT], and press [ENTER] key.



- 19** Test pattern will be printed.
Find the position where the two lines are overlapping and check the number of each color.
In case of having problem selecting one between two numbers, 1/2 is also available when setting up the value.
The number with ▲ is the current setting.



- 20** Select [DT1, Low], [DT3, Low], [DT1, HIGH] and [DT3, HIGH] in the [HEAD ADJUST] menu and enter the parameters checked at step 21 with [▲] and [▼] keys. Press [ENTER] key to save the settings.



Parameters can be entered with an increment of 1/2.

BI-DIR.DEFAULT ▲▼
TEST PRINT ↵

BI-DIR.DEFAULT ▲▼ DT1, Low ▶ H1 H2 ▲▼
2 1 ↵

BI-DIR.DEFAULT ▲▼ DT3, Low ▶ H1 H2 ▲▼
2 1 ↵

BI-DIR.DEFAULT ▲▼ DT1, High ▶ H1 H2 ▲▼
2 1 ↵

BI-DIR.DEFAULT ▲▼ DT3, High ▶ H1 H2 ▲▼
2 1 ↵

* SP-540i only

21 Fix the Damper Plate.



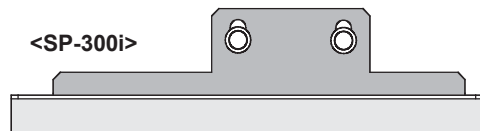
Make sure to press the Damper Plate downward lightly when fixing it.
If you press the Damper Plate strongly, the Damper may be damaged.

* Fix the screws at the lower end of the long screw hole.

<SP-540i>

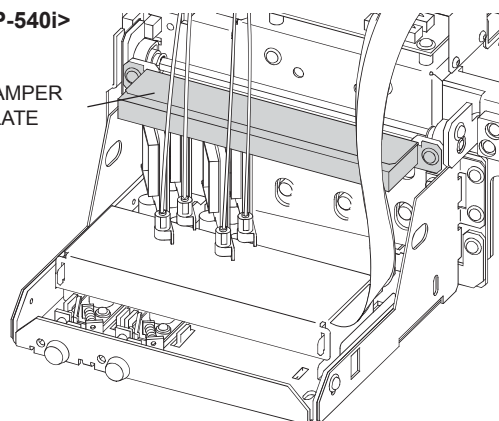


<SP-300i>



<SP-540i>

DAMPER
PLATE



<SP-300i>

DAMPER
PLATE

