

Section 7.1

Warp Detectors

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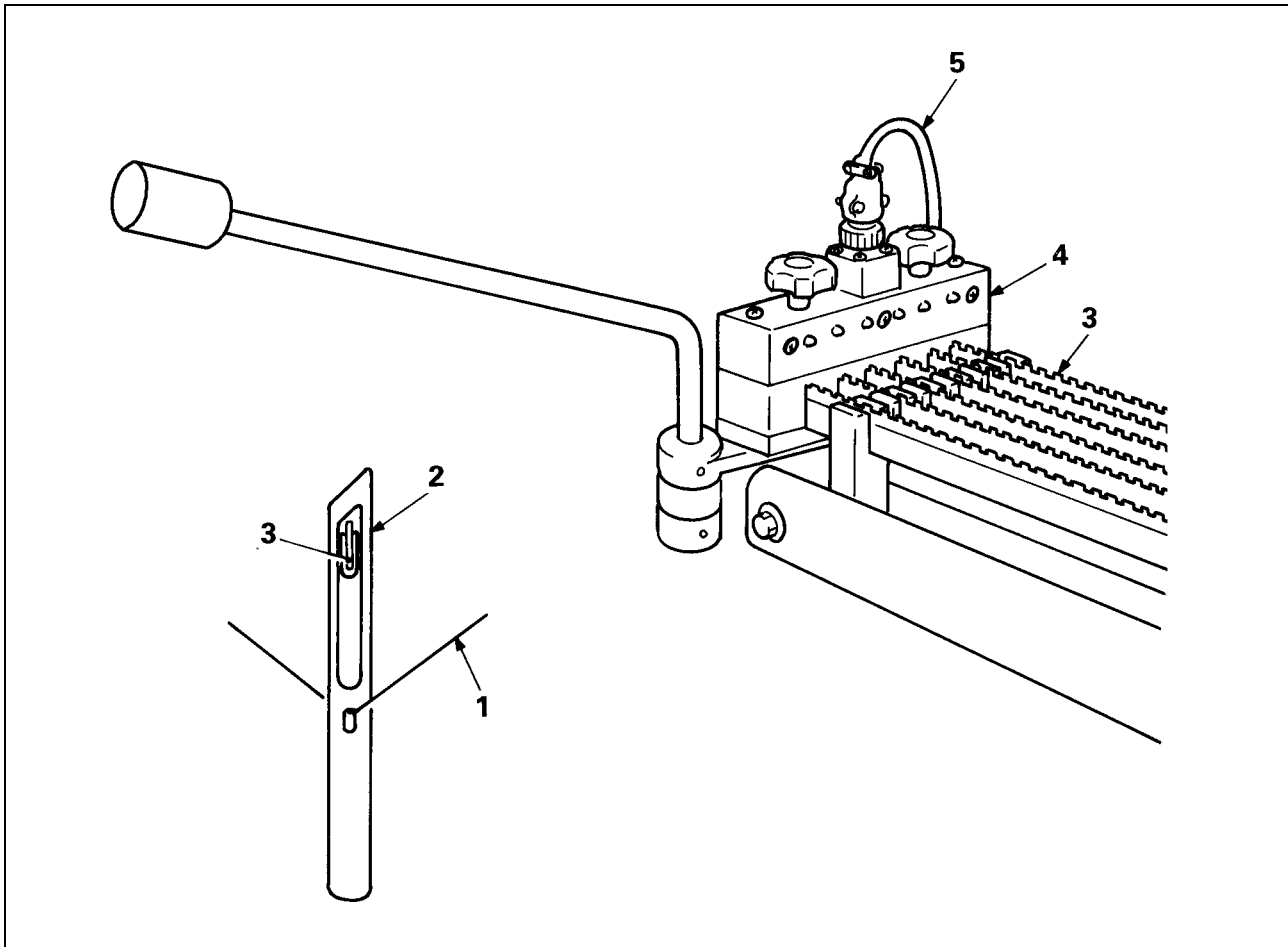
7. DETECTORS

7.1 Warp Detectors

The warp detector, which is located above the warp lines at the rear section of the weaving machine, detects warp break to stop the machine operation.

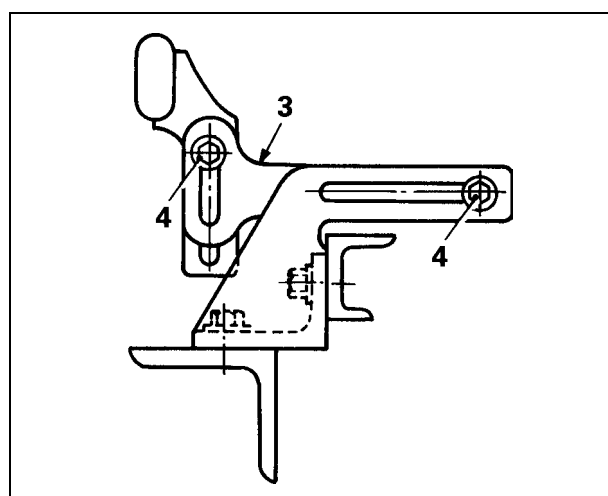
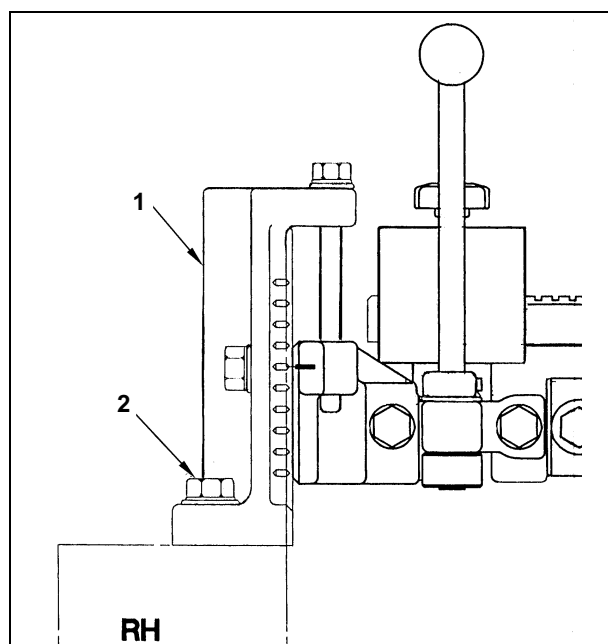
If a warp **1** breaks, dropper **2** falls down so that contact bar **3** draws current whose signals are transmitted via contact plate **4** and cable **5** to the machine control box.

NOTE: When handling a 12-division contact bar, take special care not to bend it.



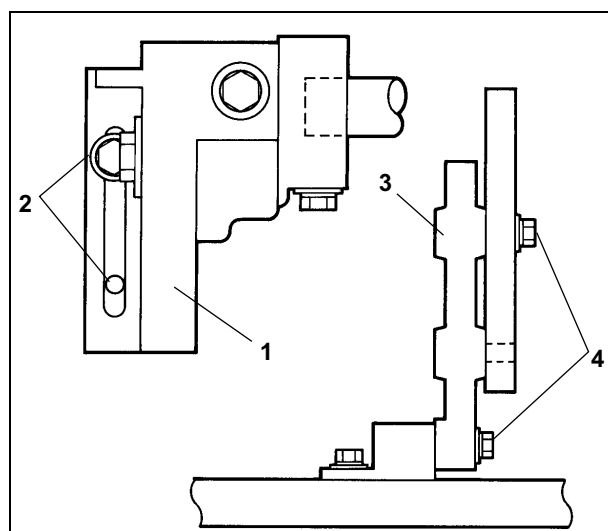
[1] Front-to-rear adjustment

- (1) Press the emergency stop button down until it locks itself and the machine.
- (2) Loosen nut **2** (which secures warp detector **1**) at each side of the weaving machine.



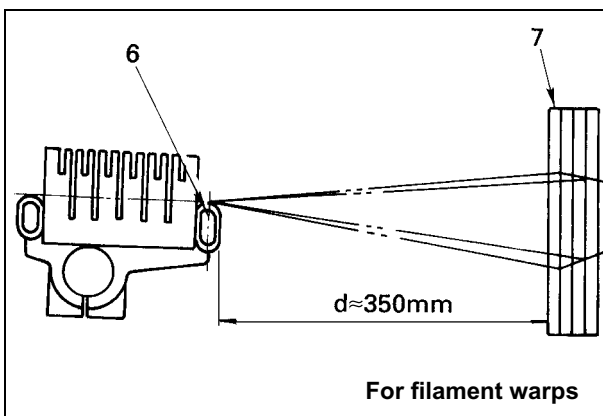
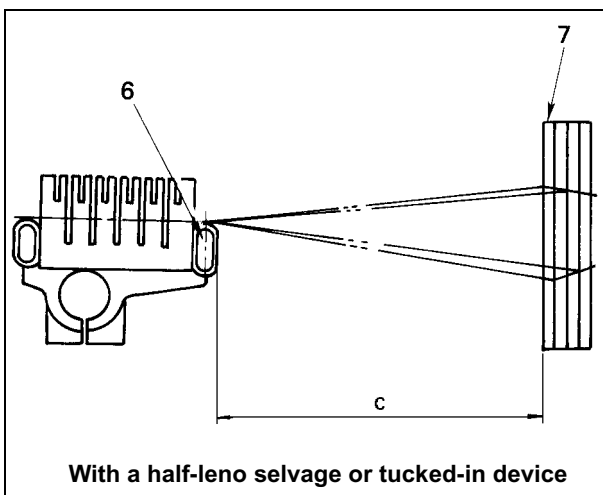
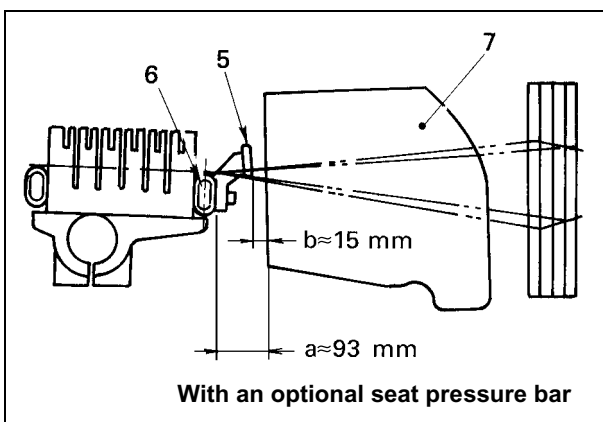
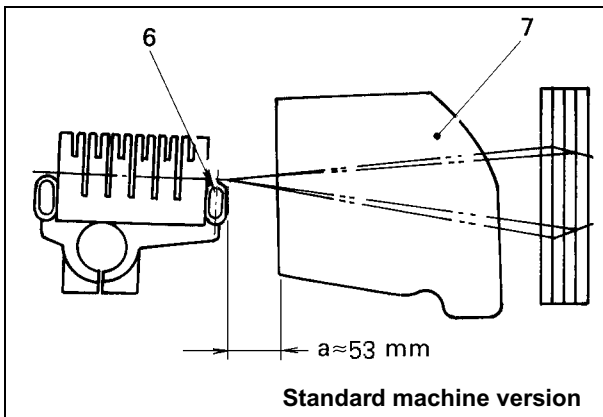
- (3) Loosen bolts **4** (which secure middle supporter connector **3**) inside the weaving machine.

NOTE: The number of the middle supporters differs depending upon the reed space.



- (4) Adjust the positional relationship between warp detector **1** and middle supporter connector(s) **3** according to the instructions given on the next page depending upon the specifications required.

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- a) For the standard machine version:
Move the warp detector to the front or rear so that distance "a" between the front end of guide bar **6** and the rear end of full-leno selvage cover **7** comes to approx. 53 mm.

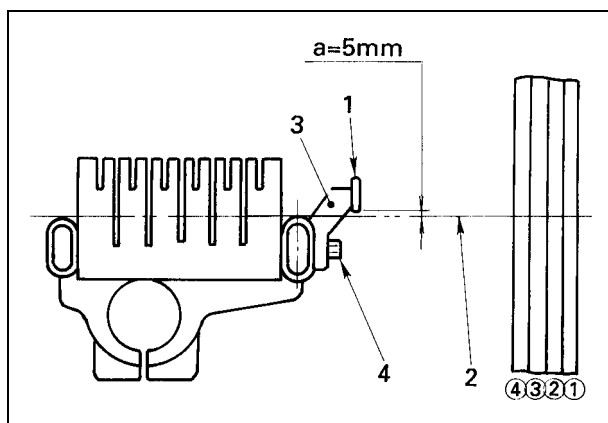
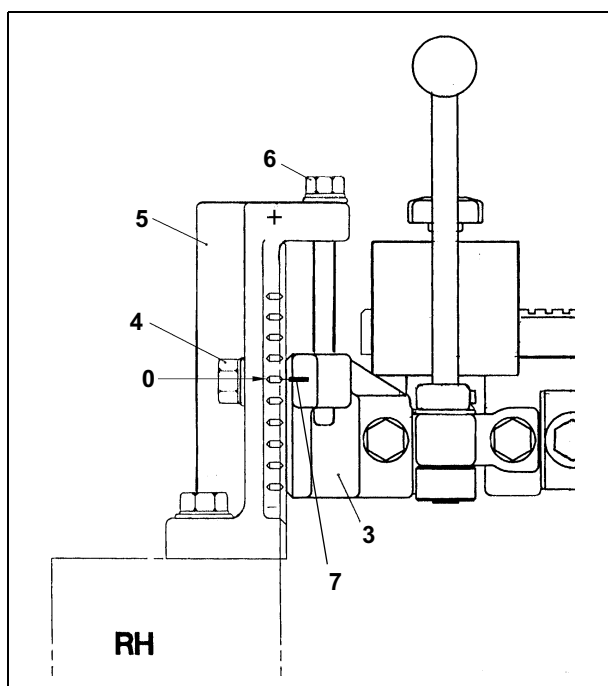
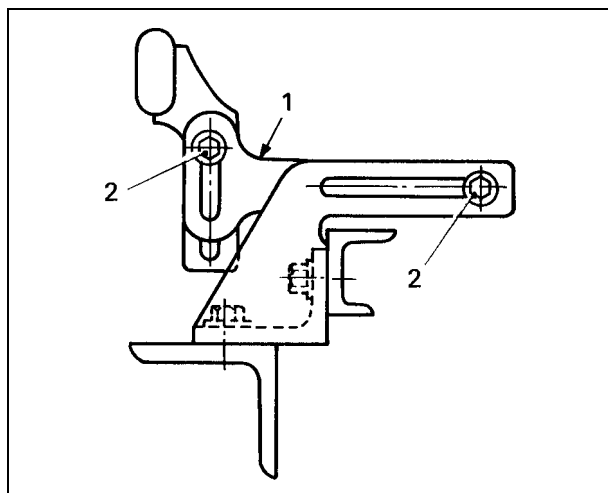
- b) For those machines equipped with optional seat pressure bar **5**:
Adjust the warp detector so that distance "a" comes to approx. 93 mm and that clearance "b" between the front end of seat pressure bar **5** and the rear end of full-leno selvage cover **7** comes to approx. 15 mm.

- c) For those machines equipped with a half-leno selvage device or tucked-in device
Move the warp detector to the front or rear so that distance "c" between the front end of guide bar **6** and the rear end of rear-most heald frame **7** is as specified in the table below:

No. of heald frames used	"c"
4	320 mm
5	305 mm
6	290 mm
7	275 mm
8	260 mm

- d) For filament warp:
Move the warp detector to the front or rear so that distance "d" between the front end of guide bar **6** and the rear end of 4th heald frame **7** comes to approx. 350 mm.
- (5) Tighten nut **2** and bolts **4** (which are loosened in steps (2) and (3)).

NOTE: Dimensions "a", "c", and "d" may change depending upon fabric types.



[2] Vertical adjustment

- (1) Loosen bolts 2 (which secure middle supporter connector 1) inside the weaving machine.

NOTE: The number of the middle supporters differs depending upon the reed width.

- (2) Loosen bolts 4 (which secure holder 3) at each of the right and left sides of the warp detector.
- (3) Rotate adjust bolt 6 located on the bracket 5 to align the desired graduation with mark 7 on the side of holder 3.
- (4) Tighten bolts 4.
- (5) Tighten bolts 2.

The table below lists the standard height.

Fabric structure	Height (graduation)
Plain weave (1/1) and twill weave (2/2)	0
Twill and satin weave (2/1, 3/1, and 4/1)	+1
Twill and satin weave (1/2, 1/3, and 1/4)	-2
Dobby	0

[3] Seat pressure bar (Option)

If the dropper is likely to dance due to fabric texture using spun yarns, install the seat pressure bar.

- (1) Loosen bolt 4 at each of the right and left sides of the warp detector.
- (2) Adjust bar bracket 3 so that the bottom end of seat pressure bar 1 is placed 5 mm above warp seat 2 at shed closure. Then, secure bar bracket 3 with bolts 4.

7. DETECTORS

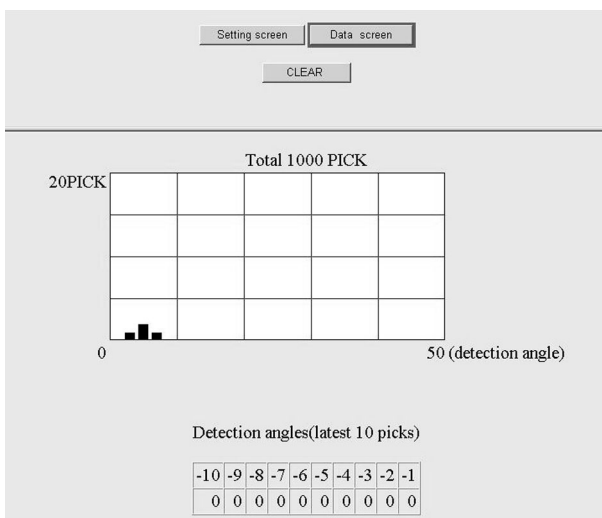
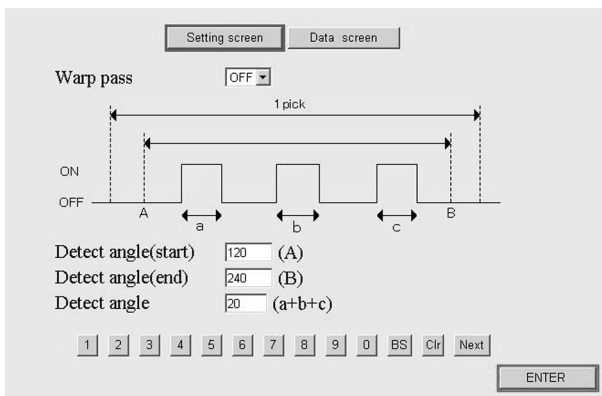
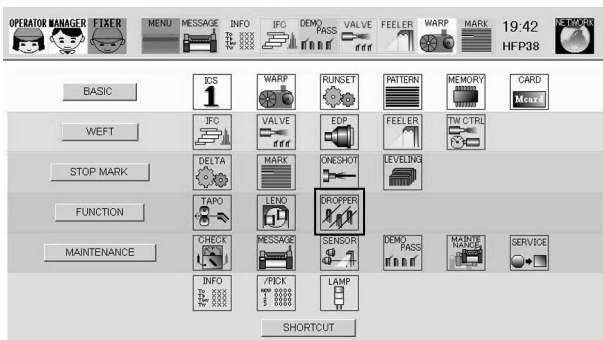
[4] Warp stop suppressor

The warp stop suppressor may decrease false warp stops.

NOTE: The suppressor is not available in the separate type which has a separate warp stop board and a detector bar equipped with an LED, and neither appears the associated screen.

If the warp stop suppressor (“Warp pass”) is set to OFF, then the machine will stop due to a warp break the moment the dropper comes into contact with the contact bar.

Touch **FIXER-DROPPER**(on FUNCTION menu) to call up the setting screen shown at left center.



(1) Setting the warp stop suppressor

Warp pass:

Enable or disable the warp stop suppressor. If enabled, the warp stop suppressor works according to the following conditions.

Detect angle (start):

Set the angle from which the warp stop suppressor starts detecting warp breaks.

Detect angle (end):

Set the angle from which the warp stop suppressor ends detecting warp breaks.

Detect angle:

Set the total angle which corresponds to the total ON-duration of the warp break detection signal. If the actual total angle exceeds this setting, the machine comes to a warp stop.

(2) Monitoring the warp break detection signal

Touch **Data screen** to call up the screen shown at left where you may monitor the actual state of the warp break detection signal.

The bar graph shows how many times warp breaks are detected within the angle range from the detection start to end angle, in a total of 1000 picks.

This screen also lists the detection angle at which the machine has come to a warp stop in last 10 picks.

With these two types of data, compare the false warp stops and actual warp breaks and then make the appropriate settings at the screen shown at left center.