

Part 3: Service Instructions cl. 550-12-23; -24; -26

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1. General



ATTENTION !

The tasks described in the service instructions may only be conducted by skilled personnel or appropriately trained persons !



Caution Risk of Injury !

During repair, conversion and maintenance work turn the main switch off and disconnect the machine from the pneumatic supply.

Conduct adjustment work and function testing with the machine running only under strictest observance of all safety measures and with greatest caution.

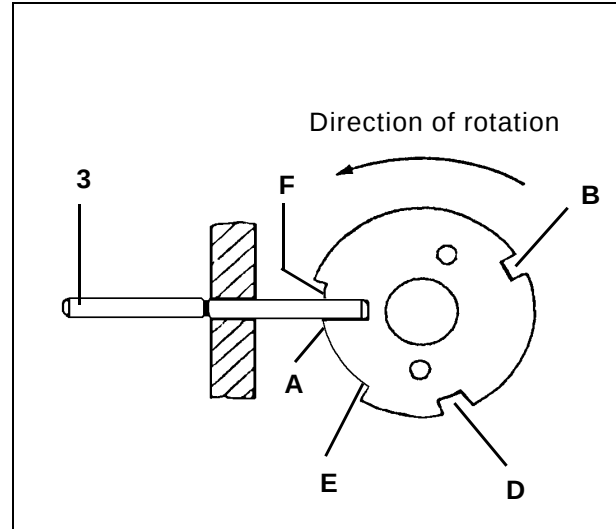
These service instructions describe the setting of the sewing machine in a practical order.

Hereby it is to be noted that different setting positions are interdependent. Therefore the settings must be conducted keeping to the described order.

For all setting work on stitch forming parts a new flawless needle must be inserted.



1.1 Setting Aids



The machine head is equipped with setting aids which make possible a quick and precise setting of all elements.

Among these setting aids is the handwheel, which is provided with the letters **A**, **B**, **D**, **E** and **F**, as well as a built-in adjustment disk with 5 different holes.

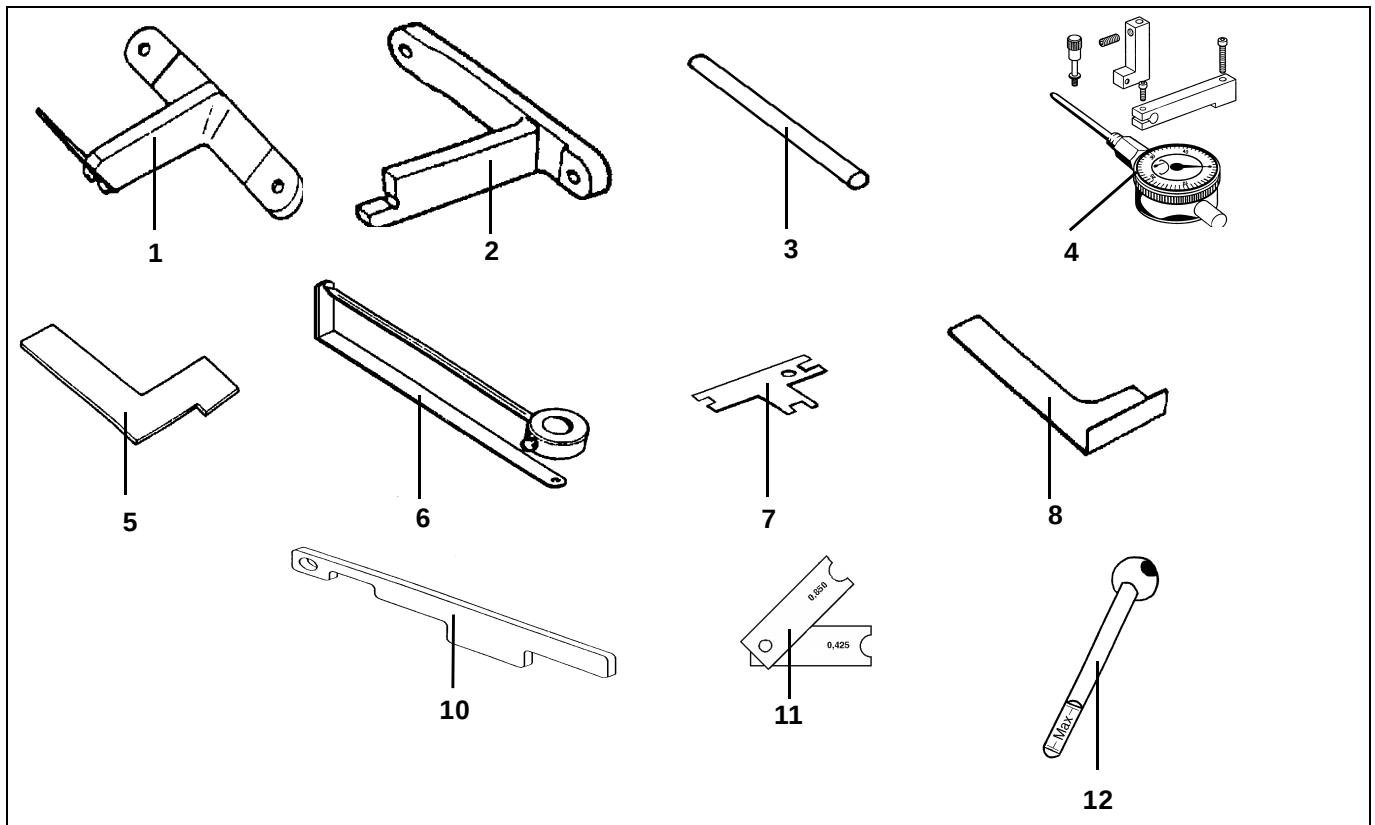
The individual setting positions are set with a timing pin. It is included as standard in the machine accessories pack.

- Turn the handwheel into the position described for the setting.
- Insert the timing pin 3 into the hole of the machine housing.
- Turn the handwheel a little back and forth until the pin catches in the appropriate hole.
- Slot **A** on the adjustment disk is the deepest.
The slots **B** to **F** have the same depth.

Slot	Position	Setting
A	Needle bar 2 mm behind the lower dead center	- Position the adjustment disk on the arm shaft - Timing the advancing movement of the transport foot - Reference point of the synchronizer
B	Needle bar in the upper dead center	- Thread take-up disk - Stroke and advance eccentric - Clearance of the transport foot bar to the pressure foot bar - Idle for the feed dog and transport foot when the stitch regulator guide is operated
D	Thread lever just in front of lower dead center	- Eccentric for the stroke gearing - Timing of the stroke movement of the transport foot
F		- Position of the lower timing belt pulley, looping stroke and needle bar height
E and F		- Symmetry of looper motion



1.2 Gauge Set



The setting gauges listed below make possible a precise setting and checking of the machine.

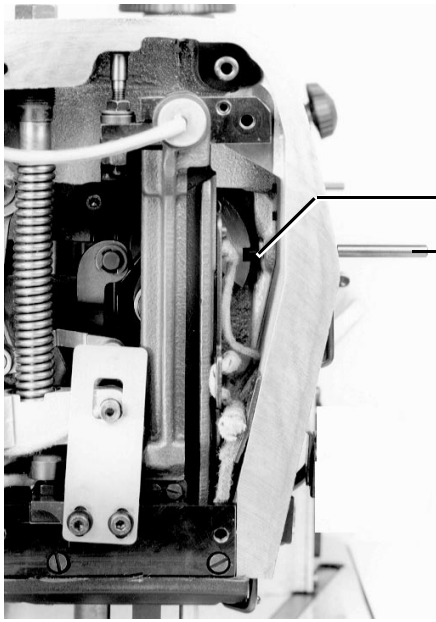
The timing pin no. 3 is included as standard in the accessories pack of every machine. With it the handwheel positions **A** to **F** necessary for the settings can be locked in place.

Gauges	Order no.	Setting
1 - Gauge	0195 002962	- Position of the left lower shaft bearing (Alternatively also 933 000735 + 2 mm)
2 - Gauge	0195 002966	- Position of the hook drive housing (Alternatively also 933 000739K + 2,5 mm)
3 - Timing pin (in the accessories pack)	0791 001152	- Arresting the handwheel in one of the individual positions A to F
4 - Dial gauge	0196 002972	- Measuring the needle avoidance movement of the hook drive, the ellipse width and stitch lengths of the transport dogs and the transport foot
5 - Gauge	0171 000975	- Incline of the hook from 89° 30'
6 - Gauge	0933 080192	- Equal hook movement at reverse point
7 - Gauge	0933 000740	- Height of the thread take-up lever disk
8 - Gauge (in the accessories pack)	0933 000758	- Advance eccentric for the feed dog
10 - Gauge	0491 079996	- Stroke adjustment range of the pressure feet
11 - Adjustment plates	0196 002971	- Setting the multiposition cylinders
12 - Oil dip stick	0965 000871	- Checking the oil level in the hook drive housing



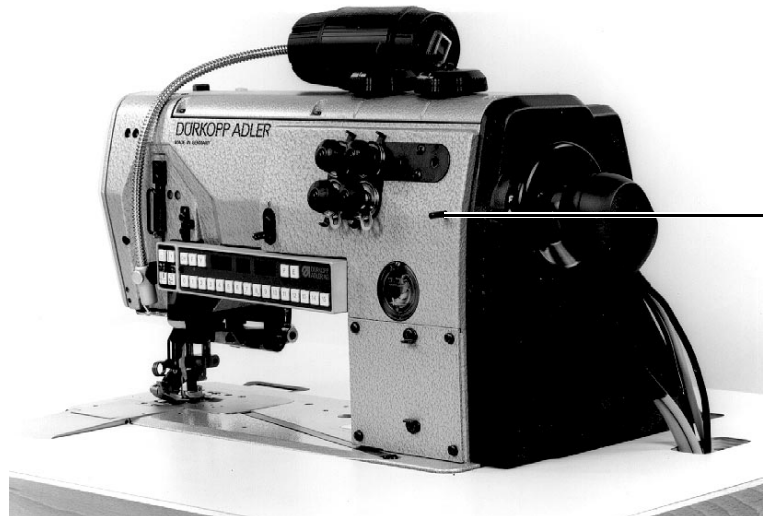
2. Setting the Machine Head

2.1 Adjustment Disk to the Arm Shaft Crank



2

3



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The slot **A** on the adjustment disk must be inline with the groove 2 in the arm shaft crank.

Only in this position are all other settings made with the adjustment disk correct.



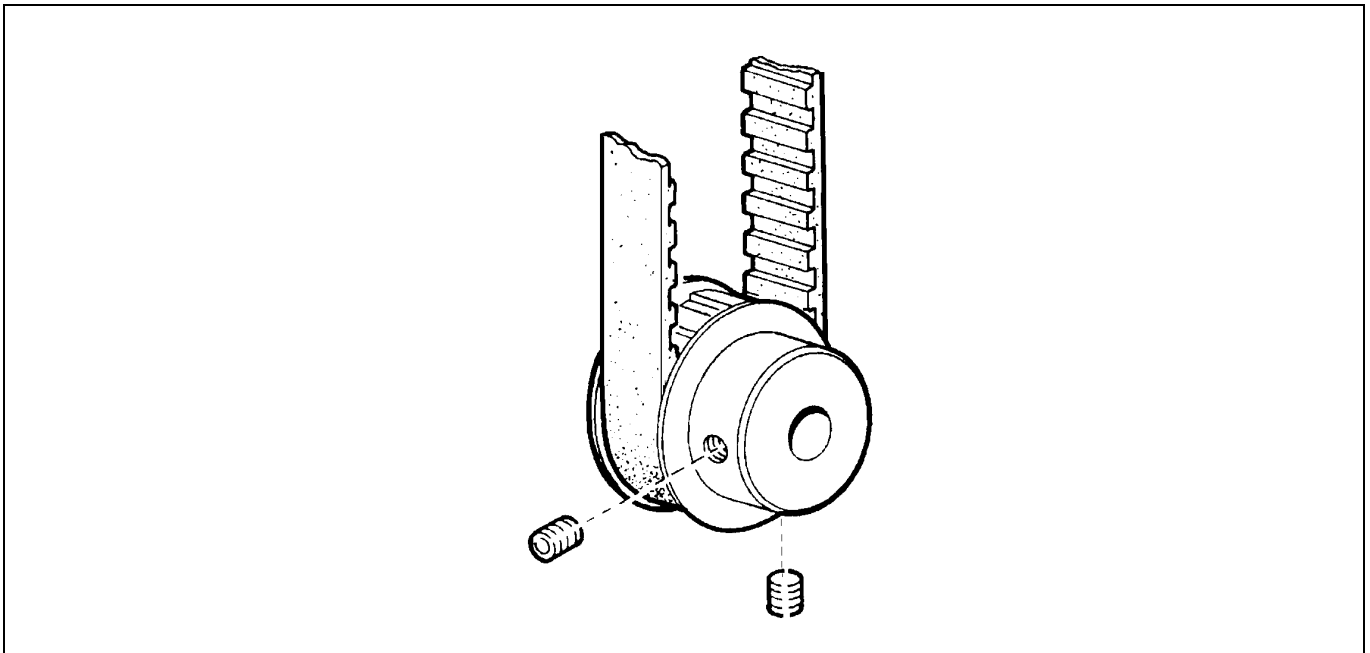
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Insert the timing pin 3 of the gauge set through the hole in the housing into groove 2 on the arm shaft crank.
- With a second timing pin (or 5 mm drill bit) check if, in this position, the timing pin 4 catches in position **A** of the adjustment disk.
- Screw off the arm cover.
- Push the timing belt to the left on the belt pulley and loosen the screws.
For this procedure use a rounded peg and turn the handwheel.
- Insert the timing pin 3 of the gauge set through the hole in the housing into the groove 2 on the arm shaft crank.
- Arrest the adjustment disk in position **A**.
- Press the timing belt pulley to the right against the timing pin and tighten the screws.
- Remove the timing pins.
- Turn the handwheel until the timing belt is again in the middle of the timing belt pulley.



2.2 Position of the Lower Timing Belt Pulley



The screws of the lower timing belt pulley should be in the position shown when the machine is arrested in position **F**.



Caution Risk of Injury!

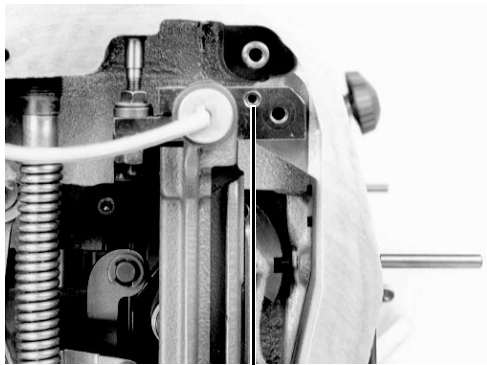
Before adjusting turn the main switch off.

- Arrest the machine in position **F**.
- With an incorrect position of the screws first set the position of the upper timing belt pulley (Chapter 2.1).
- Remove the timing belt from the upper timing belt pulley.
- Turn the lower timing belt pulley until both screws take the position shown.
- Place the timing belt again.
- Check all following settings or reset.

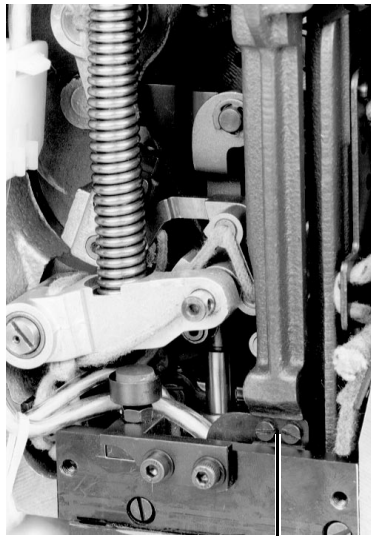


2.3 Needle Bar Guide

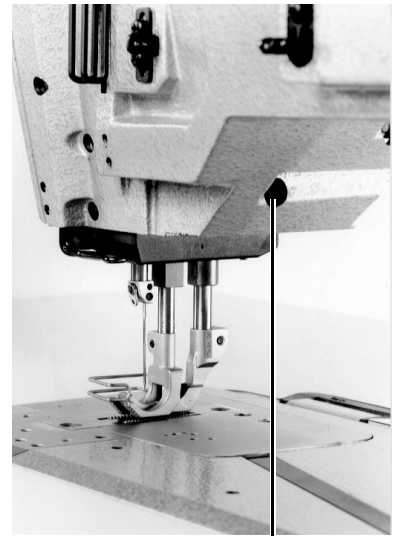
2.3.1 General Information



1



2



3

The 550-12-23; -24; -26 series is equipped with a split needle bar guide.

The fixed part with the needle bar is screwed directly onto the cast body. The second part with the transport foot bar is attached movably.

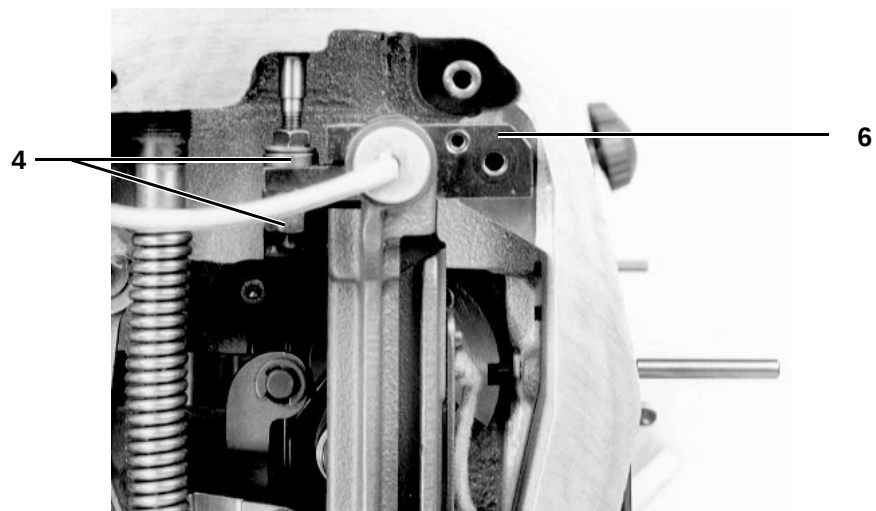
The, with yellow paint and through adhesive secured against turning, screw 1 must touch in the arm.

The guide bolts 2 (in the guide) and the right guide bolts 3 in the arm have been set at the factory so that the guide can move easily and without play.

The positions of the two guide bolts may **not** be altered.



2.3.2 Setting of the Guide Holder



The guide holder 6 must lie parallel to the bottom edge of the arm head.



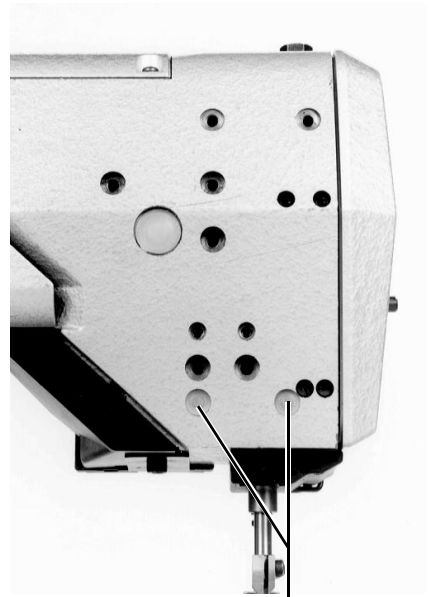
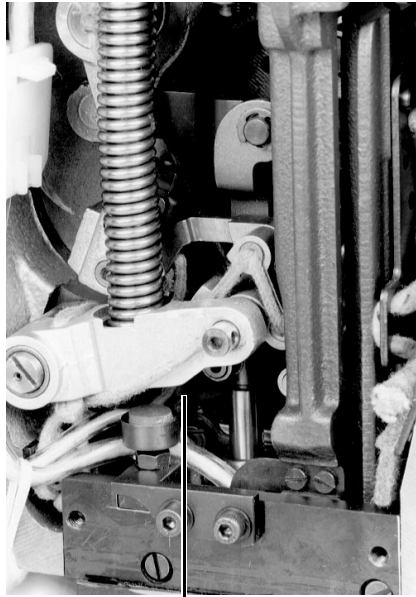
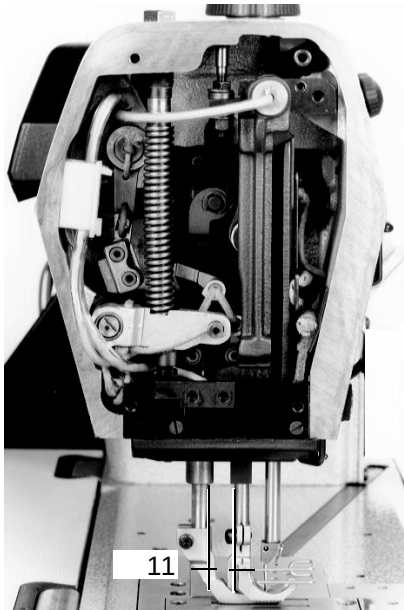
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Set the screws 4 so that the guide holder lies parallel to the bottom edge of the arm head.



2.3.3 Clearance of the Transport Foot Bar to the Material Presser Bar



The clearance between the transport foot bar and the material presser bar should be 11 mm with the machine arrested in position **B**.



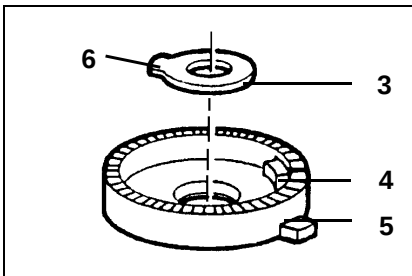
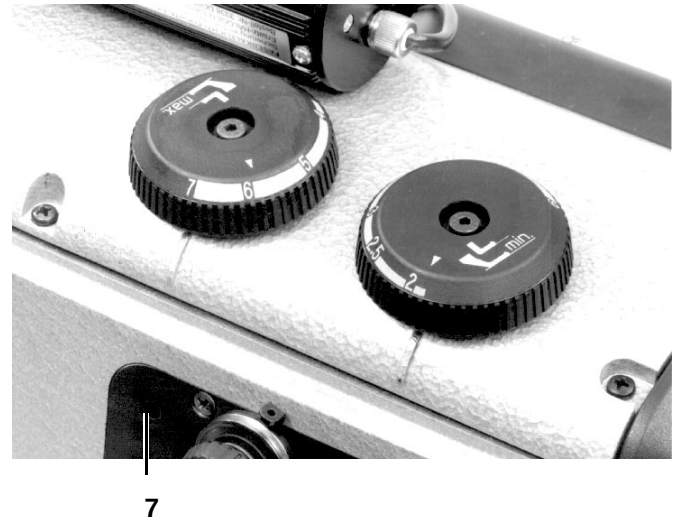
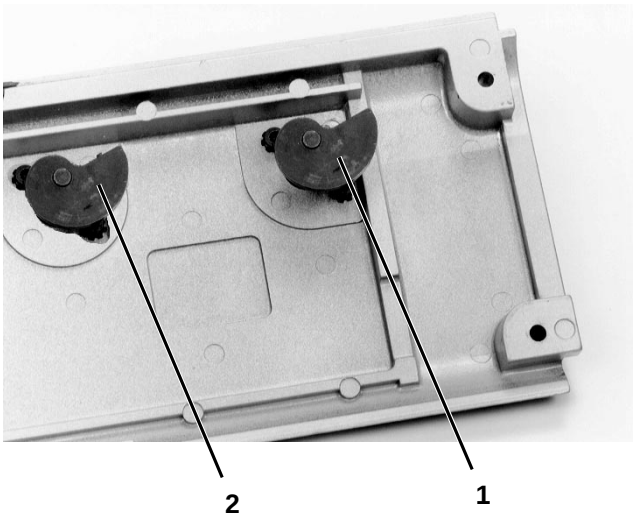
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Arrest the handwheel in position **B**.
- Pull out plugs 9 and loosen the screws lying behind them.
- With the eccentric 8 set the clearance appropriately.



2.4 Setting Wheels for the Pressure Foot Lift Height



The setting wheels can only be turned so far to the right or left until the stop ring 3 touches the effected cam side of the catch ring 5.

When the setting wheel is turned fully to the right:

- The smallest value should be shown.
- The setting wheel should have the least play.



Caution Risk of Injury!

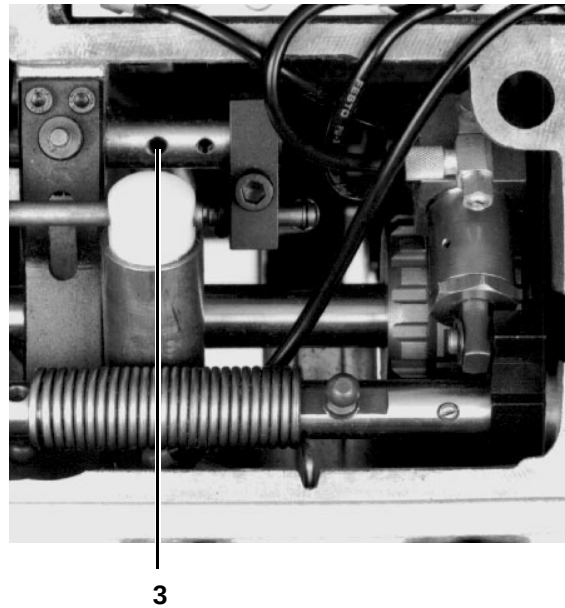
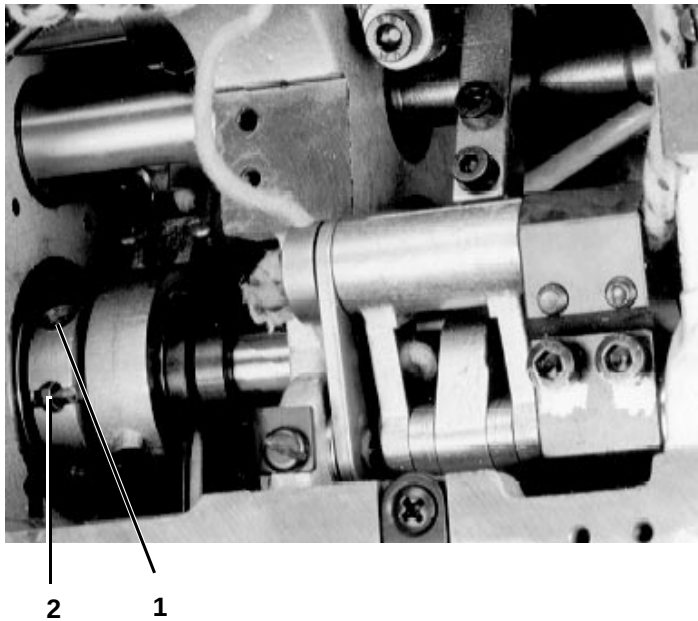
Before adjusting turn the main switch off.

- Remove the tension plate 7.
- Screw off the "MIN" setting wheel.
- Reach through the opening behind the tension plate and turn the worm wheel 1 so that it touches the ball pin.
- Align the stop ring 3 so that its right side 6 touches the cam 4 of the catch ring 5.
- Screw on the setting wheel so that the smallest value is shown. (White arrow on the setting wheel)
- Turn the "MIN" setting wheel to value -4-.
- Screw off the "MAX" setting wheel.
- Reach through the opening behind the tension plate and turn the worm wheel 2 so that it touches the ball pin.
- Align the stop ring 3 so that its right side 6 touches the cam 4 of the catch ring 5.
- Screw on the setting wheel "MAX" so that the value -4- is shown. (White arrow on the setting wheel)



2.5 Pressure Feet

2.5.1 Timing of the Advancing Movement of the Transport Foot



The transport foot should not move when, at the greatest possible stitch length and with the machine arrested in position B, the upper link is operated.



Attention!

The greatest stitch length is only effective when the machine is switched on.



Caution Risk of Injury!

With the machine switched on proceed with greatest caution. Do not touch the foot pedal.

Setting with gauge

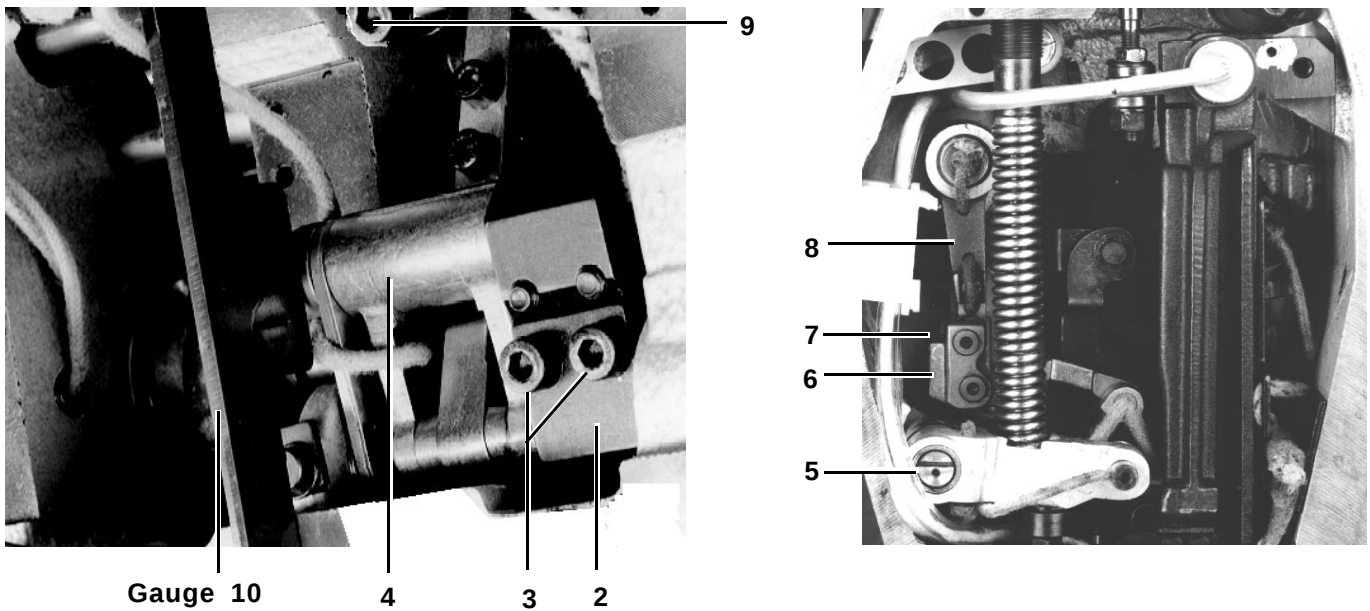
- Turn the machine on.
- Loosen the screws on the advance eccentric 1.
- Arrest the machine in position A.
- Insert the timing pin 3 from the gauge set into the set out hole 2 of the advance eccentric 1 and bring into a vertical position.
- Tighten the screws again.

Setting without gauge

- Arrest the machine in position B.
- Loosen the screws on the advance eccentric 1.
- Insert the pin into the hole 3 on the guide.
- Turn the advance eccentric on the arm shaft so that, when the stitch regulator is operated through the pin on the guide, the transport foot is immobile.



2.5.2 Stroke Adjustment Range and Timing of the Stroke Movement of the Transport Foot



In the position "2 mm" of the stroke height setting wheel both pressure feet should conduct the following strokes:

Pressure foot: 2 mm

Hopper foot: 1,8 mm



Caution Risk of Injury!

Before adjusting turn the main switch off.

Stroke adjustment range

- Loosen screws 3.
- Place gauge 10 on the two cast walls of the arm.
- Swing block 2 until the bolt of the stroke rocker 4 touches the gauge 10.
- For the axial fixing of the shaft push the block against the bush.
- Tighten the screws again.
- Remove the gauge.



Attention!

After the setting is made at the factory the screws 3 are secured with yellow paint and may no longer be altered.

Stroke timing

- Arrest the machine in slot D.
- Loosen the screws on the stroke eccentric.
- Turn the stroke eccentric on the arm shaft so that when the stroke rocker 4 moves the stroke lever 8 remains at rest.
- Insert a second timing pin 7 into the setting hole of the arm head. Loosen screw 9. Turn stroke lever 8 so that the glide pad 6 of the rocker touches the timing pin 7.

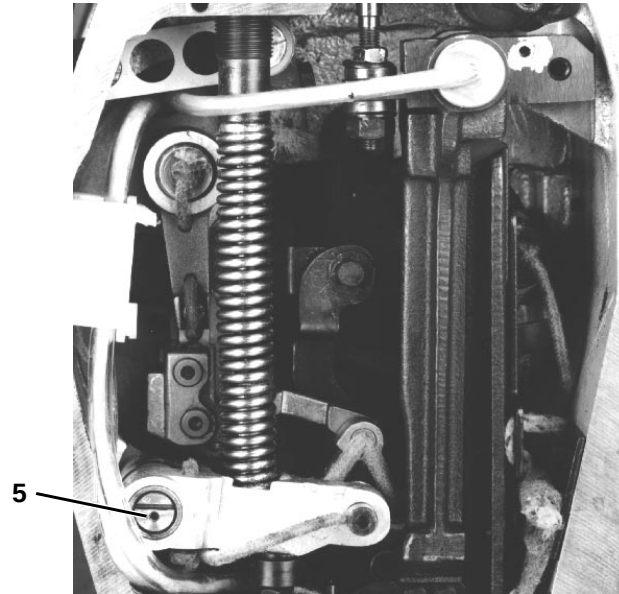


Attention!

The eccentric 5 in the arm head must be in its base position. Its slit should be horizontal in the upper semicircle.



2.5.3 Fine Adjustment of the Alternation Timing of the Pressure Feet



With the machine arrested in position D both pressure feet should touch on the needle plate.



Caution Risk of Injury!

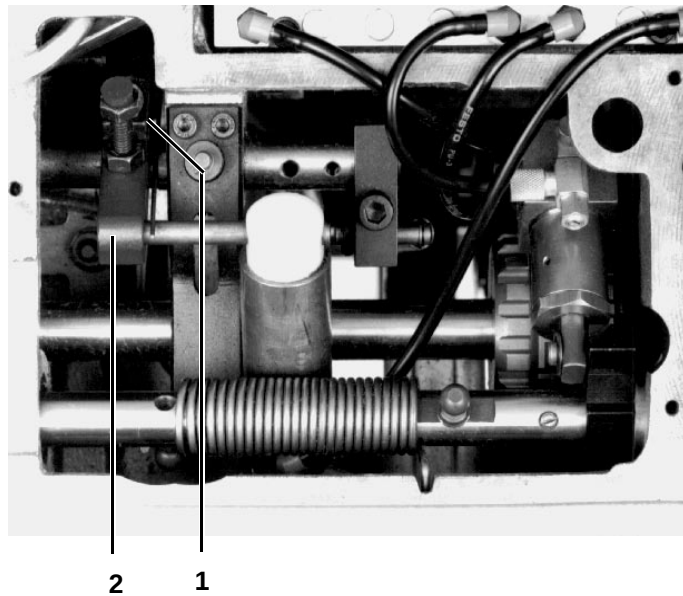
Before adjusting turn the main switch off.

- Arrest the machine in position D.
- Adjust the eccentric 5 slightly out of its base position (slit horizontal).



2.6 Pressure Foot Lift

2.6.1 Play in the Lift Mechanism



The play in the lift mechanism should be 1 mm when at least one of the two pressure foot lays onto the needle plate or the feed dog.



Caution Risk of Injury!

Before adjusting turn the main switch off.

- Loosen screw 1 and alter the position of the clamping block 2 on the shaft appropriately.
- Tighten screw 1.

2.6.2 Height of the Raised Pressure Feet, Lift Limitation

The pressure feet can be raised by stepping back on the pedal.

The "free through-put" between the raised pressure feet and the needle plate must be 15 mm. The lift height may, however, be set so that with the needle at top dead center the lift height is 17 mm but the needle point does not extend under the pressure feet.



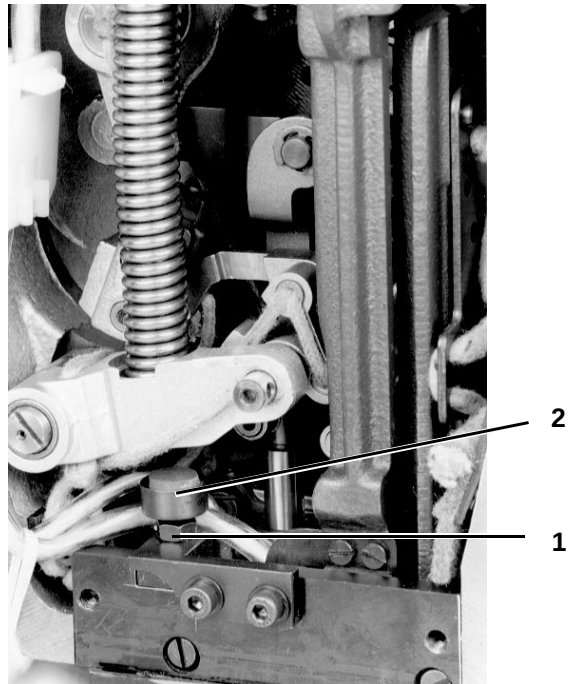
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Alter the stop screw 1 appropriately.



2.6.3 Setting of the Intercept Buffer



The intercept buffer 2 prevents the pressure feet not laying directly onto the needle plate.

The clearance between the needle plate and pressure feet should, depending on material thickness, be 0,2 - 0,8 mm.

The base setting is 0.2 mm.



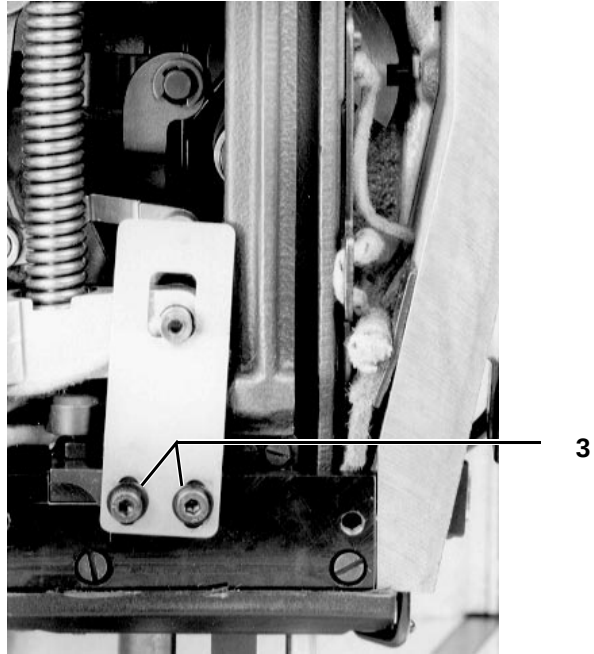
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Turn the handwheel until the pressure feet are at the same height.
- Check to see if there is a forceful transport of the material.
- Loosen lock nut 1 and adjust the intercept buffer appropriately.



2.6.4 Height of the Pressure Feet Arrested in the Raised Position



The pressure feet can be arrested in the raised position with the button on the head cover.

The clearance of the arrested raised pressure feet to the needle plate should be 10 mm.



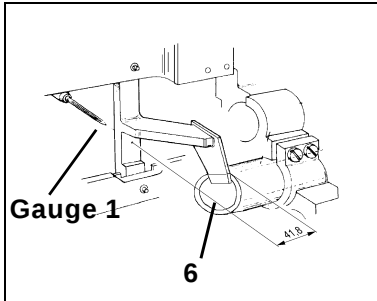
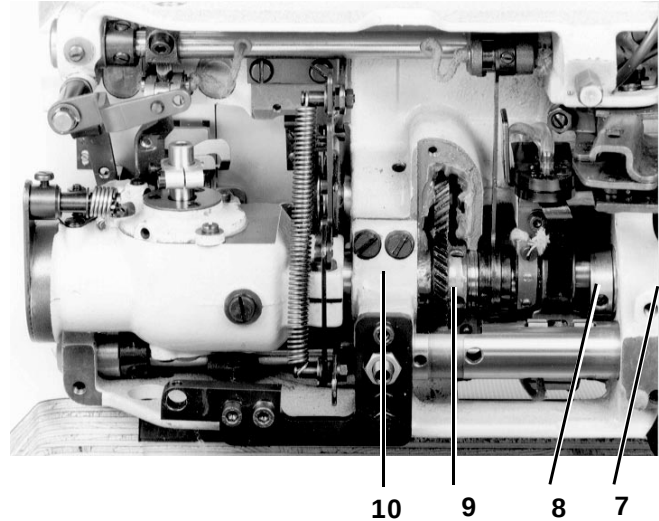
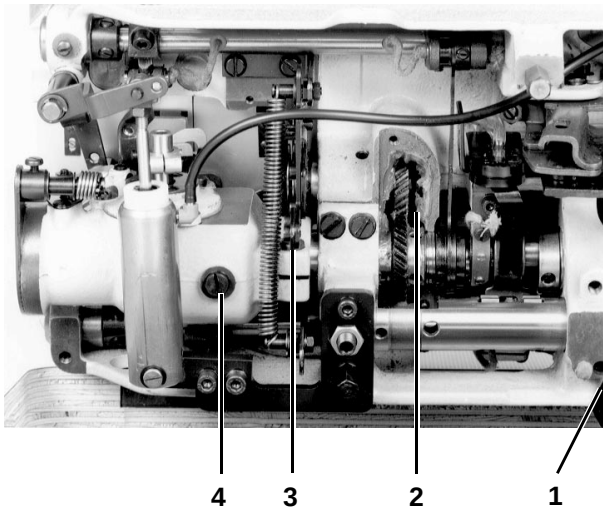
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Loosen screws 3 and alter the position of the support plate appropriately.



2.7 Left Lower Shaft Bearing



The clearance from the middle of the needle to the beginning of the left lower shaft bearing 6 should be 41,8 mm.



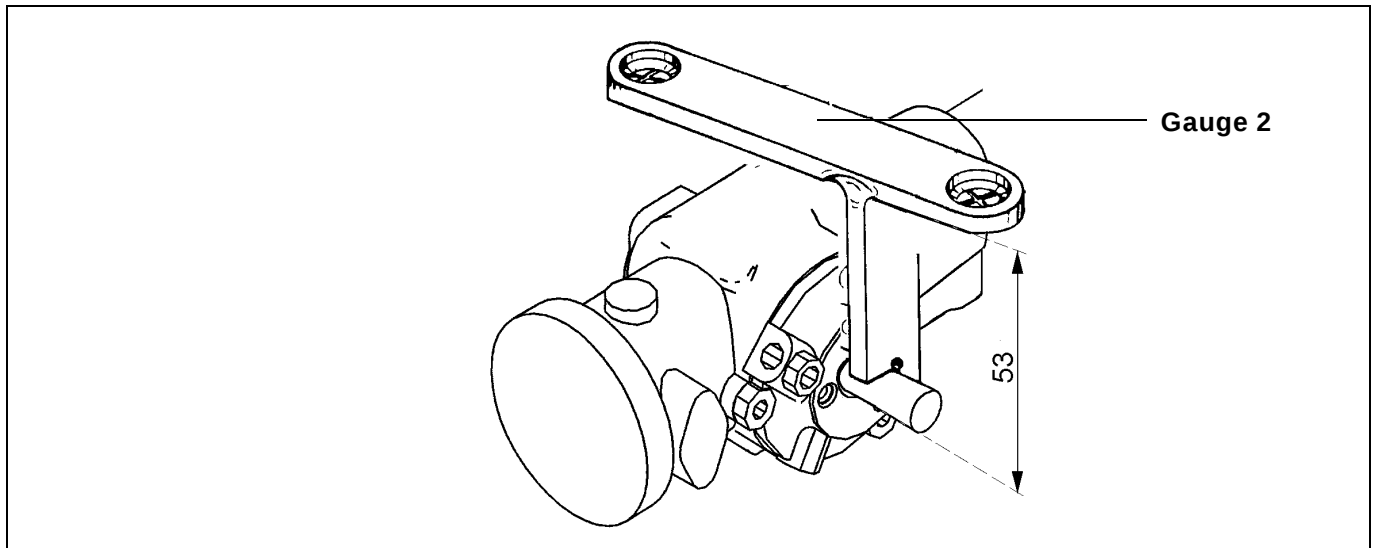
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Remove the needle plate, needle guard and hook with hook carrier.
- Screw out screw 4 and drain the oil in the hook housing. (For this set the machine upright)
- Screw off the grease cap 2 and oil baffle 1.
- Loosen the clamping screw 3 and all elements screwed onto the lower shaft (7, 8, 9) and carefully pull off the hook housing together with the lower shaft.
- Screw gauge 1 onto the needle plate support.
- Loosen screws 10, press the lower shaft bearing 6 onto the gauge and tighten the screws again.
- Mount the hook drive housing and lower shaft and adjust as per the setting information in these service instructions.
- Fill the hook drive housing with Esso SP-NK 10 oil. Check with the oil dip stick.



2.8 Setting the Hook Drive Housing



The needle point should point to the middle of the hook shaft. The lower edge of the hook shaft runs parallel to the underside of the needle plate.

The clearance from the upper edge of the needle plate seat to the lower edge of the hook shaft is 53 mm.



Caution Risk of Injury!

Before adjusting turn the main switch off.

- Remove the needle plate, thread trimmer, needle guard and hook with hook carrier.
- Screw gauge 2 onto the needle plate seat.
- Press the hook shaft onto the gauge and screw the hook housing fast.
- Remount the other parts removed.

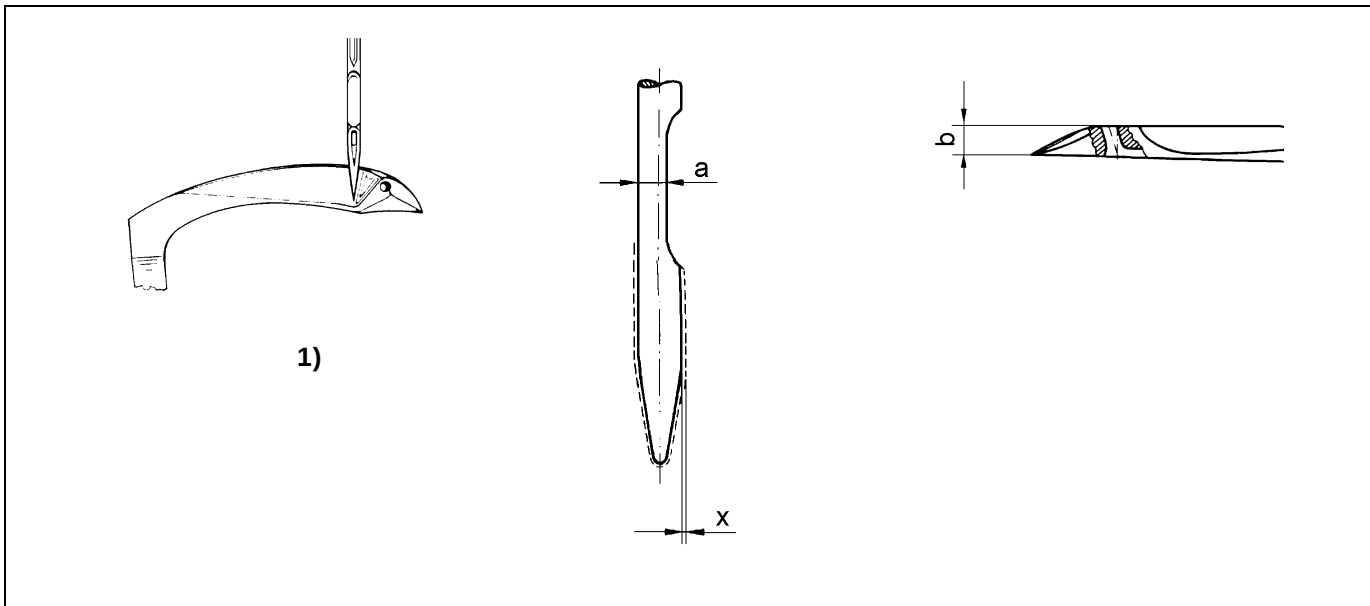


Attention!

During mounting the setting information in these service instructions are to be observed.



2. 9 Needle Avoidance Movement of the Hook (Ellipse Width)



With needle avoidance movement (ellipse width) is meant that movement which the hook conducts in order to move past **behind** the needle during its movement from right to left and **in front of** the needle from left to right.

The ellipse width is dependent on the needle system and the needle thickness.

The ellipse width is correctly set when, with hook movement **from right to left**, there is a clearance of 0.1 mm between the hook tip and the needle.

With hook movement **from left to right** the point of the downward moving needle should touch the back of the hook at that moment when the hook and the needle are in the position shown in illustration **1)**.

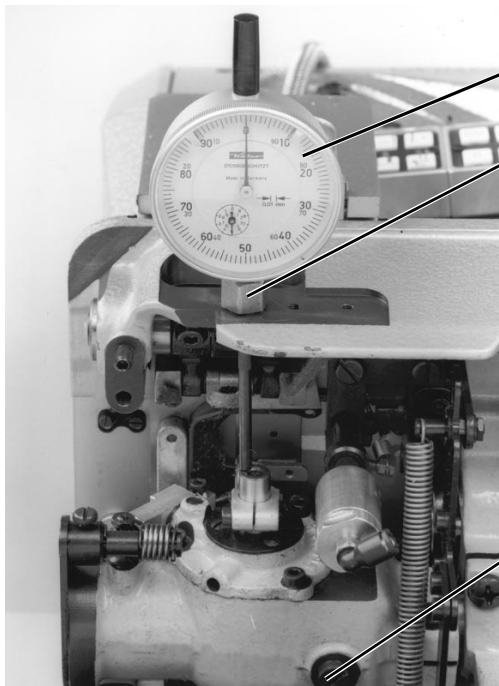
Calculation of the ellipse width

$$E = a + b + 0,1 + x$$

E	[mm]	ellipse width
a	[mm]	needle thickness in the area of the furrow
b	[mm]	hook thickness in the area of the thread guide hole on the hook tip
0,1	[mm]	Clearance between the hook tip and needle by movement from right to left
x	[mm]	Quantity by greater needle thicknesses
		x = 0 for needles up to Nm 100
		x = 0,1 for needles up to Nm 120
		x = 0,2 for needles up to Nm 130

Example for a needle 933 Nm 120

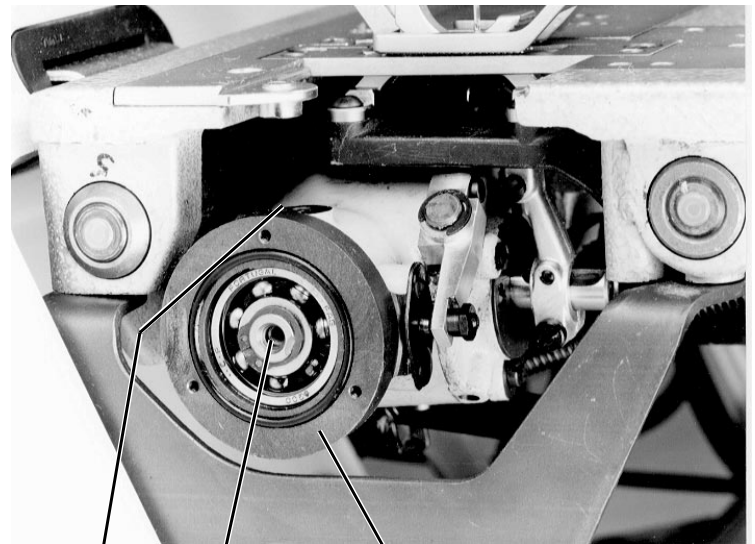
$$E = 0,7 + 1,4 + 0,1 + 0,1 = \underline{2,3\text{ mm}}$$



1

2

3



6

5

4



Caution Risk of Injury!

Before measuring and setting turn the main switch off.

Measuring the ellipse width

- Insert a straight, undamaged needle.
- Screw in the clamping bush 2 and insert dial gauge 1 (Order no. 0196 002972).
- Through turning the handwheel bring the hook shaft into its **lowest position**. Set the value "0" on the gauge.
- Through turning the handwheel bring the hook shaft into its **highest position**. The difference must agree with the previously calculated ellipse width.

Setting the ellipse width

Push the rocker bolt in the hook housing axially.

The ellipse width changes by only half of the amount by which the position of the rocker bolt is altered!

Example: Sliding the rocker bolt 0.2 mm changes the ellipse width by 0.1 mm.

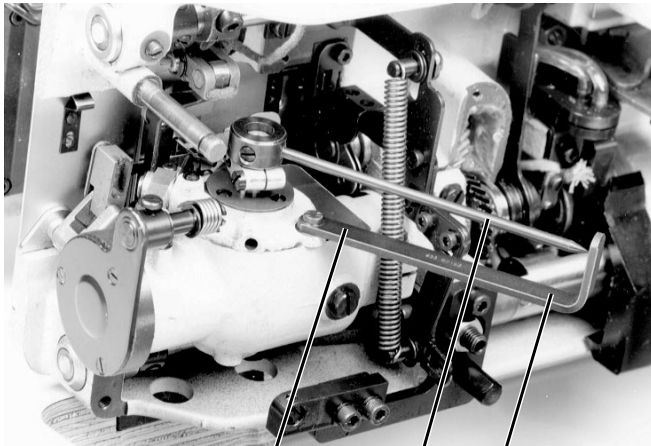
To the right: The ellipse width becomes smaller

To the left: The ellipse width becomes larger

- Screw out screw 3 and drain the oil from the hook housing. (For this set the machine upright.)
- Remove lid 4 and screw the M4 screw into the face of the rocker bolt 5.
- Loosen screw 6 and slide the rocker bolt by pushing or pulling on the M4 screw appropriately.



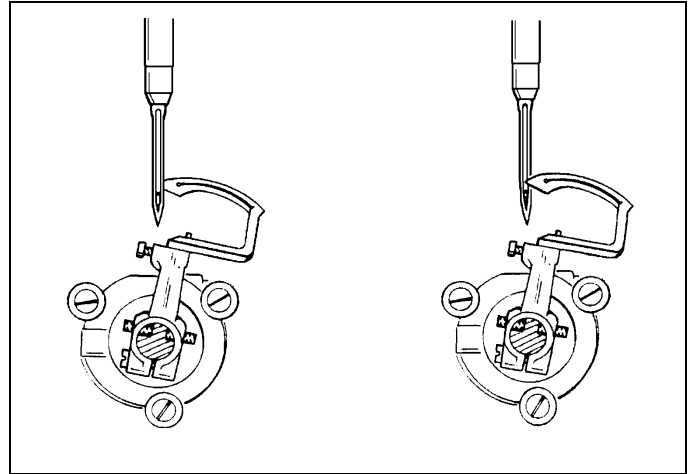
2.10 Symmetry of Looper Motion



Gauge 6

2

1



Position Slot F

Position Slot E

The setting symmetry of looper motion means that the hook tip lies at the middle of the needle with the machine arrested in slot **E** as well as also in slot **F**.

The hook tip in slot **E** should be in front of and in slot **F** behind the needle.

The hook movement is set with the gauge 6.



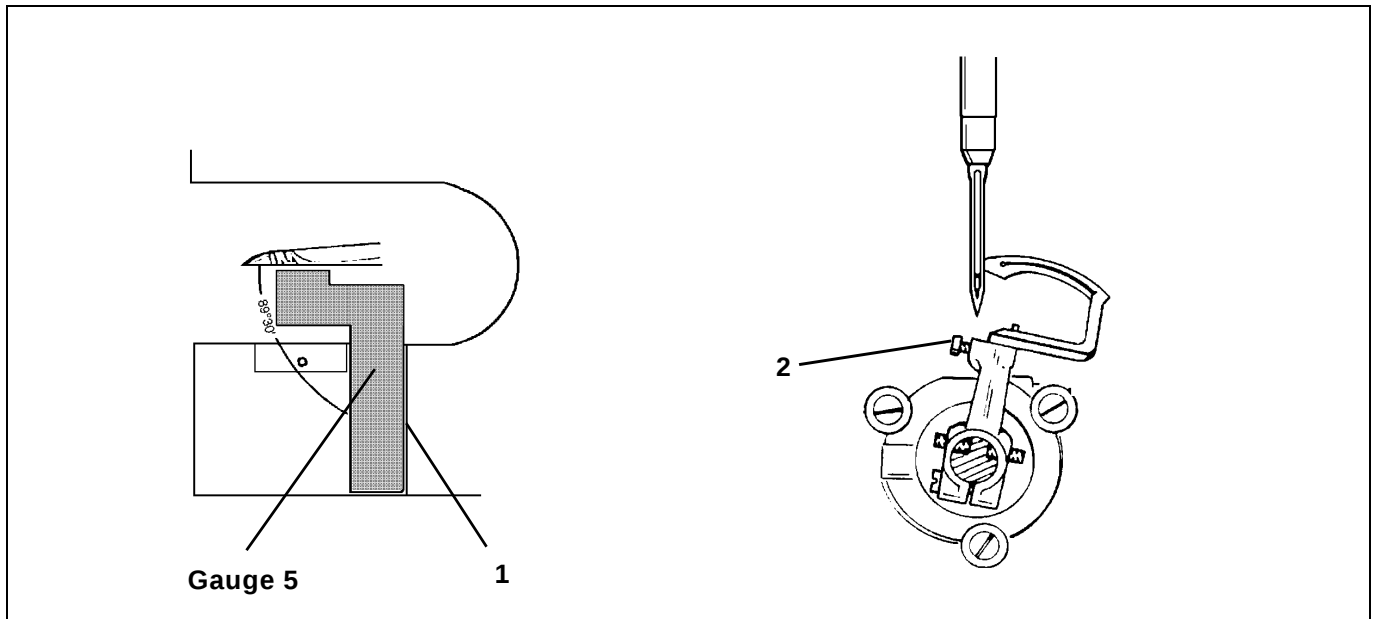
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Attach angle 1 and pointer 2 as shown in the illustration. Arrest the machine in position **E**.
- Align the pointer to the line marking on the angle.
- Turn the handwheel to position **F**. The pointer should make a pendulum movement to the **left** and back to the line marking.
- Loosen the attachment screws on the timing belt.
- Turn the lower shaft so that the pointer 2 in slots **E** and **F** are always over the line mark on the gauge.
- Tighten the attachment screws of the timing belt pulley again.



2.11 Hook in the Hook Carrier



The front of the hook should lie to the edge 2 of the apparatus recess at an angle of $89^{\circ} 30'$.



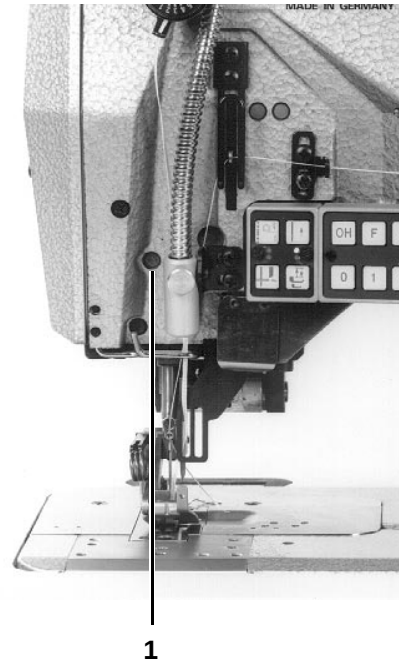
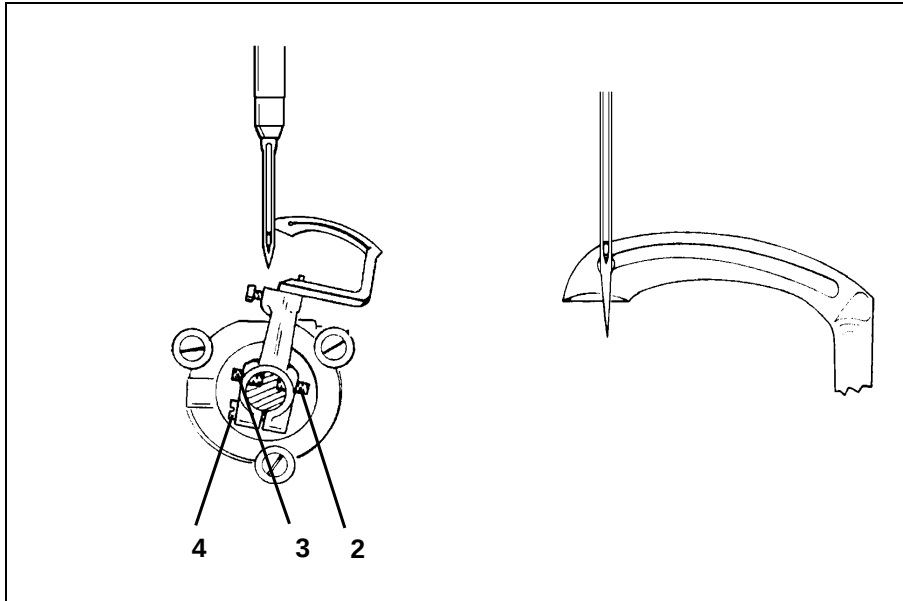
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Loosen screw 2 on the hook carrier.
- Place gauge 5 on the edge 1 and bring the hook into the correct position.
- Tighten screw 2 again.



2.12 Looping Stroke and Needle Bar Height



The looping stroke is 3,5 mm.

This means:

When the needle has risen 3,5 mm from the lowest point in the direction of run, the hook tip must lie at the middle of the needle.

When the hook eye lies at the middle of the needle, the lower edge of the needle eye and the upper edge of the hook eye should be at the same height.



Caution Risk of Injury!

Before adjusting turn the main switch off.

Looping Stroke

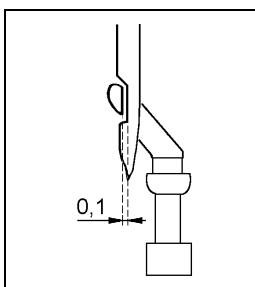
- Insert new needle into the needle bar.
- Position and secure the machine in position **E** with timing pin.
- Pull plug 1 out of the hole
- Position hook tip behind the center of the needle.
For this loosen screw 4 and adjust screws 2 and 3 accordingly.

Needle-bar Height

- Remove timing pin.
- Pull plug 1 out of the hole and loosen the needle bar securing screw.
- Adjust needle bar height such that the lower edge of the needle eye and the upper edge of the hook eye are at the same height.
- Tighten the needle bar securing screw.

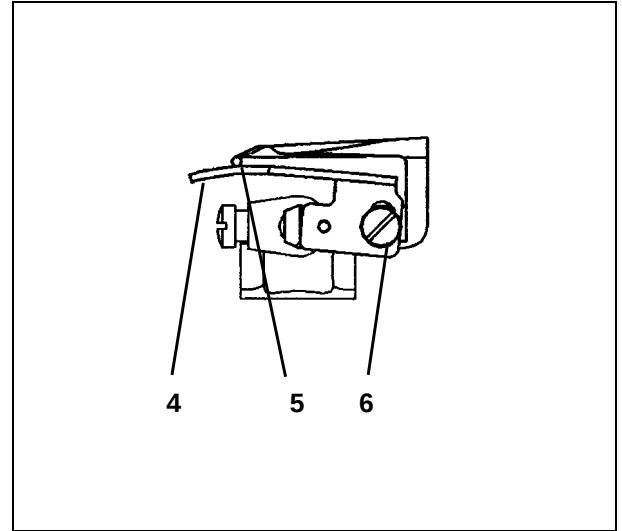
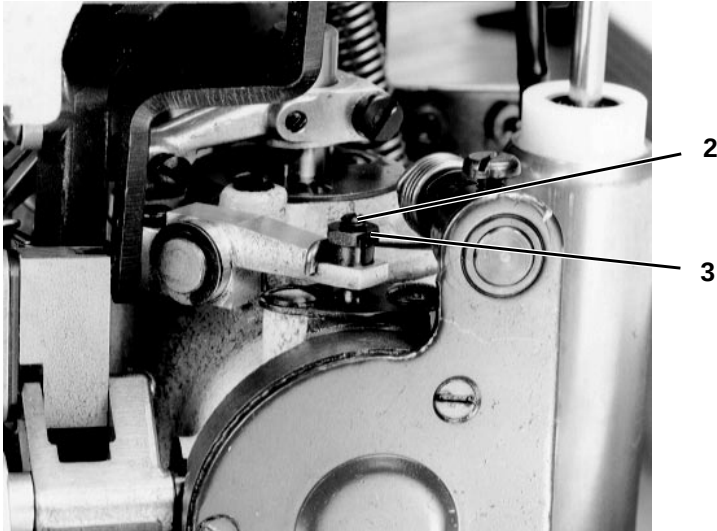
Distance of hook from needle

- By axial displacement of the hook carrier adjust a clearance of 0,1 mm between the hook tip and the needle scarf.
Tighten screw 4.
- Check hook position as shown positions **E + F** (Section 2.10).





2.13 Needle Guard and Needle-guard Plate



2.13.1 Needle Guard

The movable needle guard 1 should hinder a deflection of the needle into the path of the hook.

When the hook tip moves to the left and reaches the needle, the needle guard automatically swings toward the needle. In this position the needle must touch the needle guard.

The movement timing of the needle guard cannot be altered.



Caution Risk of Injury!

Before adjusting turn the machine off.

- Turn the machine in the direction of run so far that the hook moves to the left and has reached the needle.
- Loosen the lock nut 3 and, with the threaded screw 2, set the needle guard so close to the needle that it does not let itself be pressed into the area of the hook.
The needle may not be deflected more than necessary.

2.13.2 Needle-guard Plate

The purpose of the needle-guard plate is to prevent the needle from being deflected when it picks up the loop and to open the thread loop behind the hook.

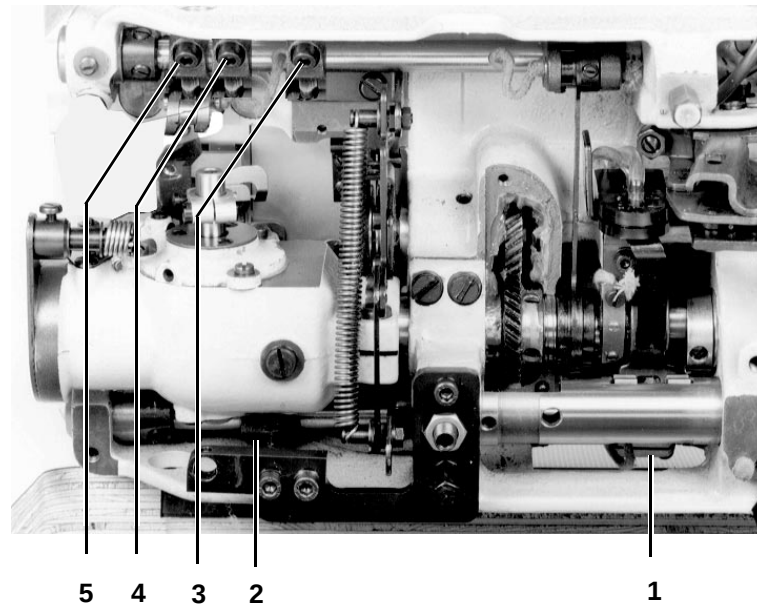
When the hook tip moves to the left and reaches the needle, it must not be possible to press the needle against the direction of sewing.

- Undo screw 6.
- Adjust the needle-guard plate 4 so that the needle 5 passes freely between the hook and the needle-guard plate.
- Tighten screw 6.



2.14 Feed Dogs

2.14.1 Position of the Feed Dogs in the Needle Plate Slot



The feed dogs should be so aligned that at the greatest possible stitch length the feed dogs strike no side of the needle plate.



Caution Risk of Injury!

Before adjusting turn the main switch off.

Setting in the direction of transport:

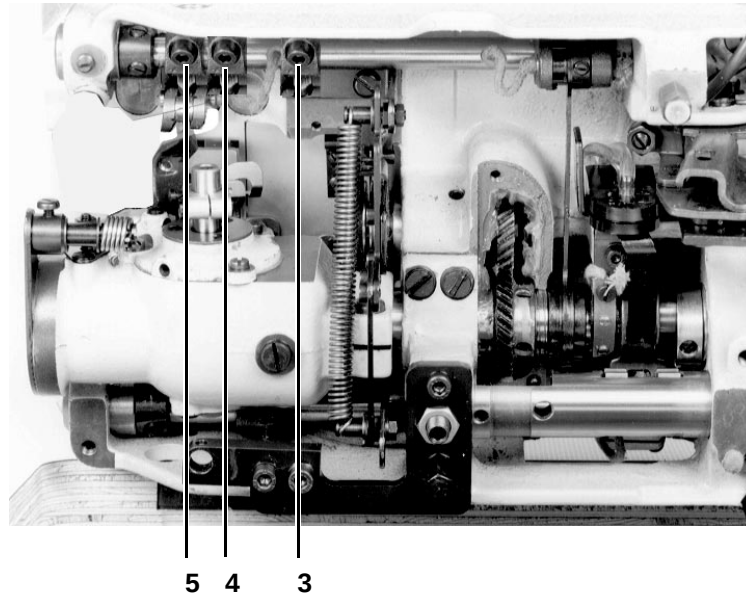
- Loosen screw 2 for the left and screw 1 for the right feed dog carrier and set the feed dog carriers appropriately.

Setting in the lateral direction:

- By a small deviation alter the position of the feed dogs on their carriers appropriately.
- By greater deviations loosen screws 3, 4 and 5 on the stroke levers and screws 1 and 2 on the advance levers. Alter the position of the feed dog carriers.



2.14.2 Height of the Feed Dogs



The feed dogs in their highest position should protrude 1.2 mm out of the needle plate. (slot **B**)



Caution Risk of Injury!

Before adjusting turn the main switch off.

- Arrest the pressure feet in the raised position.
- Arrest the handwheel in slot **B**.
- With a feeler gauge check the height.
- Loosen screws 3, 4 and 5 on the stroke levers and alter the height of the feed dog carriers.

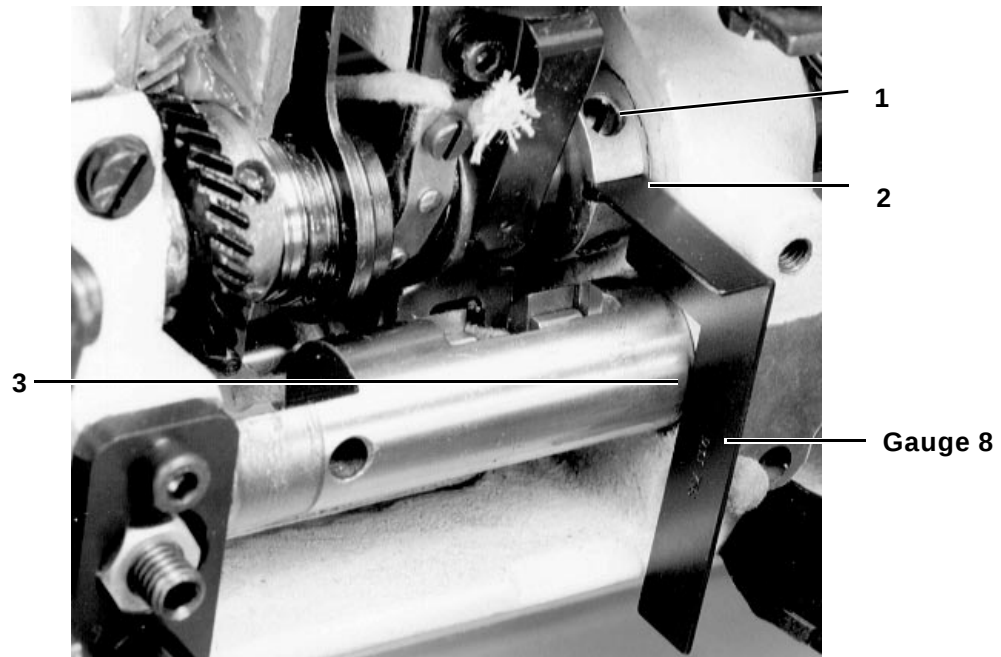


Attention!

When tightening screws 3 and 5, take care that the feed dog support is set close at the side.



2.14.3 Advancing Movement of the Feed Dogs



For good stitch drawing the feed dogs should, after exceeding the upper needle bar dead center, still conduct a slight "subsequent advance".



Caution Risk of Injury!

Before adjusting turn the main switch off.

Advance eccentric for the rear feed dog

- Loosen the screws of the advance eccentric 1.
- Arrest the handwheel in position **B**.
- Insert gauge 8 into the slit 2 on the advance eccentric.
- Turn the advance eccentric so that the edges of the gauge touch on the stitch regulator guide 3.
- Tighten the screws of the advance eccentric again.
- Check the axial play of the lower shaft.



Attention!

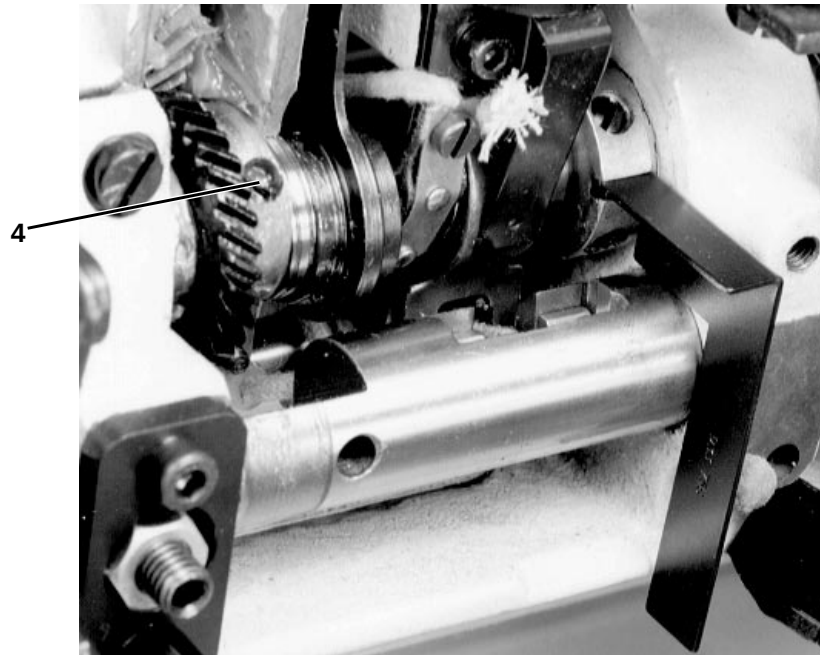
By maximum transport length the feed dog may not strike the needle plate slot.

Advance eccentric for the forward feed dog

- Set the slit of the advance eccentric parallel to the left advance eccentric.



2.14.4 Stroke Movement of the Feed Dogs



When the needle point reaches the needle hole the downward moving teeth of the feed dogs should be at the same height as the needle plate surface.



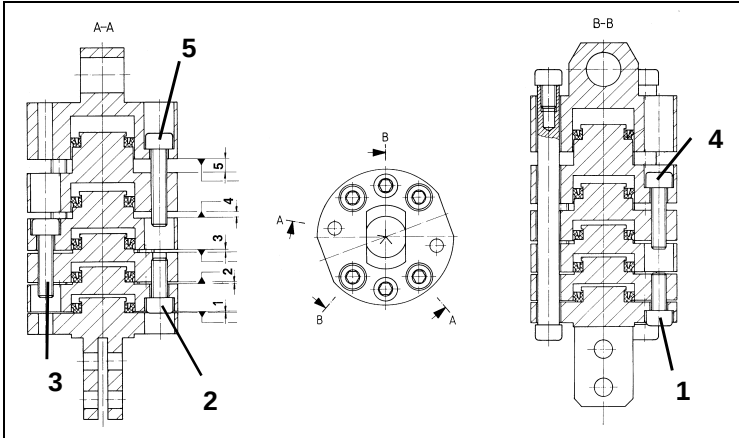
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Remove the grease cap and oil baffle.
- Arrest the machine in position **B**.
- Turn the stroke eccentric 4 so that, in the direction of run, the 1st screw lies at the same height as the 2nd screw of the advance eccentric.



2.15 Setting the Multiposition Cylinders



Attention!
The spaces of the multiple position cylinders must be cleaned daily.

The multiposition cylinders in their individually extendable stages must each conduct the same stroke. They are set removed from the machine.
Following values apply. (Values in mm)

Stage	Stroke setting
1	0,225 +/- 0,02
2	0,450 +/- 0,02
3	0,900 +/- 0,02
4	1,800 +/- 0,02
5	3,600 +/- 0,02
Sum	6,975

Note
These values were set at the factory with a dial gauge and may not be changed because it would otherwise not be possible to set the same crimping values with multiple machines.



Caution Risk of Injury!
Before removing the multiposition cylinders turn the main switch off.

The gauge set 11 (part no. 0196 002971) can be used for rough checking.

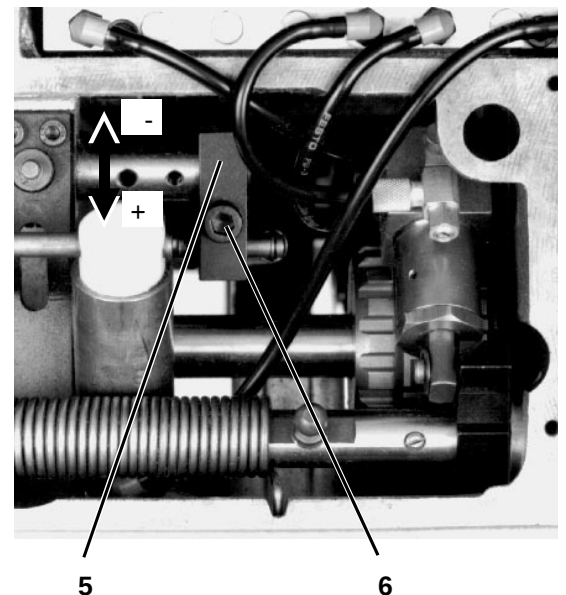
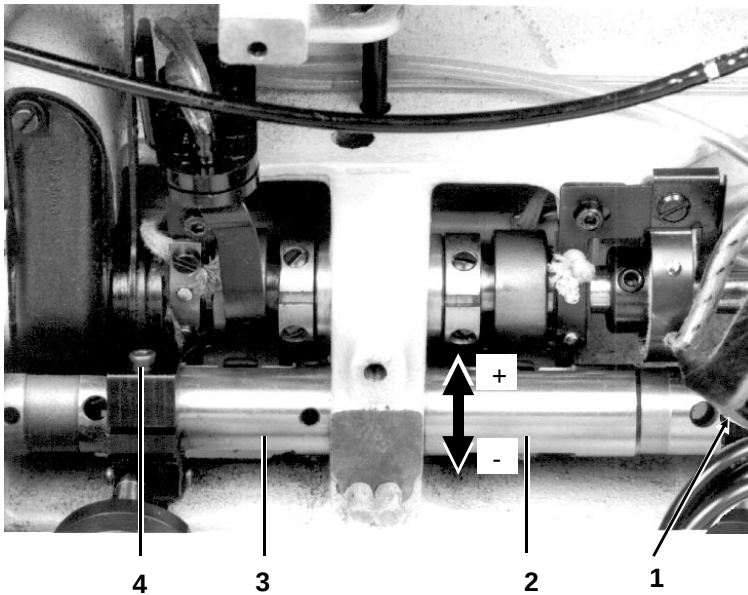
- Remove the multiposition cylinders
- Pull the cylinders apart
- Insert the gauges left and right between the individual stages.

Stage 1	Gauges 0,225 mm
Stage 2	Gauges 0,450 mm
Stage 3	Gauges 0,900 mm
Stage 4	Gauges 1,800 mm
Stage 5	Gauges 3,600 mm

- With a 3 mm Allan key set the stages at the screws 1 to 5 appropriately



2.16 Setting the Stitch Regulator Link



The setting of the stitch regulator link occurs with the machine switched on. For the setting, the maximum stage of the cylinders for the crimping values must always have been run out. In this position, both feed dogs and the transport foot must achieve the following stitch lengths:

Feed dog at rear 5.0 mm
Feed dog forward 5.0 mm
Transport foot 5.0 mm

These values are set at the factory with a dial gauge (part no. 0196 002972).



Caution Risk of Injury!

Do not come in contact with the foot pedal or the keys for single stitches with the machine turned on.

Running out the maximum stage of the multiposition cylinders

- Hold down the "Y" key and tap the "F" key.
The parameter menu is turned on.
- Advance to parameter 5 (base stitch length) through repeated pressing of the "Y" key.
- Press the "5" key.
The base stitch length is set to 5 mm.
- Advance to parameter 16 (tape operation on/off) through repeated pressing of the "Y" key.
Parameter 16 is set as follows in the various classes:

Class	Value
550-12-23	0
550-12-24	0
550-12-26	1



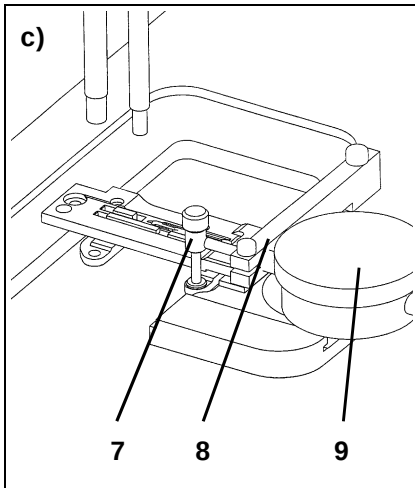
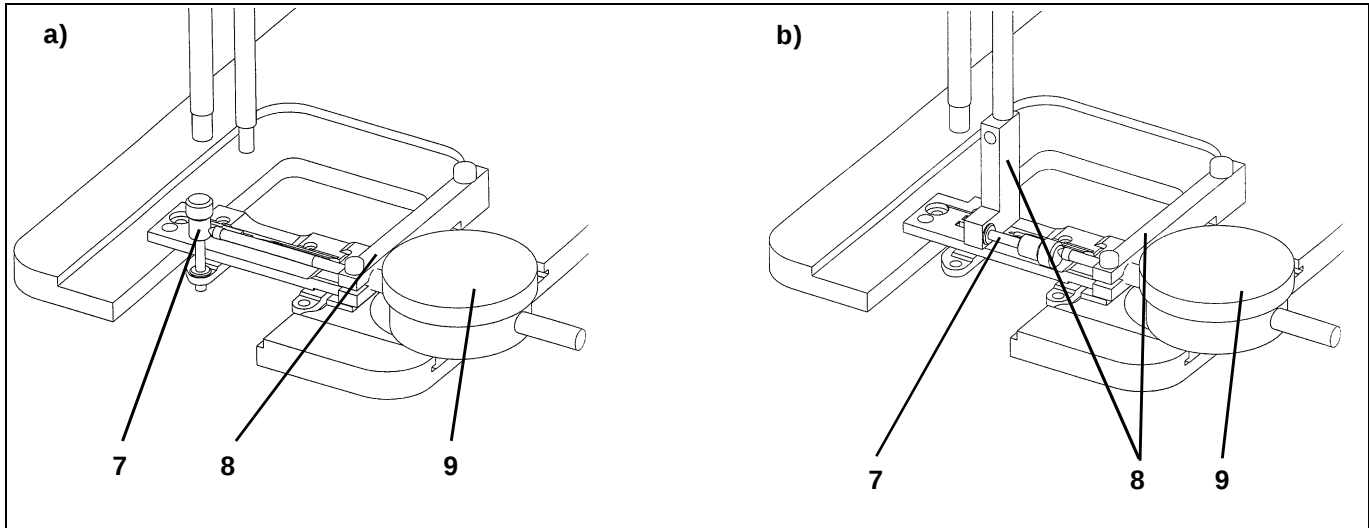
ATTENTION!

For setting, parameter 16 must be set to the value 1 in all classes.

- Press the "1" key.
- Hold down the "Y" key and tap the "F" key.
The parameter menu is turned off.



2.16.1 Checking and Setting with a Dial Gauge (Precise Adjustment)



- To measure the 3 different dimensions, the dial gauge 9, the blocks 8 and the knurled nut 7 must be mounted differently for each. The illustrations show the correct arrangement for each:

Illustration a) Feed dog at the rear with dial gauge
Illustration b) Transport foot
Illustration a) Feed dog forward with dial gauge

Note:

If multiple machines are to be set to the same crimping values, then only link 3 for the rear feed dog may still be changed slightly after the base setting.

Setting

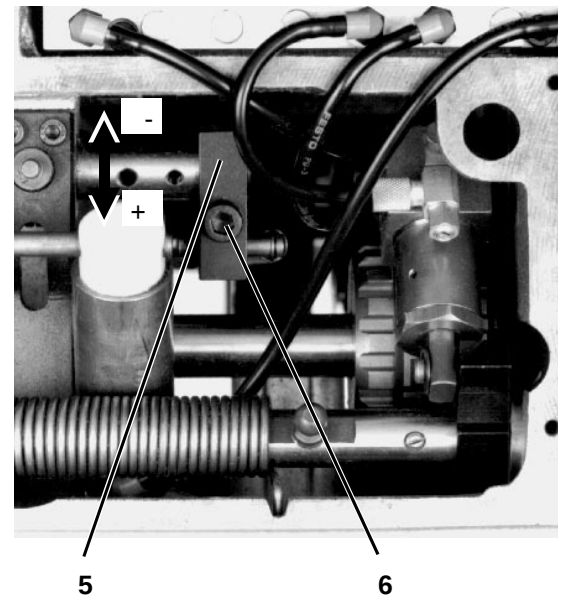
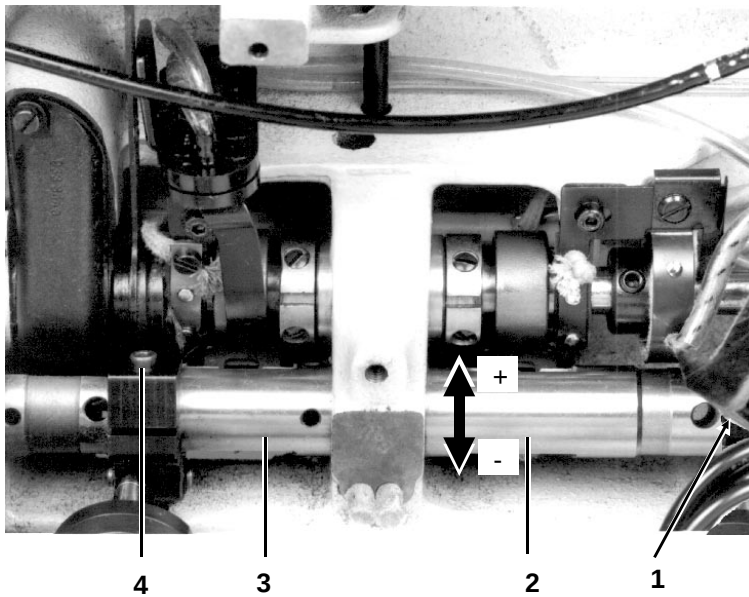
- Adjust the left link 3 for the rear feed dog, the right link 2 for the forward feed dog and the link 5 for the transport foot appropriately.
- Loosen screw 4, 1 or 6 respectively
- Insert a pin into the hole in the link and turn the link.
Direction + = Greater stitch length
Direction – = Smaller stitch length
- Tighten screw 4, 1 or 6 again.
- Hold down the "Y" key and tap the "F" key.
The parameter menu is turned on.
- Advance to parameter 16 (tape operation on/off) through repeated pressing of the "Y" key.
Parameter 16 is set as follows in the various classes:

Class	Value
550-12-23	0
550-12-24	0
550-12-26	1

- Press the appropriate key.
- Hold down the "Y" key and tap the "F" key.
The parameter menu is turned off.



2.16.2 Checking and Setting with a Caliper Gauge (Rough Adjustment)



- Turn the handwheel until both feed dogs are in their forward position.
- Measure the clearance between the rear edge of the feed dog and the needle plate slot with a caliper gauge. Note the value.
- Turn the handwheel farther until both feed dogs are in their rear position.
- Measure the clearance between the rear edge of the feed dog and the needle plate slot with a caliper gauge. This value subtracted from the first gives the executed stitch length.
- The transport foot must be synchronized with the front feed dog. Set the link 5 in the arm accordingly.

Setting

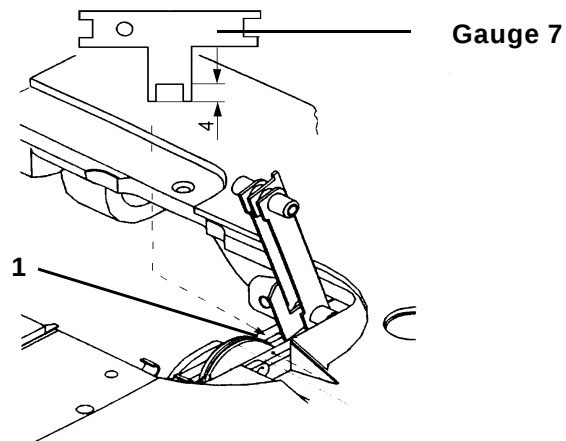
- Adjust the left link 3 for the rear feed dog, the right link 2 for the forward feed dog and the link 5 for the transport foot appropriately.
- Loosen screw 4, 1 or 6 respectively
- Insert a pin into the hole in the link and turn the link.
Direction + = Greater stitch length
Direction – = Smaller stitch length
- Tighten screw 4, 1 or 6 again.
- Hold down the "Y" key and tap the "F" key.
The parameter menu is turned on.
- Advance to parameter 16 (tape operation on/off) through repeated pressing of the "Y" key.
Parameter 16 is set as follows in the various classes:

Class	Value
550-12-23	0
550-12-24	0
550-12-26	1

- Press the appropriate key.
- Hold down the "Y" key and tap the "F" key.
The parameter menu is turned off.



2.17 Thread Take-up Disk



The thread take-up disk should, with the machine arrested in slot B (upper dead center), lie 4 mm above the support plate 1.



Caution Risk of Injury!

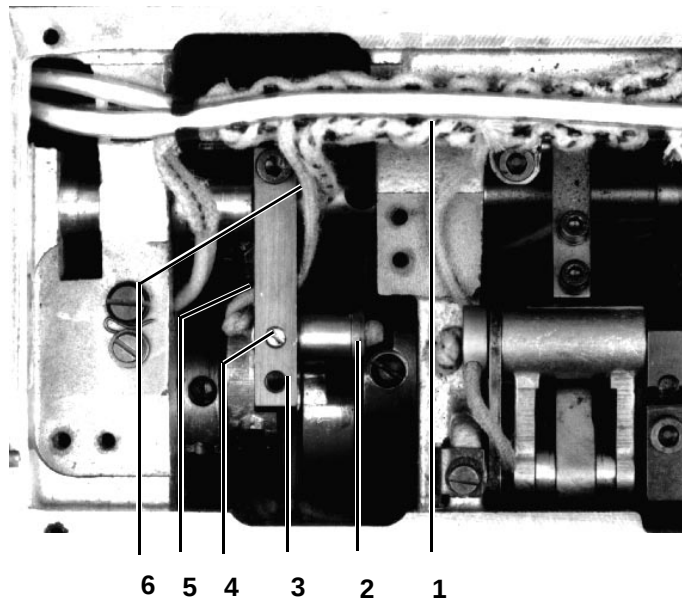
Before adjusting turn the machine off.

- Loosen the screws on the thread take-up disk.
- Arrest the machine in position B.
- Turn the thread take-up disk appropriately. With the gauge 7 set the correct dimension.
- Set the disk close and tighten the screws.



2.18 Setting of the Edge Cutter (models 550-12-24; -26 only)

2.18.1 Changing the Knife Stroke



At the factory the knife stroke is set at 8 mm.
It can be changed to 6 mm.
This makes the machine quieter.



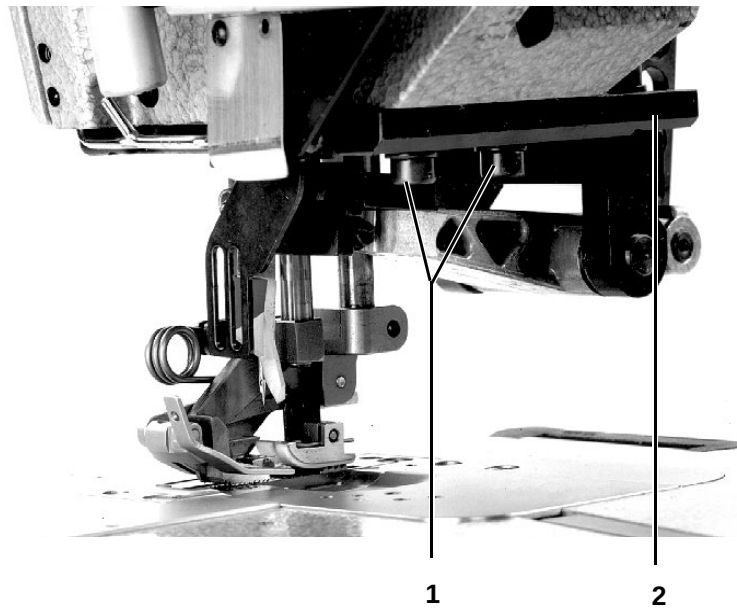
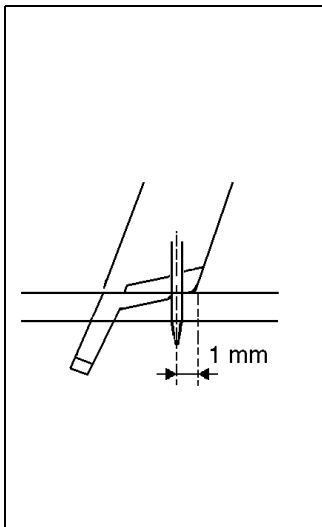
Caution Risk of Injury!

Before converting turn the main switch off.

- Take the wick 6 out of the mounting 1.
- Loosen screw 4.
- Pull out bolt 2 with the wick and insert into the hole 3.
- Tighten screw 4 again.
- Pull wick 6 through the hole 5 again and place in the mounting 1.



2.18.2 Setting of the Upper Knife in the Direction of the Seam



When the upper knife, with the edge cutter turned on, is in its lower dead center, the forward tip of the knife blade should be about 1 mm in front of the needle.



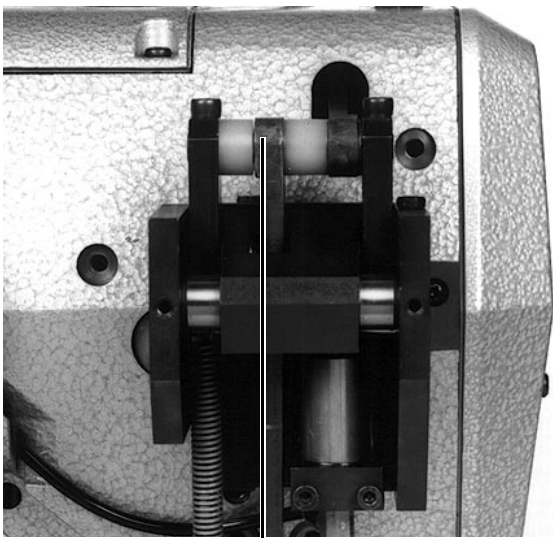
Caution Risk of Injury!

Do not come in contact with the foot pedal or the keys for single stitches with the machine turned on.

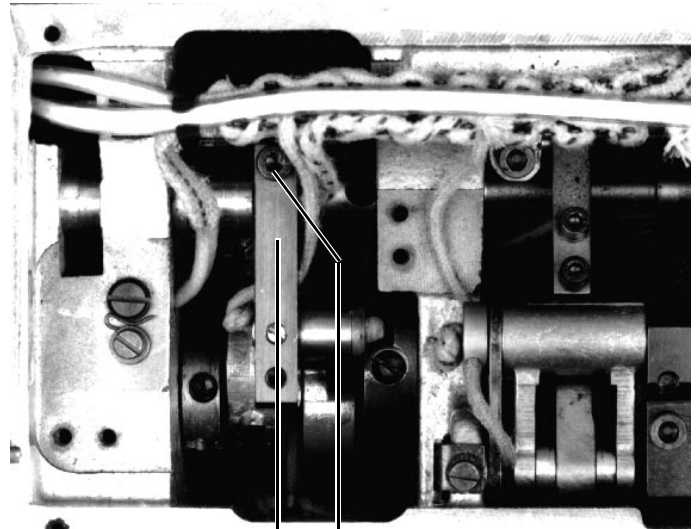
- Turn the handwheel until the knife is in its lower dead center.
- Loosen screws 1 so far that the fastening plate 2 still touches flat on the cast body, but can be slid.
- Slide the fastening plate so to the front or back that the forward tip of the knife blade is about 1 mm in front of the needle.
- Tighten the screws again.



2.18.3 Idle of the Cutter Bar when Shut Off



3



2 1

With the edge cutter switched off the cutter bar should have minimal movement. (An absolute idle is not possible)



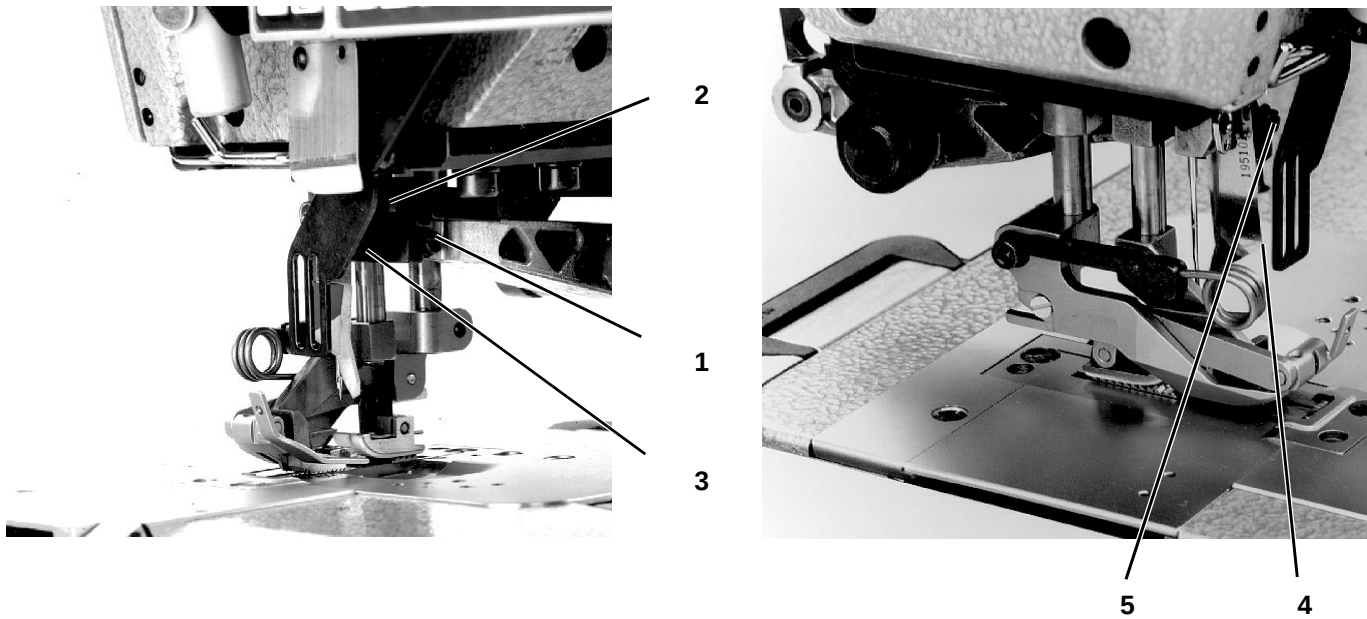
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Loosen clamping screw 1 on the clamping piece 2.
- Adjust the tension bar 3 so that the cutter bar has the smallest possible movement when the handwheel is turned.
- Tighten clamping screw 1 again.



2.18.4 Height Setting and Lateral Adjustment of the Upper Knife



At the lower dead center of the activated edge cutter, the forward tip 3 of the upper knife should reach the blade of the lower knife.

Sideways, the upper knife should be aligned so that the pilot, at the upper dead center, touches on the lower knife.



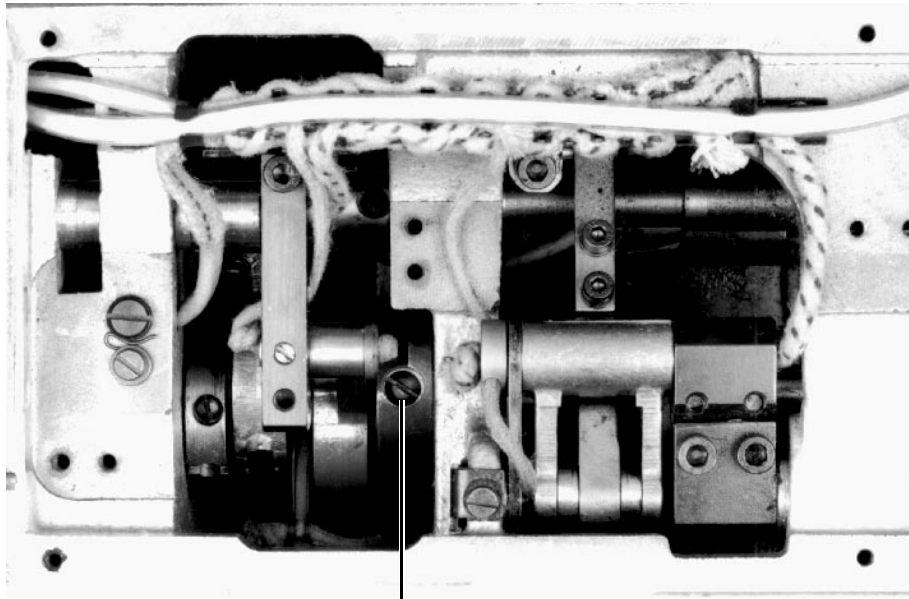
Caution Risk of Injury!

Do not come in contact with the foot pedal or the keys for single stitches with the machine turned on.

- Switch the edge cutter on.
- Turn the handwheel until the upper knife is at its lower dead center.
- Loosen screw 3 and 5 and adjust the upper knife so that the forward tip 4 reaches the blade of the lower knife.
- Tighten screw 3 and 5 again.
- Turn the handwheel until the upper knife is in its upper position.
- Loosen screw 2.
- Set the knife tip closer to the counter knife with screw 1.
- Tighten screw 2 again.
- Conduct a cutting trial, adjust slightly, if necessary.



2.18.5 Setting of the Eccentric on the Upper Shaft



1

In the first needle position (bottom edge of the needle eye at the height of the upper edge of the needle plate), the 1st screw in direction of run of the eccentric should be congruent with the tension bar.



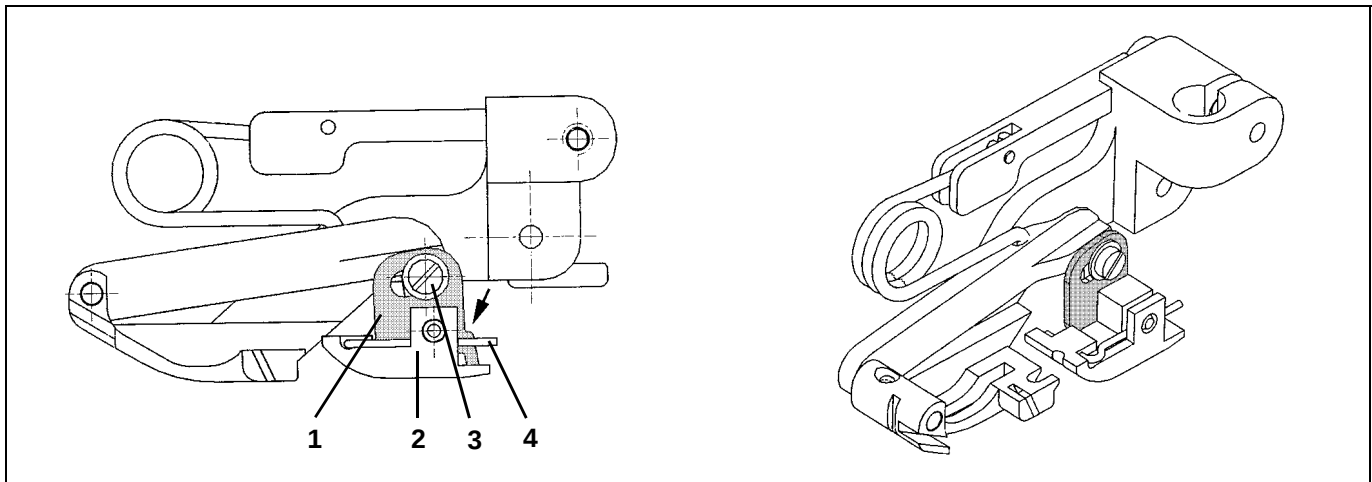
Caution Risk of Injury!

Before adjusting turn the main switch off.

- Loosen the screws on the knife drive eccentric 1.
- Turn the handwheel until the machine is in the first needle position.
- Adjust the eccentric so that the first screw is congruent with the tension bar.
- Tighten the screws again.



2.19 Setting the Pressure Foot



Caution Risk of Injury!

Before adjusting turn the main switch off.

Replacing the sole on the sewing foot

Order no. PTFE foot 0196 104008

steel foot 0196 104010

- Press spring 4 down.
- Pull the foot off to the side.
- Push on another foot until the spring 4 catches.

Adjusting the sewing foot



IMPORTANT

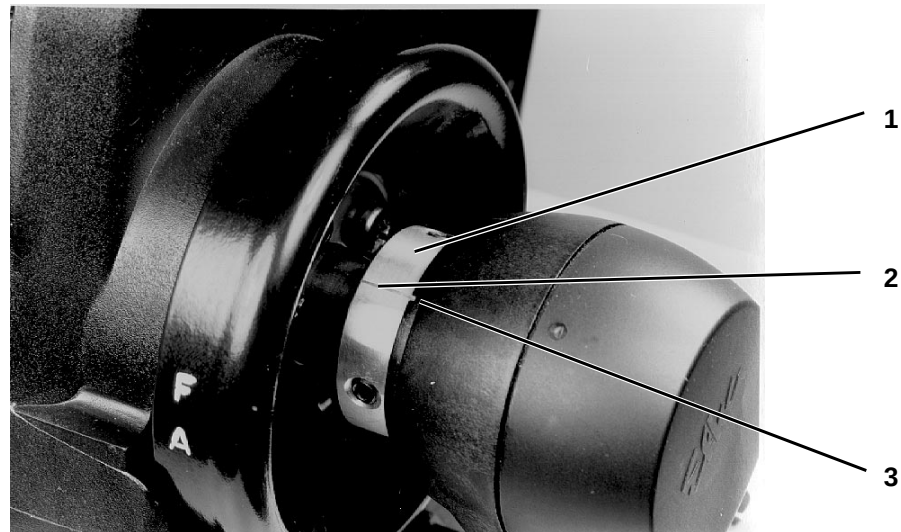
Adjustments must always be carried out with the PTFE foot in place.
This ensures that the settings for the steel foot will also be correct.

With the feed dog at top dead centre (position B) the PTFE foot 2 must be in flush contact with the feed dog.

- Stop machine in position B.
 - Undo screw 3.
 - Align PTFE foot 2.
 - Tighten screw 3.
- When the screw 3 is tightened, the plate 1 must be pressed down (see arrow) so that the stop makes contact with the base plate.



2.20 Setting the Synchronizer.



Caution Risk of Injury!

Before adjusting turn the main switch off.

- Set the sewing machine in position A.
- Set the marker line 2 to notch 3.

First needle position:

The machine should stop at the seam end and within the seam when the hook has securely taken up the loop. This means that the needle should rise above its lower dead center until the hook tip has moved approx. 6 mm above the needle to the left. (Bottom edge of the needle eye at the upper edge of the needle plate)

Second needle position:

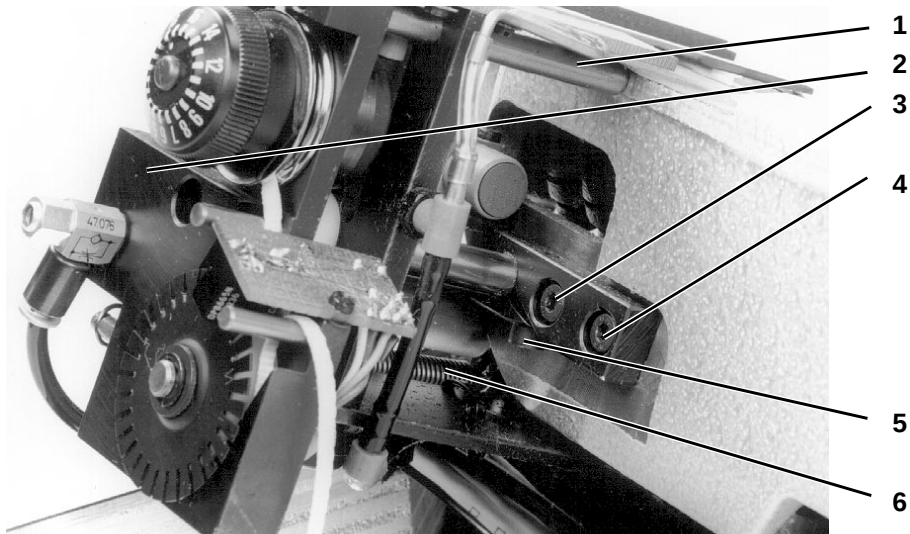
The machine should stop when the needle bar is in position B (upper dead center).

Both needle positions are given automatically by the controls if the base setting is conducted.



3. Setting the Tape Feed and Cutter (model 550-12-26 only)

3.1 Tape Advance



The fabric-advance setting should be such that the fabric channel can be inserted into the needle-plate slot without touching the needle plate.



Caution Risk of Injury!

Before adjusting turn the main switch off.

- Remove the tension spring 6.

Horizontal adjustment

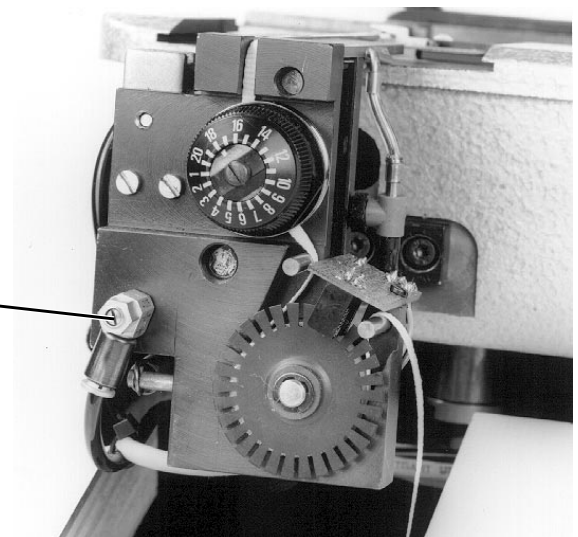
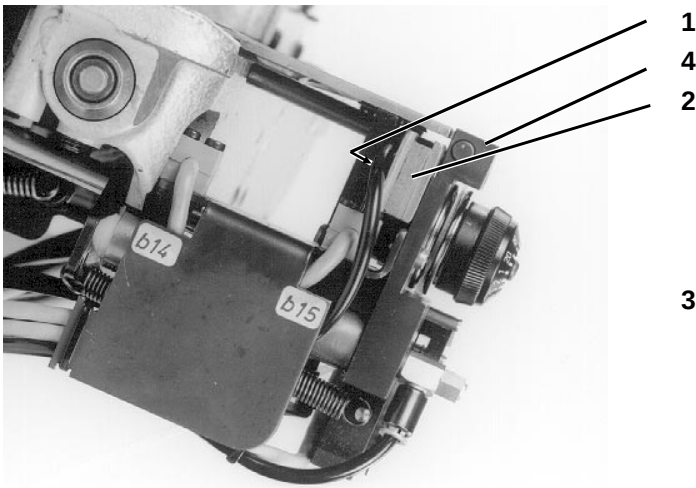
- Undo locking screw 5.
- Alter the position of the fabric advance by rotating block 2. Bolt 1 must make pressure-free contact with the base plate.
- Tighten locking screw 5.

Vertical adjustment

- Undo screws 3 and 4.
- Alter the position of the fabric clamp. The alignment of the fabric clamp must be such that it runs centrally in the needle-plate fabric channel.
- Tighten screws 3 and 4.

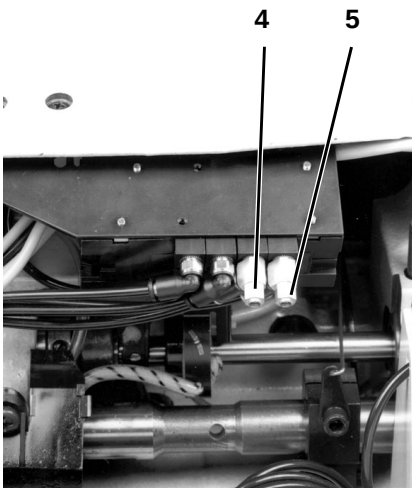
Vertical adjustment

- Fit the tension spring 6.



Caution Risk of Injury!

Before adjusting turn the main switch off.



Adjusting Speed of Tape Advance

The operation of the advance must be rapid but not spasmodic.

- Forward motion is adjusted with control 3 on the cylinder.
- Reverse motion is adjusted with control 4 on the magnetic valve. The magnetic valves are located beneath the base plate.

Adjusting Blower air in the tape channel and guide axle

The blower air in the tape channel stabilises the tape when it is moved towards the needle.

The blower air on the guide axle keeps it free of dust and fluff.

- Adjust control 5 on the magnetic valve. The air flow must be such that there are no whistling noises when the tape is advanced. The magnetic valves are located beneath the base plate.

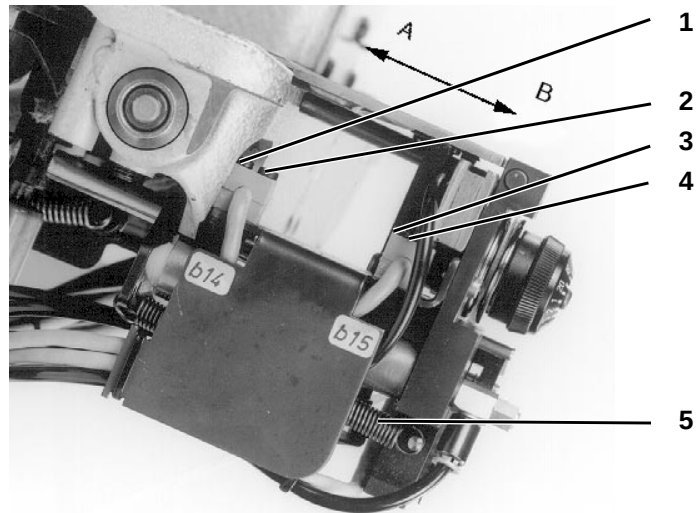
Adjusting the magnet

The setting of magnet 2 must be such that the cover plate lays onto block 4.

- Undo screw 1 on the magnet.
- Adjust magnet 2.
- Tighten screw 1 on the magnet.
- Check that the slider can move freely beneath the cover plate.



3.2 Tape Clamp



The limit switches for the tape clamp must both be set to operate 1 mm from the end of the advancing movement.



Caution Risk of Injury!

Always take the greatest care when the machine is switched on.
Do not touch the foot pedal.

t e s t - - - -

- Remove tension spring 5 before making adjustments.
- Hold down the "Y" key when turning on the machine.
The test mode is activated.
- Press the "Y" key twice.
The program for monitoring the inputs is activated.

Forward switch

E 1 4 = o n

- Push tape advance manually in direction A.
Switch b14 must operate 1 mm from the end position.
The display must change from "E14=on" to "E14=off" 1 mm in front of the forward end position.
- Adjustments are made by undoing screws 1 and 2 and altering the position of switch b14 as required.
- Tighten screws 1 and 2.

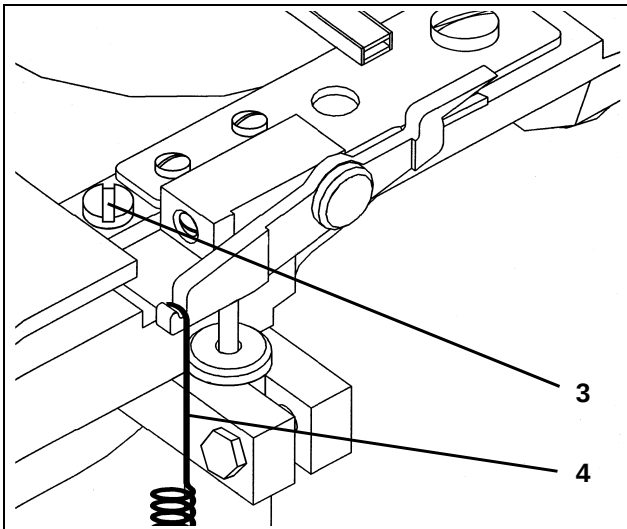
Rear switch

E 1 5 = o n

- Push tape advance manually in direction B.
Switch b15 must operate 1 mm from the end position.
The display must change from "E15=on" to "E15=off" 1 mm in front of the rear end position.
- Adjustments are made by undoing screws 3 and 4 and altering the position of switch b15 as required.
- Tighten screws 3 and 4.
- Replace tension spring 5.
- Turn the machine off and on again.
The machine is ready for sewing again.



3.3 Tape Cutter



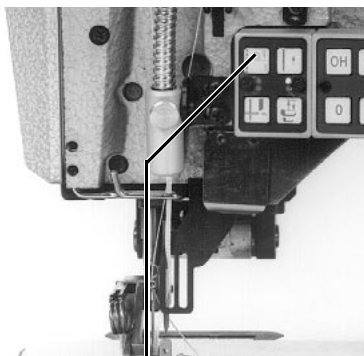
The tape cutter cuts the tape when the "OH" function (sewing zero distance with tape) is not activated and the crimping value is changed from between 1 and 15 to 0. Its setting must be such that it severs the strip cleanly, the top edge of the moving blade does not project from the needle plate and the tape channel can pass freely between the static and moving blades.

3.3.1 Replacing the Tape Cutter



Caution Risk of Injury!

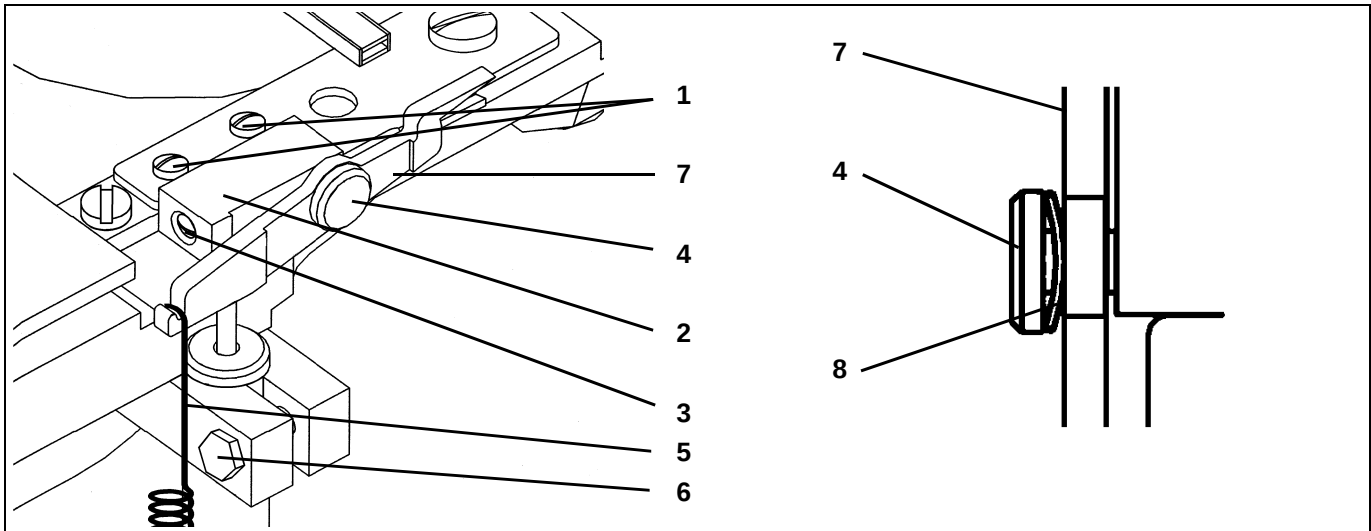
Before adjusting turn the main switch off.



- Raise the sewing feet.
- Secure the sewing feet in the raised position.
- Switch the machine off.
- Undo screws 1 and 2 on the needle plate.
- Remove needle plate and slider.
- Unhook screw on tape cutter.
- Undo screw 3 and remove cutter.
- Insert new cutter.
- Tighten screw 3.
- Replace hook.
- Replace slider and needle plate.
- Secure needle plate with screws 2 and 3.
- Switch on machine and test cutter function by pressing button 5.

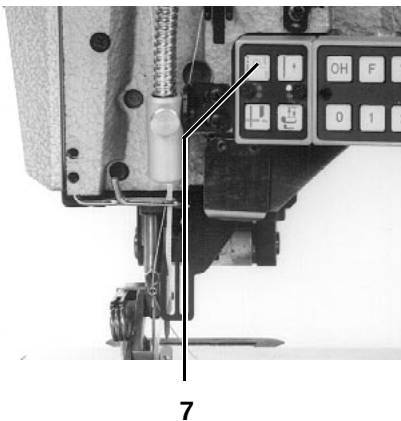


3.3.2 Changing Cutter Blades



Caution Risk of Injury!

Before adjusting turn the main switch off.



- Dismantle cutter as described in 3.3.1.
- Undo screw 1.
- Replace the static blade and fix it in place so that the longer edge of the slot is in contact with block 2.
- Undo threaded pin in block 2.
- Withdraw bolt 4 and replace the moving blade.
- Place bolt 4 with spring washer 8 on the moving blade 7 as shown in the illustration at the right above.

Replace bolt 4 by pressing lightly on the moving blade and tighten threaded pin.

- Re-assemble cutter as described in 3.3.1.
- Switch machine on and test cutter function by pressing button 7.
- If necessary increase pressure on the moving blade.

3.3.3 Cylinder for Tape Cutter

- Undo locking screw 6.
- Adjust the cylinder height so that the tape channel can pass freely between the static and moving blades. The top edge of the moving blade must not project from the needle plate.
- Tighten locking screw 6.
- Adjust tension spring 5 on the cylinder so that after severing the fabric the moving blade returns to its limit position.