Contents **Page:**

Part 3: Service Instructions Cl. 743-422

Contents **Page:**

1. General

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

Attention!
Different setting positions are interdependent.
It is therefore essential that the individual settings be made while keeping to the order described.

ATTENTION !

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

Danger of Breakage !

Before starting the sewing unit again after disassembly first conduct the setting work required as per these service instructions.

Never start the sewing unit with the drive motor turning in the wrong direction.

To avoid damage to the rubber lagging of the material transport rail:
Run the lowered material transport rail into the left end position only with a piece of cloth in place.

Caution Risk of Injury !

Before repair, conversion and maintenance work:

- Turn the main switch off.
  Exception:
  Setting work which is to be conducted with the testing, setting or sewing programs of the control unit.

Adjustment work and function testing with the sewing unit running

- Conduct adjustment work and function testing with the sewing unit running only under observance of all safety measures and with greatest possible caution.

Setting work in the area of the needle and thread trimmer

- Remove appropriate parts before conducting the setting work in order to avoid injury.
  Exception:
  The parts are absolutely necessary for the setting work.

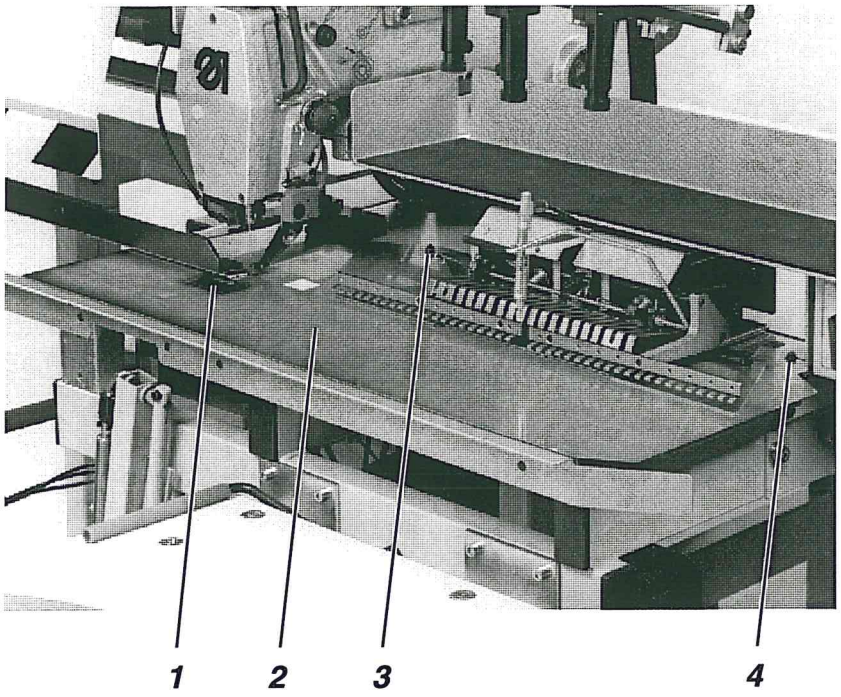
Pedal

- Attention!
  Repeated stepping on the pedal lets the material transport rail run rapidly into the positioning area.
  Keep hands clear of the path of the material transport rail.

2. Removing the Material Slider Plate

For setting work in the area of the hook the following components are to be removed:

- Material slider plate 2
- Viewing window 1
- Needle plate



Removing the material slider plate

- Run the material transport rail into its left end position.

Caution Risk of Injury !

Turn the main switch off.
Remove the material slider plate 2 only with the main switch turned off.

When lifting the material slider plate keep hands clear of the area the needle!

- Turn the needle into the high position with the handwheel .
- Lift the material slider plate 2 in the area of the pins 3 and 4 and pull forward out of the sewing unit.
- Remove viewing window 2.
- Remove the needle plate after loosening the mounting screws. The area around the hook is freely accessable for setting work.

Placement of the material slider plate

- Attach the needle plate and viewing window 2.
- From the front slide the material slider plate 2 under the positioning station.
- Place the material slider plate 2 with the drilled holes over the pins 3 and 4.

3. Transport Carriage

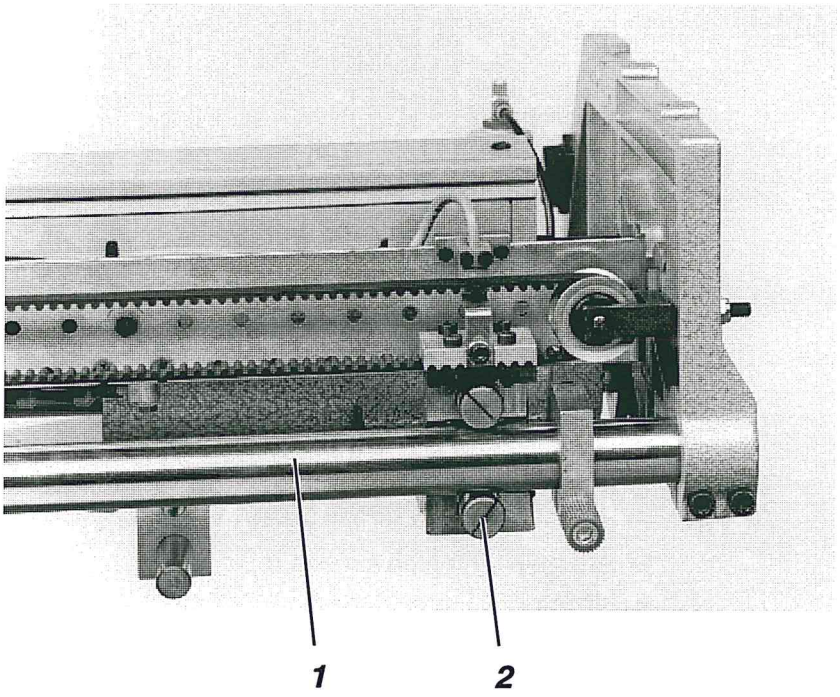
The advance of the transport carriage occurs via a step motor.
It is conducted at four speed levels:

- Stitch condensation
- Normal stitch length
- Bartacking stitch length
- Quick return of the material transport rail

Caution Risk of Injury !
Keep hands clear of the area of moving machine parts.

3.1 Rollers

The transport carriage is guided on the extension pipes 1 at the left by ball bushings and at the right by rollers.
The rollers 2 are set tight at the factory.



Caution Risk of Injury !
Turn the main switch off.
Set the play of the rollers 2 only with the main switch turned off.

To remove play:

- Remove the cover plate after loosening the mounting screws.
- Loosen **one** of the eccentrically bearinged rollers 2 and set tight.

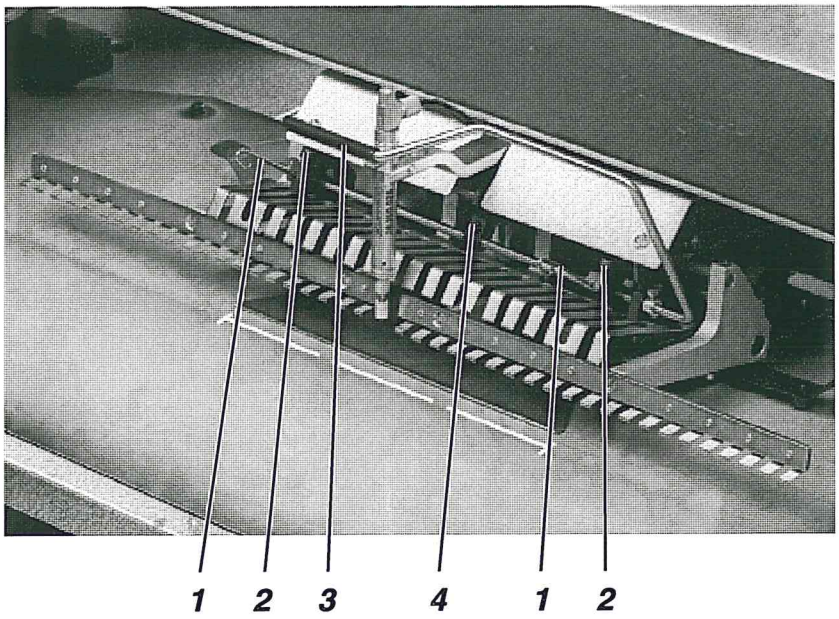
3.2 Right End Position

There are two different right end positions of the transport carriage for the sewing of collar stay seams and mirror seams.

Attention Danger of Breakage !

Before setting the right end position of the transport carriage:

- Remove holder 1.
- Swing the holder bar 3 up and out of the path of the material transport rail.



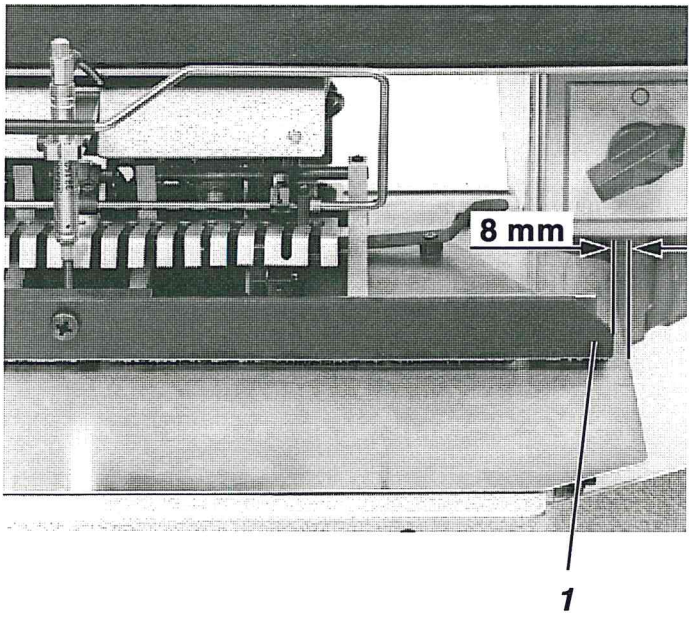
Caution Risk of Injury !

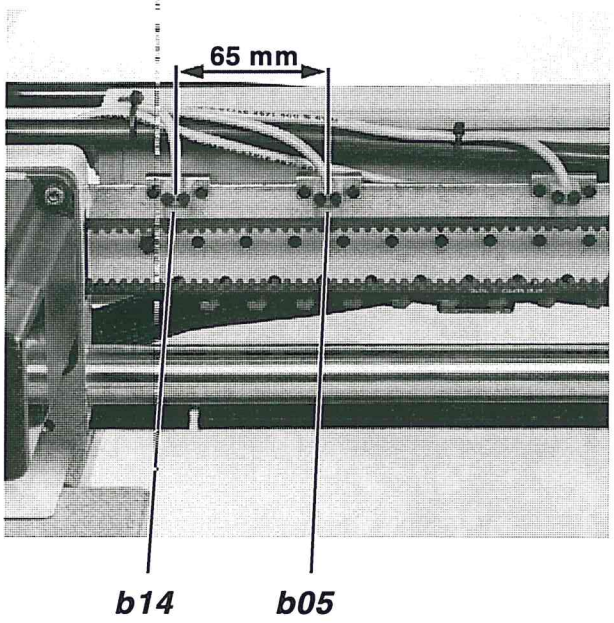
Turn the main switch off.
Remove the holder from the clamping pieces only with the main switch turned off.

- Loosen clamping screws 2.
- Remove holder 1 from the clamping pieces.
- Loosen clamping screw 4.
- Swing holder bar 3 up and out of the path of the material transport rail and hold tight.
- Tighten clamping screw 4.

Collar stay seam

The **switch b05** determines the right end position of the transport carriage by collar stay seams.
In the right end position the clearance from the front edge of the material transport rail 1 to the front edge of the material slider plate must be 8 mm.





- Set the "**Program**" switch on the front panel of the control unit to "**04**" (sewing program for collar stay seam).
- Press the "**STOP**" key.
  The program is activated.
- Set the "**Program**" switch to "**55**".
  Attention! Do **not** press the "**STOP**" key.
- Run the material transport rail into its right end position by tapping on the pedal.

Caution Risk of Injury !

Turn the main switch off.
Set switch **b05** only with the main switch turned off.

- Check the clearance of 8 mm between the front edge of the material transport rail and the front edge of the material slider plate.

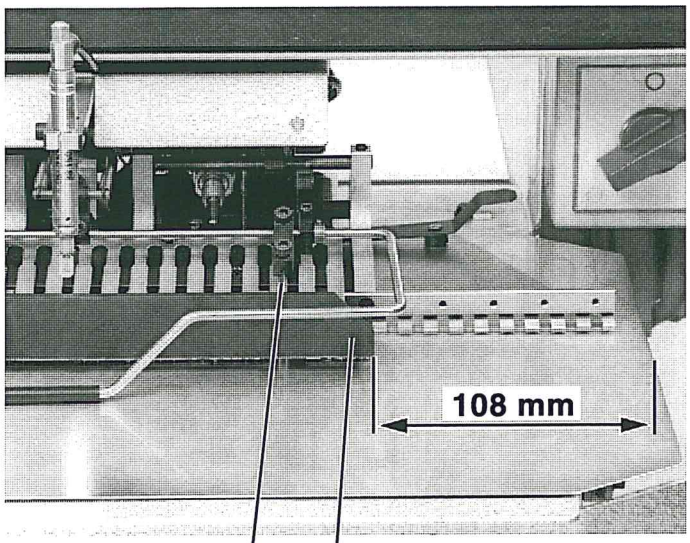
To correct:

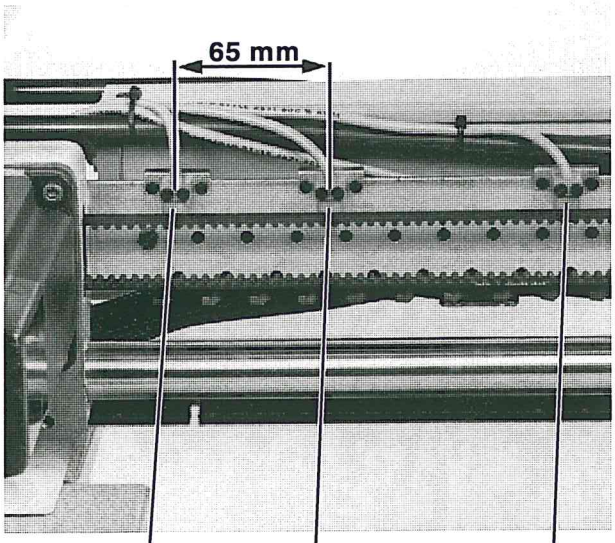
- Remove the cover plate on the transport carriage after loosening the mounting screws.
- Slide switch **b05** in the appropriate direction after loosening the clamping screws.
- Turn the main switch on.
- Conduct test runs with the transport carriage and check the setting.

Mirror seam

The **switch b18** determines the right end position of the transport carriage by mirror seams.
In the right end position the clearance from the front edge of the material transport rail 1 to the front edge of the material slider plate must be 108 mm.

With a correctly aligned positioning station the lowered holder 2 must enter the slots of the material transport rail.





- Set the "**Program**" switch on the front panel of the control unit to "**02**" (sewing program for mirror seam).
- Press the "**STOP**" key.
  The program is activated.
- Set the "**Program**" switch to "**55**".
  Attention! Do **not** press the "**STOP**" key.
- Run the material transport rail into its right end position by tapping on the pedal.

Caution Risk of Injury !

Turn the main switch off.
Set switch **b18** only with the main switch turned off.

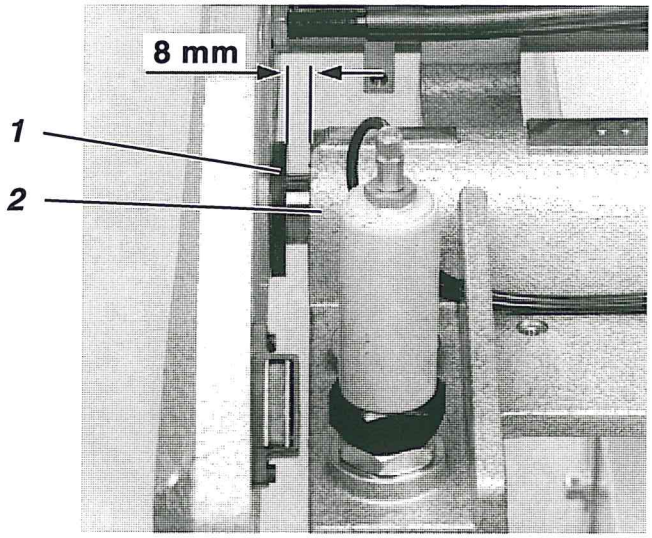
- Check the clearance of 108 mm between the front edge of the material transport rail and the front edge of the material slider plate.
- If necessary, slide switch **b18** in the appropriate direction after loosening the clamping screws.

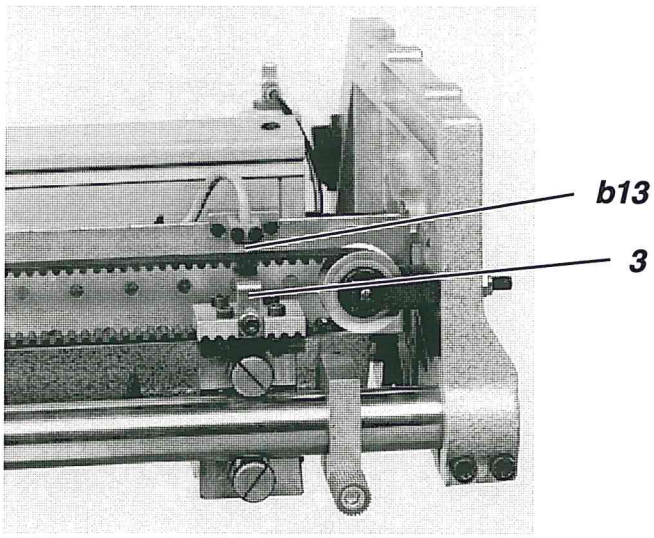
The **switch b14** ("Carriage Braking") serves as a safety switch.
It prevents a possible striking of the transport carriage onto the machine head.
The clearance between the switches **b14** and **b05** must be 65 mm.

- Slide switch **b14** after loosening the clamping screws.
  The clearance between the switches **b14** and **b05** must be 65 mm.

3.3 Left End Position

The **switch b13** determines the left end position of the transport carriage.
Switch **b13** is to be set so that, in the left end position, there is still a clearance of approx. 8 mm between the damping disc 1 and the transport carriage 2.





Caution Risk of Injury !

Turn the main switch off.
Before sliding the transport carriage manually it is essential to turn the main switch off.

- Slide the transport carriage manually into its left end position.
- Set a clearance of approx. 8 mm between the transport carriage 2 and damping disc 1.

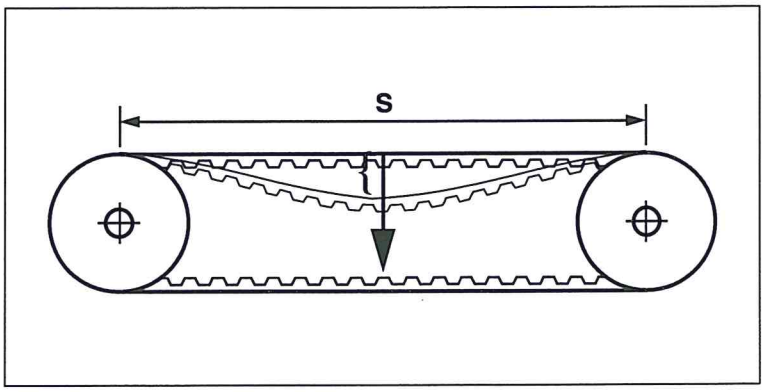
- Turn the main switch on.
- Set the "**Program**" switch to "**63**".
- Press the "**STOP**" key. The program is activated.
- Set the "**Program**" switch to "**13**" (switch **b13**).
  The switching status of the switch **b13** is shown in the display of the control unit.
- Loosen the clamping screws on the switch **b13**.
- Set switch **b13** to the switching flag 3 so that the display shows "**+B13**".

- Turn the main switch off.
- Slide the transport carriage manually until it touches the damping disc 1.
- Turn the main switch on.
- Check the switching status of switch **b13** again as described above.
  The display must also show "**+B13**" in this position.
- Tighten the clamping screws on switch **b13**.

Note:
The switching flag 3 may not leave the switching area of the switch **b13** in this position.
The step motor would otherwise switch on again and permanently work counter to the damping disc 1.

3.4 Timing Belt Tension

At the center of the belt section S it should be possible for the timing belt to be bent in 13 mm under the test load of FV = 5 N.

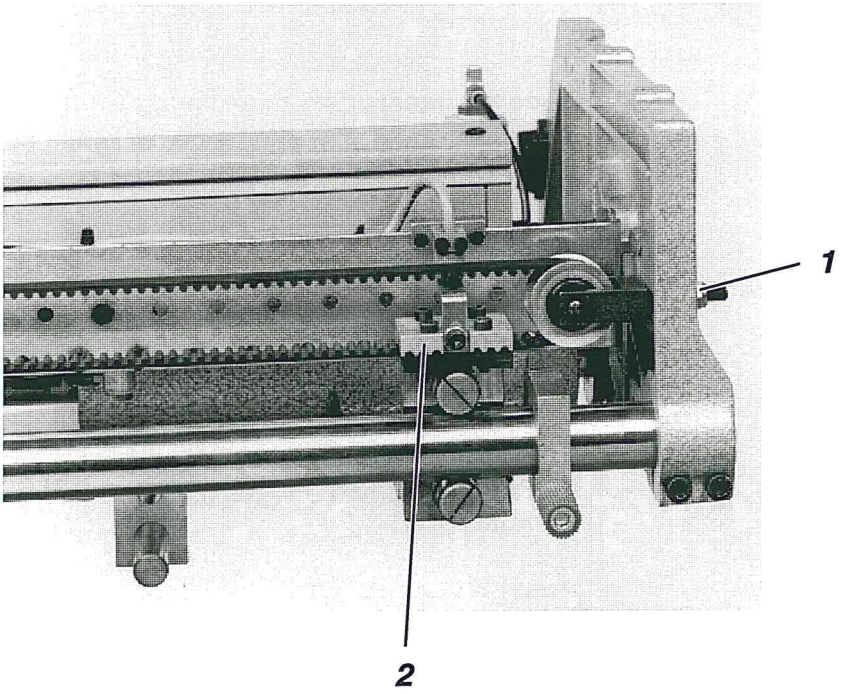


Consequences of too high a timing belt tension:

- Reduced life
- Running noise

Consequences of too low a timing belt tension:

- No flawless mating of the belt teeth and the pulley teeth
- Jumping of the teeth under load



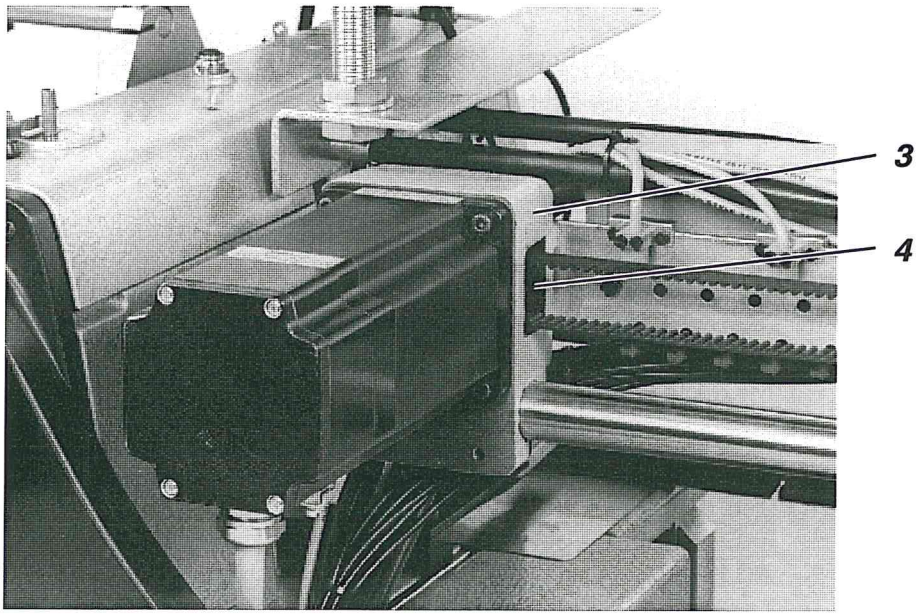
- Attach the test load at the center of the timing belt section (e.g. with aid of a spring scale) and check the bending-in of 13 mm.

To correct:

- Correct the timing belt tension at nut 1.
  The nut 1 is provided with a self-locking thread.

3.5 Replacing the Timing Belt

The timing belt is split for ease of replacement.
It is held together by the timing belt clamp 2.



Caution Risk of Injury !

Turn the main switch off.
Replace the timing belt only with the main switch turned off.

- Loosen the four clamping screws on the timing belt clamp 2.
- Pull the timing belt out of the housing 3 after loosening the timing belt clamp 2.

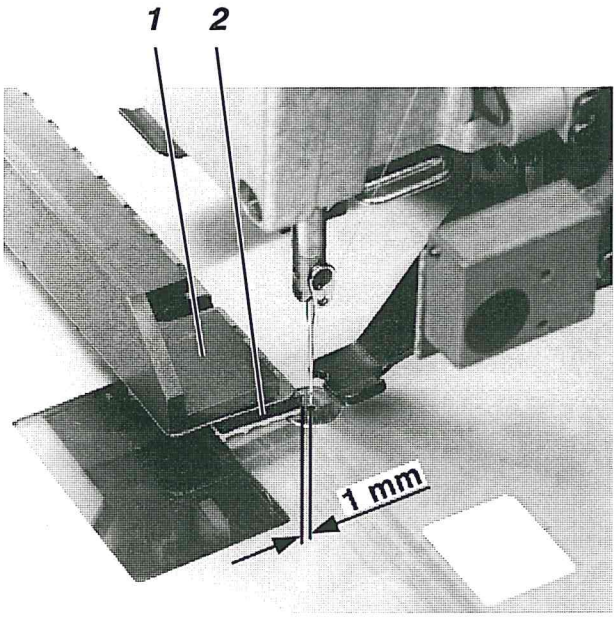
- Insert the new timing belt.
- Push one timing belt end through the opening 4 to the timing belt pulley of the step motor.
- Carefully turn the timing belt pulley with an appropriate tool for placement of the timing belt.
  The timing belt pulley is accessable through the opening 4.
- To connect the two timing belt ends, slacken the timing belt tension at nut 1 slightly.
- Connect the two timing belt ends with the timing belt clamp 2.
- Set the timing belt tension (see Chapter 2.4).

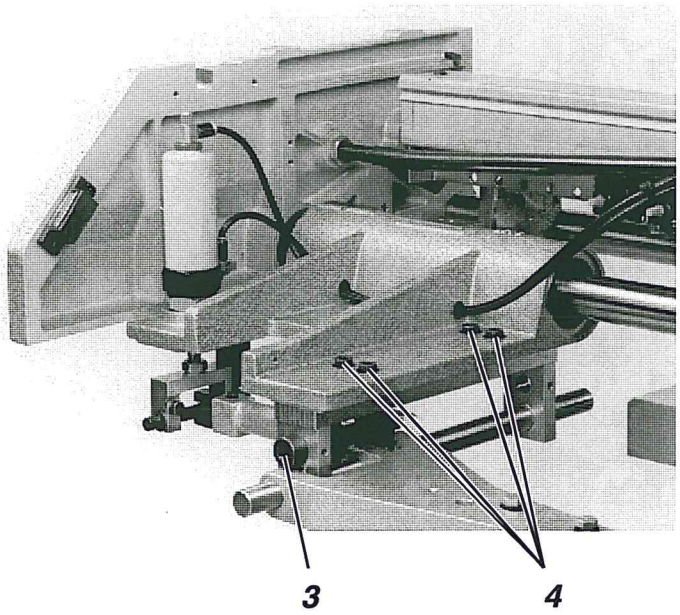
4. Material Transport Rail

4.1 Clearance to the Needle

During transport the material transport rail 1 must move along the needle at a uniformly tight clearance.

The clearance between the needle and the rubber lip 2 of the material transport rail must be 1 mm.





Caution Risk of Injury !

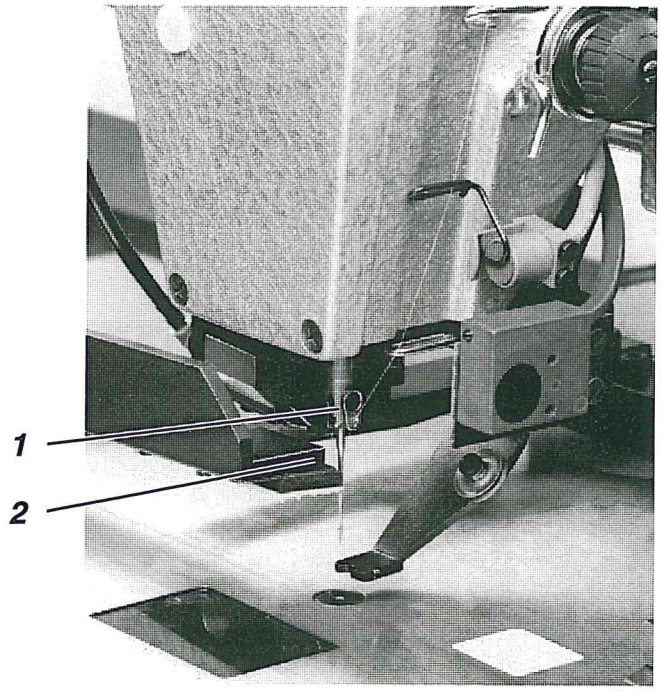
Turn the main switch off.
Set the material transport rail only with the main switch turned off.

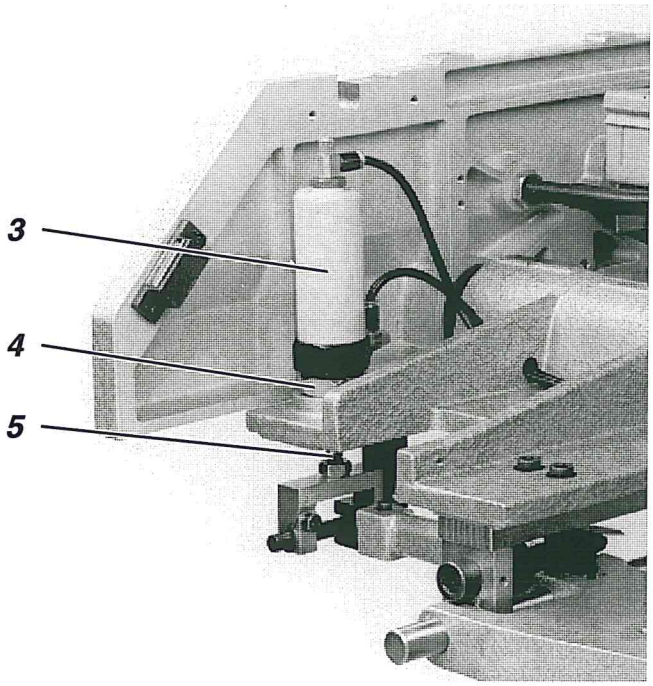
- Remove the cover plate on the transport carriage after loosening the mounting screws.
- Loosen the four screws 4 on the transport carriage.
- Align the material transport rail 1 to the needle.
- Tighten screws 4.

- Set the clearance between the needle and the rubber lip 2 by turning the threaded spindle 3.
  For turning the threaded spindle use the socket wrench to be found in the accessories pack.

4.2 Stroke Height

In the thread lever high position the clearance between the front edge 2 of the raised material transport rail and the needle bar 1 must be approx. 3 mm.





Caution Risk of Injury !

Turn the main switch off.
Set the stroke height only with the main switch turned off.

- Arrest the machine with the timing pin in position **C** (thread lever high position) of the adjustment disc.
- Push the material transport rail manually to the right.
  The raised front edge of the rail 2 must lie under the needle bar 1.
- Check the clearance between the front edge of the rail 2 and the needle bar 1.

To correct:

- Loosen compressed air hoses on the cylinder 3.
- Loosen lock nut 4.
- Set the stroke height of the material transport rail at the cylinder 3.

Rough adjustment:	Screw cylinder 3 in or out.
Increase stroke:	Screw the cylinder in
Decrease stroke:	Screw the cylinder out:
Fine adjustment:	Turn piston rod 5.

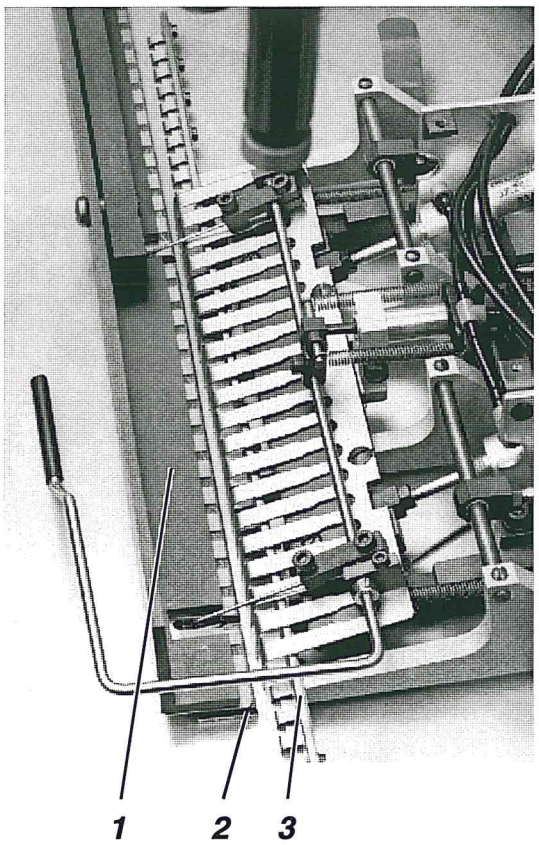
- Tighten lock nut 4.
- Attach compressed air hoses to the cylinder 3.
- Check the stroke height.
  The raised material transport rail must travel unhindered under the needle bar.
- Remove the timing pin.
- Attach the cover on the transport carriage again.

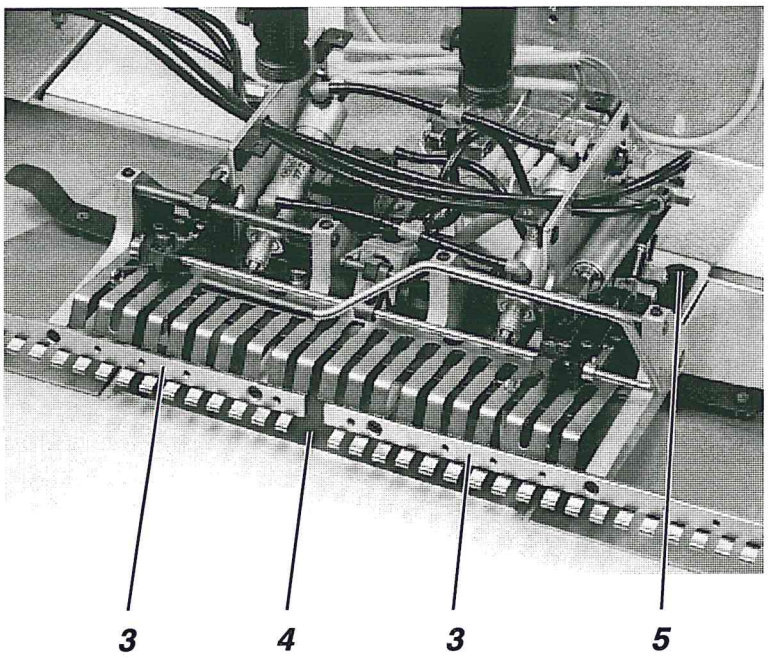
5. Positioning Station

The positioning station must be aligned parallel to the material transport rail.
The clamping elements should clamp the material as close as possible in front of the rubber lip 2 of the material transport rail 1.

5.1 Aligning the Positioning Station to the Material Transport Rail

The clearance between the lowered clamping strips 3 and the rubber lip 2 of the material transport rail must be 11 mm along the whole length.
This value applies for the normal seam projection of 10 mm.





Caution Risk of Injury !

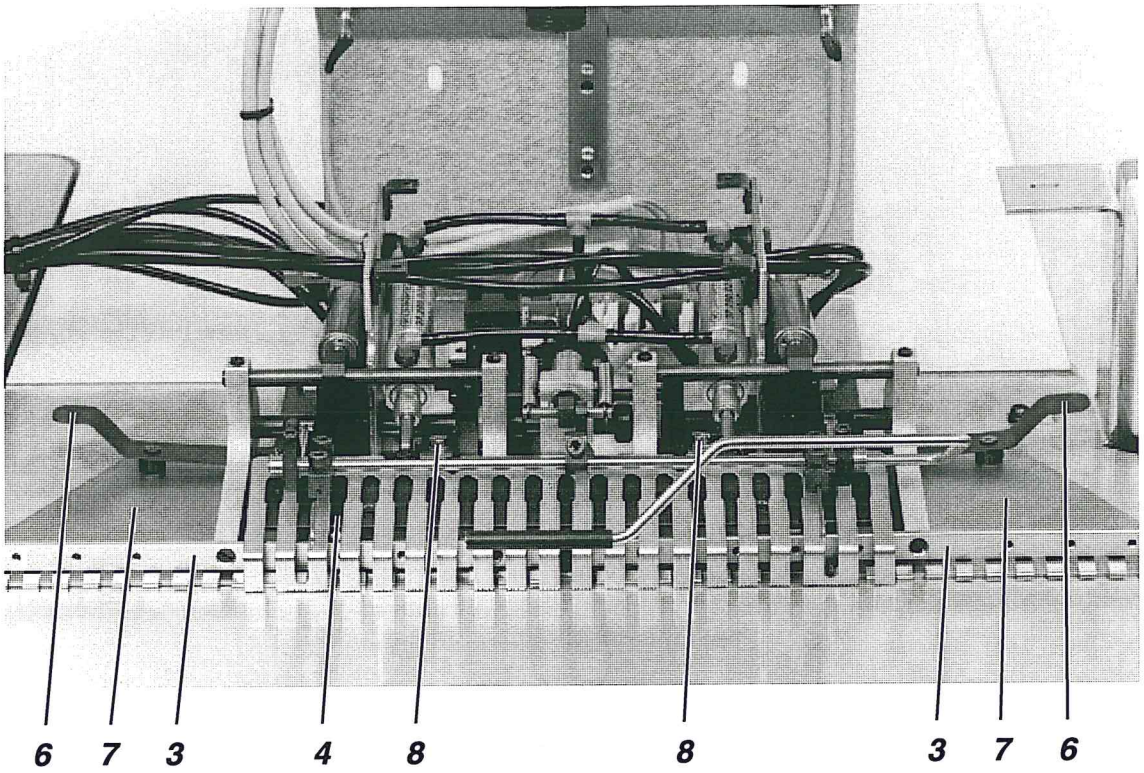
Turn the main switch off.
Align the positioning station only with the main switch turned off.

- Remove the table and cover of the positioning station after loosening the mounting screws.
- Push the material transport rail 1 manually in front of the positioning station.
- Loosen the four mounting screws 5 of the positioning station.
- Align the positioning station parallel to the material transport rail 1.
- Tighten the mounting screws 5.

5.2 Stop Plate and Positioning Plates

The stop plate 4 must lie with its front edge exactly under the front edges of the lowered clamping strips 3.

There must be a clearance of 7 mm between the positioning plates 7 and the rubber lip 2 of the material transport rail.
This clearance results in the standard seam projection of 6 mm for collar stay seams.



Caution Risk of Injury !

Turn the main switch off.
Adjust the stop plate 4 and positioning plates 7 only with the main switch turned off.

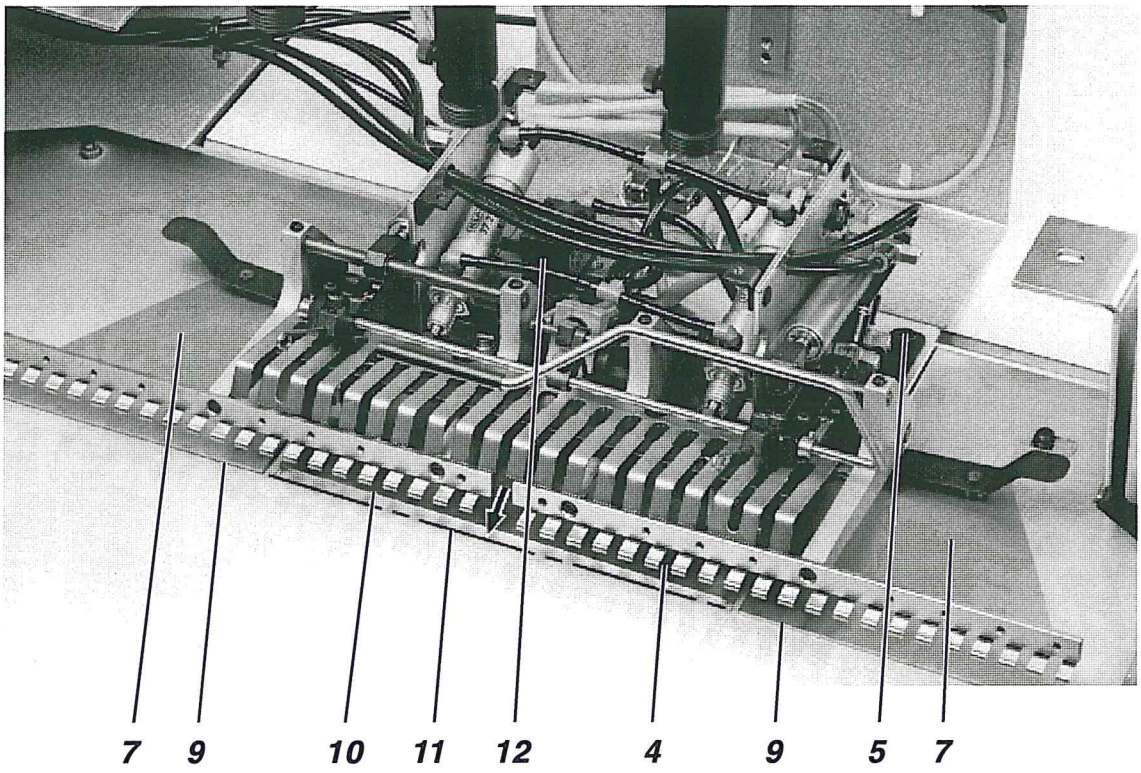
- Loosen the two mounting screws 8 on the stop plate 4.
- Align the stop plate 4 so that its front edge lies exactly under the front edges of the lowered clamping strips 3.
- Tighten mounting screws 8.

- Attach positioning plates 7.
  By proper mounting, the leaf springs 6 must catch in the drilled holes of the positioning plates.
- Loosen the two mounting screws 5 on **one** side of the positioning station slightly.

ATTENTION !

Loosen the mounting screws 5 only on **one** side of the positioning station. In this manner the correct alignment of the positioning station to the material transport rail 1 is retained.

- Set the clearance of 7 mm between positioning plate 7 and the rubber lip 2 of the material transport rail.
- Tighten mounting screws 5.



- Loosen the two mounting screws 5 on the **other** side of the positioning station.
- Align the second positioning plate 7.

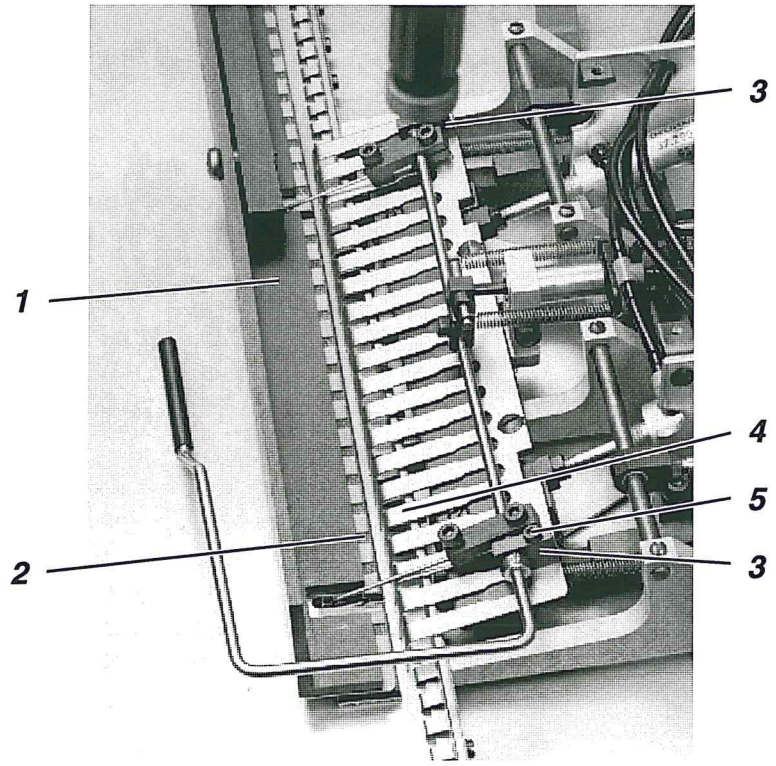
- Turn the main switch on.
- Set the "**Program**" switch on the front panel of the control unit to "**64**".
- Press the "**STOP**" key.
  The program is activated.
- Set the "**Program**" switch to "**27**" (solenoid valve s27).
- Press the "Σ" key.
  The stop plate 4 runs forward in the direction of the arrow.
  In this position the front edge 10 of the stop plate and the front edges 9 of the positioning plates must be in-line at 11.

To correct:

- Loosen the clamping screws on the support angle of the cylinder 12.
- Set the width of the movement of the stop plate 4 by setting the cylinder 12 higher or lower.
- Tighten the clamping screws.

5.3 Cloth Clamp

The clearance between the lowered cloth clamp 4 and the rubber lip 2 of the material transport rail 1 must be 2 mm.



Caution Risk of Injury !

Turn the main switch off.
Set the cloth clamp only with the main switch turned off.

To correct:

- Loosen the clamping screws 5 on both bearing blocks 3 slightly.
- Set the cloth clamp 4 to the rubber lip 2 of the material transport rail 1 by pushing.
- Tighten the clamping screws 5.

5.4 Holders and Holder Bar

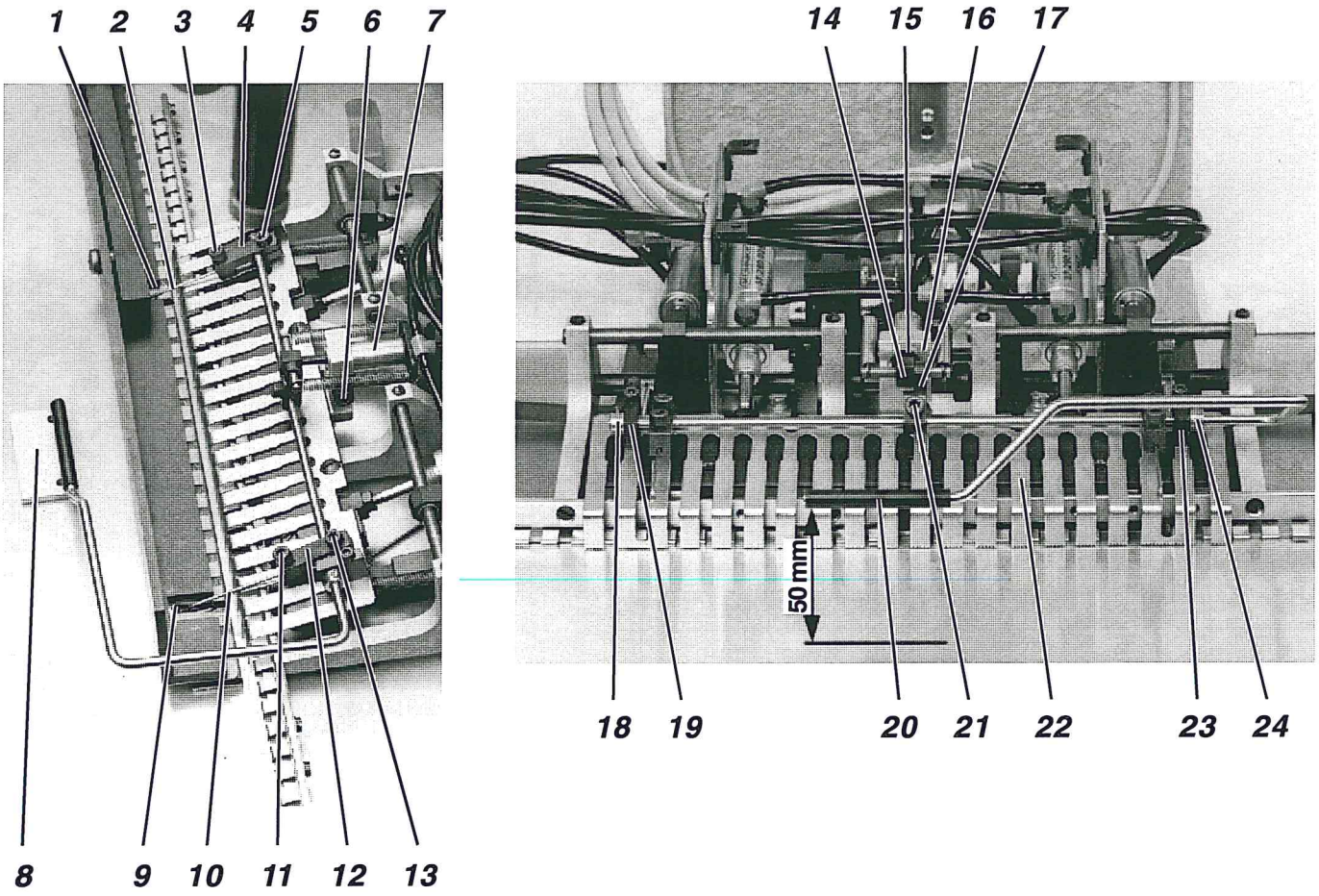
Upon delivery of the sewing unit the positioning station is equipped with the clamping elements for the working of "open collars".

With the cloth clamp 22 lowered, the holders 2 and 10 are lowered by operating the holder bar 20.

The clearance between the lowered holders 2 and 10 and the material slider plate must be approx. 2 mm.

The lowered holder bar 20 should touch with a light pressure on the material slider plate.

In the right end position, the material transport rail, when lowering, must fit precisely over the holders 2 and 10 with its slots 1 and 9.



Caution Risk of Injury !

Turn the main switch off.
Set the holders and holder bar only with the main switch turned off.

Presetting:

- Loosen screw 6 on the clamping piece of the cylinder 7 slightly.
- Move cylinder 7.
  The front surface 15 of the cylinder must lie flush with the front surface 16 of the clamping piece.

- Loosen screws 5 and 13 on the clamping pieces 4 and 12.
- Loosen the clamping screws on the set collars 18 and 24.
- Loosen screw 21 on the clamping lever 17.

- Set the holder bar 20 sideways.
  With a correct setting the left end of the holder bar 20 must end flush with the left set collar 18.
- Push set collars 18 and 24 up to the bearing blocks 19 and 23 until they touch.
- Tighten the clamping screws on both set collars.

- Swing holder bar 20 up manually.
  With cloth clamp 22 lowered the clearance between the holder bar 20 and the material slider plate should be approx. 50 mm.
- Push clamping lever 17 up to the block 14 until it touches.
- Tighten screw 21 on the clamping lever 17.

- Remove holders 2 and 10 from the clamping pieces 4 and 12.

ATTENTION !

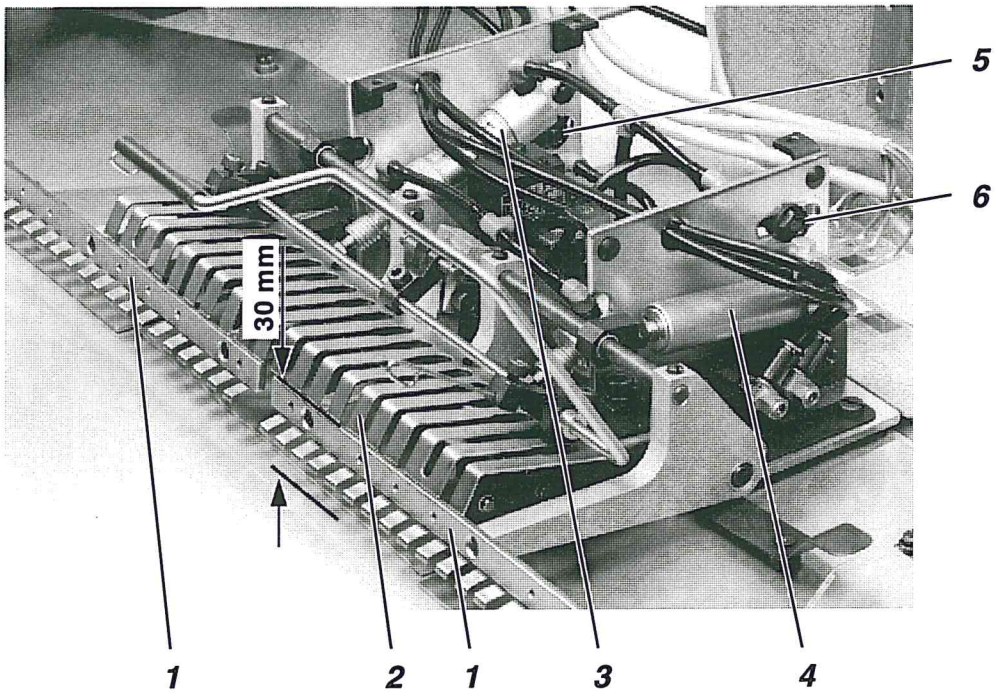
Danger of Breakage!
Remove both holders before turning the main switch on.

- Set the "**S**" switch on the front panel of the control unit to "**2**".
- Set the "**Program**" switch to a sewing program for mirror seams (e.g. P02).
- Press the "**STOP**" key.
  The sewing program is activated.
- Set the "**Program**" switch to "**55**".
  Attention! Do **not** press the "**STOP**" key.
- Repeatedly step down on the pedal.
  The clamping elements lower sequentially.
  The material transport rail runs into its right end position.

- Place a suitable spacer 8 (4 mm thick) under the lowered holder bar 20.
- Push the right holder 10 into clamping piece 12 until it stops.
- Tighten clamping screw 11.
- Align the right clamping piece 12 sideways.
  The right holder 10 must grip in the opening 9 of the material transport rail.
- Turn clamping piece 12 to the holder bar 20.
  The clamping piece must lay onto cloth clamp 22 at the front.
  With this setting the correct clearance (approx. 2 mm) of the lowered holders to the material slider plate results automatically.
- Tighten clamping screw 13.

- Press the "Σ" key once.
  The cloth clamp 22 rises.
- Push the left holder 2 into the clamping piece 4 up to its stop.
- Tighten clamping screw 3.
- Swing the left holder 2 down manually and align sideways.
  The holder 2 must grip in the opening 1 of the material transport rail when lowering.
- Turn clamping piece 4 to holder bar 20.
  The clamping piece must lay onto cloth clamp 22 at the front.
- Tighten clamping screw 5.
- Leave setting program P55 by pressing the "**STOP**" key.

5.5 Stroke Height of the Cloth Clamp and Clamping Strips



Caution Risk of Injury !

Turn the main switch off.
Set the stroke height of the cloth clamp and the clamping strips only with the main switch turned off.

Cloth clamp

The clearance between the raised cloth clamp 2 and the material slider plate must be approx. 30 mm.

- Loosen the nuts 6 slightly.
- Set the stroke height of the cloth clamp 2 by sliding the cylinder 3 in the slots.
- Tighten the nuts 6.

Clamping strips

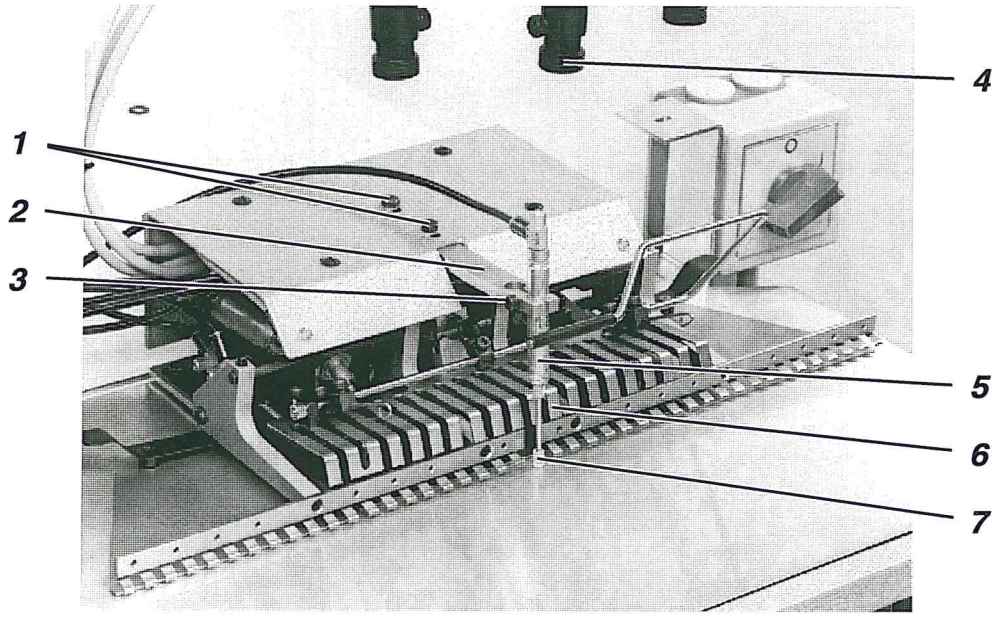
The clamping strips 1 should rise as far as possible.
They may not, however, strike under the raised cloth clamp 2.

When lowered the clamping strips must still securely clamp the material.

- Loosen nuts 5 slightly.
- Set the stroke height of the clamping strips 1 by sliding the cylinder 4 in the slots.
- Tighten the nuts 5.

5.6 Center Cloth Clamp

When the piston rod is extending the pressure piece 7 must move past the cloth clamp 6 as closely as possible.
The light beam from the center marker light 4 may not be interrupted thereby.



Caution Risk of Injury !

Turn the main switch off.
Set the center cloth clamp only with the main switch turned off.

- Loosen the mounting screws 1 on the clamping piece 2 slightly.
- Set the center cloth clamp 5 by moving the clamping piece 2.
- Tighten the mounting screws 1.

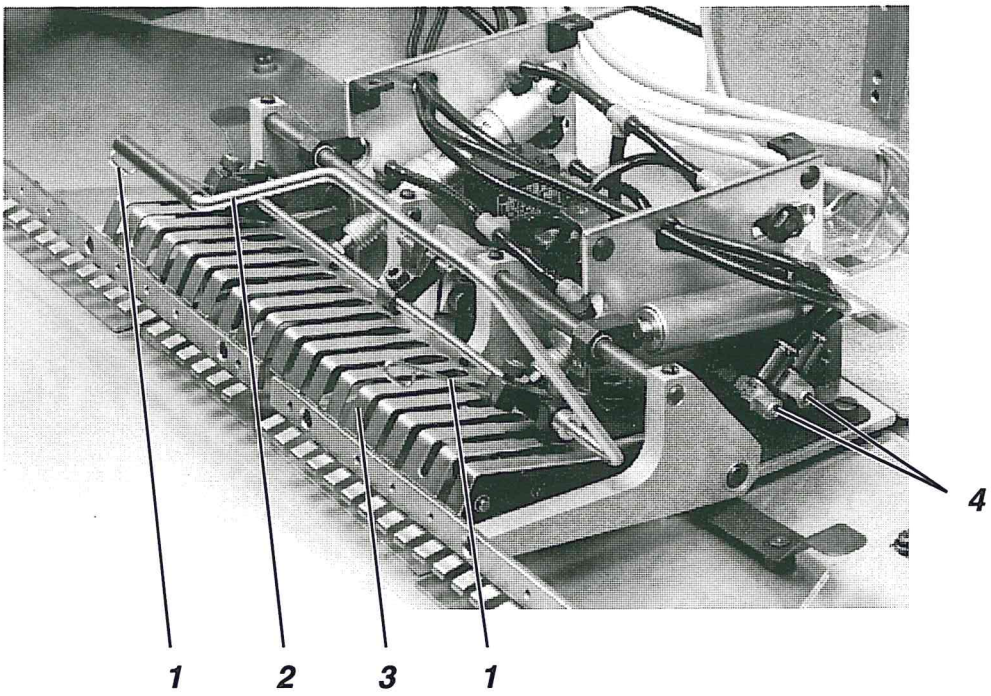
- Loosen screw 3 on the clamping piece 2 slightly.
- Move the center cloth clamp 5 up or down.
  The extended piston rod must lay onto the material slider plate with a slight pressure.
- Tighten screw 3.

Checking the setting:

- Set the "**Program**" switch on the front panel of the control unit to "**64**".
- Press the "**STOP**" key.
  The program is activated.
- Set the "**Program**" switch to "**23**" (solenoid valve s23).
- Lower or raise the center cloth clamp by tapping operation of the "Σ" key.

5.7 Speed of the Lowering and Lifting Movements

The lowering and lifting of the cloth clamp 3 and of the holder bar 2 with the holders 1 should be rapid but not jerky.



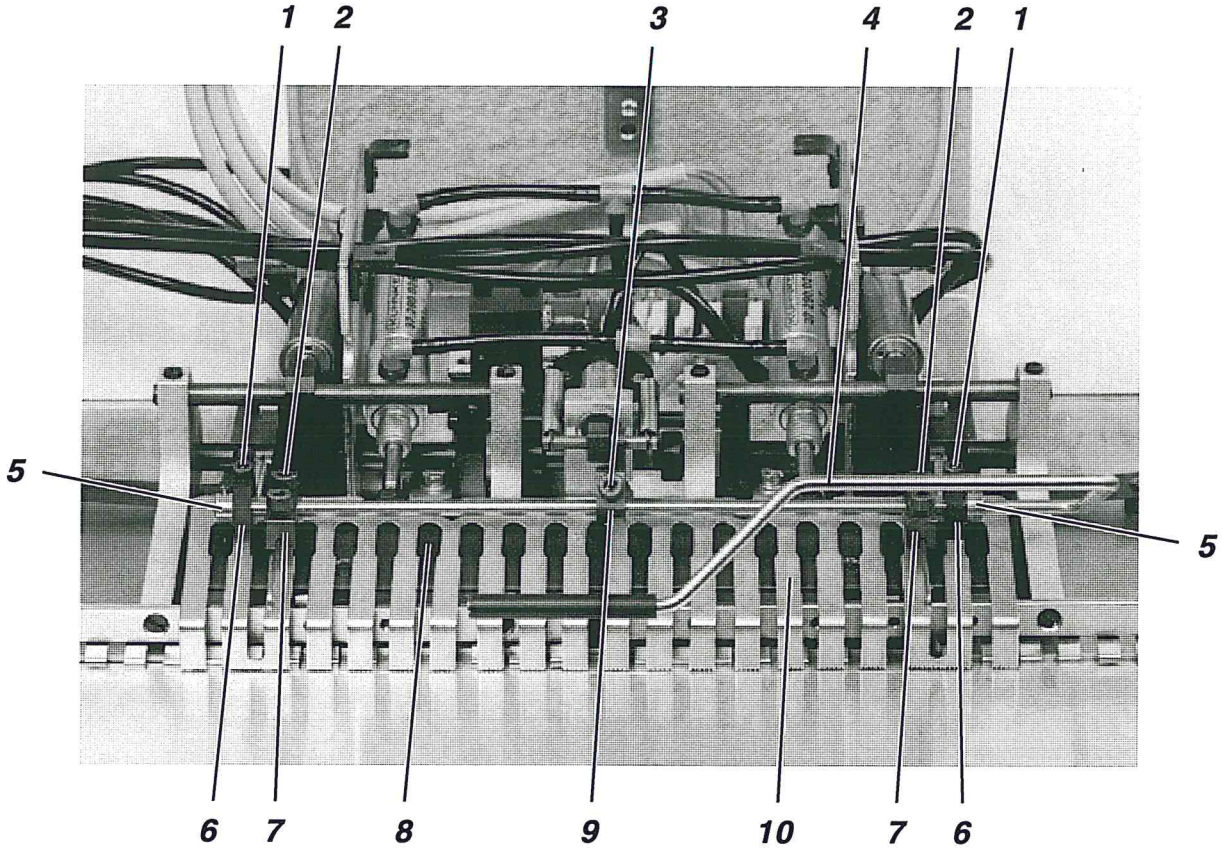
- Regulate the lowering and lifting speed of the cloth clamp 3 with the throttle valves 4 at the right.
- Regulate the lowering and lifting speed of the holder bar 2 with the holders 1 using the throttle valves at the left.

- Attach the cover of the positioning station and table.

5.8 Converting the Positioning Station

Upon delivery of the sewing unit the positioning station is equipped with the clamping elements for the working of "**open collars**".

The positioning station can be converted for working "**turned-over collars**" with the conversion kit to be found in the accessories pack.

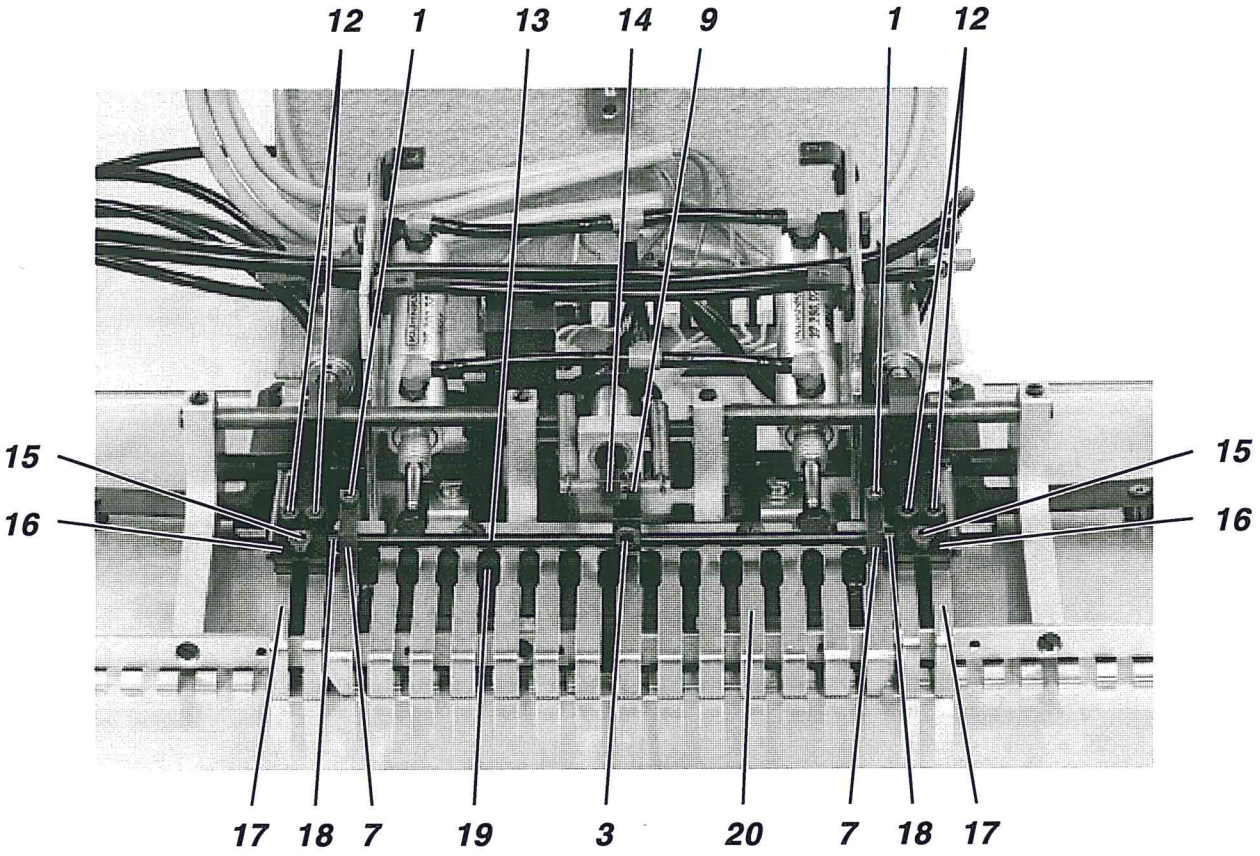


Caution Risk of Injury !

Turn the main switch off.
Convert the positioning station only with the main switch turned off.

Removing the clamping elements for "open collars"

- Remove the cover of the positioning station after loosening the mounting screws.
- Loosen screws 2 on the clamping pieces 7 of the holders.
- Loosen the clamping screws on the set collars 5.
- Loosen screw 3 on the clamping lever 9.
- Remove holder bar 4, clamping pieces 7 with holders and set collars 5.
  For this, pull the holder bar 4 to the right out of the bearing blocks 6 and the clamping lever 9.
- Loosen screws 1 and remove the bearing blocks.
- Remove cloth clamp 10 after loosening the mounting screws.
- Remove plate 8 after loosening the mounting screws.



Attaching the clamping elements for "turned-over collars"

- Attach the shortened plate 19.
- Attach the shortened cloth clamp 20.
- Attach the bearing blocks 7.
- Slide axle 13 through the bearing blocks 7 and the clamping lever 9.
  Thereby align axle 13 centered to the bearing blocks 7.
- Tighten screw 3 on the clamping lever 9.
- Slide the spacer bushings 18 onto the axle 13 on both sides.
- Slide the clamping pieces 16 with the cloth claws 17 onto the axle 13 on both sides and set tight.

- Loosen the clamping screws 15 of the clamping pieces 16 slightly.
- Align the cloth claws 17 to the cloth clamp 20.
  The lowered cloth claws 17 must lie in-line with the lowered cloth clamp 20.
- Tighten clamping screws 15.

- Turn the cloth claws 1 on axle 1.
  With the cloth clamp 20 lowered the clearance between the cloth claws and the material slider plate should be approx. 50 mm.
- Tighten clamping screw 1.

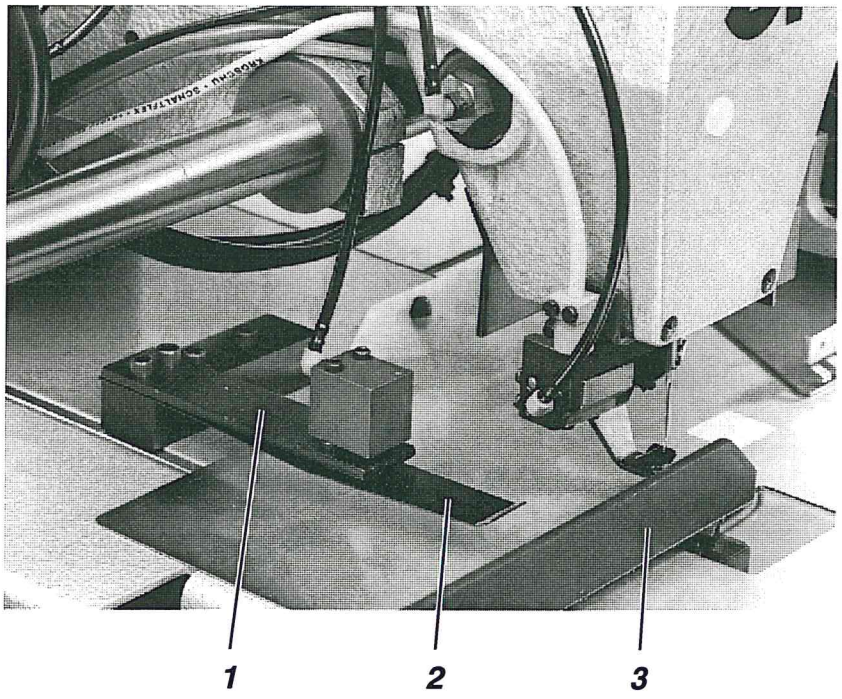
6. Material Clamp

The sewing of a mirror seam is normally begun at the left positioning point.
The material clamp 1 holds the material after the sewing of the first partial seam. It thus simplifies the quick accessability of the material for the positioning at the right positioning point.

In order to grasp the only 10 mm wide seam projection, the material clamp 1 must clamp the material as close as possible in front of the material transport rail 3.

The force of the clamping spring 2 is to be set as follows:

- The material must, on the one hand, be securely held.
- On the other hand, it must be easy to pull the material out.



Caution Risk of Injury !

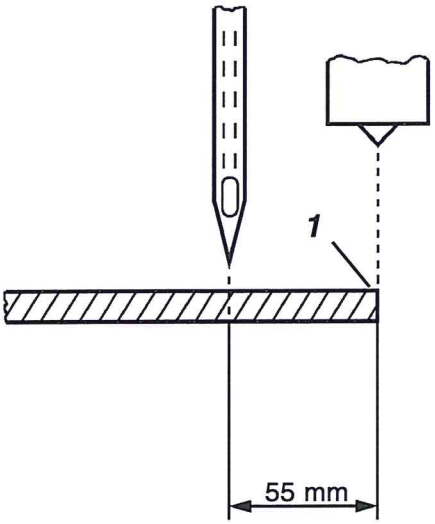
Turn the main switch off.
Set the spring pressure of the material clamp only with the main switch turned off.

- Correct the spring pressure by aligning the clamping spring 2.

7. Infrared Reflected Light Barrier

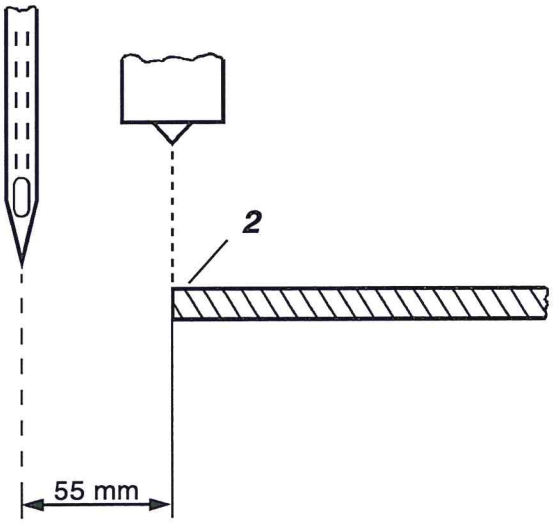
The infrared reflected light barrier **b38** signals the control system when the seam end (with the left positioning point selected) or the seam beginning (with the right positioning point selected) is reached.

Positioned at the left positioning point:



1: Seam end

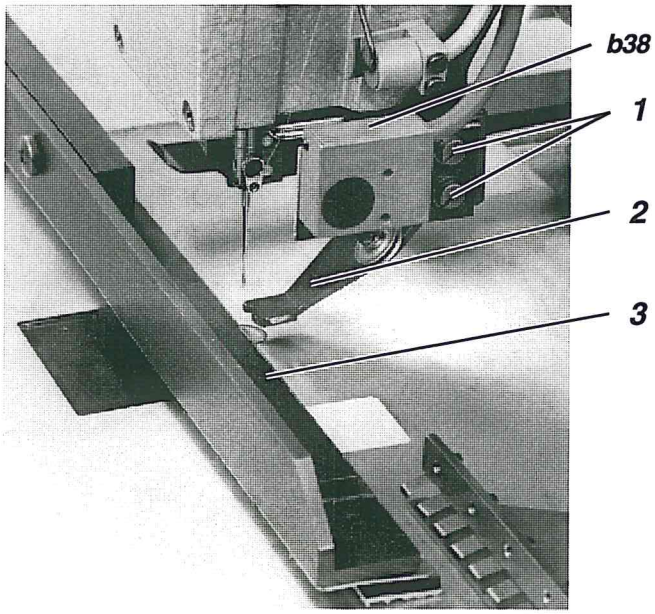
Positioned at the right positioning point:

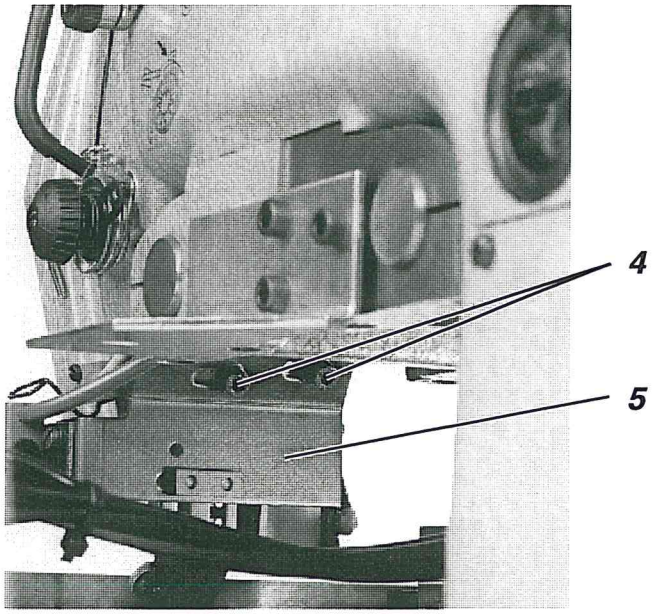


2: Seam beginning

The setting of the light barrier **b38** occurs with the aid of any sewing program:

- Set switch **b126** on the back of the front panel of the control unit to switch position "**1**" (see Short Description Microcontrol).
  The transport speed of the material to the needle and the sewing speed are greatly reduced in this mode of operation, in order to achieve the most precise results possible.
- Set the "**Program**" switch to the desired sewing program.
- Turn the main switch on or press the "**STOP**" key.
  The selected program is activated.
- When positioning at the left positioning point:
  The controls interrupt the sewing sequence when the light barrier is reached. The material beginning must lie 55 mm in front of the needle (see sketch).
- When positioning at the right positioning point:
  The controls interrupt the sewing sequence when the light barrier is released. The clearance between the needle center and material end must be 55 mm.
- By deviations correct the alignment of the light barrier **b38** in the direction of transport.





Caution Risk of Injury !

Turn the main switch off.
Align the light barrier only with the main switch turned off

Aligning the light barrier in the direction of transport

- Loosen the clamping screws 4 on the mounting plate 5 slightly.
- Correct the alignment of light barrier **b38** in the direction of transport by moving the mounting plate 5.
  If the dimension 55 mm is not reached precisely, then centering is to occur between the two positioning points.
- Tighten clamping screws 4.

Aligning the light barrier crosswise to the direction of transport

- Set the "**Program**" switch to "**63**".
- Press the "**STOP**" key.
  Program P63 is activated.
- Set the "**Program**" switch to "**38**" (light barrier **b38**).
  The switching status of the light barrier is shown in the display of the control unit.
  Display "**+B38**": Reflection
  Display "**- B38**": No reflection
- Push the material transport rail 3 manually into the area the light barrier **b38**.
- Loosen clamping screws 1 slightly.
- Align light barrier **b38** so that the infrared beam strikes close in front of the rubber lip of the material transport rail 3.
  The display must show "**+B38**".
- Tighten clamping screws 1.

ATTENTION !

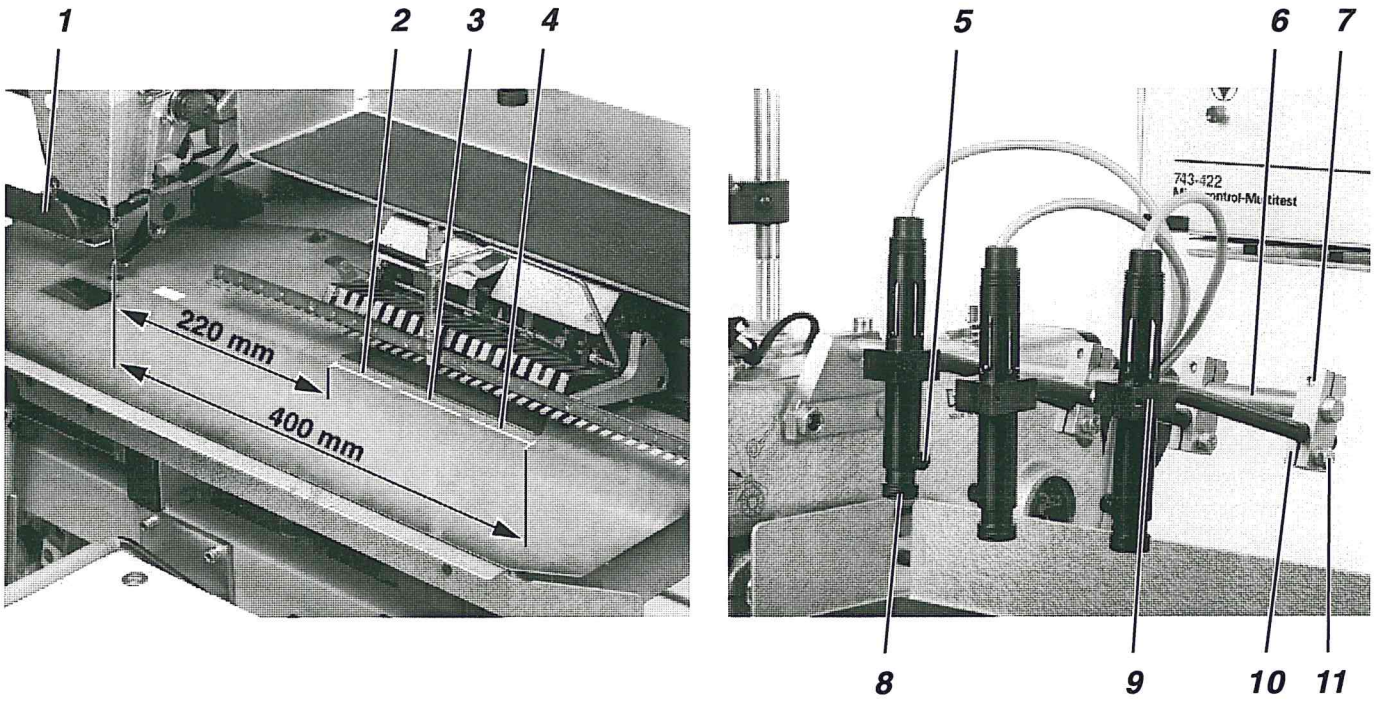
After the alignment of light barrier **b38**:

- Set switch **b126** on the back of the front panel of the control unit back to switch position "**0**".
- Check the alignment of the cloth deflector 2 (see Chapter 11.9).

8. Marker Lights

The positioning after the felt part of the collar occurs with aid of the light markers 2, 3 and 4 (see Operating Instructions).

The lines in the direction of transport mark the seam run.
The left crosswise marking marks the left positioning point, the right crosswise marking the right positioning point.



Caution Risk of Injury !

Before alignment of the marker lights turn the motor protection switch off.

Conduct work in the feed area only with greatest possible caution. By stepping down on the pedal the clamping elements lower and the material transport rail runs into the feed area.

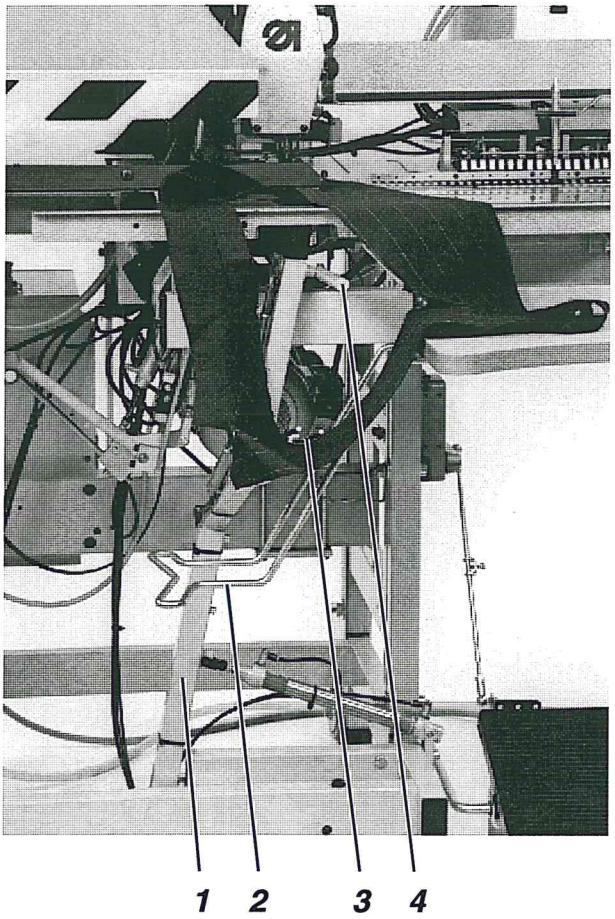
- Loosen clamping screw 5.
- Focus the light marker by setting the tube 8 higher or lower.
- Tighten clamping screw 5.

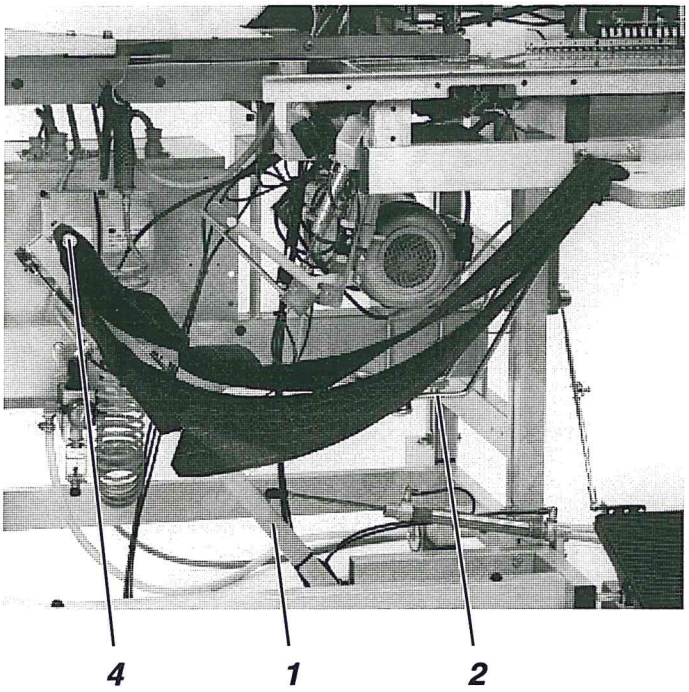
- Loosen the clamping screws 10 on block 11.
- Align the light markers in the direction of transport by moving the block 11 on axle 6 as follows:
  The clearance from the left positioning point to the needle must be 220 mm.
  A clearance of 400 mm must exist between the right positioning point and the needle.
- Tighten clamping screws 10.
  Loosen the clamping screws 11 on the lamp holders 9.
- Align the light markers crosswise to the direction of transport by moving the lamp holder 9 in the block 11.
  The clearance between the light markers 2 to 4 and the rubber lip of the material transport rail 1 must be 1 mm.
- Tighten clamping screws 11.

9. Remover for Mirror Seams

9.1 Function

Caution Risk of Injury !
Keep hands clear of the work area of the remover during removal.



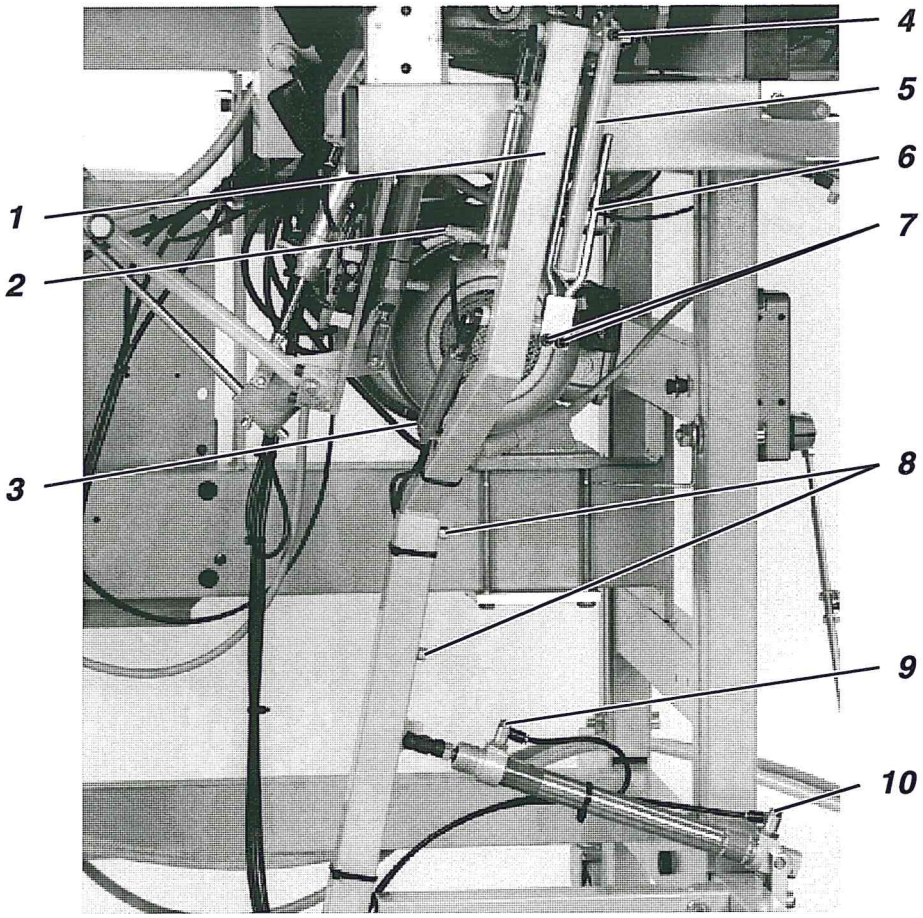


- After the sewing of the second mirror seam the lower remover lever 3 opens the two halves of the material.
  The upper remover lever 4 can swing unhindered between the two material halves.
- The lower remover lever 3 swings back into the base position.
- The remover 1 swings to the left and cleanly removes the material.
- Shortly before the end of the slewing motion the upper remover lever 4 returns to the base position.
- The material is placed smooth on the bar 2.

9.2 Setting

Caution Risk of Injury !

Turn the main switch off.
Set the remover only with the main switch turned off.



Upper and lower remover levers

In the base position the lower remover lever 6 and the upper remover lever 5 must lie parallel to the channel 1.

The upper remover lever 5 must move back into the base position shortly before the end of the swing movement of the remover.

The swing movements of both remover levers should be rapid but not jerky.

- Loosen clamping screws 4 and 7 slightly.
- Set the upper remover lever 5 and the lower remover lever 6 parallel to the channel 1 by turning.
- Tighten clamping screws 4 and 7.

- Regulate the timing of the return swing movement of the upper remover lever 5 at throttle valve 2.
- Regulate the swing speed of the lower remover lever 6 at throttle valve 3.

Swing angle of the remover

The swing angle of the remover must be limited so that the material is not too highly tensioned during removal.
Too great a swing angle can cause damage to the material.

The swing movement should be rapid but not jerky.

- Regulate the angle and speed of the swing movement at the throttle valves 9 and 10.

Height of the remover

The height of the remover must be adapted after a change in the work height of the frame.

- Loosen the clamping screws 8 slightly.
- Set the height of the remover by pushing the channel 1 in or pulling it out.
- Tighten clamping screws 8.

Checking the settings

The settings of the remover can be checked in testing program P64:

- Set the "**Program**" switch on the front panel of the control unit to "**64**".
- Press the "**STOP**" key.
  The program is activated.
- Set the "**Program**" switch to the code number of the desired output element.

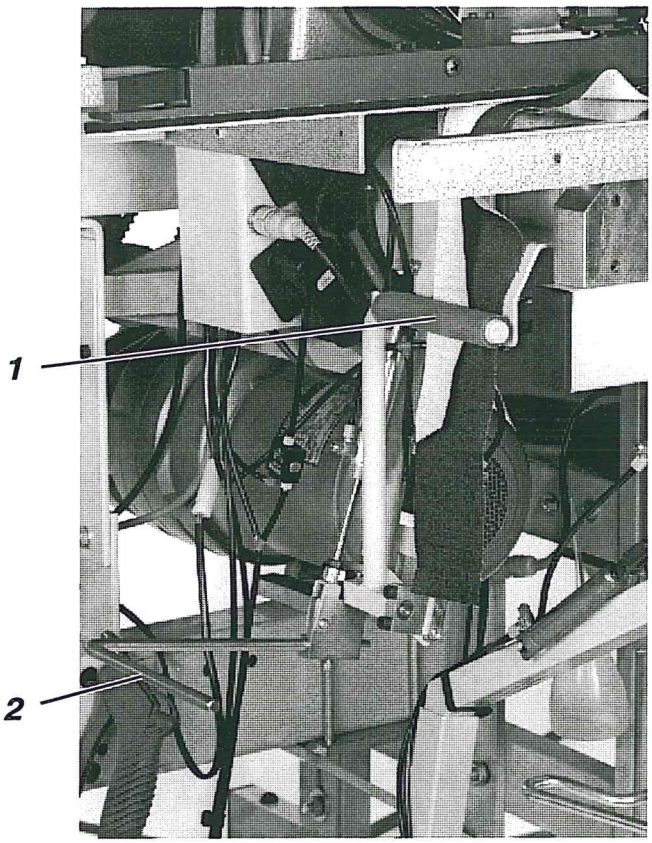
Output Element	Function
s14	Stacker clamp
s15	Remover forward
s17	Stacker clamp open
s34	Upper remover lever
s36	Lower remover lever
s38	Remover back

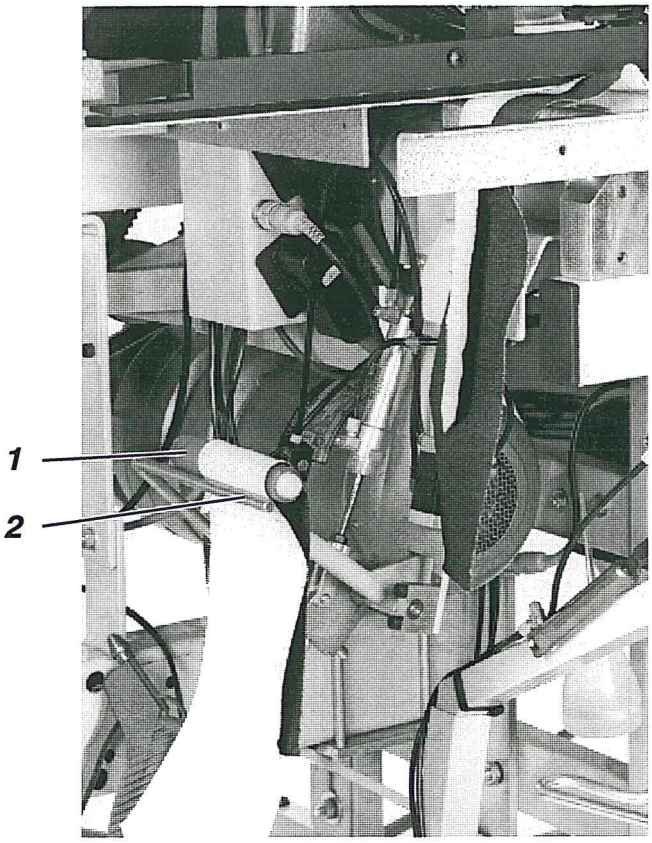
- Turn the selected output element on and off by tapping on the "Σ" key.

10. Stacker for Collar Stay Seams

10.1 Function

Caution Risk of Injury !
Keep hands clear of the work area of the stacker during stacking.



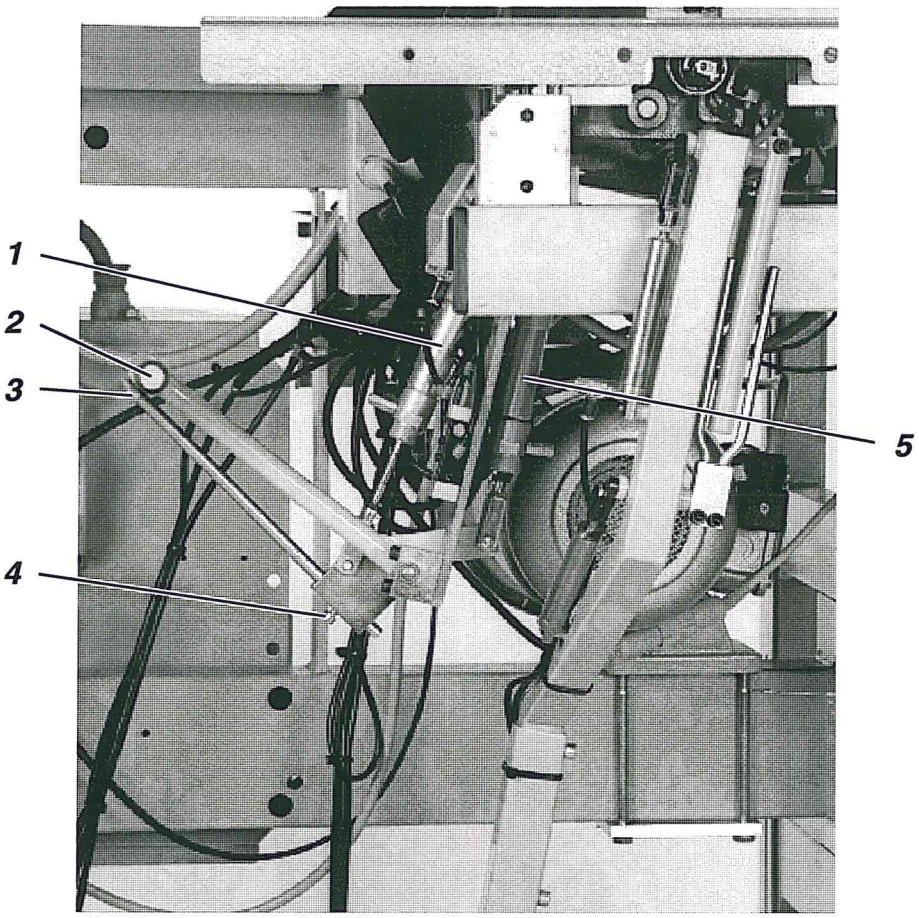


- With the recognition of the seam end by the light barrier the stacker lever 1 clamps the material fast.
- The stacker clamp 2 opens.
- After the lifting of the material transport rail the second collar half is blown out.
  It places itself in the opening between the stacker lever 1 and the stacker clamp 2.
- The stacker clamp 2 swings back.
  The material is clamped between the stacker lever 1 and the stacker clamp 2.
- The stacker lever 1 and stacker clamp 2 swings back with the clamped material.

10.2 Setting

Caution Risk of Injury !

Turn the main switch off.
Set the stacker only with the main switch turned off.



Stacker clamp

The closed stacker clamp 3 must lie exactly opposite the stacker lever 2.

- Loosen clamping screw 4 slightly.
- Set the height of stacker clamp 3.
- Tighten clamping screw 4.

Swing movements

The swing movements of the stacker lever 2 and the stacker clamp 3 should be rapid but not jerky.

- Regulate the speed of the swing movement of the stacker lever 2 at the throttle valves on the cylinder 5.
- Regulate the speed of the swing movement of the stacker clamp 3 at the throttle valves on the cylinder 1.

11. Machine Head

11.1 Setting Aids

Setting gauges

The following setting gauges are available upon request:

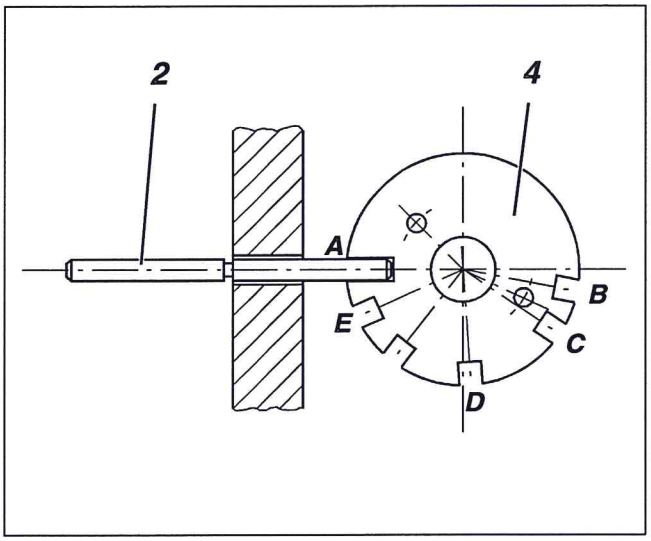
Setting Gauge	Order no.	Application
Timing pin	accessories pack	Pegging out the setting positions on the adjustment disc
Measuring bridge	271 000766	Setting the needle bar height,
Measuring pin	216 001069	Setting the height of the hook drive housing

Adjustment disc

The machine head is equipped with an adjustment disc 4 mounted on the timing belt pulley of the arm shaft.
It makes possible a quick and easy setting of the machine.

With the timing pin 2 (from the accessories pack) and the adjustment disc 4 the machine can be arrested in five setting positions.
The various setting positions are marked on the handwheel with the letters A, B, C, D and E.
The notch 3 serves as an indicator.

The slot A (looping stroke position) is deeper than the other slots.
If the timing pin 2 is inserted all the way into this slot, then its notch is immediately in front of the edge of the drilled hole 1.



Setting positions:

A = Adjustment disc to the arm shaft crank,
looping stroke and clearance of the hook point to the needle

B = unused

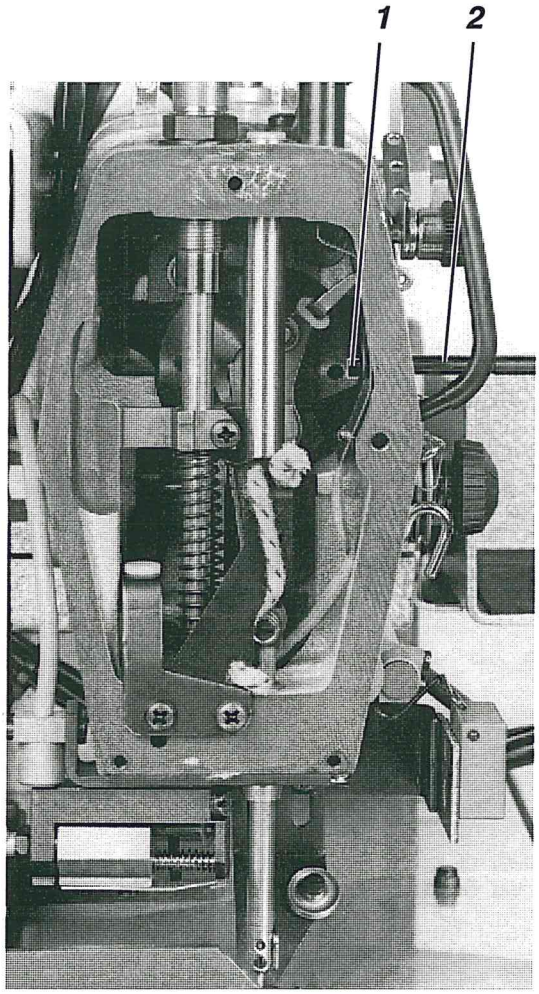
C = 2nd needle position (thread lever high position)

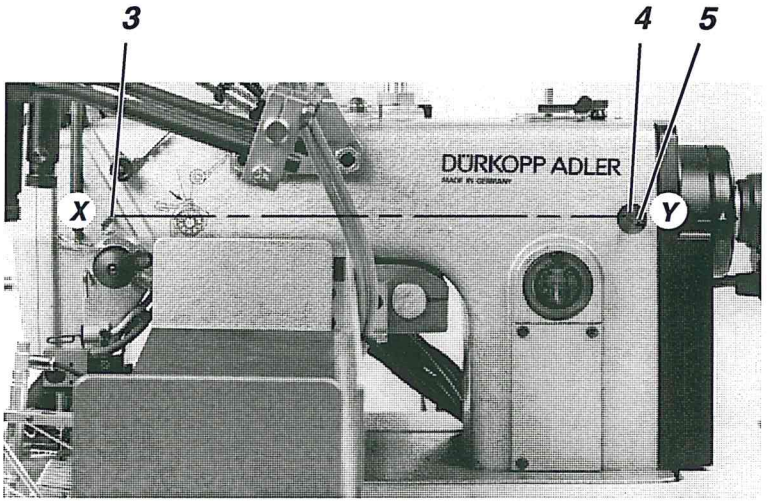
D = Guide curve of the thread trimmer

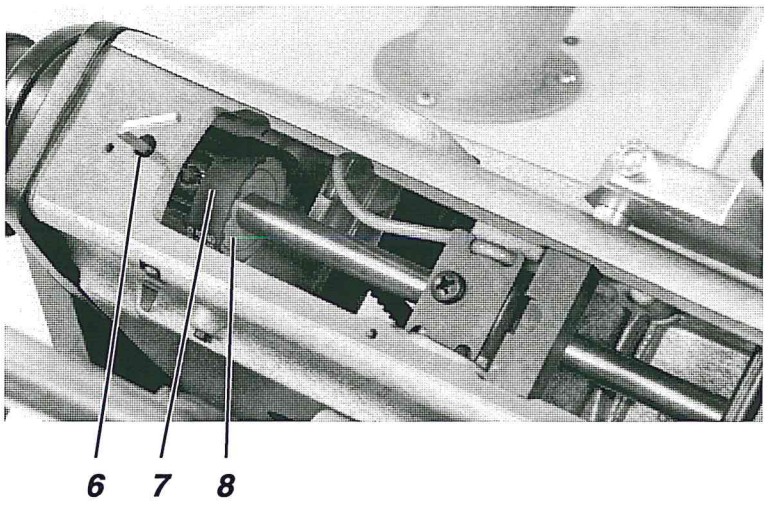
E = Needle bar height (needle bar in the lower dead center)

11.2 Arm Shaft Crank

The groove 1 of the arm shaft crank and the slot **A** of the adjustment disc must be aligned along the line **X-Y**.







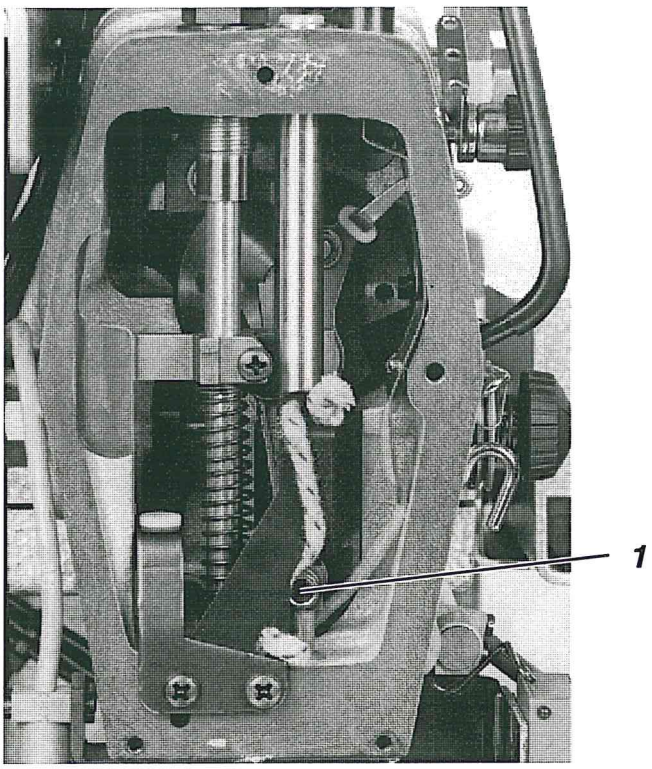
Caution Risk of Injury !

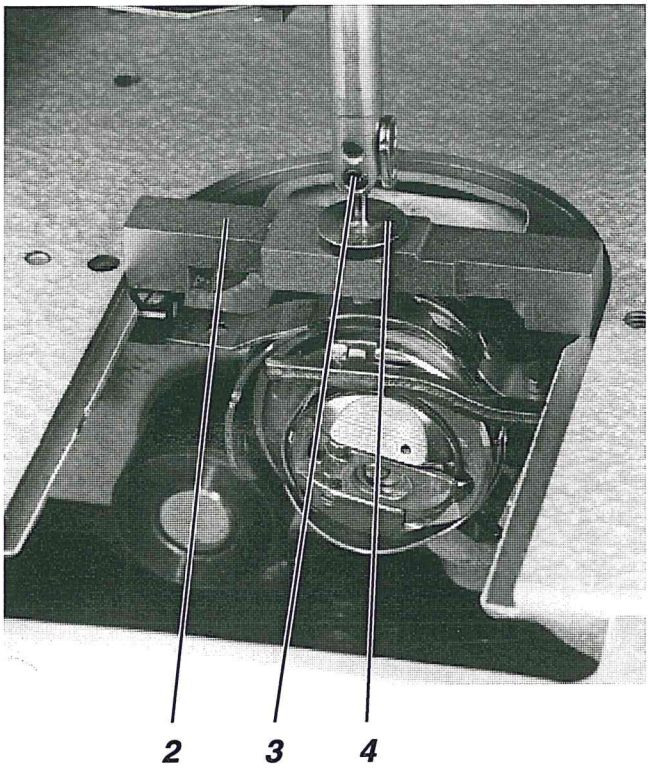
Turn the main switch off.
Set the arm shaft crank only with the main switch turned off.

- Push the timing belt 7 to the left on the upper timing belt pulley 8. To move, turn the handwheel and press against the timing belt with a peg.
  The clamping screws of the timing belt pulley 8 are accessable through the drilled hole in the housing 6.
- Loosen the clamping screws of the timing belt pulley 8.
- Arrest the adjustment disc in Position **A** with timing pin 5.
  The notch in the timing pin 5 lies immediately in front of the drilled hole 4.
- Insert a 5 mm thick pin 2 (e.g. drill bit) in the pegging hole 3 and allow to catch in the arm shaft groove 1.
- Press the timing belt pulley 8 lightly against the timing pin 5. Tighten both clamping screws on the timing belt pulley 8.
- Move the timing belt 7 to the middle of the timing belt pulley 8 again by turning the handwheel.

11.3 Needle Bar Height

The setting of the needle bar height is made with the measuring bridge 2 (Order no. 271 766) and the setting pin 4 (Order no. 216 1069).





Caution Risk of Injury !

Turn the main switch off.
Set the needle bar height only with the main switch turned off.

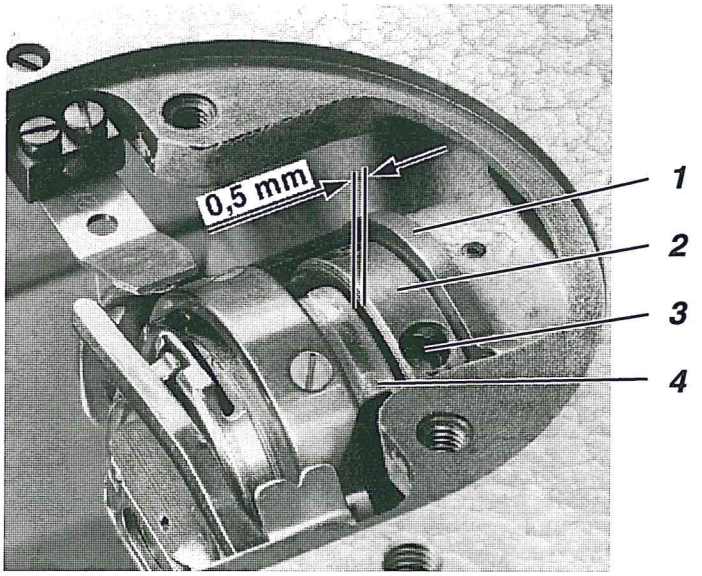
- Arrest the adjustment disc in position **E** with the timing pin.
- Loosen screw 3.
- Remove the needle.
- Insert setting pin 4 into the needle bar up to the stop.
- Tighten screw 3.
- Place the measuring bridge 2 on the needle plate bed surface.
- Remove the head cover after loosening the mounting screws.
- Loosen screw 1.
- Push the needle bar down.
  The foot of the setting pin 4 must lay onto the measuring bridge 2.
- Tighten screw 1.
- Attach all removed components again.

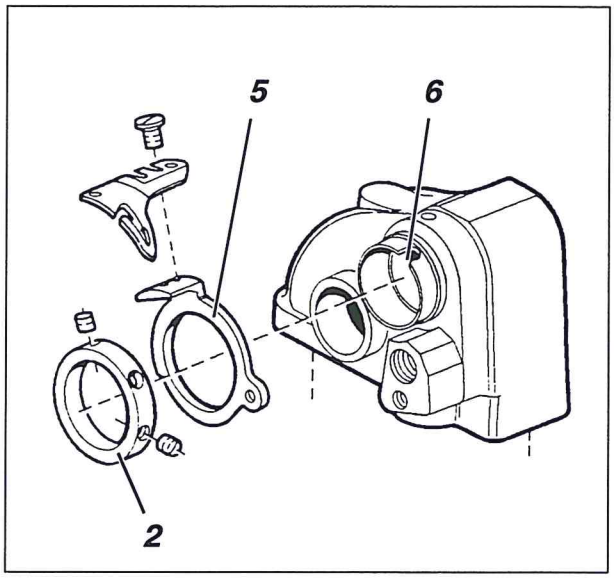
11.4 Looping Stroke and Clearance of the Hook Point to the Needle

The hook drive housing is aligned at the factory.

With the machine arrested in position **A** the hook point 7 must lie at the center of the needle.

The clearance between the hook point 7 and the furrow of the needle must be 0.1 mm.



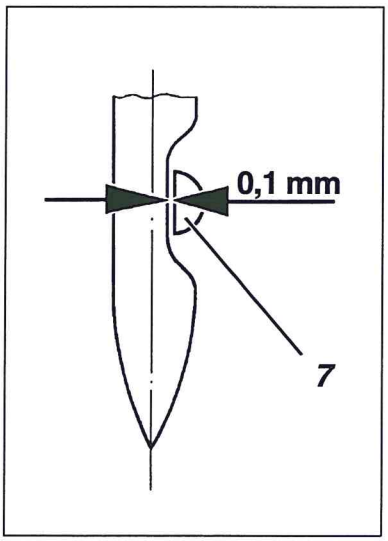


Prerequisites for the setting:

- The set collar 2 must lie exactly over the slot 6 of the bushing below with drilled hole 3.
  In this position the mounting screws of the hook are accessable.
- The set collar 2 must lay onto knife carrier 5.

Caution Risk of Injury !

Turn the main switch off.
Set the looping stroke and the clearance of the hook point to the needle only with the main switch turned off.



- Check the prerequisites mentioned above.
- If necessary, adjust the set collar 2 accordingly after loosening the clamping screws.
- Loosen the mounting screws of the hook 4.
  The mounting screws are accessable through the drilled hole 3 of the set collar 2.
- Arrest the adjustment disc in position **A** with the setting pin.
- Set the hook point 7 to the middle of the needle.
  The clearance between the hook point 7 and the furrow of the needle must be 0.1 mm.
  In this position there should be a clearance of 0.5 mm between the back of the hook 4 and the set collar 2.
  If this clearance is not achieved, set the hook drive housing accordingly (see Chapter 11.5).
- Tighten the mounting screws of the hook 4.

11.5 Hook Drive Housing

The hook drive housing 3 is aligned at the factory.
It may only be changed in exceptional cases.
After disassembly it can quickly and easily be brought back into the correct position again.

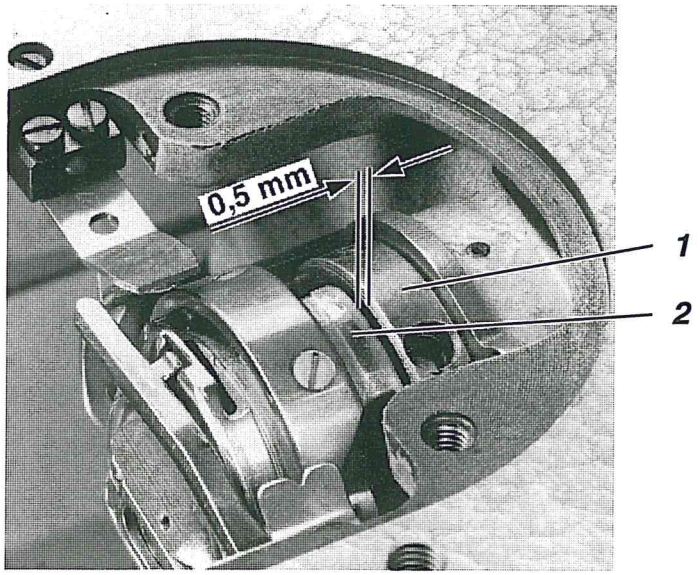
Caution Risk of Injury !

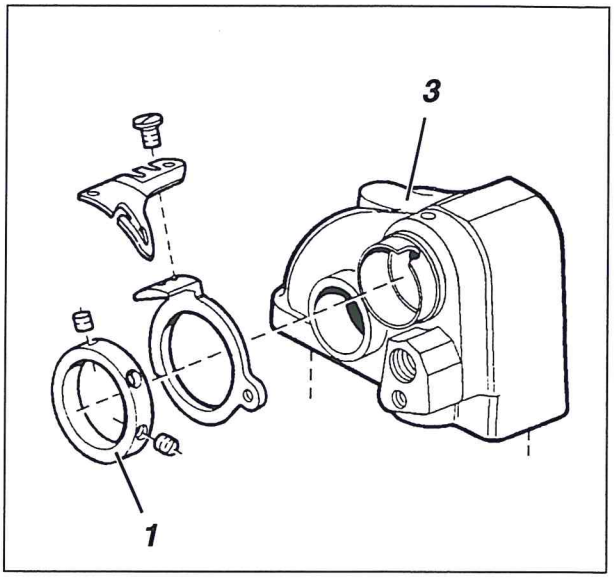
Turn the main switch off.
Align the hook drive housing only with the main switch turned off.

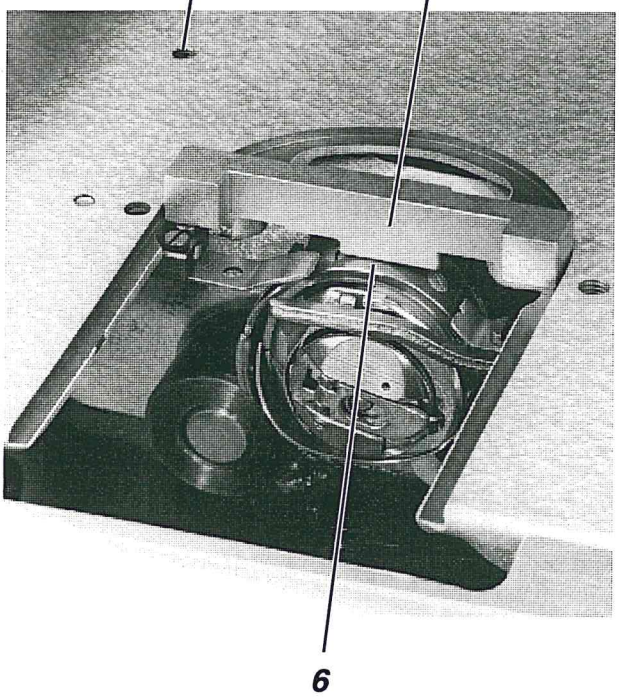
- Remove the housing cover 7 after loosening the mounting screws. The mounting screws of the hook drive housing 3 become accessable.
- Loosen the mounting screws of the hook drive housing 3.
- Set the hook drive housing 3 sideways.
  With a correctly aligned hook drive housing there must be a clearance of approx. 0.5 mm between the back of the hook 2 and set collar 1.

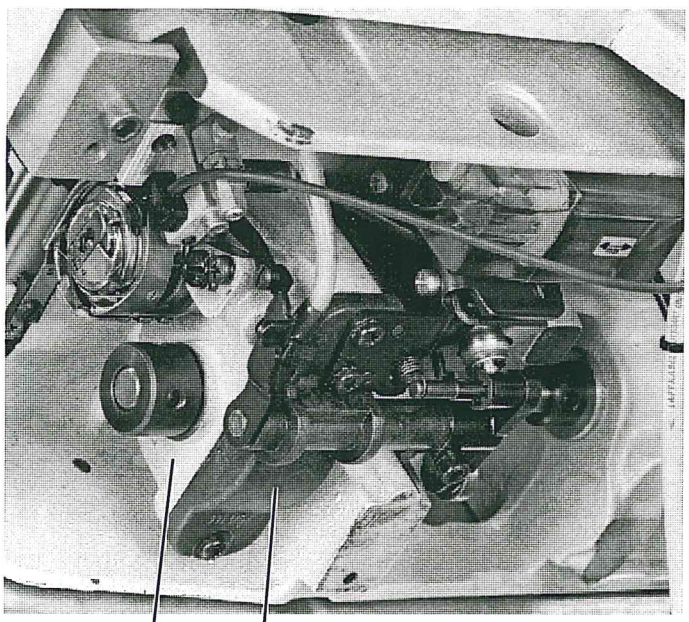
- Screw out lock screw 4.
  There is a stopper screw under the lock screw 4.
- Press the hook drive housing 3 against the stopper screw.
  The clearance between the thread pulling plate 6 of the hook and the needle plate bed surface must be 3.4 mm.
  For measuring, use the gauge 5 (Order no. 271 766).
- Set the height of hook drive housing 3 by turning the stopper screw.
- Tighten the mounting screws of the hook drive housing 3.
- Mount the housing cover 7.

- Check the clearance of the hook point to the needle and adjust, if necessary (see Chapter 11.4).


0,5 mm
1
2


3
1


4
5
6


3
7

11.6 Thread Trimmer

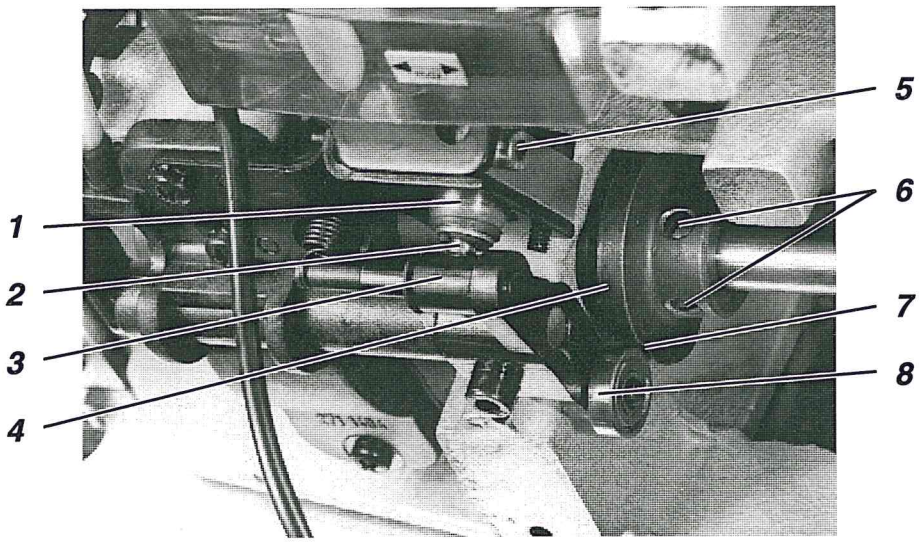
The guide curve 4 determines the movement of the thread trimmer and the timing of the knife movement.

The thread trimmer is turned on electro-pneumatically.

11.6.1 Guide Curve for the Timing of the Knife Movement

When the thread trimmer is not activated there must be a clearance of 0.2 to 0.3 mm between the outside diameter of the guide curve 4 and the ball bearing 8.

With the machine arrested in position **D** the ball bearing 8 must catch in the recess 7 of the guide curve 4 when pressed down manually.



Caution Risk of Injury !

Turn the main switch off.
Set the guide curve only with the main switch turned off.

- Loosen the clamping screw 5 on the cylinder 1.
- Set the clearance distance of 0.2 - 0.3 mm between the guide curve 4 and the ball bearing 8 by moving the cylinder 1.
  The roller 3 must therby lay onto piston rod 2.
- Tighten clamping screw 5.

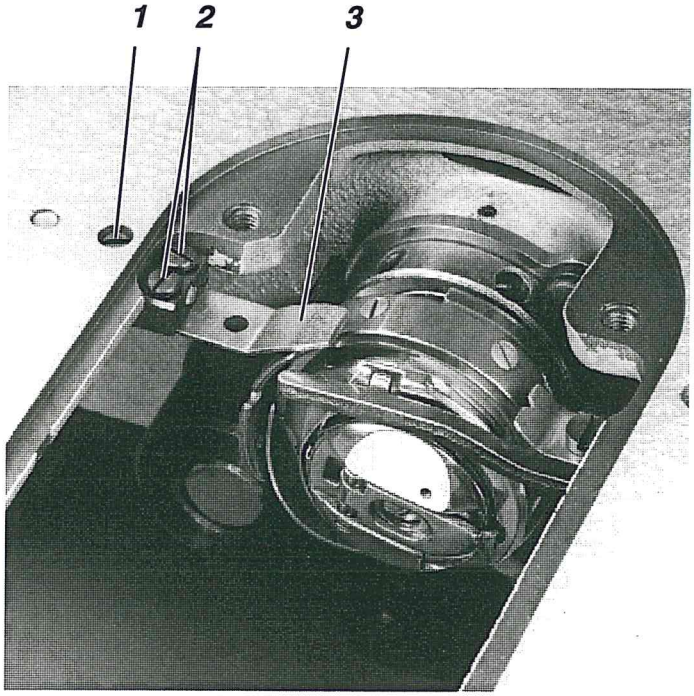
- Arrest the adjustment disc in position **D** with the timing pin.
- Press ball bearing 8 manually against guide curve 4.
  The pressed-down ball bearing 8 must lie in the recess 7 of the guide curve.

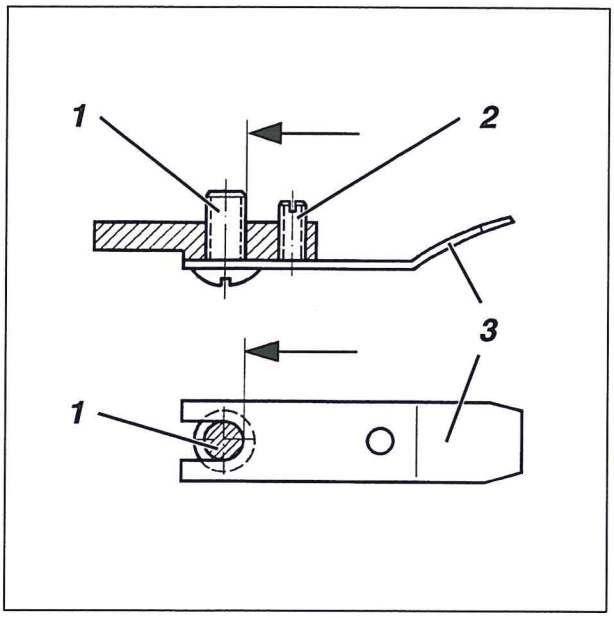
To correct:

- Loosen the clamping screws 6 on guide curve 4.
- Turn the guide curve 4 on the undershaft until the ball bearing 8 lies in the recess 7.
- Tighten the clamping screws 6.

11.6.2 Position of the Fixed Knife

The fixed knife 3 must lay onto the screw 1 in the direction of the arrow (see sketch).
Reground knives are to be aligned as per Chapter 11.6.3.





Caution Risk of Injury !

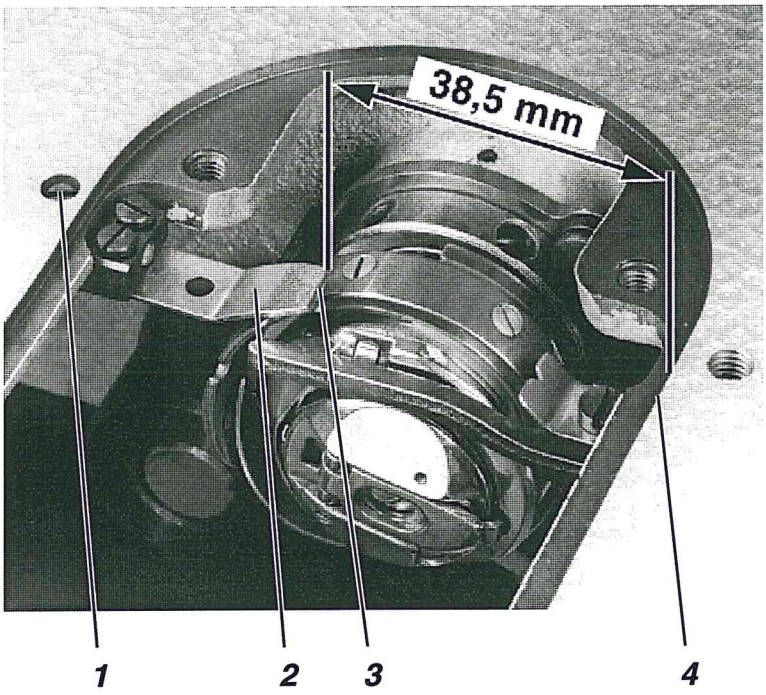
Turn the main switch off.
Set the fixed knife only with the main switch turned off.

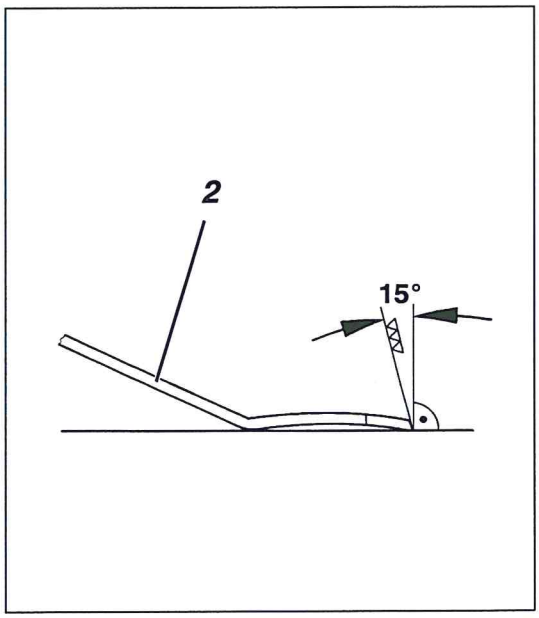
- Turn the cutting pressure screws 2 back.
- Loosen screw 1 slightly.
- Push knife 3 against screw 1 in the direction of the arrow.
- Tighten screw 1.
- Set the cutting pressure (see Chapter 11.6.6).

11.6.3 Regrinding the Fixed Knife

The cutting angle of the fixed knife 2 is 15° (see sketch).
It is essential to use a fine grained stone for grinding.

ATTENTION !
A reground knife which has lost more than 0.5 mm of its original length is to be replaced by a new knife.





Installing a reground knife

Caution Risk of Injury !
Turn the main switch off.
Install a reground knife only with the main switch turned off.

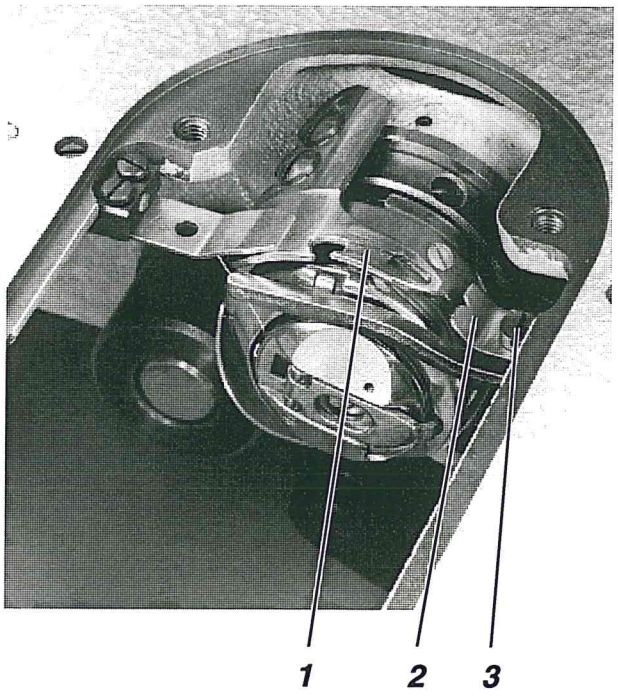
- When installing, do not let the reground knife lay onto screw 1.
- Align the knife so that the clearance between the cutting edge 3 and the edge 4 of the needle plate recess is 38.5 mm.
- Tighten screw 1.
- Reset the idle position of the hooked knife (see Chapter 11.6.5) and the cutting pressure (see Chapter 11.6.6).

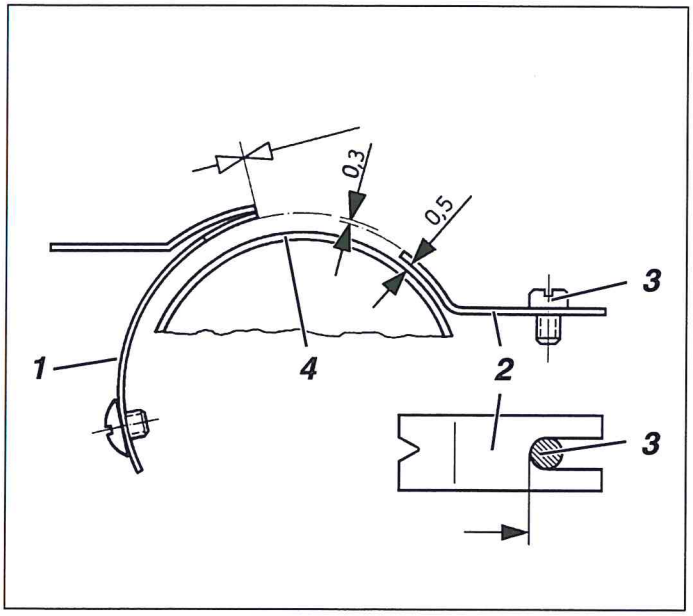
11.6.4 Thread Guide Plate

The thread guide plate 2 must lay onto the screw 3 in the direction of the arrow (see sketch).

In this position the radial clearance between the thread guide plate 2 and the thread pulling plate 4 of the hook must be 0.5 mm.

There must be a clearance of 0.3 mm between the thread guide plate 2 and the hooked knife 1.





Caution Risk of Injury !

Turn the main switch off.
Remove thread guide plate only with the main switch turned off.

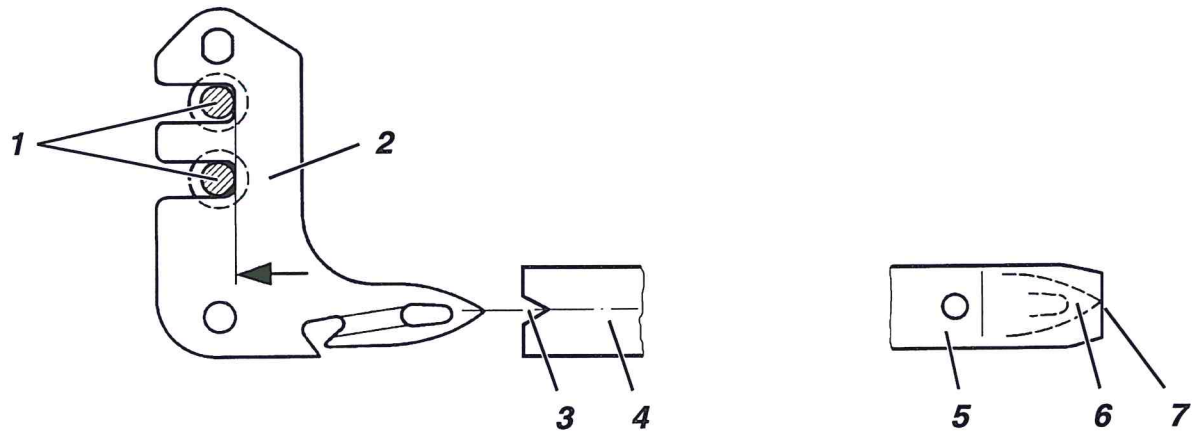
- Loosen screw 3 slightly.
- Remove the thread guide plate 2 for the alignment.
- Insert the thread guide plate 2 again and mount with screw 3.
- **Attention!**
  After the insertion of the thread guide plate, check the clearances from the thread guide plate 2 to the thread pulling plate 4 and to the hooked knife 1.

11.6.5 Hooked Knife

The hooked knife 2 must lay onto the two screws 1 in the direction of the arrow.

In the idle position of the hooked knife its point 6 and the cutting edge 7 of the fixed knife 5 must lie flush.

During knife movement the point 6 of the hooked knife must lie congruent under the point of the triangle 3 in the thread guide plate 4.



Caution Risk of Injury !

Turn the main switch off.
Set the hooked knife only with the main switch turned off.

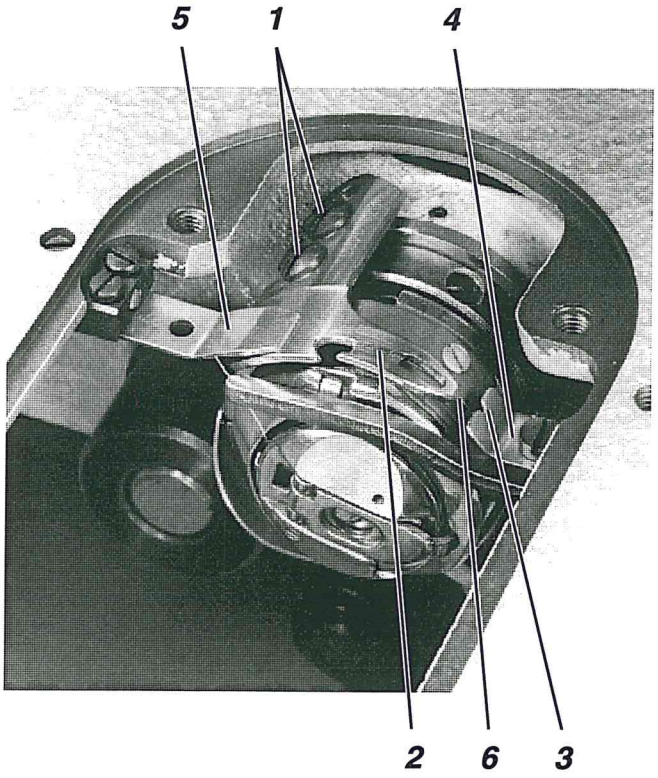
- Swing the hooked knife 2 up manually.
- Loosen the mounting screws 1 of the hooked knife.
- Push the hooked knife 2 against the mounting screws 1 in the direction of the arrow .
- Tighten the mounting screws 1.

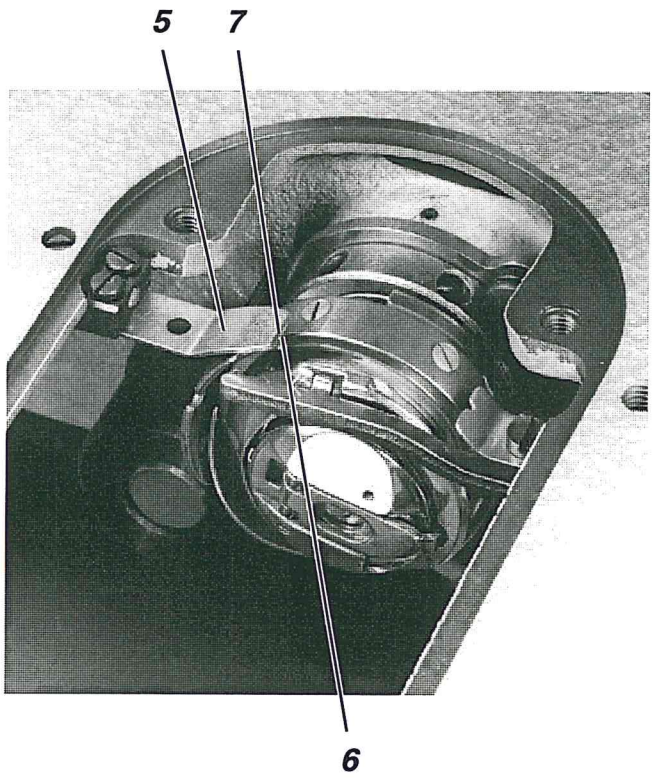
- Operate the hooked knife 2 manually.
  Hereby check if the point 6 of the hooked knife lies congruent with the point of the triangle 3.
- To correct, loosen screws 1 and align the hooked knife 2.

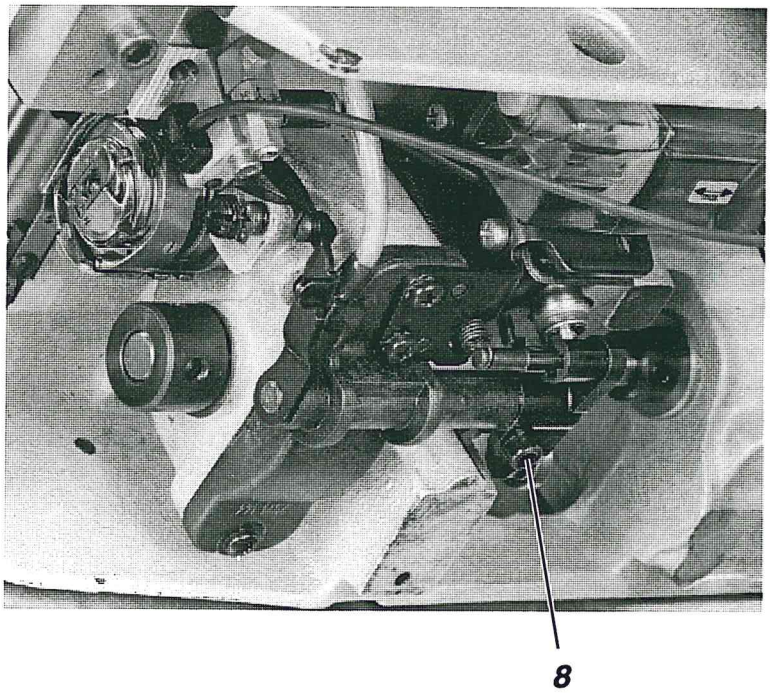
- Loosen screw 8.
- Set the idle position of the hooked knife 2.
- Tighten screw 8.

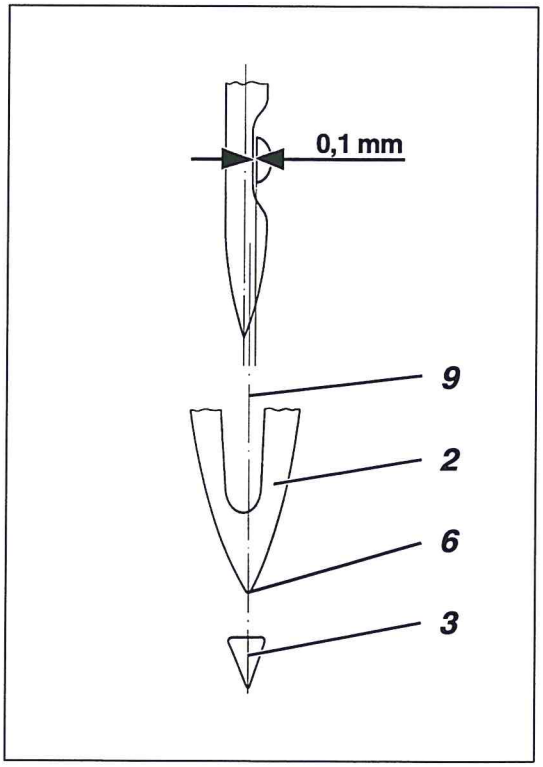
Setting note

With a correctly aligned hooked knife 2, the point 6 moves to the line 9 during the cutting procedure.
The dashed line 9 runs approximately between the center of the needle and the hook point.


5
1
4
2
6
3


5
7
6

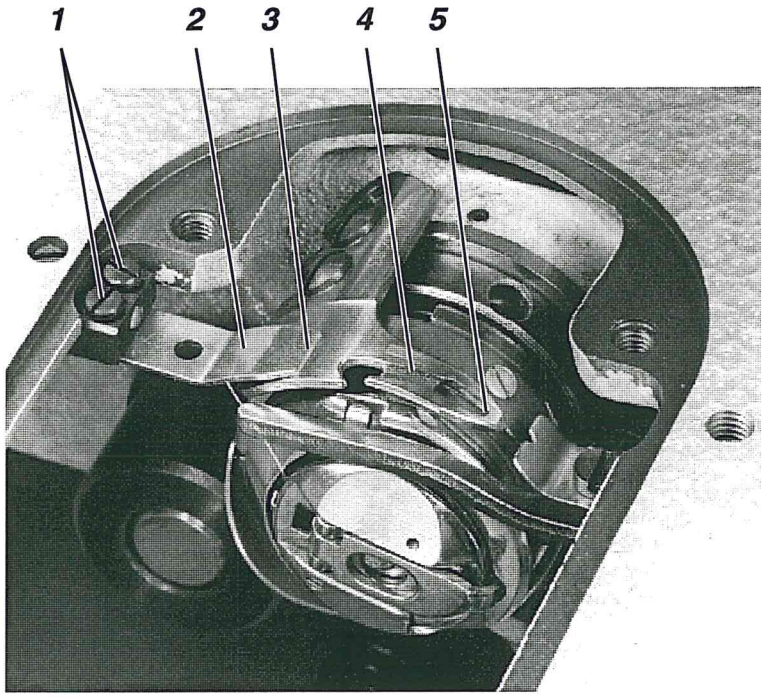

8


0,1 mm
9
2
6
3

11.6.6 Cutting Pressure

The cutting pressure of the fixed knife 2 to the blade 5 of the hooked knife 4 is to be set as follows:

- The thread must be securely cut with the least possible pressure. A low cutting pressure reduces wear.
- Two of the thickest threads to be sewn must be securely cut simultaniously.



Caution Risk of Injury !

Turn the main switch off.
Set the cutting pressure only with the main switch turned off.

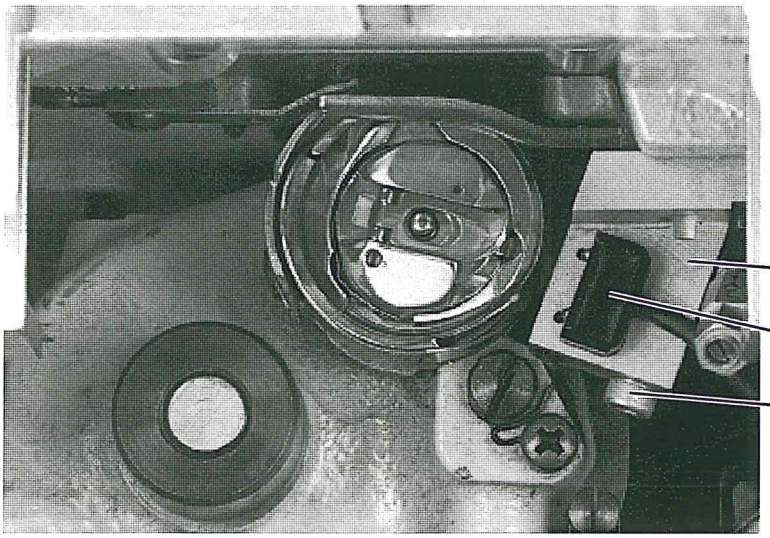
- Turn the cutting pressure screws 1 back.
- Swing the hooked knife 4 under the fixed knife 2.
  The blade 5 of the hooked knife must lie under the blade 3 of the fixed knife 2.
- Set the fixed knife 2 against the hooked knife 4 by turning the cutting pressure screws 1 in.
- Alternatingly insert thread to be cut to the right and left.
  Readjust the appropriate cutting pressure screw.
- If the built-in spring no longer returns the cutting mechanism into the initial position:
  The cutting pressure is too high!
  Regrind or replace the fixed knife 2 (see Chapter 11.6.3).

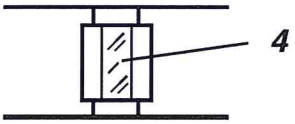
11.7 Light Barrier of the Remaining Thread Monitor

The alignment of the light barri ccurs in program P56.

ATTENTION !

The remaining thread monitor i effective when the value for the underthread counter was set to 0" in program P58.





Attention Danger of Breakage

Turn the motor protection switc
Align the reflected light barrier ith the motor protection switch turned off.

Checking the alignment

- Insert an empty bobbin in th bin case.
- By turning the handwheel m he hook until the infrared beam of the light barrier 2 can strike ndered on the bobbin hub through the light window in the bobb se.
- Set the "**Program**" switch to .
- Press the "**STOP**" key.
  The program is activated.
- Turn the empty bobbin manu
- If the infrared beam of the lig arrier 2 strikes the reflecting surface 4 of the bobbin hub, must be shown in the display.
  Display with reflection: "**H>>>>**"
  Display with no reflection: "**H-------**"

Correcting the alignment

- Clean the lenses of the light er 2 and the reflecting surface 4 of the bobbin hub with a **soft** n.
- Loosen clamping screw 3 sli .
- Push the light barrier 2 up to stop in the light barrier mounting 1.
- Align the light barrier.
  Turn light barrier 2 until the y shows "**H>>>>**".
- Tighten clamping screw 3.

After the alignment turn the han el back into position **C** (thread lever high position).

11.8 Needle Thread Catcher

Function

- During the thread trimming procedure the needle thread catcher 6 lowers into the catch position.
- It holds the thread clamped after the thread trimming .
- Before the start of the next seam the needle thread catcher 6 lowers.
  The thread quantity drawn forward guarantees a secure sewing start.
- After the first stitches the release stroke occurs.

In low position (catch position)

The clearance between the underside of the needle thread catcher 6 and the material slider plate must be 8 mm.

With the catch stroke completed, the point of the catcher plate 9 must lie approx. 1 mm in front of the the front edge of the needle.

Caution Risk of Injury !

During the setting work keep hands clear of the area of the lowering needle thread catcher 6!

- Turn the needle into the high position with the handwheel.
- Remove the head cover after loosening the mounting screws.
- Loosen clamping screw 3 on block 4.
- Place a suitable spacer 7, 8 mm thick, under the needle thread catcher 6. As a spacer can be used e.g. a drill bit with 8 mm diameter.

- Set the "**Program**" switch on the front panel of the control unit to "**64**".
- Press the "**STOP**" key.
  The program is activated.
- Set the "**Program**" switch to "**25**".
  Solenoid valve s25 = Lower thread catcher.
- Lower the needle thread catcher 6 into the low position (catch position) by press the "Σ" key.
  The needle thread catcher lays onto the spacer 7.
- Push block 4 down until it touches stop 5.
- First tighten clamping screw 3 only slightly.

- Press the "Σ" key.
  The needle thread catcher 6 conducts its catch stroke.
- Turn the needle thread catcher 6 so that the point of the catcher plate 9 lies approx. 1 mm in front of the front edge of the needle (see sketch).
- Tighten clamping screw 3.

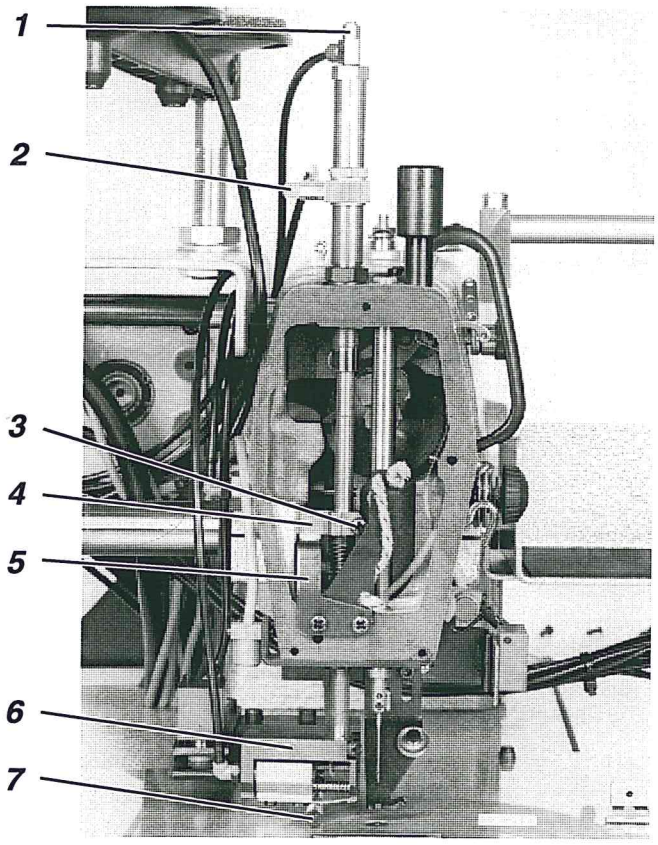
- The catcher plate 9 must lay on with light clamping pressure. Align the catcher plate 9 accordingly.

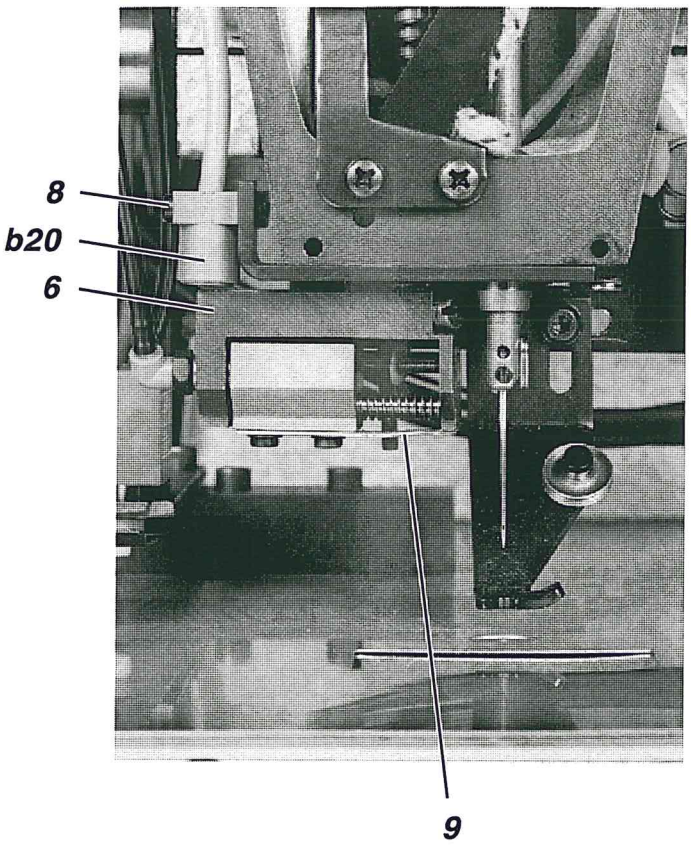
In high position

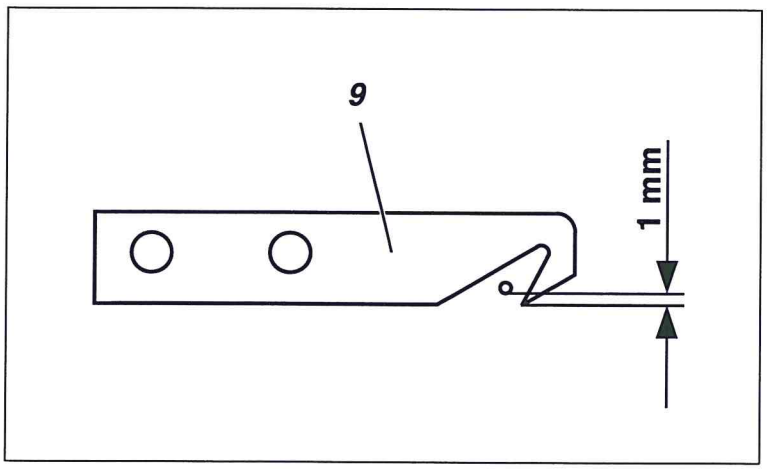
There must be a safety clearance of approx. 0.3 mm between the needle thread catcher 6 and switch **b20**.

- Move the needle thread catcher 6 into the high position by pressing the "Σ" key.
- Loosen the clamping screws 8 on the switch **b20** slightly.
- Slide switch **b20** up or down.
- Tighten the clamping screws 8 on the switch **b20** again.

- Regulate the stroke speed of the needle thread catcher 6 at the throttle valves 1 and 2.
  The movements of the needle thread catcher should be rapid but not jerky.

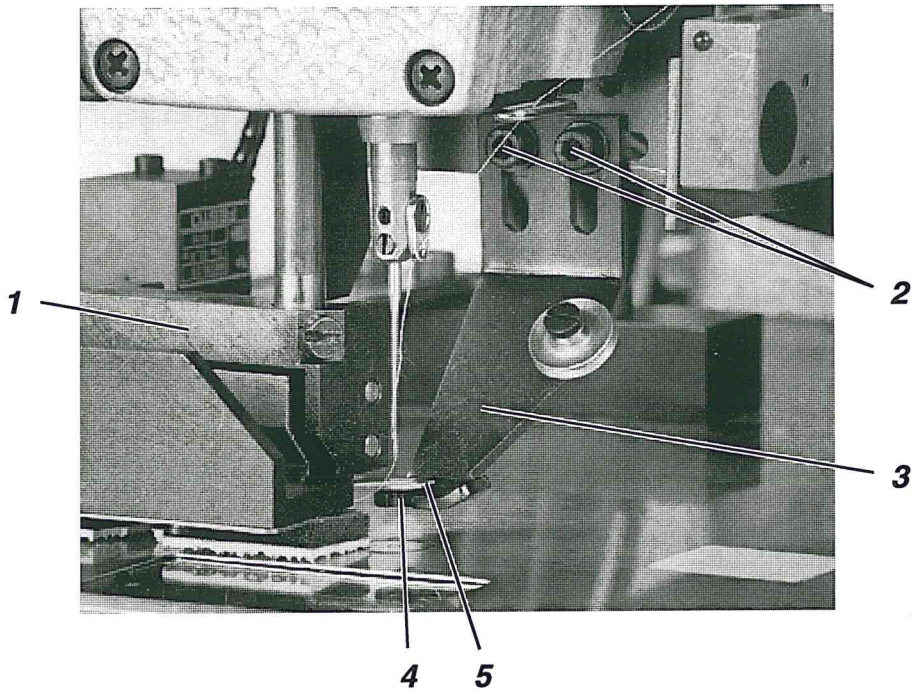






11.9 Cloth Deflector

After the sewing of the second mirror seam the remover transports the material out of the sewing unit.
The cloth deflector 3 prevents the material from striking against the needle.



- Turn the main switch on.
- Set the "**Program**" switch to "**64**".
- Press the "**STOP**" key.
  The program is activated.
- Set the "**Program**" switch to "**25**".
  Solenoid valve s25 = Lower the thread catcher.
- Lower the needle thread catcher 1 into the catch position by pressing the "Σ" key.
- Press the "Σ" key again.
  The needle thread catcher 1 conducts its catch stroke.
  The catcher plate must move freely over the cloth deflector.

Caution Risk of Injury !

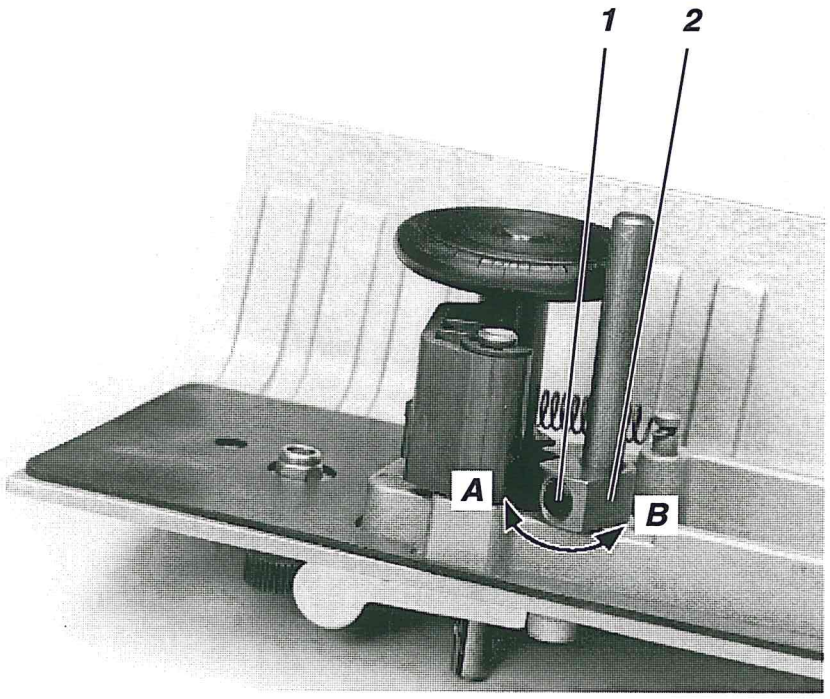
Turn the main switch off.
Correct the setting of the cloth deflector only with the main switch turned off.

To correct:

- Loosen the clamping screws 2 slightly.
- Set the height of the cloth deflector 3.
  The catcher plate 5 must move freely **over** the cloth defector 3 during the catch stroke.
- Set the cloth deflector 3 sideways.
  Align the opening 4 of the cloth deflector centered to the needle.
- To check the sideways alignment move the needle into the low position by turning the handwheel.
- Tighten clamping screws 2.

11.10 Bobbin Winder

The spooling must shut off automatically when the bobbin is filled to approx. 0.5 mm below the bobbin edge.



Correcting the bobbin fill capacity

Caution Risk of Injury !

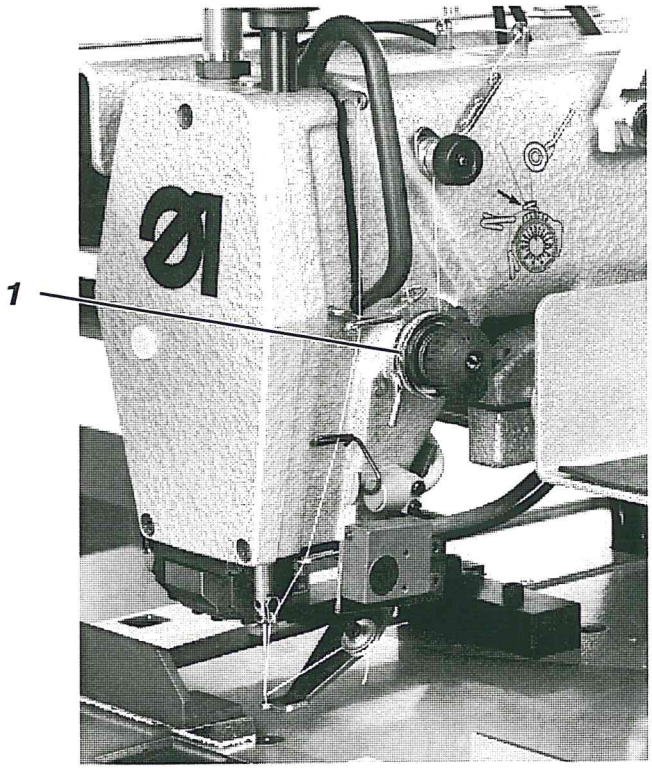
Turn the main switch off.
Correct the bobbin fill capacity only with the main switch turned off.

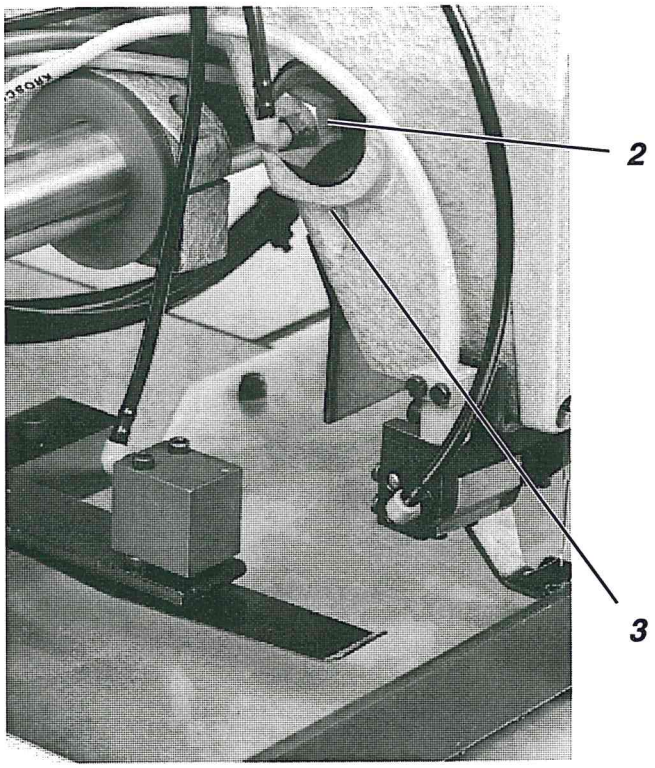
- Loosen clamping screw 1.
- Set the bobbin fill capacity by turning the switching cam 2.
  Turning in the direction of the arrow A: Increase fill capacity
  Turning in the direction of the arrow B: Decrease fill capacity
- Tighten clamping screw 1.

11.11 Needle Thread Tension Release

Remove the thread from the needle thread tension.

The cylinder 2 must open the tension discs 1 approx. 1 mm.
When closed the tension discs 1 must securely tension the needle thread.





- Set the "**Program**" switch to "**64**".
- Press the "**STOP**" key.
  The program is activated.
- Set the "**Program**" switch to "**24**".
  Solenoid valve s24 = Release thread tension.
- Turn on cylinder 2 by pressing the "Σ" key.
  The needle thread tension opens.
- Check the clearance between the tension discs 1.

Caution Risk of Injury !

Turn the main switch on.
Set cylinder 2 only with the main switch turned off.

To correct:

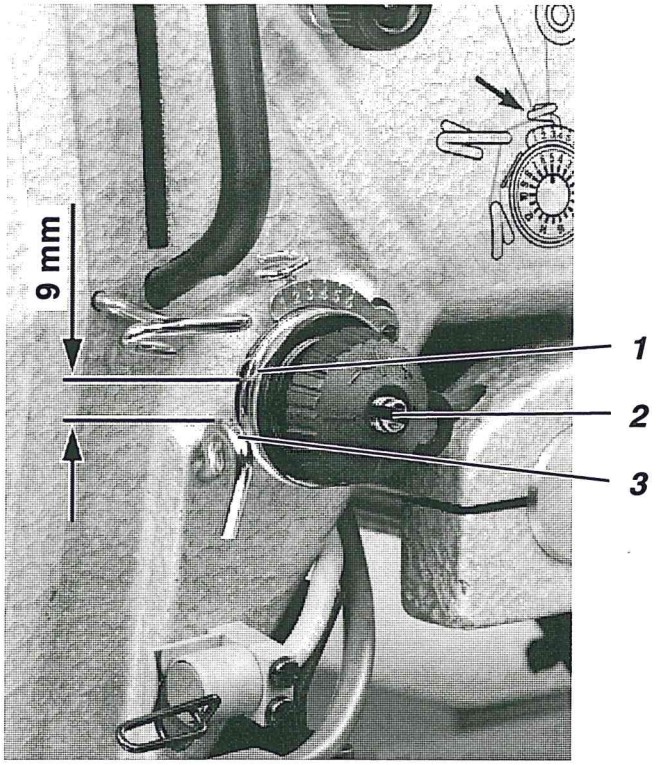
- Loosen clamping screw 3 slightly.
- Set the opening width of the tension discs 1 by moving cylinder 2.
- Tighten clamping screw 3.

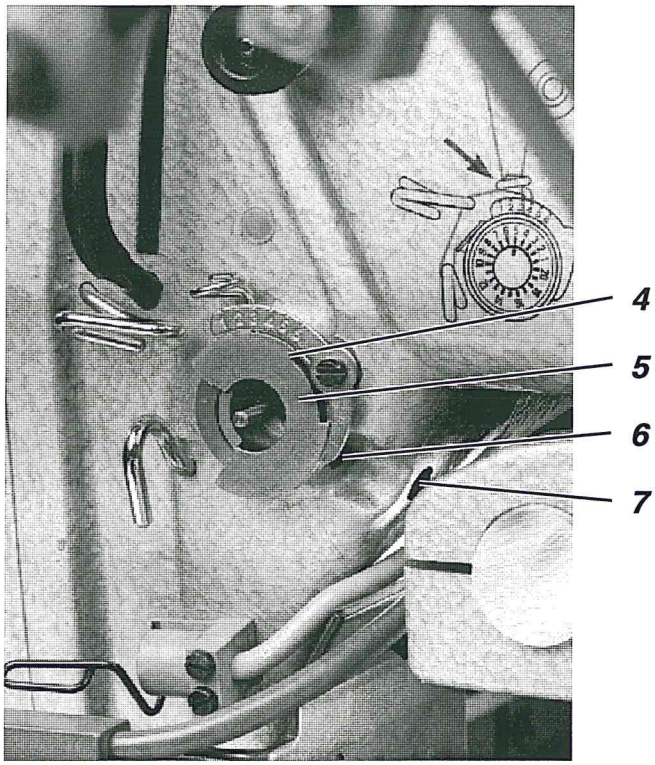
11.12 Thread Controller Spring

Base position

The thread controller spring 1 must hold the needle thread tensioned until the needle point has entered in the material.

To achieve a uniform seam pattern with low thread tension the path of the thread controller spring 1 can be enlarged.





Caution Risk of Injury !

Turn the main switch off.
Set the spring path and spring tension only with the main switch turned off.

Spring path

- Loosen clamping screw 6 slightly.
- Set the stopper bushing 5 with the left edge 4 of the free punch to the number "**6**" on the scale.
  At this setting the clearance between the thread controller spring 1 and the thread guide hook 3 is approx. 9 mm.
- Tighten clamping screw 6.

Spring tension

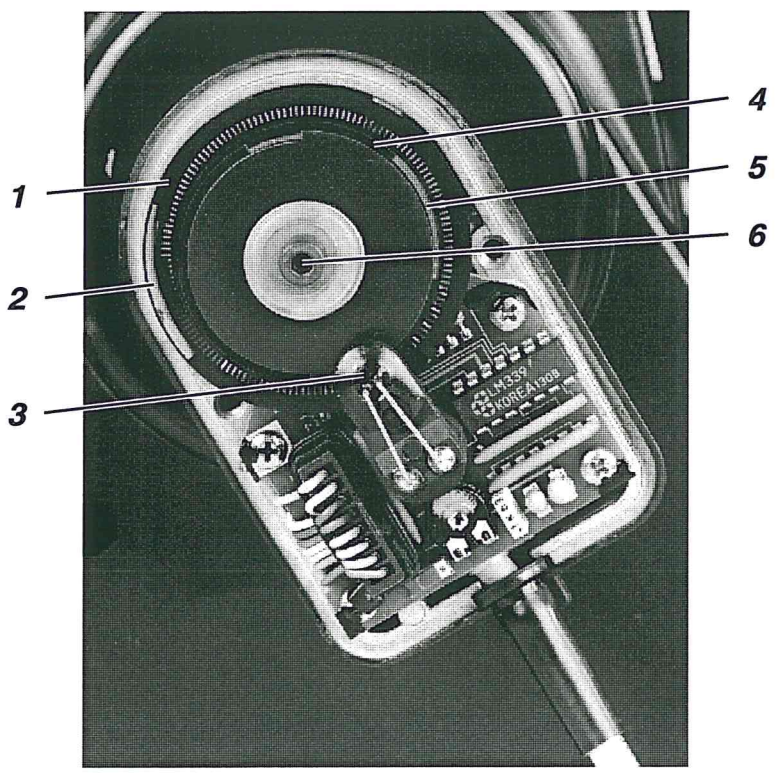
Depending on the material and yarn used the tension of the thread controller spring 1 must lie between 20g and 50g.

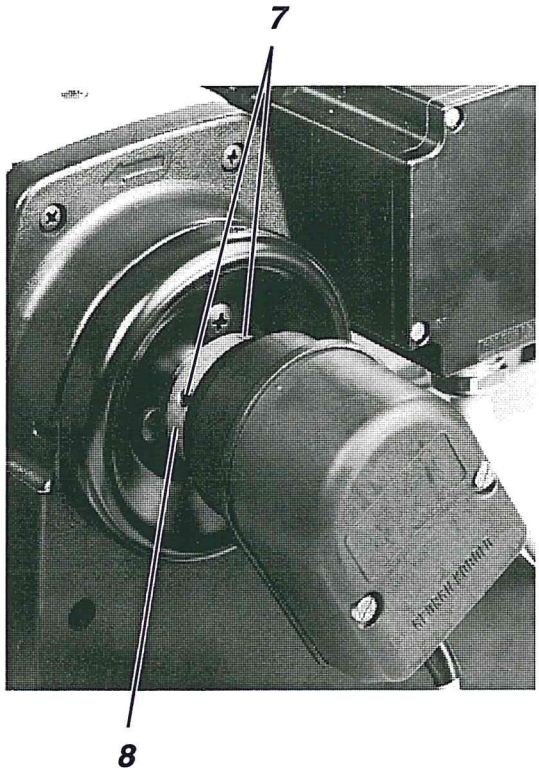
- Loosen clamping screw 7 slightly.
- Set the tension value by turning the tension bolt 2.
- Tighten clamping screw 7.

11.13 Synchronizer

2nd needle position: Thread lever high position

After the thread trimming the machine head must position in position **C** on the adjustment disc.





Caution Risk of Injury !

Turn the main switch off.
Set the light screens only with the main switch turned off.

- Loosen clamping screw 6 slightly.
- Turn light screens 1 and 4 so that their light slits 2 and 5 lie opposite each other (displaced by 180°).
  The position of the light screen 4 also determines the triggering point of the thread trimmer at the same time.
- Tighten clamping screw 6.

ATTENTION !

The light screens 1 and 4 may not be turned when tightening the clamping screw 6!

- Turn the main switch on.
- Set the "**Program**" switch on the front panel of the control unit to "**66**".
- Press the "**STOP**" key.
  The program is activated.
  "**SW**" is shown in the left half of the display.
- Select the speed of the sewing drive with the "**Program**" switch.
  A total of 13 rpm levels are available.

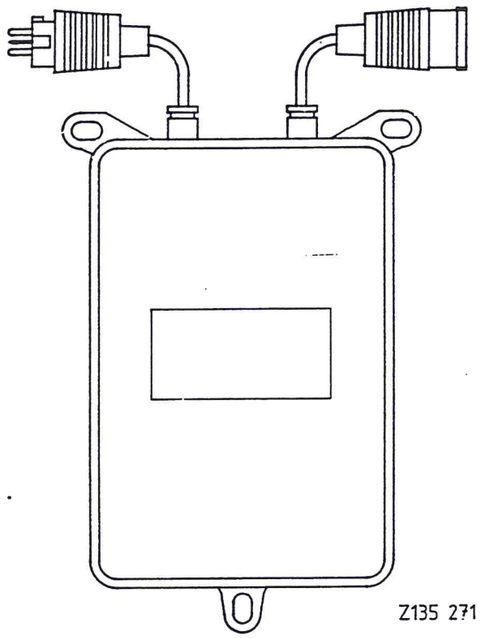
- Set the "**Program**" switch to "**13**" (maximum rpm).
- Press the "Σ" key and release again.
  The machine head positions in the 2nd needle position (thread lever high position).
- For control-technical reasons there are differences between the 2nd needle position in the testing program P66 and in the sewing program.
  The correct position for the sewing program is reached when the mark "**C**" on the handwheel positions approx. 8 mm below the notch.
- Check the exact 2nd needle position **C** with the timing pin in one of the sewing programs.
- If the timing pin cannot be inserted in slot **C** of the adjustment disc, correct the 2nd needle position.

To correct:

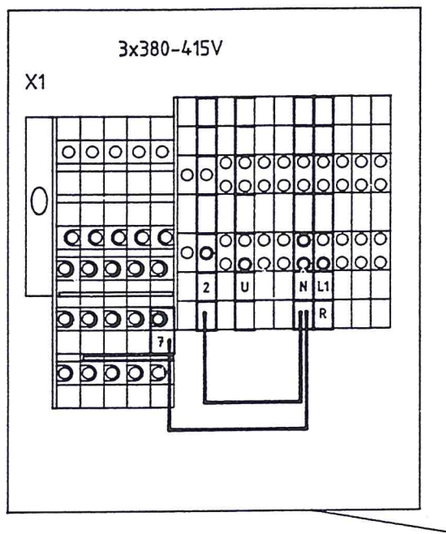
- Loosen both clamping screws 7 on the synchronizer collar 8.
- Hold the synchronizer collar 8 tight and turn the handwheel slightly.
- Tighten clamping screws 7.
- Conduct a sewing sequence.
- Check the 2nd needle position with the timing pin.
- If necessary, correct the position of the synchronizer collar 8 again.

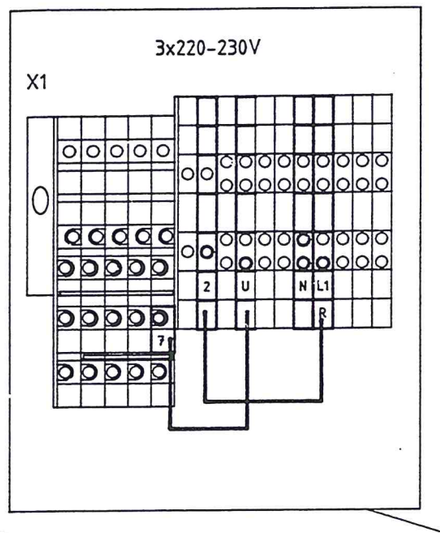
1	2	3	4	5	6	7	8	9	10

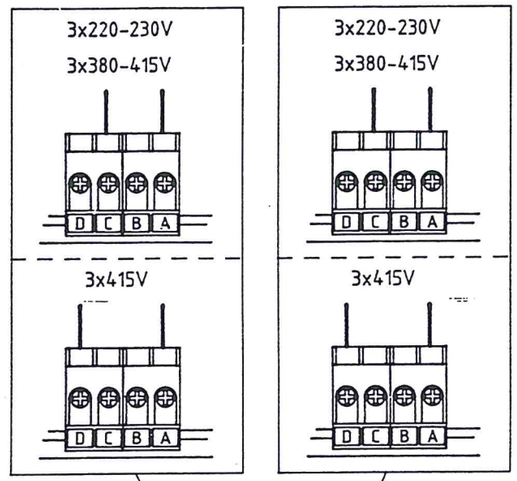
3x380-400V 50Hz → 3x380-400V+N 50Hz

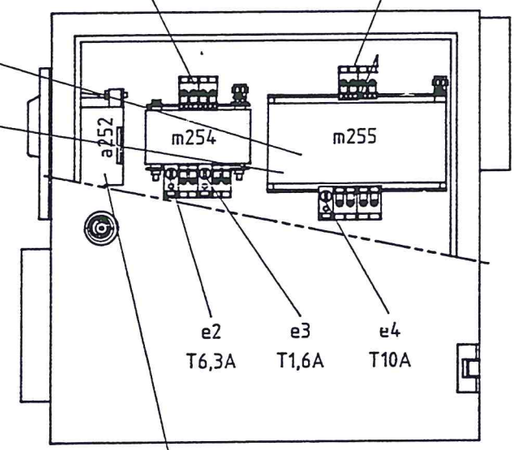


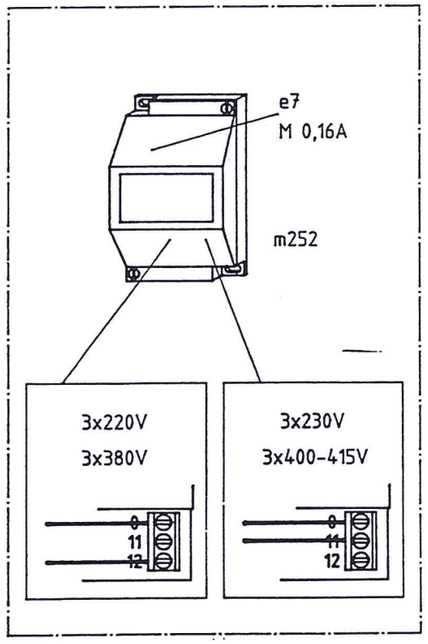
Z135 271

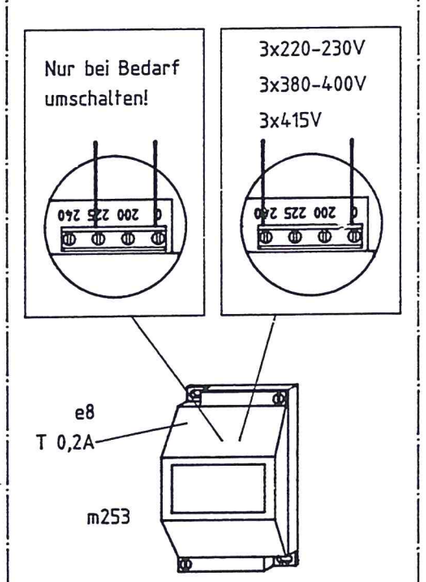


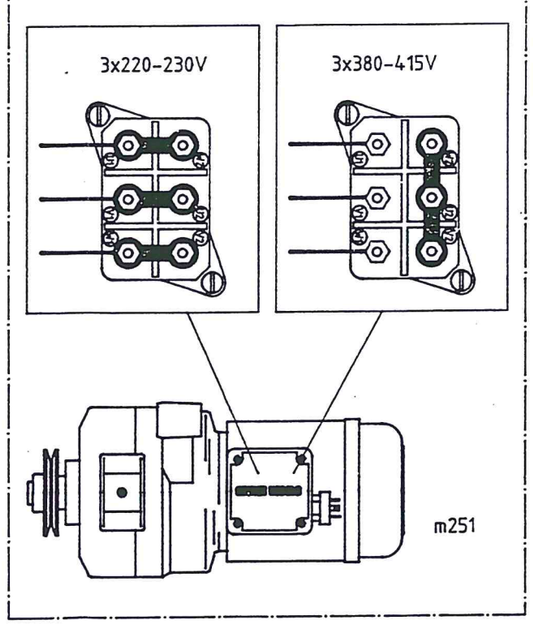


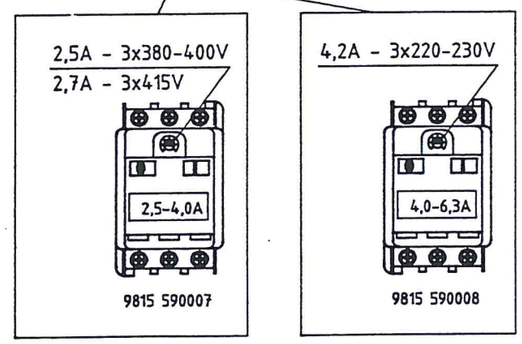












c				Datum	22.11.93	DÜRKOPP ADLER AG Bielefeld	Teilefamilie	743-422 Anschlußplan	Bauschaltplan 9870 743020 B
b	02.0	20.12.94	Krüger	Bearb.	Harder				
a	01.0	22.06.94	Krüger	Gepr.			Freigabe 0810 / 93		Blatt 1/4
	Änderung	Datum	Name	Norm					

1	2	3	4	5	6	7	8	9	10

Netzstecker
Mains plug

b251

3x220-230V 50/60Hz
3x380V-400V+N 50Hz *
3x415V+N 50Hz

Zusatzeinrichtung
Optional equipment

Transformator zur Bildung eines Mittelpunktleiters MP(N)
Transformer for neutral conductor N(MP)

m258

Z135 271

3x380V-400V 50Hz
3x380V-400V+N 50Hz

Hinweise für Umschaltung auf andere Netzspannung beachten!
Observe the notes for changeover to other main voltages!

* Maschinen für 220 und 230V bzw. 380 und 400V sind gleich
Machines for 220 and 230V as well as 380 and 400V are similar

Schaltschrank k. Control box c.

U1 Leistungssteuerkarte D900 für Schrittmotor
Power control card for step motor D900

Schaltereinstellungen für Kl.743-422
Settings for class 743-422

X231 (32pol.)
X232
X233
X230

X1
3≈220-230V
3≈380-415V

m252 25VA
e7 M0,16A
220-240V
bei 220V

b253
h1 12V 20W
Nähleuchte
Sewing lamp

Tür
Door

b254
M 1~
m256
Lüftungsmotor
Ventilation motor

Montageblech
Assembly plate

R1 47k
C2 3300µF 160V
C1 3300µF 160V
V02

M 1~
M
Wagenantrieb
Carriage motor

a252
Einstellung:
Adjustment:
4,0A-bei 200V
4,2A-bei 220-230V
2,5A-bei 380-400V
2,7A-bei 415V

m254 165VA
10V e3 T1,6A
25V e2 T6,3A

m253 3x8,4VA
e8 T0,2A
4,8V

m255 750VA
42V e4 T10A

Puller

Blatt 3
Sheet 3

b252
M 3~
m251
200-240V
346-415V
KU
BR
Nähantrieb Sewing motor

b210 (25pol.)
b201 (4pol.)
b202 (3pol.)

Steuerung
Control
9850 743021

Stromlaufplan
9850 743021 SK

c				Datum	22.11.93
b	02.0	20.12.94	Krüger	Bearb.	Harder
a	01.0	22.06.94	Krüger	Gepr.	
	Änderung	Datum	Name	Norm	

DÜRKOPP ADLER AG
Bielefeld

Teilefamilie
Freigabe 0810 / 93

743-422
Netzteil

Bauschaltplan
9870 743020 B

Blatt 2/4

1	2	3	4	5	6	7	8	9	10

Codierung rot "K"
Coding red

(30pol.)
b221

Codierung gelb "F"
Coding yellow

(30pol.)
b222

wsrt +24V

Wagenpos.1 (Kragensteg)
Carriage pos.1 (collar band)

Wagenposition links
Carriage position left

Wagenposition rechts
Carriage position right

Fadenwächter
Thread monitor

Wagenpos.2 (Spiegelnaht)
Carriage pos.2 (gorge seam)

Fadenfänger oben
Thread catcher up

b5 bn/ws — 39 — A1 ws, C6 bn
b13 bn/ws — 32 — A2 rs, A7 wsgn
b14 bn/ws — 33 — A3 bngn, A6
b15 bn/ws — 34 — C4, C5
b18 bn/ws — 35 — D2, D3
b20 bn/ws — 36 — A4 bl, B7 gebn
37 — D4, D5

(5pol.)
b223

Pedal
Pedal

U3 — b3 sw, 0V gr, b2 gn, b1 ge, b4 — E3, E5, E2, E1, E4 — 38

Nähgut
Material

b38

Restfadenwächter
Bobbing thread monitor

b40

h2, h3, h4 — L3 — ws, bn, gn, ge, gr, rs — 1 2 3 4 5 6

Markierungsleuchten
Marking lamps

9 Blatt 2
Sheet 2

31

(50pol.)
b205

ws	1	1	b23
bn	4	10	b7
gn	6	16	b1
ge	8	22	b4
gr	9	25	b2
rs	11	31	b12
bl	12	34	b20
rt	13	37	0V
sw	25	24	b3
vi	26	27	b13
grrs	27	30	b18
blrt	28	33	b15
wsgn	40	20	b6
bngn	41	23	b5
wsge	43	29	b14
gebn	45	35	INT 1

(50pol.)
b204

s6	1	1	ws
s4	10	4	bn
s15	13	5	gn
s14	16	6	ge
s25	19	7	gr
s21	22	8	rs
s19	28	10	bl
s38	31	11	rt
s34	37	13	sw
s36	46	16	vi
+24V	49	17	grrs
s10	9	20	blrt
s11	12	21	wsgn
s13	15	22	bngn
s26	21	24	wsge
s17	24	25	gebn
s5	2	34	wsgr
s8	5	35	grbn
s16	14	38	wsrs
s24	17	39	rsbn
s23	20	40	wsbl
s27	23	41	bnbl
s18	26	42	wsrt
s30	29	43	bnrt
s37	38	46	wssw
s35	44	48	bnsw
+24V	50	50	grgn

60

(7pol.)
b206

ws	1	+24V
bn	2	C
bl	3	
Schirm	4	0V
gn	5	E
ge	7	K
rt	8	

(5pol.)
b207

ws (A)	2	
sw (C)	4	
bl (E)	5	
br (K)	3	

(7pol.)
b203

0V	1	0V
+5V	2	+5V
Geberkontr.	3	b11
IW	4	IW
Pos1	5	b39
Pos2	6	b37
Pos3	7	b42

U2

Steuerung
Control
9850 743021

Stromlaufplan
9850 743021 SK

ws	A4	ws	
bn	A5	bn	
gn	A6	gn	
ge	A7	ge	
gr	B4	gr	
rs	B5	rs	
bl	B6	bl	
rt	B7	rt	
sw	C4	sw	
vi	C5	vi	
blrt	C6	grrs	
wsgn	C7	blrt	
bngn	D2	wsgn	
wsge	D3	bngn	
gebn	D4	wsge	
wsgr	D5	gebn	
grbn	D6	wsgr	
wsrs	D7	grbn	
rsbn	E1	wsrs	
wsbl	E2	rsbn	
bnbl	E3	wsbl	
wsrt	E4	bnbl	
grrs	A1	wsrt	

61

bn	s4	Transportklammer senken Lowering feeding clamp
gebn	s5	Transportklammer heben Lifting feeding clamp
wsgr	s8	Stoffklemme links senken Lowering left cloth clamp
grrs	s10	Faden schneiden Trimming thread
blrt	s11	Stoffklemme rechts senken Lowering right cloth clamp
wsgn	s13	Faden fangen/Faden lösen Catching thread/releasing thread
ge	s14	Stapler klemmen Stacker clamping
gn	s15	Ausstreifer vor Smoother forward
grbn	s16	Niederhalter senken Lowering down-holder
wsge	s17	Staplerklemme öffnen Opening stacker clamp
bnbl	s18	Stoffklemme senken Lowering cloth clamp
bl	s19	Stoffklemme heben Lifting cloth clamp
rs	s21	Nähguthalter Material holder
rsbn	s23	Stoffklemme Mitte senken Lowering centre cloth clamp
wsrs	s24	Fadenspannung lösen Releasing thread tension
gr	s25	Fadenfänger senken Lowering thread catcher
bngn	s26	Stapler blasen Stacker blowing
wsbl	s27	Nahtabstand Seam margin
sw	s34	Oberer Ausstreifhebel Upper smoother lever
vi	s36	Unterer Ausstreifhebel Lower smoother lever
rt	s38	Ausstreifer zurück Smoother back

grgn B3 ge, rtbn E5 ws, wssw E6 bn, bnsw E7 gn — 62

L2 R2 — ws 1, ge 2 5, bn 3, gn 4 6 — R3

64 — bn ws, s30 — Anlegepunkt links
Left positioning point

65 — bn ws, s37 — Anlegepunkt rechts
Right positioning point

c				Datum	22.11.93	
b	02.0	20.12.94	Krüger	Bearb.	Harder	
a	01.0	22.06.94	Krüger	Gepr.		
	Änderung	Datum	Name	Norm		

DÜRKOPP ADLER AG
Bielefeld

Teilefamilie

Freigabe
0810 / 93

743-422
Eingänge/Ausgänge

Bauschaltplan
9870 743020 B

Blatt 3/4

1	2	3	4	5	6	7	8	9	10

Kurz-zeichen	Benennung	Abmessung	Teilenummer	Bemerkung
a251	Hauptschalter		746 4849	
a252	Schalter,schutz	Einsatz 2,5-4,0A	9815 590007	
		Einsatz 4,0-6,3A	9815 590008	
	Induktivgeber		9805 710002	
	Klemmstück		798 424203	
b38	Lichtschranke	Weko	Z133 103	
b40	Lichtschranke k.	Visolux	9815 925003	
C1	Kondensator	3300µF/160V	K999 201838	
C2	Kondensator	3300µF/160V	K999 201838	
e2	Sicherung	T6,3/250D 5x20mm	9825 810417	
e3	Sicherung	T1,6/250D 5x20mm	9825 810413	
e4	Sicherung	T10/250D 5x20mm	9825 810419	
e7	Sicherung	M 0,16/250G 5x20mm	798 460121	
e8	Sicherung	T 0,2/250 5x20mm	798 460132	
h1	Nähleuchte	12V/20W	9822 510001	
	Lampe	12V/20W Reflektor	9822 642024	
h2	Mark.-Leuchte	4,6V/8,4W	9822 550012	
h3	Mark.-Leuchte	4,6V/8,4W	9822 550013	
h4	Mark.-Leuchte	4,6V/8,4W	9822 550012	
	Lampe	4,6V/8,4W	798 281510	
m251	Nähantrieb	POKD13-0/S51	798 3212 A	
	Kupplungskopf k.	99/04	002 7504 1020	
	Kuppl.scheibe	99/01	002 7504 1015	
	Bremsring k.	POK Georgii	9800 360001	
m252	Nählichttrafo	25VA	798 500088	
m253	Transformator	3x4,8V 3x8,4VA	798 500089	
m254	Transformator	10/25V 165VA	798 500446	
m255	Transformator	2x42V 750VA	798 500501	
m256	Filterlüfter	FLF 01	K999 201874	
	Austrittfilter	AFF 01	K999 201875	
m257	Schrittmotor	VRDM 3913/50 LNB	9800 580007	
m258	Spartrafo k.		Z135 271	

Kurz-zeichen	Benennung	Abmessung	Teilenummer	Bemerkung
R1	Widerstand	47k	9810 321142	
R2	Widerstand	1k5	9810 321105	
R3	Widerstand	1k5	9810 321105	
s30	Leuchtdiode	gelb	798 163004	
s37	Leuchtdiode	gelb	798 163004	
U1	Verstärker-SM	D900 Berger	9835 101005	
U2	Positionsgeber	PI 42	798 3216	
U3	Ext.Betätigung	EB 102	798 3291	
V02	Gleichrichter	SM3675-280	9805 120001	

c				Datum	22.11.93	DÜRKOPP ADLER AG Bielefeld
b	02.0	20.12.94	Krüger	Bearb.	Harder	
a	01.0	22.06.94	Krüger	Gepr.		
	Änderung	Datum	Name	Norm		

Teilefamilie

Freigabe 0810 / 93

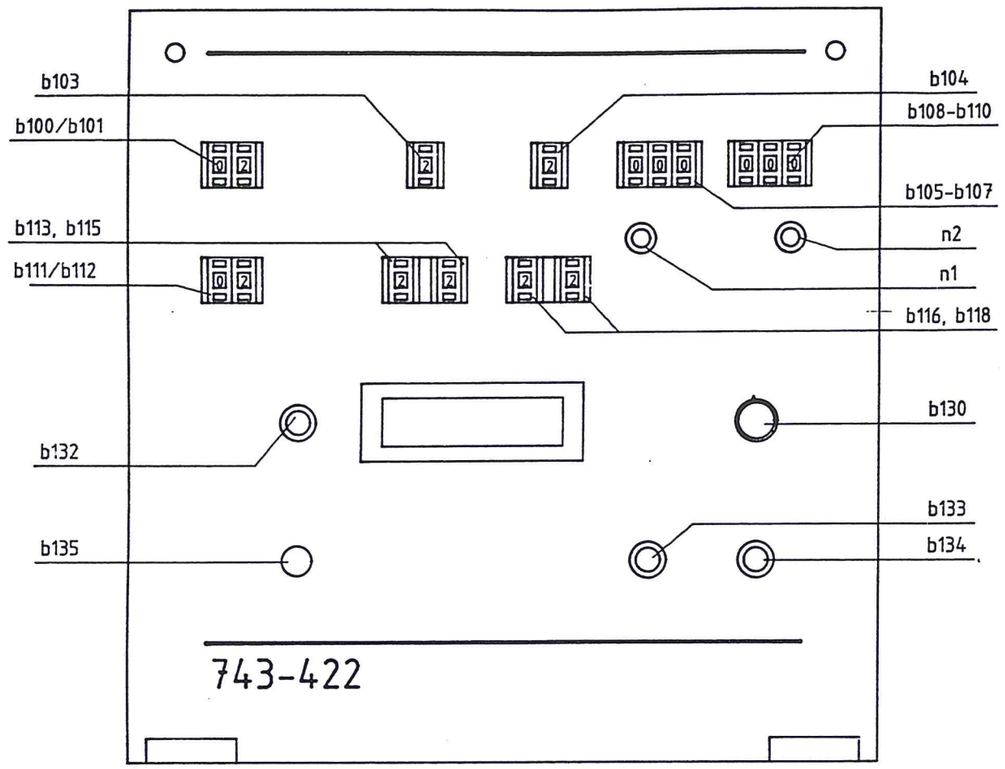
743-422

Teileliste

Bauschaltplan

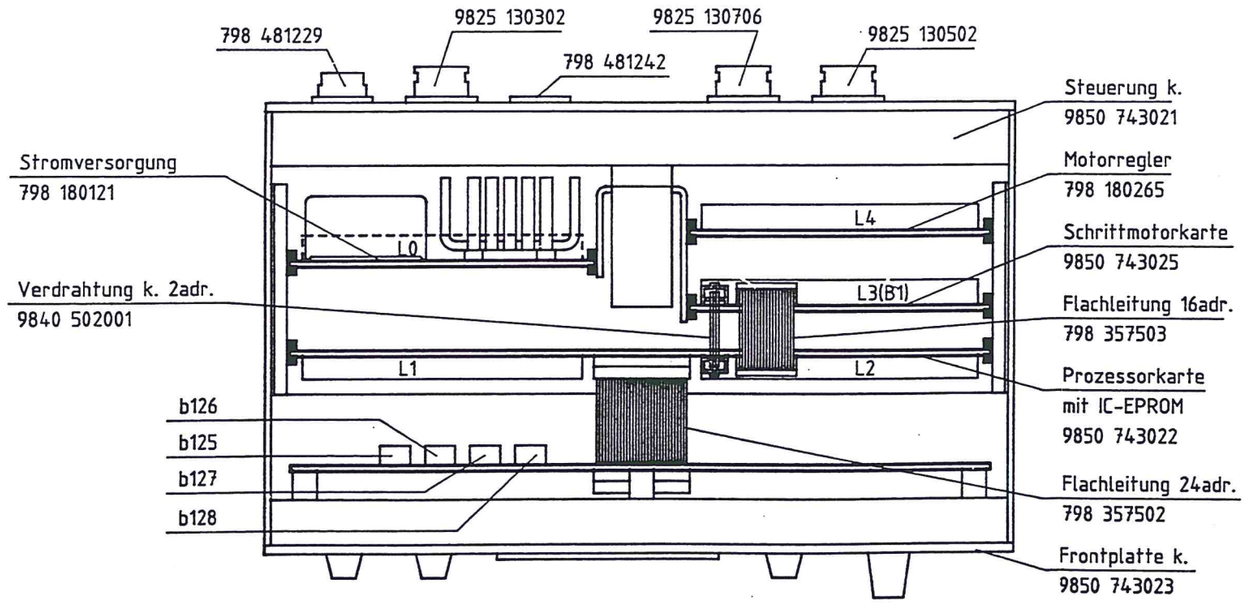
9870 743020 B

Blatt 4/4

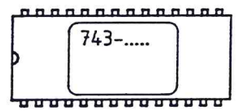


Stromlaufpläne für:

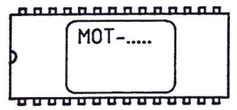
Stromversorgung	798 180121 S
Prozessorkarte	9850 001001 S
Frontplatte k.	9850 743023 S
Schrittmotorkarte	9850 743025 S
Motorregler	798 180265 S
Anzeige LCD 2x16	9850 743001 S



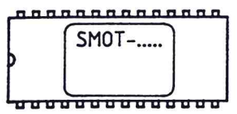
L0 bis L4 : Steckleisten



IC-EPROM progr.
9850 743022 EP01
(Informationsmaterial
nach Bedarf)



IC-EPROM progr.
9850 002001 EP01
(Informationsmaterial
nach Bedarf)



IC-EPROM progr.
9850 002002 EP01
(Informationsmaterial
nach Bedarf)

c				Datum	05.11.93
b				Bearb.	Harder
a				Gepr.	
	Änderung	Datum	Name	Norm	

DÜRKOPP ADLER AG Bielefeld

Teilefamilie

Freigabe 0810 / 93

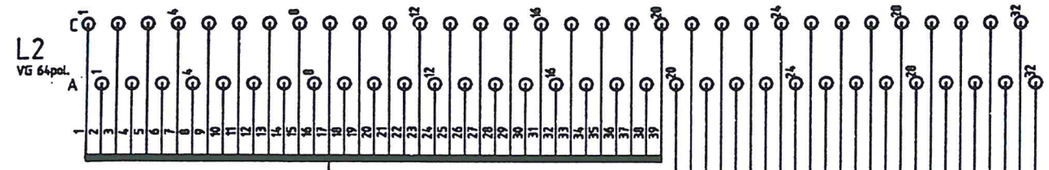
743-422
Steuerung k.

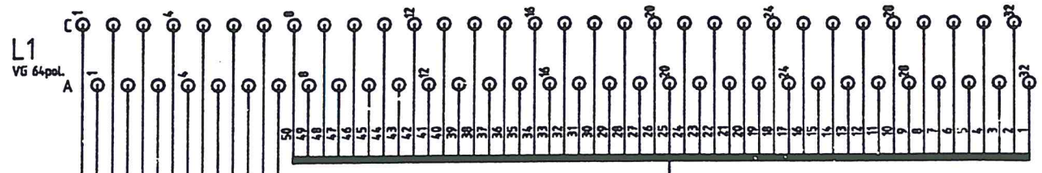
Stromlaufplan k.
9850 743021 SK

Blatt 1/2

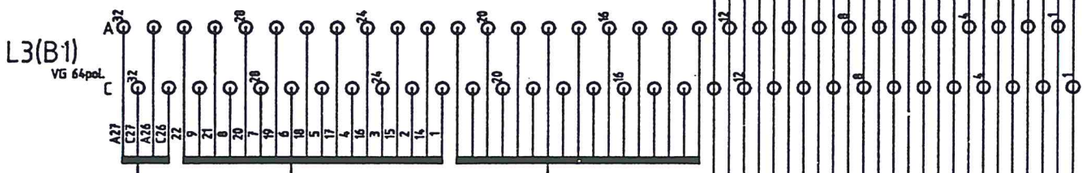
1	2	3	4	5	6	7	8	9	10

Stromlaufplan 9850 001001 S

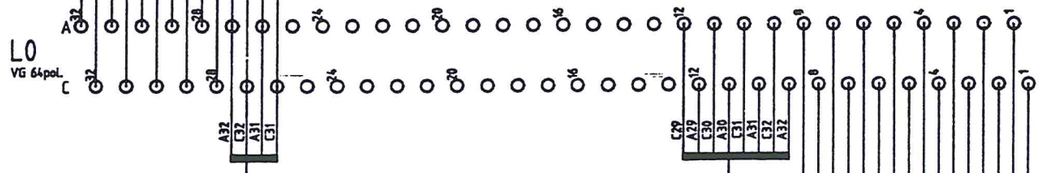




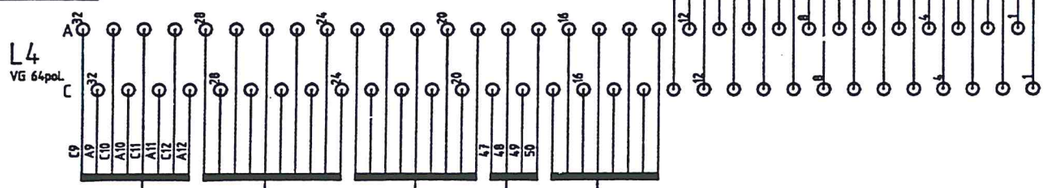
Stromlaufplan 9850 743025 S



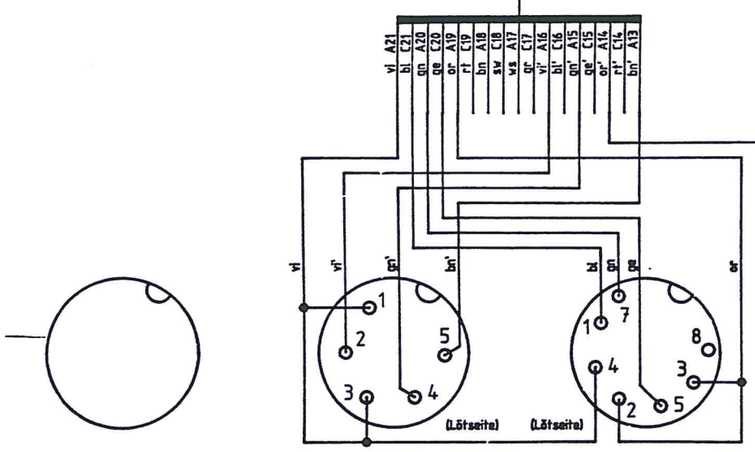
Stromlaufplan 798 180121 S



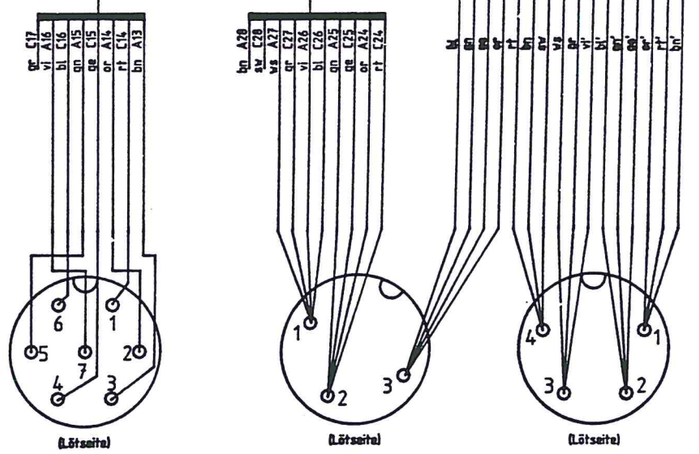
Stromlaufplan 798 180265 S



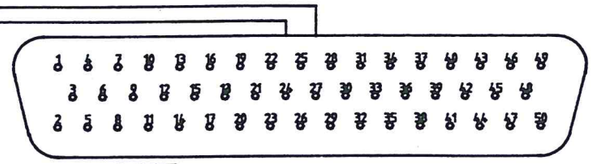
löten; isolieren
mit Srumpfschlauch



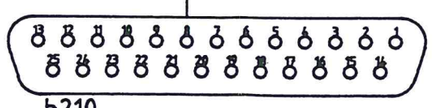
b208 b207 b206 b209



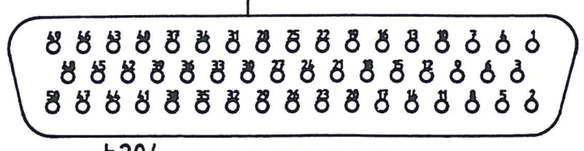
b203 b202 b201



b205 Stiftleiste SUBD 50 (Steckseite)



b210 Buchsenleiste SUBD 25 (Steckseite)



b204 Buchsenleiste SUBD 50 (Steckseite)

c				Datum	05.11.93	
b				Bearb.	Harder	
a				Gepr.		
	Änderung	Datum	Name	Norm		

DÜRKOPP ADLER AG Bielefeld

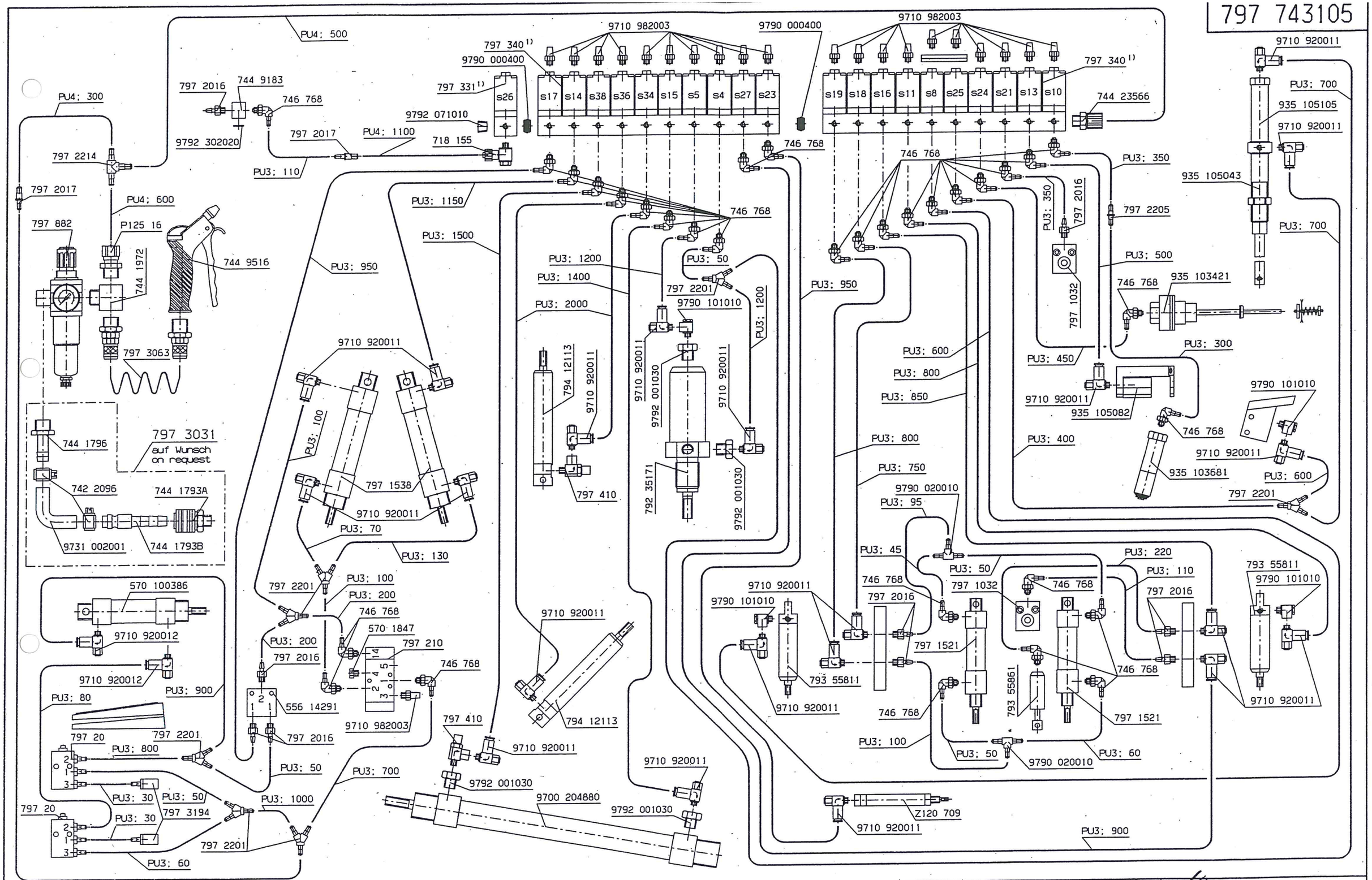
Teilefamilie

Freigabe 0810 / 93

743-422
Steuerung k.

Stromlaufplan k.
9850 743021 SK

Blatt 2/2



1) Ersatzventil ohne Montageplatte 797 322
Replacement valve without mounting plate 797 322

Schlauch Hose	Teile-Nr. (Meterware) Part-No. (Yarded goods)
PU3	9731 005004
PU4	9731 006004
PK6	002 8971 8060

Änd.	Tag	gez.	gepr.

Tag 24.8.94 gez. Schild. gepr. ges.

Pneumatik-Geräteplan
für 743-422

Pneumatic-Elements-Plan
for 743-422

DÜRKOPP ADLER AG

797 743105

Blatt 1 Blattz. 1