DÜRKOPP ADLER AG

Manual, complete

745 - 34

Sewing unit for runstitching of piped flap and welt pocket openings and pocket corners

Working methods: A, B, D, F

Operating Instructions

Installation Instructions

Service Instructions

Instructions for Programming DAC

1

2

3

4

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745 - 34

Manual, complete

Summary

Operating Instructions
Installation Instructions
Service Instructions
Instructions for Programming DAC

Interconnection-diagram

9870 745100 B
9870 745115 B
9870 745116 B
9870 001018 B

Pneumatic circuit plan

9770 745003

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Part 3: Service Instructions 745-34

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1. General notes

The service instruction manual on hand describes the adjustment of the sewing unit 745-34 in an appropriate sequence.

ATTENTION !

Some of the setting positions are interdependent.
Therefore it is absolutely necessary to do the adjustment following the described order.

The operations described in the service instructions must only be executed by qualified staff and correspondingly instructed persons respectively!

Danger of breakage !

Before the sewing unit is put into operation again after having been disassembled the necessary adjustments have to be carried out according to the service instructions.

Before any adjusting operations of parts involved in the stitch formation are made:

– Insert a new needle without any damage.

Caution: Danger of injury !

Before repair, converting and maintenance work is done:

– Switch off the main switch and disconnect the sewing unit from the pneumatic supply system.
  Exception:
  Adjusting operations carried out with the help of test or setting programs.

Adjusting operations and function tests when the sewing unit is running

– Carry out adjusting operations and function tests of the running sewing unit
  only under observation of all safety measures and with utmost caution.

Adjusting operations in the needle zone

– Parts which can lead to injuries have to be removed before carrying out the adjusting operations.
  Exception:
  The parts are absolutely necessary for the adjusting operations.

1.1 Gauges

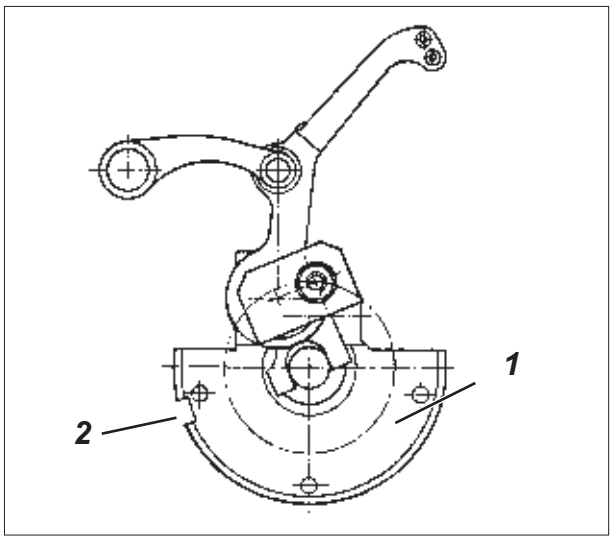
The gauges listed below allow a precise setting and testing of the sewing unit.

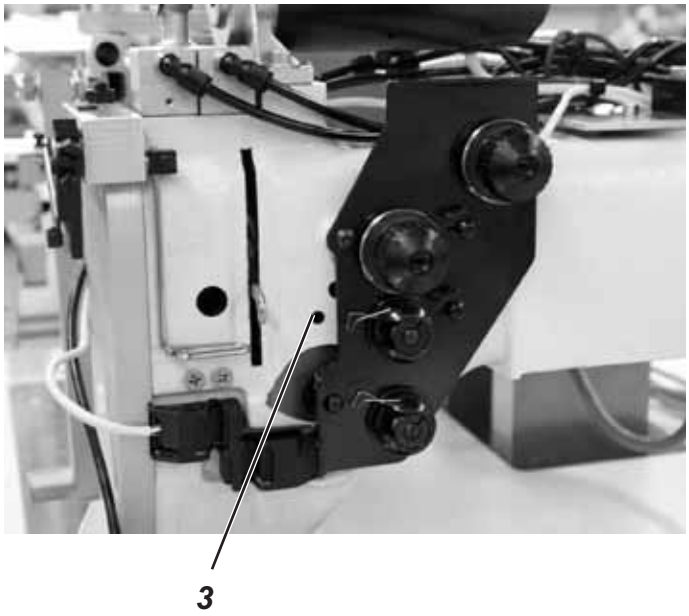
The locking peg 1 belongs to the standard accessories of the sewing unit. It serves to arrest the machine head in position **A** (looping stroke).

The setting gauges marked with *) are available on inquiry.

Position	Setting gauge	Order No.	Use
1	Locking peg	0211 000700	Looping stroke position
2 *)	Gauge	0246 002591	Crank pin to arm shaft
3 *)	Gauge	0244 001001	Height of hook shaft
4 *)	Measuring bridge	0212 004942	Height of needle holder
5 *)	Measuring pin	0216 001070	Height of needle holder
6 *)	Adjusting pin	0244 001014	Lateral hook distance

1.2 Groove in the arm shaft crank





The arm shaft crank 1 is provided with a groove 2 (5 mm).

The machine head can be locked with the locking peg through drill-hole 3.
Now the machine is in looping stroke position
(position A).

2. Sewing machine head

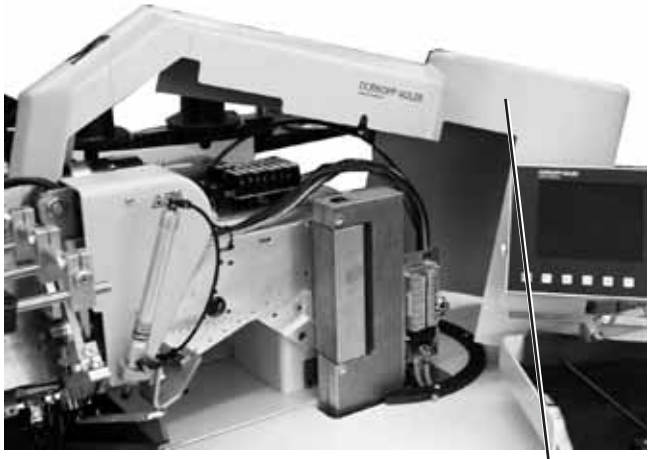
2.1 Raising the sewing machine head

For maintenance work the machine head can be raised.
For this purpose the transport carriage must be in its rear position.

Caution: Danger of injury !

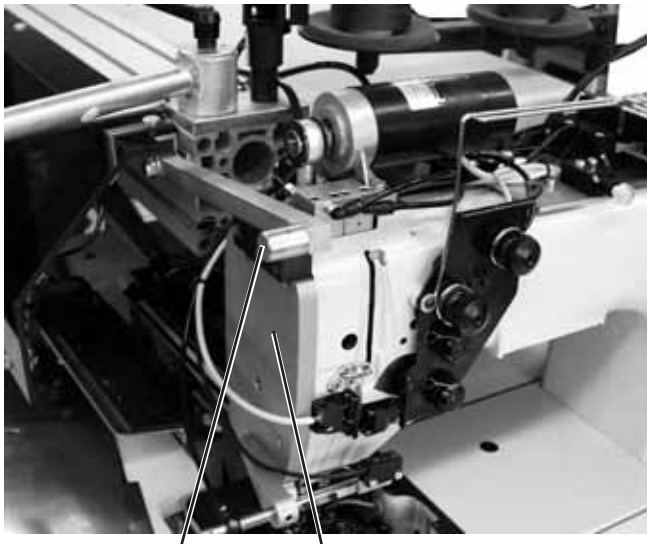
Switch off the main switch.

Raise the machine head only with the main switch switched off.

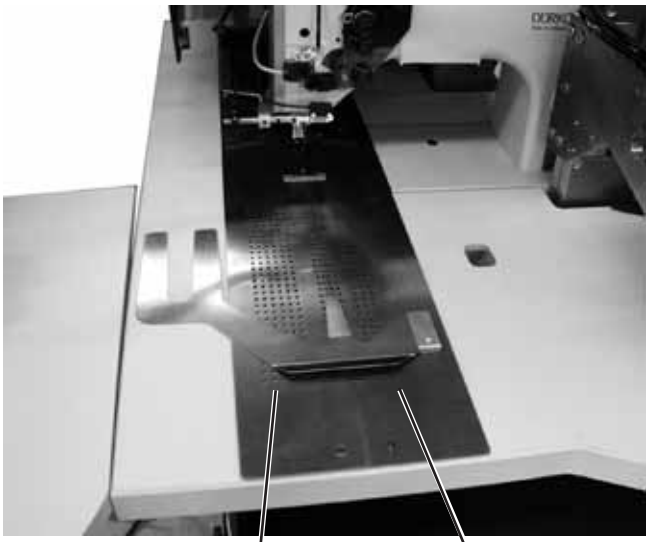


1

3



4 *5*



6 *7*

Raising the machine head

- Remove covering cap 1.
  Lift the covering cap at the front so that the arrest is released. Lift the covering cap carefully.
- Swivel the folding station 3 by 90°.
- Swing the locking peg 4 upwards.
- Lift the left fabric sliding sheet 6 at the front and swing it to the left.
- Remove the right fabric sliding sheet 7
  (see Operating Instructions, chapter 2.2)
- Lift the machine head in the area of head cover 5 and raise it carefully.
  Pawl 2 snaps in additionally.
  The area underneath the machine table is accessible for cleaning.

Caution: Danger of injury !

Do not reach into the table top cutout when the machine head is raised.

Swinging the machine head back

- Hold the machine head in the area of head cover 5.
- Release pawl 2.
- Swing the machine head back carefully.

Attention: Danger of breakage!

Hold the machine head tight until it finally rests on.

- Insert fabric sliding sheets
- Swivel the locking lever 4 downwards.
- Swing the folding station 3 back and let it catch in the locking lever.
- Put on covering cap 1 and arrest again.

2

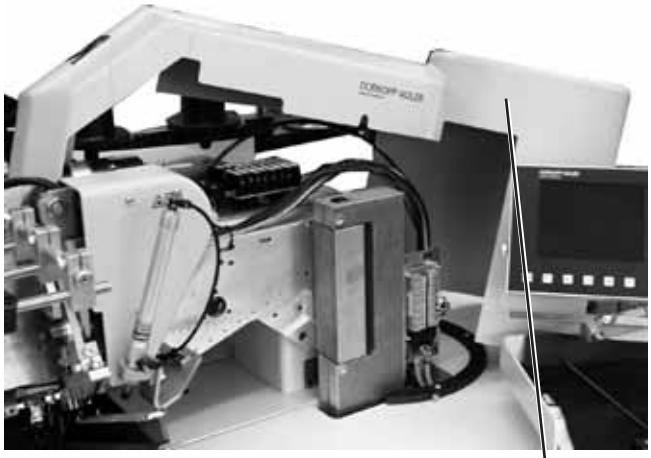
2.2 Removing / Installing the sewing machine head

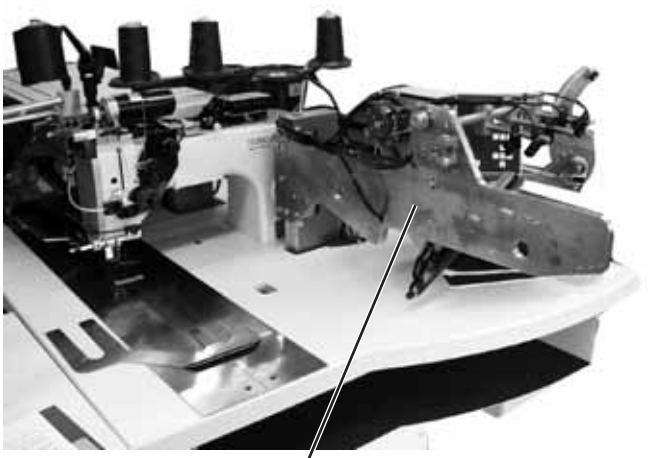
For repair work or an easier change to another needle distance the machine head can be removed.
For this purpose the transport carriage must be in its rear position.

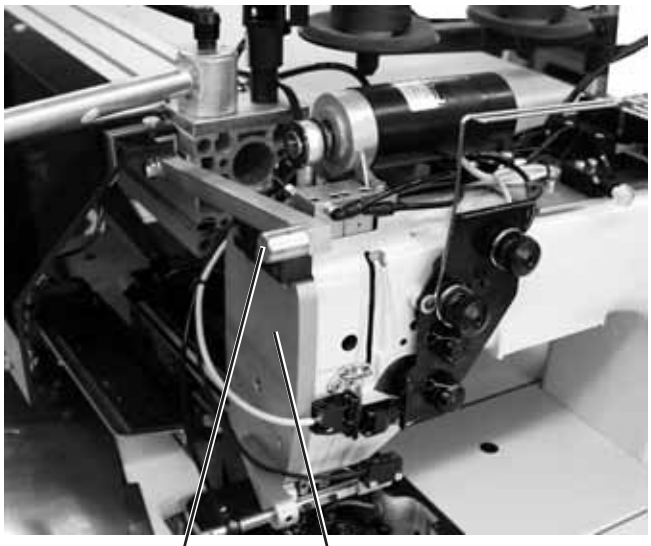
Caution: Danger of injury!

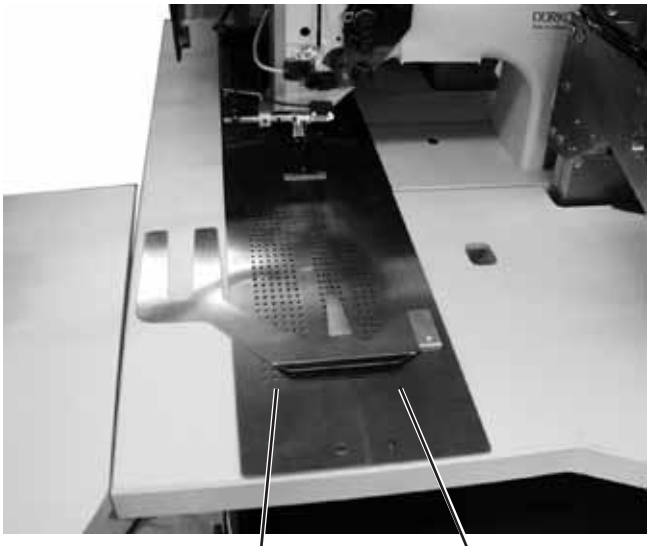
Switch off the main switch and disconnect from the pneumatic net.

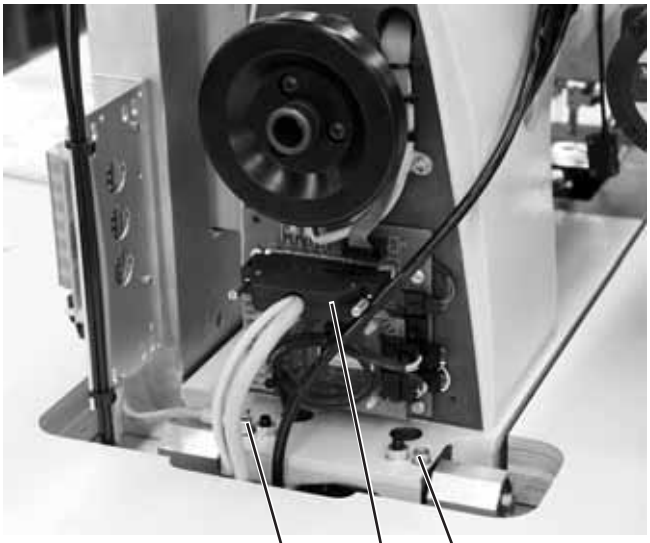
Remove and install the machine head only with the main switch switched off.

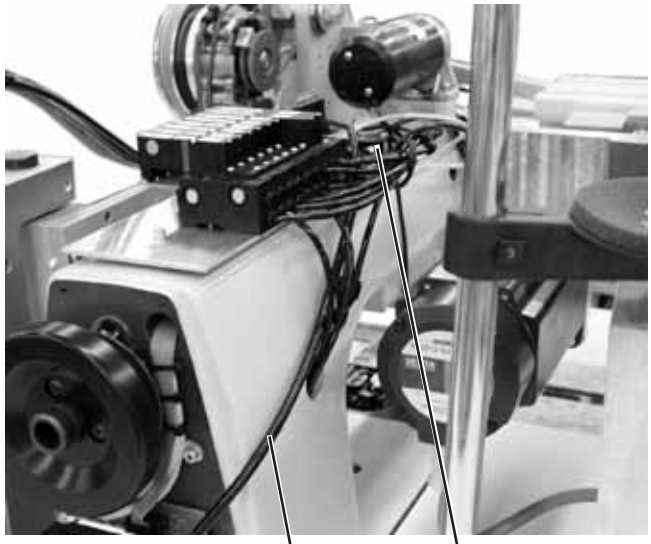


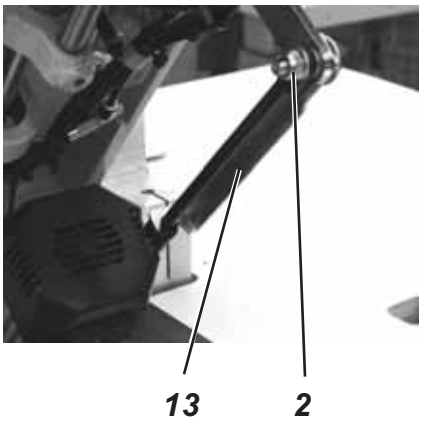












Removing the machine head

- Remove the covering cap 1.
  For this purpose lift the covering cap at the front so that the arrest is released. Lift the covering cap carefully.
- Swivel the folding station 3 by 90°.
- Swing the locking lever 4 upwards.
- Lift the left fabric sliding sheet 6 at the front and swing it to the left.
- Remove the right fabric sliding sheet 7
  (see Operating Instructions, chapter 2.2).
- Pull off plug 12 after loosening its fastening screws.
- Pull off the main pneumatic hose 11 from the solenoid valve block 10.
- Loosen the gas shock absorber connection 2. Take off the locking bow 13 with spring.
- Unscrew screws 8 and 9.
- Lift out the machine head carefully with an appropriate auxiliary tool.

Installing the machine head

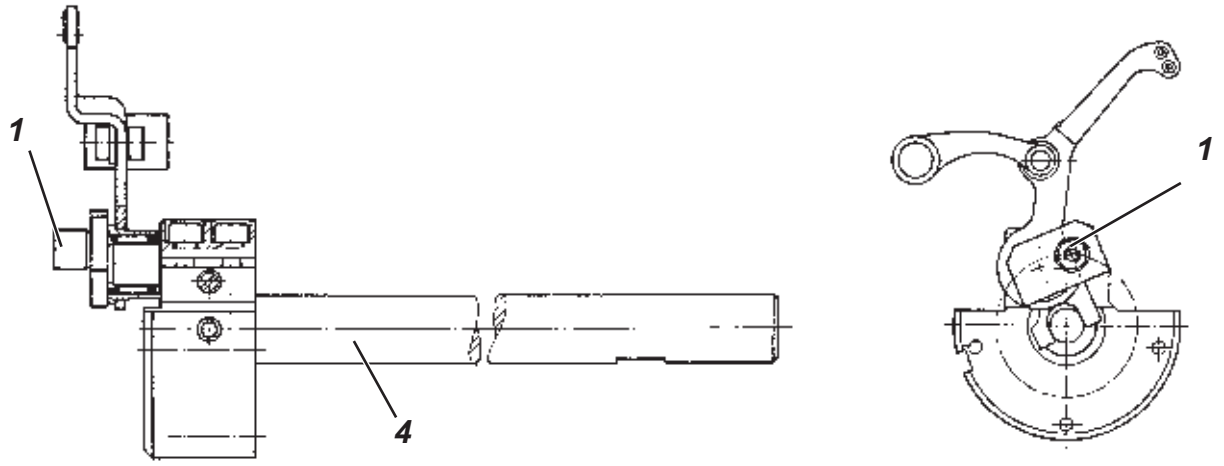
- Carefully insert the machine head into the cutout for the head with an appropriate auxiliary tool.
- Screw the machine head tight with the screws 8 and 9.
- Re-establish the gas shock absorber connection 2. Reinsert the locking bow 13 with spring.
- Connect the pneumatic hose 11 to the solenoid valve block 10.
- Put on plug 12 and secure with its fastening screws.
- Insert the fabric sliding sheets.
- Swing the locking lever 4 downwards.
- Swing the folding station 3 back and let it catch.
- Put on the covering cap 1 and let it catch.

2.3 Crank pin at the arm shaft

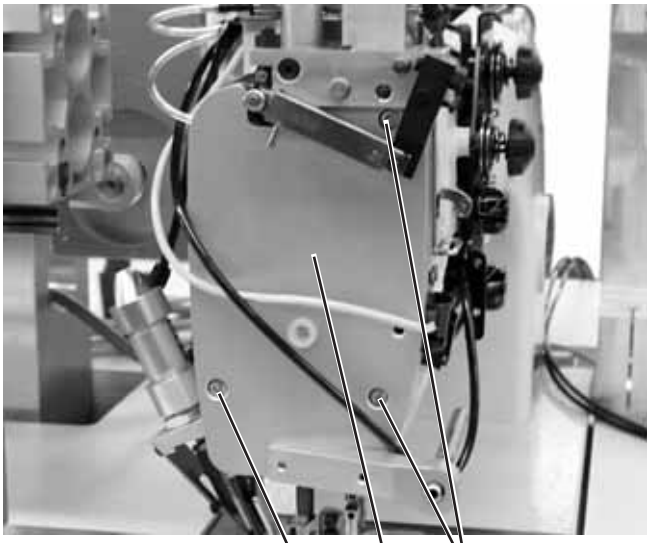
The distance between the eccentric crank pin 1 and the arm shaft 4 determines the needle bar stroke and thus the upper dead centre of the jointly and separately connectable needle bars.

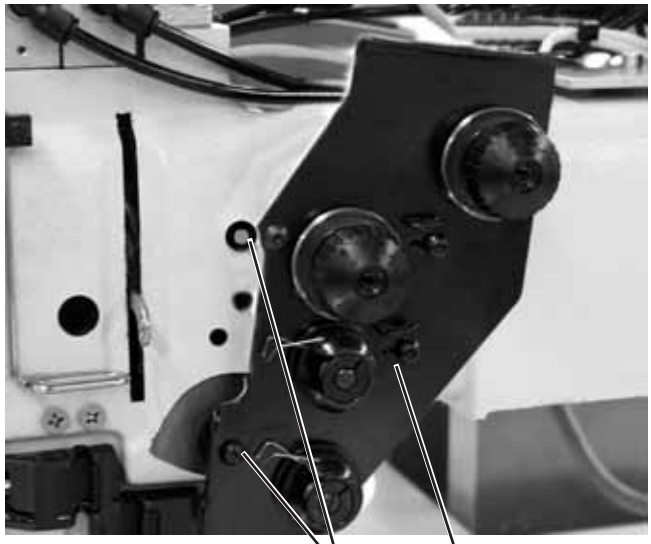
ATTENTION !

The crank pin 1 is precisely set by the manufacturer!
After exchanging the thread lever or if the needles do not disconnect correctly any longer, the crank pin 1 has to be readjusted.



The adjustment of the crank pin 1 is done with the gauge 7 (Order No. 0246 002591).
It is not necessary to remove crank and armshaft for the adjustment.



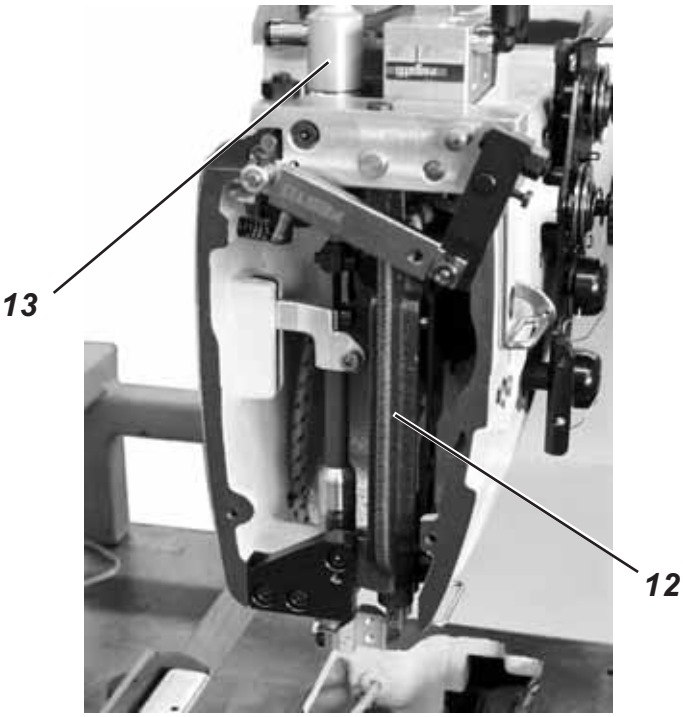


Caution: Danger of injury !

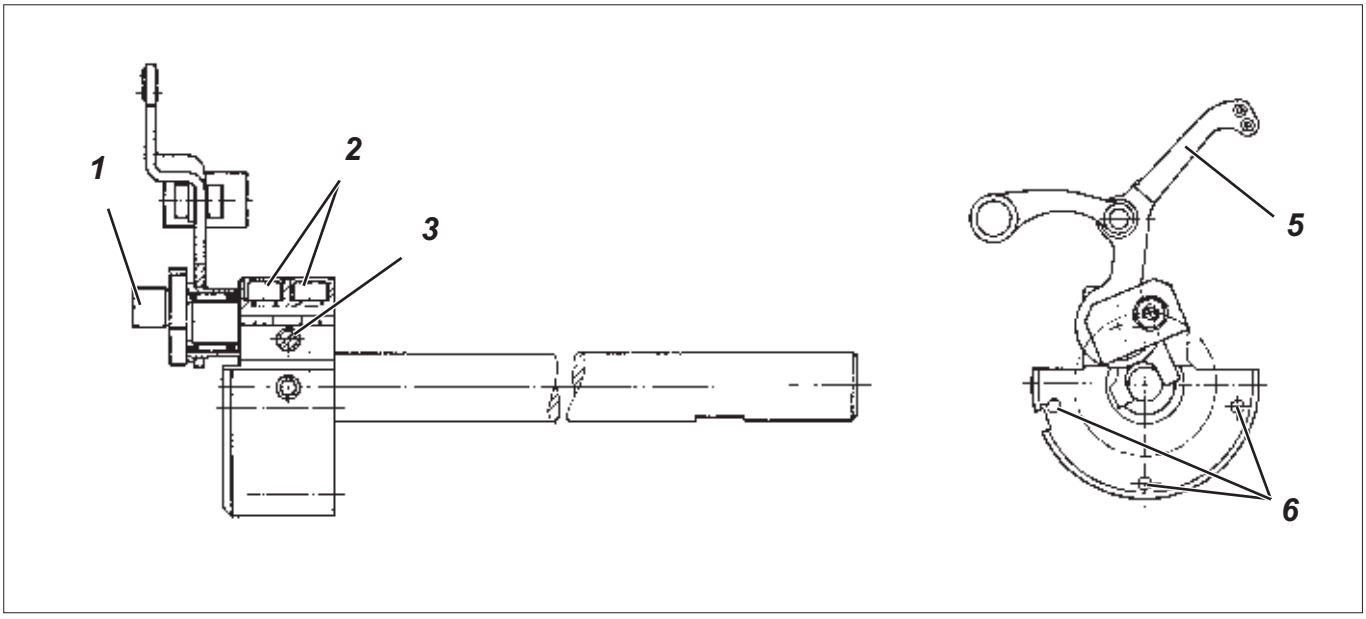
Switch off the main switch.

Adjust the crank pin only with the main switch switched off.

- Remove the head cover 9 after loosening the fastening screws 8.
- Swivel the thread tension plate 10 sideways after loosening the fastening screws 11.



- Remove the needle bar linkage 12 (see chapter 2.4.1).
- Remove the switching cylinder 13 for the center knife drive (see chapter 2.6.2).

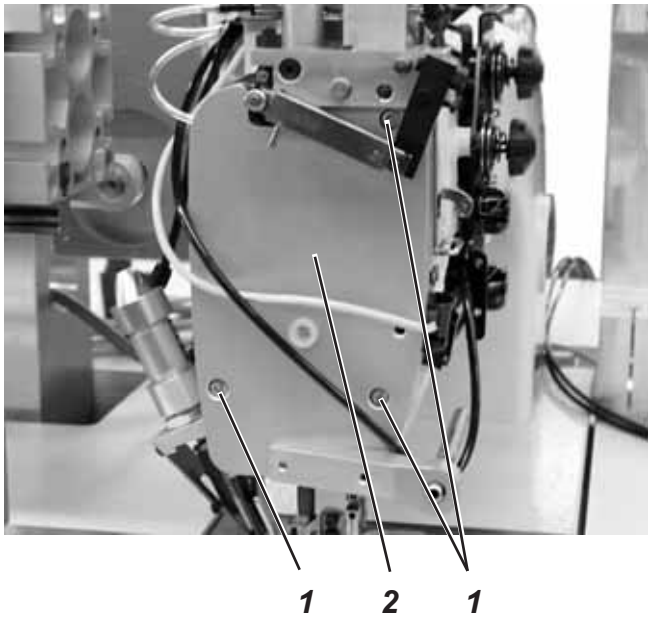


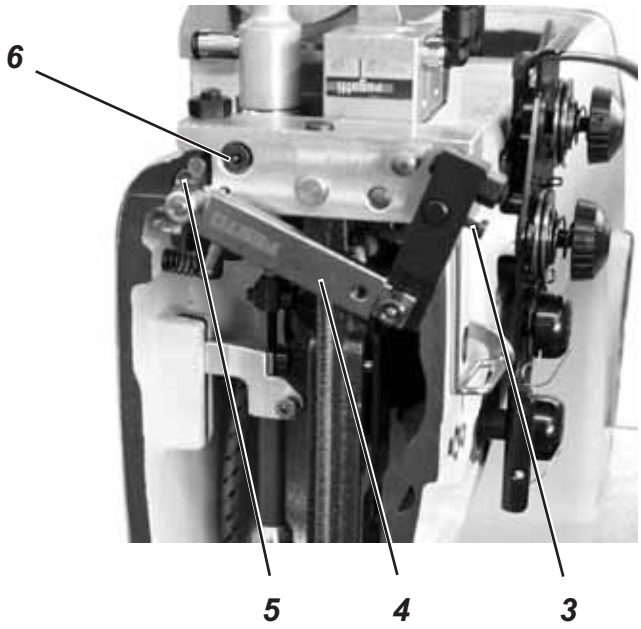
- Detach the needle bar tie rod from the crank pin 1 after unscrewing its fastening screws (**ATTENTION left-hand thread**) and pull it off with the needle cage.
- Turn the handwheel until the Allen screws 2 point downward. In this position the screws are accessible.
- Loosen the Allen screws 2.
- Loosen the support bolt 3. The screw is accessible through drill-hole 13.
- Put the pivots of gauge 7 in the insertion bores 6.
- Turn the crank pin 1 in such a way that it reaches in the cutout of the gauge.
- Press the crank pin 1 on. The thread lever 5 must have a minimum axial backlash for the lubrication.
- Tighten Allen screws 2 and support bolt 3.
- Remove gauge 7.

- Turn the handwheel and check free movement of the upper shaft.
- Put the needle tie rod with the needle cage on the crank pin 1 and tighten the fastening screws. (**ATTENTION left-hand thread**).
- Mount and adjust the needle bar linkage (see chapter 2.4.1).
- Mount the switching cylinder for the center knife drive (see chapter 2.6.2).

2.4 Needle bar linkage and disconnectable needle bars

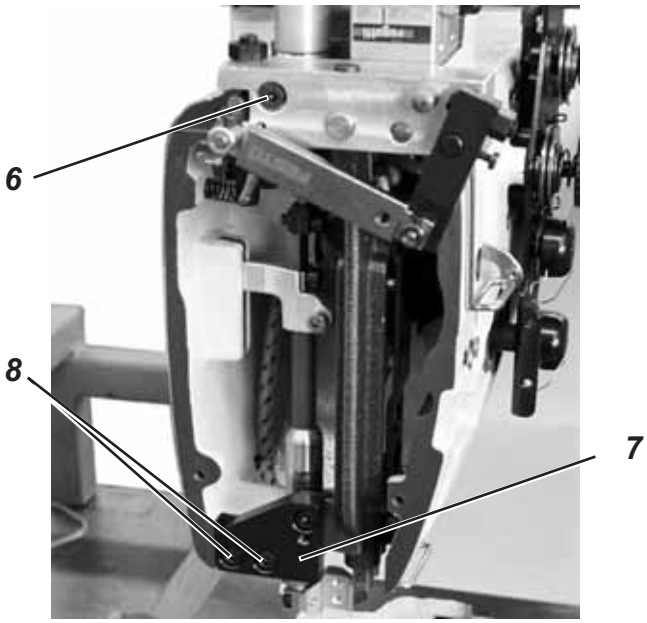
2.4.1 Removing the needle bar linkage



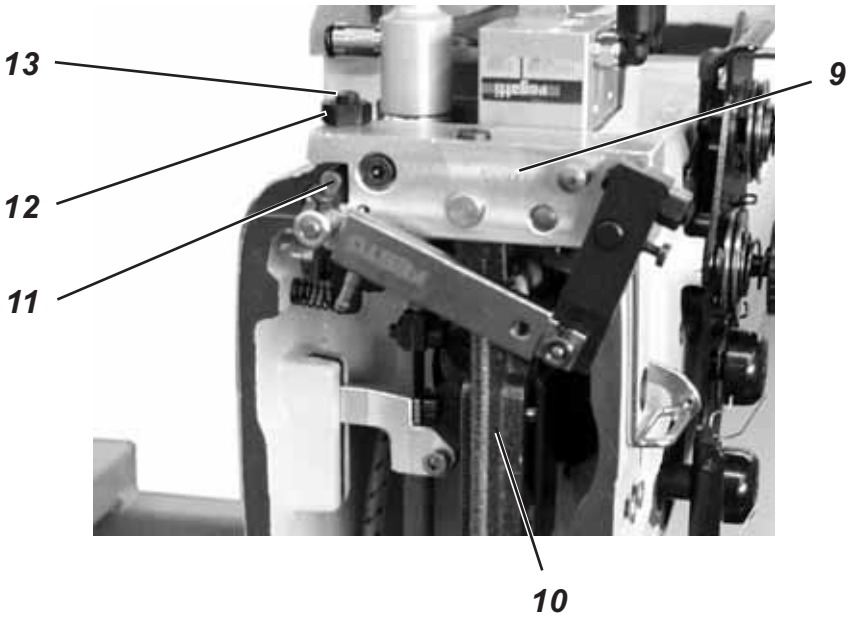


Caution: Danger of injury!
Switch off the main switch.
Remove the needle bar linkage only with the sewing unit switched off.

- Unscrew the screws 1 and take off head cover 2.
- Loosen the screws 3 and 5 and pull off the thread puller 4.



- Unscrew screws 8.
- Unscrew screw 6.



– Loosen the counternut 12.
– Loosen the adjusting screw 13 a bit.

ATTENTION !

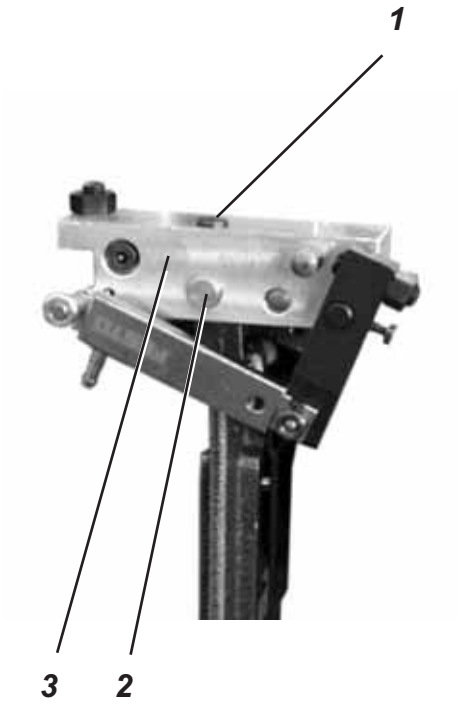
Do not loosen both adjusting screws 13.
With the two adjusting screws 13 the correct height of the linkage frame has been set by the manufacturer.

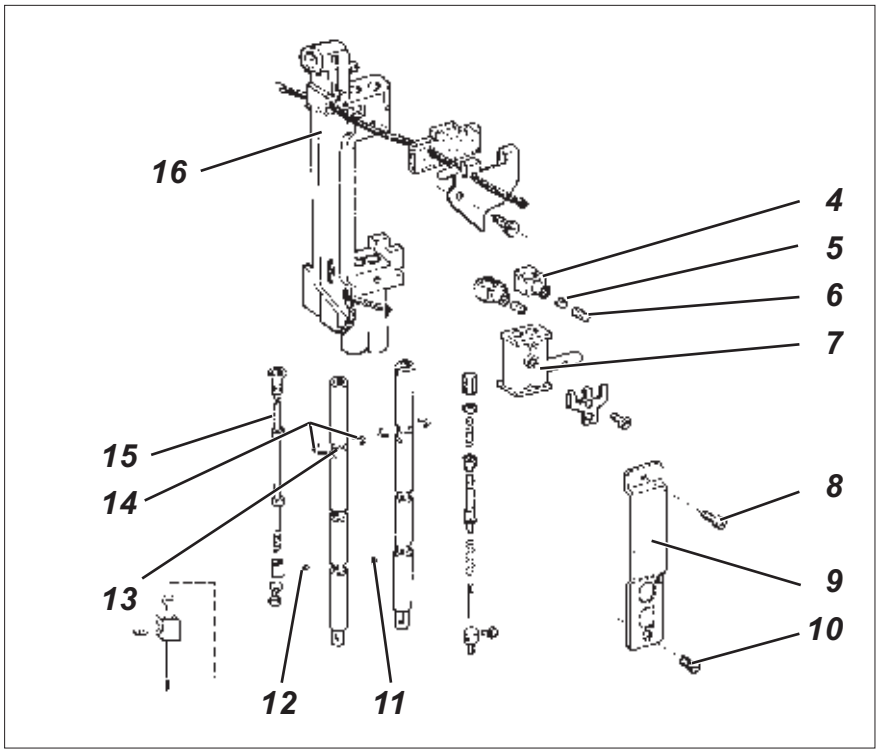
ATTENTION !

Avoid damage to the oil wick when taking off the needle bar.
Note the position of the oil wick for the subsequent assembly.

– Carefully remove the support plate 9 with the needle bar linkage 10 from the stop pin 11.
This is facilitated by slight turning motions.

2.4.2 Removing a needle bar from the linkage



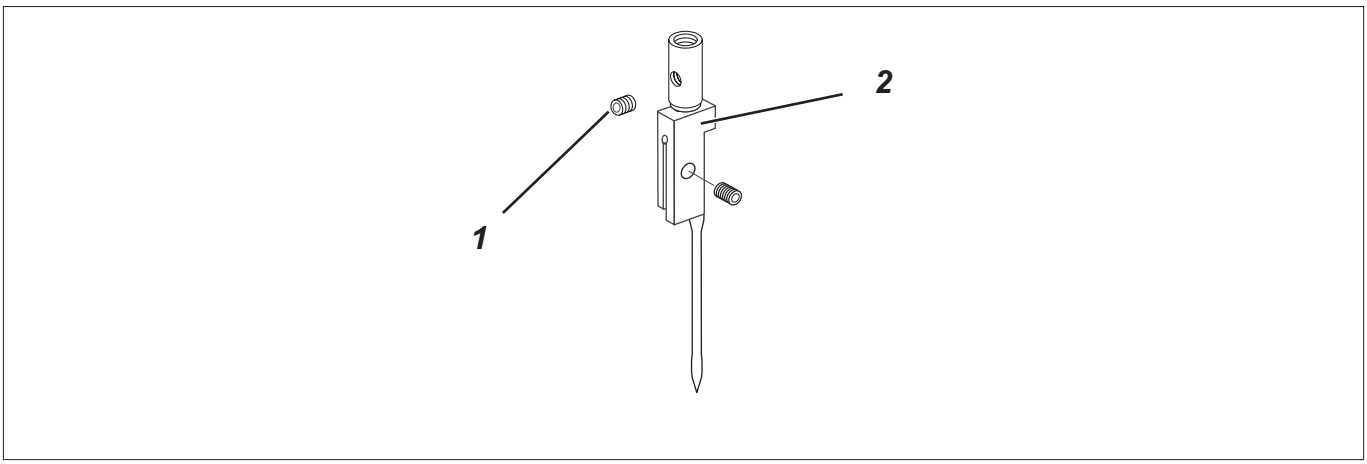


- Loosen the clamping screw 1.
- Pull out the bearing bolt 2
- Pull off the support plate 3 from the needle bar linkage.
- Unscrew the screws 8 and 10.
- Remove the guide rail 9.
- Actuate both decoupling bars 15 and push yoke 7 downwards to half the needle bar stroke.
- Unscrew the safety bolt 6 of the clamping ring 4 as well as the fastening screw 5 located below.
- Remove the two securing halves 14. They are located in the annular slot 13 and become visible after pushing down the clamping ring 4.
- Shift the switching block in such a way that the two decoupling bars 15 are not actuated.
- Shift the yoke 7 slowly up the needle bar until the three upper coupling balls 12 come out.

  ATTENTION !Take care that the balls do not get lost - they are under spring pressure.
- Pull the needle bar downward out of the linkage 16.

  ATTENTION !The three lower balls 11 can drop out of the ball holes of the needle bar.

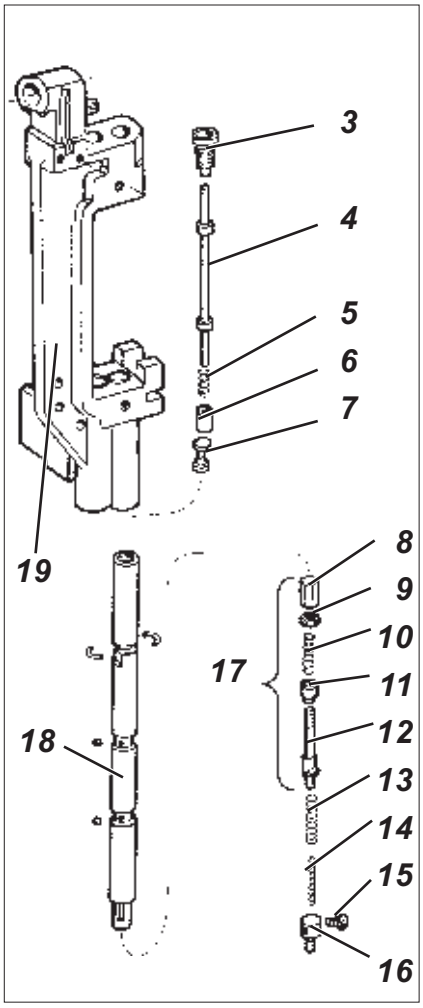
2.4.3 Disassembly of a needle bar



- Remove the linkage 16 and the needle bar as described under 2.4.1.
- Screw off screw 1 and unscrew the needle holder 2.
- Unscrew screw 15 and loosen the spring counter bearing 16.

  ATTENTION ! The spring counter bearing is under spring pressure. Before loosening the screw 15 support the spring counter bearing with a pin ∅ 4 mm inserted in the needle bar from below.
- Take off the parts located in the needle bar one after the other from below.

2.4.4 Assembly of a needle bar

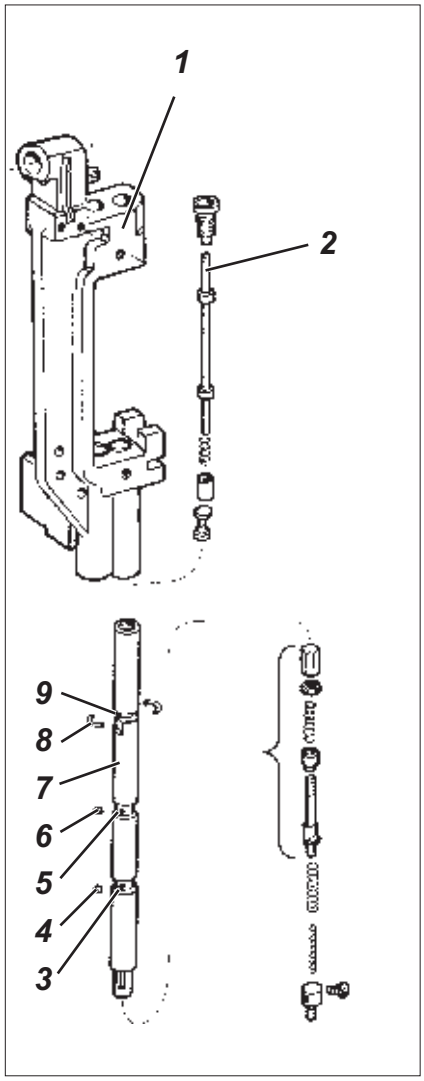


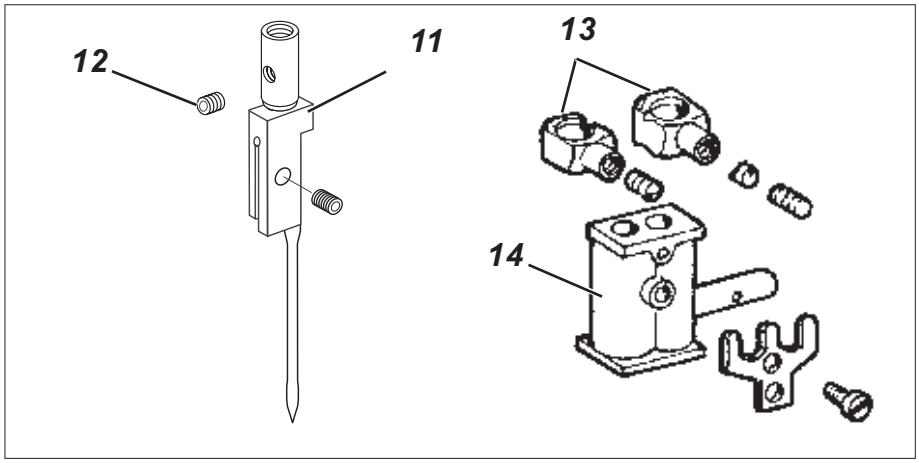
- Screw the locking screw 3 tightly into the needle bar.
- Pre-assemble the lower coupling bar 17 in the sequence as per the illustration opposite.
- Tighten nut 9 and counter-rotate the acorn nut 8 in such a way that there is a distance of 30.5 mm between the lower edge of taper socket 11 and the top edge of acorn nut 8.

  Note
  This dimension has to be observed in any case so that the necessary retaining force of the coupling is achieved for the needle penetration.

- Put spring 5 and bush 6 on the thinner shaft extension of the decoupling bar 4.
- Push the thicker shaft extension of the decoupling bar 4 into the needle bar 18 from below until it emerges on top of locking screw 3.
- Push the following parts into the needle bar: first conical bolt 7 with the cylindrical part showing upwards, then the pre-assembled coupling bar 17 and finally spring 13 with spring 14 and spring counter bearing 16.
- Screw the spring counter bearing 16 tight by means of screw 15.
- Press down the decoupling bar 4 repeatedly and check whether the bars inside the needle bar are movable freely and flexibly.

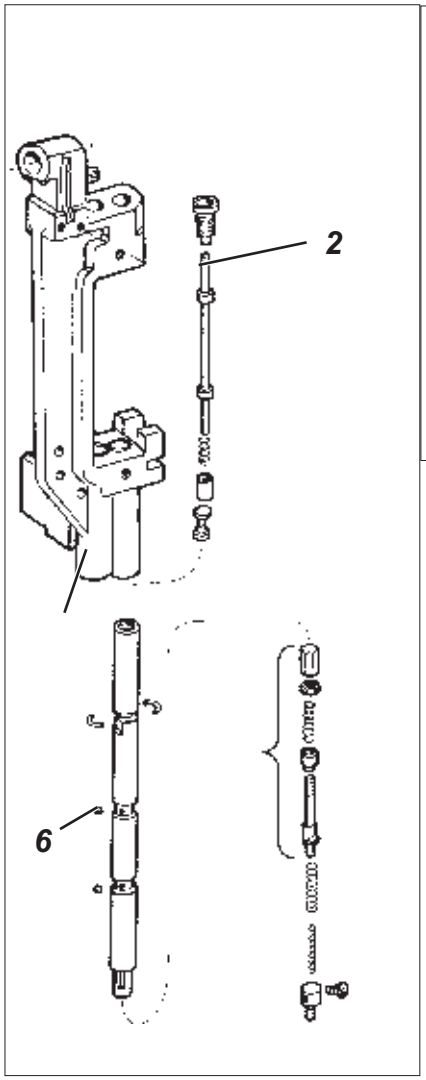
2.4.5 Installation of the needle bars in the needle bar linkage

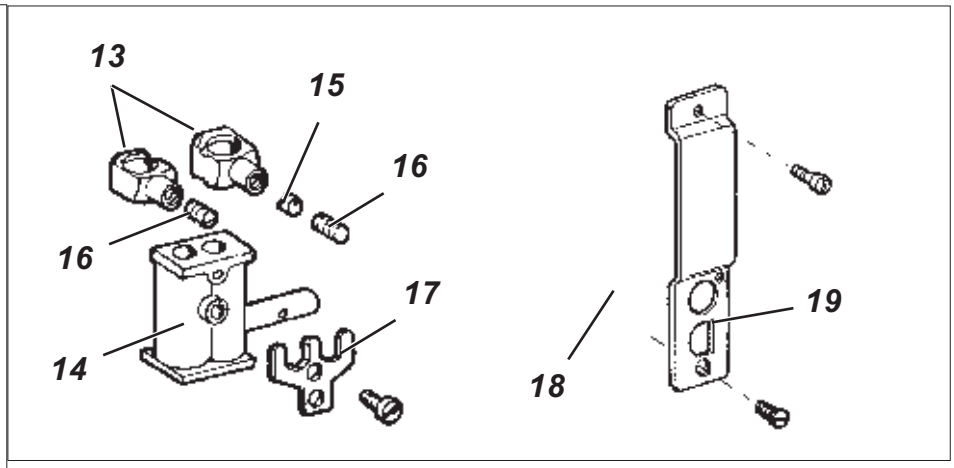




- Insert the needle bar 7 in the linkage 1 from below.
- Insert the needle bar in yoke 14 and clamping ring 13. The thin side of the clamping ring must point to the other needle bar and its indentation must point upwards.
- Push up the needle bar so that the three lower ball holes 3 are still below the linkage.
- Insert three balls 4 in the lower ball holes 3. Use grease to avoid that the balls drop out.
- Push the needle bar upwards so that the lower balls disappear and the upper ball holes 5 become visible.
- Insert the three balls 6 in the upper ball holes 5.
- Hold the needle bar tight and press the decoupling bar 2 into the needle bar.
- Simultaneously pull the yoke 14 down half over the upper balls 6.

  ATTENTION ! Now the needle bar and the yoke must not be shifted any more because otherwise the balls being under spring pressure might come out.
- Push the clamping ring 13 down the needle bar until the annular slot 9 lies exposed.
- Place the two securing halves 8 in the annular slot. Push the clamping ring 13 upward as far as it will go so that the securing halves lie in the indentation.
- Press the yoke 14 upward against the clamping ring 13 as far as it will go so that the needle bar is coupled with the yoke.
- Screw in needle holder 11 and fasten by means of screw 12.
- Turn the needle bar in such a way that the fronts of both needle holders are at the same level.



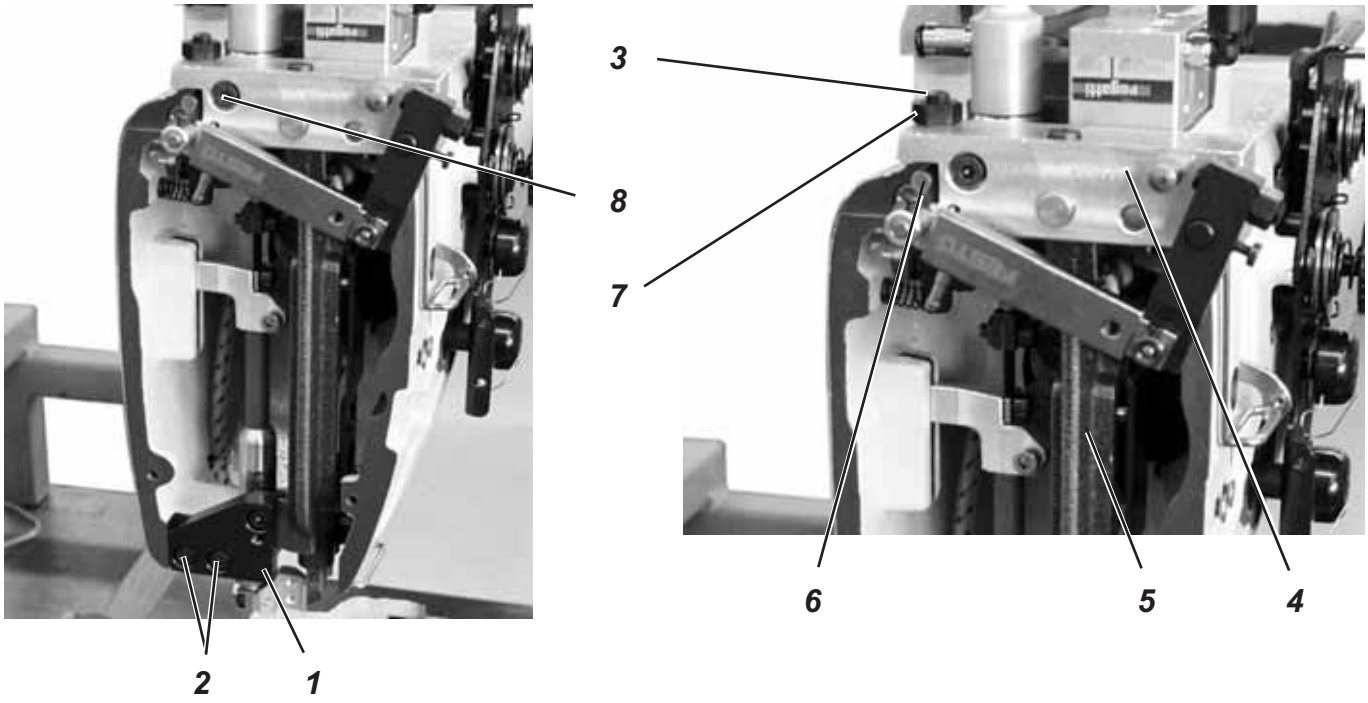


– Fasten the clamping ring 13 on the needle bar. Please observe that both clamping rings 13 with their round extensions are guided in clevis 17 fastened on the yoke. After tightening the fastening screw 15 the safety bolt 16 has to be tightened, too.
– Screw on the guide rail 19. It avoids turning of a disconnected needle bar.

ATTENTION !
When the needle bar linkage is removed and the needle bar is disconnected, the yoke 14 must not be pushed down too far. The upper balls 6 might come out unintentionally.

Note:
The precise needle height to the hook has to be adjusted after the installation of the linkage according to chapter 2.5.4 “Height of the needle holder".

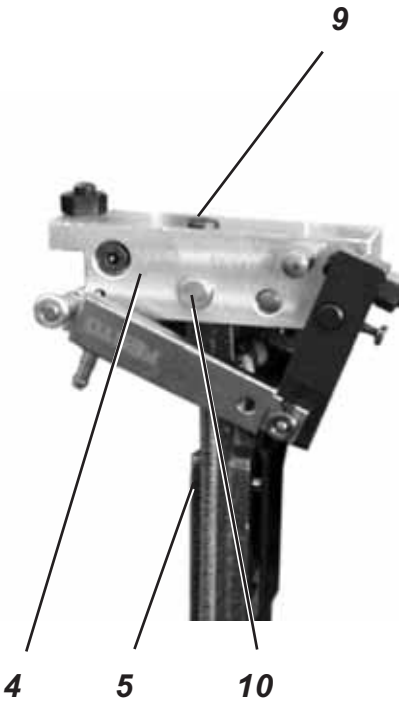
2.4.6 Installation of the needle bar linkage



Caution: Danger of injury !

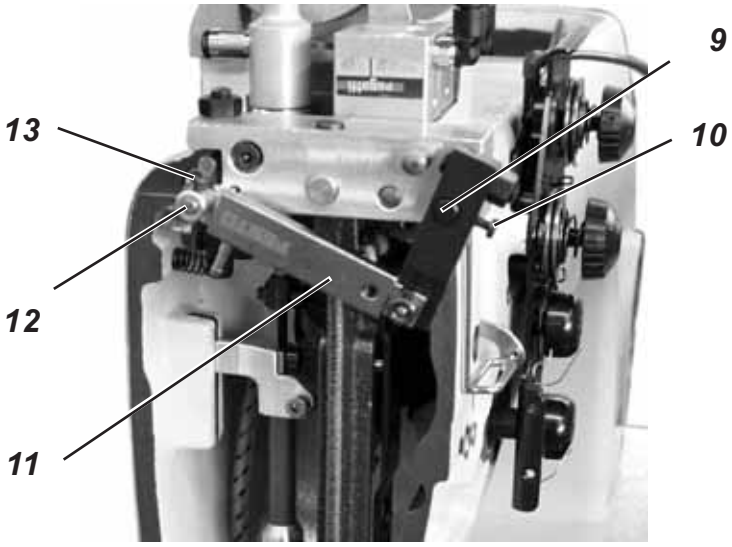
Switch off the main switch.

Mount the needle bar linkage only with the sewing unit switched off.



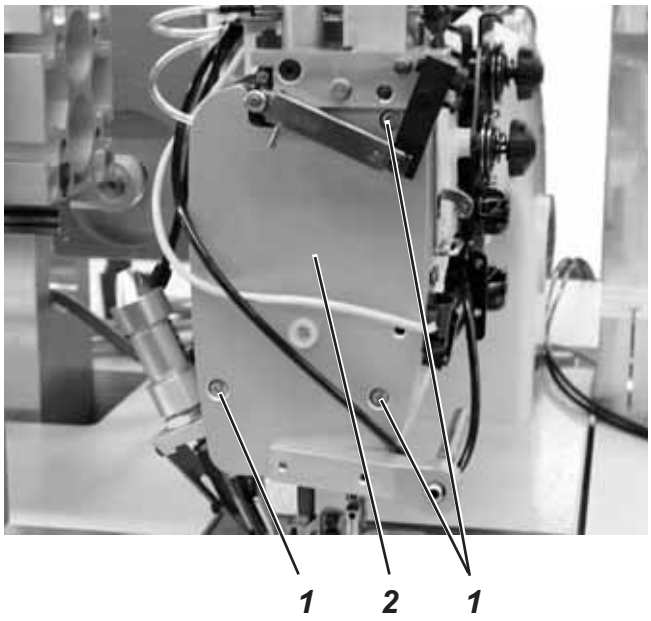
- Push the support plate 4 on the needle bar linkage 5.
- Press the bearing bolt 10 into the support plate and the needle bar linkage.
- Tighten the clamping screw 9.
  The needle bar linkage must be close to the support plate 4, but must be freely movable nevertheless.

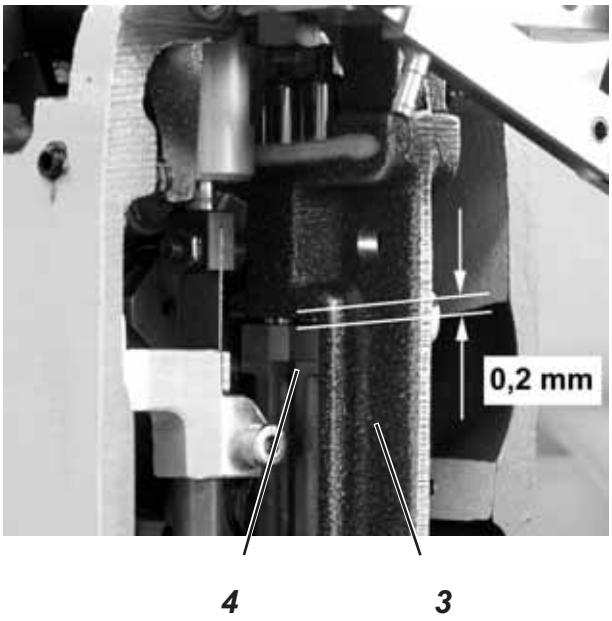
- Carefully push the support plate 4 with the needle bar linkage 5 on the stop pin 6.
- Insert the fastening screw 8 and tighten slightly.
- Put the adjusting screw 3 (height of needle bar linkage) next to the stop pin 6 and secure with counternut 7.
- Tighten the guide plate 1 with the two screws 2.
- Insert the needle and align the needle bar linkage as to the throat plate.
- Tighten screws 8.
- Check the height of the needle bar linkage (see chapter 2.4.7).



- Push the thread puller 11 on the pins 9 and 12 and tighten with screws 10 and 13.
- Adjust the thread puller (see chapter 2.10).

2.4.7 Adjusting the height of the needle bar linkage





Caution: Danger of injury !

Switch off the main switch.

Check and adjust the height of the needle bar linkage only with the sewing unit switched off.

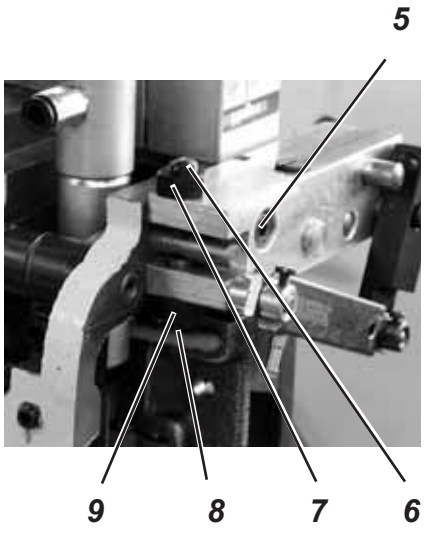
Standard checking

For a safe engagement and disengagement of the needle bars the needle bar linkage must be precisely set as to the needle bars.

If the two needle bars in the top dead centre are engaged, there must be a distance of 0.2 mm between the yoke 4 and the needle bar linkage 3.

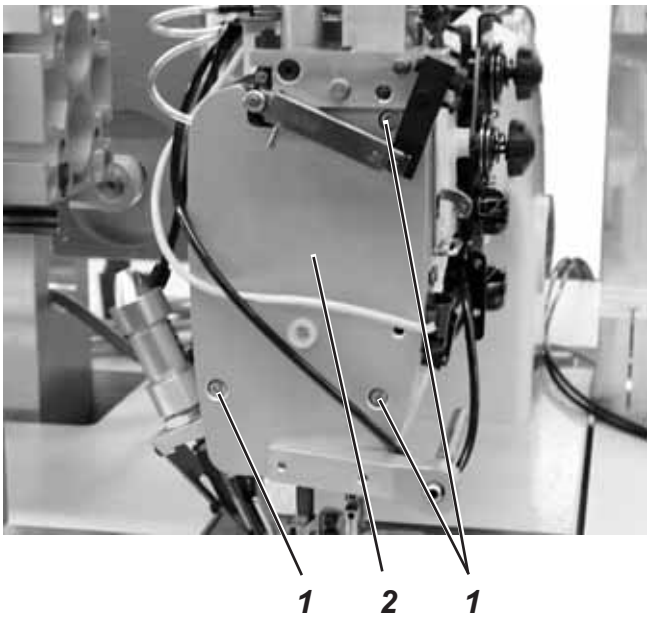
– Unscrew the screws 1 and take off the head cover 2.
– Check the distance of 0.2 mm between yoke 4 and needle bar linkage 3. A feeler gauge of size 0.2 mm must be easily movable between yoke and needle bar. A feeler gauge of size 0.4 mm must jam noticeably.

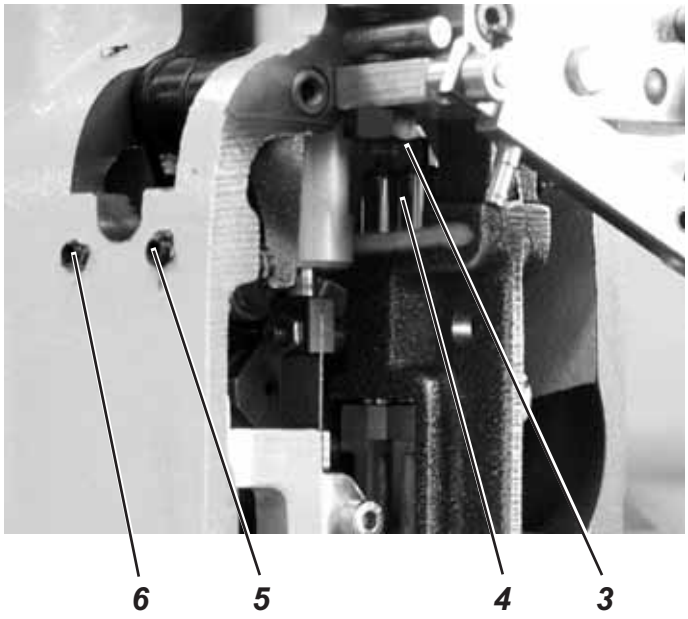
Correction



– Unscrew the screws 1 and take off the head cover 2.
– Slightly loosen screw 5 at the support plate.
– Loosen the counternuts 7 and 9.
– Set the linkage height with the screws 6 and 8 in such a way that there is a distance of 0.2 mm between linkage 3 and yoke 4.
– Tighten the counternuts 7 and 9.
– Tighten screw 5 at the support plate.
– Mount the head cover again.

2.4.8 Adjusting the switch actuation point of the needle bars





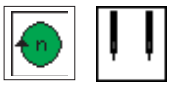
Caution: Danger of injury !

Switch off the main switch.

Check and adjust the switch actuation point of the needle bars only with the sewing unit switched off.

Standard checking

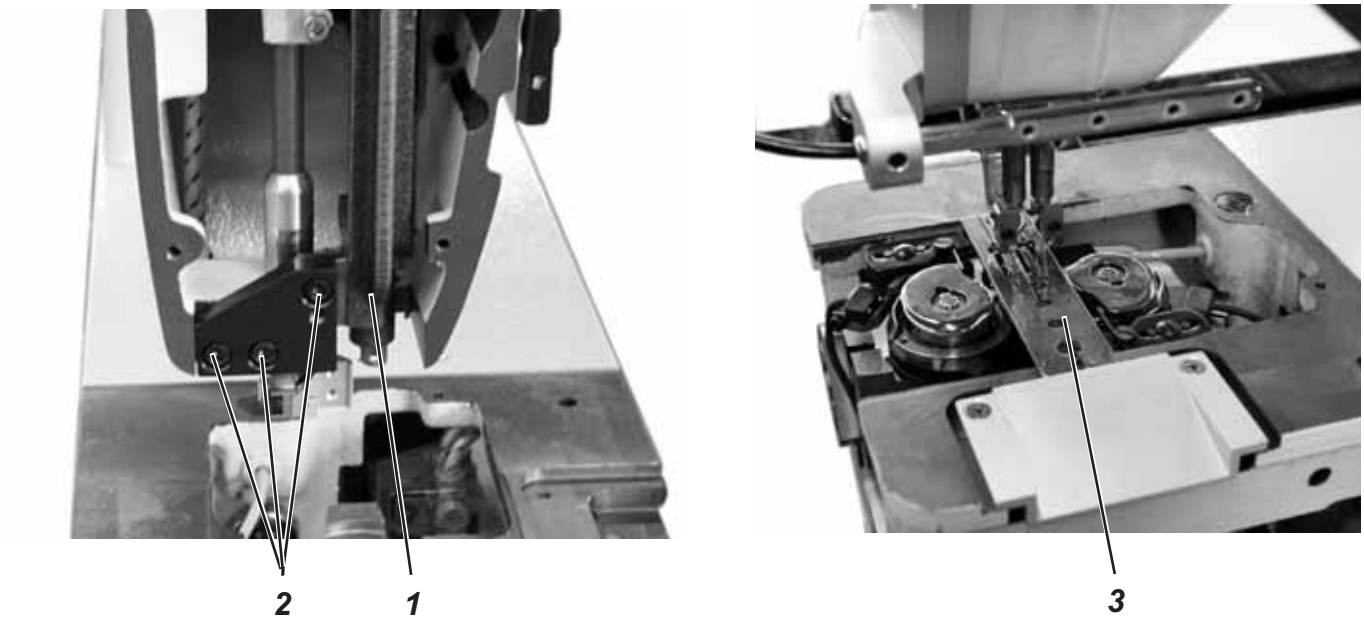
The lower end position of the switching latches 3 has to be set in such a way that the needle bars disconnect safely when moving upwards.



Correction

- Unscrew the screws 1 and take off the head cover 2.
- Activate the adjusting program “Checking the needle and center knife engagement” (see Programming Instructions, chapter 6.3.6)
- Press key “F 5". Turn the handwheel in rotation direction until the needles engage mechanically.
- Press key “F 5". Turn the handwheel in rotation direction until the needles disengage.
- Turn the screws 5 and 6 until the needles disengage safely.
- Check the adjustment with test program when the machine is running (see Programming Instructions, chapter 6.3.6).

2.4.9 Aligning the needle bar linkage to the throat plate



Caution: Danger of injury !

Switch off the main switch.

Check and adjust the alignment of the needle bar linkage only with the sewing unit switched off.

Standard checking

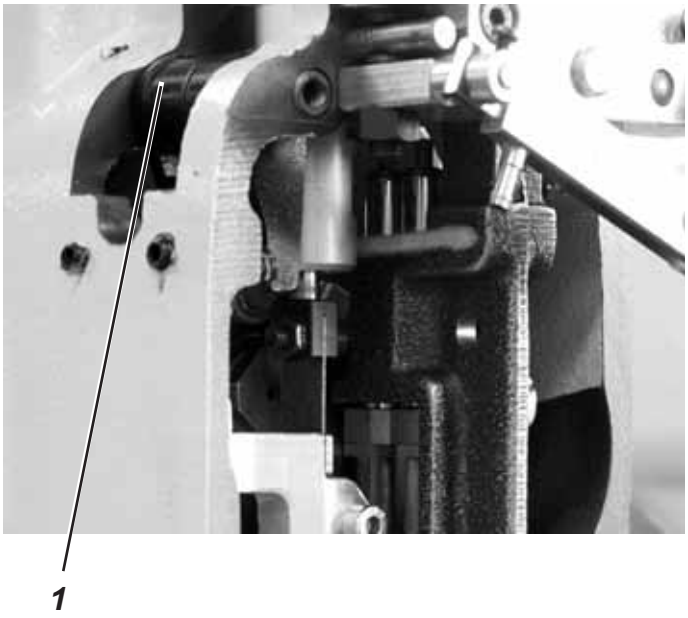
The needles should penetrate in the centre of the holes of throat plate 3.

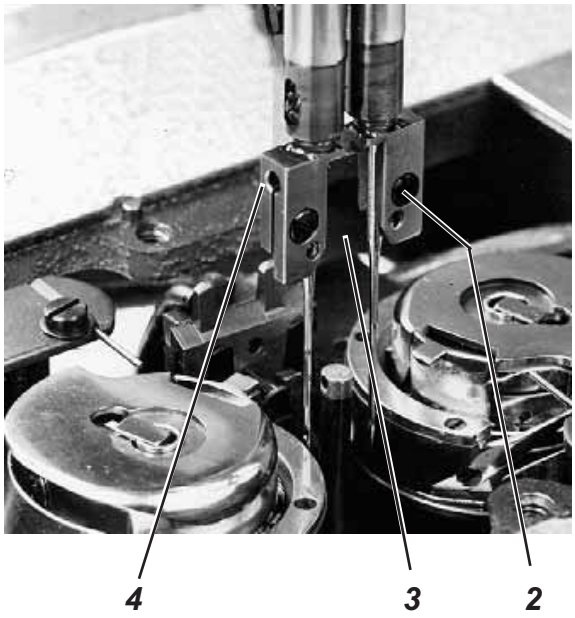
- Insert new needles.
- Slowly move the needle bars down by handwheel.
- Check the position of the needles in the needle hole.

Correction

- Loosen the screws 2.
- Shift the needle bar linkage laterally in such a way that the needles are in the centre of the needle holes.
- Tighten the screws 2.

2.4.10 Exchanging the needle holder





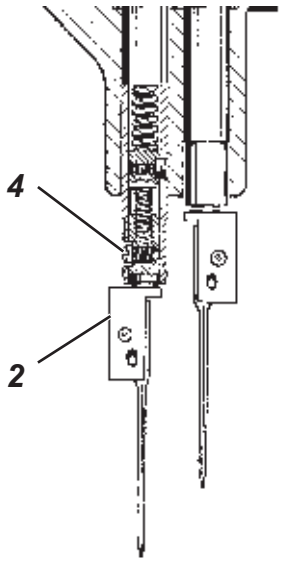
Caution: Danger of injury !

Switch off the main switch.

Check and exchange the needle holder only with the sewing unit switched off.

ATTENTION !

For changing a needle holder the needle bar in question must be in position “down”.
The other needle bar has to be disconnected.

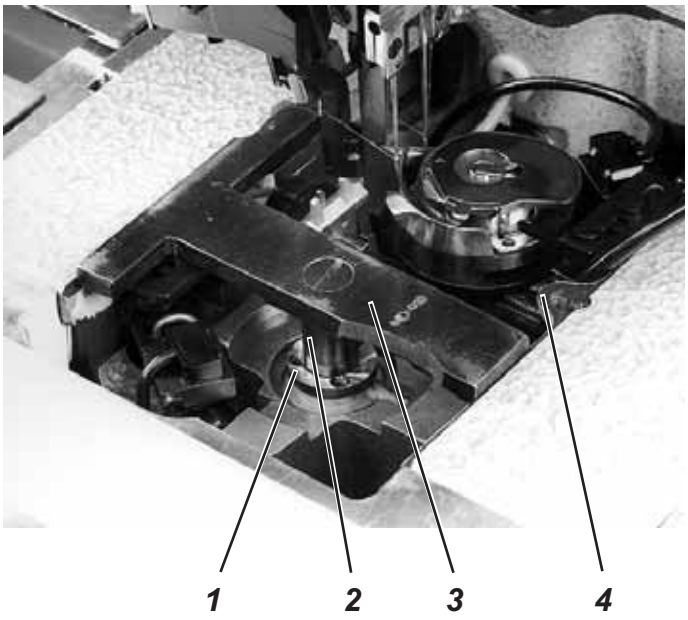


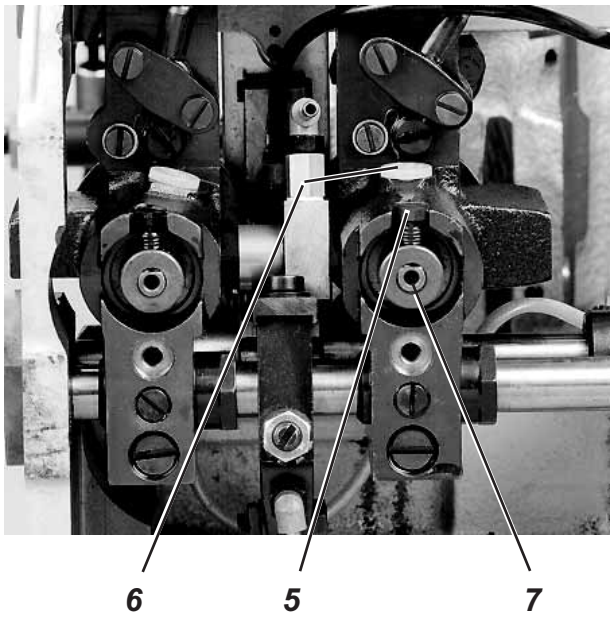
- Loosen the screw 3.
- Remove the needle from needle holder 2.
- Press down latch 1 for connection of the needle bar and hold it pressed.
- Switch off the needle bar by turning the handwheel.
- Keep on turning the handwheel.
  The actuated needle bar switches off.
- Keep on turning the handwheel until the needle bar is in position “down”.
- Loosen the screw 4.
- Unscrew the needle holder 2 from the needle bar.
- Screw in new needle holder.
- Adjust the height of the needle holder (see chapter 2.5.4).
- Tighten the screw 3.
- Check the penetration of the needle into the needle hole.
- Check lateral distance of the needle to the hook (see chapter 2.5.5).

The exchange of the second needle holder is done likewise.

2.5 Hook

2.5.1 Adjusting the hook shaft height





Standard checking

The distance between the throat plate support 4 and the flange surface 1 of the hook shaft must amount to 17.7 mm.

The exact height of the hook shafts is set by means of gauge 3 (order number 0244 001001).

Caution: Danger of injury !

Switch off the main switch.

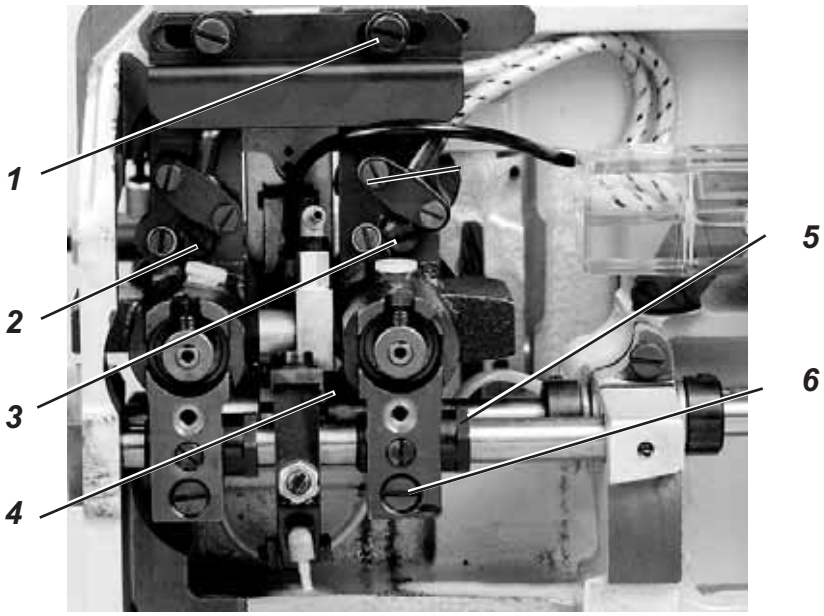
Check and adjust the hook shaft height only with the sewing unit switched off.

- Remove the throat plate.
- Remove both hooks (see chapter 2.5.7).
- Place the gauge 3 on the throat plate support 4.
  The measuring bush 2 of the gauge must reach over the hook shaft journal.
- Check whether the flange surface 1 of the hook shaft abuts on the measuring bush 2 of the gauge.

Correction

- Swing the machine head upwards (see chapter 2.1).
- Remove the plastic stoppers 6.
- Loosen the screws under the plastic stoppers.
- Loosen the screws 5.
- Push the flange surface 1 of the hook shaft under the measuring bush 2 of the gauge. For this purpose put a screwdriver under the flange surface 1. If the hook shaft stands too high, push it downward by a slight knocking on the flange surface 1.
- Tighten the screws under the plastic stoppers 6 in this position.
- Push the bush 7 against the hook shaft as far as it will go.
- Tighten the screws 5 on the surfaces of bush 7.
- Mount hook and throat plate again (see chapter 2.5.7).

2.5.2 Adjusting the gear clearance of the hook drive



Standard checking

The gear clearance between worm and worm wheel should be as small as possible. The free movement must, however, remain guaranteed.

The gear clearance has to be reset after every adjustment of the hook drive in axial direction (alteration of the needle distance).

Caution: Danger of injury !

Switch off the main switch.

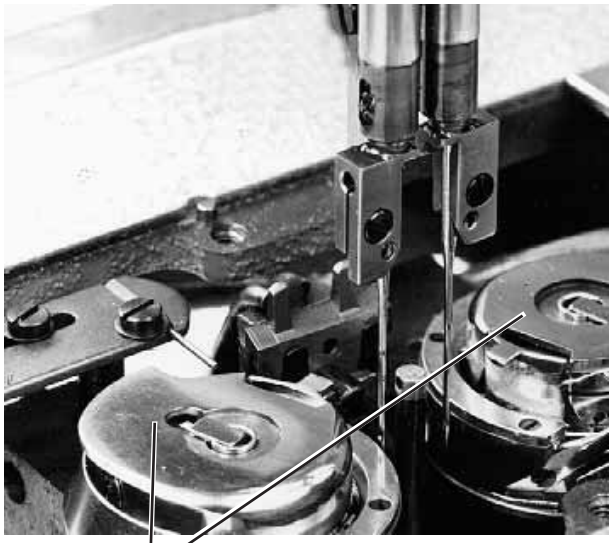
Check and adjust the gear clearance only with the sewing unit switched off.

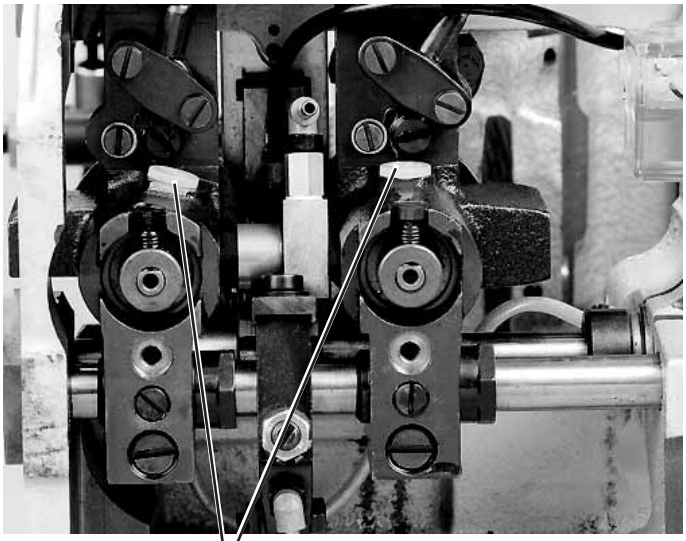
– Check the gear clearance while turning the hook slightly.

Correction

– Loosen screw 6.
– Loosen screw 1 slightly.
– Loosen the clamping screws of the worm wheel 4 slightly.
– Shift the worm wheel 4 axially.
  The distance between the worm wheel 4 and the inner side of the hook case must amount to 0.3 mm.
  At the right hook case the distance must be on the right of the worm wheel and at the left hook case on the left of the worm wheel.
– Measure the distance with a feeler gauge.
– Adjust the gear clearance by turning the eccentric bush 5.
  The gear clearance between worm wheel and worm should be small, but still palpable.
  Increase the gear clearance: Turn bush 5 upwards.
  Reduce the gear clearance: Turn bush 5 downwards.
– Check the looping stroke (chapter 2.5.3) and the distance between hook tip and needle (see chapter 2.5.5) and correct, if necessary.
– Tighten screws 1 and 6.

2.5.3 Adjusting the looping stroke





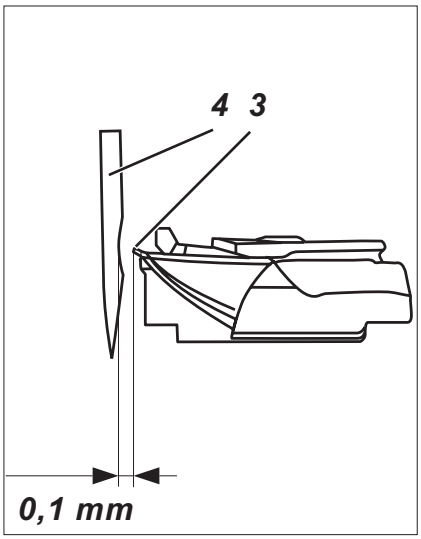
Standard checking

The looping stroke is the way of the needle bars from the bottom dead centre to the point where the hook tips 3 are at the level of the middle of needle 4.
The looping stroke is 2 mm.
It is set with the locking peg (order number 0211 000700).

Caution: Danger of injury !

Switch off the main switch.

Check and adjust the looping stroke only with the sewing unit switched off.

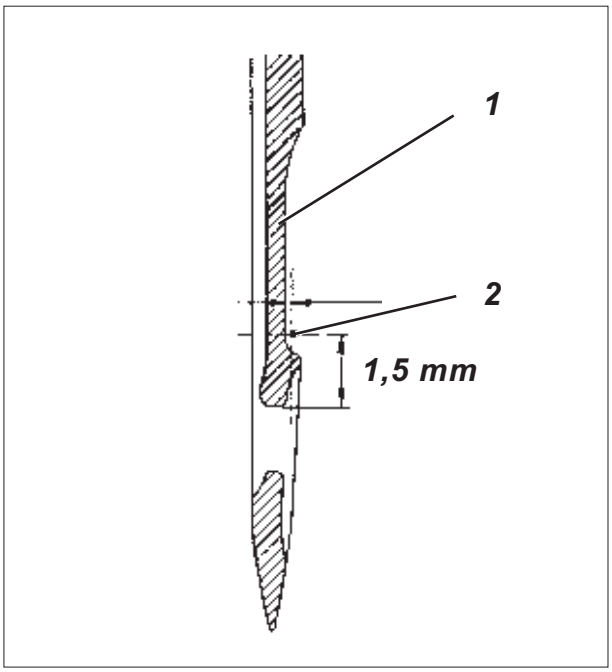


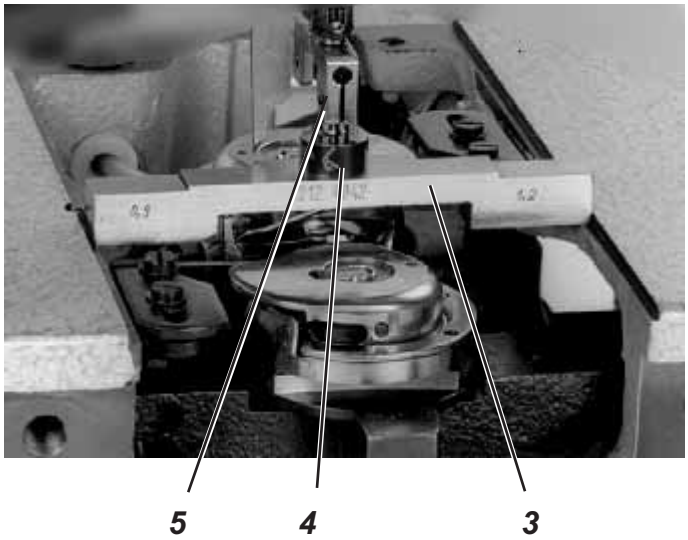
- Remove the throat plate.
- Remove the bobbin case top parts 1 with the bobbins.
- Bring the machine head in **looping stroke** position by handwheel and arrest it with the locking peg.
- Check the position of the hook tips to the needles.

Correction

- Remove throat plate, bobbin case top parts and bobbins.
- Swing the sewing machine head upwards.
- Remove the plastic stoppers 2.
- Loosen the screws under the plastic stoppers.
- Lock the machine in looping stroke position.
- Turn the hook manually until the hook tips are at the level of the middle of the needle.
- Tighten the first of the screws located under the plastic stoppers 2.
- Remove the locking peg.
- Keep on turning the machine and tighten the second screw.
- Press the plastic stoppers 2 into the drill-holes again.

2.5.4 Adjusting the height of the needle holders





Standard checking

In looping stroke position the distance between the top edge of the needle's eye and the hook tip 2 must amount to 1.5 mm.

The setting is done by means of the measuring bridge 3 (order number 0212 4942) and the adjusting pin 4 (order number 0216 1070).

Caution: Danger of injury !

Switch off the main switch.

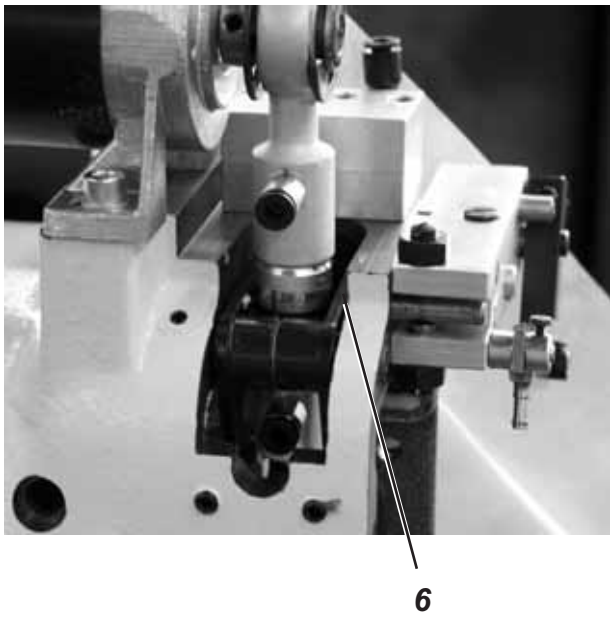
Check and adjust the height of the needle holders only with the sewing unit switched off.

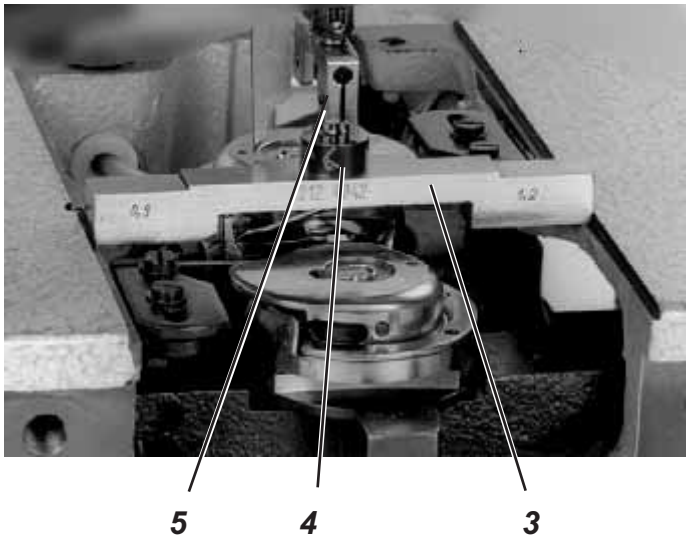
Caution: Danger of injury !

Danger of cuts.

Do not reach into the center knife area when working at the needle holders.

- Remove the throat plate.
- Move the needle bar in looping stroke position.
- Put the locking peg through the drill-hole in the machine arm. The locking peg must snap in the groove of the arm shaft crank.
- Check the position of the needles to the hook tips.





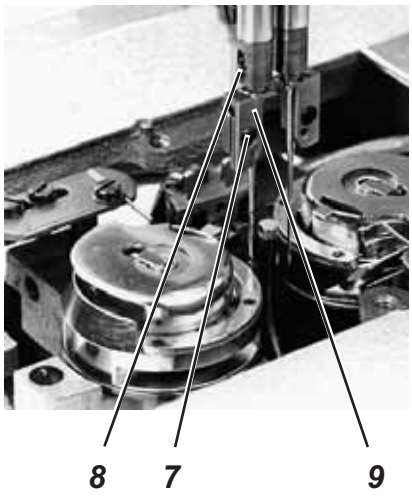
Correction

– Remove the throat plate.

– Remove the needles from the needle holders.

Hint

For turning the needle holders one needle bar each has to be disconnected.



– Move the needle bars by handwheel nearly up to the top dead centre.

– Press down pawl 6 with a screwdriver and hold it pressed.

– Turn handwheel again.
The pawl pressed down switches the needle bar off.

– Release pawl 6.

– Push the adjusting pin 4 into the needle holder as far as it will go.

– Tighten the screw 7.

– Place the measuring bridge 3 on the throat plate support.

– Move the needle bar in looping stroke position and arrest it with the locking peg.
It should be possible to push the measuring bridge under the adjusting pin 4 with the smallest possible clearance.

– Unscrew screw 8.

– Set the height of needle holder 9 correspondingly.
For this purpose turn the needle holder. A complete rotation (360°) is possible.

– Align the needle holders.
The fronts of the needle holders must point to the front and be at the same level.

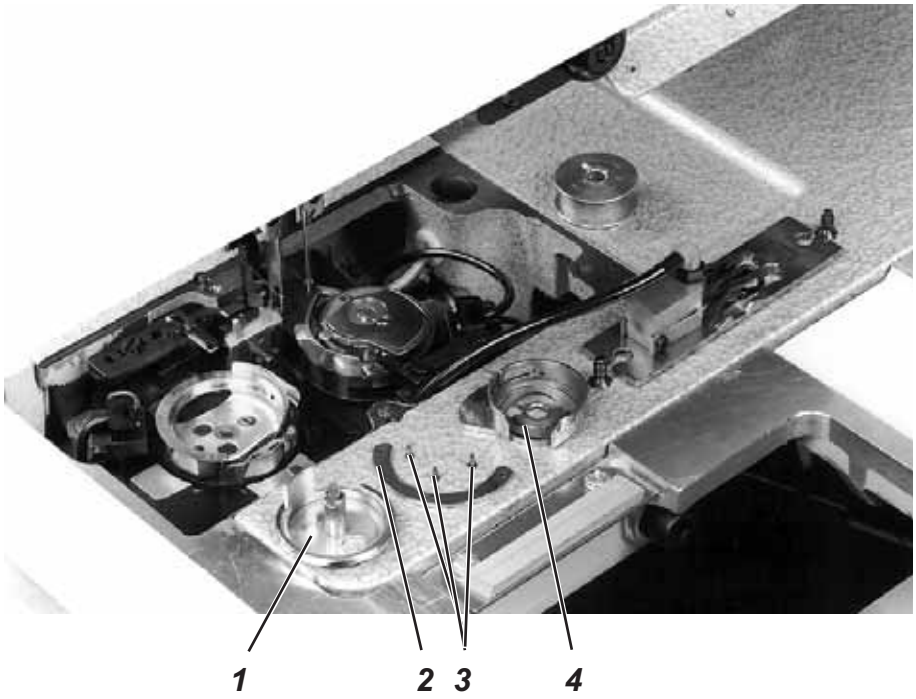
– Insert screw 8 in the needle holder and tighten.

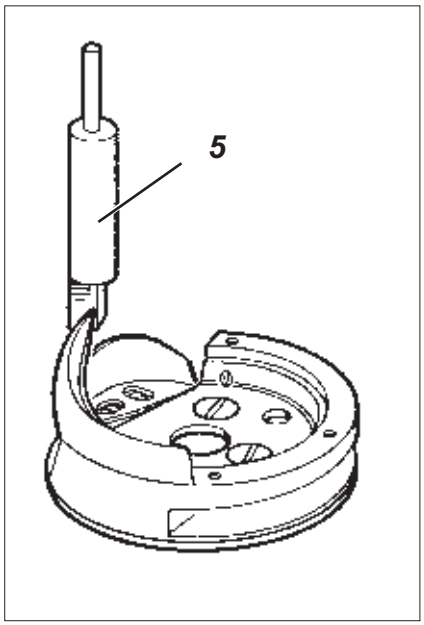
– Remove the locking peg and the adjusting pin.

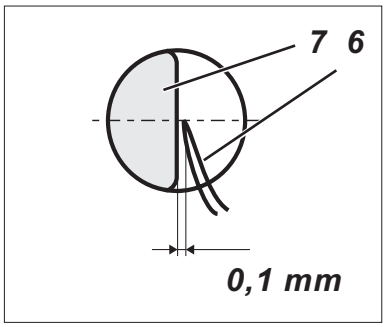
– Reconnect the needle bar.
For this purpose move the needle bar by handwheel above the top dead centre (pawl 6 not actuated).

– Adjust the second needle holder likewise.

2.5.5 Adjusting the distance between hook tips and needles







Standard checking

In looping stroke position the distance between the hook tips 6 and the needles 7 should amount to 0.1 mm. The set distance allows to work with needle sizes Nm 90 to Nm 110.

When changing between these needle sizes a correction of the distance between the hook tips and the needles is not necessary. After changing the needle only the needle protection has to be readjusted (see chapter 2.5.6).

The distance between hook tips and needle is set by means of the adjusting pin 5 (order number 0244 1014).

Caution: Danger of injury !

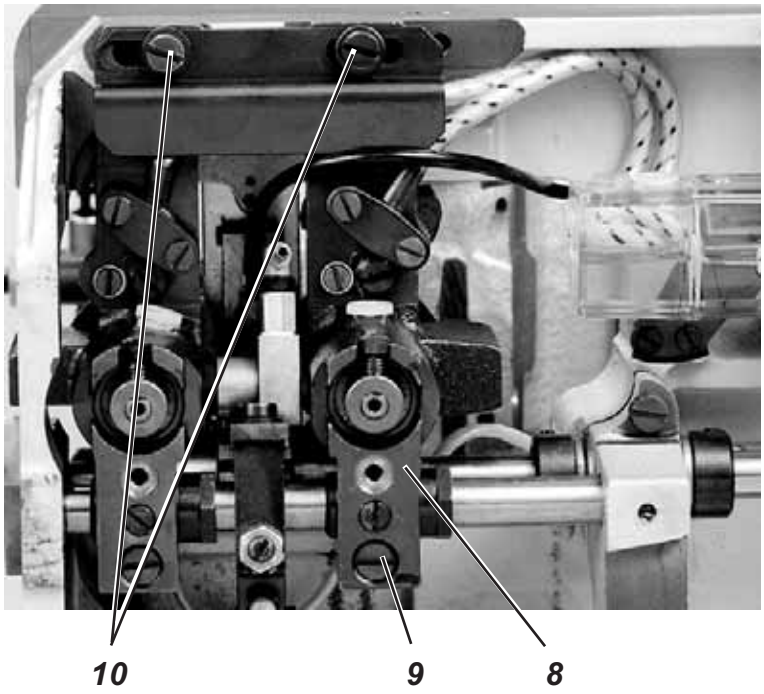
Switch off the main switch.

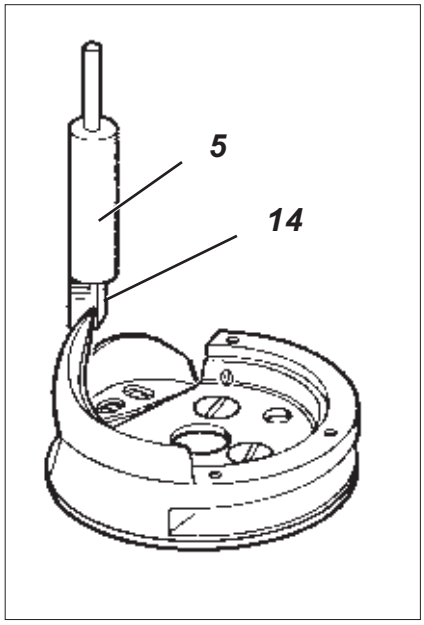
Check and adjust the distance between hook tips and needles only with the sewing unit switched off.

- Remove the throat plate.
- Move the needle bar in looping stroke position.
- Put the locking peg through the drill-hole in the machine arm. The locking peg must snap in the groove of the arm shaft crank.
- Check the distance between hook tips and needles.

Correction

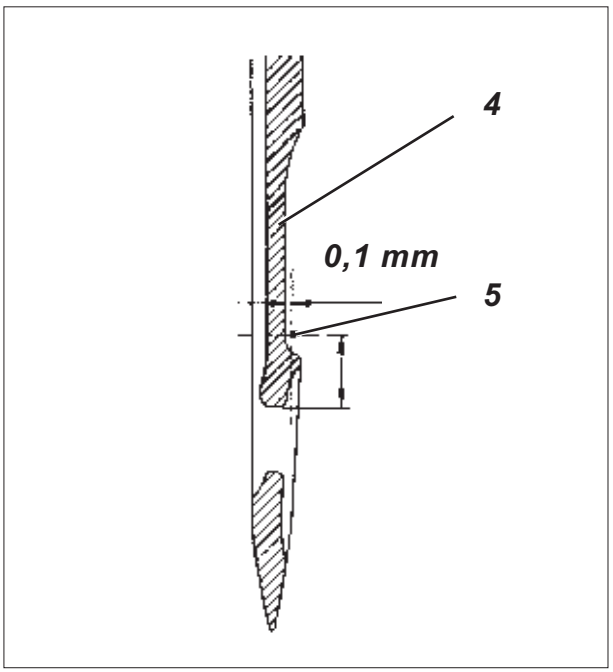
- Remove the throat plate.
- Remove the bobbin case top part 4 with bobbin.
- Unscrew the fastening screws 3 of the hook cover 2.
- Take off the hook cover 2.
- Take the bobbin case bottom part 1 out of the hook. For this purpose turn the handwheel back and forth slightly. **ATTENTION!** Do not use force when removing the bobbin case bottom part 1.





- Loosen screw 12.
- Reset the needle protection 11 by turning the eccentric bolt 13.
- Remove the needle from the needle holder.
- Push the adjusting pin 5 into the needle holder as far as it will go.
- Swing the machine head upwards.
- Loosen screws 9 and 10.
- Shift the hook support 8 laterally.
  The hook tip should slightly touch the measuring surface 14 of the adjusting pin 5, but must not displace it.
- Tighten screws 10.
- Tighten screws 9.
- Mount the bobbin case bottom parts and the hook cover.
- Screw on the throat plate.

2.5.6 Needle protection



Standard checking

The needle protection 1 avoids that the needle 4 is deflected into the path of the hook tip 5.

Before the hook tip 5 reaches the needle, the needle point must abut on the needle protection 1.
It must not be possible to push the needle into the path of the hook tip 5.

When the hook tip is at the level of the middle of the needle, there must be a distance of 0.1 mm between the hollow groove of the needle and the hook tip 5.

Caution: Danger of injury !

Switch off the main switch.

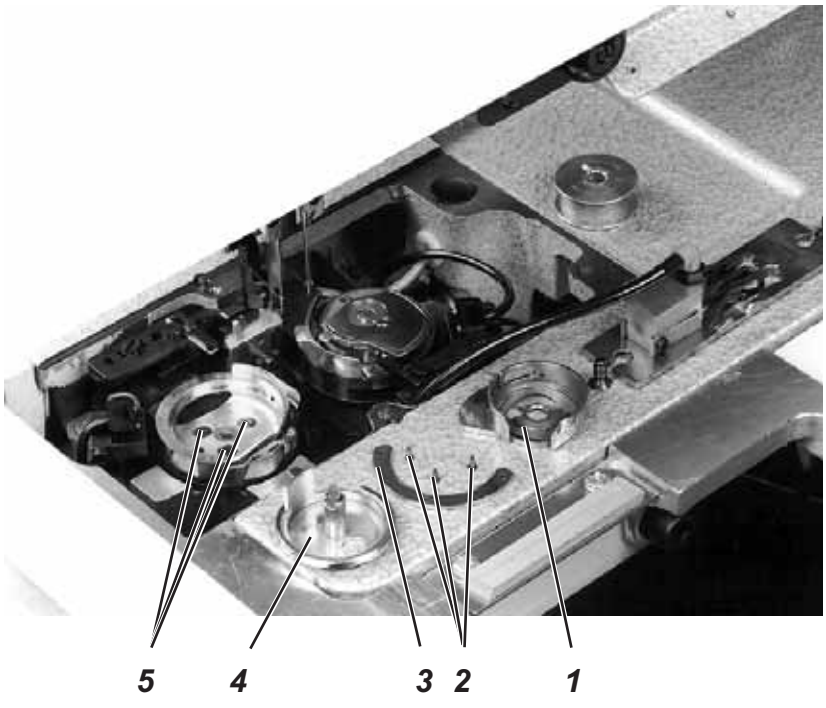
Check and adjust the needle protection only with the sewing unit switched off.

– Move the needle in the hook tip area and check whether it abuts on the needle protection.

Correction

– Screw off the throat plate.
– Remove the hook cover and the bobbin case bottom parts (see chapter 2.5.5).
– Loosen screw 2.
– Adjust the needle protection 1 by turning the eccentric bolt 3.
– Tighten screw 2.
– Mount the bobbin case bottom parts and the hook cover.
– Screw on the throat plate.

2.5.7 Exchanging the hook



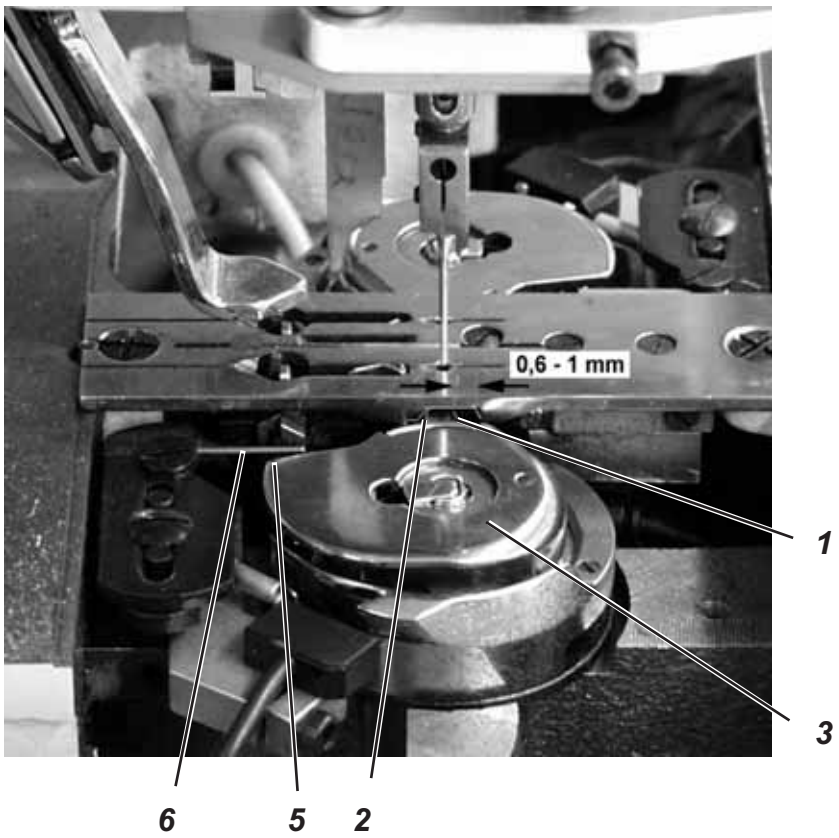
Caution: Danger of injury !

Switch off the main switch.

Exchange the hook only with the sewing unit switched off.

- Remove the throat plate 6 after loosening the fastening screws.
- Remove the bobbin case top part 1 with bobbin.
- Unscrew the fastening screws 2 of the hook cover 3.
- Take off the hook cover 3.
- Take the bobbin case bottom part 4 out of the hook.
  For this purpose turn the handwheel back and forth slightly.
  ATTENTION !
  Do not use force when removing the bobbin case bottom part.
- Unscrew the fastening screws 5 of the hook.
- Lift and remove the hook from the hook shaft.
- Put a new hook on the hook shaft.
  The position of the hook on the hook shaft is determined by the arrangement of the drill-holes at the hook bottom.
  Thus it is guaranteed that following the looping stroke the hook tip is at the level of the middle of the needle again.
- Insert the bobbin case bottom part 4 in the new hook.
  Attention!
  The holding lug 7 of the bobbin case bottom part must reach into the gap of the throat plate.
- Put on the hook cover 3 and fasten with the screws 2.
- Screw on the throat plate 3.

2.5.8 Adjusting the bobbin case holding wire



Function

The bobbin case holding wire 6 holds the bobbin case top and bottom parts in a certain position against the rotary motion of the hook.

The needle thread loop guided around the hook is pulled between the springy holding wire 6 and the edge 5 of the bobbin case top part. The holding wire 6 guarantees the unhindered passage of the thread via the lug of the bobbin case bottom part and through the gap of the throat plate.

Caution: Danger of injury !

Switch off the main switch.

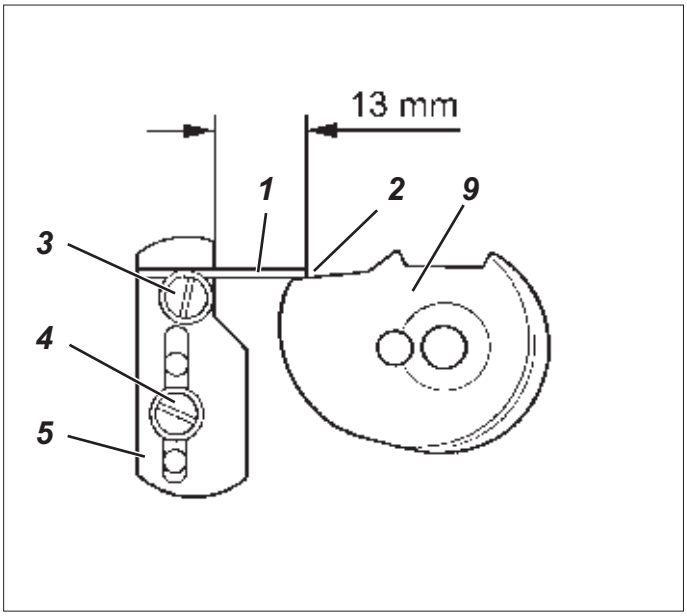
Check and adjust the bobbin case holding wire only with the sewing unit switched off.

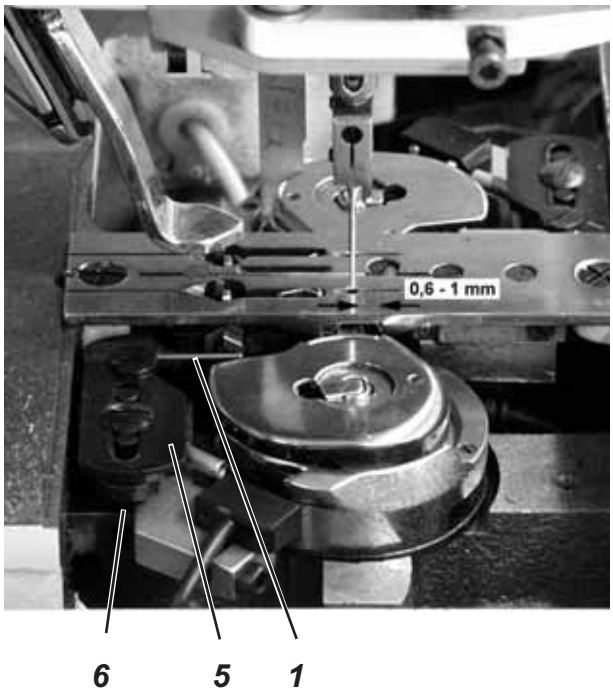
Standard checking

Between the edge 1 of the holding lug and the edge of the throat plate cutout there must be a thread passage slot of 0.6 mm to 1 mm.
In this position the edge 2 of the bobbin case top part is approximately parallel to the throat plate.

The holding wire 6 must project from plate 8 by 13 mm and abut precisely in front of edge 5 of the bobbin case top part 3.

– Turn the bobbin case top part 3 against the holding wire 6 and check the distance between the holding lug 1 and the throat plate cutout.
– Measure the length of the holding wire 6.





Correction

– Loosen the clamping screw 3.
– Adjust the holding wire 1.
  The holding wire must project from the plate 5 by 13 mm.
– Tighten the clamping screw 3.

– Loosen screw 6.
– Adjust the height of plate 5.
  The holding wire 1 must abut in front of edge 2 of the bobbin case top part 9.

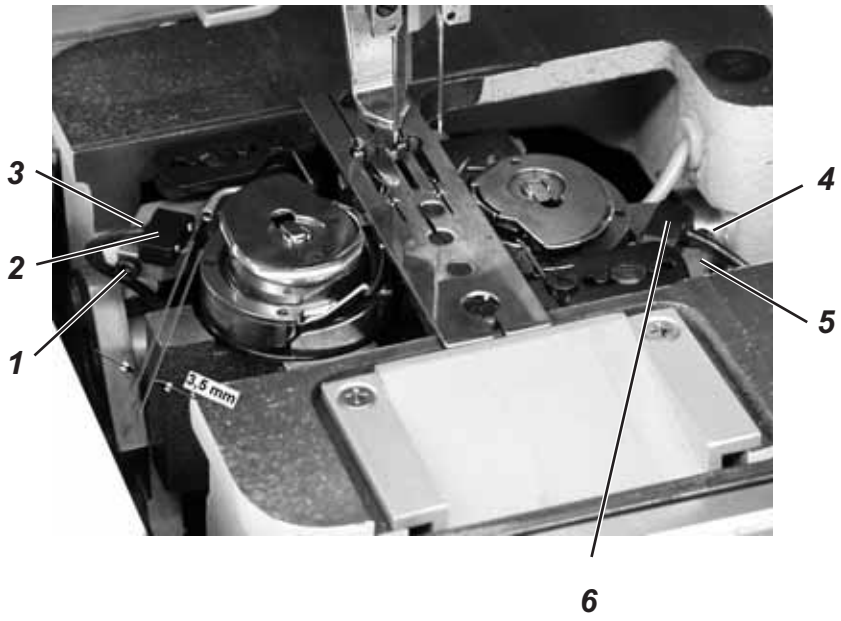
ATTENTION !

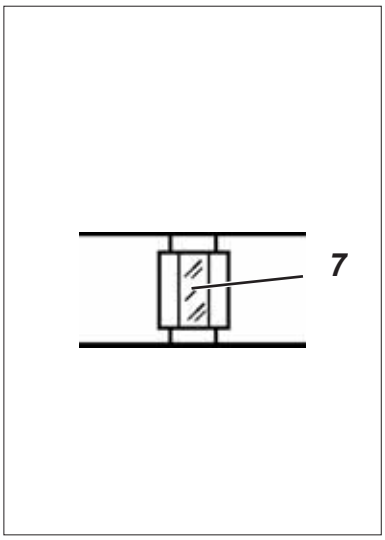
During the rotary motion of the hook the back of the hook must not hit the holding wire 1.
Adjust the height of plate 5 correspondingly.

– Tighten screw 6.

– Loosen screw 4.
– Shift the plate 5.
  The distance between the holding lug 7 and the edge of the throat plate cutout must amount to 0.6 mm to 1 mm.
– Tighten screw 4.

2.5.9 Aligning the light barriers of the bobbin thread monitor





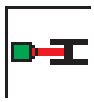
Standard checking

The light barrier holders 3 and 5 are adjusted by the manufacturer in such a way that there is a sufficient safety distance of 3,5 mm between the revolving hooks and the light barriers 2 and 6.

The alignment of the reflected light barriers is done in the adjustment program (see Programming Instructions, chapter 6.3.1).

ATTENTION !

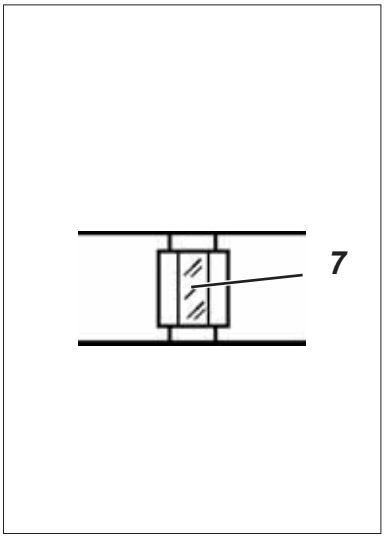
The bobbin thread monitor is only effective when the function is activated (see Programming Instructions, chapter 6.2 “Machine parameters”).



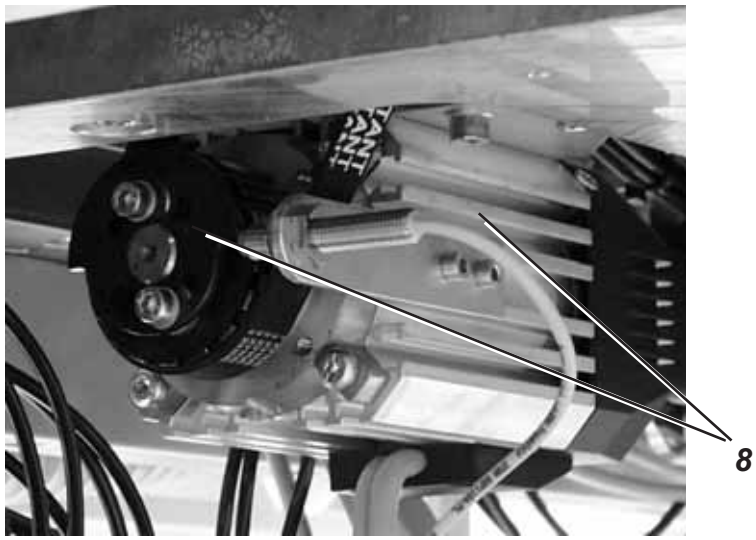
- Switch on the main switch.
- Activate the adjustment program “Adjusting the bobbin thread monitor” (see Programming Instructions, chapter 6.3.1).
- Remove the bobbin case top part with bobbin.
- Insert an empty bobbin in the bobbin case bottom part.

ATTENTION !

External light influences the sensitivity of the light barrier.



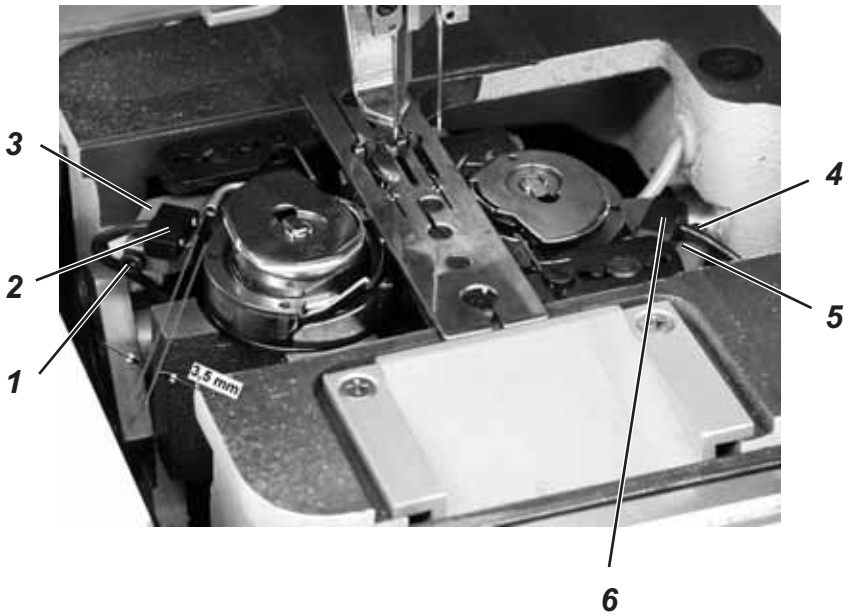
– Turn the empty bobbin manually.
In case the infrared radiation of the light barrier strikes the reflection face 7 of the bobbin hub, this is indicated on the display by an arrow 8 between the reflection head and the hook thread bobbin. Simultaneously a signal can be heard.



– Press key “**RST**”.
The adjustment program is quitted by an arrow.

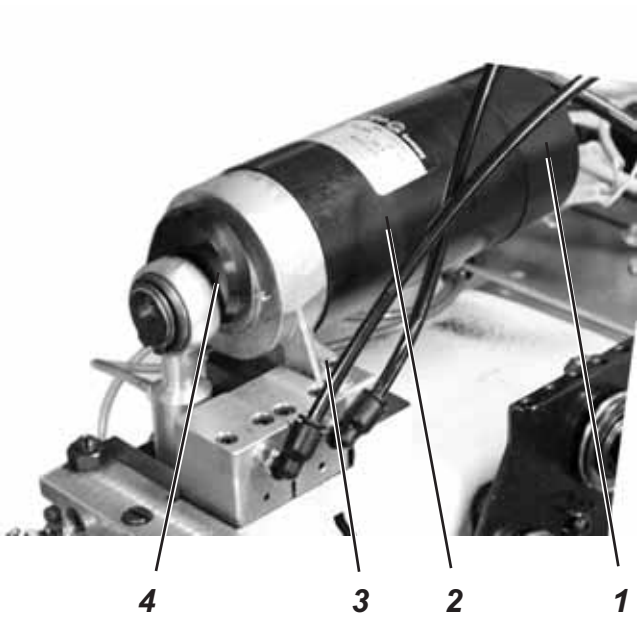
Correction

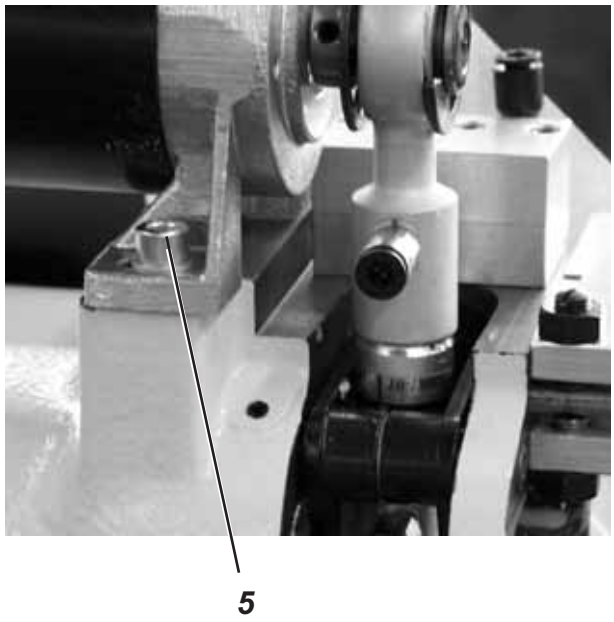
– Clean the lenses of the light barriers 2 and 6 as well as the reflection faces 7 of the bobbin hubs with a **soft** cloth.
– Loosen the clamping screw 1 and 4 respectively.
– Align the light barrier 2 and 6 respectively by a minimum rotary motion on the holders 3 or 5.
The infrared ray of light barrier 2 or 6 must hit the bobbin hub through the light window in the bobbin case without hindrance.
– Tighten clamping screw 1 and 4 respectively.
– Check the alignment of the two light barriers once again.



2.6 Center knife

2.6.1 Removing / Installing the driving motor

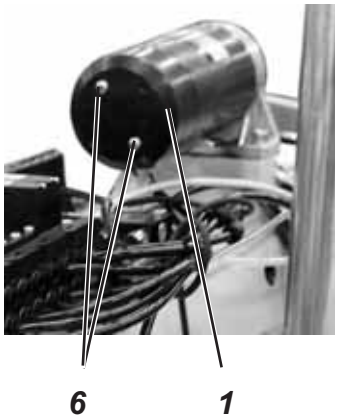




Caution: Danger of injury !

Switch off the main switch.

Remove and install the driving motor only with the sewing unit switched off.



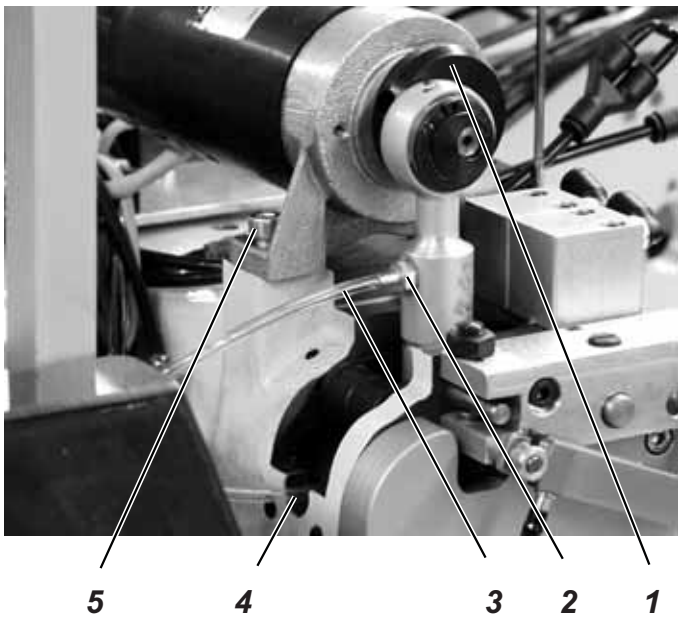
Removing the driving motor

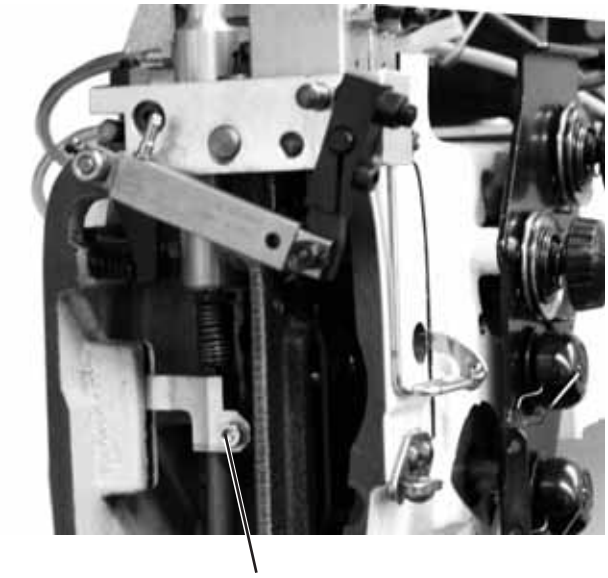
- Unscrew the screws 6 at the driving motor and pull off cover 1.
- Loosen the electrical connection at the motor.
- Loosen the screws at the eccentric 4.
- Unscrew the motor fastening screws 3 and 5.
- Pull the driving motor 2 to the back out of the eccentric 4.

Installing the driving motor

- Push the driving motor 2 into the eccentric 4 (with the shaft to the front).
- Align the motor in parallel position to the upper shaft and in central position to the center knife guide.
- Screw the motor tight with the fastening screws 3 and 5.
- Tighten the screws at the eccentric 4 keeping a distance of approx. 0.5 mm between the eccentric and the motor casing. (use a feeler gauge)
- Re-establish the electrical connection to the motor.
- Put on cover 1 and tighten with the screws 6.

2.6.2 Removing / Installing the switching cylinder





Caution: Danger of injury !

Switch off the main switch.

Remove and mount the switching cylinder only with the sewing unit switched off.

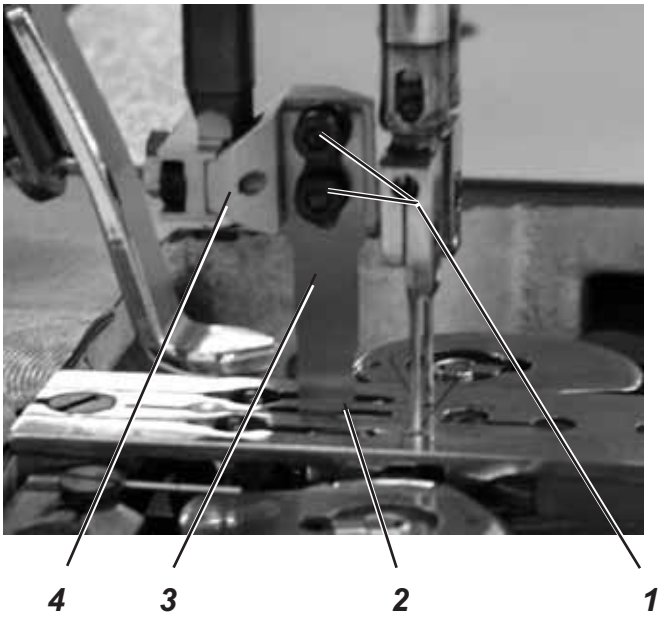
Removing the switching cylinder

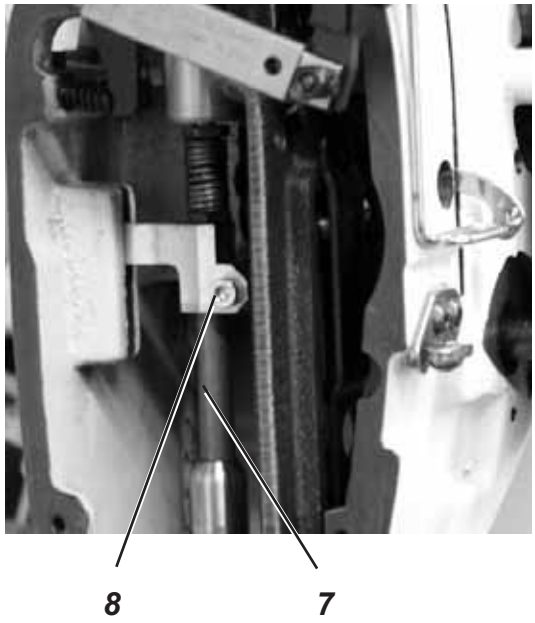
- Pull off the pneumatic hoses 3 and 4.
- Screw the hose connections 2 out of the cylinder.
- Remove the driving motor (see chapter 2.6.1).
- Loosen the clamping screw 6 between switching cylinder and drive shaft.
- Pull the switching cylinder out upwards.

Installing the switching cylinder

- Insert the switching cylinder from above.
- Tighten the clamping screw 6 between switching cylinder and drive shaft.
- Push the motor to the front and push the motor shaft into the eccentric 1.
- Screw the motor tight with the fastening screws 5.
- Tighten the screws at the eccentric 1.
- Screw the pneumatic connections into the cylinder.
- Push on the pneumatic hoses 3 and 4.
- Mount the driving motor (see chapter 2.6.1).

2.6.3 Adjusting the knife





Caution: Danger of injury !

Switch off the main switch.

Separate the sewing unit from the pneumatic net.

Adjust the center knife only with the sewing unit switched off.

Standard checking

In the bottom dead centre the front edge 2 of center knife 3 must jut out approx. 1 mm above the cutting edge of the stationary knife in the throat plate.

The center knife 3 must abut on the stationary knife in the throat plate with a slight pressure.

– Move the center knife 3 to the bottom dead centre with the eccentric at the driving motor.
– Check whether the edge 2 of the knife stands above the stationary knife not more than 1 mm.

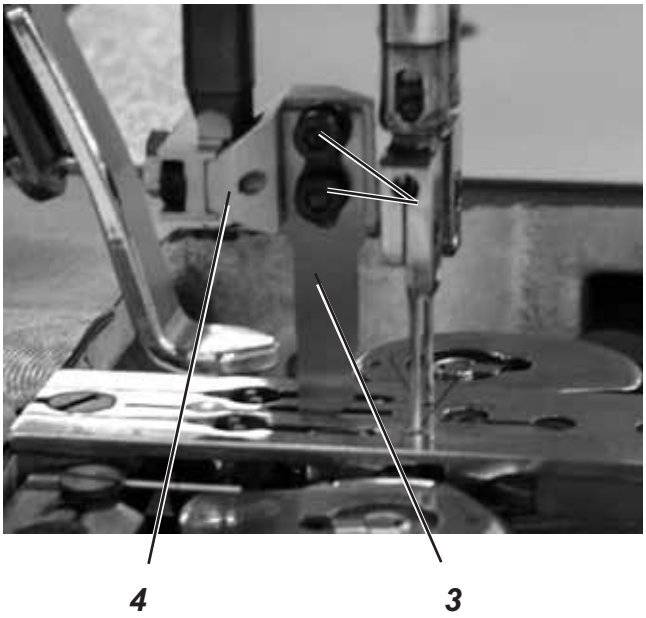
Correction

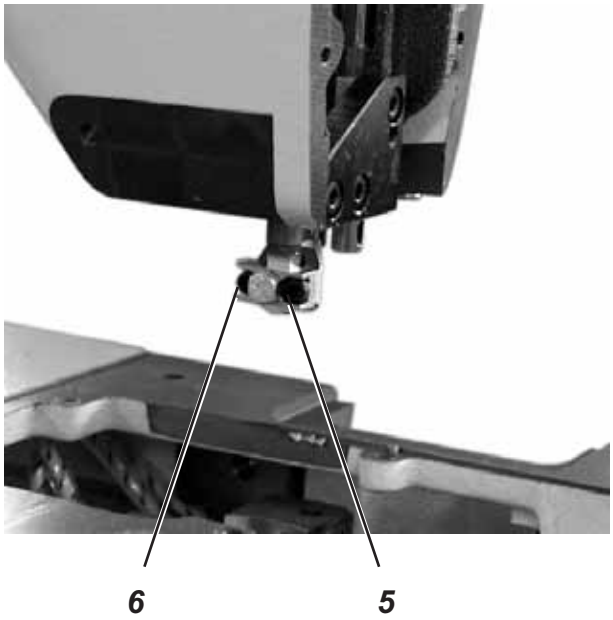
Placing the knife holder in parallel position

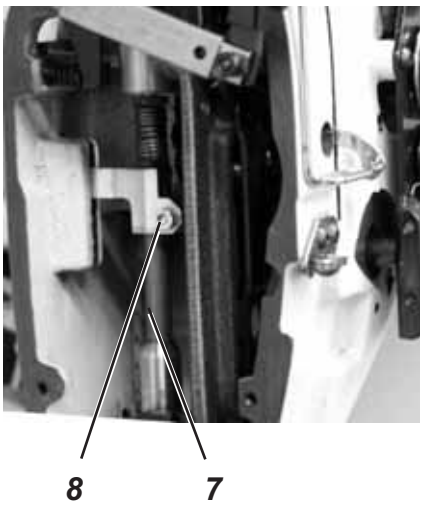
– Move the center knife to the bottom dead centre with the eccentric at the driving motor.
– Loosen screw 8.
– Turn the knife drive shaft 7 in such a way that the center knife is in parallel position to the knife in the throat plate.
– Tighten screw 8.

Adjusting the height of knife

– Move the center knife to the bottom dead centre with the eccentric at the driving motor.
– Loosen screws 1.
– Adjust the height of center knife 3.
– Tighten screws 1.



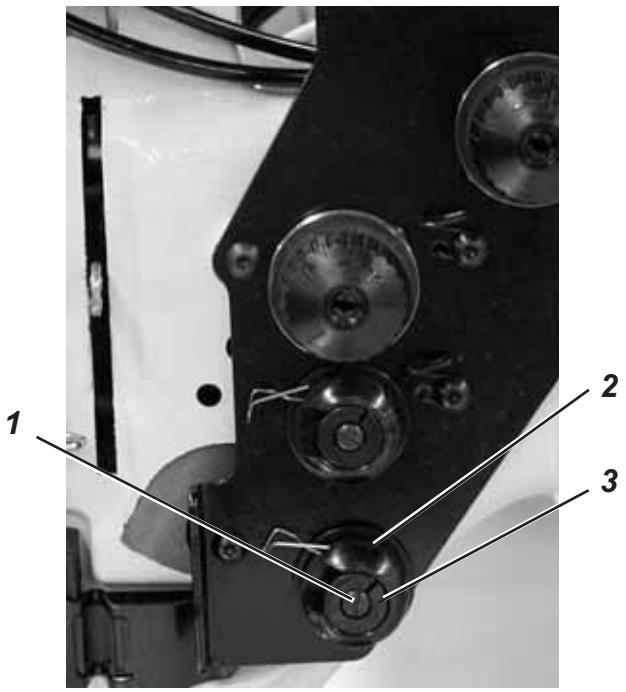




- Loosen screws 5 and 6.
- Place the knife holder 4 with the center knife 3 to the left against the stationary knife in the throat plate.
  The center knife must abut in parallel position and with slight pressure.
- Tighten screws 5 and 6.

- Make a cutting test.
- For correction place the center knife in parallel position by slightly turning the knife drive shaft 7 to the left.

2.7 Thread controller spring



Caution: Danger of injury!

Switch off the main switch.

Adjust the thread controller spring only with the sewing unit switched off.

Standard checking

The thread controller springs must keep the needle threads under tension until the needle points penetrate the fabric.

If the needle threads are slack when the needles penetrate the fabric it may happen that the needles prick the threads when moving down.

– Turn the handwheel forwards slowly and watch the thread controller springs at the moment of the needle penetration.

Correction of the spring travel

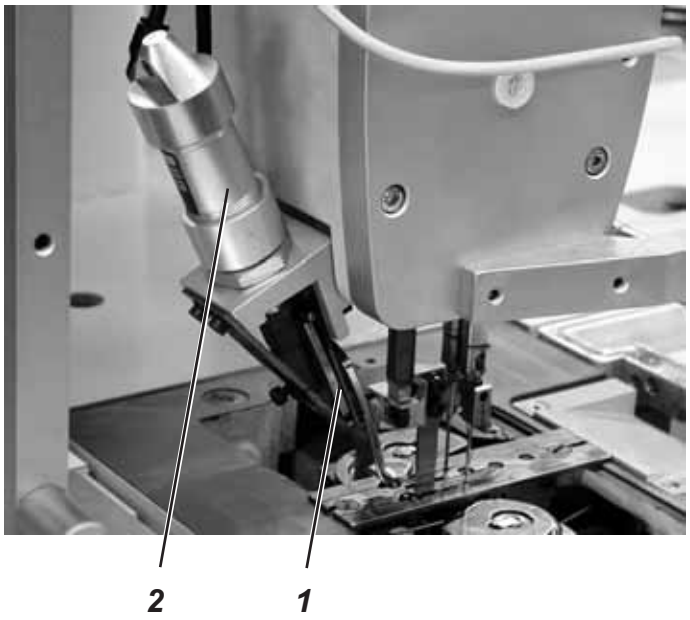
– Loosen screw 1.
– Adjust the regulator 3 by turning.
– Tighten screw 1.

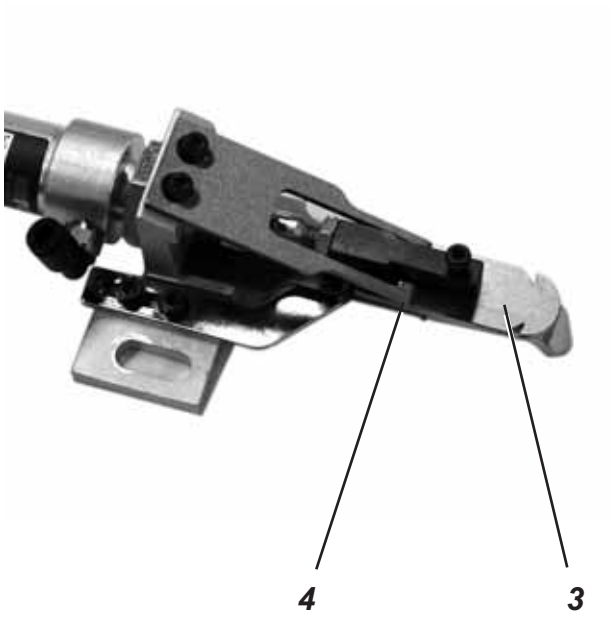
Correction of the spring tension

– Loosen screw 1.
– Turn bush 2.
  Turn in clockwise direction:
  Increase the spring tension
  Turn counter-clockwise: Reduce the spring tension
– Tighten screw 1.

2.8 Trimming and clamping device for the needle threads

2.8.1 Function





Caution: Danger of injury!

Switch off the main switch.

Check knife and thread catcher only with the sewing unit switched off.

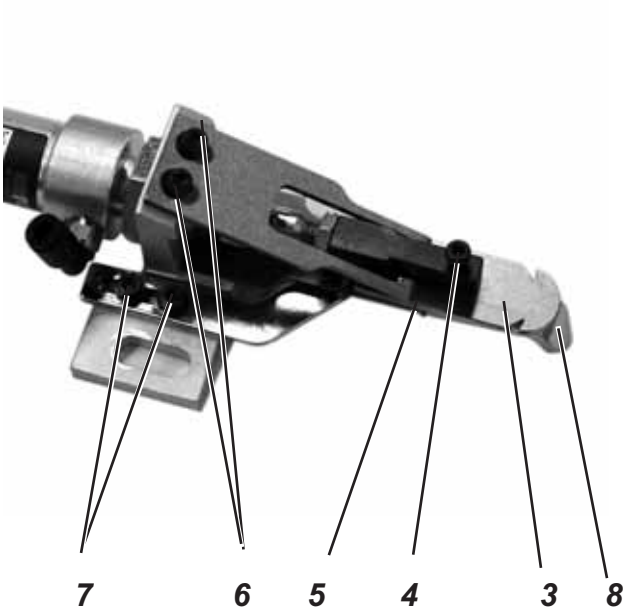
Function

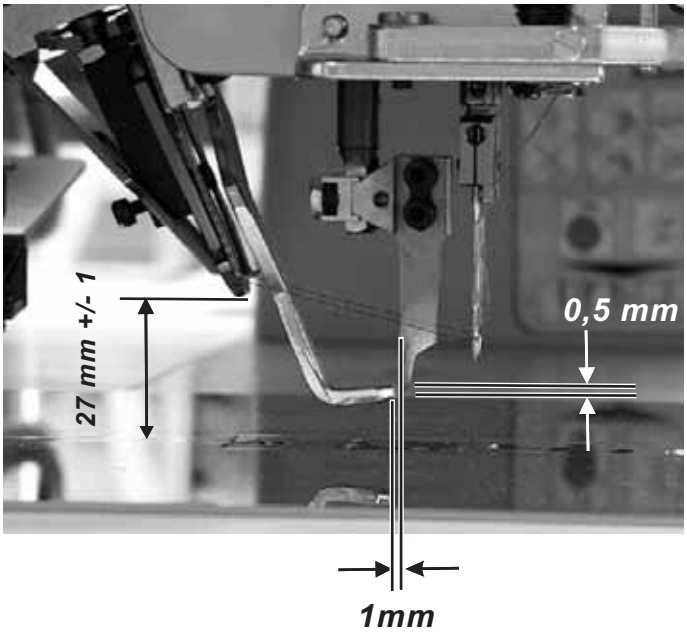
- The cylinder 2 is switched on after the seam end and during the feed to the corner knives.
  The thread catcher 3 is lowered and takes the needle threads up.
- After a preset time the thread catcher shoots up.
  The needle threads are clamped at the clamping collar 1 and cut off by knife 4.
- After the first stitches of the next seam the clamped needle threads are released.
- By means of the springy clamping sheet 1 the thread catcher 3 abuts flat on the knife 4. Thus, the knife is automatically in parallel position.

Function check

- Call up the adjustment and test program “Selecting the output elements” (see Programming Instructions, chapter 6.4.5).
- Select the output element “**y32**”.
- Pull the needle threads to the back.
- Engage and disengage the output element by pressing the function key “**F4**”.
- Check whether the threads are neatly clamped and cut.

2.8.2 Exchanging and adjusting knife and thread catcher





Caution: Danger of injury !

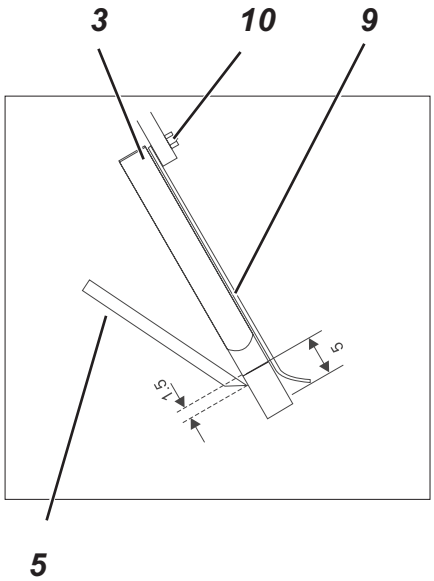
Switch off the main switch.

Exchange knife and thread catcher only with the sewing unit switched off.

Standard

After a certain service life the knife 5 loses its sharpness. The blunt knife has to be removed for resharpening.

In case of a change to another needle distance the thread catcher 3 has to be exchanged, too.



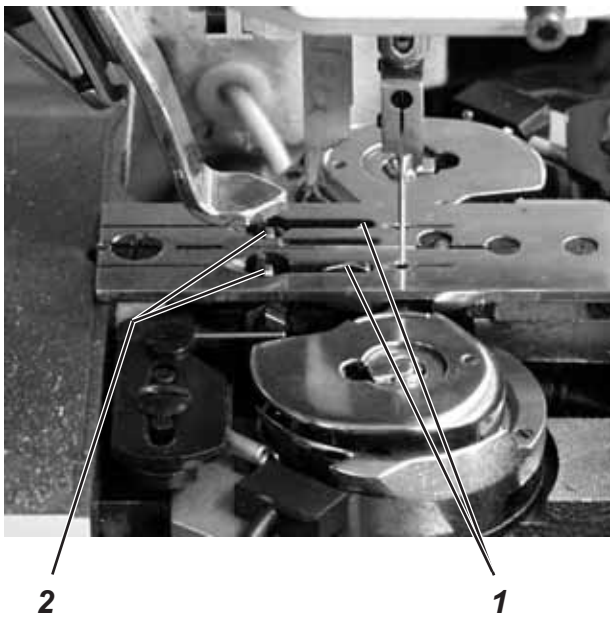
Exchanging knife and thread catcher

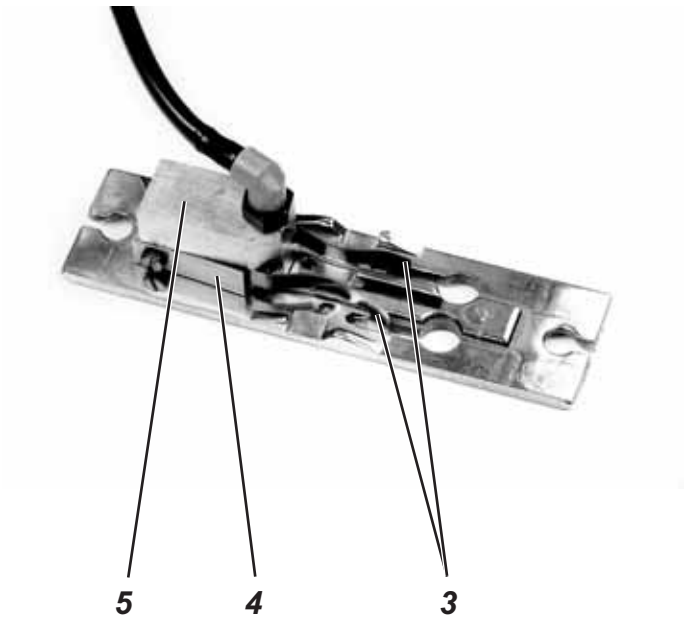
- Screw off the complete thread catcher from the machine head.
- Unscrew screws 6.
- Remove knife 5.
- Unscrew screws 7 and remove the guard plate 8.
- Unscrew screw 4 (on the rear).
- Take off the needle thread catcher 3.
- Insert new thread catcher and tighten with screw 4.
- Put on new knife 5 and tighten with screws 6. Set the dimensions 5 mm and 1.5 mm.
- Make a cutting and clamping test. If required, adjust the clamping pressure with screw 10.

Mount the complete thread catcher

– Mount the complete thread catcher on the machine head.
– Mount the complete thread catcher in such a way that the needle thread catcher 3 is centric between the needles.
– Adjust the height of the thread catcher so that the dimension between sliding sheet and lower edge of the needle thread catcher is 27 +/- 1 mm.
– Put on the guard plate 8.
  The guard plate 8 has to be adjusted in such a way that the distances of 1 mm and 0.5 mm are kept when the center knife is in the lower dead centre.
– Tighten the guard plate 8 with the screws 7.

2.9 Trimming and clamping device for the hook threads





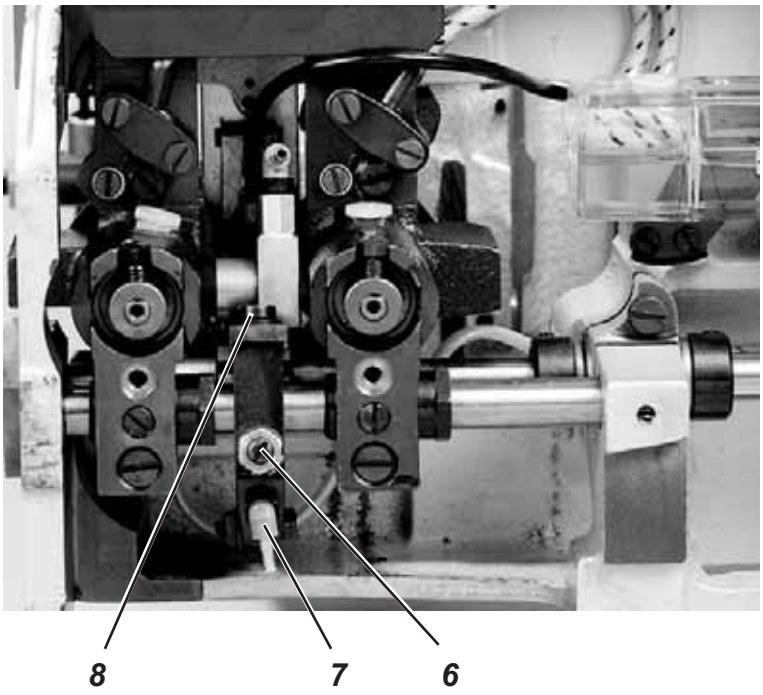
Function

- After the seam end and during the thread pulling process the hook threads are pulled through the thread grooves of the throat plate into the open hook thread scissors 2 and the hook thread clamp 1.
- The hook thread clamp 1 is located under the throat plate. It opens pneumatically.
- The hook threads are pulled between the throat plate panel and the open thread clamping sheets 3.
- Close the spring clamping sheets.
- The hook thread scissors 2 cuts the hook threads off.
- In every working cycle the hook thread scissors 2 is cleaned by an air blast. This avoids clamping of fluff and thread tails.

Caution: Danger of injury!

Switch off the main switch.

Adjust the trimming and clamping device for the hook threads only with the sewing unit switched off.



Standard

The top edge of the hook thread scissors 2 must be on the same level as the top side of the throat plate. A hook thread scissors in a too high position may damage the fabric.

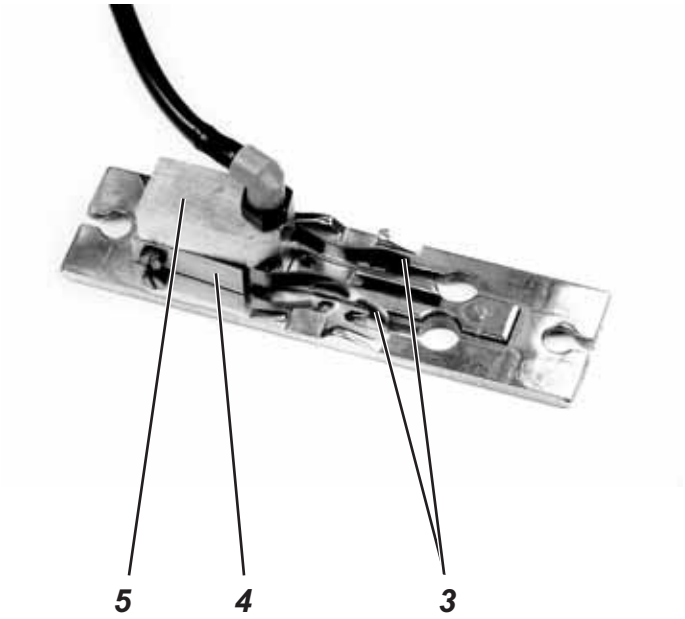
If the hook thread scissors is positioned too low, the hook threads are not cut off.

The limiting sheets 3 fastened at the cylinder 5 determine the opening width of the spring clamping sheets.
If the spring clamping sheets 3 are opened pneumatically, both hook tips must move by with a safe distance.

Correction

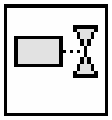
– Loosen screw 6.
– Align the openings of the hook thread scissors 2 centrally to the thread grooves of the throat plate.
– Tighten screw 6.

– Loosen screw 8.
– Adjust the height of the hook thread scissors.
  The top side of the hook thread scissors must be on the same level as the top side of the throat plate.
– Tighten screw 8.



– Align the spring clamping sheets 3.
  The spring clamping sheets must abut on the throat plate panel flat and with slight spring pressure.

Check the safety distance between the hook tips and the pneumatically opened thread clamps.
For this purpose please proceed as follows:



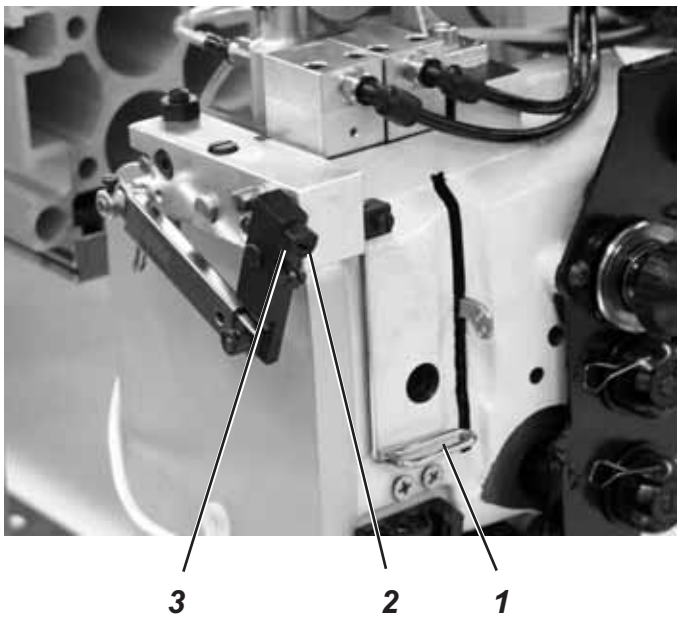
– Call up the adjustment and test program “Selecting the output elements” (see Programming Instructions, chapter 6.4.5).
– Select the output element “**y29**”.
– Engage the thread clamps by pressing the function key “**F4**”.
– Turn the handwheel slowly and check the distance between hook tips and thread clamps.
– If necessary, align the limiting sheets 4 correspondingly.
– Disengage the thread clamps by pressing the function key “**F4**”.

– Regulate the air blast for cleaning the hook thread scissors.
  Compressed air is supplied via the connection Y30.
  The butterfly valve is located at the blast pipe.

ATTENTION !

The stitch formation must not be disturbed by the air blast.
Light-weight workpieces (e.g. lining fabrics) must not be blown up on the throat plate.

2.10 Thread puller for the needle threads



Caution: Danger of injury !

Switch off the main switch.

Adjust the thread puller only with the sewing unit switched off.

Standard checking

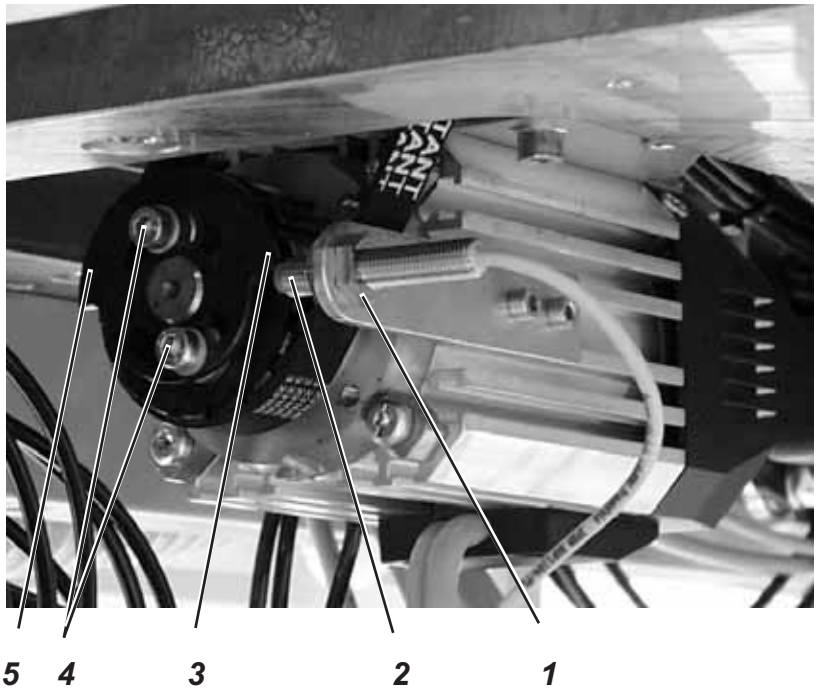
The thread puller 1 pulls a certain needle thread quantity out of the opened thread tension.
The needle thread quantity pulled out must be as large as to comply with the following conditions:

- At the sewing start the needles moving downwards must not pull the needle threads out of the needle thread clamp.
- At the same time a tight stitch formation has to be guaranteed at the sewing start and the thread puller must not touch the folding station.

Correction

– Loosen counternut 3.
– Adjust the stop width of the thread puller 1 by turning the stop screw 2.
– Tighten counternut 3.

2.11 Synchronizer



Caution: Danger of injury!

Switch off the main switch.

Adjust the synchronizer only with the sewing unit switched off.

Standard checking

After positioning the thread lever should be at the top dead centre.

The distance between the synchronizer 2 and the cam segment 5 should amount to approx. 0.5 to 1.0 mm.

Correction

- Loosen counternut 1.
- Adjust the distance between synchronizer 2 and the maximum outer diameter of cam segment 5.
  Dimension = 0.5 to 1.0 mm.
- Tighten counternut 1.
- Turn the sewing machine in position “Thread lever at top dead centre".
- Loosen screws 4.
- Turn the cam segment 5 in such a way that the switching cam 3 is positioned exactly on the synchronizer 2.
- Tighten screws 4.
- Check the positioning after cutting.

2.12 Oil lubrication

Caution: Danger of injury !

Oil can cause skin rashes.
Avoid longer skin contact.
After contact wash yourself thoroughly.

ATTENTION !

The handling and disposal of mineral oils is subject to legal regulations.
Deliver used oil to an authorized collecting station.
Protect your environment.
Be careful not to spill any oil.

Oil the sewing unit exclusively with lubricating oil **DA-10** or an equivalent oil with the following specification:

- Viscosity at 40° C: 10 mm²/s
- Ignition point: 150° C

3

DA-10 is available from the **DÜRKOPP ADLER AG** sales offices under the following parts numbers:

2-Litre-Container: 9047 000013
5-Litre-Container: 9047 000014

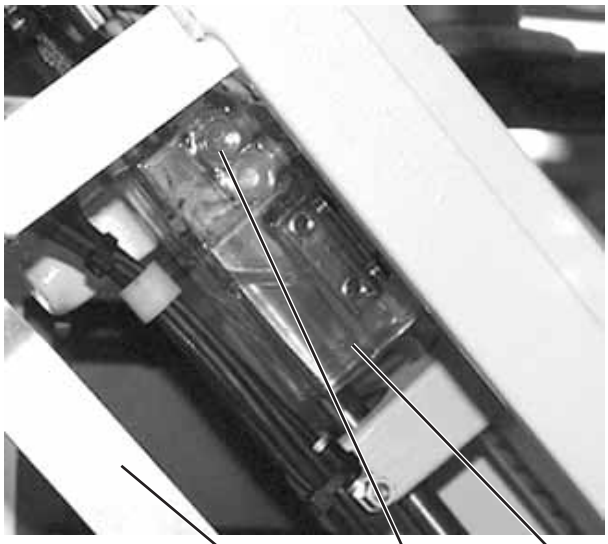
Checking the oil supply in the oil reservoir 3 for lubrication of the machine head

- Raise the machine head (see chapter 2.1).
- The oil level in the oil reservoir 3 must not drop below the marking “Min”.
- If necessary, fill up oil up to the marking “Max” through the drill-hole in the inspection glass.

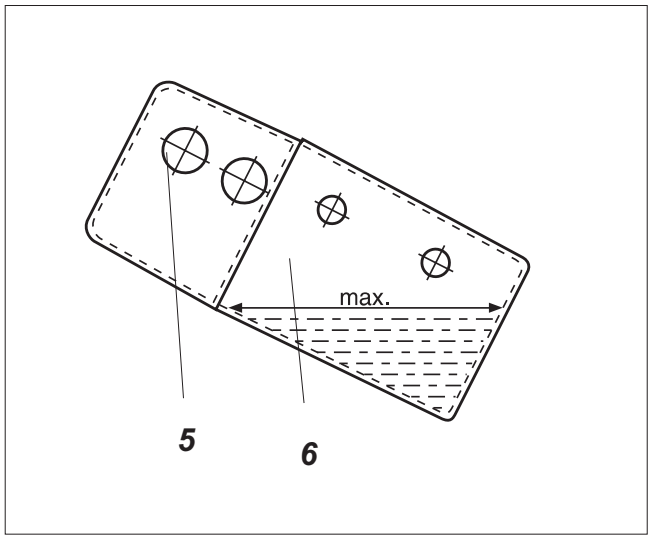
Checking the oil supply in the oil reservoir 6 for the hook lubrication

- Raise the machine head (see chapter 2.1).

Fill the oil reservoir 6 with oil through nipple 5 up to the marking “Max”. (see sketch).

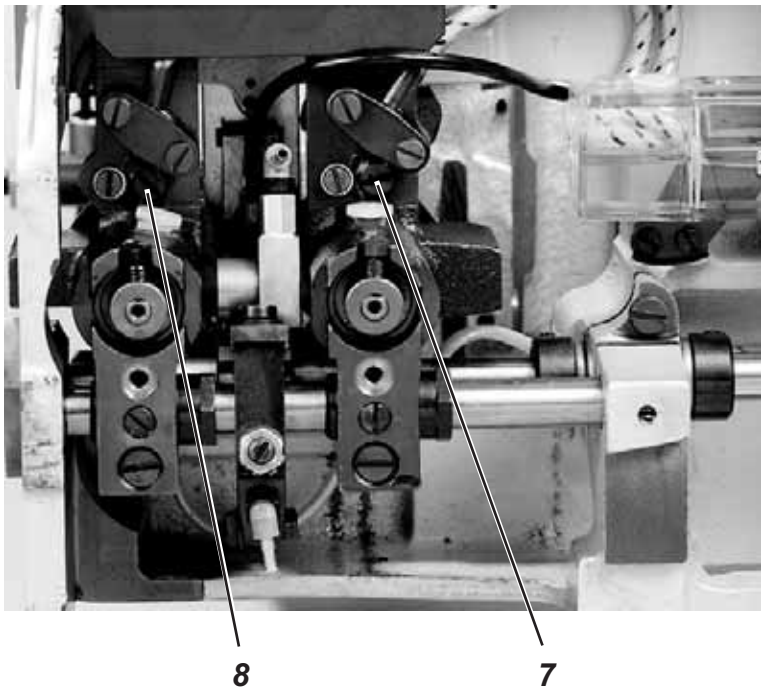


4 *5* *6*



5 *6*

2.12.1 Hook lubrication



Standard

The necessary oil quantity has been adjusted by the manufacturer with the screws 7 and 8. It should be reduced or increased in special cases only.

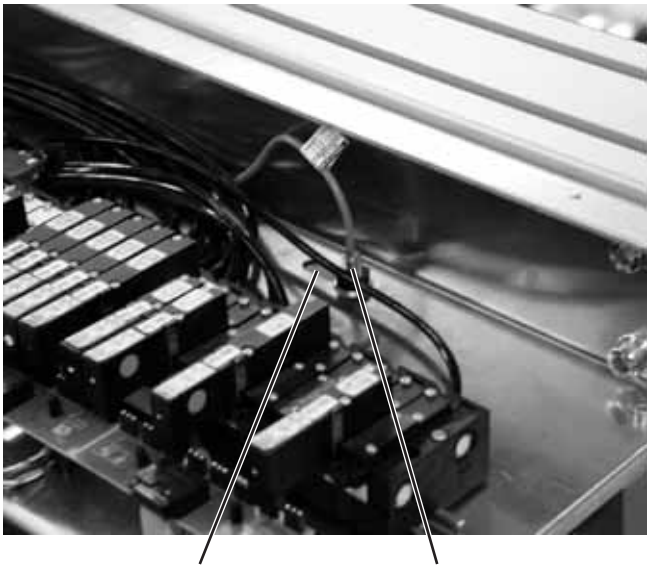
- Adjust the screws 7 and 8.
- Screw the screws in: less oil
- Screw the screws out: more oil

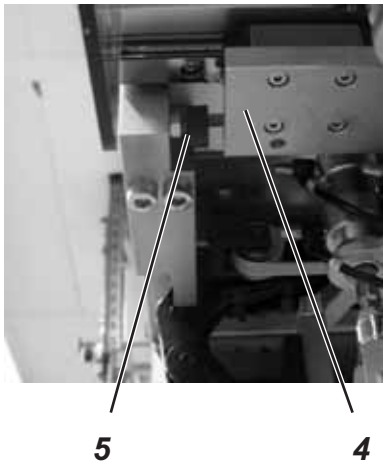
ATTENTION !

Do not screw in the screws too deeply! The oil wick may be damaged.

3. Transport carriage

3.1 Rear end position





Standard checking

The switch 1 determines the rear and by means of a definitely specified path also the front end position of the transport carriage.

The switching screw 3 should be 16 mm above the fastening surface at the transport carriage. The distance between this surface and the limit switch should amount to 1 mm.

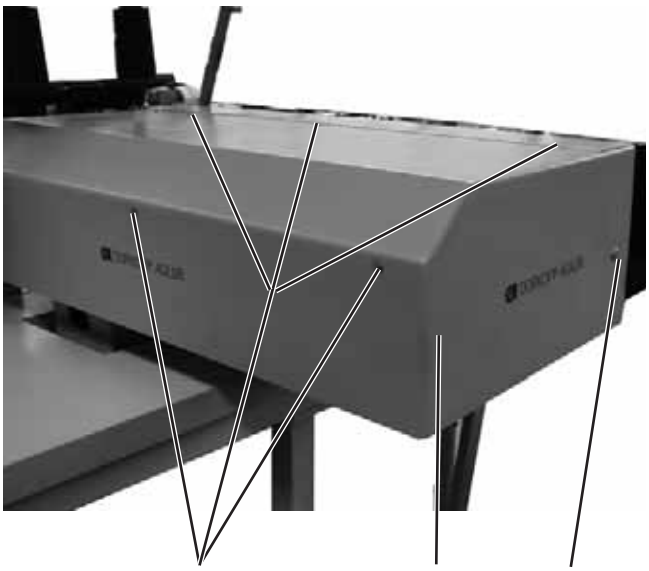
When the transport carriage has gone back so far that the switching screw 3 stands centrically above the switch 1, there must be a distance of 2 mm between the transport carriage 4 and the stop 5.

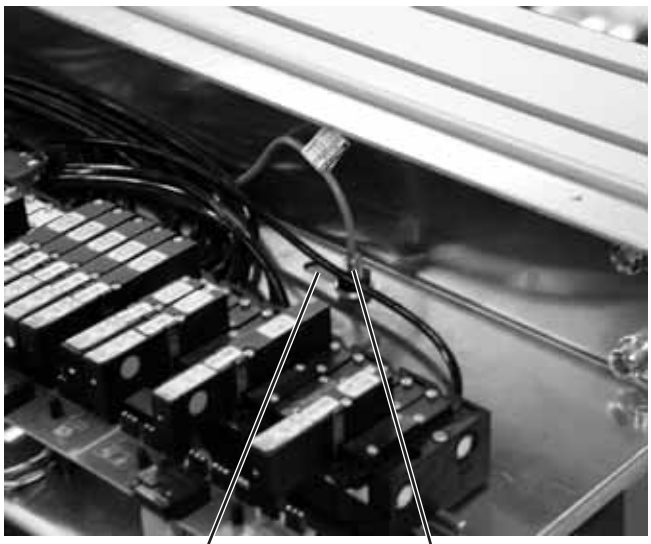
The fine adjustment is carried out during the feeding clamp adjustment (see Service Instructions, chapter 4.5). On this occasion the stop has to be corrected, too.

Caution: Danger of injury !

Switch off the main switch.

Check and adjust the switch and the stop for the rear end position of the transport carriage only with the sewing unit switched off.


7
6
7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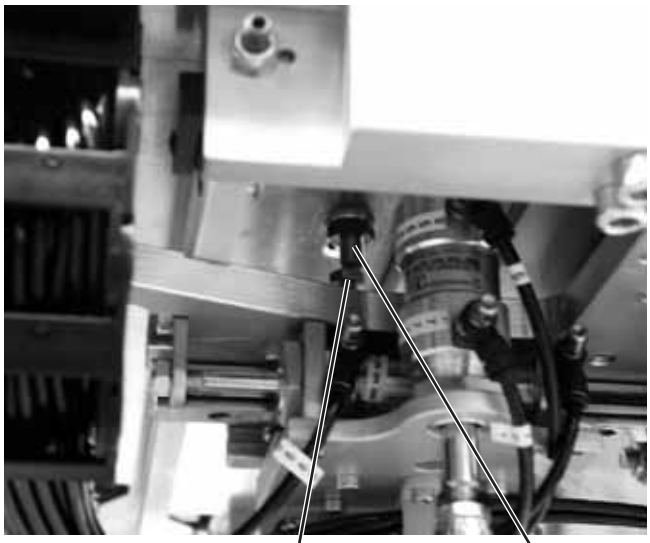
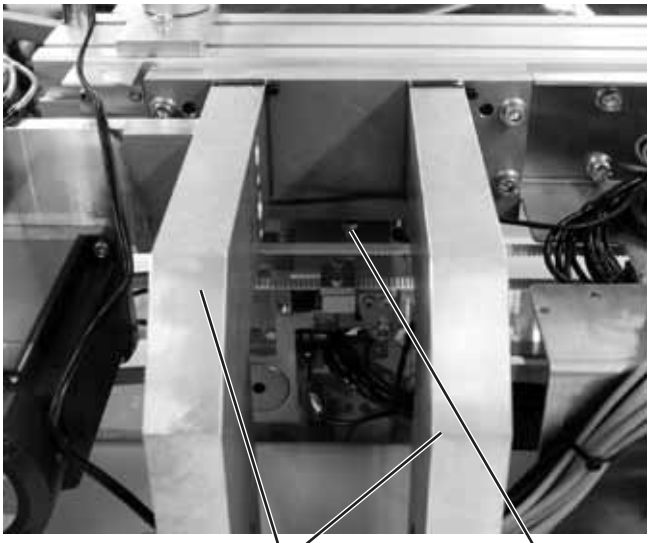
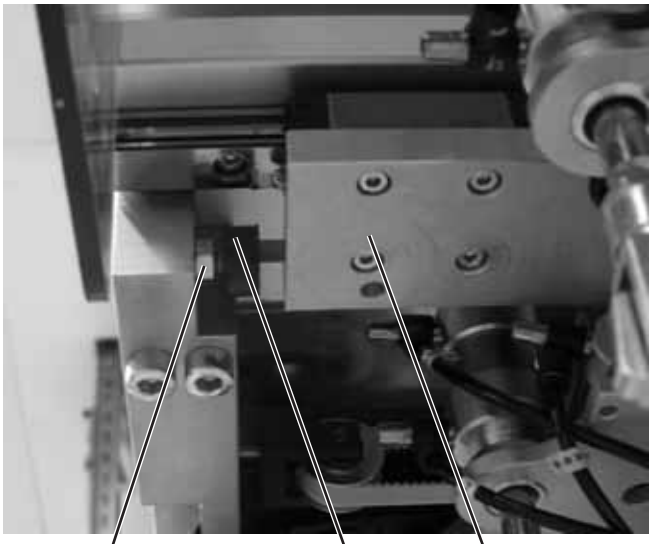
4


3
1


9
3


8
5
4

3.1.1 Position of the limit switch in the slotted hole

Checking

- Unscrew screws 7 and take off the covering cap 6.
- Check the position of the limit switch 1 in the slotted hole 2.

Correction

- Loosen the upper counternut at the limit switch 1.
- Set the limit switch in the slotted hole 2 as described in chapter 4.5.
- Tighten the upper counternut again.

Attention: Danger of breakage !

After operations on the limit switch always check the distance to the switching screw.

3.1.2 Distance between switching screw and limit switch

Checking

- Unscrew screws 7 and take off the covering cap 6.
- Push the transport carriage 4 to the very back.
- Check the distance of 1 mm between limit switch 1 and switching screw 3.

Correction

- Pull the transport carriage 4 to the front until the switching screw 3 between the holding arms 9 is accessible.
- Loosen the counternut at the switching screw.
- Adjust the height of screw 3.
  Distance between switching screw and fastening surface = 16 mm.
- Tighten the counternut.
- Push the transport carriage 4 to the very back.
- Set a distance of 1 mm between limit switch 1 and screw 3.

3.1.3 Stop for transport carriage

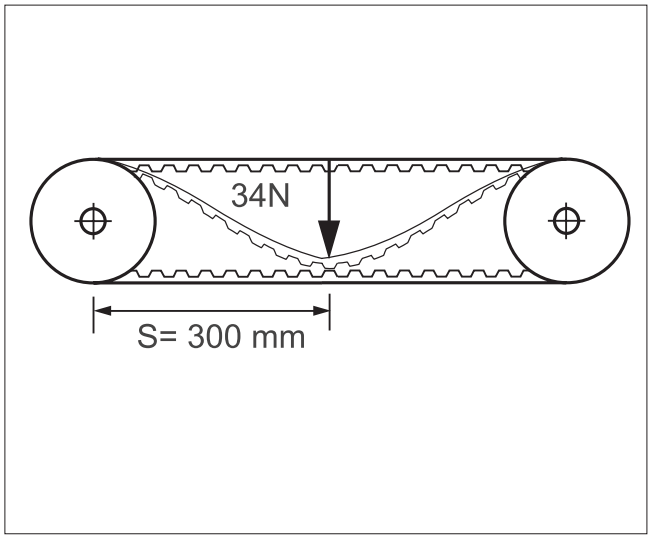
Checking

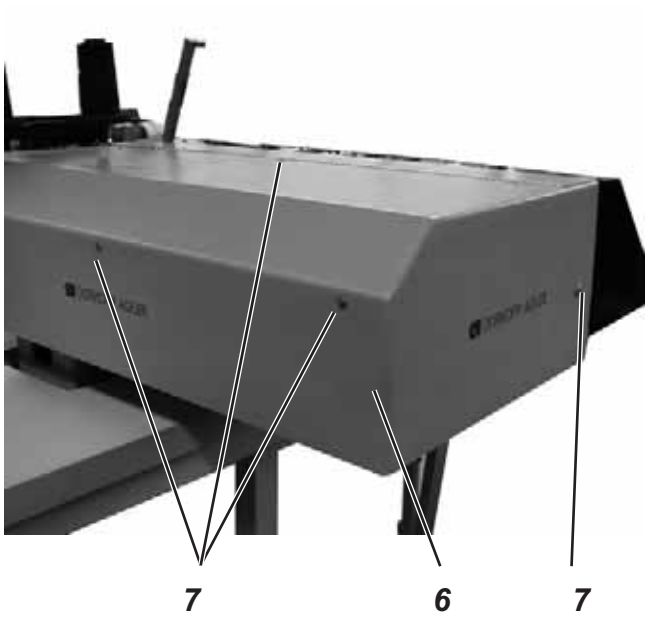
- Push the transport carriage 4 to the back until the surface of the switching screw 3 stands centrically above the limit switch 1.
- Check whether in this transport carriage position the distance between the stop 5 and the transport carriage amounts to 2 mm.

Correction

- Push the transport carriage to the back until the surface of the switching screw 3 stands centrically above the limit switch 1.
- Loosen counternut 8.
- Approach the stop 5 to the transport carriage by 2 mm.
- Tighten counternut 8.

3.2 Toothed belt tension





Caution: Danger of injury !

Switch off the main switch.

Check and adjust the toothed belt tension only with the sewing unit switched off.

Standard checking

Over the tightening length S= 300 mm the toothed belt must bend under the test load FV = 34 N until the upper belt just touches the lower one.

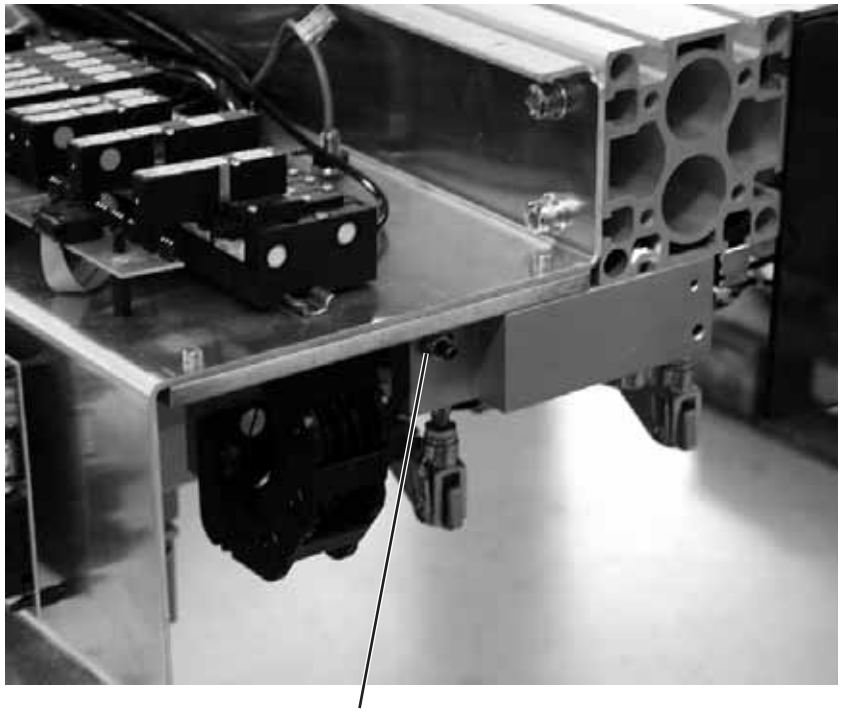
Consequences of a too high toothed belt tension

- Reduced durability
- Noisy running

Consequences of a too low toothed belt tension

- No faultless meshing between belt teeth and disc toothing
- The teeth may skip over under load
- Non-uniform stitch lengths
- Loss of steps possible

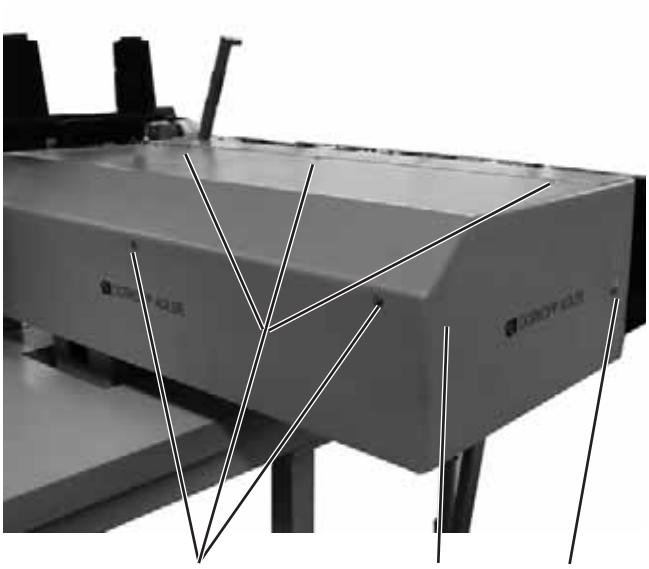
- Unscrew screws 7 and take off the covering cap 6.
- Place the test load in the middle of the toothed belt (e.g. with the help of a spring balance).
  The tension of the toothed belt is correct when the upper belt half just touches the lower one.

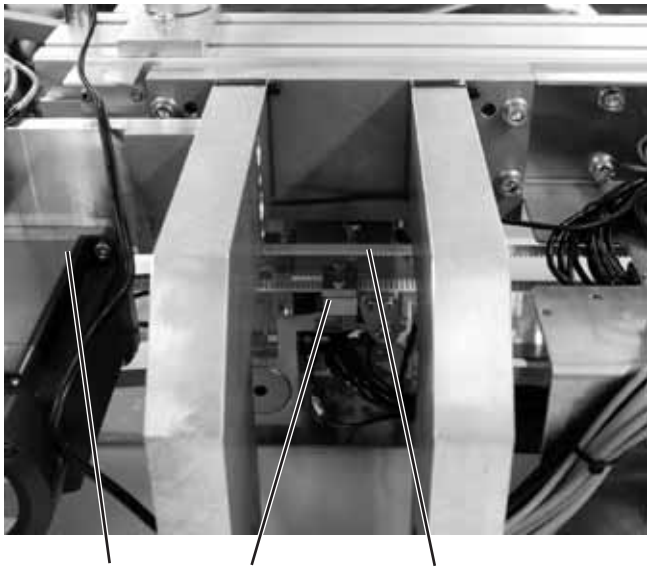


Correction

- Unscrew screws 7 and take off the covering cap 6.
- Set the toothed belt tension with nut 10.

3.3 Changing the toothed belt

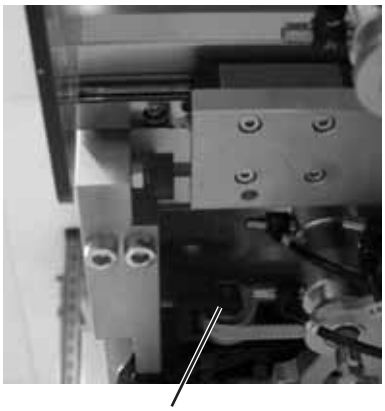


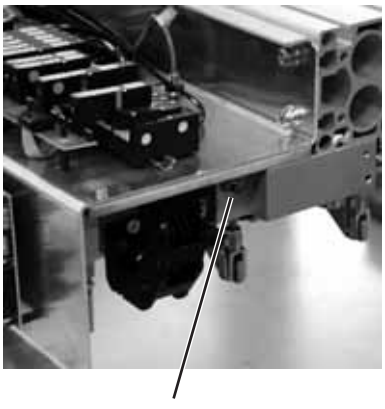


Caution: Danger of injury !

Switch off the main switch.

Change the toothed belt only with the sewing unit switched off.





For an easier exchange the toothed belt 3 is divided. It is held together by the belt clamp 4.

Removing the old toothed belt

- Unscrew screws 7 and take off the covering cap 6.
- Loosen the clamping screws of the toothed belt clamp 4.
- Pull the toothed belt out of the casing.

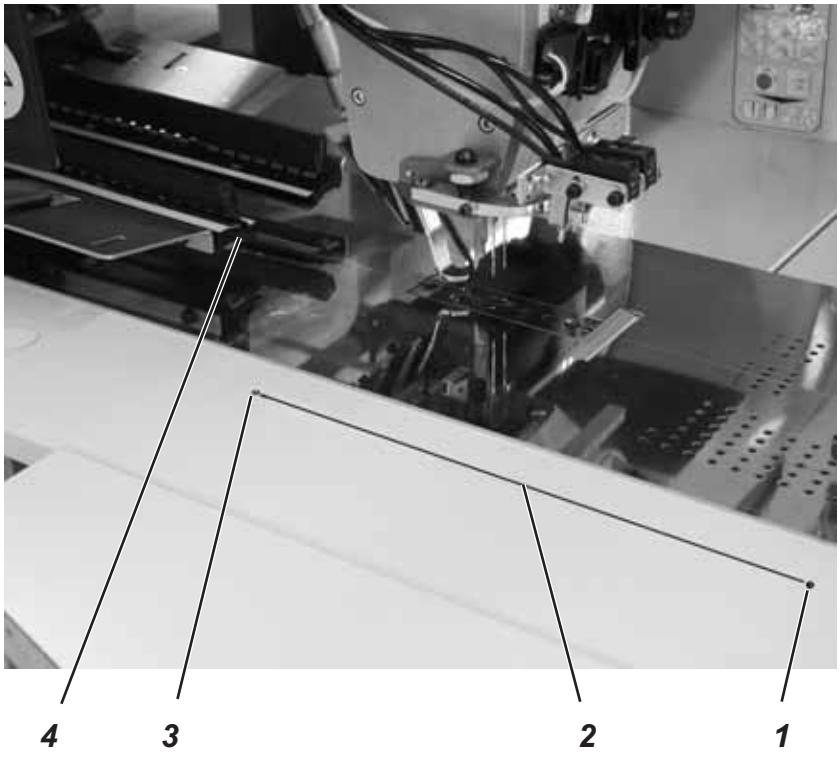
Putting in a new toothed belt

(piece goods, minimum length 1.47 m)

- Loosen the counternut at the clamp bolt 9 and turn back the tension pulley 8.
- Lay one end of the toothed belt on the toothed belt wheel of step motor 5 and pull it until the end reaches the toothed belt clamp 4.
- Lay the other end of the toothed belt around the tension pulley 8 and guide it to the toothed belt clamp 4.
- Connect both belt ends with the toothed belt clamp 4.
- Adjust the toothed belt tension (see chapter 3.2).

4. Feeding clamps

4.1 Measuring line for aligning the feeding clamps and the folder



For an unhindered material feed and a perfect pocket opening the folding and cutting tools as well as the marking lamps must be aligned to the middle of the pocket opening.
The middle between both needle holders is considered as the middle of the pocket opening.

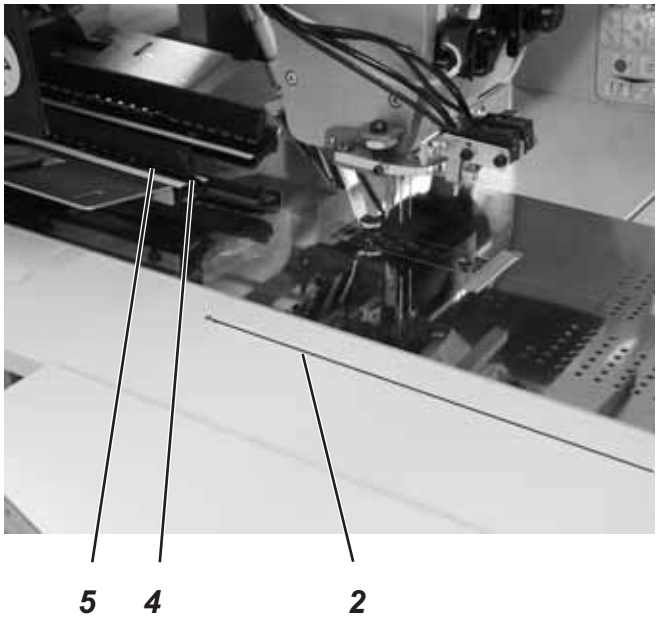
For adjusting and checking the folding and cutting tools the measuring line 2 has to be marked on the table top.

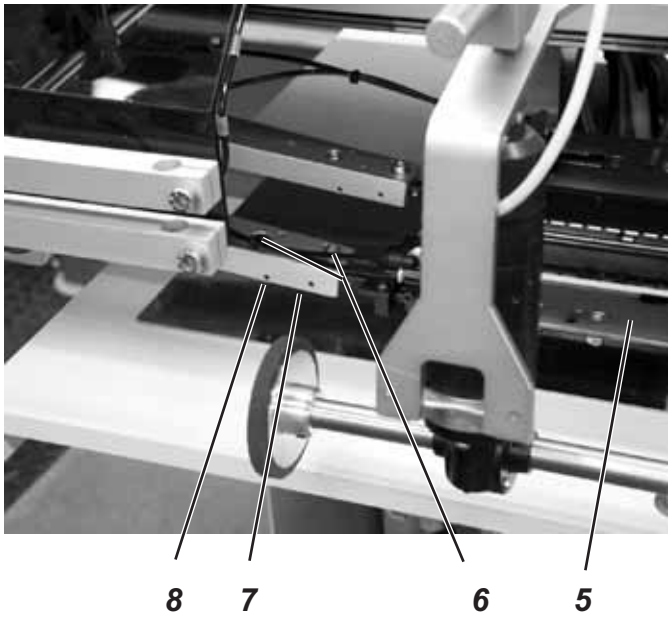
The course of the measuring line is parallel to the feeding direction with a distance of 125 mm to the cutting line.

Generating the measuring line

– Mark the measuring line between the two markings 1 and 3 on the table top. The markings have been fitted on the table top by the manufacturer.

4.2 Aligning the feeding clamps as to the auxiliary line

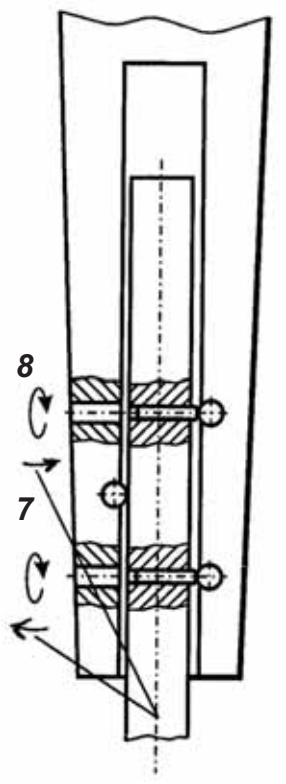




Caution: Danger of injury !

Switch off the main switch.

Check the parallel position of the feeding clamps only with the sewing unit switched off.



Standard checking

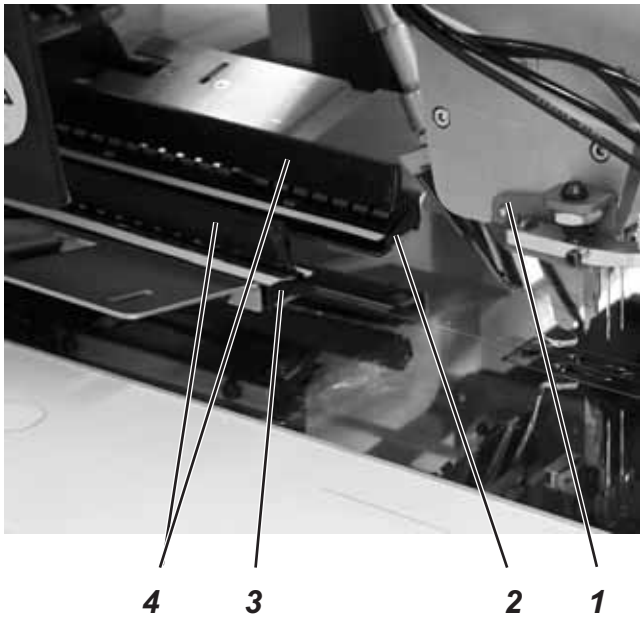
The feeding clamps 5 must be in parallel position to the pick-up folder and to the auxiliary line 2.

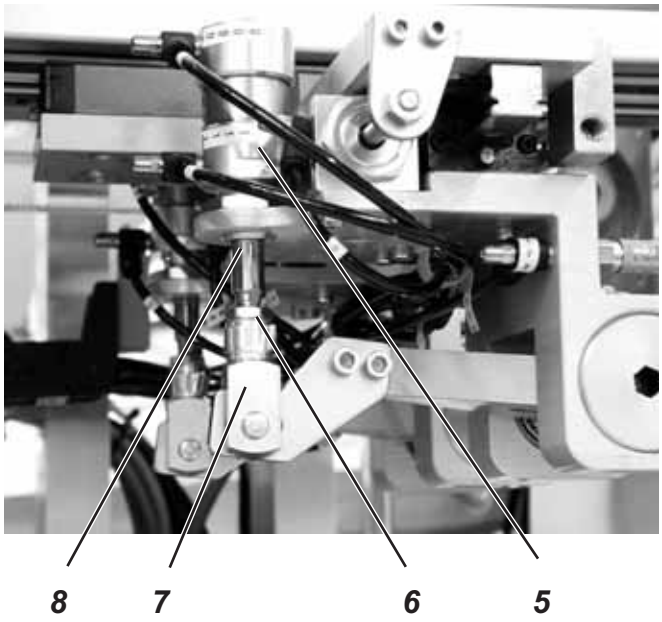
- Push the feeding clamps into the pick-up folder area.
- Check the parallel position of the inner edge of the feeding clamps to the auxiliary line 2.

Correction

- Loosen the tightening screws 6 slightly.
- Set the feeding clamp 5 in parallel position by means of the Allen screws 7 and 8 (SW 2).
  For this purpose please proceed as follows:
- Turn the Allen screws 7 and 8 to the right or to the left until parallel position is reached.
- Tighten the Allen screws 7 and 8 slightly.
- Tighten the tightening screws 6.

4.3 Feeding clamp stroke





Caution: Danger of injury !

Switch off the main switch.

Check and adjust the stroke of the feeding clamps only with the sewing unit switched off.

Standard checking

When the flap clamps 4 are closed, the raised feeding clamps 2 and 3 must pass the machine arm 1 without hitting it.

The distance between the front edges of the raised feeding clamps and the fabric sliding sheet should amount to approx. 20 mm on the left and on the right.

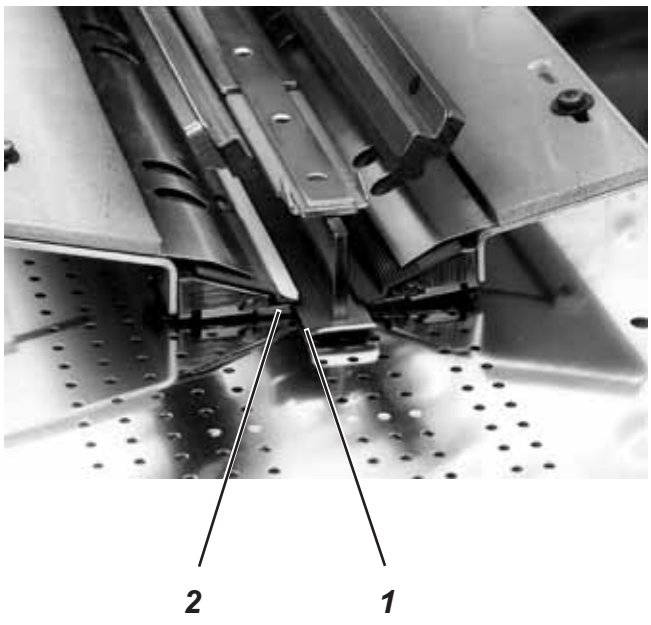
In case of class 745-34 A with endless zipper the distance is 17 mm on the left and on the right.

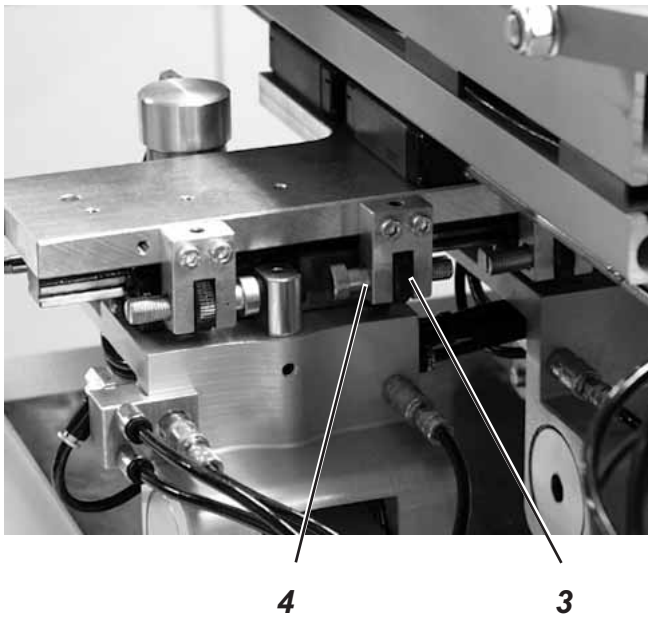
– Push the transport carriage under the machine arm.
– Check the stroke of both feeding clamps.

Correction

– Loosen counternut 6 at the lift cylinder 5.
– Turn the piston rod 8 in the actuator 7.
– Tighten counternut 6 at the lift cylinder 5.
– Check the stroke of the feeding clamp as to the fabric sliding sheet.

4.4 Distance between the feeding clamps and the sole of the folder





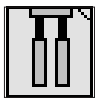
Standard checking

Between the outer edges 1 of the folder sole and the inner edges 2 of the feeding clamps there must be a certain distance. When processing medium-weight clothing fabrics the distance should amount to approx. 1.0 to 1.5 mm.

The distance is required to guarantee equal piping strips on both sides and an unhindered feed of the workpiece.

Caution: Danger of injury !

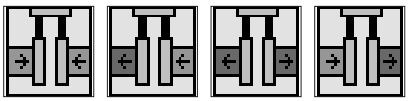
Check and adjust the feeding clamps with utmost caution when the sewing unit is switched on.



- Uncouple the pneumatic coupling for the locking sheets.
- Switch into the pocket programs with function key **F1**.
- Select the program for quick clamp adjustment with the cursor keys “⇦” or “⇨”.

Attention: Danger of breakage !

Select the corresponding clamp position according to the folder.



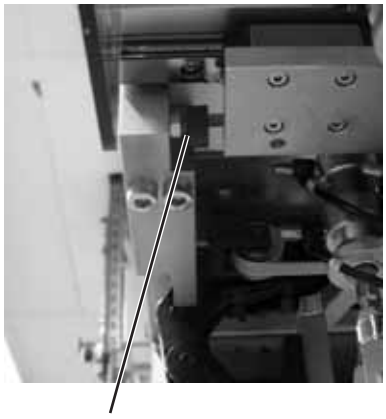
- Select the corresponding symbol.
- Press key **OK**.
  The clamp position is taken over.
- Press key RST.
  The clamp position is taken over.
- Select key **F2** (pocket sequence).
- Start the step-by-step mode.

– Start the sewing operation and check the distance between the outer edges of the folder sole and the inner edges of the feeding clamps.

Correction

– Set the stop screws 4 with the knurled nuts 3.

4.5 Front end position of the feeding clamp

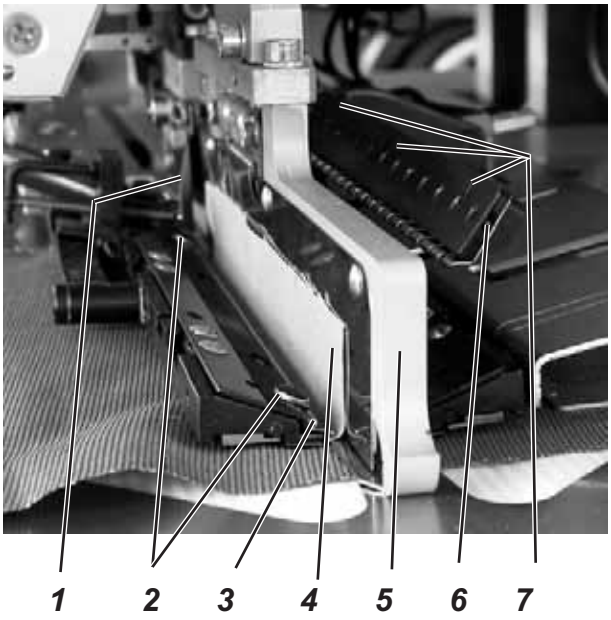


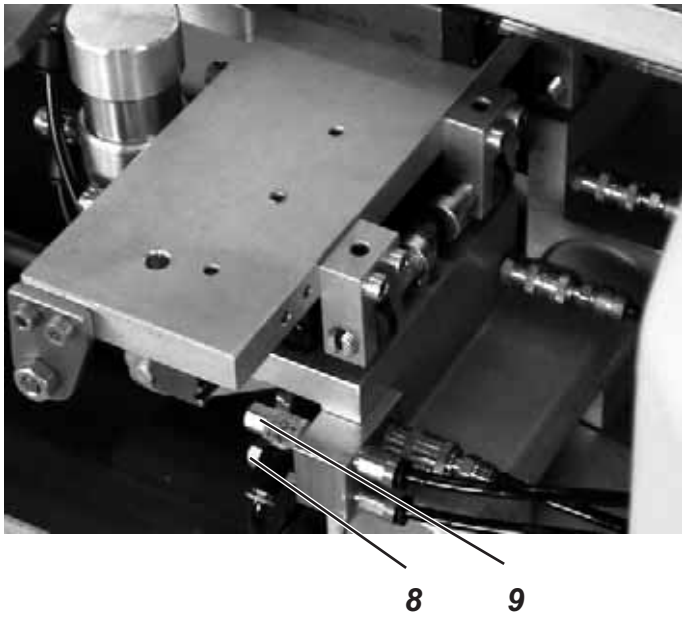
Caution: Danger of injury !
Switch off the main switch.
Adjust the feeding clamp with utmost caution.

- Move towards the reference point (switch 1).
- Select version A or D/B/F.
  The feeding clamp runs to the front end position.
- Dimensional check of the front edge of the feeding clamp
  (see chapter 6)

  Example Version A:
  Spacing A + sewing length + 15 mm
  Consequently the front edge of the feeding clamp must have the dimensions 111+180+15 = 306 mm from the middle of the needle.
- Measure the difference between the actual position and the determined nominal position.
- Switch off the main switch.
- Correct switch 1 by the difference .
- Correct the rear stop guide 5.
- Switch on the main switch.
- Make another reference run and check the dimensions of the front edge of the feeding clamp.

4.6 Device for blowing the piping strip / pocket bag for 745-34 A/B/F





In case of class 745-34 B and F the clamps K 12, K 13 and K 16 are equipped with a device for blowing the piping strip. For clamp K 19 (745-34 A) the optional set of parts 0745 597884 for blowing is available. Furthermore blowing pipes are integrated in the folding sheets and piping clamps. The blowing of the piping strip / pocket bag can be necessary in case of thin fabrics and/or high piping projection.

Standard checking

The air stream escaping from the blowing pipes 3 and 6 has to be adjusted in such a way that the piping strip 4 is sufficiently blown on the pick-up folder 5 and safely guided into the guide plates 1.

Correction

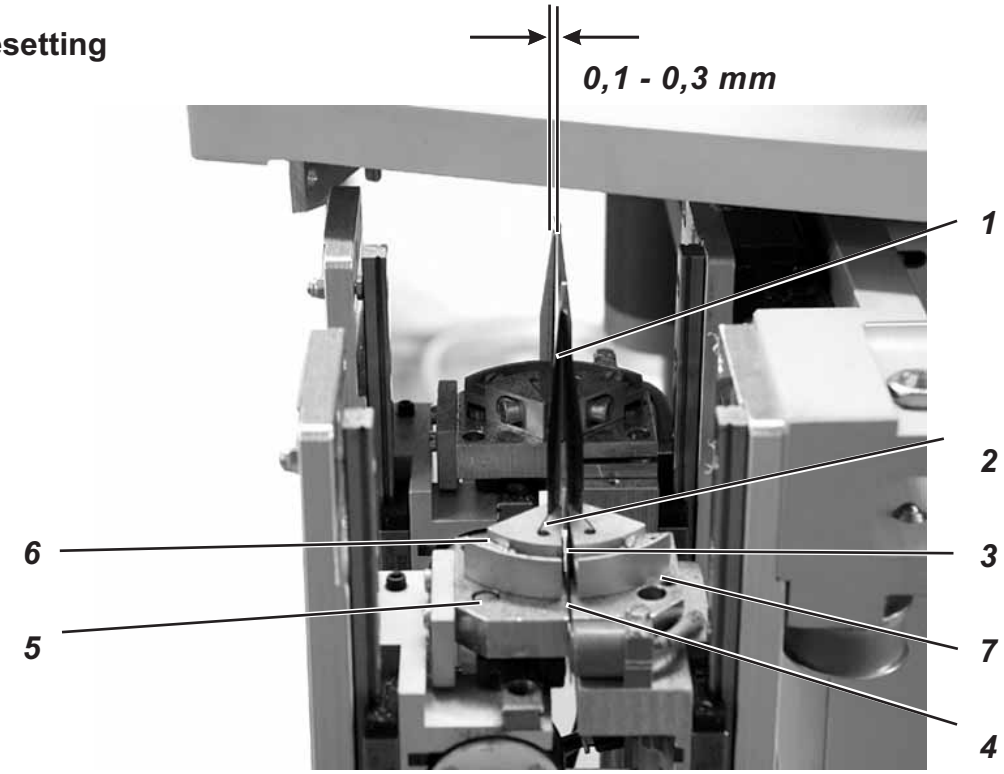
- Select the pedal mode “Mode 3” from the pocket parameters. Select the mode Pocket bag / Blowing of pipings “Mode 2”.
- Load piping and pocket bag as instructed.
- Start the loading process and step on the left pedal until the piping strip is fed and the folding sheets are closed.
- Loosen the clamping screws 2 and adjust the blowing pipes 3 in the folding sheets by turning.
- Adjust the blowing air pressure at the throttling valve 8. If required, undo the loading process by stepping back the left pedal until the clamping screws 2 are accessible.
- Tighten the clamping screws 2 again.
- Step on the left pedal until the pocket bag is fed and the flap clamp is closed.
- Loosen the screws 7 and adjust the blowing pipes in the flap clamps 6 by turning.
- Adjust the compressed air at the throttling valve 9.
- Tighten the screws 7 again.
- Step on the left pedal.
  The sewing process starts.
  Check the feeding process.

5. Knives for corner incision

Caution: Danger of injury !

Do not reach into the area of the corner knives.
The corner knives shooting up can cause severe cuts.
Carry out adjusting operations with utmost caution when the sewing unit is running.

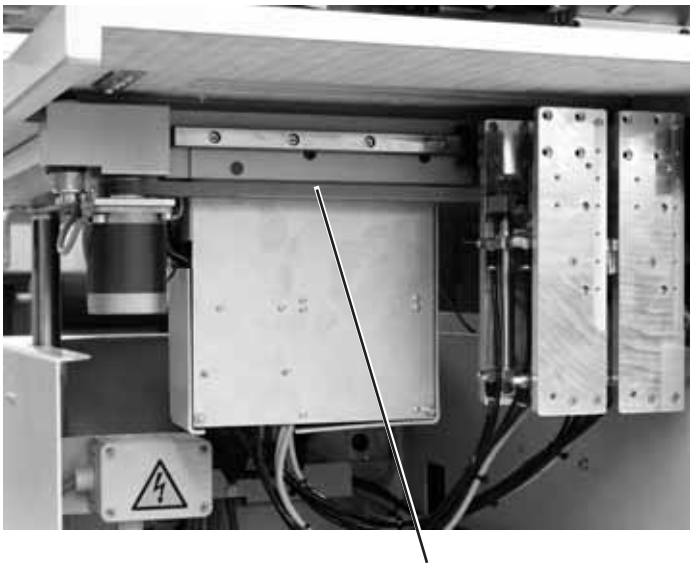
5.1 Presetting

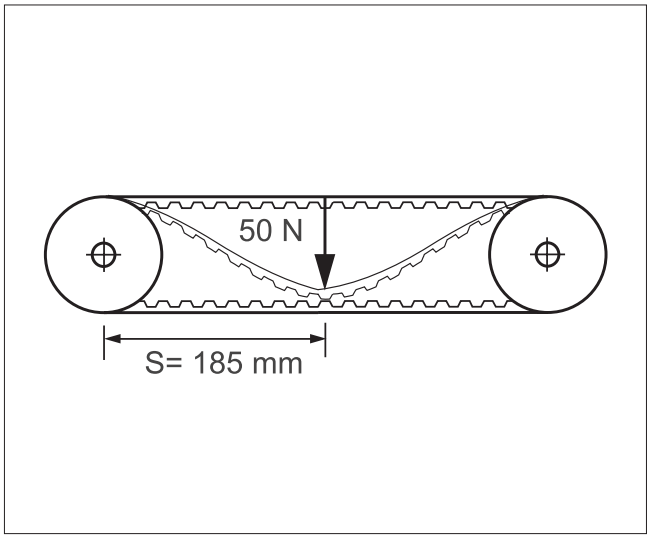


In order to be able to precisely adjust the position of the corner knives 1 all four corner knives are at first brought in a basic position.

- Loosen screw 6.
- Turn the corner knife holder 2 in such a way that the face side 3 is in a line with the face side 4 of the knife support 5.
- Tighten screw 6.
- Adjust the other three knife holders as described.
- Adjust the grub screw 7 in such a way that the edges of the opposite knives have a distance of 0.1 to 0.3 mm.
- Grub screw 7 to the right: knives closer together
- Grub screw 7 to the left: knives wider apart
- Adjust the other knives likewise.

5.2 Belt tension





Standard checking

Over half the tightening length S = 185 mm the toothed belt 1 must bend under the test load FV = 50 N so that the loaded belt just touches the other belt.

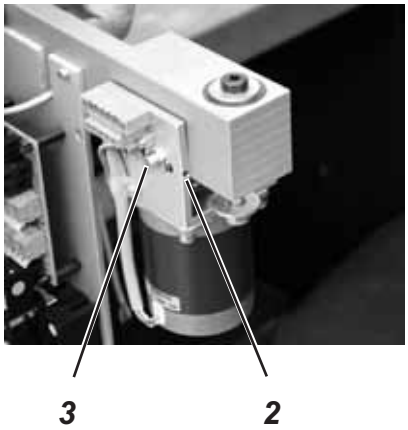
Consequences of a too high toothed belt tension

- Reduced durability
- Noisy running

Consequences of a too low toothed belt tension

- No faultless meshing between belt teeth and disc toothing
- The teeth may skip over under load
- Non-uniform corner stitches

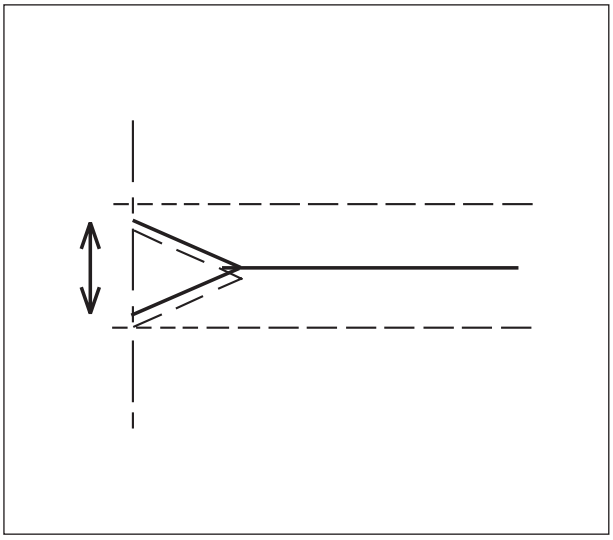
- Check the belt tension with a spring balance.



Correction

- Loosen Allen screw 3.
- Adjust the belt tension with core pin 2.
- Tighten Allen screw 3.

5.3 Aligning the corner knife station as to the seams



Caution: Danger of injury !

Switch off the main switch.
Adjust the corner knife station only with the sewing unit switched off.

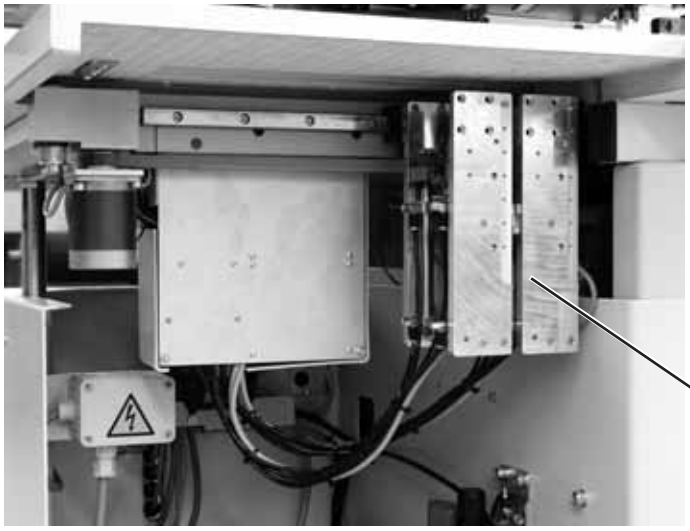
Standard checking

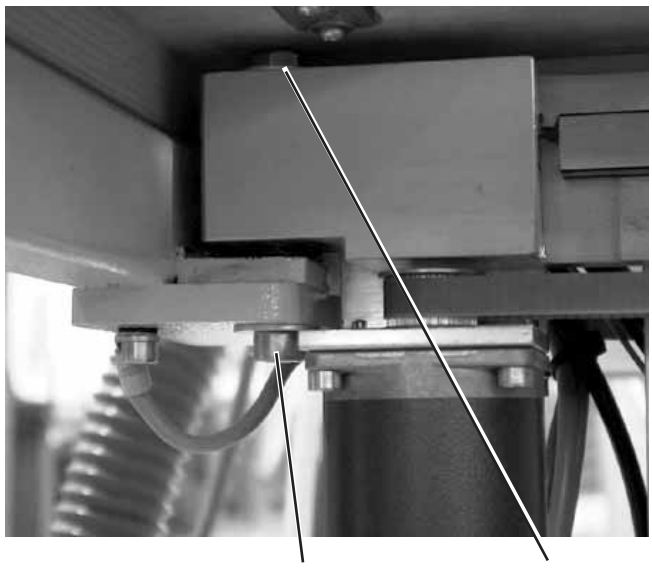
The corner incisions must be symmetrical to the seams.

- Adjust the maximum sewing length at the control.
- Iron a piece of interfacing on a workpiece.
  By this the corner incisions become better visible.
- Sew a test seam.
- Check seam and cutting pattern.

Correction of the corner incision at the seam end

- Swing the corner knife station 1 out completely.





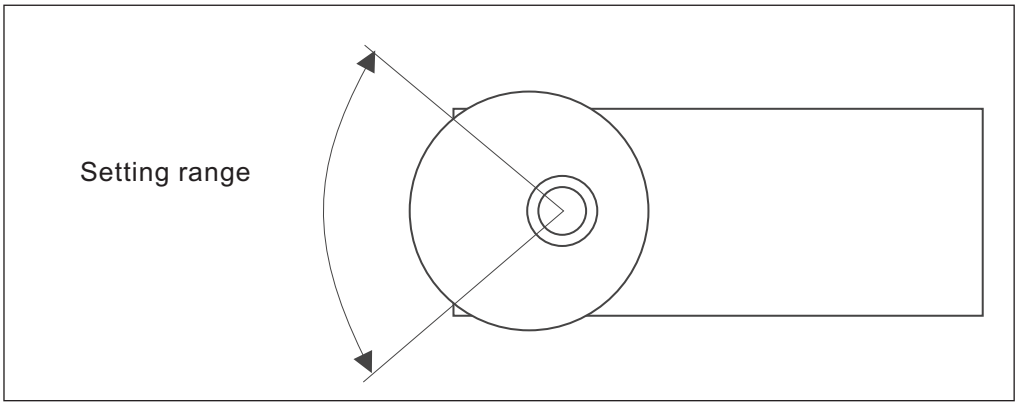
- Loosen the screws 3 slightly.
- Shift the holder 2 correspondingly.
- Tighten the screws 3.
- Swing the corner knife station back.

Correction of the corner incision at the seam beginning

- Loosen the screw 5 slightly.
- Adjust the corner knife station with Allen screw 4.

ATTENTION !

Observe the position of the eccentric.



- Tighten screw 5.
- Sew a test seam.
- Check seam and cutting pattern.

5.4 Adjusting the slant of the corner incisions

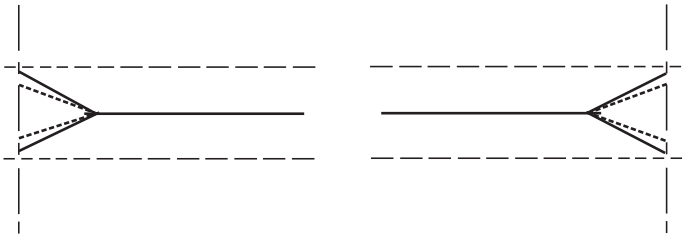
Caution: Danger of injury !

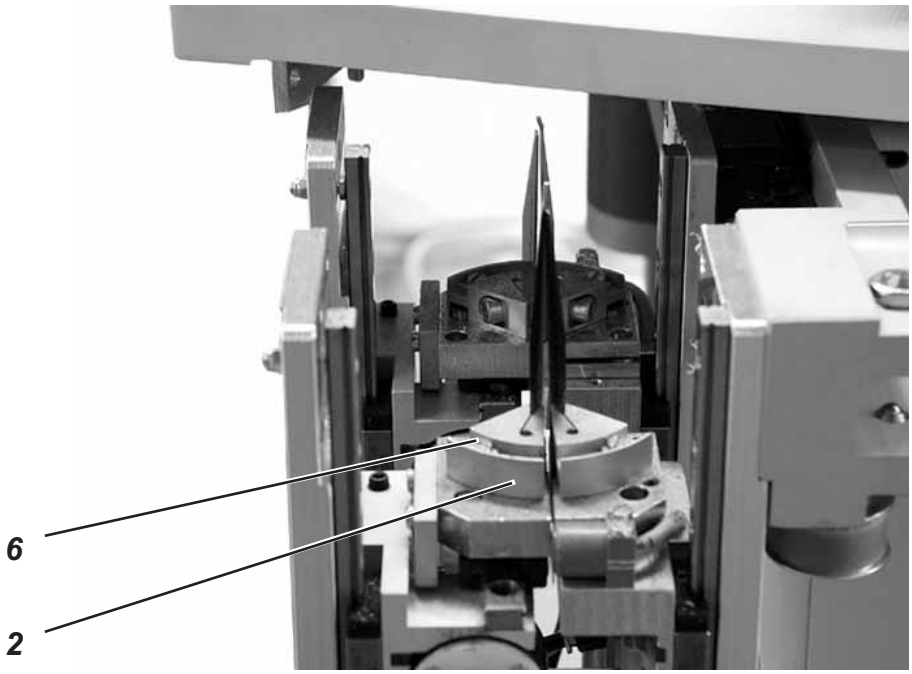
Switch off the main switch.
Adjust the corner knives only with the sewing unit switched off.

Standard checking

The incisions of the corner knives should be as close to the seam as possible, but must not cut it.

- Adjust the maximum sewing length at the control.
- Sew a test seam.
  It is advisable to iron a piece of interfacing on the workpiece before. By this the corner incisions become better visible.
- Check seam and cutting pattern.





- Loosen screw 6.
- Adjust the corner knife holder 2 correspondingly.
- Tighten screw 6.
- Adjust the other three knife holders according to the seam pattern.

5.5 Corner knife adjustments

The corner knives are adjusted by means of machine-specific adjustment and test programs.

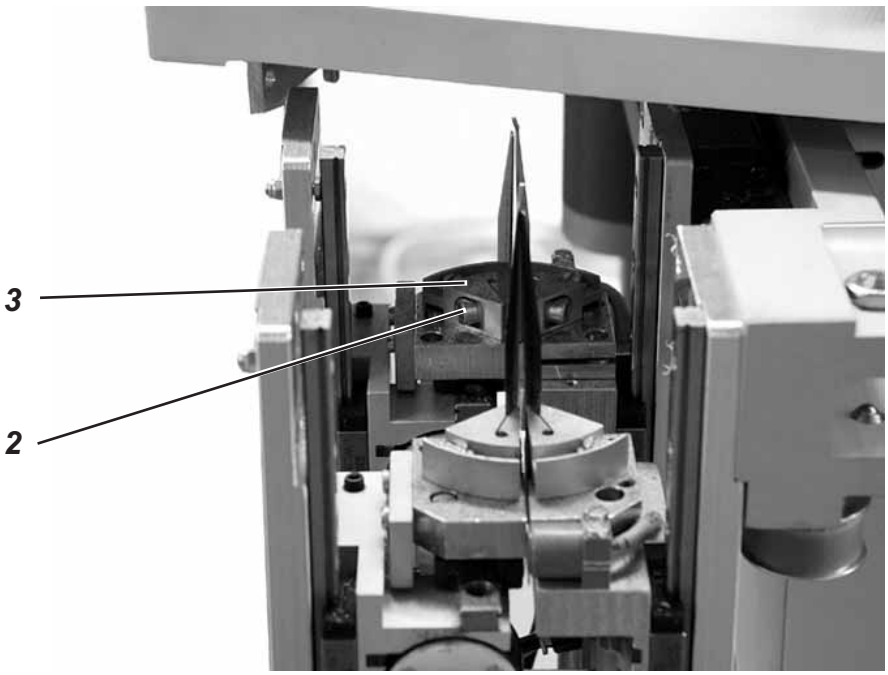
The procedure is described in the instruction manual

“Part 4: Programming Instructions DAC Cl. 745-34”

The following adjustments have to be made:

- Check the corner knife adjustment
  See Programming Instructions, chapter 6.3.5
- Check the corner knife distance
  See Programming Instructions, chapter 6.3.5.1
- Check the left front corner knife
  See Programming Instructions, chapter 6.3.5.2
- Check the left rear corner knife
  See Programming Instructions, chapter 6.3.5.3
- Check the corner knife motion
  See Programming Instructions, chapter 6.3.5.4
- Machine parameters corner knives
  See Programming Instructions, chapter 6.3.5.5
  In this program the individual corner knives can be adjusted to the seam beginning and to the seam end.

5.6 Exchanging the corner knives



Caution: Danger of injury !

Switch off the main switch.
Exchange the corner knife station only with the sewing unit switched off.

Danger of cuts.
Do not reach into the sharp edges of the corner knives.

Blunt knives are to be exchanged against a set of knives included in the accessories.

The corner knives can be ordered under the following order numbers:

Set of corner knives	**Order number**
Needle distance = 10 mm	2 x 0745 339100, 2 x 0745 339110
Needle distance = 12 mm	2 x 0745 339120, 2 x 0745 339130
Needle distance = 14 mm	2 x 0745 339140, 2 x 0745 339150
Needle distance = 16 mm	2 x 0745 339160, 2 x 0745 339170
Needle distance = 20 mm	2 x 0745 339200, 2 x 0745 339210

- Swing the corner knife station out.
- Loosen screw 2.
- Take off the old corner knife.
- Insert a new corner knife in the knife holder 3.
- Tighten screw 2.
- Swing the corner knife station back.

6. Laser markings

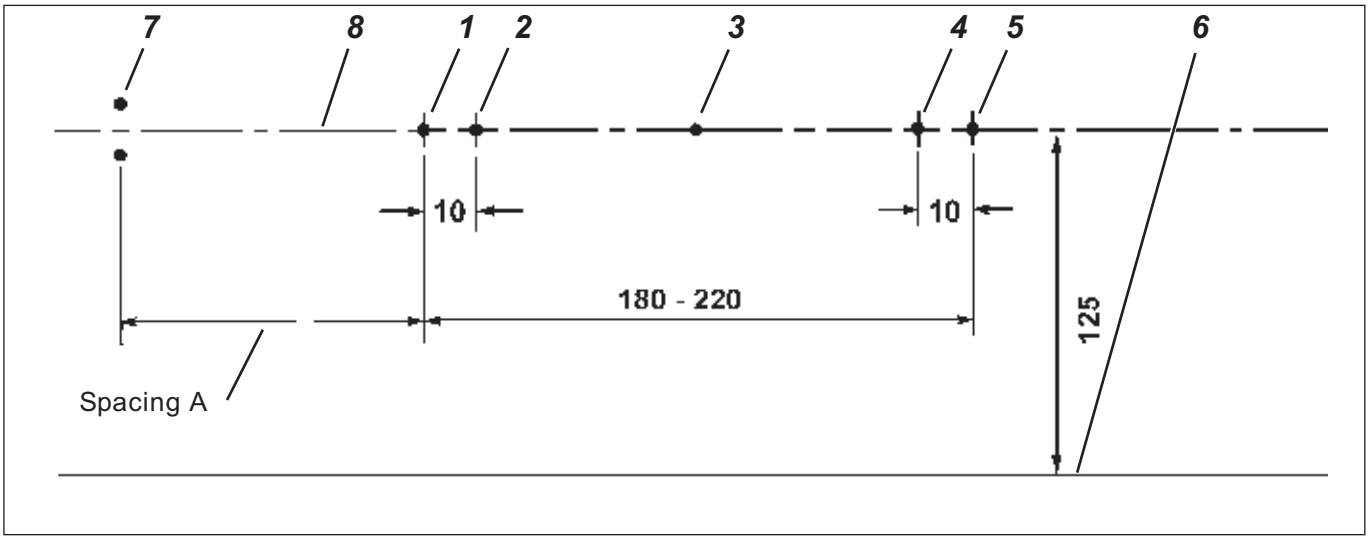
Class 745-34 is equipped with 5 standard lasers for marking the positioning points. Laser 1 marks the front positioning point for the left or right workpiece, laser 5 marks the rear positioning point. Laser 3 marks the middle of the pocket opening.

The sewing area is limited by the markings 1 and 5.

Three further lasers can be mounted additionally.

The fastening positions of the lasers are described in chapter 6.1.

An adjustment template is available under order number 0745 290020.

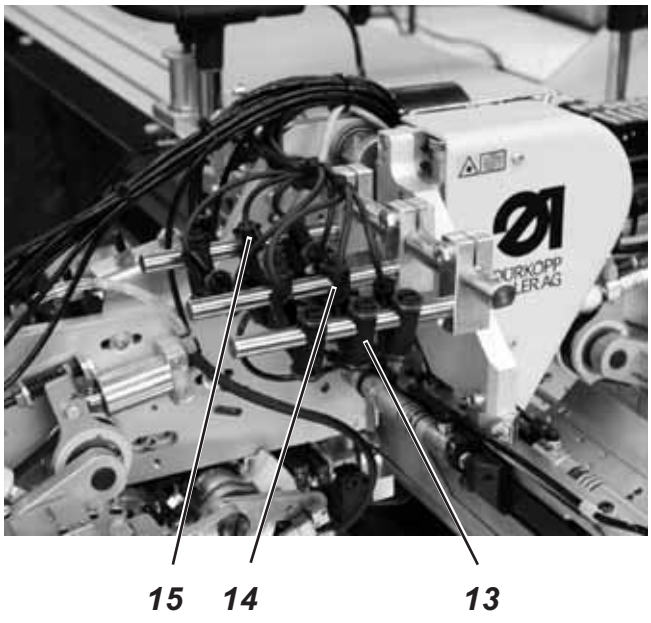


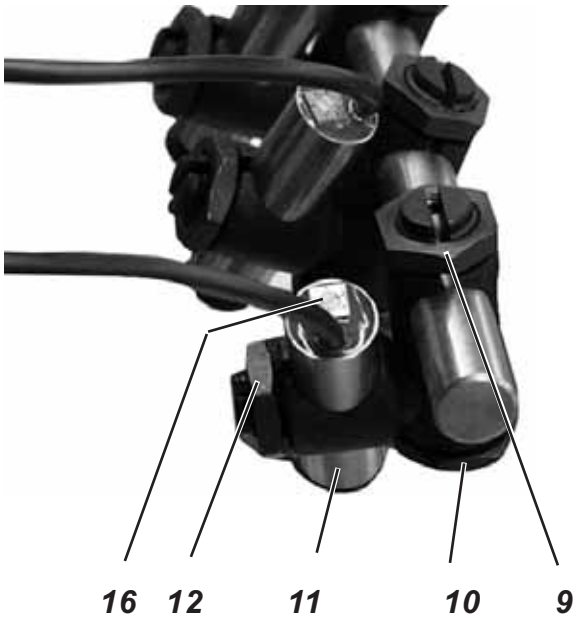
1 : Marking of the front positioning point
3 : Middle of pocket opening
5 : Marking of the rear positioning point
6 : Measuring line
7 : Needles
8 : Cutting line
2 : Auxiliary line for positioning
4 : Auxiliary line for positioning

Spacing A

Class	Sewing length (mm)	Spacing A (mm)	
745-34 A		180	111
745-34 A		200	91
745-34 A		220	141
745-34 B	180/200/220	166	
745-34 B		200	146
745-34 D		180	111
745-34 F	180/200/220	166	
745-34 f		200	146

6.1 Aligning the laser markings





Caution: Danger of injury !

Laser light.

Do not look into the light source.

The markings 13 mark the seam beginning, the markings 14 the middle of the pocket opening and the markings 15 the seam end.

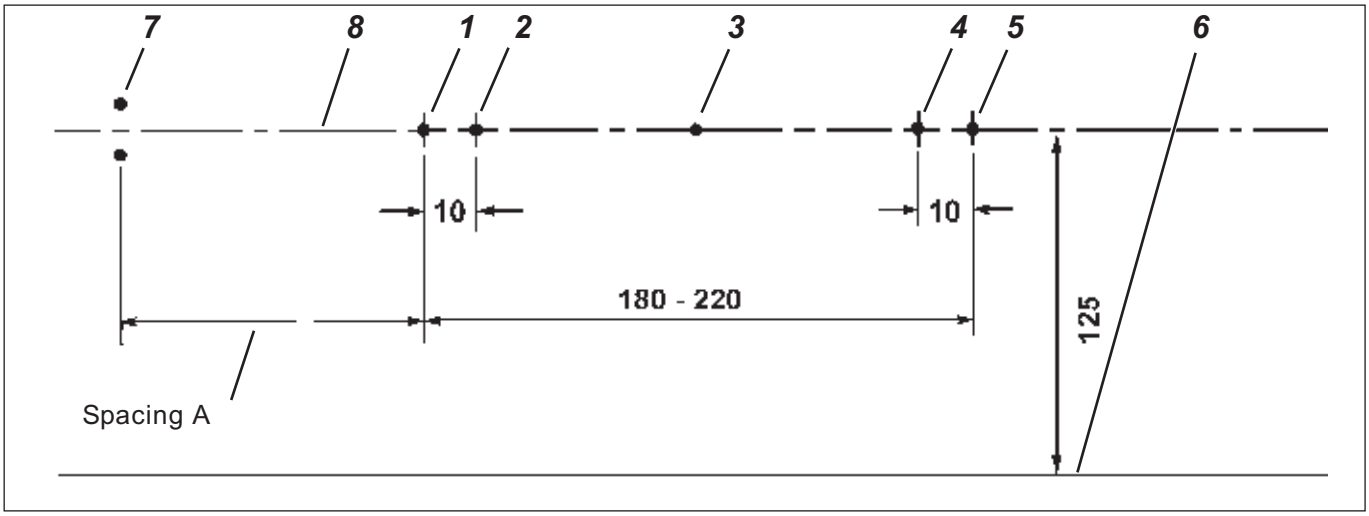
The markings 1, 2 and 4, 5 must be aligned as to the cutting line 8 (middle of pocket opening).

The distance between the middle of the pocket opening and the measuring line 6 must amount to 125 mm.

- Loosen clamping nut 9 and 10 slightly.
- Align distance and angle of the laser module to the cutting line 8 by shifting and turning.
- Tighten clamping nut 9 and 10.
- Loosen clamping nut 12 slightly.
- Align the laser line by turning the laser 11.
- Tighten clamping nut 12 again.

After adjustment of the markings please consider the following in any case:

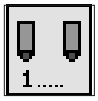
- Check the markings and their alignment as to the middle of the pocket.
- Observe the maximum sewing area.
- The intensity of the marking lasers can be adjusted with screw 16.



Checking the exact position of the markings

Light marking 1 and 2 respectively (seam beginning):

– Press the function key F1 when the main screen is indicated.
  The display changes to the screen “Pocket programs”.



– Select the program for the laser markings with the cursor keys “⇦” or “⇨”.

– Switch on the front positioning point.
  Provide laser 1 with an asterisk.
  1 = *
  2 =
  3 =
  4 =
  5 =
  6 =
  7 =
  8 =

Sewing test:

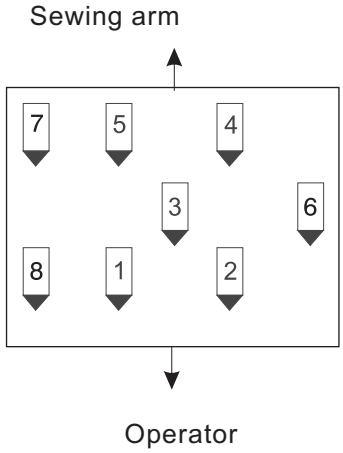
– Mark the desired seam beginning on the workpiece by a chalk line.
– Position the workpiece (chalk line at marking 1).
– Start the sewing operation. The seam must start at the chalk line.
– For correction align the marking 1 anew after loosening its holders.
– Proceed in the same way with marking 2.

Light marking 5 (seam end):

– Switch on the rear positioning point at the control.
  Provide laser 5 with an asterisk.
  1 =
  2 =
  3 =
  4 =
  5 = *
  6 =
  7 =
  8 =

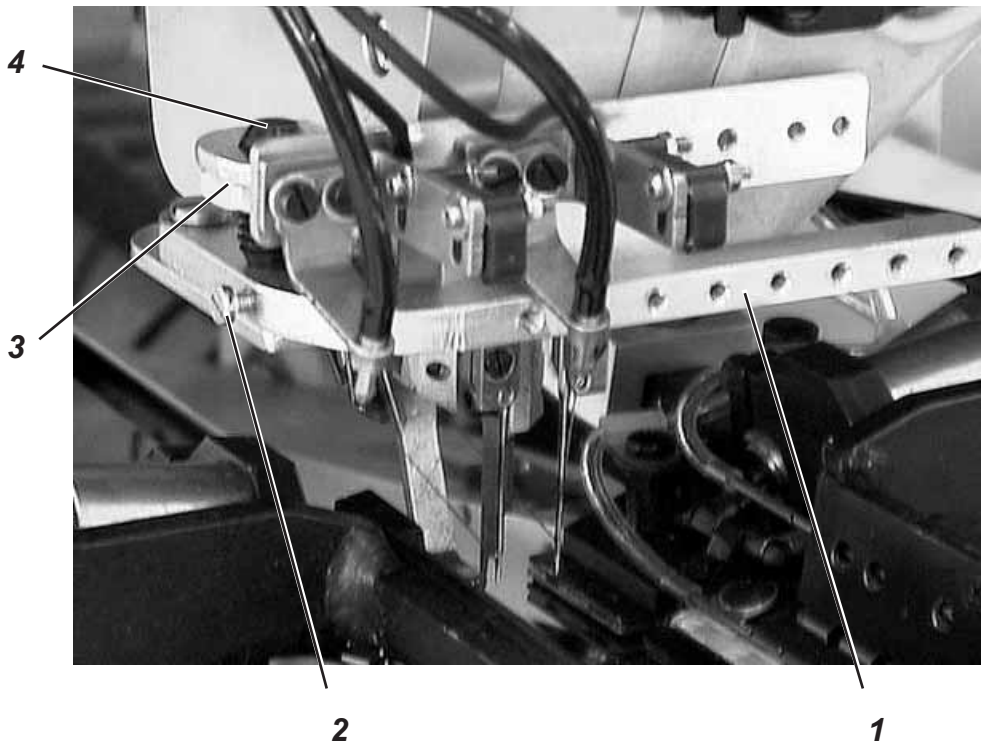
Repeat the sewing test as described above.

Arrangement of the lasers



7. Reflected light barriers for flap scanning

7.1 Swivel arm



Caution: Danger of injury !

Switch off the main switch.
Adjust the swivel arm of the reflected light barriers only with the sewing unit switched off.

Standard checking

The swivel arm 1 should stand in parallel position to the machine arm. When swivelling in front of the arm it must snap in safely.

- Swing out the swivel arm 1 with the light barriers.
- Swing the swivel arm back and check the pressure of the locking screw 4.
- Check the position of the swivel arm to the machine head.

Correction

- Loosen counternut 3.
- Turn locking screw 4.
  Clockwise = higher locking pressure
  Counter-clockwise = lower locking pressure
- Tighten counternut 3.

- Loosen the counternut at screw 2.
- Set the swivel arm parallel to the machine head with screw 2.
- Tighten the counternut at screw 2.

7.2 Aligning the light barriers

The light barriers are aligned by means of machine-specific adjustment and test programs.

The procedure is described in the instruction manual

“Part 4: Programming Instructions DAC CI. 745-34”

Aligning the light barriers chapter 6.3.4.

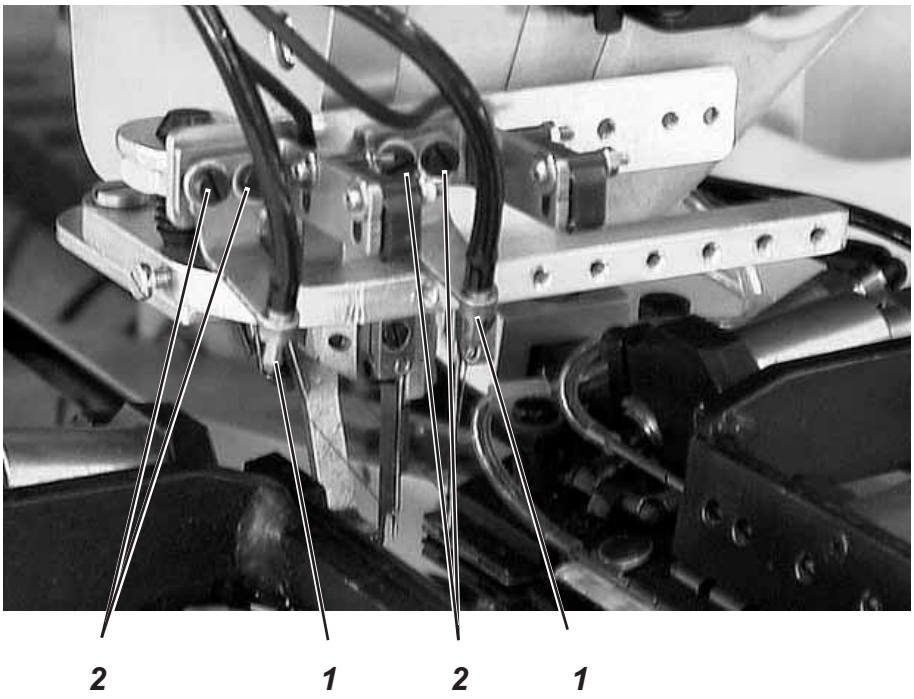
The following adjustments have to be made:

- Prepare the sewing unit and the feeding clamps
- Align the light barriers
  in case of sewing unit with two light barriers for automatic slant recognition

  Sewing unit with two light barriers, flap positioning on the left or on the right

  Sewing unit with one light barrier

7.3 Aligning the air nozzles for cleaning the reflected foil



The light barrier fixture is equipped with additional air nozzles for cleaning the reflected foils from dust and fluff.

Standard checking

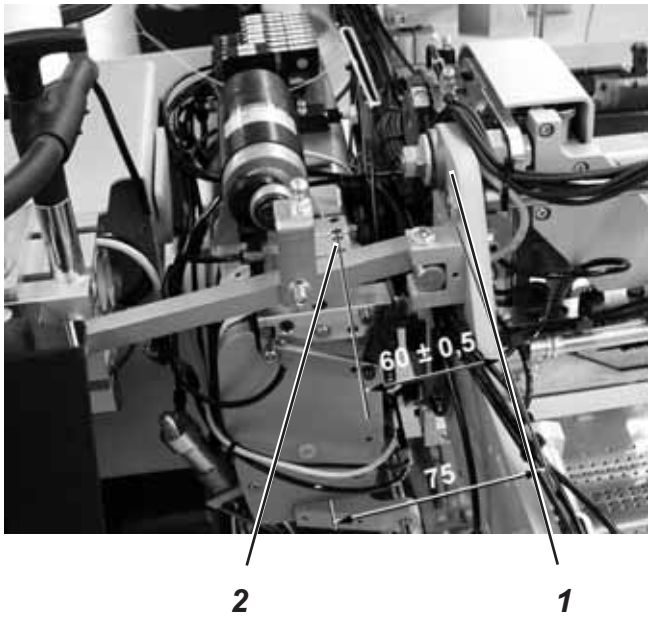
The air nozzles 1 have to be aligned in such a way that the air stream is directed towards the reflected foils while the feeding clamp moves in loading position.

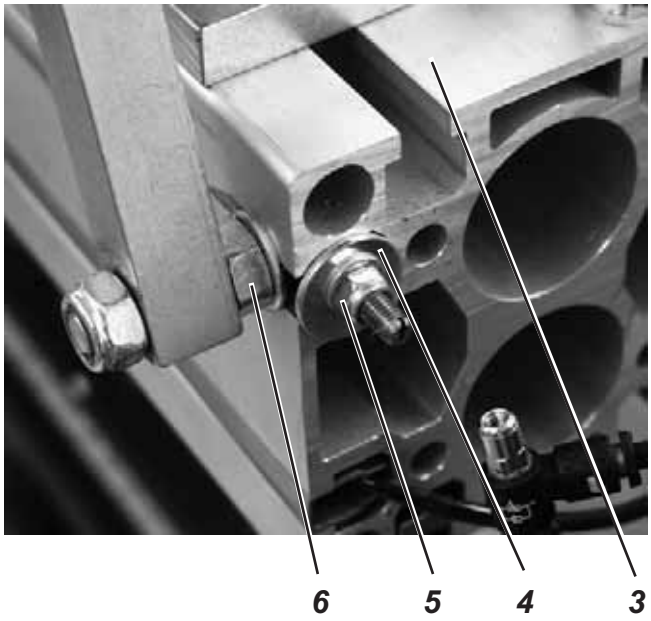
Precondition: The feeding clamps are aligned to the folder sole (see chapter 4.4).

Correction

- Select the output element y30 in the multitest system.
- Pull up the feeding clamps in the air nozzle area and lower with y9 / y11.
- Slightly loosen the screws 2 and turn the air nozzle holder in such a way that the air stream hits the reflected foil - be careful not to displace the light barrier position.
- Consider the lateral displacement of the left clamp in the mode “Pocket bag on flap”. For this purpose select the output element y10 additionally.
- Tighten the screws 2 again.

8. Aligning the folding station plate as to the measuring line





Caution: Danger of injury !

Switch off the main switch.
Adjust the folding station plate of the loading station only with the sewing unit switched off.

Standard checking

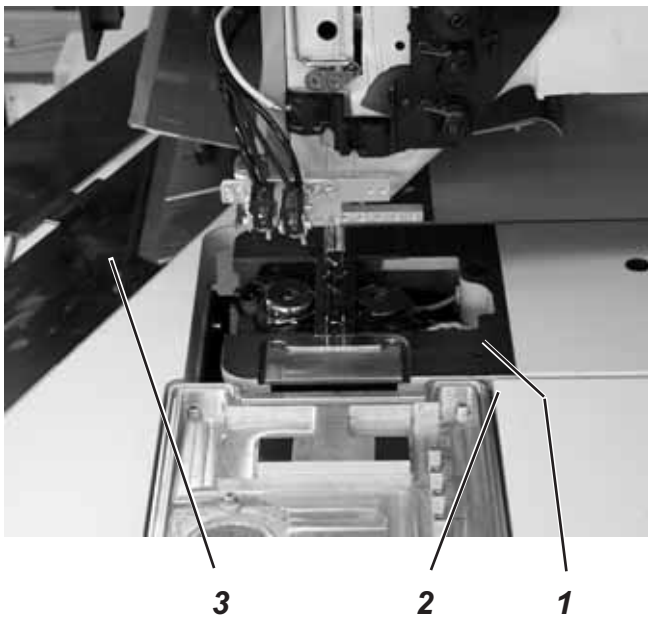
The distance between the middle of the needle and the inner side of the folding station plate 1 must amount to 75 mm.
Between the bores of the cylinders 2 on the machine arm and the inner side of the folding station plate 1 there should be a distance of 60 mm ± 0.5.

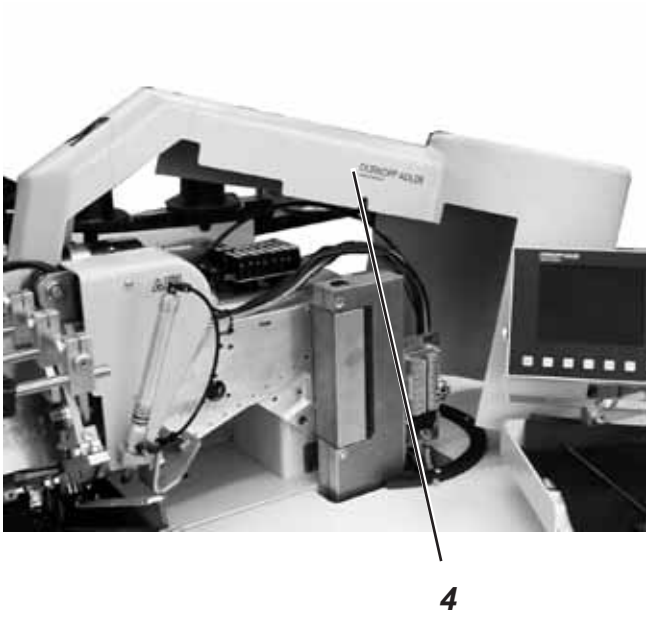
– Measure the distance between the folding station plate 1 and the bores of the cylinders 2 when the loading station is swung in.

Correction

– Push the covering cap to the back.
– Loosen the bolt.
– Turn the nut 5 and shift the bolt 6 in the guide.
– Turn the nut 5 to the left: the bolt 6 moves backwards.
– Turn the nut 5 to the right: the bolt 6 moves forwards.
– The disc 4 must abut on profile 3.
– Tighten the bolt 6.
– Push the covering cap forward.

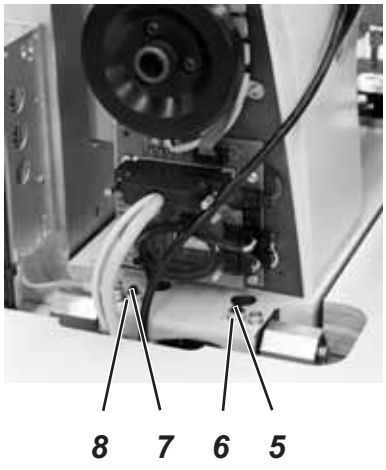
9. Positioning the sewing machine head as to the table top





Caution: Danger of injury !

Switch off the main switch.
Adjust the sewing machine head only with the sewing unit switched off.



Standard checking

The non-varnished surface of the base plate 1 of the sewing machine head must be at the same level as the table top 2 over its whole length.

- Push the feeding clamps to the back.
- Lift the sliding sheets 3 at the front and swivel them to the left.
- Check the height of the base plate.

Correction

Sewing machine head, right side

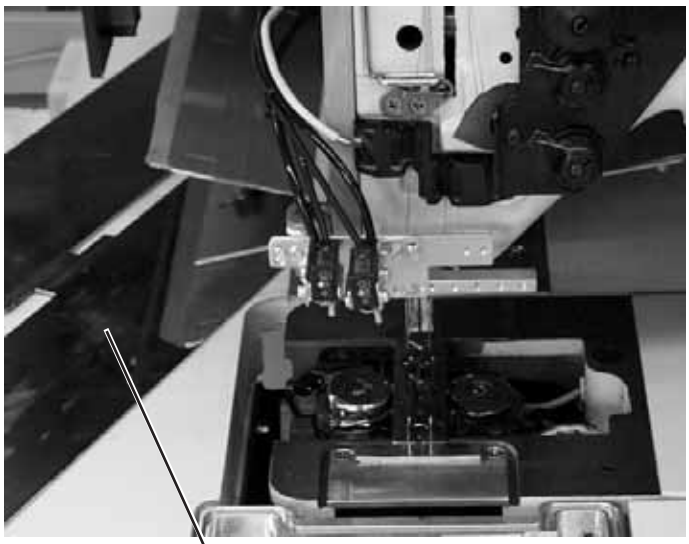
- Remove the cover 4.
- Loosen the counternuts 6 and 8.
- Turn the screws 5 and 7 equally with an Allen wrench.
- Tighten the counternuts 6 and 8.

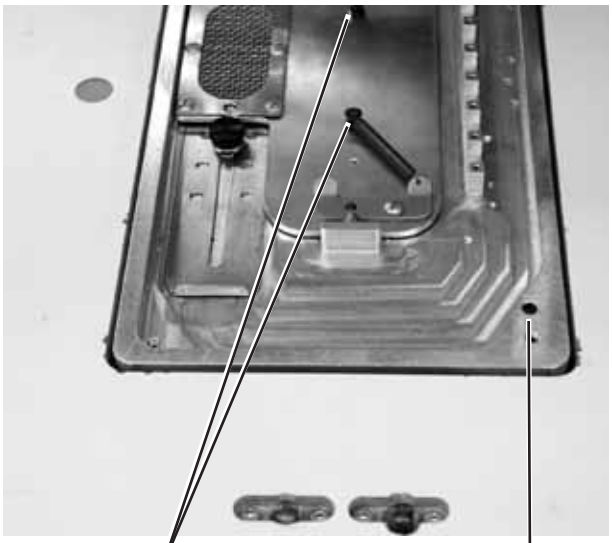
Sewing machine head, left side

- Swing the sewing machine head upwards (see chapter 2.1).
- Remove the oil pan.
- Turn the screw 9 with an Allen key.
- Fasten the oil pan again.
- Swing the sewing machine head back.

10. Fabric sliding sheet and vacuum plate

10.1 Adjusting the height of the vacuum plate





Standard checking

The vacuum plate should be on one level with the table top.

– Lift the fabric sliding sheets 1 at the front and swivel them to the left.
– Check the height of the vacuum plate as to the table top.

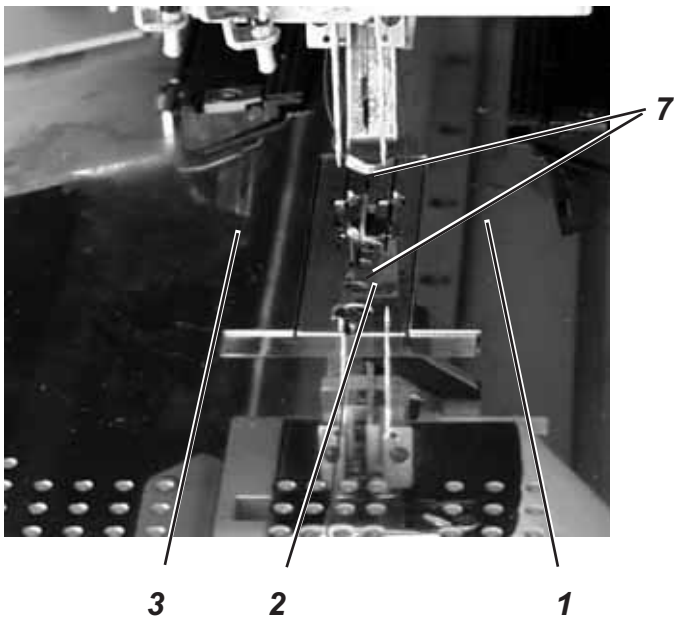
Caution: Danger of injury !

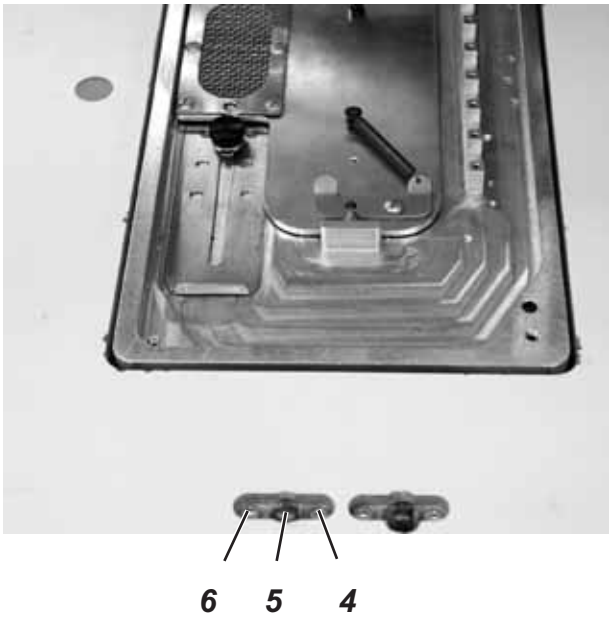
Switch off the main switch.
Adjust the vacuum plate only with the sewing unit switched off.

The vacuum plate is connected with the table plate support by four core pins 2.

– Turn the core pin 2.
  Clockwise = Vacuum plate higher
  Counter-clockwise = Vacuum plate lower
– Readjust the support bolts 7.

10.2 Aligning the fabric sliding sheet as to the throat plate





Caution: Danger of injury !

Switch off the main switch.
Align the fabric sliding sheets only with the sewing unit switched off.

Standard checking

The fabric sliding sheets 1 and 3 have to be aligned in such a way that their cutouts have a uniform distance to the throat plate 3. The throat plate and the surface of the sliding sheet must be on the same level.

- Check the distance between the fabric sliding sheets and the throat plate.
- Check the height of the throat plate.

Correction of the sliding sheet

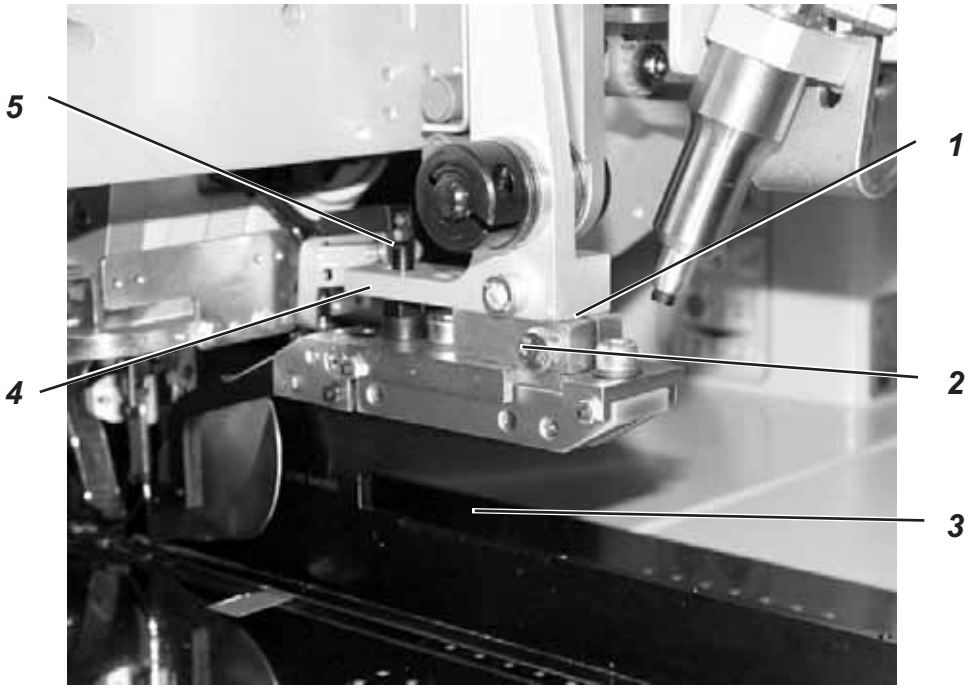
- Loosen the screws 4 and 6 from the locking peg 5 through the drill-holes in the sliding sheet.
- Shift the locking peg to the left or to the right.
- Tighten the screws 4 and 6.
- Put the fabric sliding sheet on again and check the distance to the throat plate.
- Adjust the second locking peg as described.

Correction of the throat plate height

- Loosen the screws 7 and remove the throat plate.
- If required, adapt the throat plate height by putting a spacer sheet underneath (Parts No. 0745 200300).
- Fasten the throat plate again with the screws 7.

11. Folder (working method A)

11.1 Proper fastening



Caution: Danger of injury !

Switch off the main switch.
Remove and mount the folder only with the sewing unit switched off.

Standard

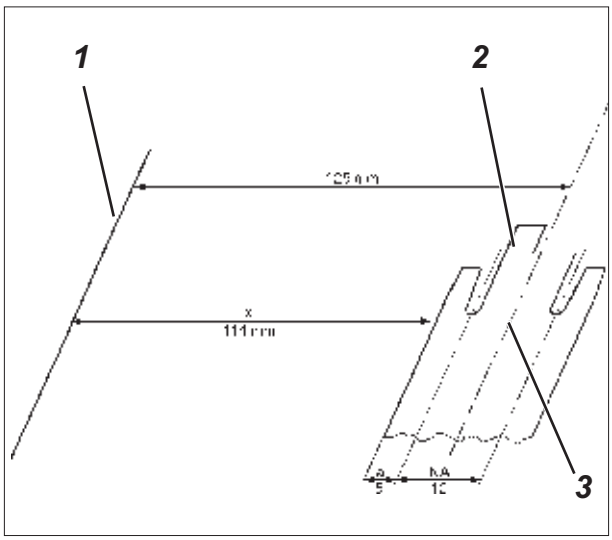
The folder 3 has to be pushed upwards until it abuts on the clamping collar 1.

The pin 5 must stick in the drill-hole of the operating lever 4.

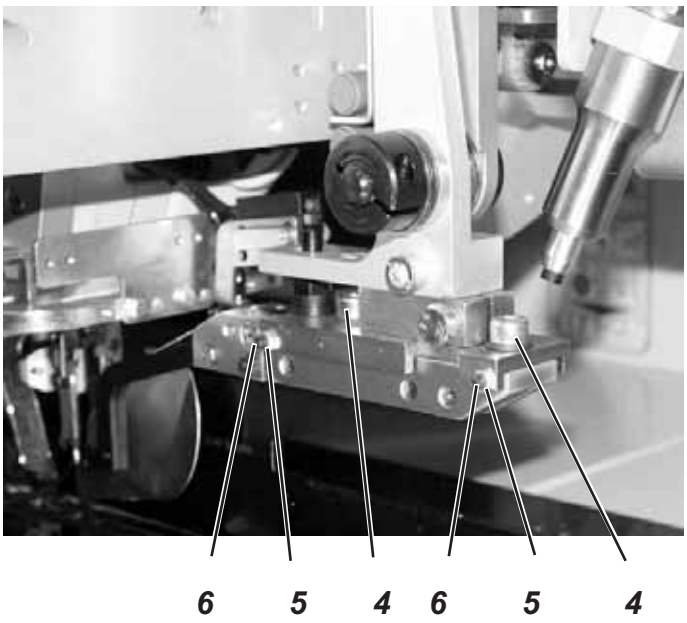
Correction

- Loosen screw 2.
- Push the folder 3 upwards as far as it will go.
- Tighten screw 2.

11.2 Aligning the folder as to the middle of the pocket opening



Example for NA 12



Caution: Danger of injury !

Switch off the main switch.
Align the folder as to the middle of the pocket opening only with the main switch switched off.

Standard checking

If properly fitted, the folder can be aligned as to the middle of the pocket opening from the measuring line 1.

The dimension x can be calculated according to the width of the folder sole 2. With the help of this dimension the folder can be aligned as to the middle of the pocket opening 3 and parallel to the measuring line 1.

– Deduct the piping width a and half the needle distance NA from the dimension 125 mm.
  Example from the sketch:
  125 mm - a - 1/2 x NA = x
  125 mm - 5 mm - 1/2 x 12 mm = 114 mm
– Check the distance of the folder sole to the measuring line 1.

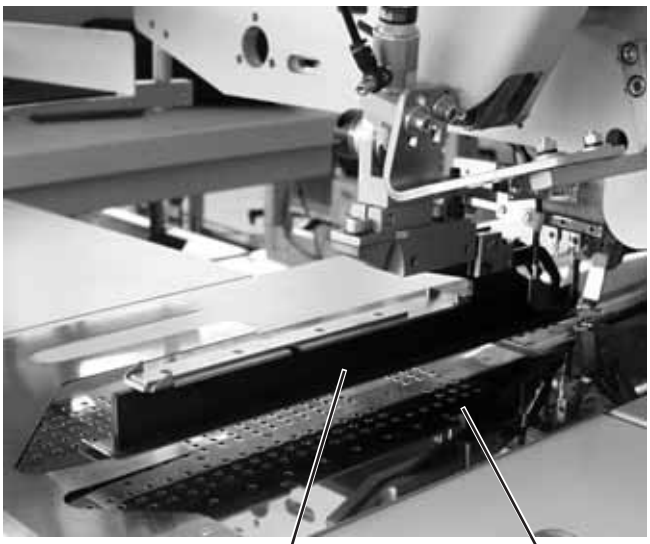
Table Dimension a

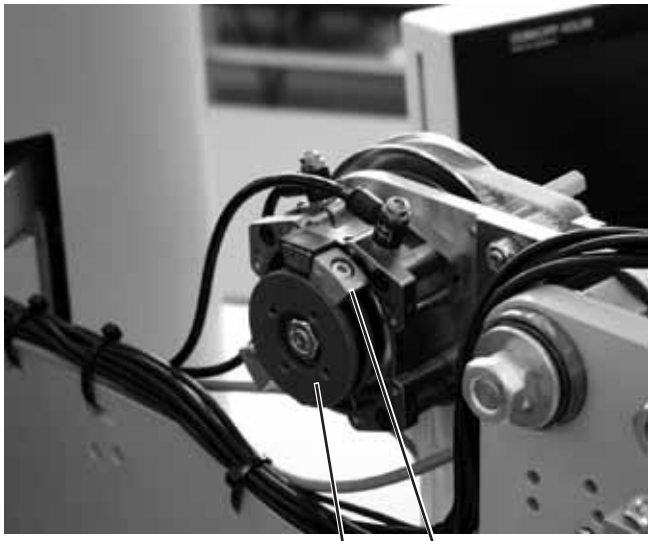
NA	a
10	4
12	5
14	6
16	6,5
20	8,5

Correction of the parallel position

– Make the machine pressureless and press the folder down by hand.
– Slightly loosen the screws 4.
– Loosen the nuts 5 and turn the core pins 6 until the dimension x is adjusted over the whole sole length.
– Tighten the nuts 5.
– Tighten the screws 4.

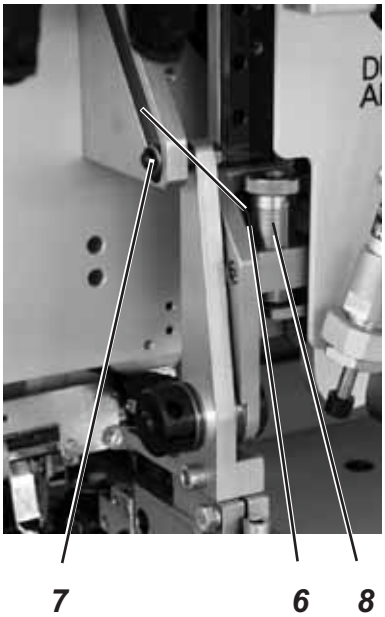
11.3 Lifting motion of the folder





Caution: Danger of injury !

Switch off the main switch.
Adjust the lifting motion of the folder only with the sewing unit switched off.



Standard checking

When the folder is lowered

– Lower the folder on the fabric sliding sheet. In this position there must be a clearance of 0.3 - 0.5 mm between the guide roller 7 and the lowest point of the guide groove 6.

When the folder is raised

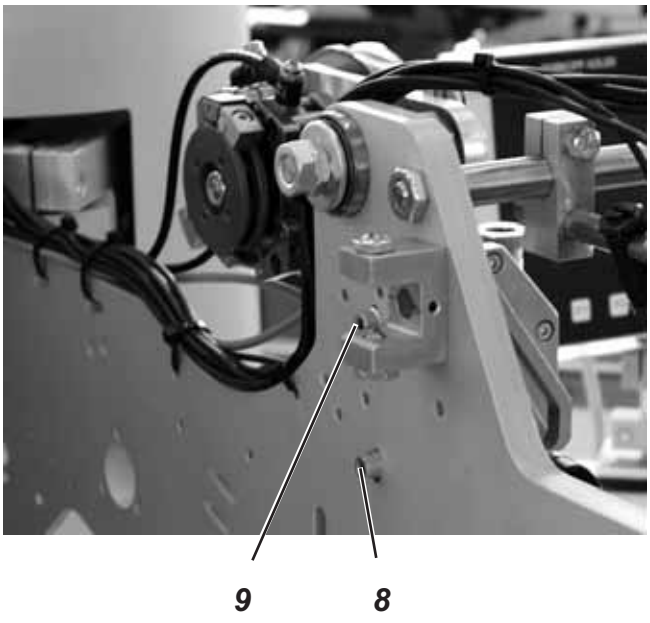
When the folder is raised, there must still be some clearance between the guide roller 7 and the highest point of the guide groove 6.

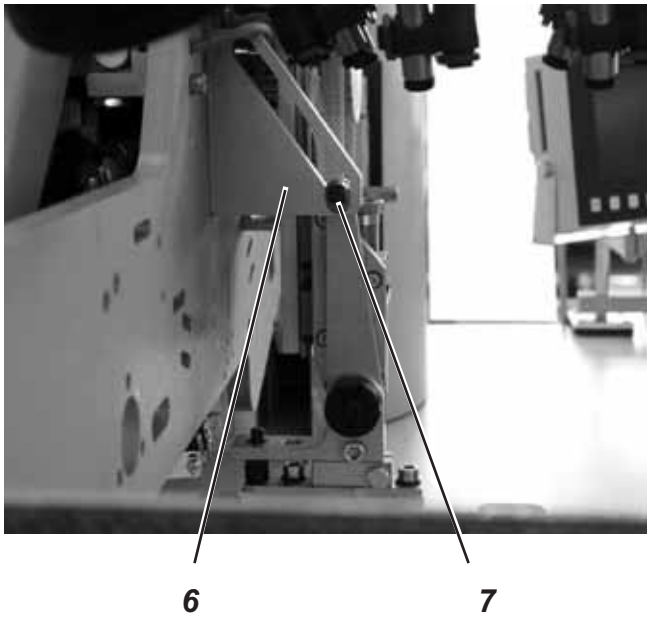
– Press the folder down to the fabric sliding sheet by hand.
– For this purpose turn the stop 8 back, if required.
– Check the air gap between guide groove 6 and guide roller 7.
– Lift the folder up to the upper stop 3.
– Check the air gap between guide groove 6 and guide roller 7.

Correction

– Swing the folding station out.
– Adjust the stop 3 at the pivoting cylinder 4.

If - with the folder lowered - the guide roller 7 hits the guide groove and the folder is not lowered as far as required, the guide groove has to be readjusted (see next page).

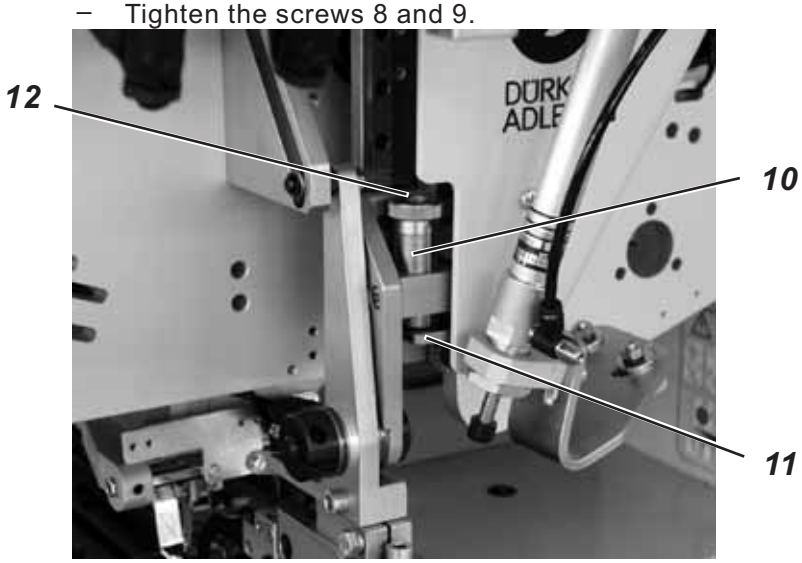




Caution: Danger of injury !

Switch off the main switch.
Adjust the guide groove for the folder only with the sewing unit switched off.

- Loosen the screws 8 and 9.
- Shift the cam piece 6 in the slotted holes.
- Tighten the screws 8 and 9.



Stop screw with spring

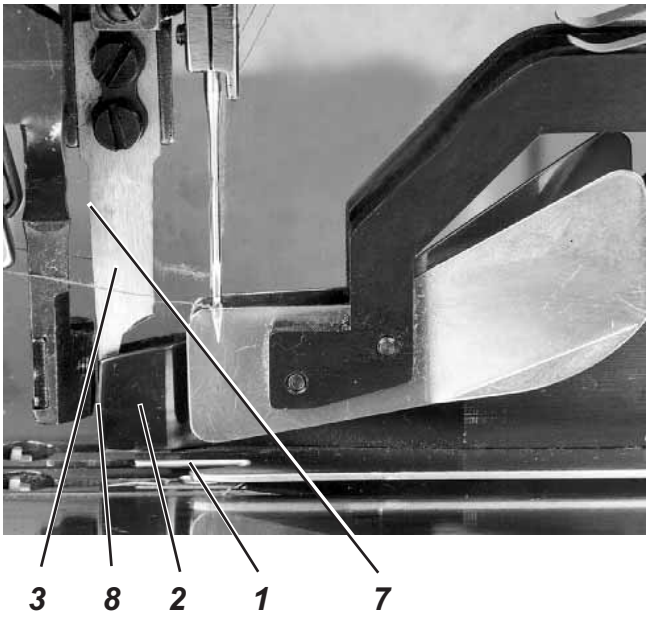
Standard checking

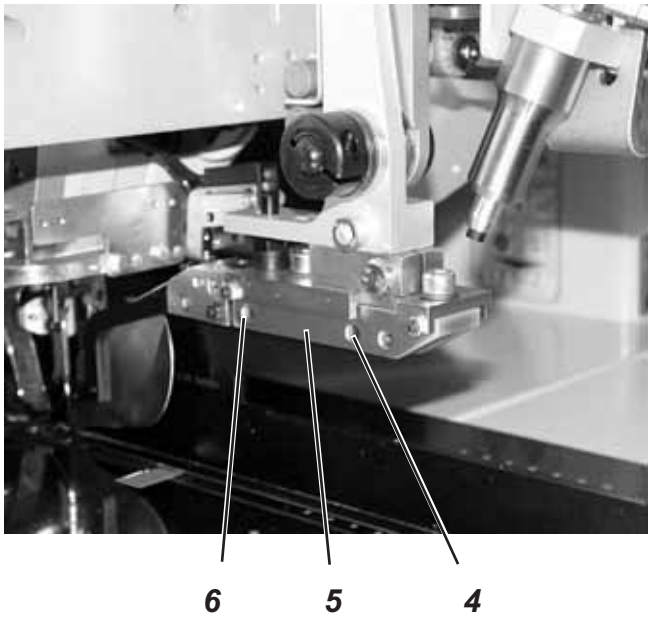
The stop screw 10 has to be adjusted in such a way that - with the folder lowered - the distance between the folder sole and the sliding sheet amounts to approx. 1 - 2 mm (dependent on the fabric).

The incorporated spring presses the folder back so that the piping strip is safely seized when sewing (during the last section of the backward movement the slewing cylinder is pressureless).

- Turn the stop screw 10 in such a way that - if the folder is lowered - the stop screw 10 abuts on the stop 11 (make sure that it snaps in).
- Adjust the spring pressure with screw 12 in the stop screw 10 so that the folder is pressed back.

11.4 Position of the folder to the needles and to the center knife





Caution: Danger of injury !

Switch off the main switch.
Align the folder as to the needles and to the center knife only with the sewing unit switched off.

Standard checking

When the folder is properly fastened, the following conditions must be fulfilled:

When the folder is lowered, the needles must stick in the needle holes of the folder sole 1 without hindrance (without being pushed out of the way).

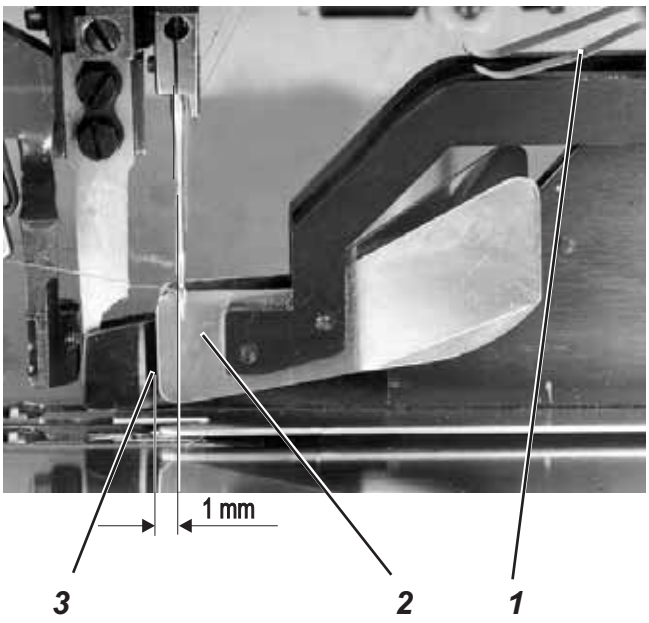
When the center knife 3 enters into the center knife protection 2, the rear knife edge 7 must be flush with the rear edge of the knife protection 8.

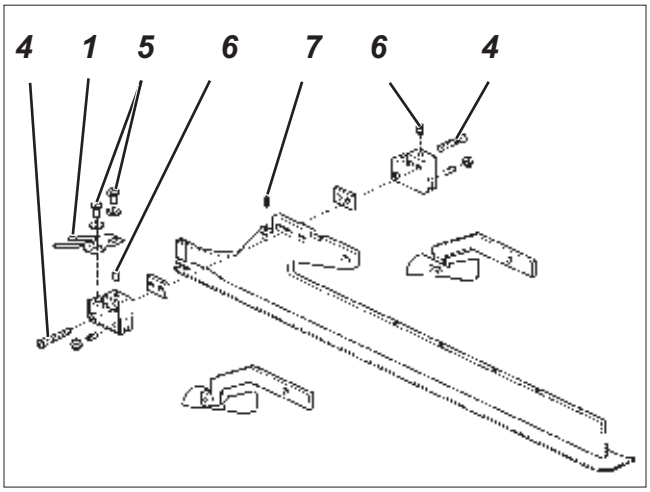
– Press the folder down by hand completely.
– Check the position of the folder sole to the needles and to the center knife.

Correction

– Loosen the screws 4 and 6 at the rear.
– Align the folder holder 5 in sewing direction.
– Tighten the screws 4 and 6.

11.5 Aligning the guide plates at the folder





Caution: Danger of injury!

Switch off the main switch.
Adjust the guide plates only with the sewing unit switched off.

Standard checking

When the folder is lowered, the edges 3 of the guide plates 2 must project from the needles by approx. 1 mm to the back.

The leaf springs 1 hold the guide plates down by a low pressure on the folder sole.
The pressure must be set in such a way that the springy guide plates can be easily lifted by the fed piping strip or by the flap. The height of the guide plates over the soles has to be set in accordance with the fabric.

- Lower the folder.
- Check the position of the guide plates to the needles.
- Check the spring pressure of the guide plates.

Correction

Aligning the guide plates

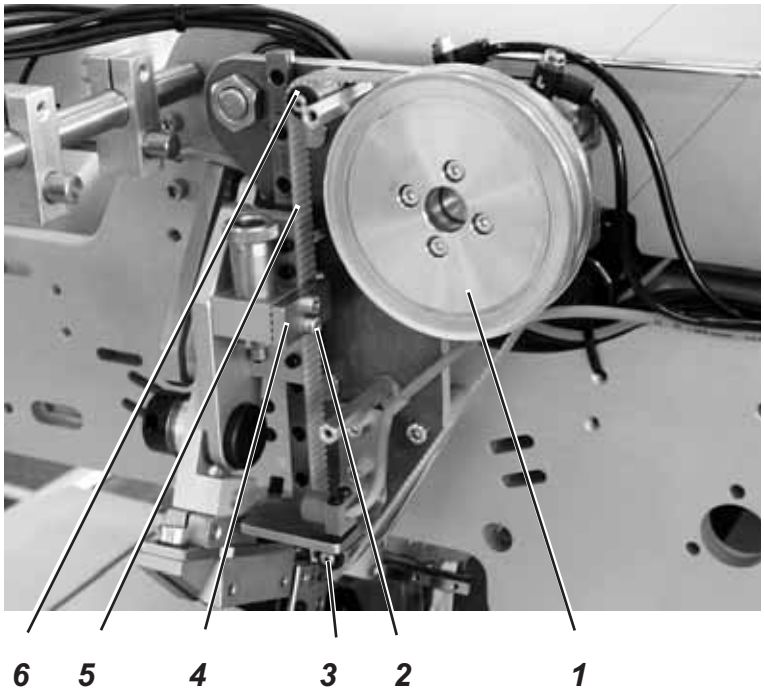
- Loosen screws 4.
- Loosen core pin 7.
- Adjust the guide plates in longitudinal direction.
- Adjust the height of the guide plates with core pin 6.
- Tighten screws 4.
- Tighten core pin 7.

Adjusting the spring pressure

- Loosen screws 5.
- Adjust the pressure by aligning the leaf springs 1.
- Tighten screws 5.

11.6 Changing the toothed belt for the folder movement

Some machines of the working methods A and D can be equipped with a slewing cylinder and a toothed belt for the folder movement.



Caution: Danger of injury!

Switch off the main switch.
Change the toothed belt only with the sewing unit switched off.

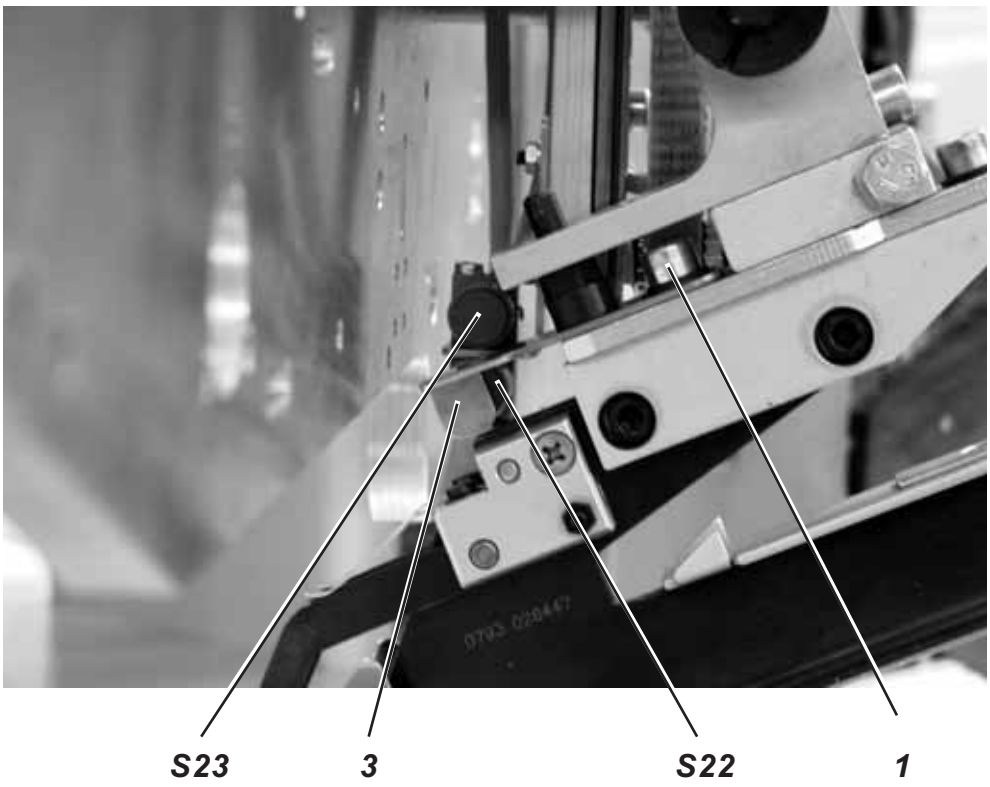
Removing the toothed belt

– Unscrew the screws 2 and take off the clamping plate 4.
– Pull off and remove the toothed belt 5 from the idlers 3 and 6 and from the drive gear 1.

Putting on the toothed belt

– Place the toothed belt 5 on the idlers 3 and 6 and on the drive gear 1.
– Put on the clamping plate 4 and tighten with the screws 1. Observe the position of the slewing cylinder.

11.7 Safety switch for the folders



Caution: Danger of injury !

Switch off the main switch.
Check and adjust the switch lug 3 only with the sewing unit switched off.

Standard checking

By means of the switches S22 and S23 it is checked whether the used folder belongs to the selected sewing program.
In case of r/h single piping switch S22 must be actuated and in case of l/h single piping switch 23 must be actuated.
The distance between the switches and the switch lug 3 should amount to approx. 1 mm.

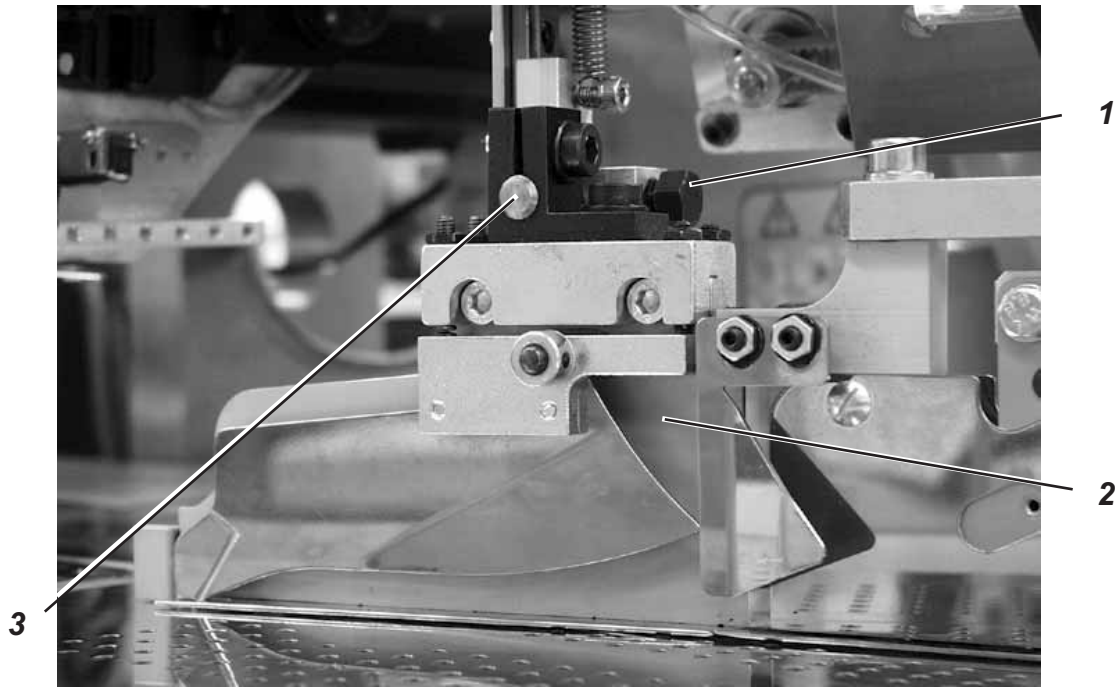
– Check the distance between switch lug 3 and switch 2.

Correction

– Slightly loosen screw 1.
– Adjust the distance between switch lug 3 and the switches S22/S23.
– Tighten screw 1 again.

12. Folders and pick-up folders (working methods B, D, F)

12.1 Proper fastening



Caution: Danger of injury !

Switch off the main switch.
Remove and mount the folder only with the sewing unit switched off.

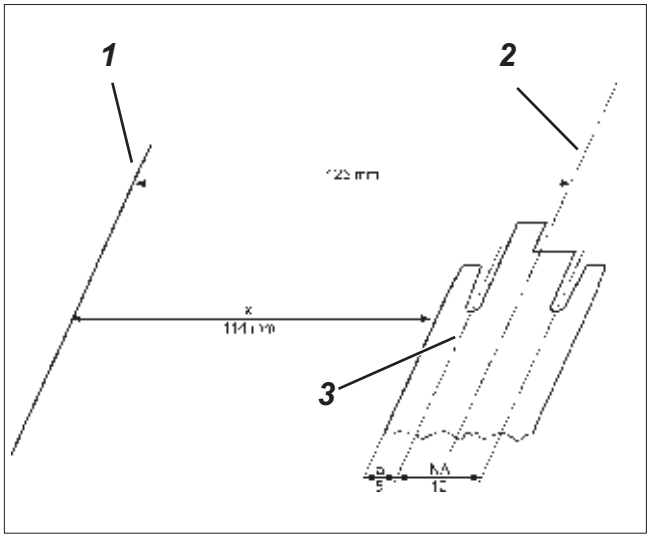
Standard

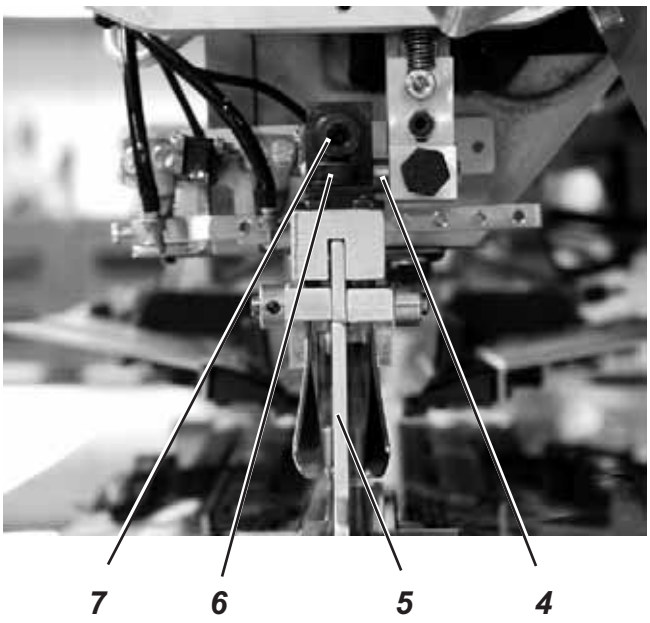
Folder 2 is positioned correctly when the fastening screw 1 pushes into the insertion bore of pin 3.

Correction

- Loosen screw 1.
- Pull the folder 2 out.
- Check whether the insertion bore of pin 3 points towards the fastening screw 1.
- Reinsert the folder and tighten with screw 1.

12.2 Aligning the folder as to the middle of the pocket opening





Caution: Danger of injury !

Switch off the main switch.
Align the folder as to the middle of the pocket opening only with the main switch turned off.

Standard checking

If properly fastened, the folder 5 can be aligned as to the middle of the pocket opening from the measuring line 1.

The dimension x can be calculated according to the width of the folder sole 3. With the help of this dimension the folder can be aligned as to the middle of the pocket opening 2 as well as in parallel position to the measuring line 1.

– Deduct the piping width a and half the needle distance NA from the dimension 125 mm.
  Example from the sketch:
  125 mm - a - 1/2 x NA = x
  125 mm - 5 mm - 1/2 x 12 mm = 114 mm
– Check the distance between folder sole and measuring line 1.

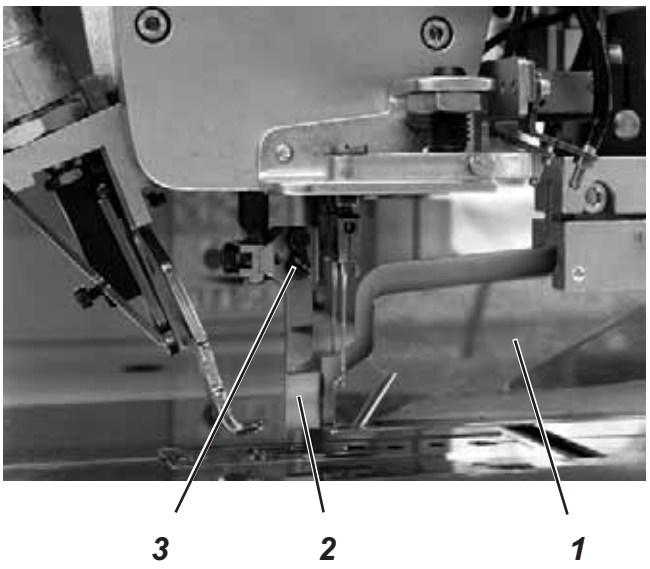
Correction of parallel position

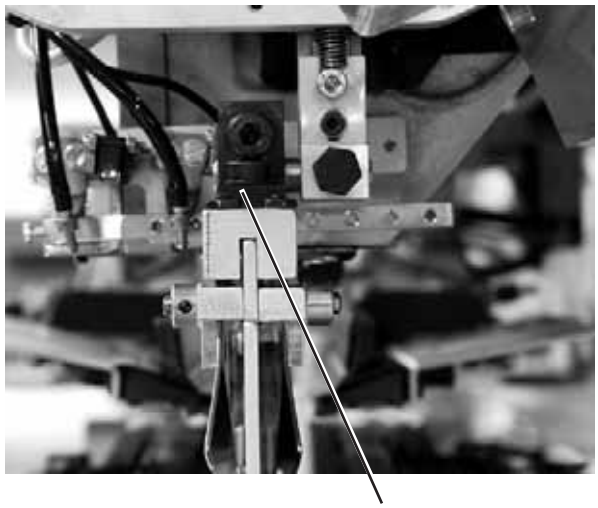
– Loosen screw 6 slightly.
– Align the folder sole in parallel position to the measuring line 1 with the help of a measuring rule.
– Tighten screw 6.
– Loosen screw 7.
– Set the distance x (in the example x = 114 mm) between measuring line 1 and the left edge of the folder sole 3.
– Turn folder 5 on finger 4 in such a way that the folder sole slightly ascends by 0.5 mm on 100 mm length starting from the sewing area. This facilitates the material feed.
– Tighten screw 7.

Table Dimension a

NA	a	NA	a	Na	a
10	4	14	6	20	8,5
12	5	16	6,5		

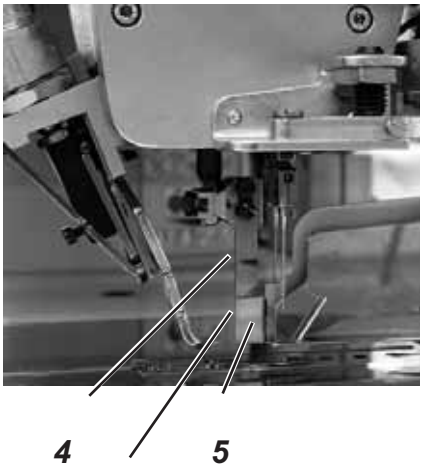
12.3 Checking the position of the folder as to the needles and to the center knife





Caution: Danger of injury !

Switch off the main switch.
Check the position of the folder as to the needles and to the center knife only with the main switch switched off.



Standard checking

When the folder 1 is properly fastened, the following conditions must be fulfilled:

- The needles must stick in the needle holes of the folder sole without hindrance (without being pushed out of the way).
- When the center knife 3 enters into the knife protection 2, the rear knife edge 4 must be flush with the rear edge of the knife protection 5.

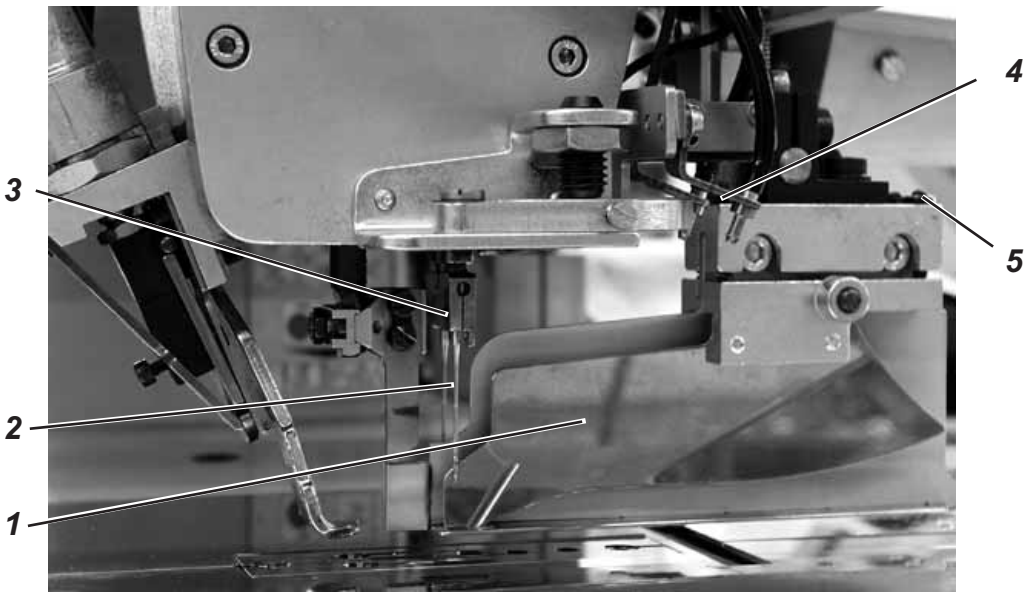
Correction

Folder 1 is slightly adjustable in its longitudinal direction.

- Loosen screw 6 once again.
- Shift the folder 1 in longitudinal direction. Make sure that the sole is in parallel position to the measuring line (see chapter 12.2).
- Tighten screw 6.

If the folder does not stand correctly to the needles, check the position of the folding station plate for the loading station (see chapter 8).

12.4 Adjusting the guide plates at the folder



Caution: Danger of injury !

Switch off the main switch.
Check and adjust the guide plates only with the main switch switched off.

Standard checking

According to the material thickness and considering whether the flap is to be positioned on the right or on the left the height of the guide plates has to be adjusted in such a way that they can easily be lifted by the workpiece. The guide plates have to be close beside the needles, but must not touch the needles or the needle block.

- Check the position of the guide plates.
- Check the spring pressure (important with regard to the folding and seam quality).
- Check the free movement of the needles 2 and needle block 3 with regard to the guide plates.

Correction

Adjusting the guide plate height

- Loosen nut 5.
- Adjust the guide plate height with core pin in nut 5.
- Tighten nut 5.

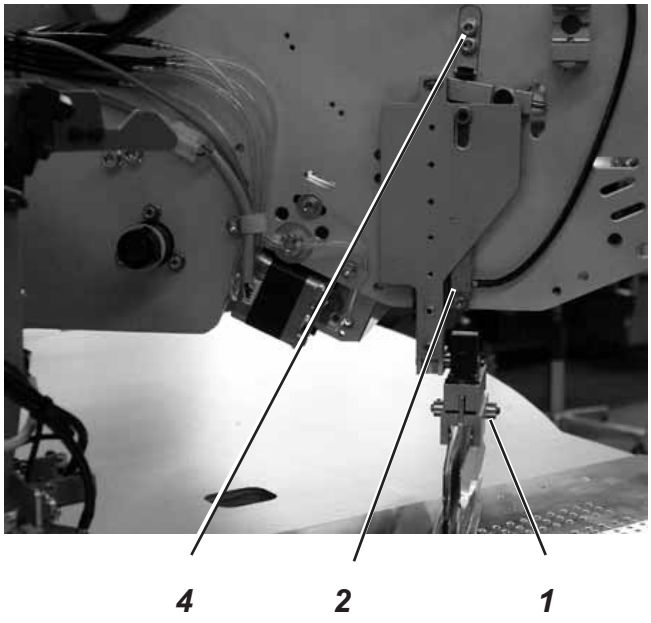
Adjusting the spring pressure

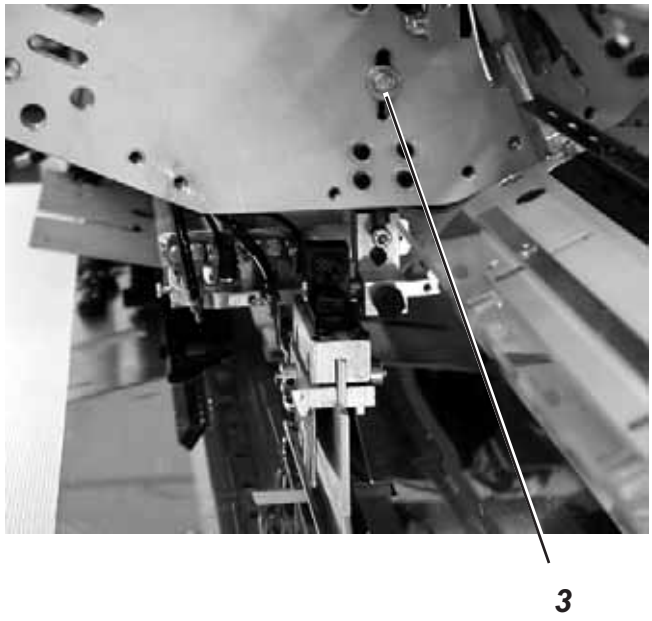
- Loosen nut 4.
- Adjust the spring pressure with core pin in nut 4.
- Tighten nut 4.

Adjusting the guide plates aside the needles

- Carefully align the guide plates 1 with a pair of pliers.

12.5 Lifting motion and suspension of the folder





Caution: Danger of injury !

Switch off the main switch.
Check and adjust lifting motion and suspension of the folder only with the main switch turned off.

Standard checking

The folder 1 is suspended flexibly and is lifted by the pneumatic cylinder 2.

In non-lifted position the folder must be lifted by the elastic force only.

– Swing the folding station out a little.
– Press the folder 1 down by hand.
  It must be possible to press it down to the sliding sheets.
– Release the folder.
  The folder must be lifted by the spring.

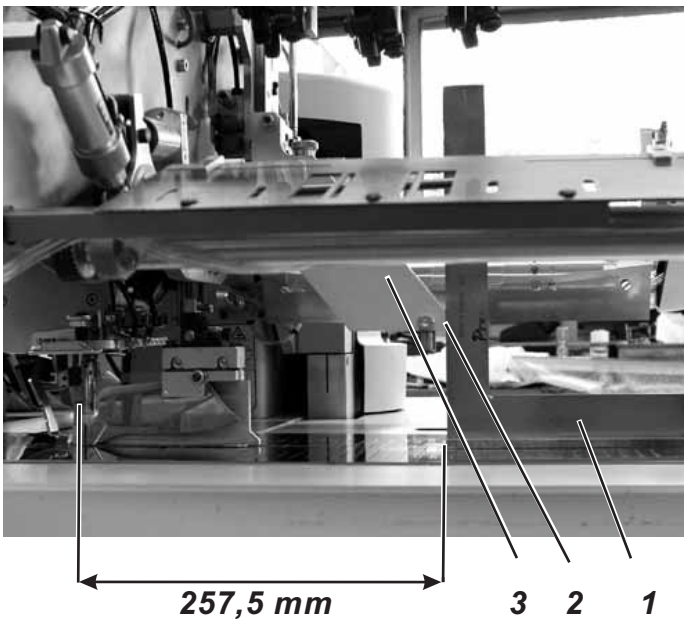
Correction

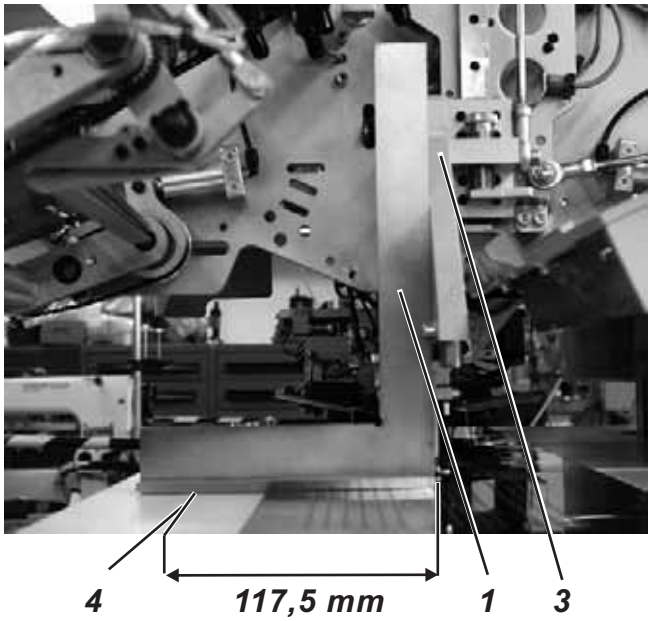
– Swing the folding station out.
– Loosen screw 3 and adjust it in the slotted hole in such a way that the folder is safely lifted.
– Tighten screw 3.
– Swing the folding station back and let it snap in.

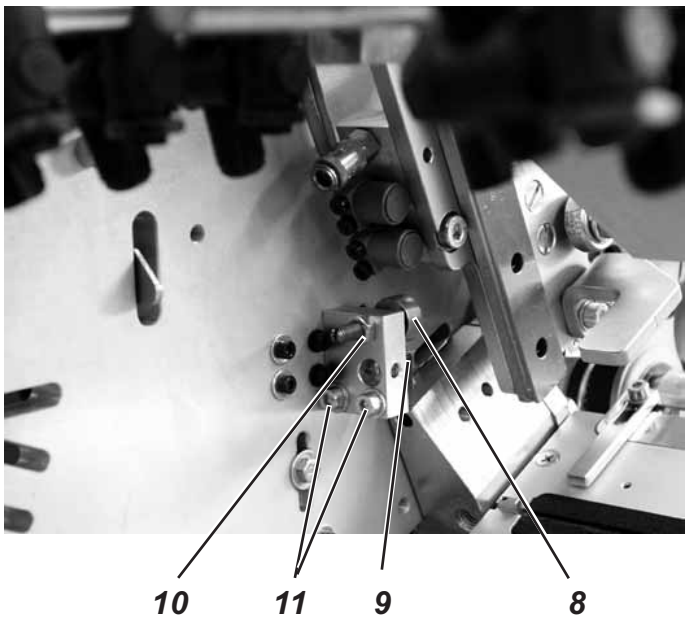
Stop for the folder height

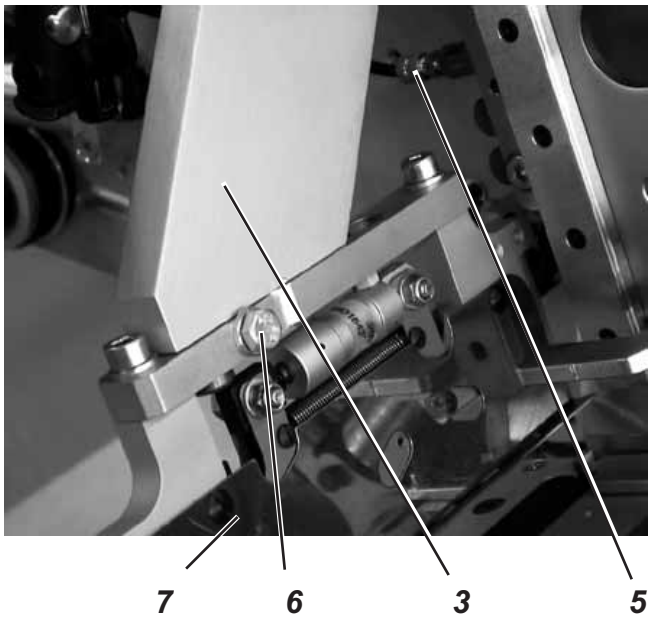
The center knife point in its lowest position must not project from the folder sole. Otherwise the fabric is damaged.

– Adjust the stop 4 correspondingly.


257,5 mm
3
2
1


4
117,5 mm
1
3


10
11
9
8


7
6
3
5


12

12.6 Presetting the mounting plate for the pick-up folder

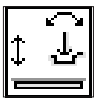
Caution: Danger of injury !

Check and adjust the mounting plate for the pick-up folder with utmost caution when the sewing unit is running.

Standard checking

After the pick-up folder has laterally swivelled to the center of the pocket opening, the distance between the face side 2 of the mounting plate 3 and the needles should amount to 257.5 mm and the distance between the left side of mounting plate 3 and the measuring line 4 to 117.5 mm. The mounting plate must be in right-angled position to the fabric sliding sheet in both directions.

– Pull off the hose coupling 5.
– Loosen screw 6 and remove the pick-up folder 7.
  The exchange of the pick-up folder must only be done by loosening the clamping screw 6!



– Switch on the main switch.
– Activate the adjustment program **“Checking the pick-up folder without feeding clamp”** (see Programming Instructions, chapter 6.3.8).
– Press function key **F5**.
  The mounting plate for the pick-up folder moves in vertical position and lowers.
– Position an angle 1 at the face side 2 of the mounting plate.
– Measure the distance between angle 1 and needles.
– Position the angle at the right side of the mounting plate 3.
– Measure the distance between angle 1 and measuring line 4.
– Check the right-angled position to the fabric sliding sheet in both directions.

Correction

Position of the mounting plate in sewing direction

– Loosen the three screws 12.
– Shift the mounting plate in sewing direction. Make sure that the angle 1 abuts on the face side 2.
– Tighten the three screws 12.

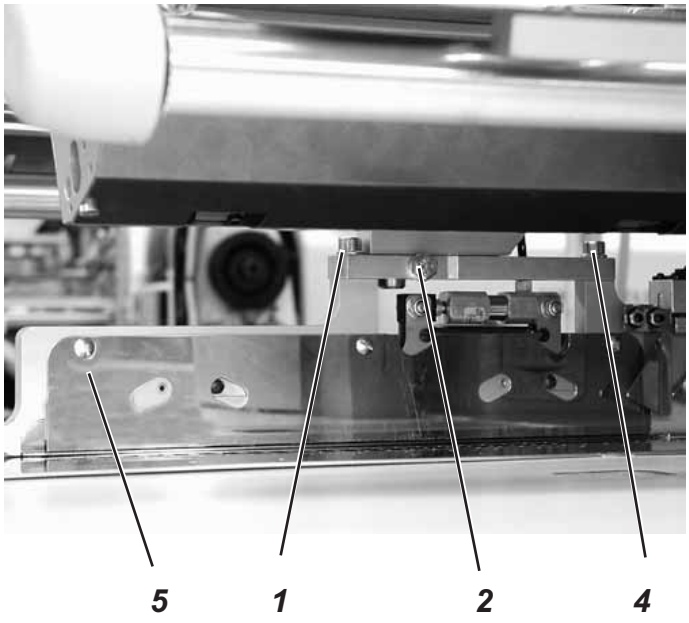
Lateral position of the mounting plate

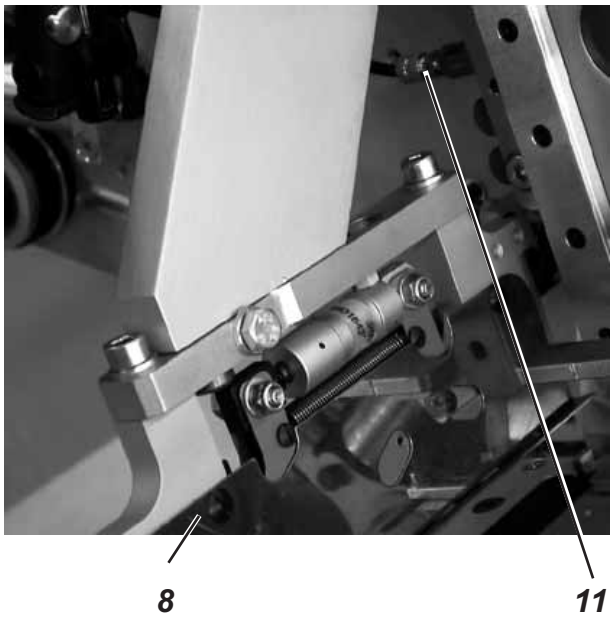
– Loosen the counternut 10.
– Adjust the stop 8 correspondingly.
– Tighten the counternut 10.
– Take care that the pin easily runs into the guide 9.
– In case of rough running loosen screws 11 and tighten again when the mounting plate is in vertical position.

12.7 Aligning the pick-up folder

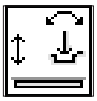
Caution: Danger of injury !

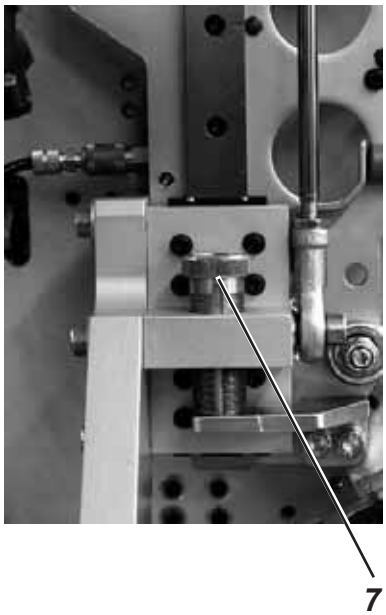
Align the pick-up folder with utmost caution when the sewing unit is running.





12.7.1 Aligning the folder sole as to the middle of the pocket opening

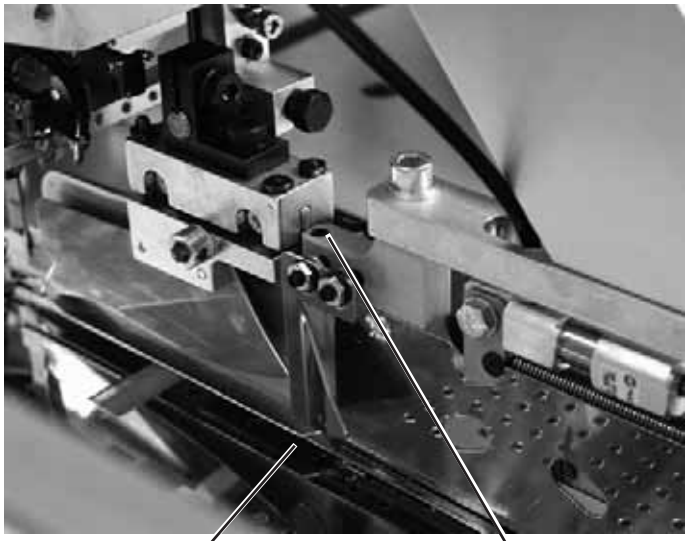




- Push the pick-up folder 5 upwards as far as it will go.
- Tighten screw 2.
- Put in the hose coupling 11.
- Turn stop 7 back a little.
- Switch on the main switch !
- Activate the adjustment program “ **Checking the pick-up folder without feeding clamp** ”. (see Programming Instructions, chapter 6.3.8)
- Press key **F5** .
  The pick-up folder 8 moves in vertical position and lowers down to the fabric sliding sheet.
- Slightly loosen screws 1 and 4.
- Align the folder sole laterally as to the middle of the pocket opening.
  (see chapter 12.2) As an aid you can use a ruler positioned at the (already aligned) folder sole. The soles of the folder and the pick-up folder must be exactly in alignment.
- Tighten screws 1 and 4 again.

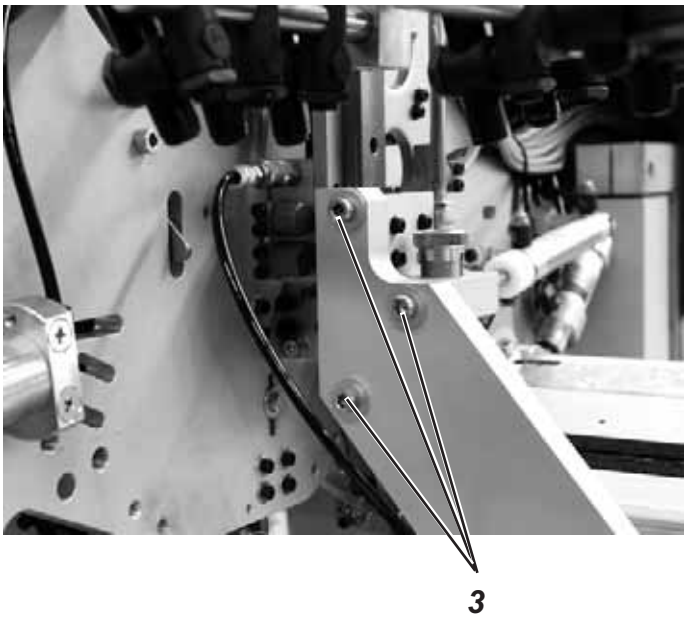
12.7.2 Adjusting the height of the pick-up folder as to the folder

Adjust the height of the pick-up folder in such a way that - when the pick-up folder is lowered - both soles are flush at the connecting surface seen from the side. For this purpose turn the self-locking grub screw correspondingly.



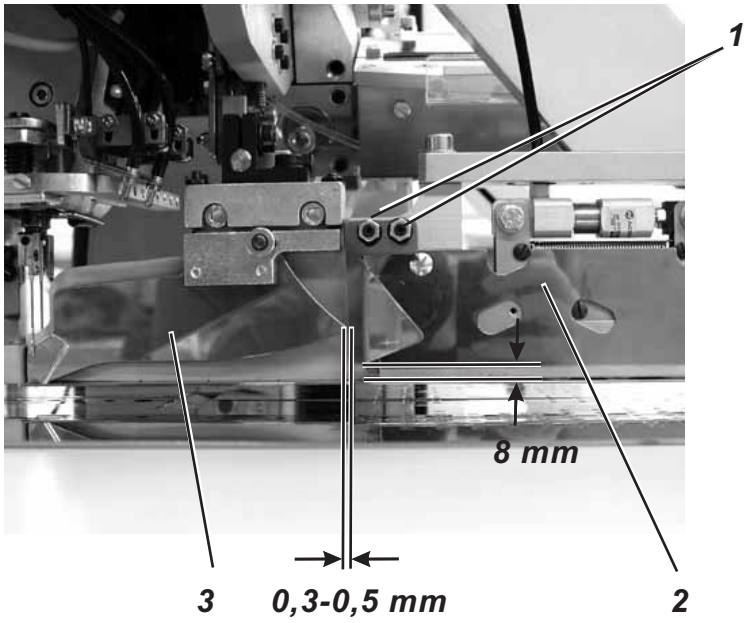
- Check that both soles are flush at the connecting surface 2 seen from the side.
- Turn the self-locking grub screw 1.

12.7.3 Position of the pick-up folder in sewing direction



- Slightly loosen the screws 3 at the mounting plate.
- Shift the lowered pick-up folder in sewing direction so that there is a distance of 0.5 mm between folder and pick-up folder. Take care that the sole of the pick-up folder rests on the fabric sliding sheet over its whole length.
- Tighten the screws 3.

12.8 Adjusting the guide plates at the pick-up folder



Standard checking

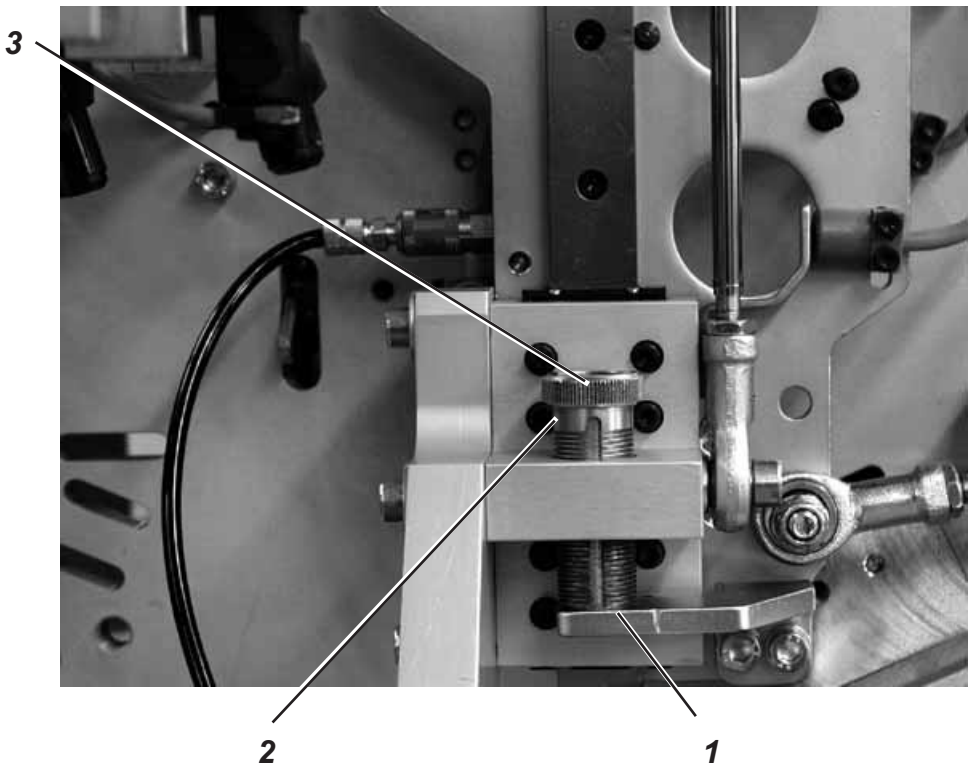
The guide plates at the pick-up folder have to be adjusted in such a way that the workpieces can pass the junction between folder and pick-up folder without hindrance. When the pick-up folder is moving, the guide plates must never touch.

The distance between the guide plates at folder 3 and pick-up folder 2 should amount to approx. 0.3 - 0.5 mm. The guide plate height above the sole has to be set according to the material thickness / flap. The standard dimension is 8 mm.

Correction

- Loosen four nuts 1.
- Adjust the guide plates laterally in such a way that the inner surfaces of the guide plates at the pick-up folder and the folder are flush.
- Adjust the guide plate height so that there is a distance of 8 mm between the lower edge of the guide plate and the sole.
- Set the guide plate distance to 0.3 - 0.5 mm.
- Tighten four nuts 1.
- Adjust the other guide plate likewise.

12.9 Stop screw for the pick-up folder



Caution: Danger of injury !

Adjust the stop screw for the pick-up folder with utmost caution when the sewing unit is running.

Standard checking

The stop screw 10 has to be adjusted in such a way that - with the folder lowered - the distance between the folder sole and the sliding sheet amounts to approx. 1 - 2 mm. (dependent on the fabric).

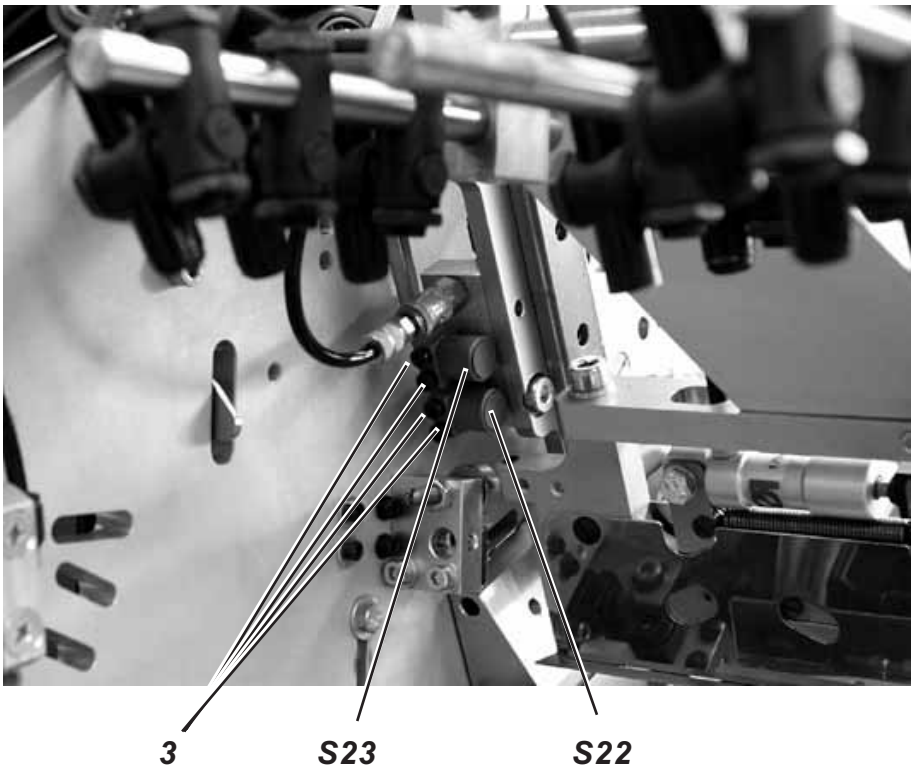
The incorporated spring presses the folder back so that the piping strip is safely seized when sewing (during the last section of the backward movement the slewing cylinder is pressureless).

– Switch on the main switch !
– Activate the adjustment program “ **Checking the pick-up folder without feeding clamp** ”.
– Press key **F5** .
  The pick-up folder moves in vertical position and lowers down on the fabric sliding sheet.

Correction

– Turn the stop screw 2 in such a way that - when the pick-up folder is lowered - the stop screw abuts on stop 1 (make sure that is snaps in).
– Adjust the spring pressure with screw 3 (within stop screw 2) so that the pick-up folder is pressed back.

12.10 Recognition of the pick-up folder



Caution: Danger of injury !

Switch off the main switch.
Check and adjust the switches S22 and S 23 only with the sewing unit switched off.

Standard checking

Via the switches S22 and S23 it is checked whether the used pick-up folder belongs to the selected sewing program.
In case of r/h single piping the lower switch 22 has to be actuated and in case of l/h single piping the upper switch 23 must be actuated.
The switches are actuated by a screw screwed in the pick-up folder “single piping” (not visible).
The distance between the switches and the screw should amount to approx. 1 mm.

– Check the distance between screw and switches S22 and S23.

Correction

– Loosen the screws 3.
– Shift the switches S22 and S23.
– Tighten the screws 3 again.

Notes:

13. Feeding device for working method B and F

13.1 General notes

The feeding device is available in two versions:

Feeding device, left
Sewing length 180 and 220 mm 0745 517564

Feeding device, right
Sewing length 180 and 220 mm 0745 517574

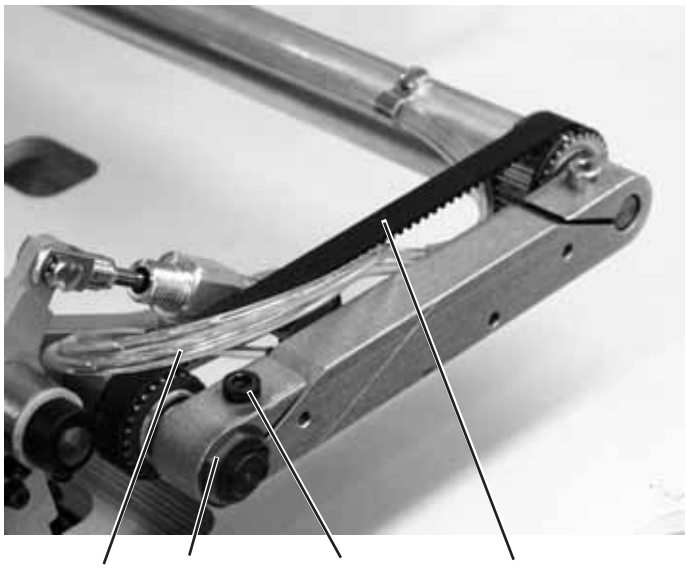
The adjustment of the right and left feeding device is described in the following.

13.2 Changing the toothed belt

Caution: Danger of injury !

Switch off the main switch.

Change the belt only with the sewing unit switched off.



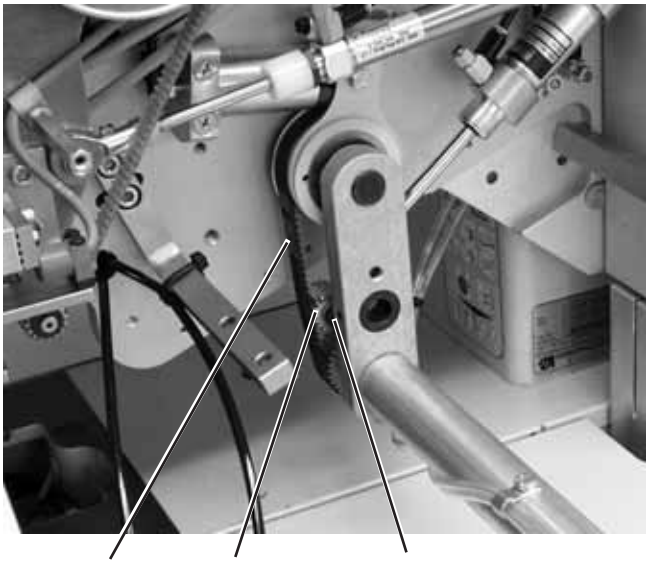
4 3 2 1

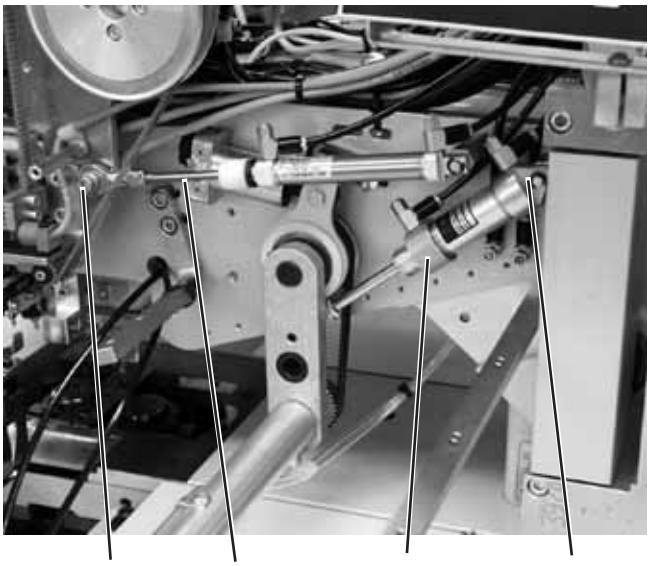
Taking off the front toothed belt 1

- Mark the connection hoses 4 and separate them from the operating cylinders by unscrewing the threaded nipples.
- Loosen Allen screw 2.
- Turn the eccentric 3 in such a way that the toothed belt 1 is released from tension.
- Pull off the toothed belt to the front.

Putting on a new toothed belt 1

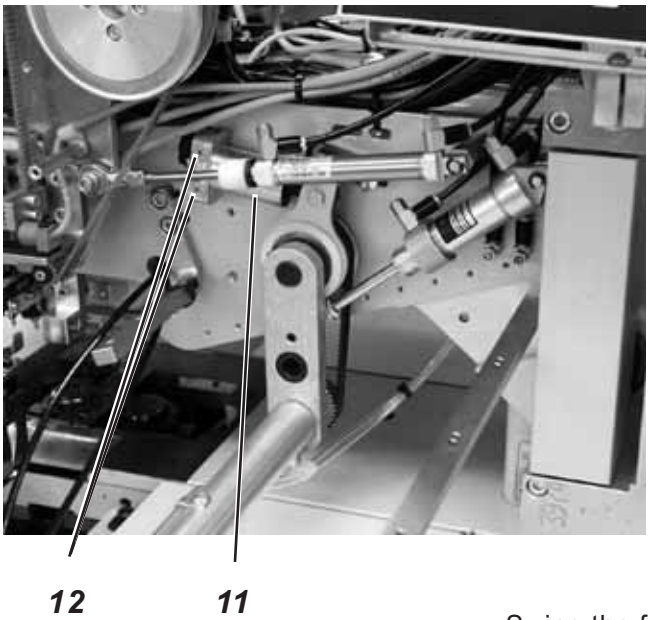
- Push the toothed belt on both toothed belt wheels from the front.
- Turn the eccentric 3 in such a way that the toothed belt 1 is under tension.
- Tighten Allen screw 2 .
  The toothed wheel must remain easily rotatable.
- Screw in the connection hoses 4 again.

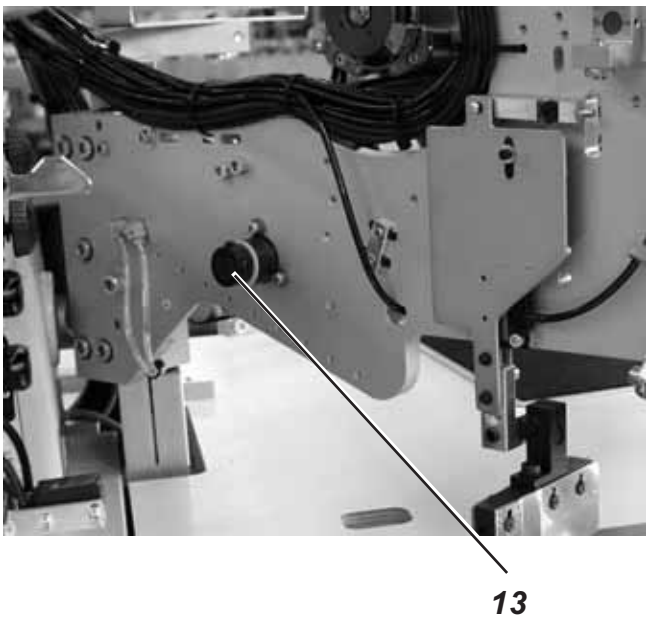




Taking off the rear toothed belt

- Loosen Allen screw 4 and press the tension pulley 5 away from toothed belt 6.
- Take off the locking ring 7.
- Loosen screw 10, push the piston rod 9 into the cylinder and turn the cylinder upwards.



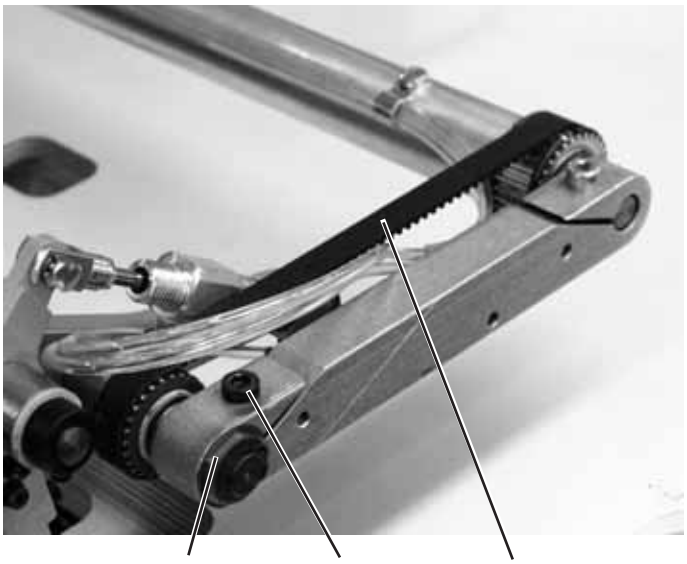


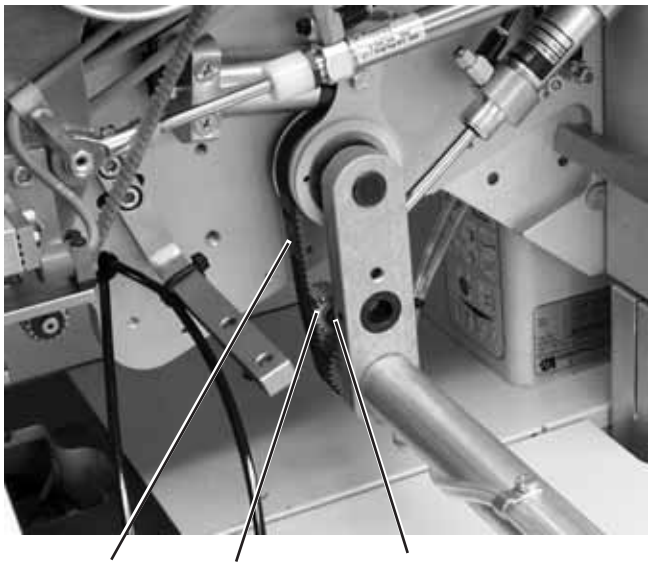
- Swing the folding station upwards.
- Unscrew the screws 12.
- Pull the cylinder 11 apart to the left.
- Loosen the screws at the adjusting ring 13.
- Take off the adjusting ring.
- Carefully pull off the transfer device to the front.
- Take off the toothed belt 6 from the toothed belt wheels.

Putting on a new toothed belt

The assembly of the new toothed belt and the transfer device is done in reverse order.

13.3 Adjusting the belt tension (working method B)





Caution: Danger of injury !

Switch off the main switch.

Check and adjust the belt tension of the transfer device only with the sewing unit switched off.

Standard checking

The toothed belts 1 and 6 should be tensioned in such a way that a faultless meshing is guaranteed. The motion of the transfer device, however, must not slow down.

Consequences of a too high toothed belt tension

- Reduced duration
- Non-uniform cylinder motion
- Slippage of the eccentric bush

Consequences of a too low toothed belt tension

- No faultless meshing between belt teeth and disc toothing
- The fabric clamps hit the pick-up folder uncontrolled.

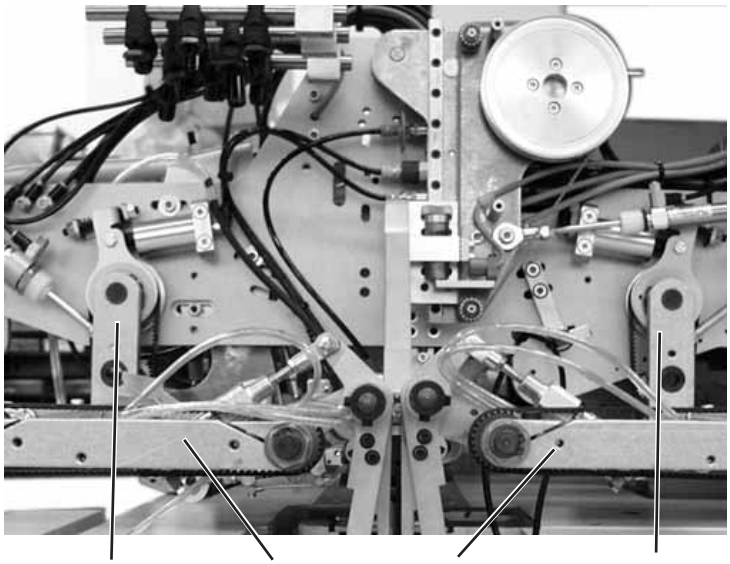
Correction of toothed belt 1

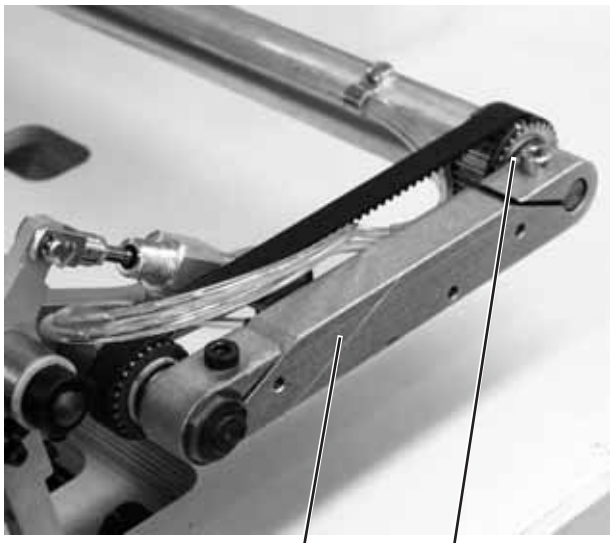
- Loosen Allen screw 2.
- Turn the eccentric 3.
- Tighten Allen screw 2.
  The toothed wheel must remain easily rotatable.

Correction of toothed belt 6

- Loosen Allen screw 4.
- Turn the tension pulley 5.
- Tighten Allen screw 4.

13.4 Basic adjustment of the swivel arms (working method B)





Caution: Danger of injury !

Switch off the main switch.

The basic adjustment must be done with the sewing unit switched on.
Do not reach into the motion zone of the swivel arms.

Basic adjustment

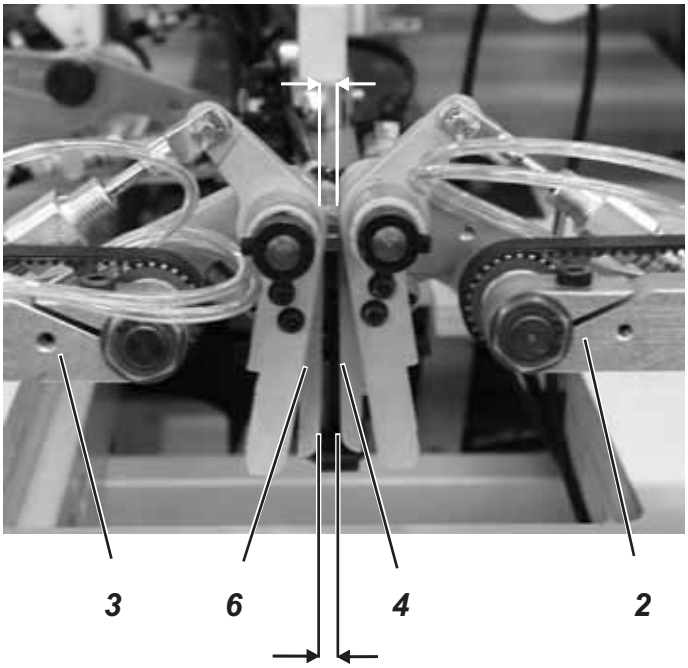
Standard checking

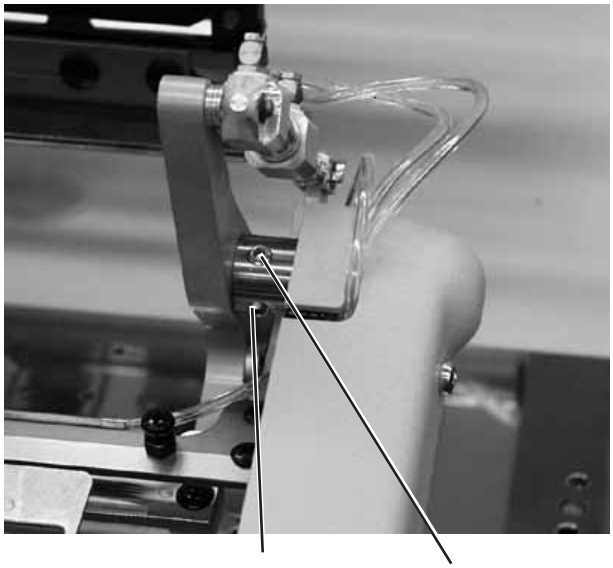
When the right or the left feeding device is swivelled downward, the arms 1 and 4 should stand vertically and the arms 2 and 3 horizontally. Between the shanks 4 and 6 there must be a distance of approx. 3 mm at the bottom and 5 mm on top.
The swivel arms 1 and 4 are in vertical position due to the path of the piston rods.

– Activate the test program “**Selecting the output elements**”.
  The further procedure is described in the Programming Instructions, chapter 6.4.5.
– Select the output element “**YC017**”.
  The flap feeder swivels in.
– Check the position of the swivel arms 2 and 3.
– Check the position of the shanks 4 and 6.

Correction of the swivel arms

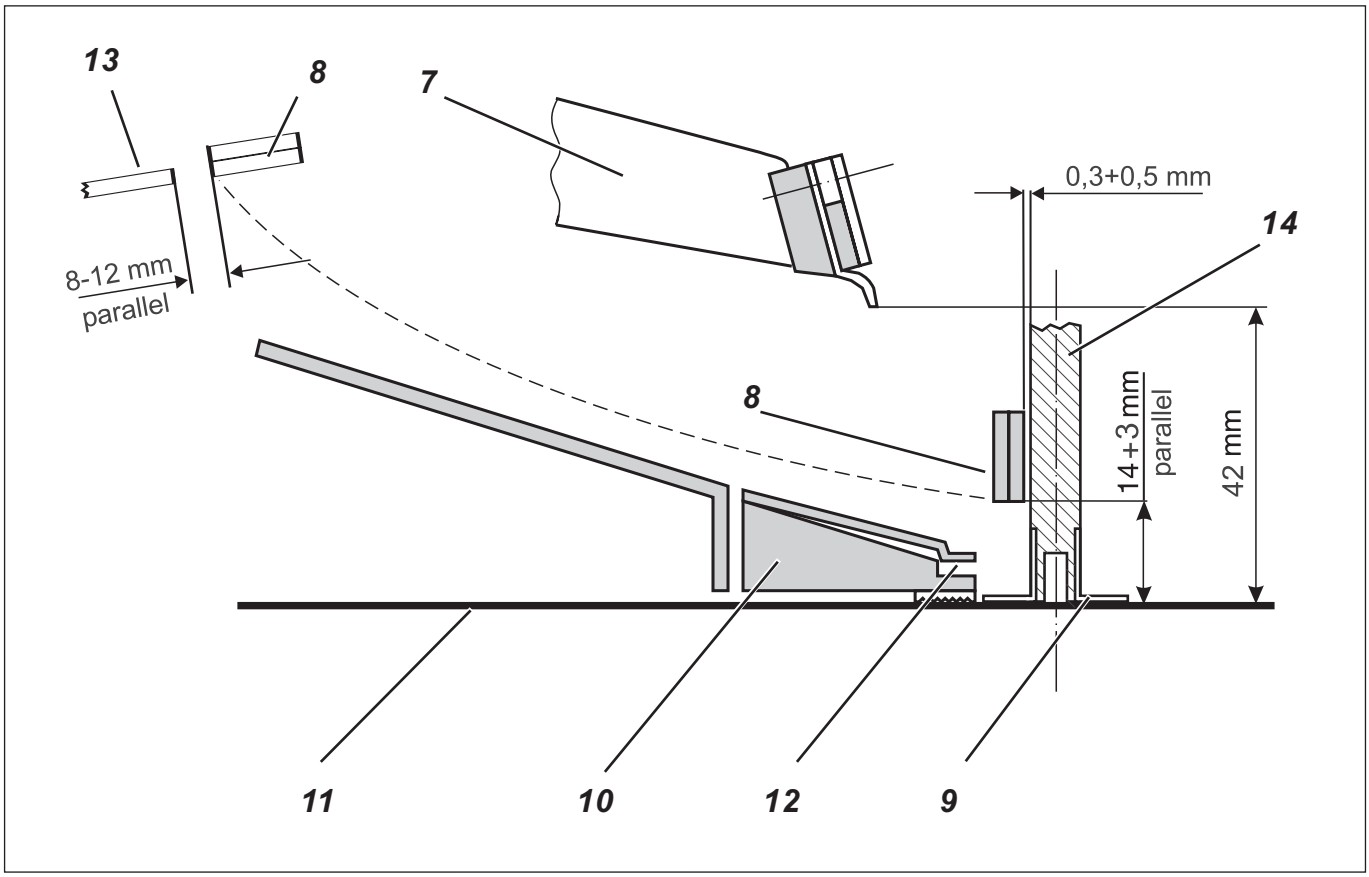
– Loosen screw 5.
– Turn the swivel arm 2 and 3 respectively into horizontal position.
– Tighten screw 5.
  Make sure that the toothed wheel has no lateral clearance.





Correction of the shanks

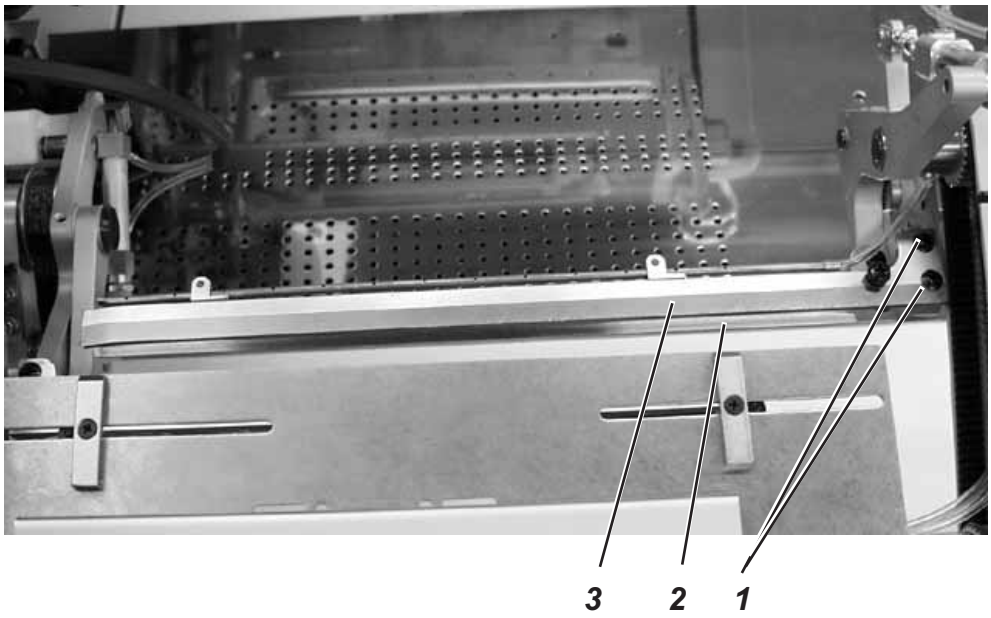
- Loosen the screws 7 and 8.
- Adjust the shanks 4 and 6.
- Tighten the screws 7 and 8. Observe lateral clearance.



7:	Flap clamp of the feeding clamp
8:	Flap clamp
9:	Middle of pocket opening
10:	Feeding clamp
11:	Sliding sheet
12:	Folding sheet
13	Flap rest table
14:	Pick-up folder

13.5 Aligning and adjusting the flap clamps (working method B)

13.5.1 Aligning the flap clamps as to the measuring line



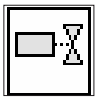
Caution: Danger of injury !

The basic adjustment has to be done with the sewing unit switched on. Do not reach into the motion zone of the swivel arms.

Standard checking

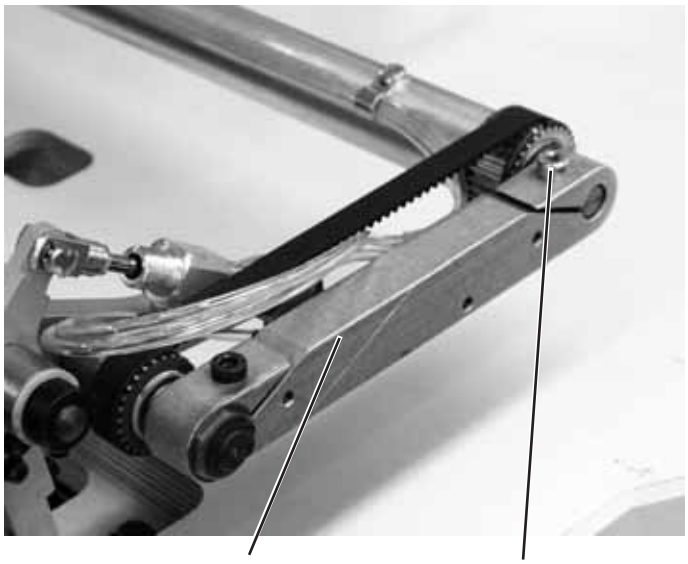
The flap clamps should be aligned as shown in the left sketch. When they are swivelled in, they have to be aligned parallel to the fabric sliding sheet over their whole length. When the flap clamps are swivelled out, they must also be parallel to the measuring line “125”.

Correction

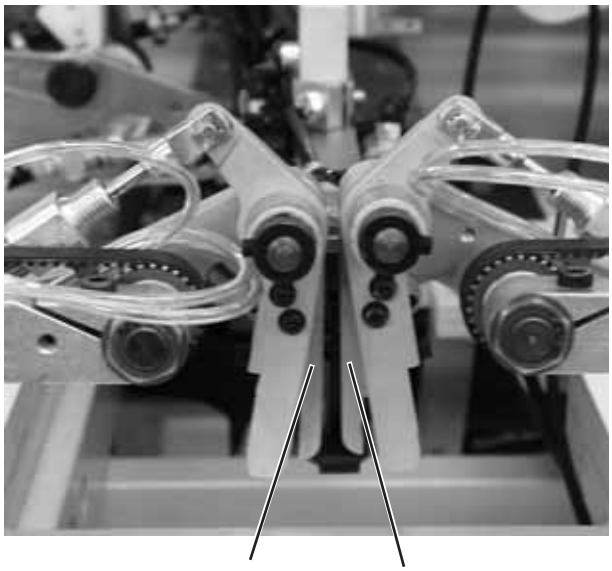


- Slightly loosen the screws 1 at the stationary 2 and the movable flap clamp 3.
- Activate the output element **YC017** in the test program **“Selecting the output elements”.** See also Programming Instructions, chapter 6.4.5. The flap feeding devices swivel in.
- Align the stationary and the movable flap clamp parallel to the fabric sliding sheet over their whole length. (See sketch page 112)
- Switch off the output element **YC017**. The flap clamps swivel out.
- Tighten the screws.
- Check the parallel position of the flap clamps to the measuring line “125”, e.g. with the help of an angle positioned at the measuring line.
- Check the adjustment again when swivelled in.

13.5.2 Aligning the flap clamps as to the pick-up folder



2 *1*



4 *3*

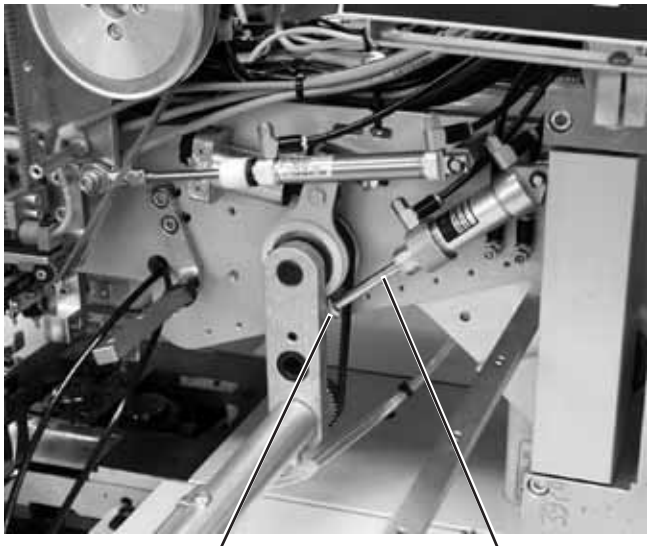
Standard checking

The flap clamp height above the fabric sliding sheet must amount to **14+3 mm** in swivelled-in position. The lateral distance of the flap clamps to the pick-up folder has to be adjusted as close as possible without touching it (Dimension **0.3+0.5 mm**).
(See sketch page 112)

Correction of the height (Dimension 14 + 3 mm)

Activate the output element **YC017** in the test program **"Selecting the output elements".** See also Programming Instructions, chapter 6.4.5. The flap feeding devices swivel in.

- Adjust the stop for the lowered position of the flap clamp lifting device as described in chapter 13.5.3.
- Loosen screws 1.
- Turn the swivel arm 2.
- Tighten the screws 1.
- If required, readjust the shanks 3 and 4.

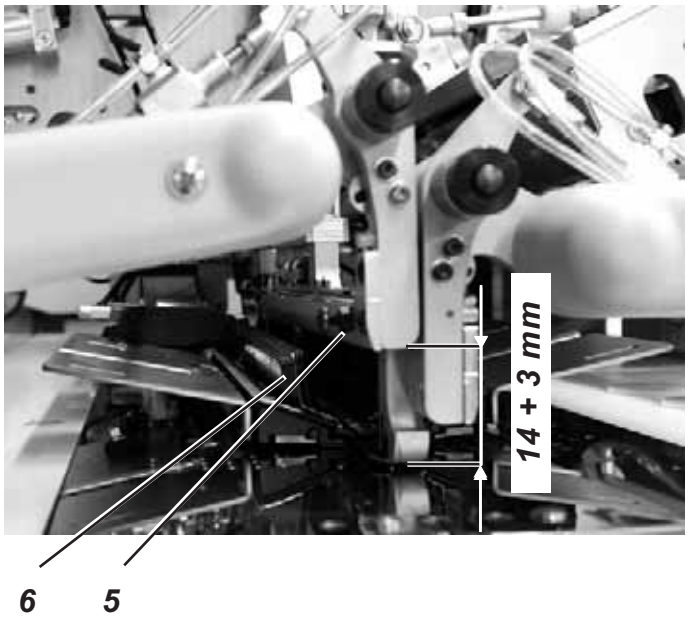


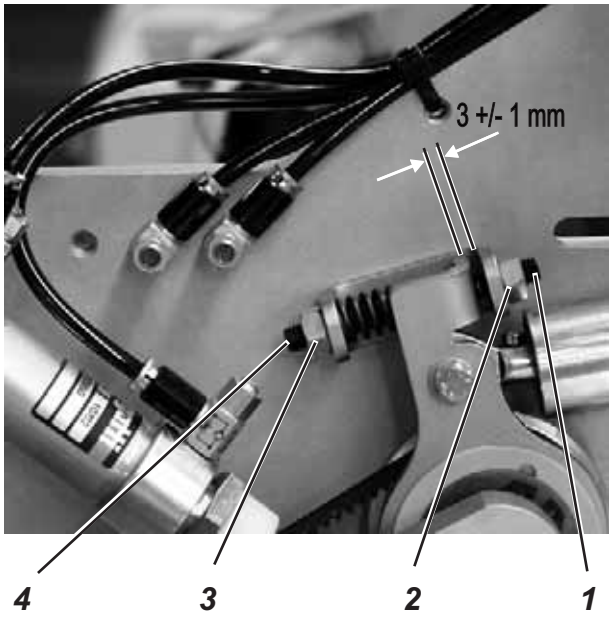
6 *5*

Lateral correction (Dimension 0.3 + 0.5 mm)

- Loosen the counternut 5 at the piston rod.
- Turn the piston rod 6.
- Tighten the counternut 5.
- If required, readjust the shanks 3 and 4.

13.5.3 Adjusting the flap clamp lifting device





Standard checking

The flap clamp lifting device lifts the flap clamps 5 before swivelling out so that they can pass over the closed flap clamps 6 of the feeding clamps without hindrance. The lifting height above the fabric sliding sheet must amount to **14 + 3 mm** .

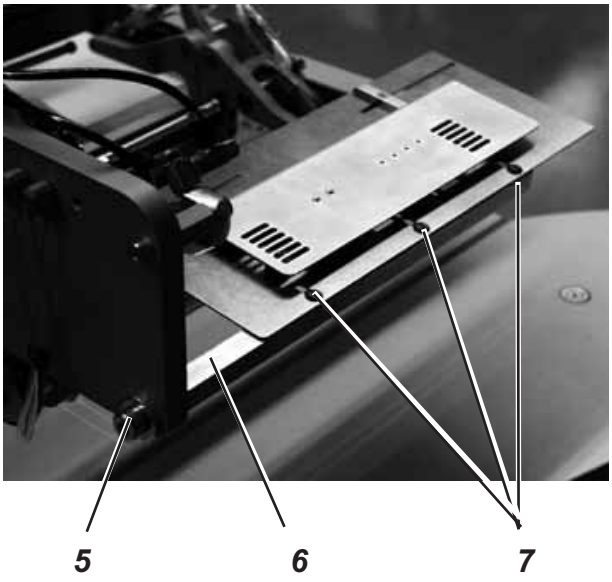
Correction of the stop (flap clamp lowered):

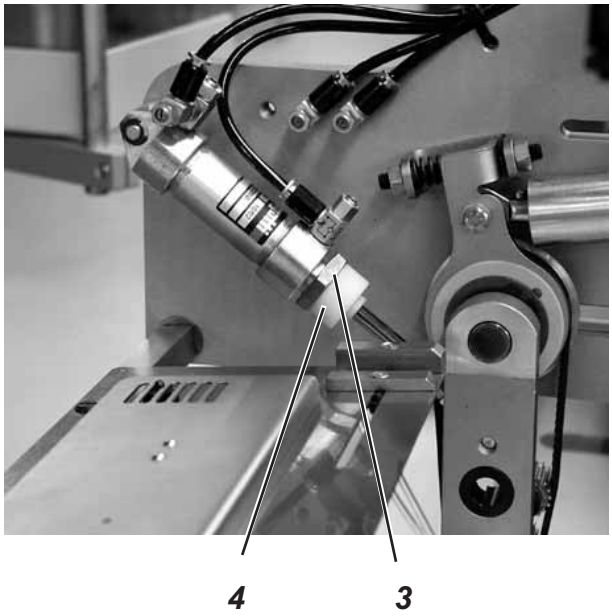
- Loosen nut 2.
- Turn screw 1 until there is a distance of 3 +/- 1 mm between lever and stop.
- Tighten nut 2.
- Check the flap clamp height above the fabric sliding sheet (Dimension **14+3 mm**).

Correction of the stop (flap clamp raised):

- Select the test program “**Checking the loading operation with feeding clamp**”. See also Programming Instructions, chapter 6.4.5.
- Step on the left pedal until the flap clamps are swivelled in and raised.
- Loosen the nut.
- Turn the screw until the flap clamps are raised high enough to pass over the flap clamps of the feeding clamp without hindrance (Dimension **14 + 3 mm**).
- Step on the left pedal once again and let the flap clamps swivel out. Check the free movement of same.
- Tighten the nut.

13.5.4 Adjusting the flap clamps as to the rest table





Standard checking

Not only the swivelling width of the flap clamps but also the position of the rest table can be adjusted. The swivelling width can individually be set according to the operator; then the rest table has to be adjusted so that the stationary flap clamp is flush and parallel to the rest table with a distance of **8 to 12 mm** . (See sketch page 112)

Correction of the swivelling width

- Loosen nut 3.
- Set the swivelling width by turning the bush 4.
- Tighten nut 3.

Correction of the rest table

- Loosen screw 5.
- Turn rod 6 until the rest table is flush with the stationary flap clamp.
- Tighten screw 5.
- Loosen screws 7.
- Adjust the rest table parallel to the flap clamp with a distance of 8-12 mm.
- Tighten screws 7 again.

13.6 Flap turning device (working method F)

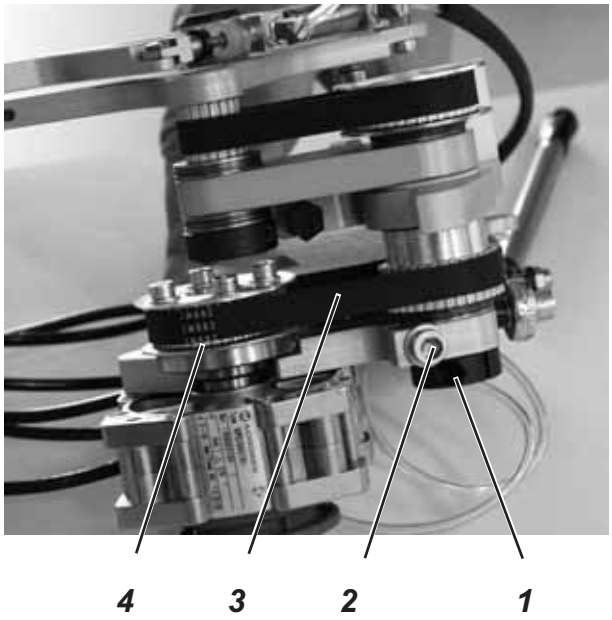
Working method F consists of working method B and flap turning device.

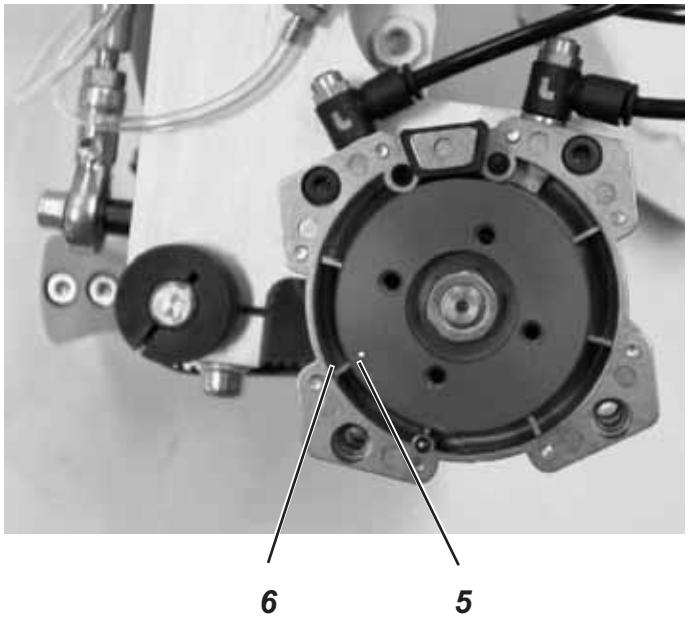
Caution: Danger of injury !

Switch off the main switch.

Check and adjust the flap turning device only with the sewing unit switched off.

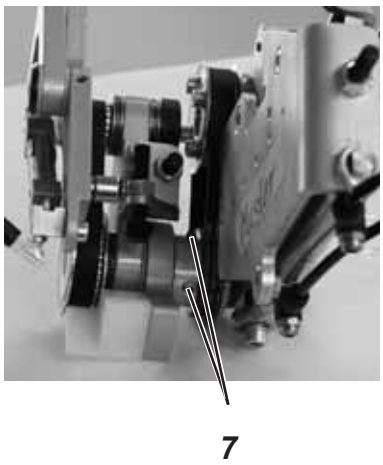
13.6.1 Exchanging the toothed belt





Removing the toothed belt 3

- Loosen and unscrew the clamping nut 1.
- Loosen the clamping screw 2.
- Pull out the axle of the toothed belt wheel completely. Slip off the toothed belt 3 and take it off from the toothed belt wheel 4.



Putting on a new toothed belt 3

- Place the toothed belt on the toothed belt wheel 4.
- Turn the marking point 5 of the slewing cylinder onto rib 6.
- Place the toothed belt 3 on the other toothed belt wheel in such a way that the screws 7 point to the right in horizontal direction and downward in vertical direction.
- Insert the complete axle of the toothed belt wheel.
- Tighten the clamping nut 1 (adjust lateral clearance).
- Tighten the clamping screw 2.

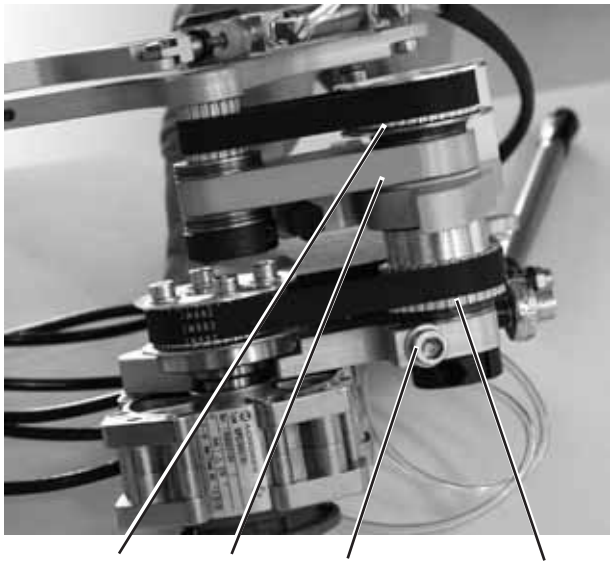
Removing the toothed belt 8

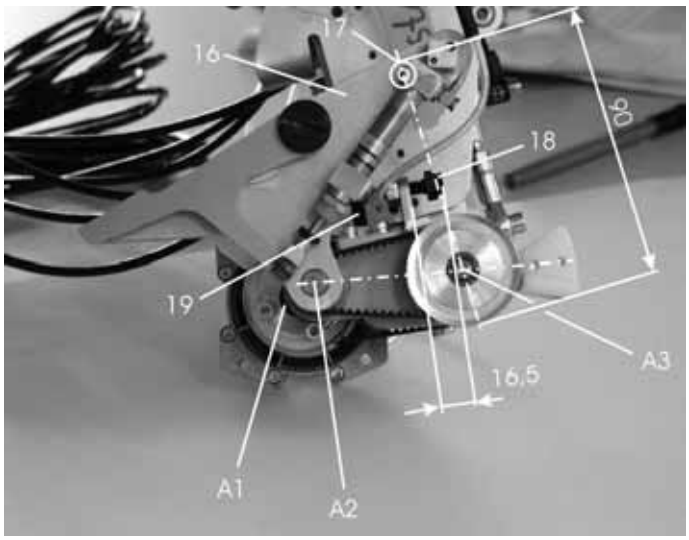
- Loosen and unscrew the clamping nut 11.
- Pull out the toothed belt wheel 12 with levers. Slip off and remove the toothed belt 8.

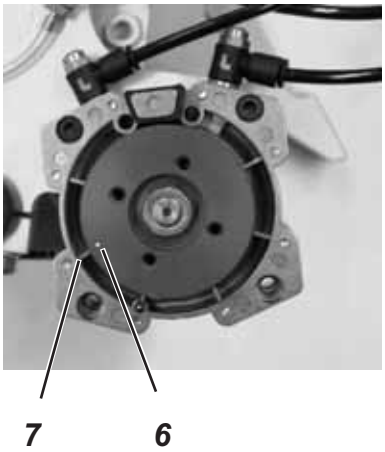
Putting on a new toothed belt 8

- Place the toothed belt on the toothed belt wheel 9.
- Insert the toothed belt wheel 12 with levers and axial discs in lever 10.
- Push on the axial discs.
- Screw on the clamping nut 11.
- Adjust the lateral clearance.
- Tighten the clamping screw 11.

13.6.2 Basic position of the turning device





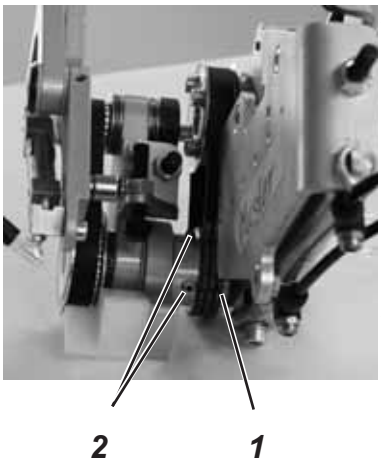


The function of the turning gear is only guaranteed when the gear is adjusted as shown in the right picture.

The basic adjustment of the turning device must be done after every exchange of the toothed belt or after a wrong adjustment.

First adjustment

- Loosen the screws 2 at the toothed belt wheel 1.
- Turn the marking point 6 of the slewing cylinder onto rib 7.
- Turn the lever 4 in such a way that the axle A1 lies in the middle of axle A2.
- Tighten the screws 2 at the toothed belt wheel.



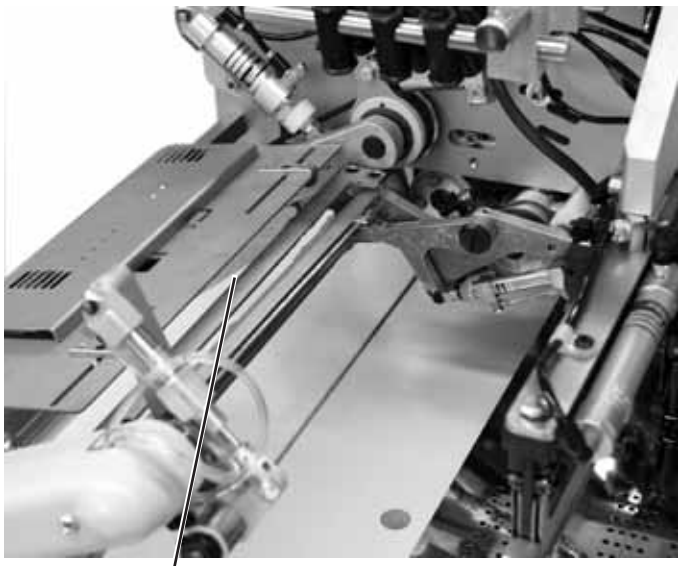
Adjusting the position of lever 16 as to the axles A1, A2 and A3

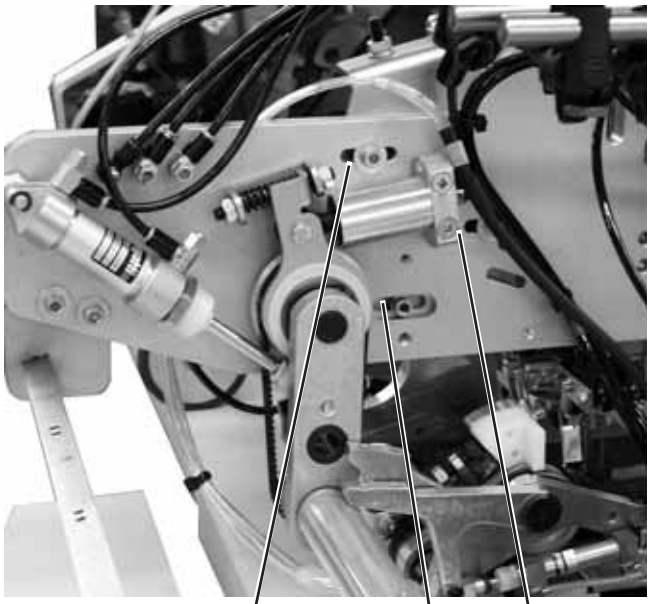
- Loosen screw 3.
- Turn toothed belt wheel 5 and lever 16 in such a way that there is a distance of 90 mm between the outer diameter of the toothed belt wheel 5 and the needle sleeve 17.
- Tighten screw 3.

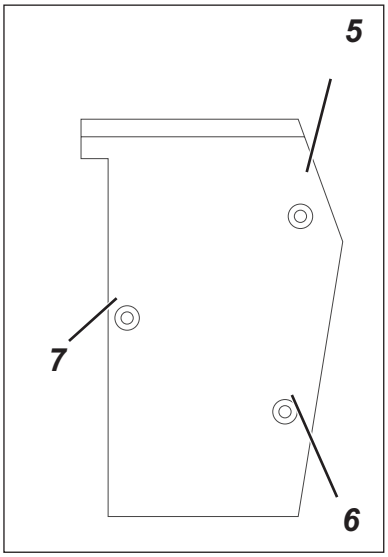
Adjusting the stop screws 18 and 19

- Loosen the counternut from screw 18.
- Set the screw to 16.5 mm.
- Tighten the counternut.
- Loosen the counternut from screw 19.
- Set the screw 19 to 14 mm.
- Tighten the counternut.

13.6.3 Aligning the flap turning device as to the feeding device and to the sewing level







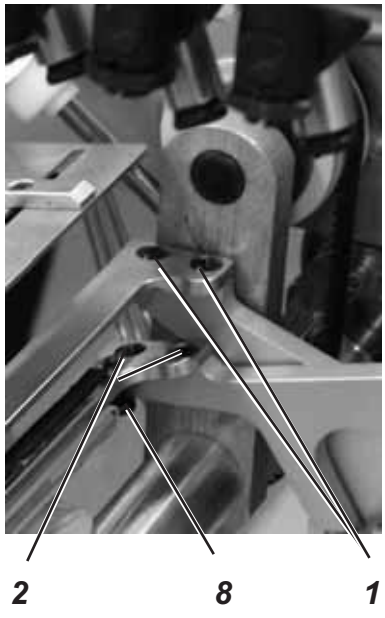
The feeding device of working method B must transfer the flap precisely into the flap clamp 1 of the feeding clamp.

Pick-up folder, folder, feeding clamps and sewing equipment must be adjusted in such a way that a good sewing result is already achieved.

The flap turning device cannot compensate errors of the feeding device of working method B.

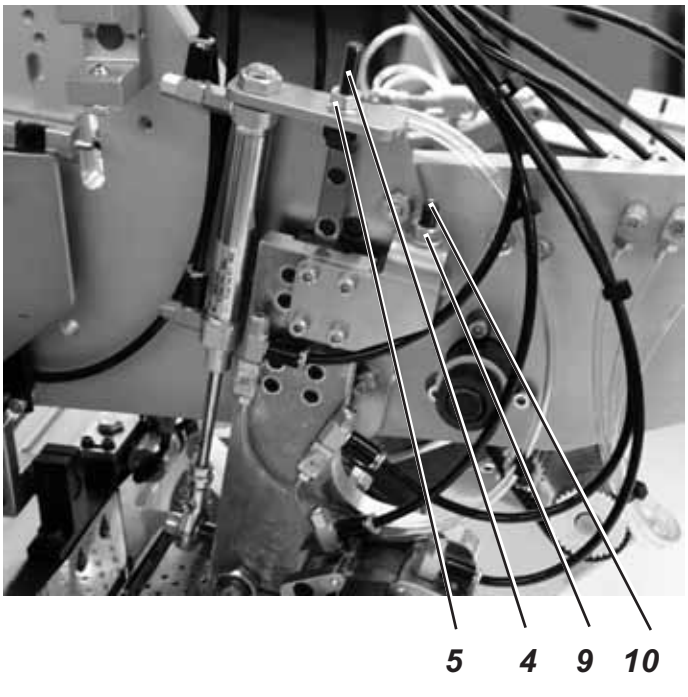
Mounting the flap turning device

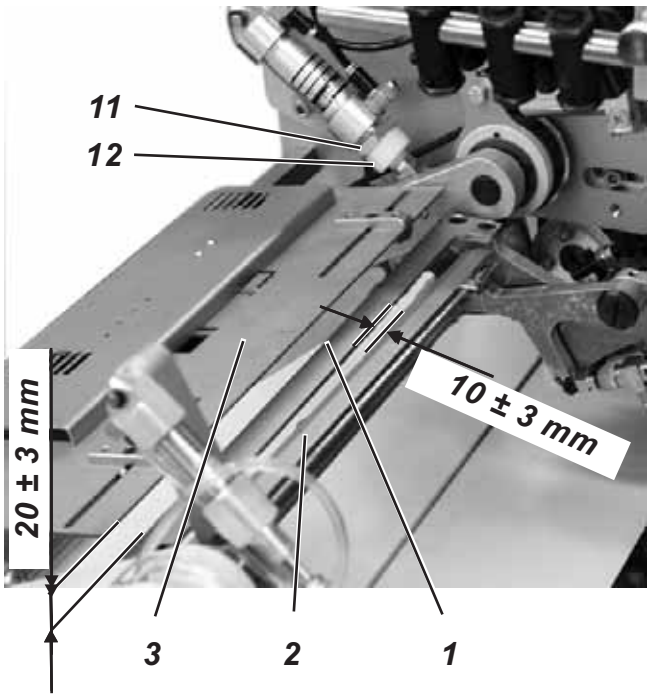
– Screw on the flap turning device in the center of the slotted holes of the folding station plate by means of the screws 2, 3 and 4. Make sure that the thrust bolts 5, 6 and 7 have no pretension.



Aligning the flap clamp of the flap turning device as to the measuring line “125”

– Loosen the screws 1 and 2.
– Align the stationary and the movable flap clamp parallel to the measuring line “125”.
– Tighten the screws 1 and 2.





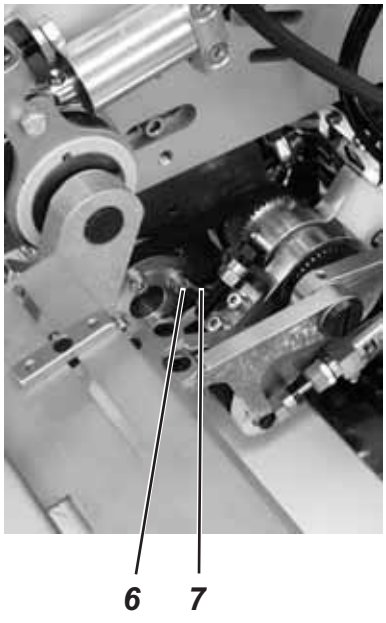
Adjusting the flap transfer position

Precondition:

The flap clamp lifting device is adjusted as described in chapter 13.5.3.

Standard checking

The stationary flap clamp 1 of the flap turning device must stand **20 3 mm** underneath the rest table 3. The lateral distance of flap clamp 1 of the flap turning device and of flap clamp 2 of the feeding device should amount to **10 3 mm**.
The **stationary** flap clamps of the turning and feeding device have to be flush.



Correction of the distance to the rest table

- Loosen the counternut 5.
- Turn the screw 4 so that the stationary flap clamp 1 stands **20 ± 3 mm** underneath the table 2.
- Tighten the counternut 5.

Correction of the lateral distance of the flap clamps

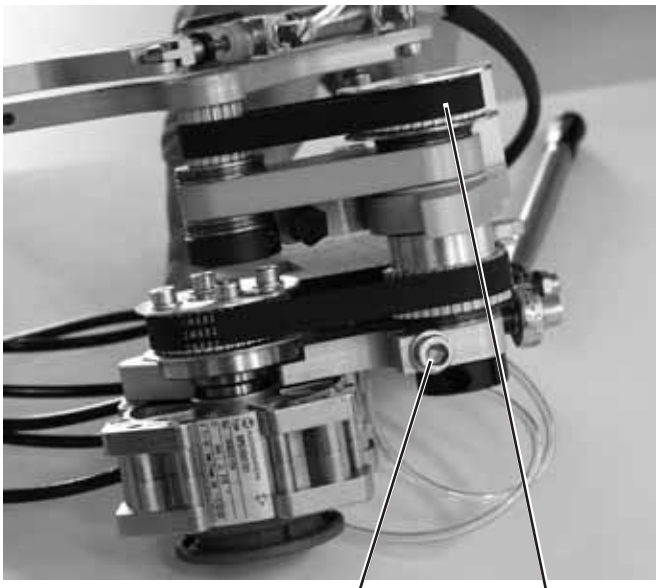
- Loosen the counternut 7 and set the distance with the adjusting screw 6.
- Tighten the counternut 7.

Correction of transfer (flap clamps flush)

- Loosen nut 11.
- Turn the bush 12 until the flap transfer from flap clamp F to flap clamp B is carried out without delay. (i.e. adjust flap clamps 1 and 2 so that they are flush)
- Tighten nut 11.

Swivel the flap turning device to the loading area

- Call up the test program **“Checking the loading operation with feeding clamp”** (key “RST” and key “F2”).
- Step on the left pedal once until the flap turning device is swivelled in.
- Check the lowering depth and the swivelling width.

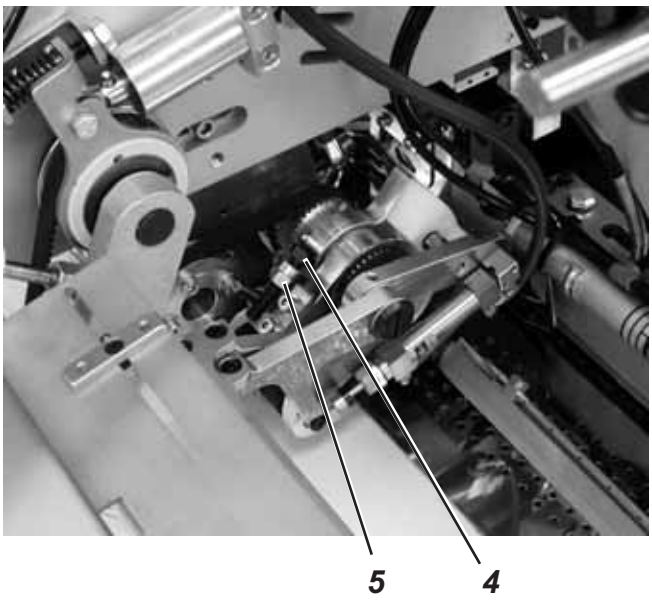


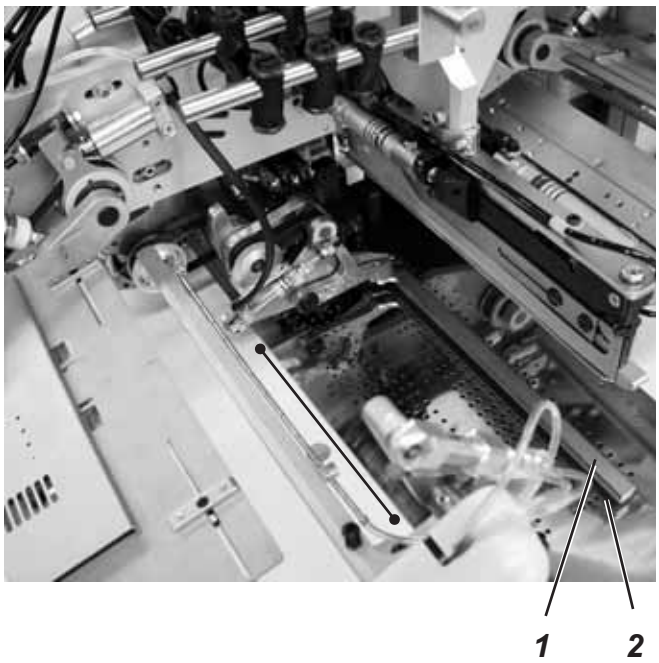
Standard checking

The distance between the stationary flap clamp 3 and the measuring line must amount to
139.5 0.5 mm .

Correction of the swivelling width

– Loosen screw 2. (ill. on the top left corner of page 123)
– Adjust the lower stationary flap clamp 3 in transverse direcction by turning the toothed wheel 1. (ill. on the top left corner of page 123)
– Tighten screw 2.
– Make the fine adjustment with stop screw 4 and counternut 5.





Standard checking

The distance between the stationary flap clamp and the fabric sliding sheet should amount to approx. 1-3 mm.

Correction of the lowering depth

– Loosen counternut 9. (ill. on the top left corner of page 122)
– Turn the stop screw 10. (ill. on the top left corner of page 122)

Hint
The fabric must be easily displaceable.

– Tighten counternut 9.
– Align the flap clamp in longitudinal direction parallel to the fabric, if required.

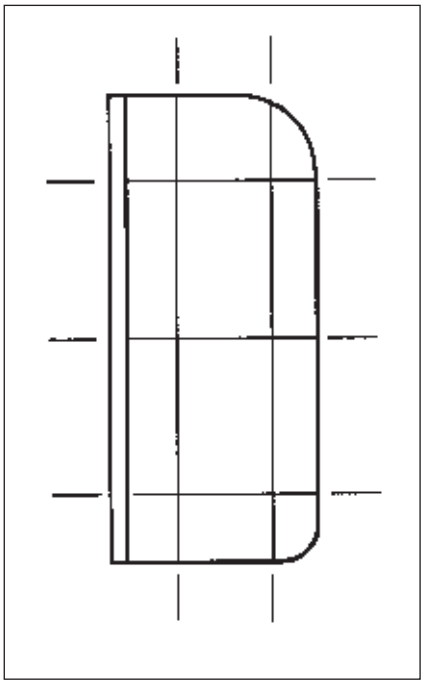
Adjusting the movable flap clamp

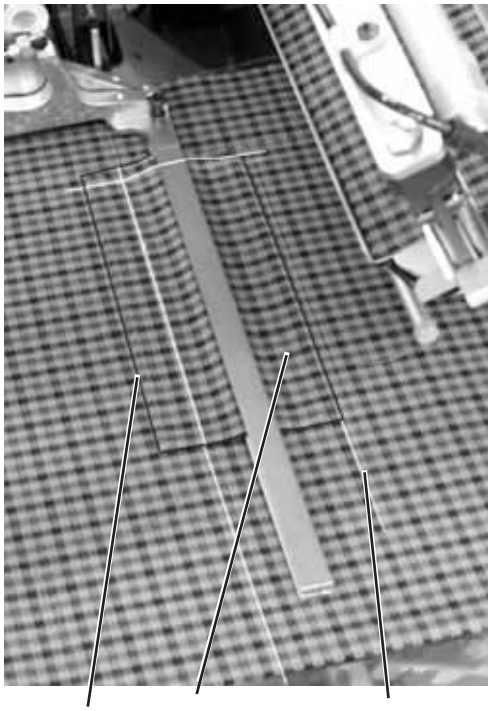
For a uniform and displacement-free clamping the point of the movable clamp 1 should first strike the stationary clamp 2.

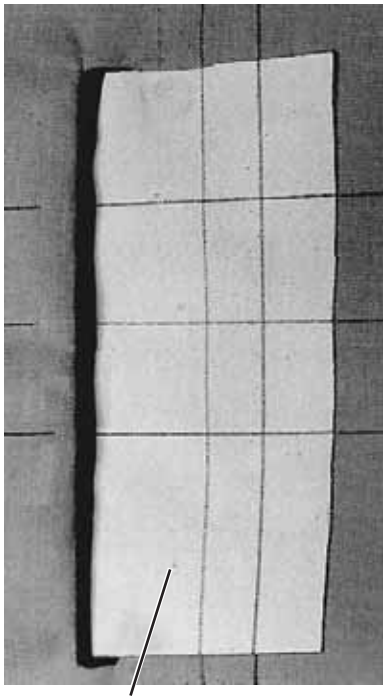
– Set the clamping power with screw 8 (ill. at the bottom of page 121).
  The stationary clamp must not bend down.
– Align the movable clamp 1, if required.
– Align the movable clamp in raised position as to the stationary clamp.

13.8 Sewing test according to pattern

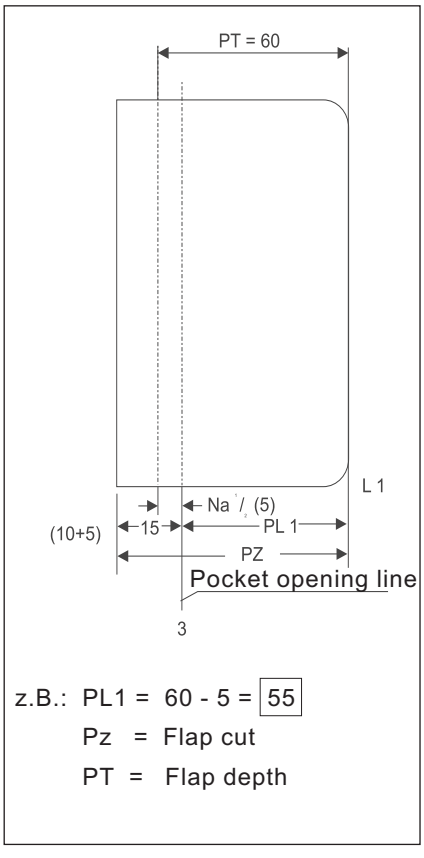
The settings according to these service instructions are followed by the adjustment as per pattern with a correspondingly prepared workpiece (light-coloured fabric).





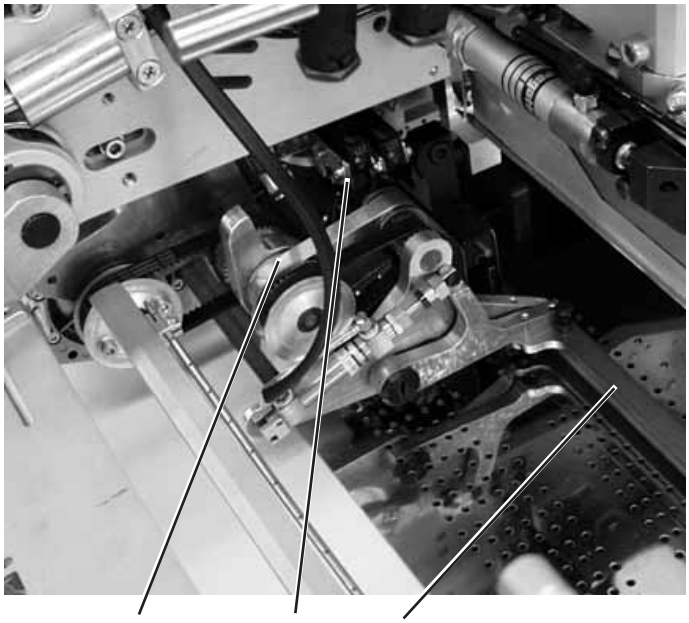


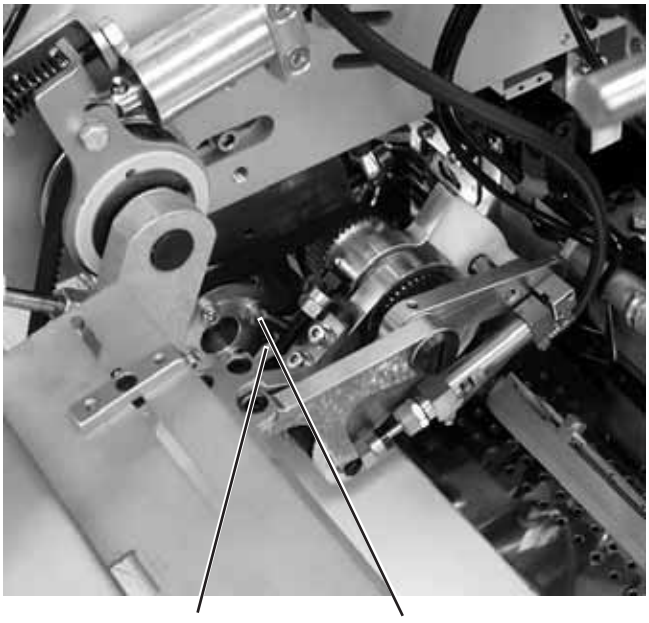
3 ***2*** ***L1*** ***2***

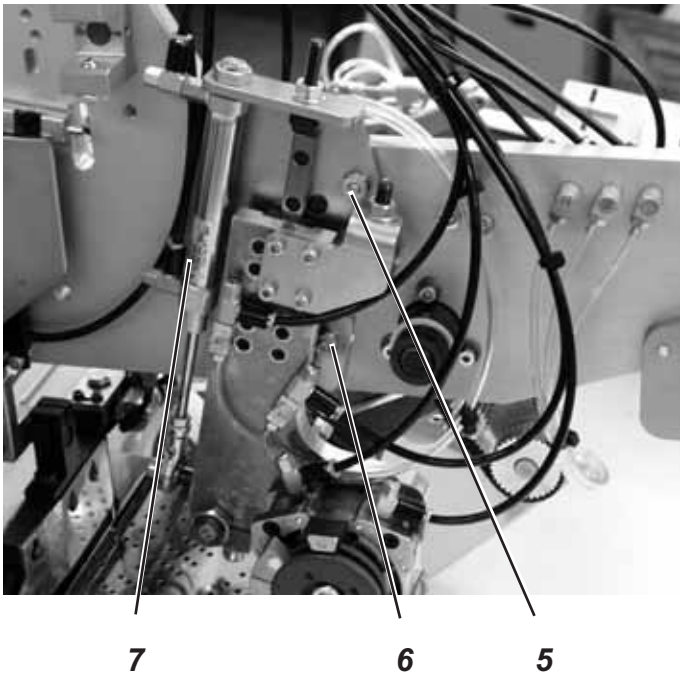


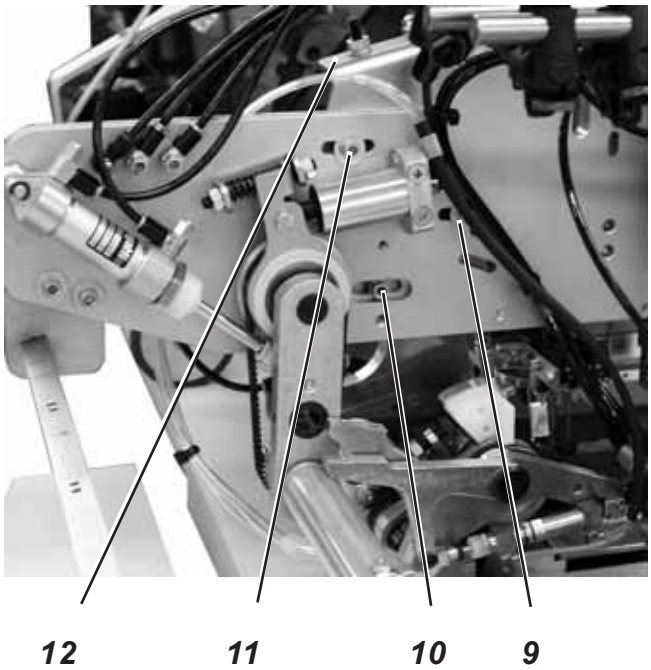
z.B.: PL1 = 60 - 5 = 55
Pz = Flap cut
PT = Flap depth

- Draw vertical and horizontal lines on flap 2 and on the workpiece.
- Position the piping strip on the rest table.
- Position the flap 2 at the laser marking 1 aligned in parallel position. Adjust the laser marking in such a way that the flap projects from the pocket opening line to the right by the spacing PL1.
  (see sketch opposite for determination of same)
- Align the workpiece.
  The horizontal and vertical lines of the workpiece and the flap must be congruent.
- Carry out the sewing operation.
- Take the workpiece off and turn.
- Check the workpiece and correct faulty sewing results.
  (see chapter 13.8)

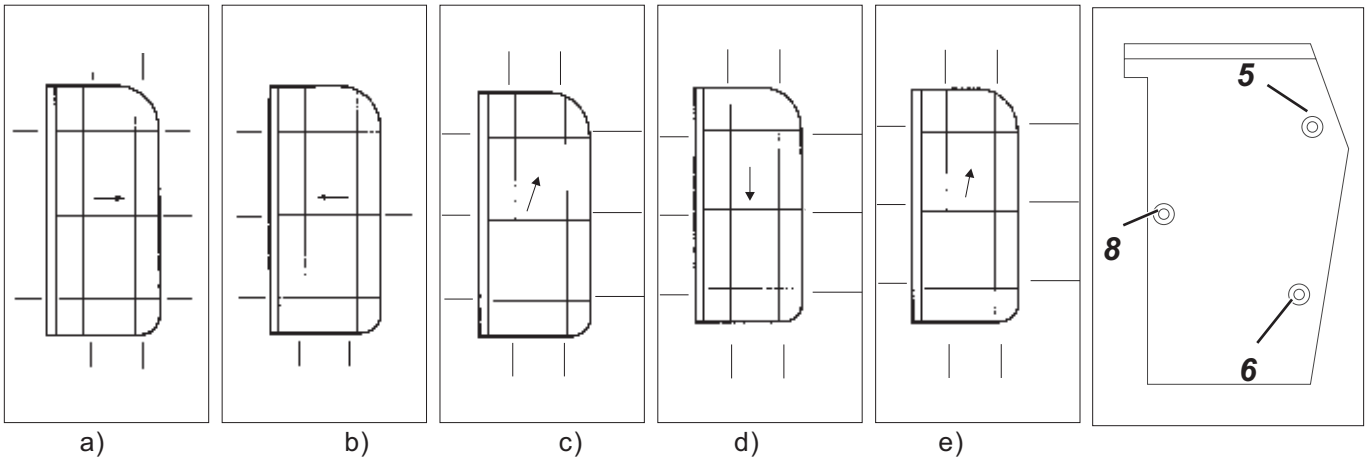








13.9 Error elimination



a) The flap is sewn in too deeply.

The flap clamp 1 must be reset to the left.

– Loosen the counternut 4 and unscrew the adjusting screw 3. (1 revolution = the flap is shifted by approx. 1 mm).
– Tighten the counternut 4 again.

b) The flap is not sewn in deeply enough.

The flap clamp 1 must be shifted to the right.

– Loosen the counternut 4 and screw in the adjusting screw 3. (1 revolution = the flap is shifted by approx. 1 mm).
– Tighten the counternut 4 again.

c) The flap is sewn in correctly, but it is fed obliquely.

Adjust the flap clamp 1 in parallel position to the measuring line and to the flap clamp B respectively (see chapter 13.6.3)

– Loosen the screws.
– Align the flap clamp F correspondingly.
– Tighten the screws.

d) The flap is sewn in shifted to the right.

The axle of the turning device 12 must be adjusted by means of the three thrust bolts 5, 6 and 8.
Check which thrust bolts are screwed in (gap between bolting plate and folding station plate).

1. Thrust bolts 5 and 6

– Loosen the screws 9, 10 and 11 a bit.
– Unscrew the thrust bolts 5 and 6 equally (gap becomes smaller).
– Tighten the screws 9, 10 and 11. (Check and readjust, if necessary.)

2. Thrust bolt 8 flush resp. screwed in

– Loosen the screws 9, 10 and 11 a bit.
– Screw in the thrust bolt 8 (gap becomes larger).
– Tighten the screws 9, 10 and 11. (Check and readjust, if necessary.)
– If necessary, align flap clamp F in parallel position to the measuring line “125” and the flap clamp B respectively, if the flap has been attached obliquely to a minor extent only.

e) The flap is sewn in shifted to the left.

The axle of the turning device 12 must be adjusted by means of the three thrust bolts 5, 6 and 8.
Check which thrust bolts are screwed in
(gap between bolting plate 13 and folding station plate).

1. Thrust bolt 8 flush resp. screwed in (larger gap)

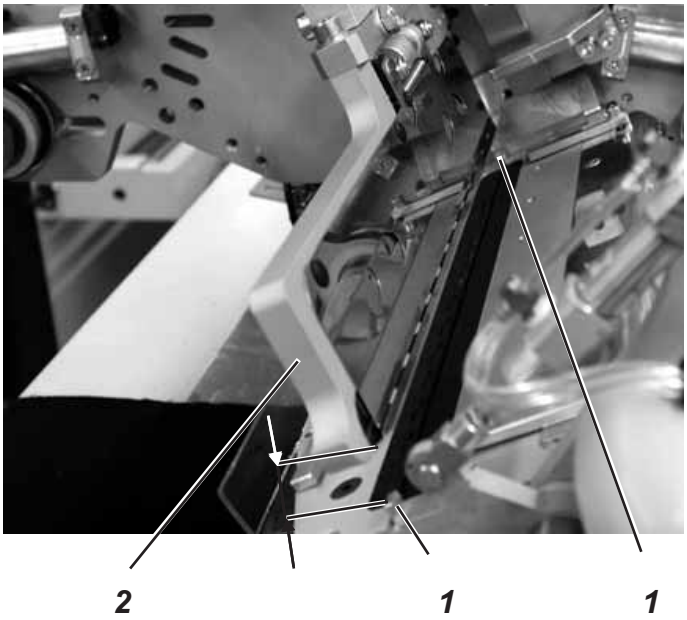
– Loosen the screws 9, 10 and 11 a bit.
– Unscrew the thrust bolt 8 (gap becomes smaller).
– Tighten the screws 9, 10 and 11. (Check and readjust, if necessary.)

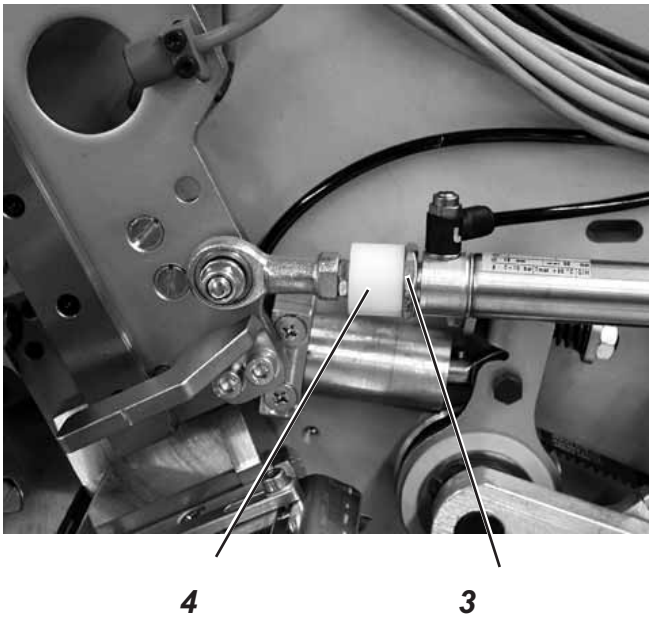
2. Thrust bolts 5 and 6 flush resp. screwed in (gap existing)

– Loosen the screws 9, 10 and 11 a bit.
– Screw in the thrust bolts 5 and 6 equally.
– Tighten the screws 9, 10 and 11. (Check and readjust, if necessary.)
– If necessary, align flap clamp F in parallel position to the measuring line “125”, if the flap has been attached obliquely to a minor extent only.

14. Device for cutting the piping ends open automatically

14.1 Adjusting the piping cutter as to the pick-up folder





Caution: Danger of injury !

When actuating the piping cutter the piping knives move out of the sole of the pick-up folder downward.
In case of improper handling there is the risk of cutting your fingers with the sharp blades of the piping knives.

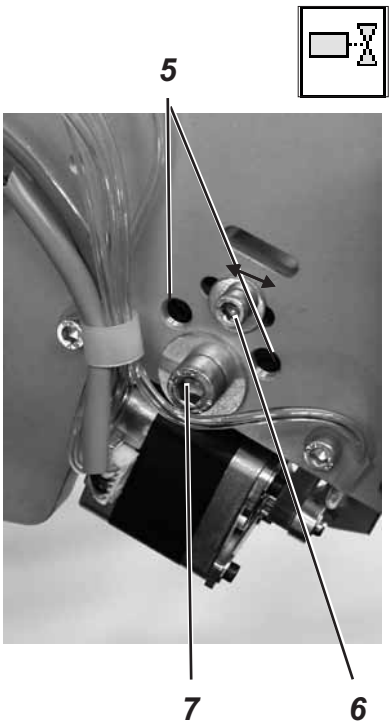
Precondition:

The pick-up folder 2 is aligned as to the middle of the pocket opening as described in chapter 12.7.

Standard checking

During the cutting operation the piping knives must run in the center groove of the pick-up folder. This is guaranteed when the pick-up folder 2 lowered on the piping cutter easily tracks between both centering pins 1.

- Activate the adjustment program “Checking the pick-up folder without feeding clamp” (Programming Instructions, chapter 6.3.8). The pick-up folder swivels over the piping cutter.
- Press key 9. The pick-up folder is made pressureless and lowers on the rest table by its own weight.
- The pick-up folder 2 must easily track between the two centering pins 1 by its own weight.



Correction

- Slightly loosen the fastening screws 6 and 7.
- Set the central position of the pick-up folder above the piping cutter by turning bush 4 and counternut 3.
- Turn the piping cutter around the screw 7 in the direction of arrow until the rest table is parallel to the sole of the pick-up folder.
- If required, turn the core pins 5 a little until the pick-up folder 2 - when lifted by hand - easily tracks between the centering pins 1 in the piping cutter (pressureless).
- Tighten the fastening screws 6 and 7.
- Screw counternut 3 tight at bush 4.

14.2 Adjusting the height of the rest table

Standard checking

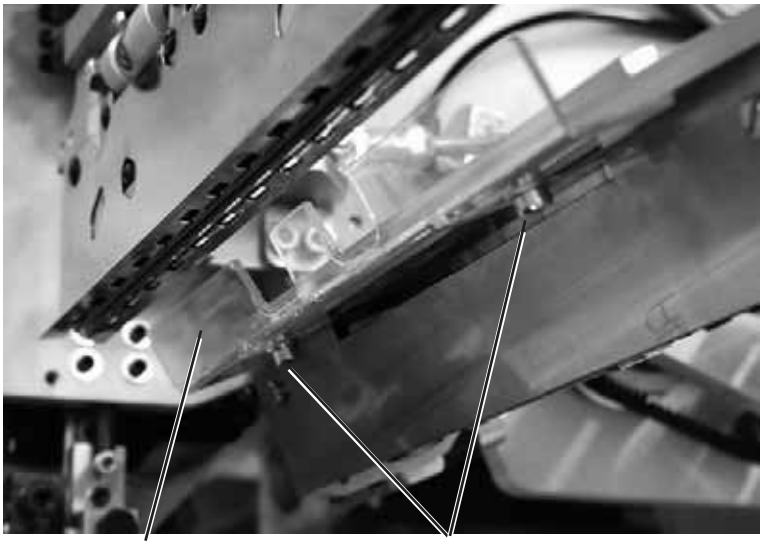
The sole of the lowered pick-up folder 6 must rest plainly on the rest table 4 with its whole length.
This is necessary so that the piping strip is under tension over its whole length when being notched.

– Lower the pick-up folder 11 down on the rest table 12.
– Check inclination of the rest table.

Correction

– Loosen screw 13 and align the piping cutter parallel to the sole of the pick-up folder in sewing direction.
– Tighten screw 13.

14.3 Adjusting the piping strip deflector



2 *1*

ATTENTION: Danger of collision

When processing single piping the deflector has to be adjusted as to the edge of the wider sole of the single piping folder!

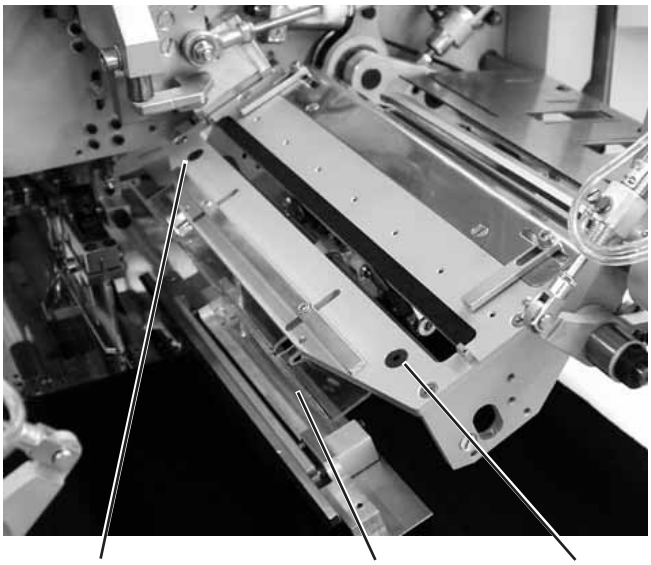
Standard checking

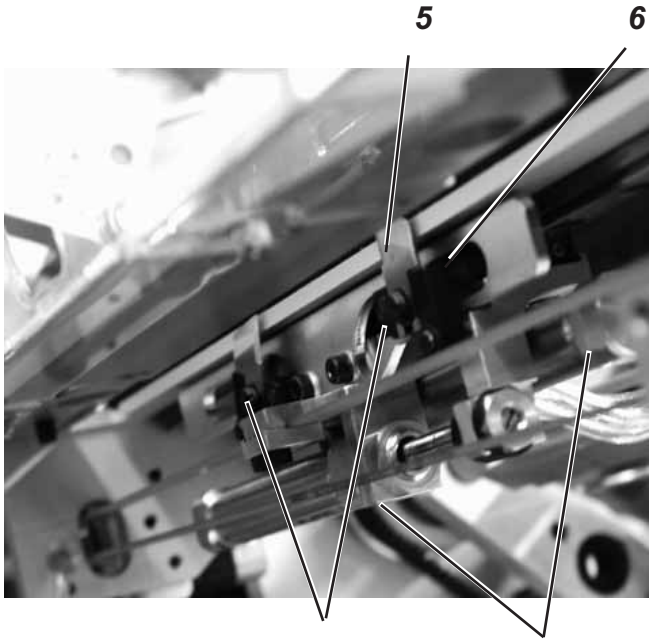
The deflector 2 avoids that the piping strip taken up by the pick-up folder gets under the sole when the pick-up folder lowers. The edge of the deflector has to be adjusted parallel to the sole with a distance of approx. 5 mm.

Correction

- Loosen the screws 1.
- Adjust the deflector 2.
- Tighten the screws 1 again.

14.4 Exchanging the piping knives





Caution: Danger of injury !

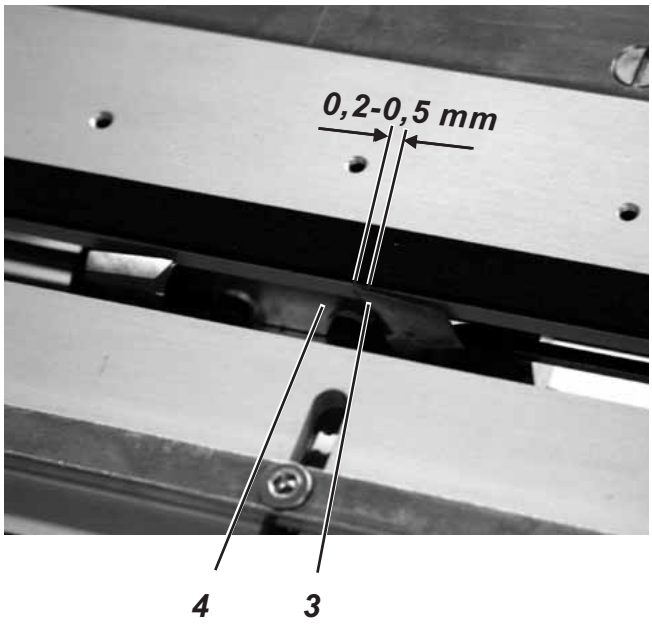
When actuating the cylinders 4 the piping knives move out of the rest table upwards.
In case of improper handling there is the risk of cutting your fingers with the sharp blades of the piping knives.

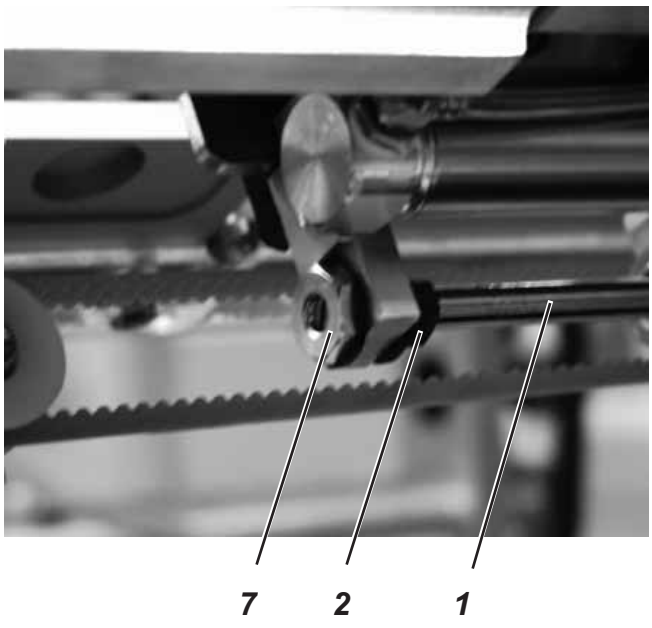
Blunt knives have to be exchanged against a set of knives included in the accessories. The piping knives can be ordered under the following order number: 0745 330460

Correction

- Cut off the compressed air supply.
- Remove the pick-up folder.
- Loosen the fastening screws 2 and remove the single piping stop 3 completely.
- Loosen the knife fastening screws 1.
- Push the cylinder to the front end position by hand and take off the knife 5, if necessary with the help of a pair of tweezers.
- The new piping knife is mounted in reverse order. The piping knife must abut on the knife holder 6.
- Check the end position of the piping knife when retracted (chapter 14.5).

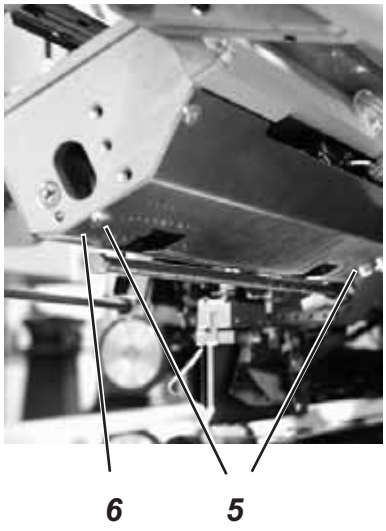
14.5 Checking the rear end position of the piping knife





ATTENTION !

In order to prevent damage to the cutting mechanism the end position of the piping knives must exclusively be determined by the stroke end of the piston rods in the cylinders.



The rear end position of the piping knives has been precisely set by the manufacturer. It has to be readjusted in exceptional cases only, e.g. after exchanging the cylinders or the knife holder. The rear end position of the piping knife is of essential importance for the perfect function of the piping cutter.

Standard checking

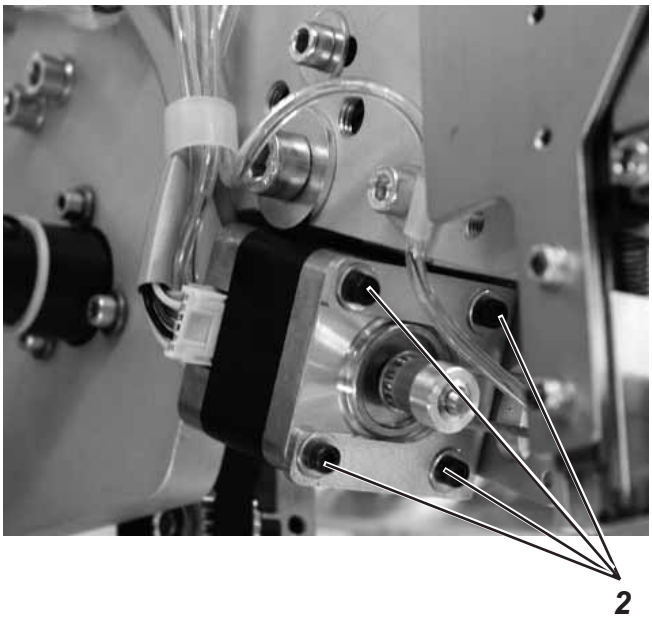
The rear end position of the piping knives should be checked when exchanging the knives:

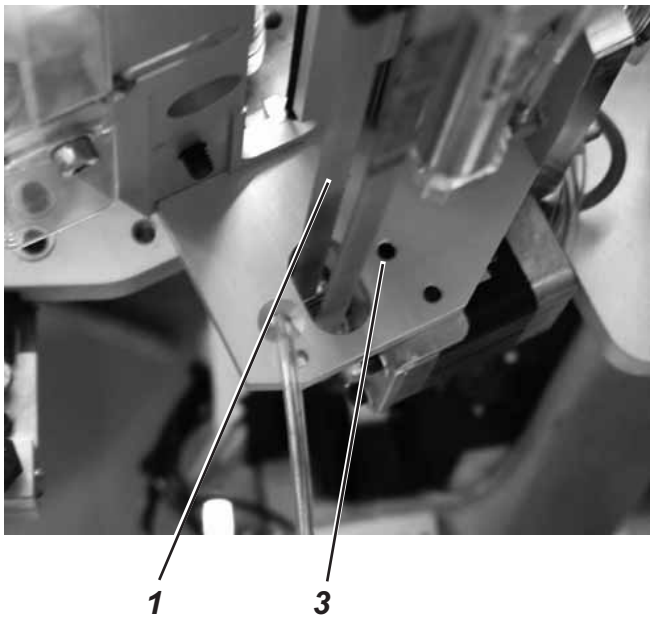
– In case of pressurized cylinders check the clearance of the guide roller in the guide.
When adjusted correctly, the knife point should have a clearance of 0.2 - 0.5 mm.

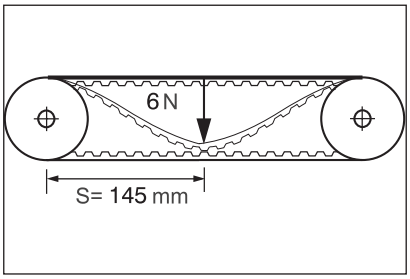
Correction

– Loosen the fastening screws 5 and remove the lower cover 6.
– Switch on the piping knives with the keys F4 and F5 in the test program “**Checking and adjusting the piping knives**”.
See Programming Instructions, chapter 6.3.12.1).
– Loosen counternut 2 and turn the piston rod 1 opposite the threaded sleeve 7 with a screwdriver.
– Tighten counternut 2 and check the clearance.
Before checking the clearance switch the piping knives off again with the keys F4 and F5.
– If necessary, repeat this operation until the knife point has a clearance of 0.2 - 0.5 mm.
– Fasten the lower cover 6 again.

14.6 Toothed belt tension







Standard checking

Over half the tightening length S=145 the toothed belt 1 must bend under the test load Fv=6 N so that the loaded belt just touches the unloaded one.

Correction

- Remove the single piping stop completely. (See chapter 14).
- Pull the lower belt against the upper one through the opening in the rest table by means of a spring balance.
- Loosen 4 motor fastening screws and turn core pin 3. The belt tension changes.
- Tighten the screws 2 again and reinsert the single piping stop.

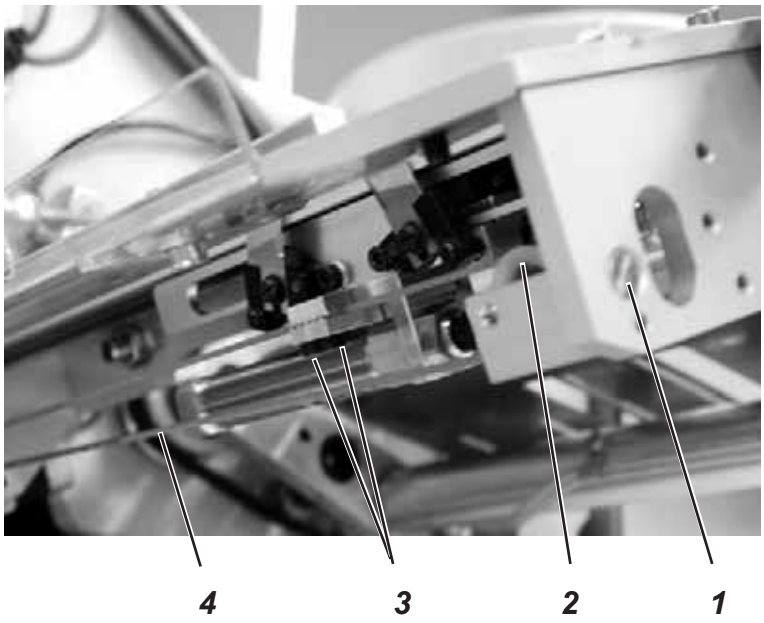
Consequences of a too high belt tension

- Reduced durability of the toothed belts
- Reduced durability of the step motor
- Noisy running

Consequences of a too low belt tension

- No faultless meshing
- The teeth may skip over under load

14.7 Exchanging the toothed belt



Caution: Danger of injury!

Switch off the main switch.

Exchange the toothed belt only with the sewing unit switched off.

Correction

- Remove the single piping stop completely. (See chapter 14.4)
- Loosen screws 3 and screw off the clamping plate.
- Unscrew screw 1, take off the front idler 2 and remove the toothed belt 4.
- The new toothed belt is mounted in reverse order.
- When the new toothed belt is mounted, adjust the toothed belt tension (chapter 14.5).

15. Positioning device for working method D

15.1 General notes

The breast welt lying on the preparation table is seized by the positioning device and positioned on the still inaccurately aligned jacket front.
This allows exact matching as per pattern and subsequent suction of the jacket front by the vacuum.

After the feeding clamps have lowered on the jacket front, the breast welt is lifted again, turned and fed to the flap clamp.

The maximum sewing length of breast welt pockets is 145 mm.

15.2 Aligning the folder

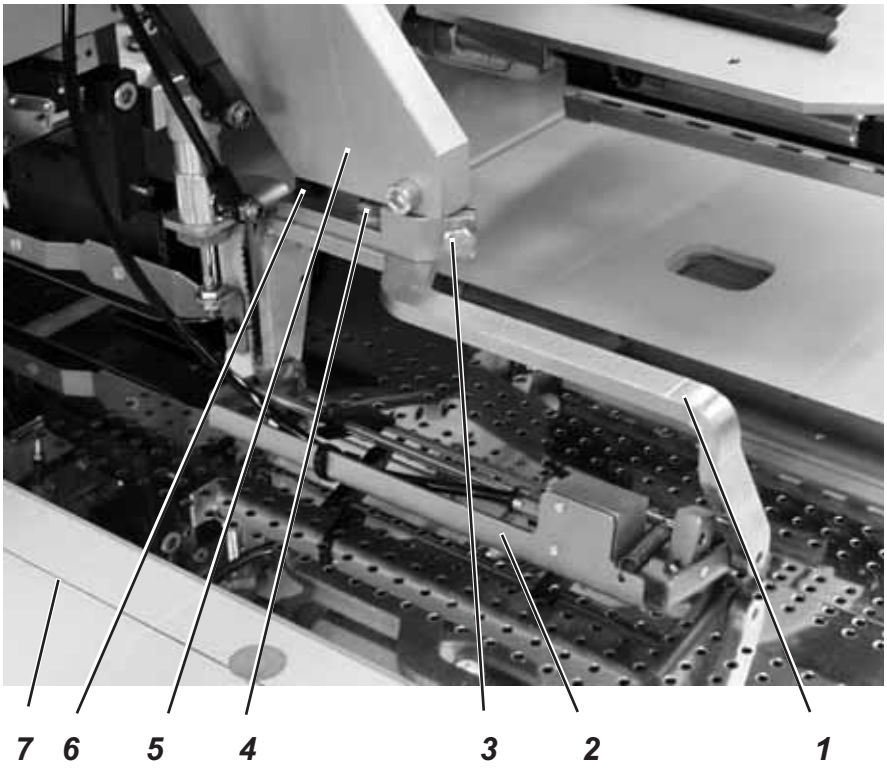
Caution: Danger of injury !

Switch off the main switch.
Adjust the positioning device only with the main switch turned off.
Carry out adjustments with utmost caution when the sewing machine is running.

Standard

The folder has to be aligned exactly as described for the working method B, D and F in chapter 12.

15.3 Aligning the positioning device



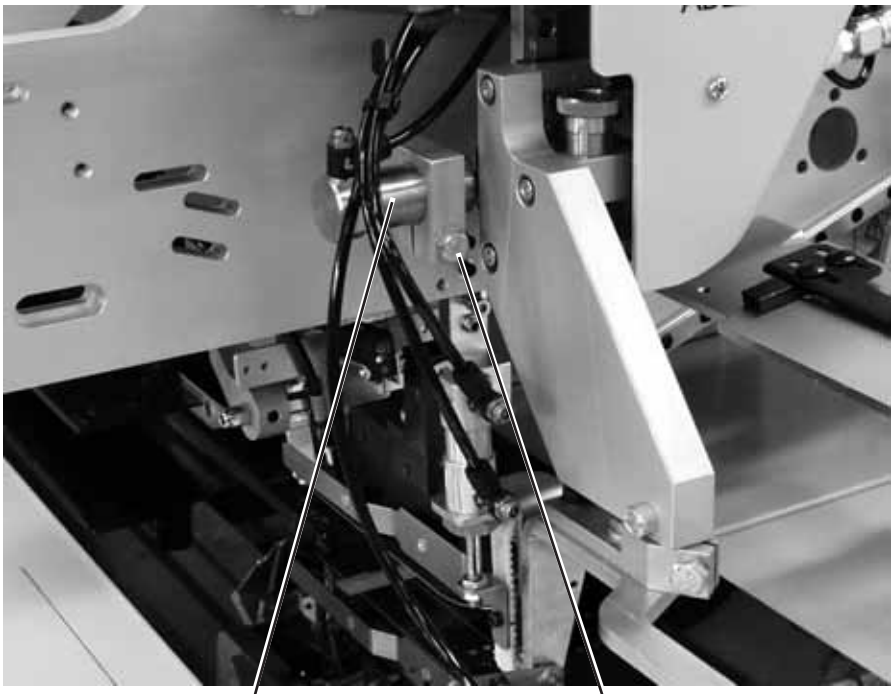
Caution: Danger of injury !

Switch off the main switch.
Check and adjust the positioning device only with the main switch turned off.
Carry out adjustments with utmost caution when the sewing machine is running.

Correction

- The positioning device 1 is fastened to the mounting plate 5.
- Align the mounting plate 5.
  Description: see chapter 12.6 Pick-up folder.
- Put the positioning device 1 into the mounting plate 5 and align in parallel position to the measuring line 7. Tighten screw 3.
- Loosen screws 4 and 6.
- Align the left edge of clamp 2 in parallel position to the measuring line 7.
- Tighten screws 4 and 6.

15.4 Adjusting the pattern shift correction



Caution: Danger of injury !

Switch off the main switch.
Check and adjust the pattern shift correction only with the main switch turned off.

Standard

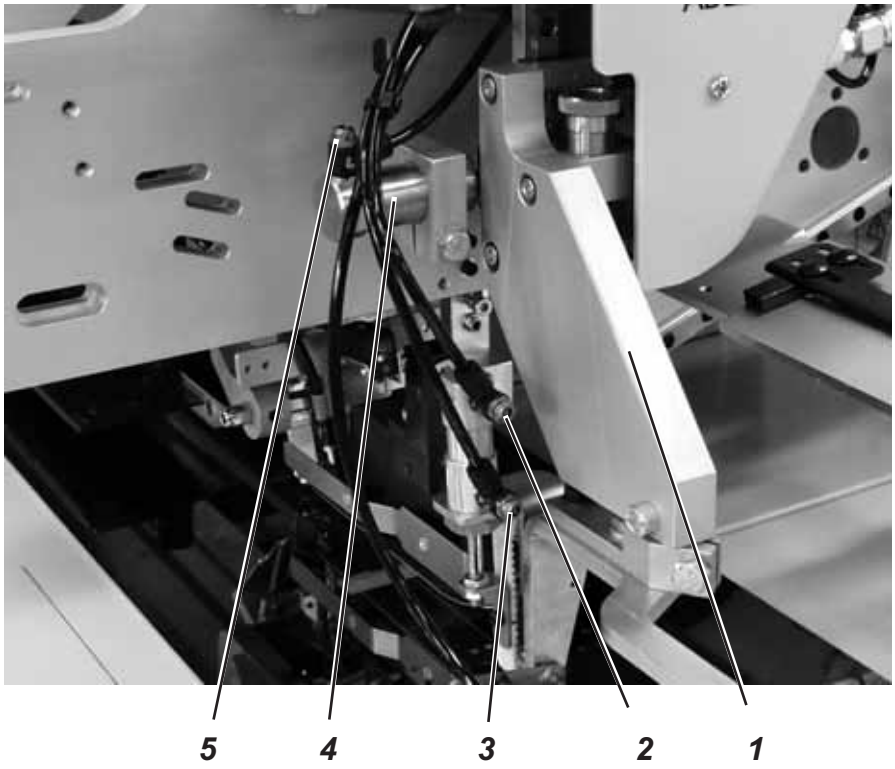
Between the breast welt positioned exactly as per pattern and the turned breast welt there will be a design-related pattern shift.
This pattern shift is corrected by the stroke of cylinder 2.

- Sew a test seam.
- Fit out a breast welt pocket (turn).
- Check the matching of pattern.

Correction

- Loosen screw 1.
- Adjust the cylinder 2 in its holder correspondingly.
- Tighten screw 1.

15.5 Adjusting the butterfly valves



Caution: Danger of injury !

Adjust the butterfly valves with utmost caution when the sewing unit is running.

Standard checking

The positioning device (turning device) 1 and the pattern shift correction 4 should swivel in and out rapidly, but not abruptly.

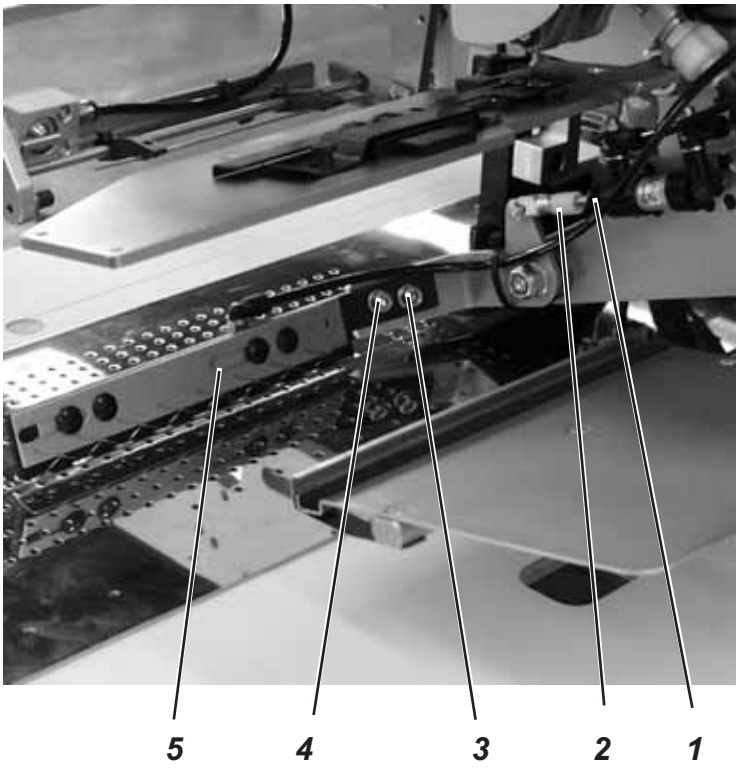
– Activate the test program “**Selecting the output elements**”. The further procedure is described in the Programming Instructions, chapter 6.4.5.
– Select the output element “**YC009**”. The positioning/turning device swivels.
– Check the motions of the positioning device (turning device) 1.

Correction

– Adjust the throttling valves.
  Throttling valve 2 = Turn the turning device in sewing position.
  Throttling valve 3 = Turn the turning device in normal or loading position.
  Throttling valve 5 = Pattern shift correction

15.6 Pocket bag feed

15.6.1 Loading position



Caution: Danger of injury !

Switch off the main switch.

Adjust the feed only with the main switch turned off.
Make adjustments on the running sewing machine with utmost caution.

Standard

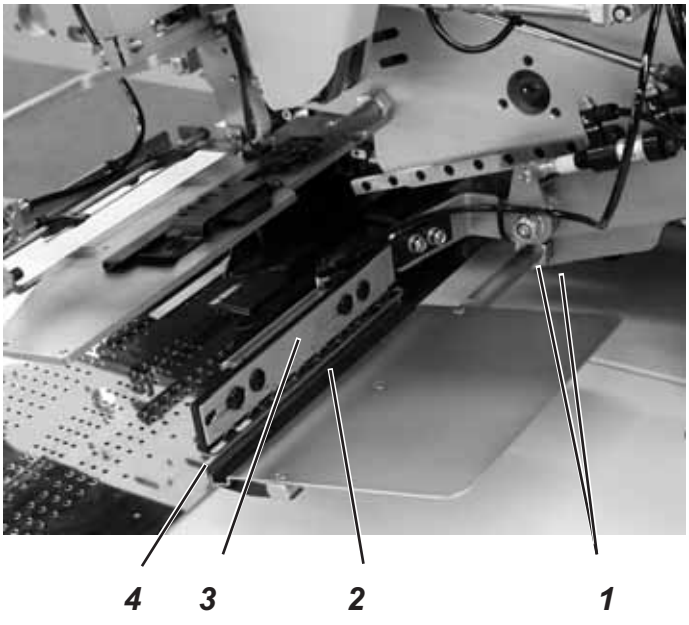
The feed safely transports the pocket bags to the middle of the pocket opening at the folder.

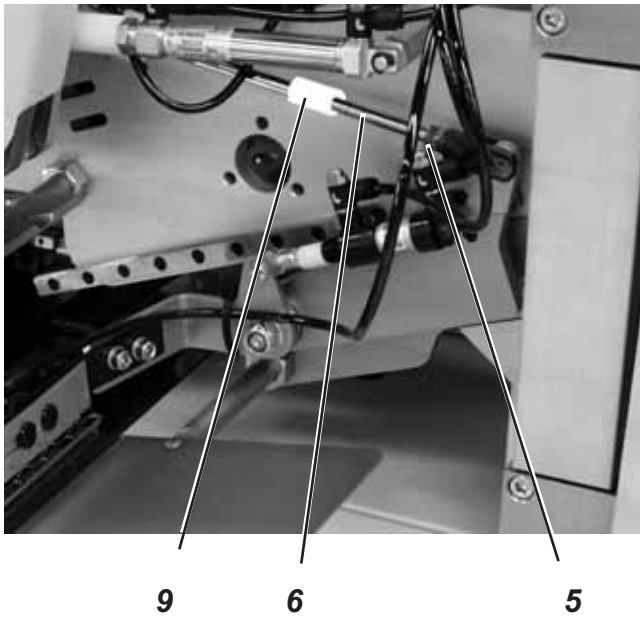
The assembly strip 5 should move to the middle of the pocket opening. At this point it should be approx. 2 - 3 mm above the workpiece in parallel position.

Correction

- Loosen screws 3 and 4.
- Align the height of the assembly strip 5 as well as its parallel position to the fabric sliding sheet.
- Tighten screws 3 and 4.
- Fine adjustment of the height by turning the piston rod 1.
- Align the assembly strip 5 by bringing it in parallel position to the center knife incision.
- Position the front edge of the pocket bag up to the center knife line.
- The exact loading position as to the center knife is determined by the bush 9.

15.6.2 Position of the assembly strip on the rest table





Caution: Danger of injury !

Switch off the main switch.

Adjust the position of the assembly strip only with the main switch turned off.

Standard

The position of the assembly strip 3 has to be adjusted in such a way that the gripping needle rows stick into the center of the sponge rubber 2. Make sure that the pocket bag is not clamped by the loading angle 4.

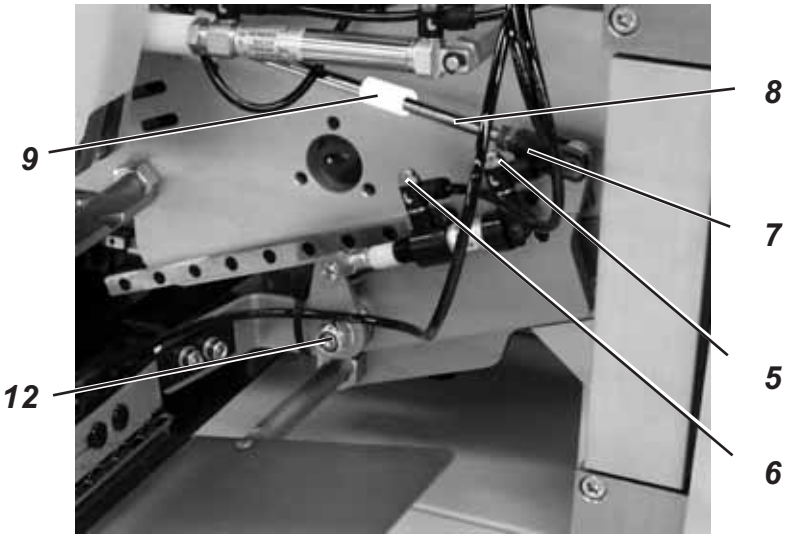
Correction

- Loosen counternut 5.
- Turn the piston rod 6 correspondingly.
- Tighten counternut 5.

Correction of the table

- Slightly loosen the counternuts 1.
- Adjust the table.
- Tighten the counternuts 1.
- If necessary, bring the table in parallel position.

15.6.3 Adjusting the butterfly valves

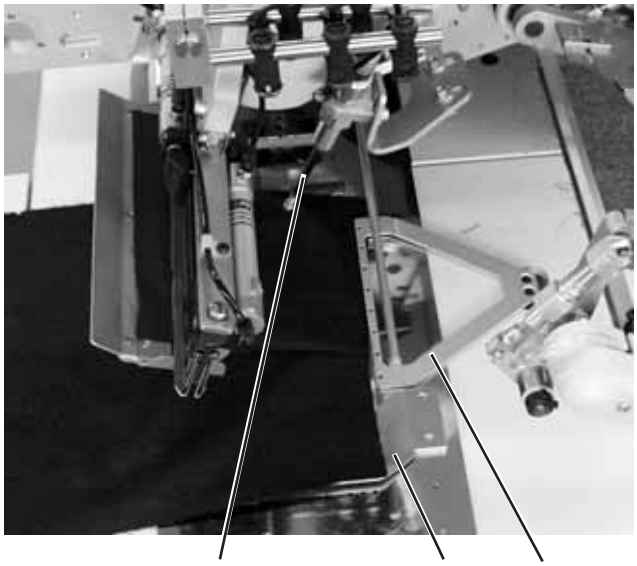


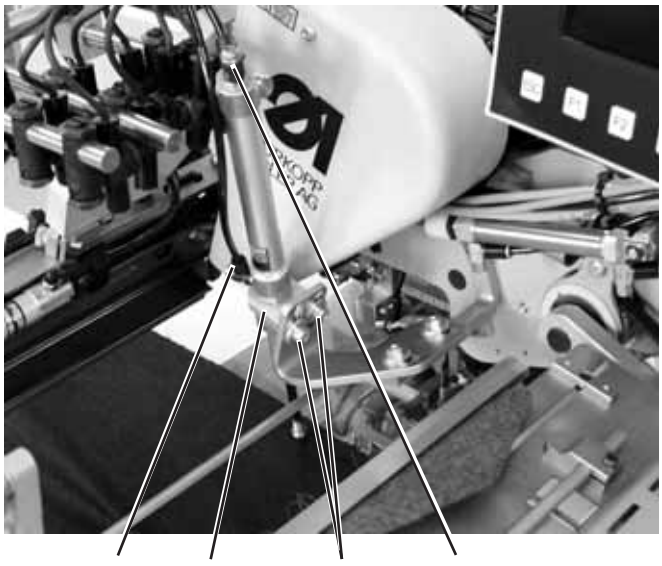
The feeding motion should be rapid, but not abrupt.

– Adjust the throttling valves 5 and 6.
  Throttling valve 5 = Lifting the needle rib.
  Throttling valve 6 = Lowering the needle rib.

16. Adjusting the optional equipment

16.1 Downholder and pocket bag clamp





The fullness in the pocket opening area caused by darts is smoothened and safely held by means of the device (order number 0745 597514).

It consists of the following components:

– Downholder 3
– Clamping plate 2 for pocket bag parts

Caution: Danger of injury !

Switch off the main switch.
Check and adjust the downholder and the pocket bag clamp only with the main switch turned off.

Standard

The downholder 3 should be aligned in such a way that it lowers close to the folder (on the right and on the left respectively) as well as to the front in the area of sewing start.

Adjusting the clamping plate 2

The clamping plate 2 is held by a magnet.

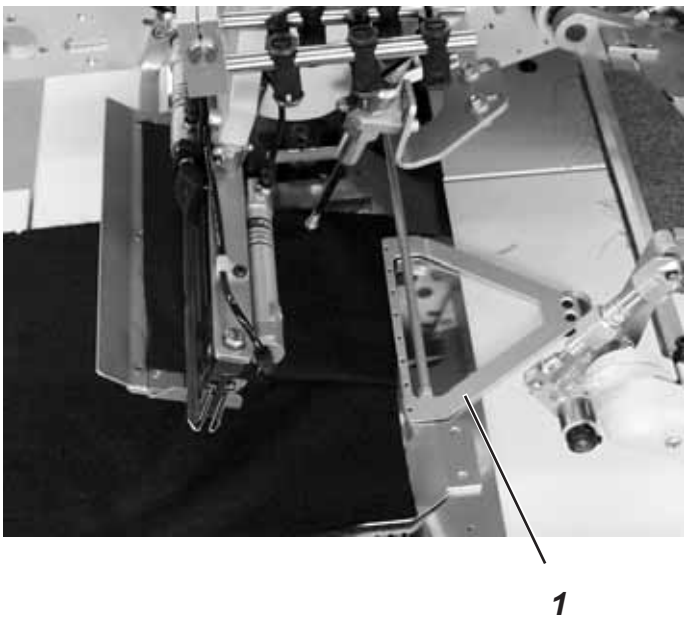
– Adjust the clamping force by means of the magnet. The adjusting screw is located underneath the table top.

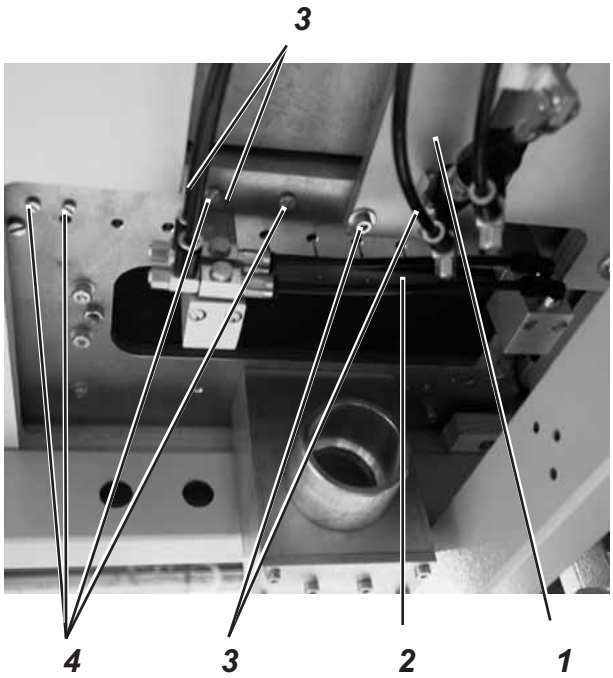
Adjusting the downholder 3

– Loosen the screws 5 at the clamping collar 6.
– Adjust the height of the downholder 3.
When the pedal is actuated, the extended piston rod should just touch the fabric sliding sheet.
– Align the downholder 3 to the back (in machine head direction).
The piston rod should hold the hind trousers part clamped, not the pocket bag underneath.
– Tighten the screws 5 at the clamping collar 6.
– Regulate the lowering speed of the downholder 3 by means of the butterfly valves 4 and 7.
The lowering motion should be rapid, but not abrupt.

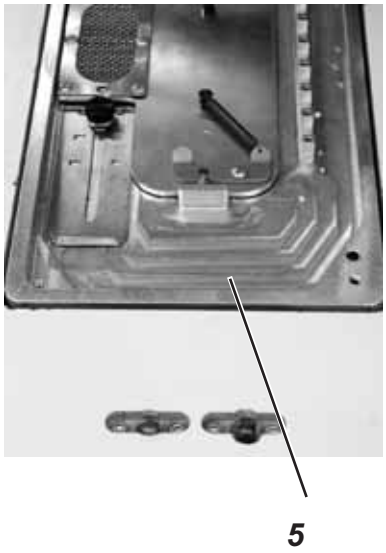
16.2 Waistband clamp

The waistband clamp 1 is available under order number 0745 597524.





Assembly on sewing unit 745-34 (working method A)



The completely mounted waistband clamp 1 and the needle rib 2 are fixed to the rear fastening screw threads 3 of vacuum plate 5 (towards the sewing machine).

Assembly on sewing unit 745-34 (working method B)

The completely mounted waistband clamp 1 and the needle rib 2 are fixed to the front fastening screw threads 4 of vacuum plate 5 (towards the operator).

Adjustment

– Align waistband clamp 1 and needle rib 2 as to the bore-holes in the sliding sheet.

16.3 Throw-over stacker

The basic adjustments of the throw-over stacker mentioned hereafter have been made by the manufacturer.
They have to be corrected in exceptional cases only.

Caution: Danger of injury !

Before carrying out any adjustment work switch off the main switch and separate the throw-over stacker from the compressed air supply.

16.3.1 Adjusting the opening width

During the sewing operation the workpieces must safely run into the opening x between the support for stacked goods 2 and the clamping pipe 3.

The stop screw 4 limits the position of the opened clamping pipe 3 swivelled away from the support for stacked goods 2.
Thus, it determines the opening width x of the stacker.
The opening width x is adjustable up to 240 mm max.
On delivery of the machine it amounts to 170 mm.

- Loosen counternut 5.
- Turn the stop screw 4 until the desired opening width x is reached.
- Tighten counternut 5.

16.3.2 Adjusting the height of the counter-holder

When the stacker is open, the counter-holder 7 stands below the support for stacked goods 2.
The distance y between the counter-holder 7 and the support for stacked goods 2 is adjustable from 30 to 170 mm.
For workpieces which are insufficiently clamped by the stacker on the inlet side a smaller distance y has to be selected.

- Loosen both clamping screws 8.
- Adjust the desired height of counter-holder 7.
- Tighten clamping screws 8.

16.3.3 Adjusting the position of the rest sheet

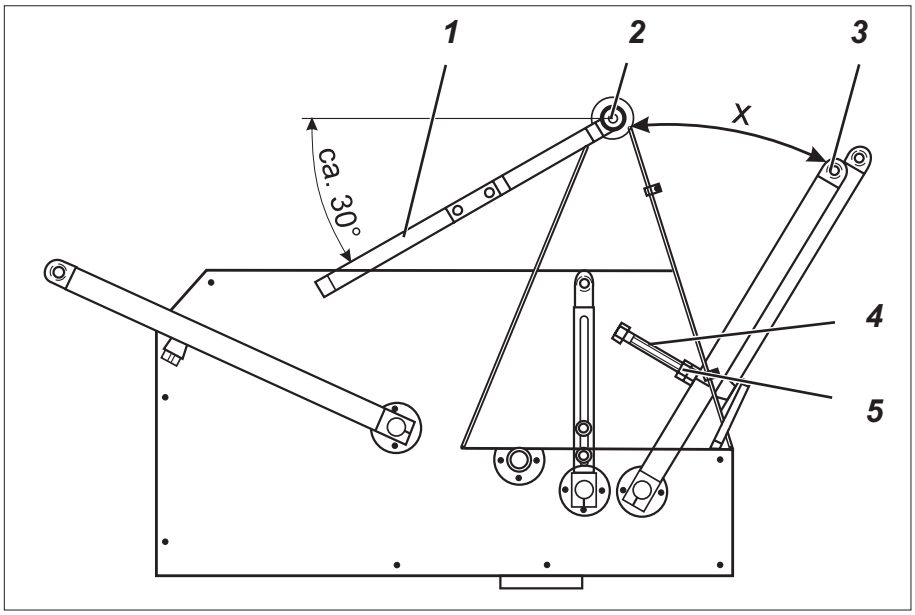
The inclination of rest sheet 1 must be adjusted in such a way that the workpiece lies flat after smoothing.

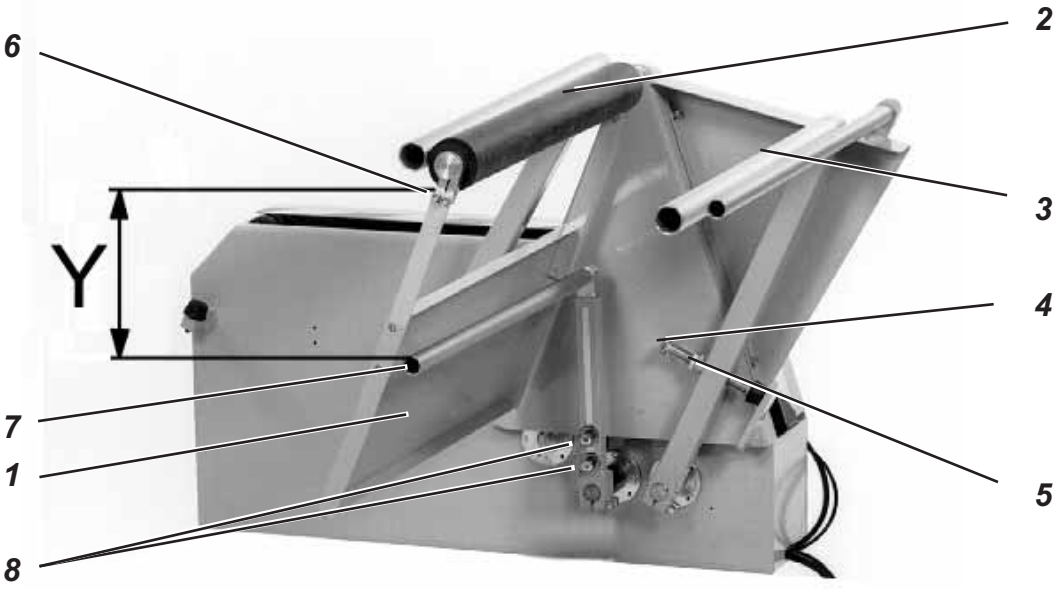
- Loosen both clamping screws 6.
- Swivel the rest sheet 1 into the desired position.
  Basic adjustment: The rest sheet 1 should stand in an angle of approx. 30° (see sketch).
- Tighten clamping screws 6.

16.3.4 Adjusting the speed of the smoothing movement

The smoothing and backward movement of the smoother should be rapid, but not abrupt.
The movement speeds are regulated by means of the choke valves 9 and 10.

Choke valve 9:	Regulate the backward movement
Choke valve 10:	Regulate the smoothing movement


1
2
3
X
ca. 30°
4
5


6
2
Y
3
4
7
1
8
5


DÜRKOPP ADLER
9
10

16.3.5 Adjusting the height

Standard

The clamping pipe 3 should move below the table top of the sewing unit in a small distance.

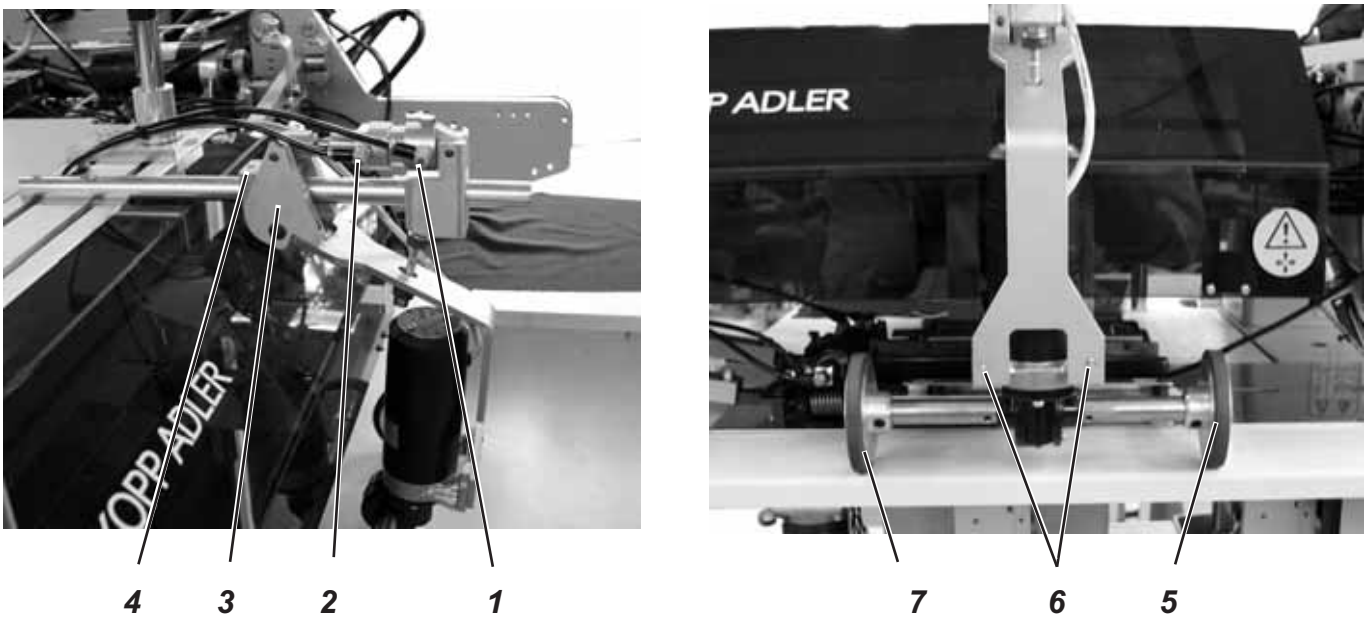
Correction

– Loosen clamping screw 11.
– Raise and press down the stacker respectively.
– Tighten clamping screw 11.

16.3.6 Stacker earthing cable

– Fasten the earthing cable 12 with the enclosed wing screw, disc, fan-shaped washer and hexagon nut.
The fan-shaped washer must always be positioned between casing and nut.

16.4 Ejector roller



The stacker attachment (order number 0745 597594) is used in combination with the throw-over stacker. This is required for workpieces positioned in transverse direction or which are too short so that the throw-over stacker does not seize them.

The transport rollers 5 and 7 convey the narrow workpiece to the opening of the throw-over stacker.

Caution: Danger of injury !

Switch off the main switch.

Adjust the stacker attachment only with the main switch switched off.

The transport rollers must be aligned in parallel position to the table top and the middle of the pocket opening.

Adjusting the height of the transport rollers

In lowered position both transport rollers 5 and 7 should equally rest on the table top.

- Loosen Allen screws 6 (from the back).
- Loosen the core pin 4.
- Shift the operating lever in such a way that both rollers rest on the table top with slight pressure.
- Tighten core pin 4 and screws 6.

Adjusting the butterfly valves

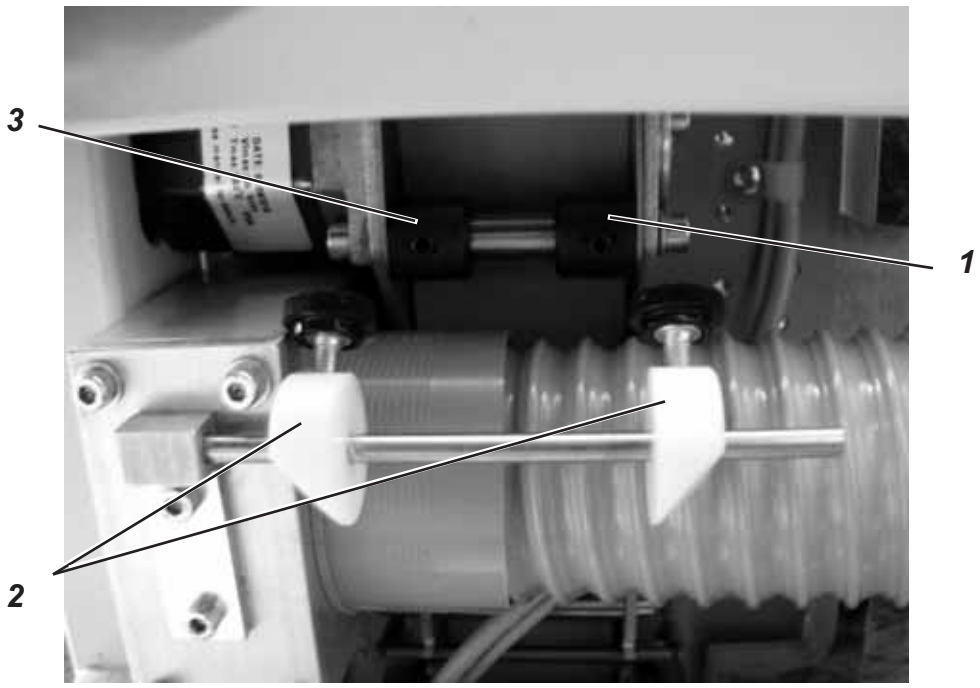
- Set the lowering and lifting speed at the butterfly valves 1 and 2. The lowering speed should be rapid, but not abrupt.
  Butterfly valve 1 = Lowering speed
- Butterfly valve 2 = Lifting speed

Adjusting the rolling speed and duty cycle

The rolling speed and the duty cycle of the transport rollers are set at the control.

- Activate the adjustment and test program “ Checking the function of the ejector roller ”.
  See Programming Instructions, chapter 6.3.3.
  Adjustment ex factory: v = 007 (rolling speed from 001 to 015)

16.5 Adjusting the tape feed and the automatic cutting device for reinforcement strips

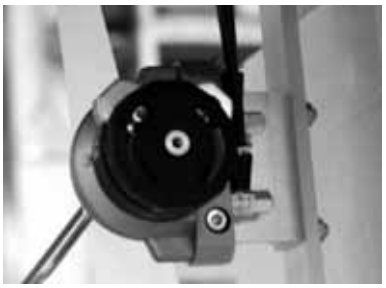


Caution: Danger of injury !

Switch off the main switch.
Adjust the feeding and cutting device only with the main switch switched off.

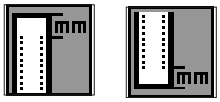
Adjusting the tape guide

- Loosen the fastening screws at the guides 1, 2 and 3.
- Adjust the guides in such a way that the strip is fed precisely.
- Tighten the fastening screws at the guides 1, 2 and 3.



Adjusting the tape length

- The tape length at the seam beginning and seam end is set at the control.
- Activate pocket program (F1). See “Programming Instructions, chapter 5.4"



Adjusting the tape puller

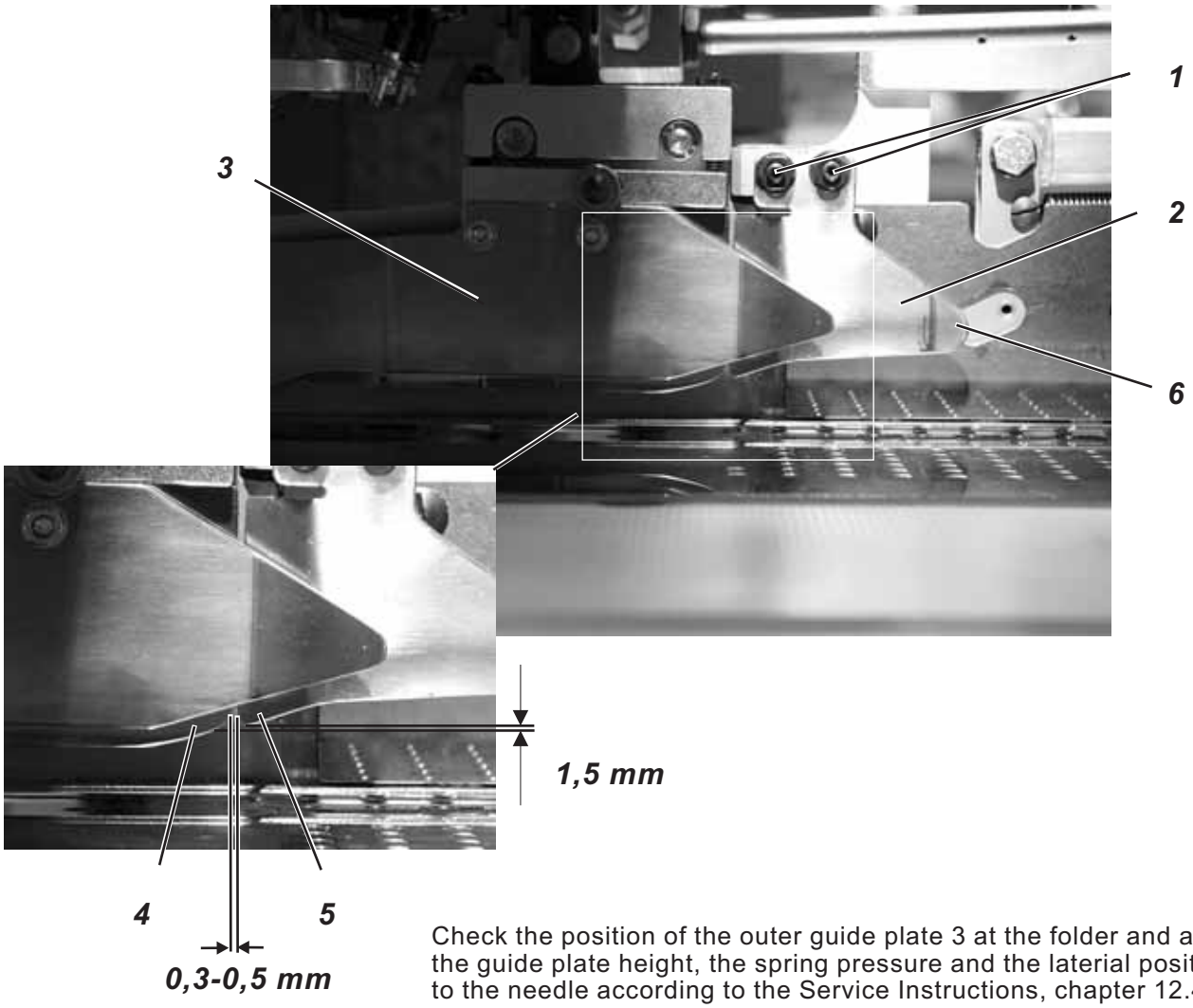
- The stops have to be adjusted in such a way that enough tape is pulled for the next pocket.
- Adjust the throttling valves so as to avoid an after-run of the roller.

16.6 Set of parts “Pocket bag on flap”

16.6.1 Aligning the flap clamps

Align the flap clamps as per Service Instructions, chapter 13.5.

16.6.2 Adjusting the guide plates at the folder and the pick-up folder

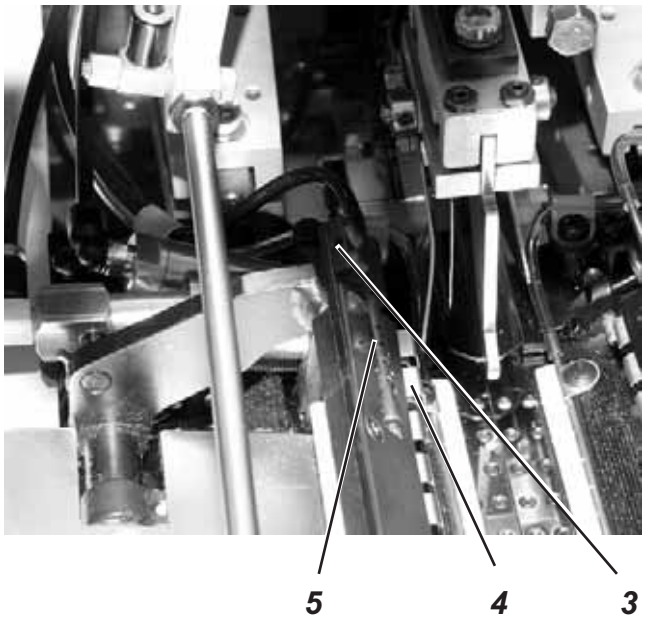


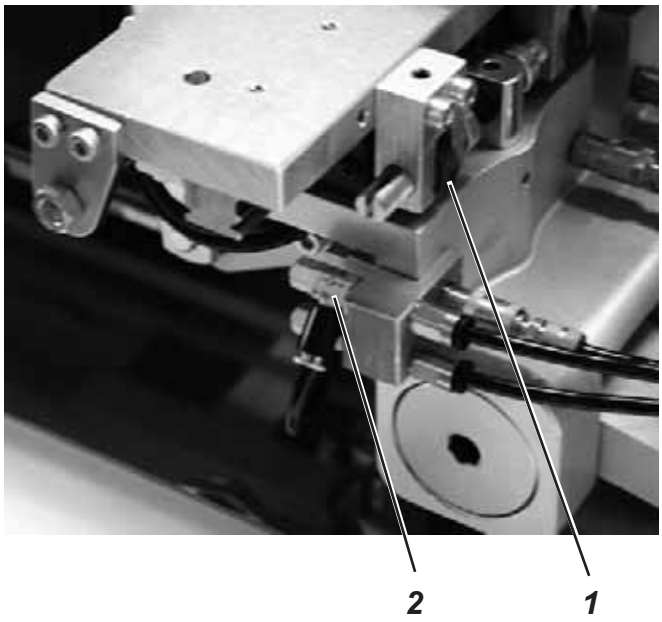
Check the position of the outer guide plate 3 at the folder and adjust the guide plate height, the spring pressure and the laterial position as to the needle according to the Service Instructions, chapter 12.4.

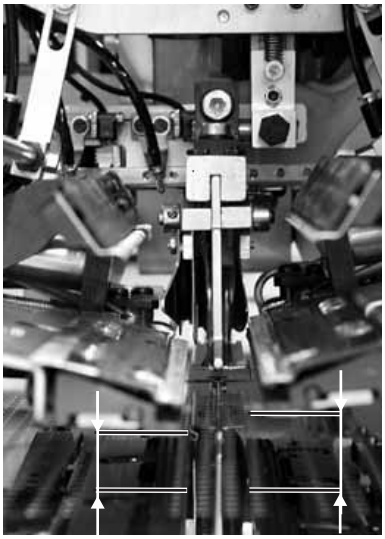
Adjust the guide plate 2 at the pick-up folder as to the guide plate 3 at the folder and to the flap clamps as follows:

- Loosen four nuts 1.
- Adjust the distance between guide plate 2 and pick-up folder in such a way that - when the flap feeding clamps are swivelled in - the upper clamp is flush to the guide plate point 6 and the rear edge of guide plate 5 has a distance of 0.3 to 0.5 mm to the front edge of the inner guide plate 4 at the folder.
- Adjust the guide plate height at the pick-up folder so that there is a distance of approx. 1.5 mm to the guide plate at the folder.
- Tighten the nuts 1.

16.6.3 Adjustments at the feeding clamp



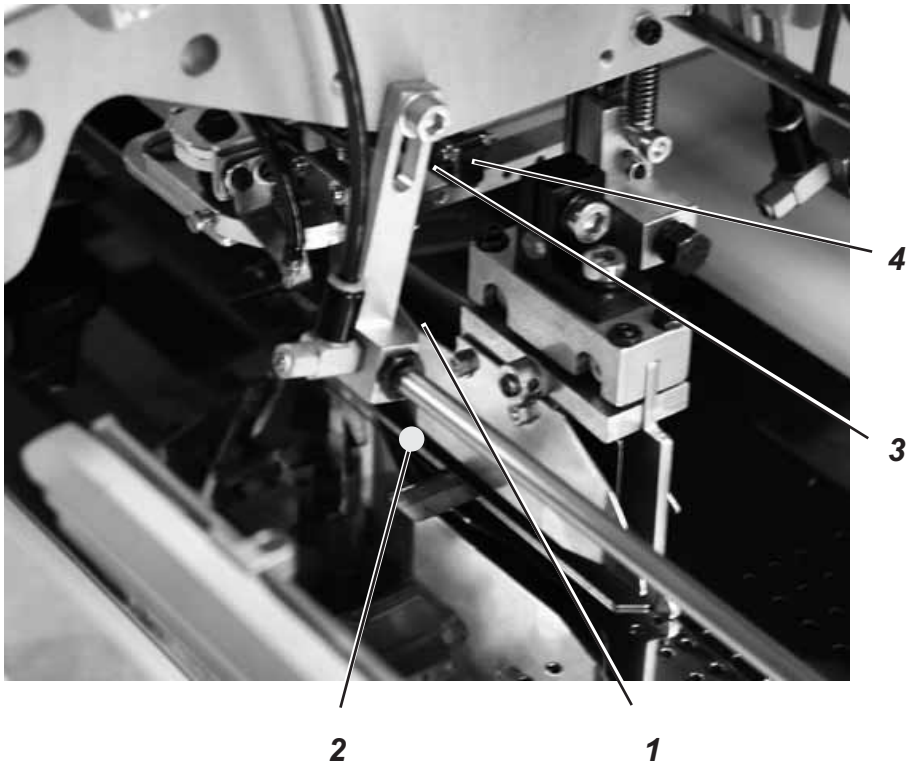




15 mm 20 mm

- Align the additional claw 4 so that the pocket bag is sufficiently clamped in the front section.
- Adjust the direction and intensity of the blowing air in such a way that the pocket bag safely runs into the folder.
  For this purpose loosen the core pin 3 in the holder of the blowing pipe and turn the blowing pipe 5 correspondingly.
  The intensity of the blowing air can be adjusted with the throttling valve 2.
- Adjust the stop 1 for the lateral adjustment of the left feeding clamp in such a way that the clamp runs approx. 10 mm to the outside. Adjust the stop as per Service Instructions, chapter 4.3. Use the clamp adjustment for this purpose (Programming Instructions, chapter 5.4).
- The stroke of the raised left feeding clamp must not exceed **15 mm** (standard **20 mm**).
  Adjustment of the feeding clamp stroke see chapter 4.3.

16.6.4 Fine adjustment of the light barrier position



- Swing in the folding station with folder.
- The infrared luminous spot 2 of the light barrier must strike the sliding sheet through the cutout in folder 1 directly beside the edge of the sole.
- Swing the folding station out.
- Select the program “Aligning the light barriers” (Programming Instructions, chapter 6.3.4) and pull the feeding clamps to the front.
- Check whether the reflected point is in the center of the reflected foil.
- Check whether the light barrier engages definitely (sound and yellow lamp at the underside of the light barrier).
  The green lamp must always shine (in engaged and disengaged state).
- Push the feeding clamps back and swing the folding station in.
- Press key 7.
  The pick-up folder lowers down on the sliding sheet.
- Pull the feeding clamps to the front and check the function of the light barrier.
- If required, carefully adjust the light barrier by turning the holder 3.

16.6.5 Program “Aligning the light barrier”

Align the light barrier as per Programming Instructions, chapter 6.3.4

16.6.6 Setting the parameter “Pocket bag/Blowing of pipings”

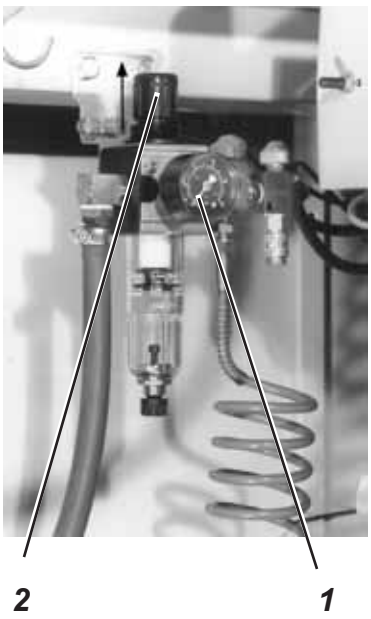
In the pocket parameters the parameter “Pocket bag/ Blowing of pipings” has to be set to mode 5 “Blowing the pocket bag on flap”. See Programming Instructions, chapter 5.4, for the selection of parameter “Pocket bag/Blowing of pipings”.

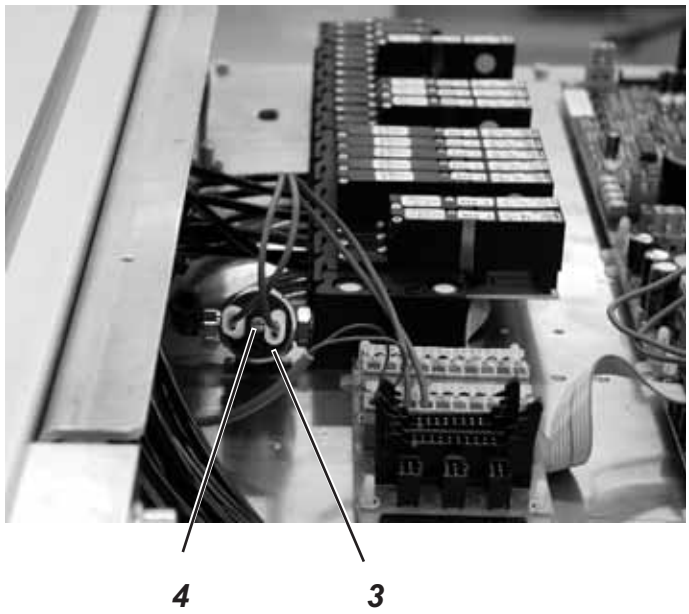
16.6.7 Setting the mode “Pocket bag on flap”

The mode “Pocket bag on flap” has to be set in the machine parameters. Then the raised left clamp moves to the loading position shifted to the left by 10 mm.

See Programming Instructions, chapter 6.2, for selecting the mode “Pocket bag on flap”.

17. Pressure monitor





Standard checking

The operating pressure of the sewing unit amounts to 6 bar.
It can be checked via the manometer 1.

At the moment of the maximum air consumption the pressure monitor 3 may indicate a slight pressure.

Therefore the switching threshold of the pressure monitor is defined at 4.7 ±0.2 bar.

Correction

- Pull up the twist handle 2 and turn it in such a way that the pressure is 4.7 ±0.2 bar.(see Part 2, item 6).
- Select the test program ”Selecting the input elements” (RST + F3).
- Select the input element S 24.
- Set the adjusting screw 4 at the pressure monitor 3 as follows:

If S24- is indicated

- Turn screw 4 to the right until the display shows S24+.
- Turn screw 4 slightly to the left until S24- is indicated again.

If S24+ is indicated

- Turn screw 4 to the left until the display shows S24-.

- Finish the test program.
- Pull up the twist handle 2 and turn it in such a way that the pressure is 6 bar.

18. Maintenance

Caution: Danger of injury !

Switch off the main switch.
The maintenance of the sewing unit must only be carried out when the machine is switched off.

The daily or weekly maintenance work (cleaning and oiling) to be done by the operators of the sewing unit is described in Part 1: Operating Instructions. It is only listed in the following table to complete the picture.

Work to be done	**Operating hours**			
	8	40	160	500
Machine head				
Remove bits of fluff, sewing dust and thread tails from the area around the hook and the throat plate	X			
Supply the oil feed holes with oil (see Operating Instructions, chapter 3.2)		X		
Check the oil level in the oil reservoirs		X		
Check the oil flow at the inspection glass	X			
Check the hook lubrication		X		
Clean the lenses of the bobbin thread monitor	X			
Clean the reflecting foils	X			
Drive unit and transport carriage				
Check state and tension of the V-belts and toothed belts			X	
Clean the filters at the front and at the back of the step motor amplifier	X			
Clean the motor fan grill	X			
Oil the feeding device B, eccentric axle 3 (ill. page 103).			X	
Pneumatic system				
Check the water level in the pressure regulator	X			
Clean the filter insert of the maintenance unit				X
Carry out leak test				X
Additional equipment				
Clean the inlet air and waste air filter of the suction unit (blow out)				X