DÜRKOPP ADLER AG

# 511

## CNC-Automat für Riegel- und Kurznähte
## CNC automat for bartacking seams and short seams

Bedienanleitung / Operating Instructions

Aufstellanleitung / Installation Instructions

Serviceanleitung / Service Instructions

1

2

3

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# Foreword

This instruction manual is intended to help the user to become familiar with the machine and take advantage of its application possibilities in accordance with the recommendations.

The instruction manual contains important information on how to operate the machine securely, properly and economically. Observation of the instructions eliminates danger, reduces costs for repair and down-times, and increases the reliability and life of the machine.

The instruction manual is intended to complement existing national accident prevention and environment protection regulations.

The instruction manual must always be available at the machine/sewing unit.

The instruction manual must be read and applied by any person that is authorized to work on the machine/sewing unit. This means:

– Operation, including equipping, troubleshooting during the work cycle, removing of fabric waste,
– Service (maintenance, inspection, repair) and/or
– Transport.

The user also has to assure that only authorized personnel work on the machine.

The user is obliged to check the machine at least once per shift for apparent damages and to immediatly report any changes (including the performance in service), which impair the safety.

The user company must ensure that the machine is only operated in perfect working order.

Never remove or disable any safety devices.

If safety devices need to be removed for equipping, repairing or maintaining, the safety devices must be remounted directly after completion of the maintenance and repair work.

Unauthorized modification of the machine rules out liability of the manufacturer for damage resulting from this.

Observe all safety and danger recommendations on the machine/unit! The yellow-and-black striped surfaces designate permanend danger areas, eg danger of squashing, cutting, shearing or collision.

Besides the recommendations in this instruction manual also observe the general safety and accident prevention regulations!

# General safety instructions

**The non-observance of the following safety instructions can cause bodily injuries or damages to the machine.**

1. The machine must only be commissioned in full knowledge of the instruction book and operated by persons with appropriate training.

2. Before putting into service also read the safety rules and instructions of the motor supplier.

3. The machine must be used only for the purpose intended. Use of the machine without the safety devices is not permitted. Observe all the relevant safety regulations.

4. When gauge parts are exchanged (e.g. needle, presser foot, needle plate, feed dog and bobbin) when threading, when the workplace is left, and during service work, the machine must be disconnected from the mains by switching off the master switch or disconnecting the mains plug.

5. Daily servicing work must be carried out only by appropriately trained persons.

6. Repairs, conversion and special maintenance work must only be carried out by technicians or persons with appropriate training.

7. For service or repair work on pneumatic systems, disconnect the machine from the compressed air supply system (max. 7-10 bar). Before disconnecting, reduce the pressure of the maintenance unit. Exceptions to this are only adjustments and functions checks made by appropriately trained technicians.

8. Work on the electrical equipment must be carried out only by electricians or appropriately trained persons.

9. Work on parts and systems under electric current is not permitted, except as specified in regulations DIN VDE 0105.

10. Conversion or changes to the machine must be authorized by us and made only in adherence to all safety regulations.

11. For repairs, only replacement parts approved by us must be used.

12. Commissioning of the sewing head is prohibited until such time as the entire sewing unit is found to comply with EC directives.

13. The line cord should be equipped with a country-specific mains plug. This work must be carried out by appropriately trained technicians (see paragraph 8).



It is absolutely necessary to respect the safety instructions marked by these signs.

**Danger of bodily injuries !**

Please note also the general safety instructions.



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# 1. General

These service instructions describe the adjustment of the automatic bartacker 511.



**CAUTION !**

The operations described in these service instructions may only be carried out by qualified staff or other properly trained persons!



**Caution – Risk of injury !**

Always switch off the main switch before any repair, alteration or maintenance.

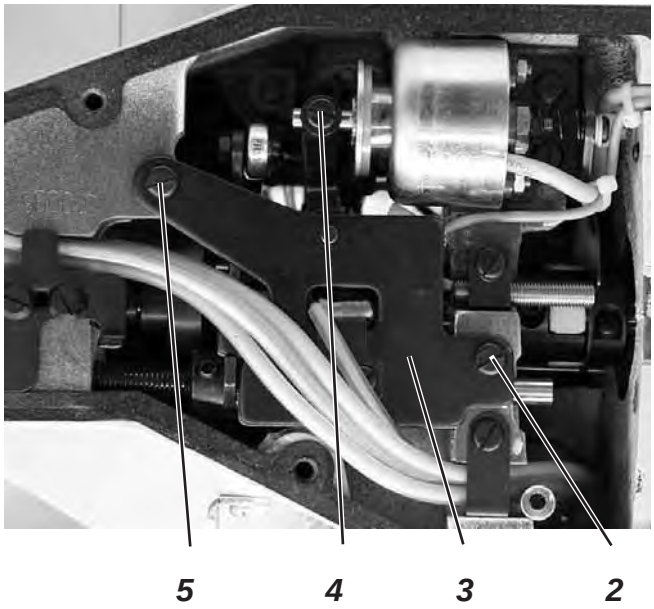
Adjustment work and function testing that takes place while the machine is running should be carried out only under observance of all safety measures and with the greatest possible caution.

These service instructions describe the adjustment of the automatic bartacker in a logical order. Please observe that various setting positions are dependent on each other. Thus it is essential that the settings be conducted while keeping to the order described. For all adjustments of parts involved in the stitch formation, a new undamaged needle must be inserted.

# 2. Arm Shaft

## 2.1 Preparatory adjustment work




Some of the adjustments at the arm shaft 1 are easier to carry out if the thread trimming mechanism 3 is removed.



**Caution – Risk of injury !**

Turn the main switch off.

Remove and mount the thread trimming mechanism only when the automatic bartacker is switched off.

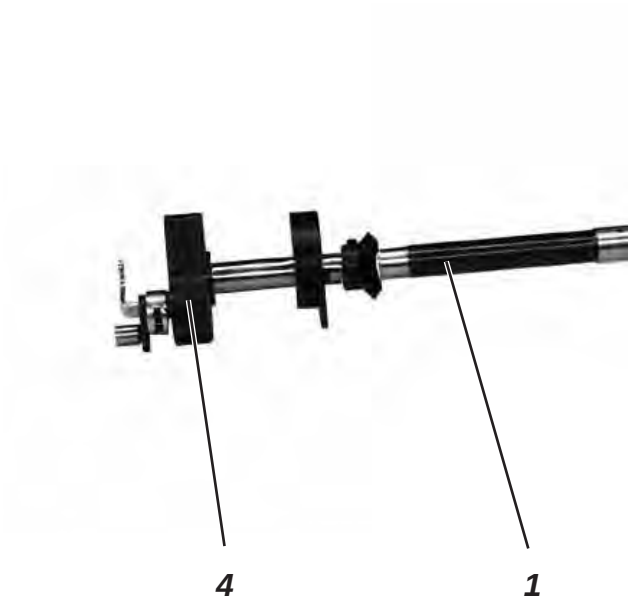
**Remove mechanism**

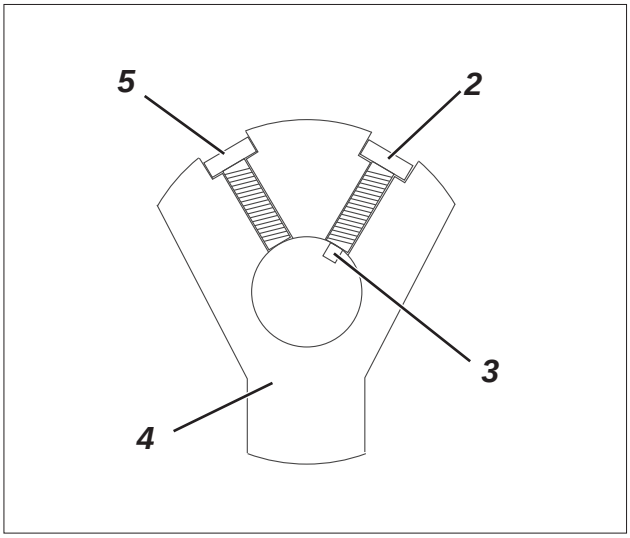
- Unscrew arm cover.
- Loosen screw 4 at the thread trimmer magnet.
- Unscrew screws 2 and 5 and take off thread trimming mechanism 3.

**Mount mechanism**

- Push thread trimming mechanism 3 on the magnet and place it on the machine head.
- Insert screws 2 and 5 and screw tight.
- Tighten screw 4 at the thread trimmer magnet.
- Adjust thread trimmer (see chapter 5).

## 2.2 Assembly of the crank






**Caution – Risk of injury !**

Turn the main switch off.

Remove and mount the crank only when the automatic bartacker is switched off.

3

**Rule:**

The crank 4 has to be mounted on the arm shaft 1 in such a way that the pivot 3 of the screw 2 reaches into the drill-hole on the arm shaft. The screw 2 is the first screw in the direction of rotation.

**Assembly**

- Push crank 4 on arm shaft 1.
- Turn crank 4 so that its first drill-hole in the direction of rotation is located above the drill-hole in the arm shaft 1. Insert screw 2 with pivot 3 and screw tight.
- Insert screw 5 and tighten.

## 2.3 Arm shaft positioning






**Caution – Risk of injury !**

Turn the main switch off.

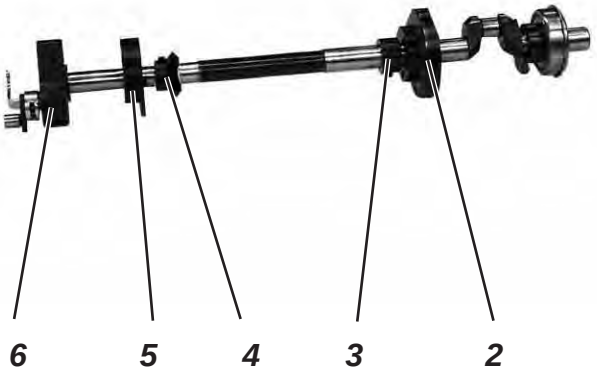
Check and adjust the position of the arm shaft only when the automatic bartacker is switched off.

**Rule and control**

The arm shaft 1 should have no axial backlash, but it must not move too sluggishly.

– Check the arm shaft with regard to axial backlash and sluggishness.

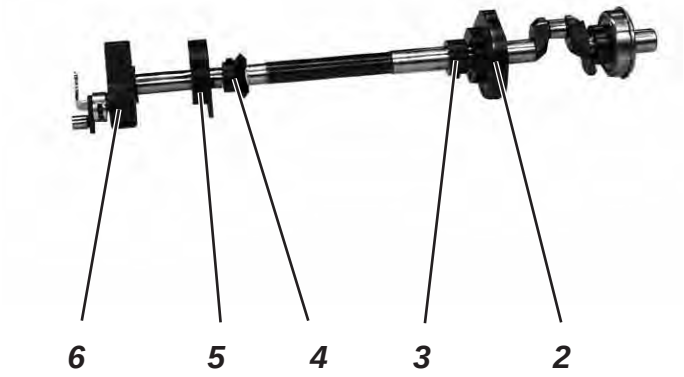
**Adjusting**





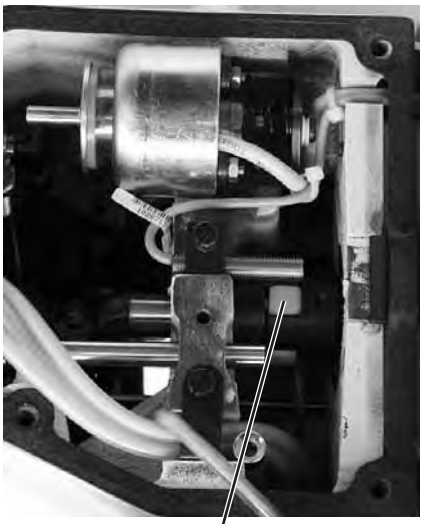


– Loosen screws at the thread trimmer cam 2.
– Loosen screws at the adjusting ring 3.
– Loosen screws at the bevel gear 4.
– Loosen screws at the bobbin winder wheel 5.





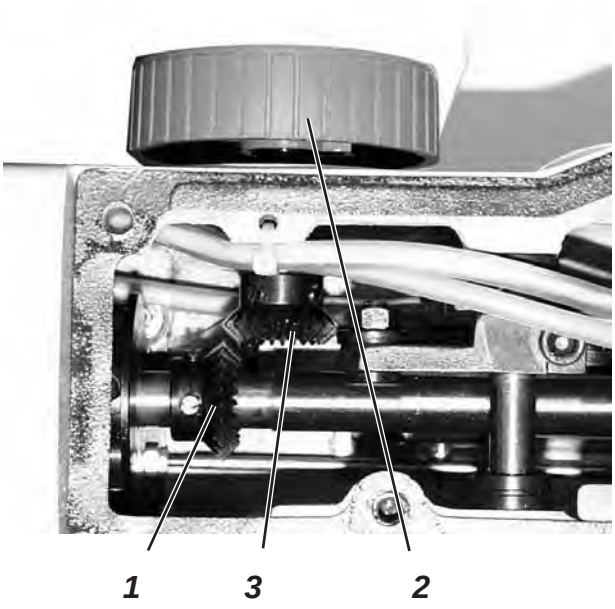





- Loosen screw at the motor coupling 7.
- Push arm shaft cam 6 axially to the right as far as it will go.
- Push adjusting ring 3 against the bearing bush, and tighten screws.
- Check arm shaft with regard to axial backlash and smooth running.
- Tighten screws at the bevel gear 4
  (for adjustment, see chapter 2.2).
- Tighten screws at the bobbin winder wheel
  (for adjustment, see chapter 2.3).
- Tighten screw at the motor coupling 7
  (for adjustment, see chapter 2.6).

## 2.4 Bevel gear for the hand wheel




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the bevel gear only when the automatic bartacker is switched off.

### Rule and control

The bevel gear 1 has to be positioned on the upper shaft in such a way that when the handwheel 2 is engaged and there is as little clearance as possible between bevel gear 1 and bevel gear 3.

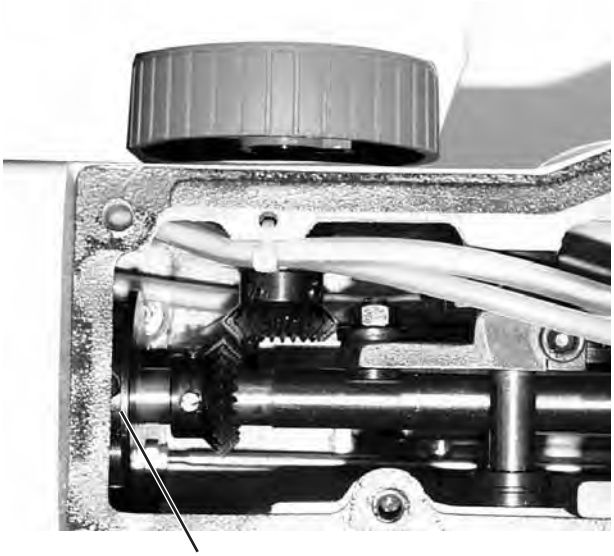
- Engage handwheel 2.
- Check whether there is as little clearance as possible between bevel gear 1 and bevel gear 3.

### Adjusting

- Loosen screws at the bevel gear 1.
- Engage handwheel 2.
- Press bevel gear 1 against the toothed wheel 3 and tighten fastening screws.
- Turn handwheel and check whether there is as little clearance as possible between bevel gear 1 and toothed wheel 3.

## 2.5 Adjust bobbin winder

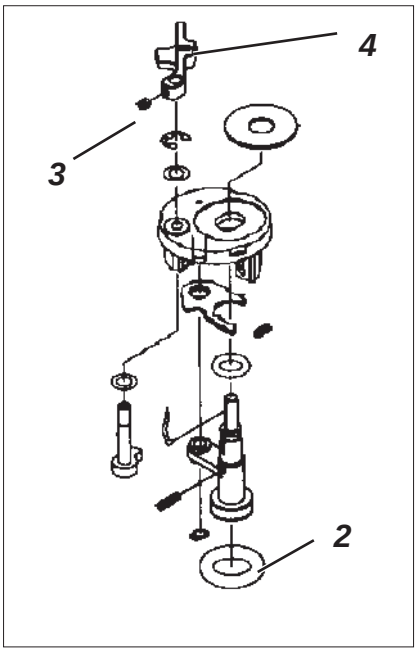


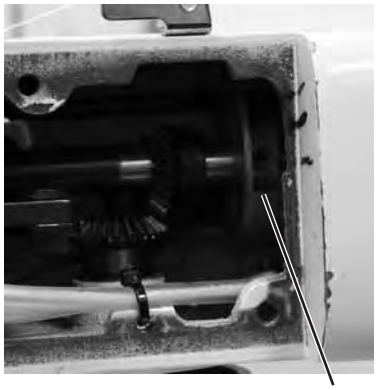




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust bobbin winder only when the automatic bartacker is switched off.




**Rule:**

The bobbin winding operation must stop automatically when the bobbin is filled up to approx. 0.3 mm below the edge of the bobbin.

**Adjustment of the bobbin winder wheel**

- Loosen screws at the driver wheel 1.
- Shift driver wheel 1 axially in such a way that it abuts on the bobbin winder wheel 2 with the bobbin cover screwed on.
- Tighten screws at the driver wheel 1.
  The second screw in the direction of rotation is located on the surface area.
- Put on head cover and tighten.
- Check bobbin winder and repeat adjustment, if necessary.

**Adjustment of the bobbin capacity**

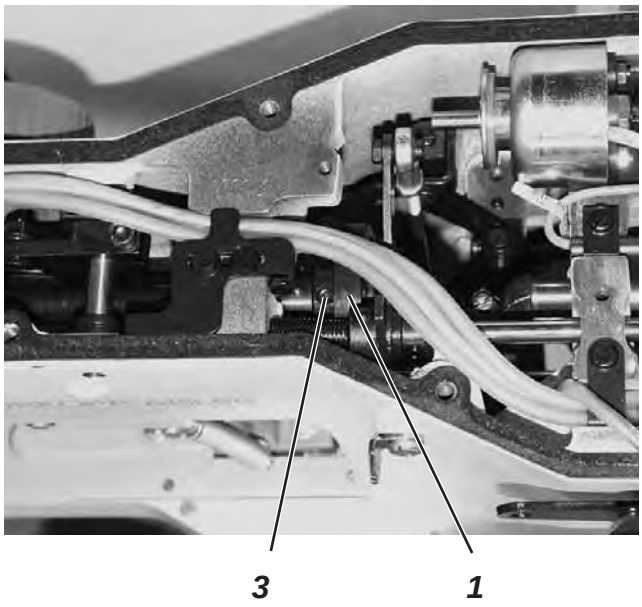
- Loosen screw 3.
- Adjust bobbin winder clip 4.
- Tighten screw 3.

**Note:**

When correcting the driver wheel, take care that the oil wicks do not collide with the driver wheel afterwards.

## 2.6 Thread-trimmer cam




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the thread trimmer cam only when the automatic bartacker is switched off.

### Rule and control

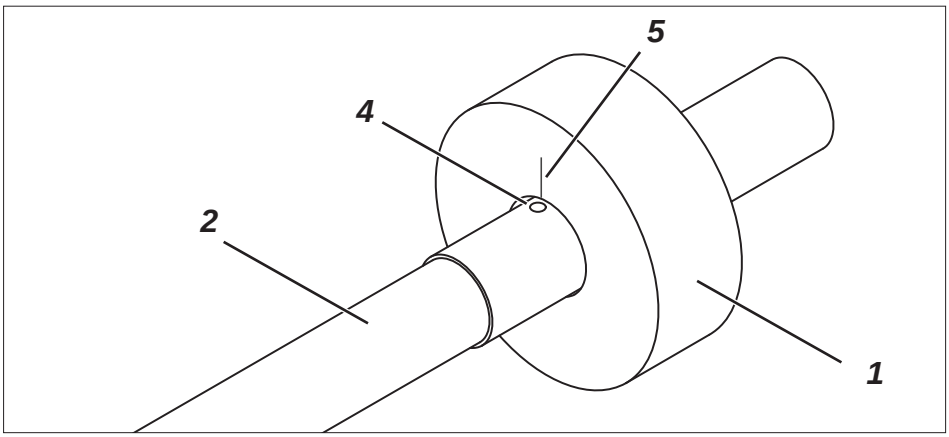
The correct position of the thread trimmer cam 1 is marked by a point on the upper shaft 2 and a line on the thread trimmer cam 1.

The position is correct when both markings are opposite each other.

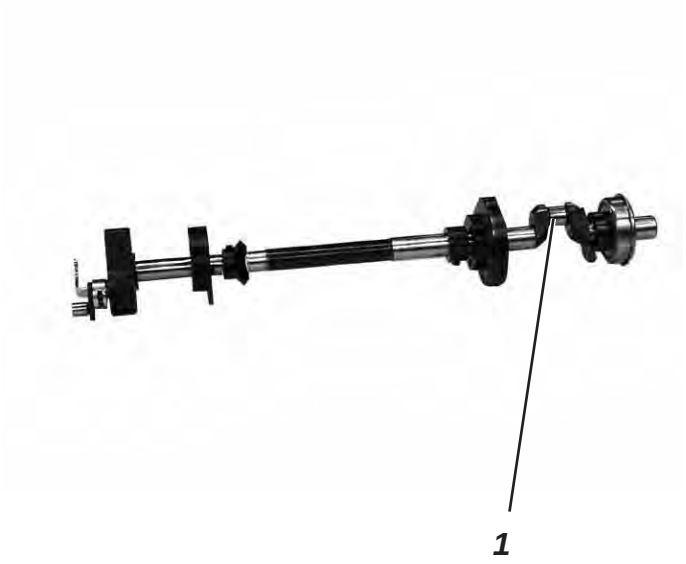
– Engage handwheel and turn until the marking points 4 and 5 on the upper shaft and the thread trimmer cam are visible.
– Check that both markings are exactly opposite each other.

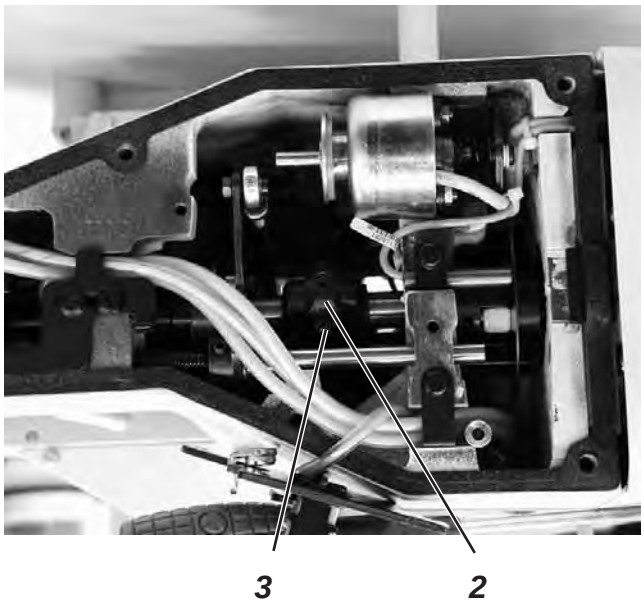
### Adjusting

– Loosen screws 3 at the thread trimmer cam.
– Twist and axially shift the thread trimmer cam so that both markings 4 and 5 are exactly opposite each other.
– Tighten screws 3.



## 2.7 Crankshaft drive to the hook shaft



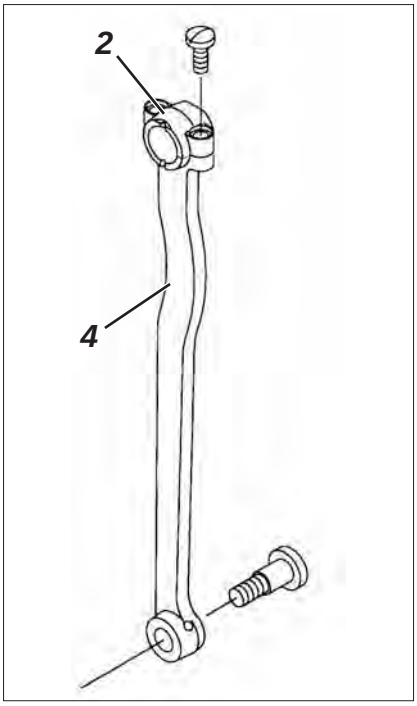




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the crankshaft drive only when the automatic bartacker is switched off.






**Rule and control**

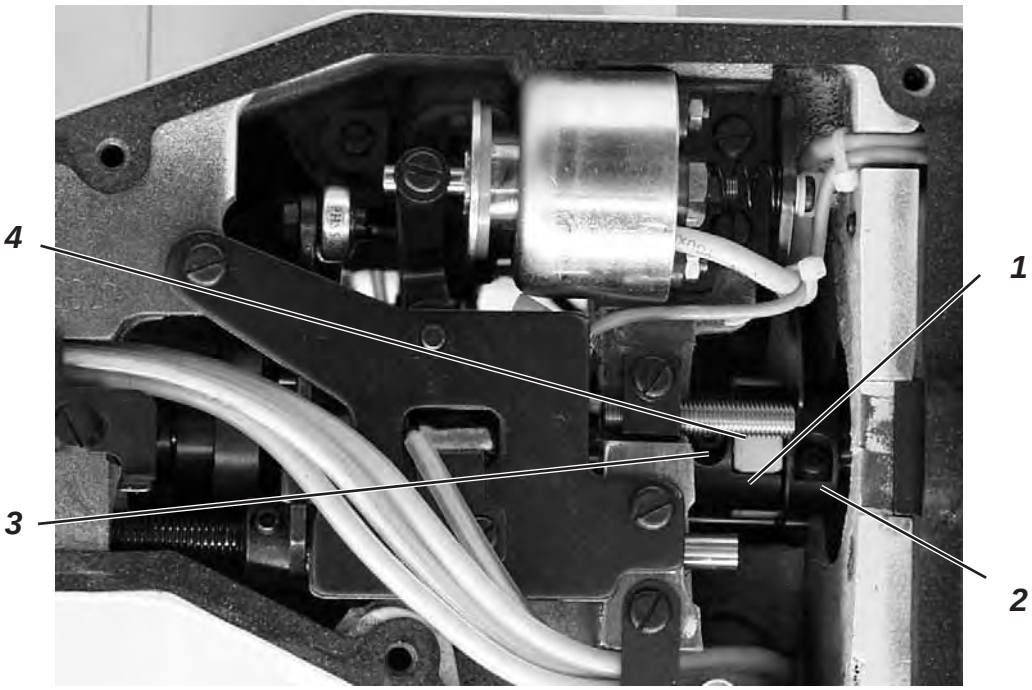
The arm shaft and the hook shaft are connected by the connecting rod 4 gripping into the crank 1 of the upper shaft.

The connecting rod 4 and the upper bearing shell 2 have a marking on one side. When assembling them, the markings must be on the same side.

Connecting rod 4 and bearing shell 2 must not jam when screwed together.

– Verify that the markings are on the same side.
– Tighten screws 3 equally.

## 2.8 Sewing motor clutch




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust sewing motor coupling only when the automatic bartacker is switched off.

### Rule and control

Both clutch halves 1 and 2 must be positioned in such a way that they abut the knobs of cam 4 on the left or right.

– Rotate arm shaft with the handwheel and check whether the cam has enough clearance in every position.

### Adjusting

– Loosen screw 3 at the coupling.
– Adjust coupling piece 1 on the shaft axially.
– Re-tighten screw 3.
– Check clearance in the coupling.

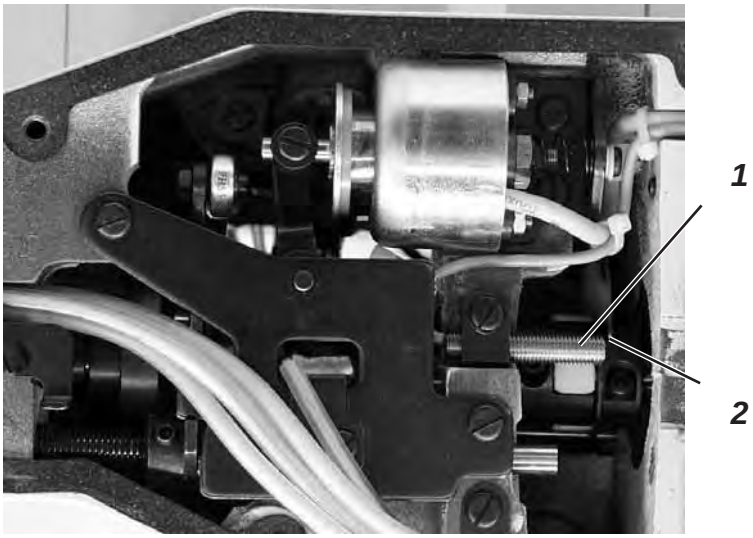
### Note

After the complete removal of the coupling, make sure that the 180° disc is correctly installed (refer to illustration).

Centre mark should point to the motor.

## 2.9 Reference position of the sewing motor

### 2.9.1 Position of the initiator






**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the initiator only when the automatic bartacker is switched off.



**Rule and control**

The distance between the initiator 1 and the 180° disc 2 should be kept as small as possible.

**Correction of the distance between the 180° disc and the initiator**

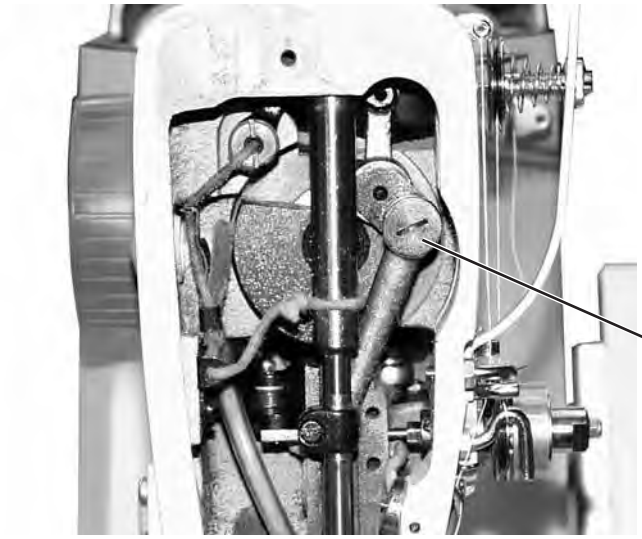
- Loosen the screw on the initiator's clamping piece.
- Adjust the initiator lengthwise so that there is a minimal gap to the 180° disc.
- Turn the machine with the handwheel in order to check that there is a gap clearance.
- Re-tighten the screw to the clamping piece.

### 2.9.2 Adjust reference position

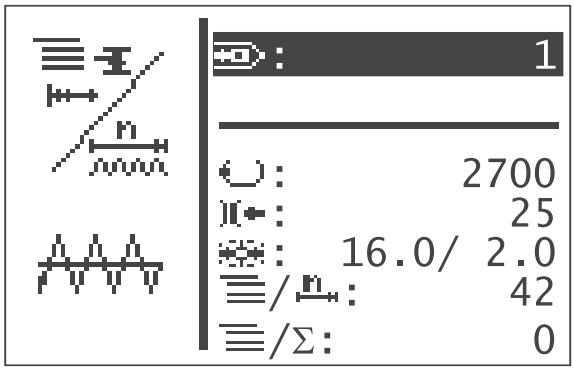
The adjustment of the correct reference position of the sewing motor is done with the help of the adjusting aid in the control unit.

**Invoke adjusting aid**

The adjusting aid shows the correct position of crank 1.



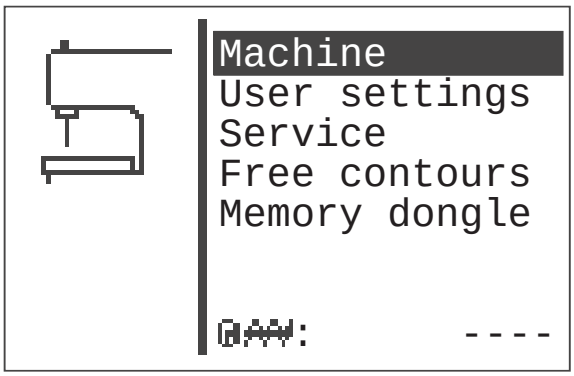

– Turn on main switch.
  The control unit is initialized.
  The main menu appears.



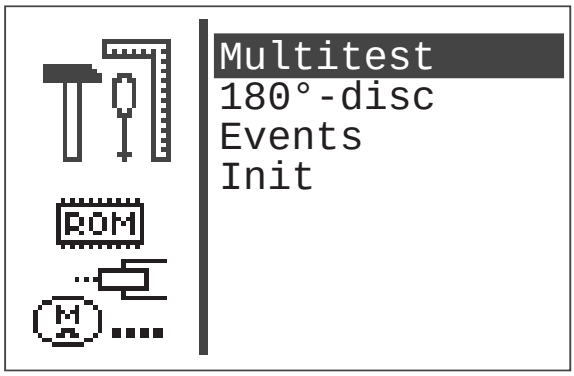

Press function key “**F”** when the main menu is displayed.

Enter code number “25483”.

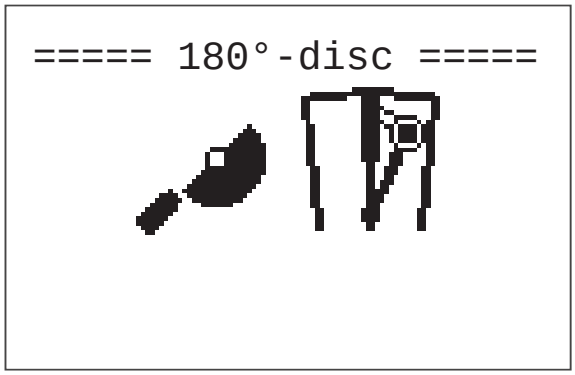
Press the “**OK**” key.
After entry of the correct code number, the display switches to the menu “Technician mode”.

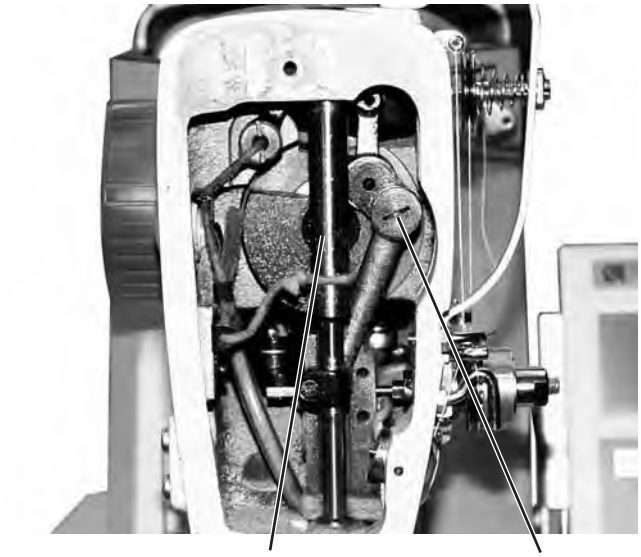


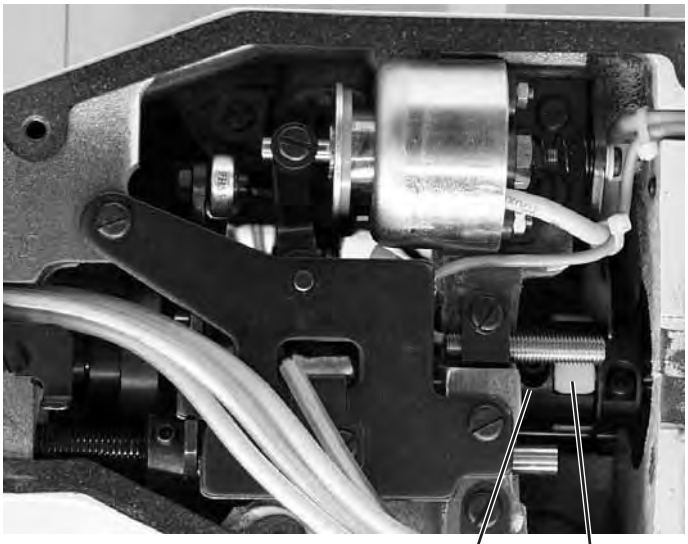
– Select the “**Service”** menu using the “⇩“ key.
– Go to the menu by pressing the “**OK”** key.
The Service menu appears.

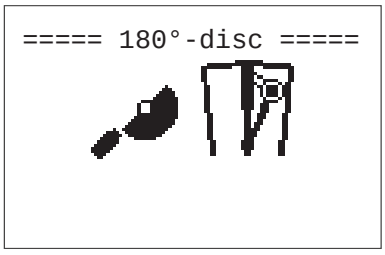



– Select menu “180° disc” with the keys “⇧“ or “⇩“.
– Start menu with the **“OK”** key.





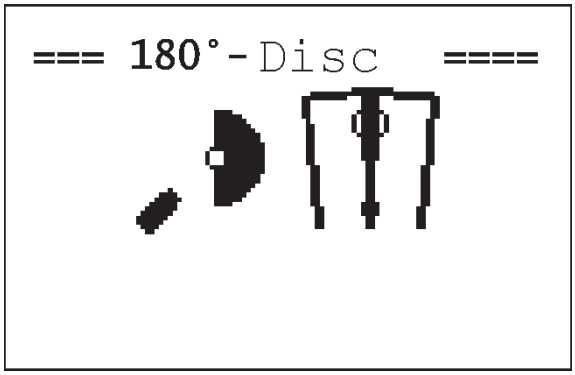




**Adjust 180° disc**

- Loosen screw 4 on the coupling and leave the Allen key inserted to prevent accidental turning.
- Turn crank 1 by hand into the position indicated in the display.
- Tighten screw 4 at the coupling.

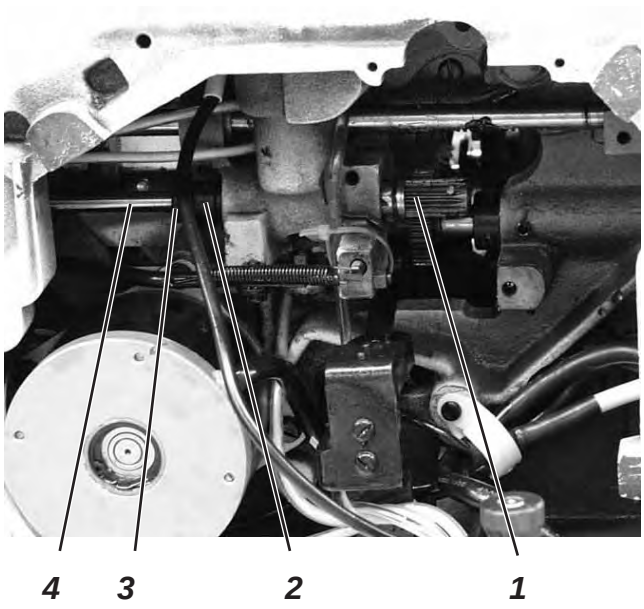
- Press the “**OK**” key.
  If the adjustment is correct, the automatic bartacker is positioned in such a way that the crank 1 is exactly behind the needle bar bush 2.
  The following menu appears:

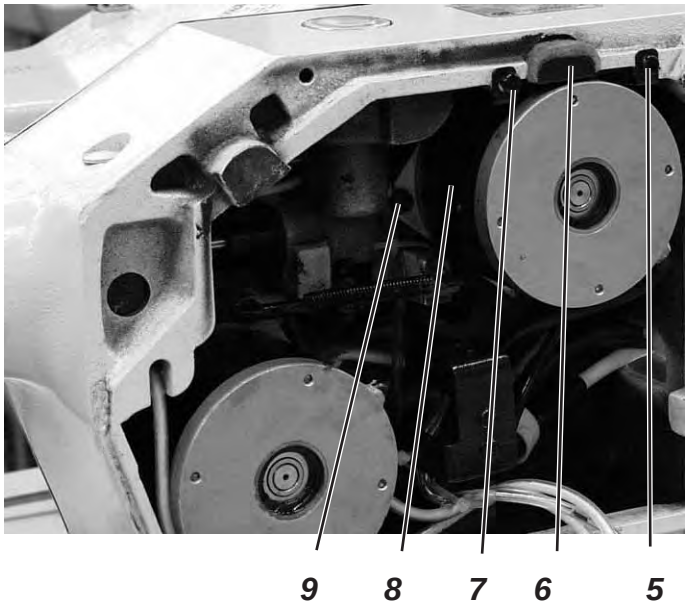



- Check whether the needle bar crank is in the position indicated in the menu.
- If necessary, change the position of the crank to the position described above.
  Press the “**OK**” key.
- Then press the “**OK**” key three times in order to go to the altered reference position.
- Check whether the crank 1 is parallel to the needle bar bushing 2.
- If necessary, repeat the procedure.

# 3. Hook, Looping Stroke, and Needle Bar Height

## 3.1 Driver shaft






**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the driver shaft only when the automatic bartacker is switched off.



**Rule and control**

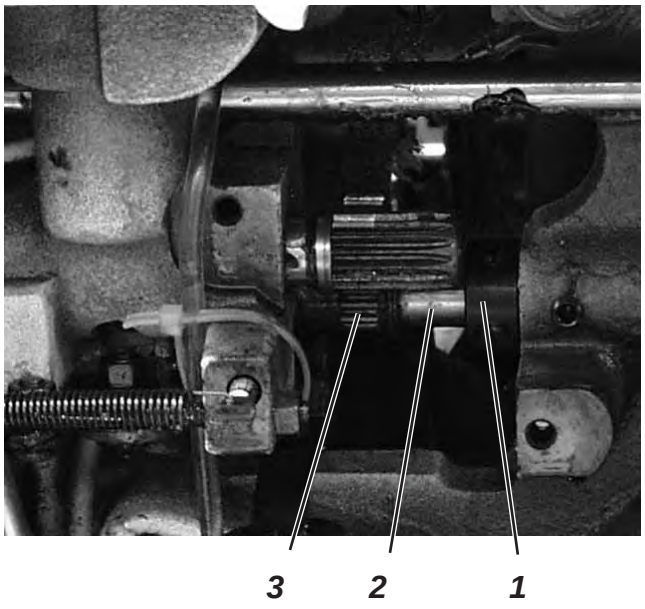
The driver shaft 4 should have no axial backlash, but it must also not move sluggishly.

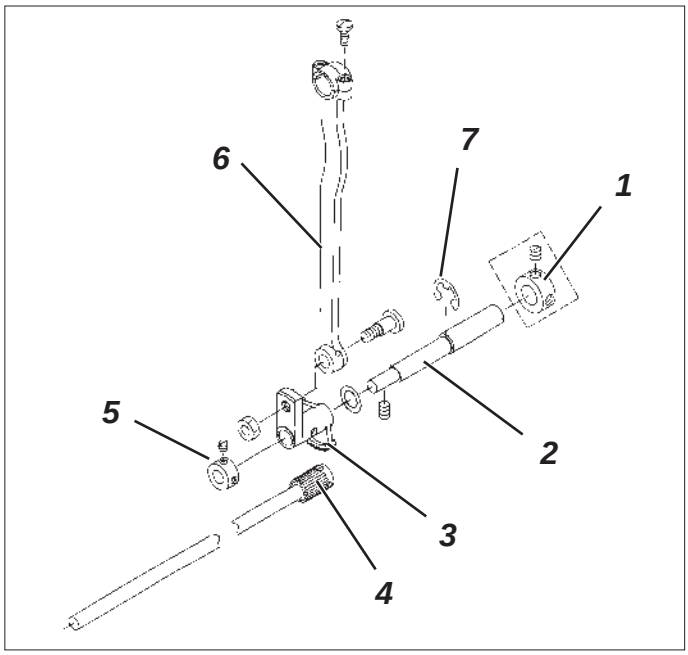
– Check the driver shaft 4 for axial backlash and sluggishness.

**Adjusting**

– Unscrew screws 5 and 7 and take off oil felt pad 6.
– Loosen screws 9 (4 screws) at the motor and pull off the motor 8.
– Loosen screws at the adjusting rings 2 and 3.
– Press driver shaft 4 with toothed wheel 1 completely in the direction of the needle bar.
– Press adjusting rings 2 and 3 against the bushing connector and tighten screws.
– Check that the shaft is without clearance and runs smoothly.
– Insert motor 8 and screw tight.
– Tighten oil felt 6 with the two screws 5 and 7.

### 3.2 Gear segment on the camshaft






**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the gear segment only when the automatic bartacker is switched off.

**Rule and control**

The gear segment 3 should sit snuggly (have no clearance) on the camshaft 2,
but it must not move sluggishly.
Gear segment 3 and camshaft 2 must be placed axially in such a way that the connecting rod 6 does not jam.

- Check the gear segment for axial backlash and sluggishness.
- Check that the connecting rod 6 does not jam.

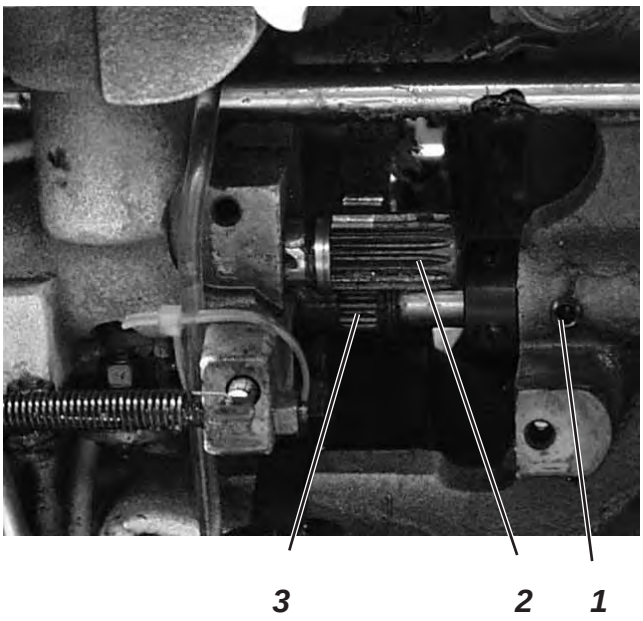
**Adjustment of the gear segment on the camshaft**

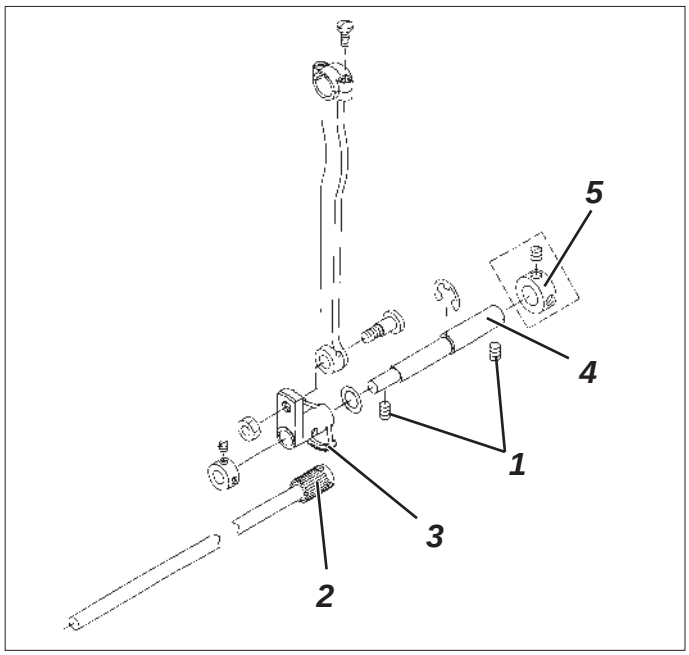
- Loosen screws at the adjusting ring 5.
- Push gear segment 3 all the way to the right against the locking ring 7.
- Push the adjusting ring to the gear segment and tighten screws.
- Check gear segment with regard to axial backlash and sluggishness.

**Adjustment of the gear segment to the crankshaft drive**

- Loosen screws at the adjusting ring 1.
- Shift the gear segment 3 with camshaft 2 laterally in such a way that the connecting rod 6 is near to the centre of the clearance gap.
- Push the adjusting ring to the right against the casing.
- Tighten screws at the adjusting ring 1.
- Check that the connecting rod 6 does not jam.

### 3.3 Gear segment to the driver shaft




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the gear segment only when the automatic bartacker is switched off.



**Rule and control**

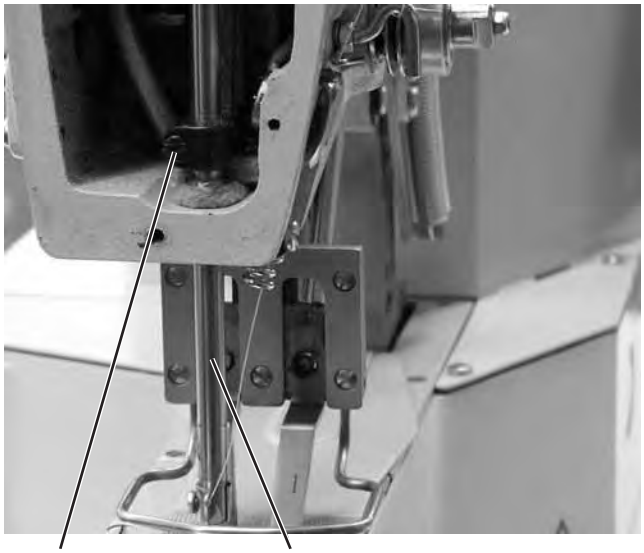
The gear segment 3 should grip into the toothed wheel 2 of the driver shaft with the smallest clearance possible, but it must not move sluggishly.

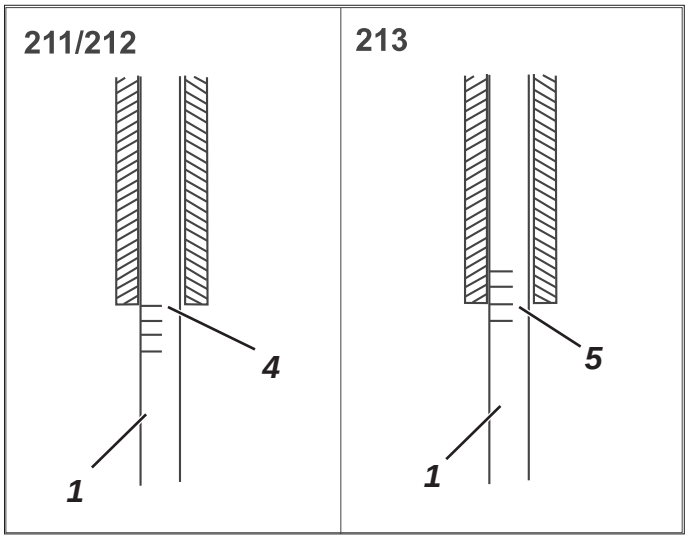
– Turn handwheel and check clearance between gear segment 3 and toothed wheel 2.

**Adjusting**

– Loosen Allen screws 1.
– Twist camshaft 4 counter-clockwise until the clearance between gear segment 3 and toothed wheel 2 is as small as possible.
– Turn handwheel and check clearance between gear segment 3 and toothed wheel 2.
– Press the adjusting ring 5 to the right against the casing.
– Tighten Allen screws 1.

### 3.4 Needle bar height




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the needle bar height only when the automatic bartacker is switched off.

**Rule and control**

The needle bar 1 has four notches as an adjusting aid.
The two notches on the higher position are for the needle system DPx5 (511-211/-212), those on the lower position are for the needle system DPx17 (511-213).

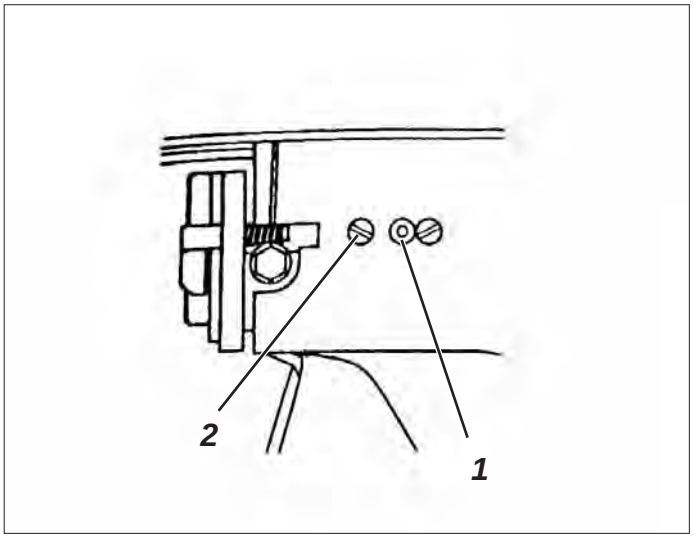
When the needle bar is in its lowest position, the upper notch 4 (DPx5) or 5 (DPx17) should be on the same level with the bottom of the needle bar bushing connection.

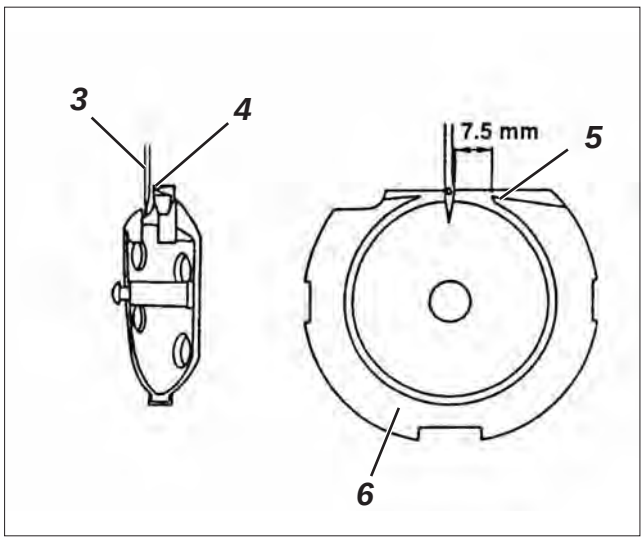
– Turn needle bar 1 to its lowest position.
– Check whether the upper notch 4 is at the same level with the bottom of the needle bar bushing connection.

**Adjusting**

– Loosen needle bar fastening screw 2.
– Adjust the height of needle bar 1.
  Make sure that the needle bar 1 is not twisted.
– Tighten needle bar fastening screw 2.

### 3.5 Distance between hook tip and needle




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the distance between hook tip and needle only when the automatic bartacker is switched off.



**Rule and control**

The hook tip 4 must stand as close as possible to the hollow groove of the needle, without touching it.

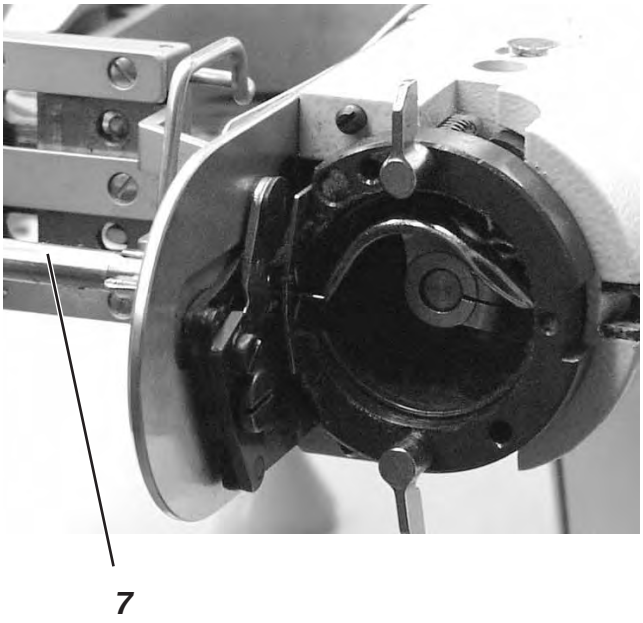
The tip 5 of the hook path bearing 6 should have a gap of 7.5 mm to the right side of the needle.

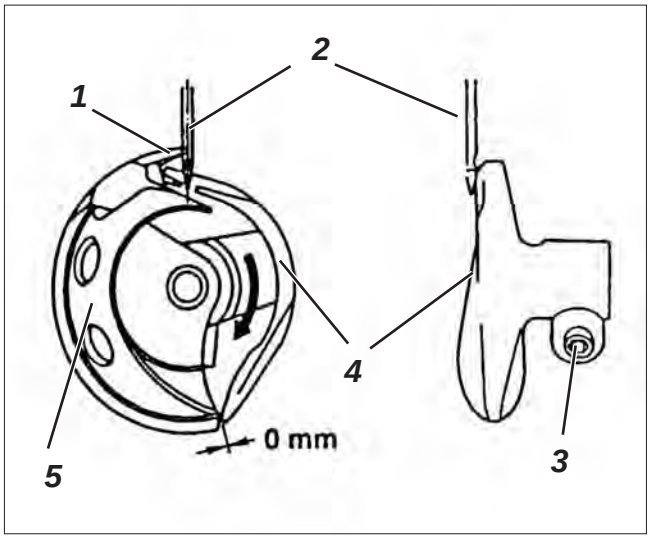
- Remove bobbin case top with bobbin.
- Insert a new, straight needle 3.
- Move hook tip 4 up to the hollow groove of the needle 3 by turning the handwheel.
- Check position of the hook tip to the needle.
- Check distance of the tip 5 of the hook path bearing to the right side of the needle.

**Adjusting**

- Loosen screw 2.
- Adjust hook path bearing 6 axially with the eccentric 1.
  Eccentric to the left = smaller distance from hook tip to needle.
  Eccentric to the right = greater distance from hook tip to needle.
- Twist hook path bearing 6 in such a way that it has a distance of 7.5 mm to the right side of the needle.
- Tighten screw 2.

### 3.6 Looping stroke and needle protection

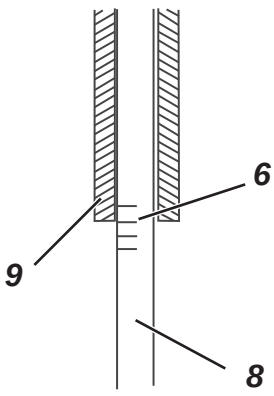


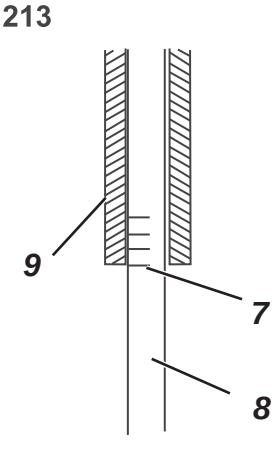




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the looping stroke and needle protection only when the automatic bartacker is switched off.




**Rule and control**

The needle bar is provided with four notches as an adjusting aid. The two notches on the higher position are for the needle system DPx5 (511-211/-212), those on the lower position are for the needle system DPx17 (511-213).

The looping stroke is defined as the course of the needle 2 from its bottom dead centre to the point where the hook tip 1 is at the level of the middle of the needle.

In looping stroke position, the needle should be pushed away slightly from the driver (needle protection).

- Insert a new, straight needle.
- Move needle bar 8 into its lowest position by turning the handwheel.
- Turn handwheel in rotation direction until the lower notch 6 (DPx5) or notch 7 (DPx17) stands at the bottom of the needle bar bushing connection 9.
- Press hook 5 against the driver 4 in the opposite direction of rotation.
- Check whether the hook tip 1 is at the level of the middle of the needle.
- Check whether the needle is pushed away from the driver tip a little bit (needle protection).

**Adjusting**

- Loosen screw 3 at the driver 4.
- Twist driver accordingly.
- Shift driver axially in such a way that the needle abuts on the driver tip and is pushed away a little bit.
- Tighten screw 3.

# 4. Thread-Guiding Parts

## 4.1 Thread take-up lever



*2*

**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the thread controller spring only when the automatic bartacker is switched off.



**Rule and control**

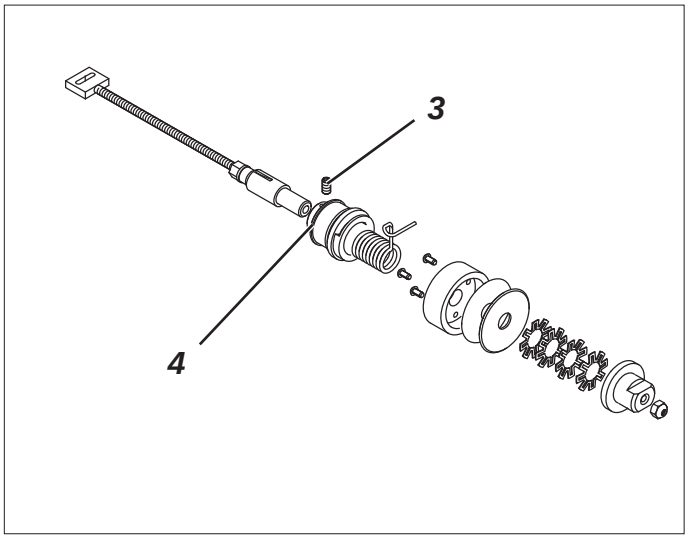
The adjustment rules for spring travel and spring tension refer to normal needle thread sizes.
In the cases of extremely thick or thin needle threads or fabrics, different adjustments may be required.

***Spring path***

The thread controller spring 2 must hold the needle thread under minor tension from the highest position of the thread lever to the moment the needle's eye penetrates the fabric.
In order to achieve a uniform seam pattern with a low thread tension, it is possible to further lengthen the path of the controller spring.
The thread controller spring must abut on the stop after the needle's eye has penetrated the fabric.

***Spring Tension***

The spring tension should be lower than the needle thread tension.









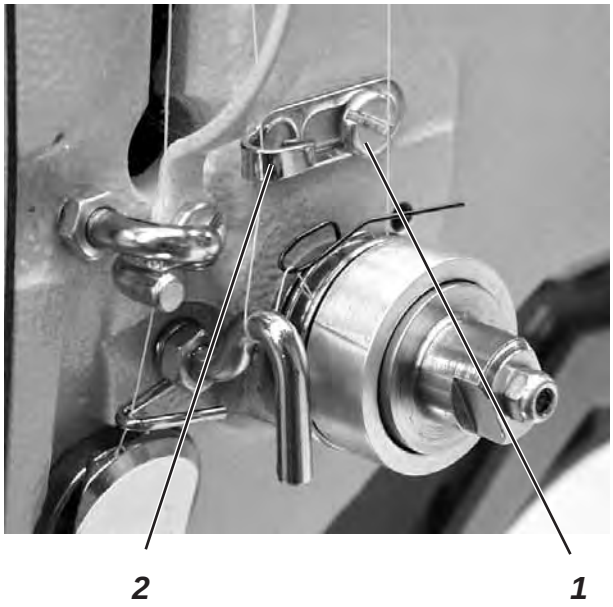

**Adjustment of the spring tension**

- Loosen screw 1.
- Pull out the complete tension unit 2.
- Loosen clamping screw 3.
- Adjust thread tension regulator 4.
  In direction of rotation = higher tension.
  In the opposite direction of rotation = lower tension.
- Tighten clamping screw 3.
- Insert tension unit and tighten screw 1.

**Adjustment of the spring travel**

- Loosen clamping screw 1.
- Adjust thread tension regulator 3.
- Tighten clamping screw 1.

## 4.2 Thread regulator






**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the thread regulator only when the automatic bartacker is switched off.



### Rule and control

The position of the thread regulator is dependent on the material thickness and the thread size.
It must be adjusted so that the thread is guided around the hook in a controlled way.

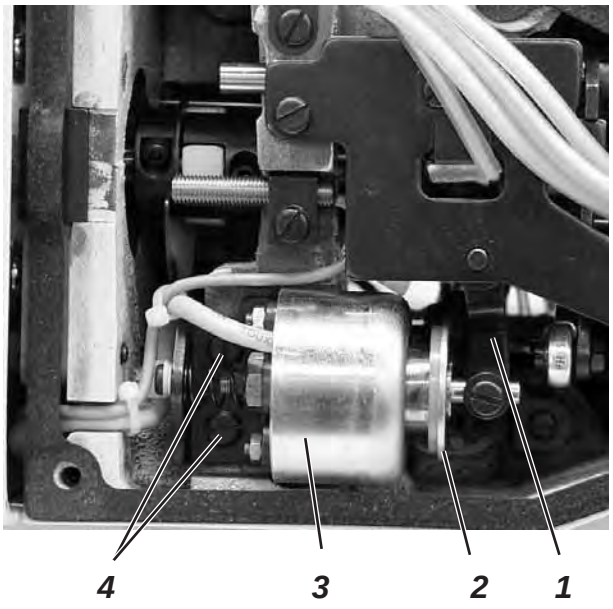
- Load workpiece (fabric).
- Thread in needle thread and bobbin thread.
- Tilt automatic bartacker to the left.
- Turn handwheel slowly and observe how tight the needle thread is guided around the hook.

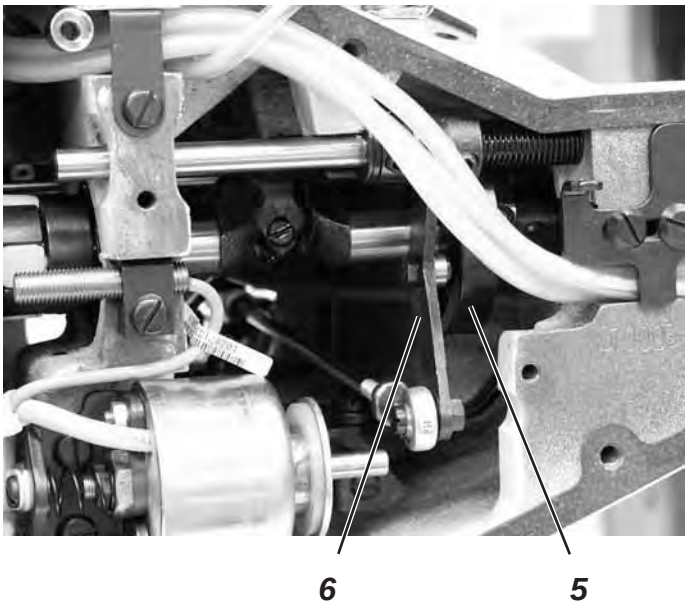
### Adjusting

- Loosen screw 1.
- Move thread regulator 2.
  Thread regulator to the left = more thread.
  Thread regulator to the right = less thread.
- Tighten screw 1.

# 5. Thread Trimmer

## 5.1 Thread trimmer magnet






**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the thread trimmer magnet only when the automatic bartacker is switched off.

**Rule and control**

The magnet 3 pushes the lever 6 with the roller bolt into the thread trimmer cam 5 by means of lever 1.

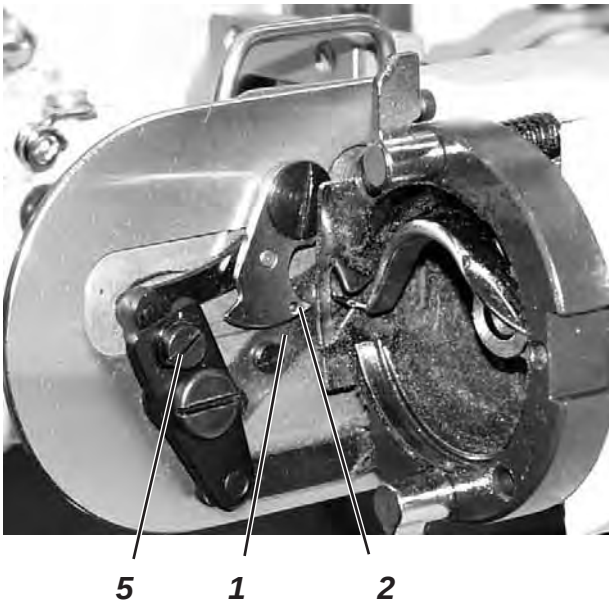
When the roller bolt is pushed in, it must have some axial clearance in the cam.

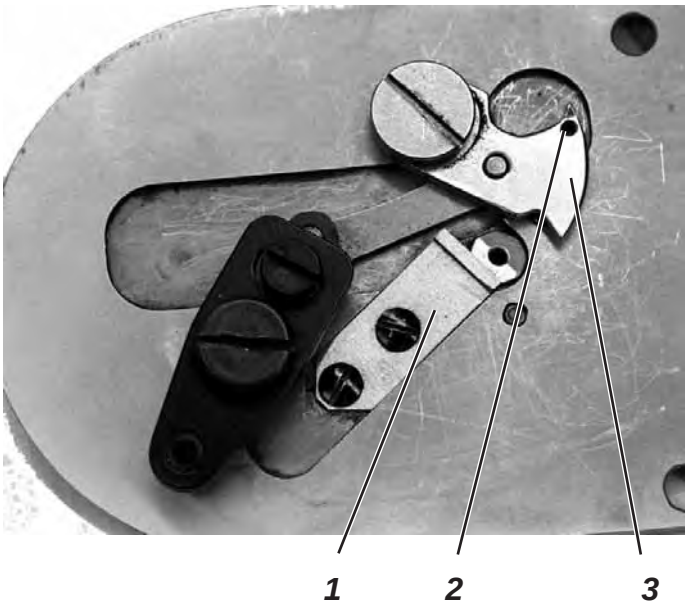
– Push magnet shaft 2 into the magnet and check whether there is some clearance between the roller bolt and the thread trimmer cam.

**Adjusting**

– Loosen screws 4.
– Press together magnet shaft 2 and magnet 3.
– Then push the magnet to the left as far as it will go.
– Shift magnet back minimally.
– Tighten screws 4.
– Check whether there is some clearance between the roller bolt and the thread trimmer cam when the roller bolt is pushed in.

## 5.2 Position of the hook knife



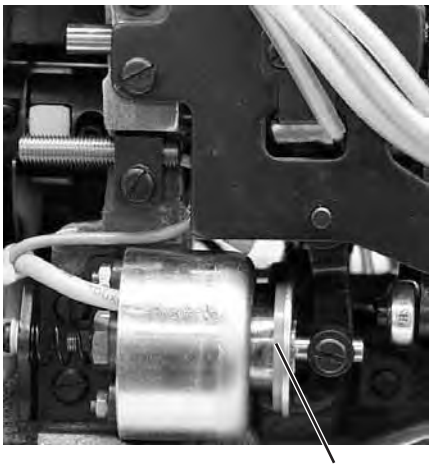






**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the position of the hook knife only when the automatic bartacker is switched off.




**Rule and control**

In resting position, the point 2 of the hook knife 3 should stand in the middle of the stationary knife 1.

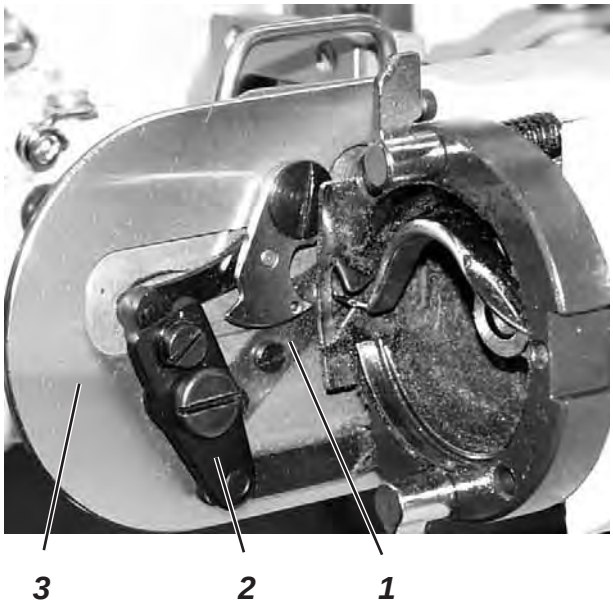
When the hook knife 3 is swivelled in, it must stand on the right so that the sewing threads are safely caught by the knife point 2.

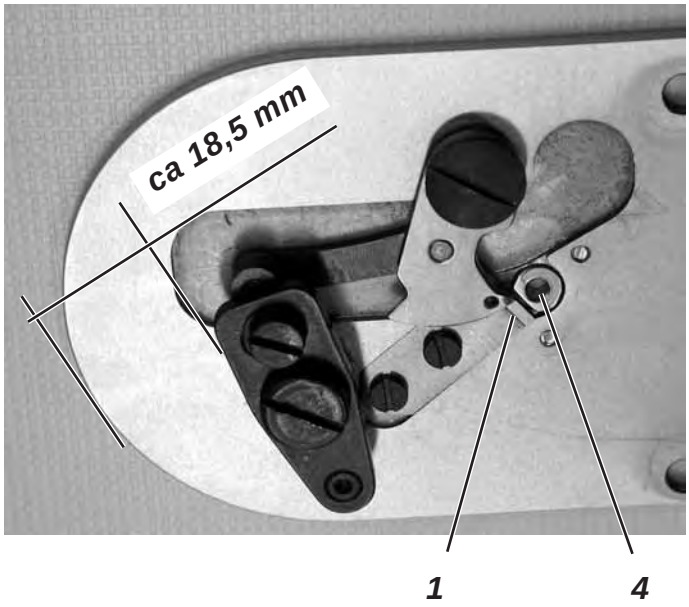
- Check whether the point 2 of the hook knife 3 in resting position stands at the left edge of the stationary knife 1.
- Turn handwheel until the thread lever stands a little bit behind its highest position.
- Push magnet 4 to the left and push roller bolt into the thread trimmer cam.
- Turn handwheel slowly until the hook knife is swivelled out completely.
- Check whether the sewing threads are safely caught by the knife.

**Adjusting**

- Loosen screw 5.
- Adjust hook knife accordingly.
- Tighten screw 5.

### 5.3 Cutting pressure / Position of the stationary knife




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the stationary knife only when the automatic bartacker is switched off.

**Rule and control**

The thread trimmer lever 2 should have a distance of 18.5 mm to the front edge of the throat plate 3.

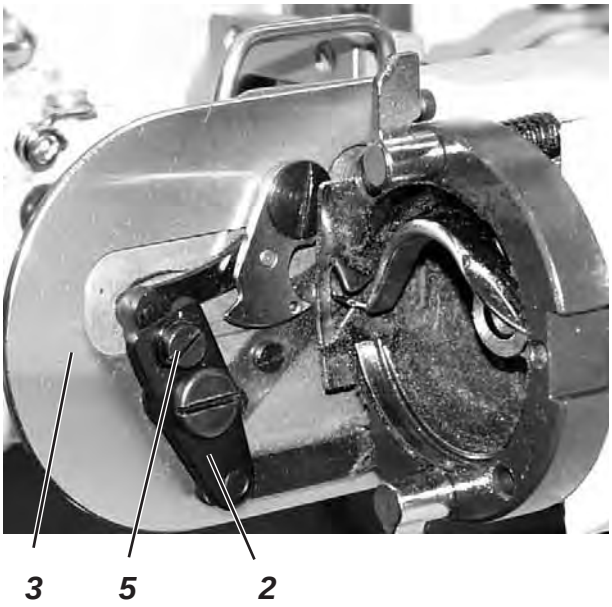
There must be 0.5 mm of clearance between the needle hole 4 and counter-knife 1.

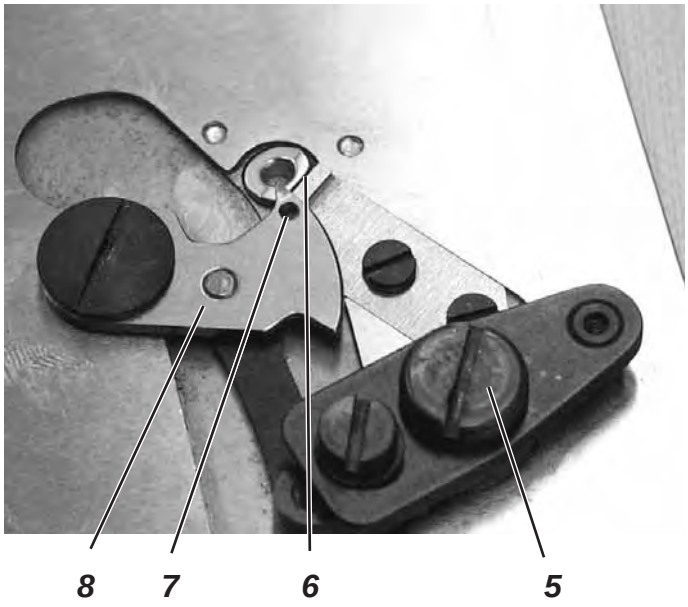
The counter-knife 1 should be aligned in such a way that both threads are safely cut in the middle of the cutting area and with the lowest possible pressure.

A low cutting pressure ensures a low wear and tear on the knives.

- Measure the distance between the thread trimmer lever 2 and the front of the throat plate 3.
- Measure the distance between the needle hole 4 and the counter-knife 1.

- Turn handwheel until the hook knife can be swivelled in manually.
- Swivel out hook knife.
- Lay two threads to be cut in the hook knife.
- Turn the handwheel until the hook knife has swivelled back.
- Check whether the sewing threads are neatly cut.




**Adjusting**

**Basic adjustment of thread trimmer lever 2**

- Loosen screw 5.
- Adjust for a distance of 18.5 mm between thread trimmer lever 2 and the front of throat plate 3.
- Tighten screw 5.



**Fine adjustment of thread trimmer lever 2**

- Loosen screw 5.
- Adjust the hook knife 8 so that, in its right end position, the knife edge 7 overlaps the cutting surface of the counter-knife 6.
- Tighten screw 5.

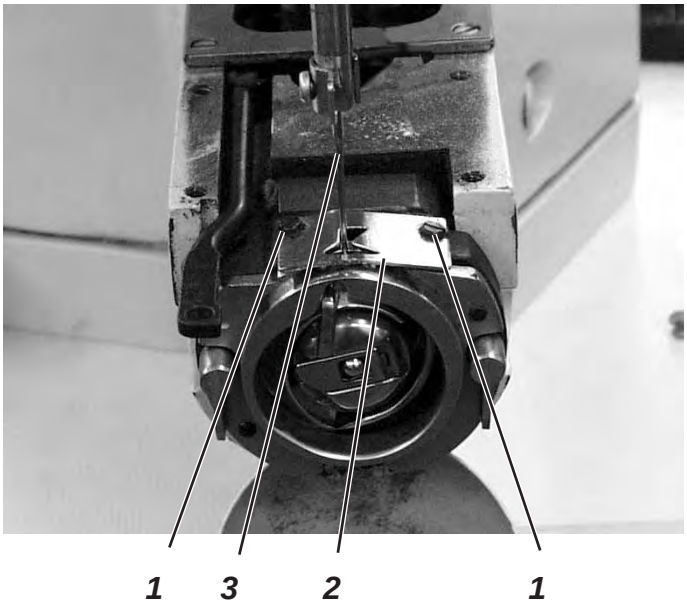



**Adjusting the counter-knife**

Screws 9 can be used to adjust the position of the counter-knife for the sewing threads in relation to the hook knife.

- Turn the screws 9 accordingly.

## 5.4 Thread guiding sheet






**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the thread guiding sheet only when the automatic bartacker is switched off.

**Rule and control**

The needle 3 should stand in the center of the cutout of thread guiding sheet 2.

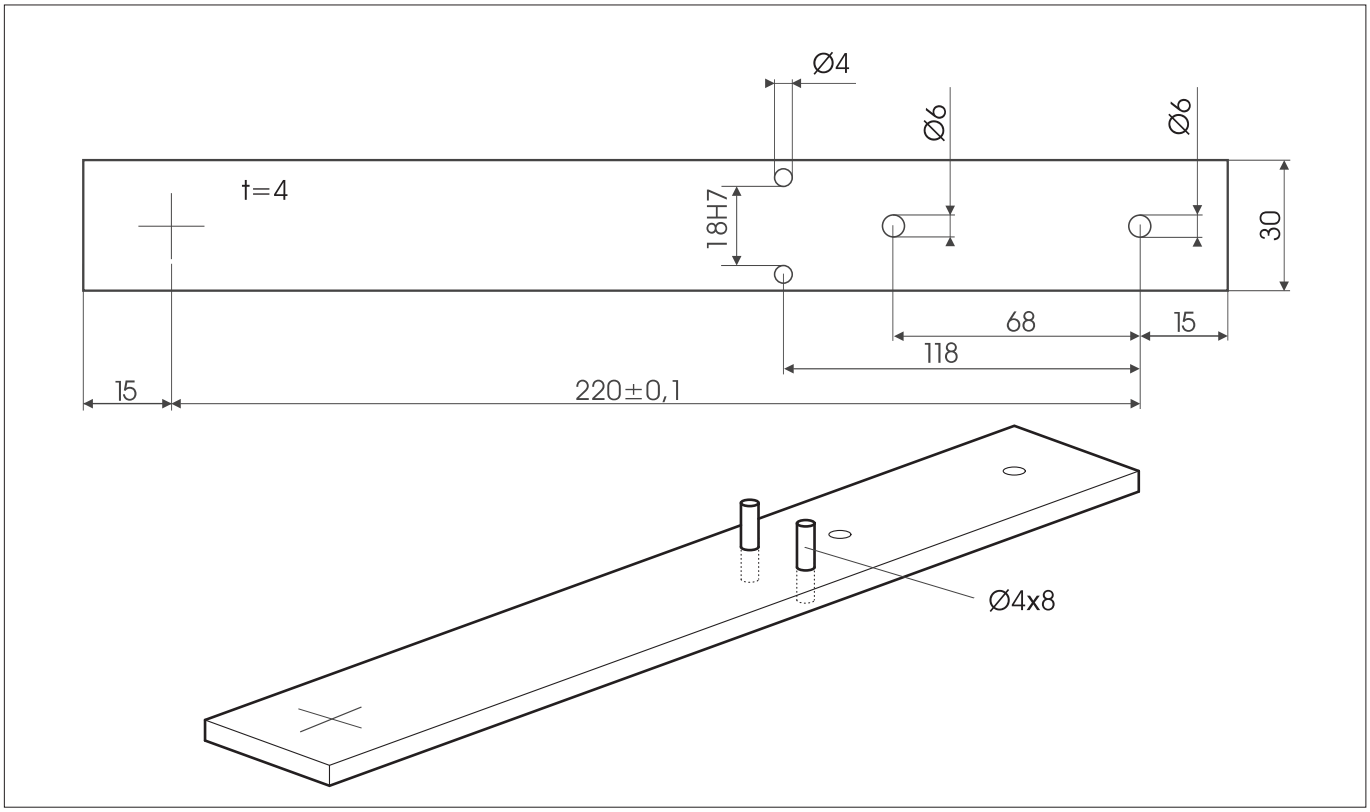
– Check the position of the thread guiding sheet

**Adjusting**

– Loosen screws 1.
– Align thread guiding sheet in relation to the needle.
– Tighten screws 1.

# 6. Material Feed

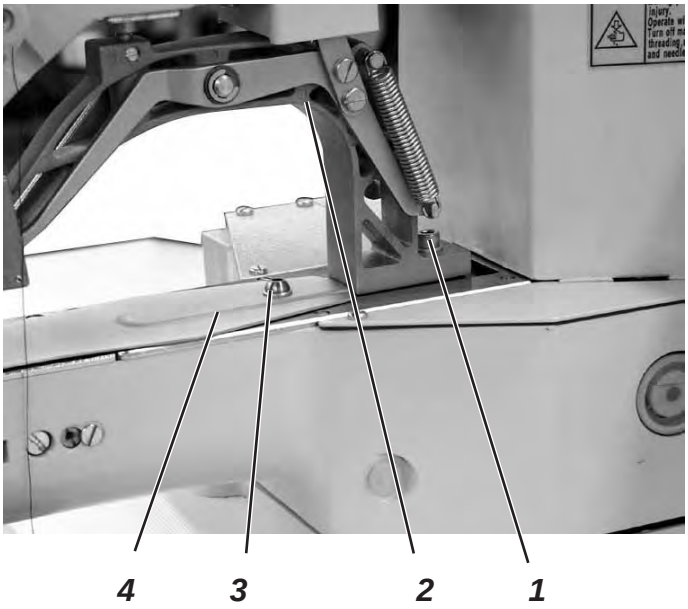
## 6.1 Gauge for reference position

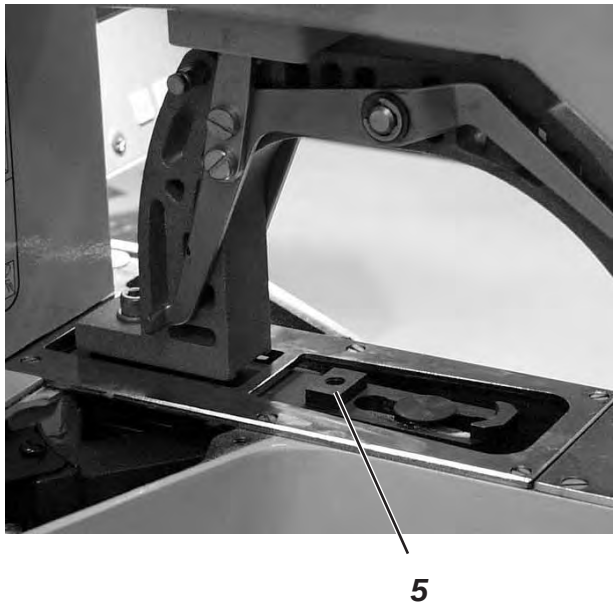



The gauge shown above is required for setting the reference position.
The gauge cannot be ordered from Dürkopp Adler.

– A gauge should be made according to the above illustration.

## 6.2 Reference position




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the reference position with utmost caution when the automatic bartacker is switched on.

**Rule and control**

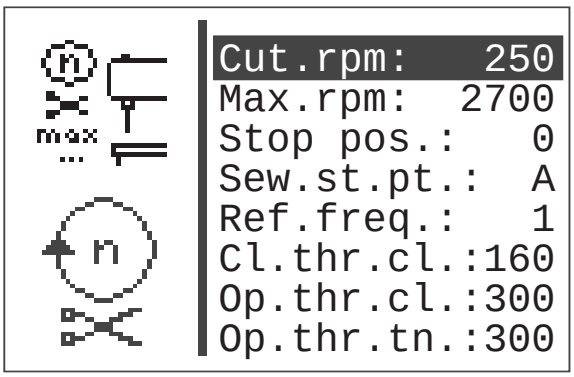
The movement of the clamping arm 2 and the rest plate 4 is influenced by two step motors.

The feed plate 5 carries the clamping arm and the rest plate.

– Press function key “**F”** when the main menu is displayed.

– Enter code number “**25483**”.
The display changes over to the technician mode.

– Activate the menu “Machine/Parameter” with the key “**OK”**.




– Select parameter “Loading position”.

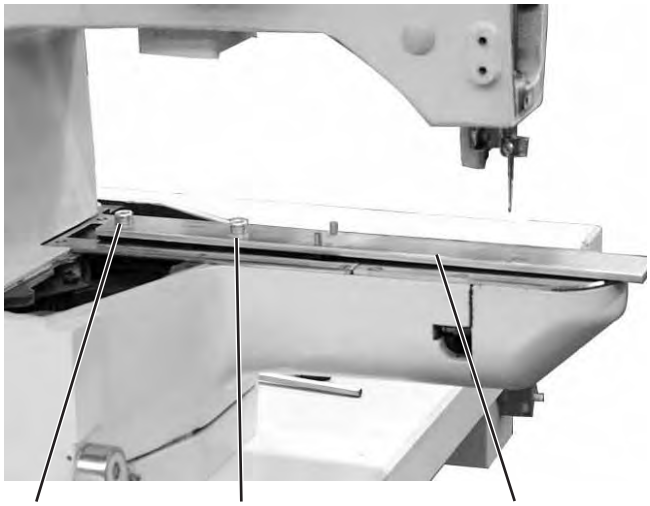
– Select function “**B** = Machine zero position”.

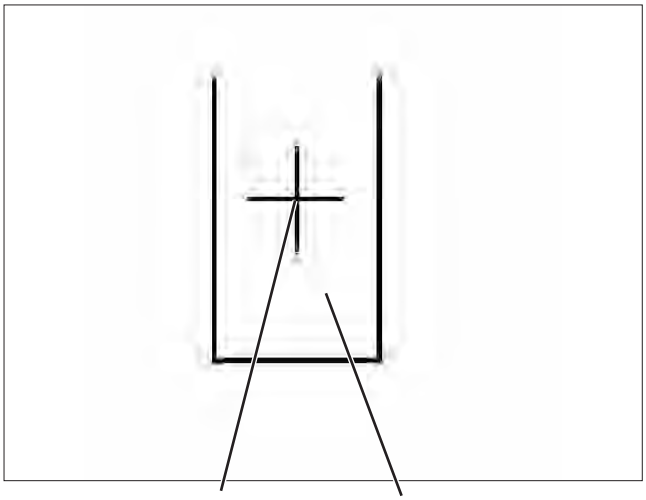
– Press the “**OK”** key.
The automatic bartacker moves to the machine zero position.

– Turn the main switch off.

– Unscrew screws 1 and 3.

– Take off clamping arm 2 and rest plate 4.




– Screw on gauge 6 (see chapter 6.1) with the two screws 7 and 8.
– Turn the main switch on.
  The machine head goes to the machine zero position.
– Move needle bar down using the handwheel and check whether the needle points to the marking 9 on the gauge 6.









**Adjustment of the Y axis**

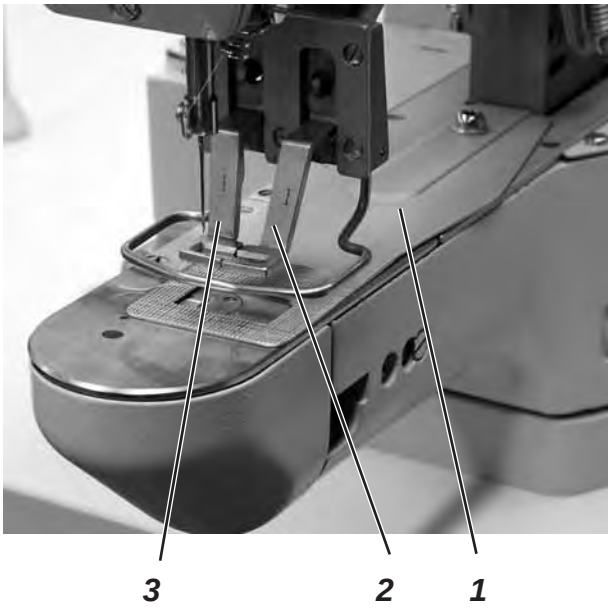
– Loosen screw 11.
– Adjust switch lug 10 correspondingly.
– Tighten screw 11.

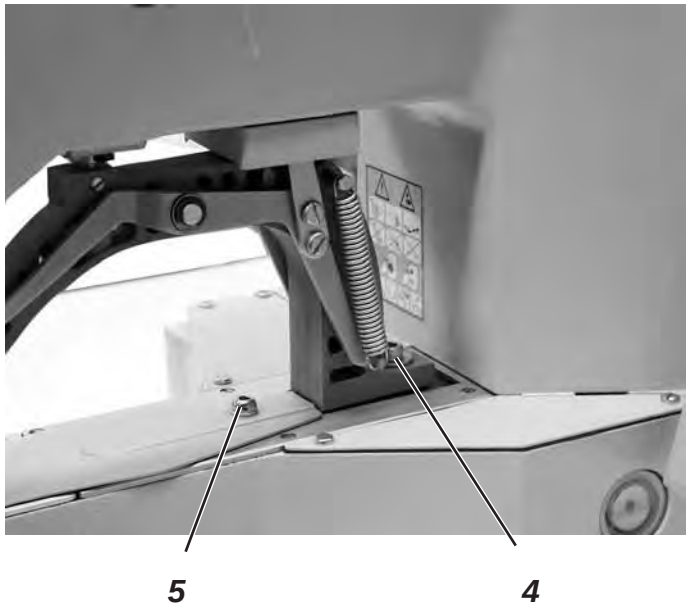
**Adjustment of the X axis**

– Loosen screw 12.
– Adjust switch lug 13 correspondingly.
– Tighten screw 12.

– Turn main switch off and on again.
  The automatic bartacker goes to the machine zero position.
– Move needle bar down using the handwheel and check whether the needle points to the marking 9 on the gauge 6.

## 6.3 Position of the fabric clamps and the rest plate in relation to the needle






**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the rest plate only when the automatic bartacker is switched off.

### Rule and control

The movement of the clamps 2 and 3 and the rest plate 1 is influenced by two step motors.
The seam pattern sizes can only be altered within the fabric clamps.

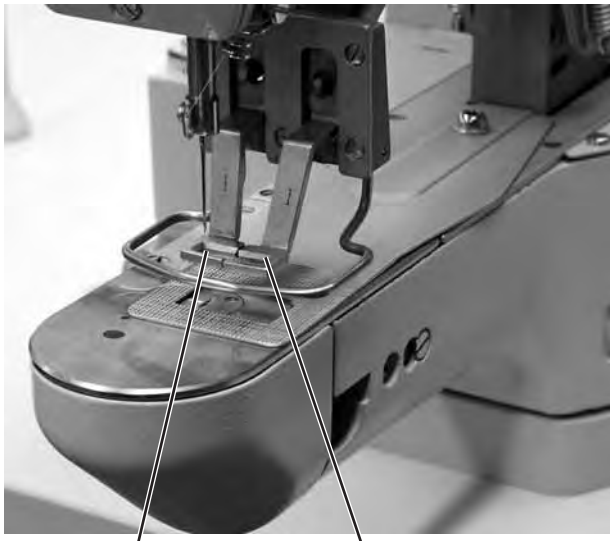
The position of the fabric clamps and the rest plate is adjusted in the loading position “B”.

– In the seam pattern menu, set the speed to 0. Then press the pedal and turn the machine manually.
  Simultaneously check the position of the penetrating needle in relation to the fabric clamps and the rest plate.

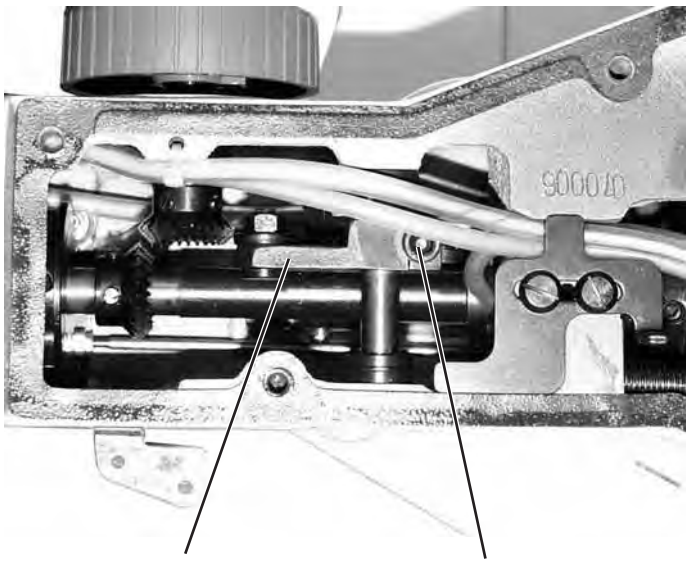
### Adjusting

– Press function key “**F”** when the main menu is displayed.
– Enter code number “**25483**”.
  The display changes over to the technician mode.
– Activate the menu “Machine/Parameter” with the key “**OK”**.
– Select parameter “Loading position”.
– Select function “**B** = Machine zero position”.
– Press key “**OK”**.
  The automatic bartacker goes to the machine zero position.
– Turn the main switch off.
– Loosen screws 4 and 5.
– Align clamping arm and rest plate correspondingly.
  The needle must be positioned (along the X and Y axes) in the centre of the clamping foot.
– Tighten screws 4 and 5.

## 6.4 Fabric clamp lifting



2 1



4 3

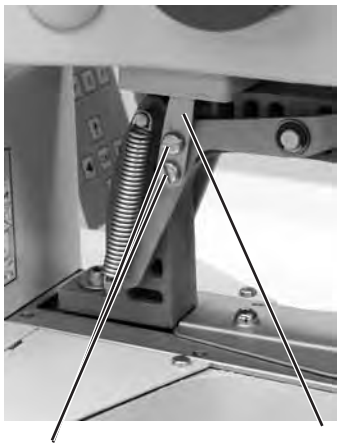
**Caution – Risk of injury !**

Check and adjust the fabric clamp lift with utmost caution when the automatic bartacker is switched on.





6 5



8 7

**Rule and control**

The fabric clamps should lift according to the material size.

The lifting movements of the right 1 and the left 2 fabric clamp must be uniform.

- Start the test program (see operating instructions in chapter 8.5.4.3).
- Activate the clamping foot via output element Y30 in the menu “Multitest” and “PWM output test”.
- Check whether both fabric clamps are lifted equally high.

**Adjustment of the lifting stroke**

- Place a thick spacer piece under the fabric clamps 1 and 2.
- Loosen screw 3 at the lifting lever 4.
- Lower sewing feet 1 and 2 down on the spacer piece.
- Tighten screw 3.
- Remove spacer piece and check lifting stroke.

**Adjustment of the parallel position of the fabric clamps**

- Loosen screws 6 or 8.
- Press fabric clamps 1 or 2 downward.
- Align operating lever 5 or 7 and tighten screws 6 or 8.
- Check parallel position of the fabric clamps.

**ATTENTION: Danger of breakage !**

After the clamp height adjustment, check the thread wiper height (see chapter 4.3.2).

# 7. Oil Lubrication



**Caution – Risk of injury !**

Oil can cause skin rashes.
Avoid prolonged skin contact.
If oil or grease contacts your skin, wash yourself thoroughly.



**CAUTION !**

The handling and disposal of mineral oils is subject to legal constraints.
Deliver used oil to an authorized reception point.
Protect your environment.
Take care not to spill any oil.

Oil the automatic bartacker exclusively with the lubricating oil **DA-10** or equivalent oil with the following specification:

– Viscosity at 40° C: 10 mm²/s
– Flash point: 150° C

**DA-10** can be purchased at sales branches of
**DÜRKOPP ADLER AG,** under the following part number:

| | |
|---|---|
| 250-ml container: | 9047 000011 |
| 1-Litre-Container: | 9047 000012 |
| 2-litre container: | 9047 000013 |
| 5-litre container: | 9047 000014 |

**Lubrication of the automatic bartacker**

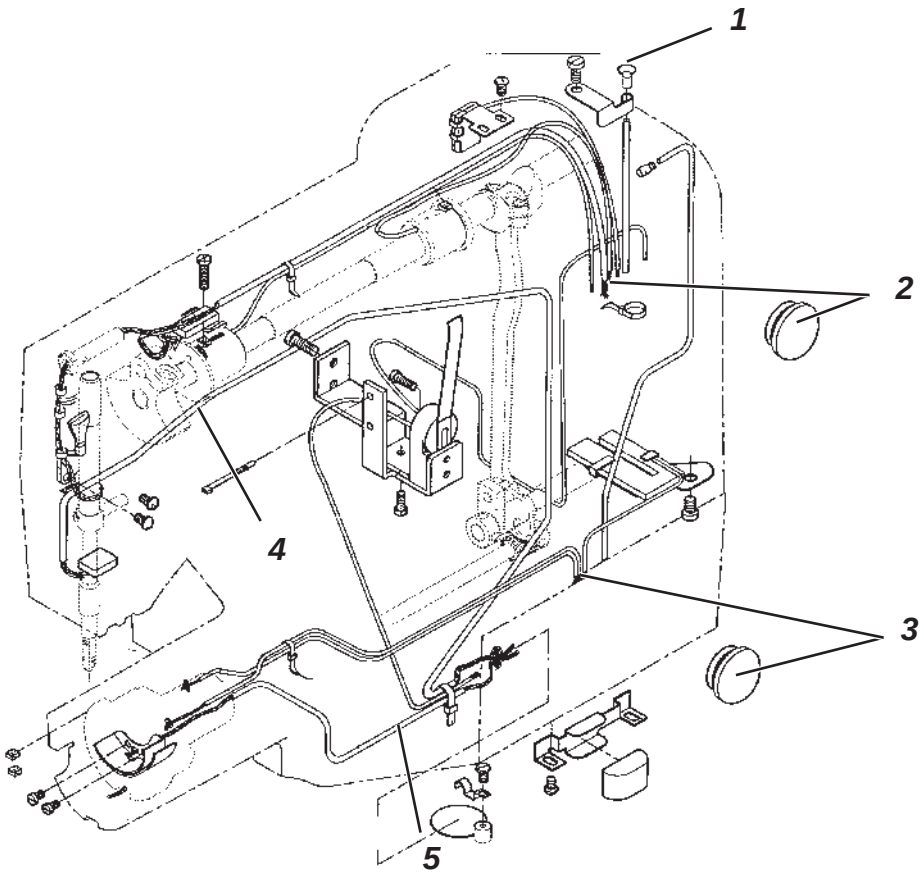



The automatic bartacker is equipped with central oil wick lubrication.
The bearings are supplied by the oil reservoirs 2 and 3.

The oil level must not drop below the red marking of both reservoirs.

– Fill oil though the drill-hole 1, up to the red mark on the reservoir 3.
The reservoir 3 is filled by the overflow of reservoir 2.

## 7.1 Oil circulation




From the filler pipe 1, the oil flows into the oil reservoir 2 and then it runs over into the oil reservoir 3.

All lubricating points in the arm and head zone are provided with oil from the oil reservoir 2. The oil reservoir 3 supplies all lubricating points of the base plate.

The oil squirting off from the crankshaft drive comes into the oil pan via oil wick 4.

The oil which is not needed by the hook flows back to the oil pan via the return pipe 5.

The squirted oil contained in the oil pan is sucked up and delivered back to the oil reservoir 2 by means of a lubricating oil pump.



**Caution – Risk of injury !**

Turn the main switch off.

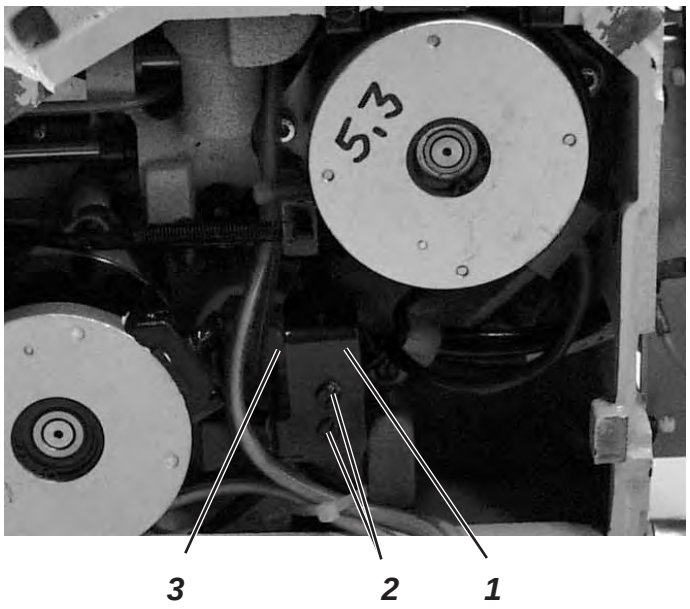
Carry out assembly work on the oil circulation system only when the automatic bartacker is switched off

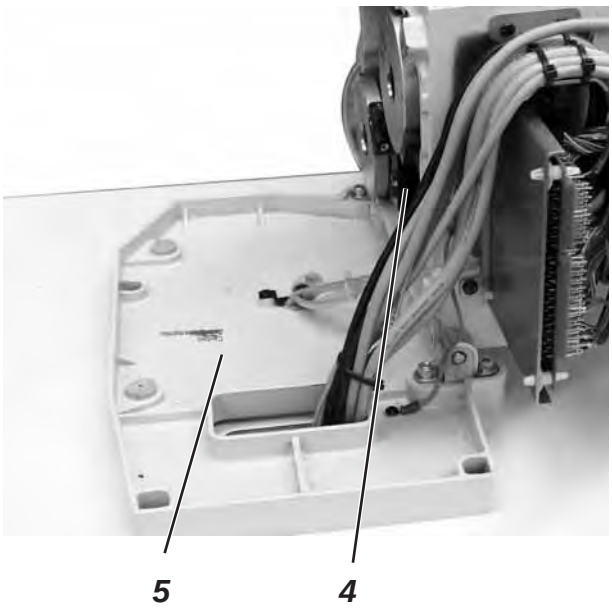


**CAUTION !**

When carrying out assembly work, please observe that the hose ends and wicks are re-adjusted to their correct connections.

## 7.2 Oil pump




**Caution – Risk of injury !**

Turn the main switch off.

Check and adjust the oil pump only when the automatic bartacker is switched off.

### Rule and control

The pump 3 sucks the oil contained in the oil pan 5 back into the upper oil reservoir via filter 4.

### Adjusting

- Loosen screws 2.
- Adjust angle 1 with the oil pump in the slotted holes so that the pump is functioning.
- Tighten screws 2.

## 8. Replacing the Control Unit

Refer to:
Part 2, Installing Instructions, “Installing the machine software”.

## 9. Maintenance



**Caution – Risk of injury !**

Turn the main switch off.
Maintenance work on the automatic bartacker must only be carried out when the machine is switched off.

All daily and weekly maintenance work (cleaning and oiling) to be carried out by the operators of the sewing unit are described in the operating instructions (Chapter 10). They are in the following table only for the sake of completeness.



| Maintenance work to be carried out | Operating hours | | | |
|---|---|---|---|---|
| | 8 | 40 | 160 | 500 |
| **Machine head** | | | | |
| - Remove sewing dust and residual thread | X | | | |
| - Check oil level in the oil reservoirs for the lubrication of the sewing machine head | X | | | |
| **Control box** | | | | |
| - Remove sewing dust and residual thread | X | | | |
| - Clean fan grill | X | | | |

For your notes: