DÜRKOPP ADLER AG

868

Spezialnähmaschine

Serviceanleitung

D

Service Instructions

GB

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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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Service Instructions Class 868

(Edition 01/2009)

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1. General notes

The present service instructions describes the adjustment of the special sewing machine 868.

ATTENTION !

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

Caution: Risk of injury !

In case of repair, alteration or maintenance work turn off the main switch and disconnect the machine from the pneumatic supply system.

Carry out adjusting operations and functional tests of the running machine only under observation of all safety measures and with utmost caution.

The present service instructions describes the adjustment of the sewing machine in an appropriate sequence. Please observe in this connection that various setting positions are interdependent. Therefore it is absolutely necessary to do the adjustment following the described order.

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For all setting operations of parts involved in the stitch formation a new needle without damage has to be inserted.

Machine covers having to be screwed off and on again for checking and adjusting operations are not mentioned in the text.

Hint:

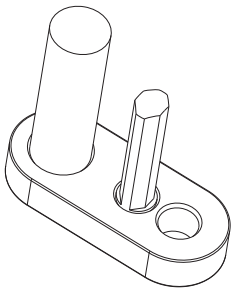
Some of the shafts of the special sewing machine 867 are provided with flat spots. This facilitates the adjustment considerably.

In case of all adjustments on flat spots, it is always the first screw in rotation direction that is put on such a flat spot.

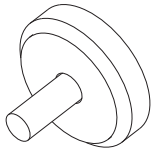
1.1 Gauges

The locking pin 1 required for adjusting the machine belongs to the serial equipment of the machine. It is in the accessories and can be put at the bottom side of the oil pan.

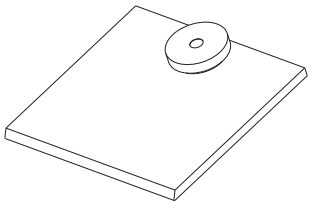
Further gauges:



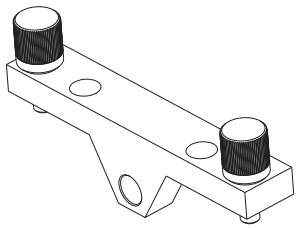
Setting gauge 0868 290113
chapter 2.4 Needle bar linkage



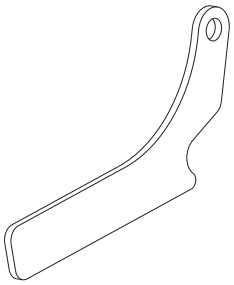
Setting gauge 0868 290153
chapter 2.5 Post bed feed



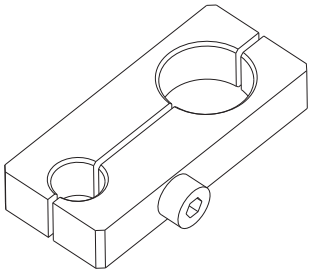
Setting gauge 0868 290163
chapter 2.5 Post bed feed



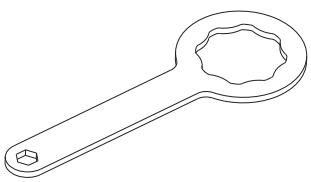
Setting gauge 0868 290184
chapter 2.3.3 Position of the advance shaft



Setting gauge 0868 290020
chapter 2.4.2 Transmission lever



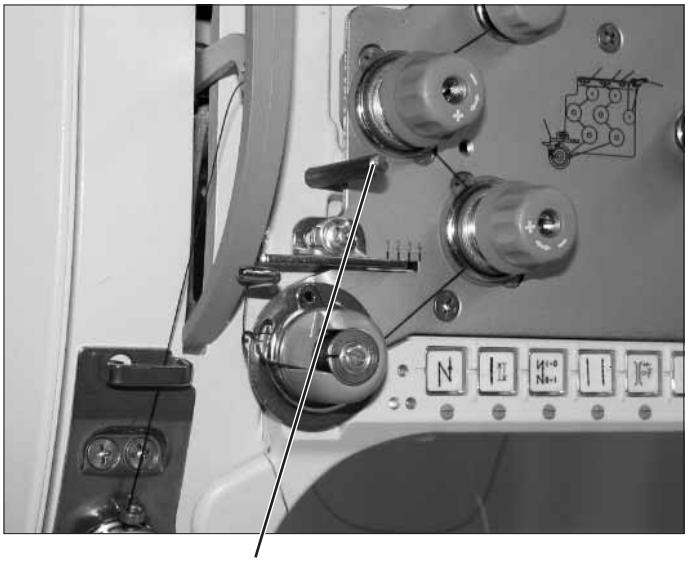
Setting gauge 0868 290194
chapter 2.4 Needle bar linkage
chapter 2.5 Post bed feed

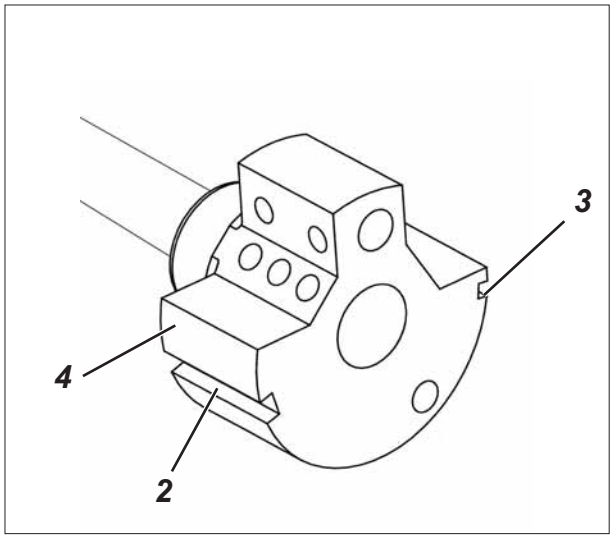


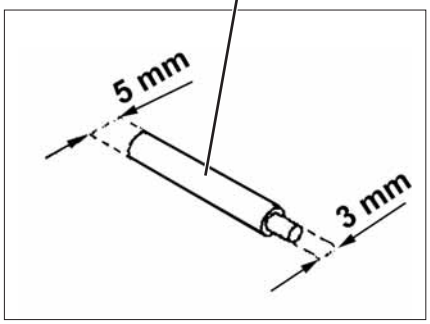
Auxiliary gauge 0667 295050
chapter 2.3.1 Basic setting of stitch adjustment

Notes:

1.2 Description of the locking positions







With the locking pin **1** and the arresting grooves **2** and **3** in the arm shaft crank **4** the sewing machine can be arrested in two adjusting positions.

Position I = Locking pin **Ø 5 mm** for large groove
= Looping stroke, needle bar height

Position II = Locking pin **Ø 3 mm** for small groove
= Needle bar at its upper dead centre, 0° on the handwheel.

1.3 Graduation on the handwheel

The handwheel **2** has degree marks printed on it.

Certain settings are effectuated by using these handwheel positions.

– Turn the handwheel until the degree mark mentioned in this manual points to the index **3**.
– Carry out the described adjustment.

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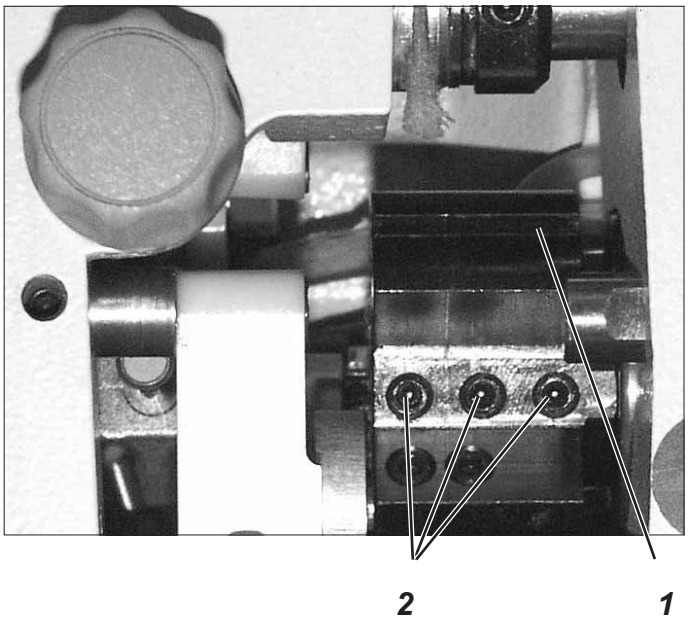
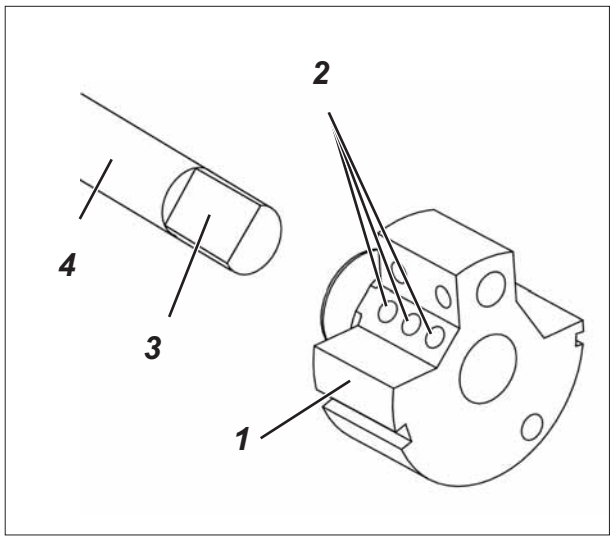
Setting the handwheel

– Arrest the machine in **position II** by using the locking pin **Ø 3 mm**.
– Loosen the fastening screw for the handwheel through opening **1**.
– Turn the handwheel so that the degree mark **"0"** points to the index **3**.
– Tighten the fastening screw again.
– Set the handwheel to **50°** and tighten the second fastening screw.

2. Sewing machine

2.1 Position of the arm shaft crank on the arm shaft





Caution: Risk of injury !

Turn the main switch off !

Check and set the position of the arm shaft crank only when the machine is switched off.

Standard checking

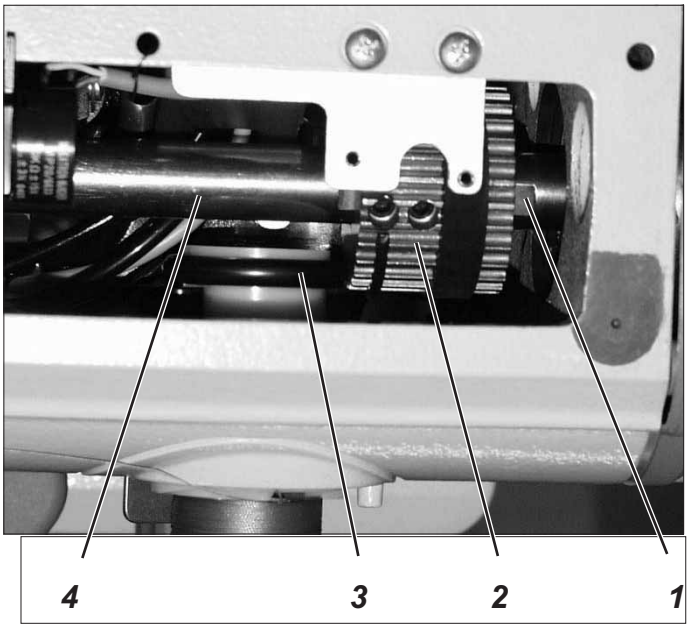
The arm shaft crank **1** is fastened with the three screws **2** on the arm shaft **4**. The screws have to sit on the flat spot **3**.

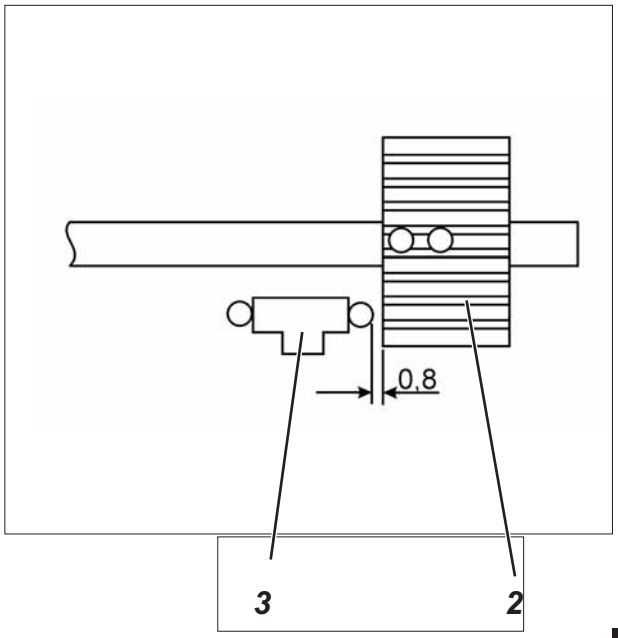
Correction

- Loosen screws **2** at the arm shaft crank.
- Twist arm shaft crank **1** on the shaft in such a way that the screws **2** sit on the flat spot **3**.
- Push arm shaft crank **1** axially to the right as far as it will go.
- Tighten screws **2**.

2.2 Upper and lower toothed belt wheel / toothed belt

2.2.1 Position of the upper toothed belt wheel





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Caution: Risk of injury !

Turn the main switch off !

Check and set the position of the upper toothed belt wheel only with the sewing machine switched off.

Standard checking

The toothed belt wheel **2** is fastened with two screws on the arm shaft **4**. The screws have to sit on the flat spot **1**.

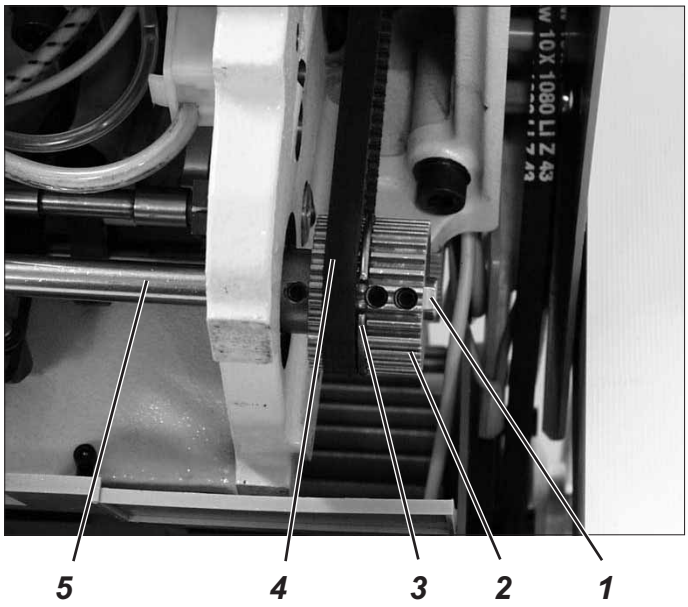
The distance between the toothed belt wheel **2** and the bobbin winder wheel **3** should amount to **0.8 mm** when the bobbin winder is switched off.

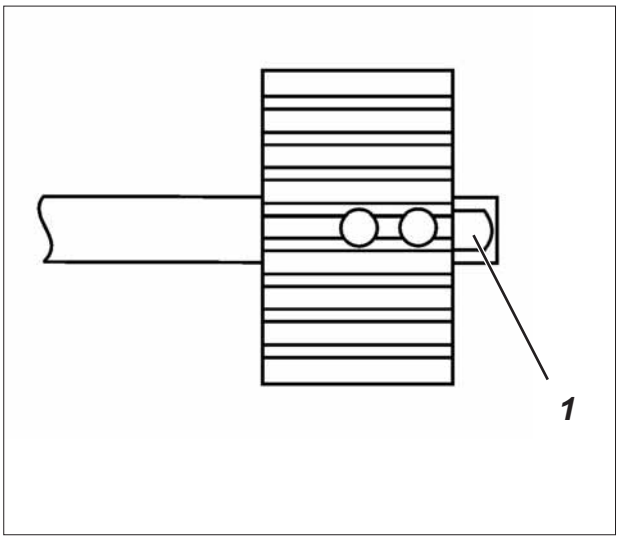
– Check the distance between the toothed belt wheel **2** and the bobbin winder wheel **3** by means of a thickness gauge.

Correction

– Loosen the threaded pin in the toothed belt wheel.
– Turn the toothed belt wheel, until the screws sit on the flat spot **1** of the arm shaft **4**.
– Set a lateral distance of **0.8 mm** between the toothed belt wheel **2** and the bobbin winder wheel **3** by using the thickness gauge.
– Tighten the threaded pin in the toothed belt wheel.

2.2.2 Position of the lower toothed belt wheel





Caution: Risk of injury !

Turn the main switch off !

Check and set the position of the lower toothed belt wheel only with the sewing machine switched off.

Standard checking

The screws in the toothed belt wheel **2** have to sit on the flat spot **1** of the lower shaft **5**.

The toothed belt wheel must be positioned in a way that the toothed belt **4** bears against the belt tensioner ring **3** but without being dislocated.

– Check the position of the toothed belt wheel.

Correction

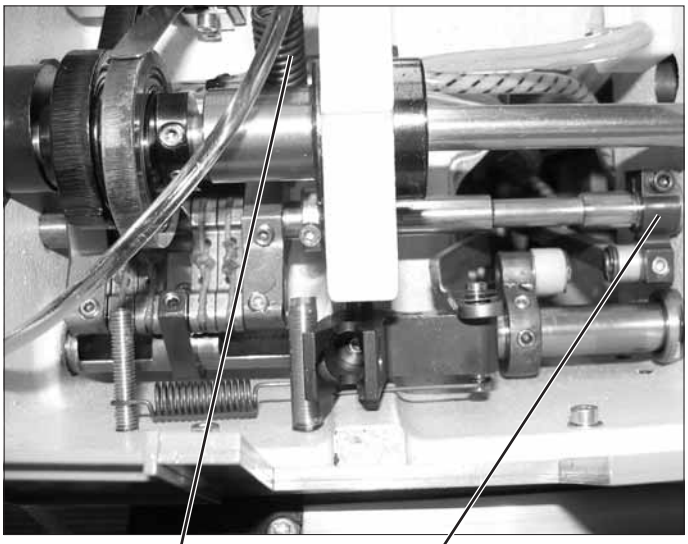
– Pull out the toothed belt from the lower toothed belt wheel **2**.
– Loosen the threaded pin in the toothed belt wheel **2**.
– Turn the toothed belt wheel **2**, until the screws sit on the flat spot of the lower shaft 5.
– Tighten the threaded pin in the toothed belt wheel **2**.
– Put the toothed belt on the toothed belt wheel **2** again.
– Check the course of the toothed belt.

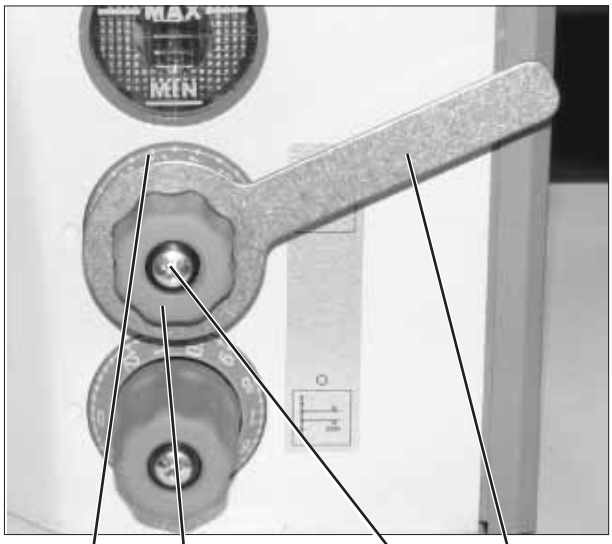
ATTENTION Danger of breakage !

After replacing the toothed belt, check the following:
Hook adjustment (see chapter 2.6), feeding motion of the feed dog (see chapter 2.5.2) and lifting motion of the feed dog (see chapter 2.5.3).

2.3 Bottom feed and stitch regulator gear

2.3.1 Basic setting of stitch adjustment





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Caution: Risk of injury !

Turn the main switch off !

Set the basic setting of stitch adjustment only with the sewing machine switched off.

Standard checking

When the setting wheel **5** is set to the position **"0"**, the stitch regulator gear should not have any clearance.

- Set stitch length **"0"** at the setting wheel **5**.
- Check the clearance of the stitch regulator gear at the stitch regulator lever **1**.

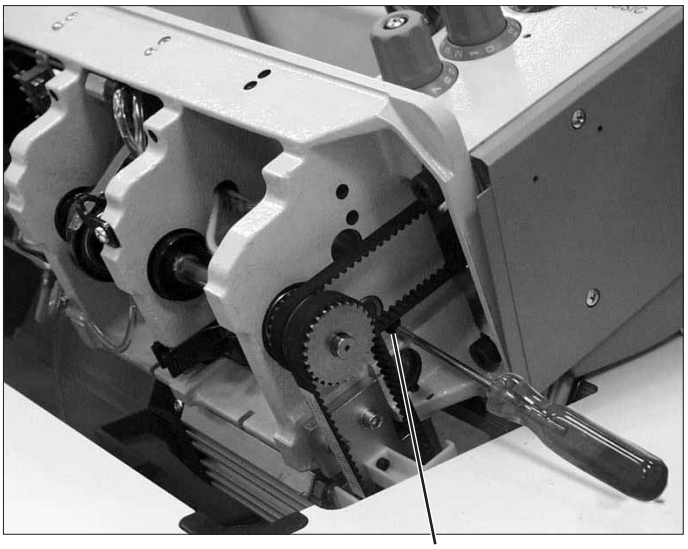
Correction

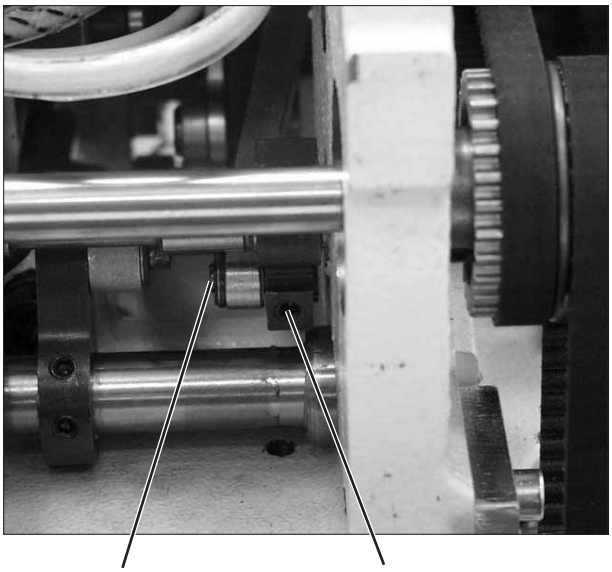
- Unhook the spring **2**.
- Retain the setting wheel **5** using the wrench **3** (0667 295050).
- Unscrew screw **4** and pull off the setting wheel **5**.
- Turn the shaft **7** to the right using a 10 mm wrench until the stitch regulator lever **1** has no more clearance.

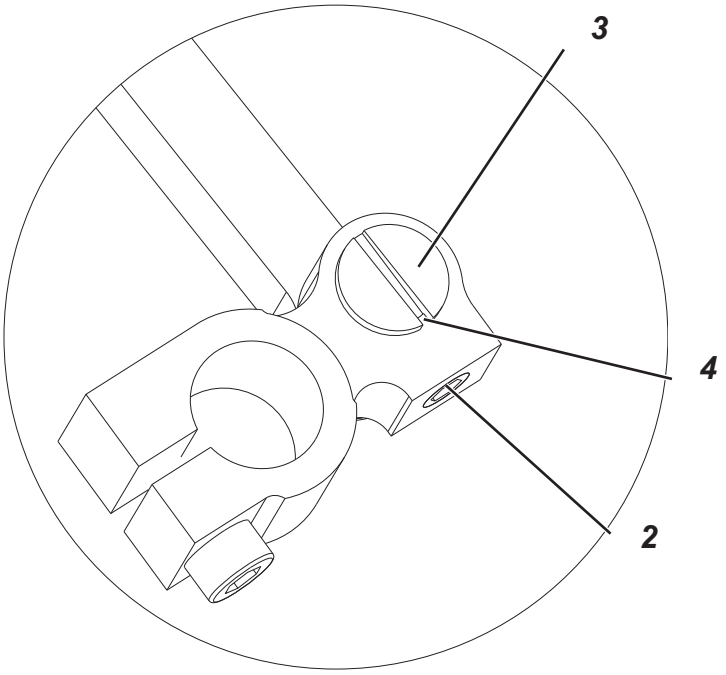
ATTENTION: Danger of breakage !

Do not turn the shaft too far to the right .
The stitch regulator parts may jam and the maximum stitch length of 8 mm and 6 mm can respectively no longer be achieved.

- Set the scale **6** to **"0"**.
- Put the setting wheel **5** on again and tighten it with screw **4**.
- Put the spring **2** back in place again.
- Check the clearance of the stitch regulator lever **1**.





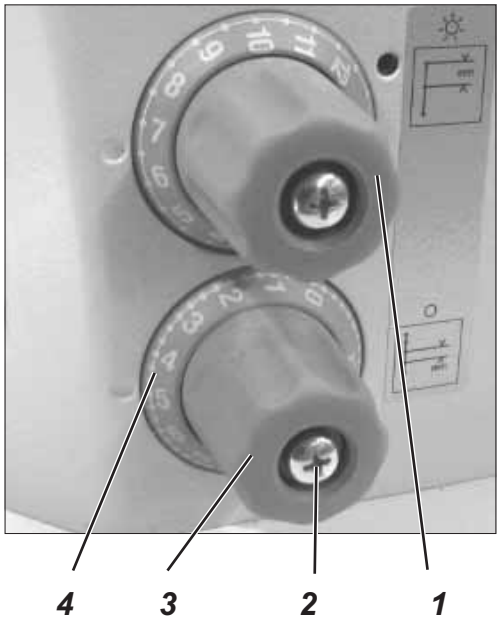


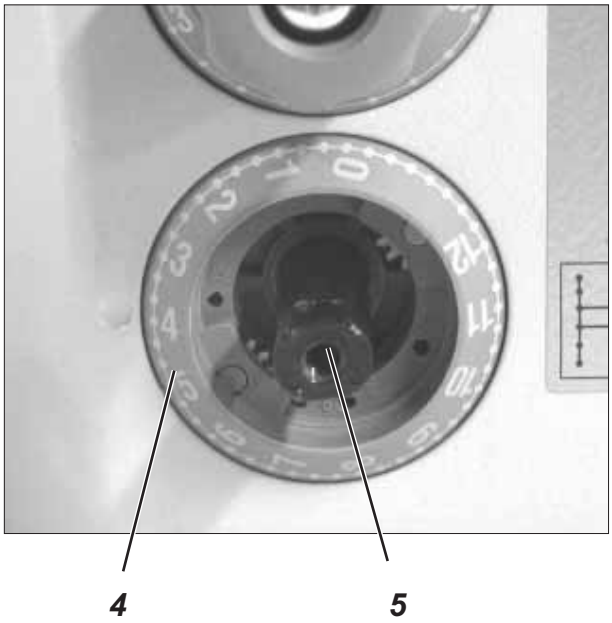
Adjusting the eccentric

The eccentric **3** has to be adjusted so that the open end **4** of the eccentric slot superposes with screw **2**.

- Loosen screw **2**.
- Turn the eccentric **3** through the bore hole **1** so that the open end **4** of the eccentric slot points to screw **2**.
- Tighten screw **2**.

2.3.2 Adjusting the 2nd stitch length





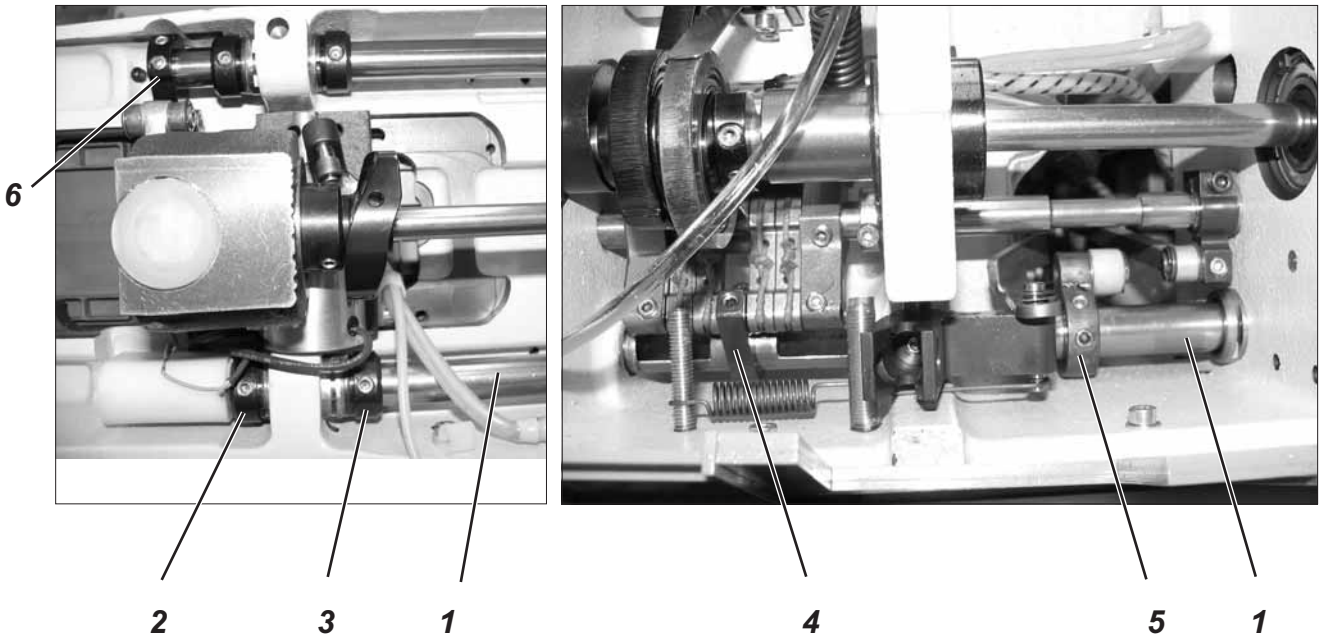
Caution: Risk of injury !

Turn the main switch off !

Set the basic stitch adjustment only with the sewing machine switched off.

- Set the upper setting wheel **1** to **“0”**.
- Unscrew screw **2** and pull off the setting wheel **3**.
- Cautiously turn the shaft **5** by using a 10 mm wrench in clockwise direction as fas as it will go.
- Set the scale **4** to position **“0”**.
- Put the setting wheel **3** back on again an tighten it with screw **2**.

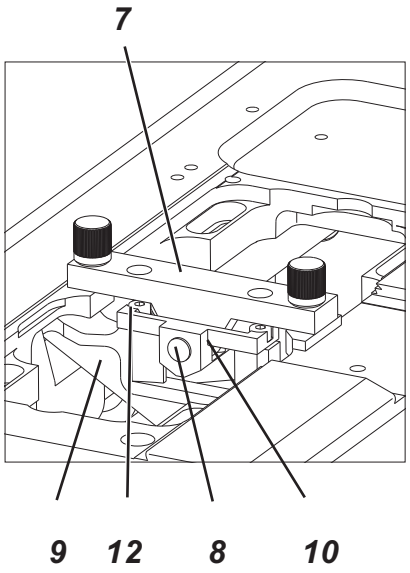
2.3.3 Position of the advance shaft



Caution: Risk of injury !

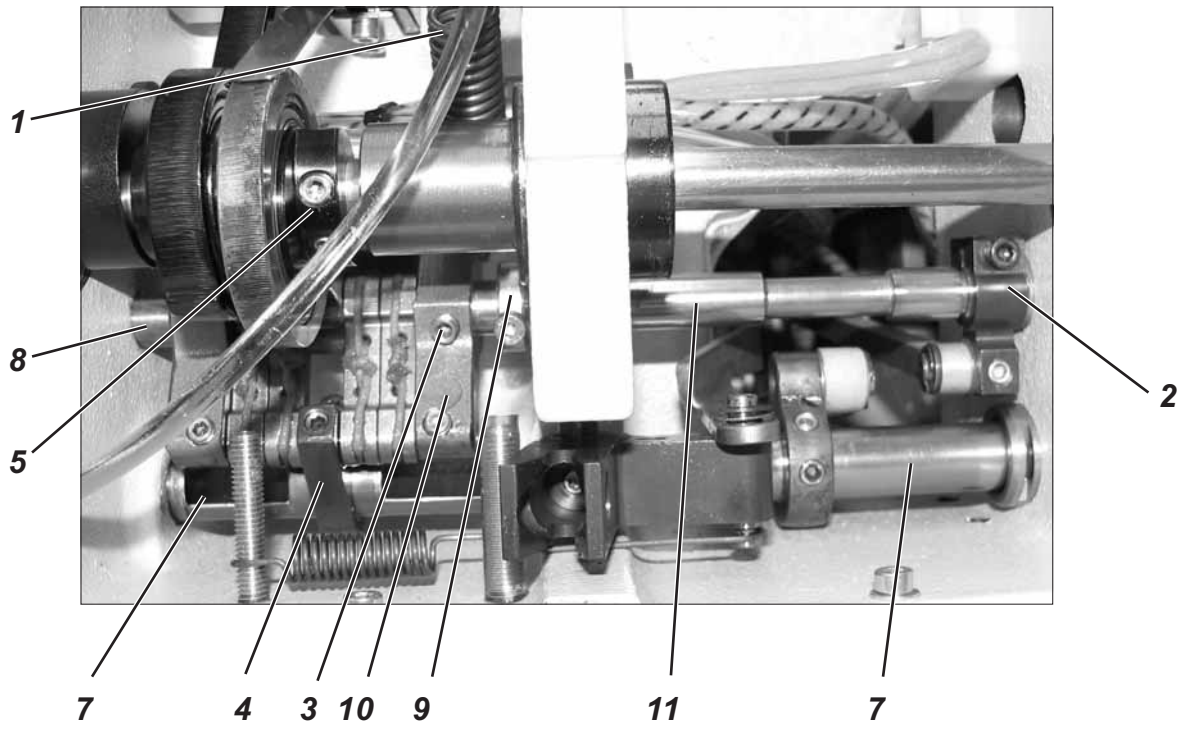
Turn the main switch off !

Set and check the feed dog and the stitch adjustment gear only with the sewing machine switched off.



- Unscrew the advance shaft.
- Loosen the screws on the adjustment rings **2** and **3**.
- Loosen the clamping screw on the lever **4**.
- Loosen the screws on the lever **5** (2x).
- Loosen the screws on the lever **6** (2x).
- Slightly screw the holder **10** onto the feed dog beam **9**.
- Screw the gauge **7 (0868 290184)** onto the bed plate.
- Connect holder **10** with the gauge **7** by using the bolt **8**.
- Align the feed dog beam **9** according to the holder **10**.
- Tighten screws **12** (2x) of the holder **10** again.
- Arrest the shaft **1** with the adjustment rings **2** and **3** and tighten the screws.
- Set the stitch length to **"0"** and fasten the clamping screw on the lever **4**.
- Position the needle bar in the centre by using the gauge 0868 290194 and tighten the screws on the lever Hebel **5** (2x) (note chapter 2.4.2).
- Tighten the screws on lever **6** (2x) (note chapter 2.5.4 - Feed dog height).
- Unscrew gauge **7**.

2.3.4 Feed gear basic setting



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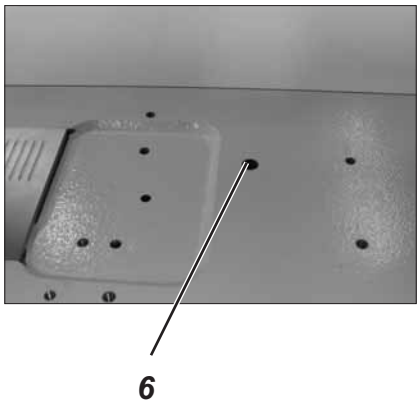
Caution: Risk of injury !

Turn the main switch off !

Set and check the feed dog and the stitch adjustment gear only with the sewing machine switched off.



- Unhook spring **1**.
- Loosen the clamping screw on the block **2**.
- Loosen the clamping screw on the block **4**.
- Loosen screw **6**.
- Align the positioning frame **10** laterally so that it sits centrical between the cutouts on the shaft **7**.
- Arrest the positioning frame **10** axially with the bearing bolt **8** (fastened with screw **6**) and adjustment ring **9**.
- Set the upper stitch setting wheel (chapter 2.3.2) to "**0**".
- Twist the positioning frame **10** so that the tongues come **parallel** to each other.
- Tighten the clamping screw on the block **2**.
- Tighten the clamping screw on the block **4**.
- Refit spring **1** on the positioning frame **10** and on the fastening bracket.

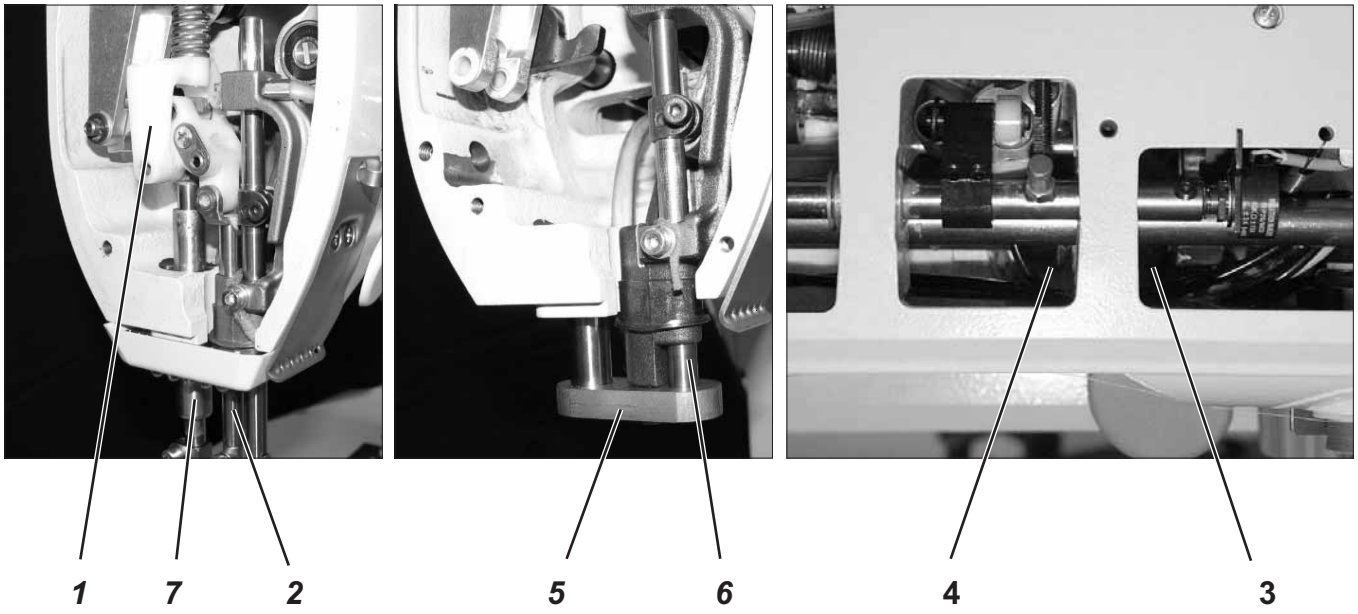
Note: The shaft **11** is fixed on the level of the positioning frame **10** in position **3** with two screws in tandem arrangement on a flat spot.

ATTENTION: Danger of breakage !

The shaft **11** must ***not*** reach so far into the positioning frame **10** that the tongues are hindered in their movements.

2.4 Needle bar linkage

2.4.1 Align the needle bar linkage laterally



Caution: Risk of injury !

Turn the main switch off !

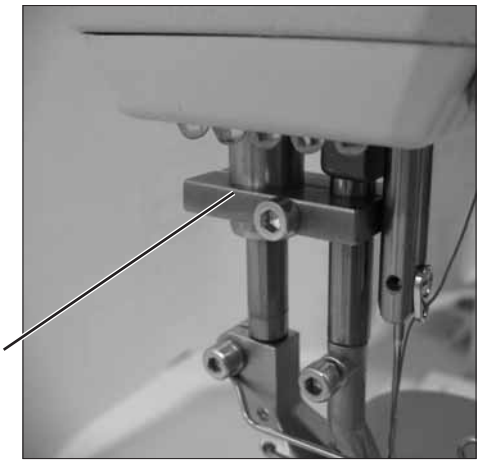
Check and set the needle bar linkage only with the sewing machine switched off.

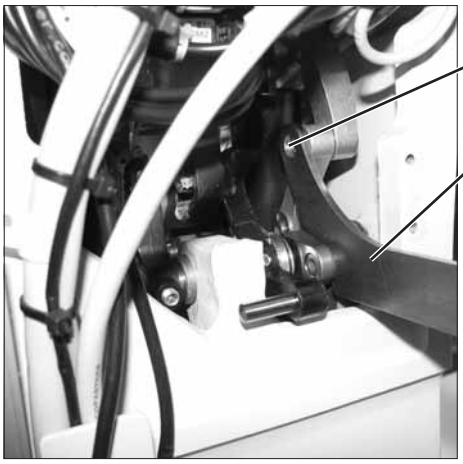
- Loosen the screws on the adjustment rings **3** and **4**.
- Remove the spring-loaded guide **1** and the bushing **7**.
- Remove the feeding foot bar **2**.
- Insert the gauge 5 (0868 290113) as shown in the photograph.
- Insert the needle bar **6** without needle block and thread guide into the bore hole of gauge **5**.
- Fix the adjustment rings **3** and **4** and tighten the screws.
- Remove the gauge **5**.
- Mount the spring-loaded guide **1** the feeding foot bar **2** and the bushing **7** again.

ATTENTION: Danger of breakage !

Check the distance between the hook tip and the needle after adjusting the lateral position of the needle bar linkage.
If necessary, readjust the distance (see chapter 2.6.4).

2.4.2 Transmission lever





Caution: Risk of injury !

Turn the main switch off !

Check and set the transmission lever only with the sewing machine switched off.

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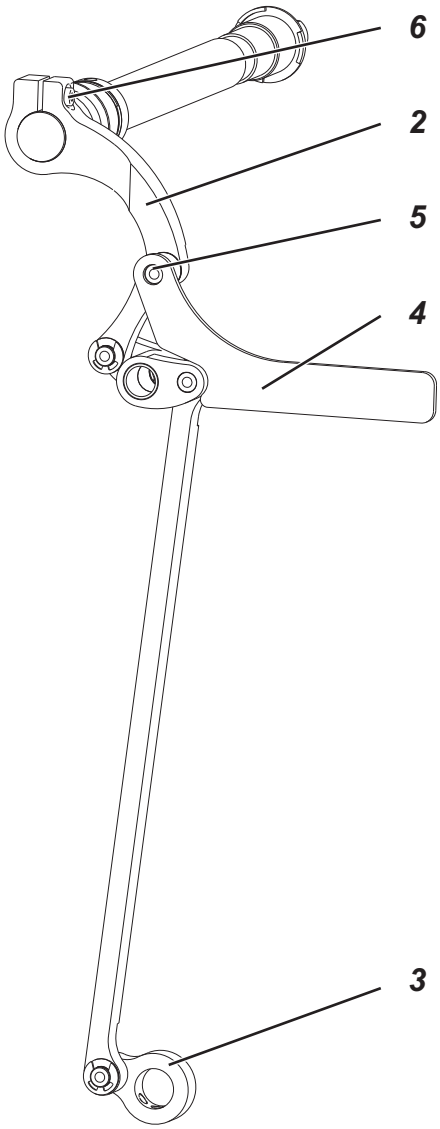
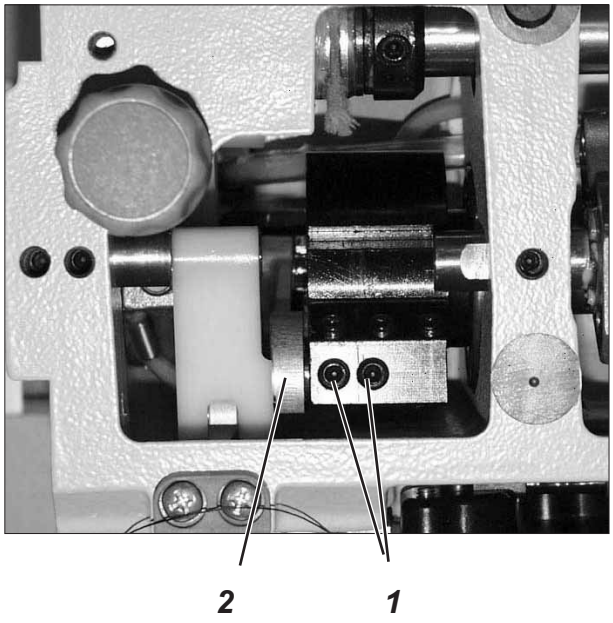
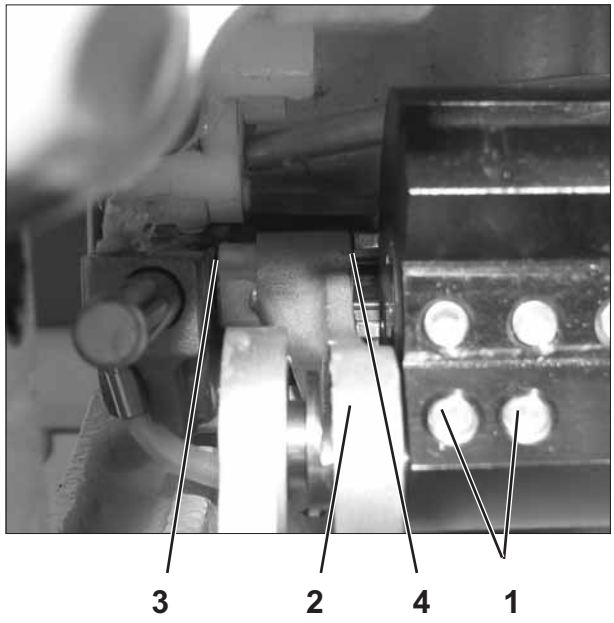


The lever **3** transmits the movement of the advance shaft to the needle bar linkage.

- Loosen the clamping screw **6** on the lever **2**.
- Correctly position the needle bar linkage by using the setting gauge **1** (0868 290194).
- Loosen the pressure screws on the lever **3** (2x).
- Put the setting gauge **4** (0868 290020) onto the bolt **5** and push it downward until the limit stop.
- Tighten the clamping screw **6** on the lever **2**.
- Set the upper stitch setting wheel (see chapter 2.3.2) to “**0**“.
- Tighten the pressure screws on the lever **3** (2x).
- Remove the setting gauges **1** and **4**.

2.4.2 Thread lever





Caution: Risk of injury !

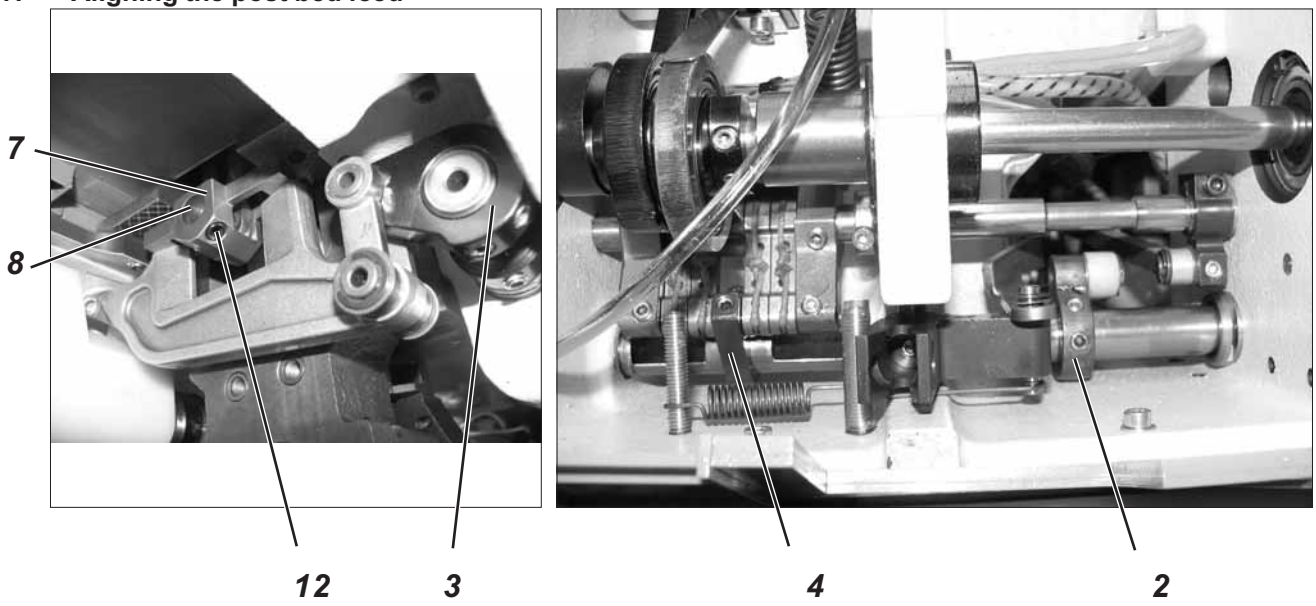
Turn the main switch off !

Check and set the thread lever only with the sewing machine switched off.

– Loosen screw **1**.
– Align the thread lever laterally so that the clearance of the traction rod **2** on the yoke is equal at the points **3** and **4**.
– Tighten screw **1**.

2.5 Post bed feed

2.5.1 Aligning the post bed feed

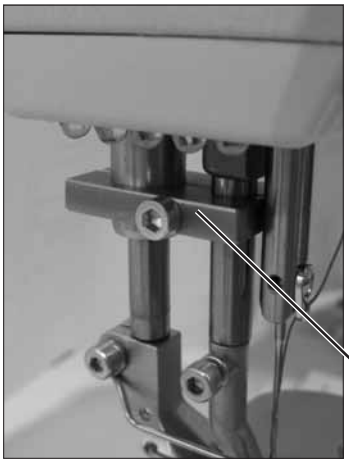


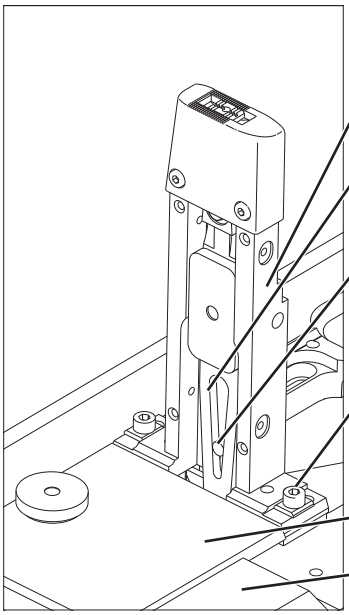
Caution: Risk of injury !

Turn the main switch off !

Check and set the post bed feed only with the sewing machine switched off.

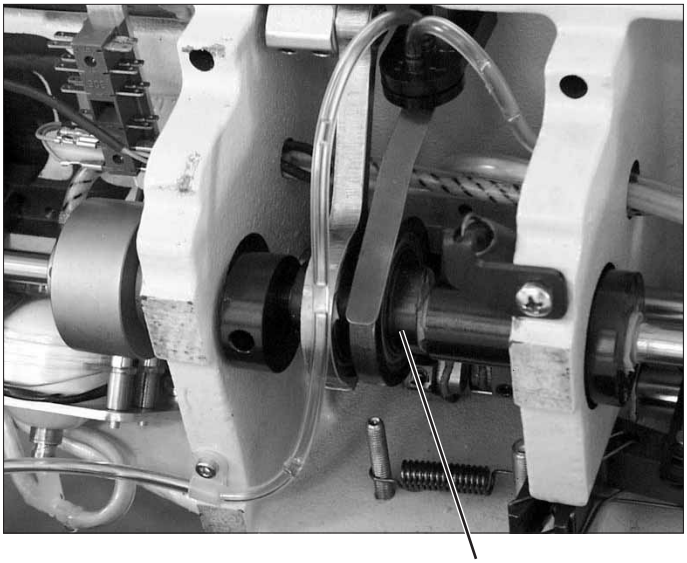
GB





- Set the upper stitch setting wheel (chapter 2.3.2) to "**0**".
- Position the needle bar linkage by using the setting gauge **1** (0868 290194).
- Loosen the screws on the lever **2** (2x).
- Loosen the screws on the lever **3** (2x).
- Loosen the clamping screw on the lever **4**.
- Slightly screw the post bed feed **5** onto the bed plate **6**.
- Connect the post bed feed **5** with the holder **7** by using the bolt **8**.
- Set the machine on the handwheel into the position "needle bar in bottom dead centre" (180° on the handwheel). Make sure that the needle plunges into the stitch hole.
- Insert the setting gauge **9** (0868 290153) into the post bed feed **5** and push the feed dog lever **13** upward until the limit stop.
- Align the post bed feed according to the **needle** and the gauge **10** (0868 290163).
- Tighten screws **11** (2x).
- Fasten the bolt **8** with the pressure screws **12**.
- Tighten the screws on the lever **2** (2x).
- Tighten the screws on the lever **3** (2x) (chapter 2.5.4- mind the feed dog height).
- Tighten the clamping screw on the lever **4**.
- Remove the setting gauges **1, 9** and **10**.

2.5.2 Feeding motion of the feed dog



1

Caution: Risk of injury !

Turn the main switch off !

Adjust the feeding motion of the feed dog only with the sewing machine switched off.

Standard checking

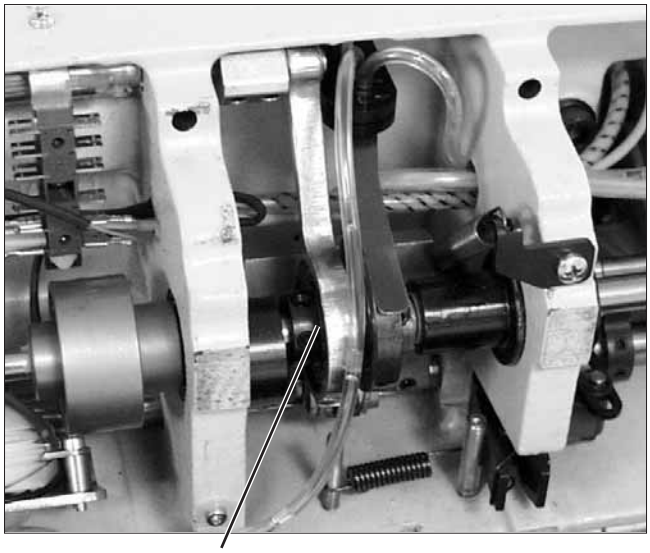
When the machine is set to position “**180°**” and the maximum stitch length is set, the movement of the feed dog should be the least possible.

- Set the maximum stitch length.
- Set the machine to position “**180°**”.
- Move the stitch regulator lever and check whether the feed dog exercises the smallest possible movement.

Correction

- Loosen the screws on the thrust eccentric **1** (2x).
- Readjust the thrust eccentric **1**.
- Tighten the screws on the thrust eccentric **1** (2x).
- Move the stitch regulator lever and check again whether the feed dog exercises the smallest possible movement.

2.5.3 Lifting motion of the feed dog



1

Caution: Risk of injury !

Turn the main switch off !

Adjust the lifting motion of the feed dog only with the sewing machine switched off.

GB

Standard checking

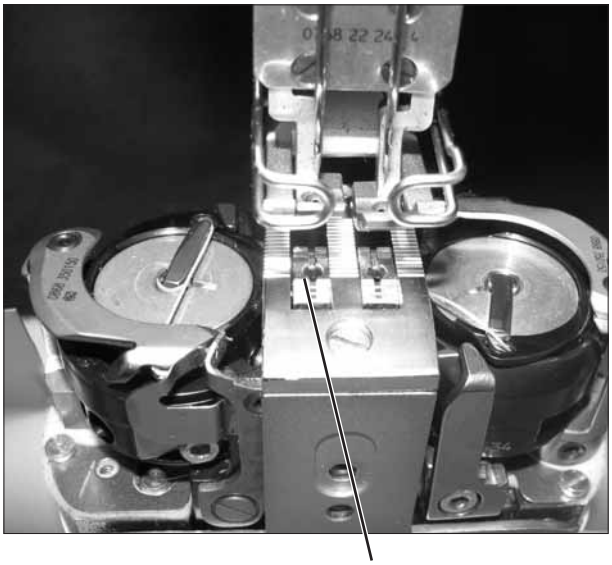
The feed dog is supposed to have the same distance to the throat plate at its front and backward dead centre:

– Turn the handwheel and check the movement of the feed dog.

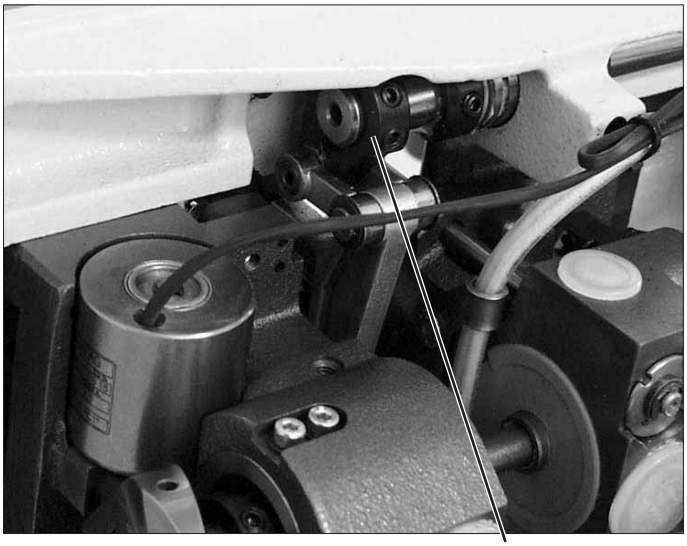
Correction

– Loosen the screws on the lifting cam **1** (2x).
– Turn the lifting cam.
– Tighten the screws on the lifting cam **1** (2x).
– Check the setting.

2.5.4 Feed dog height



2



1

Caution: Risk of injury !

Turn the main switch off !

Check and set the height of the feed dog only with the sewing machine switched off.

Standard checking

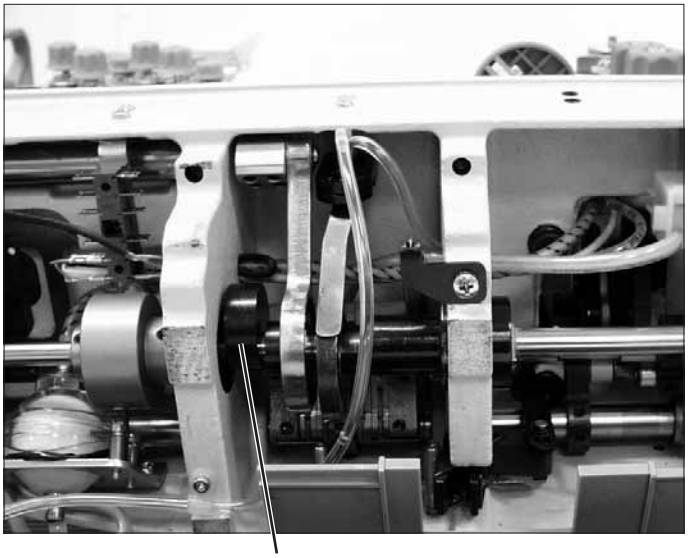
For a safe feed movement of the material the feed dog **2** should surpass the throat plate surface of **0.8 mm**.

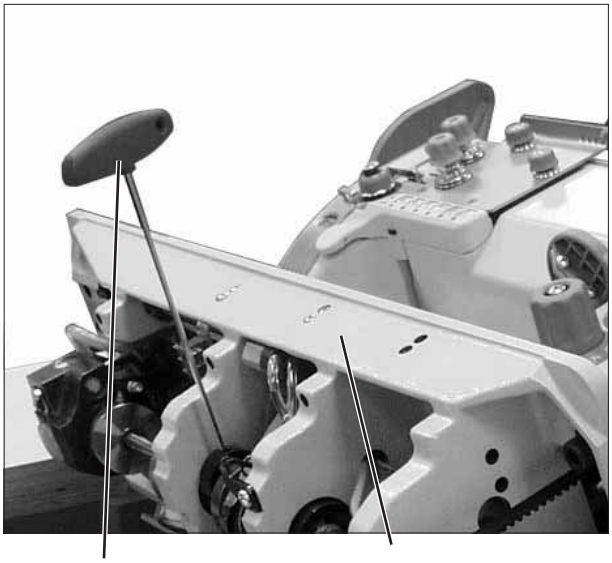
- Turn the handwheel until the feed dog **2** stands in its highest position.
- Check the height of the feed dog **2**.

Correction

- Turn the handwheel until the feed dog **2** stands in its highest position.
- Loosen the screws on the lever **1** (2x).
- Turn the lever **1** until the feed dog stands **0.8 mm** above the troat plate surface .
- Tighten the screws on the lever **1**(2x).

2.5.5 Balance weight





Caution: Risk of injury !

Turn the main switch off !

Check and set the balance weight only with the sewing machine switched off.

GB

Standard checking

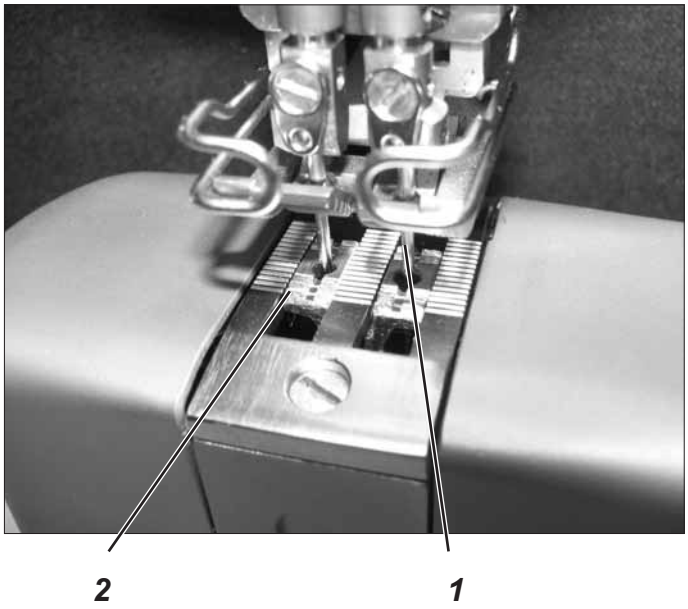
The balance weight **1** has to be positioned in a way, that a stuck in Allen key **3** stands parallel to the bed plate **2** when the handwheel is set to position "**30°**".

– Check the position of the balance weight.

Correction

– Loosen the screws on the balance weight **1**.
– Twist the balance weight **1** accordingly.
– Tighten the screws on the balance weight **1**.

2.5.6 Needle penetration in feeding direction



Caution: Risk of injury !

Turn the main switch off !

Check and set the needle penetration only with the sewing machine switched off.

Standard checking

The needle **1** should penetrate the centre of the feed dog's **2** stitch hole when the stitch length is set to "**0**".

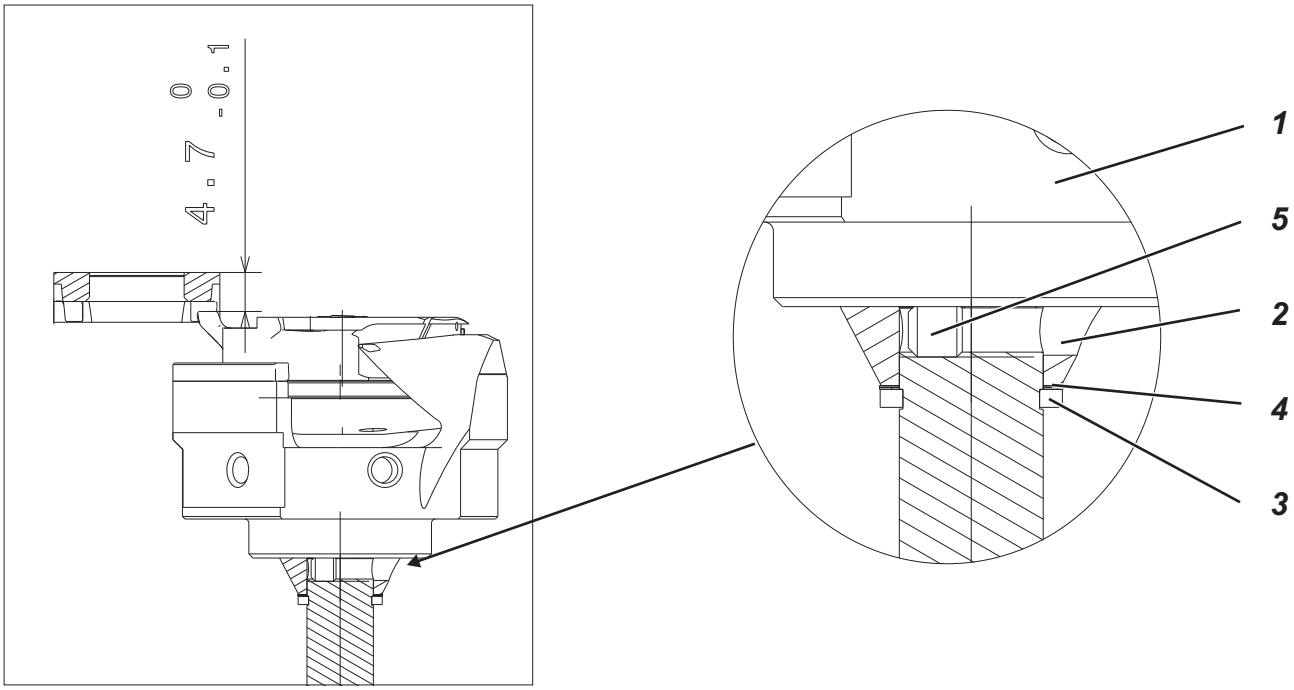
- Set the stitch length to "**0**".
- Insert a new needle.
- Turn the needle bar with the handwheel until it descends.
- Check the position of the needle in the stich hole.

Correction

- Effectuate the settings of chapter 2.5.1 (needle bar) once again.

2.6 Hook, looping stroke and needle bar height

2.6.1 Hook height



GB

Caution: Risk of injury !

Turn the main switch off !

Check and set the hook height only with the sewing machine switched off.

The hook height is synchronized to the movement of the thread lever and very important for a satisfactory sewing result. The hook height is set ex factory to the measure of **4.7-$_{0.1}$** (measure between the top edge of the throat plate and the top edge of the bobbin case lug).

The setting is effectuated by fitting in the setting discs **4** that come in between the oil disc **2** and the circlip **3** (see the parts list).

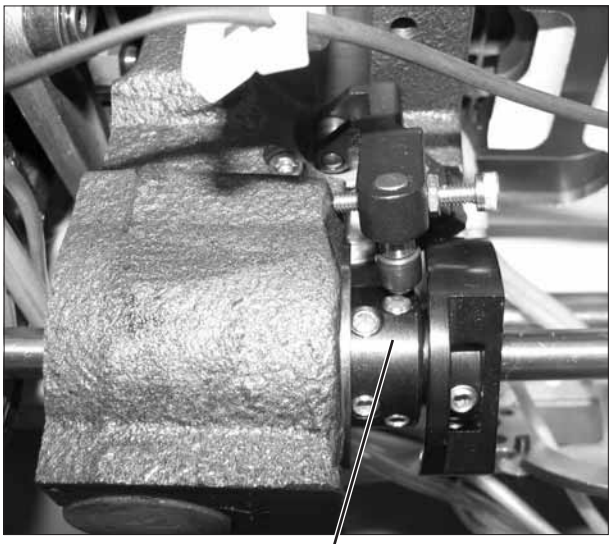
The hook height must be reset after changing the hook shaft.

Correction hook height

- Measure the actual hook height.
- Dismantle the hook **1**.
- Loosen screw **5**.
- Pull the oil disc **2** off to the top and insert the corresponding number of setting discs **4**.
- Put the oil disc **2** back on again and tighten screw **5**.

Notes:

2.6.2 Looping stroke

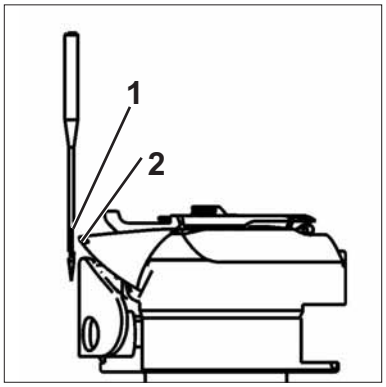


GB

Caution: Risk of injury !

Turn the main switch off !

Check and set the looping stroke only with the sewing machine switched off.



Standard checking

The looping stroke is the way of the needle bar from its bottom dead centre to the point where the hook tip **2** stands in the middle of the needle **1**. The looping stroke amounts to 2 mm.

- Arrest the machine head in position **I** (Locking pin Ø 5 mm in the large groove, chapter 1.2).
- Set the stitch length setting wheel to “**0**”.
- Check the position of the hook tip in relation to the needle.

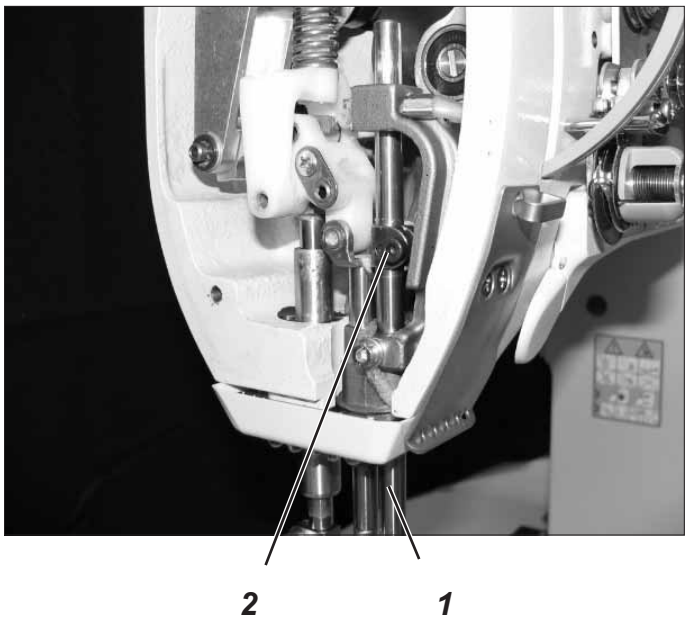
Correction

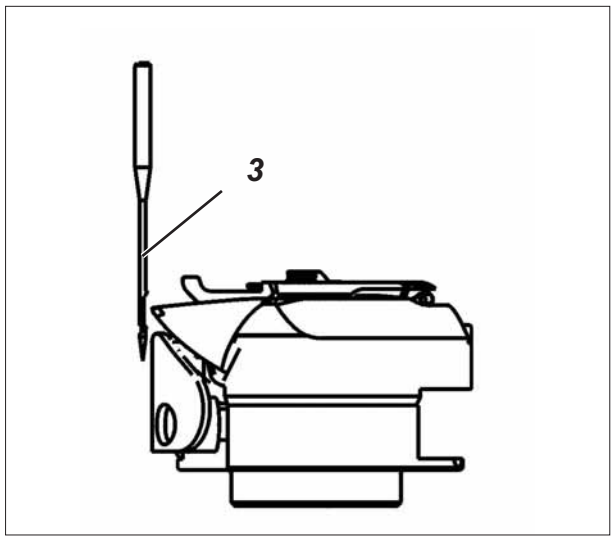
- Arrest the machine head in position **I** by using the locking pin Ø 5 mm (large groove).
- Set the stitch length setting wheel to “**0**”.
- Loosen the screws on the clamping ring **3** (4x).
- Twist the hook so that the hook tip **2** points to the middle of the needle **1**.
- Tighten the screws on the clamping ring **3** (4x).

ATTENTION !

After the hook’s setting the position of the thread cutter cam is to be checked (see chapter 2.14.6).

2.6.3 Needle bar height

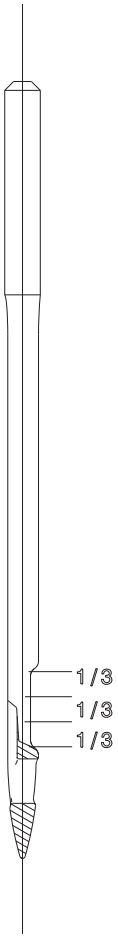




Caution: Risk of injury !

Turn the main switch off !

Check and set the needle bar height only with the sewing machine switched off.



Standard checking

The needle bar' s height is to be set in a way that in looping stroke position the hook tip stands in the bottom third of the needle scarf when the stitch length is set to " **0** ".

- Set the stitch length setting wheel to "**0**".
- Arrest the sewing machine in position **I** (looping stroke position chapter 1.2).
- Check the position of the needle in relation to the hook tip.

Correction

- Set the stitch length setting wheel to "**0**".
- Loosen the clamping screw **2** on the cross-head.
- Shift the needle bar **1** with the needle **3**.
  The needle bar must not be twisted upon shifting.
  The needle scarf must point to the hook tip.
- Fasten the clamping screw **2** on the cross-head.

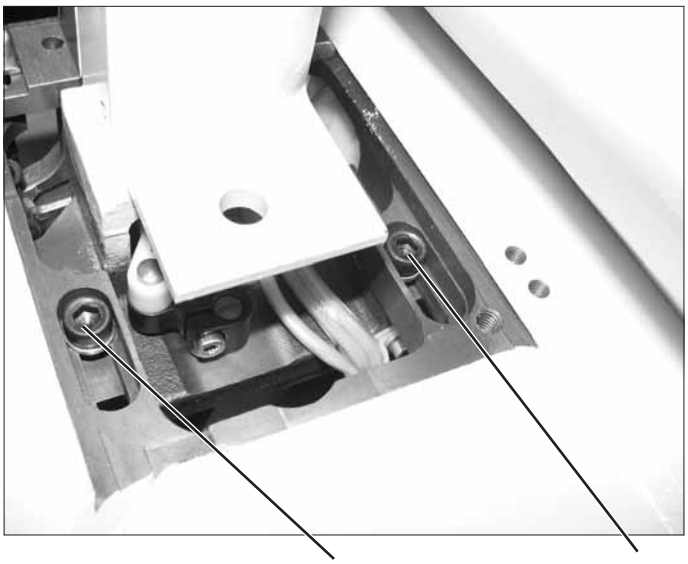
A wrong setting of the needle bar height can have the following consequences:

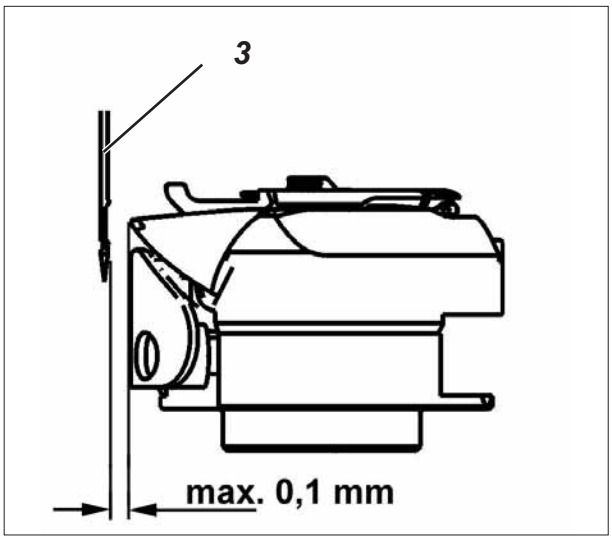
- Damage on the hook tip.
- Jamming of the needle thread between needle an needle guard.
- Missed stitches and thread breakage.

ATTENTION !

After a correction of the needle bar height the needle guard's position has to be checked (see chapter 2.6.5).

2.6.4 Distance between hook and needle



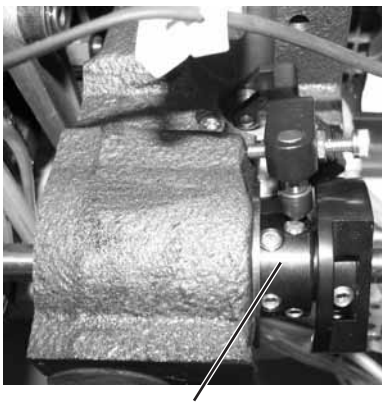


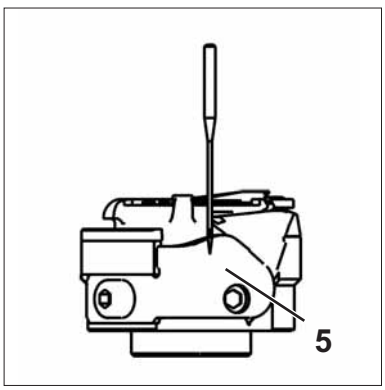
Caution: Risk of injury !

Turn the main switch off !

Check and set the hook distance only with the sewing machine switched off.

GB





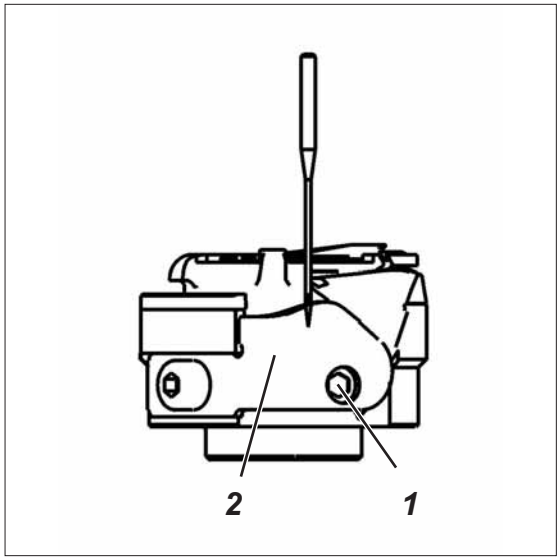
Standard checking

In looping stroke position the distance between the hook tip and the needle scarf should **not** be **more** than **0.1 mm**.

Correction

- Check whether the needle is dislocated by the hook guard **5** in looping stroke position. If this is the case, the hook guard **5** must be readjusted accordingly (see chapter 2.6.5).
- Check the distance.
  the distance between the hook tip and the needle **3** should **not** be **more** than **0.1 mm**.
- Loosen the screws **1** and **2**.
- Loosen the screws on the clamping ring **4** (4x).
- Shift the hook case laterally to fit.
- Tighten the screws **1** and **2** again.
- Set the looping stroke (see chapter 2.6.2).
- Tighten the screws on the clamping ring **4** (4x).

2.6.5 Needle guard



Caution: Risk of injury !

Turn the main switch off !

Check and set the needle guard only with the sewing machine switched off.

Standard checking

The needle guard **2** is to prevent a contact of the needle with the hook tip.
In looping stroke position the needle should be **slightly** dislocated.

– Check the needle guard.

Correction

– Turn the machine in looping stroke position.
– Adjust the needle guard by twisting the screw **1**.

ATTENTION !

The needle guard must be readjusted after changing the needle bar height, correcting the looping stroke and changing the needle size.

2.7 Bobbin case opening

2.7.1 General

The thread lever has to pull the thread through in between the bobbin case and its holder.

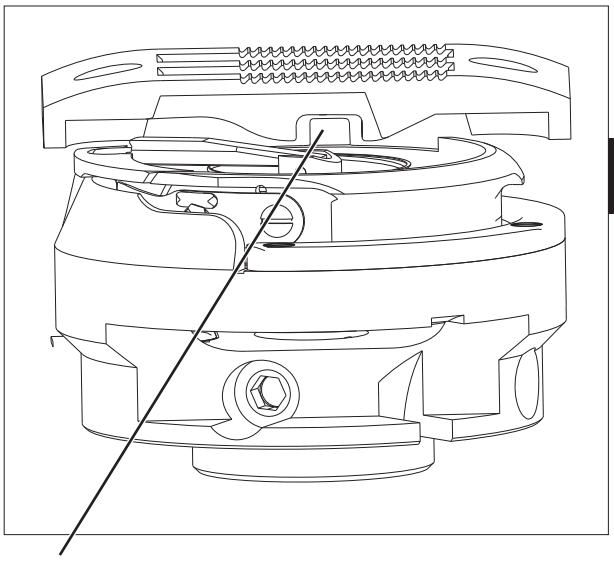
For the thread to slip through without any hindrance the bobbing case must be opened in this particular moment.

That way the desired seam pattern can be achieved with the lowest possible thread tension.

Wrong settings can have the following consequences:

– Thread breakage
– Eyes on the seam's bottom side
– Loud noises

2.7.2 Setting of the bobbin case opening



Caution: Risk of injury !

Turn the main switch off !

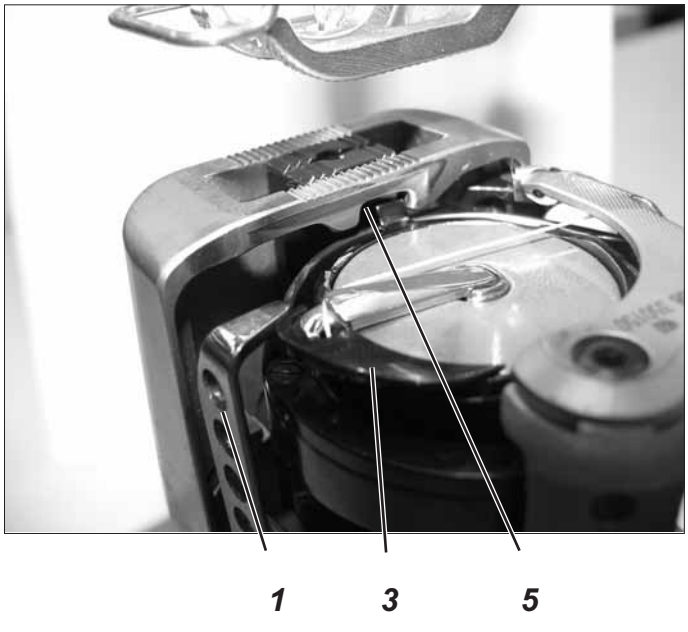
Check and set the bobbin case opening only with the sewing machine switched off.

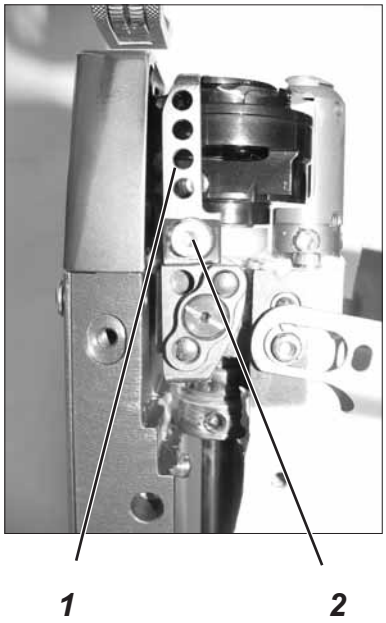
Standard checking

The bobbin case opener **3** has to open the hook centre **2** wide enough for the sewing thread to pass without hindrance between the bobbin case lug **1** and the cavity of the throat plate.
During opening the bobbin case lug **1** has to be positioned at least in the **centre** of the throat plate cavity.

– Turn the handwheel and check, whether the bobbin case opener opens the hook centre wide enough.

GB

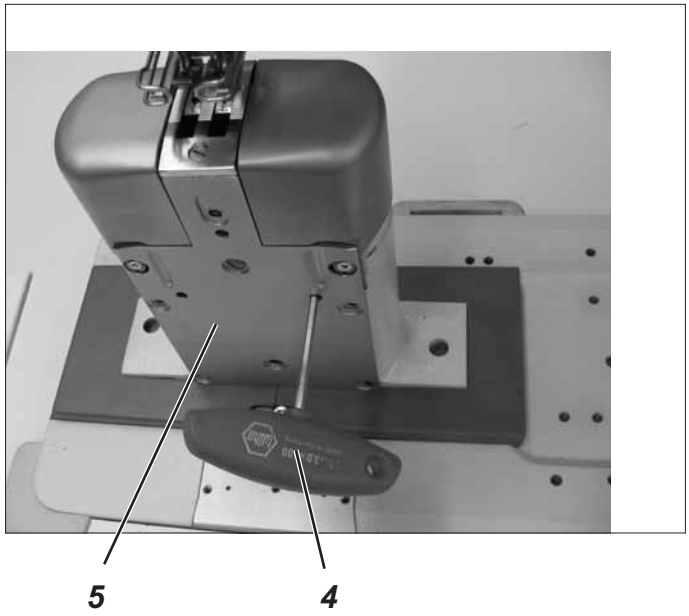




Correction

- Pull the hook cover upward and open it.
- Turn the handwheel until the opening finger **1** has attained its maximum opening movement.
- Loosen screw **2**.
- Adjust the opening finger **1** so that the lug of the bobbin case **3** is positioned in the centre of the throat plate cavity **5**.
- Tighten screw **2** again.
- Close the hook cover and push it downward.

2.7.3 Timing of opening



Caution: Risk of injury !

Turn the main switch off !

Check and set bobbin case opening only with the sewing machine switched off.

GB

Standard checking

The sewing thread must be able to slip through the points **1** and **2** without any hindrance.

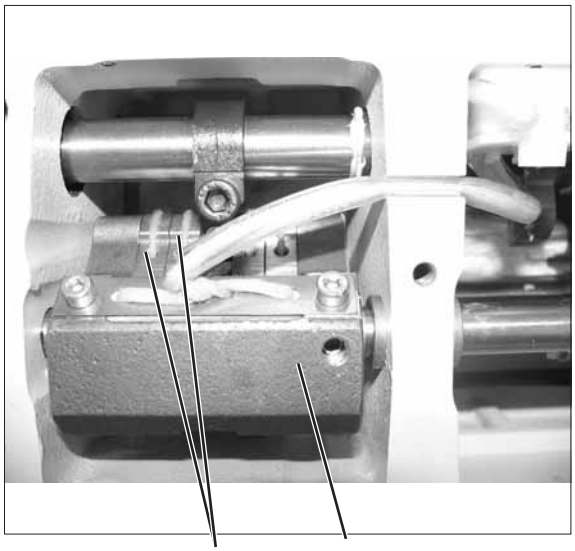
- Make the machine sew a few stitches on the sewing material and stop it.
- Effectuate manually (on the handwheel) a sewing stitch and check whether the sewing thread runs without any hindrance.

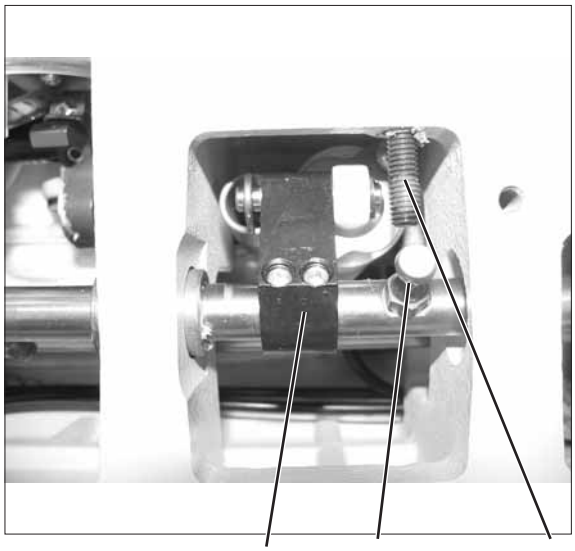
Correction

- Loosen the screw **3** by using the Allen key **4**. The screw **3** can be attained through the side plates **5**.
- Set the machine on the handwheel to position **125°±5°** respectively **305°±5°** (double-rotating) and tighten screw **3** (for the right-hand post from the front as shown in the picture and for the left-hand post from the rear side) again.
- The exact setting has to be adapted to the sewing material and the sewing thread.

2.8 Feeding foot and presser foot

2.8.1 Basic stroke gearing setting





2 ***3*** ***5*** ***4*** ***1***

Caution: Risk of injury !

Turn the main switch off !

Check and set the basic stroke gearing setting only with the sewing machine switched off.

Standard checking

With the arm cover removed and the screw **1** unscrewed, the tongues **2** of the stroke gearing **3** have to stand parallel to each other.

- Remove the arm cover.
- Unscrew the screw **1** until the cam **4** comes free.
- Check the position of the gearing tongues **2**.

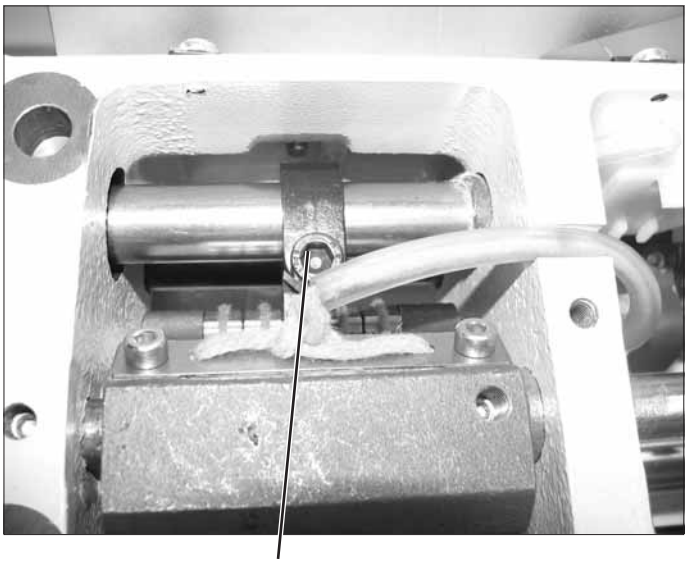
Correction

- Unscrew the screw **1** until the cam **4** comes free.
- Loosen the screws of the lever **5** (2x).
- Position the tongues **2** of the stroke gearing **3** parallel to each other .
- Tighten the screws of the lever **5** (2x).
- Mount the arm cover again.

Notes:

2.8.2 Feeding foot and presser foot stroke

2 *1*

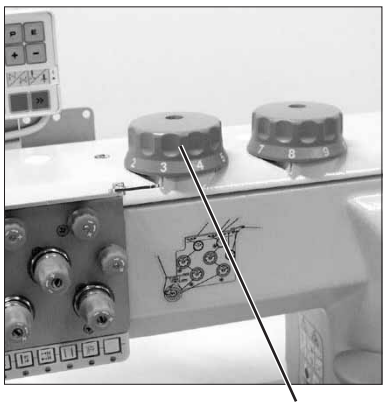


3

Caution: Risk of injury !

Turn the main switch off !

Check and set the sewing feet stroke only with the sewing machine switched off.



4

Standard checking

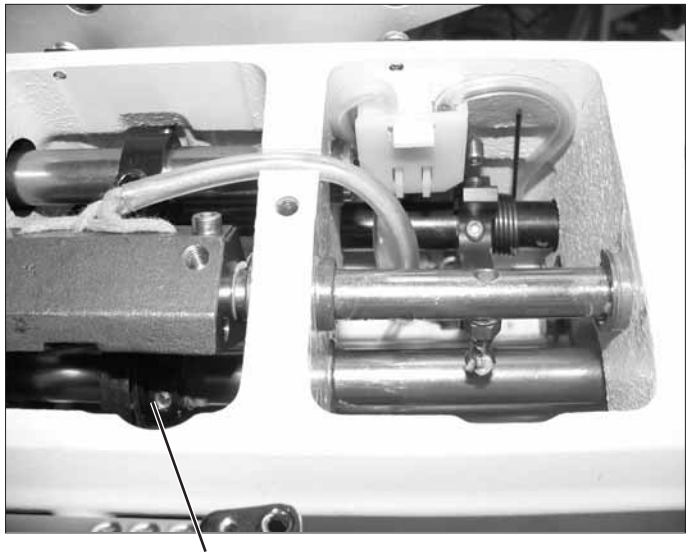
The strokes of both sewing feet should be identical when the setting wheel **4** for the sewing foot stroke is set to **“3"**.

- Set the stitch length to **“0“**.
- Set a medium sewing foot pressure.
- Set the sewing foot stroke on the setting wheel **4** to **“3"**.
- Turn the handwheel and compare the strokes of the sewing feet **1** and **2**. The strokes of the presser foot **1** and the feeding foot **2** should be identical.

Correction

- Screw the arm cover off.
- Turn the handwheel to position **0°**.
- Loosen the screw **3**.
- Push the feeding foot **2** completely onto the throat plate.
- Tighten the screw **3**.
- Fix the arm cover.
- Turn the setting wheel to position **“3”**.
- Check whether both strokes are identical.
  If not, readjust the setting.

2.8.3 Stroke motion of the feeding foot



Caution: Risk of injury !

Turn the main switch off !

Check and set the stroke motion only with the sewing machine switched off.

GB

Prerequisite

- The strokes of the feeding foot and the presser foot must be identical (see chapter 2.8.1)
- Correct timing of the feeding dog's lifting motion (see chapter 2.3.3).

Standard

The descending feeding foot **2** is, with **maximum sewing foot stroke** and **maximum stitch length** set, supposed to touch down on the feeding-dog, when the needle **1** is descending and the needle tip has reached the upper edge of the feeding-dog foot (**95°** on the handwheel).

– Set the maximum stitch length.
– Set the maximum sewing foot stroke.
– Turn the handwheel and check the stroke motion.

Correction

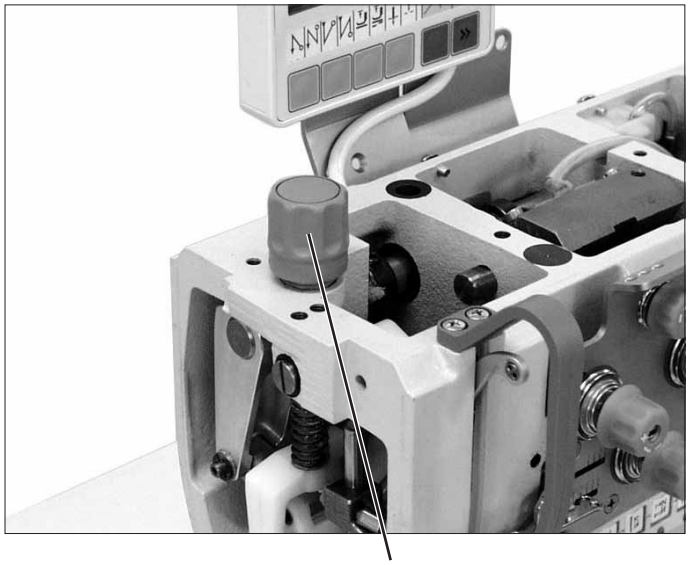
– Loosen the screws on the lifting cam **3** (2x).
– Twist the cam accordingly.

ATTENTION !

The cam must not be shifted axially.

– Tighten the screws on the lifting cam **3** (2x).
– Check the setting.

2.8.4 Sewing foot pressure



Standard checking

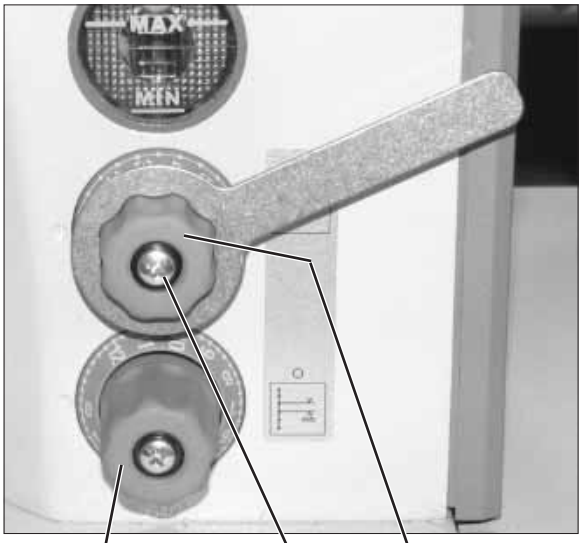
The material that is to be sewn must not “float”.

It should not be exerted more pressure than necessary.

Correction

– Set the sewing foot pressure by turning screw **1**.
  Increase the pressure = Turn screw **1** clockwise.
  Decrease the pressure = Turn screw **1** counter-clockwise.

2.9 Stitch length limitation



3 2 1

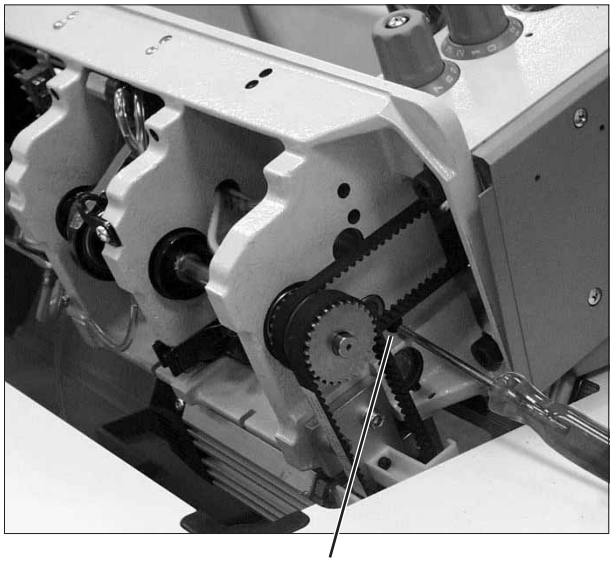
4

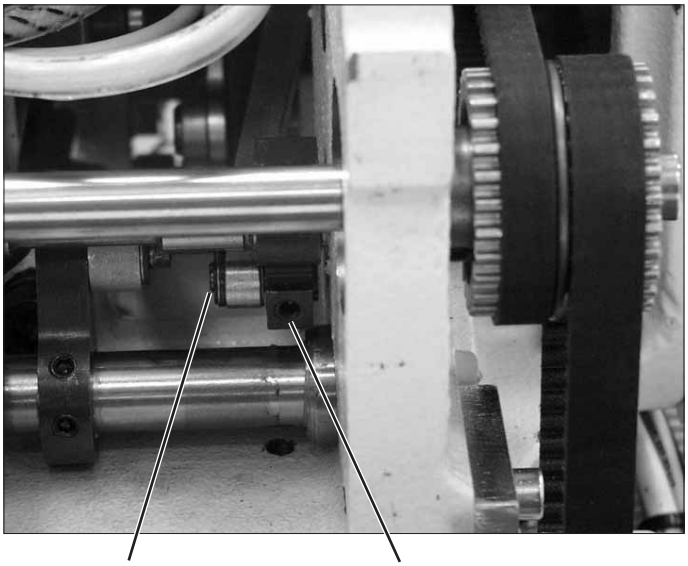
GB

Depending on the sewing equipment used, the stitch length setting has to be limited to **6, 9** or **12** mm.

– Unscrew the screw **2** on the stitch length setting wheel.
– Lift off the setting wheel **1**.
– Unscrew the set screw **3** and screw it into the corresponding bore hole.
  The bore holes are numbered indicating the corresponding maximum stitch length.
– Carry out the setting according to chapter 2.3.1 “Basic setting of stitch adjustment“.
– Reinsert the setting wheel and fix it with screw **2**.

2.10 Stitch equality of the forward and backward stitch

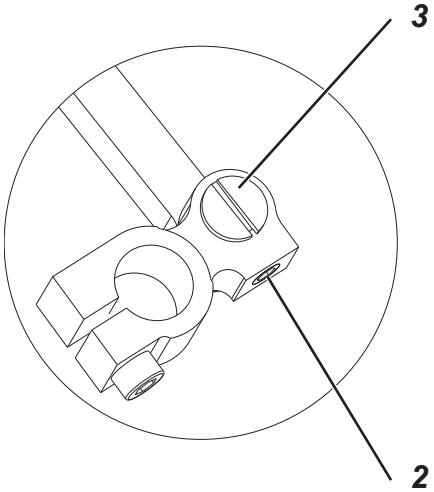




Caution: Risk of injury !

Turn the main switch off !

Set the stitch equality only with the sewing machine switched off.



Standard checking

The stitch length of the forward and backward stitch should be identical.

- Sew the seam length forward.
- Sew the seam length backward.
- Compare the stitch lengths of both seams.

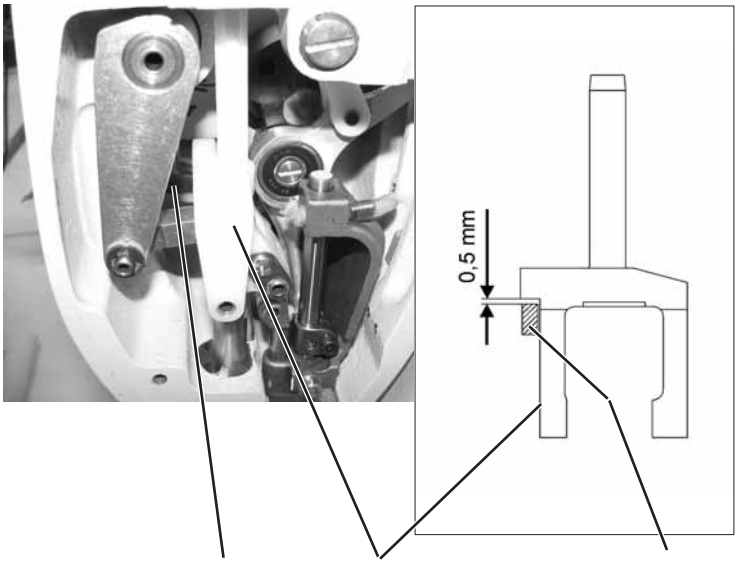
Correction

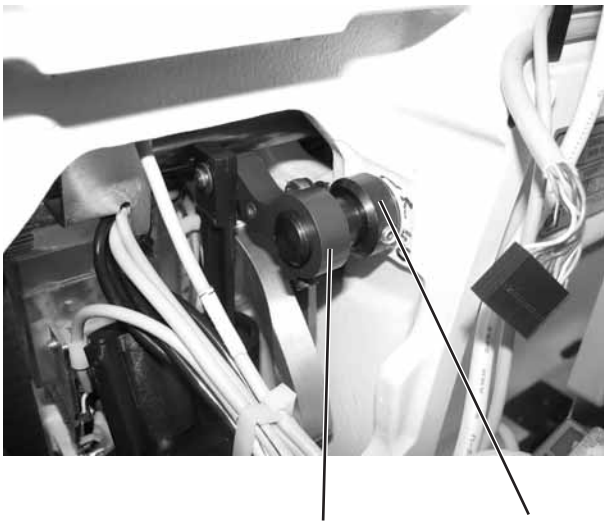
- Loosen the pressure screw **2**.
- Turn the eccentric **3** through the bore hole **1** using a screw driver.
  Clockwise =
  Forward stitch larger, backward stitch smaller.

  Counter-clockwise =
  Backward stitch larger, forward stitch smaller.
- Tighten the screw **2**.
- Sew the seam length forward.
- Sew the seam length backward.
- Compare the stitch lengths of both seams.

2.11 Sewing foot lifting

2.11.1 Mechanical sewing foot lifting



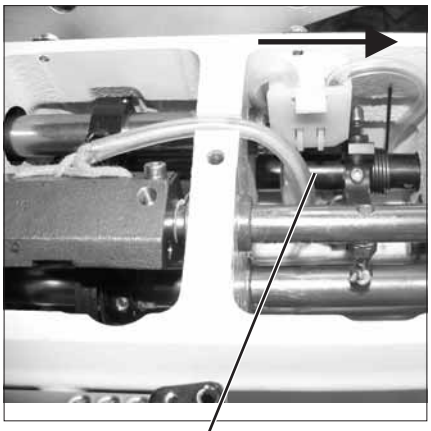


GB

Caution: Risk of injury !

Turn the main switch off !

Check and set the clearance of the lifting mechanism only with the sewing machine switched off.



Standard checking

The lifting shaft **6** is supposed to run smoothly but should not have any end play.
The clearance in the lifting mechanism should be approx. **0.5 mm** between the spring guide **2** and the lifting lever **1**.

- Lower the sewing feet.
- Turn the handwheel until the presser foot touches down.
- Move the lifting shaft **6** and check its clearance.

Correction

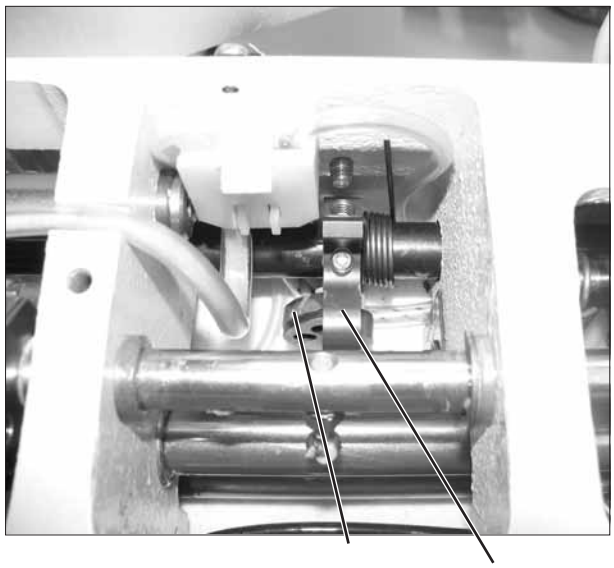
Tightening the lifting shaft

- Unscrew the electric and pneumatic unit.
- Loosen the screw on the setting ring **3**.
- Push the lifting shaft **6** completely to the right (see the arrow), push the setting ring **3** close to the bearing bush and tighten it.
  ATTENTION !
  The shaft must still run smoothly.

More clearance for the lifting shaft

- Loosen the screws on the lifter block **4**.
- Twist the lifting shaft **6** until it has the necessary clearance.
- Tighten the screws on the lifting block **4**.

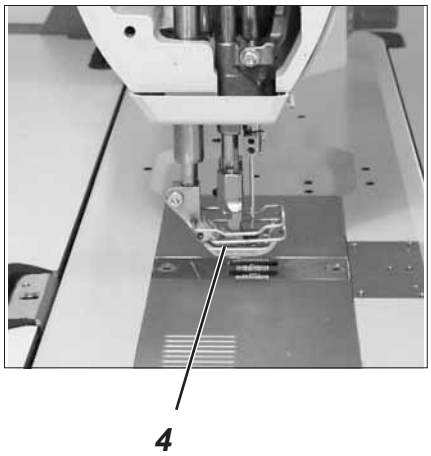
2.11.2 Height of the sewing feet arrested with hand lever



Caution: Risk of injury !

Turn the main switch off !

Check and set the sewing foot lifting only with the sewing machine switched off.



Standard checking

The sewing feet **4** can be arrested in lifted position with the hand lever **1**. This is done for example in order to exchange the sewing feet or to run the sewing machine without any material or to wind up the hook thread.

When arrested in lifted position with the hand lever the sewing feet **4** should have a distance of **10 mm** to the throat plate.

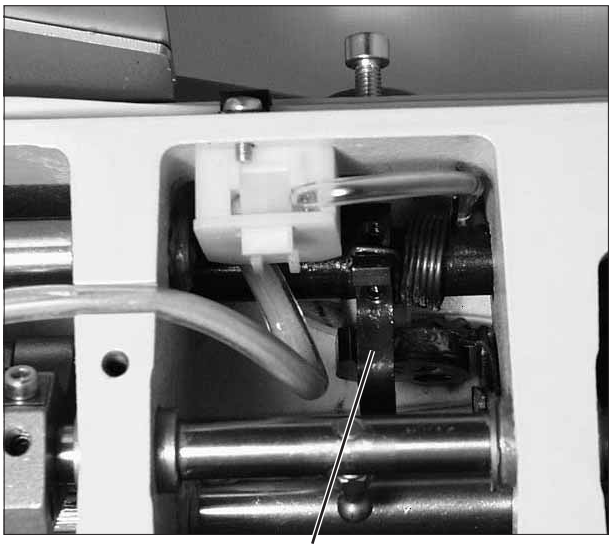
- Bring both sewing feet to the same level.
- Lift the sewing feet with the hand lever and arrest them.
- Check the lifting height.

Correction

- Lift the sewing feet.
- Put a spacer (10 mm) under the sewing feet **4**.
- Loosen the screws on the lifting lever **3**.
- Push down the lifting lever **1**.
- Press the lever **3** onto the eccentric cam **2**.
- Tighten the screws on the lifting lever **3**.

2.11.3 Height of the lifted sewing feet

2 *1*



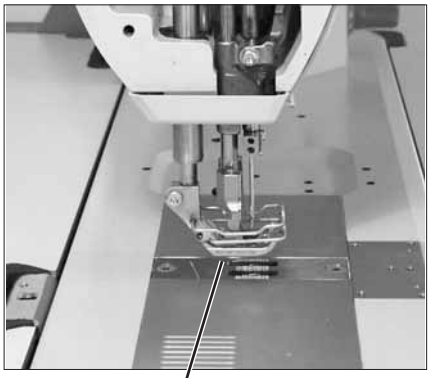
3

Caution: Risk of injury !

Turn the main switch off !

Check and set the height of the lifted sewing feet only with the sewing machine switched off.

GB



4

Standard checking

The pneumatically or via knee lever lifted sewing feet **4** are supposed to have a distance of **20 mm** to the throat plate when the needle bar is in its upper dead centre.

The screw **2** limits the path of the lifting lever **3**.

– Lower the sewing feet.
– Turn the handwheel until the needle bar is in its upper dead centre.
– Lift the sewing feet pneumatically or via knee lever and check the lifting height.

Correction

– Loosen the lock nut **1**.
– Twist the stop screw **2** accordingly.
– Fasten the lock nut **1**.

2.12 Thread-guiding parts

2.12.1 Thread regulator

Caution: Risk of injury !

Turn the main switch off !

Check and set the thread regulator only with the sewing machine switched off.

Standard checking

The position of the thread regulator **1** depends on the thickness of the material to be sewn, the thread size and the chosen stitch length.
It has to be set so that the thread is guided around the hook and kept under control.

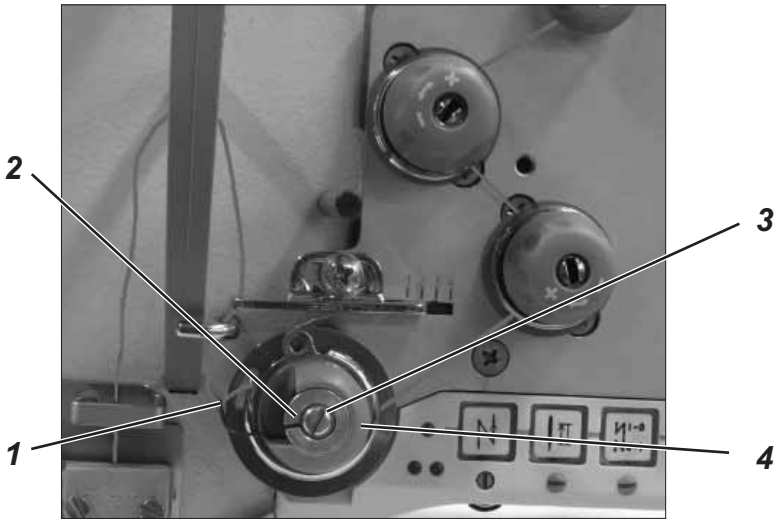
In position **"1"** occurs the highest thread output as needed with particularly large stitch lengths and thick sewing threads.

- Insert the material.
- Thread in the needle and hook thread.
- Open the throat plate slide.
- Turn the handwheel slowly and observe how tightly the thread is guided around the hook.

Correction

- Loosen screw **2**.
- Shift the thread regulator.
  Thread regulator to the left = more thread.
  Thread regulator to the right = less thread.
- Tighten screw **2**.
- If the travel of the thread regulator **1** is insufficient for the adjustment of the thread output, the travel of the thread take-up spring must be increased (see chapter 2.12.2 thread take-up spring)

2.12.2 Thread take-up spring



Caution: Risk of injury !

Turn the main switch off !

Check and set the thread take-up spring only with the sewing machine switched off.

GB

Standard checking

The standard setting for the spring travel and spring tension only apply to usual thread sizes.
Very thick or very thin threads or sewing material may necessitate different settings.

Spring travel

The thread take-up spring **1** has to keep the needle thread from the moment of the thread lever lifting until the needle eye's penetrating of the material under a light tension.
In order to achieve a regular seam with a low thread tension, the travel of the thread take-up spring may be increased.
The thread take-up spring must only meet the stop when the needle eye has penetrated the material.

Spring tension

The spring tension should be lower than the thread tension.

Correction

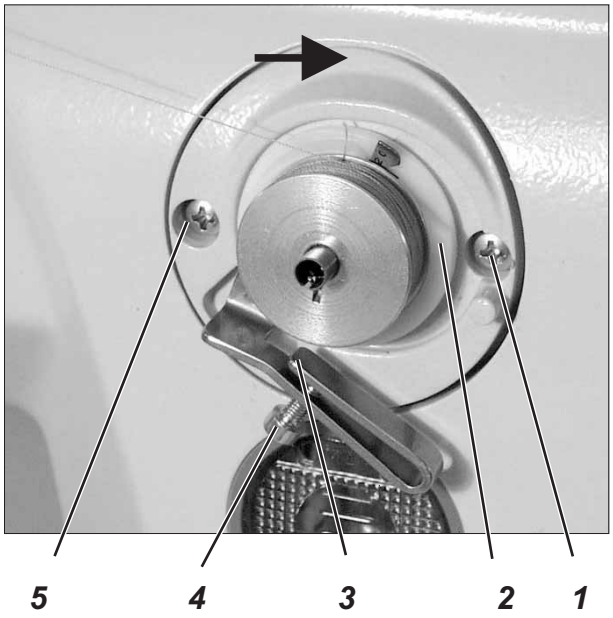
Spring travel

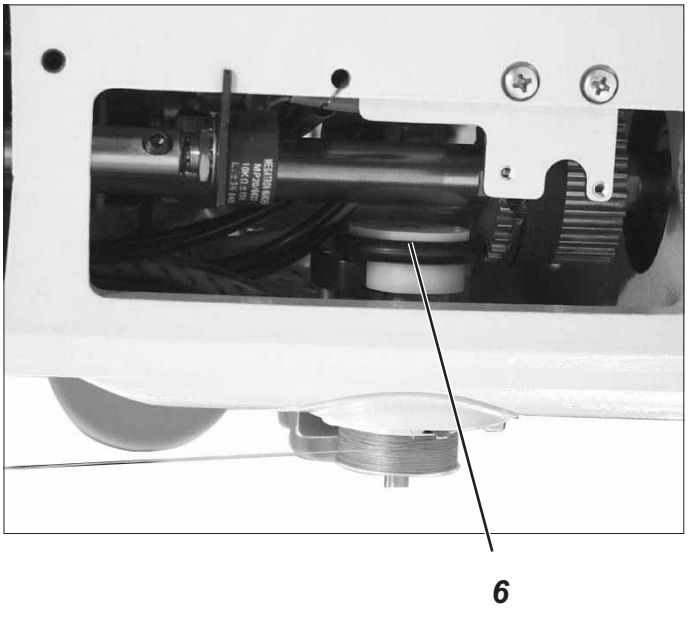
– Loosen screw **2**.
– Turn the stopping collar **4**.
  Turning counter-clockwise = larger travel
  Turning clockwise = smaller travel.
– Tighten screw **2**.

Spring tension

– Loosen screw **2**.
– Adjust the tensioner disc **3** without changing the stopping collar's **4** position.
  Turning the disc clockwise = less spring tension
  Turning the disc counter-clockwise = higher spring tension
– Tighten screw **2** without changing the positions of the stopping collar **4** and the tensioner disc **3**.

2.13 Bobbin winder





Caution: Risk of injury !

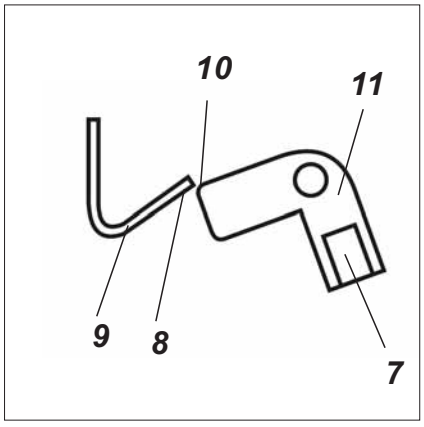
Turn the main switch off !

Check and set the bobbin winder only with the sewing machine switched off.

Standard checking

The bobbin winding operation must stop automatically when the bobbin is filled up to approx. **0.5 mm** below the edge of the bobbin.

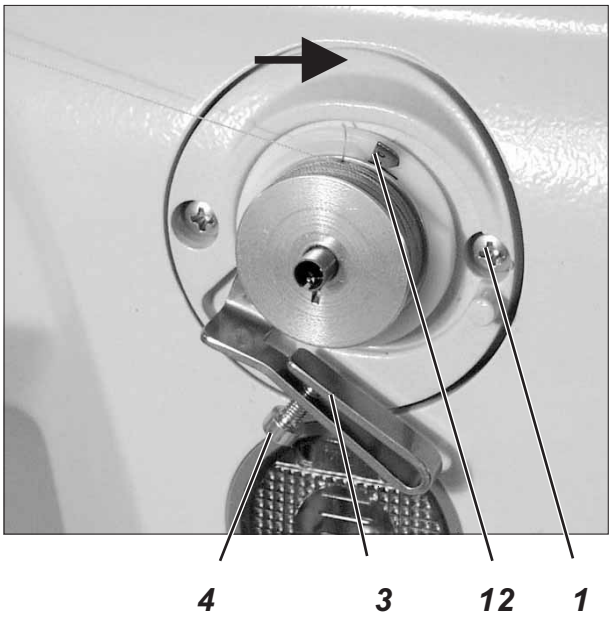
The winder wheel must not have any end play but its moving should not be to sluggish either.

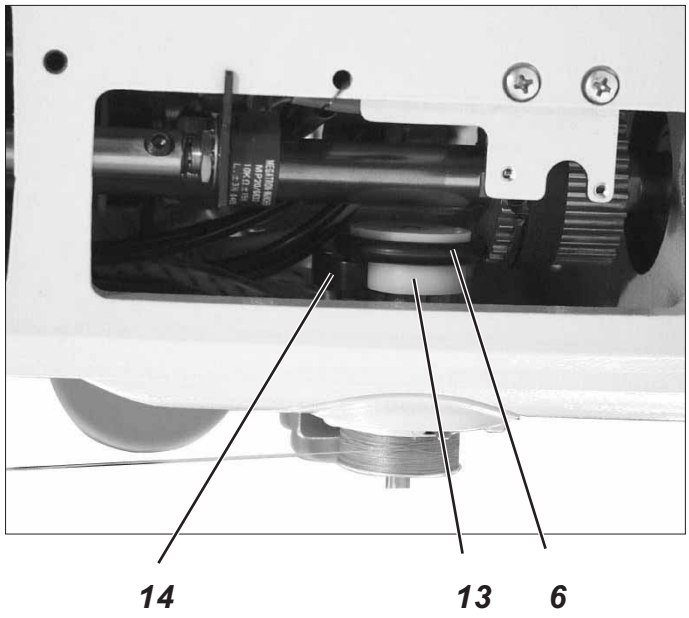


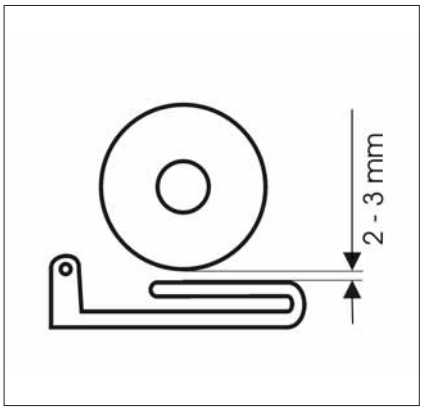
Basic setting

– Disassemble the winder.
  In order to do so unscrew the two fastening screws **1** and **5** and pull the winder off.

– Screw in the screw **4** until the two arms of the winder flap **3** come parallel to each other.
– Insert a completely filled bobbin on the winder.
– Twist the winder flap **3** so that it bears against the thread on the bobbin.
– Loosen screw **7**.
– Set the switching cam **11** so that the corner **10** of the switching cam and the corner **8** of the leaf spring **9** superpose (the spring is loaded) and the winder flap **3** has no end play.
– Tighten screw **7**.







– Turn the winder bobbin so that the tear-off knife **12** points to the fastening screw **1** on the right side.
– Loosen the screw on the engagement block **14**.
– Set the winder flap so that between the thread on the bobbin and the winder flap remains a distance of **2 - 3 mm** (insert a spacer).
– Set the engagement block **14** so that it bears on the locking disc **13** and has an end play of **0.5 mm** towards the winder wheel **6**.
– Tighten the screw on the engagement block.
– Screw the winder on again.

GB

Small changes of the bobbin wind-on quantity

– Adjust the winder flap **3** with the screw **4**.

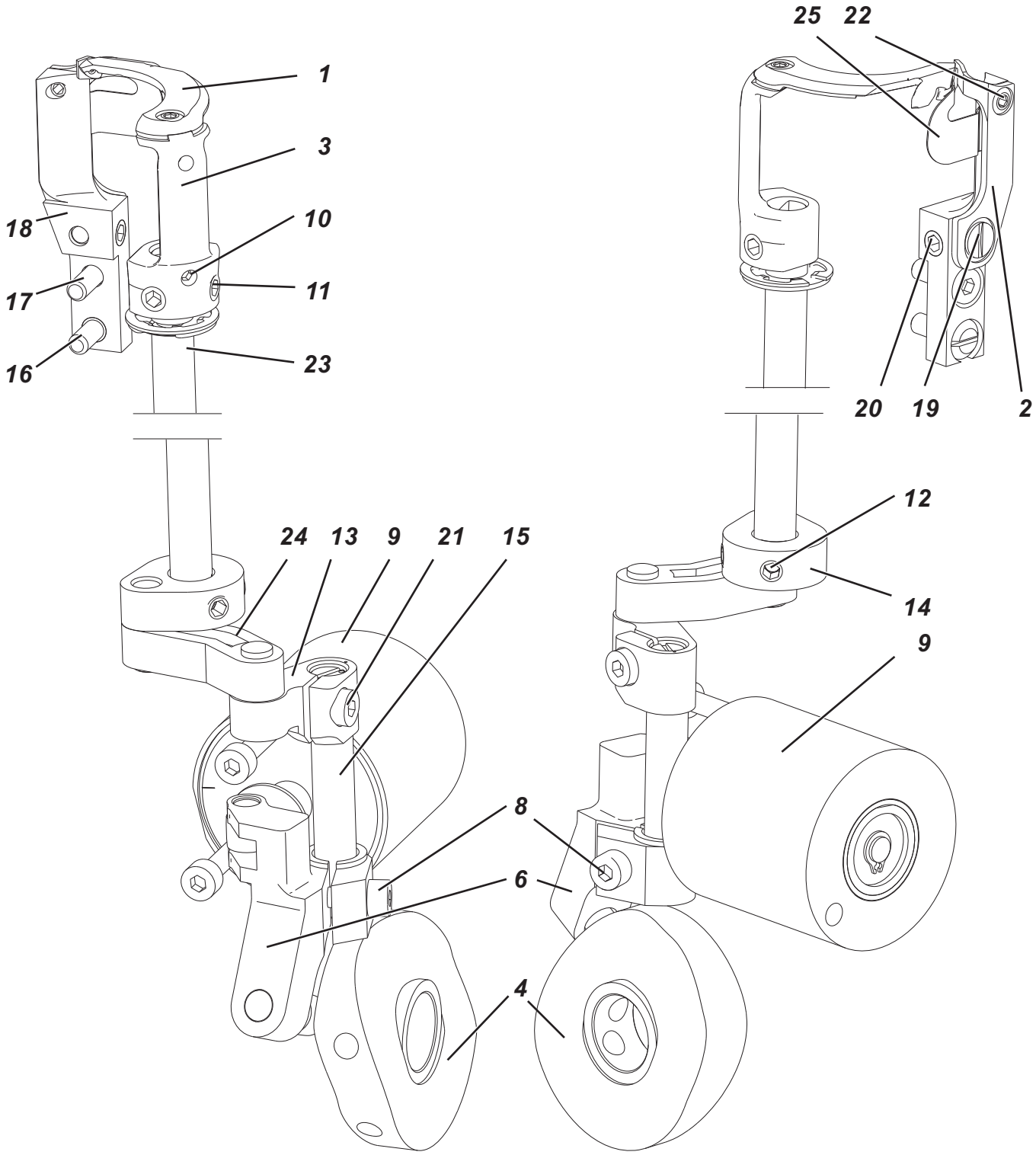
Correction of the winder's pretension position

The guide must be set in a way that the bobbin is evenly filled with thread over its whole width.

– Loosen screw **17**.
– Adjust the guide **16**.
– Tighten screw **17**.

2.14 Thread cutter

2.14.1 General



Position of the thread-pulling knife

The thread-pulling knife **1** cannot be shifted on the knife carrier **3**. This allows to exchange the thread-pulling knife without having to reset the cutting pressure.

Screws and levers

The screws **11** and **12** are fixed opposite the flat spot on the shaft **23**.

In order to avoid any collision the lever **24** must be fitted with its short side onto the lever **13 .**

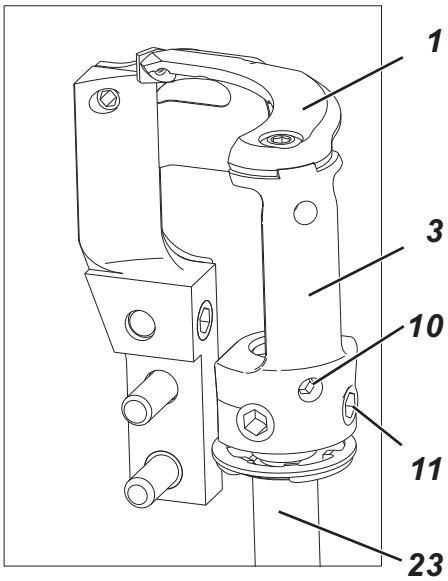
Control cam

The control cam **4** is designed to operate with large and XXL hooks.

ATTENTION!

The control cam **4** and the circlip **5** mutually serve as limit stops and should never be loosened at the same moment.

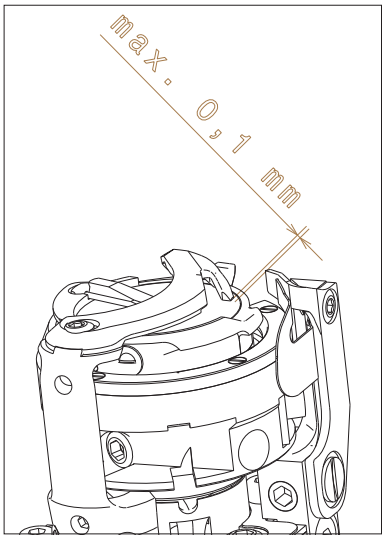
2.14.2 Thread-pulling knife height



The thread-pulling knife **1** is supposed to swing past the bobbin as close as possible. The distance between the thread-pulling knife and the bobbin should not exceed **0.1 mm**.

Correction

– Loosen the screws (2x) on the knife carrier **3**.
– Set the height of the thread-pulling knife **1** with screw **10** to the measure of **0.1 mm**.
– Tighten the screws (2x) on the knife carrier **3**. Make sure that the screw **11** sits on the surface of the shaft **23**.



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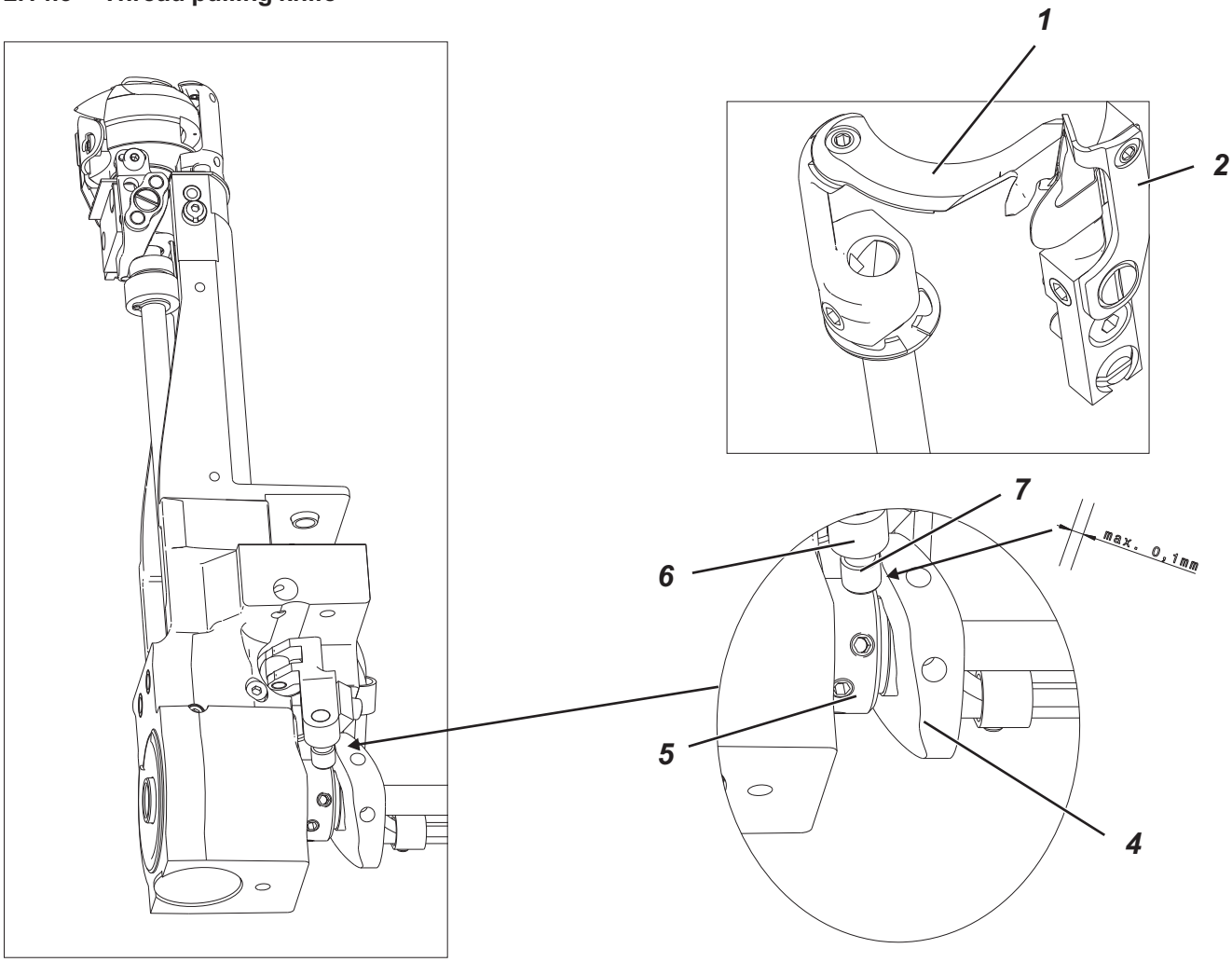
2.14.3 Thread pulling knife



Caution: Risk of injury !

Turn the main switch off !

Check and set the thread-pulling knife only with the sewing machine turned off.

Standard checking

In the thread-pulling knife's **1** resting position the distance between the control cam **4** (highest point) and the roller **7** should be **max. 0.1 mm**. At the same time the control cam **4** has to bear on the circlip **5**.

While in resting position the thread-pulling knife **1** should come flush with the blade of the counter-knife **2**.

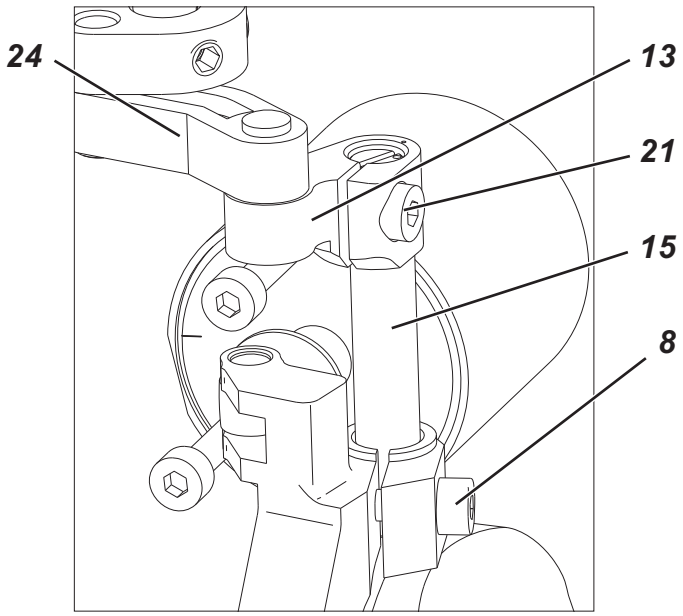
The thread-pulling knife carrier must not have any end play but should move freely.

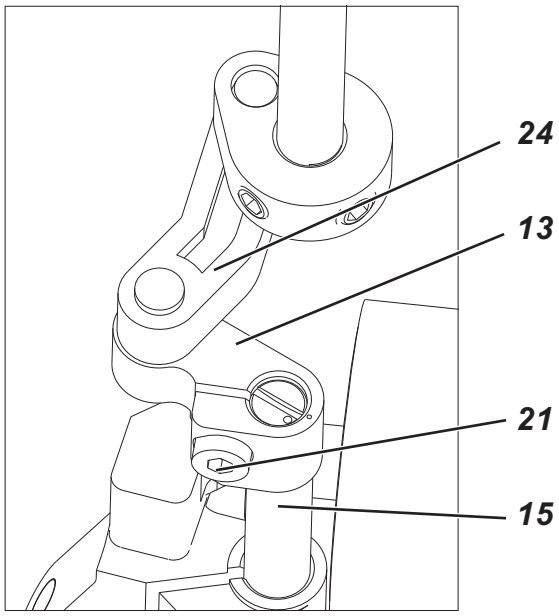
- Check whether the control cam **4** bears on the circlip **5**.
- Turn the machine until the control cam's **4** highest point is pointing to the roller **7**.
- Check the distance between the control cam **4** and the roller **7**.

Correction

- Loosen the screws (4x) on the circlip **5** and push it towards the hook bearing. Tighten the screws (4x) on the circlip **5** again in order to preserve the looping stroke's position unaltered.
- Loosen the screws (2x) on the control cam **4**.
- Turn the operating lever **6** against the lifting solenoid **9** until it stops.
- Set the distance between the roller **7** and the control cam **4** on the highest point of the control cam **4** to **0.1 mm**.
- Tighten the screws (2x) on the control cam **4** again.
- Loosen the clamping screw **8** on the operating lever **6**.
- Twist the thread-pulling knife **1** so that the tip of the thread-pulling knife **1** ends flush with the blade of the counter-knife **2**.
- Tighten the clamping screw **8**. Make sure not to give any end play.
- Loosen the screws (4x) on the circlip **5** and push it against the control cam **4** until it stops.
- Tighten the screws (4x) on the circlip **5**.
- **Check the looping stroke.**

2.14.4 Swing range of the thread-pulling knife





Caution: Risk of injury !

Turn the main switch off !

Check and set the swing range of the thread-pulling knife only with the sewing machine turned off.

Standard checking

The thread-pulling knife **1** must be able to exercise from its parking position the maximum swing angle without colliding with the hook cover. The swing range of the thread-pulling knife can be set with the eccentric shaft **15**. The slot side of the eccentric shaft **15**, that is punch-marked allows for the greatest eccentricity (see the top right diagram). The swing range of the thread-pulling knife **1** is the least when the eccentric shaft **15** has been rotated throughout 180°.

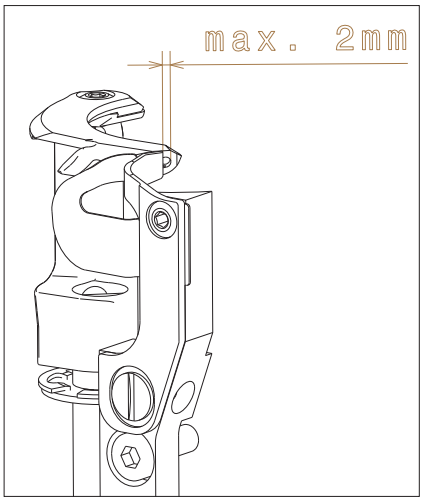
Correction of the swing range

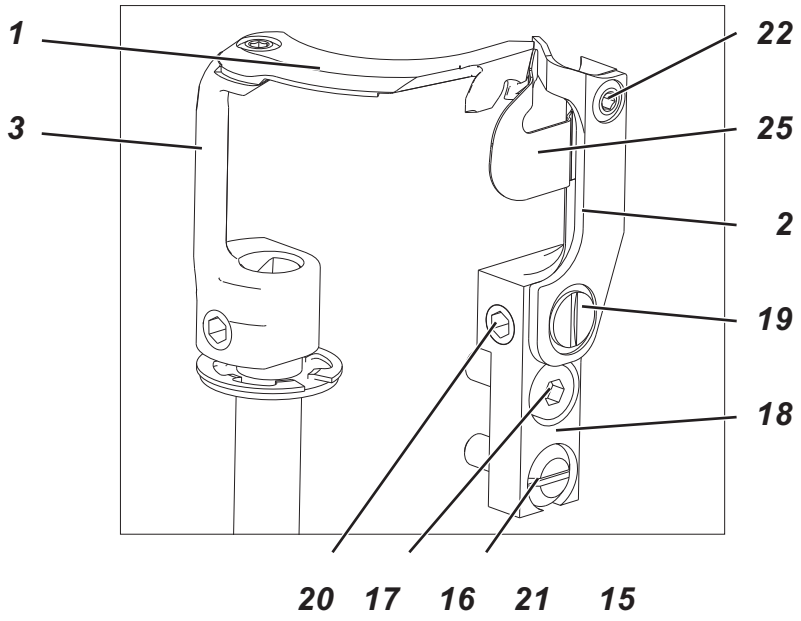
- Loosen the clamping screws **8** and **21**.
- Rotate the eccentric shaft **15** respectively.
- Tighten the clamping screws **8** and **21**.
- Check the swing range.

ATTENTION !

After correcting the swing range of the thread-pulling knife **1** the parking position of the thread-pulling knife **1** must be readjusted (chapter 2.14.3 thread-pulling knife).

2.14.5 Counter-knife and lower thread clamp





Caution: Risk of injury !

Turn the main switch off !

Check and set the counter-knife and lower thread clamp only with the sewing machine turned off.

Standard checking

The thread is to be trimmed safely with as little pressure as possible. A low trimming pressure keeps the knife wear low!
If the trimming pressure is too high, this can lead to the counter-knife's breaking!

It must be possible to safely trim two of the thickest sewing threads simultaneously.

- Turn the handwheel until the thread-pulling knife **1** can be swung out.
- Swing out the thread-pulling knife **1** manually.
  Push the operating lever **6** to the right against the control cam **4**.
- Insert two threads to be trimmed into the thread-pulling knife **1**.
- Continue turning the handwheel until the knife **1** has swung back.
- Check whether the sewing threads have been trimmed properly.
- Pull the threads out of the lower thread clamp **25** and, in doing so, check the clamping effect.
  If the clamping effect is too high or too low, the lower thread clamp must be reset again.

ATTENTION !

If the pressure of the counter-knife **2** is set to high this leads to an excessive knife wear and breakage.

A wrong lower thread clamp **25** setting can lead to problems with the sewing start.

Correction cutting pressure

- Turn the handwheel until the thread-pulling knife **1** can be swung out.
- Swing out the thread-pulling knife **1** until a distance of **about 2 mm** occurs between the two blades (see diagram).
- Loosen screw **17** and turn the counter-knife carrier **18** on the screw 16 against the thread-pulling knife.
- Loosen screw **20** and set the blade of the counter-knife **2** in parallel position to the blade of the thread-pulling knife **1** by using the eccentric **19**. The counter-knife **2** should tend to bear on the upper edge of the thread-pulling knife **1**.
- Tighten screw **20**.
- Tighten screw **17**.
- Check the trimming pressure.

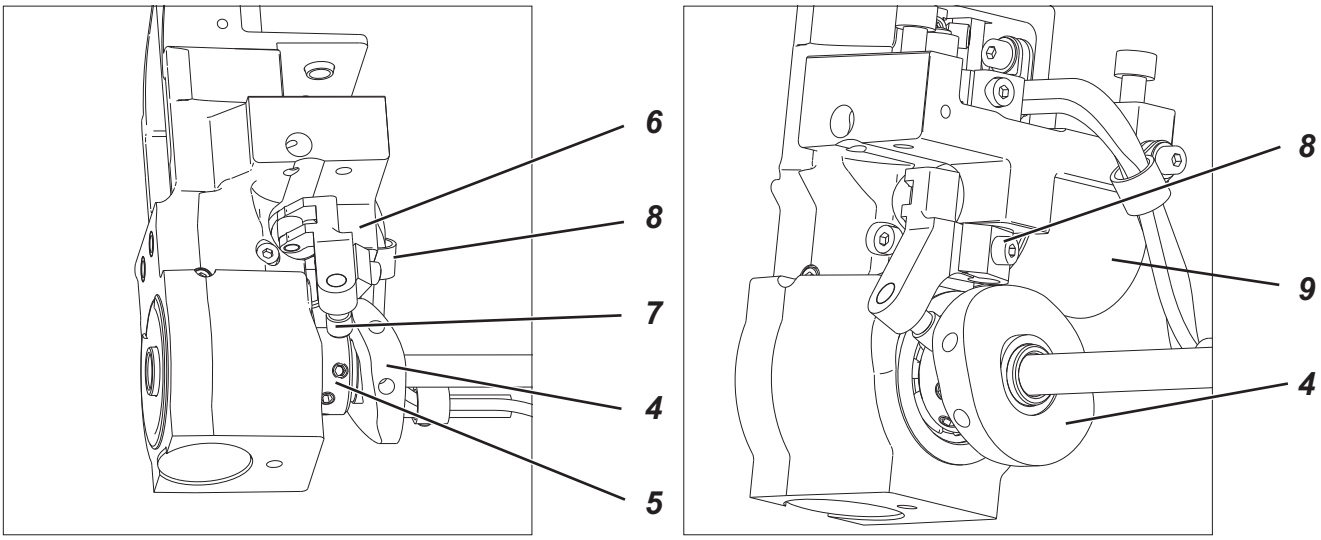
Note

Through the eccentric cut of the thread-pulling knife **1** a trimming pressure is automatically exerted when the two blades superpose.

Correction lower thread clamp

- Turn the handwheel until the thread-pulling knife **1** can be swung out.
- Swing out the thread-pulling knife **1** until a distance of **about 2 mm** occurs between the two blades (see diagram).
- Loosen screw **22**.
- Shift the thread clamp **25** until the thread clamp bears on the thread-pulling knife **1**.
- Tighten screw **22**.
- Check the clamping effect.

2.14.6 Trimming position



GB

Caution: Risk of injury !

Turn the main switch off !

Check and set the trimming position only with the sewing machine switched off.

Standard checking

With the factory setting the trimming position is the position “thread lever in its upper dead centre” (60° on the handwheel).

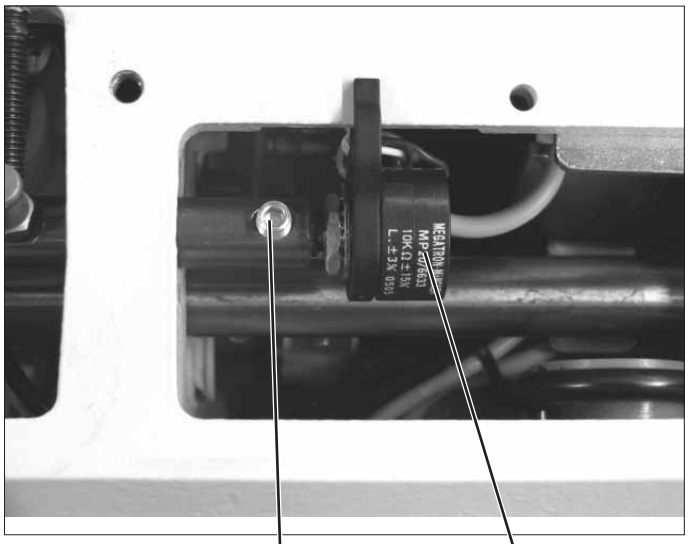
- Turn the handwheel until the thread-pulling knife **1** can be swung out.
- Swing out the thread-pulling knife **1** manually.
  In order to do so push the operating lever **6** with the roller **7** to the right against the control cam **4**.
- Insert a thread into the thread-pulling knife **1**.
- Turn the machine on the handwheel until the thread has been trimmed .
- Check whether the trimming did occur in the position “thread lever in its upper dead centre” (60° on the handwheel).

Correction

- Loosen the pressure screws (2x) on the control cam **4**.
- Swing out the thread-pulling knife **1** until its blade covers the blade of the counter-knife **2**.
- Turn the machine to the position “thread lever in its upper dead centre” (60° on the handwheel).
- Have the control cam **4** butt against the circlip **5** and turn it on the shaft until the control cam **4** gets into contact with the roller **7.**
- Tighten the screws (2x) on the control cam **4** in this position.

2.15 Potentiometer in the arm

Sewing machines with thread trimmer are equipped with a potentiometer in order to limit the driving speed of higher sewing foot strokes. Through this potentiometer the control recognizes the sewing foot stroke and limits the driving speed.



1 *2*

4 *3*

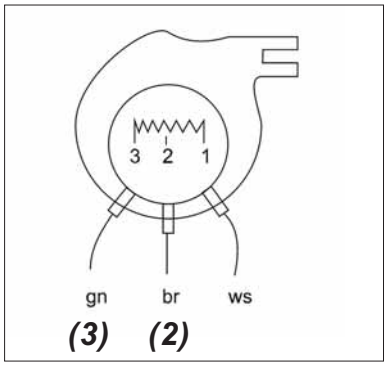
2.15.1 Basic setting without control panel

Set sewing machines without control panel according to the following description.

Caution: Risk of injury !

Turn the main switch off !

Set the potentiometer only with the sewing machine switched off.



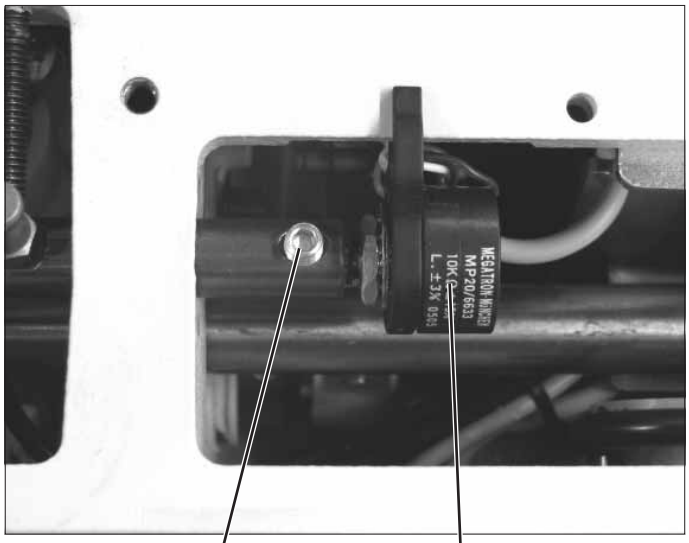
– Pull out the plug **3** of the potentiometer on the PCB **4**.
– Check the resistance on the terminals (2) and (3) of the potentiometer with an ohmmeter.
  Terminal (3) = green wire
  Terminal (2) = brown wire

  Measuring value: 7.1 to 7.3 kOhm

If the values mentioned are not correct the potentiometer's **2** position is to be adjusted.

– Loosen screw **1**.
– Set the shaft of the potentiometer **2** to the corresponding value.
– Push the potentiometer completely into the bore hole of the setting shaft and tighten screw **1**.
– Plug in plug **3** of the potentiometer on the PCB **4**.

2.15.2 Basic setting with the control panel V810 or V820



Caution: Risk of injury !

The adjustment of the potentiometer is done with the main switch switched on.

Work with utmost caution.

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- Loosen the stop screw **1** for the potentiometer **2**.
- Keep the key “**P**” pressed and switch on the main switch.
- Enter the technician level.
- Select the parameter “**F-188**”.
- Actuate the key “**E**”.
  The current Speedomat grade (e.g. 11) and the corresponding driving speed limitation (e.g. 2000) are displayed.
- Turn the potentiometer shaft until the Speedomat grade **“07"** and the corresponding maximum driving speed of e.g. 2500 rpm (depending on the subclass) is indicated on the display.
- Tighten the stop screw **1**.
- Check the setting.

2.15.3 Check the potentiometer adjustment

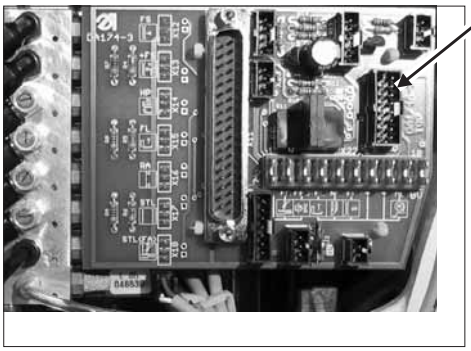
- Keep the key “**P**” pressed and switch on the main switch.
- Enter the technician level.
- Select the parameter “**F-188**”.
- Actuate the key “**E**”.
  The current Speedomat grade and the corresponding driving speed limitation are displayed.
- Set the setting wheel **1** to “**lowest lift stroke**”.
  The display should indicate the Speedomat grade **“07”**.
- Set the setting wheels **1** and **2** to “**maximum lift stroke**”.
  The display has to indicate the Speedomat grade **“21"**.
  For the driving speed the display indicates “EEEE”.

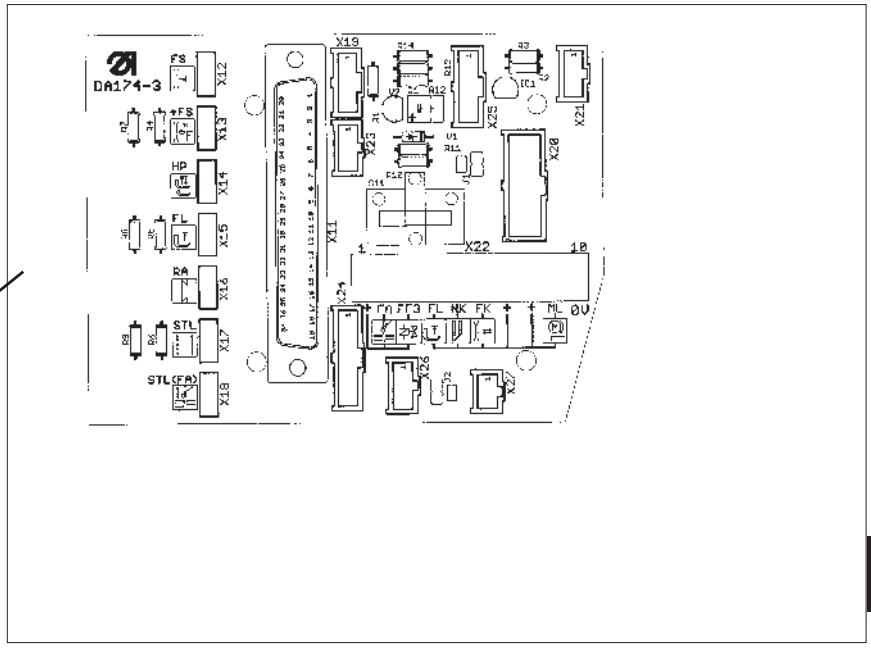
Note

If the Speedomat grades **“07”** and **“21”** cannot be attained the potentiometer must be readjusted.

2.16 Connections PCB

For the sake of completeness, the various connections of the PCB below are explained here.





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X11 Control Sewing Drive	X12 Solenoid Thread Tension	X13 Solenoid Additional Thread Tension
X14 Solenoid Stroke Adjustment Pneum.	X15 Solenoid Sewing Foot Lifting	X16 Solenoid Tack
X17 Solenoid Switching Stitch Length	X18 Solenoid Short Stitch	X19 HP-Potentiometer in the Arm (Speedomat)
X20 Key Block	X21 Light Barrier Seam End	X23 Speed Limitation Stitch Length
X22		
1 +24V	**2** Output Thread Trimmer	**3** Output Flip-flop 3 Adjustable via Parameter 275
4 Output Sewing Foot Lifting	**5** Output Needle Cooling	**6** Output Thread Clamp
7 u. 8 +24V	**9** Output Motor Running / Signal	**10** 0V
For each connection make sure to have one wire connected to the +24V and the other one to the output function.		
X24 Residual Thread Monitor	X25 Oil Level Monitoring	X26 Input Machine Run Blockage (Possibility of connecting an external ext. PIN 2/3)
X27 Output for max. 50 mA		
J2 Jumper 2	Closed: bridging the input machine run blockage X26 PIN 2/3 Open: an external “trigger” button must be connected to the X26 PIN 2/3.	

3. Oil lubrication

Caution: Risk of injury !

Oil can cause skin eruption.
Avoid a longer contact with the skin.
Wash yourself thoroughly after a contact.

ATTENTION !

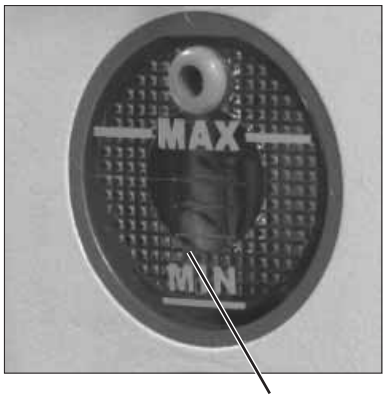
The handling and disposal of mineral oils is subject to legal regulations.
Deliver used oil to an authorized collecting station.
Protect your environment.
Be careful not to spill any oil..

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

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

DA-10 can be bought at the sales points of **DÜRKOPP ADLER AG** under the following parts number:

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



1

Lubrication of the machine head

- The machine head is equipped with a central oil wick lubrication. All bearings are supplied by the oil reservoir **1**.
- The oil level must not drop below the marking **"MIN"**.
- Fill up oil up to the marking **"MAX"** through the drill-holes in the inspection glass.

3.1 Hook lubrication

Caution: Risk of injury !

Turn the main switch off !

Adjust the hook lubrication only with the sewing machine switched off.

Make a functional test only with utmost caution when the sewing machine is running.

GB

Standard checking

The necessary oil quantity for the correct lubrication of the hook has been adjusted by the manufacturer. It has to be altered, only in exceptional cases.

The required oil quantity depends on the sewing threads to be processed and on the sewing material.

A piece of paper - preferably blotting paper - held below the hook has to be slightly sprayed with oil when sewing approx. 1 m of sewing thread and fabric.

Correction

– Adjust the oil quantity with the regulating screw **1** with the Allen key **2**.
  Turn the screw counter-clockwise = increase the oil quantity
  Turn the screw clockwise = reduce the oil quantity

ATTENTION !

The adjusted oil quantity only changes after a several minutes of operation.

3.2 Maintenance

Caution: Risk of injury !

Turn the main switch off !
The maintenance of the sewing machine must only be done when the machine is switched off.

The daily or weekly maintenance work (cleaning and oiling) to be carried out by the operators of the sewing machine is described in the operating instructions (part 1). It is only listed in the following table for the sake of completeness.

Maintenance work to be carried out	Operating hours			
	8	40	160	500
Sewing machine head				
- Remove sewing dust and thread waste	X			
- Check the oil level in the oil reservoir for the lubrication of the sewing machine head		X		
Sewing drive				
- Clean the motor fan grill	X			
- Check the condition and tension of the V-belt			X	
Pneumatic system				
- Check the water level in the pressure regulator		X		
- Clean the filter element of the compressed air maintenance unit				X
- Check the tightness of the pneumatic system				X