

367

Spezialnähmaschine

Serviceanleitung

[Service Instructions](#)

Instructions de service

Instrucciones de servicio

Instruções de serviço

Istruzioni per il servizio

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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.

Service instructions class 367

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1. General notes

The service instructions on hand describe the adjustment of the special sewing machine 367.



ATTENTION !

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



Caution: Danger of injury !

In case of repair, alteration or maintenance work switch off 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 instruction manual on hand 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.

GB

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 367 are provided with flat spots. This facilitates the adjustment considerably.

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

1.1 Gauges

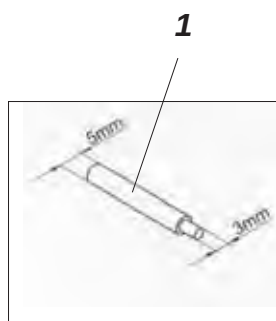
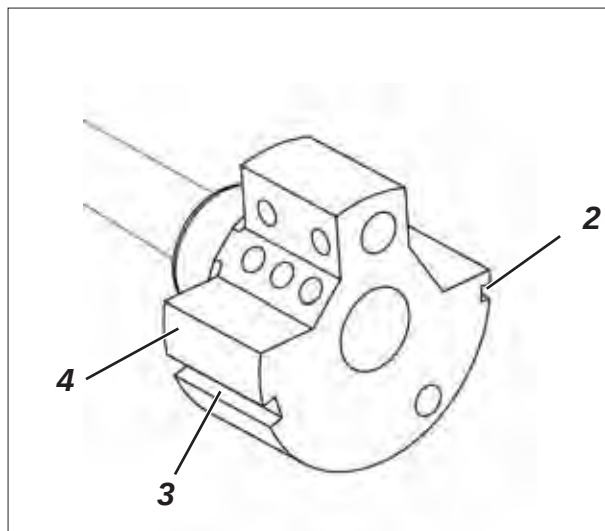


1

The locking peg 1 required for adjusting the machine belongs to the standard accessories. It is located at the bottom side of the oil pan.

- Tilt machine head to the back.
- Take the locking peg 1 out of the fixture.
- Tilt machine head back.

1.2 Description of the locking positions



With the locking peg 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 peg Ø 5 mm for large groove

Position II = Locking peg Ø 3 mm for small groove

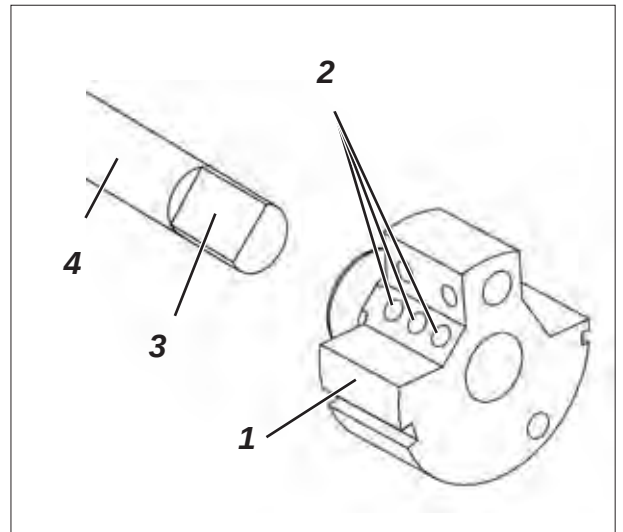
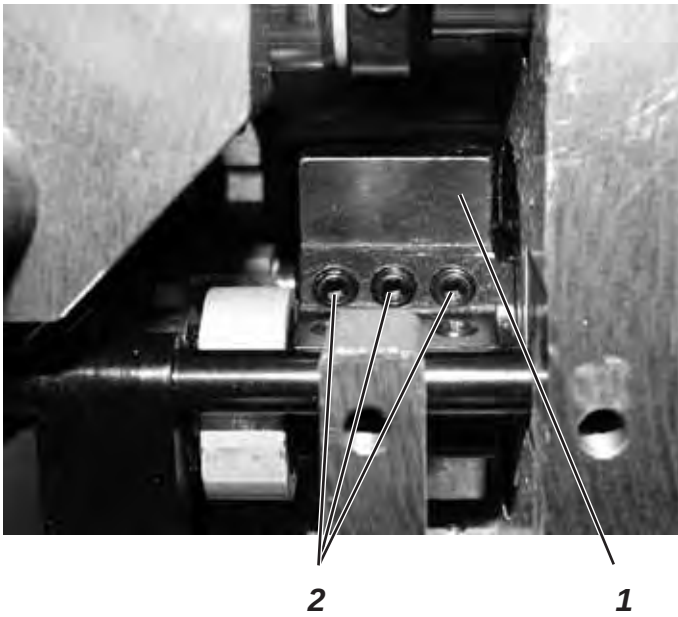
Adjustments to be done in these two positions:

Position I Looping stroke, needle bar height

Position II Standstill of the feed-dog when moving the stitch regulator linkage (zero position of gear)

2. Sewing machine

2.1 Position of the arm shaft crank on the arm shaft



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Caution: Danger of injury !

Switch off main switch.

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

Standard checking

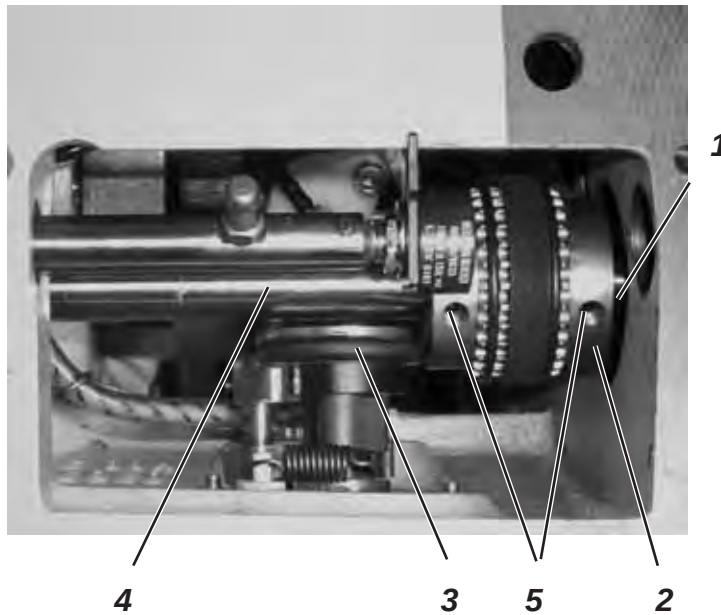
The arm shaft crank 1 is fastened on the arm shaft 4 with the three screws 2. The screws must sit on the flat spot 3.

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



Caution: Danger of injury !

Switch off main switch.

Check and set the position of the upper toothed belt wheel only when the machine is switched off.

Standard checking

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

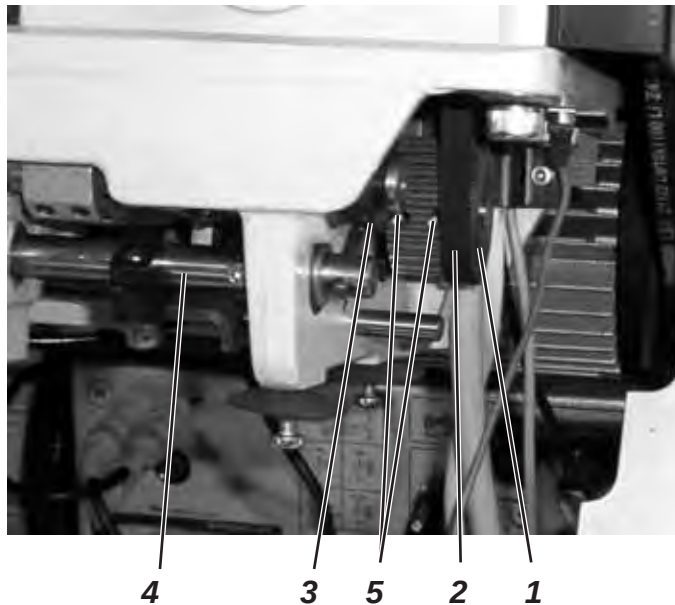
The distance between the toothed wheel 2 and the bobbin winder wheel 3 must amount to 0.8 mm when the bobbin winder is switched off.

- Check distance between toothed belt wheel 2 and bobbin winder wheel 3 by means of a feeler gauge.

Correction

- Loosen core pins 5 in the toothed belt wheel 2.
- Turn toothed belt wheel 2 until the screws sit on the flat spot 1 of the arm shaft 4.
- Set lateral distance of 0.8 mm between toothed belt wheel 2 and bobbin winder wheel 3 by a feeler gauge.
- Tighten core pins 5 in the toothed belt wheel 2.

2.2.2 Position of the lower toothed belt wheel



Caution: Danger of injury !

Switch off main switch.

Check and adjust position of the lower toothed belt wheel only when the sewing machine is switched off.

GB

Standard checking

The lower toothed belt wheel 1 must abut on the bearing 3.

The core pins 5 in the toothed belt wheel 1 must sit on the flat spot of the lower shaft 4.

- Check whether the toothed belt wheel abuts on the bearing.

Correction

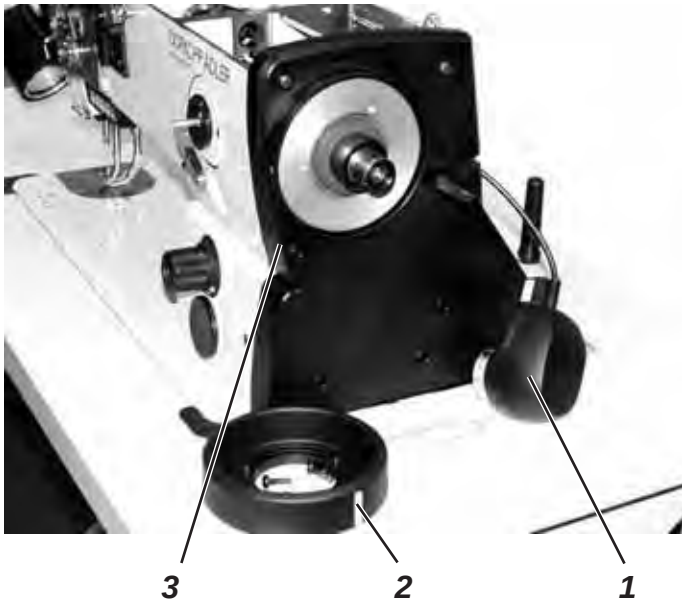
- Pull off toothed belt from the lower toothed belt wheel 1.
- Loosen core pins in the toothed belt wheel.
- Turn toothed belt wheel 1 until the screws sit on the flat spot of the lower shaft 4.
- Hold lower shaft 4 and push toothed belt wheel 1 to the left as far as it will go.
- Screw core pins 5 tight in the toothed belt wheel 1.
- Put the toothed belt 2 on the toothed belt wheel 1 again.



ATTENTION Danger of breakage !

After changing or removing the toothed belt check the following: Hook adjustment (see chapter 2.5), feeding motion of the feed-dog (see chapter 2.3.3) and lifting motion of the feed-dog (see chapter 2.3.4).

2.2.3 Change the toothed belt



Caution: Danger of injury !

Switch off main switch.

Change the toothed belt only when the machine is switched off.



Remove toothed belt

- Take off synchronizer 1.
- Screw off handwheel 2.
- Screw off belt protection 3.
- Loosen screws at the handwheel flange 4.
- Pull out flange 4 together with the bearing by means of two screwdrivers.
- Tilt machine head to the back.
- Pull off toothed belt 6 from the lower toothed belt wheel.
- Tilt machine head to the front again.
- Pull toothed belt 6 out through the opening 5.

Mount toothed belt

- Reinsert toothed belt in reverse order.

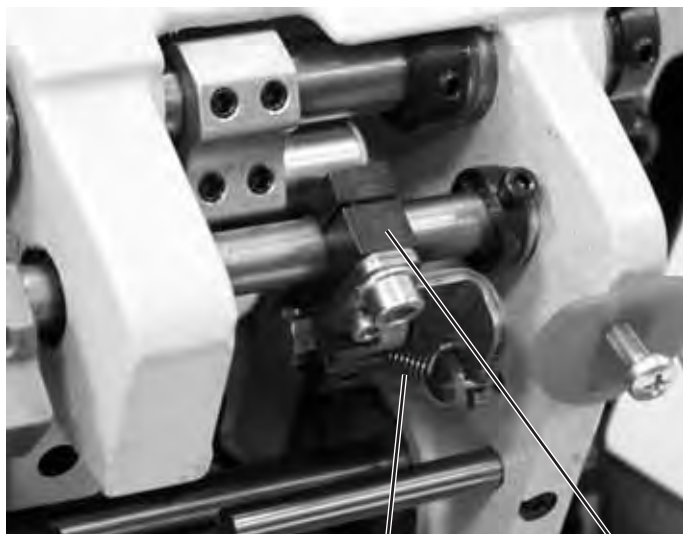


ATTENTION: Danger of breakage !

After changing or removing the toothed belt check the following: Hook adjustment (see chapter 2.5), feeding motion of the feed-dog (see chapter 2.3.3) and lifting motion of the feed-dog (see chapter 2.3.4).

2.3 Bottom feed and stitch regulator gear

2.3.1 Basic adjustment of stitch adjustment (subclasses 367-170115; -170315 and 367-180115; -180315)



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1



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Caution: Danger of injury !

Switch off main switch.

Set basic adjustment of the stitch adjustment only when the sewing machine is switched off.

Standard checking

When the setting wheel 4 is in zero position, the stitch regulator gear should have the least possible clearance.

- Set stitch length “0” at the setting wheel 4 (with the subclasses 367-170315 and 367-180315 use the upper setting wheel).
- Check clearance of the stitch regulator gear at the stitch regulator lever 1.

Correction

- Unhook spring 2.
- Unscrew screw 3 and pull off setting wheel 4.
- Turn shaft 6 to the right by means of a 10 mm open-end wrench until the stitch regulator lever 1 has the least possible clearance.



6



ATTENTION: Danger of breakage !

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

- Set scale 5 to “0”.
- Put setting wheel 4 on again and tighten with screw 3.
- Put spring 2 in again.
- Check clearance of the stitch regulator lever 1.



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Adjust eccentric

The eccentric 7 has to be adjusted in such a way that the axes of the two markings 9 and 10 are on a similar level.

- Loosen screw 8.
- Turn eccentric in such a way that the axes of the two markings 9 and 10 are intersecting.
- Tighten screw 8.

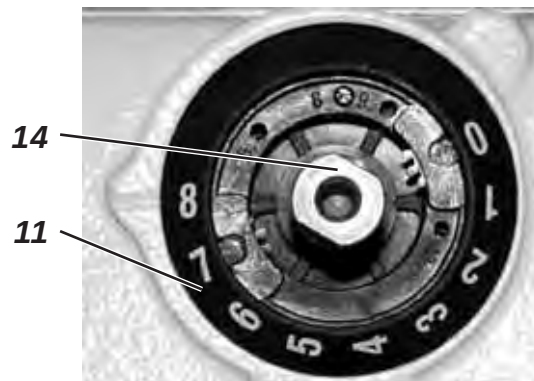
2.3.2 Adjust the 2nd stitch length (subclass 367-170315 and 367-180315)



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11

Only adjust the 2nd stitch length after the stitch regulator gear has been adjusted.

- Turn the the **upper** setting wheel to “4”.
- Loosen the screw 13 and remove the setting wheel 12.
- Turn cautiously the shaft 14 clockwise as far as it will go using a 10 mm open-end wrench.
- Twist the scale 11 to “4”.
- Put the setting wheel 12 back again and fix it using the screw 13.

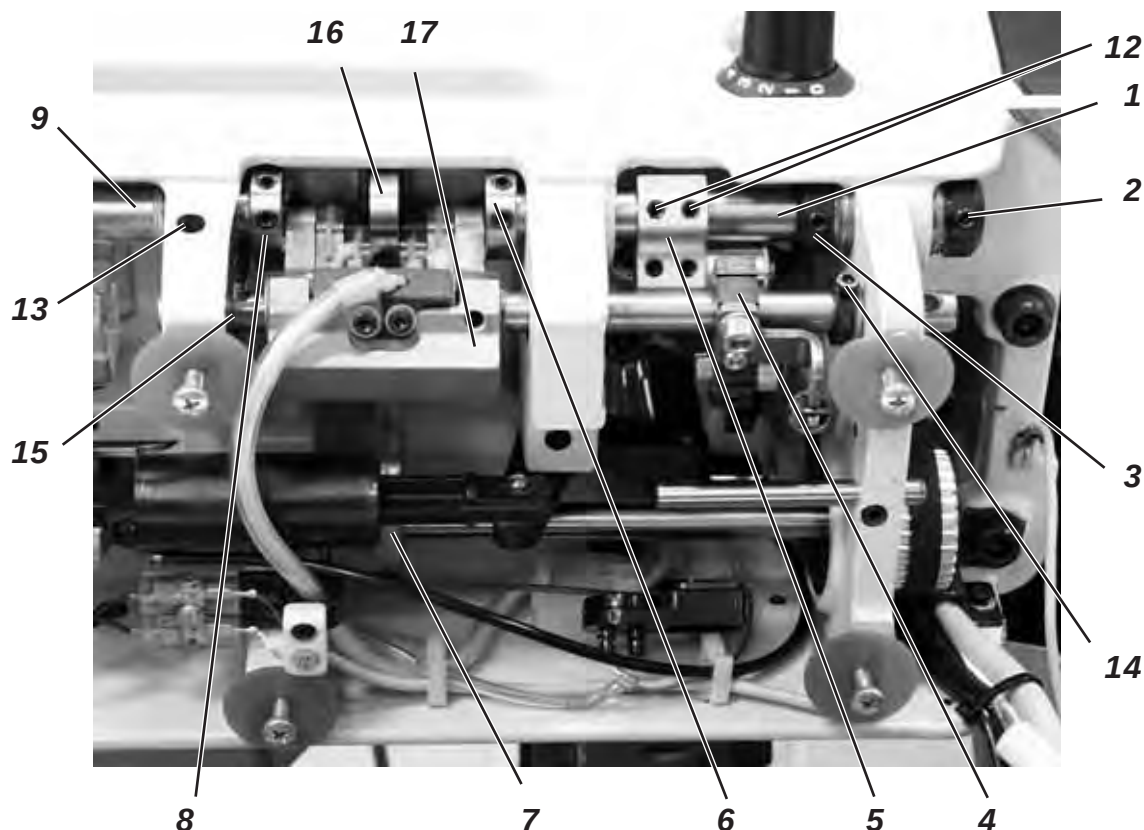


Caution: Danger of injury !

Switch off main switch.

Set the stitch adjustment basic setting only when the sewing machine is switched off.

2.3.3 Stitch regulator gear



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Caution: Danger of injury !

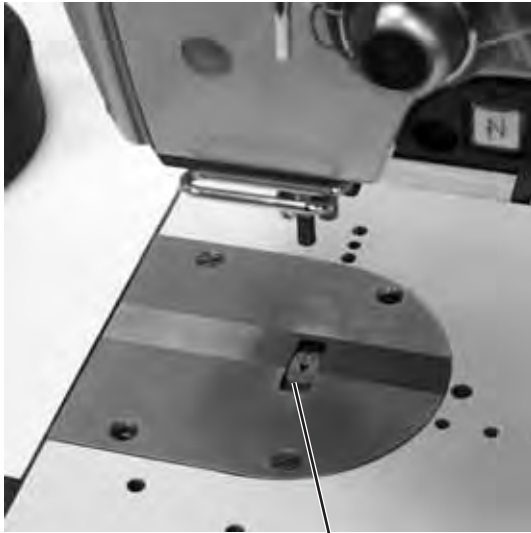
Switch off main switch.

Adjust bottom feed and stitch regulator gear only when the sewing machine is switched off.



11 10

- Set stitch regulator lever and setting wheel respectively on “0”.
- Loosen all screws at the left sliding shaft 9 and the right sliding shaft 1:
 - at the adjusting rings 2,3 and 14
 - screws 12 at lever 5
 - at the shaft supports 6 and 8 of the gear linkage
- Loosen screw at the stitch regulator block 4.
- Loosen screws at the pusher eccentric 7.
- Loosen screw 13 for bearing bolt 15.
- Push right sliding shaft 1 into the shaft support 6 so far that there is a distance of 0.1 mm from its left side.
- Tighten screws at the shaft support 6.
- Align gear frame 16 laterally in such a way that the gear linkage with the two shaft supports 6 and 8 has equal clearance on the left and on the right.
- Tighten adjusting rings 2 and 3.
- Set gear on “0”. This can be achieved by twisting the frame 17. The connectors 10 and 11 must be in parallel position.
- Tighten screws at the stitch regulator block 4.
- Place frame 17 axially close to the bearing bolt 15 (tighten with screw 13) and to the adjusting ring 14.
- Tighten screws at the pusher eccentric 7.



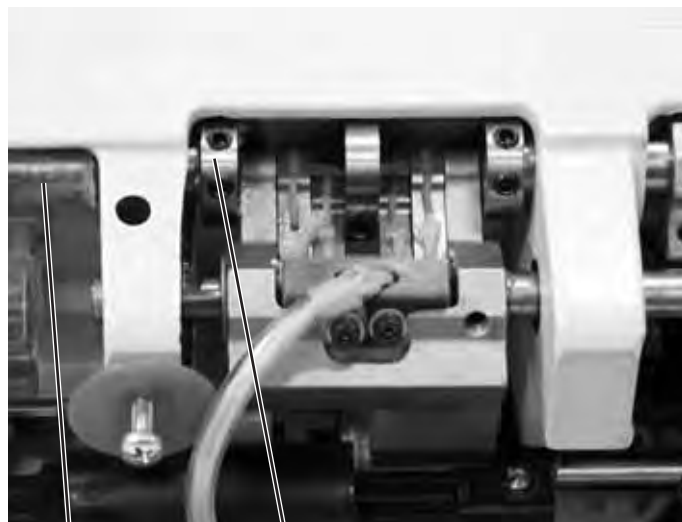
14



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12

- Loosen screws 12.
- Align feed-dog support 13 in such a way that the feed-dog 14 in the throat plate has an equal lateral clearance.
In longitudinal direction it should stand approximately in the center.
- Tighten screws at the left shaft support 8 of the gear linkage.
- Tighten screw 12.



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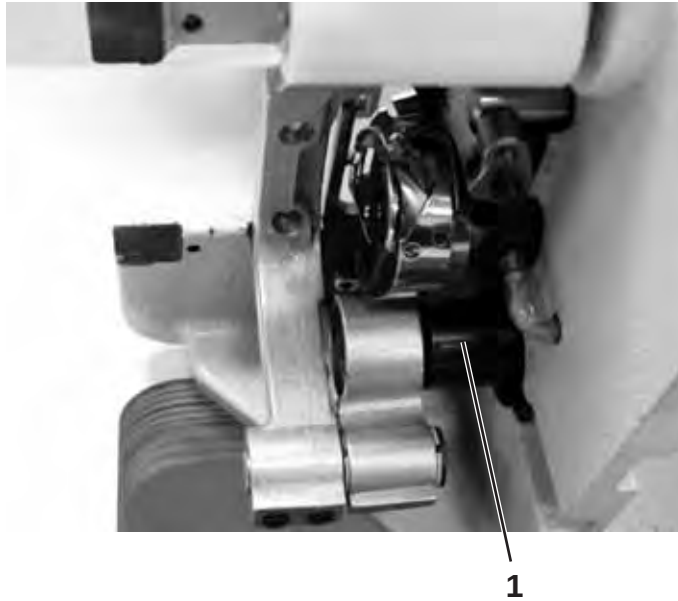


ATTENTION: Danger of breakage !

The shaft 9 must **not** project from the shaft support 8 of the gear linkage.

If this is the case, the whole gear has to be shifted to the right.

2.3.4 Lifting motion of the feed-dog



Caution: Danger of injury !

Switch off main switch.

Adjust feeding motion of the feed-dog only when the sewing machine is switched off.

GB

Standard checking

In the following needle positions the feed-dog should have the same position to the throat plate:

- When the point of the needle sticks into the feed-dog
- When the point of the needle comes out of the feed-dog

- Set stitch length to “0”.
- Turn handwheel and check the feed-dog motion.

Correction

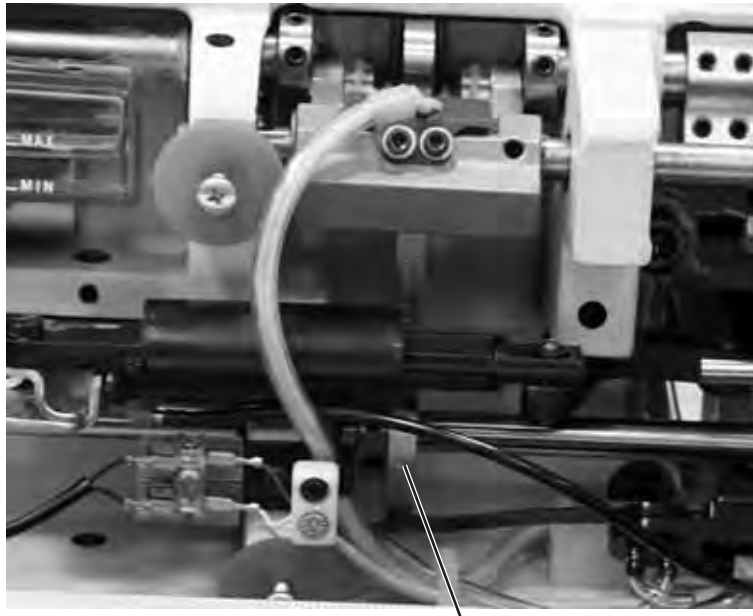
Basic adjustment

- Set stitch length to “0”.
- Loosen core pins.
- Turn handwheel until the needle bar is in its highest position.
- Turn lifting eccentric in such a way that its screws point down looking from the machine plate.
- Tighten core pins.

Fine adjustment

- Loosen core pins at the lifting eccentric 1.
- Turn lifting eccentric.
- Tighten core pins in the lifting eccentric.
- Check adjustment otherwise repeat it again.

2.3.5 Feeding motion of the feed-dog



1



Caution: Danger of injury !

Switch off main switch.

Adjust lifting motion of the feed-dog only when the sewing machine is switched off.

Standard checking

When the machine is arrested in position II (locking peg with Ø 3 mm is inserted) the feed-dog must not move when the stitch regulator lever and the stitch length setting wheel respectively are moved.:

- Arrest machine in position II.
- Move stitch regulator lever and stitch length setting wheel respectively and check whether the feed-dog stands idle.

Correction

- Loosen screw at the pusher eccentric 1.
- Arrest machine in position II.
- Set stitch regulator to stitch length “max”.

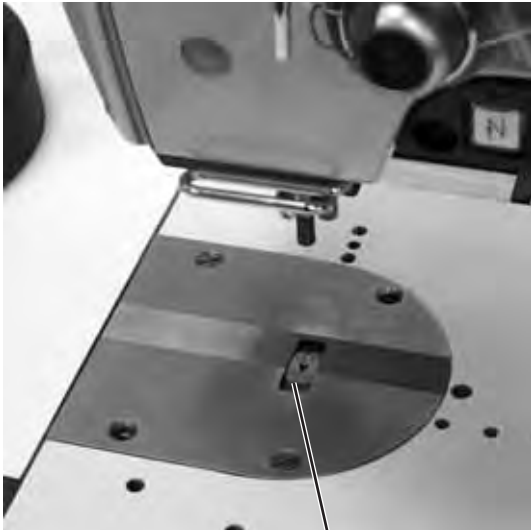
Basic adjustment

- Adjust pusher eccentric 1 in such a way that its screws point down looking from the machine plate.
- Tighten screws at the pusher eccentric 1.

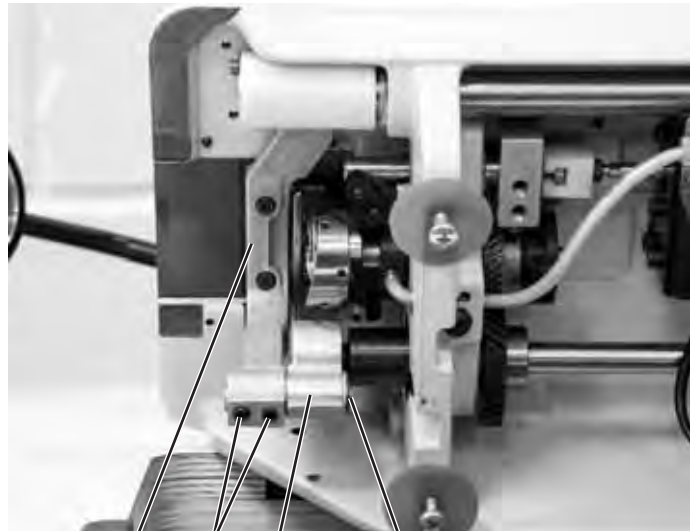
Fine adjustment

- Move stitch regulator lever and stitch length setting wheel respectively and check whether the feed-dog stands idle.
- If necessary, readjust pusher eccentric 1.

2.3.6 Feed-dog height



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4 3 2 1



Caution: Danger of injury !

Switch off main switch.

Check and adjust height of the feed-dog only when the sewing machine is switched off.

GB

Standard checking

For a safe material feed the feed-dog 5 in its highest position must project by 0.5 mm from the throat plate surface.

The adjusting eccentric 1 has to be set in such a way that the step between the feed-dog support 4 and the lifting strap 2 on the front is as small as possible.

- Set stitch length “0”.
- Turn handwheel until the feed-dog 5 has reached its highest position.
- Check height of feed-dog 5.

Correction

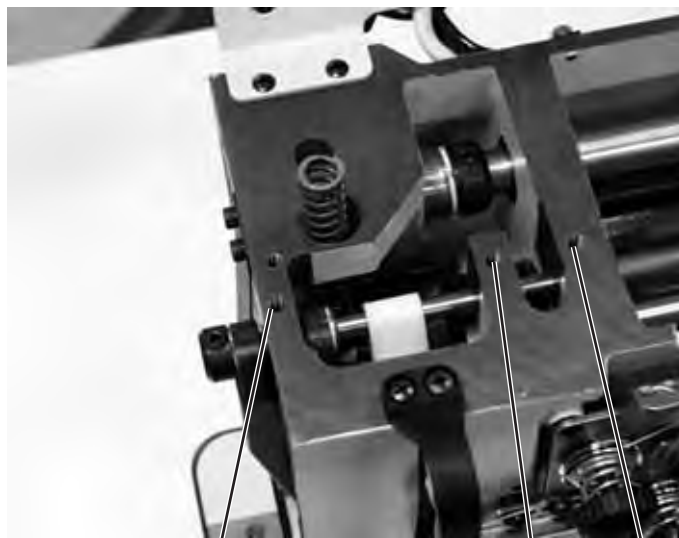
- Set stitch length “0”.
- Turn handwheel until the feed-dog 5 has reached its highest position.
- Loosen screws 3.
- Move the feed-dog support 4 upward by means of the eccentric 1 until the feed-dog projects from the throat plate surface by 0.1 mm.
- Shift the eccentric 1 to the left so that the feed-dog support 4 has no lateral clearance to the strap 2.
- Tighten screws 3.

2.4 Needle bar linkage

2.4.1 Alignment of the needle bar linkage



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Caution: Danger of injury !

Switch off main switch.

Check and adjust needle bar linkage only when the sewing machine is switched off.

Standard checking

At the stitch length "0" the needle must laterally pierce in the center of the needle hole of the feed-dog.

- Set stitch length to "0".
- Insert a new needle.
- Move needle bar down by handwheel.
- Check position of the needle in the needle hole.

Correction

- Unscrew sewing foot pressure screw 4.
- Loosen screws 1 and 2.
- Loosen screw 3 slightly.
The screw sits on a flat spot.



6



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- Remove plastic plugs from the drill-holes 6.
- Push Allen wrench 3 mm through the drill-hole 6 and loosen clamping screws at the lever 5.
- Align needle bar linkage as to the needle hole.
- Tighten screws at the lever 5.
- Tighten screw 3.
- Tighten screws 1 and 2.
- Screw in sewing foot pressure screw 4 and adjust sewing foot pressure (see chapter 2.7.3).

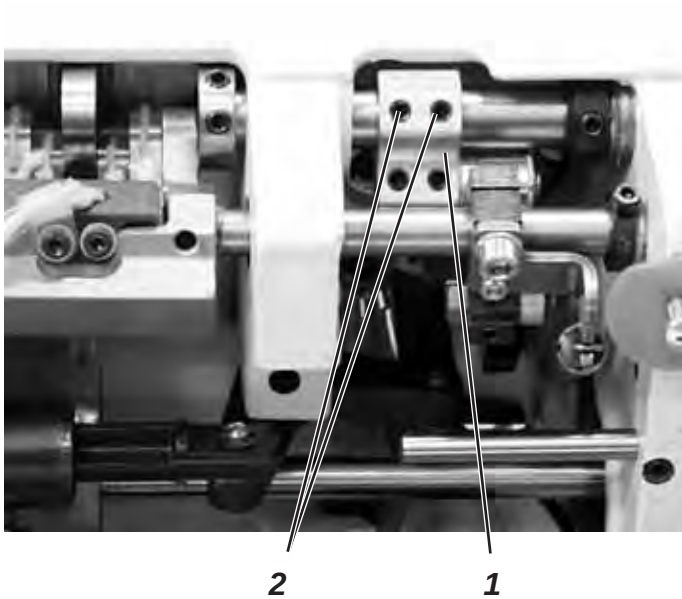
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ATTENTION: Danger of breakage !

Check the distance between hook tip and needle after the lateral alignment of the needle bar linkage. If needed, correct hook tip distance (see chapter 2.5).

2.4.2 Needle penetration in the feed-dog



Caution: Danger of injury !

Switch off main switch.

Check and adjust needle penetration in the feed dog only when the sewing machine is switched off.

Standard checking

When a stitch length of "0" is set, the needle should pierce in the center of the needle hole of the feed-dog.

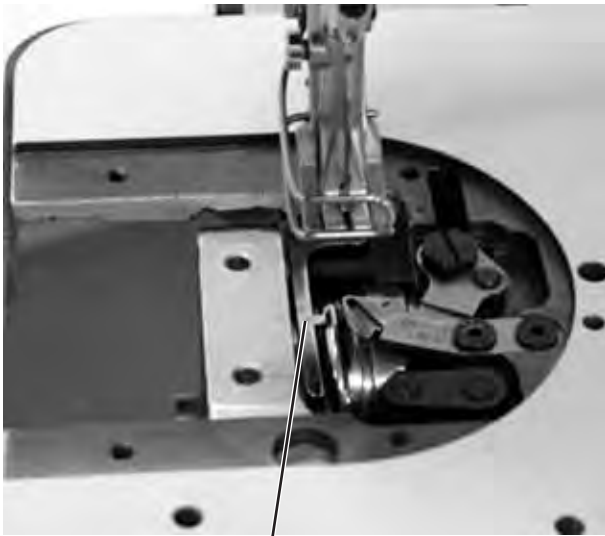
- Set stitch length to 0".
- Insert a new needle.
- Move needle bar down through the handwheel, until the needle sits into the material in the feed-dog.
- Check position of the needle in the needle hole.

Correction

- Loosen screws 2 at the block 1.
- Align needle bar linkage as to the needle hole.
- Tighten screws 2 again.

2.5 Hook, looping stroke and needle bar height

2.5.1 Looping stroke, distance between hook tip and needle



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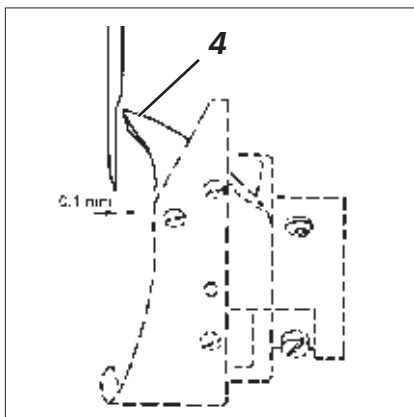
GB



Caution: Danger of injury !

Switch off main switch.

Check and adjust looping stroke and distance between hook tip and needle only when the sewing machine is 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 is at the level of the middle of the needle. The looping stroke is 2 mm.

In looping stroke position the distance between the hook tip and the hollow groove of the needle must amount to 0.1 mm.

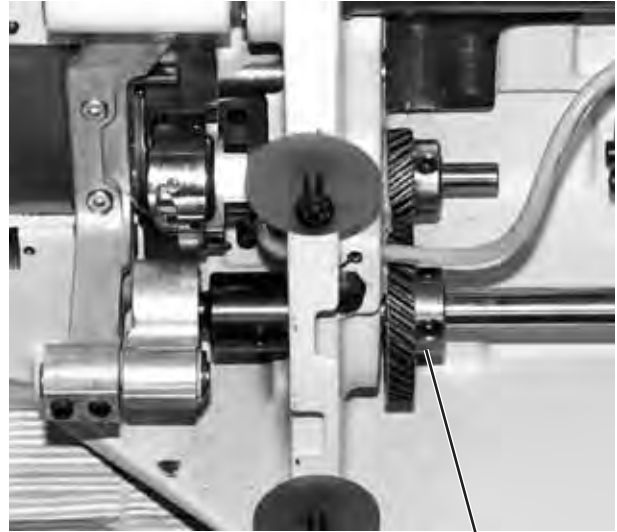
- Arrest machine head in position I (retention pin Ø 5 mm in the large groove).
- Set stitch regulator lever and stitch length setting wheel respectively to "0".
- Check position of the hook tip to the needle.

Correction of the distance between hook tip and needle

- Remove throat plate, feed-dog and centerpiece support 1.
- Take the bobbin case out of the hook.
- Loosen hook fastening screws with an Allen wrench 3 mm. The screws are reached through the slotted hole 2. The first screw in rotation direction is located on a flat spot.
- Insert a new needle.
- Set stitch regulator lever and stitch length setting wheel to "0".
- Move needle bar in looping stroke position. (Position I)
- Position hook tip 4 at the level of the middle of the needle. The distance between hook tip 4 and the hollow groove of the needle must amount to 0.1 mm.
- Tighten hook fastening screws.



6



5

Correction of the looping stroke position

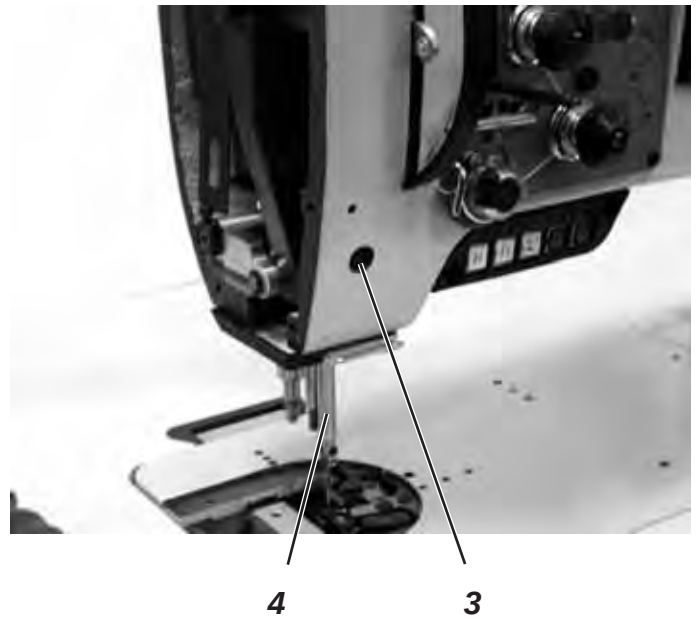
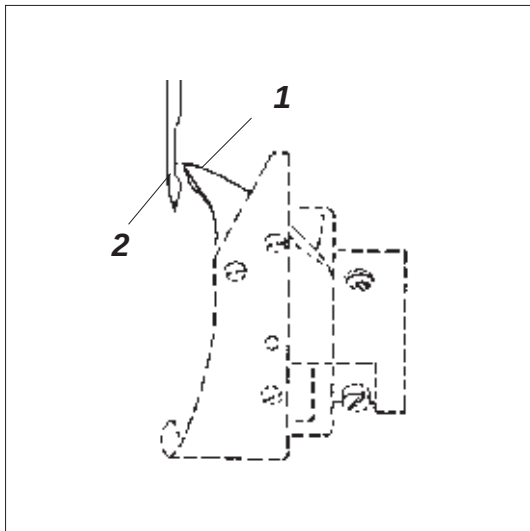
- Loosen screws at the toothed wheel 5.
- Arrest machine head with locking peg Ø 5 mm in Position I (large groove).
- Set stitch regulator lever and stitch length setting wheel respectively to "0".
- Turn hook in such a way that the hook tip 6 is at the level of the middle of the needle.
- Tighten screws at the toothed wheel 5.
- Mount the dismantled parts together (cf. chapter 2.6)



ATTENTION: Danger of breakage !

The toothed wheel must not abut on the bearing bush.
Shift toothed wheel away from the bearing bush a little bit.

2.5.2 Needle bar height



Caution: Danger of injury !

Switch off main switch.

Check and adjust needle bar height only when the sewing machine is switched off.

GB

Standard checking

The needle bar height should be set in such a way that - at the largest stitch length and in looping stroke position - the hook tip stands in the lower third of the hollow groove.

- Set stitch regulator lever and stitch length setting wheel respectively to “**largest stitch length**”.
- Arrest sewing machine in position I (looping stroke position).
- Check position of the needle to the hook tip.

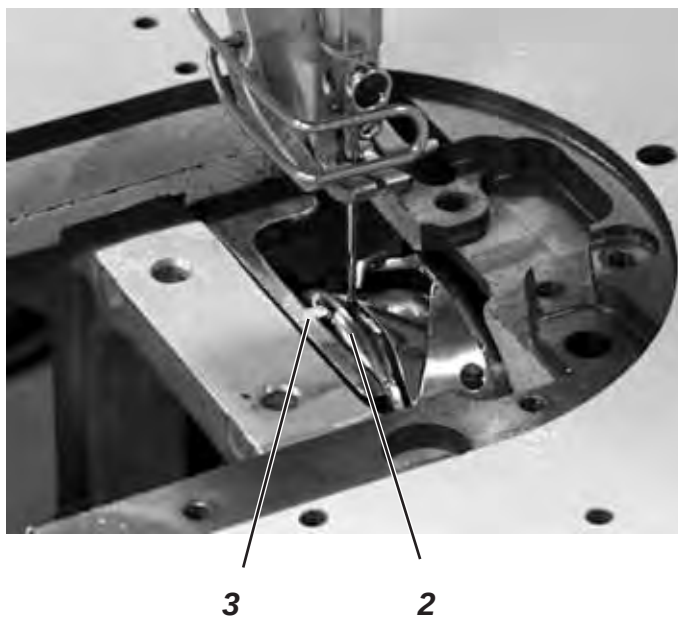
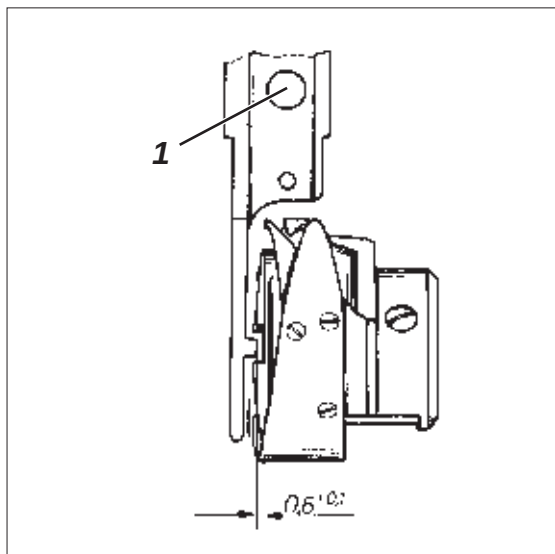
Correction

- Set stitch regulator lever and stitch length setting wheel respectively to “**largest stitch length**”.
- Arrest sewing machine in position I (looping stroke position).
- Remove plug from the drill-hole 3.
- Loosen needle bar fastening screw (Phillips head screw).
- Shift needle bar 4 with needle 2.
The needle bar must not be twisted when being shifted.
The hollow groove must point to the hook tip.
- Tighten needle bar fastening screw.
- Press plug into drill-hole 3.

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

- Damage to the hook tip.
- Jamming of the needle thread between needle and needle protection.
- Skipped stitches and thread breakage.

2.6 Bobbin case holder



Caution: Danger of injury !

Switch off main switch.

Check and correct bobbin case holder only when the sewing machine is switched off.

Standard checking

Between the bobbin case 2 and the lug 3 of the bobbin case holder there must be sufficient clearance so that the needle thread can be pulled through without hindrance.

Correction

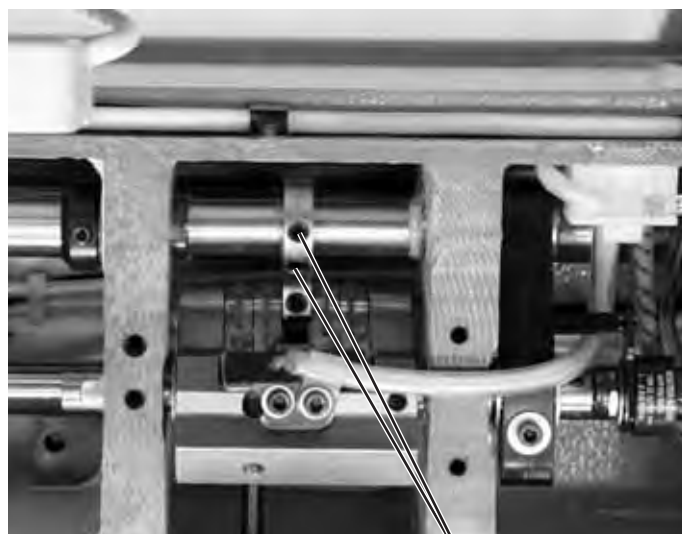
- Loosen screws 1.
- Align bobbin case holder (distance 0,6 mm see sketch).
- Tighten screws 1.

2.7 Feeding foot and presser foot

2.7.1 Stroke of feeding foot and presser foot



1



2

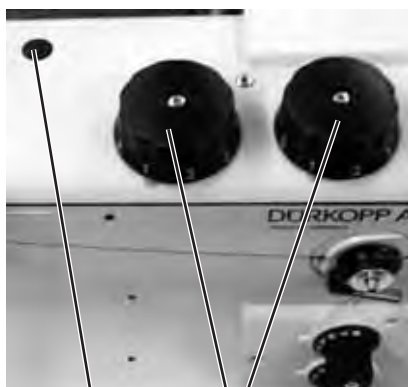


Caution: Danger of injury !

Switch off main switch.

Check and adjust stroke only when the sewing machine is switched off.

GB



4

3

Standard checking

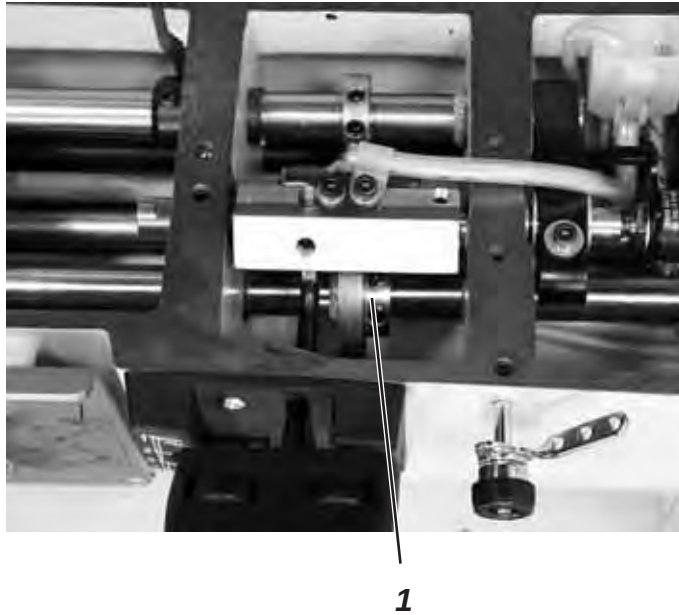
The strokes of both feet should be equally high when the sewing foot stroke is set to position "3".

- Set stitch regulator lever and stitch length setting wheel respectively to "0".
- Set medium sewing foot pressure.
- Set sewing foot stroke lever 1 to position "3" (on 367-170115 and 367-180115) or both setting wheels 3 to position "3" (on 367-170315 and 367-180315) .
- Turn handwheel and compare the strokes.
The strokes of the feeding foot and the presser foot should be equally high.

Correction

- Turn handwheel.
The foot with the higher stroke should be slightly lifted.
- Loosen screws 2.
On the **class 367-170315 and 367-180315**, do not take the cover off the housing.
The screws 2 can be reached through the hole 4 after removing the blanking plug.
If the presser foot had been lifted, it is lowered by the spring.
If the feeding foot had been lifted, it has to be pressed downward by hand.
- Tighten screws 2 again.
- Check whether both strokes are equally high.
If this is not the case, correct the adjustment.

2.7.2 Lifting motion of the feeding foot



Caution: Danger of injury !

Switch off main switch.

Adjust lifting motion only when the sewing machine is switched off.

Precondition

- The same stroke is set for the sewing foot and the presser foot (see chapter 2.7.1).
- The moment of the feed-dog lifting motion is correct (see chapter 2.3.4).

Standard

The feeding foot should reach the throat plate level simultaneously with the following elements:

- with the feed-dog moving upward
- with the needle point moving downward

Checking

- Set maximum stitch length.
- Set highest sewing foot stroke.
- Turn handwheel and observe the lifting motion.
The above-mentioned points must be given.

Correction

- Loosen two screws at the lifting eccentric 1.
- Turn lifting eccentric 1 correspondingly.

ATTENTION !

The lifting eccentric 1 must not be shifted axially.

- Tighten screws at the lifting eccentric 1.
- Check adjustment, if needed correct it.

2.7.3 Sewing foot pressure



1

Standard checking

The material to be processed must not “swim”.

However, the pressure should not be higher than necessary.

Correction

- Set sewing foot pressure by means of screw 1.
 - Increase the sewing foot pressure = Turn screw 1 in clockwise direction
 - Reduce the sewing foot pressure = Turn screw 1 in counter-clockwise

GB

2.8 Stitch length limitation

2.8.1 Stitch length limitation in case of subclass 367-170115; -170315 and subclass 367-180115; -180315



367-170115
367-180115



3



367-170315
367-180315

According to the used sewing equipment the stitch length adjustment must be limited to 6 mm or 8 mm.

Hint:

Adjusting the stitch length limitation on the subclass 367-170315 and 367-180315 is done through the upper setting wheel.

- Unscrew screw 1 at the stitch length setting wheel.
- Pull off setting wheel 2.
- Unscrew core pin 3 and screw it in the corresponding drill-hole. The drill-holes are provided with figures corresponding to the stitch length.
- Make adjustment according to chapter 2.3.1 “**Basic adjustment of stitch adjustment**”.
- Put on setting wheel and tighten with screw 1.

2.8.2 Stitch length limitation in case of subclass 367-170010 and 367-180010



Caution: Danger of injury!

Switch off main switch.

Adjust safety locks only when the sewing machine is switched off.

GB

Standard checking

According to the used sewing equipment the stitch length adjustment must be limited to 6 mm or 8 mm (see Spare Parts List).

The limitation is set by means of the two eccentrics 2 and 4.

The forward feed is limited by eccentric 4 and the backward feed by eccentric 2.

- Set the maximum stitch length at the stitch regulator lever 5.
- Turn handwheel during the forward and backward feed.
There must be a distance of 0.5 mm between feed-dog and throat plate.



ATTENTION: Danger of breakage !

In case of large stitch length and high speed it may happen that the feed-dog swings and hits the throat plate cutout.
Keep a distance of 0.5 mm in any case.

Correction

- Loosen screws 1.
- Set eccentrics 2 and 4.
- Tighten screws 1.
- Check adjustment and correct, if necessary.

2.8.3 Equal stitch lengths in case of subclass 367-170115; -170315 and subclass 367-180115; -180315



Standard checking

Forward and backward stitches should have the same length.

- Sew a forward seam line.
- Sew a backward seam line.
- Compare the stitch lengths of both seam lines.



Caution: Danger of injury !

Switch off main switch.

Adjust equal stitch lengths only when the sewing machine is switched off.

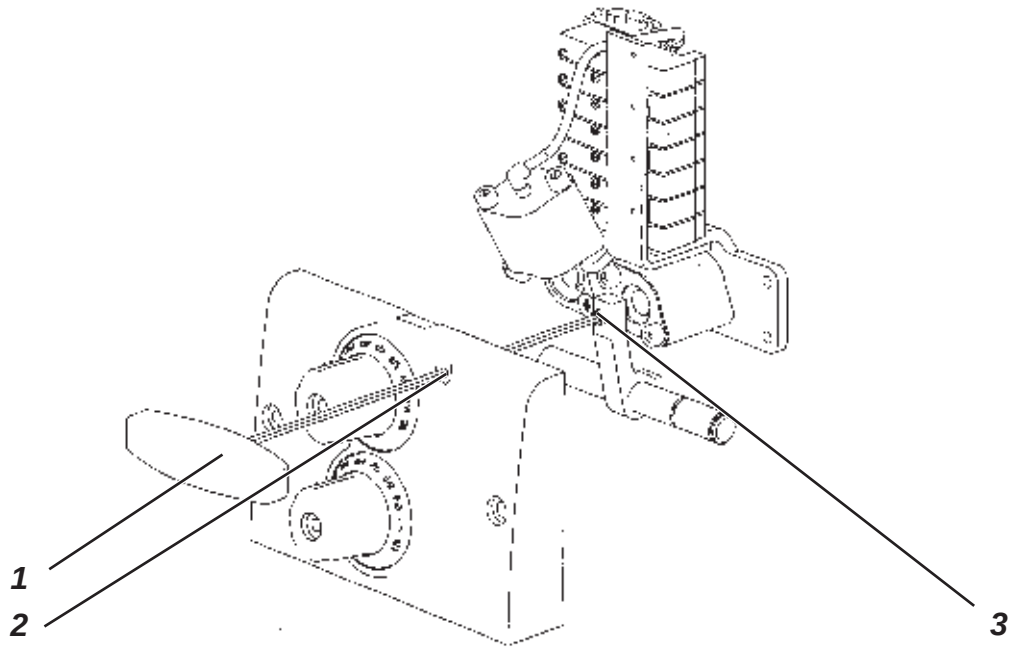
Correction

- Loosen screw 1.
- Set eccentric 2 with a 10 mm open-end wrench.
 - Clockwise = longer forward stitch, shorter backwardstitch
 - Counterclockwise = longer backward stitch, shorter forward stitch
- Tighten screw 1.
- Sew a forward seam line.
- Sew a backward seam line.
- Compare the stitch lengths of both seam lines.

Hint:

The eccentric 2 must not be turned by more than 90° from its basic position (see chapter 2.3.1).

2.9 Setting the short-trimming



GB

The short-trimming can be switched off/on through the parameter 136. Switched on is the standard factory-setting for any class. The lower and upper thread should have approximately the same length after the trimming. The length of the last stitch before thread trimming is adjustable.

Setting the stitch length of the last stitch

- Put the Allen key 1 in the Allen screw 3 through the hole 2.
- To shorten the last stitch, turn the screw 3 clockwise.
- To lengthen the last stitch, turn the screw 3 counterclockwise.

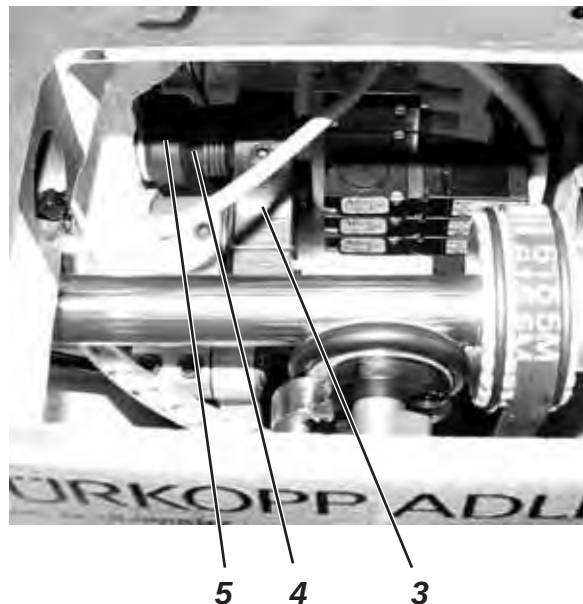
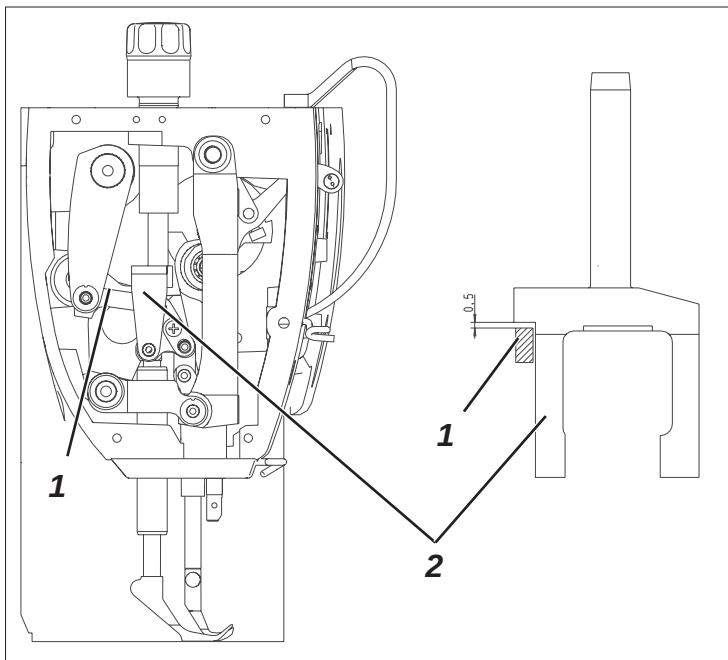
Hint:

The stitch length of the last stitch cannot be greater than the stitch length set.

Notes:

2.10 Sewing foot lift and thread tension lift

2.10.1 Mechanical sewing foot lift

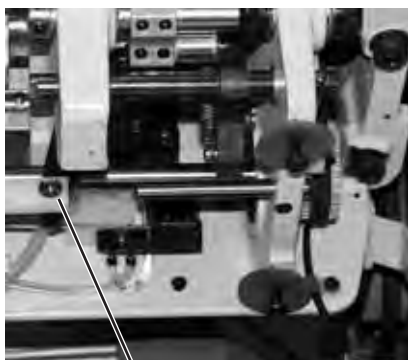


Caution: Danger of injury !

Switch off main switch.

Check and adjust clearance in the lifting mechanism only when the sewing machine is switched off.

GB



6

Standard checking

The lifting shaft 4 must run smoothly, however without axial backlash. The clearance in the lifting mechanism should amount to approx. 0.5 mm between spring guide 2 and lifting lever 1.

- Lower sewing feet.
- Turn handwheel until the presser foot touches down.
- Tilt sewing machine head to the back.
- Move lifting bar 6 and check clearance.

Correction

Position of the lifting shaft

- Loosen screw at the adjusting ring 5.
- Push lifting shaft 4 completely to the right, push adjusting ring 5 to the left and tighten.

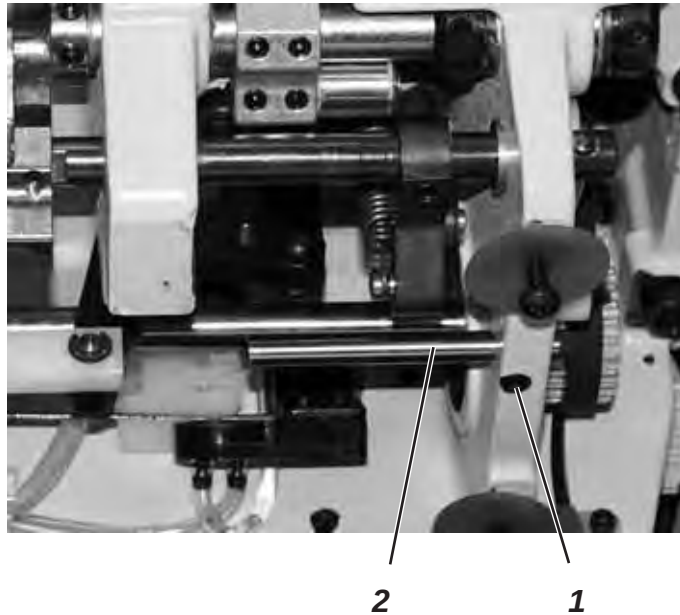
ATTENTION !

The shaft must still run smoothly.

Clearance of the lifting shaft

- Loosen screws at the lifting block 3.
- Turn lifting shaft 4 until there is some clearance.
- Tighten screws at the lifting block 3.

2.10.2 Height of the lifted sewing feet and lift limitation



Caution: Danger of injury !

Switch off main switch.

Check and adjust height of the lifted sewing feet only when the sewing machine is switched off.

Standard checking

The distance between the lifted sewing feet and the throat plate should amount to 20 mm.

- Turn handwheel until both sewing feet rest on the throat plate.
- Lift the sewing feet and measure the lifting height.

Correction

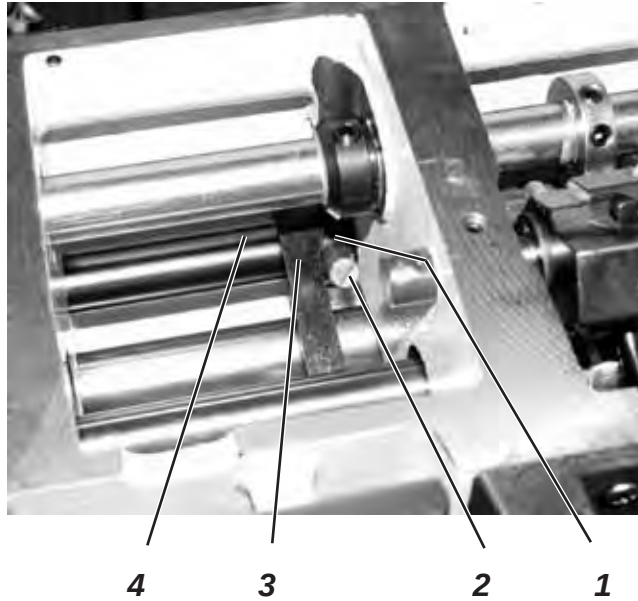
- Loosen screw 1.
- Adjust the dowel pin 2 correspondingly.
Dowel pin to the left = Sewing feet lower
Dowel pin to the right = Sewing feet higher
- Tighten screw 1.
- Check adjustment and correct, if necessary.



ATTENTION: Danger of breakage !

When the sewing feet are lifted, there must be a distance of at least 0.2 mm between the presser foot and the fabric bar bush.

2.10.3 Thread tension lift (subclass 367-170010 and 367-180010)



Caution: Danger of injury !

Switch off main switch.

Check and adjust the thread tension lifting only when the machine is switched off.

GB

Standard

The thread tension must be open when the sewing feet are lifted.

Machines without thread trimmer

In case of machines without thread trimmer the tension release is effected by the sewing foot lifting shaft 4 in conjunction with the angle 3 and the shoulder screw 2.

Correction

- Loosen shoulder screw 2.
- Adjust the moment of thread tension lifting by setting the adjusting ring 1.
- Tighten shoulder screw 2.

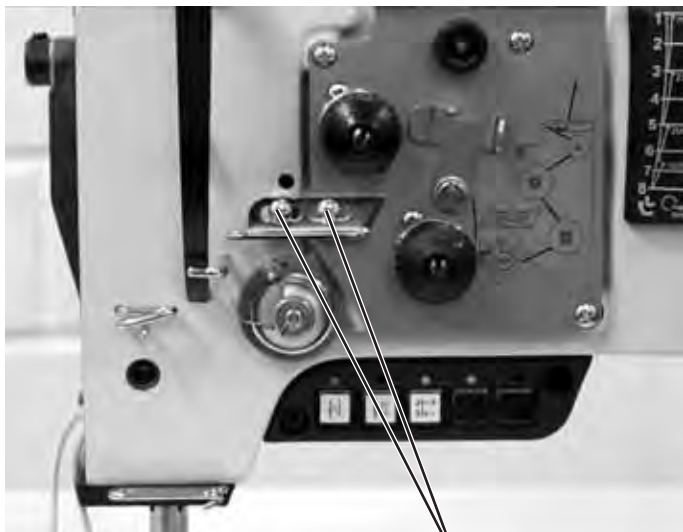


ATTENTION: Danger of breakage !

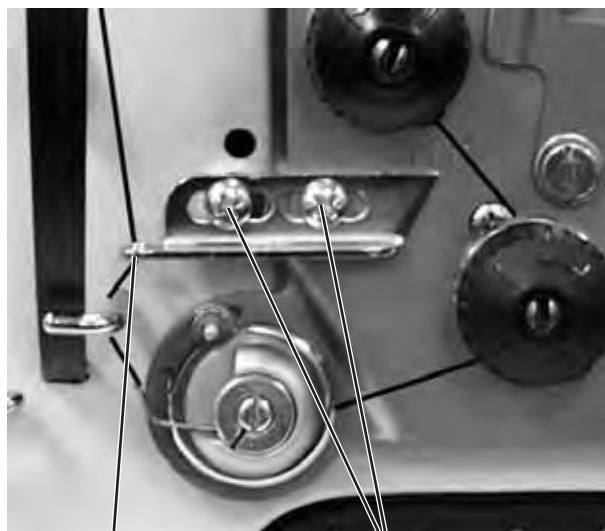
When the sewing feet are not lifted, there must be a lateral clearance of approx. 0.5 mm between the shoulder screw 2 and the angle 3.

2.11 Thread-guiding parts

2.11.1 Thread regulator



1



2

1



Caution: Danger of injury !

Switch off main switch.

Check and adjust the thread regulator 2 only when the sewing machine is switched off.

Standard checking

The position of the thread regulator is dependent on the material thickness, the thread size and the selected stitch length.

The thread regulator must be adjusted in such a way that the thread is guided around the hook in a controlled way.

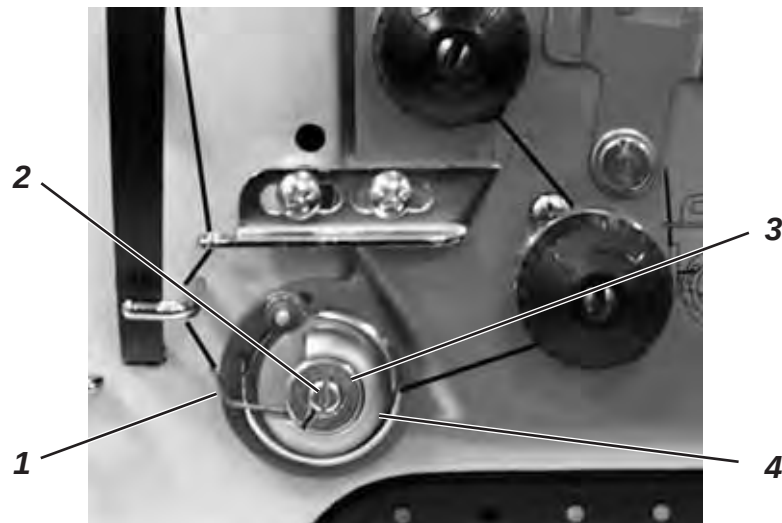
In position "1" the largest thread quantity is supplied as required for particularly large stitch lengths and thick sewing threads.

- Thread in needle thread and hook thread.
- Load workpiece.
- Tilt sewing machine to the back.
- Turn handwheel slowly and observe simultaneously how tight the needle thread is guided around the hook.

Correction

- Loosen screws 1.
- Shift thread regulator 2.
Thread regulator 2 to the left = more thread
Thread regulator 2 to the right = less thread
- Tighten screws 1.
- Check adjustment and correct, if necessary.

2.11.2 Thread controller spring



Caution: Danger of injury !

Switch off main switch.

Check and adjust the thread controller spring only when the sewing machine is switched off.

GB

Standard checking

The adjustment standards for spring travel and spring tension apply to normal needle thread sizes.

In case of extremely thick or thin needle threads or fabrics different adjustments may be required.

Spring travel

The thread controller spring 1 must hold the needle thread under a minor tension from the highest position of the thread lever to the moment the needle's eye penetrates the fabric.

The thread controller spring must abut on the stop not before the needle's eye has penetrated the fabric.

Thread tension

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

Correction

Spring travel

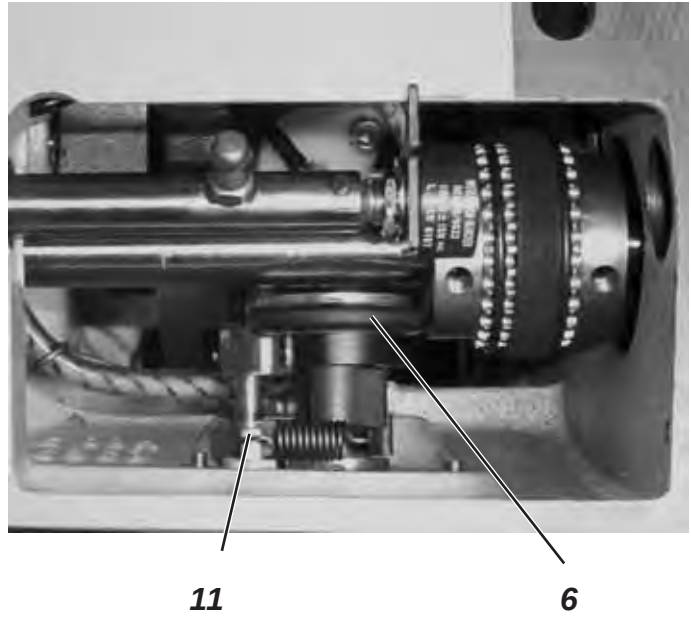
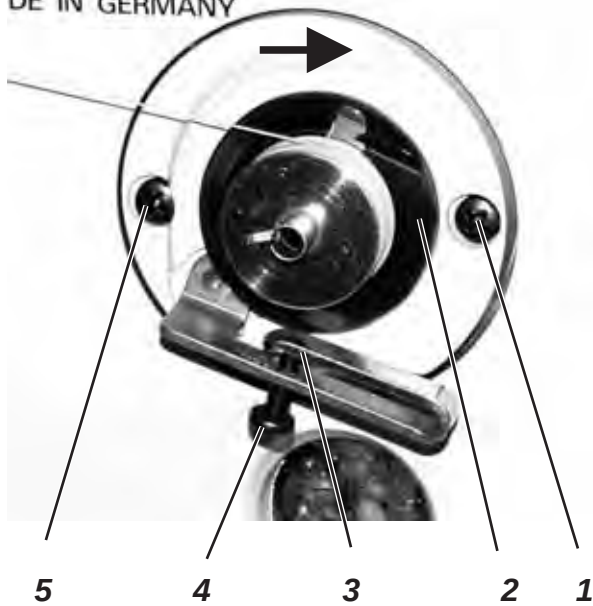
- Loosen screw 2.
- Turn stop bushing 4.
Turn counter-clockwise = longer spring travel
Turn in clockwise direction = shorter spring travel
- Tighten screw 2.

Spring tension

- Loosen screw 2.
- Adjust tension disc 3 without changing the position of the stop bushing 4.
Turn the disc in clockwise direction = less spring tension
Turn the disc counter-clockwise = more spring tension
- Tighten screw 2 without changing the position of the stop bushing 4 and the tension disc 3.

2.12 Bobbin winder

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Caution: Danger of injury !

Switch off main switch.

Check and adjust bobbin winder only when the sewing machine is switched off.

Standard checking

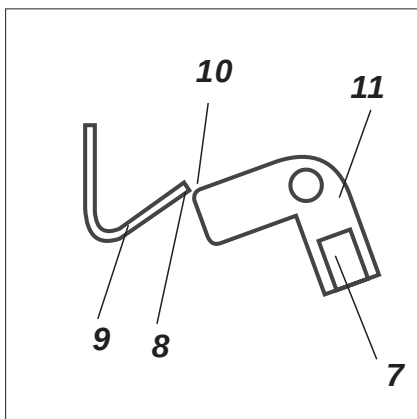
The bobbin winding operation must stop automatically when the bobbin is filled up to approx. 0.3 mm below the edge of the bobbin.

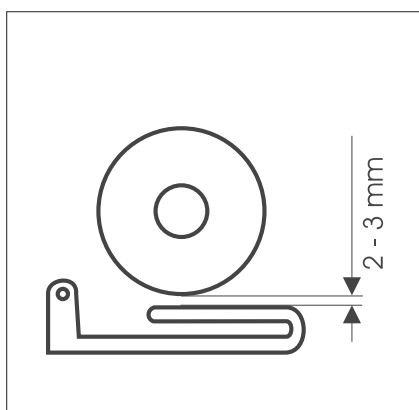
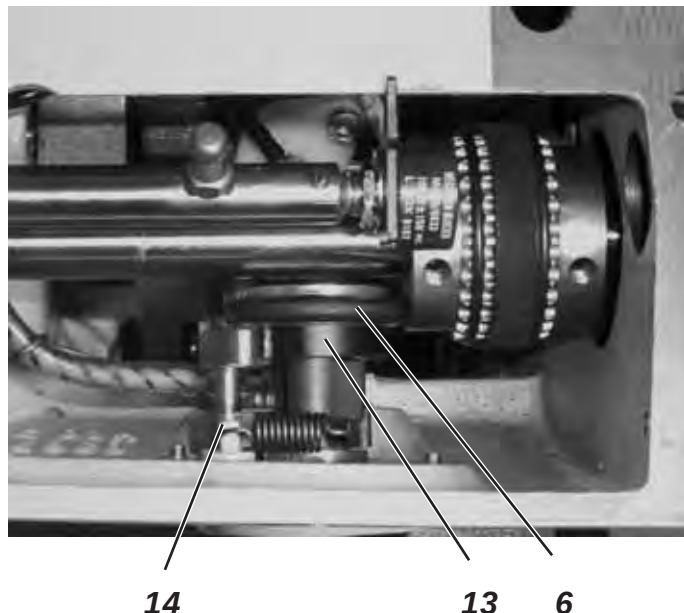
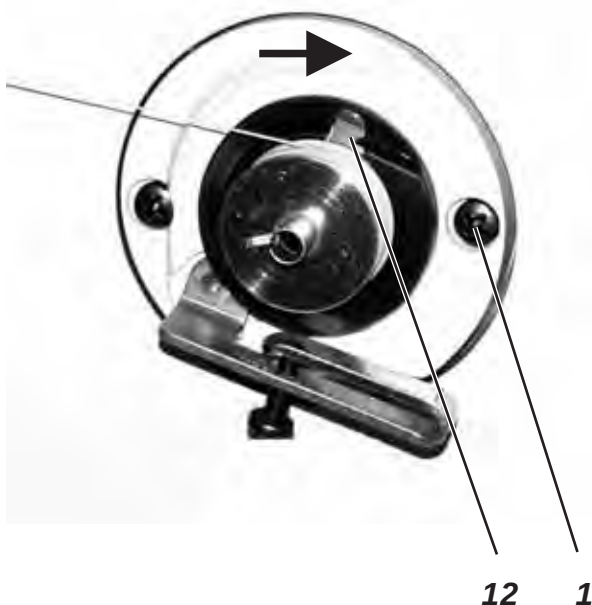
The driver wheel 2 and the bobbin winder wheel 6 have to be fastened on the bobbin winder spindle in such a way that the first screw in rotation direction is always located at the flat spots of the bobbin winder spindle.

The bobbin winder wheel 6 should have no axial backlash, but it must not move too heavy.

Basic adjustment

- Remove bobbin winder.
Unscrew the two fastening screws 1 and 5 and pull the bobbin winder off.
- Screw in screw 4 so far that both shanks of the bobbin winder clip 3 are in parallel position.
- Stick a completely filled bobbin on the bobbin winder.
- Turn bobbin winder clip 3 in such a way that it abuts on the thread on the bobbin.
- Loosen screw 7 on the switching cam 11.
- Adjust switching cam 11 in such a way that the corner 10 of the switching cam and the corner 8 of the leaf spring 9 lie one on top of the other (spring is tensioned) and the bobbin winder clip 3 has no axial backlash.
- Tighten screw 7.





- Turn bobbin winder spindle in such a way that the tear-off knife 12 points to the right fastening screw 1.
- Loosen screw at the engagement block 14.
- Adjust bobbin winder clip in such a way that there is a clearance of 2 - 3 mm between the thread on the bobbin and the bobbin winder clip (put a spacer piece in between).
- Adjust engagement block 14 in such a way that it abuts on the notch disc 13 and has an axial backlash of 0.5 mm to the bobbin winder wheel 6.
- Tighten screw in the engagement block 14.
- Screw bobbin winder on again.

GB

Minor alterations of the bobbin capacity

- Adjust bobbin winder clip 3 by means of screw 4.

Correction of the position of the bobbin winder pretension

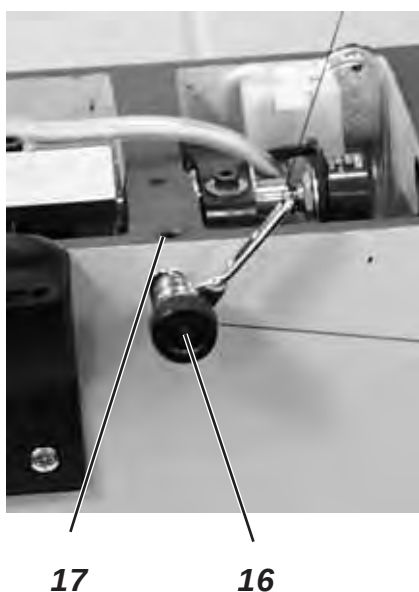
The pretension has to be adjusted in such a way that the bobbin is equally filled up with thread over its whole width.

- Loosen screw 17.
- Shift pretension 16.
- Tighten screw 17.

Corection of the thread tension

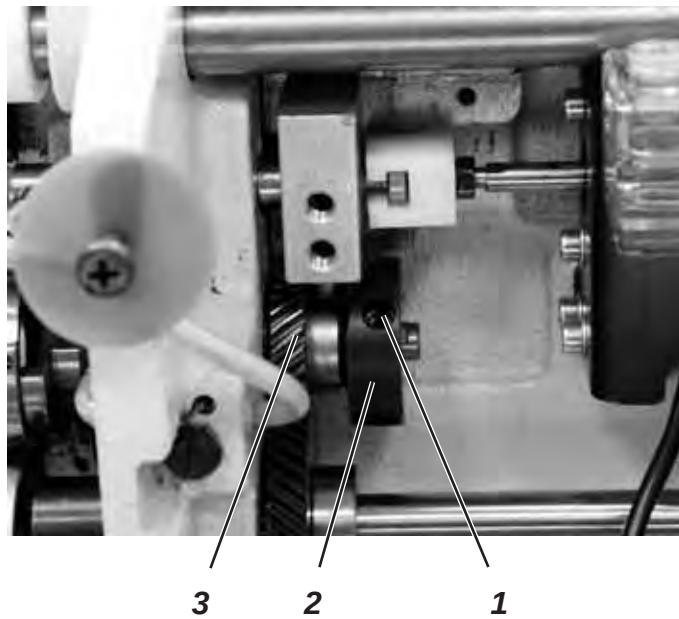
The tension of the bobbin thread is set by the knurled nut 16. If it is turned in clockwise direction, the tension is increased.

- Make the adjustment in such a way that a uniform bobbin winding result is achieved (thread is neatly wound up).



2.13 Thread trimmer

2.13.1 Position of the control cam



Caution: Danger of injury !

Switch off main switch.

Check and adjust the control cam only when the sewing machine is switched off.

Standard checking

The control cam 2 abuts on the hook drive toothed wheel 3.

Turn the handwheel in the normal sense of rotation of the sewing machine.

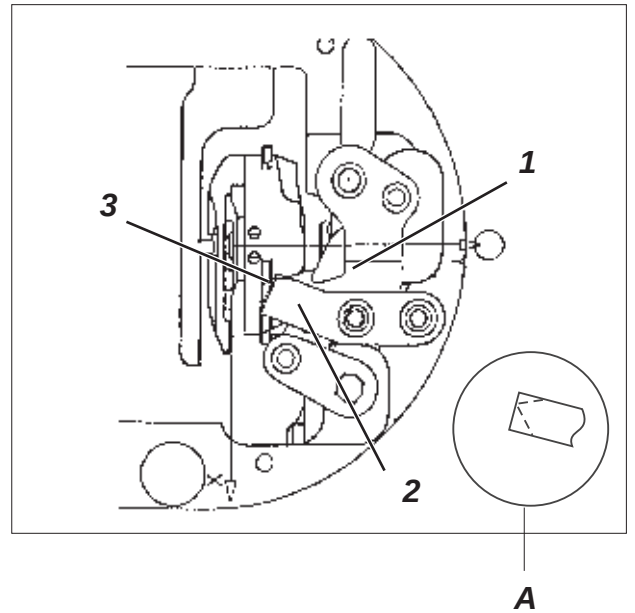
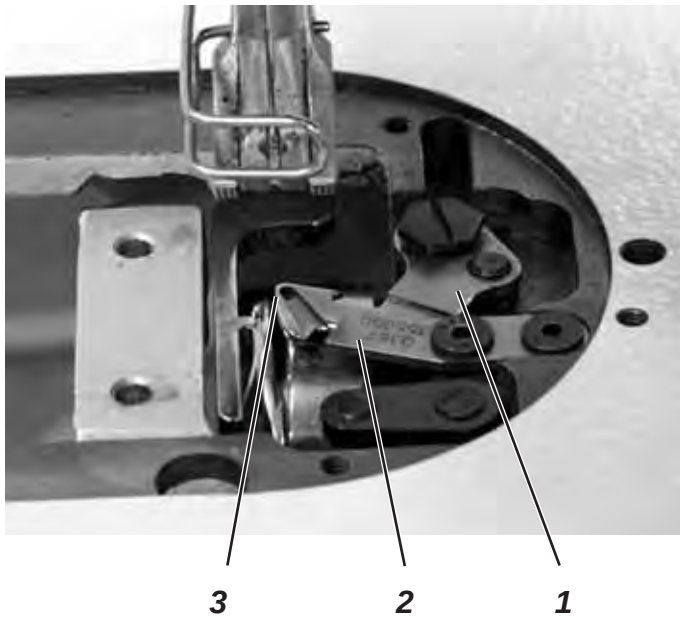
The first screw 1 in rotation direction of the hook must sit on the flat spot of the shaft. By that the moment of the knife movement is fixed.

- Check whether the first screw in rotation direction is located on the flat spot of the shaft.

Correction

- Loosen screws 1 at the control cam 2.
- Turn control cam until the first screw 1 in rotation direction sits on the flat spot of the shaft.
- Tighten screws 1 at the control cam.

2.13.2 Position of the hook knife

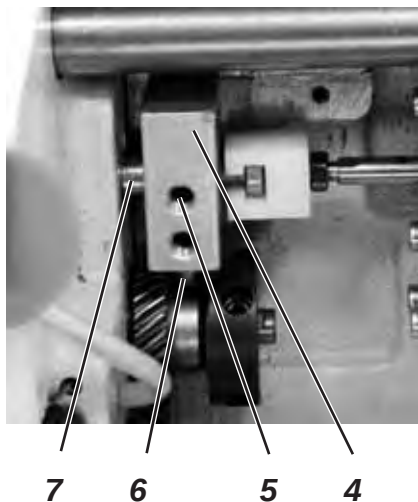


Caution: Danger of injury !

Switch off main switch.

Check and adjust the position of the hook knife only when the sewing machine is switched off.

GB



Standard checking

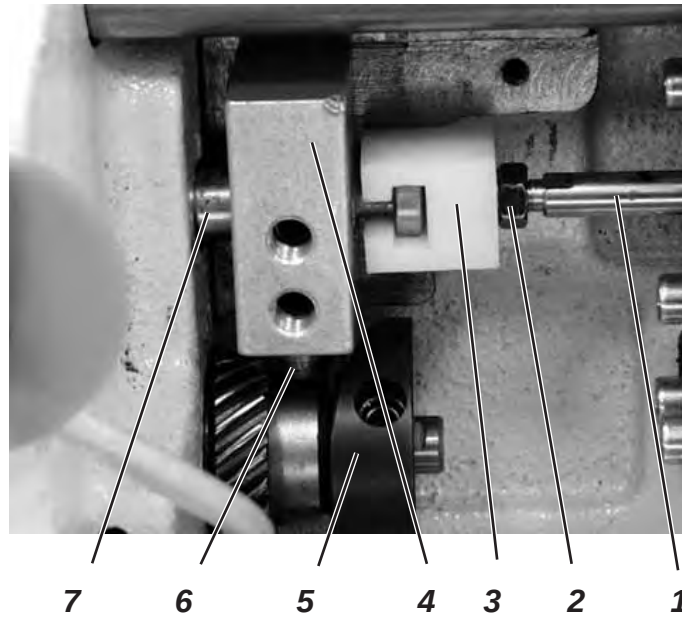
In resting position the point 3 of the hook knife 1 must be flush below the cutting edge of the stationary knife 2.
(see Sketch A)

- Check whether the point of the knife 1 in its resting position is flush below the cutting edge of the stationary knife 2.

Correction

- Turn handwheel in the normal sense of rotation of the sewing machine until the thread lever stands a little bit behind its highest position.
- Loosen screw 5.
- Adjust hook knife 1.
- Shift tie rod 7 slightly to the left in order to ensure that the thread trimming mechanism has no clearance.
- Place block 4 with roller 6 against the control cam.
- Tighten screw 5.
- Check adjustment and correct, if necessary.

2.13.3 Armature of the thread trimmer magnet



Caution: Danger of injury !

Switch off main switch.

Check and adjust the thread trimmer magnet only when the sewing machine is switched off.

Standard checking

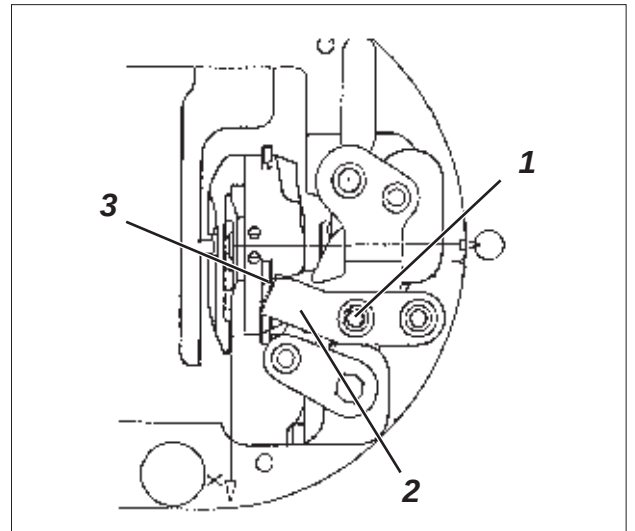
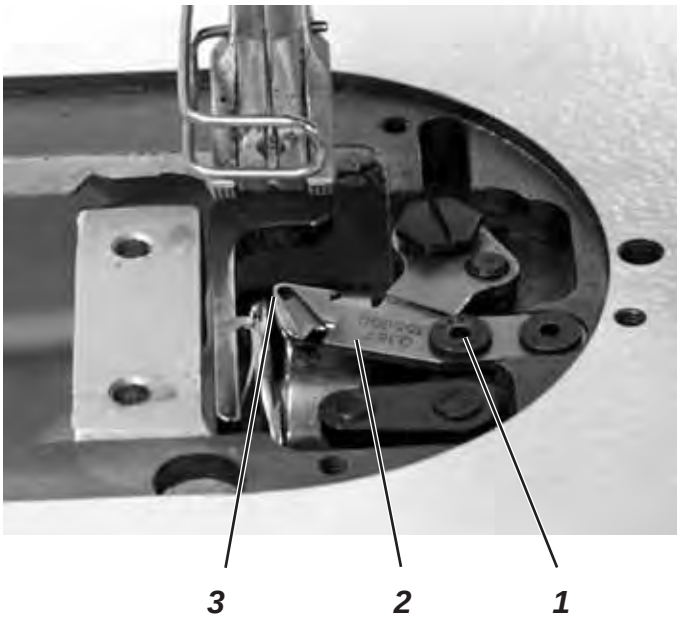
In resting position of the magnet there should be a distance of 0.2 to 0.3 mm between roller 6 and the highest point of the control cam 5.

- Shift tie rod 7 with block 4 to the left as far as it will go.
- Check distance between roller 6 and control cam 5 with a feeler gauge.

Correction

- Loosen nut 2.
- Twist armature 1 in the coupling piece 3.
- Tighten nut 2.
- Check adjustment and correct, if necessary.

2.13.4 Cutting pressure

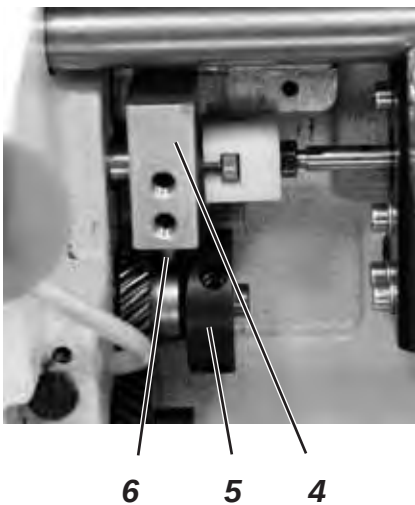


Caution: Danger of injury !

Switch off main switch.

Check and adjust the cutting pressure only when the sewing machine is switched off.

GB



Standard checking

The thread should be safely cut with the lowest possible pressure. A low cutting pressure ensures a low wear and tear of knives !
Two of the thickest threads to be processed must be safely cut at the same time.

ATTENTION !

If the cutting pressure is too high, the thread trimmer magnet does not swivel out the hook knife.
There is no thread trimming function then.

- Turn the handwheel until the hook knife can be swivelled in by hand.
- Swivel out hook knife (lowest point of the control cam).
For this purpose press block 4 with roller bolt 6 to the right against the control cam.
- Place two threads to be cut in the hook knife.
- Turn handwheel until the hook knife has swivelled back.
- Check whether the sewing threads have been neatly cut.

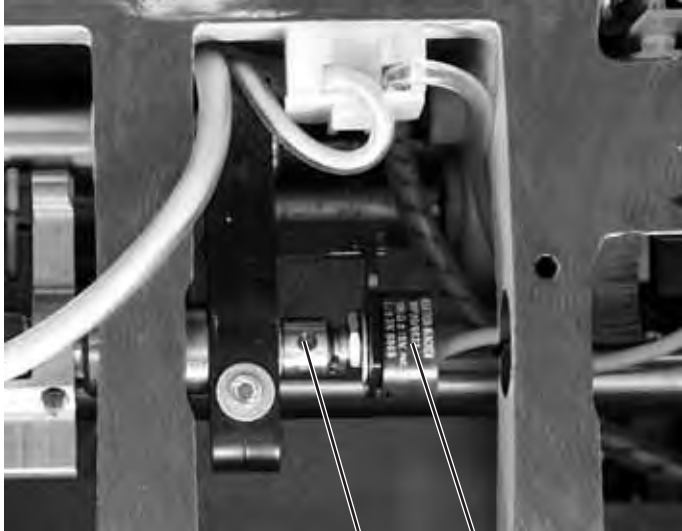
Correction

- Turn screw 1.
in clockwise direction = higher cutting pressure
counter-clockwise = lower cutting pressure
- Check adjustment and correct, if necessary.

2.14 Potentiometer in the arm

Sewing machines of subclass 367-170115 and 367-180115 are equipped with a potentiometer for speed limitation in case of higher sewing foot strokes. By means of this potentiometer the control recognizes the sewing foot stroke and limits the speed.

2.14.1 Basic adjustment without control panel



2

1



4

3

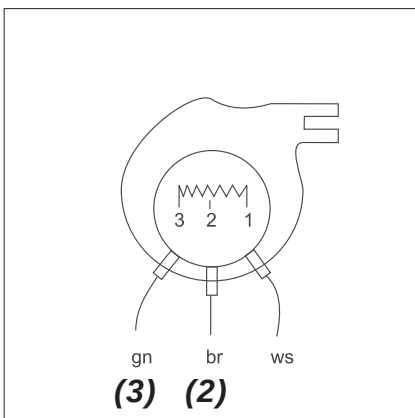
Sewing machines without control panel have to be adjusted according to the following description.



Caution: Danger of injury !

Switch off main switch.

Adjust the potentiometer only when the sewing machine is switched off.



- Set the lowest sewing foot stroke “**min.**”
- Pull out plug 3 of the potentiometer at the printed circuit board 4.
- Check the resistance at the clamps (2) and (3) of the potentiometer by an ohmmeter.
Clamp (3) = green conductor
Clamp (2) = brown conductor

Measuring value: 6,9 to 7,1 kOhm

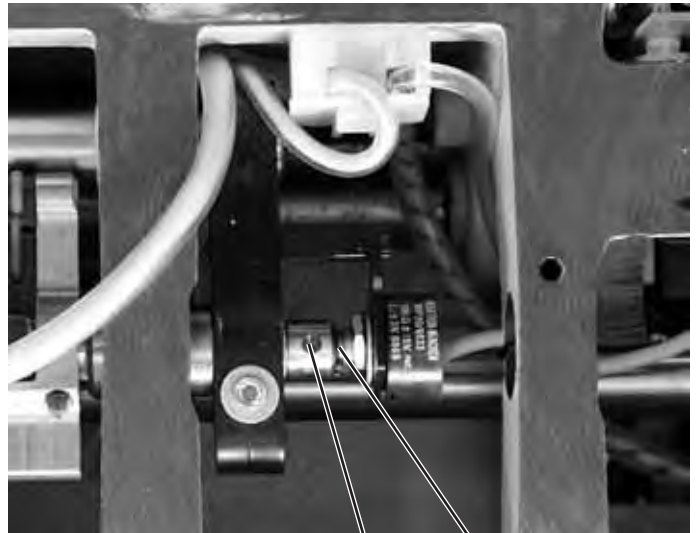
If the mentioned values are not correct, the position of potentiometer 1 has to be corrected.

- Loosen screw 2.
- Adjust shaft of potentiometer 1 to the corresponding value.
- Push potentiometer completely into the drill-hole of the setting shaft and tighten screw 2.
- Push plug 3 of the potentiometer in the printed circuit board 4.

2.14.2 Basic adjustment with control panel V810 or V820



1



3

2



Caution: Danger of injury !

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

Work with utmost caution.

GB

- Set hand lever 1 to the “**lowest stroke**”.
- Loosen locking bolt 3 for the potentiometer shaft 2.
- Hold key “P” pressed down and switch on main switch.
- Open the technician level.
(see Installation Instructions, Part 2 of the Instruction Manual)
- Select parameter “F-188”.
- Press key “E”.
The current Speedomat step (e.g. 11) and the corresponding speed limitation (e.g. 2860) are indicated.
- Turn the potentiometer shaft 2 until the Speedomat step “06” and the corresponding maximum speed of 3000 rpm are displayed.
- Tighten locking bolt 3.
- Check adjustment.

2.14.3 Check adjustment of potentiometer



1



2

- Hold key “P” pressed down and switch on main switch.
- Open the technician level.
(see Installation Instructions, Part 2 of the Instruction Manual)
- Select parameter “F-188”.
- Press key “E”.
The current Speedomat step and the corresponding speed limitation are indicated.
- Set hand lever 1 (on 367-170115 and 367-180115) or the setting wheels 2 (on 367-170315 and 367-180315) to the “**lowest stroke**”. Speedomat step “06” must be displayed.
- Set hand lever 1 (on 367-170115 and 367-180115) or the setting wheels 2 (on 367-170315 and 367-180315) to the “**maximum stroke**”. Speedomat step “21” must be displayed. The speed display shows “EEEE”.

Hint:

If the Speedomat steps “06” and “21” are not achieved, the potentiometer has to be readjusted.

2.15 Oil lubrication



Caution: Danger 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.
Conserve 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

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1

Lubrication of the machine head

- The machine head is equipped with a central oil wick lubrication. Except the hook 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

2

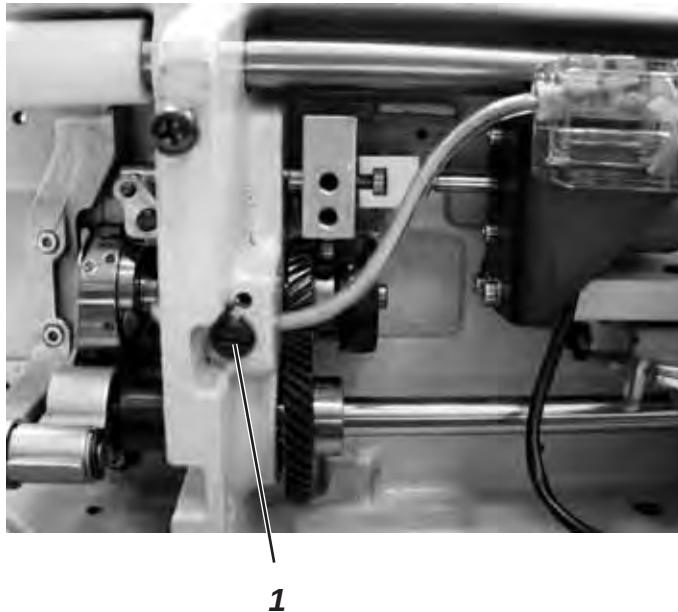
Lubrication of the hook

- Tilt the machine head to the back.
- The oil level must not drop below the marking “MIN” .
- Fill oil reservoir 2 with oil through plug 3.

Hint:

The necessary oil quantity for the correct lubrication of the hook has been adjusted by the manufacturer.

2.15.1 Hook lubrication



Caution: Danger of injury !

Switch off main switch.

Adjust the hook lubrication only when the sewing machine is switched off.

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

Standard checking

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

The required oil quantity is dependent on the sewing threads to be processed and on the fabric.

When sewing a course of approx. 1 m with the fabric and the sewing threads to be processed a piece of paper - preferably blotting paper - held below the hook must be slightly sprayed with oil.

Correction

- Adjust oil quantity at the regulating screw 1.
Turn screw counter-clockwise = increase oil quantity
Turn screws in clockwise direction = reduce oil quantity



ATTENTION !

The adjusted oil quantity changes not before an operating time of some minutes.

2.16 Maintenance



Caution: Danger of injury !

Switch off main switch.

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 Instruction manual, Operating Instructions (part 1). This is only listed in the following table to complete the picture.

Maintenance work to be carried out	Operating hours			
	8	40	160	500
Sewing machine head				
- Remove sewing dust and thread tails	X			
- Check oil level in the oil reservoir for the lubrication of the sewing machine head		X		
- Check oil level in the oil reservoir for the hook lubrication		X		
- Check the function of the slip clutch				X
Sewing drive				
- Clean motor fan grill	X			
- Check status and tension of the V-belt			X	
- Check the function of the slip clutch				X
Pneumatic system				
- Check water level in the pressure regulator		X		
- Clean filter insert of the compressed air maintenance unit				X
- Make leak test of the pneumatic system				X

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Notes: