Contents **page:**

Part 3: Servicing Instructions 550-16-23 and 550-16-26

1. General . . . 3
1.1 Gauges . . . 4
1.2 Description of the integral adjustment disc . . . 5
1.3 Position of the integral adjustment disc with respect to the arm-shaft crank . . . 6

2. Upper/lower synchronous-belt shafts . . . 7
2.1 Position of the synchronous-belt pulley on the lower shaft . . . 7
2.2 Upper/lower shaft synchronous-belt tension . . . 8

3. Needle-bar height . . . 9

4. Shuttle . . . 10
4.1 Aligning the shuttle shaft . . . 10
4.2 Changing the shuttle-drive synchronous belt . . . 12
4.3 Loop stroke and gap between shuttle tip and needle . . . 13
4.4 Bobbin-housing holder . . . 14

5. Material feed . . . 15
5.1 General . . . 15
5.2 Underfeed . . . 17
5.2.1 Replacing the feed belts . . . 17
5.2.3 Feed-belt tension . . . 18
5.2.4 Replacing the drive belt . . . 19
5.3 Overfeed . . . 22
5.3.1 Feed belts: overview . . . 22
5.3.2 Changing the feed belts . . . 23
5.3.3 Tensioning the feed belts . . . 26
5.3.4 Drive-shaft play . . . 27
5.3.5 Changing the synchronous belt . . . 28

6. Sewing foot . . . 29
6.1 Height of the presser bar . . . 29
6.2 Sewing-foot lift . . . 30
6.3 Sewing-foot pressure . . . 31
6.4 Adjusting the sewing-foot stroke height . . . 32
6.4.1 General . . . 32
6.4.2 Stroke timing . . . 32
6.4.3 Stroke height . . . 33

7. Thread cutter . . . 34
7.1 General . . . 34
7.2 Control cam for blade-movement timing . . . 35

Contents page:

7.3 Cutter-blade position 36
7.4 Counter-blade cut pressure 37

8. Thread-guiding components 38
8.1 Needle-thread tensioner 38
8.2 Thread-tensioning spring 39
8.3 Bobbin winder 40

9. Proximity switch 41

10. Lubrication 42
10.1 Oil circulation 43

11. Maintenance 44

1. General

These Servicing Instructions describe the adjustment of the **550-16-23** and **550-16-26**functional sewing units.

CAUTION:

The activities described in these Servicing Instructions may only be carried out by specialist personnel or other appropriately trained persons.

Caution: danger of injury

Before all repair, conversion and maintenance work turn off the main switch and isolate the machine from the pneumatic supply.

When carrying out adjustment work and function-testing with the machine running, comply with all safety measures and take the utmost care.

These Servicing Instructions describe the adjustment of the sewing machine in a logical order. It must be borne in mind that various adjustments are mutually dependent. The adjustment process must therefore be carried out in the order given.

For all adjustments of stitch-forming components a flawless new needle must be fitted.

NB:

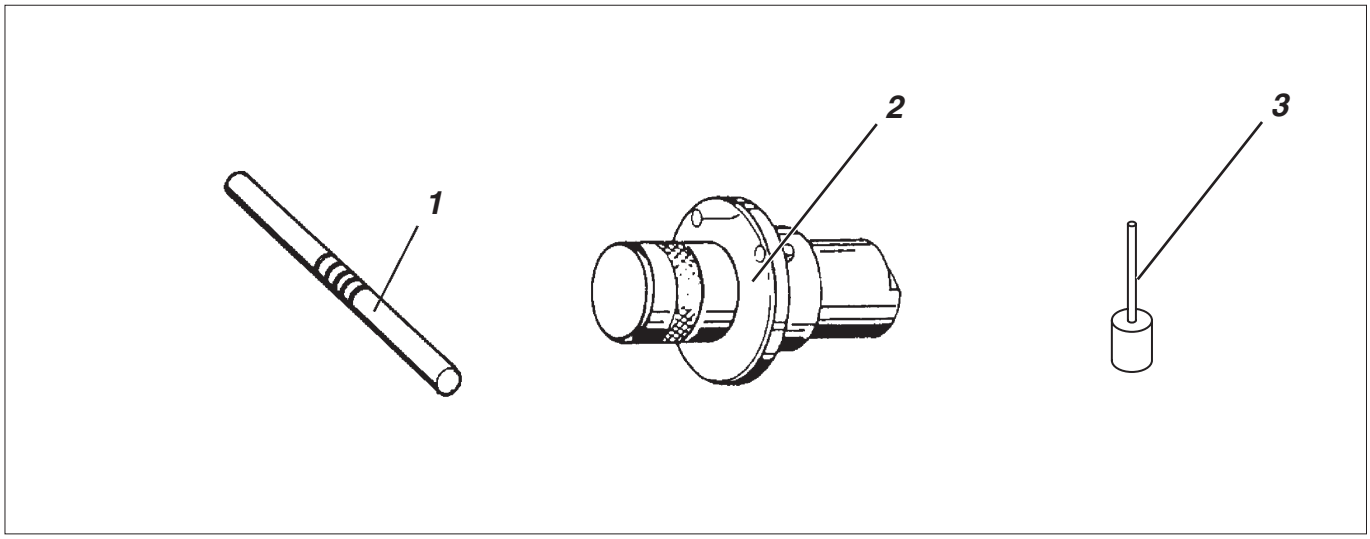
On the 550-16-23/-26 functional sewing units some shafts have flattened areas to simplify the adjustment of the machine.

In all adjustments using these flat areas the first screw in the direction of rotation is placed on the flat area.

CAUTION:

All colour-marked components are factory-set. These settings should not be altered except by specialists.

1.1 Gauges

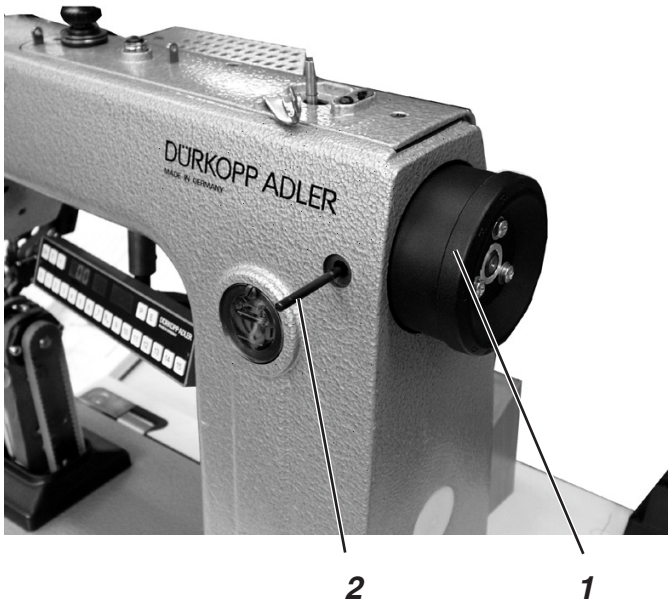


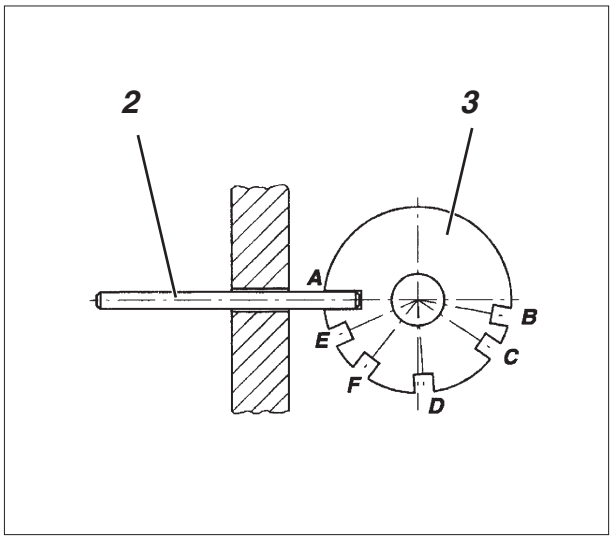
The machine can be precisely adjusted and checked with the gauges listed below.

The locking pin 1, which can be found in the machine's accessory pack, is used to lock the arm shaft in the various positions required for adjustment.

Position	Gauge	Order-No.	Use
1	Adjusting pin	9301 022 608	lock machine in positions A-F
2	Gauge	6279 290 120	align the shuttle shaft in the shuttle column
3	Measuring pin	6279 290 010	adjust needle-bar height

1.2 Description of the integral adjusting disc





The machine can be locked in all adjustment positions using locking pin 2 and the adjustment disc 3 integral to the synchronous-belt pulley on the arm shaft.

There are 6 notches on the adjustment disc. These are marked **A, B, C, D, E** and **F** on the hand-wheel 1.

Notch **A** (loop-stroke position) is deeper than the others.

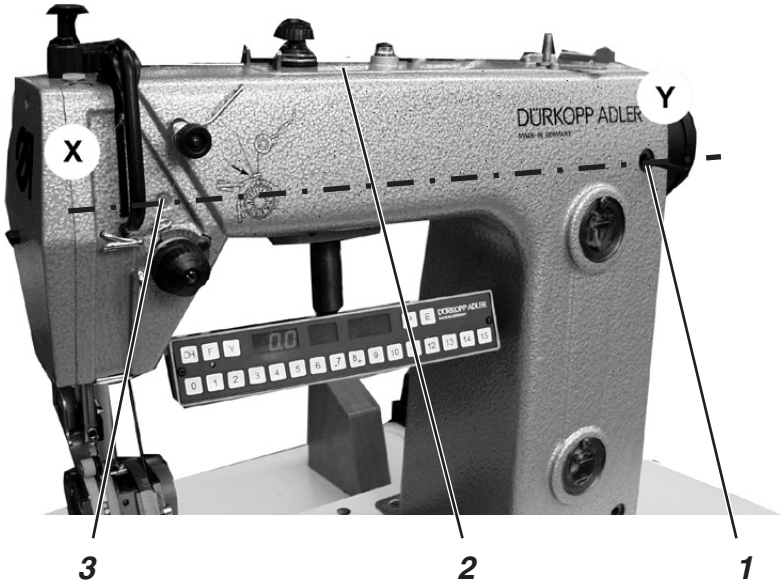
The adjustment positions are as follows:

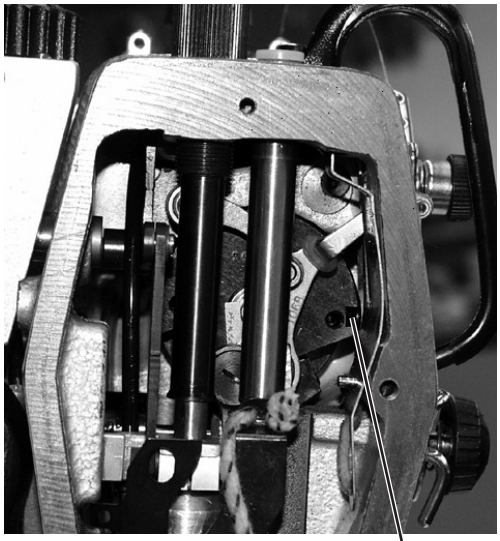
A: adjustment disc with respect to the groove in the arm-shaft crank, loop stroke, gap between the shuttle tip and needle

C: control cam for thread cutter

B, D, E, F: vacant

1.3 Position of the integral adjustment disc with respect to the arm shaft





CAUTION:

Adjustments carried out with the adjusting disc will only be correct if the disc itself has been adjusted as described below.

If the arm shaft is moved, all subsequent settings must be checked and adjusted if necessary.

Caution: danger of injury

Turn off the main switch.
The position of the adjustment disc may only be checked and adjusted with the machine switched off.

Regulation and inspection

Groove 4 and notch **A** of the adjustment disc integral to the synchronous-belt pulley must coincide on the **X - Y** line.

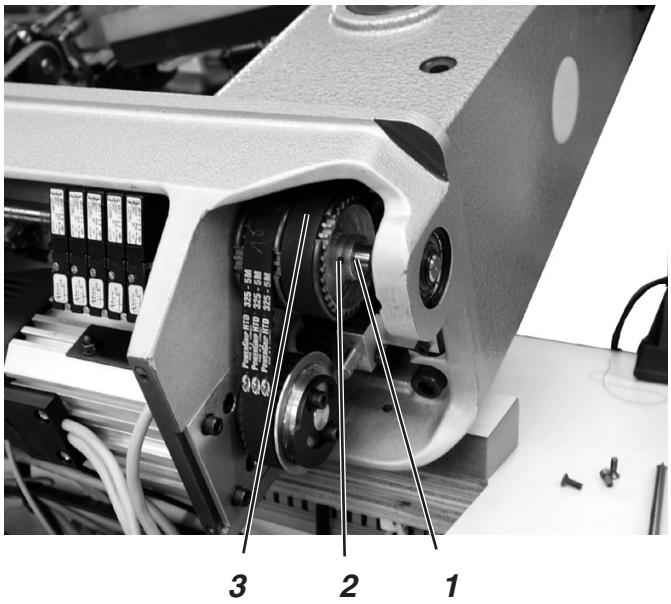
– Lock the arm shaft with a locking pin or a 5 mm Ø pin in the arm-shaft groove 4 (through hole 3).@BLICKFANG-STR = With the integral adjusting disc in position A it must be possible to pass the locking pin through the hole 1.

Adjustment

– Remove the bobbin-winder cover 2.
– Insert the Allen key 5 in the hole to undo the screws of the belt pulley 6 from above.
– Lock the belt pulley in position **A** with the locking pin.
– Insert a 5 mm-thick pin into the rig hole 3 and allow it to engage in the arm-shaft groove 4.
– Tighten the screws on the belt pulley 6.
The belt pulley must not be axially shifted.
– Replace the bobbin-winder cover 2.

2. Upper/lower synchronous-belt shafts

2.1 Position of the synchronous-belt pulley on the lower shaft



Caution: danger of injury

Turn off the main switch.

The position of the lower belt pulley may only be inspected and adjusted with the machine switched off.

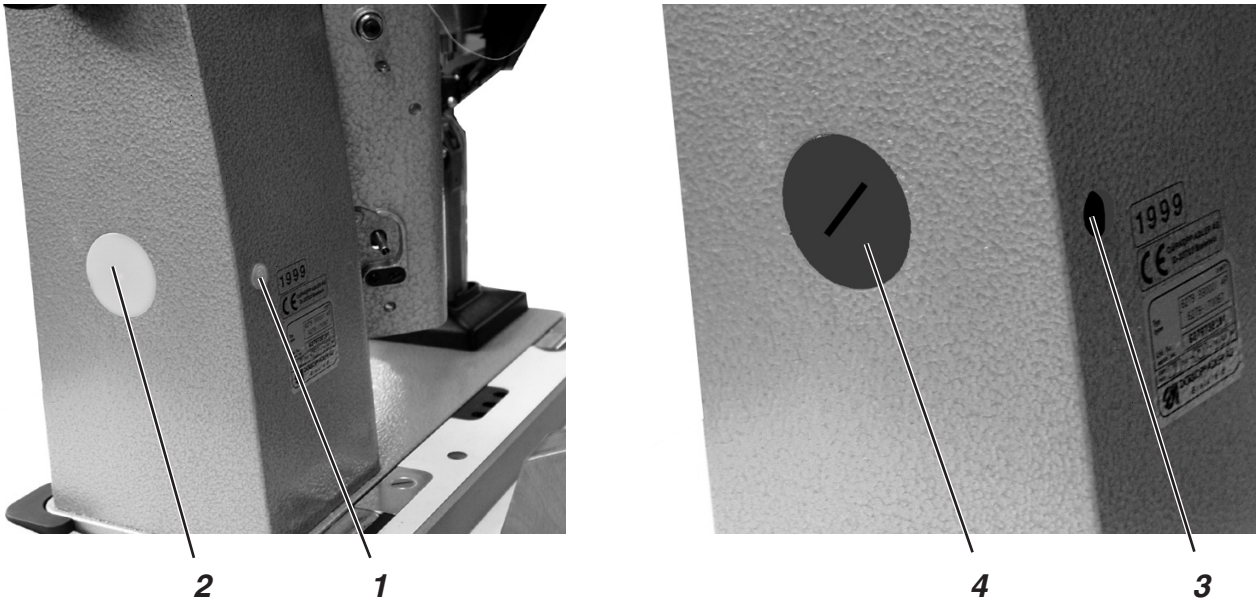
Regulation and inspection

The first screw of the belt pulley 2 must bite on the flat area of the lower shaft 1.
The lateral position of the belt pulley must be such that the belt runs centrally to the upper belt pulley.

Adjusting the setting

- Fold the machine back.
- Undo the screws on the lower belt pulley.
- Align the belt pulley laterally to the upper belt pulley.
- Tighten the screws on the belt pulley.
- Turn the hand-wheel and check that the belt is properly seated on the upper belt pulley.

2.2 Upper/lower shaft synchronous-belt tension



Regulation and inspection

The tension in the belt should be such as to produce an exact transmission between the upper and lower shafts.
Excessive belt tension may lead to disproportionate wear and noise.

Caution: danger of injury

Turn off the main switch.

The belt tension may only be checked and adjusted with the machine switched off.

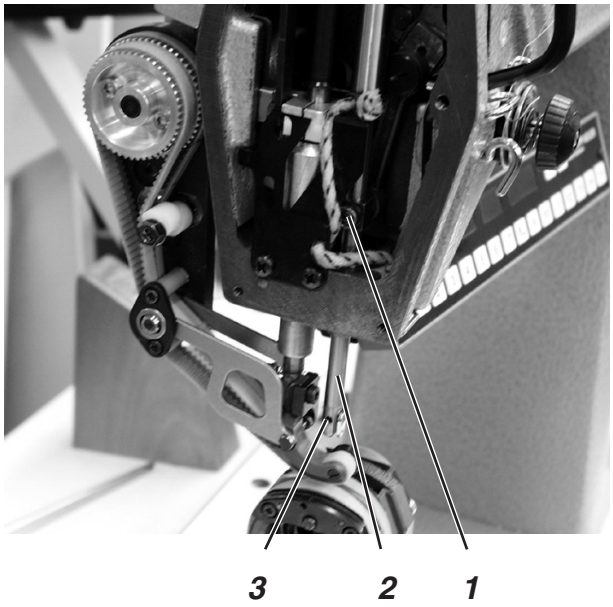
Correcting the belt tension

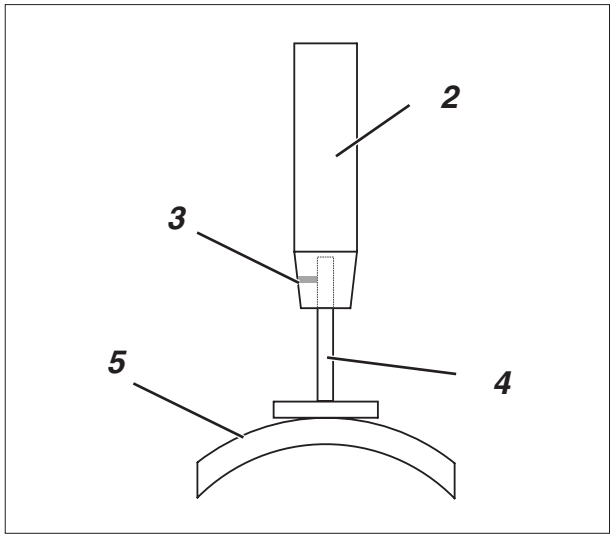
- Remove the bobbin-winder cover.
- Remove plastic bungs 1 and 2.
- Undo screw 3.
- Twist the belt tensioner 4 as required.
- Retighten screw 3.
- Replace plastic bungs 1 and 2.
- Replace the bobbin-winder cover.

CAUTION: danger of breakage

After adjusting the belt tension, check the shuttle setting.

3. Needle-bar height

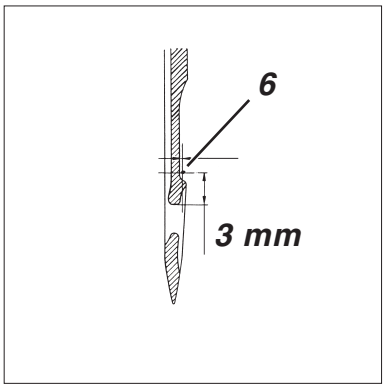




Caution: danger of injury

Turn off the main switch.

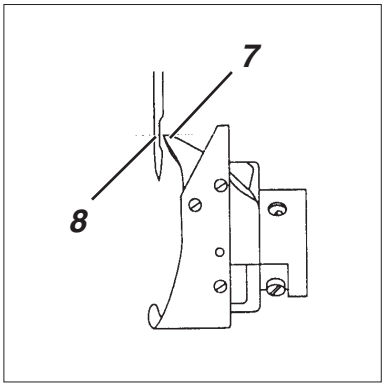
The needle-bar height may only be checked and adjusted with the machine switched off.



Regulation and inspection

In the loop-stroke position (adjustment position **A**) the shuttle tip 7 must be at the centre of the needle 8 and 3 mm above the upper edge 6 of the eye of the needle. The setting is checked with adjusting pin 4.

- Undo screw 3.
- Remove the needle from the needle bar 2.
- Push adjusting pin 4 into the needle bar as far as it will go.
- Tighten screw 3.
- Lock the machine in adjustment position **A**.
  The foot of adjusting pin 4 must be in contact with the needle plate.



Adjustment

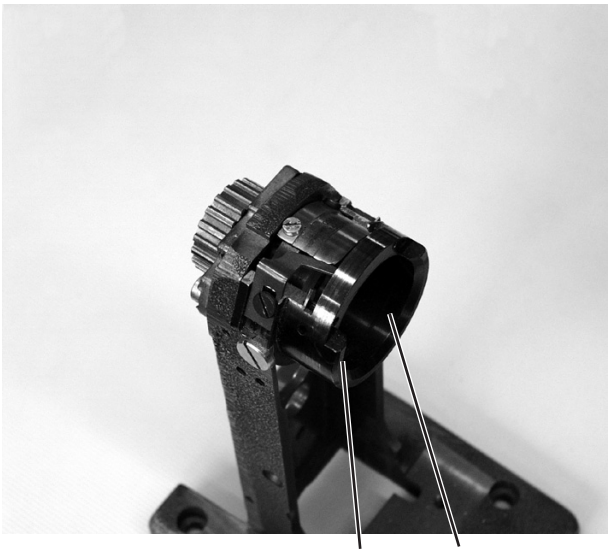
- Unscrew the cover.
- Undo screw 1.
- Raise or lower the needle bar until the foot of adjusting pin 4 makes contact with the needle plate.
  Caution:
  Do not twist the needle bar when moving it.
- Tighten screw 1.
- Replace and screw down the cover.

Having the needle bar at the wrong height may cause:

- damage to the shuttle tip
- the shuttle thread to jam between the needle and the needle guard
- faulty stitches and thread damage.

4. Shuttle

4.1 Aligning the shuttle shaft



Caution: danger of injury

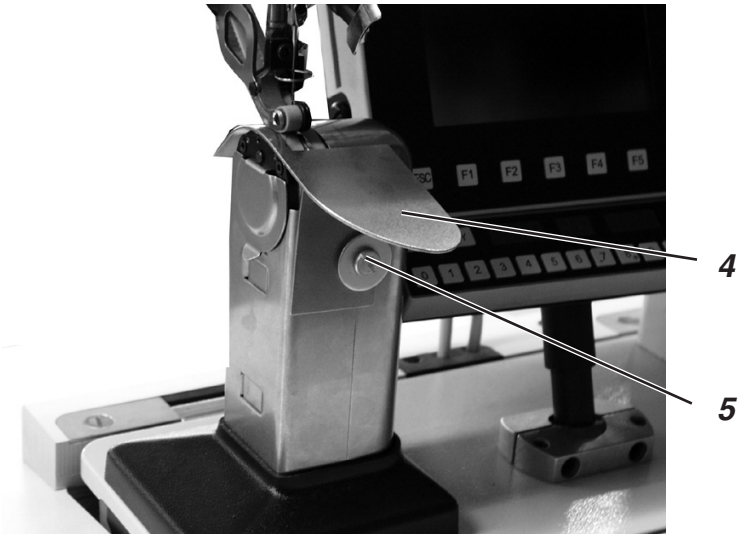
Turn off the main switch.

The shuttle shaft may only be adjusted with the machine switched off.

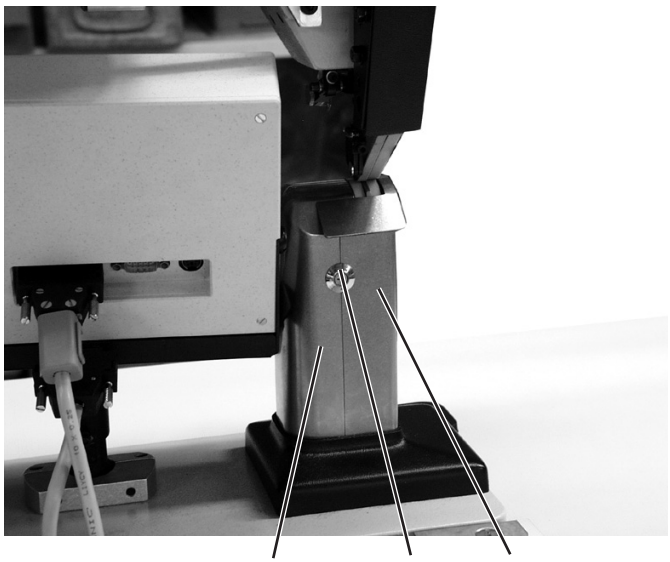
Regulation and inspection

The shuttle shaft 1 is factory-aligned.
When it is correctly aligned the shuttle 3 is equidistant from the shuttle-drive housing 2 at every point.

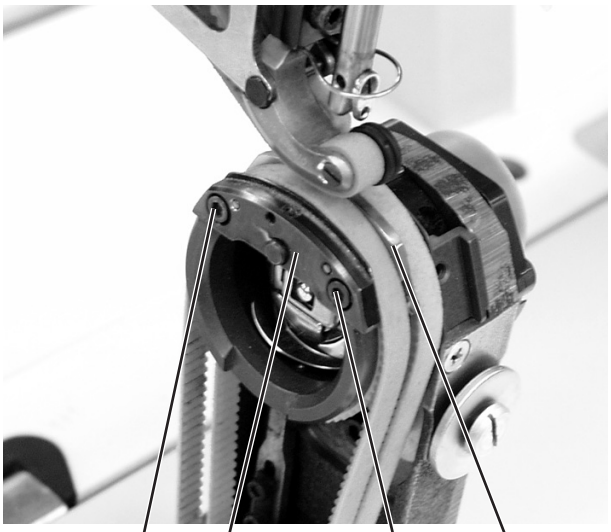
Adjustment



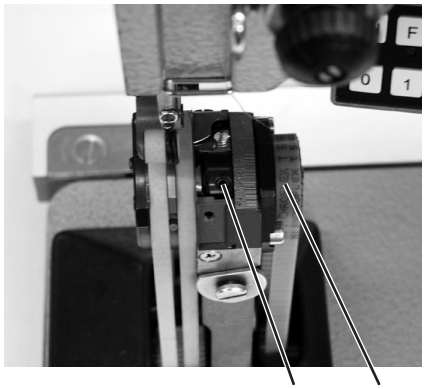
– Undo screw 5.
– Remove support 4.



8 7 6



12 11 10 9



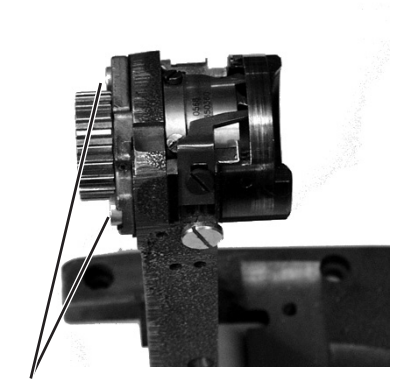
14 13

– Undo screw 7.
– Remove the left and right casings 6 and 8.
– Remove screws 10 and 12.
– Remove the centre-holder 11 and needle plate 9.
– Undo the shuttle screw 14 and extract the shuttle from the drive housing.
– Remove the synchronous belt 13.
– Undo screws 16.
The shuttle support and shaft are loose.
– Place the gauge 15 on the shaft.
– Move the shaft laterally and vertically until the gauge 15 can be pressed into the shuttle-drive housing.
– Tighten screws 16.

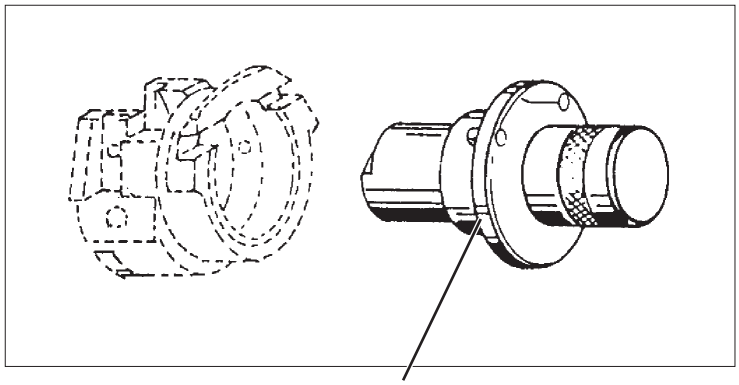
CAUTION:

The shaft and drive wheel must move freely when rotated.

– Remove the gauge 15.
– Replace the belt 13.
– Place the shuttle on the shaft, align and adjust (see section 4.3).

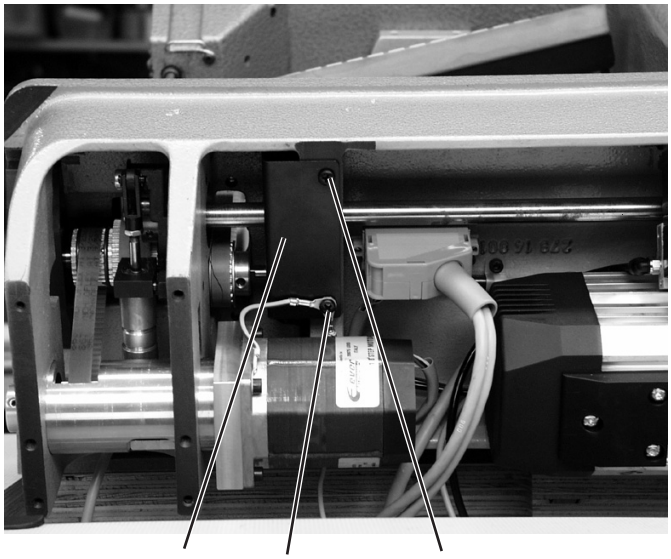


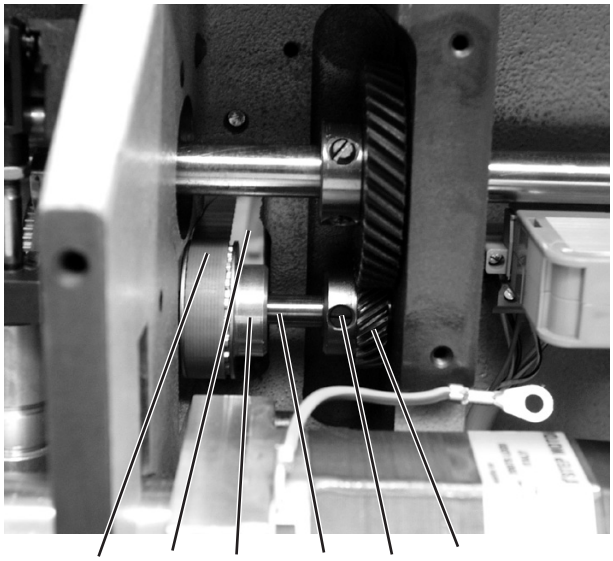
16



15

4.2 Changing the shuttle-drive synchronous belt

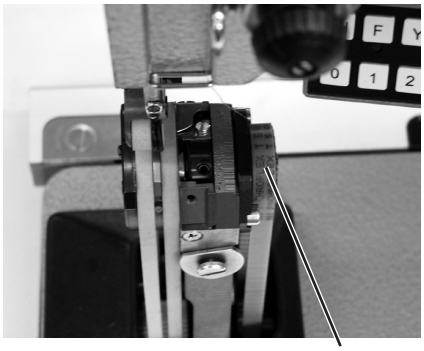




Caution: danger of injury

Switch the machine off.

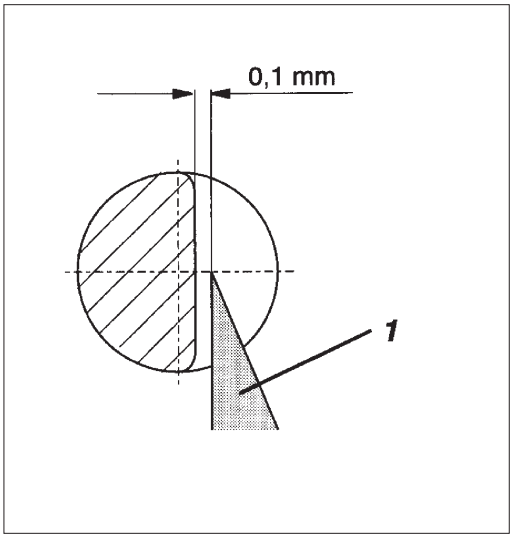
The belt may only be changed with the machine switched off.

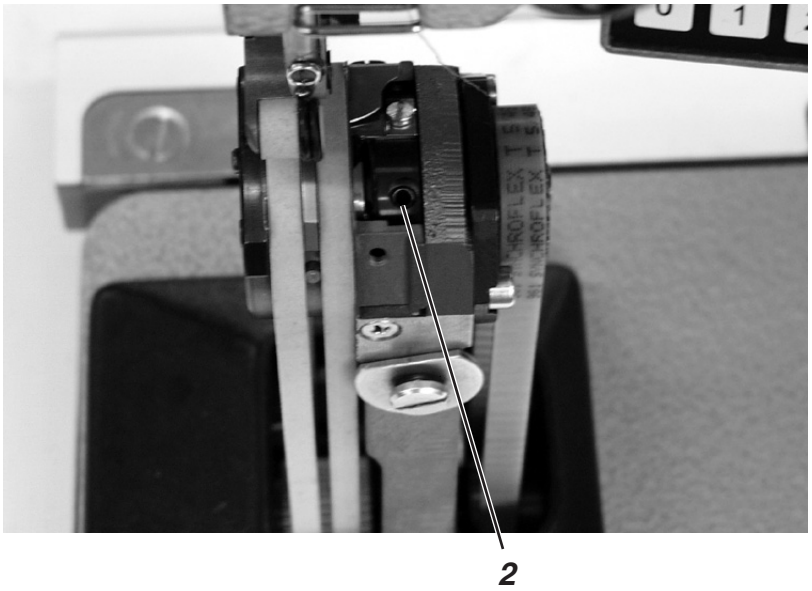


Changing the belt

- Remove screws 1 and 2 and cover 3.
- Undo screw 5 on the sprocket 4.
- Remove belt 9 from the shuttle shaft.
- Push the lower belt pulley 7 with the shaft 6 to the right. The belt can be removed to the left.
- Pass the new belt 9 down through slit 8 and place it on the lower belt pulley.
- Push the lower belt pulley to the left and place shaft 6 against sprocket 4.
- Tighten screw 5 of sprocket 4.
- Place belt 9 on the shuttle-shaft sprocket.
- Adjust the loop stroke (see section 4.3).

4.3 Loop stroke and gap between shuttle tip and needle





Regulation and inspection

The loop stroke is the path taken by the needle bar from bottom dead centre to the point at which the shuttle tip is at the centre of the needle. The loop stroke is 1.8 mm long.

With the machine locked in position **A** the shuttle tip 1 must be at the centre of the needle.

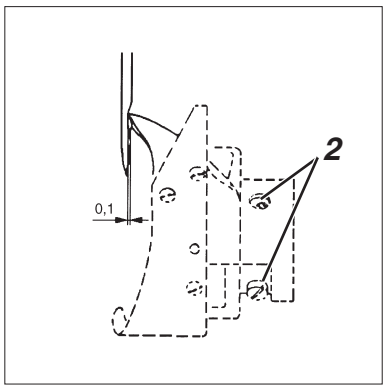
The gap between the shuttle tip 1 and the needle must be 0.1 mm.

3

Caution: danger of injury

Turn off the main switch.

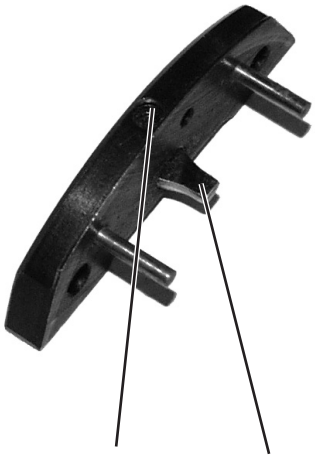
The loop stroke and the gap between the shuttle tip and needle may only be checked and adjusted with the machine switched off.



Adjustment

- Remove the sewing foot and needle plate.
  Fit a new needle.
- Lock the machine in position **A**.
- Undo the shuttle's attaching screws 2.
- Place the shuttle tip 1 at the centre of the needle.
  The gap between the shuttle tip 1 and the throat of the needle must be 0.1 mm.
- Retighten the shuttle's attaching screws 2.
- Replace the sewing foot and needle plate.

4.4 Bobbin-housing holder



Caution: danger of injury

Turn off the main switch.

The bobbin-housing holder may only be adjusted with the machine switched off.

Regulation and inspection

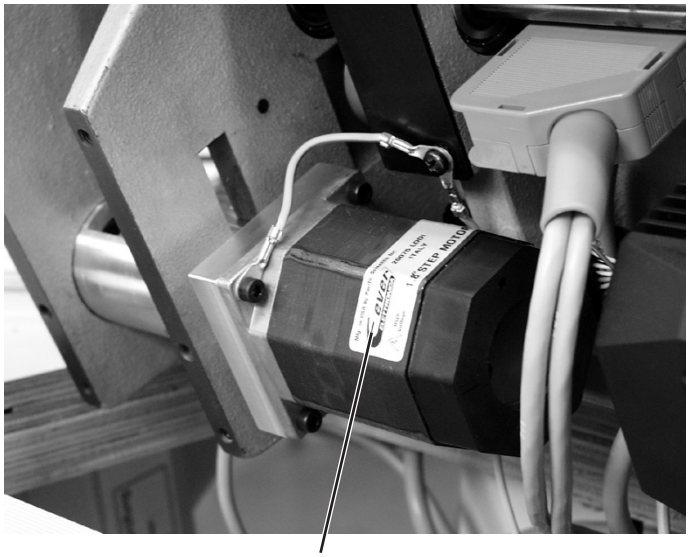
The gap between the bobbin-housing holder 1 and the centre of the shuttle 2 must be at least equal to the thickness of the yarn so that the yarn can pass freely through it.

Adjustment

- Undo screw 3.
- Set pin 1 to the centre of the shuttle.
- Retighten screw 3.

5. Material feed

5.1 General



1

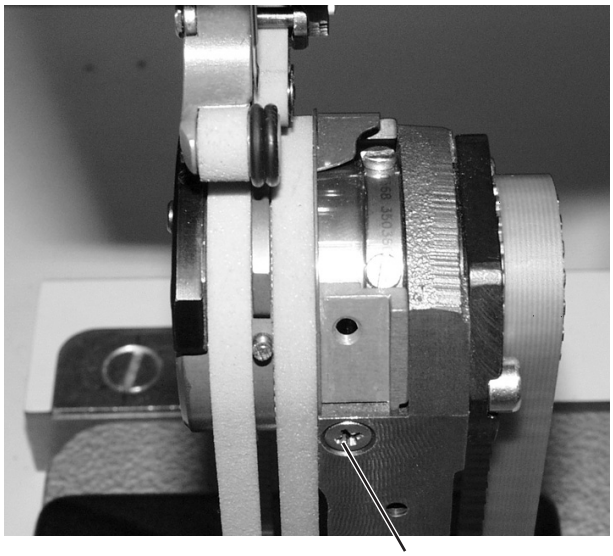
2

The upper and lower belt feeds are driven by two separate step motors.

Step motor 1 for the lower belt feed is connected to the drive transmission with a slip clutch.
Step motor 2 for the upper belt feed is directly connected to the feed belts.

Power is transmitted by synchronous belt to the upper and lower feeds (2 feed belts for each).

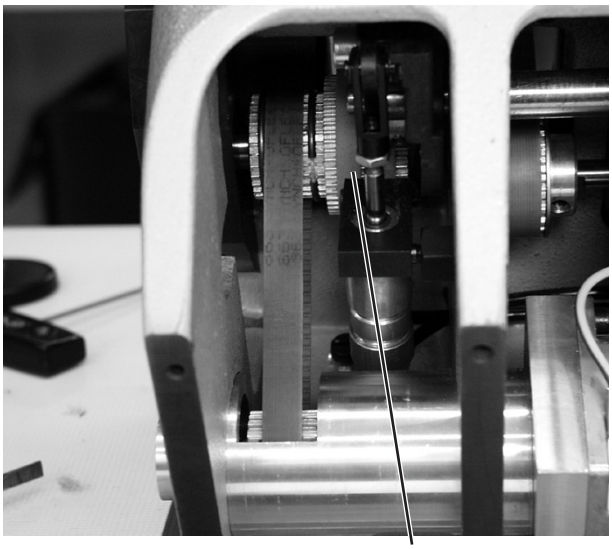
3 2 1



4

5

8 7 6



9

5.2 Underfeed

5.2.1 Changing the feed belts

Caution: danger of injury

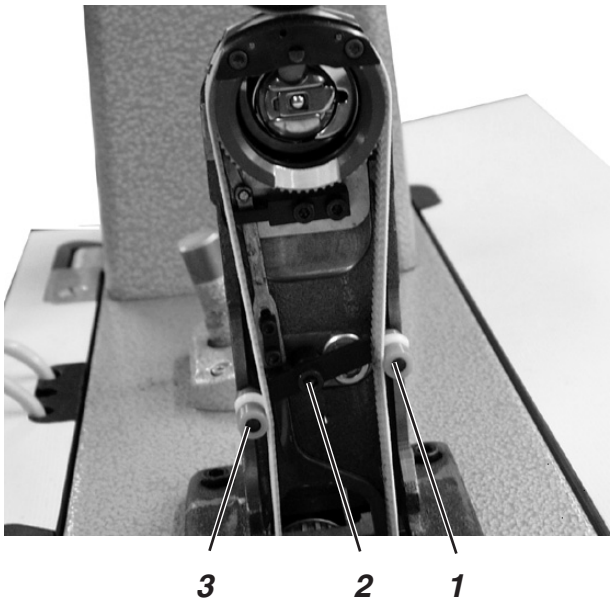
Turn off the main switch.

The feed belts may only be changed with the machine switched off.

Changing the feed belts

- Undo screw 2.
- Pivot tension rollers 1 and 3 from the feed belts.
- Loosen screws 4 and 5 and lift column head 8 with feed belts 7 off column 6.
- Remove feed belts.
- Fit new belts.
  First place them on the lower sprocket 9, then fit them onto the column 6 together with the column head 8.
- Tighten the column head with screws 4 and 5.
- Screw tension rollers 1 and 3 onto the feed belts and secure the position with screw 2.

5.2.3 Feed-belt tension



Regulation and inspection

The feed-belt tension should be such that the step length is exactly transmitted.
Excessive feed-belt tension can produce disproportionate wear and functional tension.

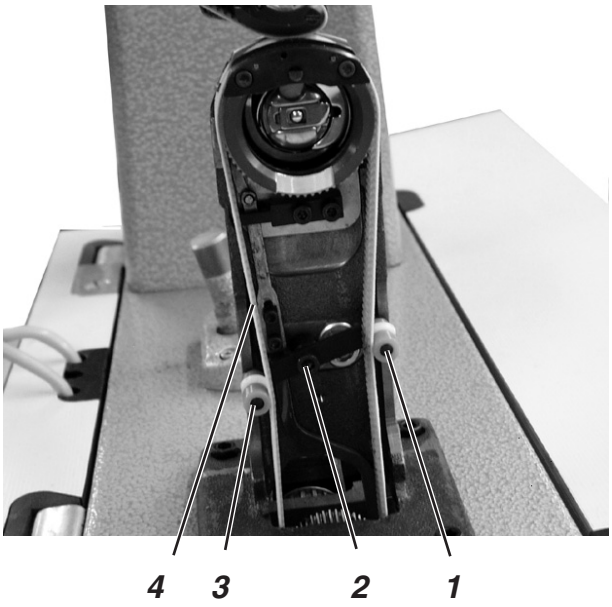
Caution: danger of injury

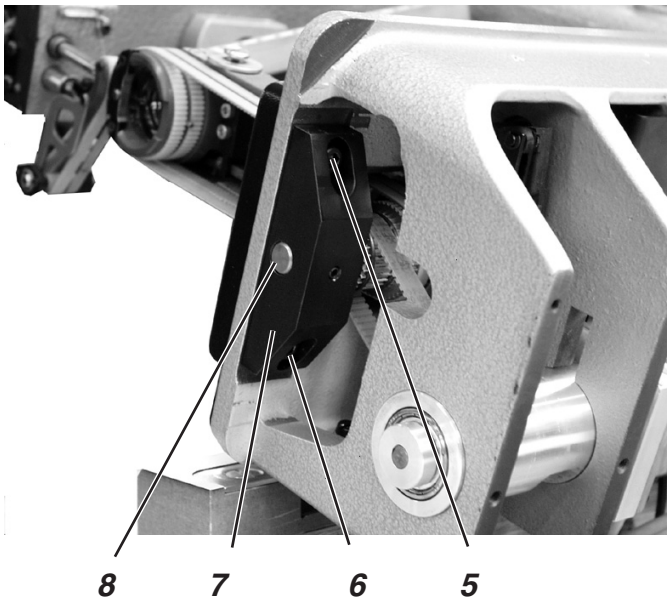
Turn off the main switch.

The feed-belt tension may only be adjusted with the machine switched off.

- Undo screw 2.
- Lightly press rollers 1 and 3 against the feed wheels.
- Retighten screw 2.

5.2.4 Changing the drive belt





Caution: danger of injury

Turn off the main switch.

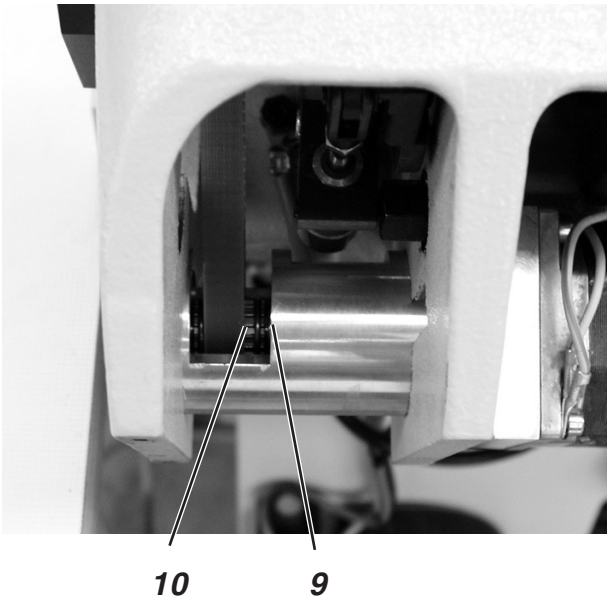
The drive belt may only be changed with the machine switched off.

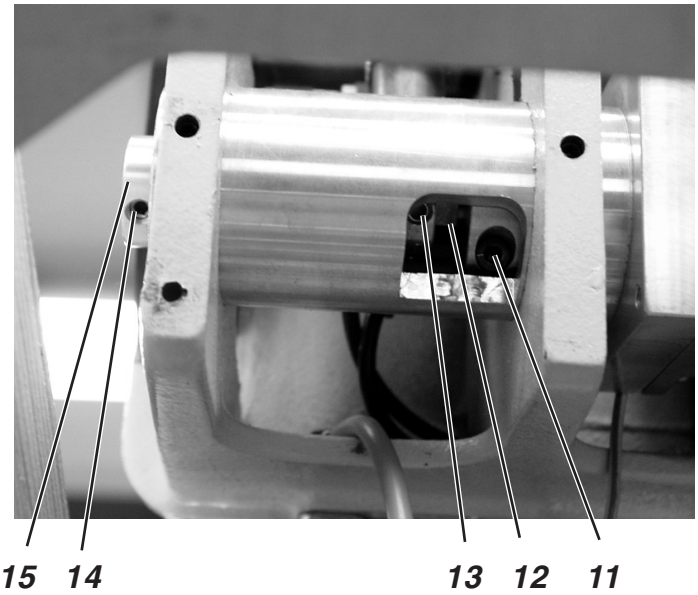
Releasing the feed-belt tension

– Undo screw 2 and move tension rollers 1 and 3 away from the feed belts 4.
  The feed belts are loose.

Remove the drive unit

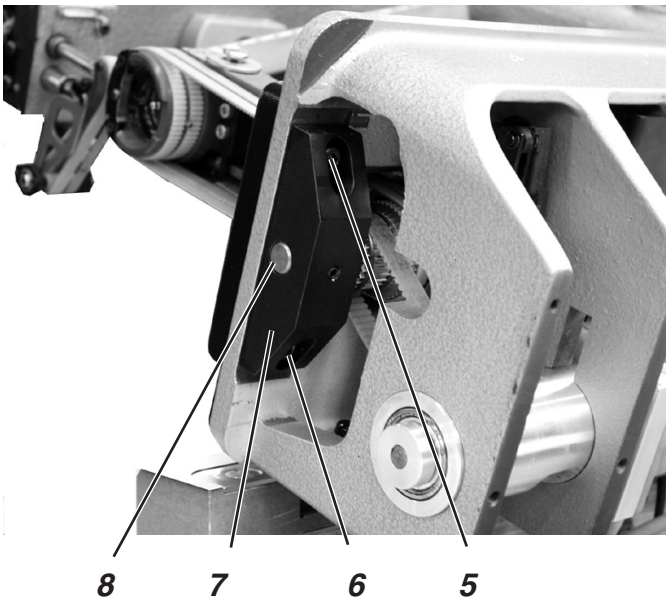
– Fold back the head of the machine.
– Loosen screws 5 and 6 and remove the bearing block 7 with the shaft 8.

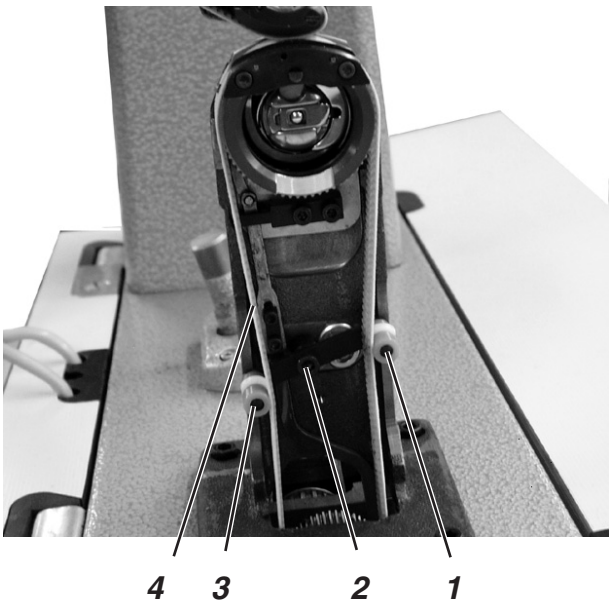




Changing the belt

- Undo screw 11 on the slip clutch.
- Undo screw 14 and remove the setting ring 15.
- Undo screw 13 on the inner setting ring.
  The screw is in contact with the flat area. Loosen the screw until the setting ring can be pushed over the shaft.
- Push the shaft 12 out to the left
  as follows:
  Insert a screwdriver between block 9 and sprocket 10 and lever the sprocket to the left.
  Undo screws on the sprocket 10.
  Push the sprocket to the right and retighten screws.
  Use the screwdriver to lever the sprocket 10 with the shaft to the left until the sprocket with the drive belt is loosely in the belt-exit opening.
- Replace the belt.
- Push shaft 12 in again and push on the inner setting ring and sprocket, making sure the flat area is in the right position.
- Push the shaft in until it is flush with the setting ring 15.
- Tighten the setting ring 15 on the flat area of the shaft with screw 14.
- Retighten the sprocket screws, inner setting ring and slip clutch.





Fitting the drive unit

– Replace the bearing block 7 with the shaft 8 and fit the feed belts.
– Screw the bearing block tight with screws 5 and 6.

Adjusting the synchronous-belt tension

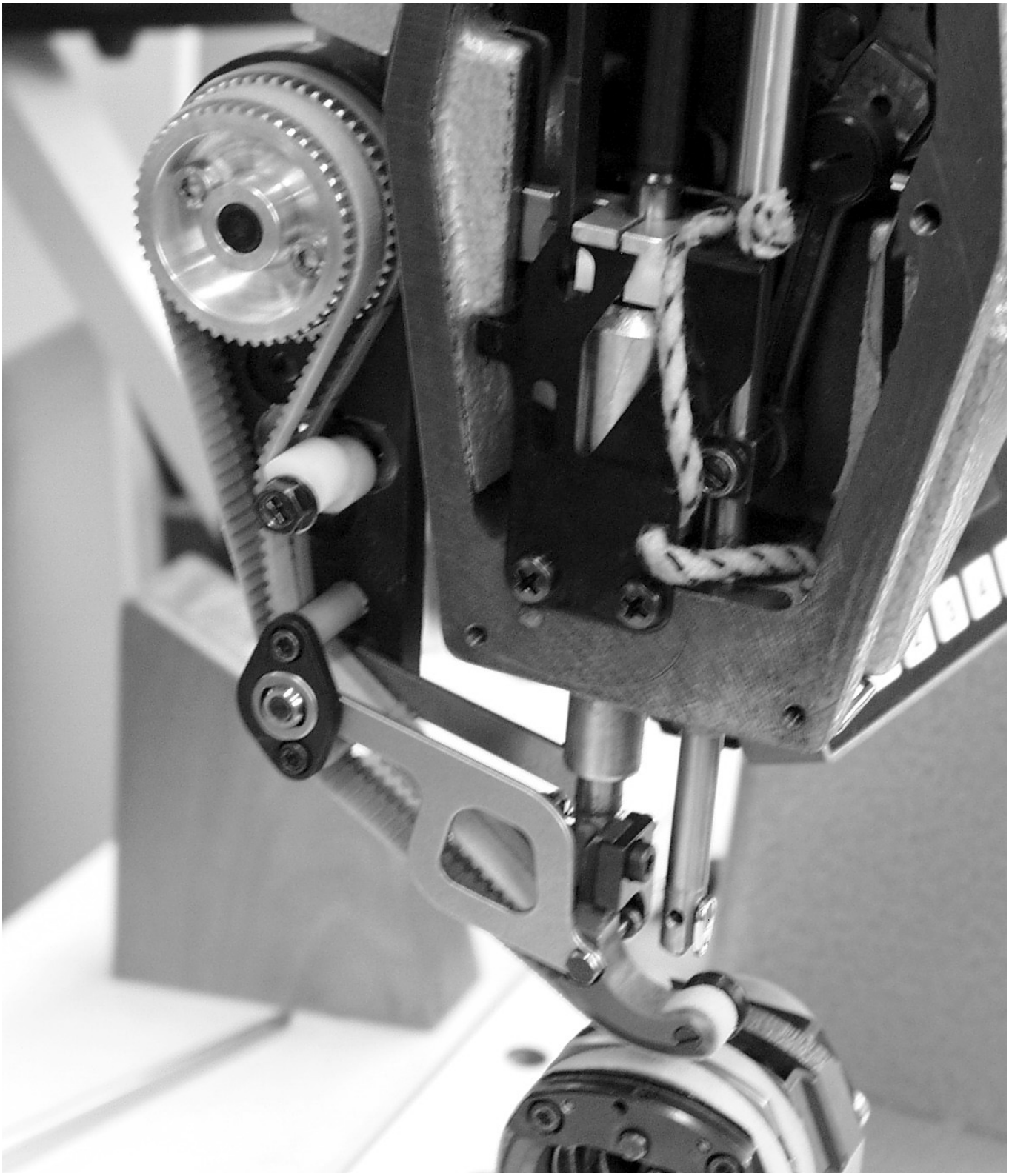
– Undo screws 5 and 6.
– Press the block 7 backwards against the edge provided and push it into the slots.
– Retighten screws 5 and 6.

Adjusting the feed-belt tension

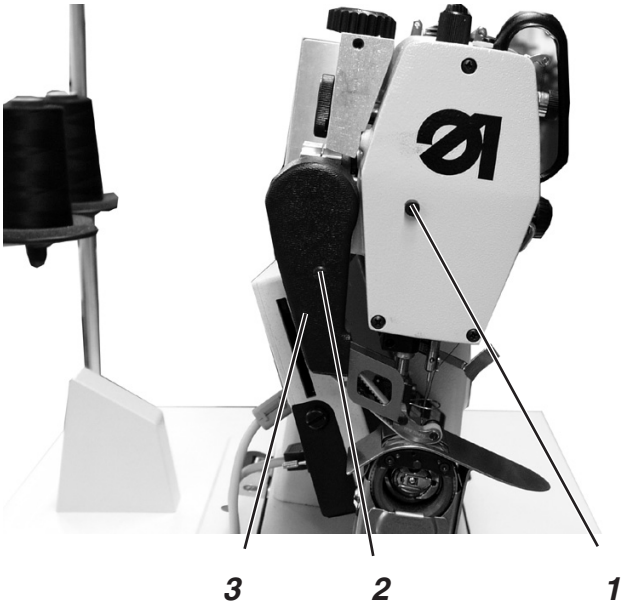
– Place the tension rollers 1 and 3 against the belt 4 and secure with screw 2.

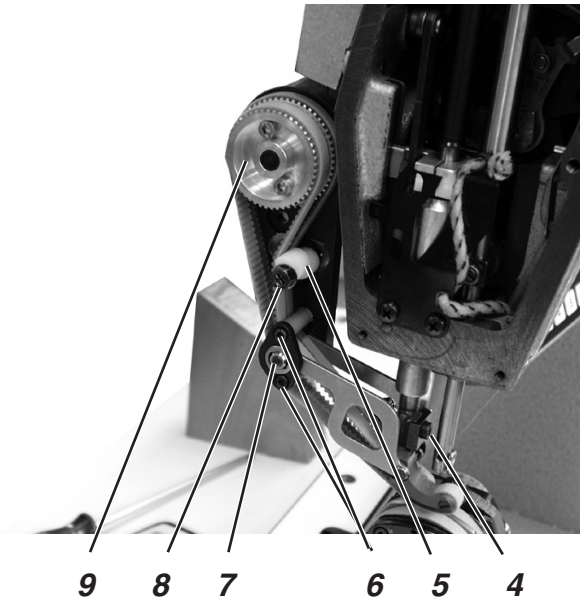
5.3 Overfeed

5.3.1 Feed belts: overview



5.3.2 Changing the feed belts

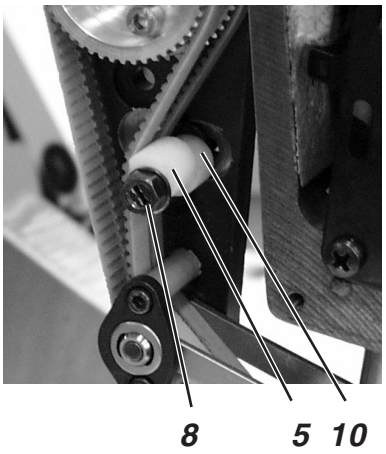




Caution: danger of injury

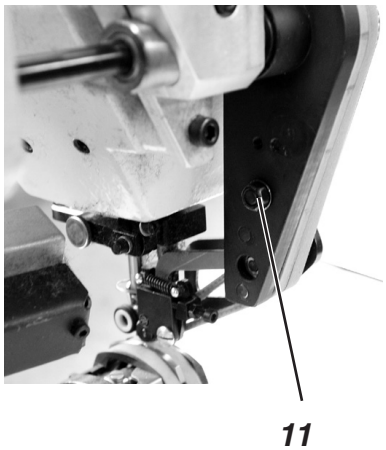
Turn off the main switch.

The feed belts may only be changed with the machine switched off.



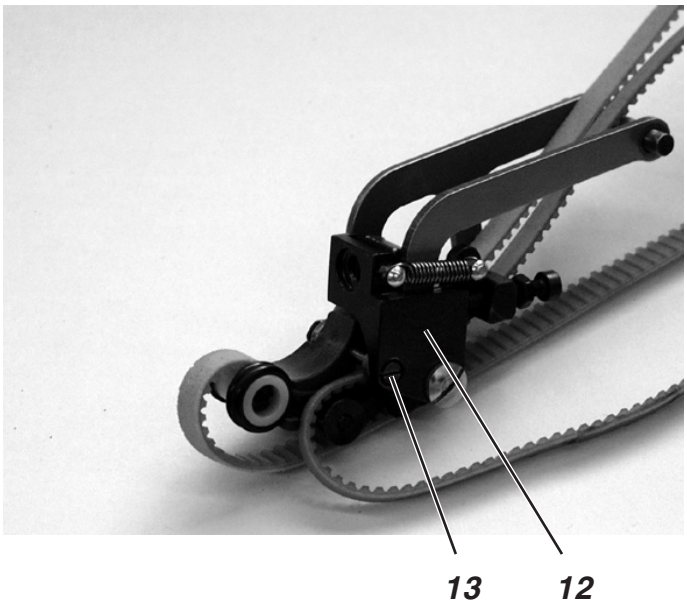
Remove the sewing foot with feed belts.

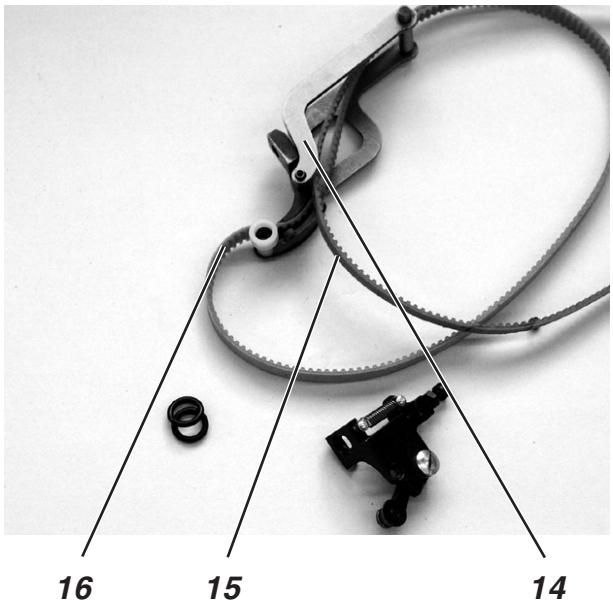
- Raise the sewing foot and lock it in the up position with press-button 1.
- Undo screw 2 and remove the guard 3.
- Undo screw 8 and relax the front tension roller 5.
- Undo screw 11 and relax the rear tension roller 10.
- Remove both feed belts from the drive pulleys 9.
- Undo screws 6 and remove the mounting plate 7.
- Undo the sewing-foot attachment screw 4 and remove the sewing foot with feed belts.



NB:

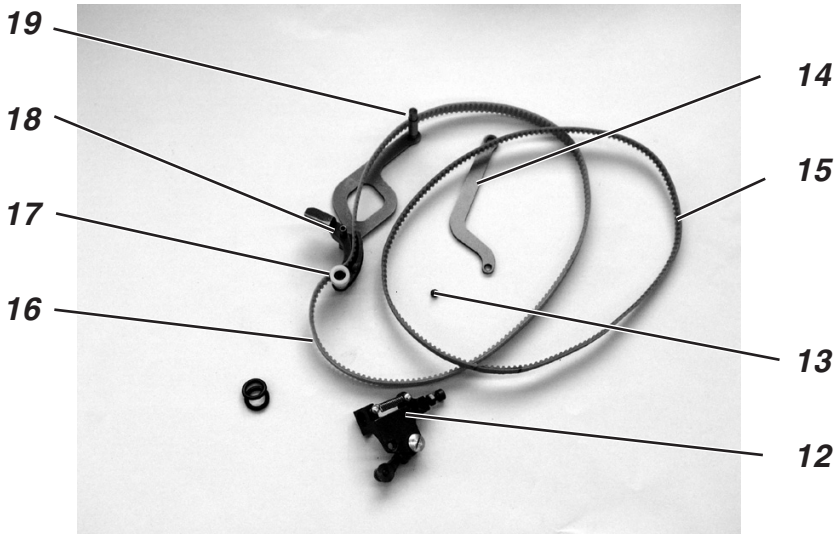
On machines delivered before October 2000 the belts are different: the narrower, right-hand belt is longer.
The differences can be found in the parts list.





Removing the feed belts at the sewing foot

- Undo screw 13.
- Pull off the right-hand side 12 of the sewing foot.
- Remove the link plate 14.
- Remove belts 15 and 16.



Fit the feed belts to the sewing foot

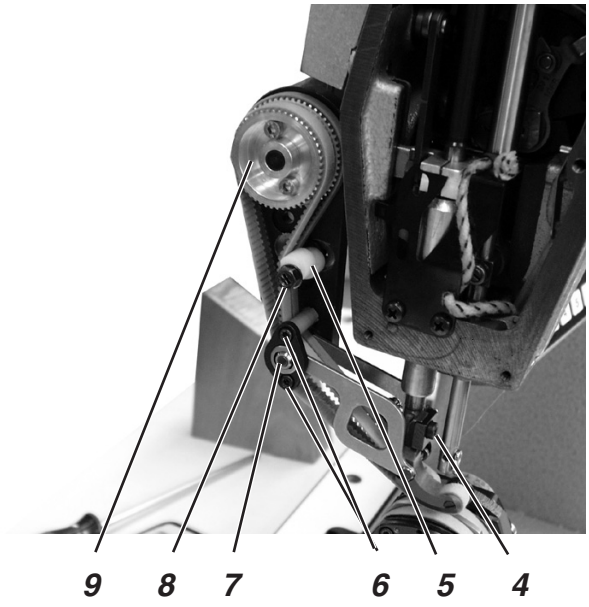
NB:

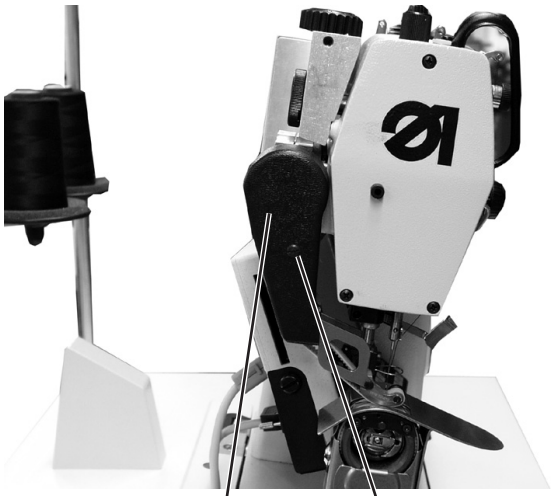
The narrower belt must be mounted on the right of the sewing foot.

- The wide feed belt 16 must pass over roller 17, under pin 18 and over pin 19.
- Fit the narrow feed belt 15 exactly like the wide belt 16.
- Fit the link plate 14 onto pins 18 and 19.
- Fit the right-hand part 14 of the sewing foot and secure with screw 13.

Fitting the sewing foot with feed belts

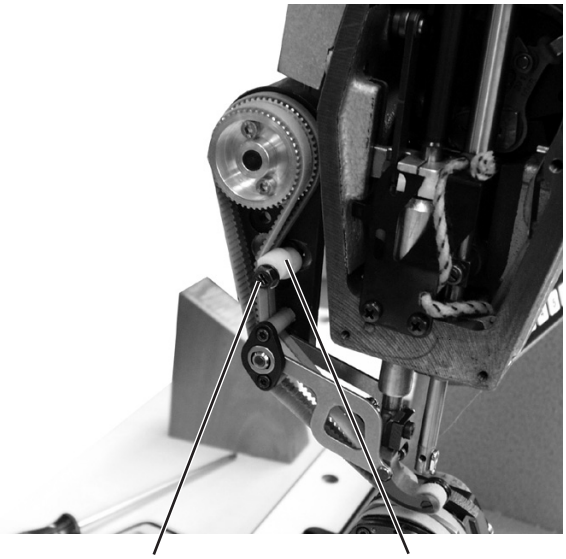
– Place the feed belts on the drive pulleys 9.
– Place the feed belts 15 and 16 on the sewing-foot rollers, mount the sewing foot on the presser bar and secure with screw 4.





– Fit the mounting plate 7 and secure with screw 6.
– Adjust the feed-belt tension (see section 5.3.3).
– Put on the cover 3 and tighten with screw 2.

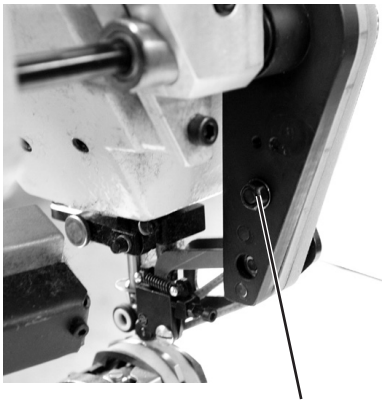
5.3.3 Feed-belt tension

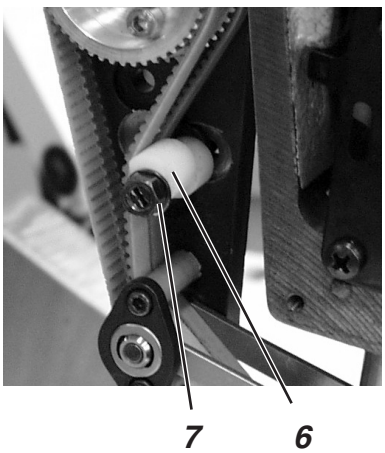


Caution: danger of injury

Turn off the main switch.

The upper feed belts may only be tensioned with the machine switched off.





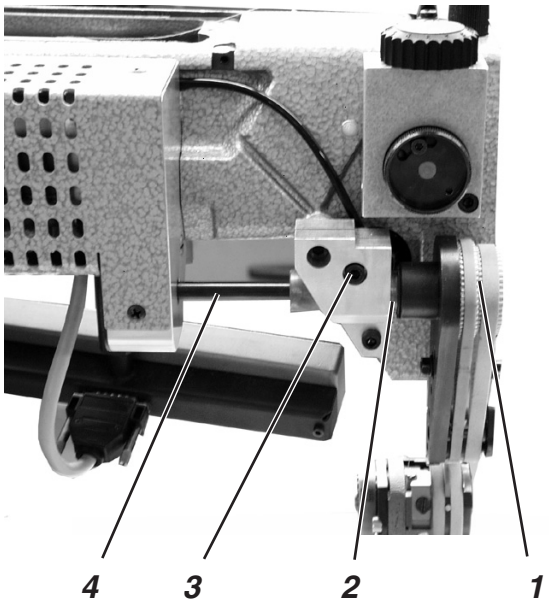
Adjustment

The tension in the two feed belts must be such as to ensure that stitch lengths are transmitted exactly.
Excessive feed-belt tension may lead to disproportionate wear and malfunctions, e.g. the foot sticking in the upper position or failing to descend fully onto the lower belts.

Adjusting the feed tension

- Undo screw 1 and remove the cover 2.
- Undo nut 5 and twist the eccentric bolt 4 with a screwdriver until the narrow feed belt is tensioned.
- Tighten nut 5.
- Slightly loosen nut 7.
- Twist the eccentric tension roller 6 with an open-ended spanner until the front feed belt is tensioned.
- Tighten nut 7.
- Replace the cover 2 and secure with screw 1.

5.3.4 Drive-shaft play



Regulation and inspection

To avoid friction losses in the upper-belt-feed drive there should be minimum play between the feed pulleys 1 and the bushing 2.
There must be a perceptible gap at the sides of the drive shaft 4.

Caution: danger of injury

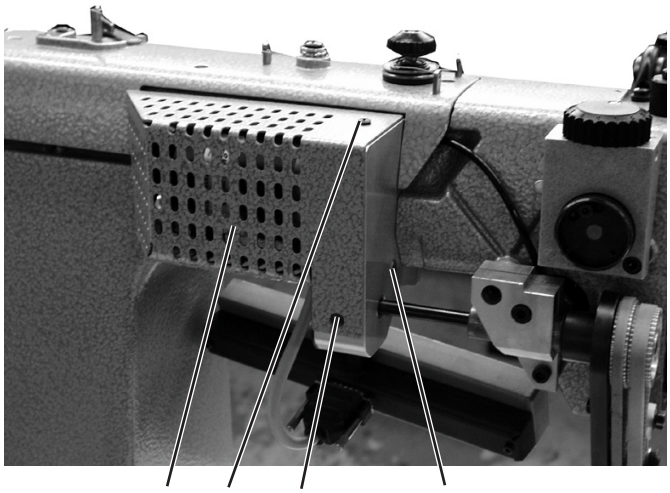
Turn off the main switch.

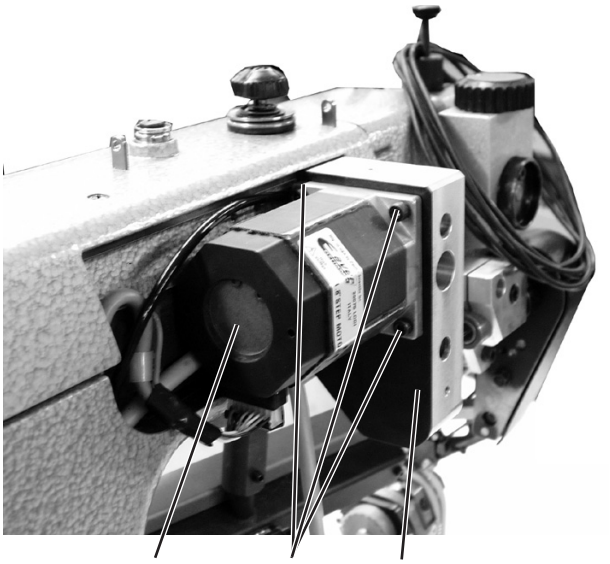
The play in the shaft may only be checked and adjusted with the machine switched off.

Adjusting the play

- Undo clamping screw 3.
- Push the bushing 2 against the feed pulleys 1, then retract it by about 0.1 mm.
- Retighten clamping screw 3.
- Check the play in the drive shaft.

5.3.5 Changing the synchronous belt

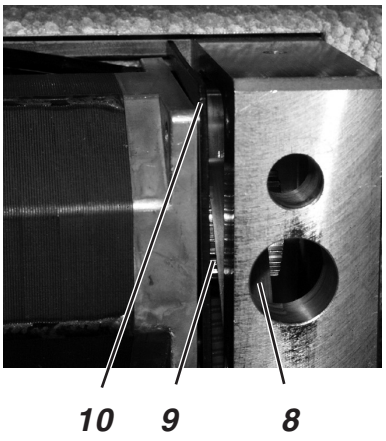




Caution: danger of injury

Turn off the main switch.

The synchronous belt may only be changed with the machine switched off.



- Undo screws 2 and 3 and the cover 4.
- Undo the four screws 6 and remove the motor 7 with sprocket 9 and cover plate 5.
- Remove the belt 8.
- Place the new belt 8 on the lower belt pulley.
- Replace the motor 7 with its cover 10 so that the belt pulley of the motor meshes with the belt 8.
- Push the motor fully against the drive housing, press upwards and secure with the four screws 6.
- Replace the cover 4 and secure with screws 2 and 3.

Tensioning the belt

- Undo threaded pin 11.
- Twist eccentric 1.
- Retighten threaded pin 11.

Tensioning the belt on machines from February 2001

The belt is tensioned by pushing the motor up, even after the upper and lower step-motor gear ratio has been modified (see parts list).

- Undo screws 6.
- Press the motor 7 upwards.
- Retighten screws 6.

6. Sewing foot

6.1 Presser bar height

Caution: danger of injury

Turn off the main switch.

The height of the presser bar may only be adjusted with the machine switched off.

3

Regulation and inspection

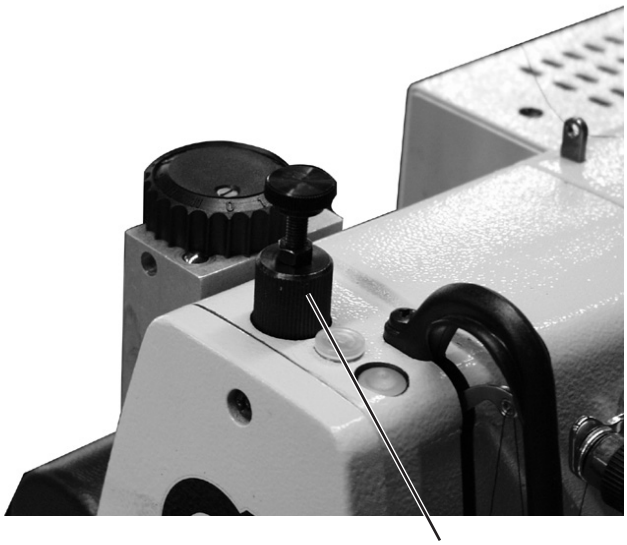
When the sewing foot is in contact with the lower feed belts there should be a gap of 0.5 - 1.0 mm between the presser block 2 and the lifting cylinder 1.

– Remove top.
– Check the gap between the presser block 2 and the lifting cylinder 1.

Adjustment

– Undo screw 3.
– Adjust the gap between the block 2 and the cylinder 1 to 0.5 - 1.0 mm.
– Align the sewing foot parallel with the lower feed belts and tighten screw 3.
– Replace top.

6.2 Sewing-foot lift



1

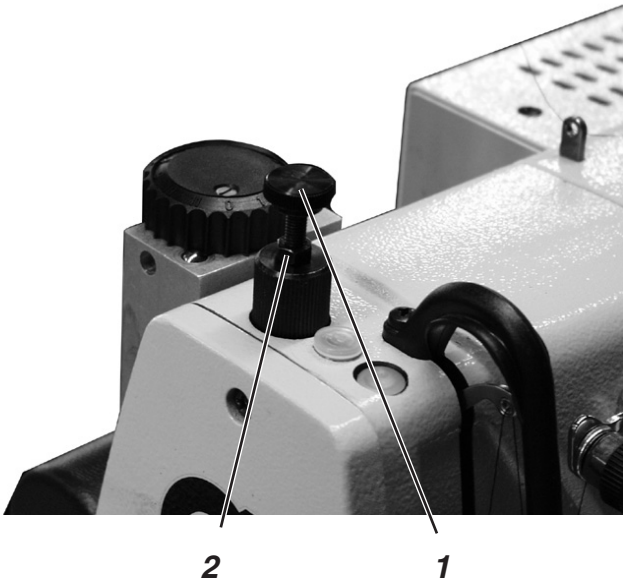
There is clearance of 8 mm under the sewing foot when it is raised.

Clearance is fixed: it cannot be altered.

CAUTION: DANGER OF BREAKAGE

The knurled-head screw 1 for the sewing-foot stroke height must always be fully screwed in.

6.3 Sewing-foot pressure



Regulation and inspection

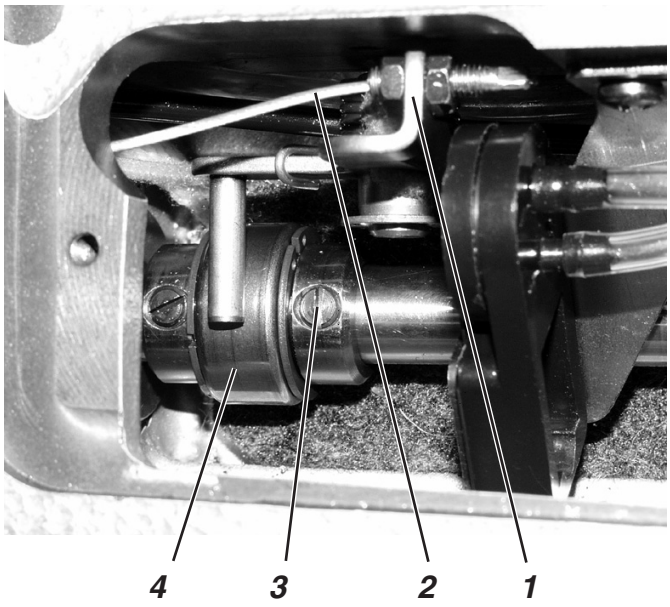
The sewing-foot pressure must be such that the fabric is neither loose nor compressed.
Do not apply more pressure than is necessary.

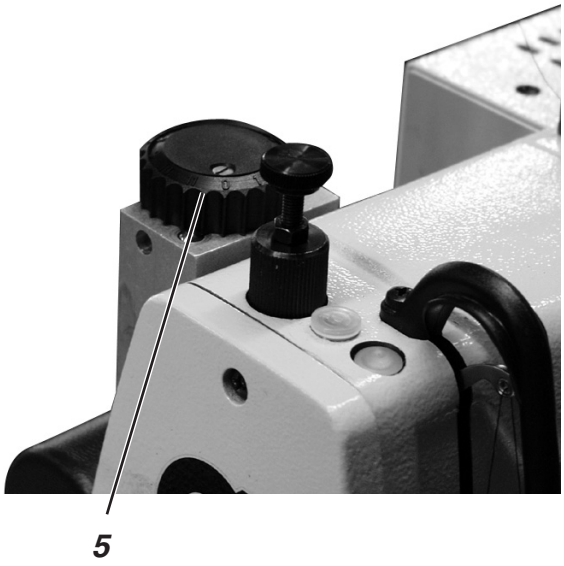
Adjustment

- Undo locknut 2.
- Adjust the sewing-foot pressure by turning screw 1:
  clockwise to increase pressure
  anticlockwise to reduce it.
- Retighten locknut 2.

6.4 Adjusting the sewing-foot stroke height

6.4.1 General





Adjusting the sewing-foot stroke height makes it easier to turn the fabric for rounded seams.
The fabric is released by briefly raising the sewing foot with the needle down.
The stroke movement of the sewing foot originates from eccentric 4 on the arm shaft and is transmitted to the presser bar by a cable 2.
The adjustment wheel 5 enables the stroke height to be regulated according to the type and thickness of the fabric.

6.4.2 Stroke timing

Caution: danger of injury

Turn off the main switch.

Stroke timing may only be adjusted with the machine switched off.

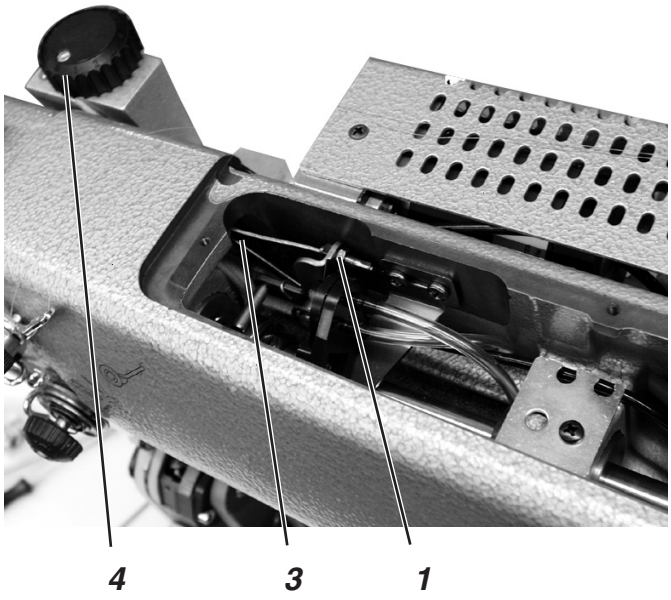
Regulation and inspection

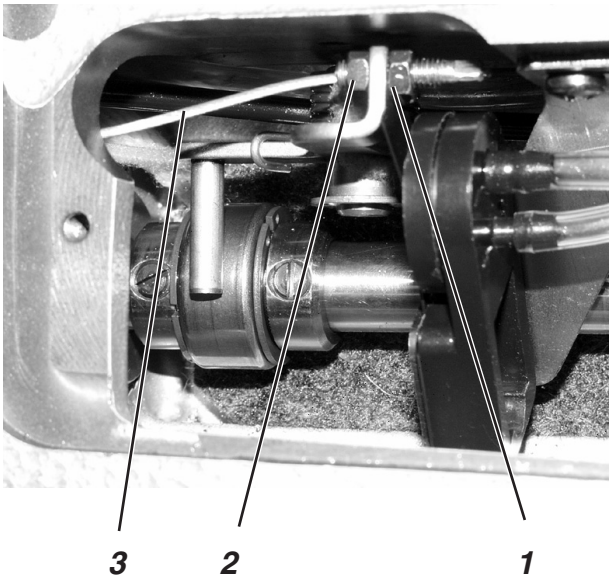
With the needle bar at bottom dead centre the lever 1 must be at its right-hand reversal point.

Adjustment

- Unscrew and remove the arm cover.
- Rotate the needle bar to bottom dead centre.
- Undo screws 3 on eccentric 2.
- Twist the eccentric to bring the lever 1 to its right-hand reversal point.
- Tighten screws 3 on eccentric 2.

6.4.3 Stroke height





Caution: danger of injury

Turn off the main switch.

The sewing-foot stroke height may only be adjusted with the machine switched off.

Regulation and inspection

With the adjustment wheel 4 in position “0" the sewing foot must not be raised. It must reach its maximum stroke height at position ”11".

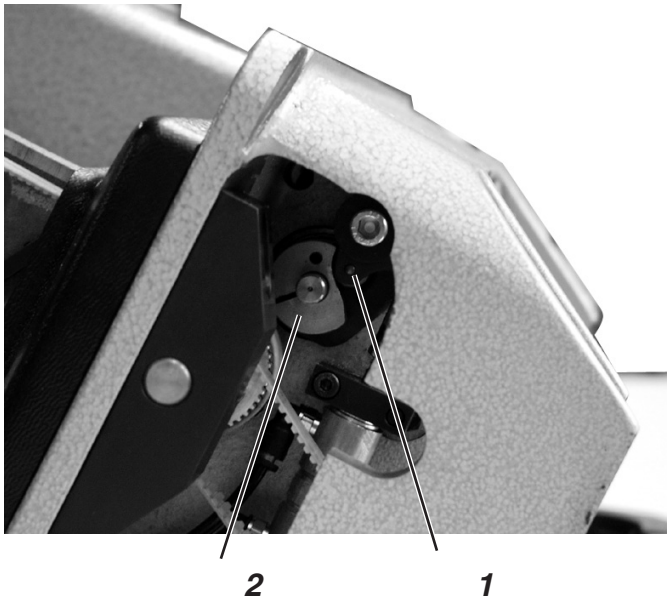
– Turn the adjustment wheel 4 to positions “0" and ”11" and check the position of the sewing foot.

Adjustment

– Unscrew and remove the arm cover.
– Turn the adjustment wheel 4 to position “0".
– Bring the needle bar to bottom dead centre.
– Undo locknuts 1 and 2.
– Move the cable 3 so that the sewing foot is not raised.
– Retighten locknuts 1 and 2.
– Turn the adjustment wheel 4 to “2".
  The sewing foot must be felt to pulsate slightly when the hand-wheel is turned.
  The maximum pulsation position is set automatically.

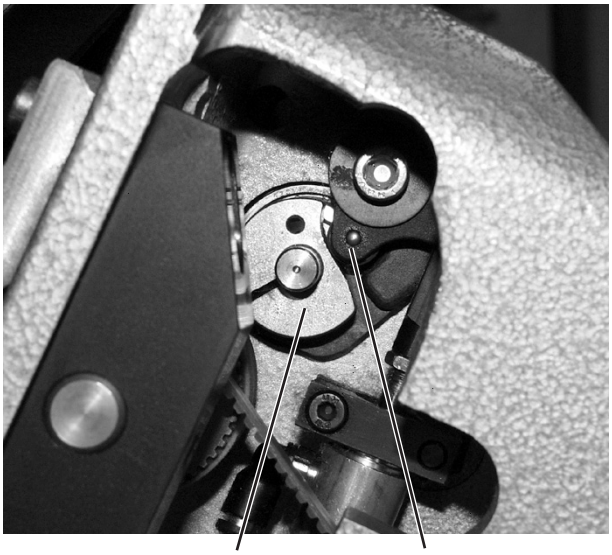
7. Thread cutter

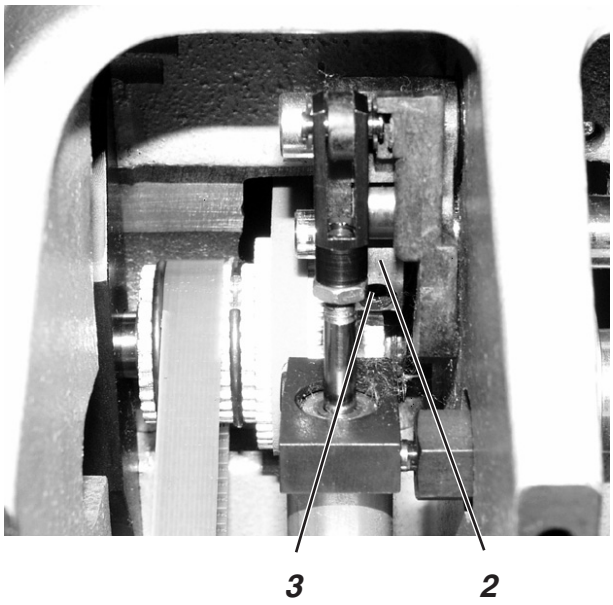
7.1 General

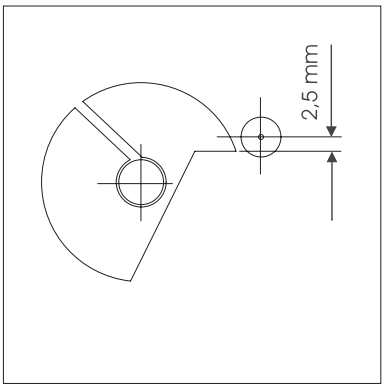


The control cam 2 determines the motion of the thread cutter and the timing of the blade movement.
This ensures that the timing coincides with the movements of the stitch-forming components.
The thread cutter is operated electro-pneumatically.

7.2 Control cam for blade-movement timing







Regulation and inspection

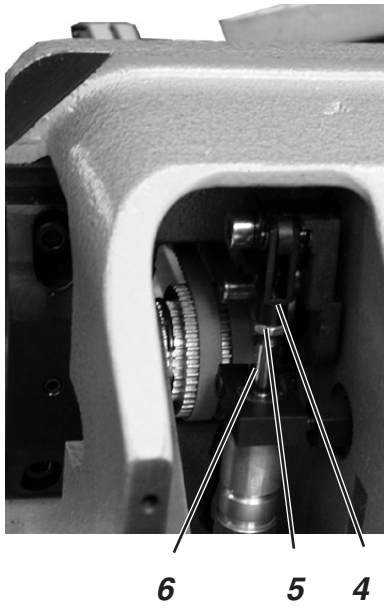
Before the thread cutter functions there must be a gap of 0.2 to 0.3 mm between the external diameter of the control cam 2 and roller 1.

With the machine locked in position C the control cam must be in the position shown at left.

Caution: danger of injury

Turn off the main switch.

The control cam may only be adjusted with the machine switched off.



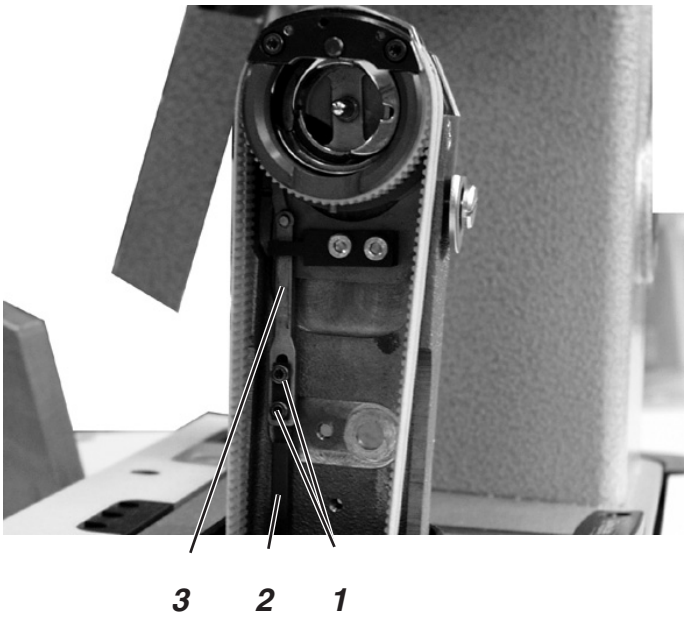
Adjusting the control-cam position

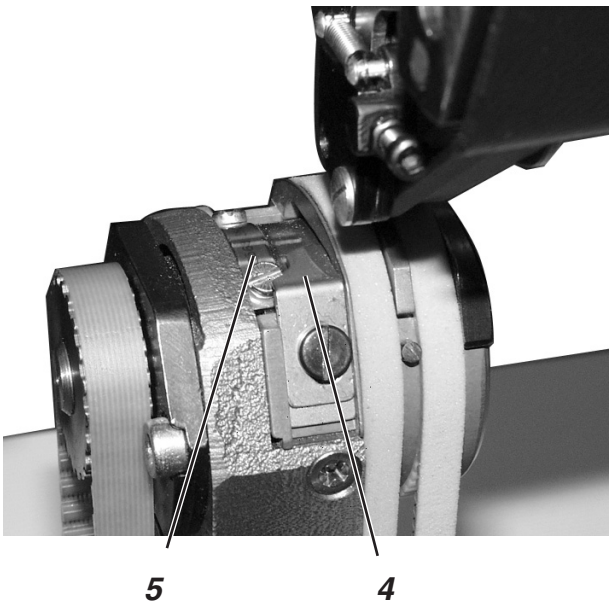
- Lock the machine in position **C**.
- Undo the attaching screws 3 of the control cam 2.
- Rotate the control cam on the lower shaft.
  The axial position must be such that the control cam 2 and roller 1 are opposite each other.
- Retighten the attaching screws 3 of the control cam 2.

Adjusting the gap between control cam and roller

- Undo locknut 5.
- Twist the piston rod 6 in the holder 4 so that there is a gap of 0.2 to 0.3 mm between the external diameter of the control cam 2 and the roller 1.
- Retighten locknut 5.

7.3 Cutter-blade position



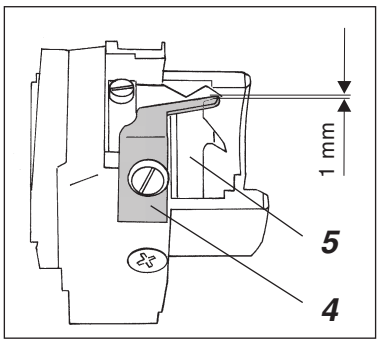


Caution: danger of injury

Turn off the main switch.

The position of the cutter blades may only be checked and adjusted with the machine switched off.

Regulation and inspection

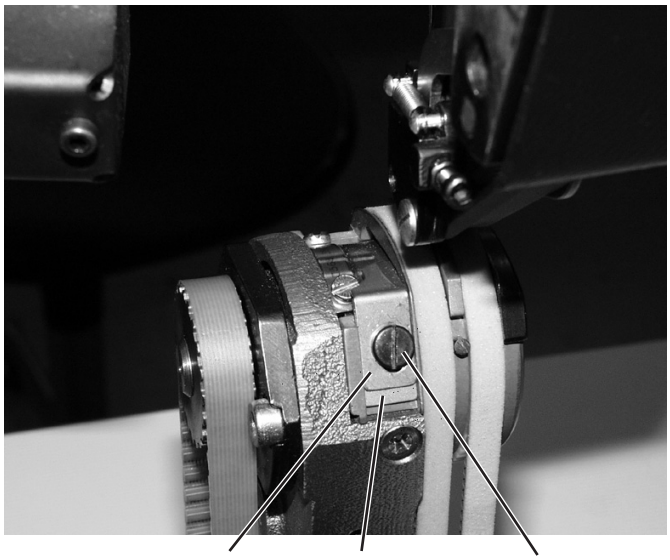


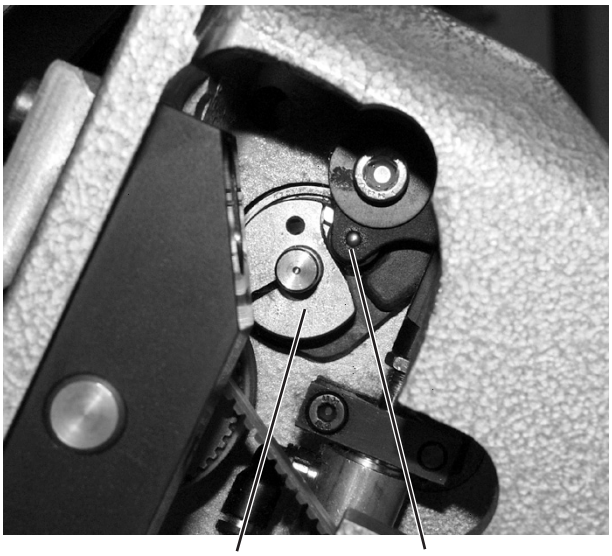
When the thread cutter system is in its normal position, the thread puller blade 5 should overlap the counter-blade 4 by 1 mm.

Adjustment

- Move the thread lever to the up position.
- Undo screws 1 and adjust the position of the cutter blades by altering the relative positions of the push rods 2 and 3.
- Retighten screws 1.

7.4 Counter-blade cut pressure





Caution: danger of injury

Turn off the main switch.

The counter-blade cut pressure may only be checked and adjusted with the machine switched off.

3

Regulation and inspection

The needle and shuttle threads must be severed with the minimum possible pressure.
Excessive pressure increases wear and reduces the reliability of the cut.

Adjustment

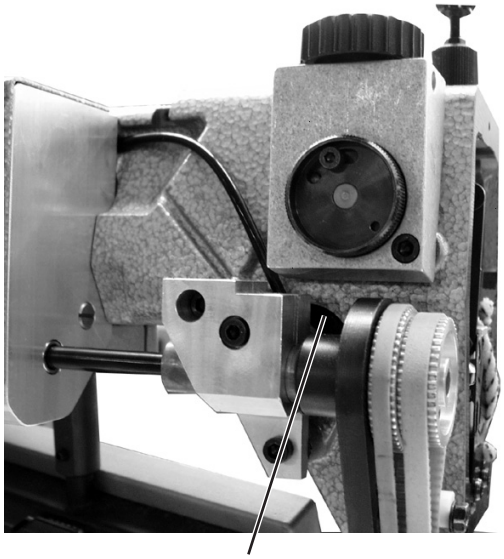
- Turn the hand-wheel until the roller 4 can be manually swivelled into the control cam 5.
- Undo screw 1.
- Press the counter-blade with the thread guard 3 lightly onto the drawing blade.
- Tighten screw 1.
- Check the cut pressure and the free movement of the thread cutter by moving the connecting rod 6 up and down.
- Test the cut with sewing thread and adjust the setting as required.

NB:

The thread guard 3 must always lie flat on the counter-blade.

8. Thread-guiding components

8.1 Needle-thread tension release



2

1

Caution: danger of injury

Turn off the main switch.

The needle-thread tension release may only be adjusted with the machine switched off.

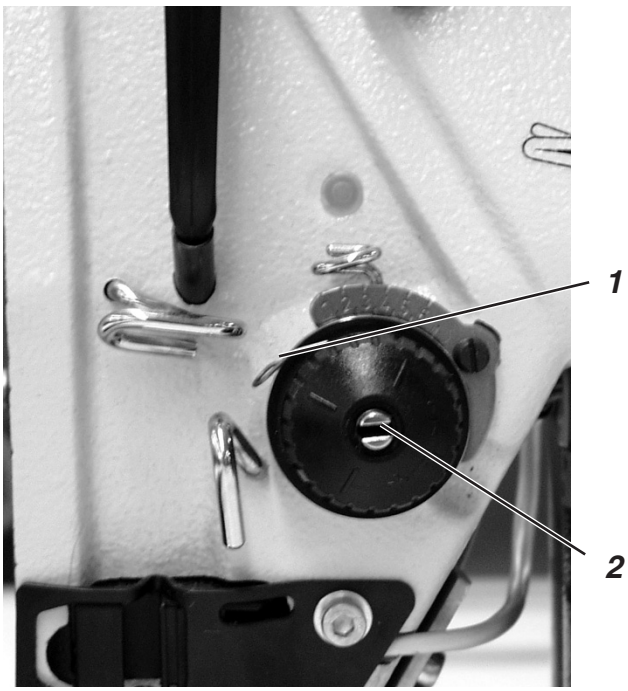
Regulation and inspection

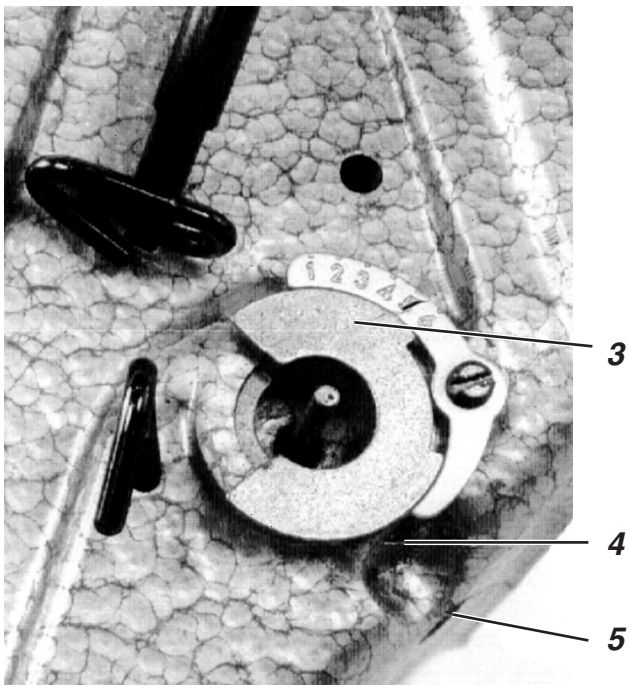
Press on the axle of the needle-thread tensioner to open it by about 1 mm.

Adjustment

– Undo screw 1.
– Move the cylinder 2.
With the needle-thread tensioner fully closed and no thread between the tensioner discs there should be about 0.3 mm of play in the axle.
– Retighten screw 1.

8.2 Thread-tensioning spring





Regulation and inspection

The thread-tensioning spring 1 must keep the needle thread under tension at least until the needle tip has penetrated the fabric.

Caution: danger of injury

Turn off the main switch.

The thread-tensioning spring may only be adjusted with the machine switched off.

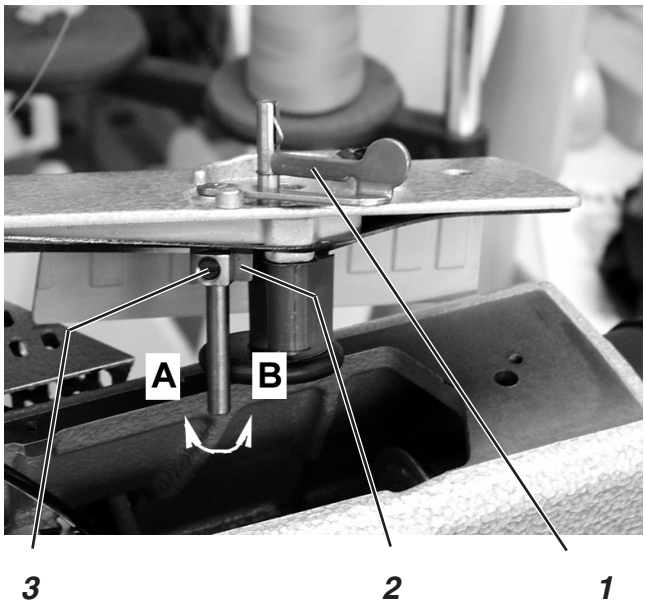
Adjusting the thread path

– Undo screw 4.
– Twist the sleeve 3.
  The thread-tensioning spring 1 must pre-tension the needle thread at least until the needle tip has penetrated the fabric.
– Retighten screw 4.

Adjusting the spring tension

– Undo screw 5.
– Adjust the tension by twisting the tensioning bolt 2.
  The tension of the thread-tensioning spring must be between 20 and 50 cN (1 cN = 1 g) depending on the fabric and yarn.
– Retighten screw 5.

8.3 Bobbin winder



Regulation and inspection

The bobbin winder must turn off automatically when the bobbin is fully wound to a point 0.5 mm below the rim.

Caution: danger of injury

Turn off the main switch.

The bobbin winder may only be adjusted with the sewing machine switched off.

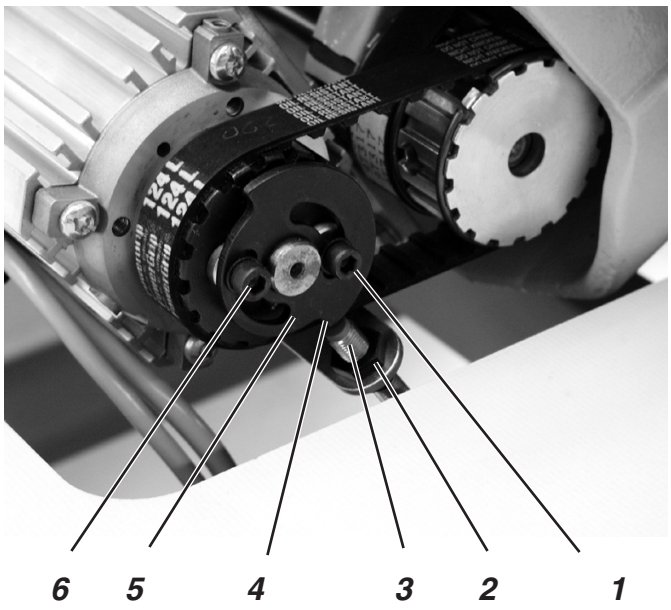
1. Minor adjustments to the wind-on quantity

– Bend bobbin-winder flap 1.

2. Major adjustments to the wind-on quantity

– Remove the bobbin-winder cover.
– Undo screw 3.
– Rotate trip cam 2:
in the direction of arrow A: to reduce the wind-on quantity
in the direction of arrow B: to increase the wind-on quantity.
– Retighten screw 3.
– Replace bobbin-winder cover.

9. Proximity switch



Regulation and inspection

After the thread is cut the machine must halt in position **C** of the adjustment disc.

The gap between the proximity switch 3 and the trip cam 4 must be about 0.5 to 1.0 mm.

Caution: danger of injury

Turn off the main switch.

The proximity switch may only be adjusted with the machine switched off.

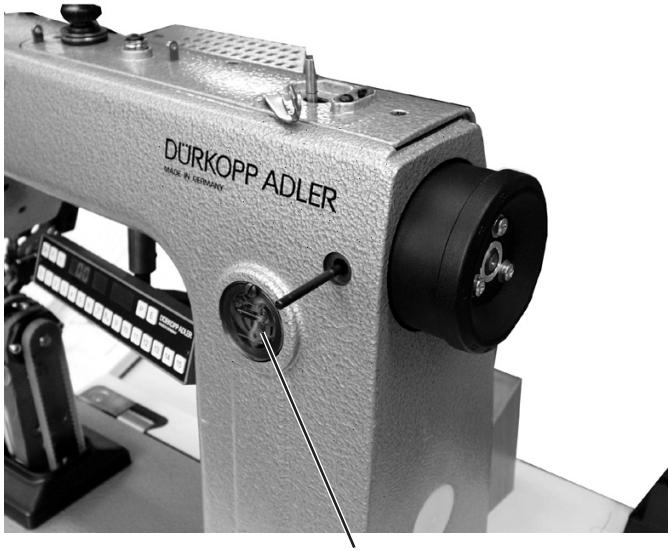
Adjusting the setting

- Undo locknut 2.
- Adjust the gap between the proximity switch 3 and the maximum external diameter of the trip cam to between 0.5 and 1.0 mm.
- Tighten locknut 2.
- Lock the machine in position **C** of the adjustment disc.
- Undo screws 1 and 6.
- Twist the trip cam 5 so that its tip 4 is exactly on the proximity switch 3.
- Tighten screws 1 and 6.
- Release machine lock.
- Check positioning after cut.

CAUTION:

After the thread is cut the locking pin 7 must lightly engage in position C.
Adjust the trip cam if necessary.

10. Lubrication



1

Regulation and inspection

The oil level must not fall below the “Minimum” mark.

Caution: danger of injury

Turn off the main switch.

Work on the lubrication system may only be carried out with the machine switched off.

Oil can cause skin eruptions.
Avoid protracted contact with the skin.
In the event of contact, thoroughly wash the affected area.

Caution:

The handling and disposal of mineral oils is subject to legal regulation.
Deliver used oil to an authorised collection point.
Protect your environment.
Take care not to spill oil.

Adjustment

– Top up the oil reservoir 1 to the “maximum” mark.

The oil reservoir must only be topped up with **ESSO-SP-NK 1**0 lubricating oil or an equivalent oil of the following specification:

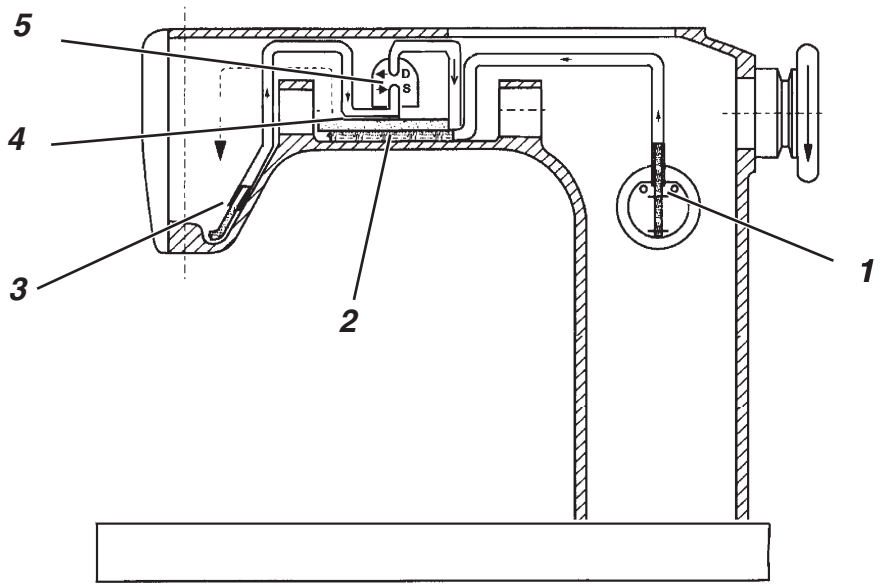
viscosity at 40° C : 10 mm²/s
flashpoint: 150°C

ESSO SP-NK 10 is available from
DÜRKOPP ADLER AGretail outlets under the following part numbers:

2-litre container: 9047 000013

5-litre container: 9047 000014

10.1 Oil circulation



The oil passes from the oil reservoir 1 to the sump 4, from where the lubrication points in the arm and sewing-head regions are supplied.

The oil thrown off by the crank mechanism passes back to the sump 4 along the wick 3. Excess oil is pumped back under the oil-felt pad 2 by the pump 5.

Caution: danger of injury

Turn off the main switch.

Work on the lubrication system may only be carried out with the machine switched off.

CAUTION:

After work on the lubrication system it is essential for the hoses to be reconnected to the pump the right way round.

S = suction

D = pressure

11. Maintenance

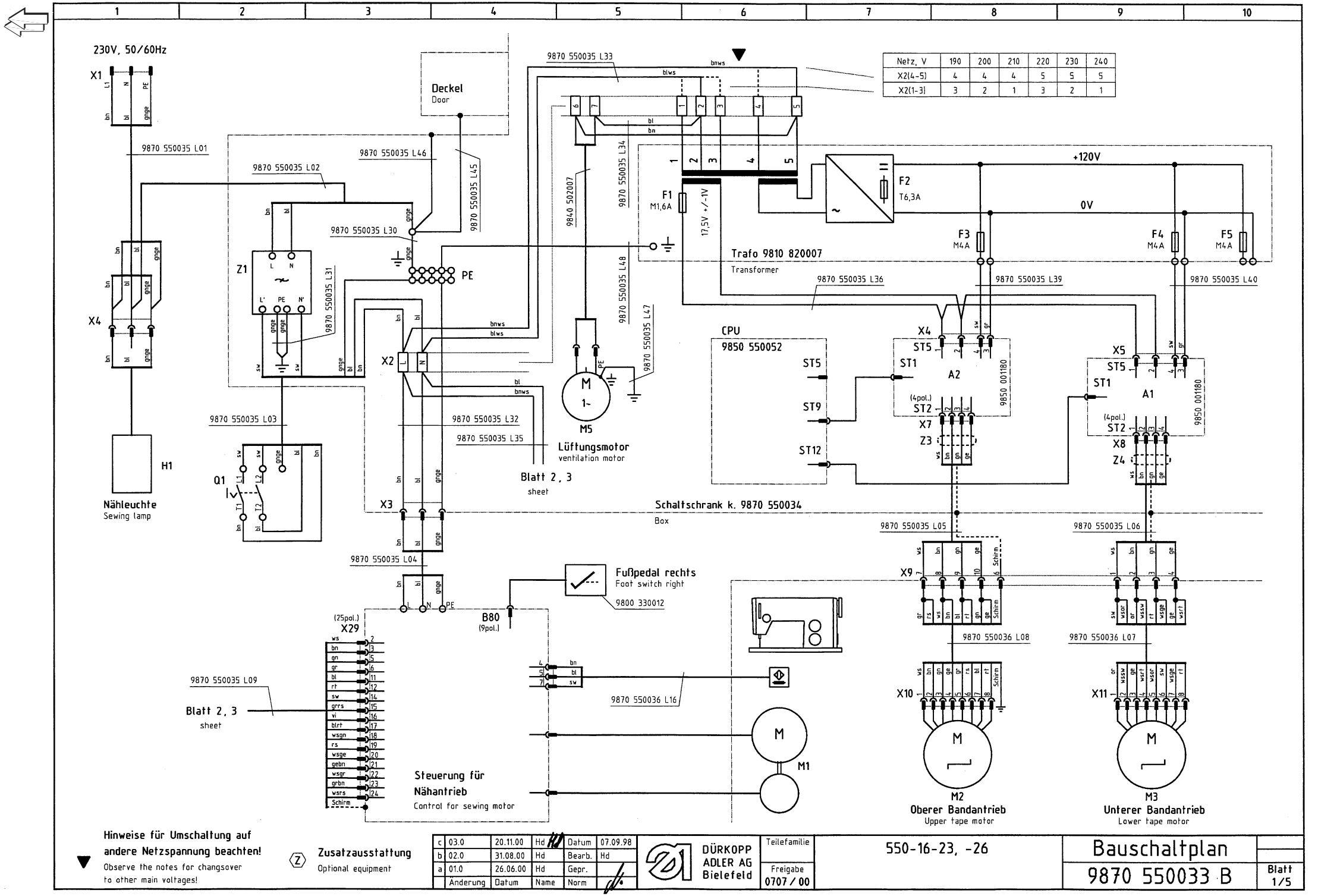
Caution: danger of injury

Turn off the main switch.

Maintenance work on the sewing unit may only be carried out when it is switched off.

The maintenance work to be carried out daily or weekly by the machine operators (cleaning and lubrication) is described in the operating instructions (part 1). For the purpose of completeness it is also given in the following table.

Maintenance work to be carried out	operating hours			
	8	40	160	500
Head of the machine				
- clean up lint and pieces of thread	X			
- check the oil level in the oil reservoir for the head of the machine		X		
Switch cabinet				
- clean air filter	X			
Pneumatic system				
- check the water level in the pressure regulator		X		
- clean the filter cartridge in the compressed-air maintenance unit				X
- check the pneumatic system for impermeability				X



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

Ⓩ **Zusatzausstattung**
Optional equipment

c	03.0	20.11.00	Hd	Datum	07.09.98	
b	02.0	31.08.00	Hd	Bearb.	Hd	
a	01.0	26.06.00	Hd	Gepr.		
	Änderung	Datum	Name	Norm		

DÜRKOPP ADLER AG Bielefeld

Teilefamilie

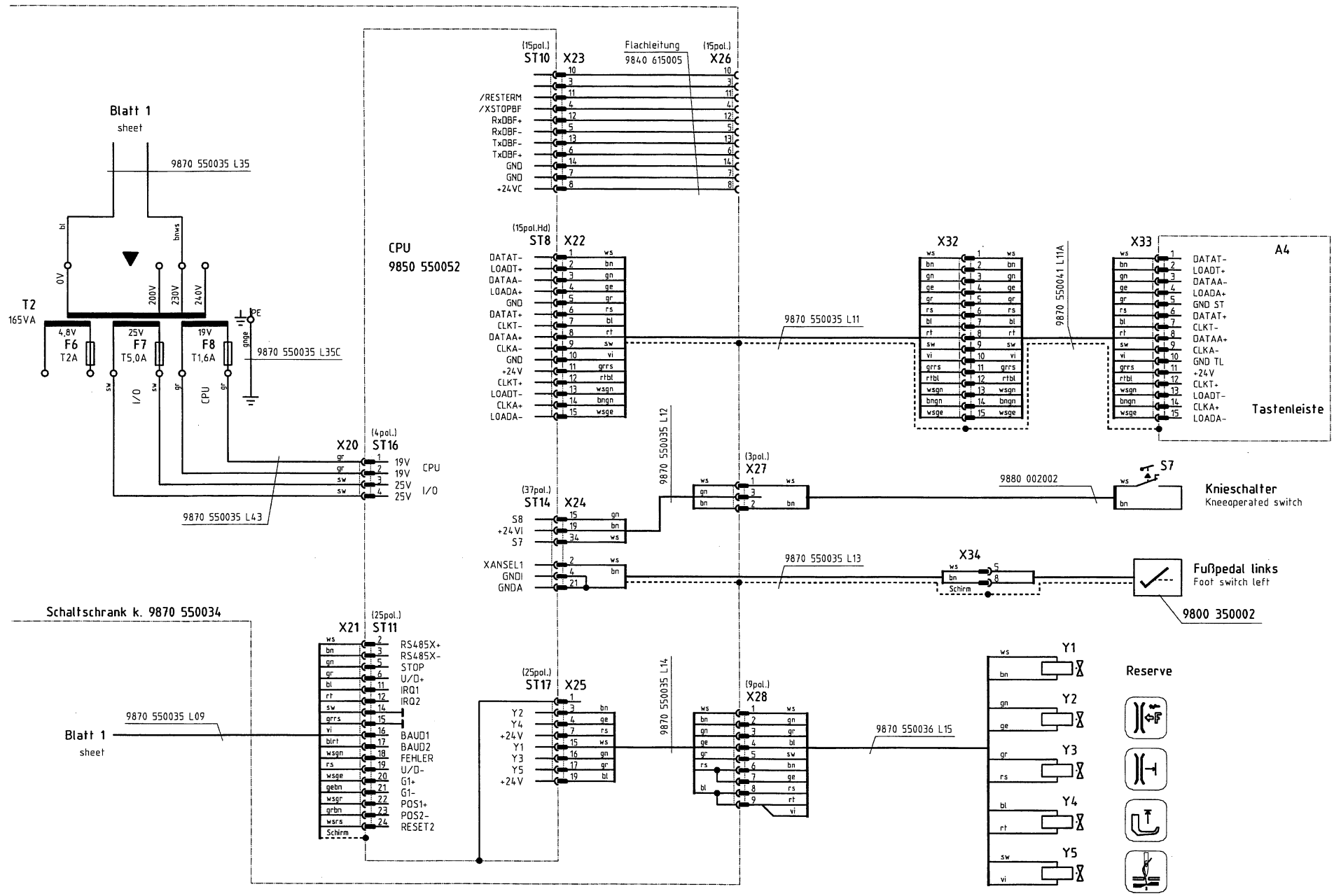
Freigabe 0707 / 00

550-16-23, -26

Bauschaltplan

9870 550033 B

Blatt 1/5



c	03.0	20.11.00	Hd	Datum	07.09.98	
b	02.0	31.08.00	Hd	Bearb.	Hd	
a	01.0	26.06.00	Hd	Gepr.		
	Änderung	Datum	Name	Norm		

DÜRKOPP ADLER AG
Bielefeld

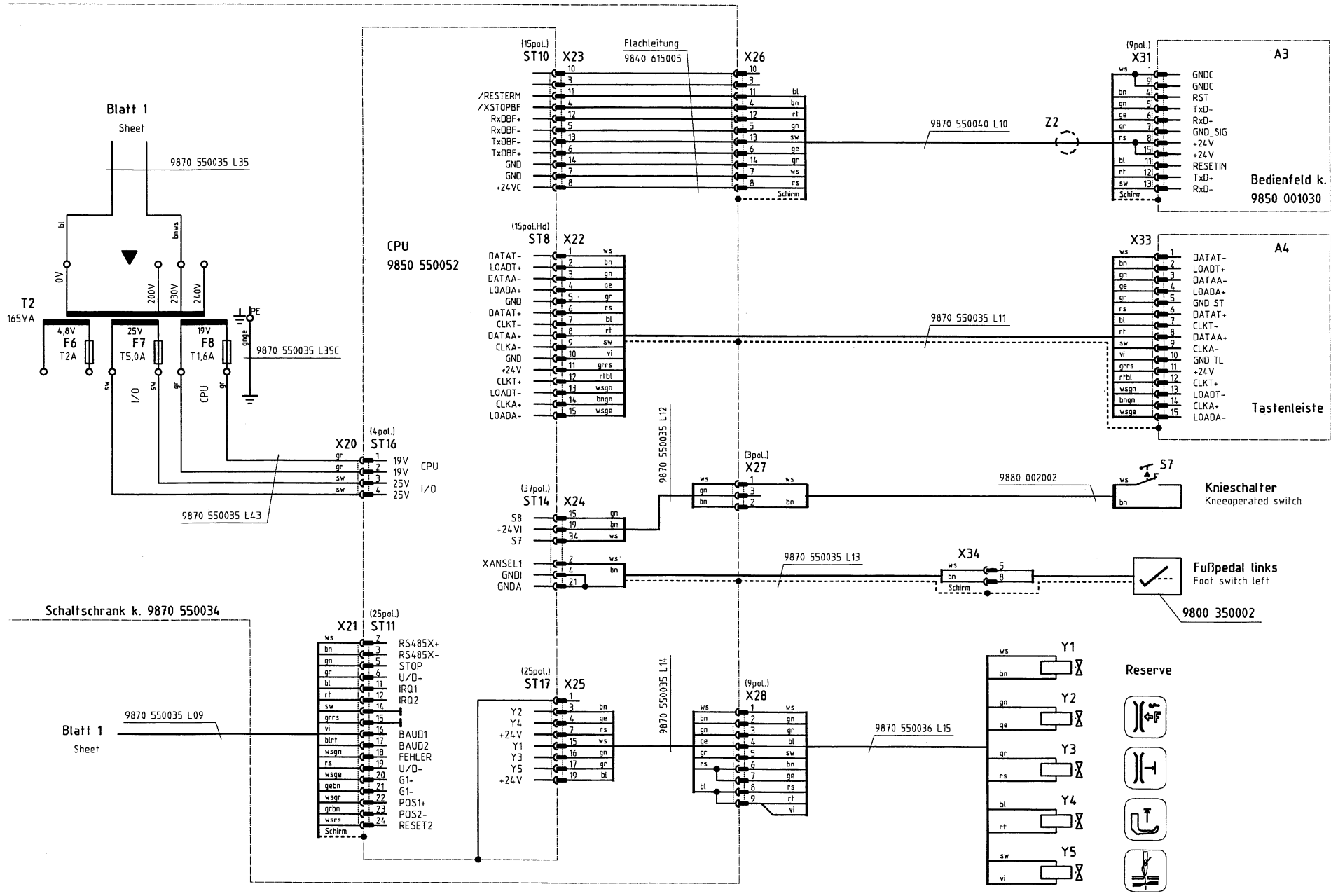
Teilefamilie

Freigabe
0707 / 00

550-16-23
Ein-/Ausgänge
Input/output

Bauschaltplan
9870 550033 B

Blatt
2/5



c	03.0	20.11.00	Hd	Datum	07.09.98	
b	02.0	31.08.00	Hd	Bearb.	Hd	
a	01.0	26.06.00	Hd	Gepr.		
	Änderung	Datum	Name	Norm		

DÜRKOPP ADLER AG
Bielefeld

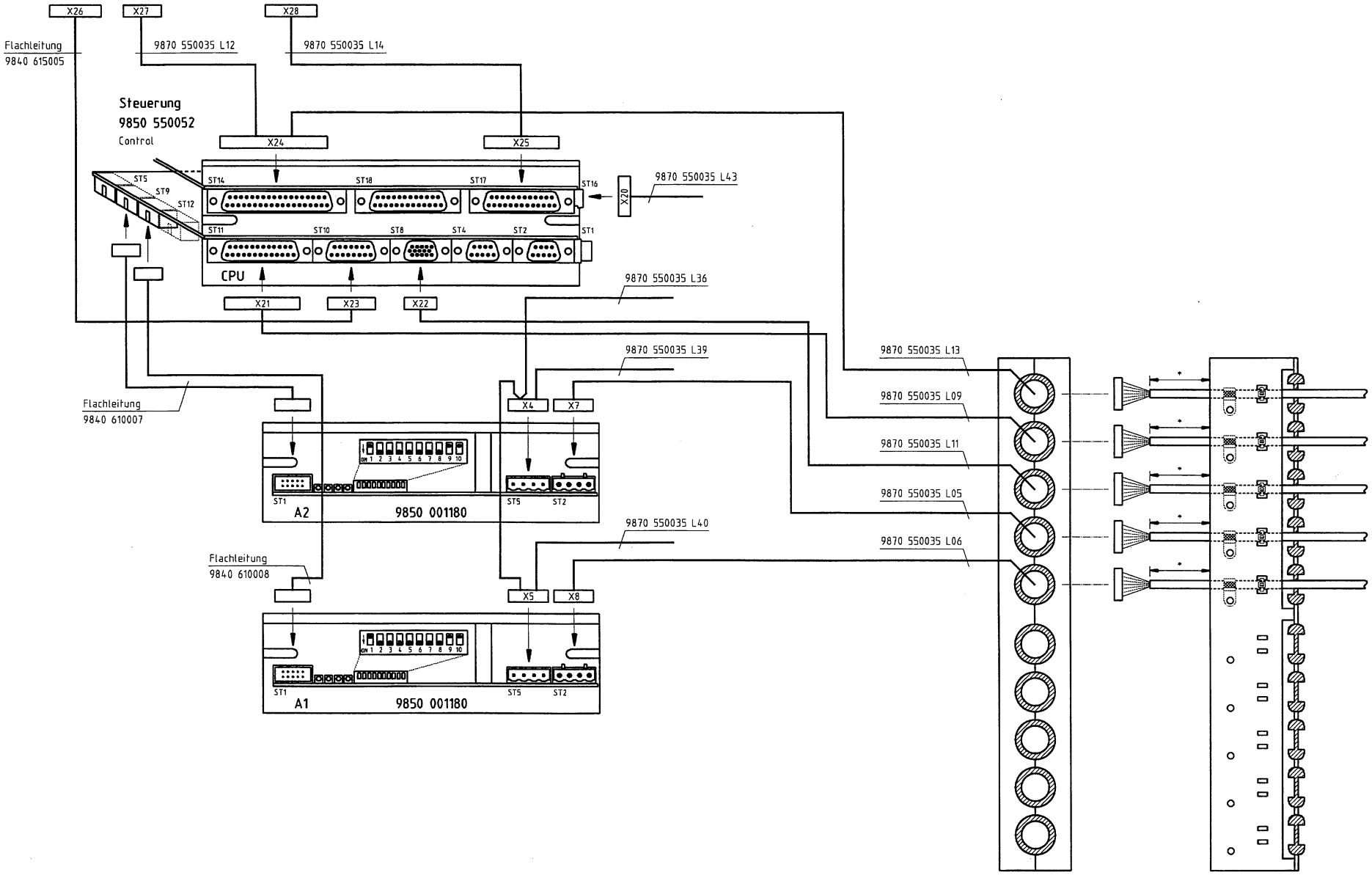
Teilefamilie

Freigabe
0707 / 00

550-16-26
Ein-/Ausgänge
Input/output

Bauschaltplan
9870 550033 B

Blatt 3/5



* : Maß durch Schirmbefestigung vorgegeben
Size depends on the shield attachment

c	03.0	20.11.00	Hd	Datum	07.09.98	
b	02.0	31.08.00	Hd	Bearb.	Hd	
a	01.0	26.06.00	Hd	Gepr.		
	Änderung	Datum	Name	Norm		

DÜRKOPP ADLER AG
Bielefeld

Teilefamilie

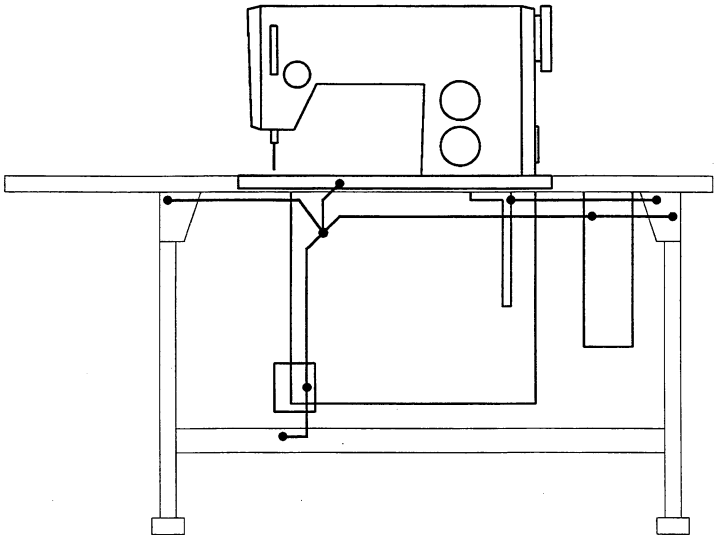
Freigabe
0707 / 00

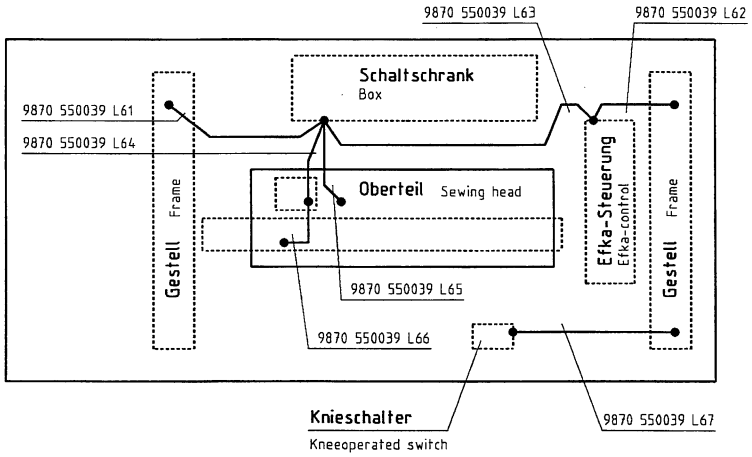
550-16-23, -26
Steuerung DAC-2B, Anschlussplan
Control DAC-2B, connecting diagram

Bauschaltplan

9870 550033 B

Blatt 4/5





Potentialausgleich
Potential compensation

Kurzz.	Teilenummer	Benennung	denomination	Typ	
A1, A2	9850 001180	Verstärker, -SM	amplifier	DAC-2B	
A3	9850 001030	Bedienfeld	front panel	BF1C	
A4	9850 550042	Tastenleiste			
CPU	9850 550052	CPU	cpu	550-16-23, -26	
F1	9825 810312	Sicherung	fuse	M1,6A	5x20mm
F2	9825 810417	Sicherung	fuse	T6,3A	5x20mm
	9825 830222	Sicherung	fuse	F12,5A	6,35x32mm
F3-F5	9825 810316	Sicherung	fuse	M4,0A	5x20mm
F7	9825 810423	Sicherung	fuse	T5,0A	5x20mm
F8	9825 810413	Sicherung	fuse	T1,6A	5x20mm
F9	9825 810403	Sicherung	fuse	T0,16A	5x20mm
H1	9822 510000	Nähleuchte	sewing lamp	230/12V/20W	
H1.1	9822 642023	Lampe	lamp	12V/20W	
M1	9800 130102 R	Nähantrieb	sewing motor	DC1500/AB285A	1x190-240V 50/60Hz
M1.1	9800 130103	Nähmotor	sewing motor	DC1500	
M1.2	9800 331102	Steuerkasten	control box		
M2, M3	9800 580011	Schrittmotor	step motor	MT23PM22033M8	
M5	9800 551000	Filterlüfter	ventilation motor		230VAC
M5.1	9800 551001	Austrittfilter	filter		
Q1	9815 580008	Hauptschalter	main switch		
T2	9810 820003	Transformator	transformer	19V, 25V, 4,8V	162VA
Z1	9810 711006	Netzfilter	filter	F-250V-B90, 6A	
Z2	9810 719003	Ferrit-Joch	ferrite clamp	MSFC-8	
Z3, Z4	9810 719035	Ferrit-Ringkern	ferrite		

9870 550033 B/5