



®

5483

5483 H

Service Manual

Service Manual for the Pfaff 5483

Please note:

The illustrations in this Manual show the Pfaff 5483-814/01 single-needle, two-thread chainstitch, high-speed sewing machine, whereas the adjusting instructions apply to the Pfaff 5483-814/01 single- and double-needle machines.

Adjusting instructions for machines with floating foot, in H version, and with -911/.. back-tacking mechanism, which differ from the normal instructions or are required in addition, are included in the Appendix starting on pages 35, 37 and 41 respectively.

The machine version is indicated on the model plate on the arm standard.

Tools, gauges and other equipment needed for adjusting the Pfaff 5487:

1 set of screwdrivers with blades from 2 to 10 mm wide

1 set of hexagon allen keys ranging from 1.5 to 6.0 mm

1 set of spanners from 7 to 14 mm wide

1 spanner, 22 mm wide

1 metal rule

1 C-clamp No. 08-880137-00

1 adjustment pin (5 mm dia.) No. 13-030341-05

1 gauge No. 61-111642-19 or 08-880179-00

1 gauge No. 61-111643-06

1 packet of needles

Needle system: 4463-35

in version -911/.., 5463-35

in version H without -911/.., UY 128 GAS

in version -814/01 HO, 4463 KK

in version -814/02 HO, 4463-8 FL and 4463-8 FR

Spacing washers: 0.3, 0.5, 0.8 or 1.2 mm thick

Spacers: 0.3 or 0.6 mm thick (for subcl. -911/..)

Thread and material for testing purposes

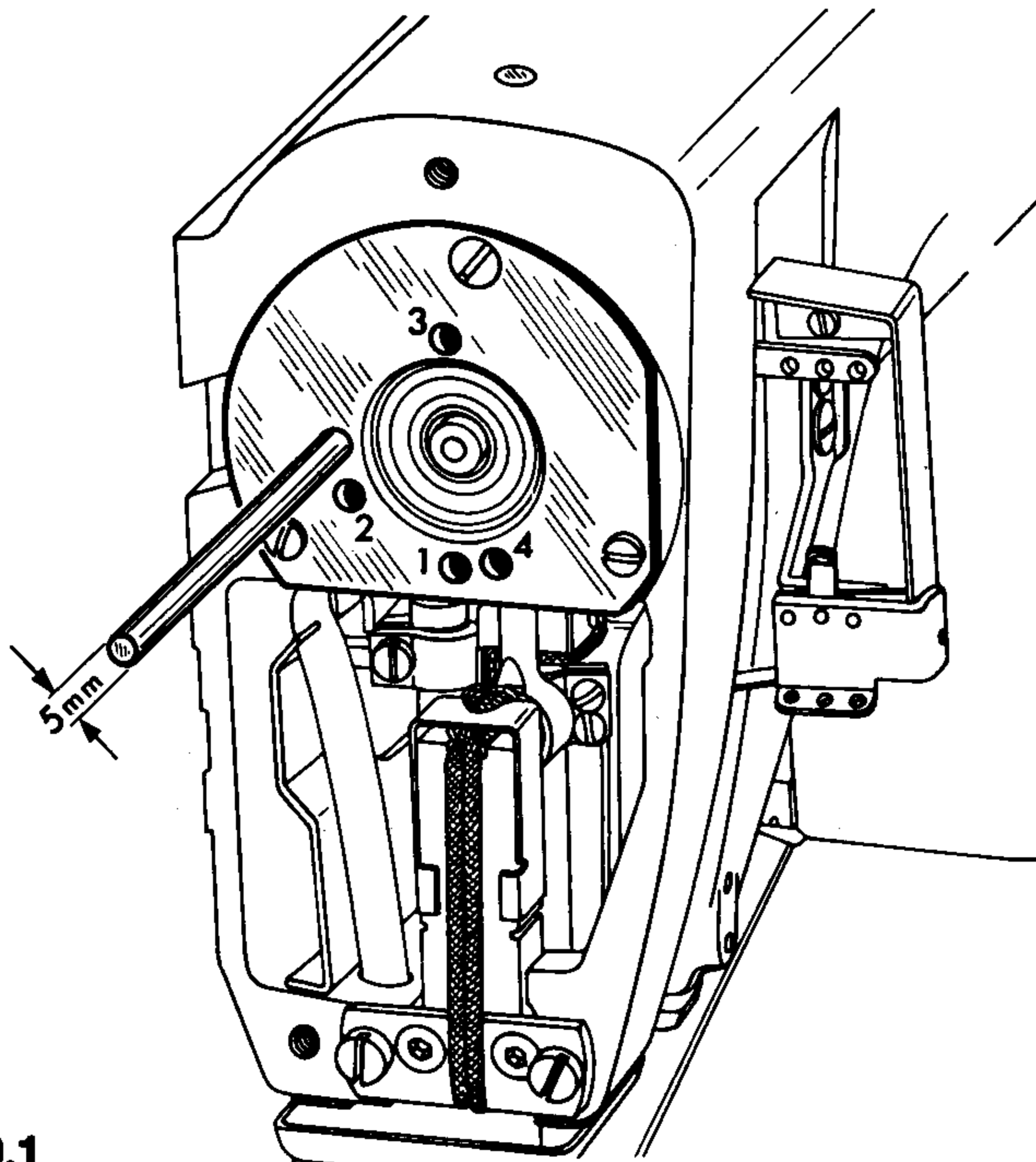
1 Preparations for adjustment

1.1 Remove the belt guard.

1.2 Take out the two face cover screws and remove the face cover.

Note:

This machine is equipped with a bearing plate with four holes in it. By inserting a pin in one of these holes and pushing it into a recess behind the bearing plate the machine can be blocked with the needle bar at a certain position.

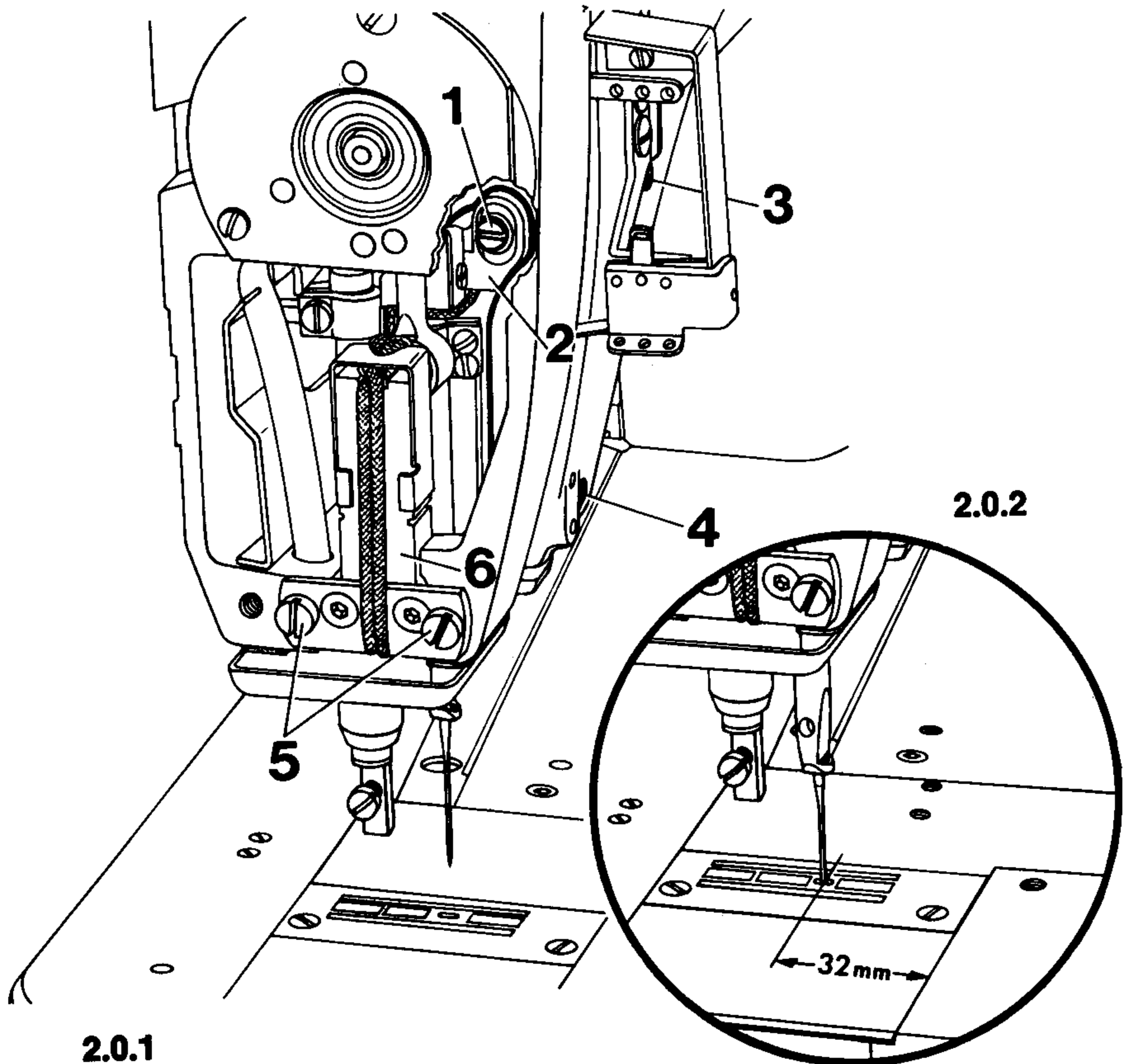


2

Position of needle in needle hole

Correct setting:

The needle should be centered in the needle hole in crosswise direction and its center line should be 32 mm from the front edge of the needle plate.



- 2.1 Turn the balance wheel to bring the needle bar to top dead center and remove the presser foot.
- 2.2 Insert a new needle (note needle system) and push it into the needle bar as far as it will go, making sure its long groove faces toward you.
- 2.3 Remove cap screw 1 from the eye of needle bar frame 2.
- 2.4 Loosen screw 3 of the eccentric guide stud.
- 2.5 Also loosen screw 4 of the lug on the needle bar frame.
- 2.6 Loosen both screws 5 of guide 6 by two or three turns.

- 2.7 Turn the balance wheel until the needle point is immediately above the needle hole.
- 2.8 **Adjust the position of needle bar frame 2 so that the needle is centered in the needle hole in crosswise direction.**
- 2.9 Tighten screw 4 just lightly.
- 2.10 **Turn the eccentric guide stud in the eye of needle bar frame 2 so that there is a clearance of 32 mm between the center line of the needle and the front edge of the needle plate.**
- 2.11 In this position, also tighten screw 3 a little.
- 2.12 Now securely tighten screw 4.
- 2.13 Insert cap screw 1 together with its washer and turn it into the eccentric guide stud a few turns.
- 2.14 Pull cap screw 1 outwards to bring the eccentric guide stud into contact with the reverse side of needle bar frame 2. Then securely tighten screw 3.
- 2.15 Also tighten cap screw 1 securely.
- 2.16 Loosen screw 3 again, turn the balance wheel a few turns to make sure that no twist has occurred in the needle bar frame, then tighten screw 3 again.
- 2.17 Tighten both screws 5 again, making sure that guide 6 is parallel to the needle bar.
- 2.18 Check this adjustment (see "Correct setting").

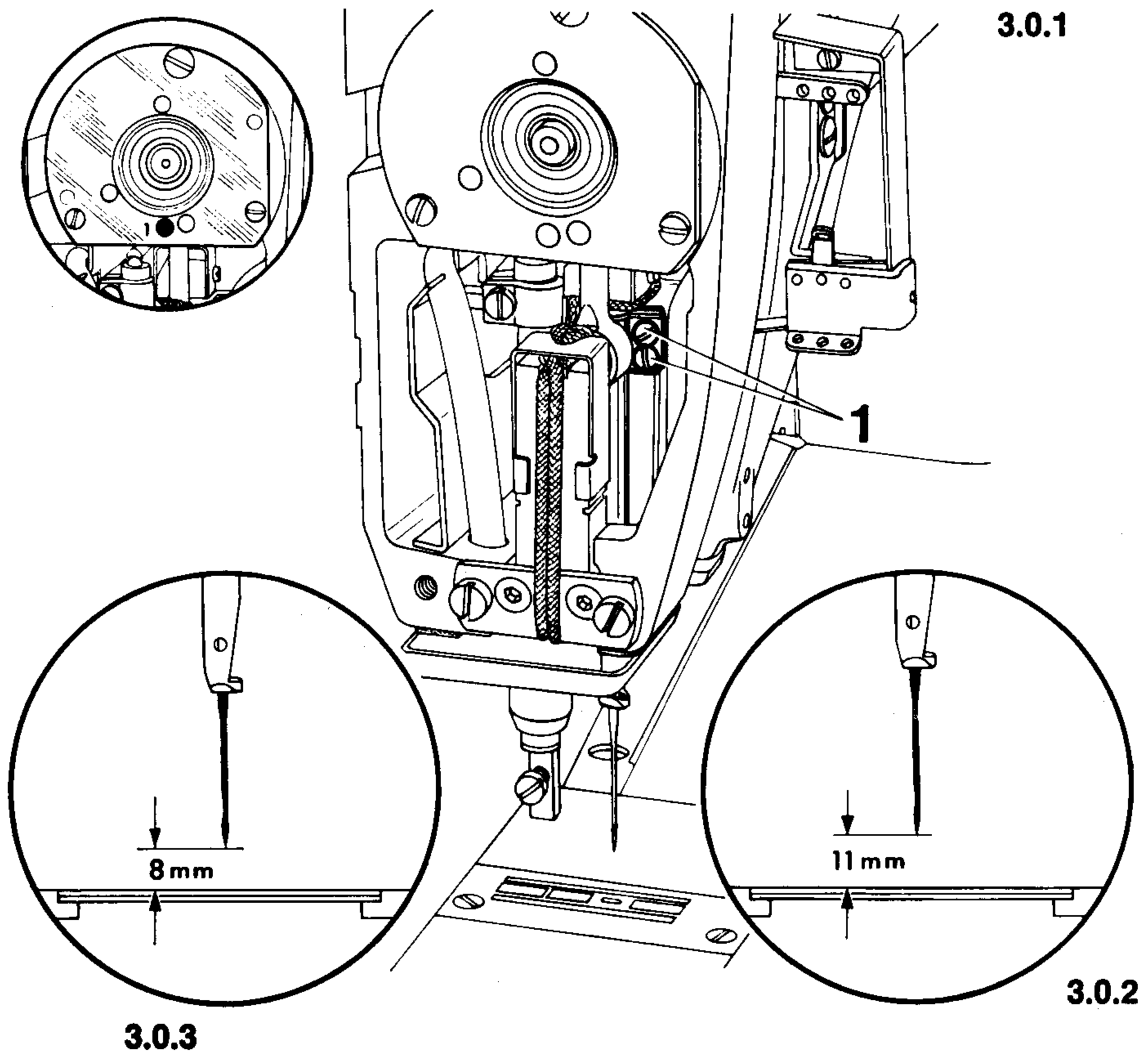
3 Preliminary adjustment of needle bar height

Correct setting:

With the needle bar at top dead center (pin in hole 1) the needle point should be positioned **11 mm** (on versions R and HO, **8 mm**) above the needle plate (see Fig. 3.0.2 and 3.0.3).

Note:

On H machine version the distance between needle bar and needle point should be 12.5 mm.



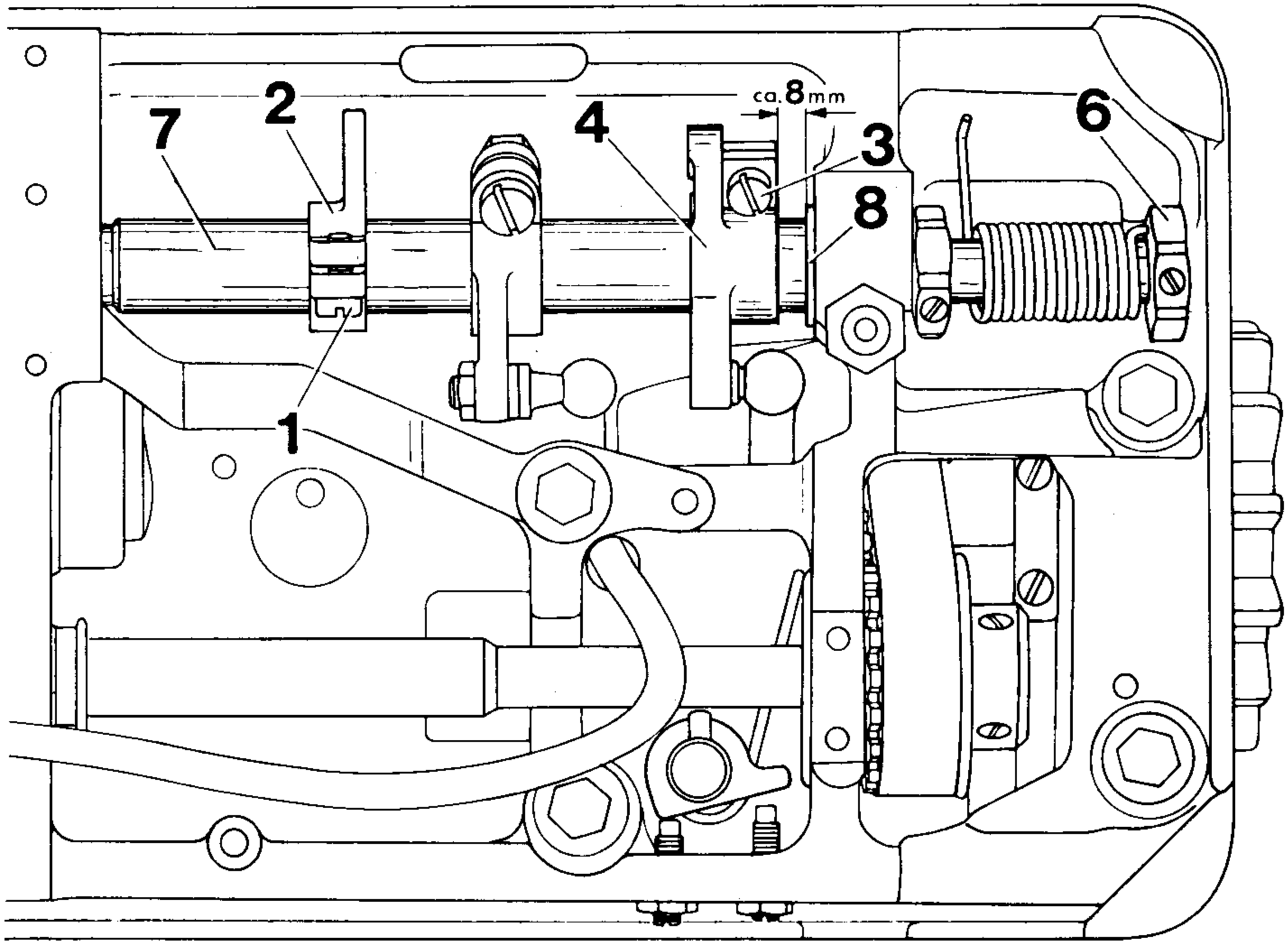
- 3.1 Bring the needle bar to top dead center.
- 3.2 Insert the pin in hole 1 of the bearing plate (to block the machine).
- 3.3 Loosen clamp screw 1 (see Fig. 3.0.1) in the needle bar connecting stud.
- 3.4 **Move the needle bar up or down until the needle point is positioned 11 mm (on version R and HO machines, 8 mm) above the needle plate (see Fig. 3.0.2 and 3.0.3).**
- 3.5 Securely tighten both clamp screws 1.
- 3.6 Pull the pin out of the hole in the bearing plate.

4 Zeroing the bottom feed

Correct setting:

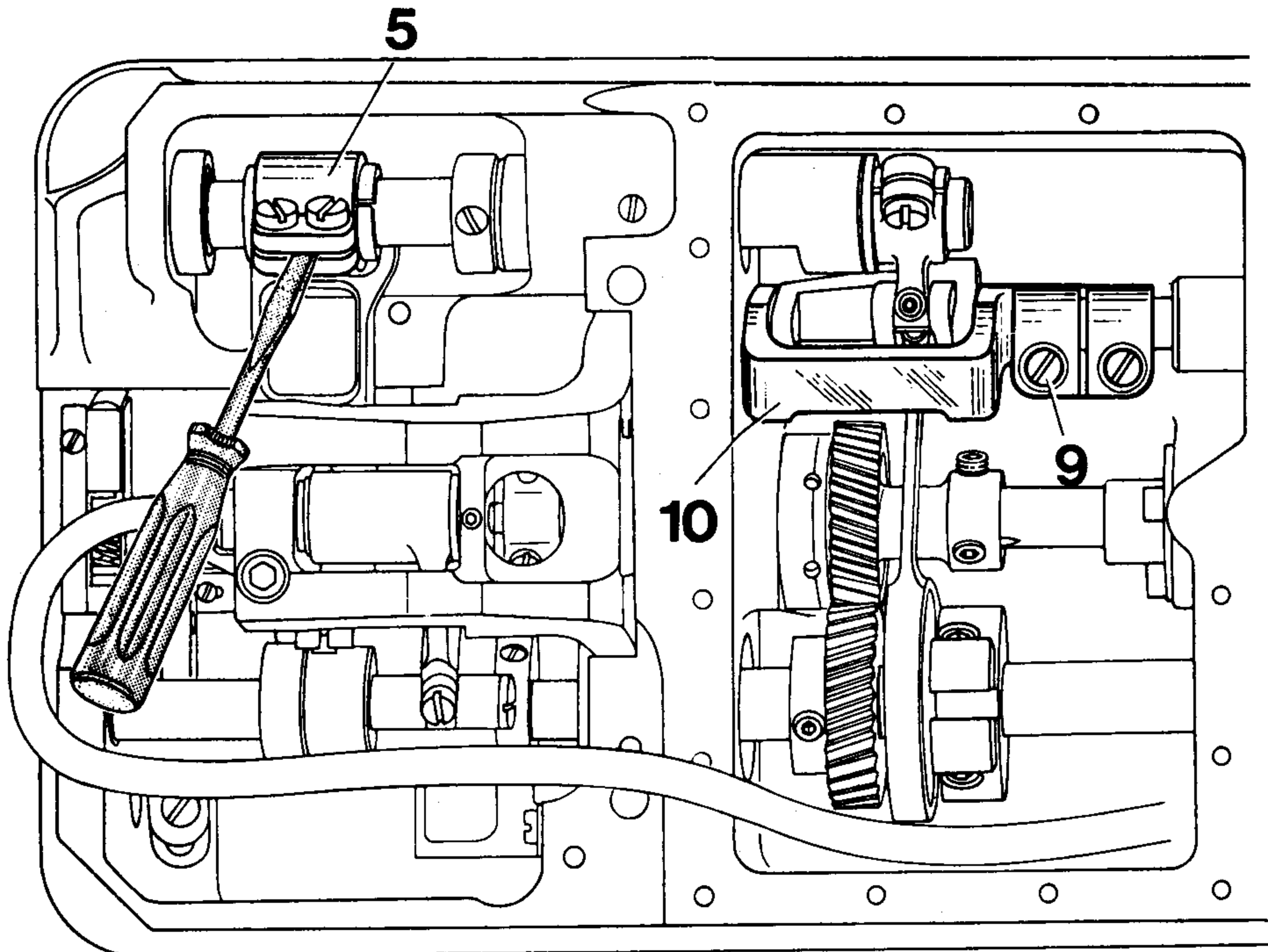
With the stitch length set at "0", the feed dog **must not move** when the balance wheel is turned.

4.1 Adjustment procedure with the gearcase closed.



4.0.1

- 4.1.1 Loosen clamp screw 1 (Fig. 4.0.1) of stop crank 2.
- 4.1.2 Turn the stitch length control to "0".
- 4.1.3 Also loosen clamp screw 3 of feed regulation crank 4.
- 4.1.4 In order to show the absence of feed motion more clearly, insert a screwdriver in the slot of feed driving crank 5 (Fig. 4.0.2).
- 4.1.5 Place a 22-mm open-ended spanner on hexagon tension nut 6 and use it to hold feed regulating shaft 7 fast.
- 4.1.6 **Rotate the balance wheel and simultaneously turn crank 6 on its shaft until the feed dog (i. e. the screwdriver in feed driving crank 5) no longer moves (Fig. 4.0.2).**
- 4.1.7 Hold the spanner in this position and securely tighten clamp screw 3, making sure that there is a clearance of abt. 8 mm between thrust washer 8 and feed regulating crank 4.
- 4.1.8 Check this adjustment (see "Correct setting") and take the screwdriver out of feed driving crank 5 (Fig. 4.0.2).
- 4.1.9 Clamp screw 1 is left loose for adjusting the stitch length limitation.



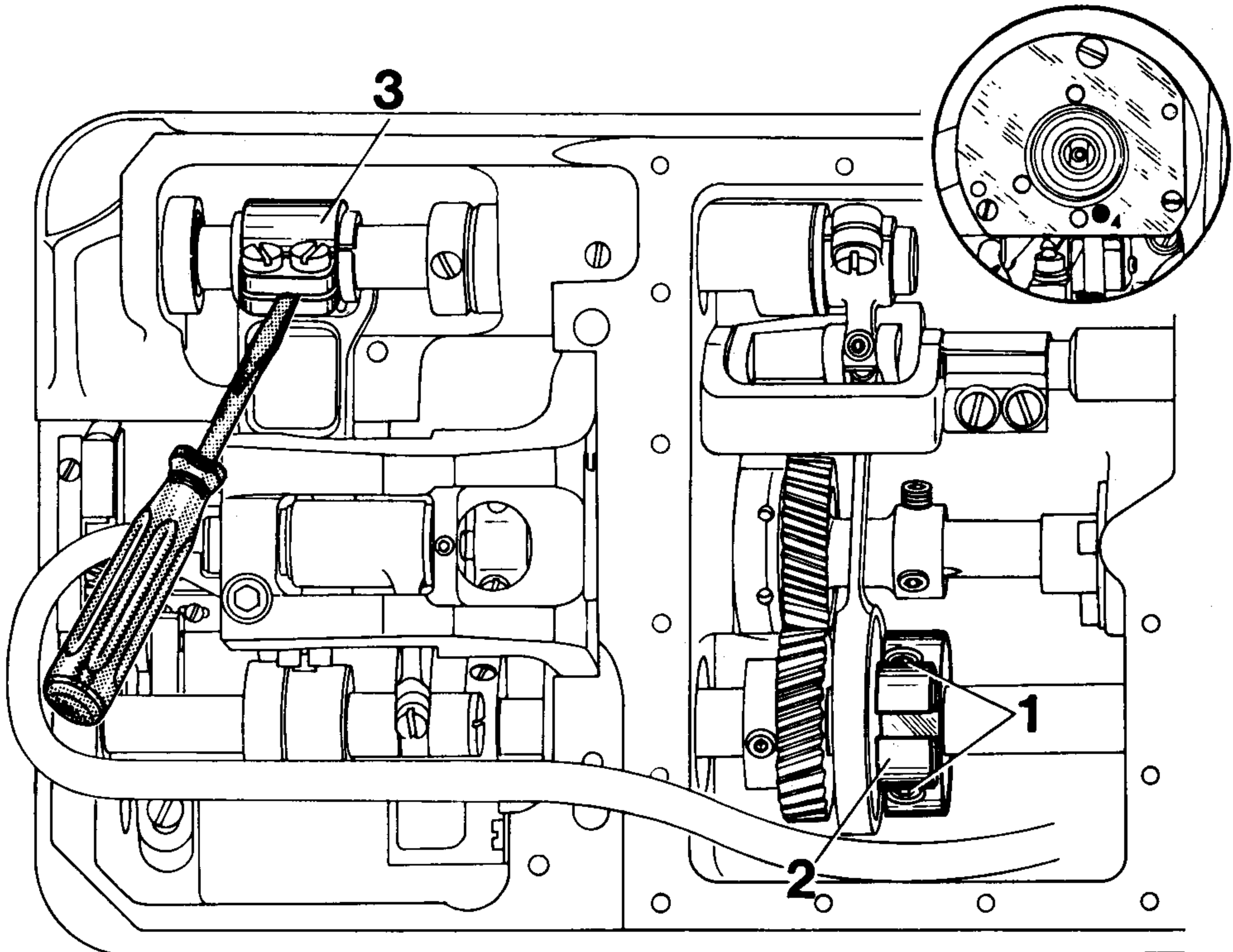
4.0.2

- 4.2.1 Turn the stitch length control to "0".
- 4.2.2 Remove the 16 screws of the gearcase cover and take off the cover with its gasket, making sure that oil which may be running out, is caught.
- 4.2.3 Remove the lubrication pad from the gearcase.
- 4.2.4 Loosen clamp screw 9 just sufficiently to allow crank 10 to be turned on its shaft.
- 4.2.5 In order to show the absence of feed motion more clearly, insert a screwdriver in the slot of feed driving crank 5.
- 4.2.6 **Rotate the balance wheel and simultaneously turn crank 10 on its shaft until the feed dog (i. e. the screwdriver in feed driving crank 5) no longer moves.**
- 4.2.7 In this position, tighten clamp screw 9.
- 4.2.8 Check this adjustment (see "Correct setting") and take the screwdriver out of feed driving crank 5.

5 Feed driving motion

Correct setting:

With the stitch length set at its maximum and the needle bar positioned **0.8 mm before top dead center** (pin in hole 4) the feed dog **must not move** when the reverse-feed control is operated.



5.0.1

- 5.1 Turn the balance wheel until screws 1 of feed driving eccentric 2 are accessible.
- 5.2 Loosen both screws 1.
- 5.3 Turn the balance wheel to position the needle bar 0.8 mm before top dead center.
- 5.4 Insert the pin in hole 4 of the bearing plate (to block the machine).
- 5.5 Set the machine for its longest stitch.
- 5.6 In order to show the absence of feed motion more clearly, insert a screwdriver in the slot of feed driving crank 3.
- 5.7 **Turn feed driving eccentric 2 while operating the reverse-feed control until the slot in the eccentric is visible and the feed dog (i. e. the screwdriver) does not move.**
- 5.8 In this position, tighten the accessible screw 1.
- 5.9 Pull the pin out of the hole in the bearing plate.
- 5.10 Now tighten the second screw 1.
- 5.11 Check this adjustment (see "Correct setting").

6

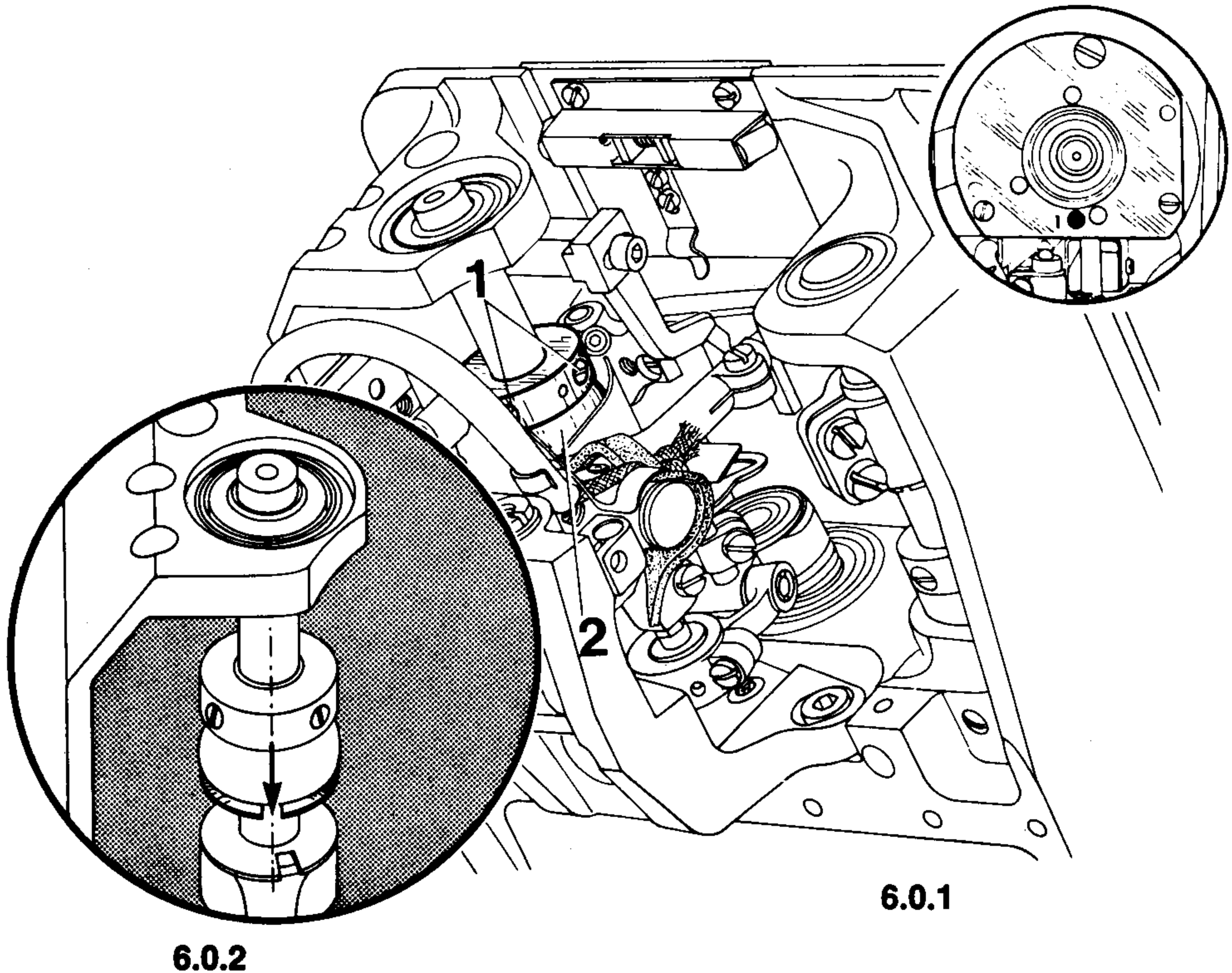
Feed lifting motion

For machines in version H see page 37.

For machines with backtacking mechanism -911/.. see page 42.

Correct setting:

When the needle bar is at top dead center (pin in hole 1) the slot in feed lifting eccentric 2 should face downwards (see arrow in Fig. 6.0.2).



- 6.1 Loosen screws 1 of feed eccentric 2.
- 6.2 Turn the balance wheel to bring the needle bar to top dead center.
- 6.3 Insert the pin in hole 1 of the bearing plate (to block the machine).
- 6.4 **Turn feed lifting eccentric 2 so that its slot faces downwards (see arrow in Fig. 6.0.2).**
- 6.5 In this position, tighten the accessible screw 1.
- 6.6 Pull the pin out of the hole in the bearing plate.
- 6.7 Also tighten the second screw 1.
- 6.8 Check this adjustment (see "Correct setting").

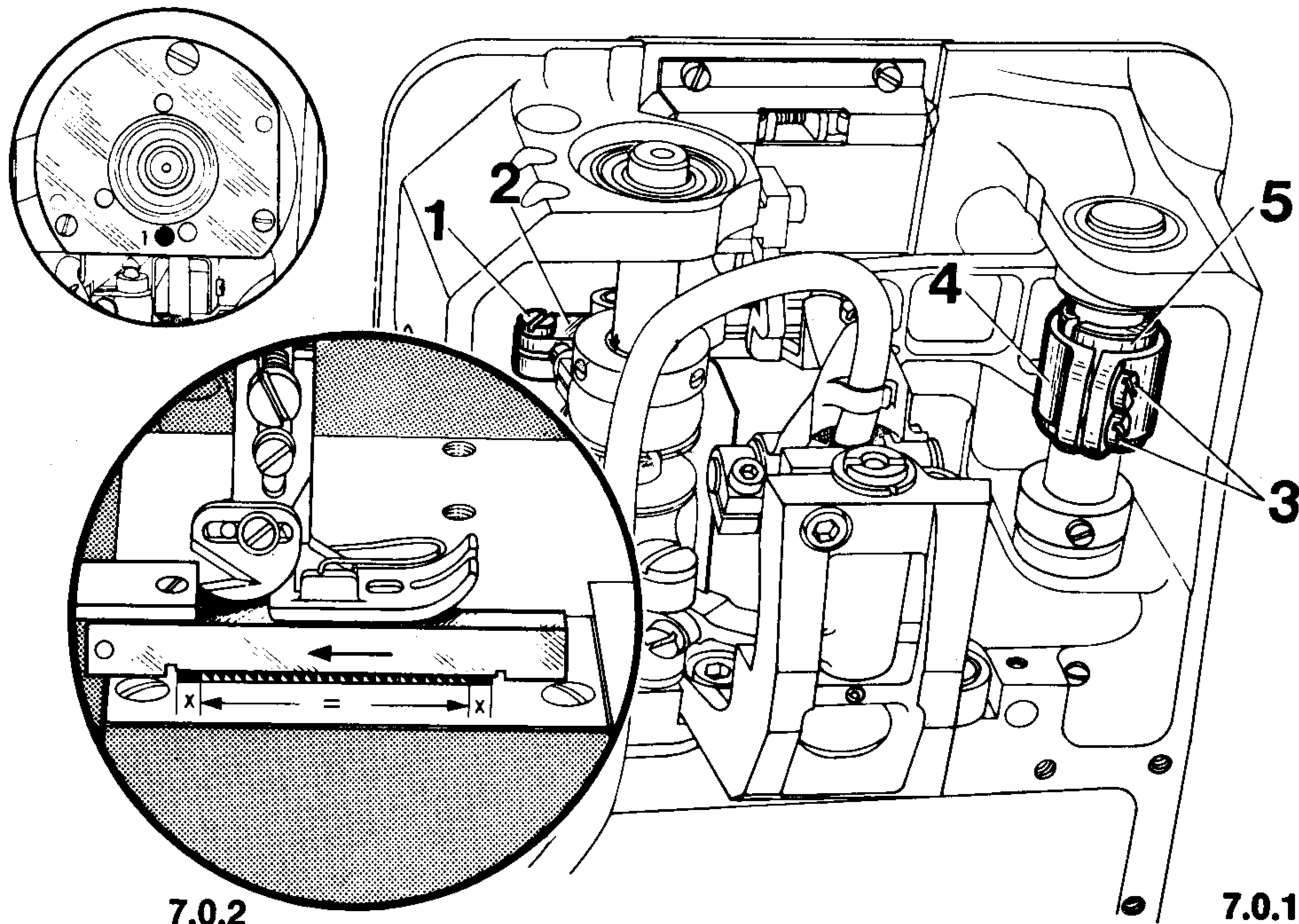
7 Feed dog height

For machines in version H see page 38.

For machines with backtacking mechanism -911/.. see page 43.

Correct setting:

With the stitch length set at its maximum and the needle bar positioned at top dead center (pin in hole 1), the feed dog should be centered in its slots and contact the adjustment gauge throughout its length.

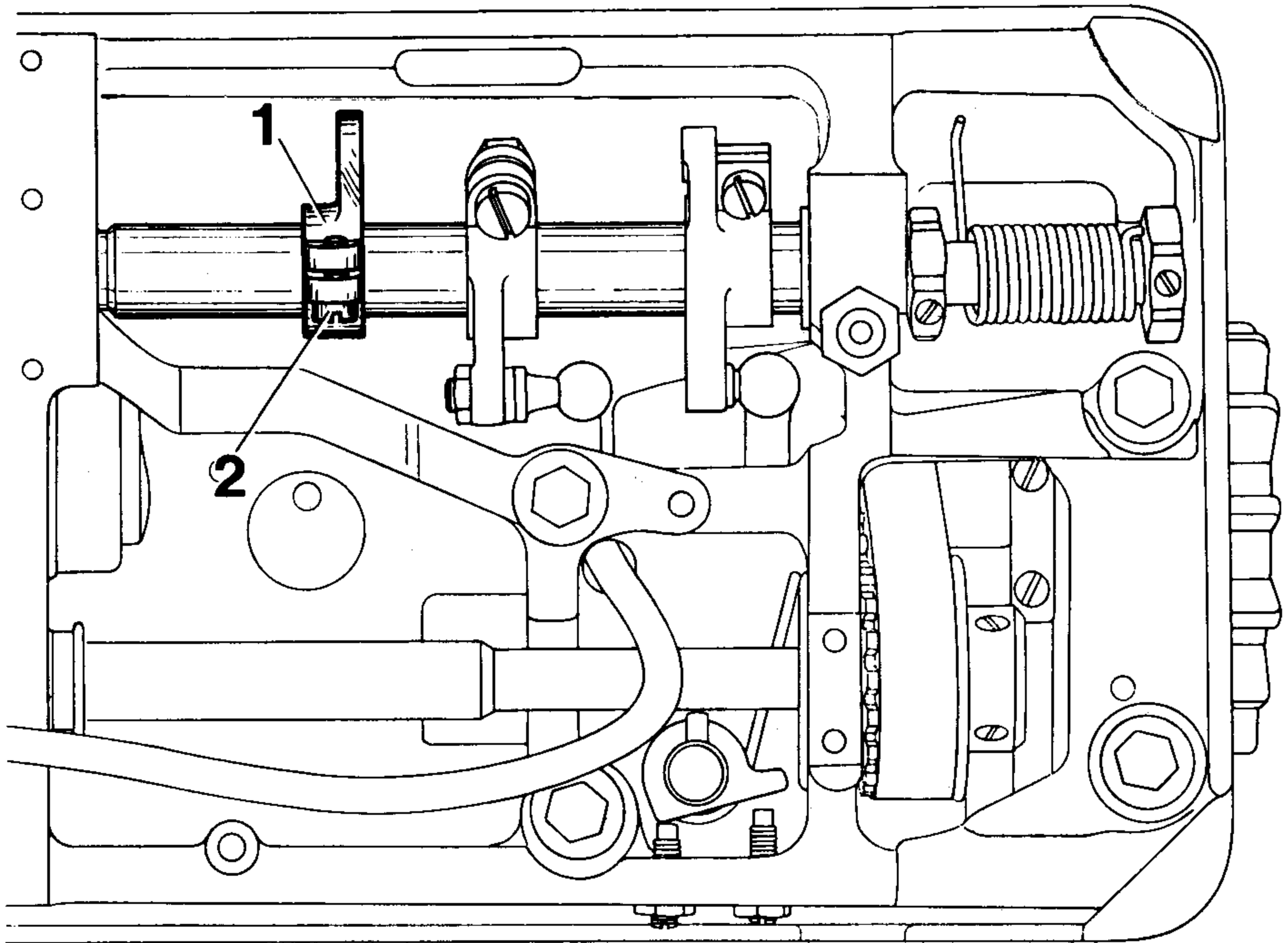


- 7.1 Set the machine for its longest stitch and bring the needle bar to top dead center.
- 7.2 Insert the pin in hole 1 of the bearing plate (to block the machine).
- 7.3 Loosen clamp screw 1 of feed lifting crank 2.
- 7.4 Also loosen both clamp screws 3 of feed driving crank 4.
- 7.5 Unscrew the presser foot.
- 7.6 Place adjustment gauge No. 61-111642-19 or 08-880179-00 on the needle plate so that its recess is centered above the feed slots and the arrow on the gauge points in feed direction.
- 7.7 Lower the presser foot onto the gauge.
- 7.8 **Center the feed dog in its slots.**
- 7.9 Push the feed bar upwards until the feed dog contacts the gauge and hold it there.
- 7.10 **Turn eccentric sleeve 5 beneath the feed driving crank so that the feed dog contacts the gauge throughout its length.**
- 7.11 In this position, tighten clamp screws 1 and 3, making sure that the feed dog is still centered in the needle plate slots.
- 7.12 Raise the presser foot, remove the gauge and pull the pin out of the hole in the bearing plate.
- 7.13 Check this adjustment (see "Correct setting").

- 8** **Stitch length limitation**
(This adjustment does not apply to machines fitted with backtacking mechanism -911/..)

Correct setting:

When the reverse-feed control is fully pressed, the stitch length should be **1.5 mm.**



8.0.1

- 8.1 Set the stitch length at "1.5".
- 8.2 **Turn stop crank 1 until it contacts the bedplate and tighten clamp screw 2 in this position.**
- 8.3 Set the machine for its longest stitch and check this adjustment (see "Correct setting").

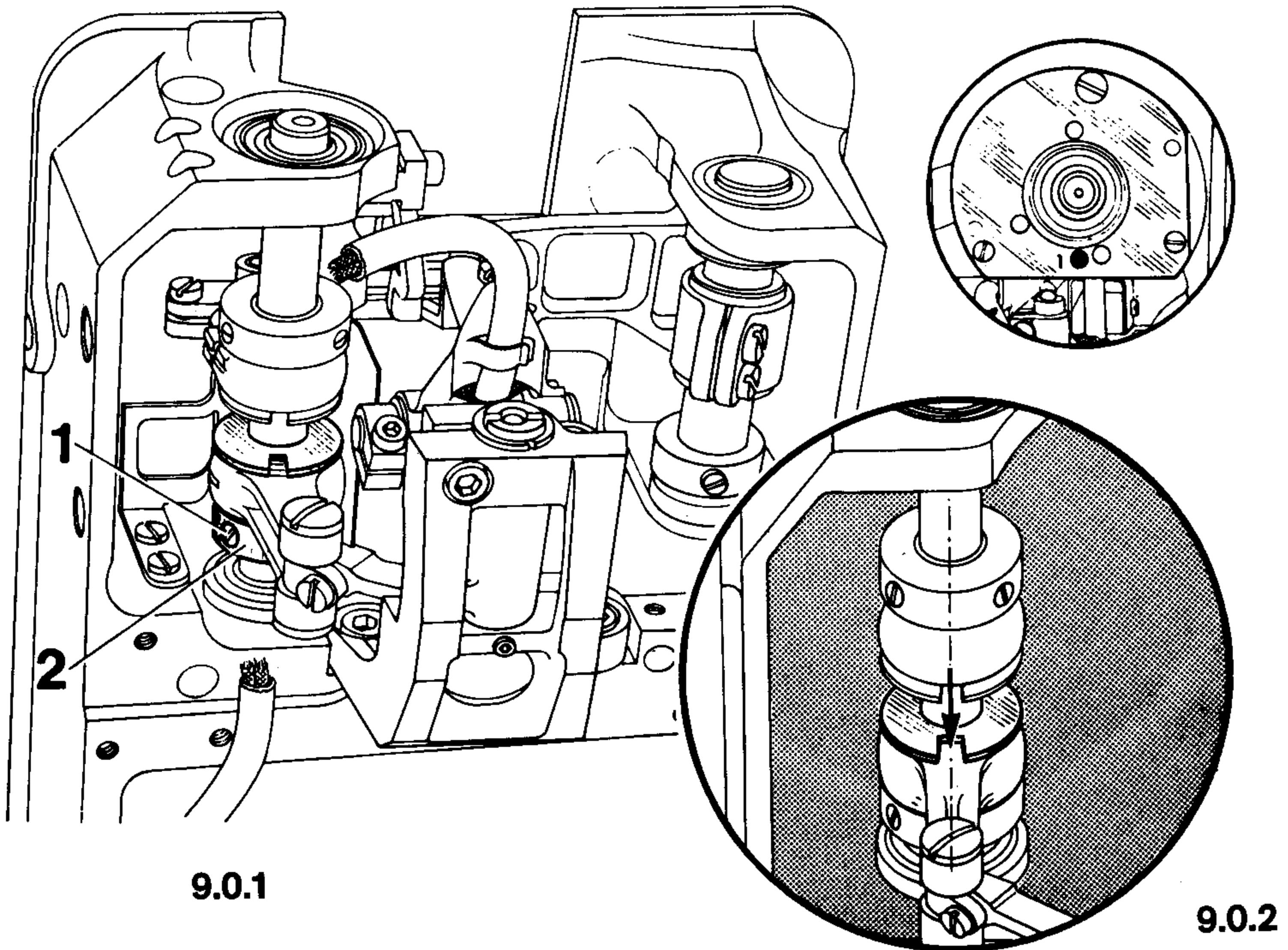
9 Looper avoiding motion

For machines in version H see page 40.

For machines with backtacking mechanism -911/.. see page 45.

Correct setting:

With the needle bar at top dead center (pin in hole 1) the slot in the avoiding motion eccentric should be positioned exactly below the center line of the shaft (see arrow in Fig. 9.0.2).



- 9.1 Loosen both screws 1 (Fig. 9.0.1) of avoiding motion eccentric 2.
- 9.2 Turn the balance wheel to bring the needle bar to top dead center.
- 9.3 Insert the pin in hole 1 of the bearing plate (to block the machine).
- 9.4 **Turn avoiding motion eccentric 2 so that its slot points vertically downwards** (see Fig. 9.0.2).
- 9.5 In this position, tighten the accessible screw 1.
- 9.6 Pull the pin out of the hole in the bearing plate.
- 9.7 Also tighten the second screw 1.
- 9.8 Check this adjustment (see "Correct setting").

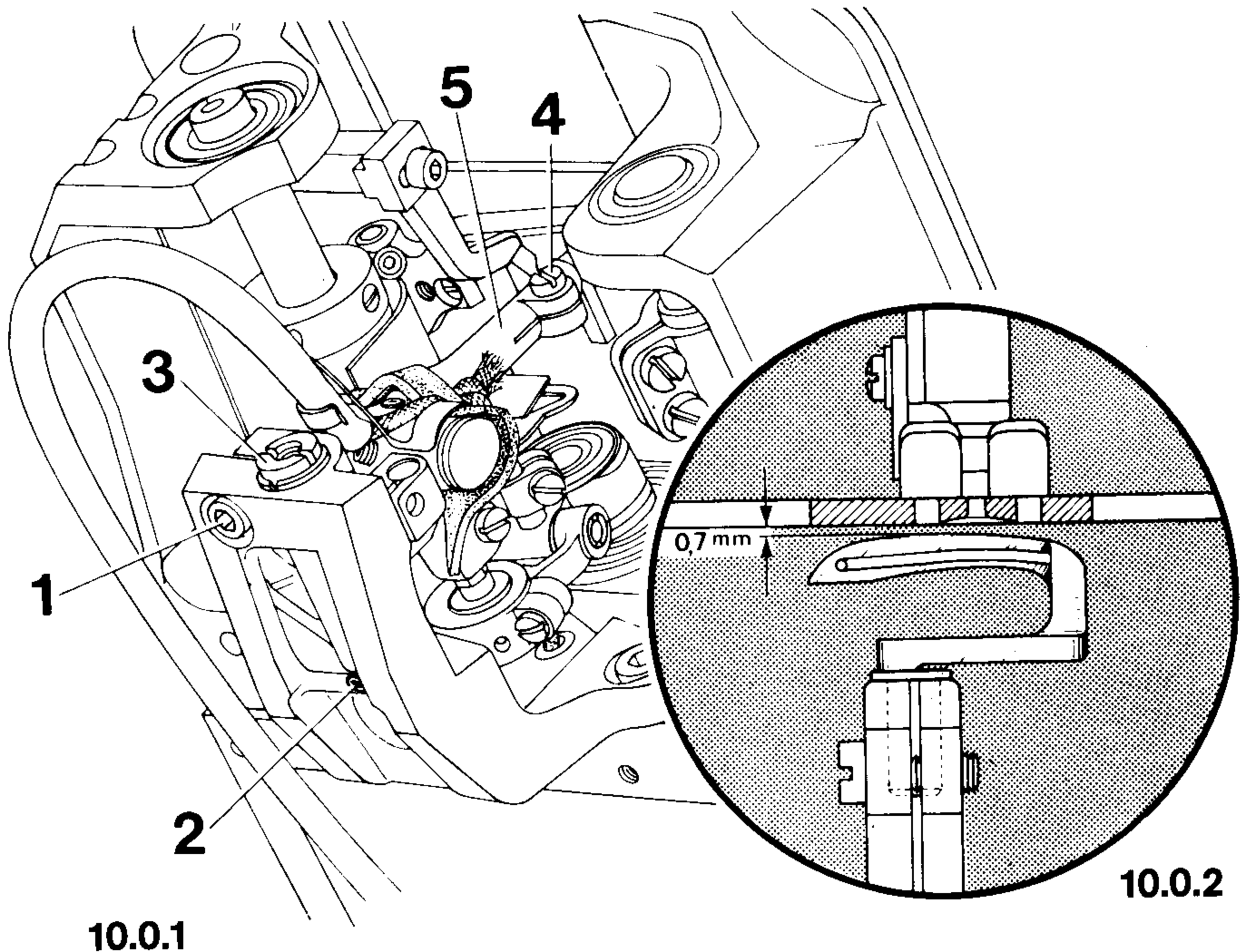
10 **Looper height** on machines without subcl. -900/..

For machines in version H see page 39.

For machines with backtacking mechanism -911/.. see page 44.

Correct setting:

When the looper holder is in its vertical position, there should be a clearance of **0.7 mm** between the highest point of the looper and the underside of the needle plate on single-needle machines.
On two-needle machines, there should be a clearance of **1.0 mm** between the **front** looper and the needle plate.



- 10.1 Remove bed slide, cover plate, needle plate and feed dog.
 - 10.2 Place the needle bar in position again and operate the presser bar lifter to lower the presser foot onto the needle plate.
 - 10.3 Turn balance wheel until the looper holder is vertical.
 - 10.4 Loosen clamp screw 1 and screw 2 of eccentric bearing stud 3.
 - 10.5 **Turn eccentric bearing stud 3 until there is a clearance of 0.7 mm between the highest point of the looper and the underside of the needle plate (or a clearance of 1.0 mm between front looper and needle plate on two-needle machines).**
 - 10.6 In this position, tighten clamp screw 1 and screw 2.
- Continued on next page.

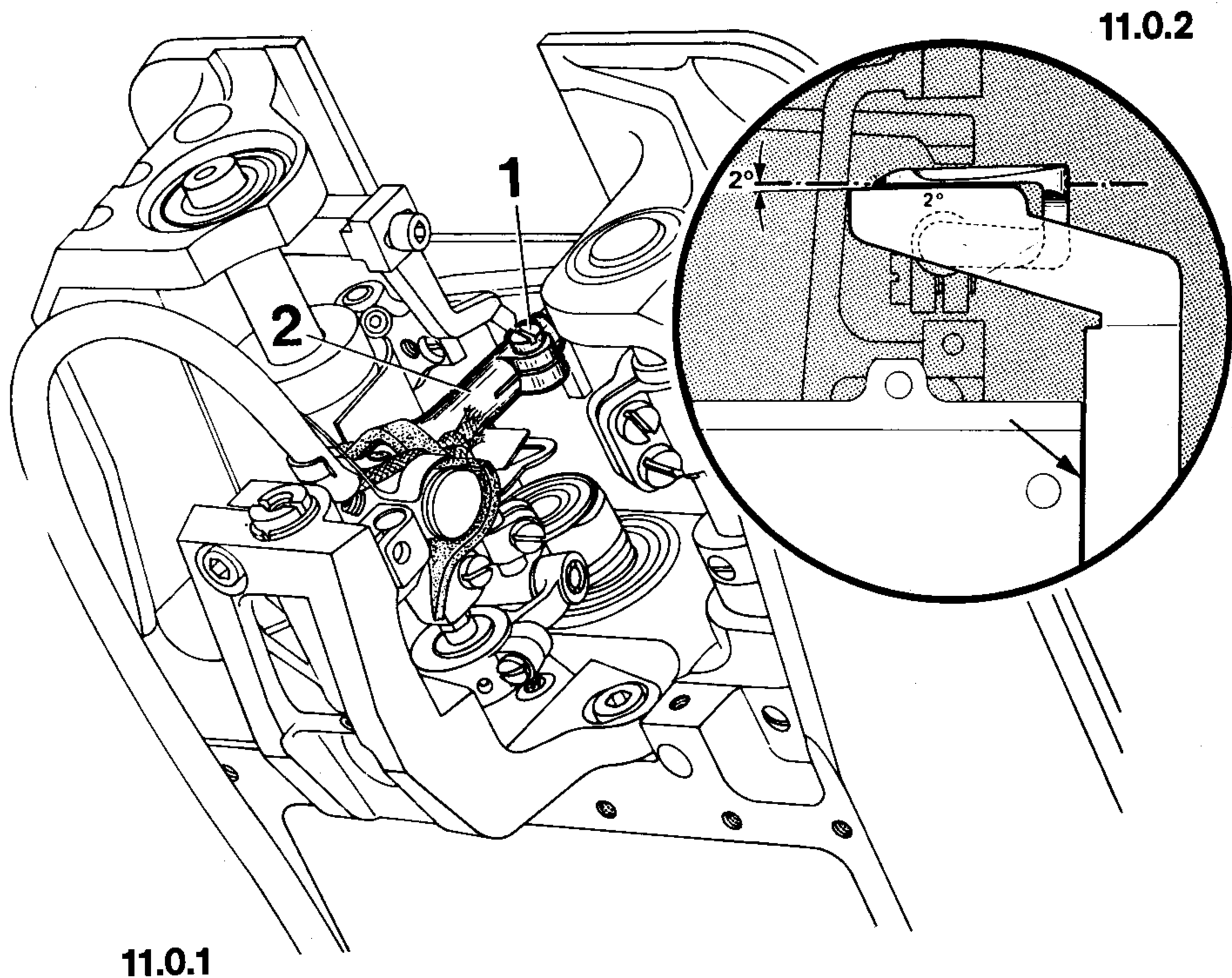
- 10.7 If a clearance of 0.7 mm (or 1.0 mm on two-needle machines) cannot be obtained, proceed as follows:
- 10.7.1 Raise the presser foot and remove the needle plate.
- 10.7.2 Loosen clamp screw **4** in looper holder **5** and take off the looper (do not lose spacing washer).
- 10.7.3 Fit an appropriate spacing washer (see inside front cover) on the looper neck and push the looper into looper holder **5** again as far as it will go.
- 10.7.4 Set the looper blade roughly parallel to the front edge of the bedplate (preliminary adjustment) and tighten clamp screw **4**.
- 10.7.5 Replace the needle plate and operate the presser bar lifter to lower the presser foot onto the needle plate.
- 10.7.6 Check that there is a clearance of 0.7 mm (or 1.0 mm on two-needle machines) between the highest point of the looper and the underside of the needle plate when the looper holder is in its vertical position.
- 10.8 If necessary, repeat steps 10.3 to 10.6 inclusive.
- 10.9 Check this adjustment (see "Correct setting").

11

Looper angle

Correct
setting:

The surface of the looper with the thread groove should be at an angle of 2° to the imaginary center of the bedplate.

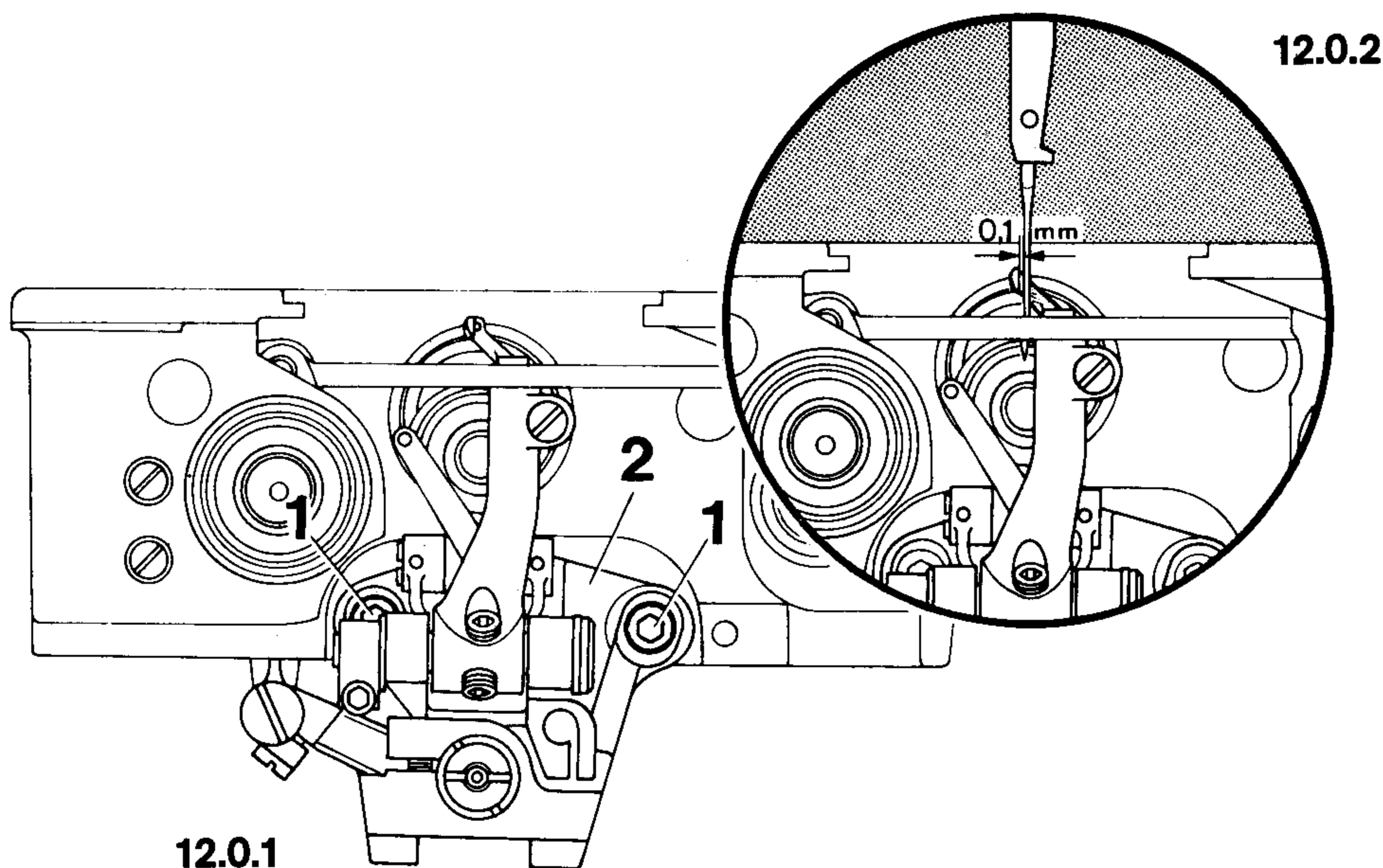


- 11.1 Remove sewing foot, needle plate and feed dog.
- 11.2 Loosen clamp screw 1 in looper holder 2.
- 11.3 Turn the balance wheel to move looper holder 2 to its vertical position.
- 11.4 **Place adjustment gauge No. 61-111643-06 against the left edge of the cover plate support (see arrow in Fig. 11.0.2), push it against the looper and bring the grooved looper surface into contact with the gauge.**
- 11.5 In this position, tighten clamp screw 1.
- 11.6 Remove the gauge.

12 Looper-to-needle clearance in sewing direction (preliminary adjustment)

Correct setting:

In sewing direction there should be a clearance of 0.1 mm between looper point and needle (see Fig. 12.0.2).



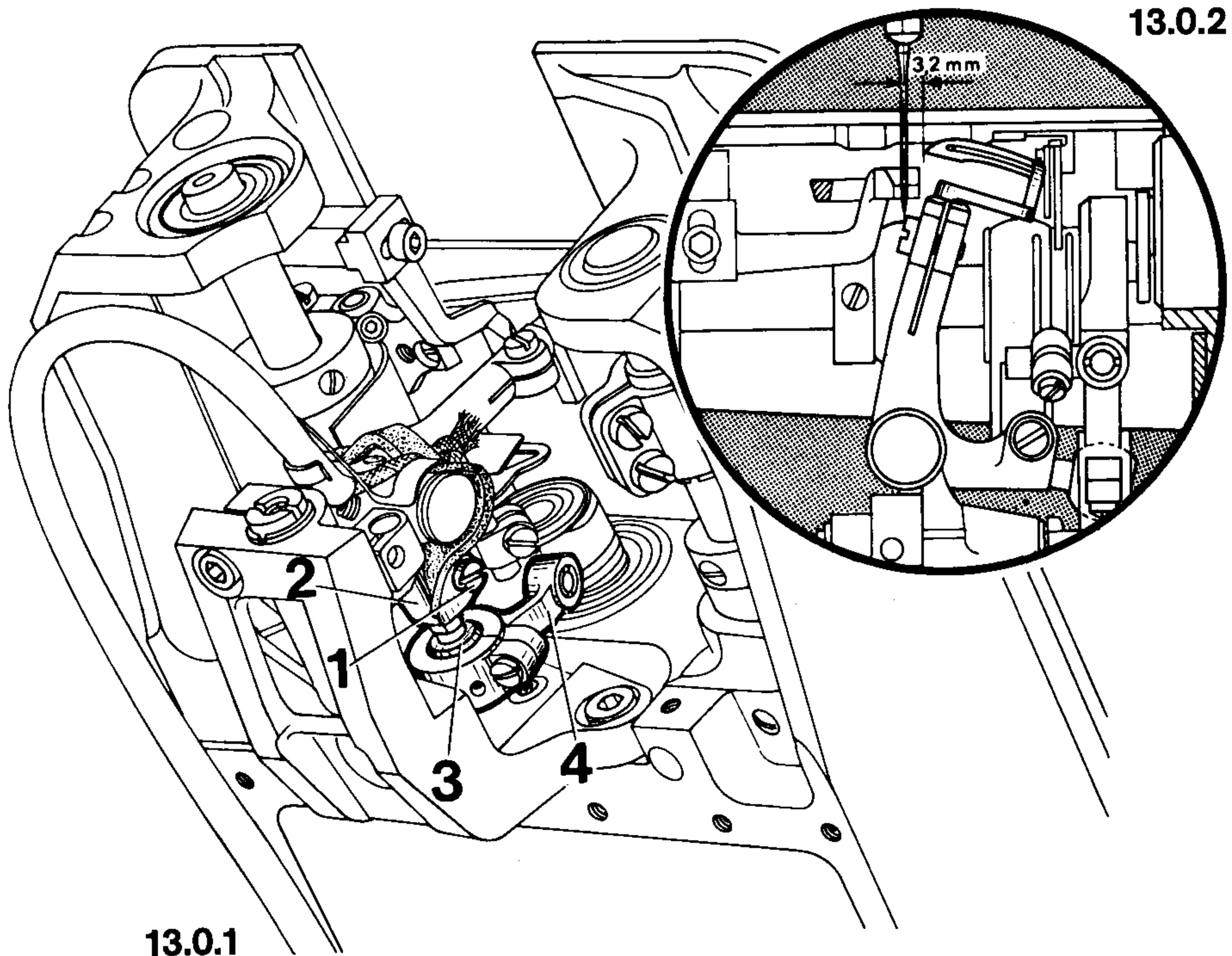
- 12.1 Check to make sure that the needle guard does not deflect the needle, then turn the balance wheel until the point of the advancing looper is in line with the left side of the needle.
- 12.2 Slightly loosen both screws 1 (Fig. 12.0.1) of looper assembly 2.
- 12.3 **Adjust the position of the looper assembly so that there is a clearance of 0.1 mm between looper point and needle.**
- 12.4 In this position, tighten both screws 1.
- 12.5 If a clearance of 0.1 mm cannot be obtained the setting of eccentric bearing stud 3 (Fig. 10.0.1) should be corrected. In this case repeat check of step 10.

13

Looper-to-needle clearance in lateral direction

Correct setting:

When the looper is at its right point of reversal, there should be a clearance of **3.2 mm** (or **3.6 mm** on version HO machines) between looper point and center line of needle.

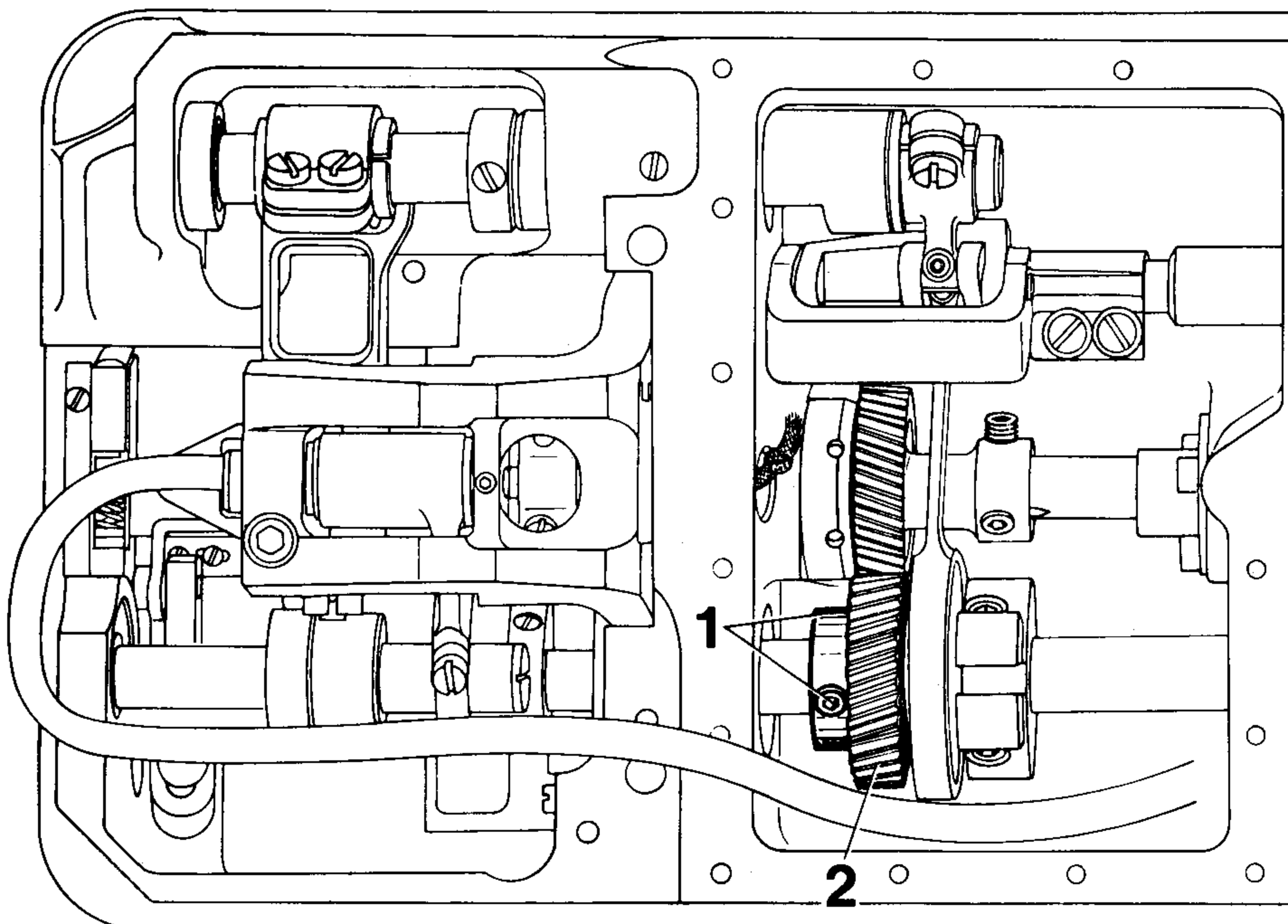


- 13.1 Turn the balance wheel to bring the looper to its right point of reversal.
- 13.2 Loosen clamp screw 1 in looper holder 2.
- 13.3 **Place the 3.2-mm blade (or 3.6-mm blade on version HO machines) of gauge No. 91-111643-06 against the needle with its notch facing in the direction of feed (the number must be visible).**
- 13.4 **Make sure that driving link 4 is vertical and, with the aid of a 6-mm open-ended spanner, turn eccentric ball stud 3 until the looper point contacts the right side of the blade.**
- 13.5 Tighten clamp screw 1 securely.
- 13.6 Check this adjustment (see "Correct setting").

14 Timing the looper

Correct setting:

When the needle bar reaches bottom dead center, the looper should be at its **right** point of reversal.



14.0.1

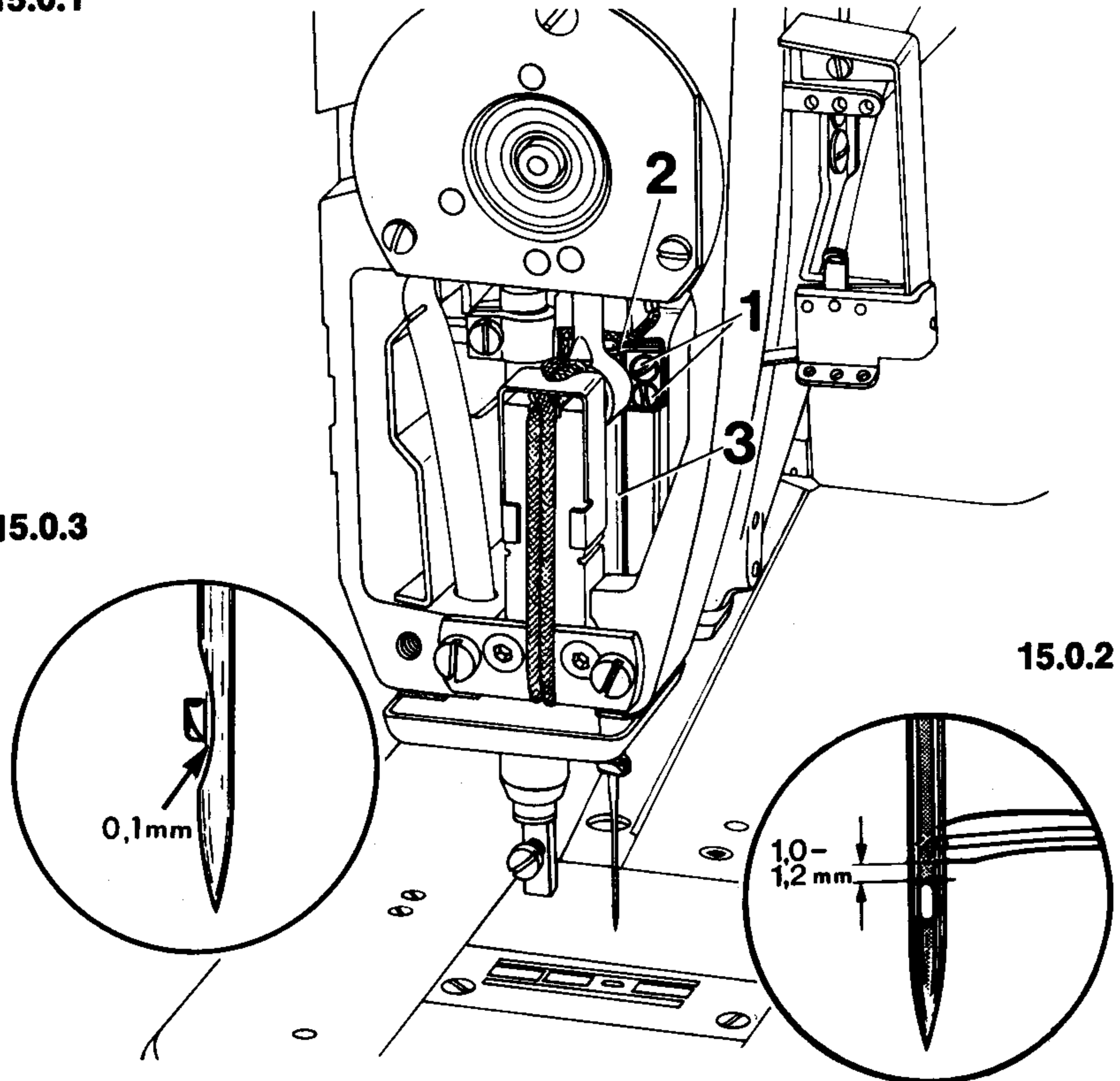
- 14.1 Turn the balance wheel in sewing direction until the point of the advancing looper is at the right-hand side of the needle.
- 14.2 In this position, attach C-clamp No. 08-880137-00 on the needle bar so that it contacts the needle bar frame (thus blocking the upward motion of the needle bar).
- 14.3 Turn the balance wheel in the opposite direction until the C-clamp contacts the needle bar frame again.
- 14.4 In this position, the looper point should again be at the right-hand side of the needle.
- 14.5 If it is not, loosen both screws **1** (Fig. 14.0.1) in the gearcase so that gear **2** can just be turned by hand.
- 14.6 Remove the C-clamp and **turn gear 2 to the required position.**
- 14.7 Repeat steps 14.1 to 14.4 inclusive.
- 14.8 After these adjustments, remove the C-clamp again and tighten both screws **1**.
- 14.9 Check this adjustment (see "Correct setting").

Correct setting:

When the point of the advancing looper is in line with the left side of the needle, the bottom edge of the looper should be positioned 1.0 to 1.2 mm above the top of the needle eye. In this position, there should be a clearance of 0.1 mm between looper and needle (see Fig. 15.0.3).

15.0.1

15.0.3



- 15.1 Turn the balance wheel in sewing direction until the point of the advancing looper is in line with the left side of the needle.
- 15.2 In this position, loosen both clamp screws 1 (Fig. 15.0.1) in needle bar connecting stud 2.
- 15.3 Move needle bar 3 up or down until there is a clearance of 1.0 to 1.2 mm between the top of the needle eye and the bottom edge of the looper (see Fig. 15.0.2). Make sure the needle bar is not turned during the adjustment.
- 15.4 In this position, tighten both clamp screws 1 and check whether there is a 0.1 mm clearance between looper and needle (see Fig. 15.0.3). For correction see steps 12.2 to 12.4.
- 15.5 Check this adjustment (see "Correct setting").

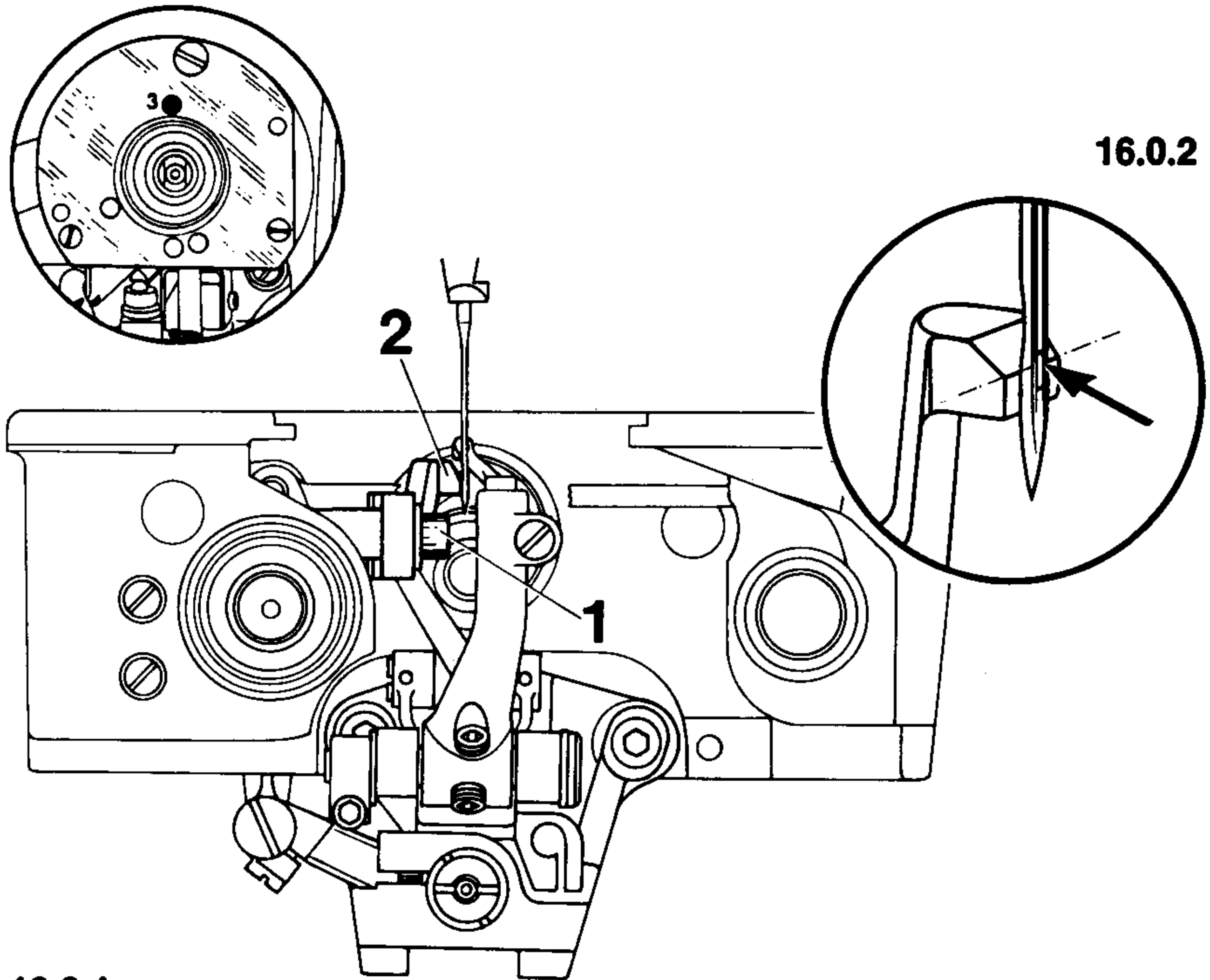
16

Height of rear needle guard

(for machines with backtacking mechanism -911/.. see Appendix)

Correct setting:

With the needle bar at bottom dead center (pin in hole 3), the vertical surface of the needle guard should cover the needle eye by roughly 2/3 (see arrow in Fig. 16.0.2).



16.0.1

16.0.2

- 16.1 Turn the balance wheel to bring the needle bar to bottom dead center.
- 16.2 Insert the pin in hole 3 of the bearing plate (to block the machine).
- 16.3 Loosen screw 1 of rear needle guard 2.
- 16.4 **Adjust needle guard 2 so that its vertical surface covers roughly 2/3 of the needle eye.**
- 16.5 In this position, tighten screw 1.
- 16.6 Pull the pin out of the hole in the bearing plate.
- 16.7 Check this adjustment (see "Correct setting").

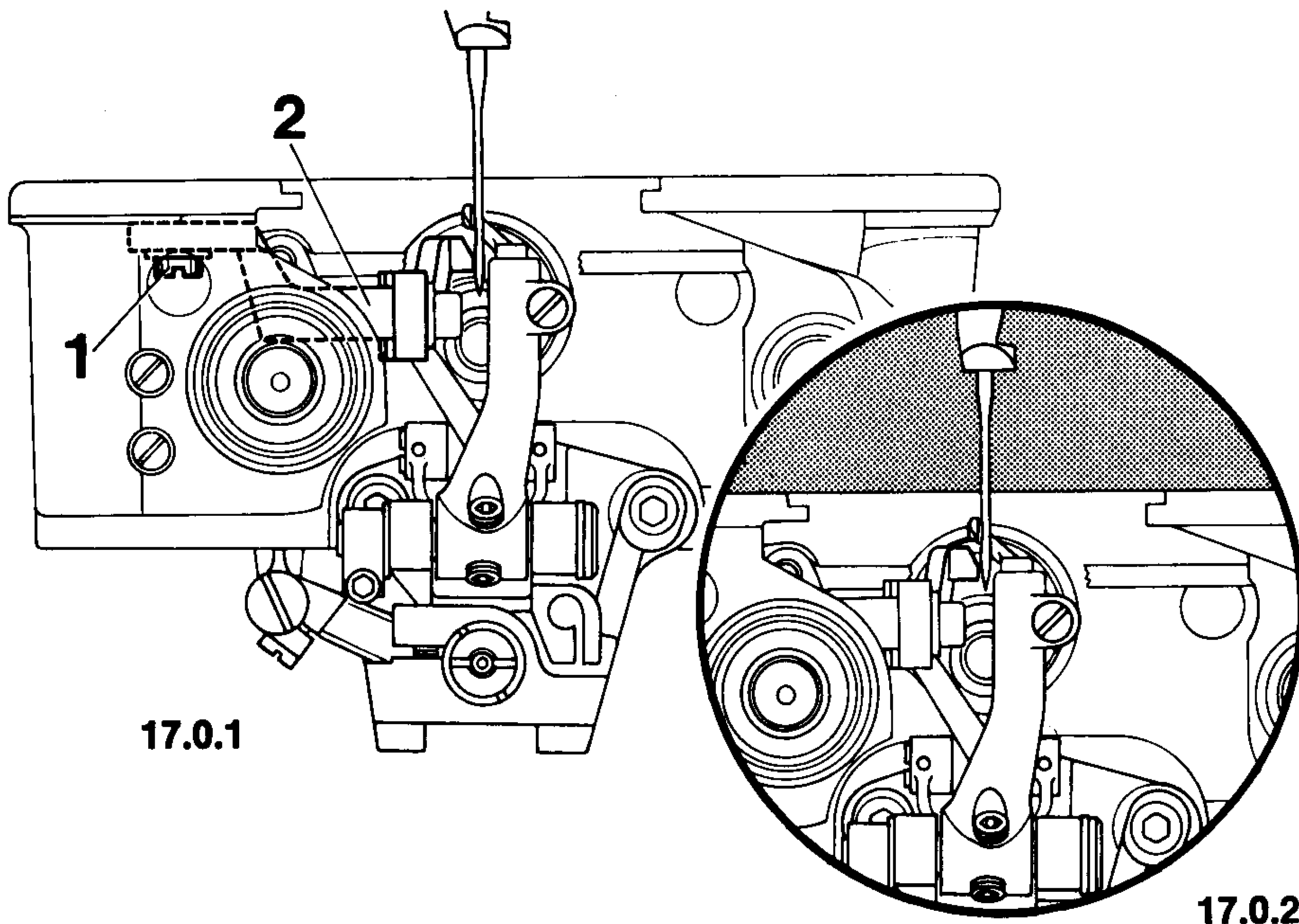
17

Clearance between rear needle guard and needle

(for machines with backtacking mechanism -911/.. see Appendix)

Correct setting:

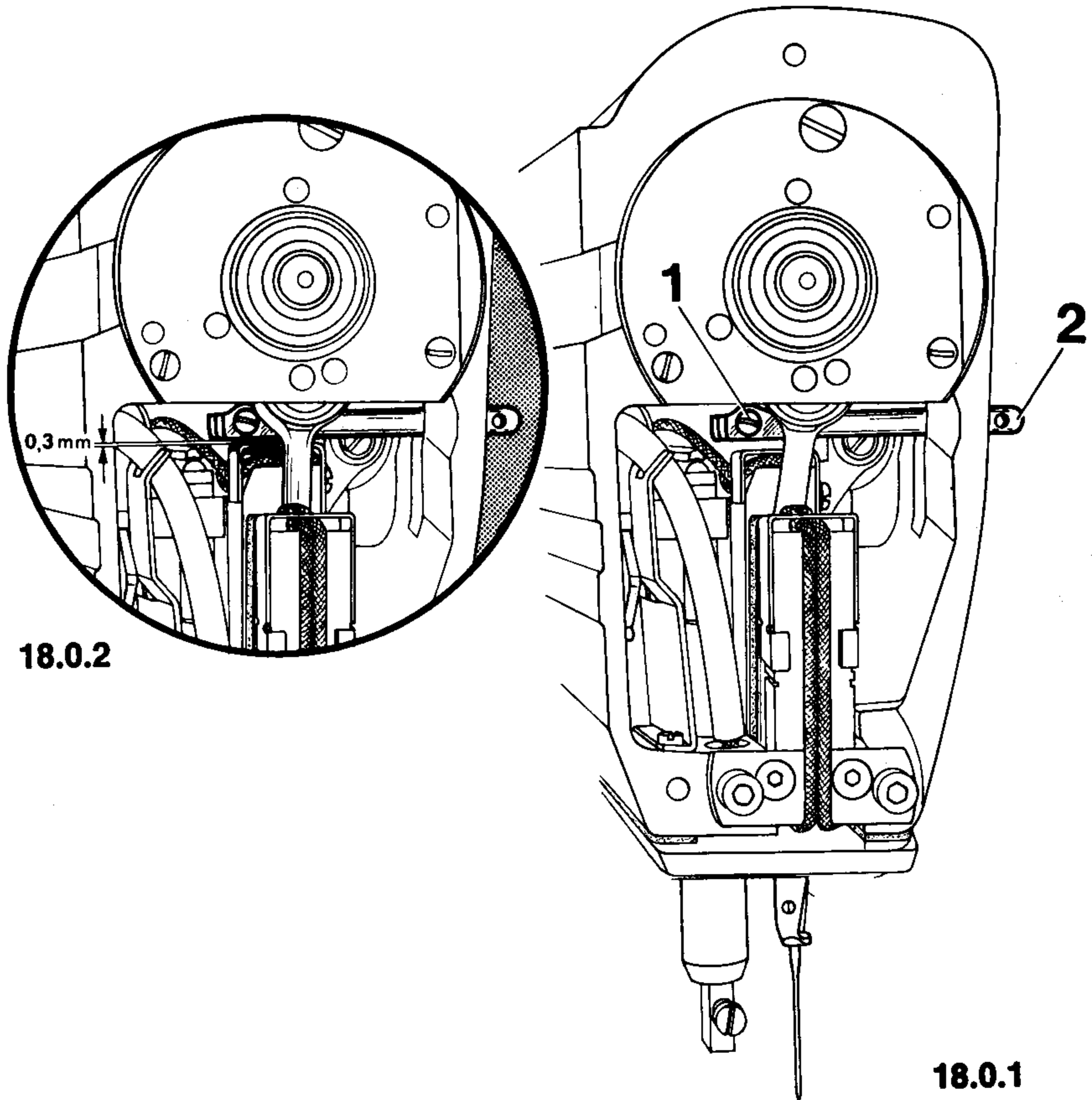
The needle should still contact the rear needle guard lightly when the point of the advancing looper is in line with the right side of the needle.



- 17.1 Turn the balance wheel until the point of the advancing looper is in line with the right side of the needle.
- 17.2 Loosen screw 1 of the rear needle guard bracket 2.
- 17.3 **Position bracket 2 so that the needle guard contacts the needle without deflecting it.**
- 17.4 In this position, tighten screw 1.
- 17.5 Check this adjustment (see "Correct setting").

Correct setting:

The take-up lever should be positioned on the needle bar so that it moves freely in the middle of its slot and does not strike the top and bottom ends of this slot. Furthermore, with the needle bar at bottom dead center, there should be a clearance of 0.3 mm between the bottom edge of the take-up lever and the top edge of the needle bar frame



- 18.1 Turn the balance wheel until clamp screw 1 in take-up lever 2 is accessible.
- 18.2 Loosen clamp screw 1 a little.
- 18.3 Turn the balance wheel to bring the needle bar to bottom dead center.
- 18.4 **In this position there should be a clearance of 0.3 mm between the bottom edge of the take-up lever and the top edge of the needle bar frame. Use a metal rule (3 mm thick) for this adjustment.**
- 18.5 **Make sure that take-up lever 2 is centered in its slot and tighten clamp screw 1.**

19 Needle thread regulator

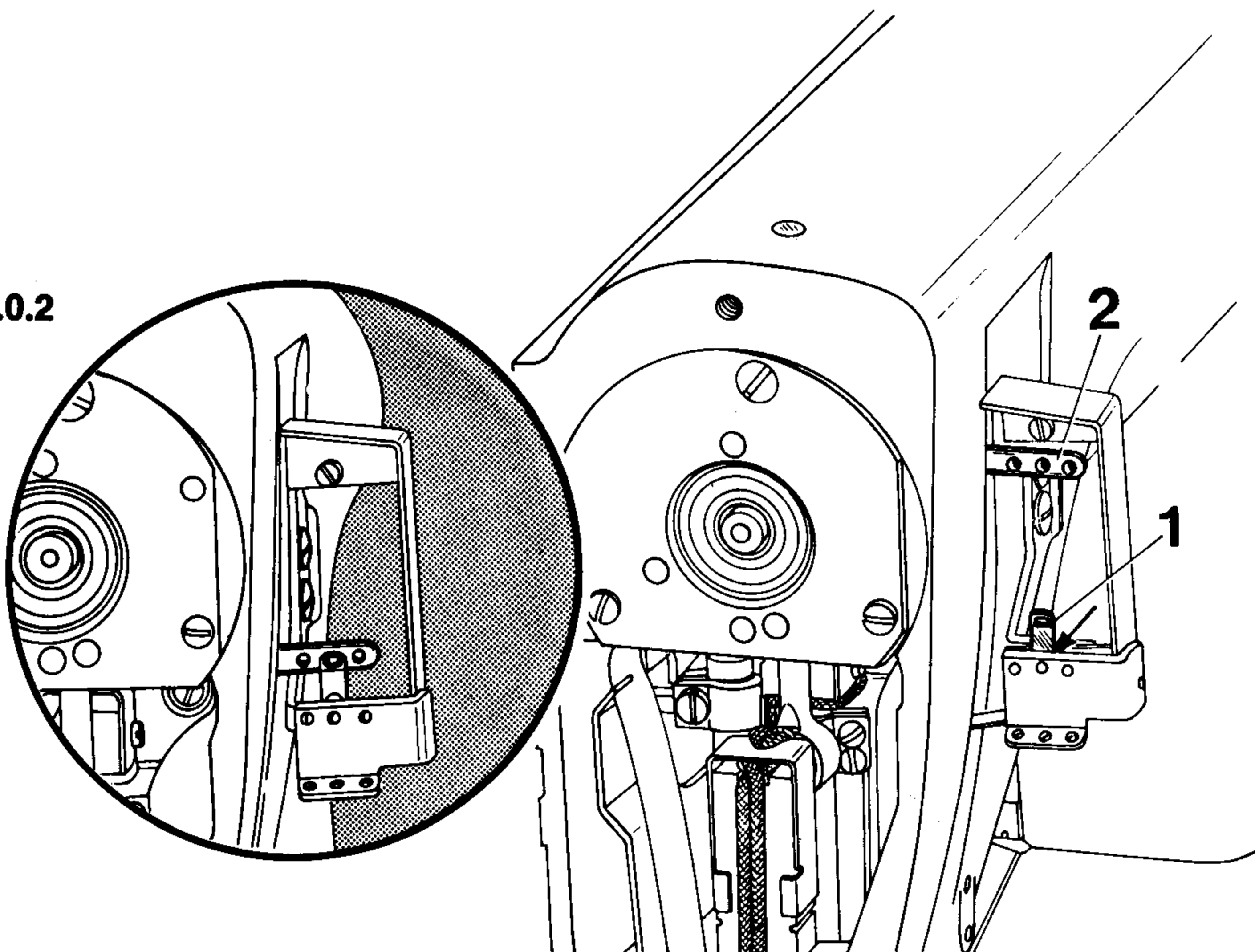
Correct setting:

With the needle bar at bottom dead center, the eye of needle thread regulator 1 should be in line with the middle hole of take-up lever 2.

Note:

This basic setting may have to be modified, depending on the type of thread and material used.

19.0.2



19.0.1

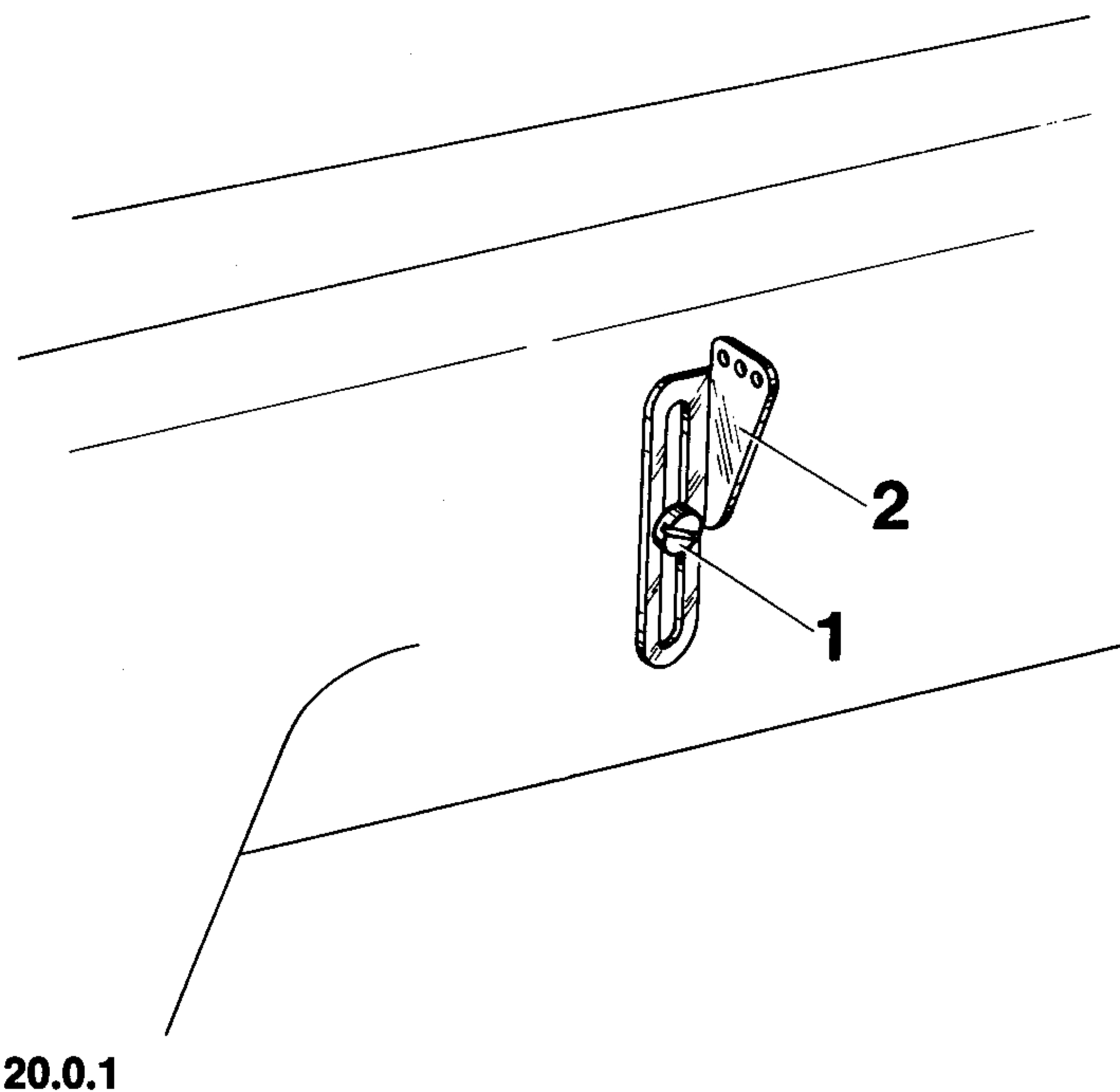
- 19.1 Turn the balance wheel to bring the needle bar to bottom dead center.
- 19.2 Loosen the screw (see arrow in Fig. 19.0.1) of needle thread regulator 1.
- 19.3 **Adjust needle thread regulator 1 so that its eye is level with the middle hole of take-up lever 2.**
- 19.4 In this position, tighten the screw (see arrow in Fig. 19.0.1).

Correct setting:

The adjustable thread guide should be fixed in the middle of its elongated hole.

Note:

This basic setting may have to be modified, depending on the type of thread and the stitch length used.

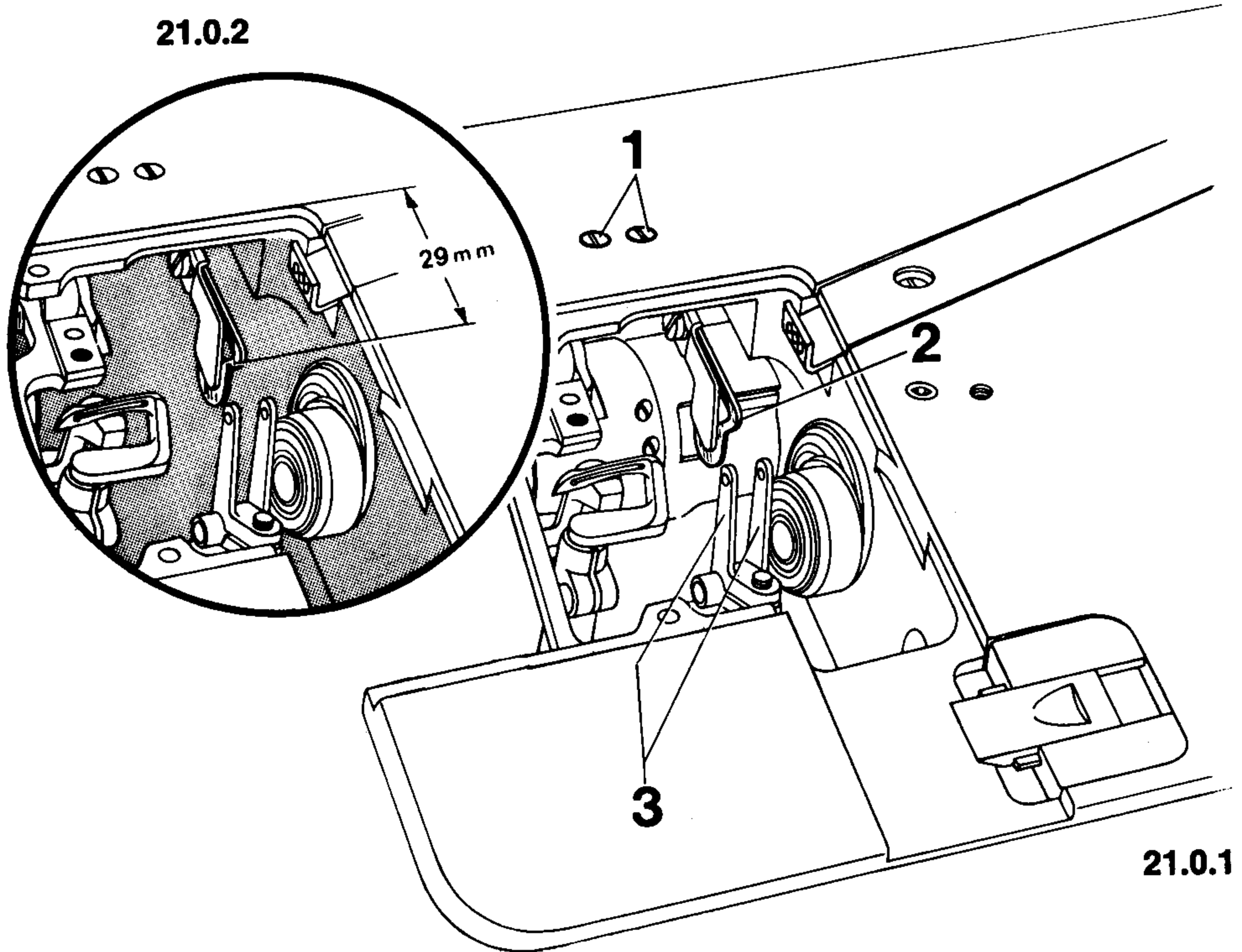


- 20.1 Loosen screw 1 of thread guide 2.
- 20.2 **Adjust thread guide 2 so that screw 1 is positioned in the middle of the elongated hole.**
- 20.3 Make sure that thread guide 2 is vertical and tighten screw 1.

21 Primary looper thread regulator

Correct setting:

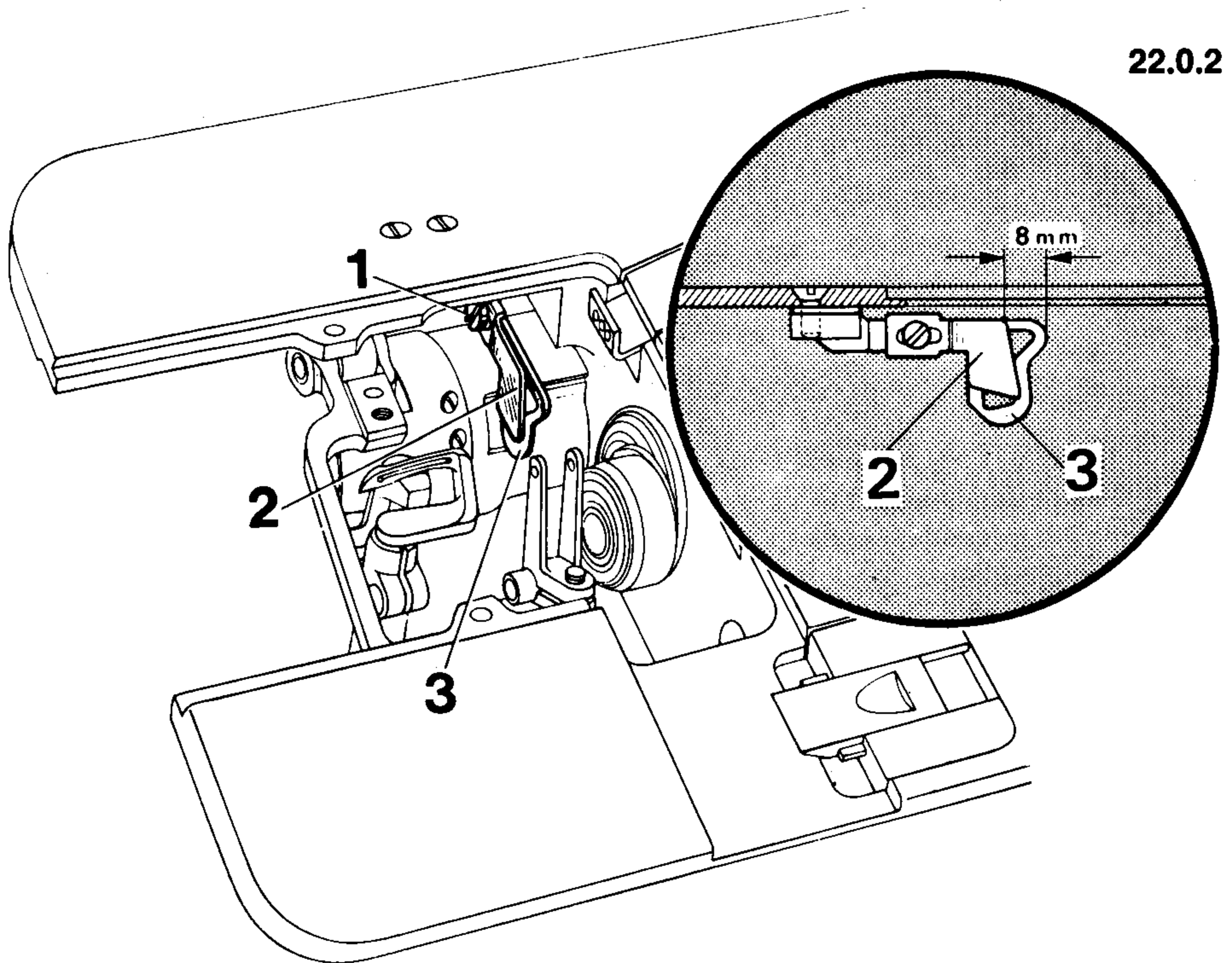
The distance between the front edge of primary looper thread regulator 2 and the rear edge of the needle plate cutout should be 29 mm.



- 21.1 Loosen both screws 1 of thread regulator 2.
- 21.2 **Adjust thread regulator 2 lengthwise so that there is a distance of 29 mm between its front edge and the rear edge of the needle plate cutout.**
- 21.3 Make sure that thread regulator 2 is positioned roughly in the middle of thread puller fingers 3 and tighten both screws 1.
- 21.4 Check this adjustment (see "Correct setting").

Correct
setting:

The front edge of the secondary looper thread regulator 2 should be abt. **8.0 mm** from the front edge of primary looper thread regulator 3.



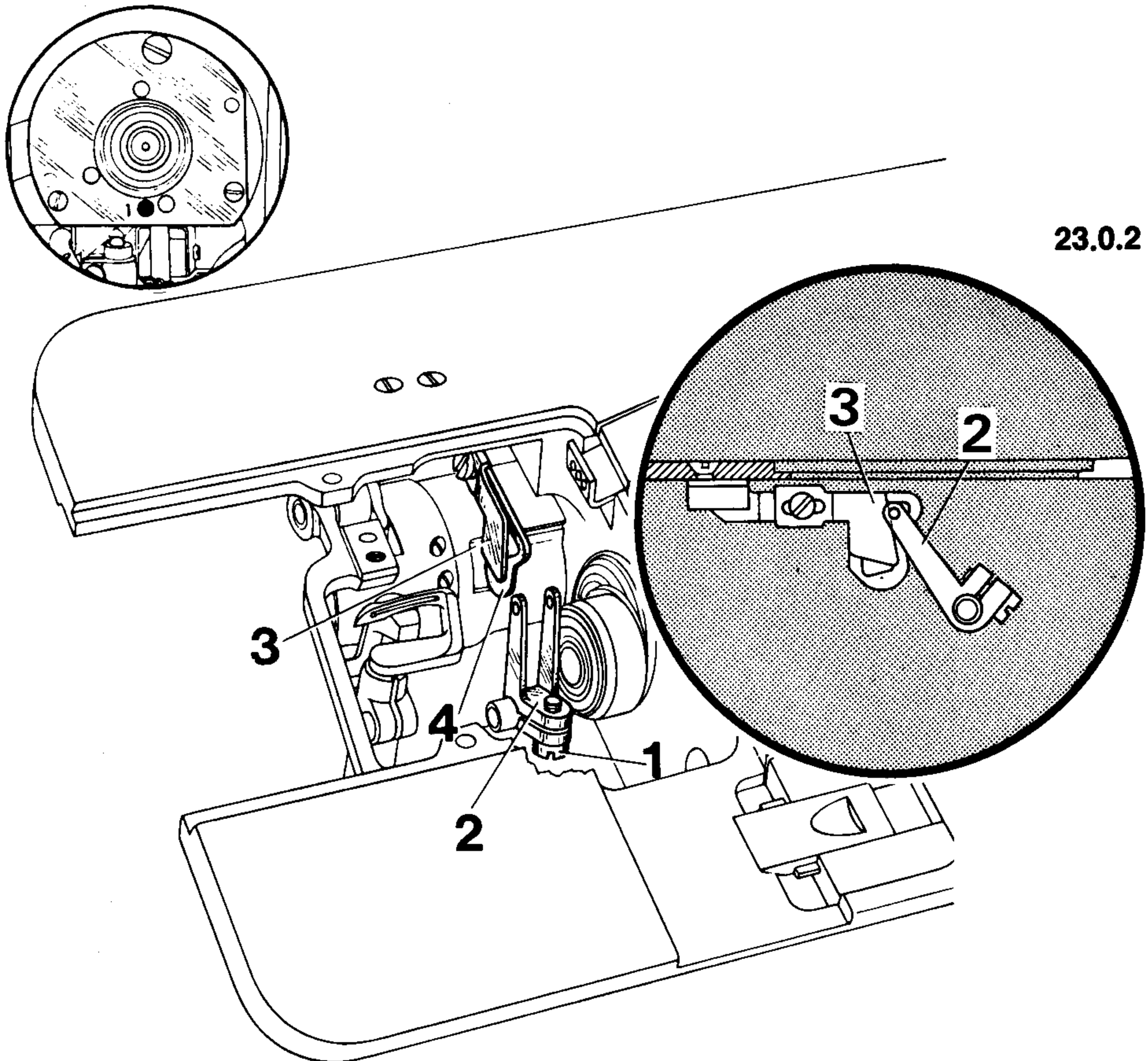
22.0.1

22.0.2

- 22.1 Loosen screw 1 of secondary looper thread regulator 2.
- 22.2 **Adjust thread regulator 2 lengthwise so that its front edge is 8.0 mm from the front edge of thread regulator 3.**
- 22.3 In this position, tighten screw 1.
- 22.4 Check this adjustment (see "Correct setting").

Correct setting:

With the needle bar at top dead center (pin in hole 1), both eyes of looper thread puller 2 should be exactly at the front edge of secondary looper thread regulator 3.



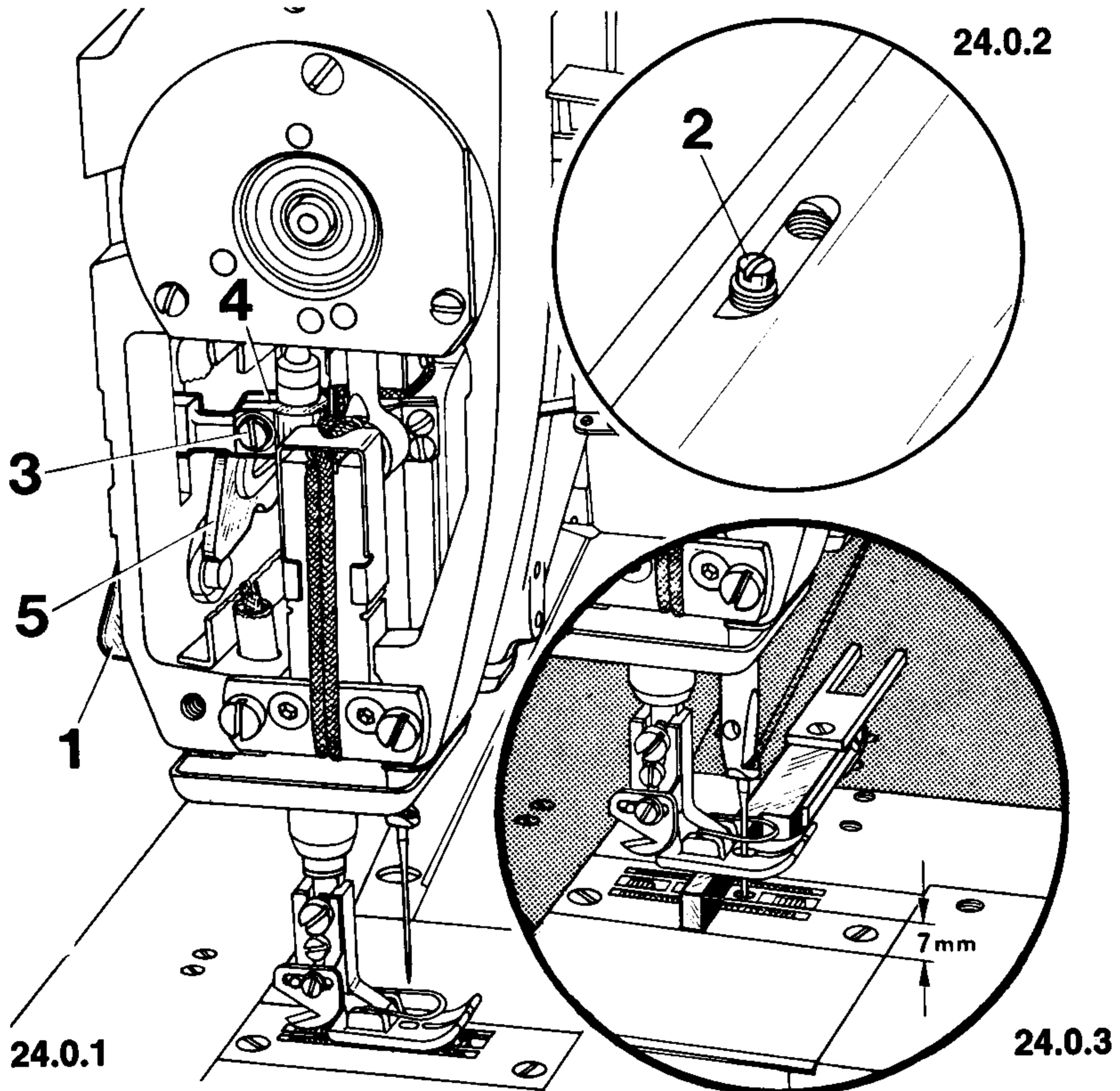
23.0.2

23.0.1

- 23.1 Loosen clamp screw 1 just enough to allow thread puller 2 to be turned on its stud by hand.
- 23.2 Turn the balance wheel to bring the needle bar to top dead center.
- 23.3 Insert the pin in hole 1 of the bearing plate (to block the machine).
- 23.4 **Turn thread puller 2 on its stud so that its two eyes are exactly at the front edge of thread regulator 3.**
- 23.5 Make sure the fingers of thread puller 2 are equidistant from primary looper thread regulator 4, then tighten clamp screw 1.
- 23.6 Pull the pin out of the hole in the bearing plate.
- 23.7 Check this adjustment (see "Correct setting").

Correct setting:

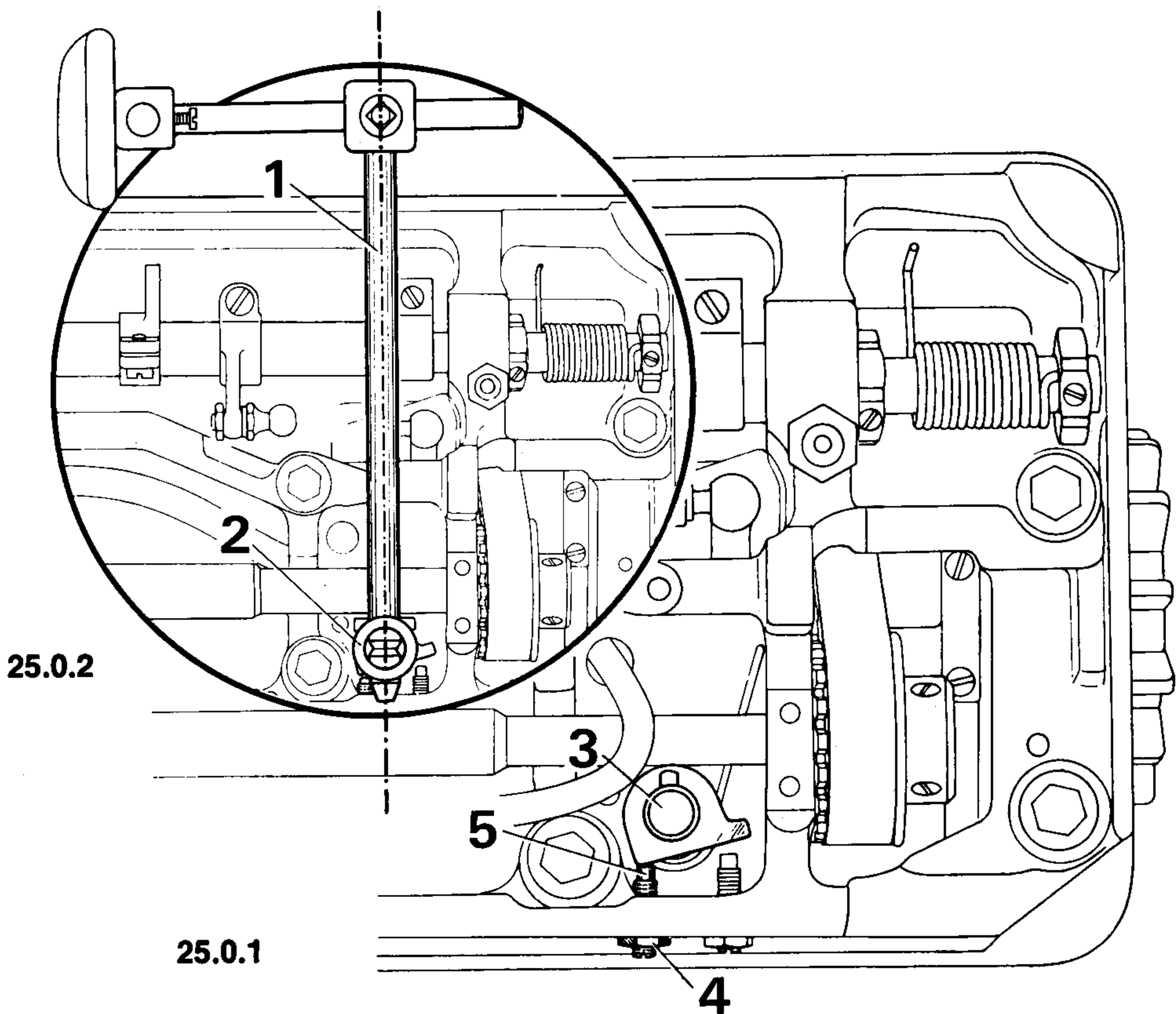
With the presser bar lifter 1 raised, there should be a clearance of 7.0 mm between presser foot and needle plate.



- 24.1 Screw on the feed dog and the needle plate, making sure the feed dog moves freely in its slots.
- 24.2 Screw on the presser foot and lower it onto the needle plate by means of presser bar lifter 1.
- 24.3 Turn out regulating screw 2 to reduce the pressure on the presser bar so that it is just sufficient to hold the presser foot down on the needle plate.
- 24.4 Push the 7-mm-thick blade of the gauge under the presser foot from the rear until it is positioned under the presser foot fulcrum.
- 24.5 Loosen clamp screw 3 of presser bar lifting bracket 4 and raise presser bar lifter 1.
- 24.6 Turn the balance wheel until the needle enters the needle hole in the presser foot.
- 24.7 **Adjust the presser foot laterally until the needle is centered in the needle hole of the presser foot.**
- 24.8 **Push presser bar lifting bracket 4 down until it contacts the raised presser bar lifter 5, and tighten clamp screw 3.**
- 24.9 Remove the gauge from under the presser foot and lower the foot onto the needle plate.
- 24.10 Check this adjustment (see "Correct setting").
- 24.11 During the sewing test regulate the presser foot pressure by means of regulating screw 2.

Correct
setting:

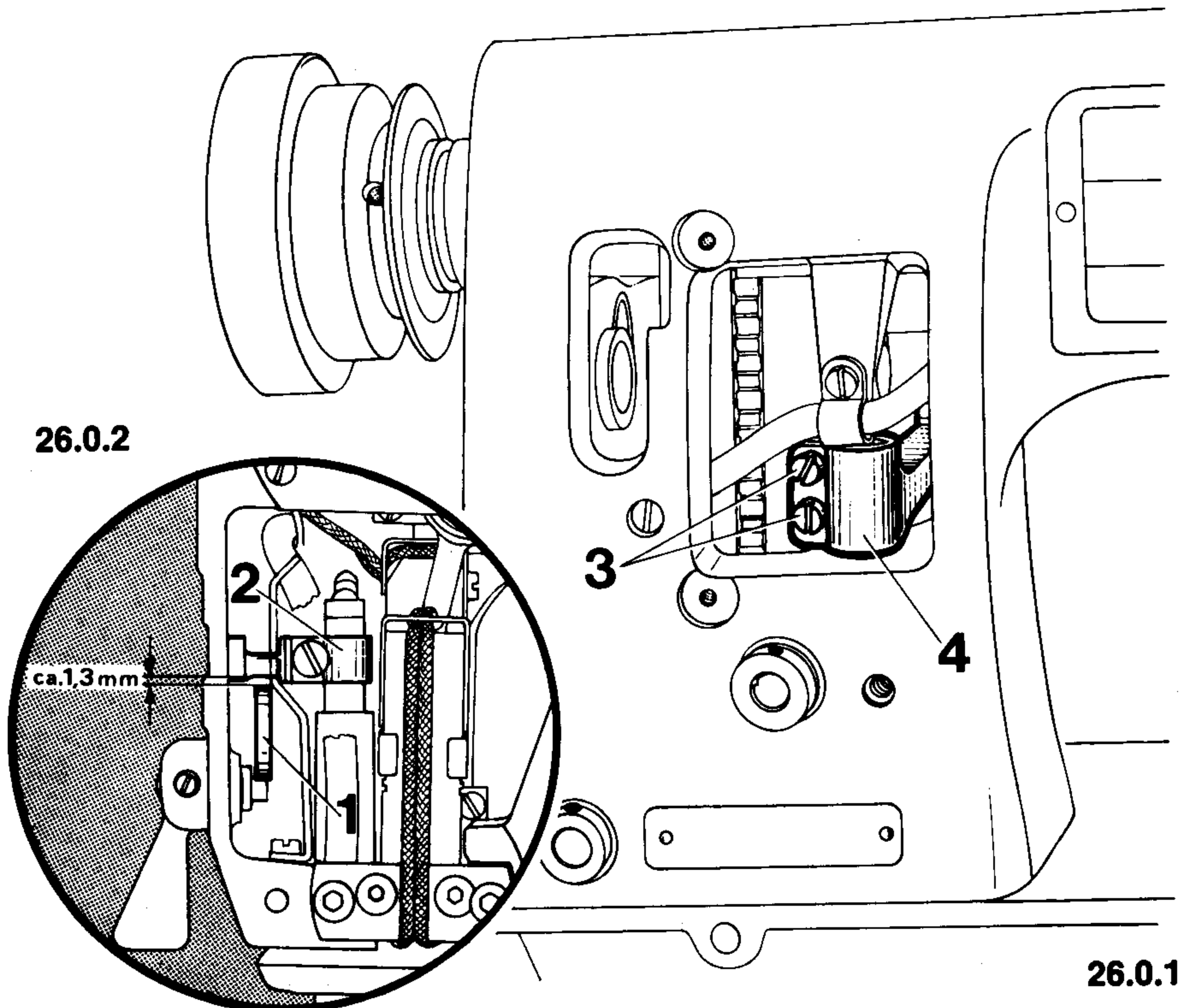
When in its rest position, knee lever connecting rod 1 should be roughly at right angles to the front edge of the bedplate.



- 25.1 Raise the presser foot by means of the presser bar lifter.
- 25.2 Push knee lever connecting rod 1 together with coupling sleeve 2 onto knee lever shaft 3 and turn it until it snaps into position.
- 25.3 Loosen locknut 4 of stop screw 5.
- 25.4 **Turn stop screw 5 until knee lever connecting rod 1 is roughly at right angles to the front edge of the bedplate.**
- 25.5 In this position, lock stop screw 5 in place by nut 4.
- 25.6 Pull knee lever connecting rod 1 out of coupling sleeve 2 again.

Correct setting:

When the presser foot is resting on the needle plate and the feed dog is beneath the needle plate, there should be a clearance of abt. 1.3 mm between lifting lever 1 and lifting collar 2.

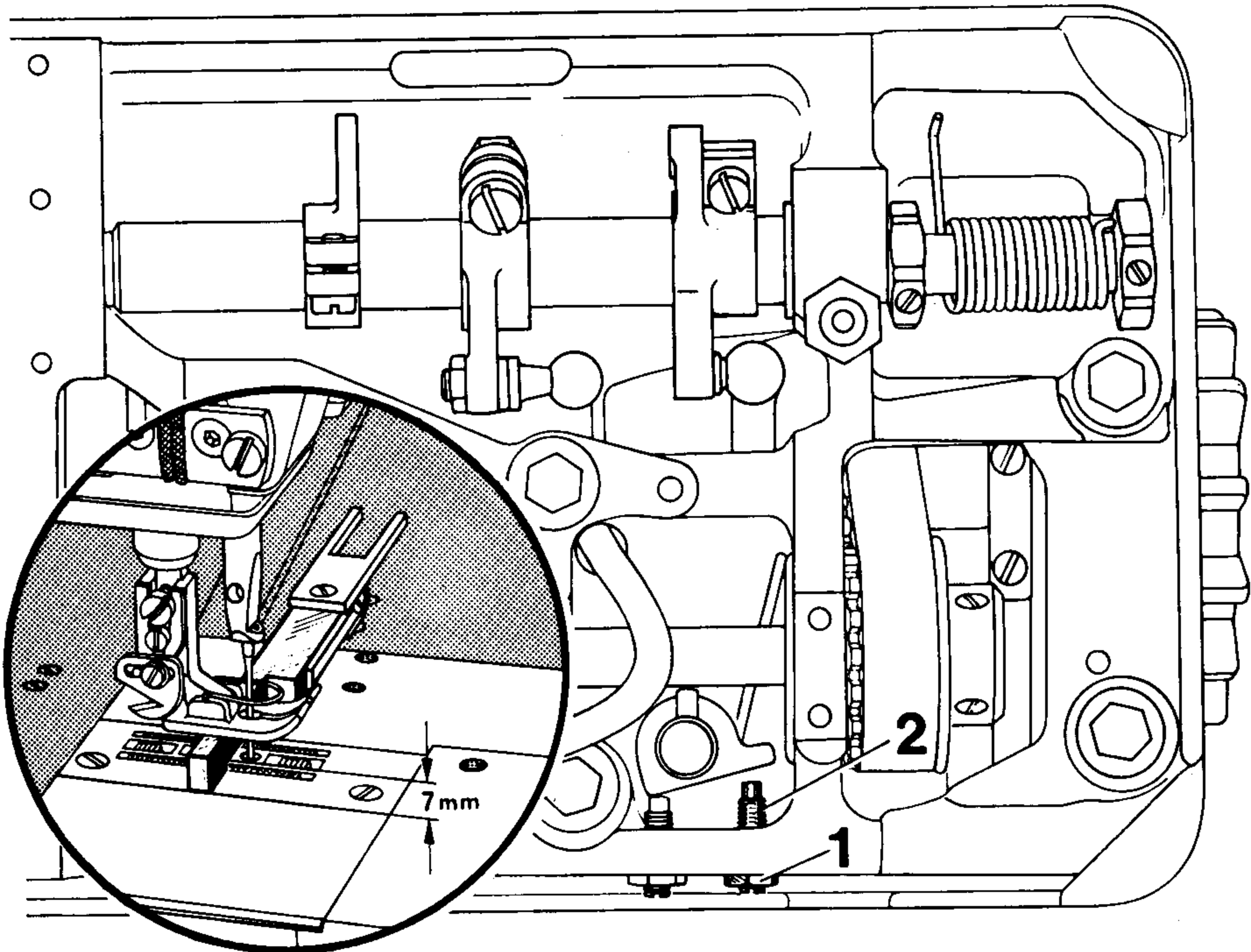


- 26.1 Turn the balance wheel to bring the feed dog below needle plate level, and lower the presser foot onto the needle plate.
- 26.2 Take out the two screws of the rear standard cover and remove the latter.
- 26.3 Loosen both clamp screws 3 of crank 4 on the knee lever shaft.
- 26.4 **Adjust crank 4 so that there is a clearance of abt. 1.3 mm between lifting lever 1 and lifting collar 2.** (Use adjustment gauge.)
- 26.5 In this position, tighten both clamp screws 3, making sure that the vertical knee lever shaft has no vertical play.
- 26.6 Remove the gauge and insert the knee lever.
- 26.7 Check this adjustment (see "Correct setting").
- 26.8 Remove the knee lever again.

Correct setting:

When the knee lever is fully operated, the presser foot should be lifted from the needle plate by a little more than 7 mm, or 9 mm on H version and the presser bar lifter should drop by its own weight.

27.0.2

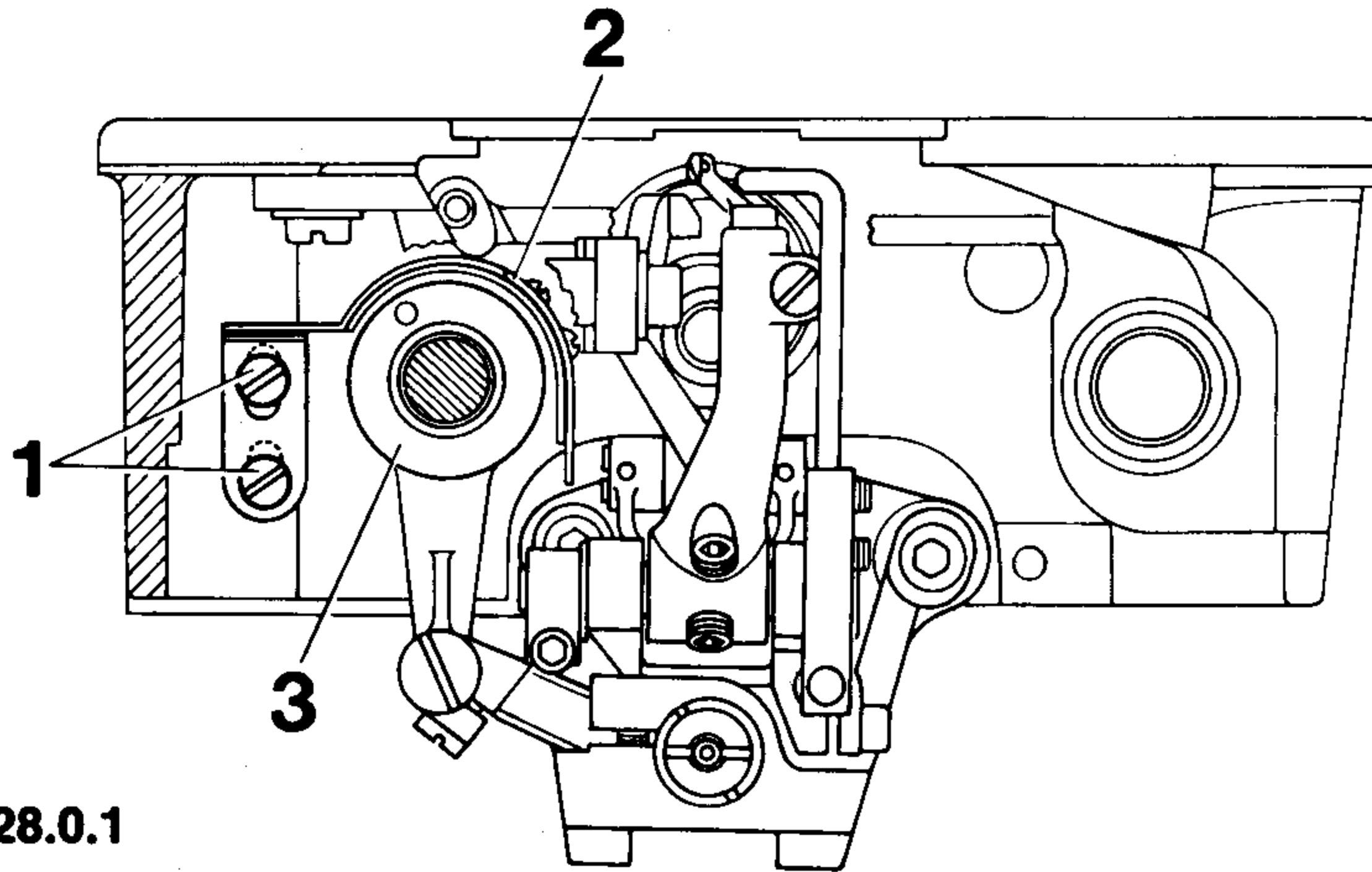


27.0.1

- 27.1 Insert the knee lever.
- 27.2 Loosen locknut 1 of stop screw 2.
- 27.3 Turn stop screw 2 out a few turns.
- 27.4 Raise the presser foot by means of the presser bar lifter.
- 27.5 Place the 7-mm- or 9-mm-thick blade of the gauge under the presser foot and release the presser bar lifter.
- 27.6 Move the knee lever to the right until a noticeable resistance is felt, but make sure the presser foot is not lifted off the gauge.
- 27.7 **Hold the knee lever at this position and turn stop screw 2 in as far as it will go, then back out by half a turn, and lock it in place with locknut 1.**
- 27.8 Remove the gauge from under the presser foot and check this adjustment (see "Correct setting").

Correct
setting:

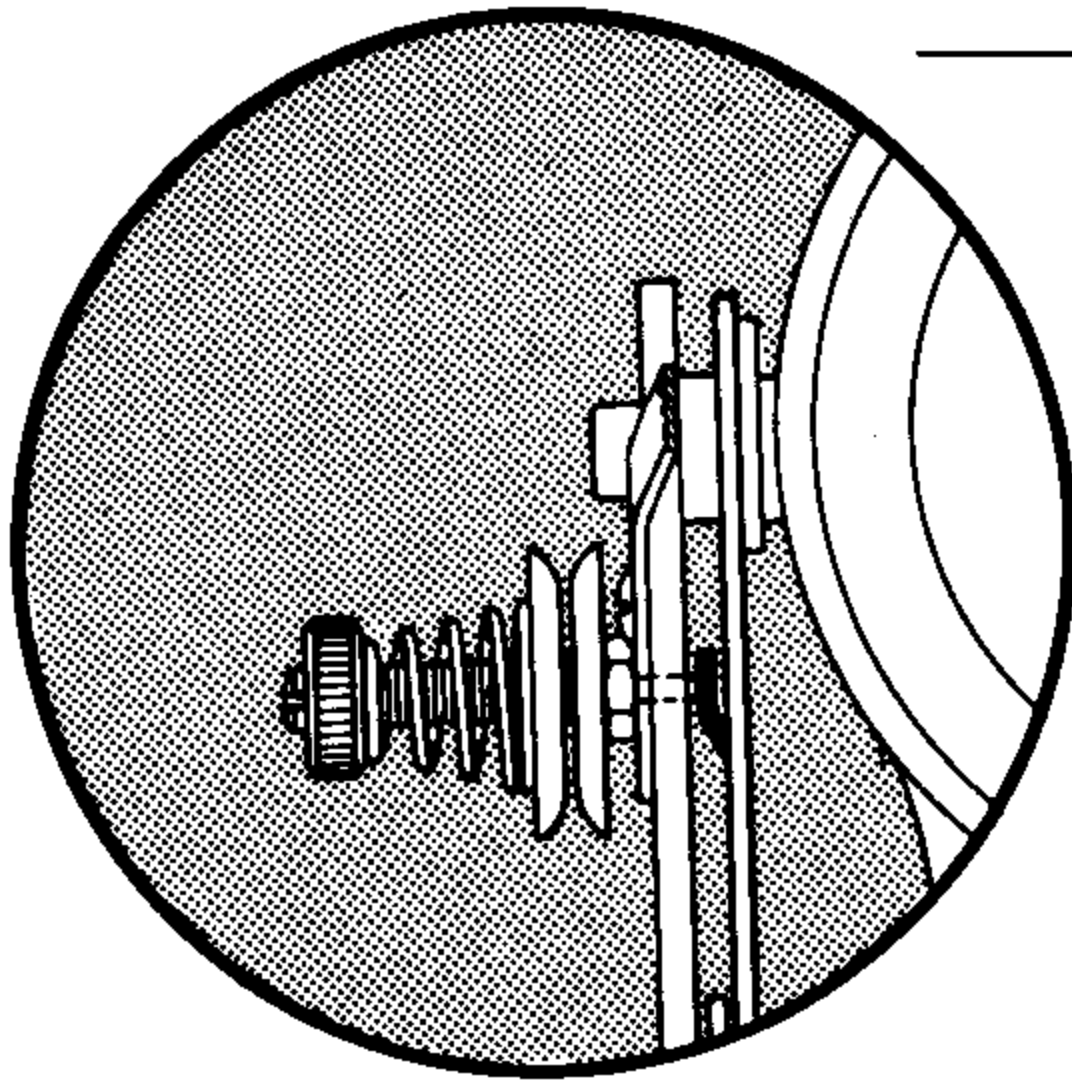
Looper-avoiding-motion eccentric **3** must not touch guard **2** during any phase of its motion.



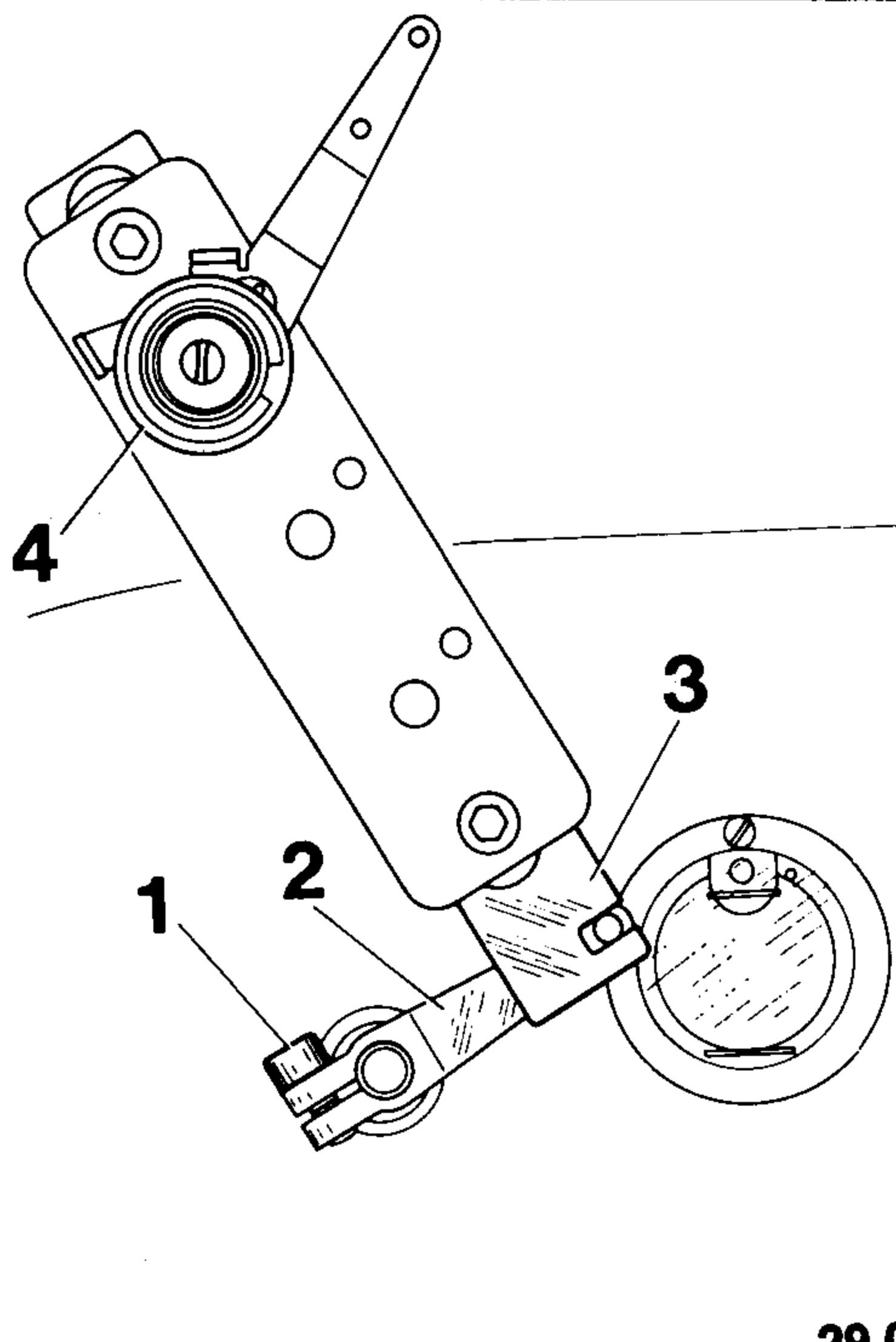
- 28.1 Loosen both screws **1** which are accessible through the access window.
- 28.2 **Adjust the position of guard **2** so that looper-avoiding-motion eccentric **3** does not touch it during any phase of its motion.**
- 28.3 In this position, tighten screws **1**.

Correct
setting:

When the presser foot is raised by means of the knee lever by abt. 5 mm, thread tension 4 must be released.



29.0.2



29.0.1

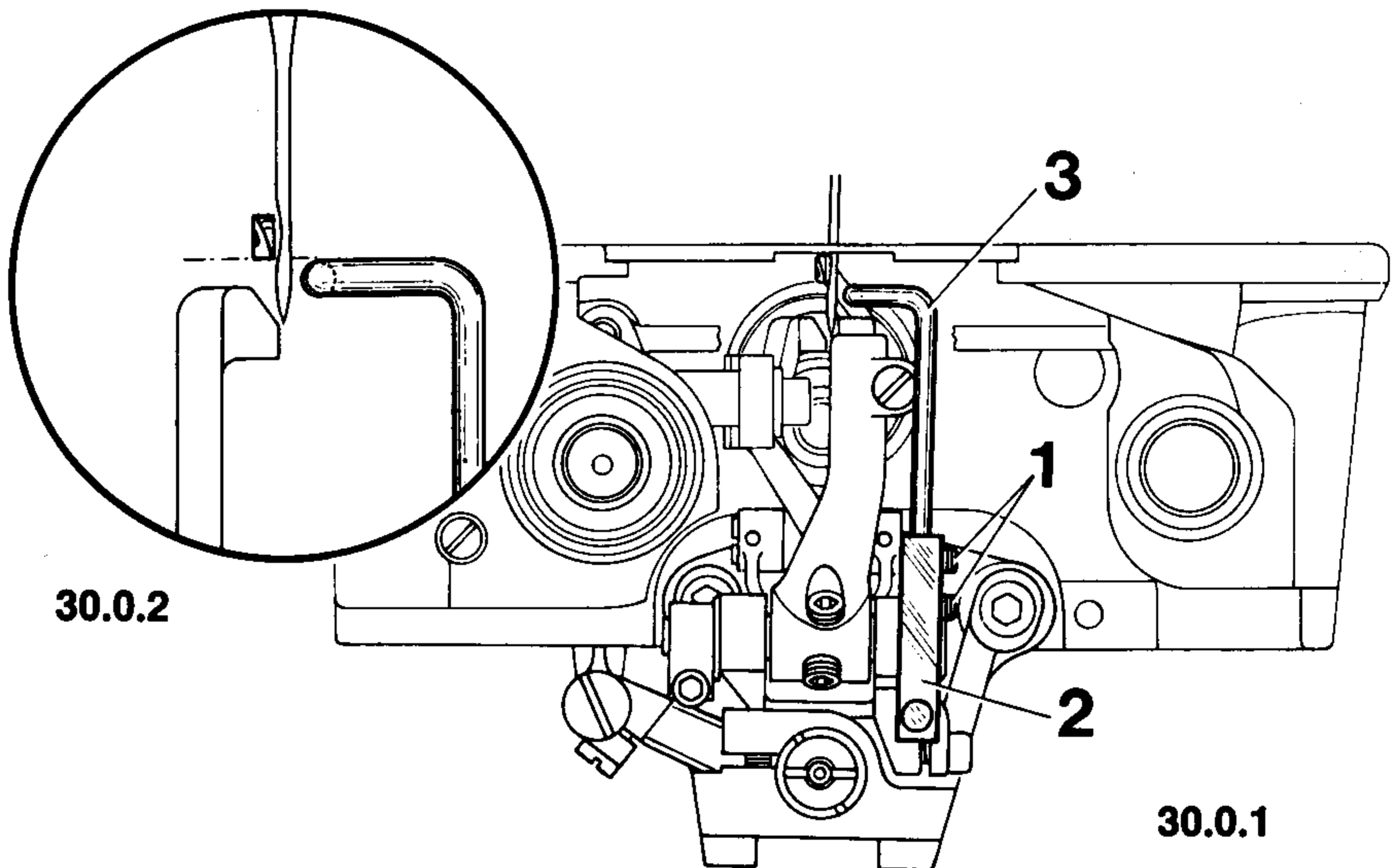
- 29.1 Loosen clamp screw 1 of tension release lever 2.
- 29.2 **Raise the presser foot by abt. 5 mm and adjust the position of tension release bracket 3 so that thread tension 4 is released.**
- 29.3 In this position, tighten clamp screw 1.

30 Front needle guard
(not standard on all machines)

30.1 Vertical adjustment

Correct setting:

When the point of the advancing looper is opposite the center line of the needle, the top edge of front needle guard **3** should be in line with the bottom edge of the looper point.



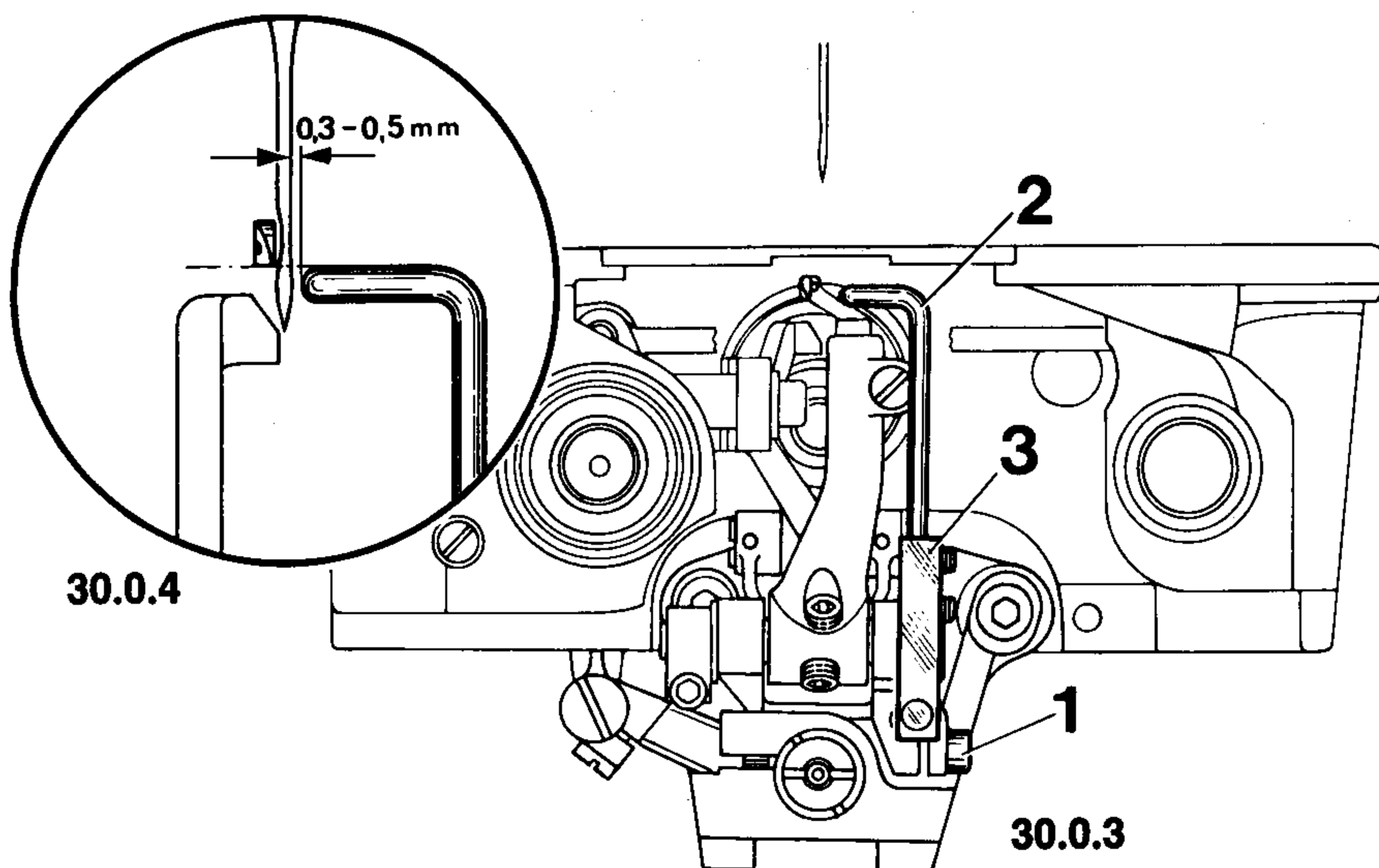
- 30.1.1 Turn the balance wheel until the point of the advancing looper is opposite the center line of the needle.
- 30.1.2 Loosen both screws **1** of needle guard bracket **2**.
- 30.1.3 **Adjust front needle guard **3** vertically so that its top edge is flush with the bottom edge of the looper point.**
- 30.1.4 In this position, tighten both screws **1**, making sure that front needle guard **3** is parallel to the looper blade.
- 30.1.5 Check this adjustment (see "Correct setting").

30.2

Lateral adjustment

Correct setting:

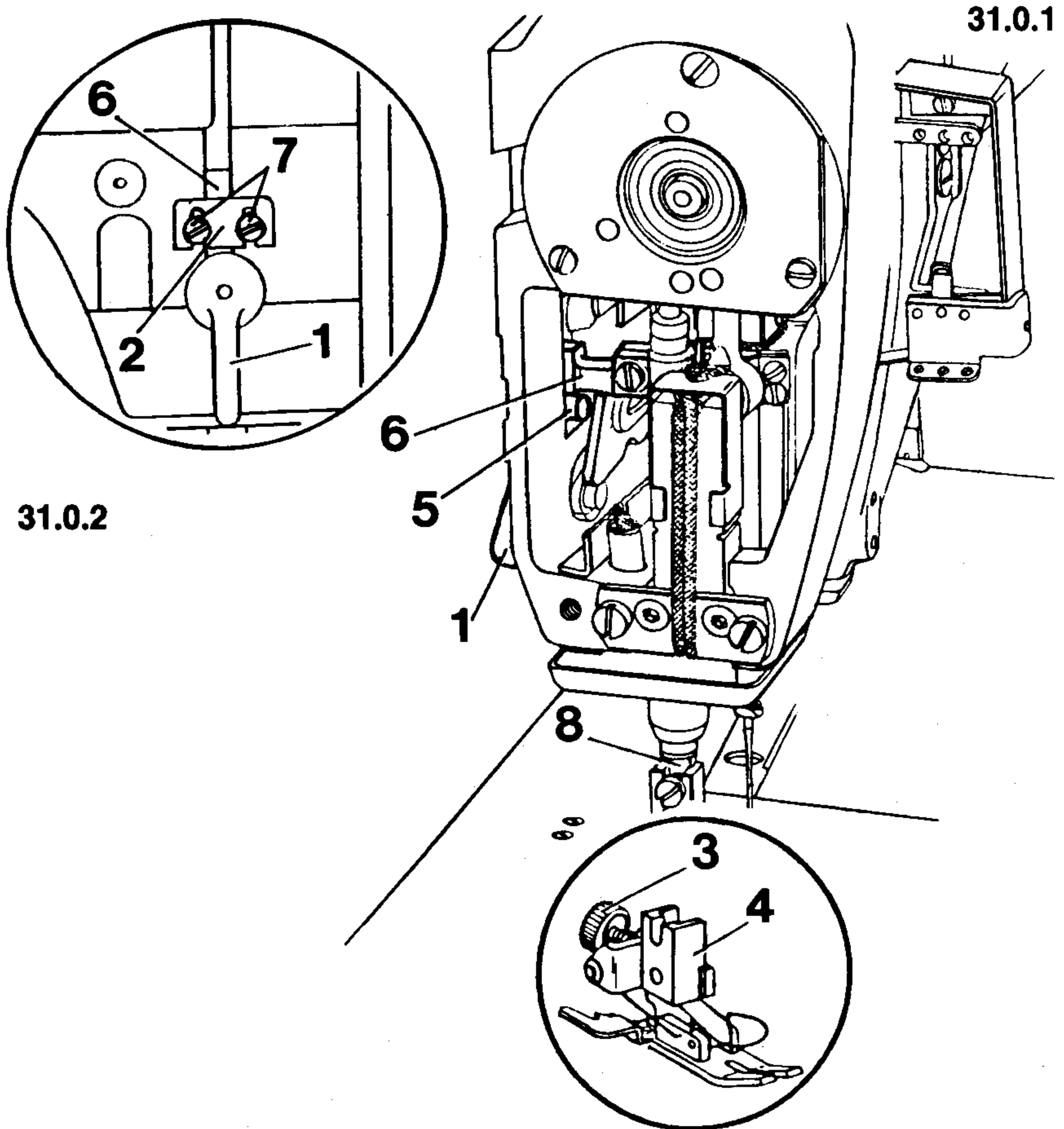
When the looper point is opposite the center line of the needle, there should be a clearance of **0.3 to 0.5 mm** between front needle guard **2** and the needle.



- 30.2.1 Turn the balance wheel to bring the looper to its left point of reversal.
- 30.2.2 Loosen clamp screw **1**.
- 30.2.3 **Adjust the position of needle guard bracket 3 so that front needle guard 2 does not touch the neck of the looper when the latter is at its left point of reversal.**
- 30.2.4 In this position, tighten clamp screw **1** just lightly.
- 30.2.5 Turn the balance wheel further until the looper point is opposite the center line of the needle.
- 30.2.6 **Turn needle guard bracket 3 so that there is a clearance of 0.3 to 0.5 mm between needle guard and needle.**
- 30.2.7 In this position, tighten clamp screw **1**.
- 30.2.8 Check this adjustment (see "Correct setting").

Correct setting:

When presser bar lifter 1 is raised, presser bar 8 should have risen 0.3 mm before the floating foot starts lifting clear of the needle plate.



- 31.1 Bring the take-up lever to its highest point and raise presser bar lifter 1.
 31.2 If not fitted, lightly secure locking member 2 to the back of the machine head and push it down in its elongated holes as far as it will go.
 31.3 Turn knurled nut 3 until its face side is flush with the end of this threaded stud.
 31.4 Swing presser bar lifter 1 down until the entire sole of floating foot 4 is resting on the needle plate without any pressure.
 31.5 While holding the foot in this position, push up locking member 2 so that stud 5 engages presser bar collar 6, and tighten the two screws 7.
 31.6 Check this adjustment (see "Correct setting") and set the correct amount of pressure by turning in thumb nut 3.

Final worksteps

Replace the oil-soaked lubrication pad in the gearcase (large cutout to left, downwards).

Clean the gasket surface of the gearcase and the gasket of the gearcase cover.

Screw on the gearcase cover together with the machine-bed supports, tightening the cover screws crosswise.

Replace and screw on the face cover, the rear housing cover with thread tension, and the belt guard.

Thread the machine.

Replace the bed slide and the cover plate.

Place fabric under the presser foot and lower the foot onto it.

Make a sewing test and, while doing so, adjust the presser foot pressure by means of regulating screw 2 so that the fabric is fed properly even at top speed.

Appendix

for machines in version H (without 911/..)

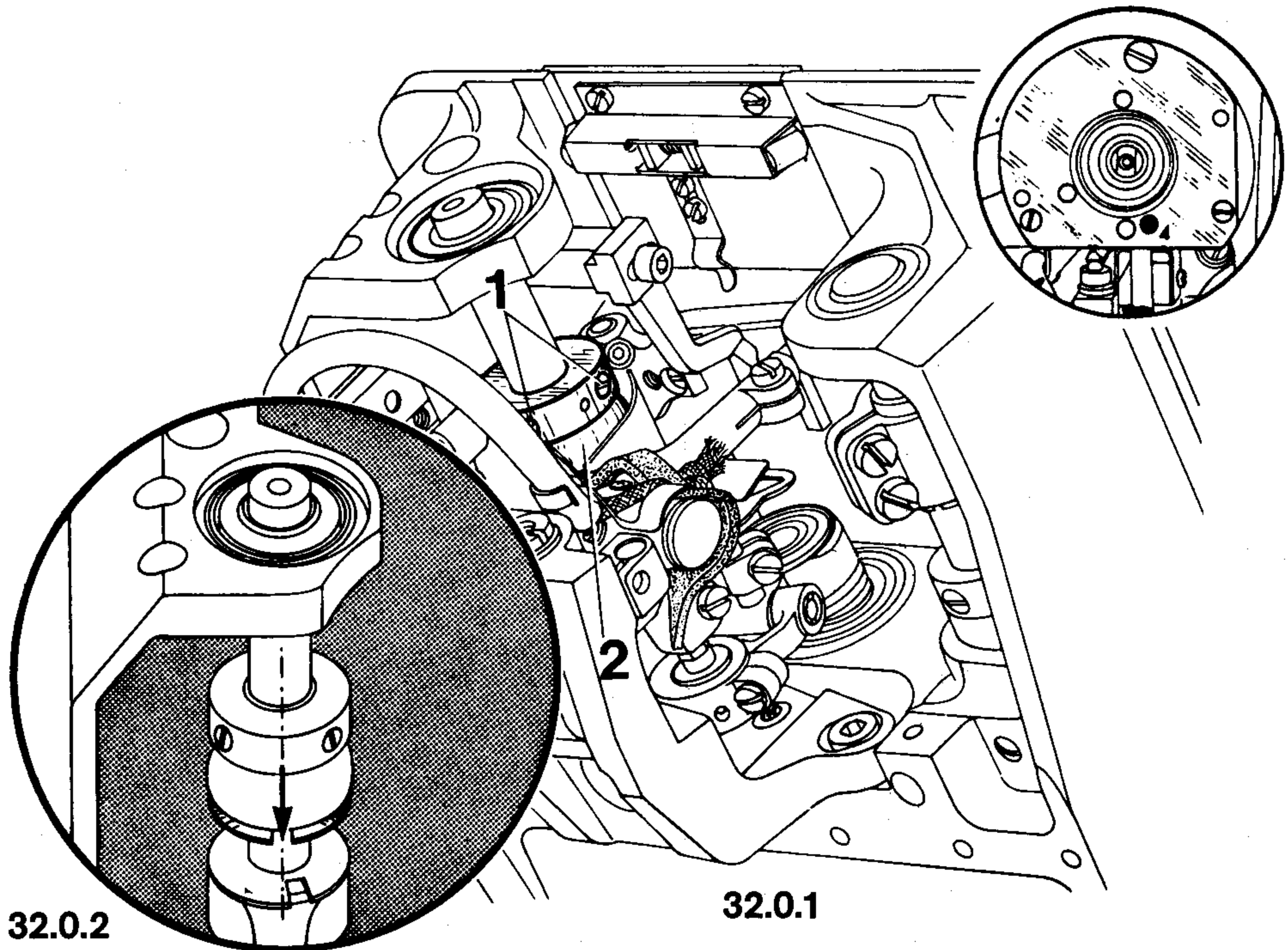
The following contains the differing adjustment procedures for H machine versions. All other adjustments can be found in the preceding sections of this Service Manual.

32

Feed lifting motion

Correct setting:

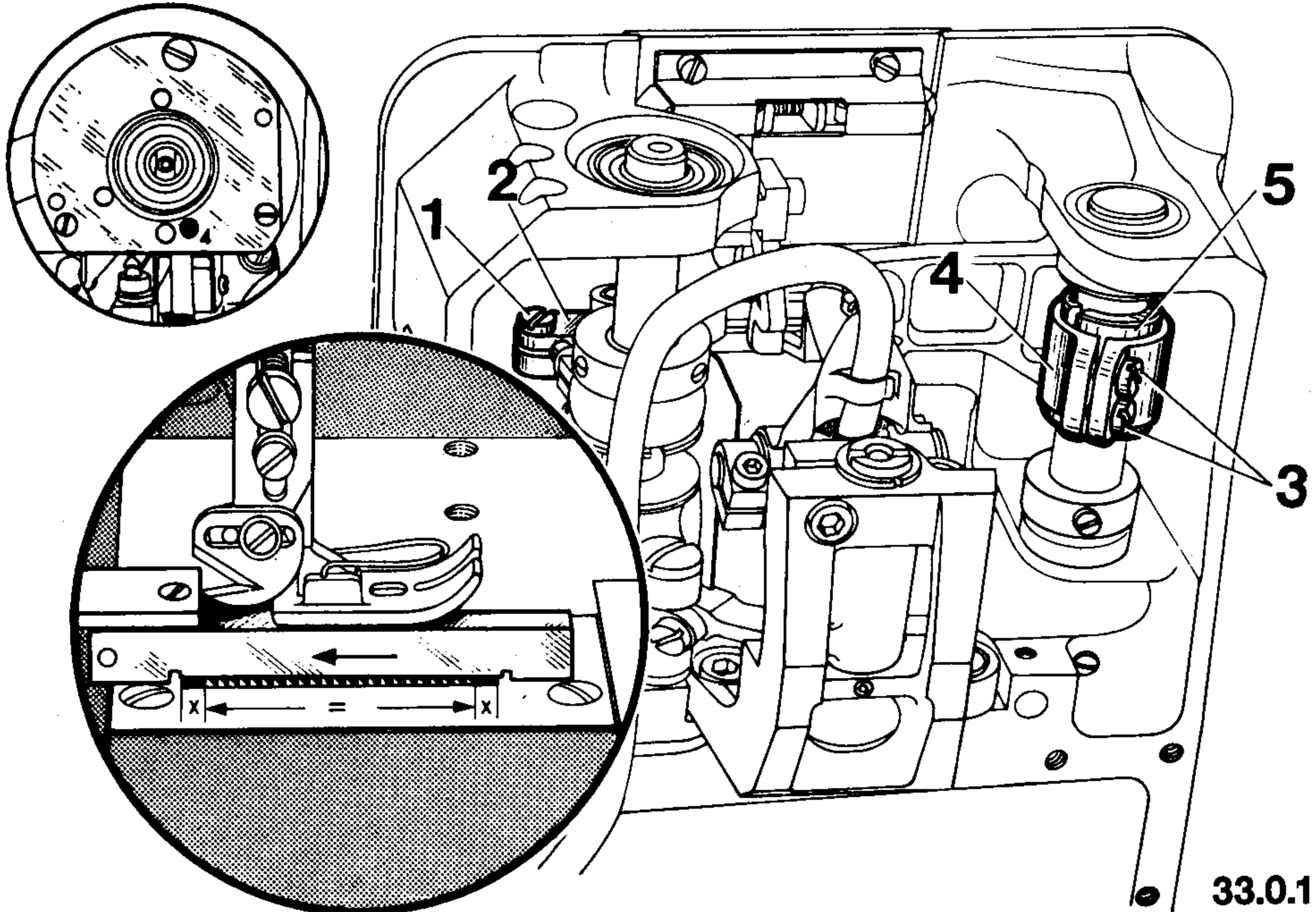
With the needle bar at a position 0.8 mm before top dead centre (pin in hole 4), the slot in feed lifting eccentric **2** should face downwards (see arrow in Fig. 32.0.2).



- 32.1 Loosen screws 1 (Fig. 32.0.1) of feed lifting eccentric 2.
- 32.2 Turn the balance wheel to bring the needle bar to a position 0.8 mm before top dead centre.
- 32.3 Insert the pin in hole 4 of the bearing plate (to block the machine).
- 32.4 **Turn feed lifting eccentric 2 so that its slot faces downwards** (see arrow in Fig. 32.0.2).
- 32.5 In this position, tighten the accessible screw 1.
- 32.6 Remove pin from the hole in the bearing plate.
- 32.7 Also tighten the second screw 1.
- 32.8 Check this adjustment (see "Correct setting").

Correct setting:

With the stitch length set at its maximum and the needle bar at a position 0.8 mm before top dead centre (pin in hole 4), the feed dog should be centered in its slots and contact the adjustment gauge throughout its entire length (see Fig. 33.0.2).



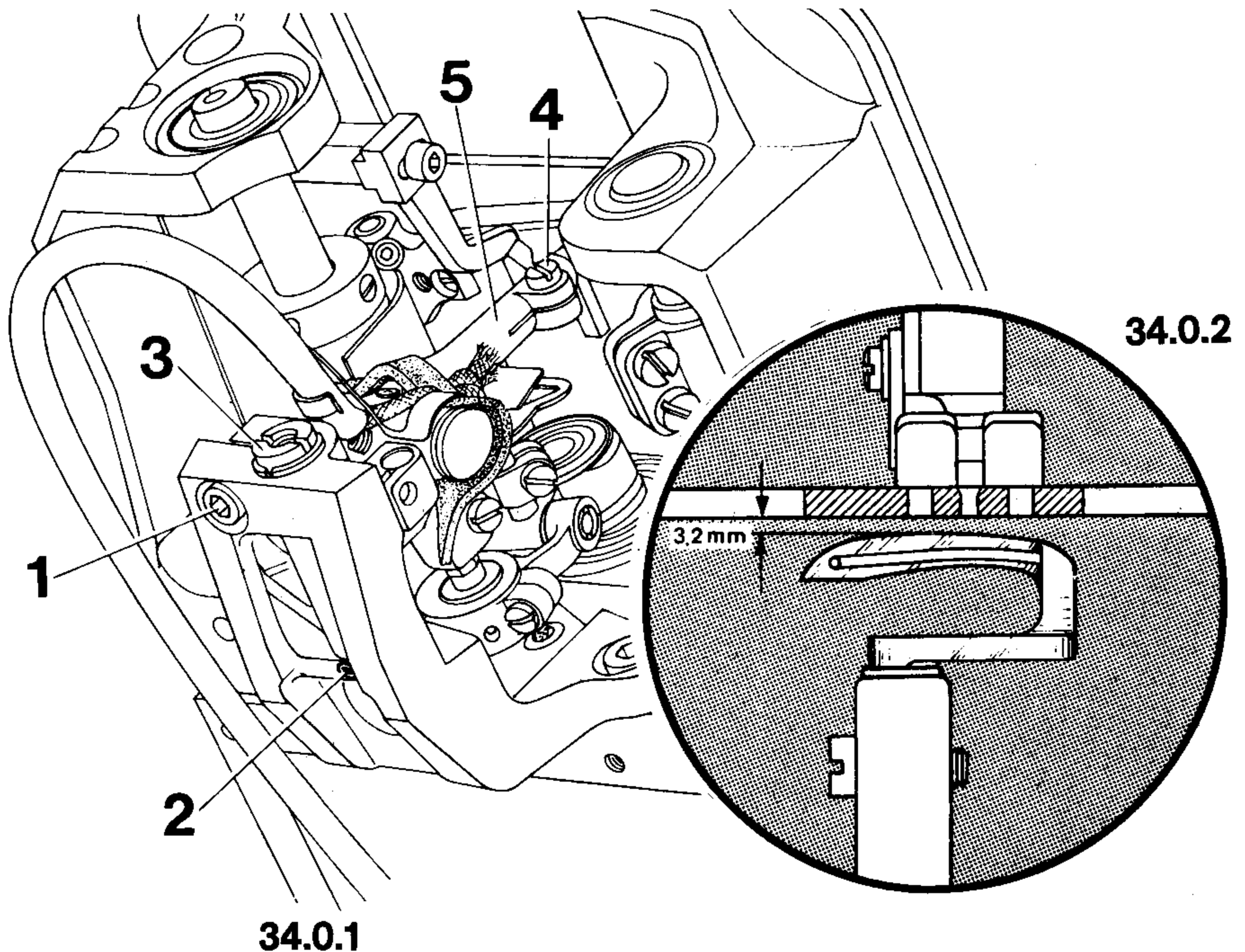
33.0.2

33.0.1

- 33.1 Set the machine for its longest stitch.
 33.2 Bring the needle bar at a position 0.8 mm before top dead centre.
 33.3 Insert the pin in hole 4 of the bearing plate (to block the machine).
 33.4 Loosen clamp screw 1 (Fig. 33.0.1) of feed eccentric 2.
 33.5 Also loosen both clamp screws 3 of feed driving crank 4.
 33.6 Screw on the presser foot.
 33.7 Place adjustment gauge (No. 61-111 642-19 or 08-880179-00) on the needle plate so that its recess is centered above the feed slots and the arrow of the gauge points in feed direction (see Fig. 33.0.2).
 33.8 Lower the presser foot onto the gauge.
 33.9 **Centre the feed dog in its slots.**
 33.10 Push the feed bar upwards until the feed dog contacts the gauge and hold it there.
 33.11 **Turn eccentric sleeve 5 beneath the feed driving crank so that the feed dog contacts the gauge throughout its length (see Fig. 33.0.2).**
 33.12 In this position, tighten clamp screws 1 and 3, making sure that the feed dog is still centred in the needle plate slots.
 33.13 Raise the presser foot, remove the gauge from under the presser foot and pull the pin out of the hole of the bearing plate.
 33.14 Check this adjustment (see "Correct setting").

Correct setting:

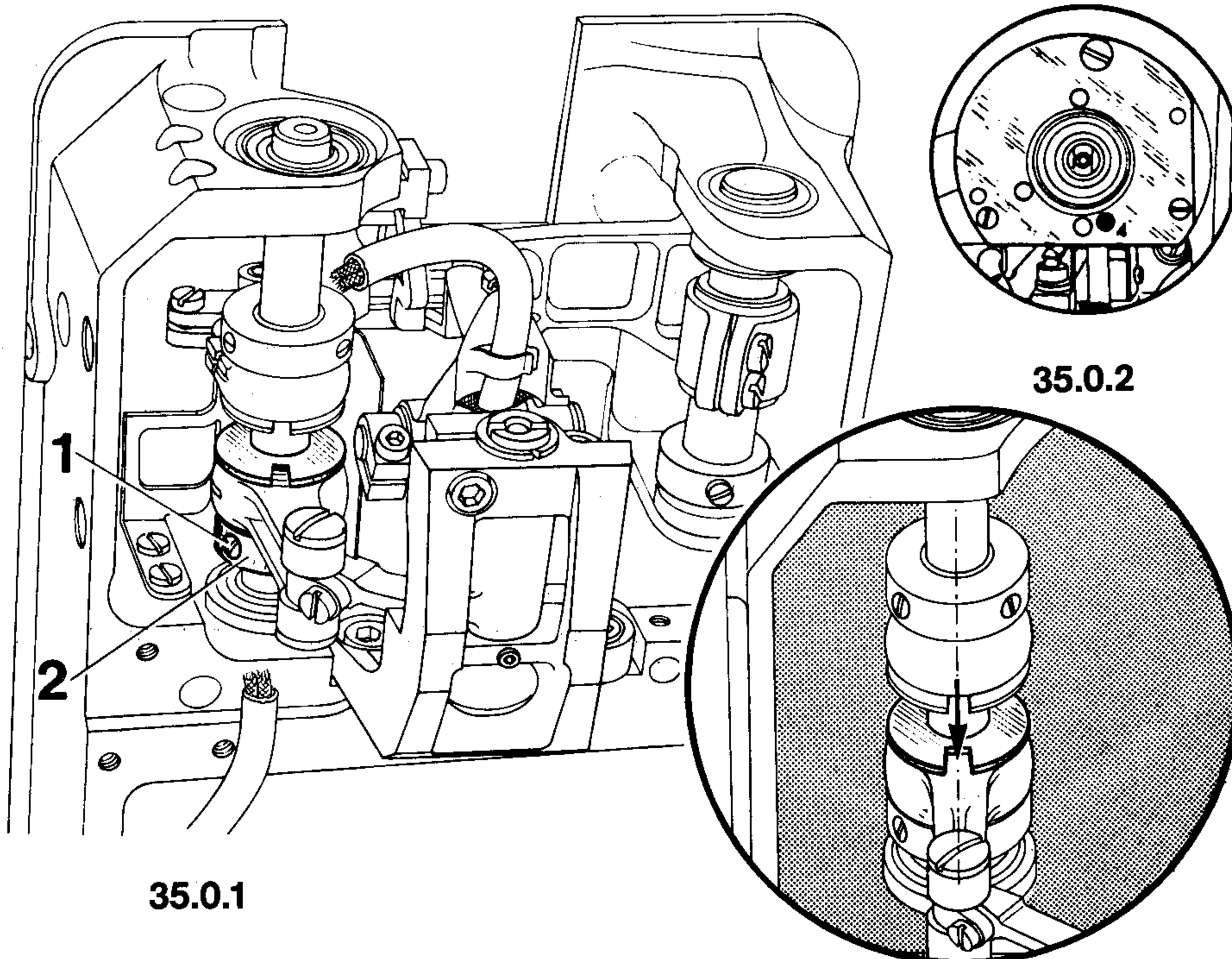
When the looper holder is in its vertical position, there should be a clearance of **3.2 mm** between the highest point of the looper and the underside of the needle plate (see Fig. 34.0.2).



- 34.1 Remove bed slide, cover plate, needle plate, and feed dog.
 34.2 Place the needle plate in position again and operate the presser bar lifter to lower the presser foot onto the needle plate.
 34.3 Turn the balance wheel until the looper holder is vertical.
 34.4 Loosen clamp screw 1 and screw 2 of eccentric bearing stud 2.
 34.5 **Turn eccentric bearing stud 3 until there is a clearance of 3.2 mm between the highest point of the looper and the underside of the needle plate** (see Fig. 34.0.2).
 34.6 In this position, tighten clamp screw 1 and screw 2.
 34.7 If the clearance of 3.2 mm cannot be obtained, proceed as follows:
 34.7.1 Raise the presser foot and remove the needle plate.
 34.7.2 Loosen clamp screw 4 in looper holder 5 and take off the looper (do not lose spacing washer).
 34.7.3 Fit an appropriate spacing washer (see inside front cover) on the looper neck and push the looper into looper holder 5 again as far as it will go.
 34.7.4 Set the looper blade roughly parallel to the front edge of the bedplate (preliminary adjustment) and tighten clamp screw 4.
 34.7.5 Replace the needle plate and operate the presser bar lifter to lower the presser foot onto the needle plate.
 34.7.6 Check that there is a clearance of 3.2 mm between the highest point of the looper and the underside of the needle plate when the looper holder is in its vertical position.
 34.8 If necessary, repeat steps 34.3 to 34.6
 34.9 Check this adjustment (see "Correct setting").

Correct setting:

With the needle bar positioned 0.8 mm before top dead centre (pin in hole 4), the slot in the avoiding motion eccentric should be positioned exactly below the centre line of the shaft (see Fig. 35.0.2).



- 35.1 Loosen both screws 1 (Fig. 35.0.1) in the collar of avoiding motion eccentric 2.
- 35.2 Turn the balance wheel to bring the needle bar to a position 0.8 mm before top dead centre.
- 35.3 Insert the pin in hole 4 of the bearing plate (to block the machine).
- 35.4 **Turn avoiding motion eccentric 2 so that its slot points vertically downwards.**
- 35.5 In this position, tighten the accessible screw 1.
- 35.6 Pull the pin out of the hole of the bearing plate.
- 35.7 Also tighten the second screw 1.
- 35.8 Check this adjustment (see "Correct setting").

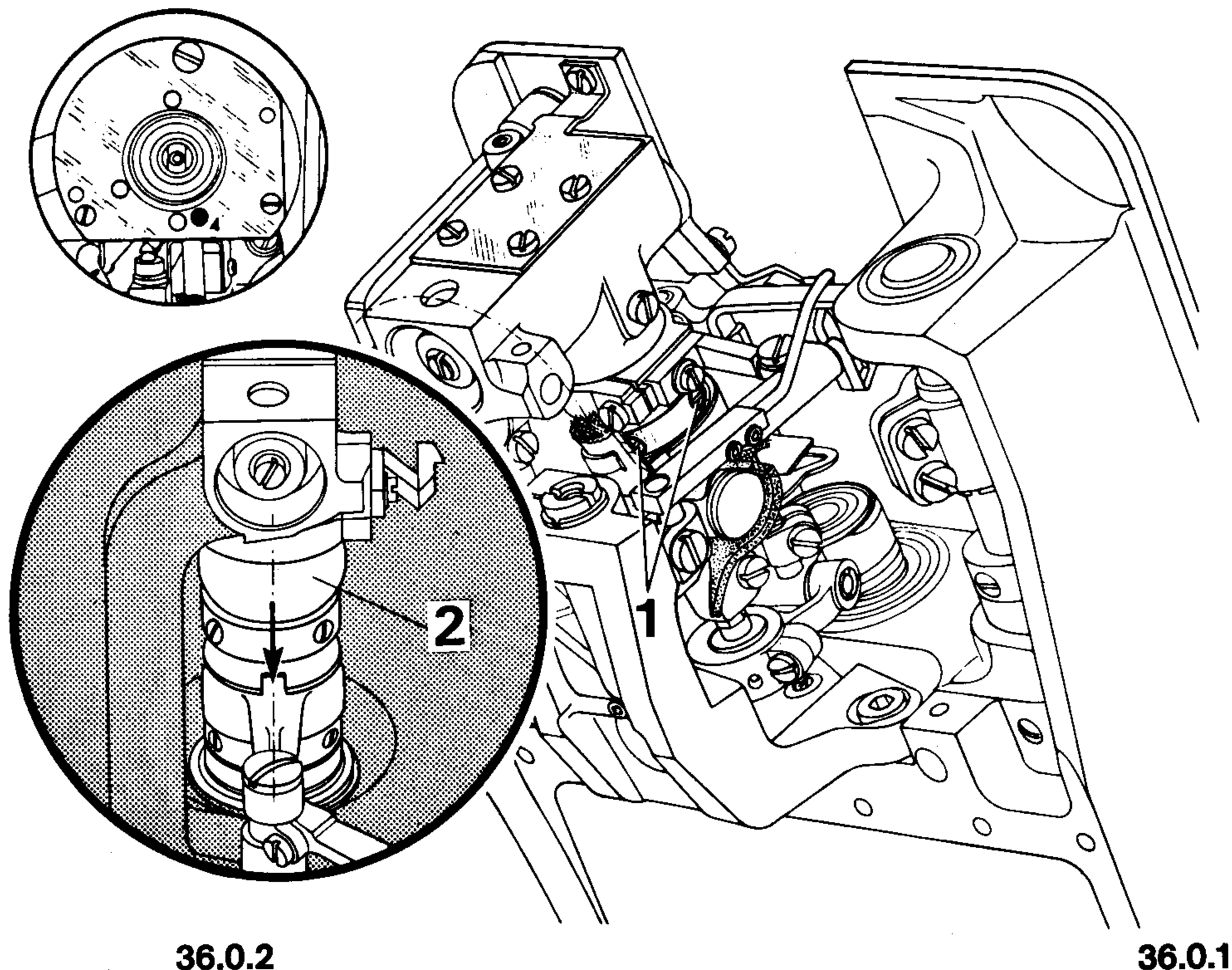
Appendix

for machines with backtacking mechanism 911/..

The following contains differing adjustment procedures for machines fitted with backtacking mechanism -911/.. All other adjustments can be found in the preceding sections of this Service Manual.

Correct
setting:

With the needle bar at a position 0.8 mm before top dead center (pin in hole 4), the slot in feed lifting eccentric 2 should face downwards (see arrow in Fig. 36.0.2).



36.0.2

36.0.1

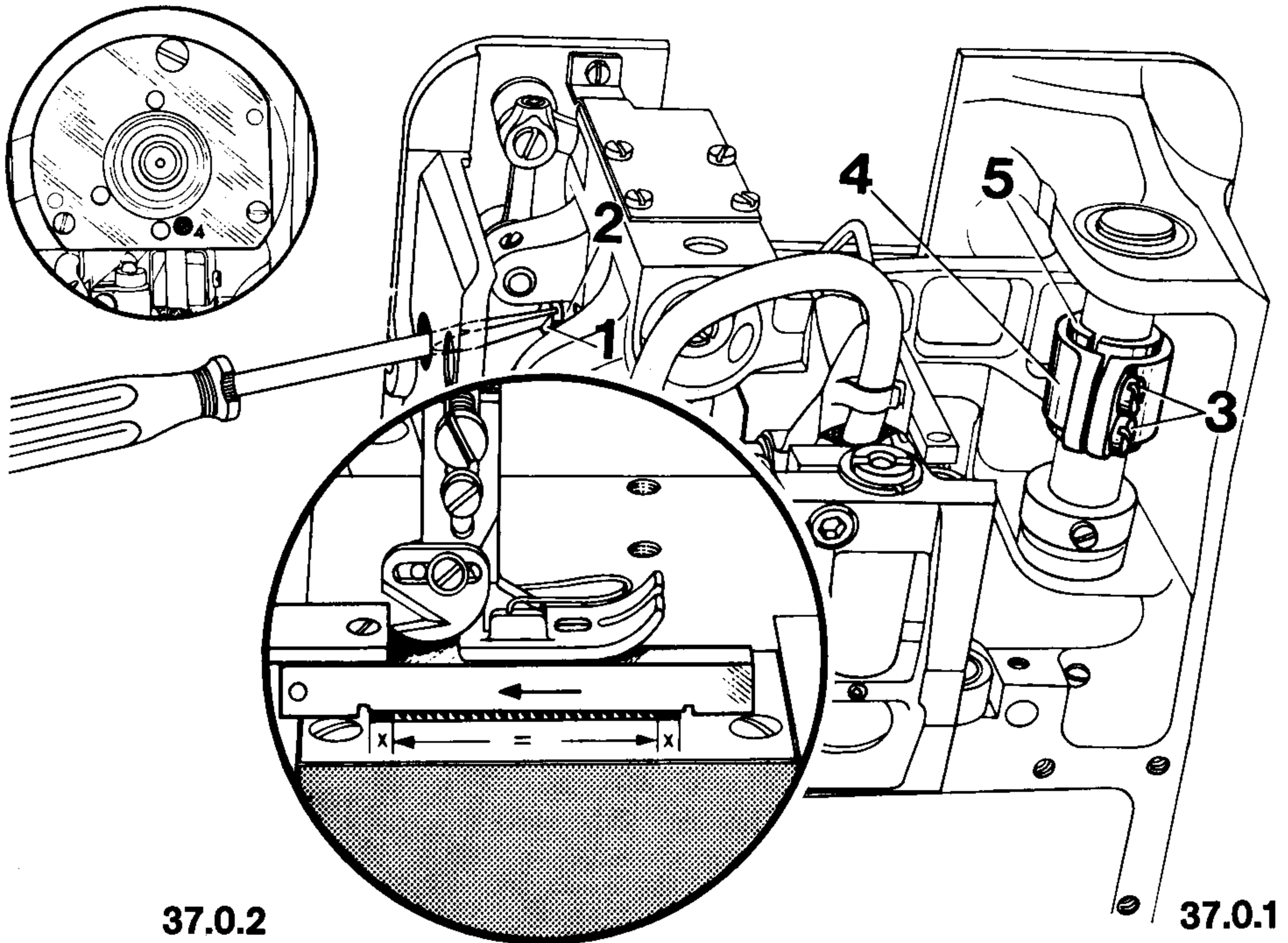
- 36.1 Loosen screws 1 of feed lifting eccentric 2.
- 36.2 Turn the balance wheel to bring the needle bar to a position 0.8 mm before top dead center.
- 36.3 Insert the pin in hole 4 of the bearing plate (to block the machine).
- 36.4 **Turn feed lifting eccentric 2 so that its slot faces downwards (see arrow in Fig. 36.0.2).**
- 36.5 In this position, tighten the accessible screw 1.
- 36.6 Pull the pin out of the hole in the bearing plate.
- 36.7 Also tighten the second screw 1.
- 36.8 Check this adjustment (see "Correct setting").

37

Feed dog height (subcl. -911/..)

Correct setting:

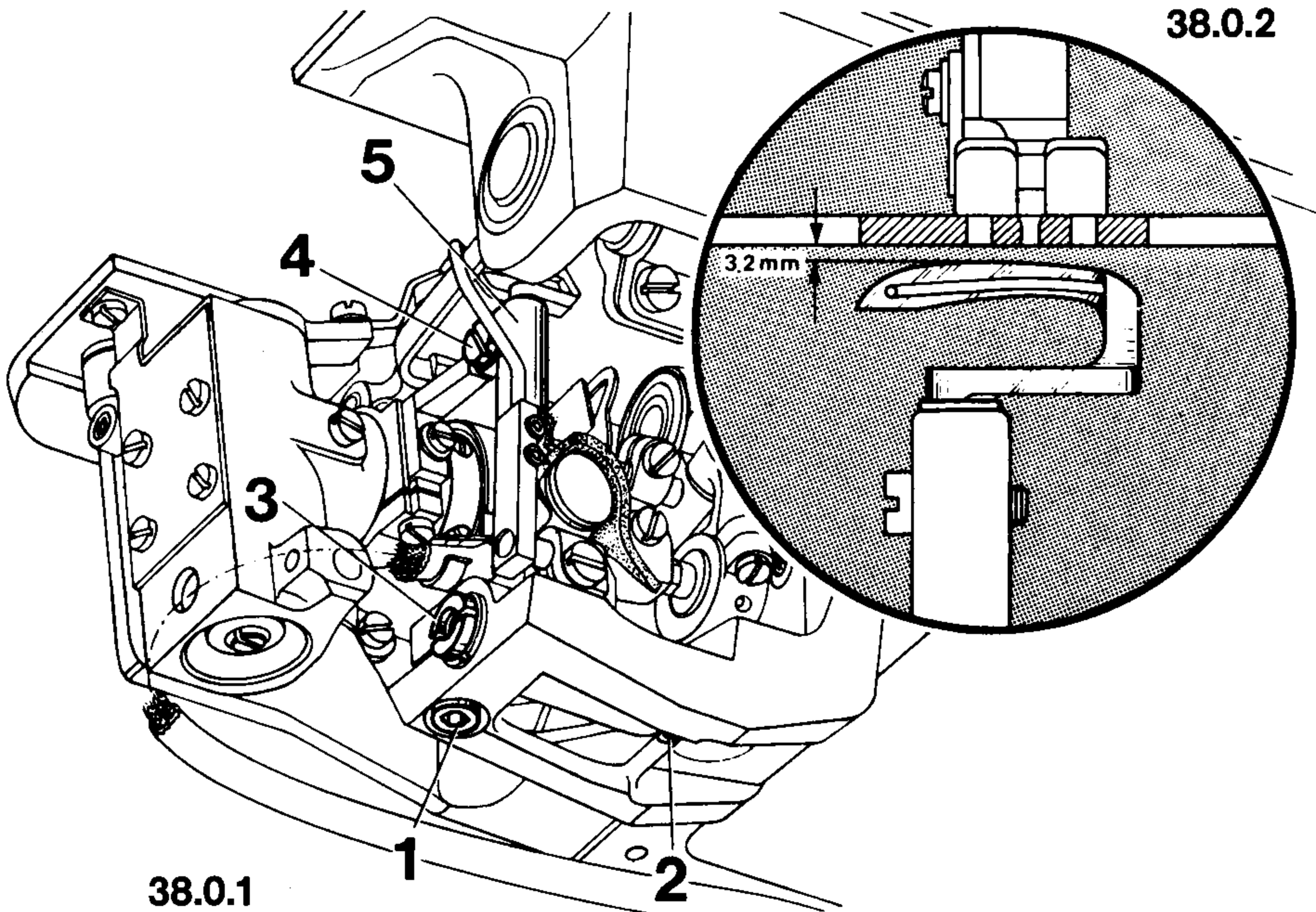
With the stitch length set at its maximum and the needle bar positioned 0.8 mm before top dead center (pin in hole 4), the feed dog should be centered in its slots and contact the adjustment gauge throughout its length.



- 37.1 Set the machine for its longest stitch.
- 37.2 Bring the needle bar to a position 0.8 mm before top dead center.
- 37.3 Insert the pin in hole 4 of the bearing plate (to block the machine).
- 37.4 Loosen clamp screw 1 of feed lifting eccentric 2.
- 37.5 Also loosen both clamp screws 3 of feed driving crank 4.
- 37.6 Screw on the presser foot.
- 37.7 Place adjustment gauge (No. 61-111642-19 or 08-880179-00) on the needle plate so that its recess is centered above the feed slots and the arrow of the gauge points in feed direction.
- 37.8 Lower the presser foot onto the gauge.
- 37.9 **Centre the feed dog in its slots.**
- 33.10 Push the feed bar upwards until the feed dog contacts the gauge and hold it there.
- 37.11 **Turn eccentric sleeve 5 beneath the feed driving crank so that the feed dog contacts the gauge throughout its length.**
- 37.12 In this position, tighten clamp screws 1 and 3, making sure that the feed dog is still centered in the needle plate slots.
- 37.13 Raise the presser foot, remove the gauge and pull the pin out of the hole in the bearing plate.
- 37.14 Check this adjustment (see "Correct setting").

Correct setting:

When the looper holder is in its vertical position, there should be a clearance of **3.2 mm** between the highest point of the looper and the underside of the needle plate.

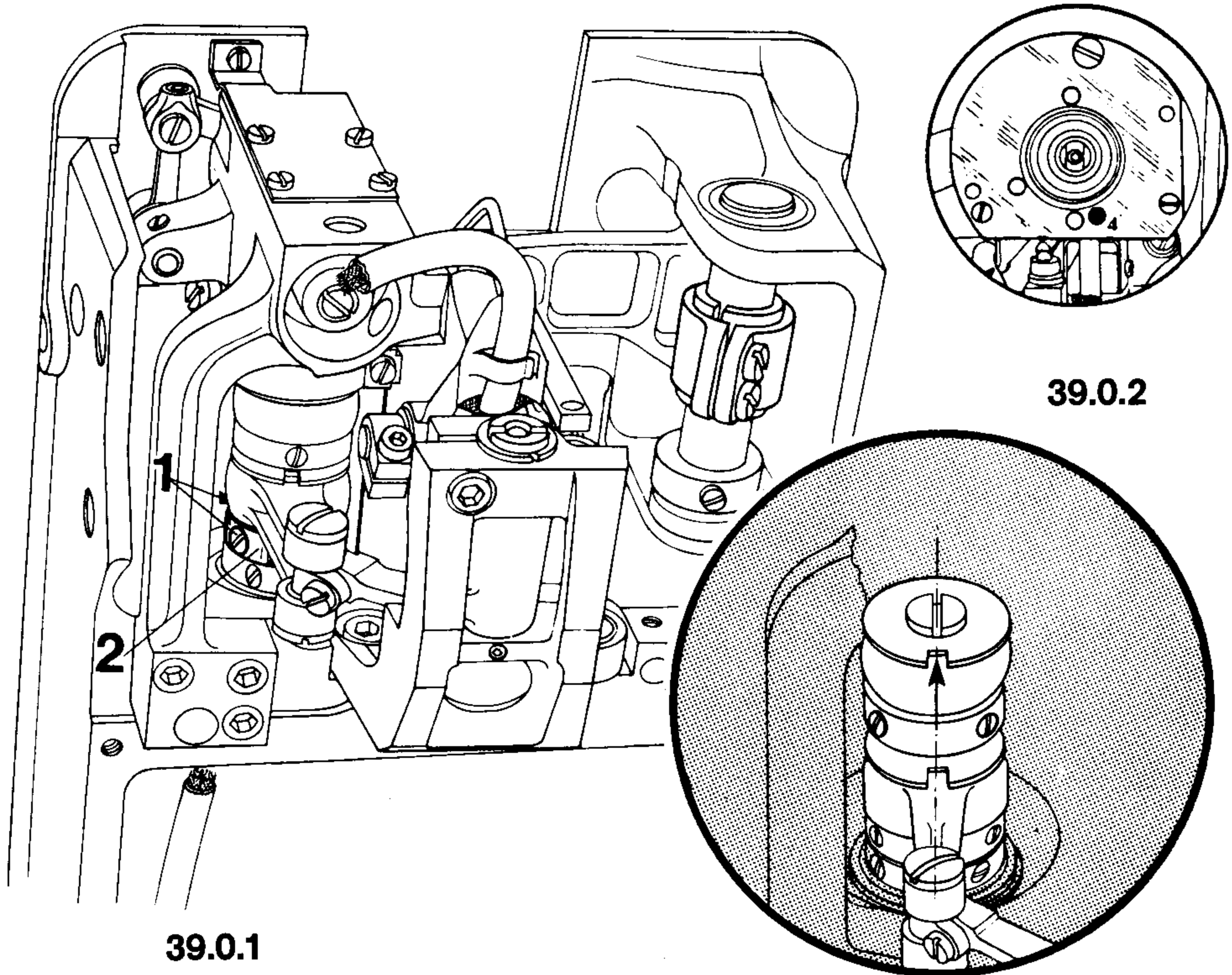


- 38.1 Remove bed slide, cover plate, needle plate and feed dog.
 38.2 Place the needle plate in position again and operate the presser bar lifter to lower the presser foot onto the needle plate.
 38.3 Turn the balance wheel until the looper holder is vertical.
 38.4 Loosen clamp screw 1 and screw 2 of eccentric bearing stud 3.
 38.5 **Turn eccentric bearing stud 3 until there is a clearance of 3.2 mm between the highest point of the looper and the underside of the needle plate.**
 38.6 In this position, tighten clamp screw 1 and screw 2.
 38.7 If a clearance of 3.2 mm cannot be obtained, proceed as follows:
 38.7.1 Raise the presser foot and remove the needle plate.
 38.7.2 Loosen clamp screw 4 in looper holder 5 and take off the looper (do not lose spacing washer).
 38.7.3 Fit an appropriate spacing washer (see inside front cover) on the looper neck and push the looper into looper holder 5 again as far as it will go.
 38.7.4 Set the looper blade roughly parallel to the front edge of the bedplate (preliminary adjustment) and tighten clamp screw 4.
 38.7.5 Replace the needle plate and operate the presser bar lifter to lower the presser foot onto the needle plate.
 38.7.6 Check that there is a clearance of 3.2 mm between the highest point of the looper and the underside of the needle plate when the looper holder is in its vertical position.
 38.8 If necessary, repeat steps 38.3 to 38.6
 38.9 Check this adjustment (see "Correct setting").

39 **Looper avoiding motion (subcl. -911/..)**

Correct setting:

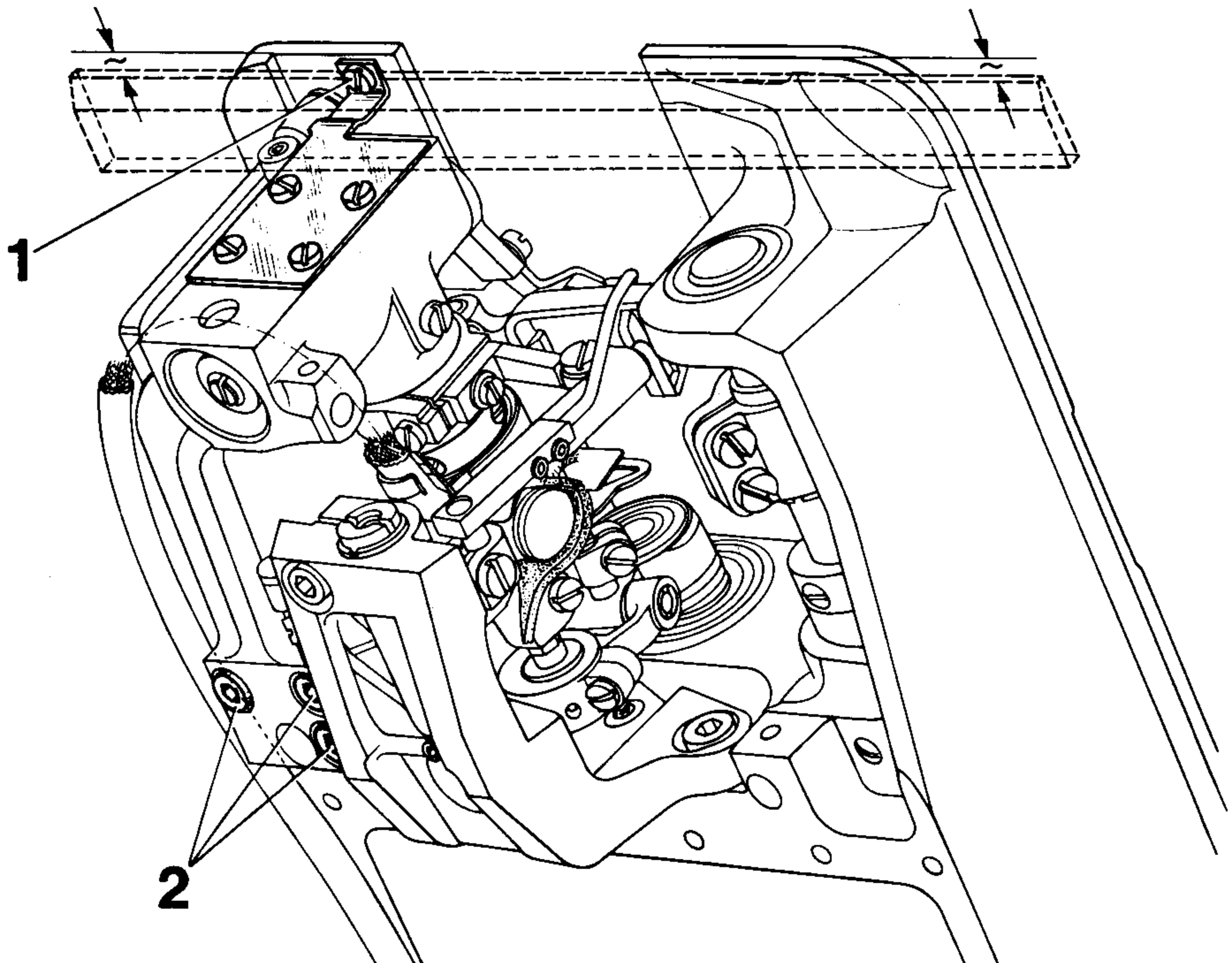
With the needle bar positioned 0.8 mm before top dead center (pin in hole 4), the slot in the avoiding motion eccentric should be positioned exactly below the center line of the shaft (see Fig. 39.0.2).



- 39.1 Loosen both screws 1 in the collar of avoiding motion eccentric 2.
- 39.2 Turn the balance wheel to bring the needle bar to a position 0.8 mm before top dead center.
- 39.3 Insert the pin in hole 4 of the bearing plate (to block the machine).
- 39.4 **Turn avoiding motion eccentric 2 so that its slot points vertically downwards.**
- 39.5 In this position, tighten the accessible screw 1.
- 39.6 Pull the pin out of the hole of the bearing plate.
- 39.7 Also tighten the second screw 1.
- 39.8 Check this adjustment (see "Correct setting").

Correct
setting:

The face side of the backtacking mechanism should be exactly parallel to the front edge of the bedplate.



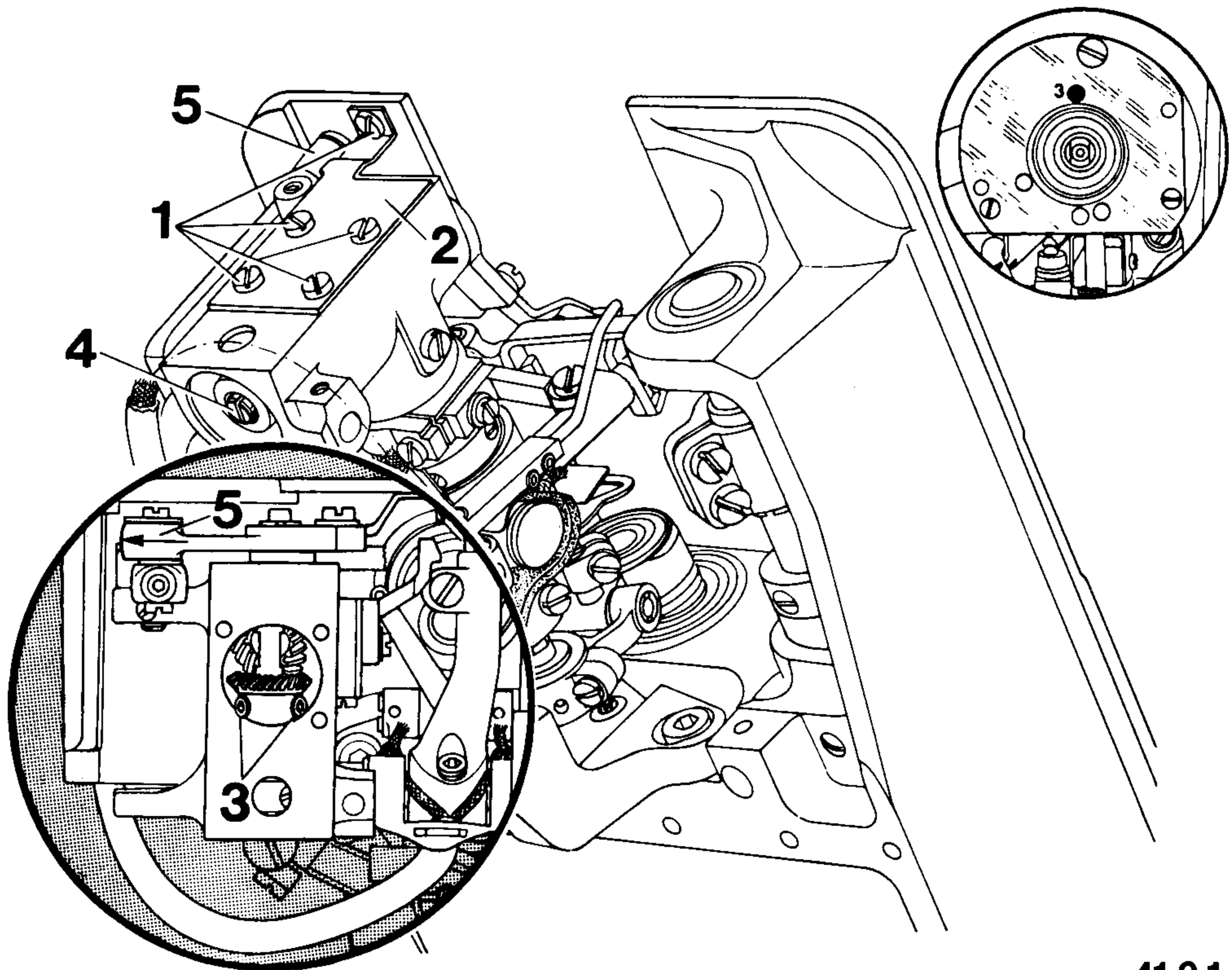
40.0.1

- 40.1 Loosen screw 1.
- 40.2 Also loosen the three screws 2 and retighten them a little.
- 40.3 **Adjust the position of the backtacking mechanism with the aid of a ruler so that its face side is exactly parallel to the front edge of the bedplate.**
- 40.4 In this position, tighten the three screws 2.
- 40.5 Leave screw 1 loose for the next adjustment.

41 Spreader drive (subcl. -911/..)

Correct setting:

With the needle bar at bottom dead center (pin in hole 3), spreader link 5 should be at its rear point of reversal – as seen in sewing direction (see arrow in Fig. 41.0.2).



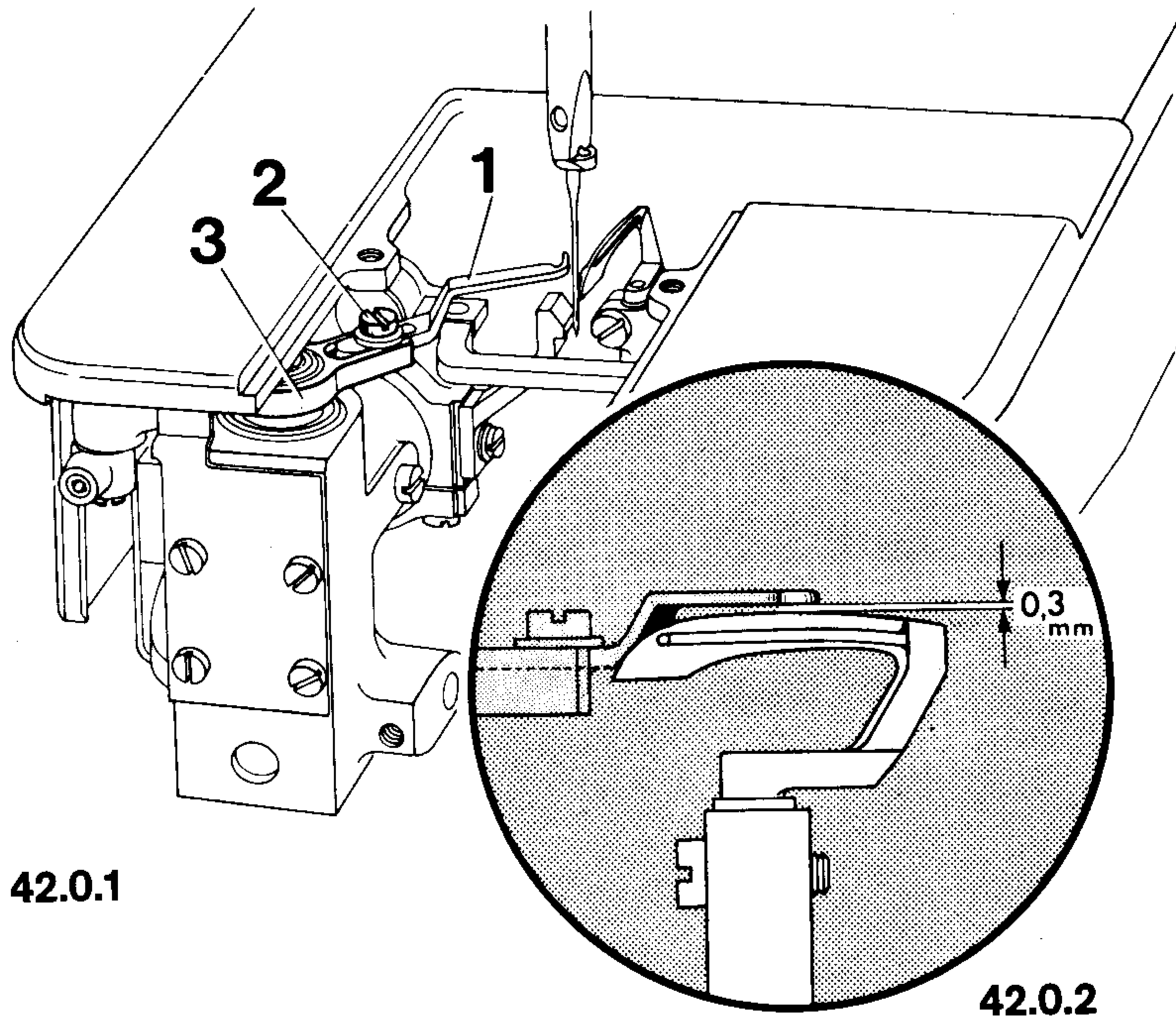
41.0.2

41.0.1

- 41.1 Take out the five screws 1 and remove cover 2.
- 41.2 Turn the balance wheel until the two screws 3 are accessible. Loosen these screws so that eccentric shaft 4 can be turned.
- 41.3 Bring the needle bar to bottom dead center.
- 41.4 Insert the pin in hole 3 of the bearing plate (to block the machine).
- 41.5 **Turn eccentric shaft 4 so that spreader link 5 is at rear point of reversal – as seen in sewing direction (see arrow in Fig. 41.0.2).**
- 41.6 In this position, tighten the accessible screw 3, making sure the bevel gears have sufficient play.
- 41.7 Pull the pin out of the hole in the bearing plate and tighten the second screw 3.
- 41.8 Check this adjustment (see “Correct setting”).
- 41.9 Replace and screw on cover 2.

Correct setting:

When the spreader tip is exactly above the looper there should be a clearance of abt. **0.3 mm** between the highest point of the looper and the underside of the spreader.



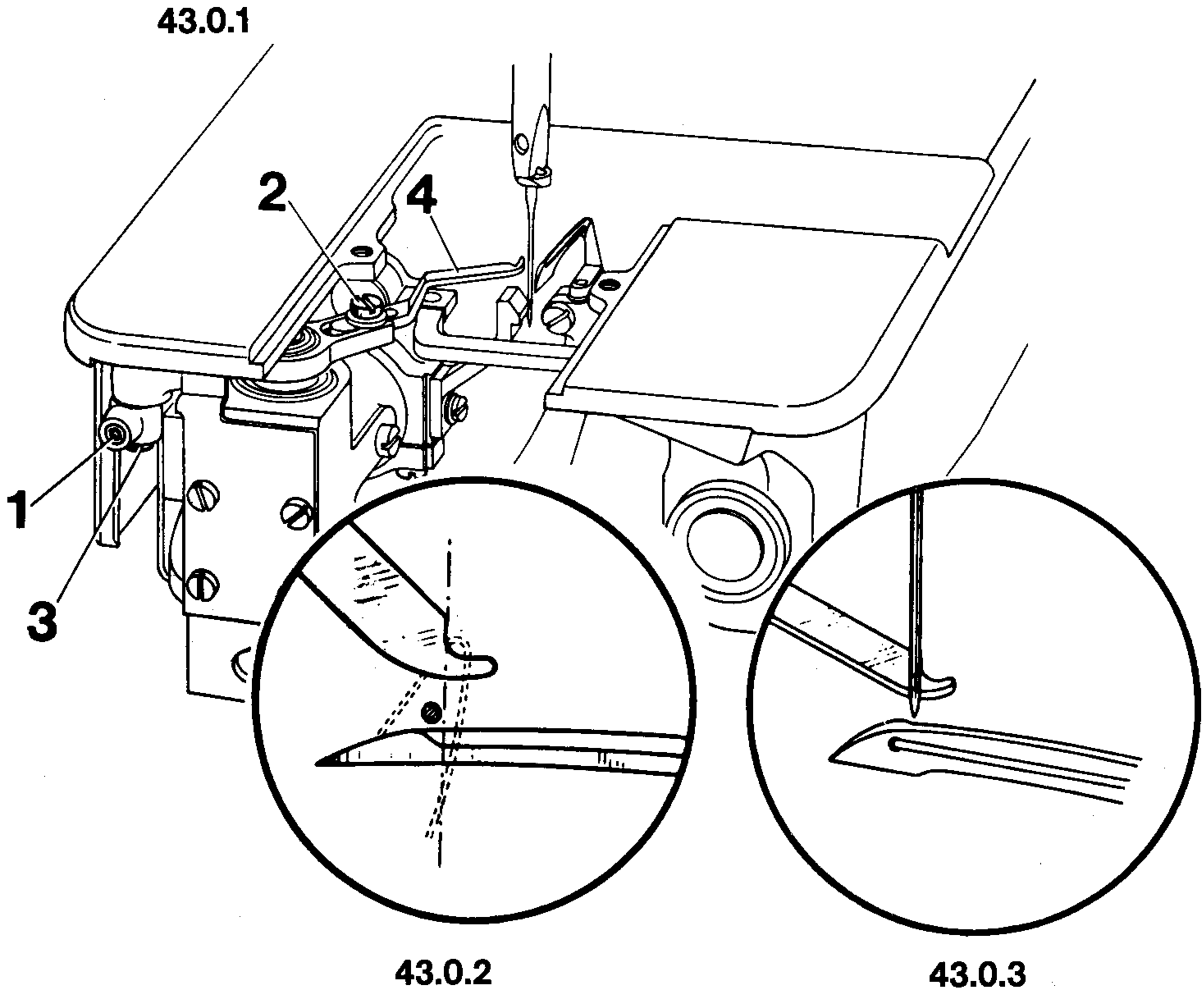
- 42.1 Turn the balance wheel until the tip of spreader 1 is exactly above the looper.
- 42.2 Take out screw 2 of spreader holder 3 and remove spreader 1 with the spacer.
- 42.3 **Insert an appropriate spacer (see inside front cover), replace the spreader and secure it in position with screw 2.**
- 42.4 Check this adjustment (see "Correct setting").

43 Spreader motion and spreader-to-needle clearance

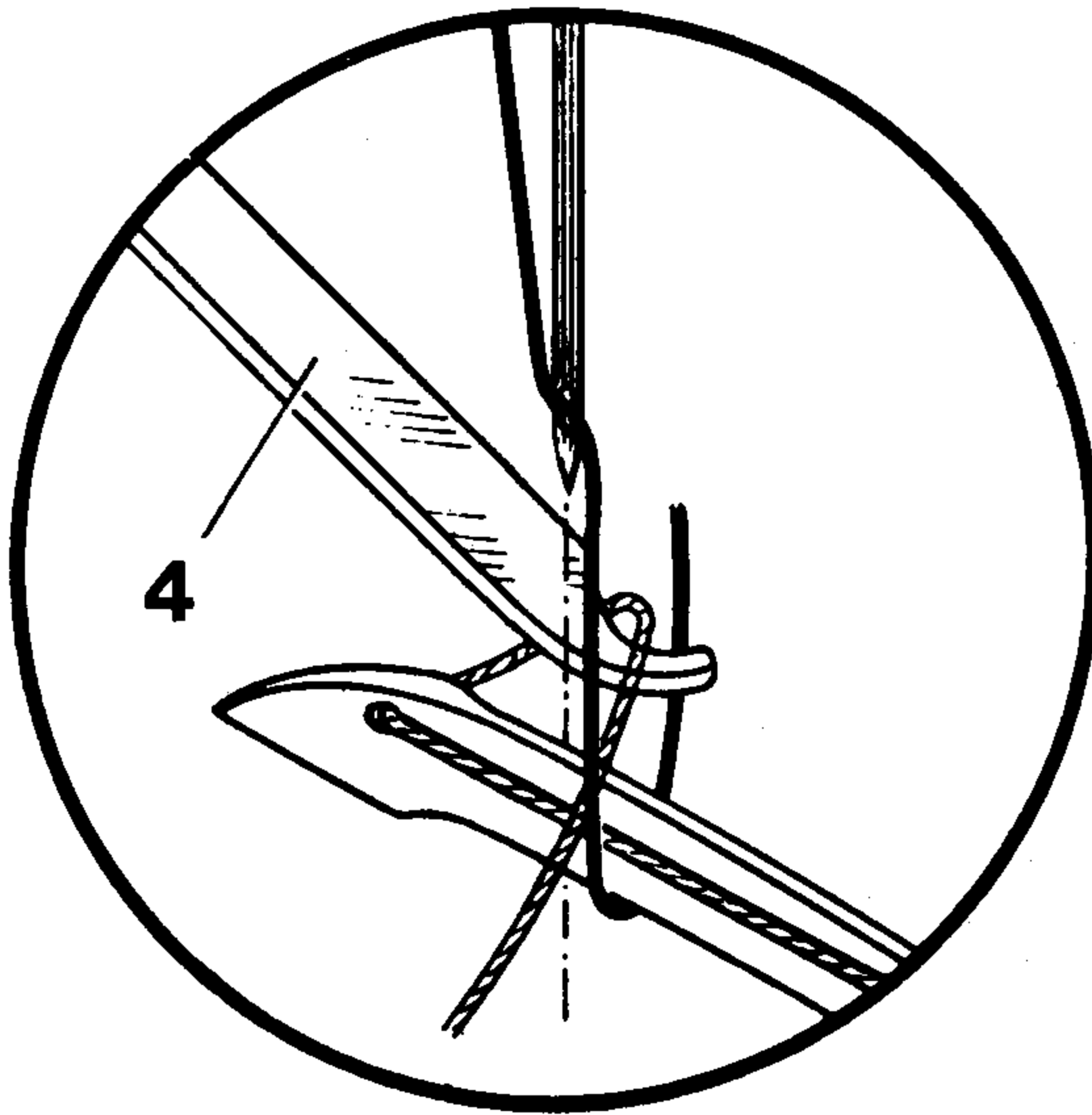
43.1 Preliminary adjustment

Correct setting:

When the point of the descending needle is in line with the back of the looper (when the needle enters the thread triangle), the right side of the needle should be in line with the side of the thread catcher cutout, as seen in feed direction (see fig. 43.0.2).



- 43.1.1 Turn the balance wheel in sewing direction until the looper makes its return stroke and the needle point is **in line** with the back of the looper (see Fig. 43.0.3).
- 43.1.2 Loosen screws 1 and 2 just a little.
- 43.1.3 Turn eccentric stud 3 so that its lobe points in sewing direction.
- 43.1.4 **Then turn eccentric stud 3 and simultaneously adjust the position of spreader 4 by moving it forward or backward in its elongated hole until the side of the thread catcher cutout is in line with the right side of the needle, as seen in feed direction.**
- 43.1.5 In this position, tighten screws 1 and 2.
- 43.1.6 Then make the following test to see whether the spreader works properly:

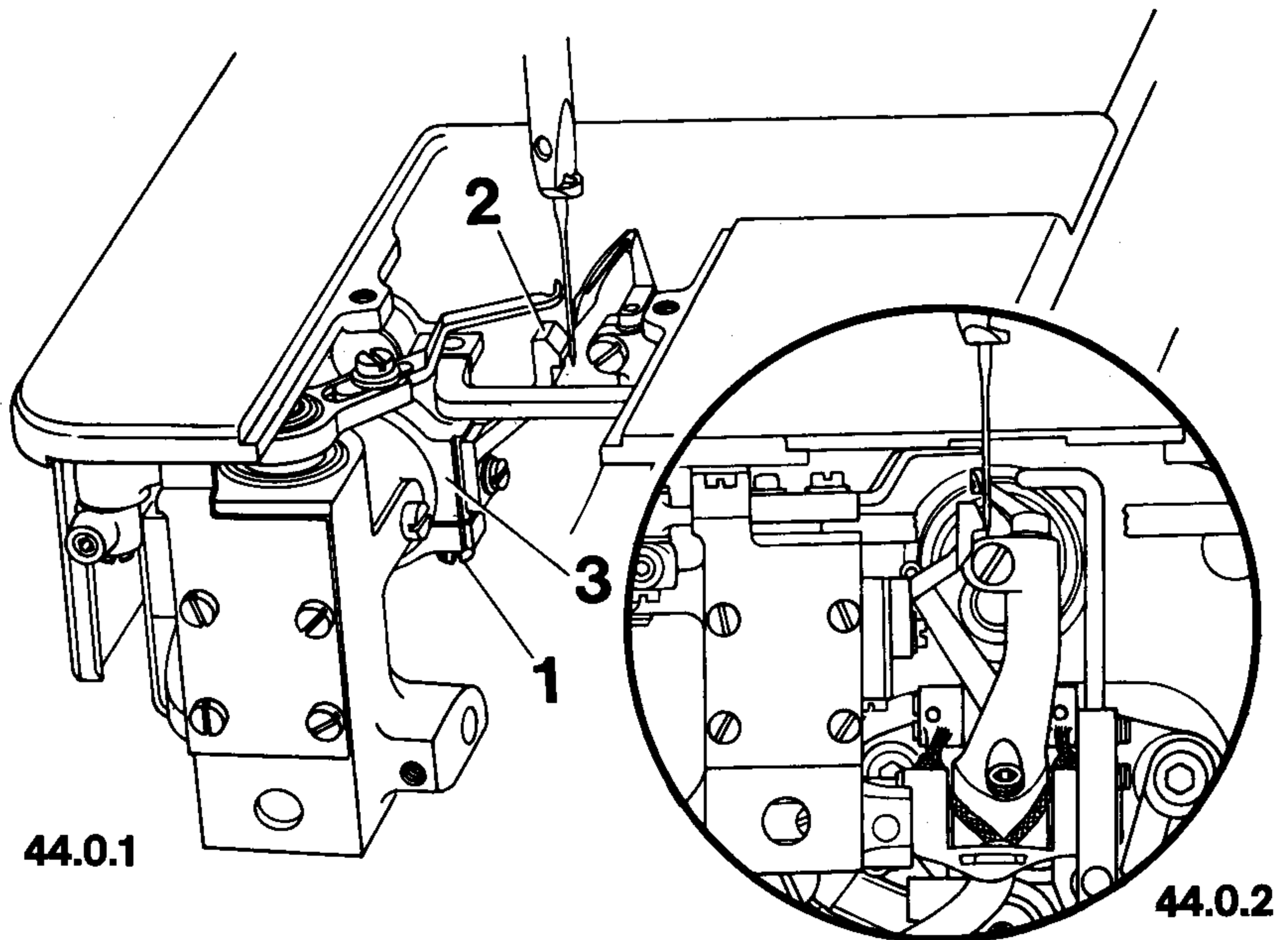


43.0.4

- 43.2.1 Thread the machine, place a piece of fabric under the presser foot and lower the presser foot.
- 43.2.2 Depress the reverse-feed control, turn the balance wheel in sewing direction and watch spreader 4.
- 43.2.3 **The spreader should reliably pick up the rear leg of the needle thread loop and the looper thread only, as seen in feed direction (see Fig. 43.0.4.).**
- 43.2.4 If readjustment is required, repeat the adjustments described on the opposite page.

Correct
setting:

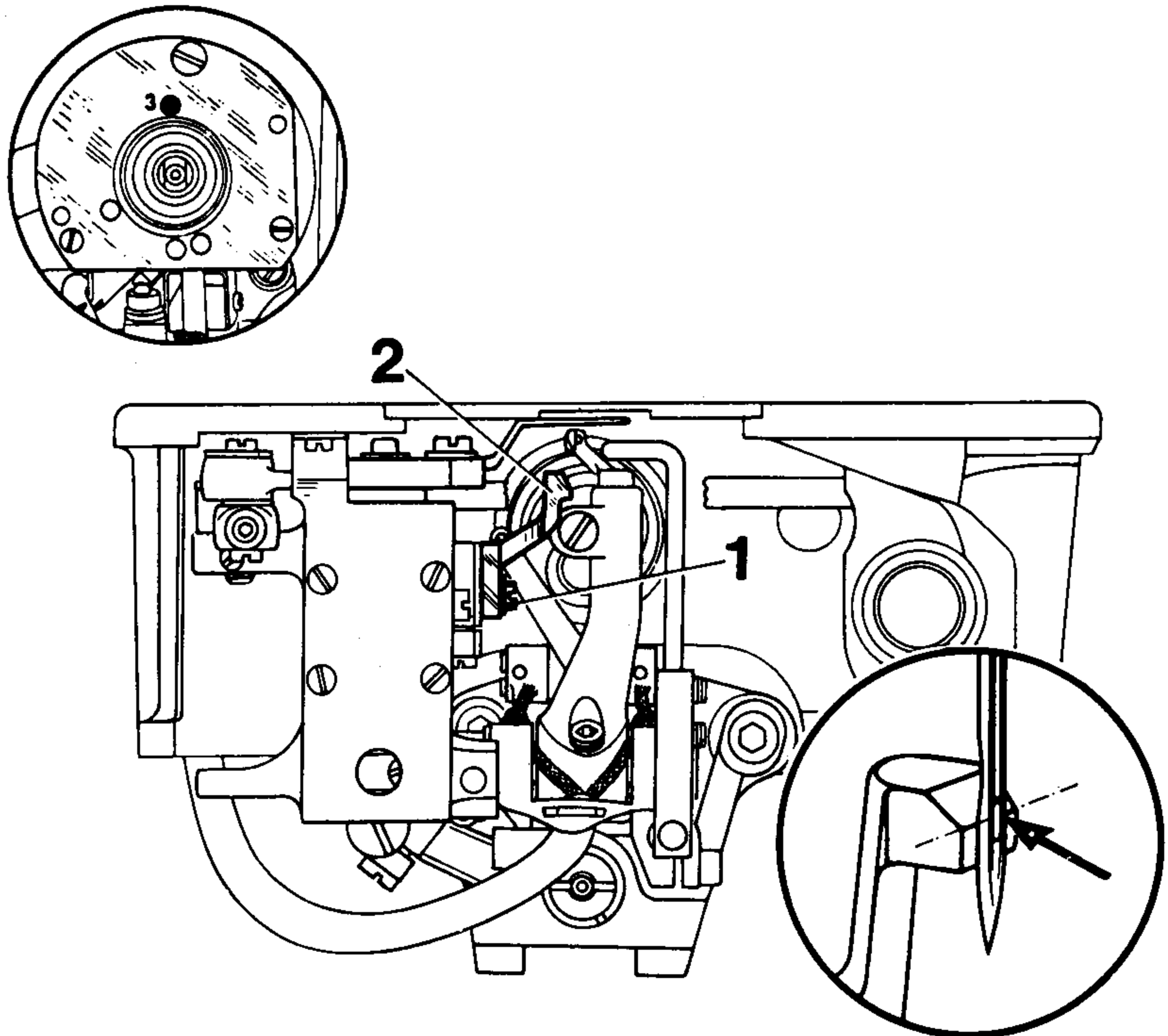
The needle should contact the rear needle guard lightly when the point of the advancing looper is in line with the right side of the needle.



- 44.1 Turn the balance wheel until the point of the advancing looper is in line with the right side of the needle.
- 44.2 Loosen screw 1 of rear needle guard 2.
- 44.3 **Turn bracket 3 so that the needle guard contacts the needle without deflecting it.**
- 44.4 In this position, tighten screw 1.
- 44.5 Check this adjustment (see "Correct setting").

Correct
setting:

With the needle bar at bottom dead center (pin in hole 3), the vertical surface of the needle guard should cover the needle eye by roughly 2/3 (see arrow in Fig. 45.0.2).



45.0.1

45.0.2

- 45.1 Turn the balance wheel to bring the needle bar to bottom dead center.
- 45.2 Insert the pin in hole 3 of the bearing plate (to block the machine).
- 45.3 Loosen screw 1 of rear needle guard 2.
- 45.4 **Adjust needle guard 2 so that its vertical surface covers roughly 2/3 of the needle eye.**
- 45.5 In this position, tighten screw 1.
- 45.6 Pull the pin out of the hole in the bearing plate.
- 45.7 Check this adjustment (see "Correct setting").
- 45.8 Replace and screw on feed dog, needle plate and presser foot.

Contents

	page
1 Preparations for adjustment	1
2 Position of needle in needle hole	2
3 Preliminary adjustment of needle bar height	4
4 Zeroing the bottom feed	5
5 Feed driving motion	7
6 Feed lifting motion	8
7 Feed dog height	9
8 Stitch length limitation	10
9 Looper avoiding motion	11
10 Looper height	13
11 Looper angle	14
12 Looper-to-needle clearance in sewing direction	15
13 Looper-to-needle clearance in lateral direction	16
14 Timing the looper	17
15 Needle bar height and looper clearance	18
16 Height of rear needle guard	19
17 Clearance between rear needle guard and needle	20
18 Take-up lever	21
19 Needle thread regulator	22
20 Adjustable thread guide	23
21 Primary looper thread regulator	24
22 Secondary looper thread regulator	25
23 Looper thread puller	26
24 Clearance between presser foot and needle plate	27
25 Knee lever rest position	28
26 Knee lever play	29
27 Knee lever stroke limitation	30
28 Guard of looper-avoiding-motion eccentric	31
29 Tension release	32
30 Front needle guard	33
31 Floating foot (No. 91-055 660-91)	35
Final worksteps	36
Appendix for machines in version H (without -911/..)	
32 Feed lifting motion	37
33 Feed dog height	38
34 Looper height	39
35 Looper avoiding motion	40
Appendix for machines with subcl. -911/..	
36 Feed lifting motion	42
37 Feed dog height	43
38 Looper height	44
39 Looper avoiding motion	45
40 Backtacking mechanism	46
41 Spreader drive	47
42 Spreader height	48
43 Spreader motion and spreader-to-needle clearance	49
44 Clearance between rear needle guard and needle	51
45 Height of rear needle guard	52

