PFAFF® Industrial

571
574

ADJUSTMENT MANUAL

591

This Adjustment Manual is valid for machines from the following serial numbers onwards:
7 250 050 →

296-12-19 233/002
Justieranleitung engl. 10.14

PFAFF Industriesysteme
und Maschinen AG

Hans-Geiger-Str. 12 - IG Nord
D-67661 Kaiserslautern

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1 Adjustment

Please observe all notes from Chapter **1 Safety** of the instruction manual!
In particular care must be taken to see that all protective devices are refitted properly after adjustment, see Chapter **1.06 Danger warnings** of the instruction manual!

If not otherwise stated, the machine must be disconnected from the electrical power supply. Danger of injury due to unintentional starting of the machine!

Notes on adjustment
All following adjustments are based on a fully assembled machine and may only be carried out by expert staff trained for this purpose.
Machine covers, which have to be removed and replaced to carry out checks and adjustments, are not mentioned in the text.
The order of the following chapters corresponds to the most logical work sequence for machines which have to be completely adjusted. If only specific individual work steps are carried out, both the preceding and following chapters must be observed.
Screws, nuts indicated in brackets ( ) are fastenings for machine parts, which must be loosened before adjustment and tightened again afterwards.

1.01 Tools, gauges and other accessories

- 1 set of screwdrivers with blade widths from 2 to 10 mm
- 1 set of open-ended wrenches with opening sizes from 7 to 13 mm
- 1 set of allen keys from 1.5 to 6 mm
- 1 clamp (Order No. 08-880 137-00)
- 1 metal rule (Order No. 08-880 218-00)
- 1 gauge (Order No. 08-880 136-01)
- Sewing thread and test material

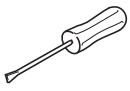
1.02 Abbreviations

TDC = top dead center
BDC = bottom dead center

1.03 Explanation of the symbols

In this adjustment manual, symbols emphasize operations to be carried out or important information. The symbols used have the following meaning:

Note, information



Service, repair, adjustment, maintenance
(work to be carried out by qualified staff only)

1.04 Adjusting the basic machine

1.04.01 Needle position in sewing direction (on the PFAFF 571 and 591)

Requirement
With the stitch length set at its minimum, the needle should be positioned in the centre of the needle hole, as seen in the direction of sewing.

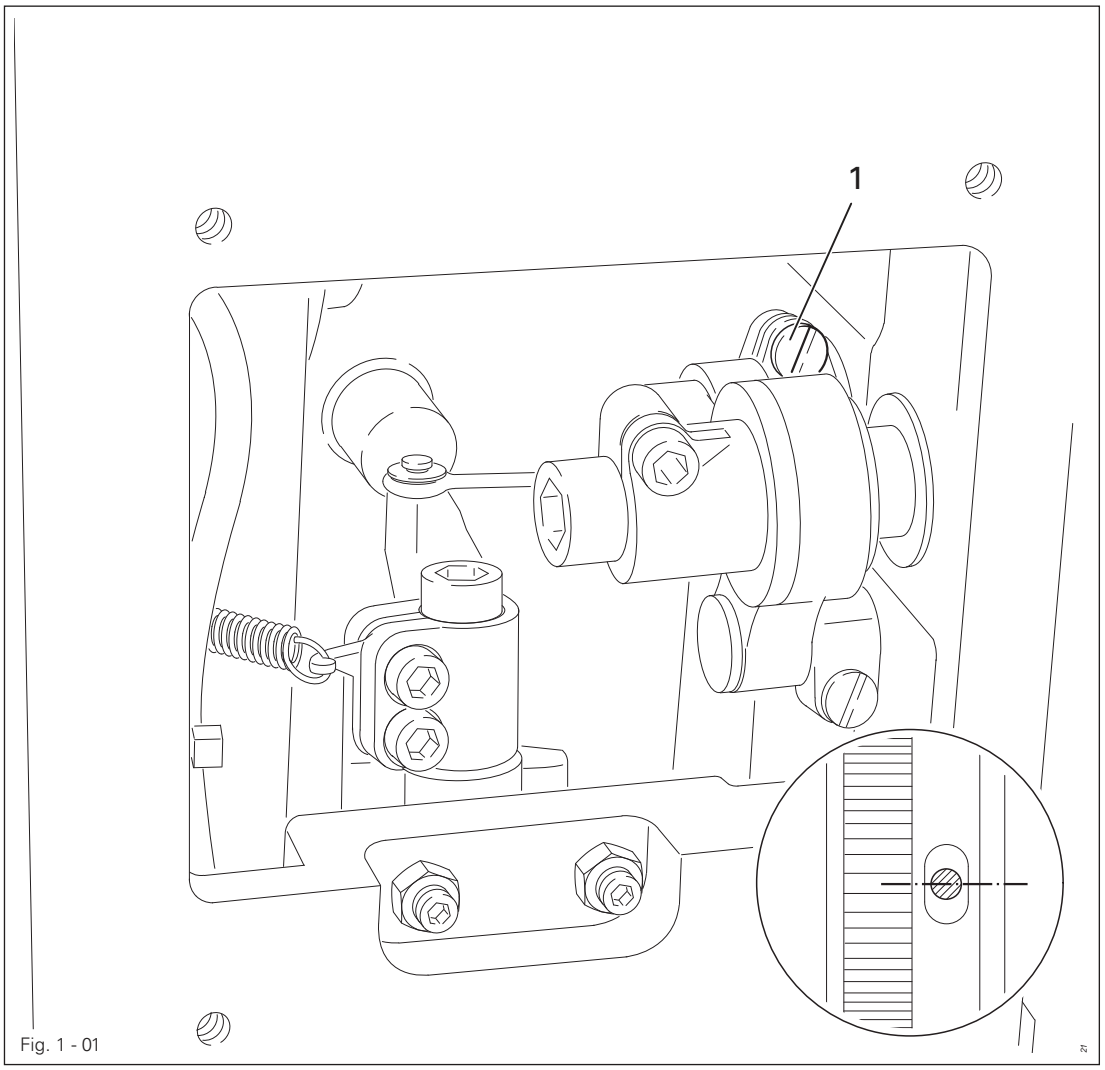


Fig. 1 - 01

- Set the minimum stitch length.
- Adjust needle bar (screw **1**) according to the **requirement**.

1.04.02 Needle position in sewing direction (on the PFAFF 574)

Requirement
The needle should be positioned in the centre of the needle hole as seen in the direction of sewing.

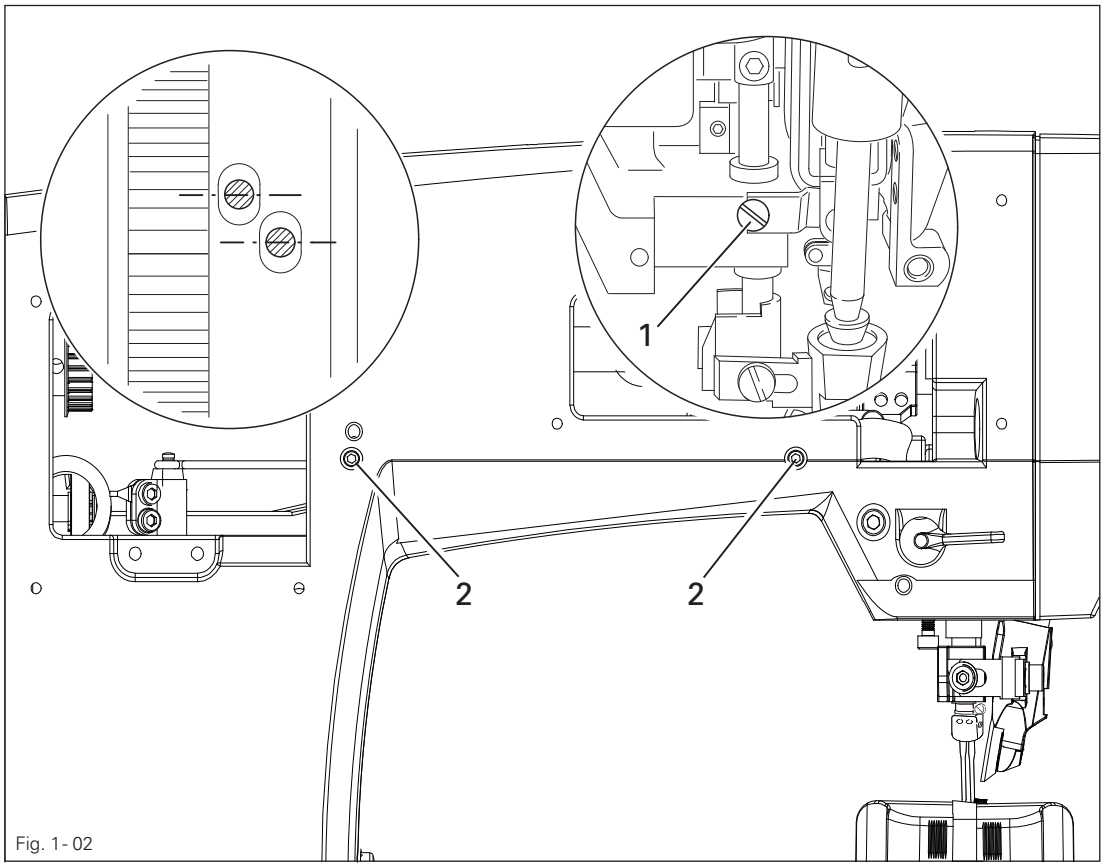


Fig. 1- 02

- Adjust needle bar (screws **1** and **2**) according to the **requirement**.

Screws **2** are accessible through the holes on the back of the housing.

1.04.03 Preliminary adjustment of the needle height

Requirement
When the needle bar is at TDC, there must be a clearance of approx. **21 mm** between the needle point and the needle plate.

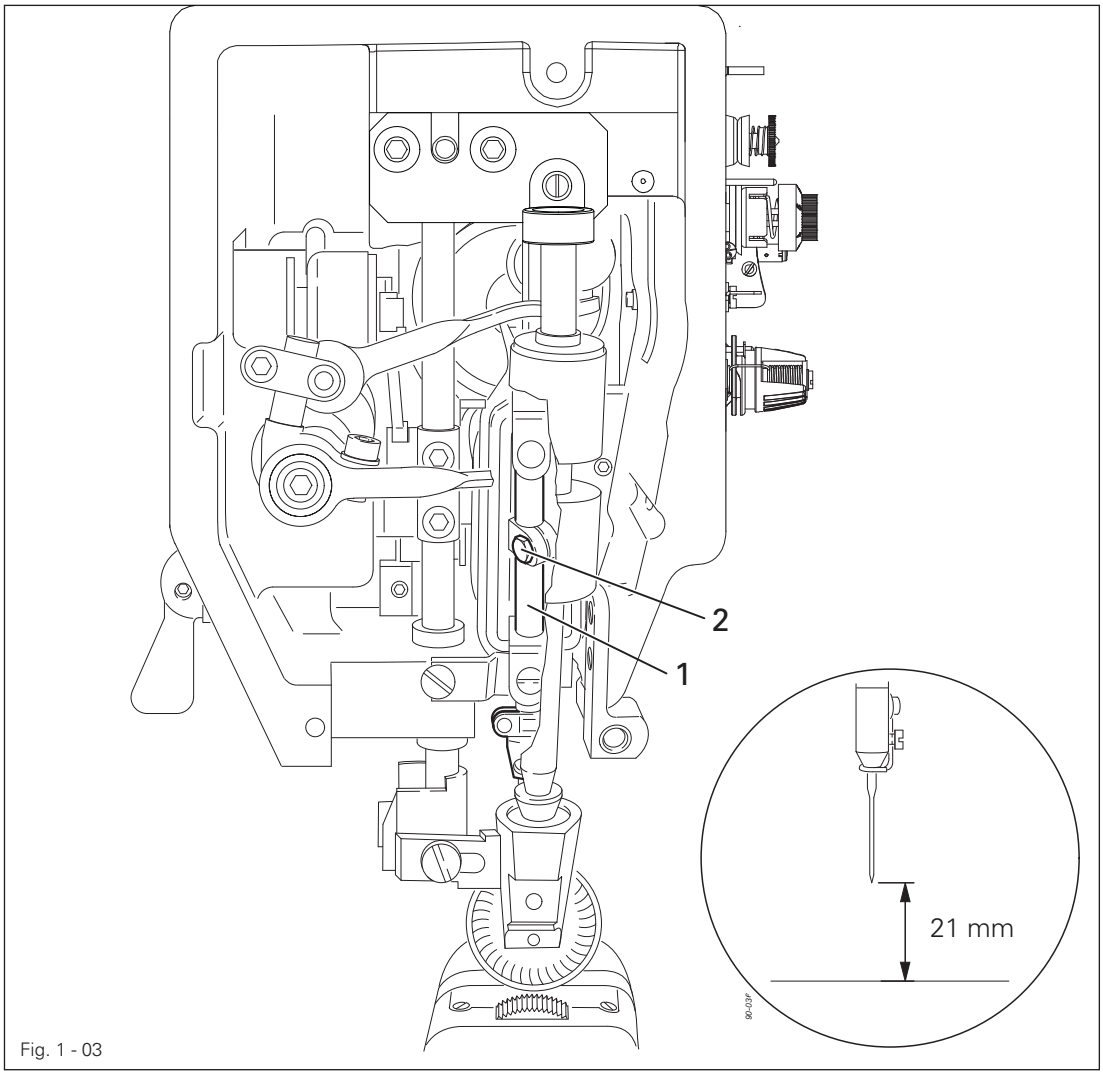
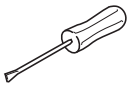


Fig. 1 - 03



- Adjust needle bar **1** (screw **2**), without turning it, according to the **requirement**.

1.04.04 Needle rise, hook clearance, needle height and needle guard (on the PFAFF 571)

Requirement

With the needle bar positioned **2,4 mm** after BDC and the stitch length set at "**0**"

1. the hook point must be at needle centre with a hook-to-needle clearance of **0.05** to **0.1 mm**;
2. the top of the needle eye must be **0.8** to **1.0 mm** below the hook point;
3. the needle guard **6** must touch the needle lightly.

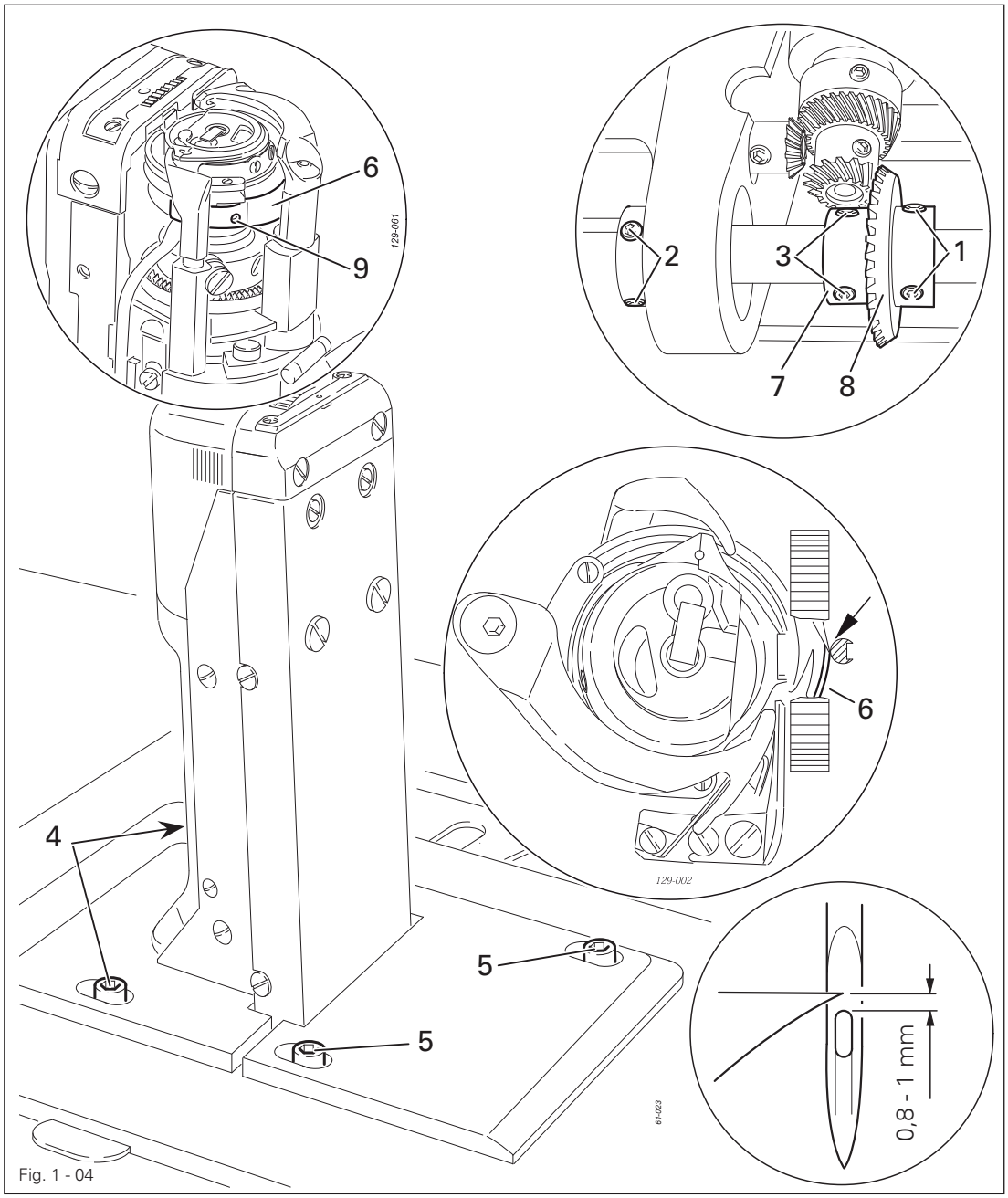
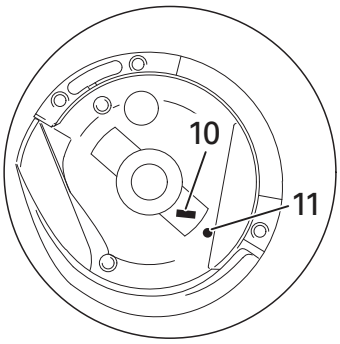


Fig. 1 - 04

- Set stitch length at "**0**".
- Loosen both screws **1**, **2**, **3**, **4** and **5**.
- Bring needle bar to **2.4 mm** past BDC:

- Set hook point at needle centre, making sure that the needle is not deflected by needle guard **6**.
- Adjust needle height according to **Requirement 2**.
- Adjust hook post according to **Requirement 1** and tighten screws **4** and **5**.
- Making sure that there is some play in the bevel gear, tighten screws **1**.
- With retaining collar **7** touching bevel gear **8** tighten screws **2** and **3**.
- Adjust needle guard **6** (screw **9**) according to **requirement 3**.

When the hook is changed, make sure that the markings **10** and **11** are both on one side.



1.04.05 Needle rise, hook clearance, needle height and needle guard (on the PFAFF 574)

Requirement

In needle rise position **2.4 mm** after B.D.C, on both hooks

1. the hook point must be at needle centre with a hook-to-needle clearance of **0.05** to **0.1 mm**;
2. the top of the needle eye must be **0.8** to **1.0 mm** below the hook points;
3. the needle guard **9** must touch the needle lightly.

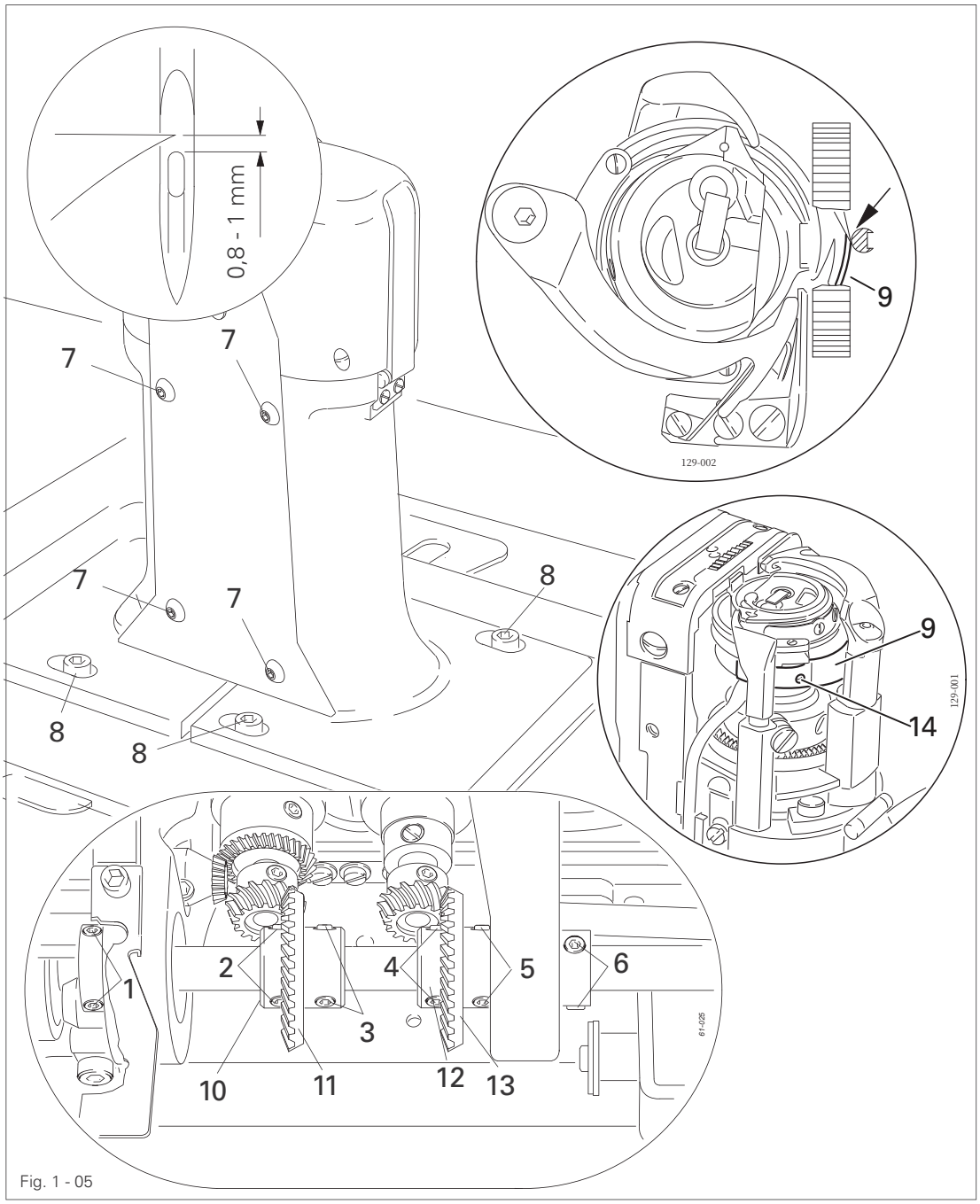
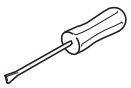
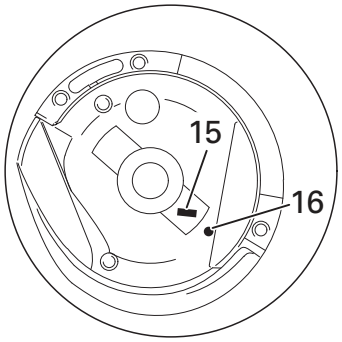


Fig. 1 - 05



- Loosen screws 1, 2, 3, 4, 5, 6 and 7.
- Loosen screws 8 slightly.
- Bring the needle bar into needle rise position 2.4 mm after BDC.
- Set both hook points at needle centre, making sure that the needles are not deflected by needle guard 9.
- Adjust needle height according to Requirement 2.
- Adjust both hook posts according to Requirement 1 and tighten screws 8.
- Tighten screws 1 and 6.
- Making sure that there is some play in the bevel gear, tighten screws 3 and 5.
- With retaining collar 10 touching bevel gear 11 tighten screws 2.
- With retaining collar 12 touching bevel gear 13 tighten screws 4.
- Tighten screws 7 on both sides of the post.
- Adjust needle guard 9 (screw 14) on both hooks according to rRquirement 3.

When a hook is changed, make sure that the markings 15 and 16 are both on one side.



1.04.06 Needle rise, hook clearance, needle height and needle guard (on the PFAFF 591)

Requirement

In needle rise position **2.4 mm** after B.D.C, and with the stitch length set at "0"

1. the hook point must be at needle centre with a hook-to-needle clearance of **0.05** to **0.1 mm**;
2. the top of the needle eye must be **0.8** to **1.0 mm** below the hook point;
3. the needle guard **6** must touch the needle lightly.

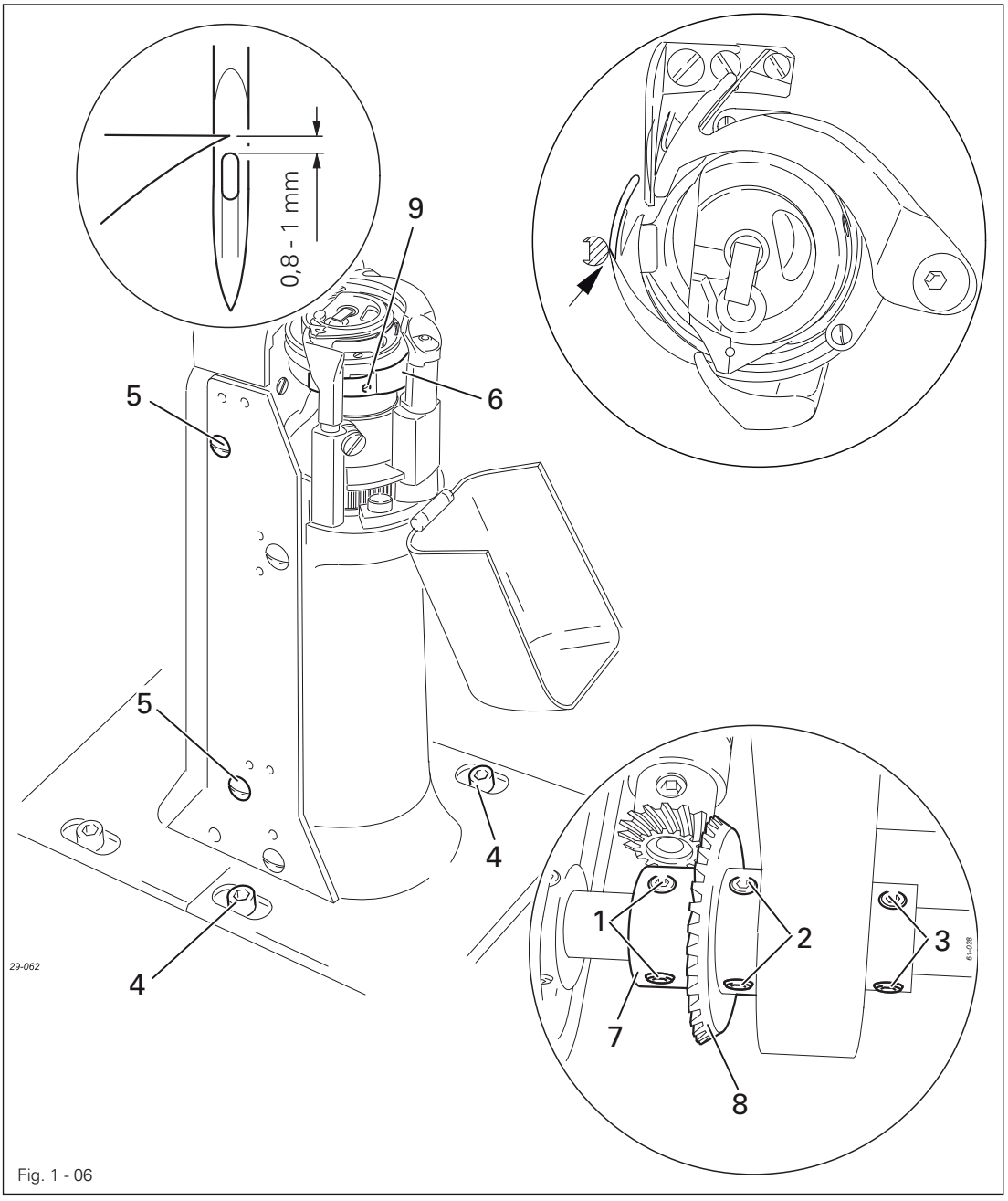
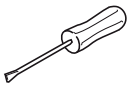
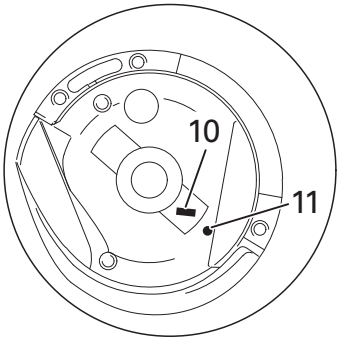


Fig. 1 - 06



- Set stitch length at "0".
- Loosen screws 1, 2, 3, 4 and 5.
- Bring the needle bar into needle rise position 2.4 mm after B.D.C.
- Set hook point at needle centre, making sure that the needle is not deflected by needle guard 6.
- Adjust needle height according to Requirement 2.
- Adjust hook post according to Requirement 1 and tighten screws 4.
- Making sure that there is some play in the bevel gear, tighten screws 2.
- With retaining collar 7 touching bevel gear 8 tighten screws 1.
- Screws 5 remain loosened for further adjustments.
- Adjust needle guard 6 (screw 9) according to Requirement 3..

When the hook is changed, make sure that the markings 10 and 11 are both on one side.



1.04.07 Needle position crosswise to sewing direction (on the PFAFF 571)

Requirement
When the stitch length is set at its maximum, the needle must be positioned in the centre of the needle hole when entering and coming out of the needle plate.

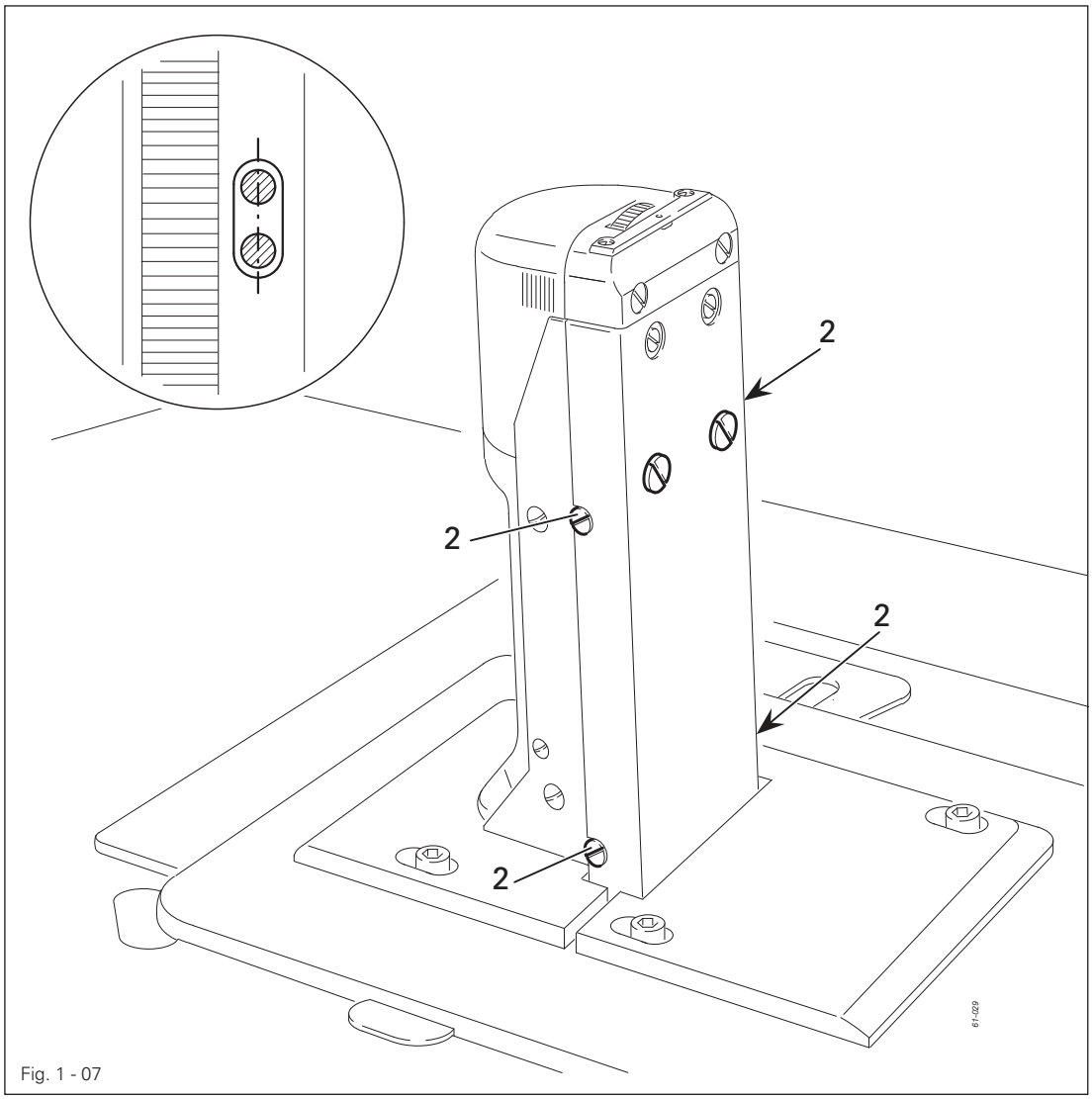
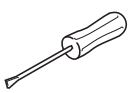


Fig. 1 - 07



- Turn screws **1** (screws **2**, on both sides of the post) according to the **requirement**.

1.04.08 Needle position crosswise to sewing direction (on the PFAFF 574)

Requirement
As seen crosswise to the sewing direction, the needles must penetrate in the centre of their needle holes.

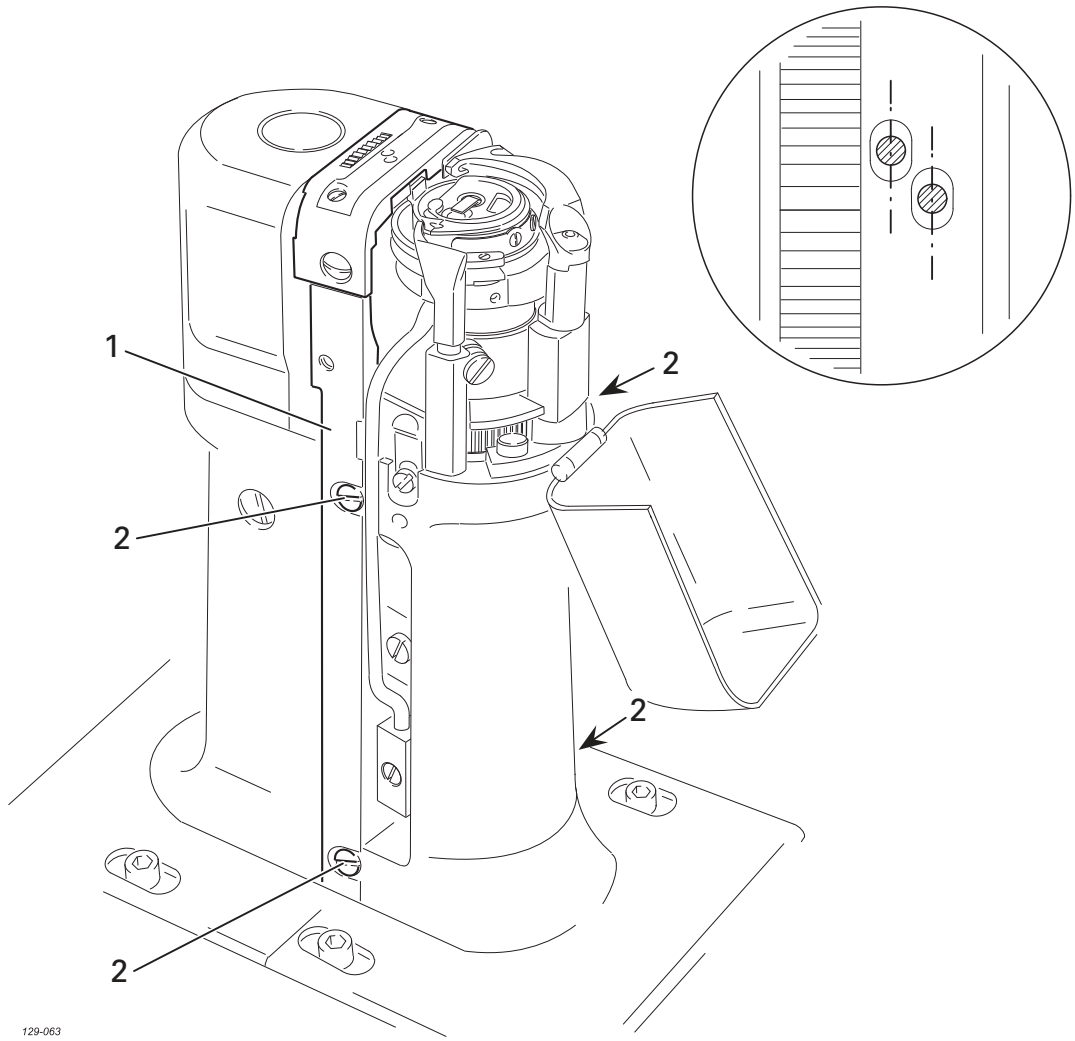


Fig. 1 - 08

- Shift bearing plate **1** (screws **2**, on both sides of the post) according to the **requirement**.

1.04.09 Needle position crosswise to sewing direction (on the PFAFF 591)

Requirement
As seen crosswise to the sewing direction, the needle must penetrate in the centre of the needle hole.

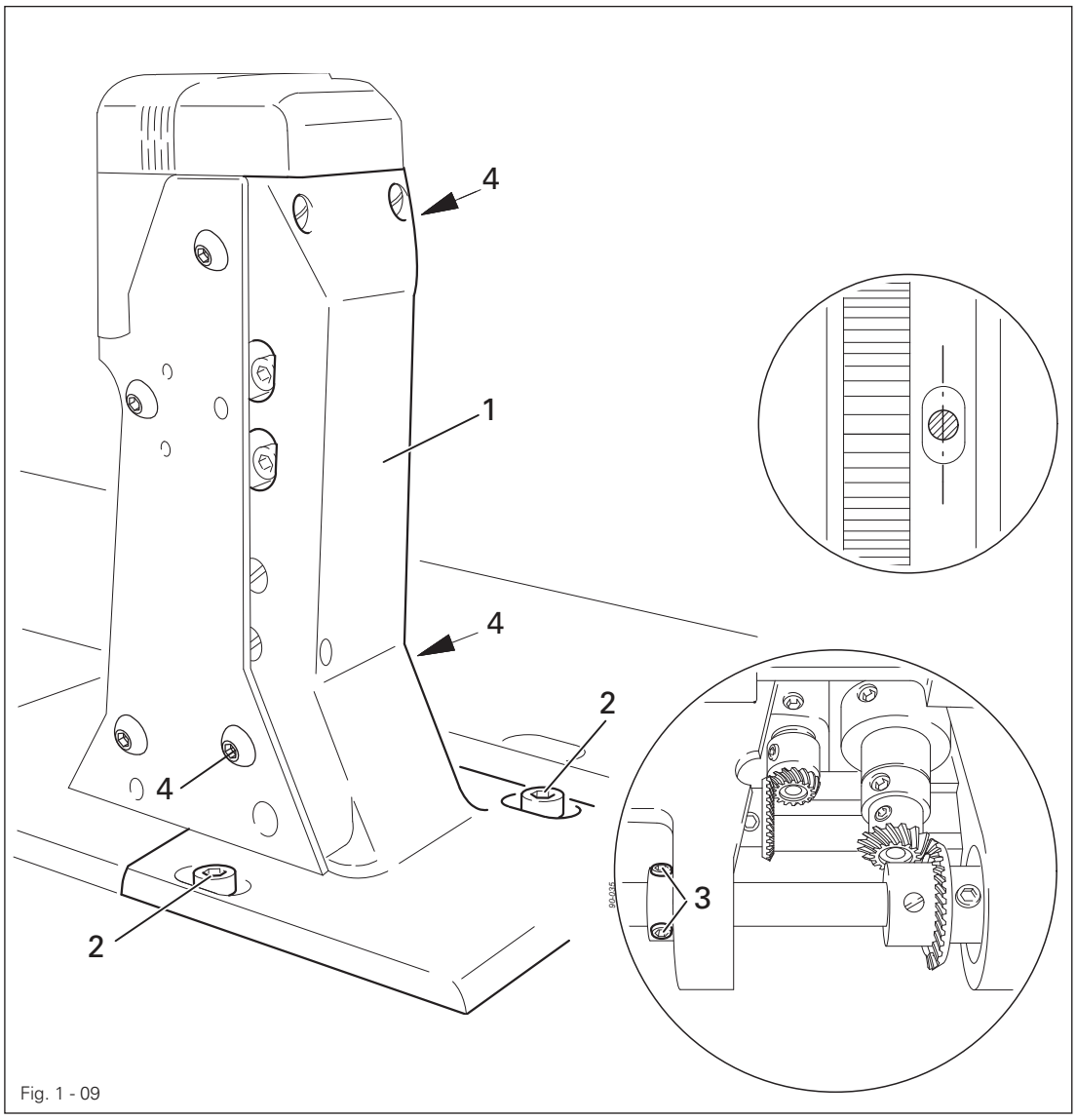


Fig. 1 - 09

- Adjust feed wheel post **1** (screws **2**, **3** and **4**) according to the **requirement**.

1.04.10 Height and stroke of the bobbin case opener

Requirement

1. The top edges of the bobbin case opener **1** and bobbin case base **3** should be on one level.
2. When the bobbin case opener **1** has deflected the bobbin case to its furthest point, the catch of the bobbin case should be **0.3 – 0.5 mm** from the back edge of the needle plate recess.

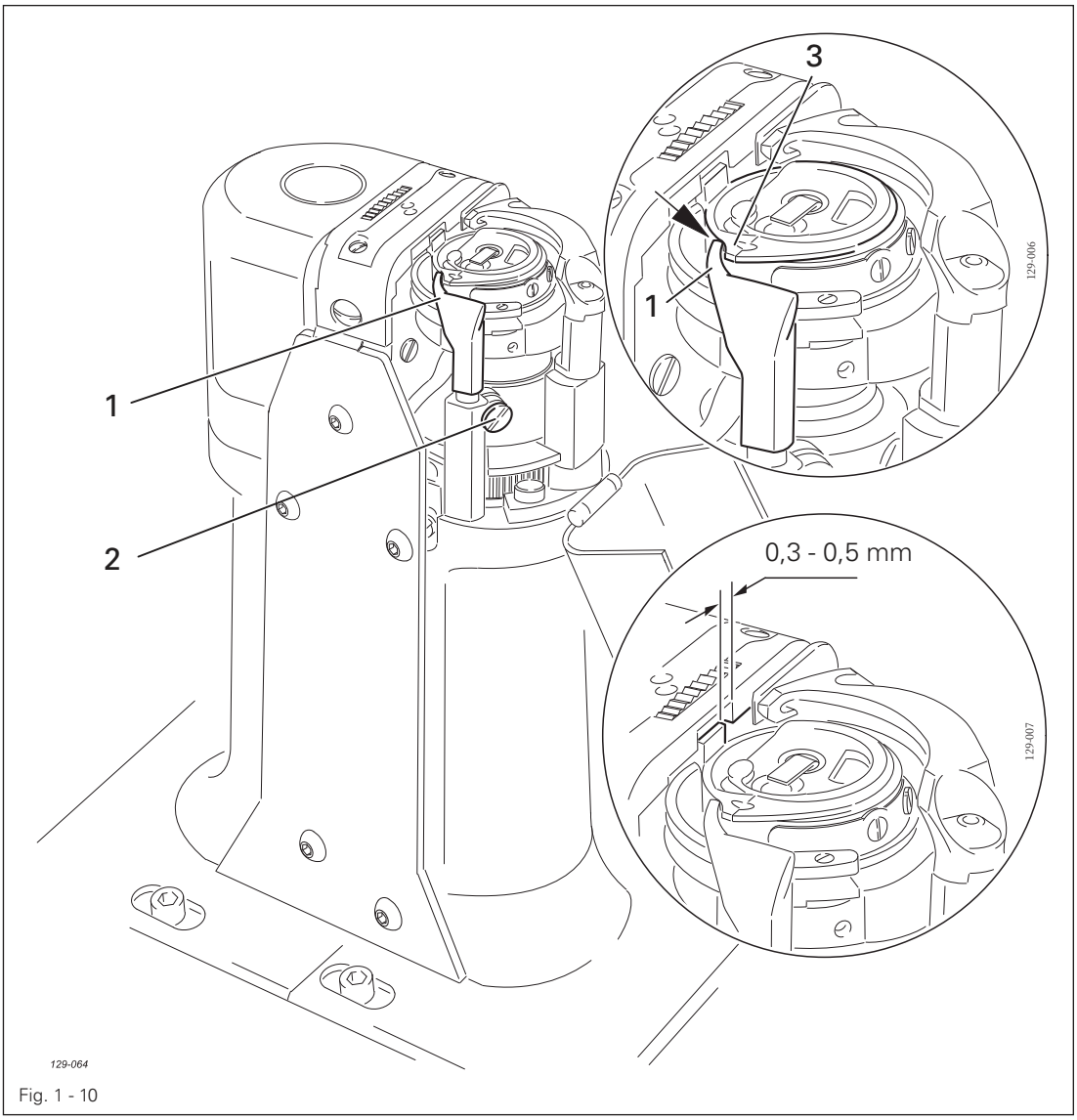


Fig. 1 - 10

- Adjust bobbin case opener **1** (screw **2**) in accordance with **requirement 1**.
- Turn the balance wheel until the bobbin case opener has deflected the bobbin case to its furthest point.
- Adjust bobbin case opener **1** (screw **2**) in accordance with **requirement 2**.

On the PFAFF **574** these adjustments must be repeated on the right post. Depending on the thread size, a variation of the setting in **Requirement 2** is permitted.

1.04.11 Height of the feed wheel (on the PFAFF 571)

Requirement

1. When pressure is applied to the feed wheel **4**, it should protrude from the needle plate by tooth height (approx. **0.8 mm**)
2. When no pressure is applied to the feed wheel **4** , it should have a vertical play of approx. **0.3 mm**.

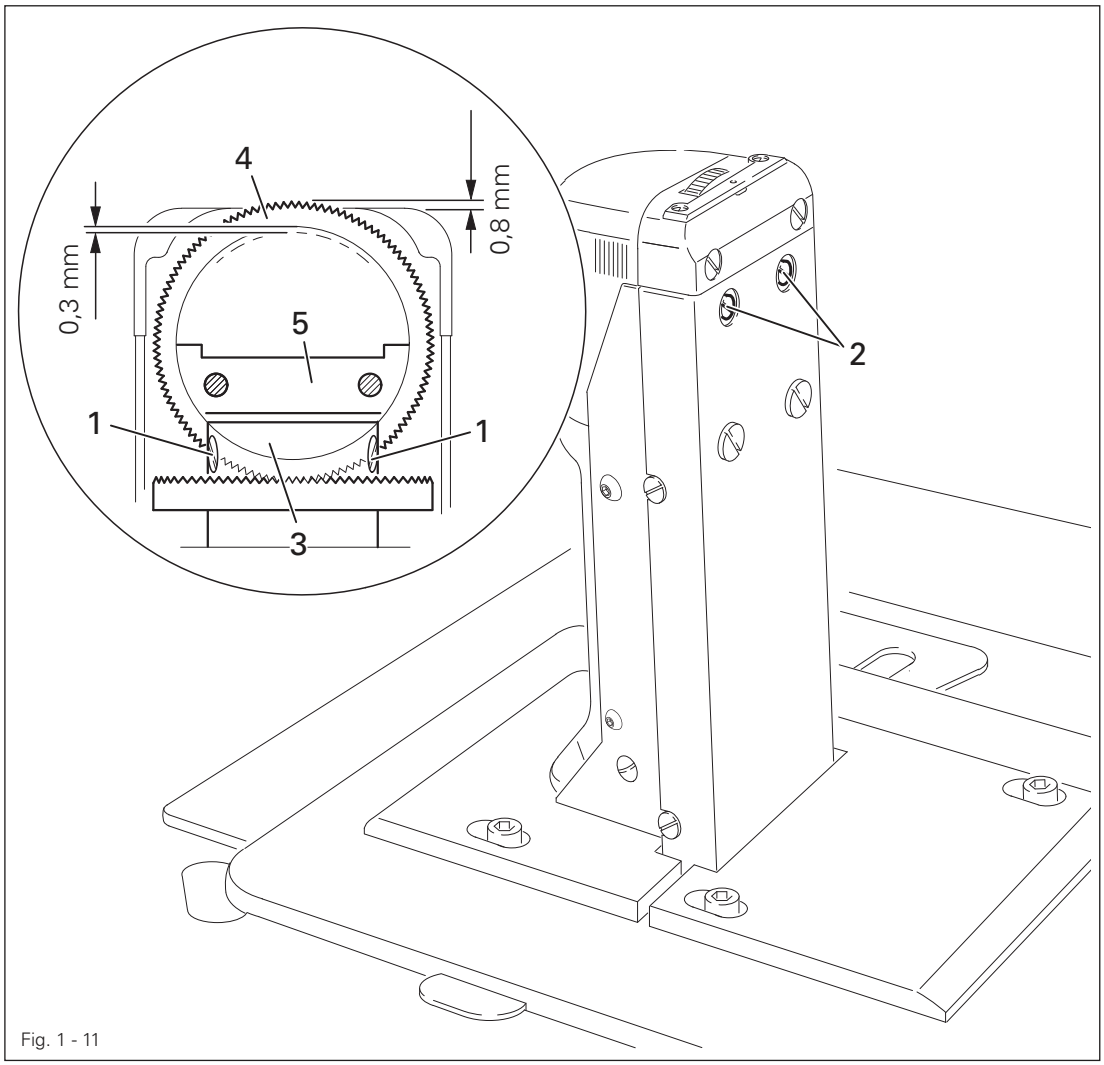
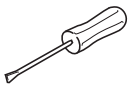


Fig. 1 - 11



- Swing out the roller presser.
- Loosen screws **1** and **2**.
- Adjust drive wheel **3** according to **requirement 1**, taking care to see that the teeth of drive wheel **3** and feed wheel **4** lock into each other properly.
- Tighten screws **1**.
- Adjust guide **5** according to **requirement 2** and tighten screws **2**.

1.04.12 Height of the feed wheel (on the PFAFF 574)

Requirement

1. When pressure is applied to the feed wheel **4**, it should protrude from the needle plate by tooth height (approx. **0.8 mm**)
2. When no pressure is applied to the feed wheel **4** , it should have a vertical play of approx. **0.3 mm**.

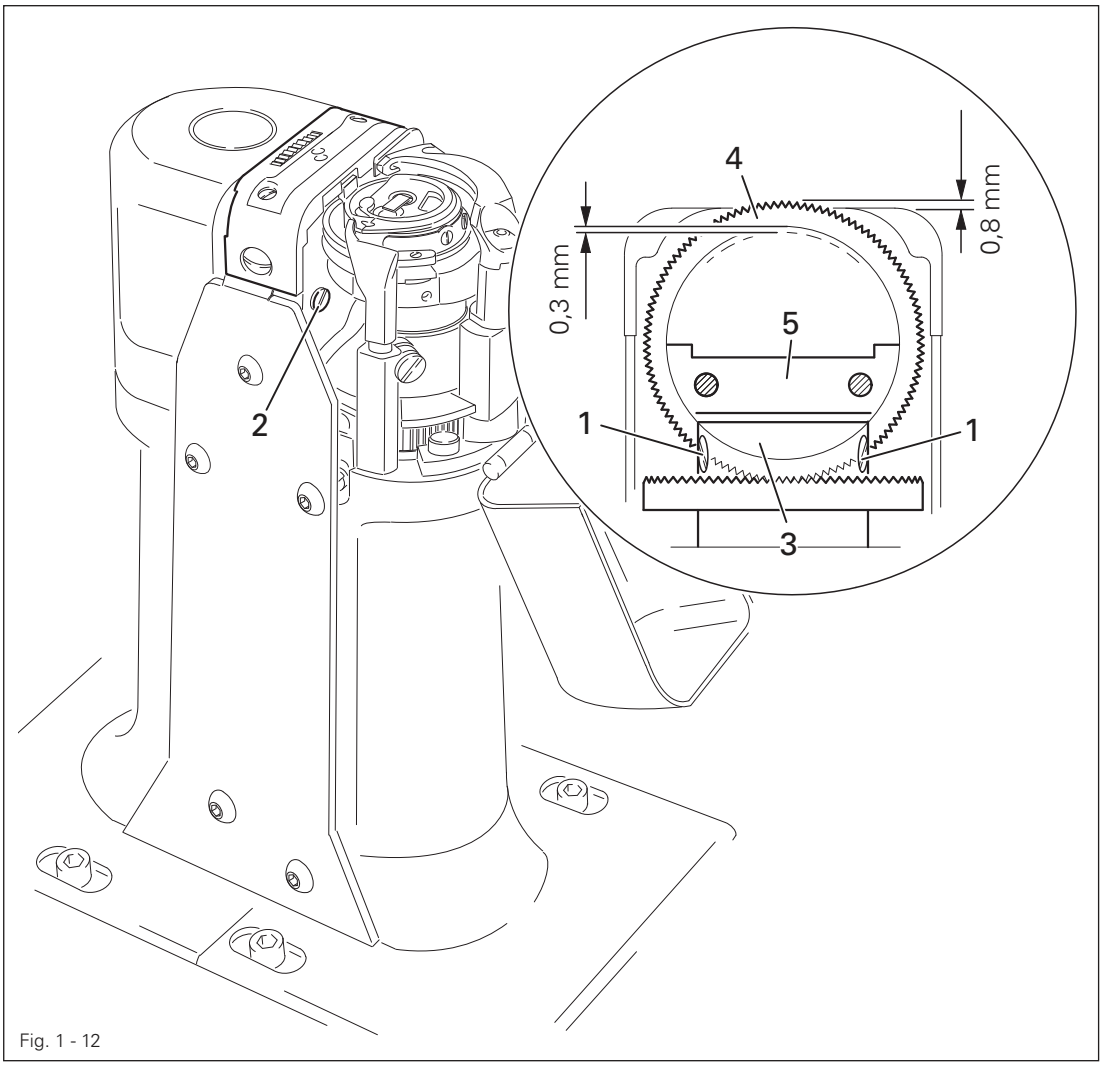
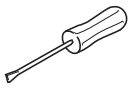


Fig. 1 - 12



- Swing out the roller presser.
- Loosen screws **1** and **2** (two screws each).
- Adjust drive wheel **3** according to **requirement 1**, taking care to see that the teeth of drive wheel **3** and feed wheel **4** lock into each other properly.
- Tighten screws **1**.
- Adjust guide **5** according to **requirement 2** and tighten screws **2**.

1.04.13 Height of the feed wheel (on the PFAFF 591)

Requirement
The feed wheel should protrude from the needle plate by tooth height (approx. **0.8 mm**)

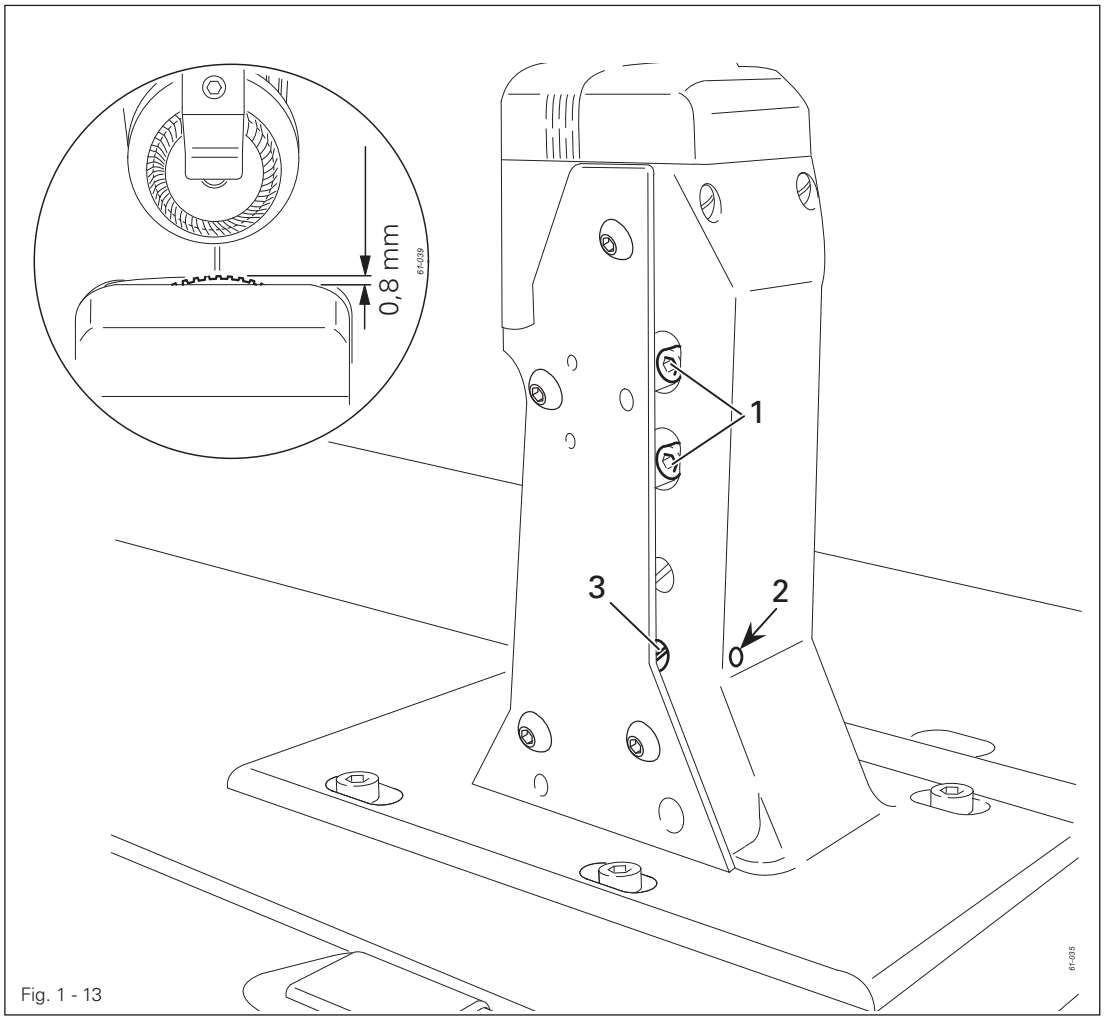
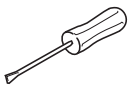


Fig. 1 - 13



- Swing out the roller presser.
- Loosen screws **1**.
- Adjust eccentric **3** (fastening screw accessible through hole **2**) according to the **requirement**.
- Tighten screws **1**.

1.04.14 Stitch length control eccentric

Requirement
When the needle (with maximum stitch length set), coming from TDC, is **3 mm** above the needle plate, the crank **3** must have reached its front point of reversal.

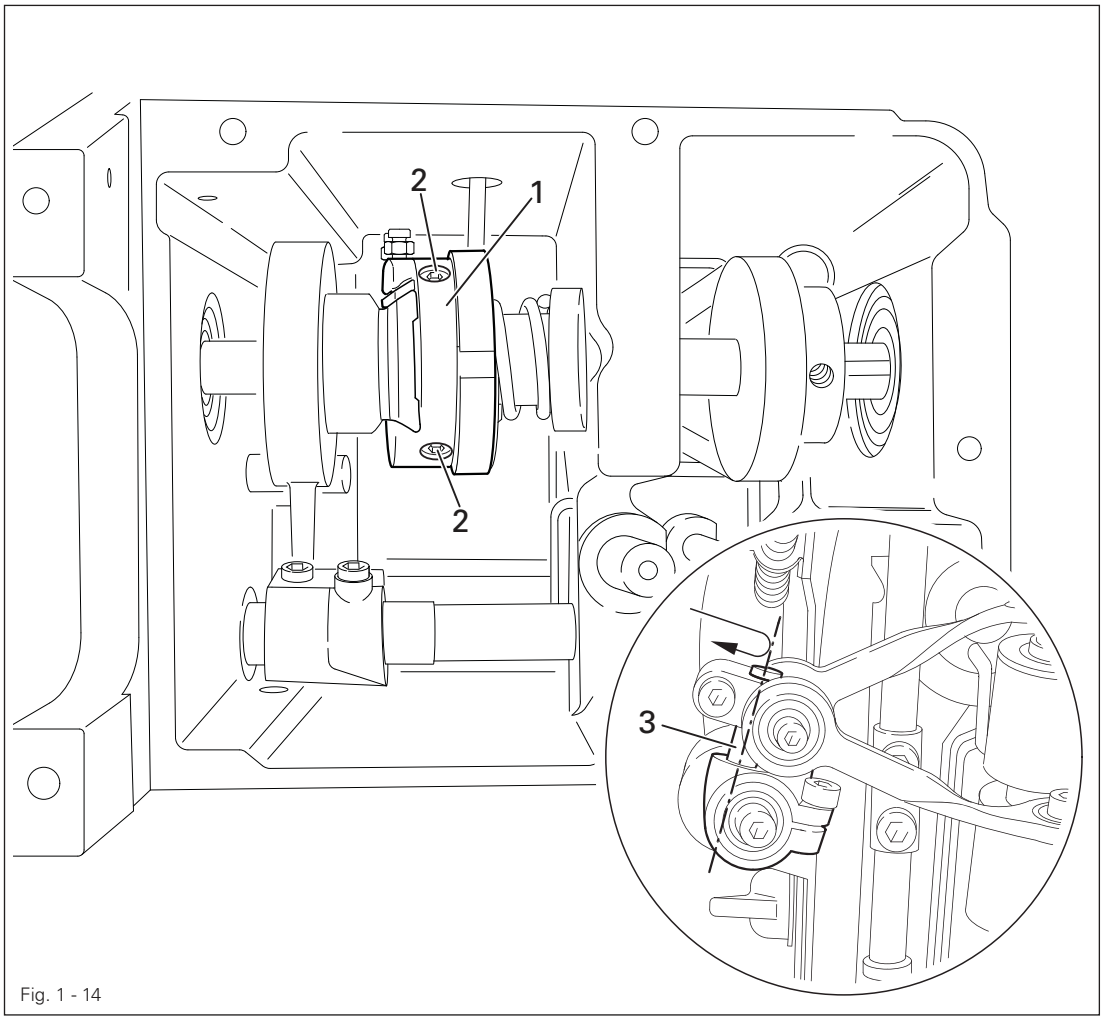
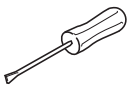


Fig. 1 - 14



- Set the maximum stitch length.
- lTurn stitch length control device **1** (screws **2**) according to the **requirement**.

1.04.15 Stitch length scale disk

Requirement
When the stitch length control device is engaged and the stitch length is set at "**0**", the marking line on scale disk **1** should be positioned opposite the lower edge **3** of the guard belt opening.

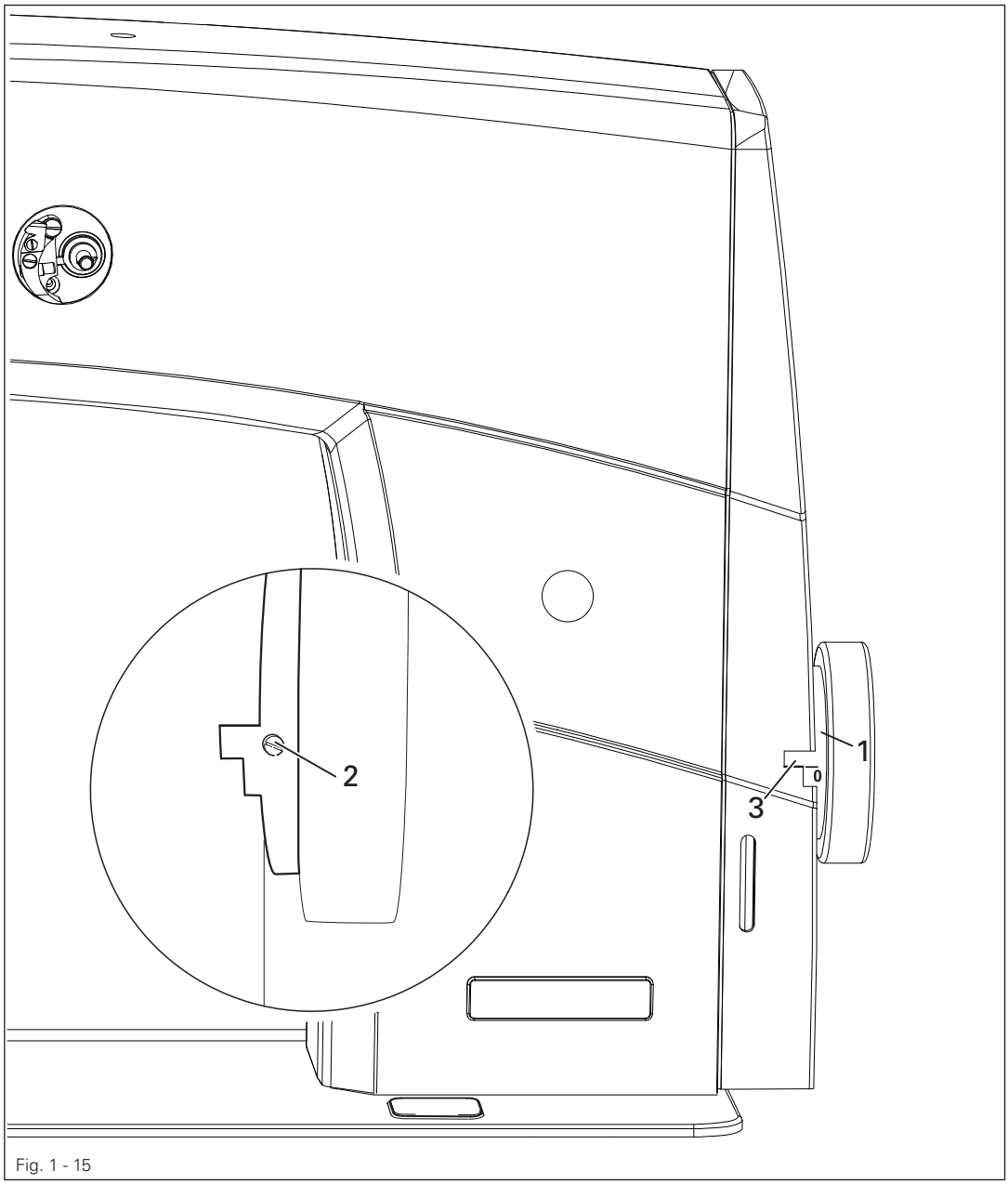


Fig. 1 - 15

- Set stitch length "**0**".
- Turn stitch length control device **1** (screws **2**) according to the **requirement**.

1.04.16 Shaft crank to feed wheel drive

Requirement
When the maximum stitch length is set, the linkage rod **3**, or linkage rods **3** and **4** on the PFAFF **571** and **591**, must be able to move freely when the balance wheel is turned.

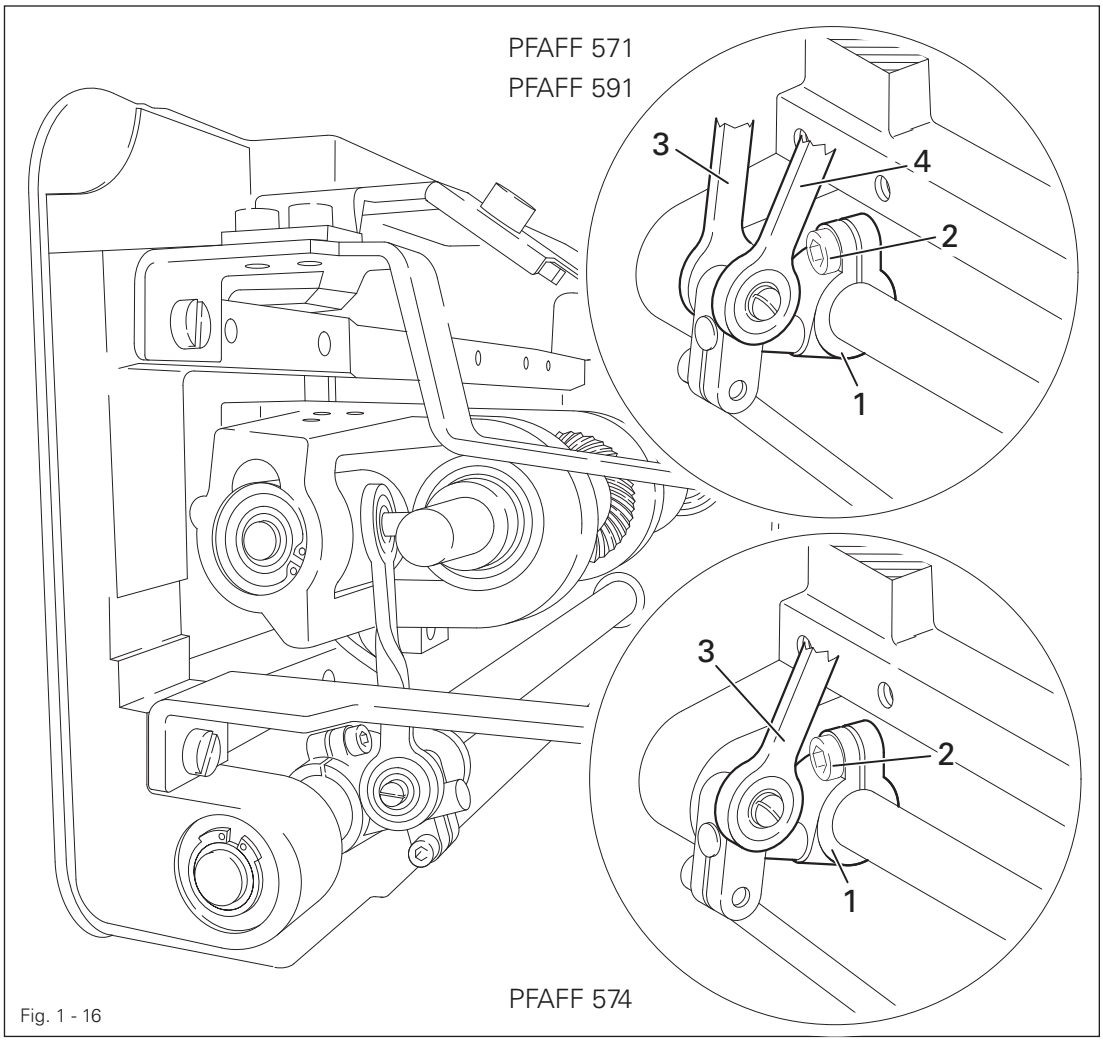


Fig. 1 - 16

- Set the maximum stitch length.
- Twist or shift the shaft crank **1** (screw **2**) according to the **requirement**.

1.04.17 Shaft crank to roller presser drive

Requirement
When the maximum stitch length is set, the linkage rods **3** and **4** must be able to move freely at their left and right point of reversal when the balance wheel is turned.

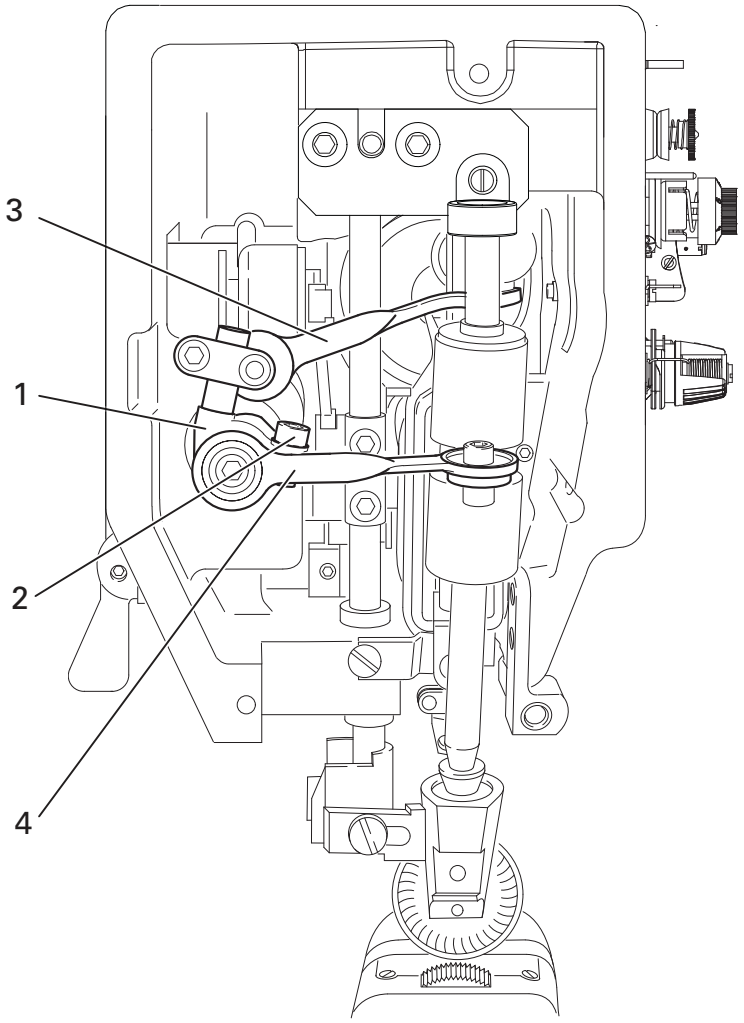
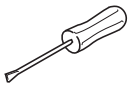


Fig. 1 - 17



- Set the maximum stitch length.
- Twist clamp crank **1** (screw **2**) according to the **requirement**.

1.04.18 Clearance between roller presser and feed wheel

Requirement
When the presser bar lifter is raised, the clearance between the roller presser and the feed wheel must be **7 mm**.

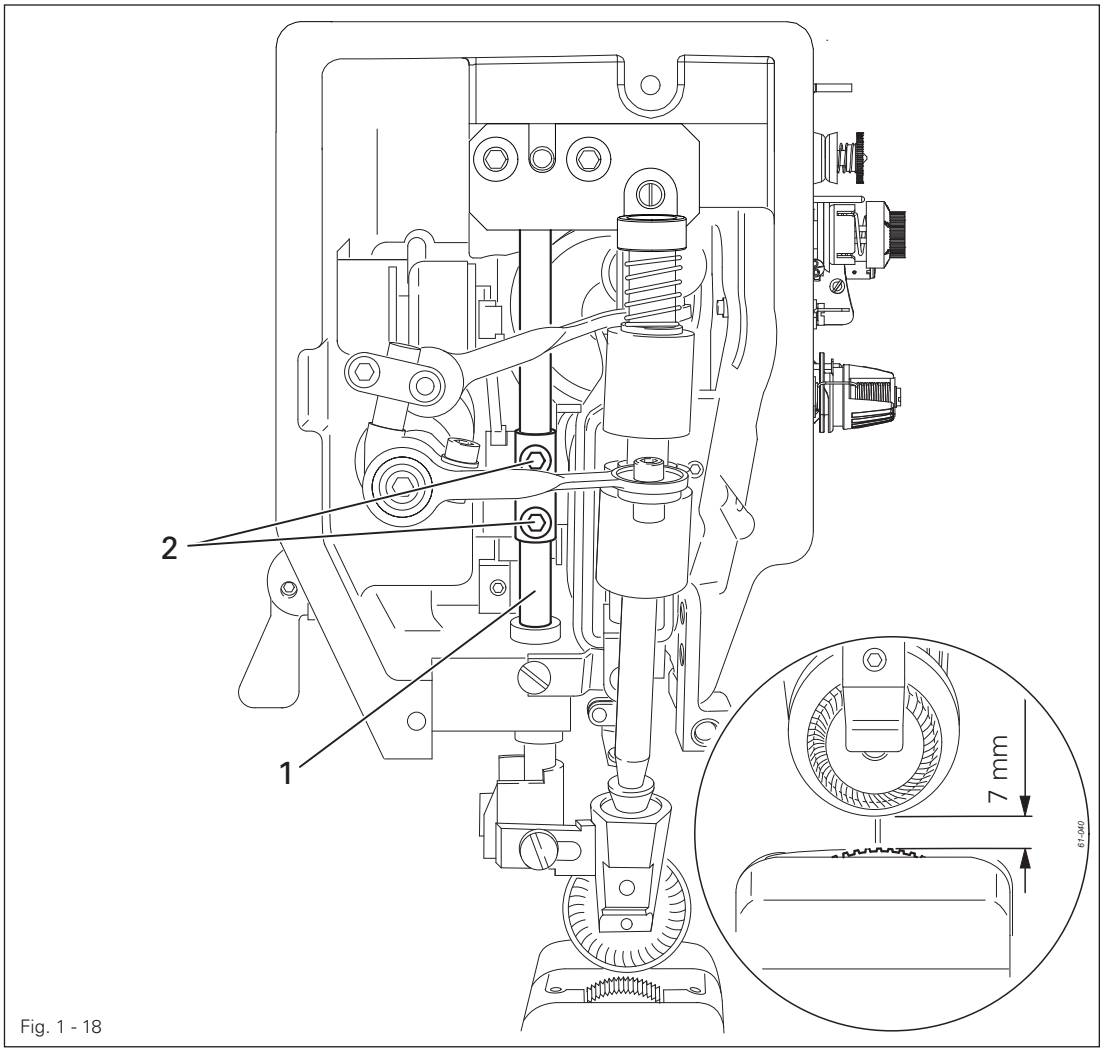
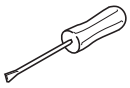


Fig. 1 - 18



- Raise the presser bar lifter.
- Adjust the presser bar **1** (screws **2**) according to the **requirement**. Make sure that the roller presser is parallel to the feed wheel.

1.04.19 Roller presser

Requirement
When the roller presser **1** is touching the feed wheel **5** it must
1. be parallel to feed wheel **5**, as seen in the direction of sewing,
2. be in the centre of the needle (on model **574** the left needle), as seen in the direction of sewing,
3. be as near as possible to the needle (on model **574** the left needle), as seen crosswise to the direction of sewing.

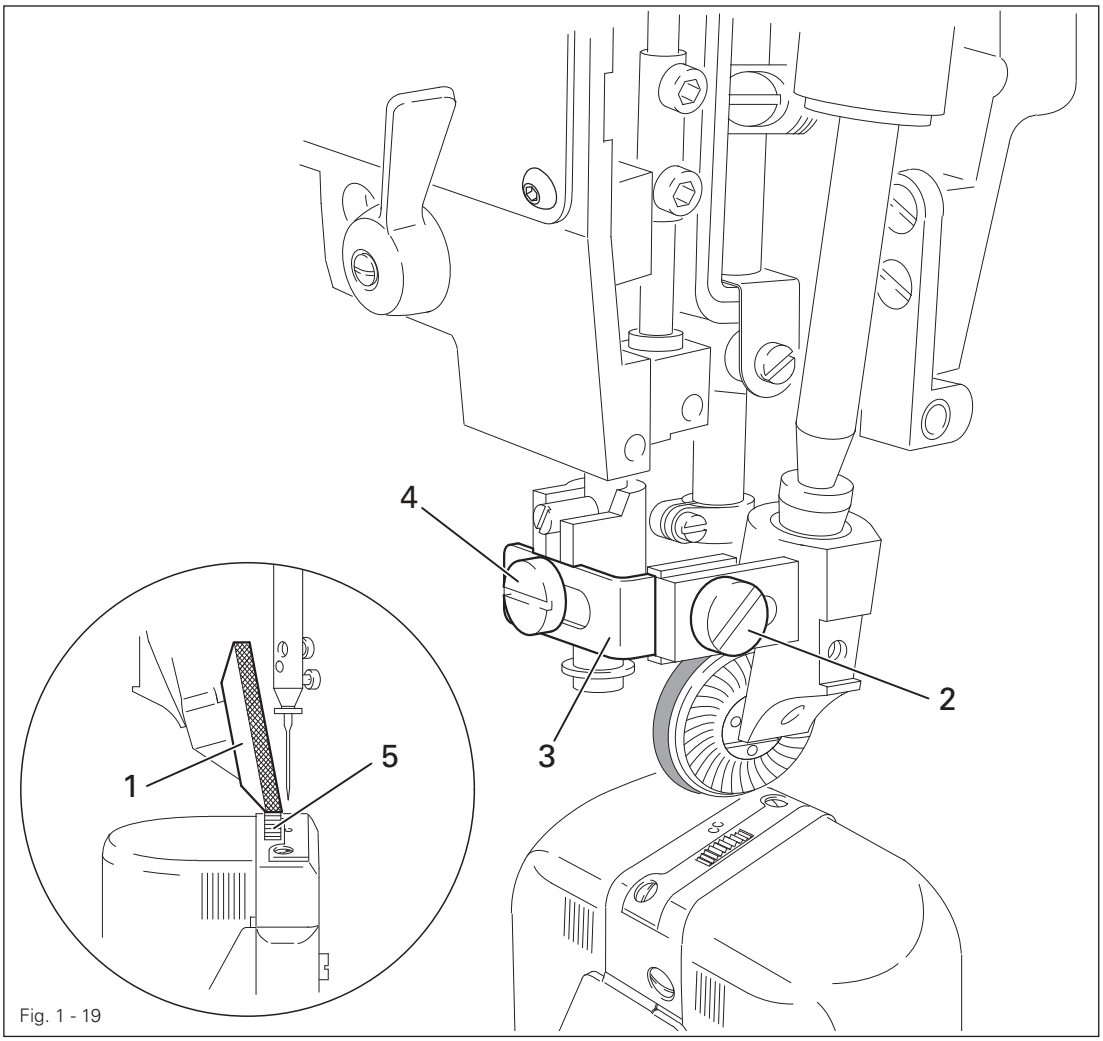
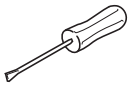


Fig. 1 - 19



- Raise the roller presser.
- Always observe **requirement 1** for subsequent adjustments.
- Adjust roller presser **1** (screw **2**) according to **requirement 2**.
- Lower roller presser **1** to rest on feed wheel **5**.
- Adjust roller presser bracket **3** (screw **4**) according to **requirement 3**.

When sewing very tight curves, the roller presser **1** must be moved a little towards the operator.

1.04.20 Stitch length on stitch length scale

Requirement
When the stitch length is set at "**3**", and after the needle has entered a strip of leather **11** times, the total length from the first to last needle penetration must be **30 mm**.

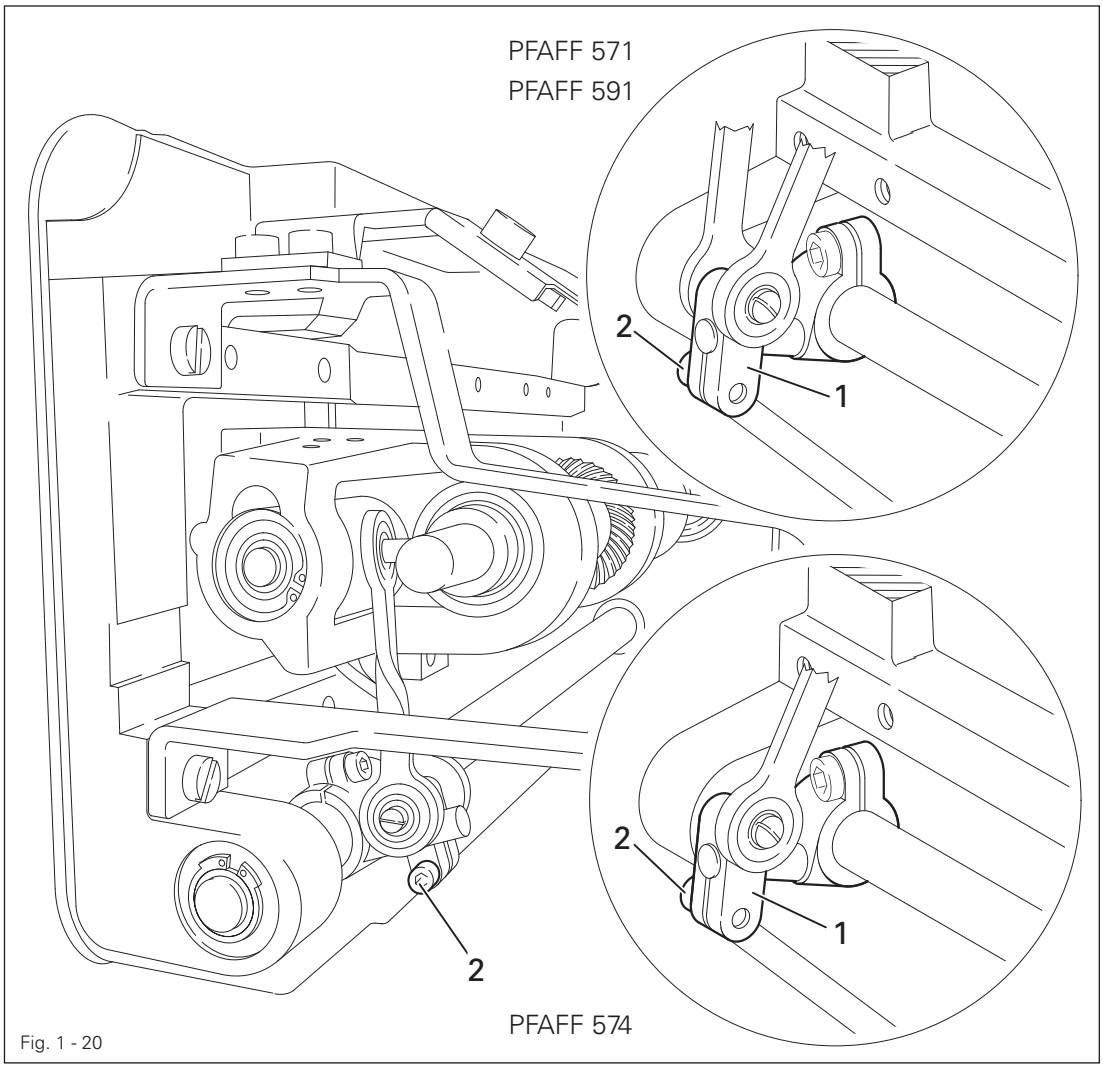


Fig. 1 - 20

- Set stitch length "**3**".
- By turning the balance wheel, let the needle enter **11** times and measure the total length.
- Adjust clamp **1** (screw **2**) according to the **requirement**.

Clamp **1** must not be positioned diagonally to the rock shaft!

1.04.21 Synchronization of roller presser and feed wheel

Requirement
After **30** needle penetrations in a strip of leather the total length from the first to the last penetration should be the same, both in the lower and the upper leather layer.

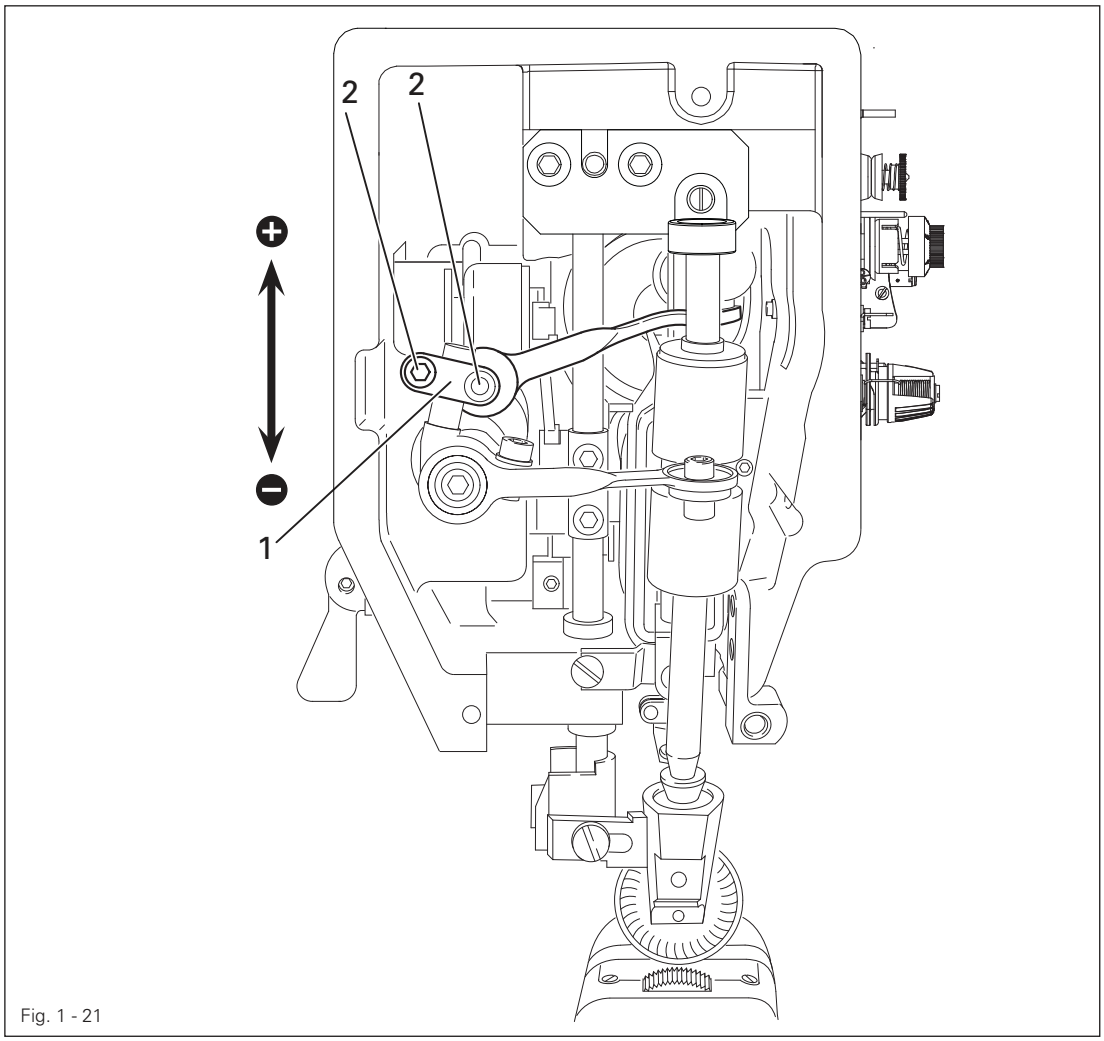
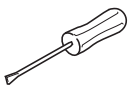


Fig. 1 - 21



- Set stitch length "**3**".
- By turning the balance wheel, let the needle enter **30** times.
- Compare the total sewn length of the lower and upper leather layer.
- Adjust clamp **1** (screw **2**) according to the **requirement**.

Clamp **1** must not be positioned diagonally to the rock shaft.

1.04.22 Retainer (only on PFAFF 574)

Requirement

The retainer **1** must

1. at least be even with the right needle, as seen in the direction of sewing and
2. be as close as possible to the right needle, as seen crosswise to the direction of sewing
3. When the roller presser is lowered, the space between retainer 1 and material must be 0,2-0,3mm. Spring 5 should press the material lightly.

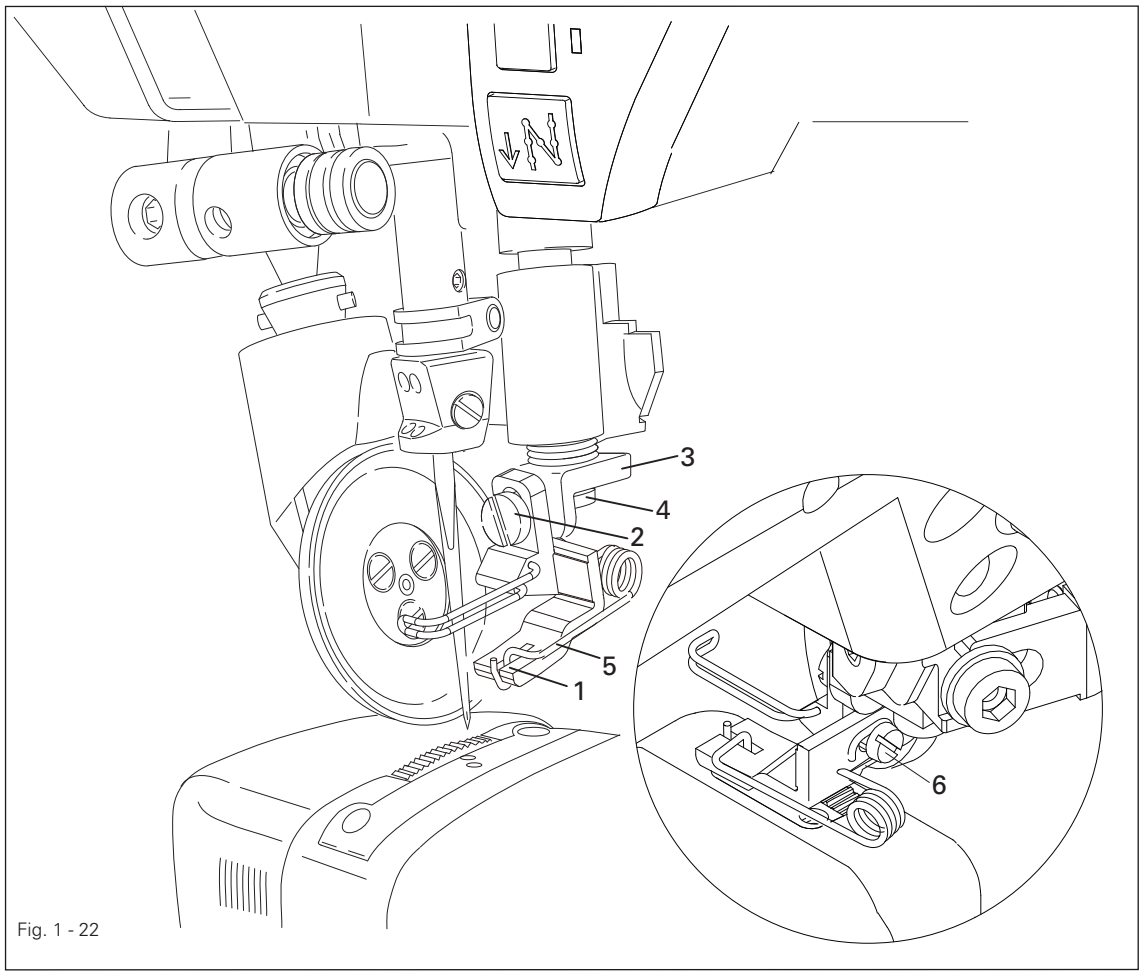
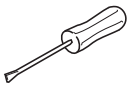


Fig. 1 - 22



- Adjust retainer **1** (screw **2**) according to **requirement 3**.
- Adjust bracket **3** (screw **4**) according to **requirement 1.**
- Adjust retainer **1** (screws **6**) in accordance with **requirement 2**.

If needed, bracket 1 can be adjusted in accordance with requirement 2.

1.04.23 Knee lever

Requirement

1. Before the roller presser rises, the knee lever must still have a slight play.
2. When the knee lever is raised as far as possible, the lever for the roller presser must drop automatically.
3. Knee lever bar **5** must be at an angle of approx. **75°** to the bedplate.

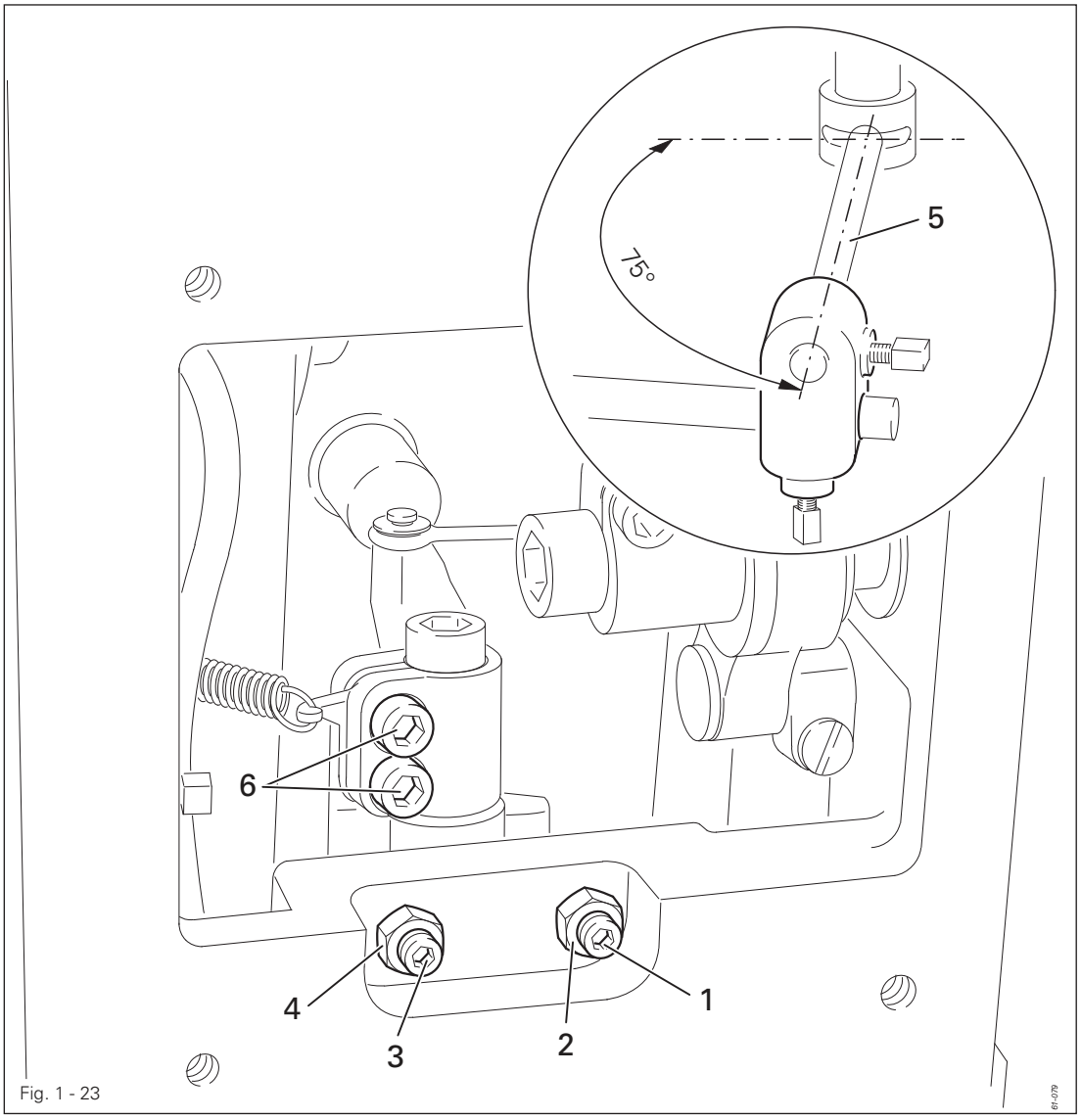
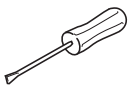


Fig. 1 - 23



- Adjust screw **1** (nut **2**) according to **requirement 3**.
- Adjust screw **3** (nut **4**) according to **requirement 2**.
- Set bar **5** (Screws **6**) according to **requirement 3**.

1.04.24 Needle thread tension release

Requirement

1. When the presser bar lifter is raised, the tension discs **3** should be pressed at least **0.5 mm** apart.
2. When the roller presser is lowered, the tension must be fully effective.

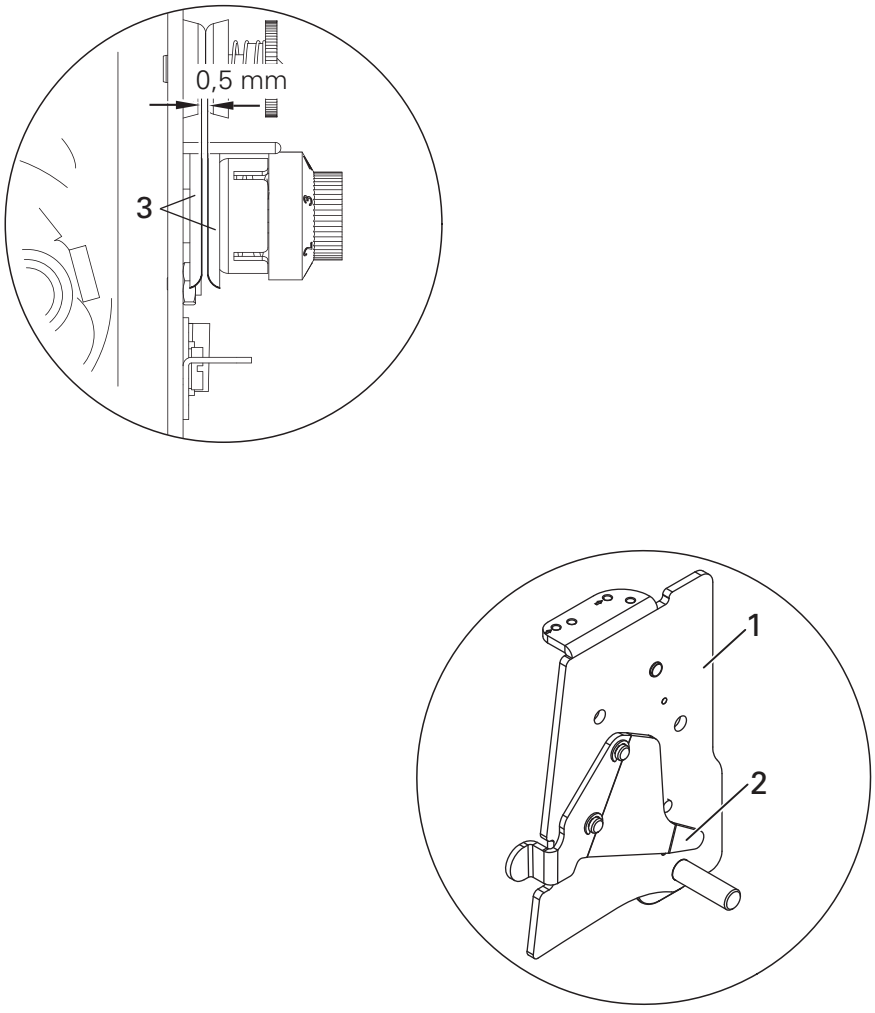
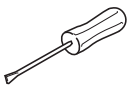


Fig. 1 - 24



- Align tension mounting plate **1** and pressure plate **2** according to the **requirement**.

1.04.25 Thread check spring (PFAFF 571 and 591)

Requirement

1. The movement of thread check spring **3** should be completed when the needle point penetrates the fabric (spring stroke approx. **7 mm**).
2. When the largest thread loop is formed while the thread is passed around the hook, the thread check spring **3** should rise slightly from its support

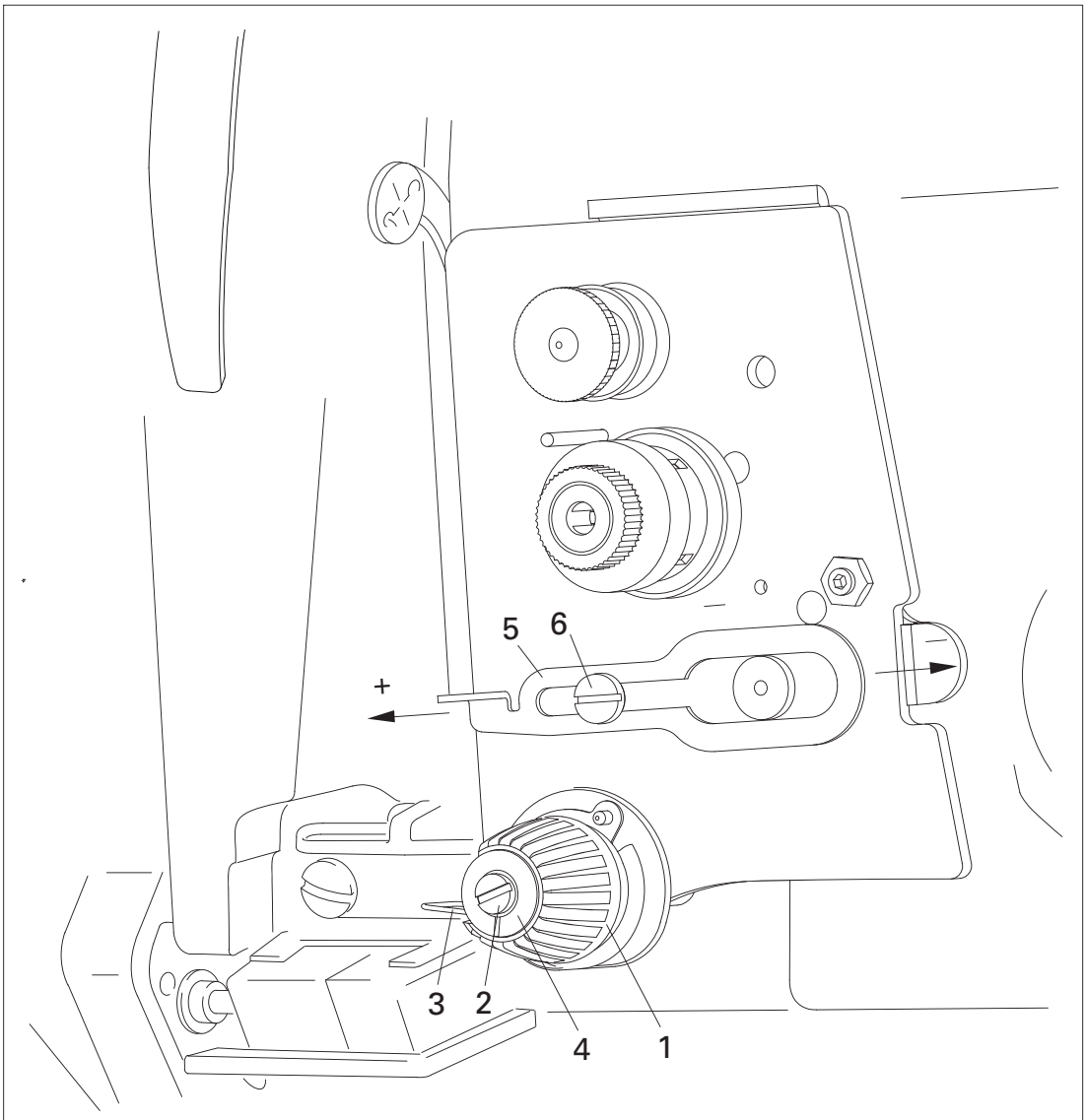
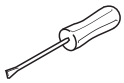


Fig. 1 - 25



- Adjust support **1** (screw **2**) according to **requirement 1.**
- To adjust the spring tension of spring 3 turn bushing 4 (screw 2).
- Adjust the thread regulator **5** (screw **6**) according to **requirement 2.**

For technical reasons it may be necessary to deviate from the specified spring stroke or spring tension.
Move the thread regulator **5** (screw **6**) towards "+" (= more thread) or "-" (= less thread).

1.04.26 Thread check springs (PFAFF 574)

Requirement

1. The movement of thread check spring **3** should be completed when the needle point penetrates the fabric (spring stroke approx. **7 mm**).
2. When the largest thread loop is formed while the thread is passed around the hook, the thread check spring **3** should rise slightly from its support 1.

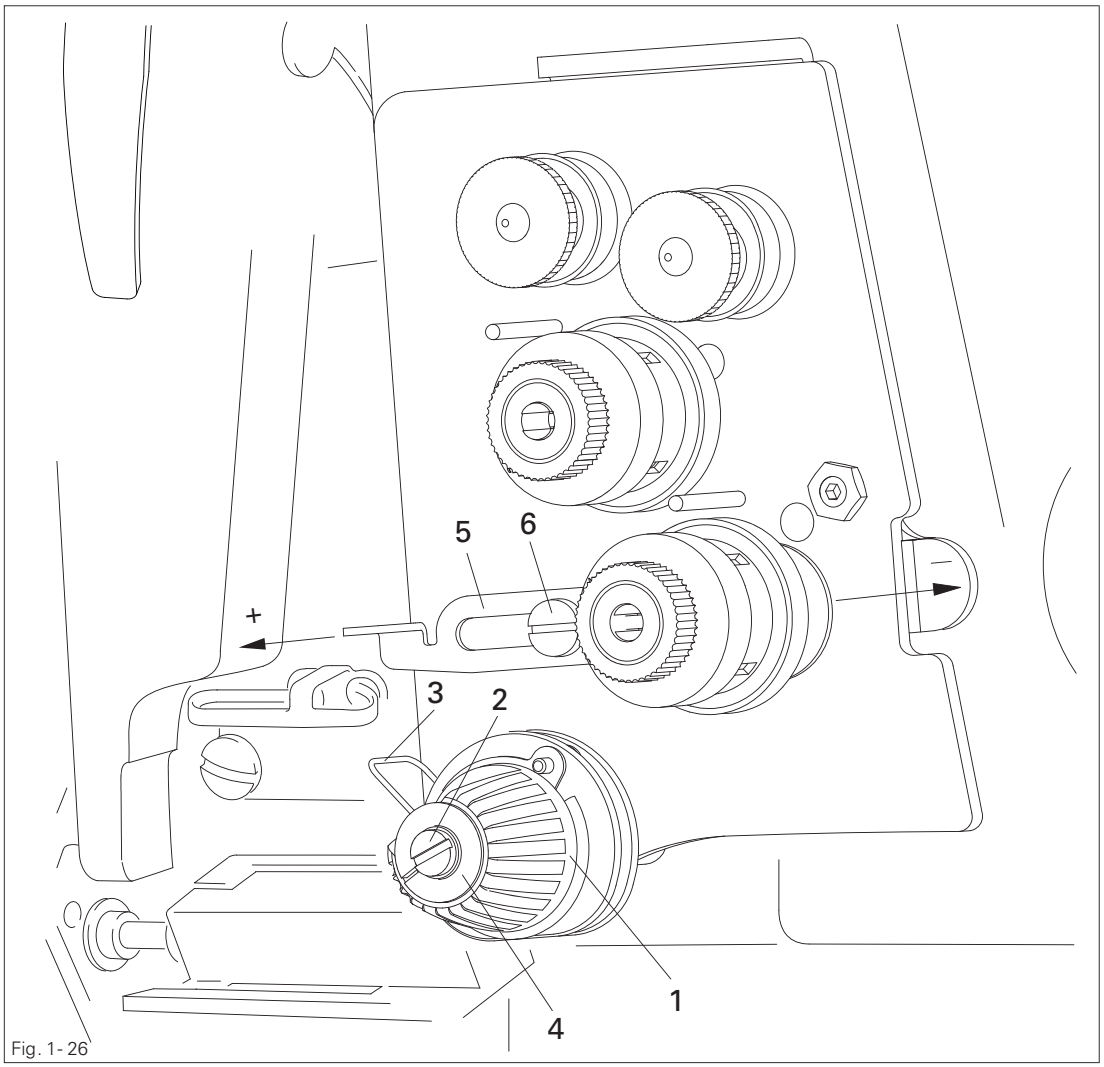


Fig. 1- 26

- Adjust support **1** (screw **2**) according to **requirement 1.**
- Turn sleeve **4** (screw **2**) to adjust the tension of thread check spring **3**.
- Adjust the thread regulator **5** (screw **6**) according to **requirement 2.**

For technical reasons it may be necessary to deviate from the specified spring stroke or spring tension.
Move the thread regulator **5** (screw **6**) towards "+" (= more thread) or "-" (= less thread).

1.04.27 Bobbin winder

Requirement

1. When the bobbin winder is engaged, the winding spindle must be driven reliably. When the bobbin winder is disengaged, the friction wheel **5** must not be moved by drive wheel **1**.
2. The bobbin winder must switch itself off, when the filled thread is about **1 mm** from the edge of the bobbin.

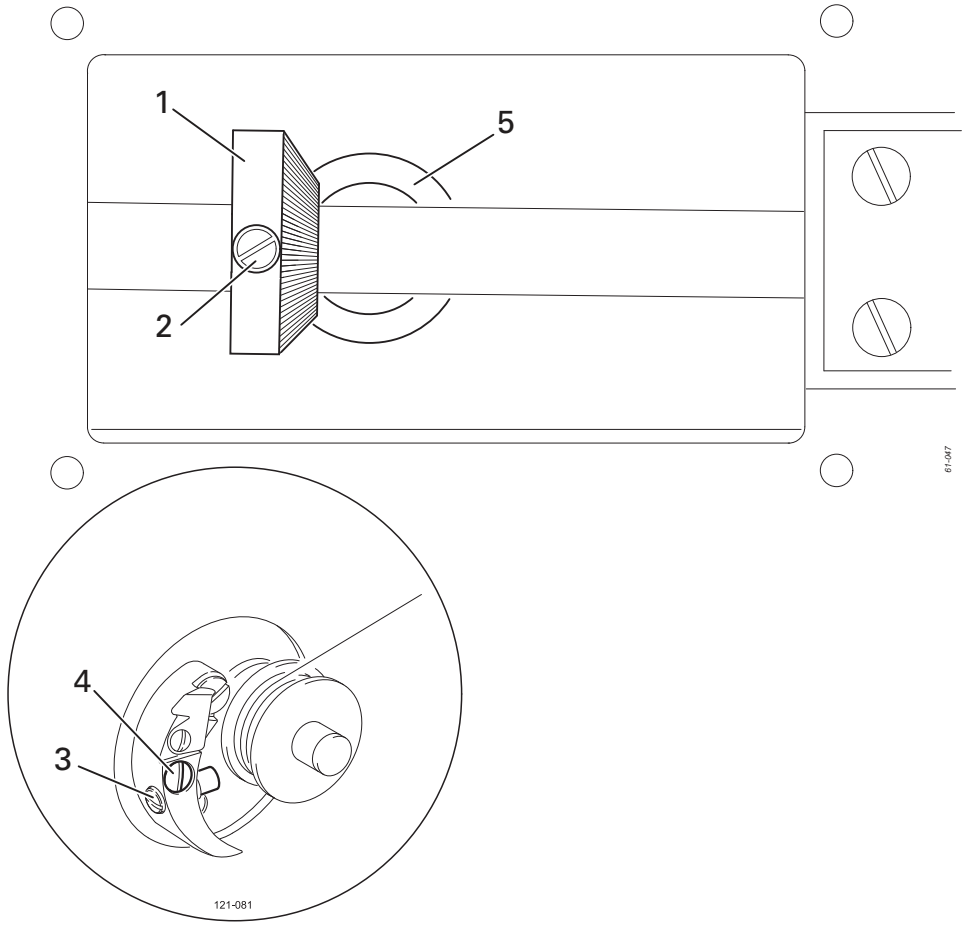


Fig. 1 - 27

- Position drive wheel **1** (screws **2**) according to **requirement 1**.
- Position bolt **3** (screw **4**) according to **requirement 2**.

1.04.28 Pressure of roller presser

Requirement
The material must be fed smoothly. No pressure marks should be visible on the material.

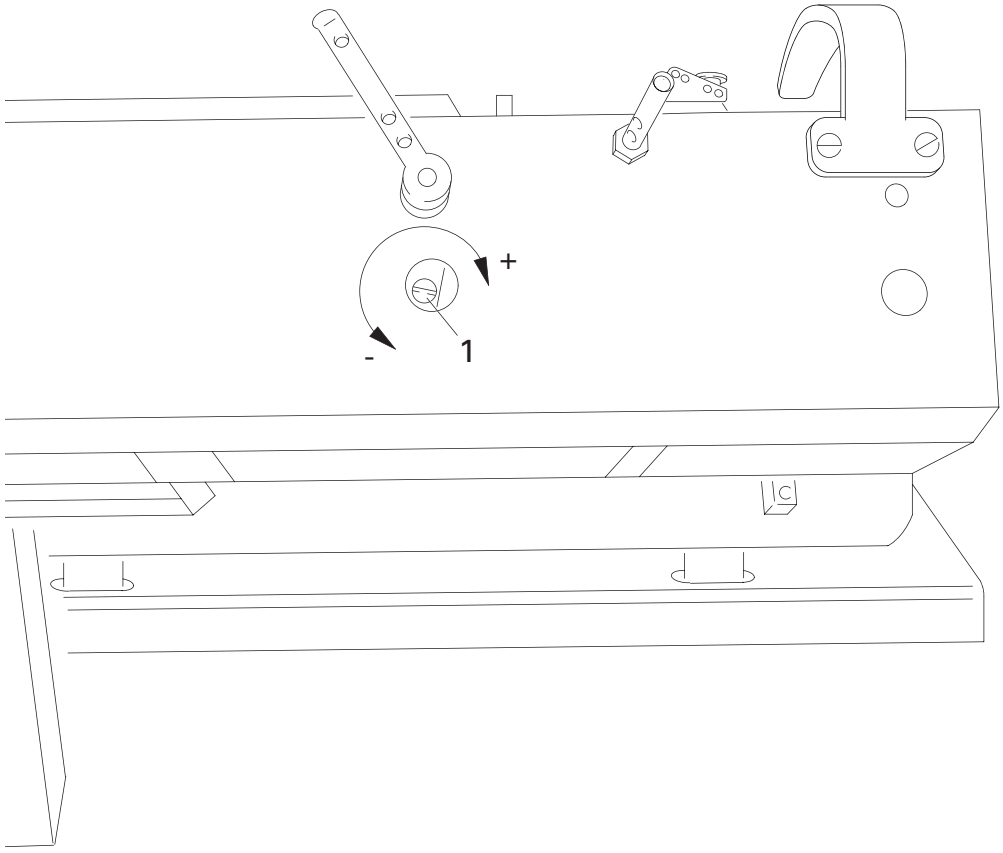


Fig. 1 - 28

- Adjust roller presser pressure with screw **1** according to the **requirement**.

Screw **1** is located under a cover.

If the presser foot pressure is low, the lowering speed of the presser foot can be increased with parameter **„202“**, see **Chapter 1.08 Parameter settings** .

1.04.29 Lubrication

Requirement
After a running time of **10** seconds a fine line of oil should form on a strip of paper held next to the hook.

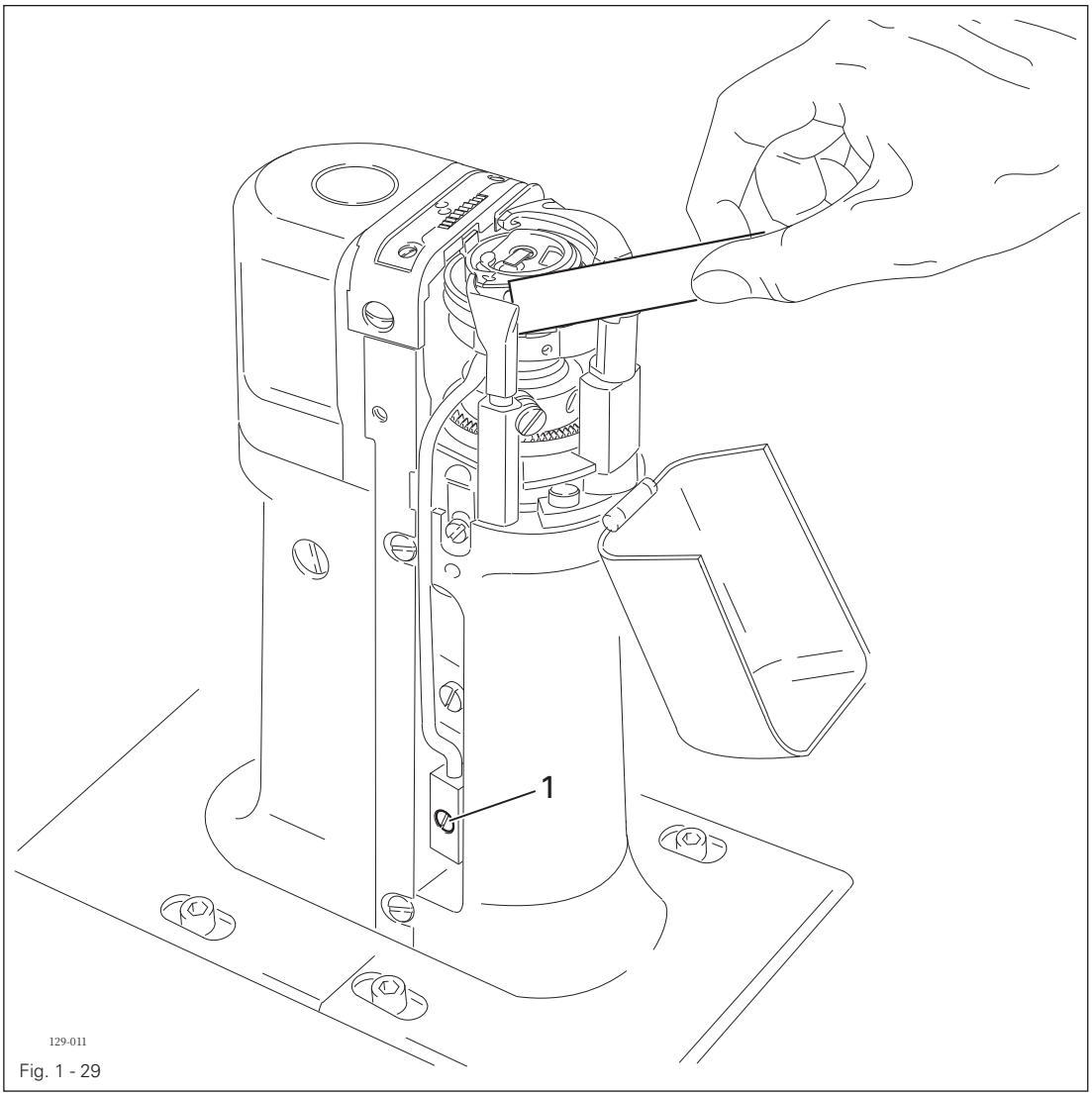
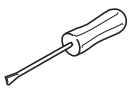


Fig. 1 - 29



- Check whether oil has been filled in and that there is no air in the oil lines.
- Let the machine run for **2-3** min.

While the machine is running do not place hands in the needle or hook area!
Danger of injury from moving parts!

- With the machine running hold a strip of paper on the hook and check the **requirement**.
- If necessary, adjust the oil flow on screw **1**.

1.04.30 Re-engage safety coupling

The coupling **1** is set by the manufacturer. When the thread jams, the coupling **1** disengages in order to avoid damage to the hooks.
A description of how to engage the coupling follows.

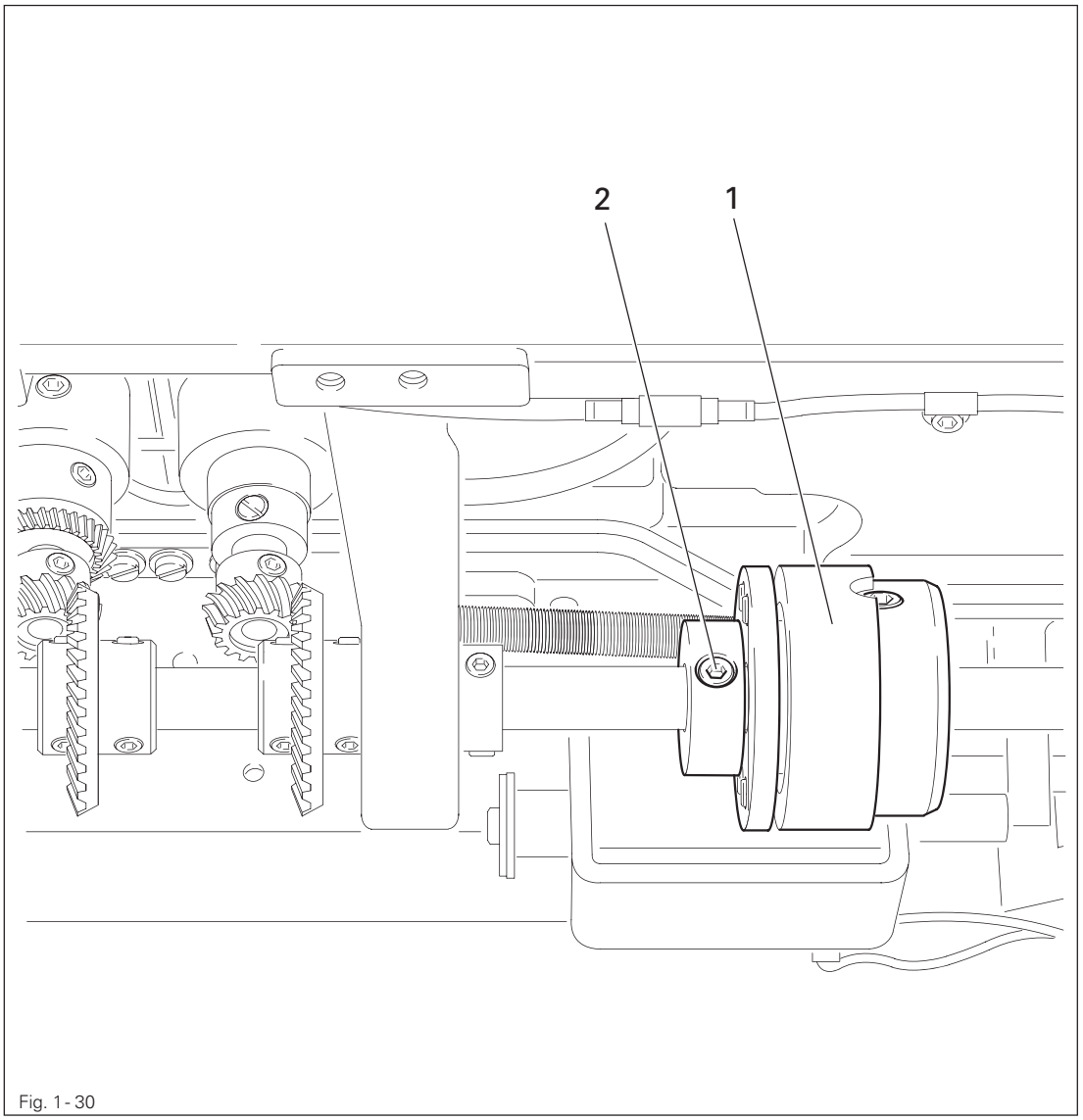


Fig. 1 - 30

- Remove jammed thread.
- Hold coupling **1** with screw **2** and turn the balance wheel, until you feel coupling **1** snap back into place again.

1.05 Adjusting the edge trimmer -725/04

1.05.01 Position of the knife holder (on model 571)

Requirement
When the thread trimmer is engaged and the adjusting wheel has been turned to its highest position
1. the knife holder **2** must be parallel to the post and
2. the top edge of the needle plate must be in the centre of the angular knife opening.

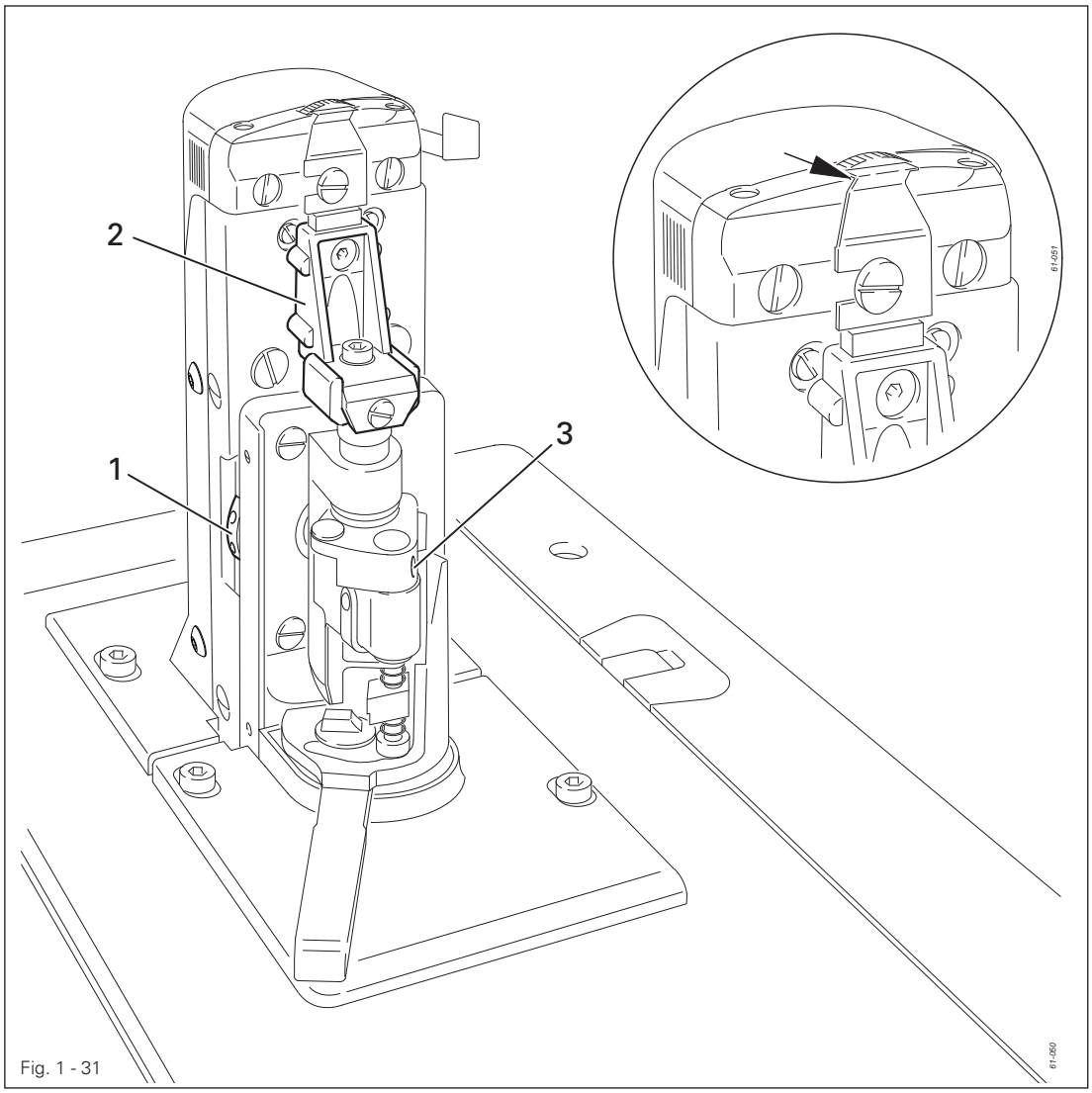
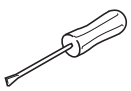


Fig. 1 - 31



- Turn the adjusting wheel **1** to its highest position and engage edge trimmer.
- Adjust knife holder **2** (screw **3**) according to the **requirements**.

1.05.02 Position of the knife holder (on model 591)

Requirement
When the thread trimmer is engaged, the centre of the angular knife opening must be level with the top edge of the needle plate.

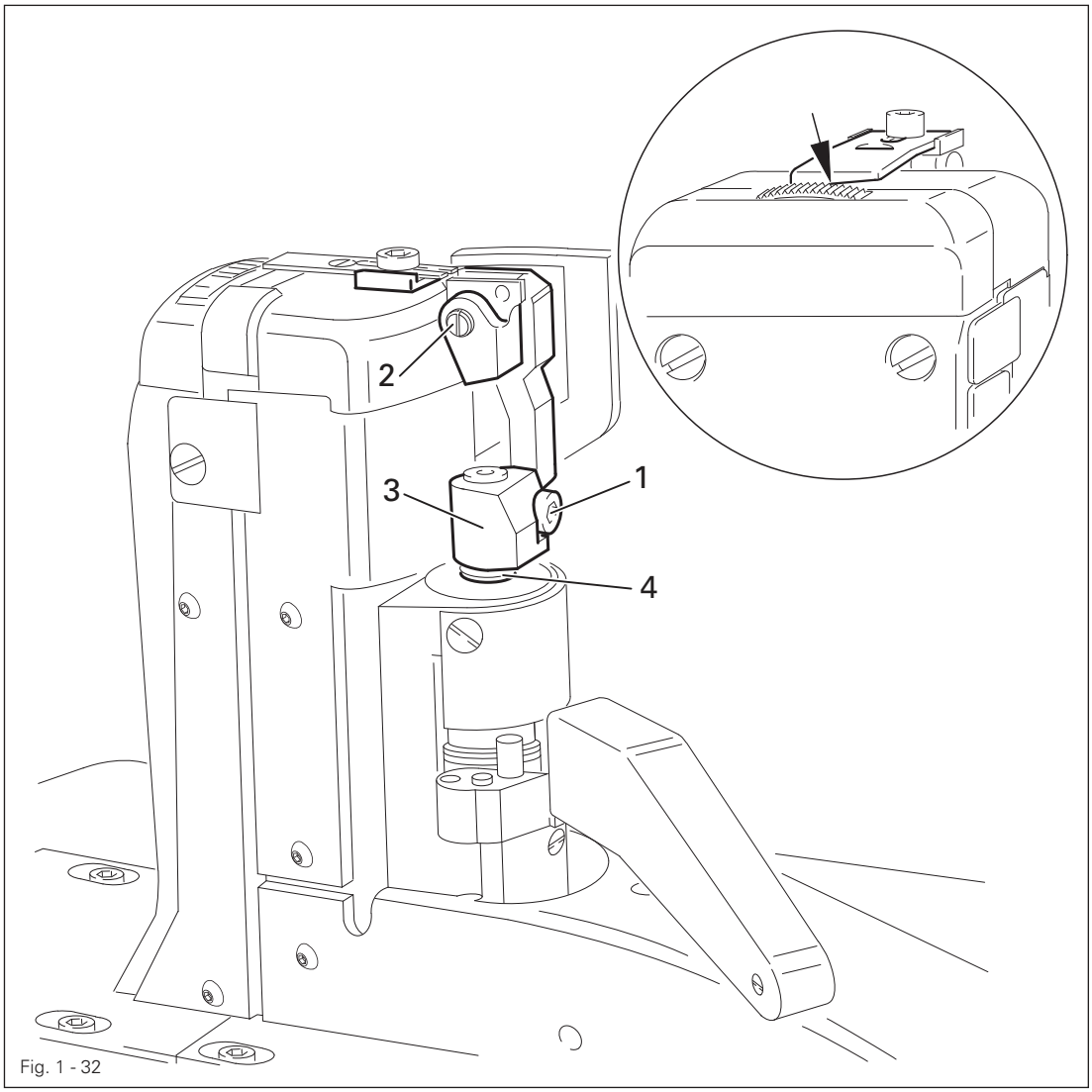


Fig. 1 - 32

- Switch off the machine and engage the edge trimmer.
- Loosen screw **1**.
- By turning sccentric **2**, position the knife in the centre of its adjustment range.
- Adjust knife holder **3** according to the **requirement** and tighten screw **1**.
- Position locking ring **4** on the knife holder **3**.

Depending on the material thickness, changes in the basic setting of eccentric **2** are possible.

1.05.03 Knife stroke (on model 571)

Requirement
The knife stroke can be adjusted over a range from **1.0** to **3.5 mm**, allowing the best possible adaption to all materials used.

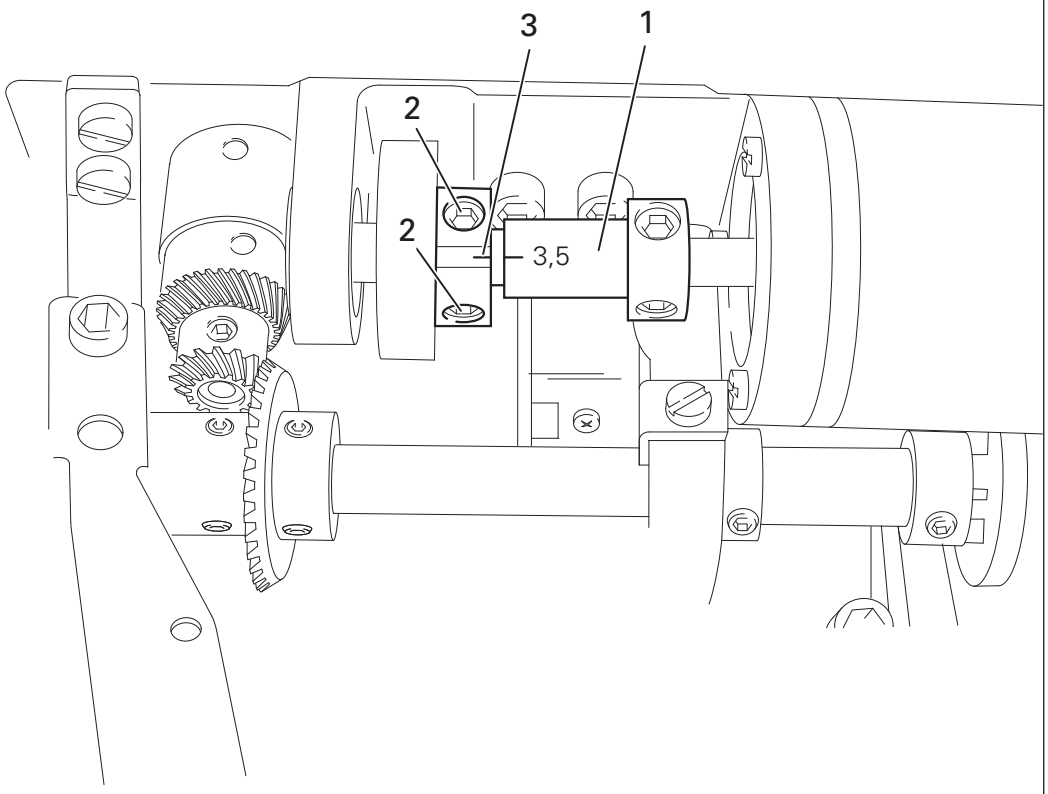
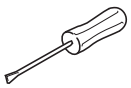


Fig. 1 - 33



- Turn eccentric **1** (screws **2**) so that the marking of the desired cutting stroke is opposite the marking on clamp collar **3**.

1.05.04 Knife stroke (on model 591)

Requirement
The knife stroke can be adjusted over a range from **2.0** to **3.5 mm**, allowing the best possible adaption to all materials used.

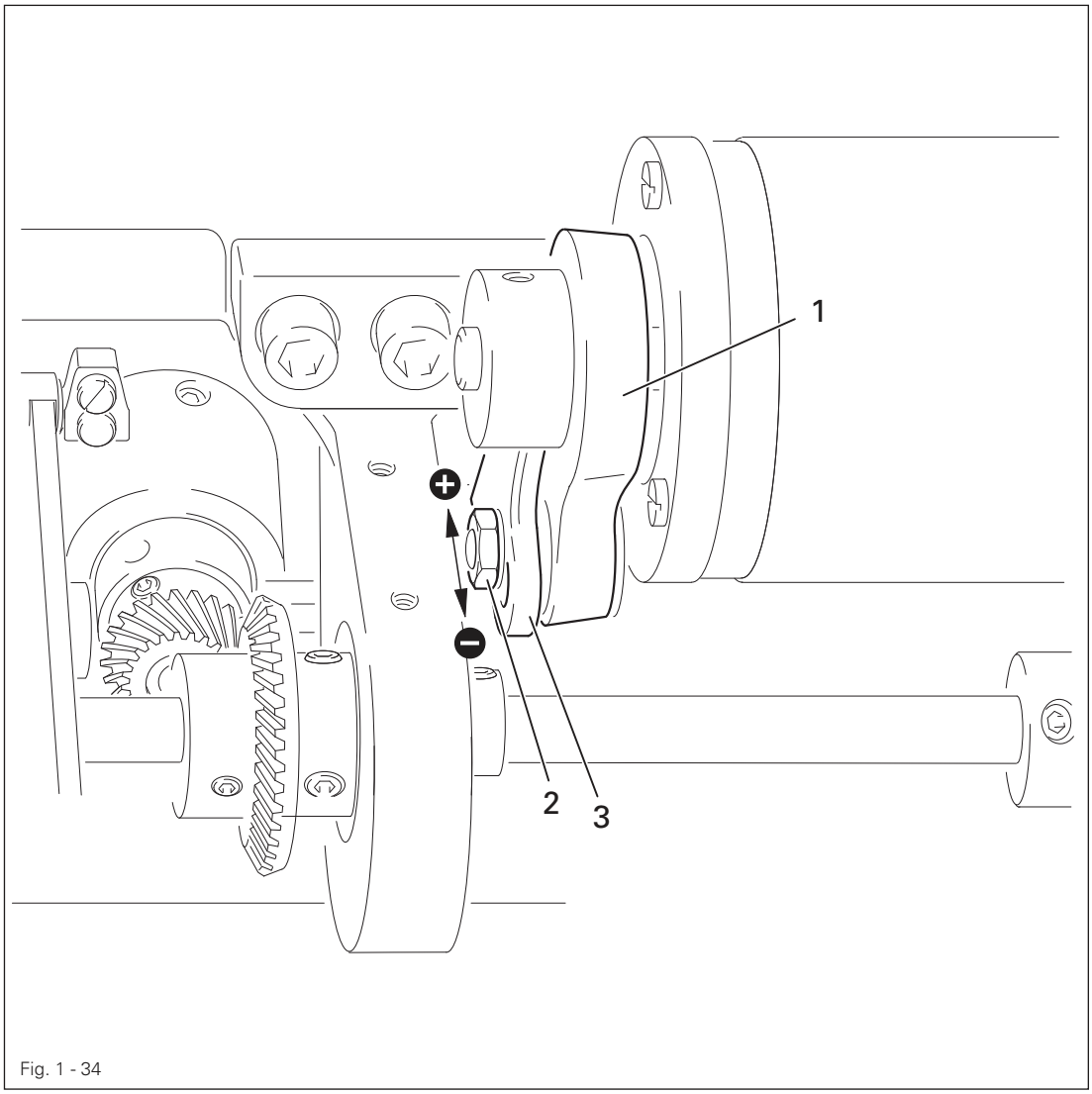


Fig. 1 - 34

- Adjust crank **1** (nut **2**) in slotted lever **3** according to the **requirement**.

1.05.05 Cutting stroke (on model 571)

Requirement
When the edge trimmer is engaged and the needle is in the needle hole, the stroke of knife **1** should be half in front of and half behind the needle, when the motor shaft is turned by hand.

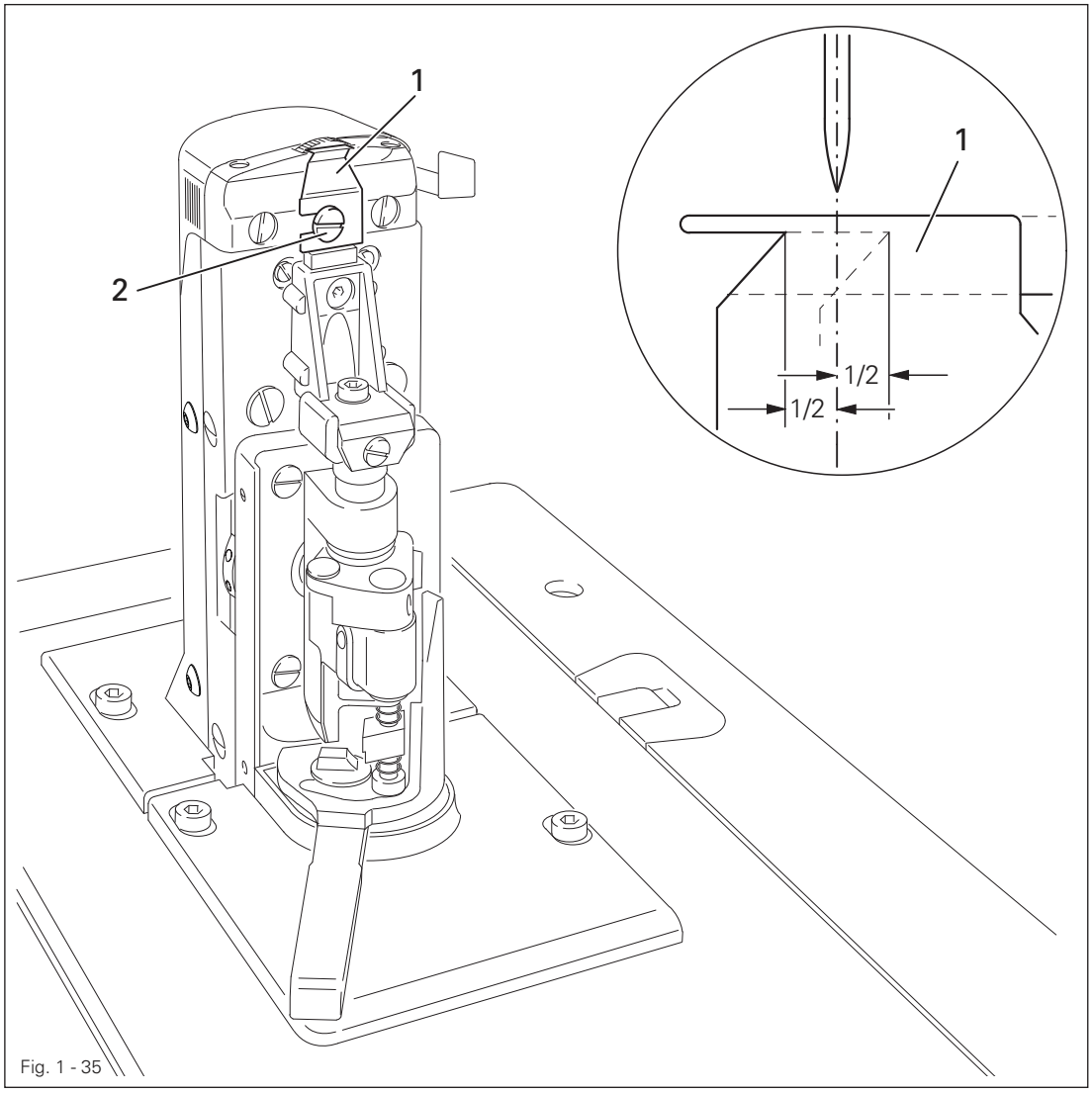


Fig. 1 - 35

- Switch off the machine and engage the edge trimmer.
- Adjust knife **1** (screw **2**) according to the **requirement**.

1.05.06 Cutting stroke (on model 591)

Requirement
When the edge trimmer is engaged and the needle is in the needle hole, the stroke of knife **3** should be half in front of and half behind the needle, when the motor shaft is turned by hand.

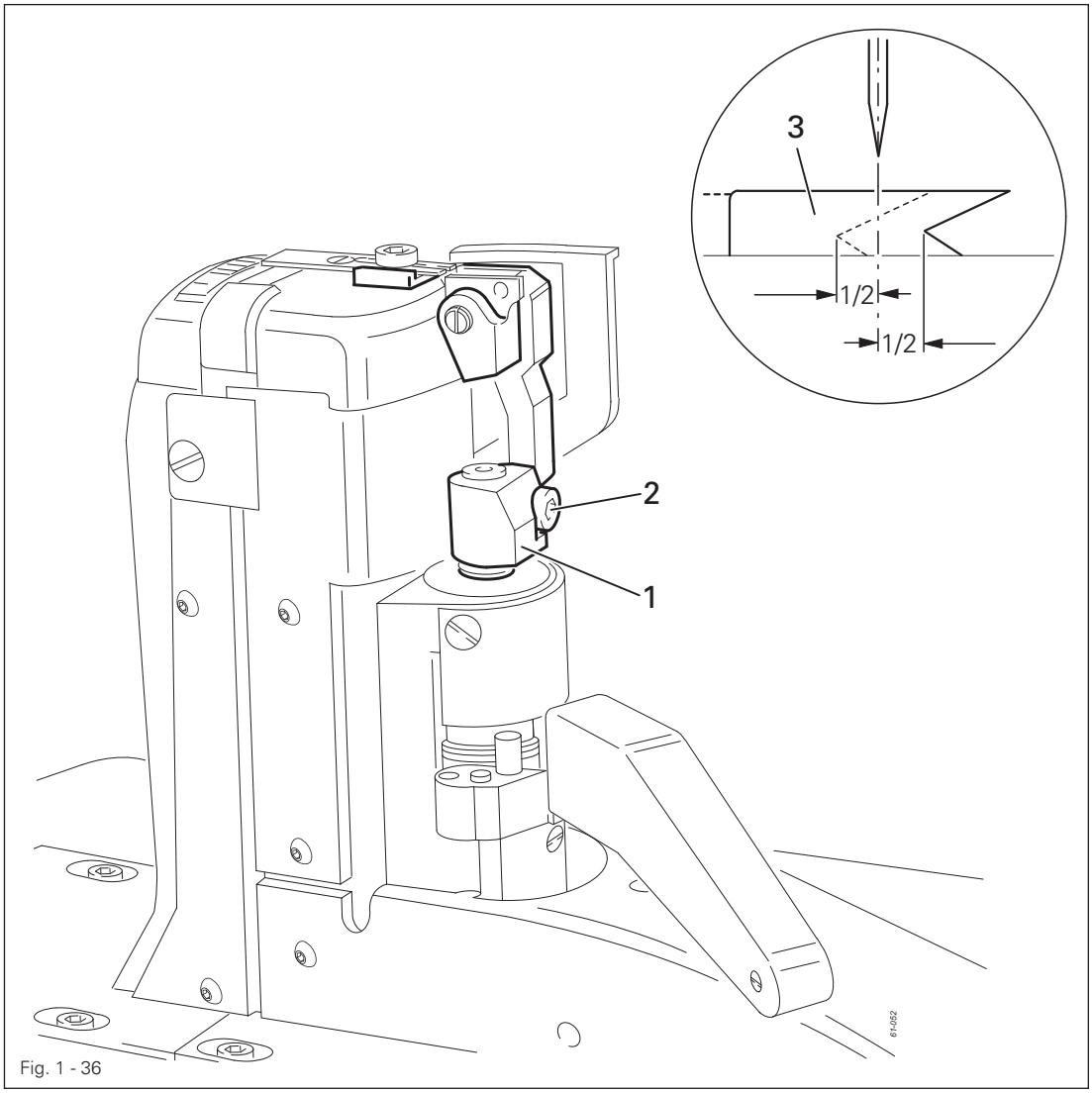


Fig. 1 - 36

- Switch off the machine and engage the edge trimmer.
- Adjust knife holder **1** (screw **2**) according to the **requirement**.

1.05.07 Knife position

Requirement
When the edge trimmer is engaged, the knife should rest lightly on the needle plate insert, but no whistling sound should occur during trimming.

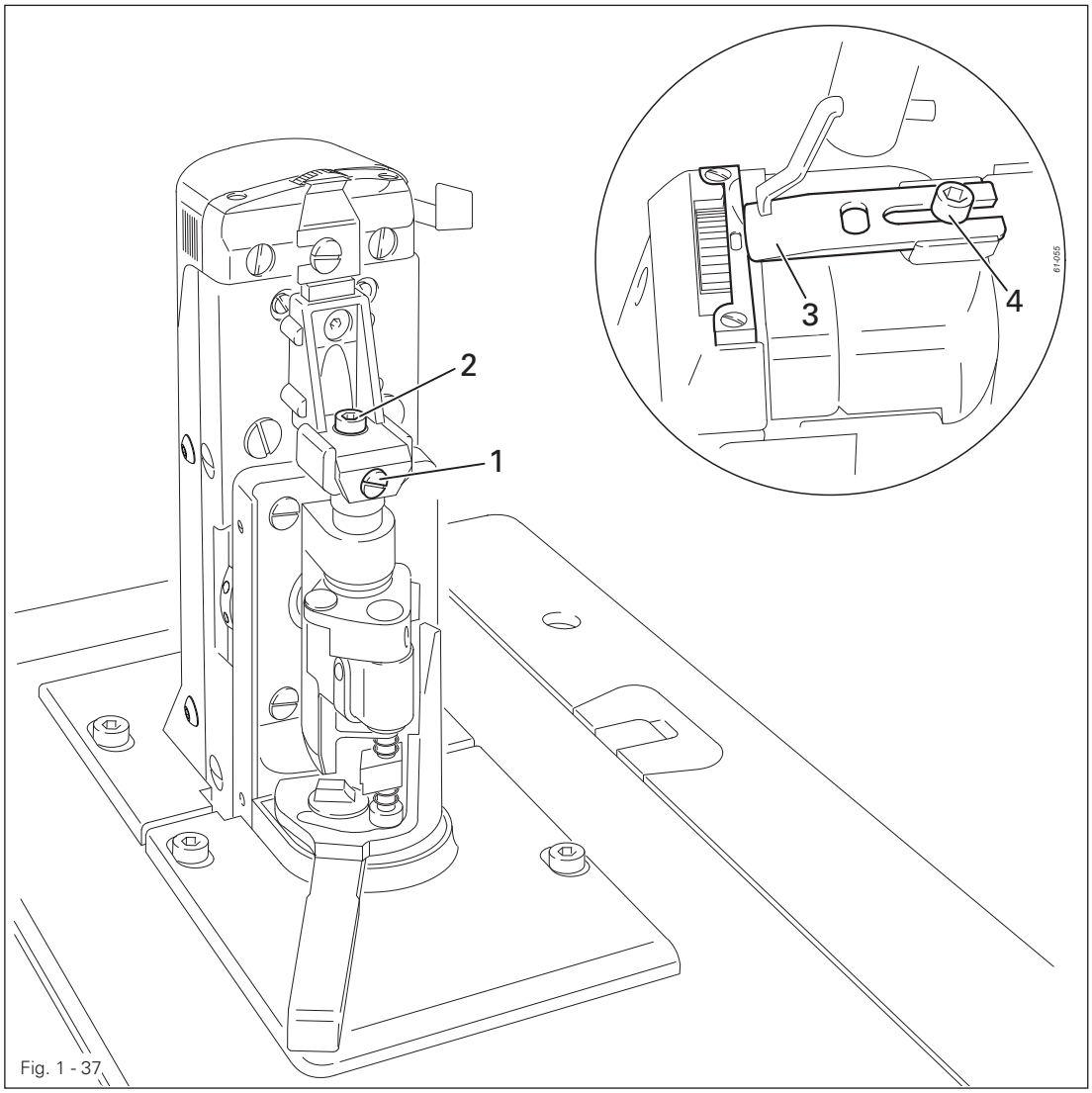
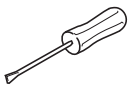


Fig. 1 - 37



PFAFF 571

- Adjust screw **1** (screw **2**) according to the **requirement**s.
- Carry out a cutting test and repeat adjustment if necessary.

PFAFF 591

- Adjust knife **3** (screw **4**) according to the **requirements**.
- Carry out a cutting test and repeat adjustment if necessary.

1.06 Adjusting the thread trimmer -900/83

1.06.01 Resting position of the roller lever / radial position of the control cam

Requirement

1. When the thread trimmer is in is resting position, lever **5** should be touching piston **6** and the roller of roller lever **7** should be **0.3 mm** away from control cam **3**.
2. When the take-up lever is at t.d.c., control cam **3** should just have placed roller lever **7** in its resting position.

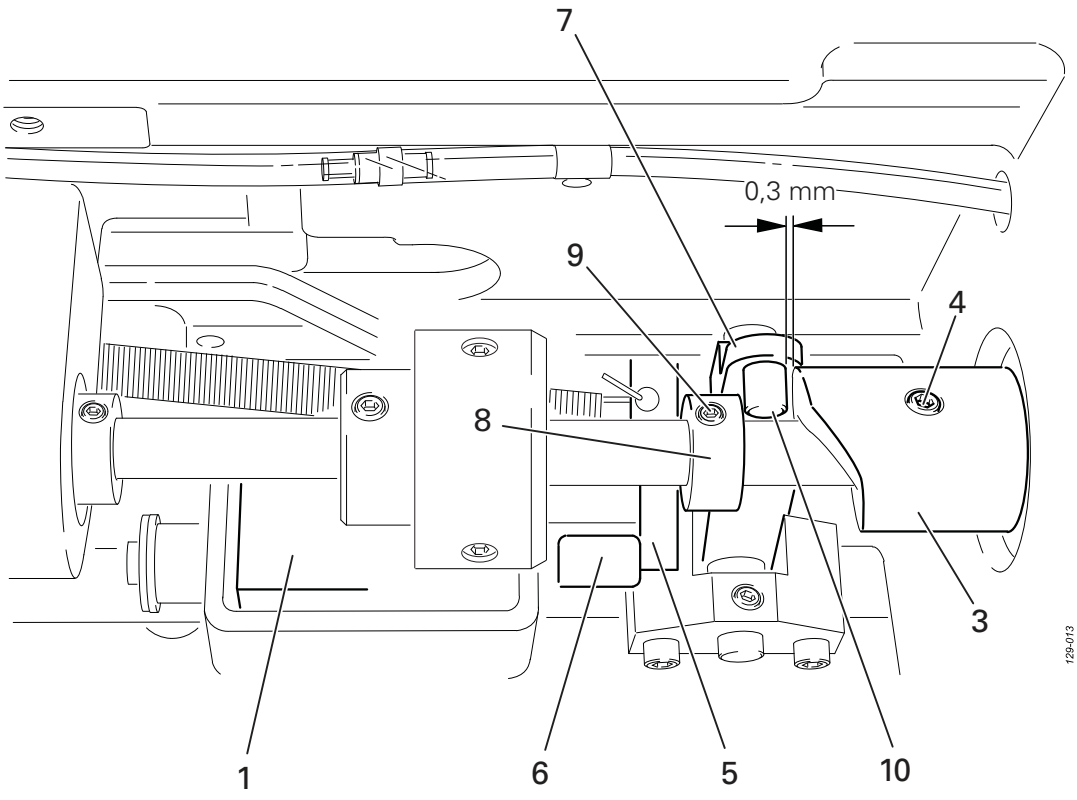


Fig. 1 - 38

- Having made sure that piston **6** is positioned against the left stop, adjust magnet **1** (**2** screws) in accordance with **requirement 1**.
- Adjust control cam **3** (screws **4**) in accordance with **requirement 2**.
- Attach collar **8** (screw **9**) to roller **10**.

1.06.02 Position of the thread catcher holder

Requirement

1. There should be a minimum amount of play between toothed wheel **3** and toothed segment **4**.
2. Both in the neutral position and the foremost position of the catcher, the distance between the toothed segment **4** and the outer edge of the thread catcher holder **1** should be the same (see arrow).

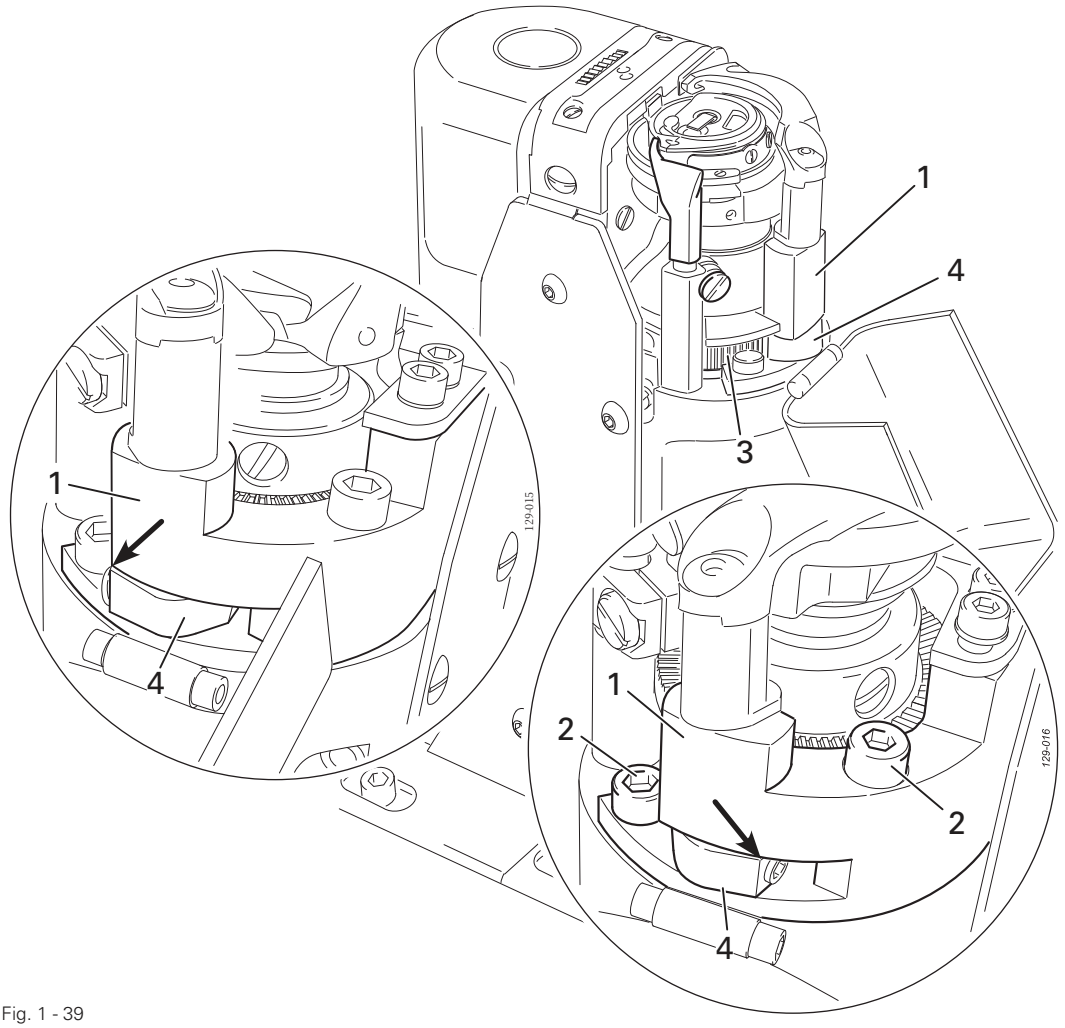
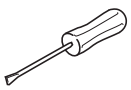


Fig. 1 - 39



- Adjust the thread catcher holder **1** (screws **2**) according to the **requirements**.

If **requirement 2** cannot be fulfilled, loosen screw **2** and move the toothed segment **4** by one tooth.

1.06.03 Position of the thread catcher

Requirement

1. The bottom edge of the thread catcher **1** should be at a distance of **0.1 mm** from the positioning finger of the bobbin case **5**.
2. When the thread trimmer is in its resting position, the rear edge of thread catcher **1** should be positioned behind the edge of knife 2.5mm-3mm.

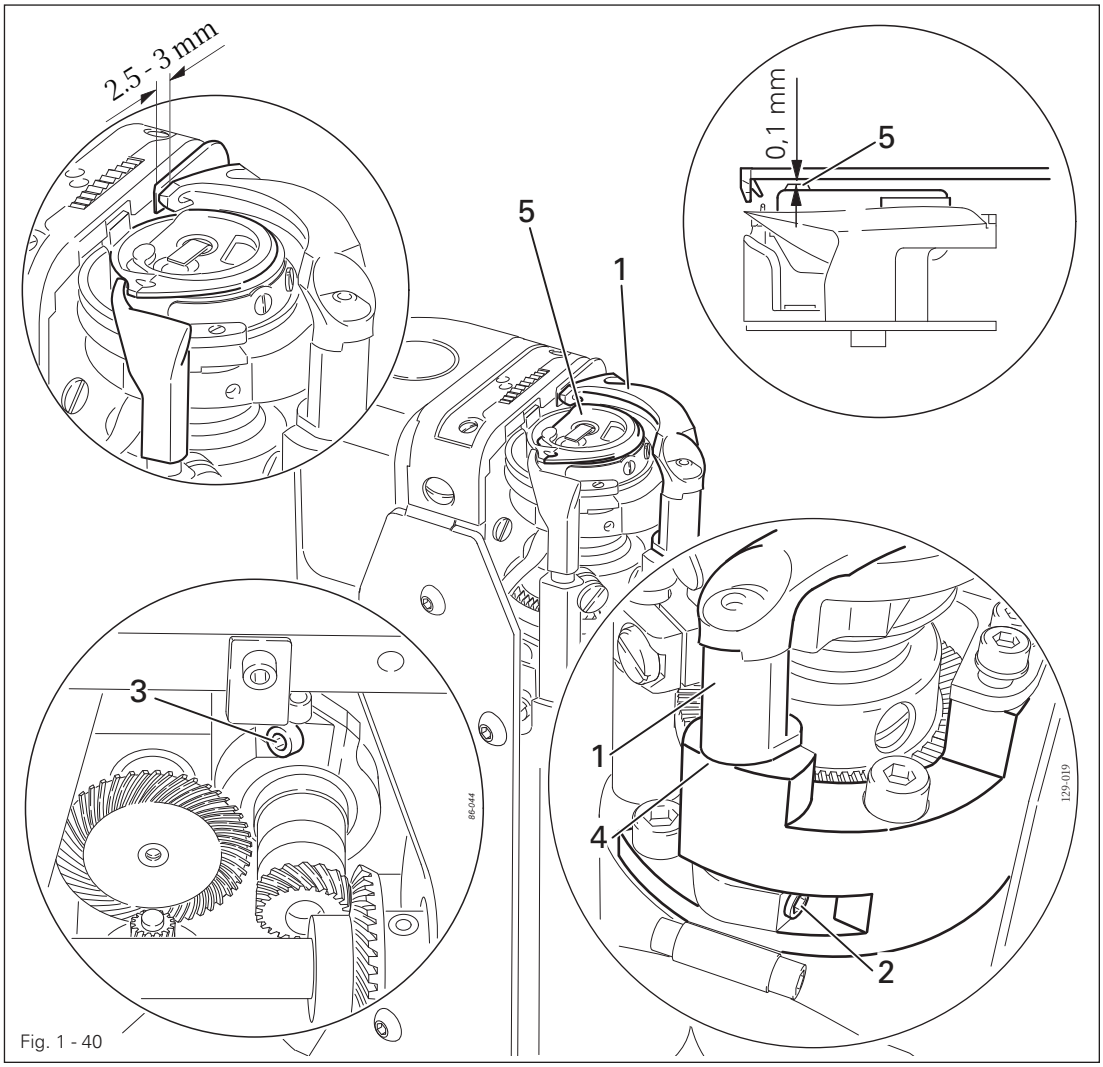


Fig. 1 - 40

- Move thread catcher **1** (screws **2**, two screws) in accordance with **requirement 1**.
- Turn thread catcher **1** (screw **3**) in accordance with **requirement 2**.

Thread catcher **1** must be parallel to the surface of the thread catcher holder **4**.

1.06.04 Knife position and knife pressure

Requirement
The knife pressure should be set as low as possible but the cutting operation should still be carried out reliably.

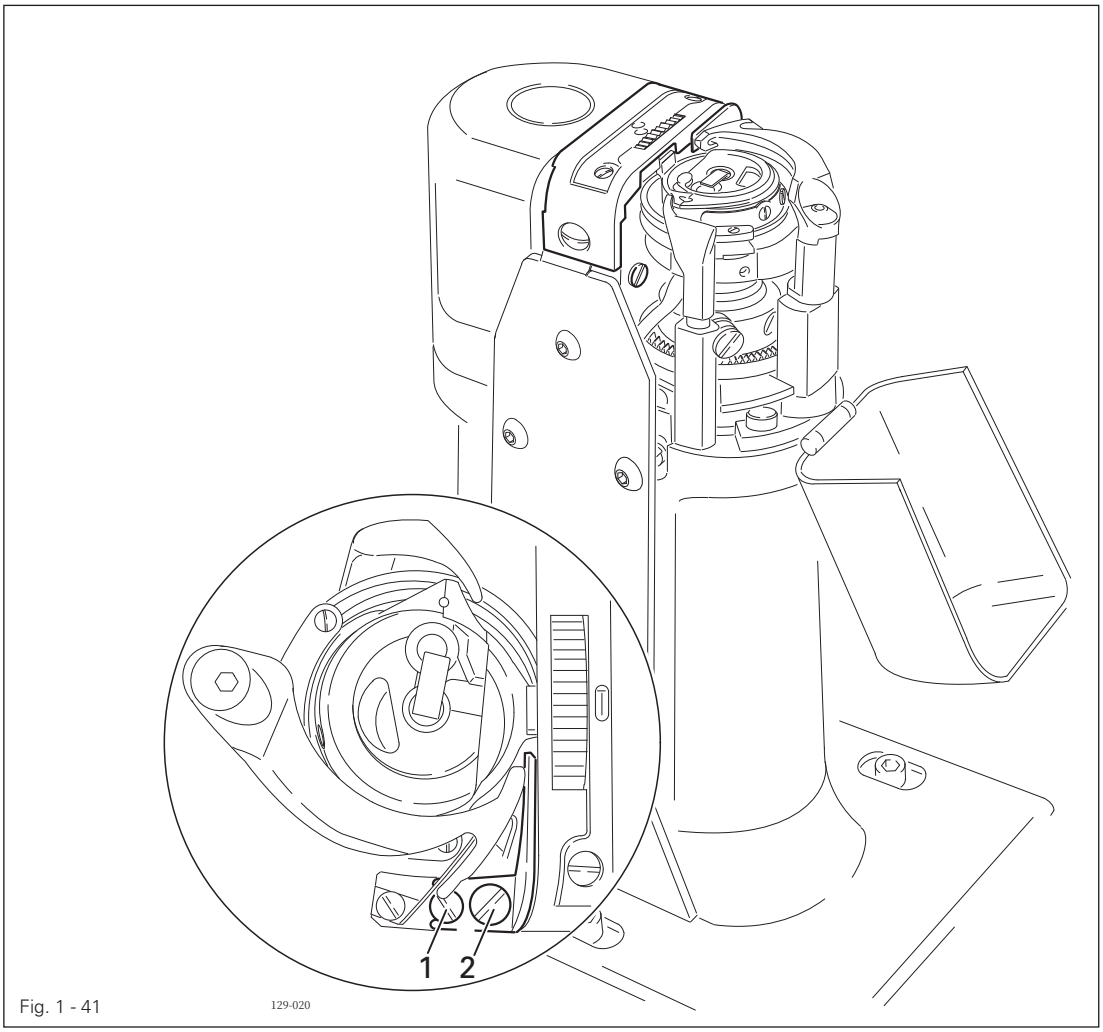
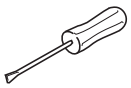


Fig. 1 - 41 129-020



- Adjust eccentric **1** (screw **2**) in accordance with the **requirement**.

1.06.05 Bobbin thread retaining spring

Requirement
The tension of the bobbin thread clamp spring should be as low as possible, but it should reliably hold the bobbin thread after trimming.

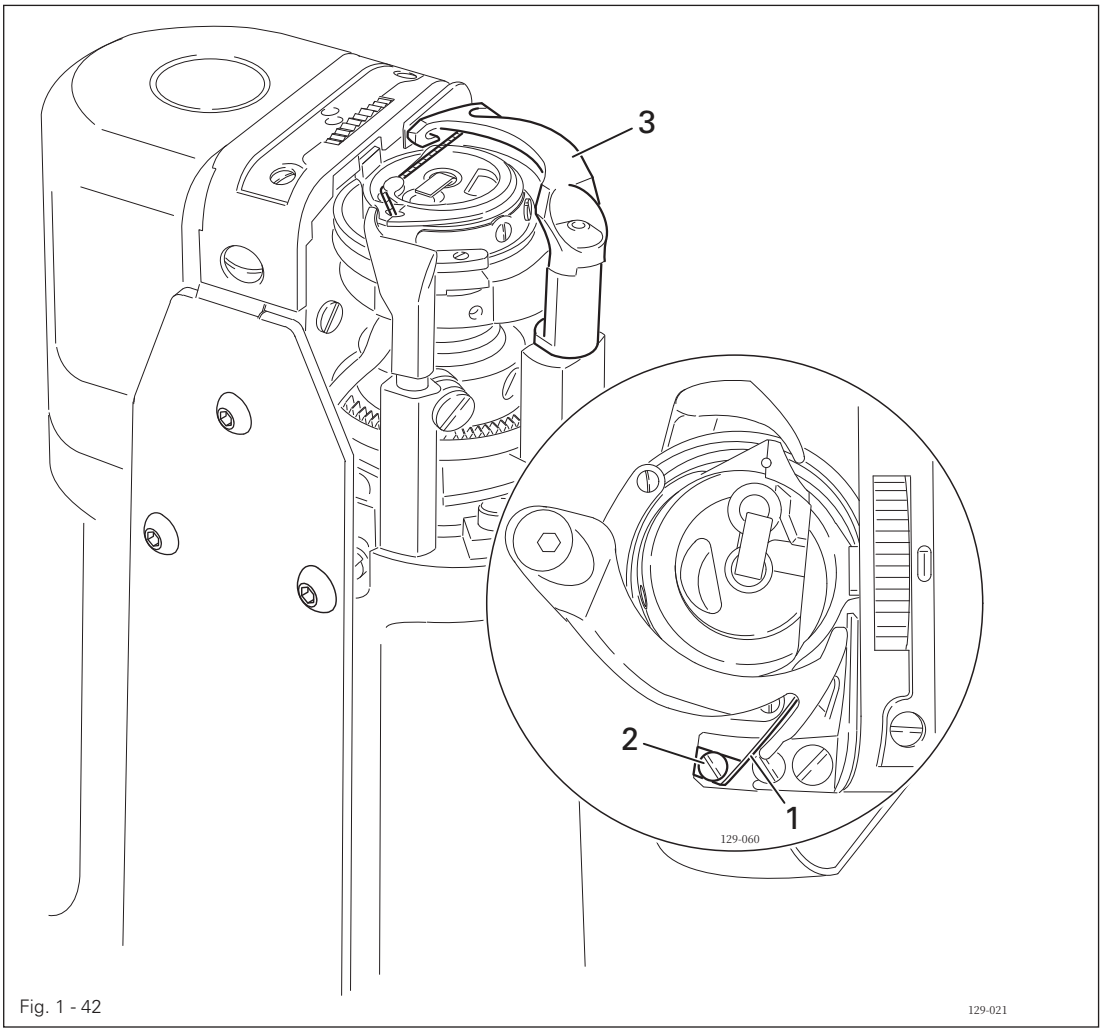
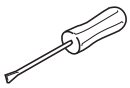


Fig. 1 - 42



- Adjust bobbin thread clamp spring **1** (screws **2**) in accordance with **requirement**.

Control

- After the thread has been cut, sew a few stitches by turning the balance wheel, checking whether the bobbin thread is drawn out of the bobbin thread clamp spring between the **1**st and **3**rd stitches. If necessary, correct the tension.

1.06.06 Manual cutting test

Requirement

1. When thread catcher **1** is on its forward stroke, it must not carry bobbin thread **3** forward too.
2. When thread catcher **1** is in its front position, bobbin thread **3** must be held reliably by hook **4**.
3. After the trimming action, both the needle thread and the bobbin thread must be perfectly cut and bobbin thread **3** retained.

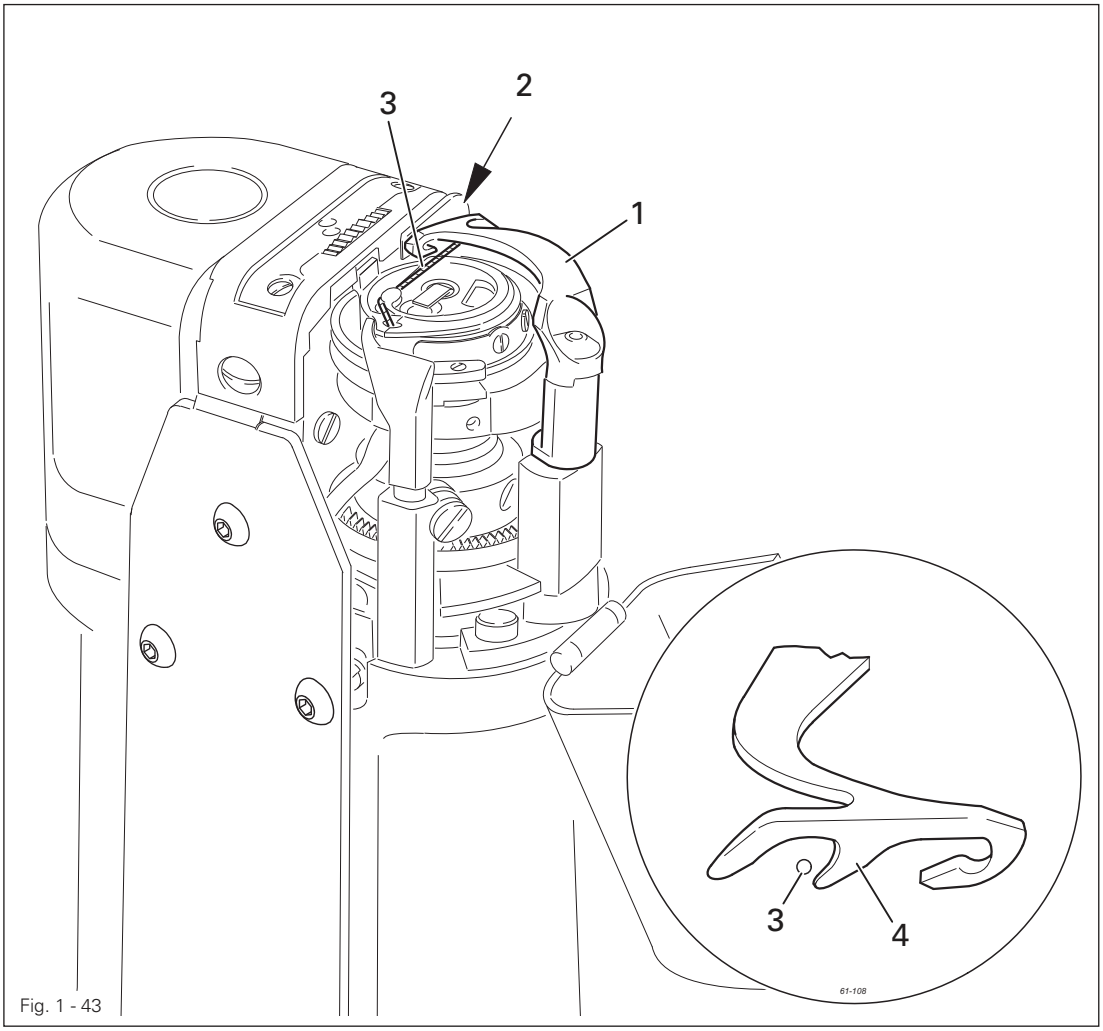
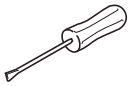


Fig. 1 - 43



- Sew a few stitches.
- Turn off the on/off switch.
- Carry out the cutting operation manually.
- Check **requirement 1** and **2**, and if necessary readjust thread catcher **1** in accordance with Chapter **1.06.03 Position of the thread catcher**.
- Check **requirement 3**, and if necessary readjust the bobbin thread retaining spring **2** in accordance with Chapter **1.06.05 Bobbin thread retaining spring**.

1.06.07 Releasing the tension

Requirement
When the magnet is activated, tension discs **3** must be at least **0.5 mm** apart.

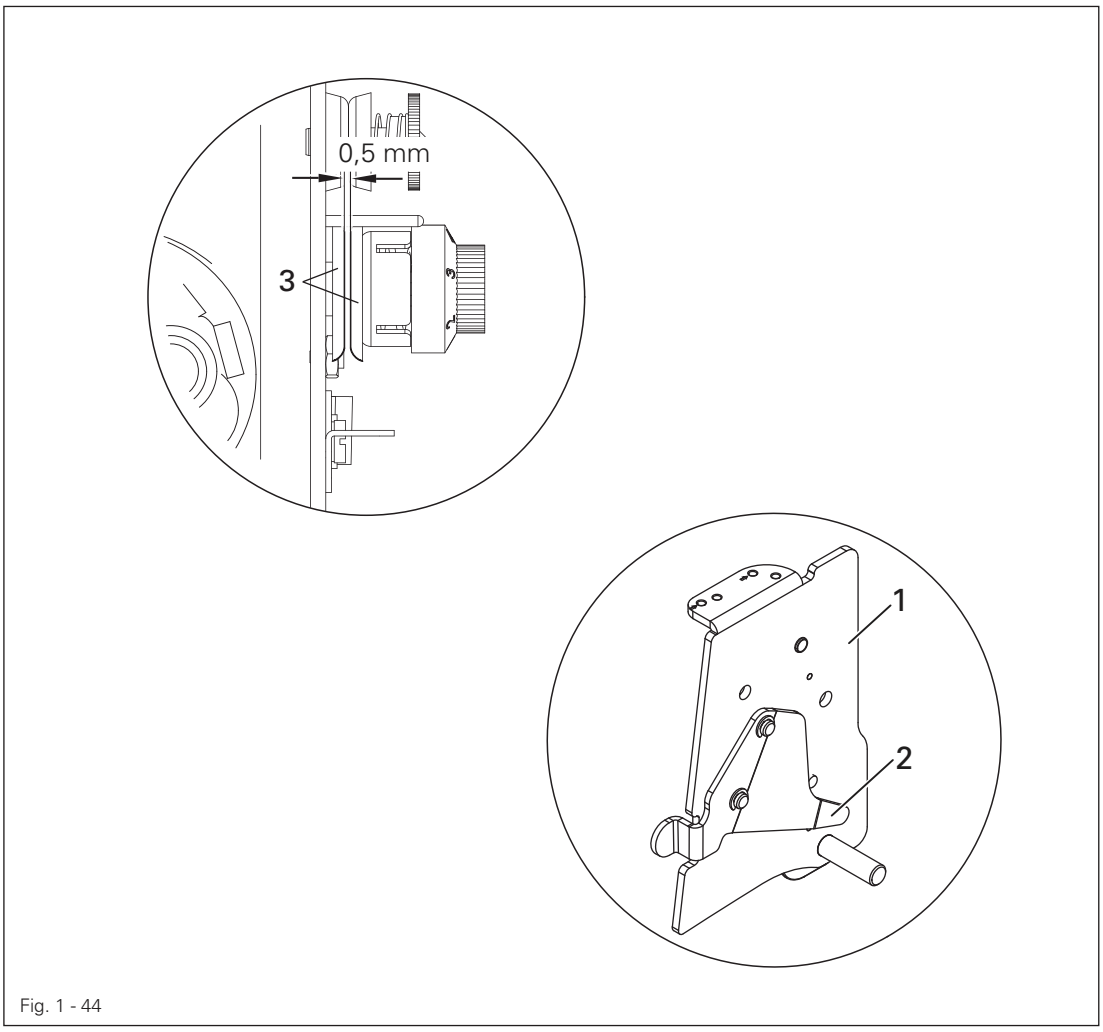


Fig. 1 - 44

- Activate the magnet.
- Detach the tension bearing plate **1** and adjust pressure plate **2** in accordance with the **requirement**.

It is possible to set the time for releasing the tension with the parameter functions, see Chapter **1.08 Parameter settings**.

1.06.08 Linkage rod (only for the PFAFF 574)

Requirement
When the thread trimmer is in its resting position, the drive levers **1** must be parallel.

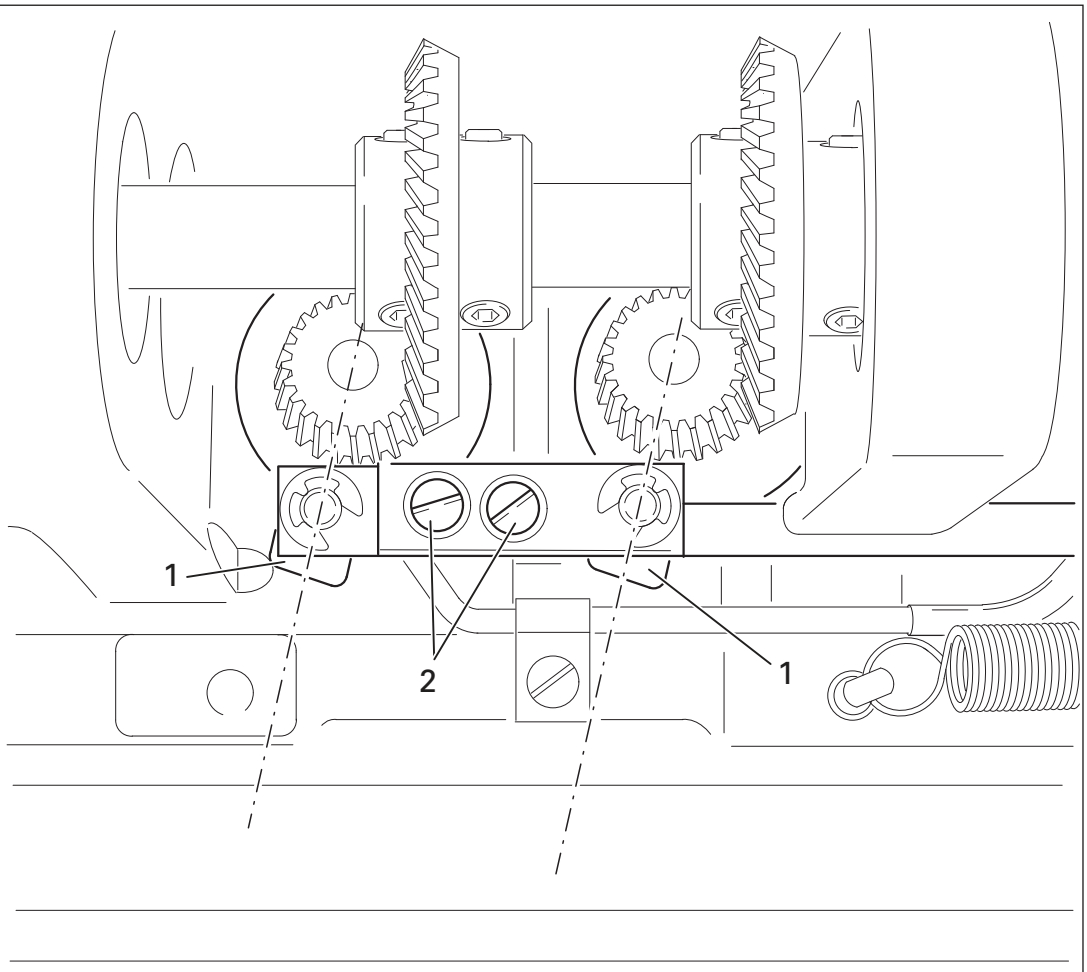
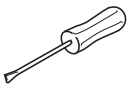


Fig. 1 - 45



- Adjust drive levers **1** (screws **2**) in accordance with the **requirement**.

1.07 Adjustment of backtacking mechanism -911/..

1.07.01 Needle in needle hole (only for PFAFF 571 and 591)

Requirement
When the maximum stitch length is set, the needle must be the same distance from the inside edge of the needle hole, both for forward and reverse stitch.

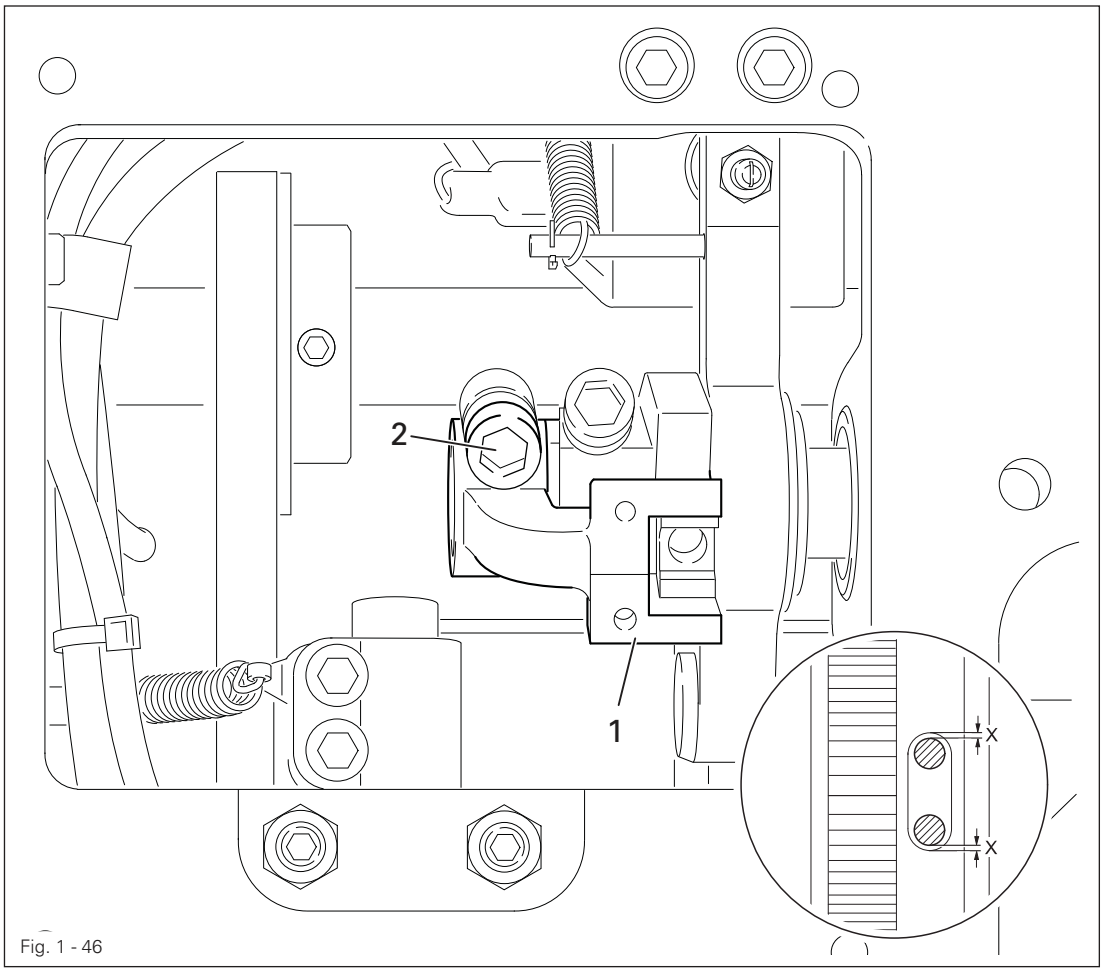
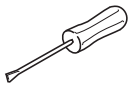


Fig. 1 - 46



- Turn crank **1** (screws **2**) according to the **requirement**.

1.07.02 Coupling for roller presser drive

Requirement

1. It should be no gap between bottom of universal joint **2** and link **1.**
2. When installing roller foot,it must be retained a distance of **3 mm** between top of universal joint **2** and bottom of mounting bracket **3.**

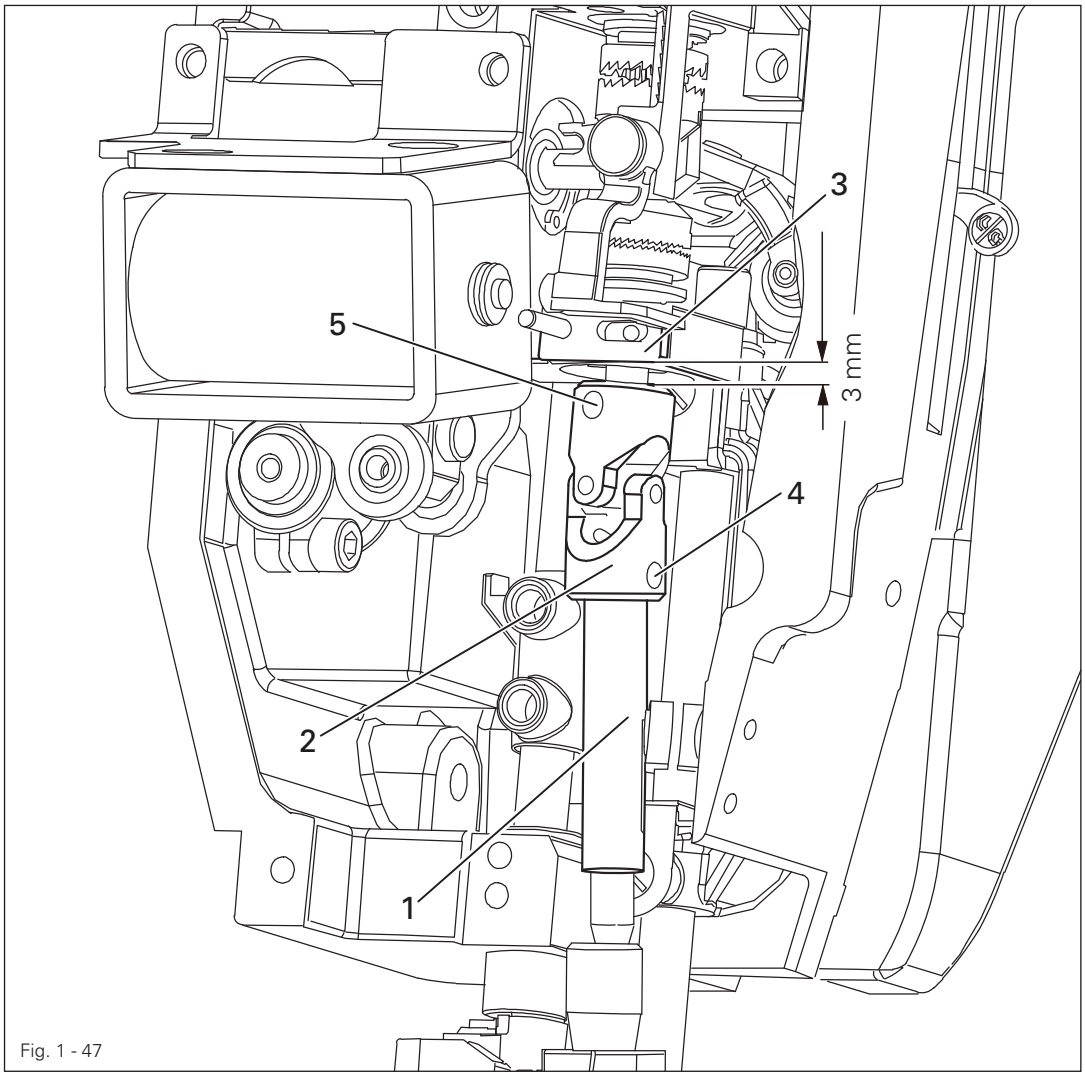
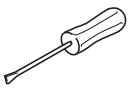


Fig. 1 - 47



- Adjust universal link **1** (screw **4**) according to the **requirement 1**.
- Adjust universal joint **2** (screw **5**) according to the **requirement 2**.

1.07.03 Adusting the roller presser drive

Requirement

1. Engage bevel gear **5** to 2 and gear 3 in its position. There must be a slight play between bevel gear 5 and gear 2, gear 3.
2. When sewing forwards, gear 3 and gear 4 are engaged, bevel gear 5 must drive gear 2, gear 3 and gear 4 simultaneously.
3. When sewing backwards, gear 1 and gear 2 are engaged, bevel gear 5 must drive gear 1, gear 2 and gear 3 simultaneously.
4. When sewing backwards, crank 11 is located at its right limit position, magnet lever 12 must reach its largest stroke and touch crank 11 exactly.

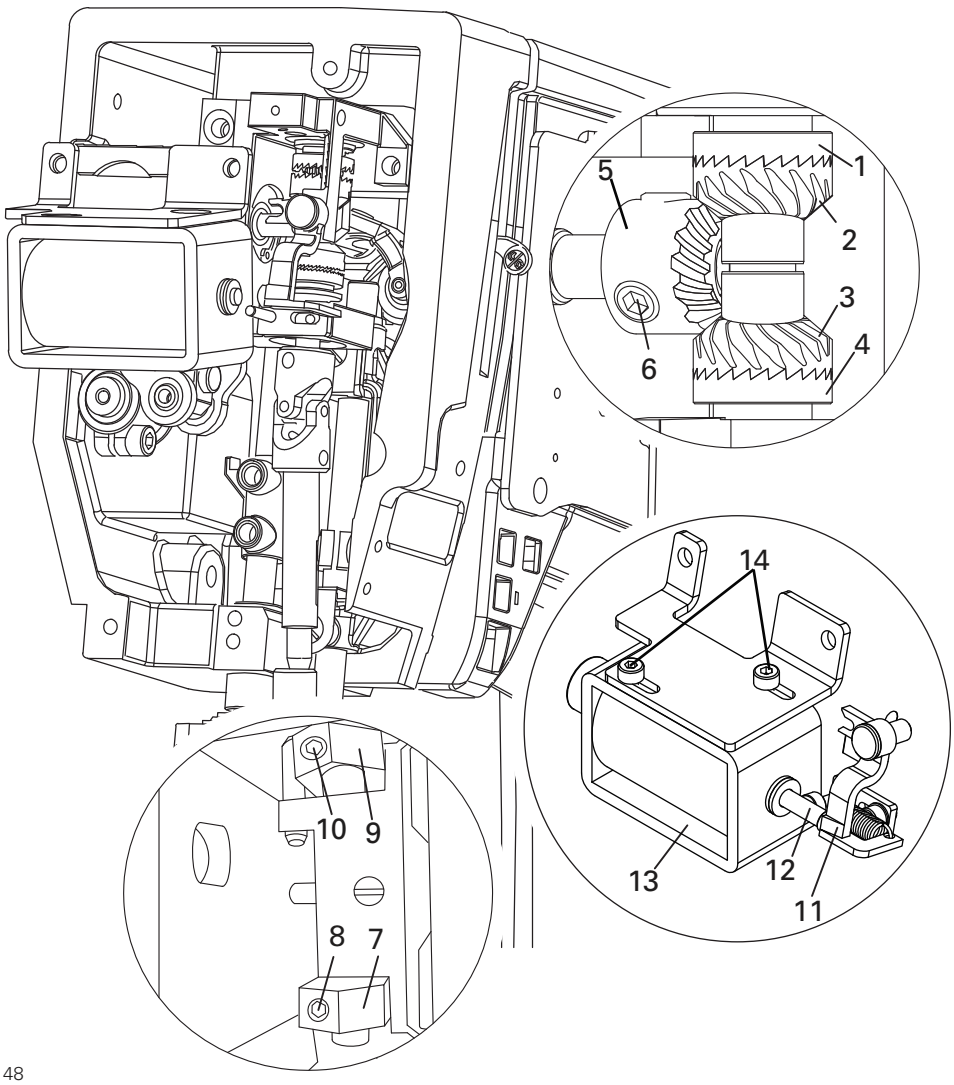


Fig. 1 - 48

- Adjust bevel gear **5** (screws **6**) according to **requirement 1**.
- Adjust dog **9** (screws **10**) according to **requirement 2.**
- Adjust dog **7** (screws **8**) according to **requirement 3**.
- Adjust electromagnet **13** (screws **14**) according to **requirement 4**.

1.07.04 Bevel gears for feed wheel drive

Requirement

1. Engage bevel gear **5** to 2 and gear 3 in its position. There must be a slight play between bevel gear 5 and gear 2, gear 3.
2. When sewing forwards, gear 3 and gear 4 are engaged, bevel gear 5 must drive gear 2, gear 3 and gear 4 simultaneously.
3. When sewing backwards, gear 1 and gear 2 are engaged, bevel gear 5 must drive gear 1, gear 2 and gear 3 simultaneously.

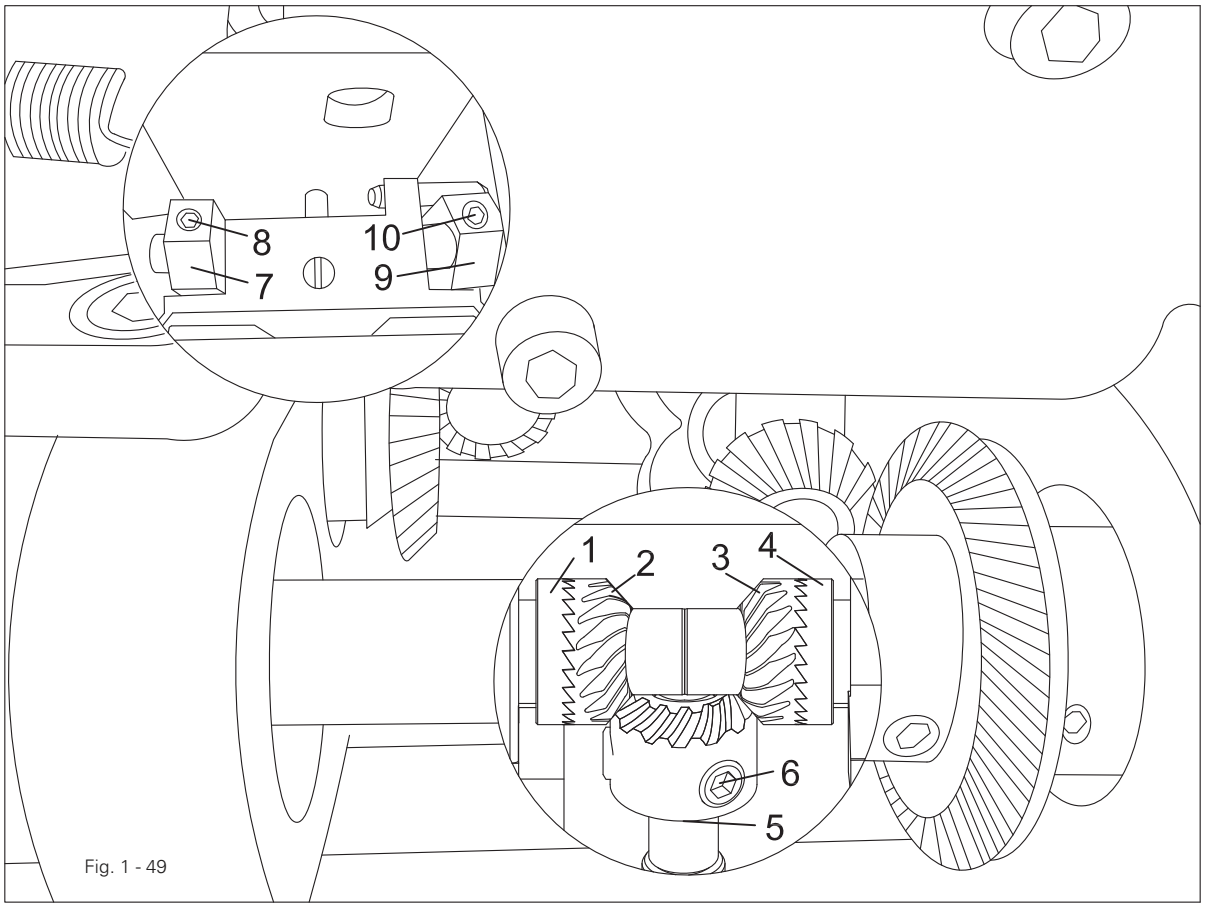
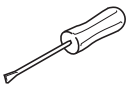


Fig. 1 - 49



- Adjust bevel gear **5** (screws **6**) according to **requirement 1**.
- Adjust dog **7** (screws **8**) according to **requirement 2**.
- Adjust dog **9** (screws 1**0**) according to **requirement 3**.

1.07.05 Adusting the magnet for feed wheel drive

Requirement

When sewing backwards, crank 1 is located at its left limit position, magnet lever 2 must reach its largest stroke and touch crank 1 exactly.

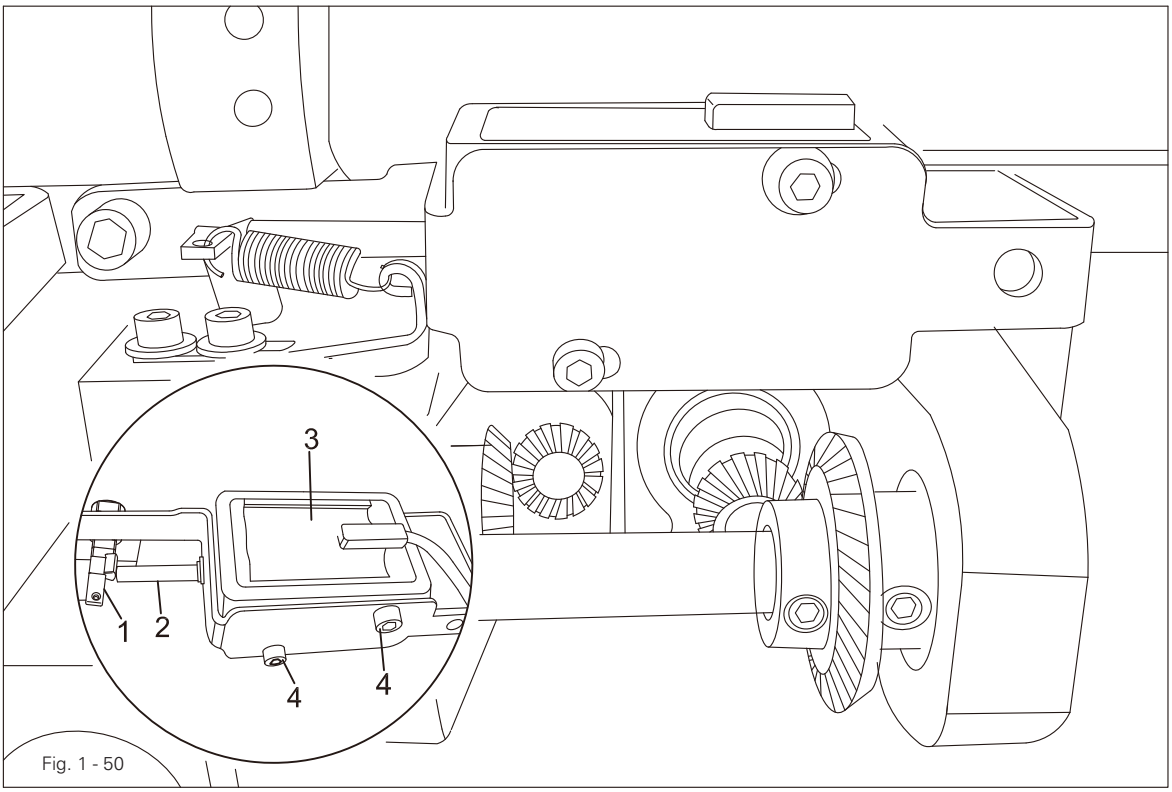
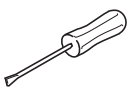


Fig. 1 - 50



- Adjust magnet **3** (screws **4**) according to **requirement**.

1.07.06 Adusting the magnet for feed wheel drive (for -725/04)

Requirement

When sewing backwards, crank 1 is in its left limit position, magnet lever 2 must reach its largest stroke and touch crank 1 exactly.

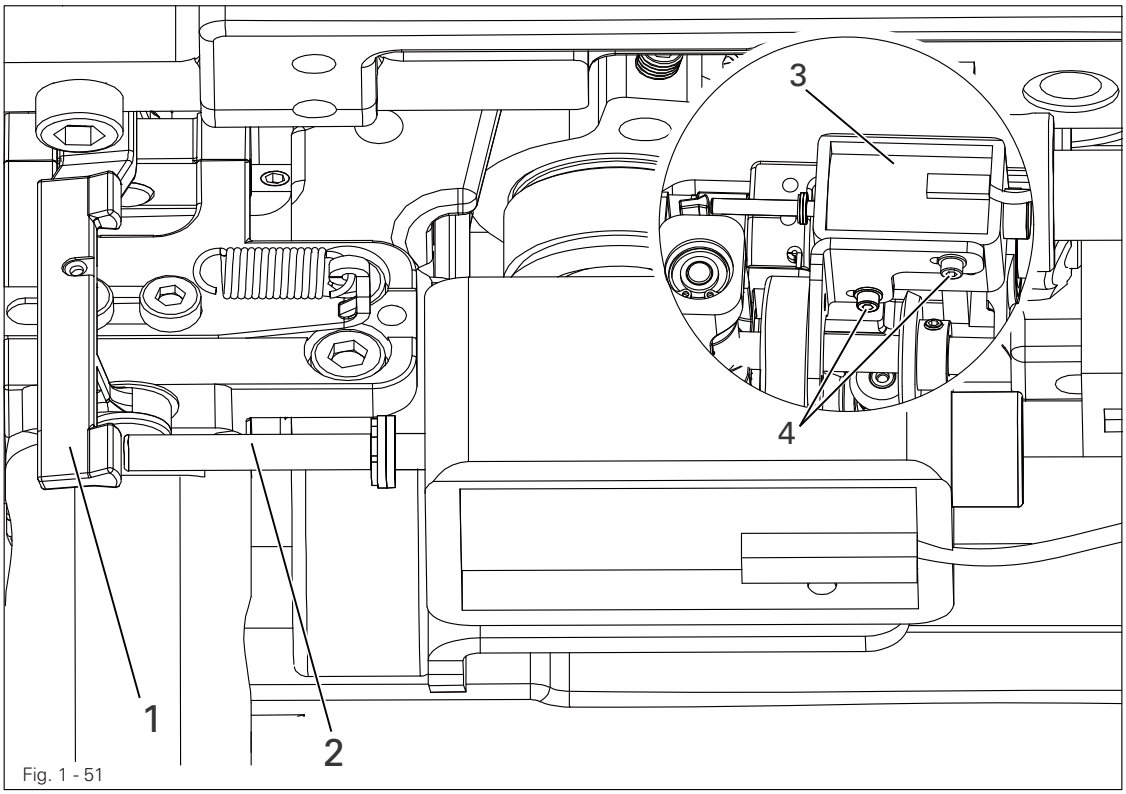
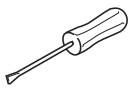


Fig. 1 - 51



- Adjust magnet **3** (screws **4**) according to **requirement**.

1.08 Parameter settings

(only on machines with EcoDrive and control unit P40ED or PicoDrive and control unit P44 PD-L)

- The selection of the user level and the alteration of parameters is described in the separate instruction manual for the drive unit.

1.08.01 Parameter list

Groupe	Parameter	Description	User lever	Setting range	Set value P40 ED	Set value P44 PD-L
1	105	Speed for start backtackl	B, C B, C	100 - 2000 300 - 2000	700	 700
	110	Speed for end backtack	B, C B, C	100 - 2000 300 - 2000	700	 700
5	523	Tack ON = ornamental tack (stitch-in-stitch) OFF = standard tack	A,B,C	ON - OFF	ON	ON
6	605	Speed display ON = on OFF = out	B, C	ON - OFF	OFF	OFF
	606	Speed min	B, C B, C	60 - 650 120 - 800	180	 180
	607	Speed max.	B, C	300 - 3200	▲	▲
	609	Cutting speed 1	B, C B, C	60 - 300 100 - 700	180	 180
	660	Bobbin thread control 0 = off, 1 = thread monitor, 2 = reverse counter	A, B, C	0 - 2	0	
7	700	Needle position 0 (needle reference position	B, C	0 -255	*	*
	702	Needle position 1 (needle lowered)	B, C	0 -255	15	15
	703	Needle position 2 (take-up lever raised)	B, C	0 -255	230	571 224 574 230 591 224
	705	Needle position 5 (end cutting signal 1	B, C	0 - 255	200	100
	706	Needle position 6 (start cutting signal 2	B, C	0 - 255	15	17

▲ See Chapter **3 Specifications** (in the machine instruction manual).

* Adjustment see Chapter **8.09 Basic position of the machine drive unit** (in the machine instruction manual).

Groupe	Parameter	Description	User lever	Setting range	Set value P40 ED	Set value P44 PD-L
7	707	Needle position 9 (start thread tension release/start thread catcher)	B, C	0 - 255	195	195
	760	Multiplier for the fixed value (200) stitch count	A,B,C	0 - 250	5	
	798	User level 0 = User level 1 = Technician level 11 = Service level	A,B,C	0 - 20	0	0
	799	Selected machine clas	C	P40 1 - 8 P44 1 - 7	2	◆
8	800	Rotating direction of the motor	C	0 - 1	1	1
	802	Main drive reduction ratio 0 = 1:1 1 = variable	C	0 - 1		571 0 574 1 591 0

◆ = On the **PFAFF 574** the machine class **6** and on the **PFAFF 591** the machine class **4** must be entered.

Further parameters and the description for an internet update of the machine software and reset /cold start of the machine can be found in the instruction manual for the control panel.

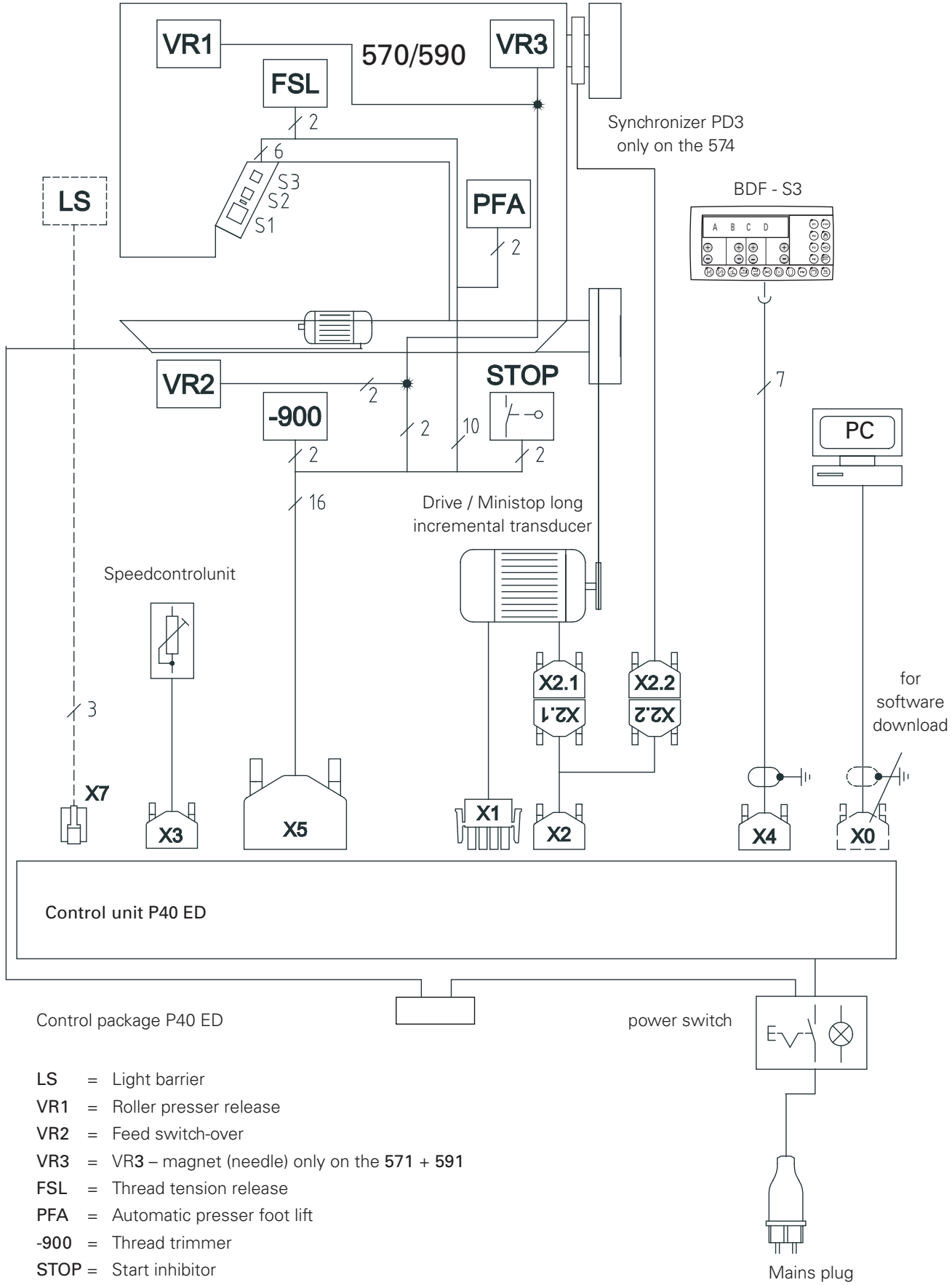
2 Circuit diagrams

2.01 Reference list for the Circuit diagrams 91-191 524-95 and 91-191 534-95

Control package		
	P40 ED	P44 PD-L
	91-191 524-95	91-191 534-95
A1	Control unit P40ED	Control unit P44PD
A2	BDF-S3 control panel	PicoTop control panel
A14	Sewing head recognition(OTE)	-
C1	Start capacitor	-
H1	Sewing lamp	
H10	LED reverse stitch counting	-
HQ1	-	Control lamp main switch
K1	Knife motor relay	-
M1	Sewing motor with incremental transmitter	
M10	Knife motor	-
PD3	Externer Positionsgeber PD3 (574)	
Q1	Hauptschalter	
R1	-	LED series resistor
S1	Pedal (speed control unit)	
S10	Knife motor key	-
S41	Manual backtacking key	
S42	Needle position change / threading key	
S43	Single stitch key	
S46	Start inhibitor switch	
T10	Knife motor transformer	-
X0	RS 232 interface (PC) plug	-
X1	Sewing motor plug	
X2	Incremental transmitter plug	
X2.1	Incremental transmitter plug	-
X2.2	Synchronizer PD3 plug	-
X3	Pedal (speed control unit) plug	
X4	BDF-S1 control panel plug	PicoTop control panel plug / RS232 (PC)
X5	Outputs/inputs plug	
X6	Bobbin thread monitor plug (optional)	-
X7	Light barrier plug (optional	Synchronizer PD3 plug
X8	-	Light barrier plug (optional)
X22	Thread trimmer plug(-900/..)	
X24	Automatic presser foot lift plug (-910/..)	
X25.0	Backtacking device plug (-911/..)	
X25.1	Backtacking device plug (-911/..) - roller presser	
X25.2	Backtacking device plug (-911/..) - feed wheel	
X25.3	Backtacking device plug (-911/..) - needle	

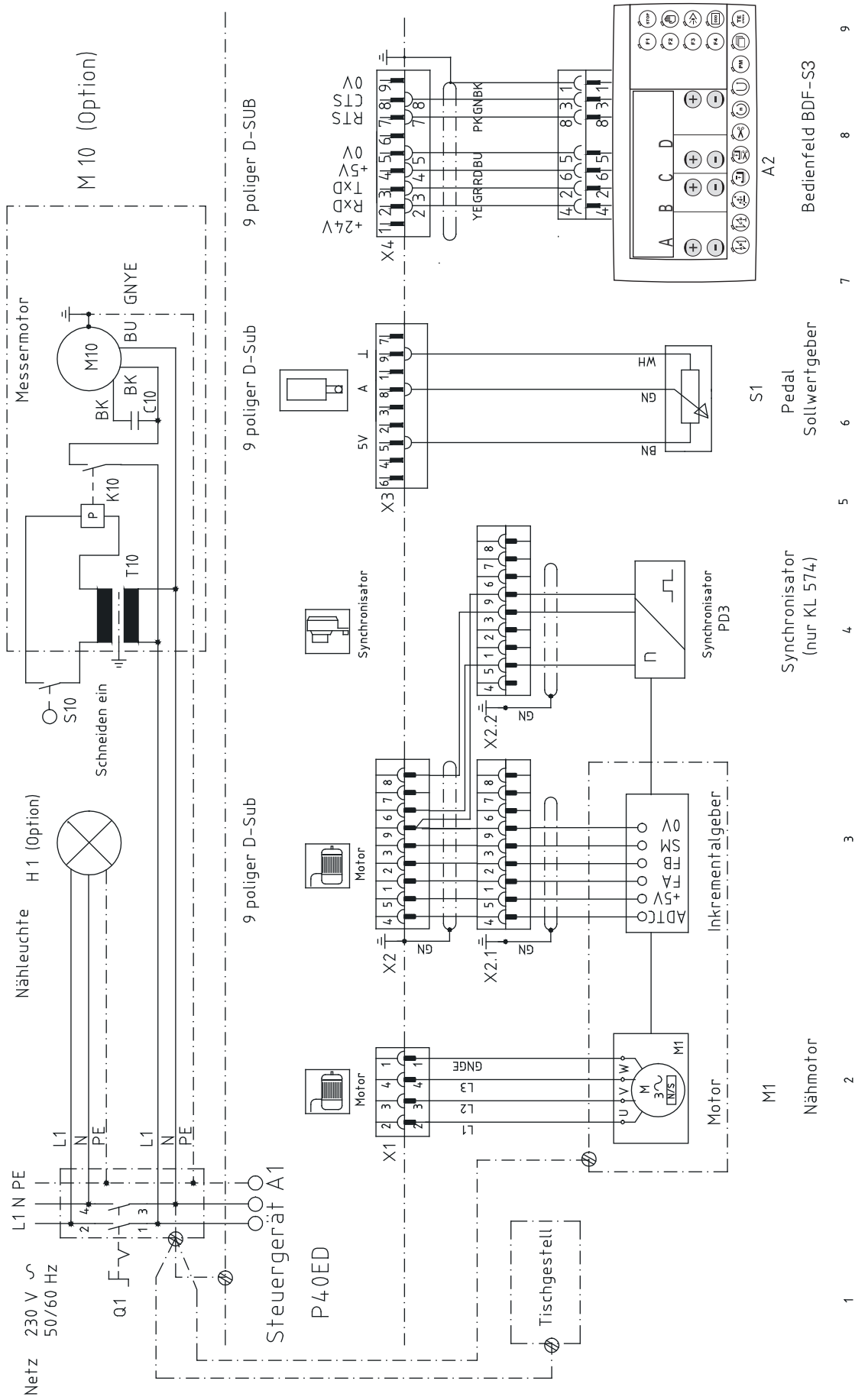
Control package		
	P40 ED	P44 PD-L
	91-191 524-95	91-191 534-95
X28	Thread tension release plug (FSL)	
X40	Control panel plug	
X46	Start inhibitor plug	
X50	Sewing head recognition plug	-
Y1	-	Automatic presser foot lift (-910/..)
Y2	Thread trimmer (-900/..)	-
Y2.1	-	Backtacking device (-911/..) - roller presser
Y2.2	-	Backtacking device(-911/..) - feed wheel
Y2.3	-	Backtacking device (-911/..) - needle on the 574
Y3	-	Thread trimmer (-900/..)
Y4	Automatic presser foot lift (-910/..)	Thread tension release (FSL)
Y5	-	LED speed
Y5.1	Backtacking device (-911/..) - roller presser	-
Y5.2	Backtacking device(-911/..) - feed wheel	-
Y5.3	Backtacking device (-911/..) - needle	-
Y8	Thread tension release (FSL)	-

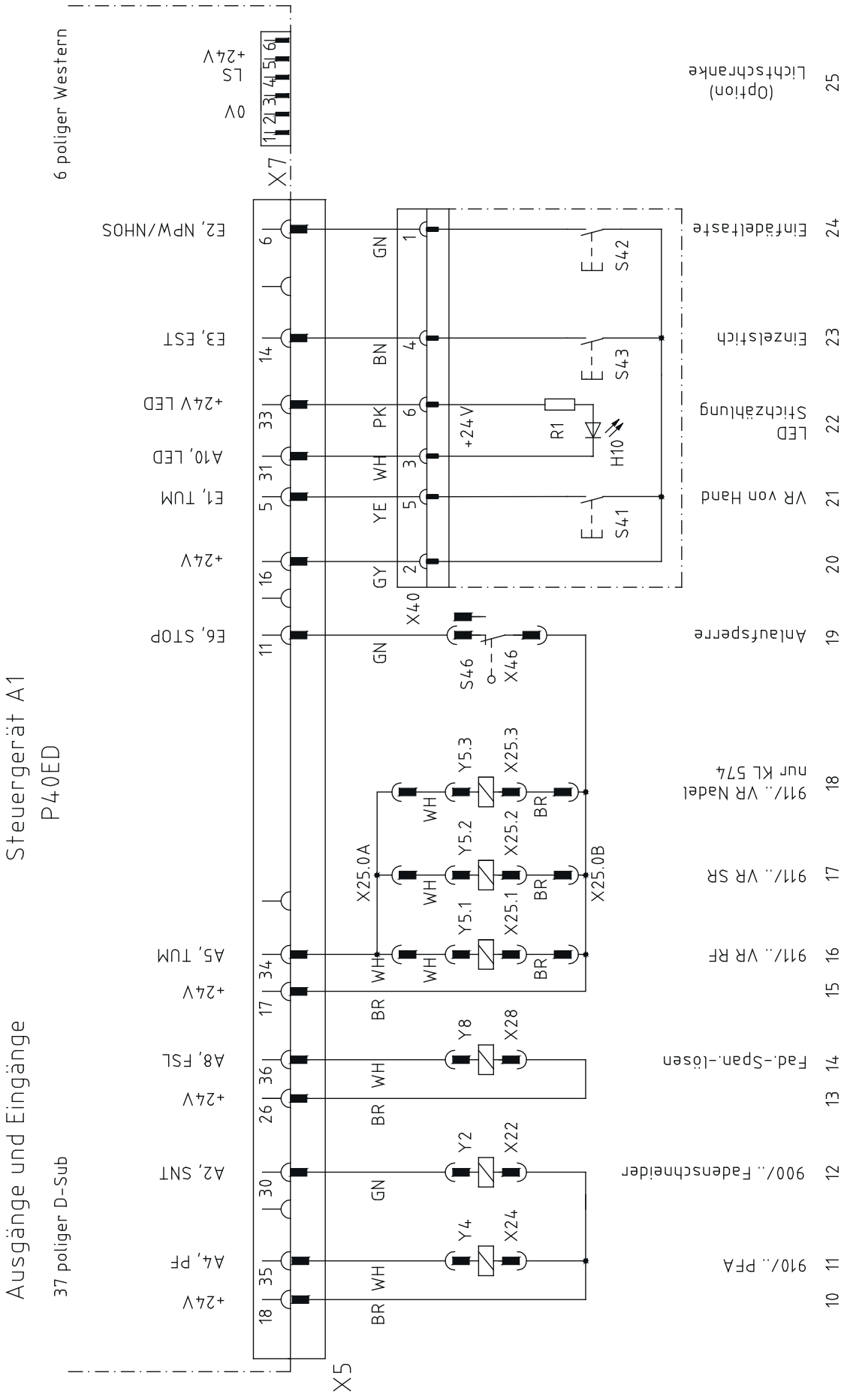
2.02 Block diagram PFAFF 570 / 590 with control unit P40 ED



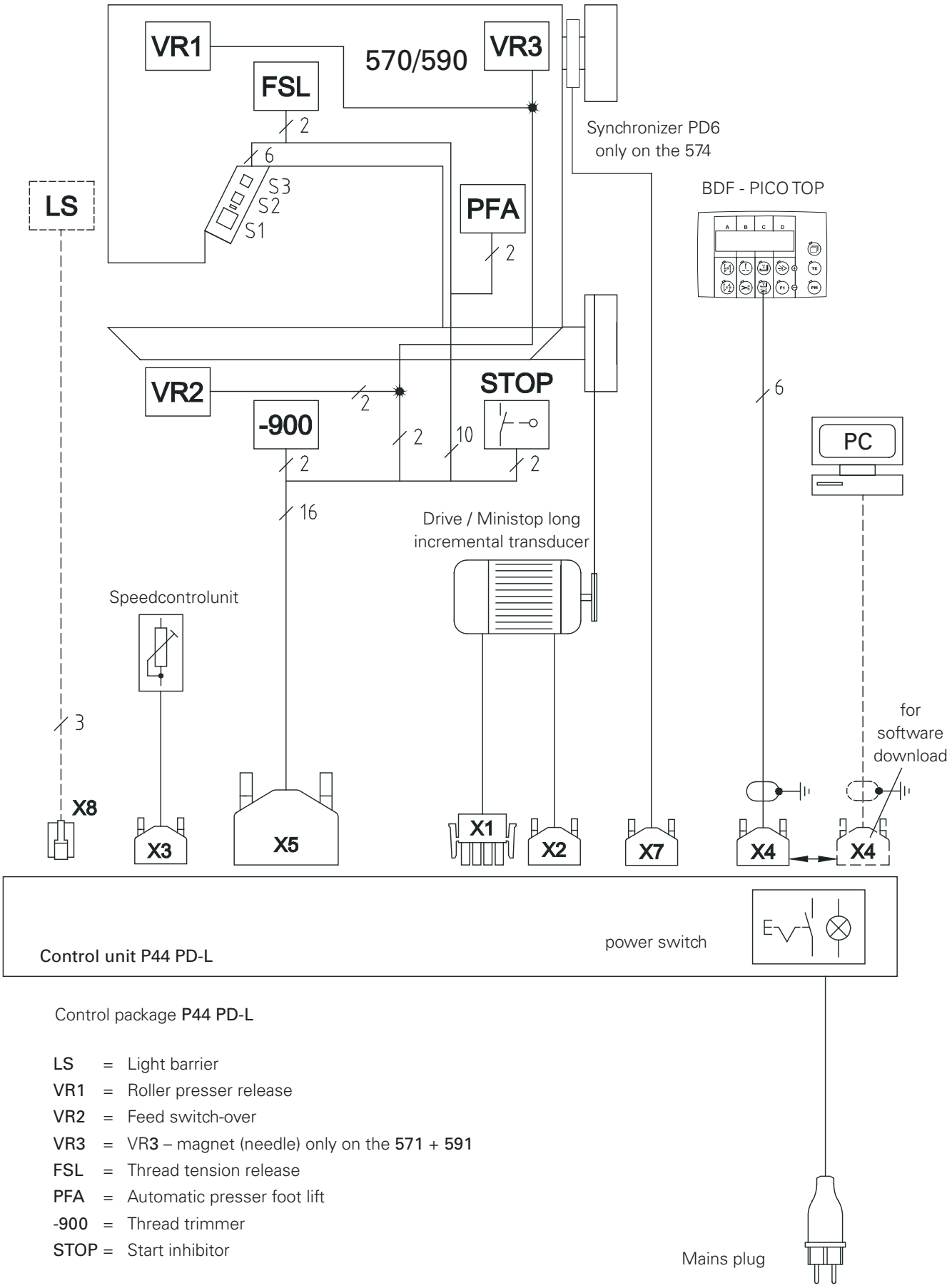
LS = Light barrier
VR1 = Roller presser release
VR2 = Feed switch-over
VR3 = VR**3** – magnet (needle) only on the **571** + **591**
FSL = Thread tension release
PFA = Automatic presser foot lift
-900 = Thread trimmer
STOP = Start inhibitor

2.03 Circuit diagrams 91-191 524-95




Steuergerät A1
P40ED
Ausgänge und Eingänge
37 poliger D-Sub
X5
6 poliger Western
X7
0V
LS
+24V
E2, NPW/NHOS
E3, EST
+24V LED
A10, LED
E1, TUM
+24V
E6, STOP
A5, TUM
+24V
A8, FSL
+24V
A2, SNT
A4, PF
+24V
X40
S46
X46
S42
S43
S41
R1
H10
+24V
X25.0A
X25.0B
Y5.3
Y5.2
Y5.1
X25.3
X25.2
X25.1
Y8
X28
Y2
X22
Y4
X24
Einfädeltaste
Einzelstich
LED Stichzählung
VR von Hand
Anlaufsperre
911/.. VR Nadel nur KL 574
911/.. VR SR
911/.. VR RF
Fad.-Span.-lösen
900/.. Fadenschneider
910/.. PFA
Lichtschranke (Option)

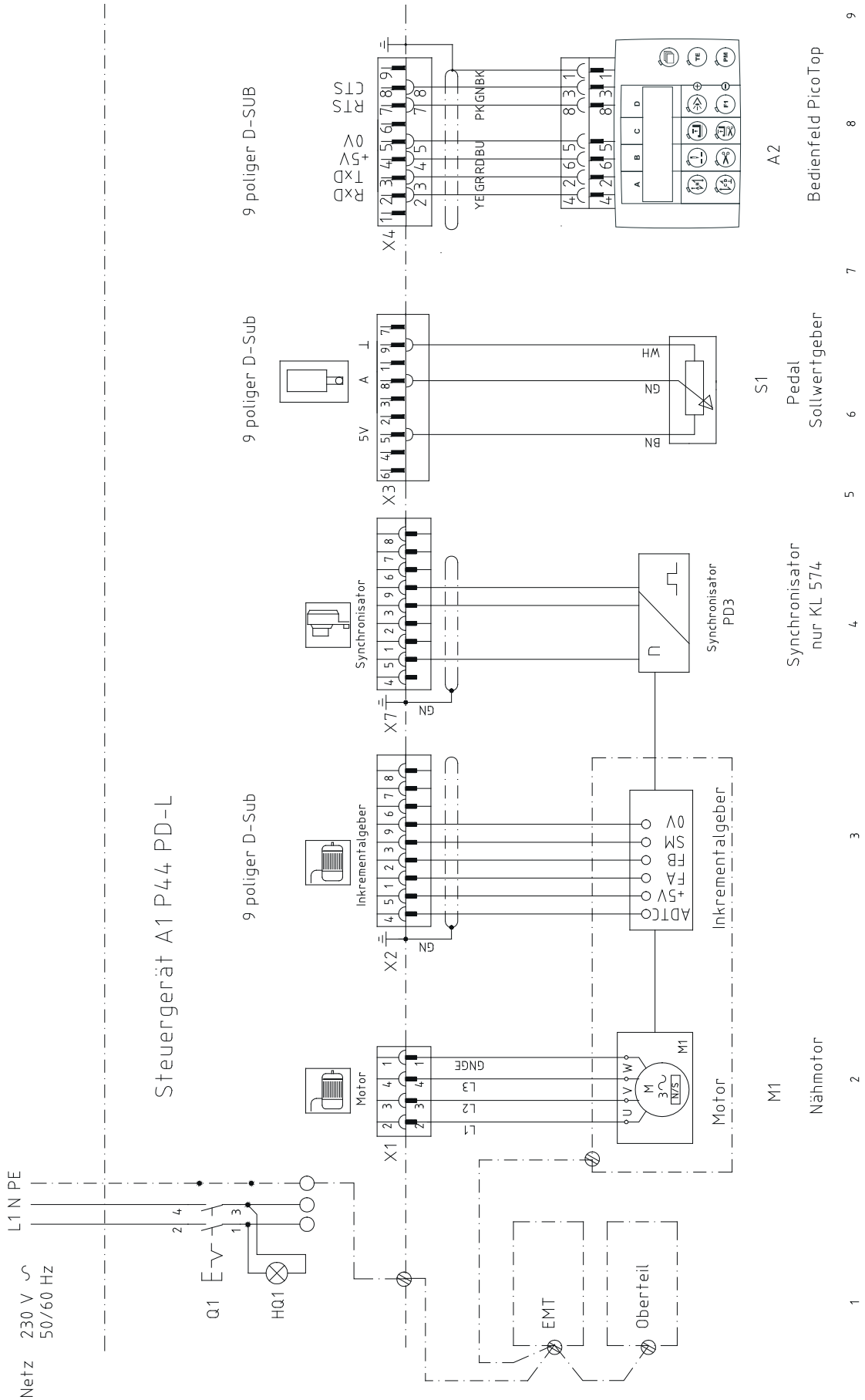
2.04 Block diagram PFAFF 570 / 590 with control unit P44 PD-L

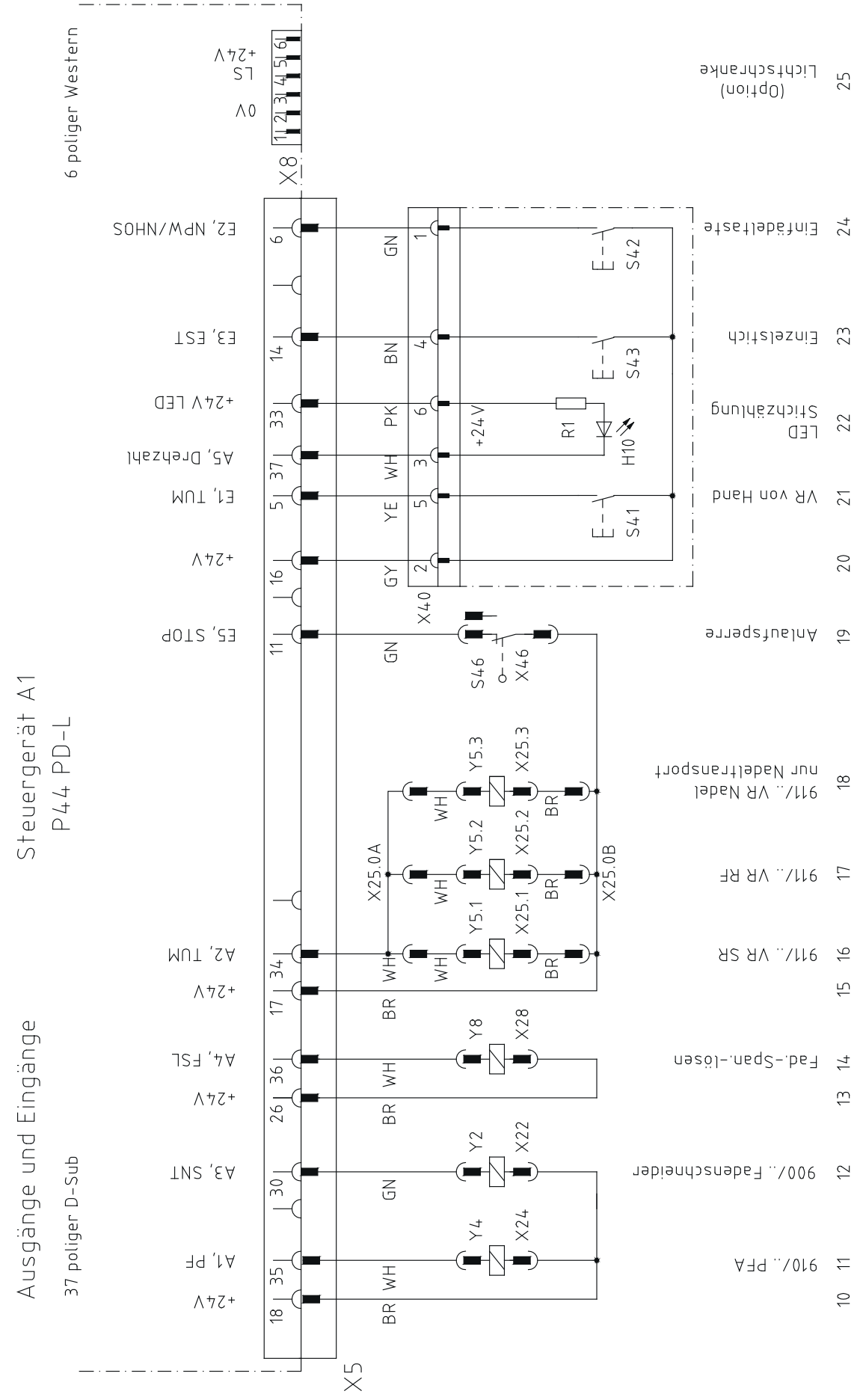


Control package **P44 PD-L**

LS = Light barrier
VR1 = Roller presser release
VR2 = Feed switch-over
VR3 = VR3 – magnet (needle) only on the **571** + **591**
FSL = Thread tension release
PFA = Automatic presser foot lift
-900 = Thread trimmer
STOP = Start inhibitor

2.05 Circuit diagrams 91-191 534-95




Steuergerät A1
P44 PD-L
Ausgänge und Eingänge
37 poliger D-Sub
X5
6 poliger Western
X8
0V
LS
+24V
E2, NPW/NHOS
E3, EST
+24V LED
A5, Drehzahl
E1, TUM
+24V
E5, STOP
A2, TUM
+24V
A4, FSL
+24V
A3, SNT
A1, PF
+24V
X40
S46
X46
Y5.3
X25.3
Y5.2
X25.2
Y5.1
X25.1
X25.0A
X25.0B
Y8
X28
Y2
X22
Y4
X24
R1
H10
+24 V
S41
S42
S43
(Option)
Lichtschranke
Einfädeltaste
Einzelstich
LED
Stichzählung
VR von Hand
Anlaufsperre
911/.. VR Nadel
nur Nadeltransport
911/.. VR RF
911/.. VR SR
Fad.-Span.-lösen
900/.. Fadenschneider
910/.. PFA

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