PFAFF

335

Instruction manual

This instruction manual applies to machines from the following serial numbers onwards:

2432978 →

296-12-18 393/002
Betriebsanleitung engl. 10.00

This Instruction manual is valid for all models and subclasses listed in the chapter „Specifications“.

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Contents

1	Safety	1 - 1
1.01	Directives	1 - 1
1.02	General notes on safety	1 - 1
1.03	Safety symbols	1 - 2
1.04	Important points for the user	1 - 3
1.05	Operating and specialist personnel	1 - 3
1.05.01	Operating personnel	1 - 3
1.05.02	Specialist personnel	1 - 4
1.06	Danger symbols	1 - 5
2	Proper use	2 - 1
3	Specifications	3 - 1
3.01	PFAFF 335	3 - 1
3.02	Possible models and subclasses	3 - 1
4	Disposal of the machine	4 - 1
5	Transport, packaging and storage	5 - 1
5.01	Transport to the customer's premises	5 - 1
5.02	Transport within the customer's premises	5 - 1
5.03	Disposal of the packaging	5 - 1
5.04	Storage	5 - 1
6	Explanation of the symbols	6 - 1
7	Operational controls	7 - 1
7.01	On/Off switch	7 - 1
7.02	Pedal	7 - 1
7.03	Stitch-length adjustment lever/reverse sewing	7 - 2
7.04	Adjustment nut for the top feed lift	7 - 3
8	Mounting and initial operation	8 - 1
8.01	Mounting	8 - 1
8.01.01	Adjusting the table height	8 - 1
8.01.02	Tightening the V-belt	8 - 2
8.01.03	Mounting the upper V-belt guard	8 - 3
8.01.04	Mounting the lower V-belt guard	8 - 3

8.01.05	Mounting the sewing lamp	8 - 4
8.01.06	Mounting the spool holder	8 - 4
8.02	Initial operation	8 - 4
8.03	Switching the machine on/off	8 - 4
9	Preparation	9 - 1
9.01	Needle and thread	9 - 1
9.02	Inserting the needle	9 - 2
9.03	Winding the bobbin thread, adjusting the thread tension	9 - 2
9.04	Removing the bobbin case, threading the bobbin case	9 - 3
9.05	Inserting the bobbin case, adjusting the bobbin thread tension	9 - 3
9.06	Threading the needle thread	9 - 4
9.07	Adjusting the needle thread tension	9 - 4
10	Care and maintenance	10 - 1
10.01	Servicing intervals	10 - 1
10.02	Cleaning	10 - 1
10.03	General lubrication	10 - 2
10.04	Lubricating the sewing head	10 - 3
10.05	Lubricating the hook	10 - 3
10.06	Checking the air pressure	10 - 4
10.07	Emptying / Cleaning the water container of the air filter	10 - 4
11	Adjustment	11 - 1
11.01	Tools, gauges and other adjustment accessories	11 - 1
11.02	Notes on adjusting	11 - 1
11.03	Abbreviations	11 - 1
11.04	Adjusting the basic machine	11 - 2
11.04.01	Positioning the feed dog	11 - 2
11.04.01.01	Lateral positioning of the feed dog	11 - 2
11.04.01.02	Lengthwise positioning of the feed dog	11 - 3
11.04.02	Centering the needle in the needle hole	11 - 4
11.04.03	Pre-adjusting the needle height	11 - 5
11.04.04	Driving motion of the top and bottom feed dogs	11 - 6
11.04.05	Needle rise, hook-to-needle clearance and needle height	11 - 7
11.04.06	Vibrating presser feeding motion	11 - 8
11.04.07	Vibrating presser lift	11 - 9

11.04.08	Needle thread tension release	11 - 10
11.04.09	Thread check spring	11 - 11
11.04.10	Bobbin winder	11 - 12
11.04.11	Regulating the pressure on the presser foot	11 - 13
11.05	Adjusting the thread trimmer -800/52	11 - 14
11.05.01	Preadjusting the control cam	11 - 14
11.05.02	Tripping lever height	11 - 15
11.05.03	Feed regulator pin	11 - 16
11.05.04	Engaging solenoid	11 - 17
11.05.05	Adjusting the height of the feed regulator pin	11 - 18
11.05.06	Thread catcher, front point of reversal	11 - 18
11.05.07	Lateral adjustment of the thread catcher	11 - 20
11.05.08	Control cam, final adjustment	11 - 21
11.05.09	Knife	11 - 22
11.05.10	Triggering the needle thread tension	11 - 23
11.05.11	Cutting test	11 - 24
11.05.12	Positioner	11 - 25
12	Wearing parts	12 - 1

1 Safety

1.01 Directives

This machine is constructed in accordance with the European regulations contained in the conformity and manufacturer's declarations.
In addition to this Instruction Manual, observe also all generally accepted, statutory and other regulations and legal requirements -including those of the country and all valid environmental protection regulations!
The regionally valid regulations of the social insurance society for occupational accidents or other supervisory organisations are to be strictly adhered to!

1.02 General notes on safety

- This machine may only be operated by adequately trained operators and only after having completely read and understood the Instruction Manual.
- All Notes on Safety and Instruction Manuals of the motor manufacturer are to be read before operating the machine.
- This machine may only be used for the purpose for which it is intended and may not be operated without its safety devices. All safety regulations relevant to its operation are to be adhered to.
- When exchanging sewing tools (e.g. needle, presser foot, needle plate, feed dog or bobbin), when threading the machine, when leaving the machine unattended and during maintenance work, the machine is to be separated from the power supply by switching off the On/Off switch or by removing the plug from the mains.
- Everyday maintenance work is only to be carried out by appropriately trained personnel.
- Repairs and special maintenance work may only be carried out by qualified service staff or appropriately trained personnel.
- When servicing or carrying out repairs on pneumatic devices, the machine is to be removed from the compressed air supply. The only exceptions to this are adjustments and function checks carried out by appropriately trained personnel.
- Work on electrical equipment may only be carried out by appropriately trained personnel.
- Work is not permitted on parts and equipment which are connected to the power supply. Exceptions to this are in accordance with the regulations EN 50110.
- Modifications and alterations to the machine may only be carried out under observance of all the relevant safety regulations.
- It is forbidden to operate the machine head until such time as is determined that the entire sewing unit complies with the regulations of the EC Directives.
- Only spare parts which have been approved by us are to be used for repairs! We expressly point out that any replacement parts or accessories which are not supplied by us have not been tested and approved by us. The installation and / or use of any such products can lead to negative changes in the construction characteristics of the machine. We shall not be liable for any damage which may be caused by non-original parts!

1.03 Safety symbols

In this Instruction Manual safety symbols are used. Their meanings are as follows.

Danger!
Points to be observed.

Danger of injury for operating and specialist personnel!

Caution

Do not operate without finger guard and safety devices. Before threading, changing bobbin and needle, cleaning etc. switch off main switch.

1.04 Important points for the user

- This Instruction Manual is a component part of the machine and must be available to the operating personnel at all times.
  The Instruction Manual must be read before operating the machine for the first time.
- The operating and specialist personnel is to be instructed as to the safety equipment of the machine and regarding safe work methods.
- It is the duty of the operator to only operate the machine in perfect running order.
- It is the obligation of the operator to ensure that none of the safety mechanisms are removed or deactivated.
- It is the obligation of the operator to ensure that only authorised persons operate and work on the machine.

Further information can be obtained at your PFAFF agent.

1.05 Operating and specialist personnel

1.05.01 Operating personnel

Operating personnel are persons responsible for the equipping, operating and cleaning of the machine as well as taking care of faults arising in the sewing area.

The operating personnel is obliged to observe the following points and must:

- always observe the Notes on Safety in the Instruction Manual.
- never use any working methods which could limit the level of safety in using the machine.
- not wear loosely fitting clothing or jewellery such as chains or rings.
- also ensure that only authorised persons have access to the potentially dangerous area around the machine.
- always immediately report to the person responsible any changes in the machine which may limit its safety.

1.05.02 Specialist personnel

Specialist personnel are persons with a specialist education in the fields of electrics, electronics and mechanics. They are responsible for the lubrication, maintenance, repair and adjustment of the machine.

The specialist personnel is obliged to observe the following points and must:

- always observe the Notes on Safety in the Instruction Manual.
- switch off the On/Off switch before carrying out adjustments or repairs and ensure that it cannot be switched on again unintentionally.
- never work on parts which are still connected to the power supply. Exceptions are contained in the regulations EN 50110.
- when servicing or carrying out repairs on pneumatic devices, remove the machine from the compressed air supply. The only exceptions to this are function checks.
- replace the protective coverings and close the electrical control box after all repairs or maintenance work.

1.06 Danger symbols

A working area of 1 metre is to be kept free both in front of and behind the machine while it is in operation so that it is always easily accessible.

Never reach into the sewing area while sewing! Danger of injury by the needle!

Never leave objects on the table or in the needle plate area while adjusting the machine settings! Objects can become trapped or be slung away! Danger of injury!

On mechanical clutch-motors without an actuating lock, wait until the motor comes to a standstill before working on the machine! Danger of injury!

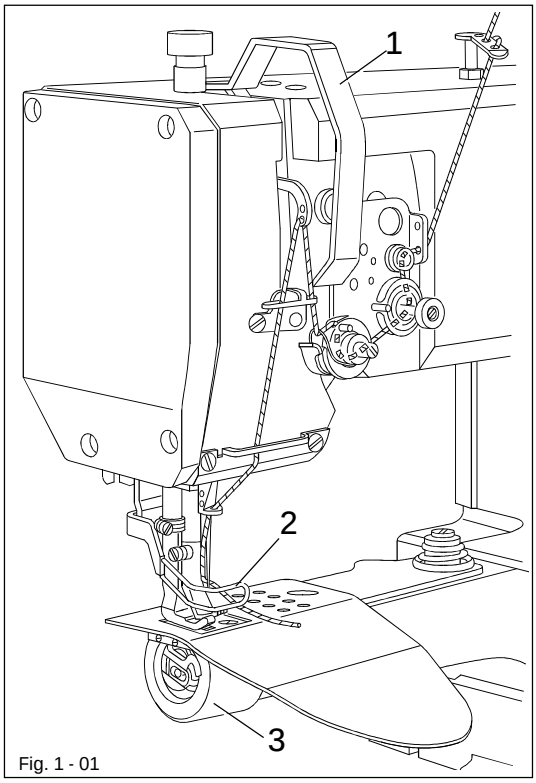


Fig. 1 - 01

Do not operate the machine without the take-up lever guard 1!
Danger of injury due to the movement of the take-up lever!

Do not operate the machine without the finger guard 2!
Danger of injury due to the up and down movement of the needle!

Do not operate the machine without the free-arm cover 3!
Danger of injury by the rotating hook!

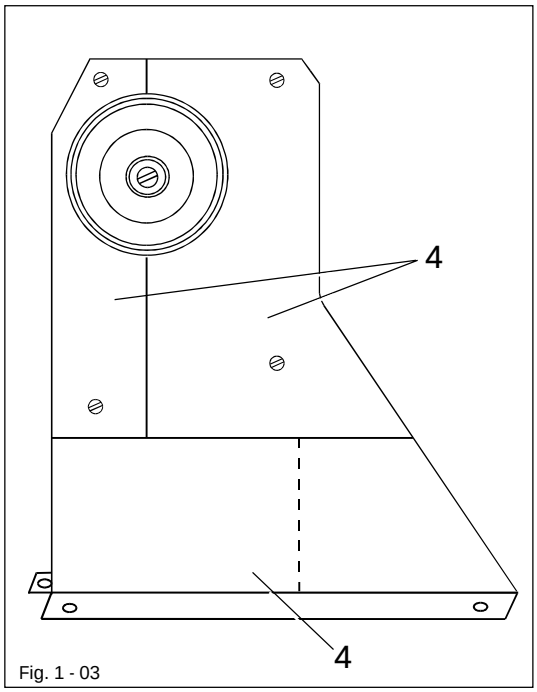


Fig. 1 - 03

Do not operate the machine without the belt guard 4!
Danger of injury by the rotating V-belt!

2 Proper use

The PFAFF 335 is a single needle, free-arm sewing machine with bottom, top and needle feeds for sewing lockstitch seams.

Any and all uses of this machine which have not been approved of by the manufacturer are considered to be inappropriate! The manufacturer cannot be held liable for any damaged caused by the inappropriate use of the machine! The appropriate use of the machine includes the observance of all operational, adjustment, maintenance and repair measures required by the manufacturer!

3 Specifications

3.01 PFAFF 335

Stitch type: ..... 301 (lockstitch)
Model: ..... B
Needle system: ..... 134 - 35
Needle thickness (Nm) in 1/100 mm: ..... 80 - 100

Max. stitch length:
on sub classes -2/77; -6/01; -17/01; -39/21; -40/64; -155/01 ..... 4.5 mm
on sub class -40/63 (model N 2.5) ..... 2.5 mm
on sub classes -2/77; -6/01; -17/01; -39/21; -40/64; -155/01 (model N) ..... 6.0 mm

Handwheel effective dia.: ..... 80 mm
Max. speed: ..... 2800 spm

Dimensions of the machine:
Free-arm head dia.: ..... 51 mm
Free-arm size: ..... approx. 165 mm
Length: ..... approx. 770 mm
Width: ..... approx. 380 mm
Height: ..... approx. 630 mm

Width of fabric clearance: ..... 265 mm
Height of fabric clearance: ..... 115 mm
Clearance under the sewing foot: ..... 7 mm

Net weight (sewing head): ..... approx. 40 kg
Working air pressure: ..... 6 bar
Air consumption: ..... ~0.8 l / work cycle

Working noise level:
Emission at workplace at sewing speed of
n = 1800 spm: ..... $L_{pA} \leq 81$ dB (A)
noise measurement in accordance with DIN 45 635-48-A-1

3.02 Possible models and subclasses

Model B: ..... For processing medium materials

Additional equipment:
Subclass -900/52 ..... Thread trimmer

4 Disposal of machine waste

- The proper disposal of machine waste is the responsibility of the customer.
- The materials used on the machines are steel, aluminium, brass and various plastics. The electrical equipment consists of plastics and copper.
- The machine waste is to be disposed of in accordance with the locally valid environmental protection regulations. If necessary a specialist is to be commissioned.

Special care is to be taken that parts soiled with lubricants are separately disposed of in accordance with the locally valid pollution control regulations!

5 Transport, packaging and storage

5.01 Transport to the customer's premises

Within Germany, complete machines (with table and motor) are delivered without packaging. Machines without table and motor (machine heads only) and machines for export are packaged.

5.02 Transport within the customer's premises

The manufacturer carries no liability for transport within the customer's premises.
Care is to be taken to transport the machine in an upright position.

5.03 Disposal of the packaging

The packaging of the machine consists of wood, paper, cardboard and VCE fibre.
The proper disposal of the packaging is the responsibility of the customer.

5.04 Storage

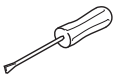
The machine can be stored for up to 6 months if not in use. During this time it should be protected from dust and moisture.
For longer storage the individual parts of the machine, especially the moving parts, should be protected against corrosion e.g. by a film of oil.

6 Explanation of the symbols

In the following section of this Instruction Manual, certain tasks or important pieces of information are accentuated by symbols.
The symbols used have the following meanings:

Note, information

Cleaning, care



Servicing, repairing, adjustment, maintenance
(only to be carried out by specialist personnel)

Lubrication, greasing

7 Elements of operation

7.01 On/Off switch

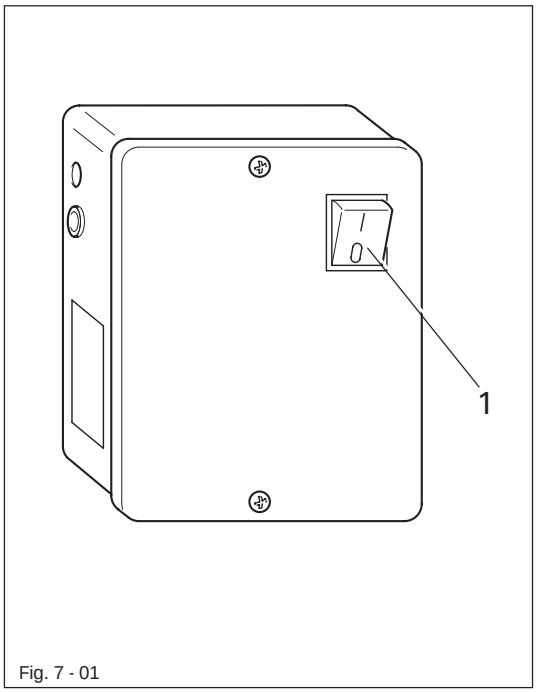


Fig. 7 - 01

- Turn the machine on and off by pressing the On/Off switch 1. When the machine is turned on, the control lamp in the switch lights up.

The On/Off switch pictured in the illustration is to be found on machines with Quick motors. When using other motors other switches may be installed.

7.02 Pedal

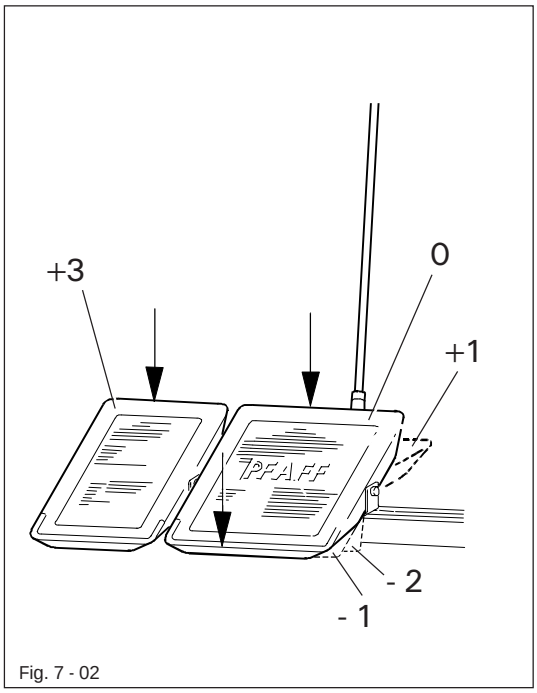


Fig. 7 - 02

With the On/Off switch turned on

0 = Machine stop

+1 = Sew

- 1 = Raise presser foot (on machines with automatic presser foot lifter)

- 2 = Trim thread (on machines with thread trimmer)

+3 = Raise presser foot (on machines without automatic presser-foot)

7.03 Stitch-length adjustment lever / reverse sewing

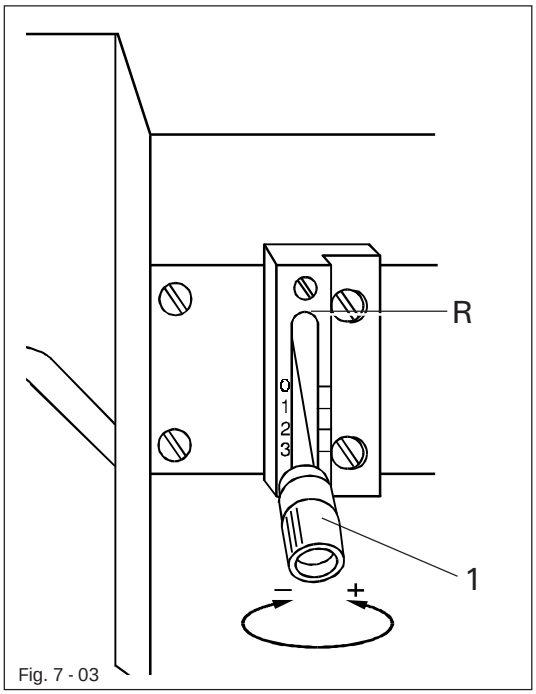


Fig. 7 - 03

- Adjust the stitch length by turning the milled nut 1 as required.

Reverse sewing

- Raise the milled nut 1 as far as possible (position "R").

7.04 Adjustment nut for the top feed lift

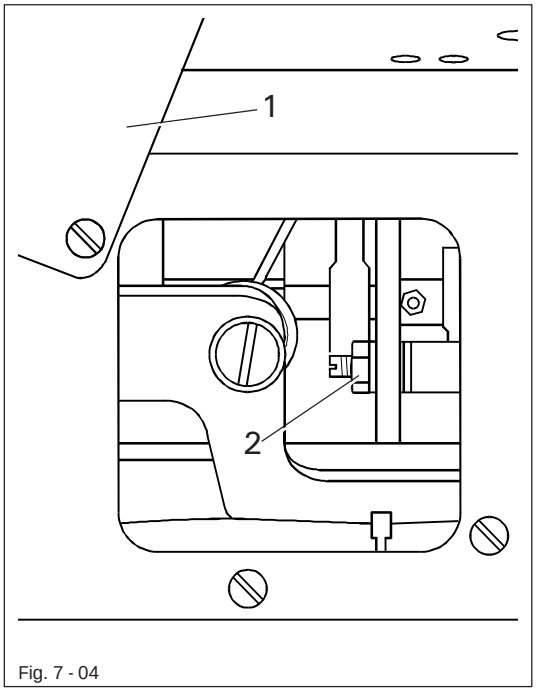


Fig. 7 - 04

Turn the machine off!

- Open cover 1 on the back of the machine, loosen nut 1 and move it as required.

8 Mounting and initial operation

This machine may only be mounted and put into operation by qualified specialists! All relevant safety regulations are to be adhered to!
Connections for electrical and compressed air supplies must be available at the machine's location (see chapter 3: Specifications).
A solid, horizontal surface and adequate lighting must also be guaranteed.

8.01 Mounting

Due to packaging reasons, the table top is lowered for transport.
The adjustment of the table-top height is described in the following.

8.01.01 Adjusting the table height

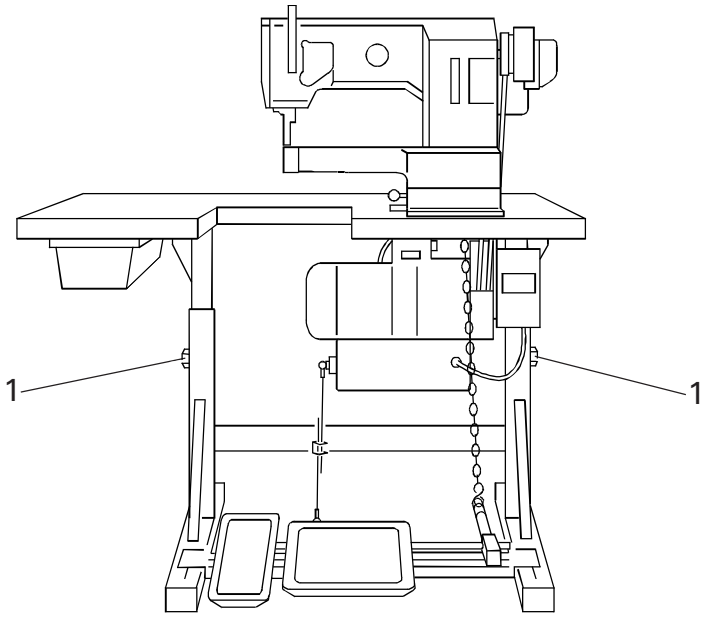


Fig. 8 - 01

- Loosen screws 1 and set the table height as desired.
- Tighten screws 1 firmly.

8.01.02 Tightening the V-belt

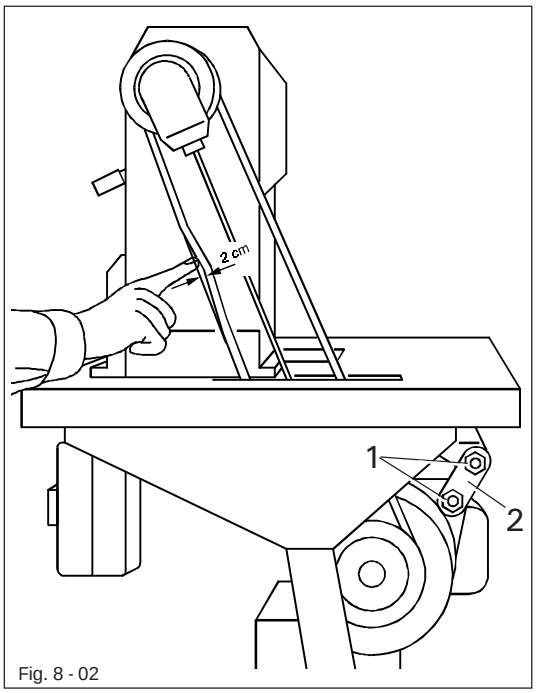


Fig. 8 - 02

- Loosen nuts 1.
- Tighten the V-belt using the dolly switch 2.
- Tighten nuts 1.

Fig. 8-02 shows a Quick motor. If another motor is used proceed as described in the instruction manual!

8.01.03 Mounting the upper V-belt guard

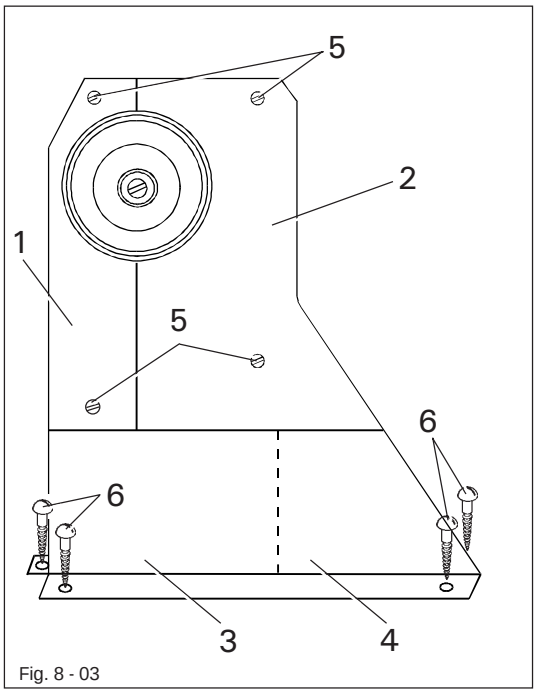


Fig. 8 - 03

- Attach the two upper segments of the V-belt guard 1 and 2 using screws 5.
- Then screw the two lower segments of the lower V-belt guard 3 and 4 onto the table top with screws 6.

8.01.04 Mounting the lower V-belt guard

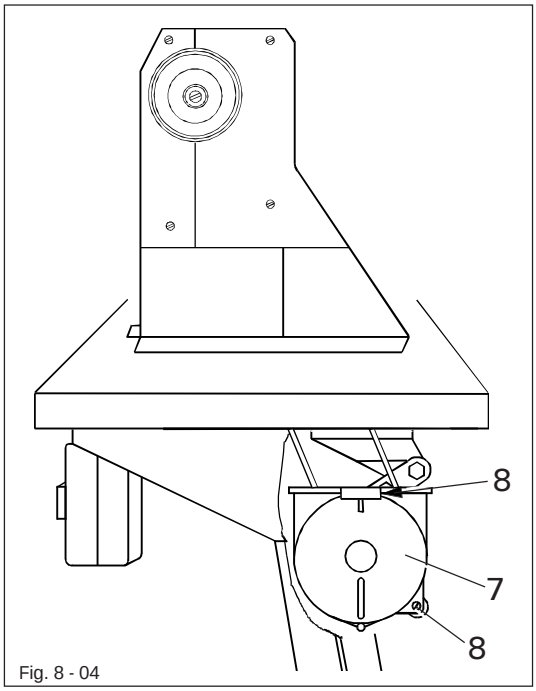


Fig. 8 - 04

- Align the V-belt guard 7 in such a way that both the motor pulley and the V-belt run freely.
- Tighten screws 8.

Fig. 8-04 shows a Quick motor. If another motor is used proceed as described in the instruction manual!

8.01.05 Mounting the sewing lamp▲

- Screw the sewing lamp onto the table top (wood screws 5x35) and have it connected by a specialist.

8.01.06 Mounting the spool holder

- Mount the spool holder.
- Insert the spool holder into the hole in the table top and affix it with the enclosed nuts.

8.02 Initial operation

- Before operating the machine, check the electrical and pneumatic connections for possible damage.
- Clean the machine thoroughly and then oil it (see chapter 11 Care and maintenance).
- Have specialist personnel check if the machine's motor can be put into operation with the power supply available and if the terminal box is connected properly. Never operate the machine unless these checks have been successfully carried out.
- The handwheel must rotate towards the operator when the machine is running. If this is not the case, have the machine altered by specialist personnel.
- Connect the machine to the compressed air system. The manometer must display a pressure of approx. 6 bar. If necessary, adjust to this value (see chapter 11.06 Adjusting the air pressure).

8.03 Switching the machine on/off

- Switch the machine on (see chapter 7.01).
- Carry out a test run.

▲ The sewing lamp is not included in the standard delivery.

9 Preparation

All regulations and instructions in this Instruction manual are to be observed. Special attention should be paid to the safety regulations!

Preparation work is only to be carried out by appropriately trained personnel. The machine must always be separated from the power supply by switching off the on/off switch or by removing the mains plug from the power supply when carrying out preparation work!

9.01 Needle and thread

The choice of the correct needle depends on the machine model and the thread and material used.

Model	Use	Max. thread thickness Synthetic ▲	Needle thickness (Nm) in 1/100 mm
B	For sewing medium materials	40/3	80 - 100

▲ or comparable thicknesses or thread types

9.02 Inserting the needle

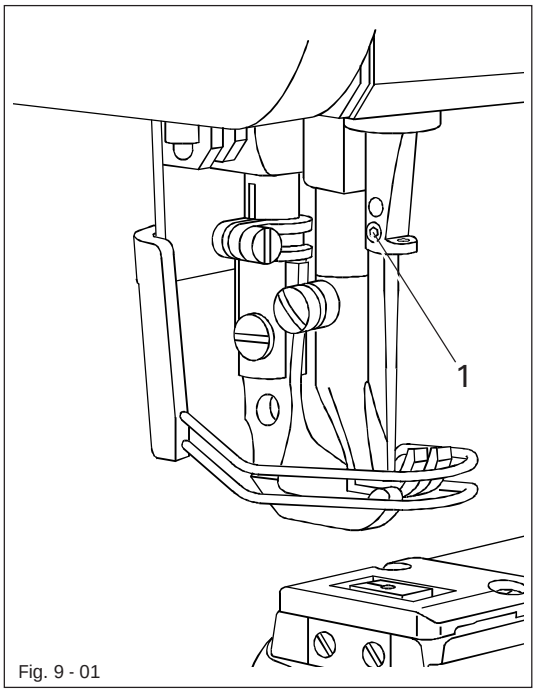


Fig. 9 - 01

Switch off the machine!

- Loosen the needle retaining screw 1.
- Insert the needle as far as possible (The long groove in the needle must be pointing to the left).
- Retighten the needle retaining screw 1.

9.03 Winding the bobbin thread, adjusting the thread tension

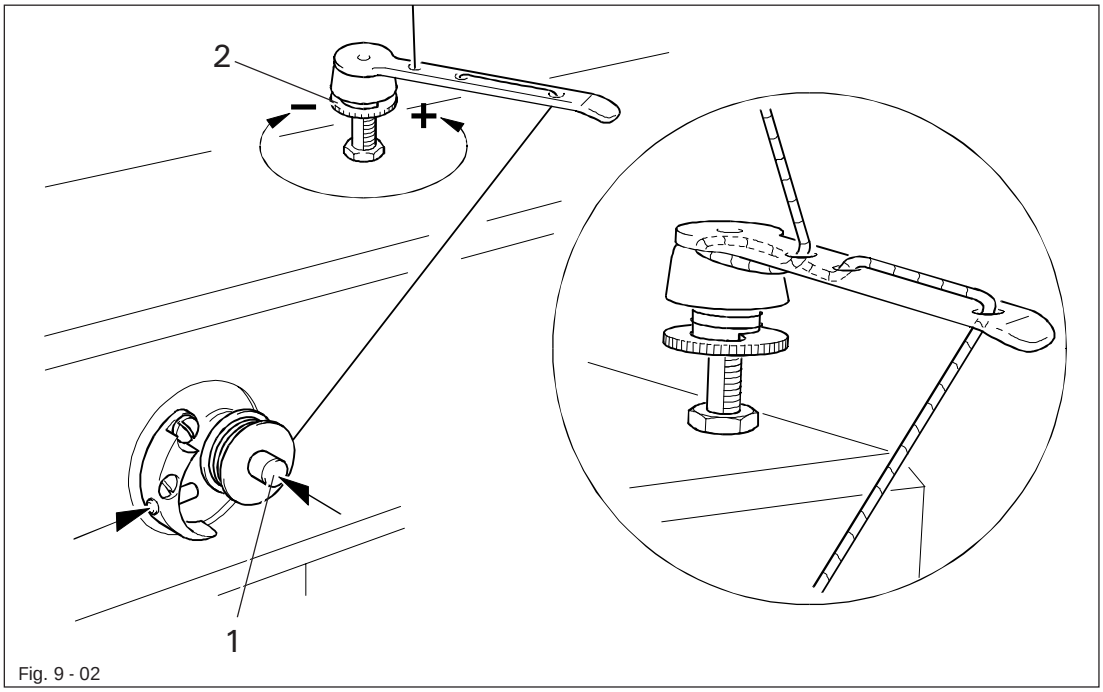


Fig. 9 - 02

- Place an empty bobbin onto the bobbin holder 1.
- Press the bobbin-winder ratchet in the direction of the arrow.
- The bobbin is filled during the sewing process.
- The bobbin winder stops automatically when the bobbin is full.
- The tension of the thread on the bobbin can be adjusted with milled nut 2.

9.04 Removing the bobbin case, threading the bobbin case

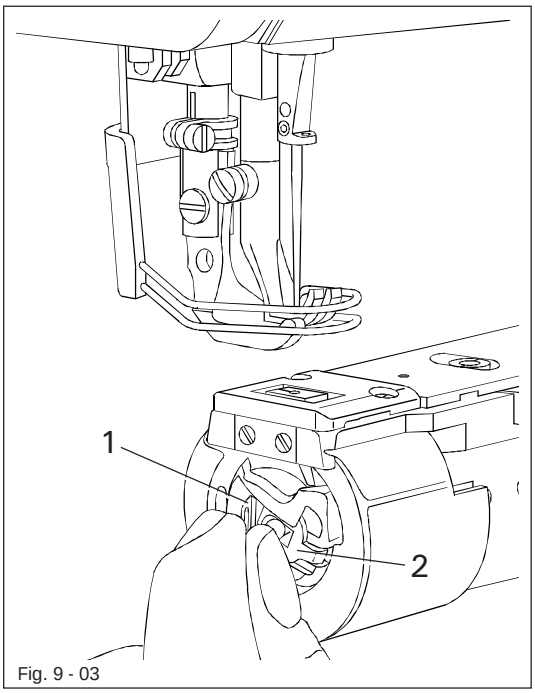


Fig. 9 - 03

Switch the machine off!

Removing the bobbin case.

- Lift the retainer 1 and remove the bobbin case 2.

Threading the bobbin case.

- Thread the bobbin in accordance with Fig. 9-04.
- The bobbin must rotate in the direction of the arrow when the thread is pulled.

9.05 Inserting the bobbin case, adjusting the bobbin thread tension

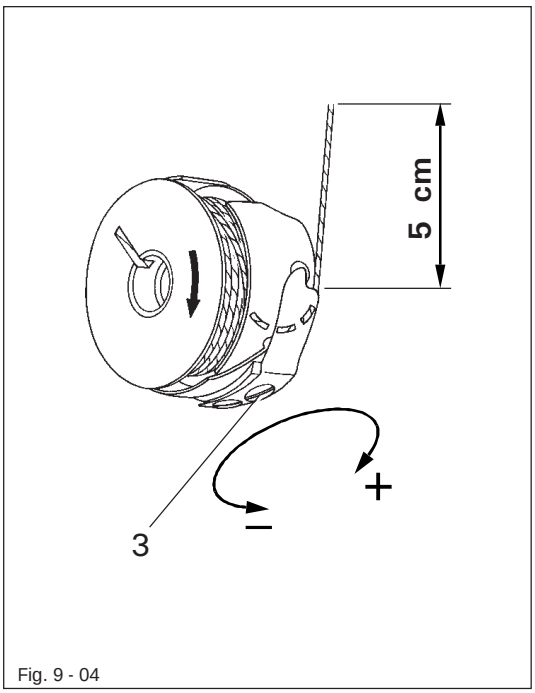


Fig. 9 - 04

Switch the machine off!

Inserting the bobbin case.

- Insert the bobbin case 2 so that it clicks into place.

Adjusting the bobbin thread tension.

- Adjust the bobbin thread tension with screw 3.

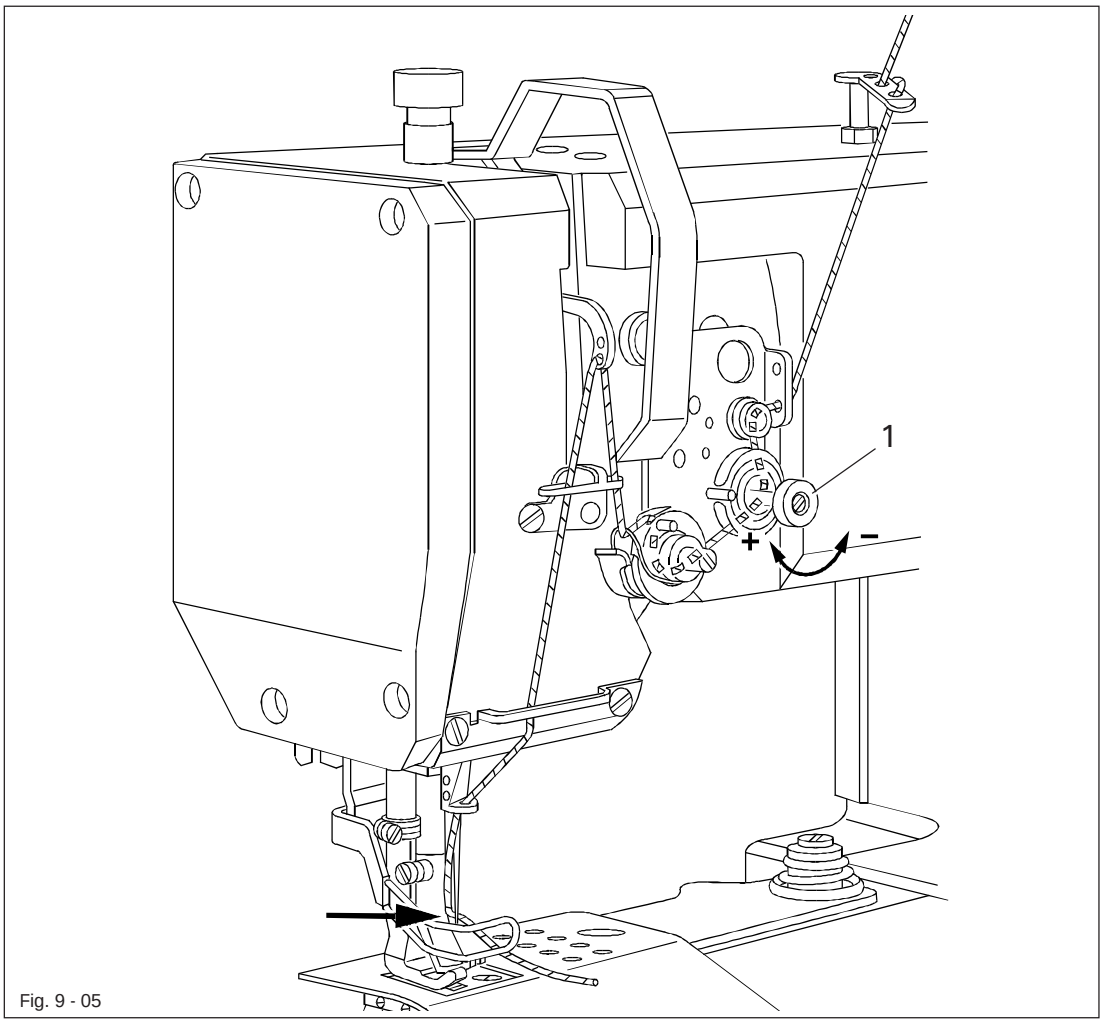


Fig. 9 - 05

9.06 Threading the needle thread

Switch the machine off!

- Thread the machine in accordance with Fig. 9-05, taking care to ensure that the needle is threaded from the left (see arrow).

9.07 Adjusting the needle thread tension

- Adjust tension 1 so that the stitch loops are inside the sewing material.

10 Care and maintenance

10.01 Servicing intervals

Cleaning	daily, more often if in continuous operation
General lubrication	twice weekly
Lubricating the sewing head	twice weekly
Lubricating the hook	daily
Checking the air pressure	daily before starting sewing
Water container of the service unit	daily before starting sewing

10.02 Cleaning

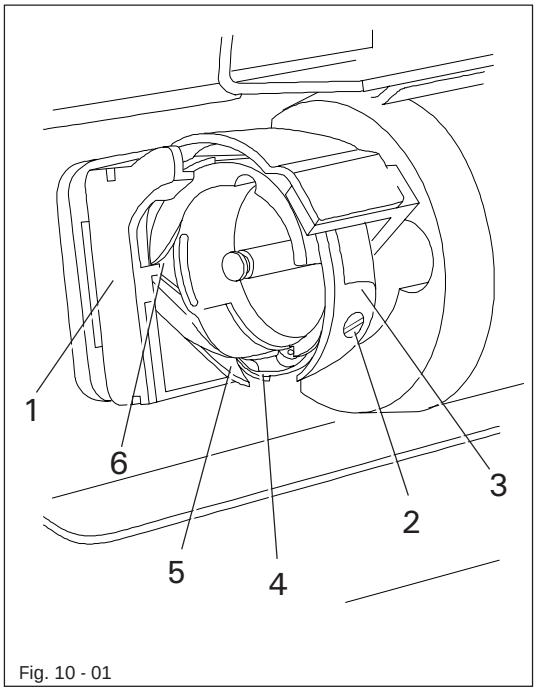


Fig. 10 - 01

Switch the machine off!

- Clean the hook and hook compartment daily, more often when in continuous operation.
- Raise the needle bar to its highest position and remove the free-arm cover.
- Remove the bobbin and the bobbin case.
- Unscrew the bobbin case position-finger 1.
- Unscrew screw 2 and remove the hook finger 3.
- Turn the handwheel until point 4 is at the same height as the hook point 5.
- Remove the bobbin case and clean the hook race with petroleum.
- To reassemble the bobbin compartment, carry out these steps in reverse order. Take care to ensure that the projection on the back of the bobbin case position-finger 1 is in the slot 6.
- Unscrew the hook finger 3 and insert the bobbin with the bobbin case.
- The replace the free arm cover.

10.03 General lubrication

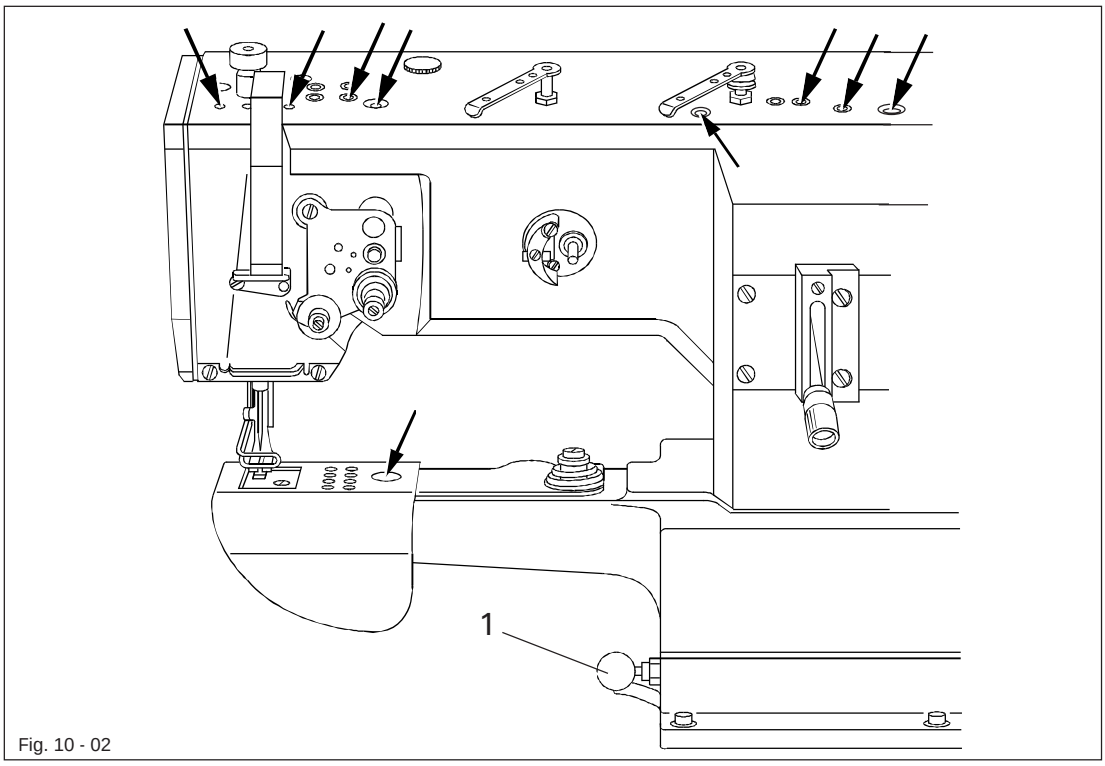


Fig. 10 - 02

Only use oil with a mean viscosity of 22.0 mm^2/s at 40°C and a density of 0.865 g/cm^3 at 15°C!

We recommend PFAFF sewing machine oil. Part no. 280-1-120 144.

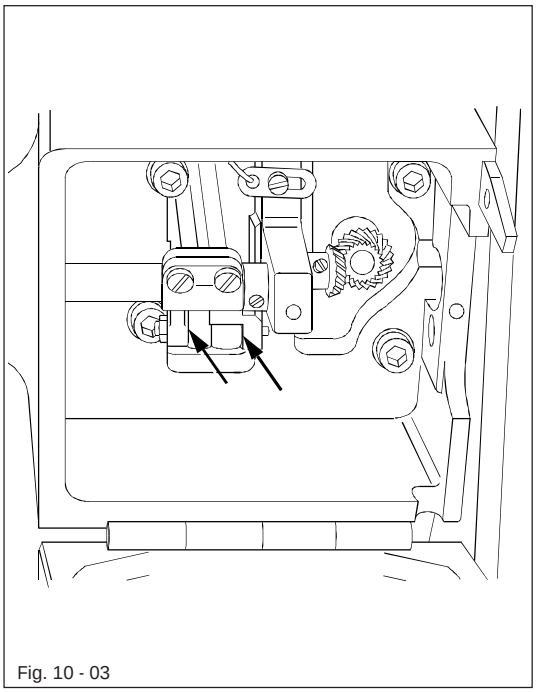


Fig. 10 - 03

Switch off the machine!

- Oil all of the bearings which are marked in Fig. 10-02 and 10-03 twice a week.
- To reach the oiling points marked in Fig. 10-03, pull out piston 1 (Fig. 10-02) and lay the sewing head on its back.
- Using both hands stand the sewing head up so that it rests on piston 1.
- Lift the sewing head slightly, pull piston 1 and place the sewing head in an upright position.

Danger of crushing between sewing head and pedestal!

10.04 Lubricating the sewing head

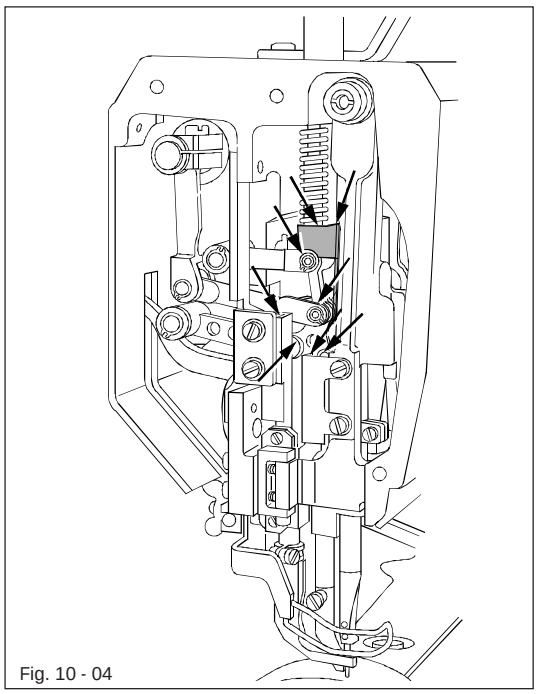


Fig. 10 - 04

Switch off the machine!

- Unscrew the sewing head cover twice a week and oil all of the bearings and sliding surfaces marked in Fig. 10-04.
- Replace the sewing head cover.

Only use oil with a mean viscosity of 22.0 mm²/s at 40°C and a density of 0.865 g/cm³ at 15°C!

We recommend PFAFF sewing machine oil. Part no. 280-1-120 144.

10.05 Lubricating the hook

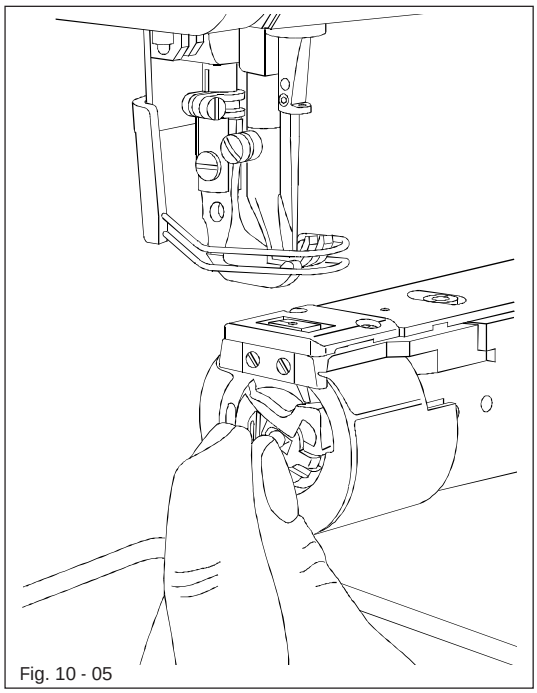


Fig. 10 - 05

Switch off the machine!

- Remove the bobbin case and squeeze 1 to 2 drops of oil into the hook race (Fig. 10-06) daily.
- Re-insert the bobbin case.

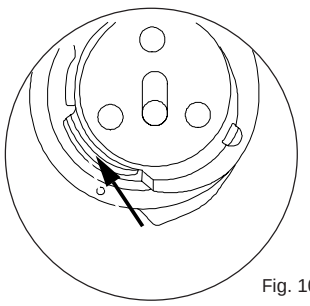


Fig. 10 - 06

10.06 Adjusting the air pressure

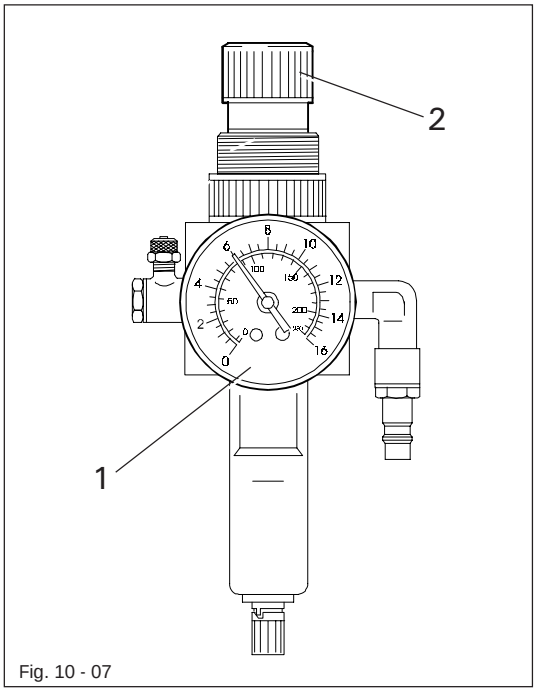


Fig. 10 - 07

- Before using the machine, always check the air pressure on the manometer 1.
- The manometer must display a pressure of approx. 6 bar.
- If the reading is different, adjust the pressure to this value.
- To do so, lift button 2 and turn it until the manometer displays a pressure of 6 bar.

10.07 Emptying / Cleaning the water container of the air filter

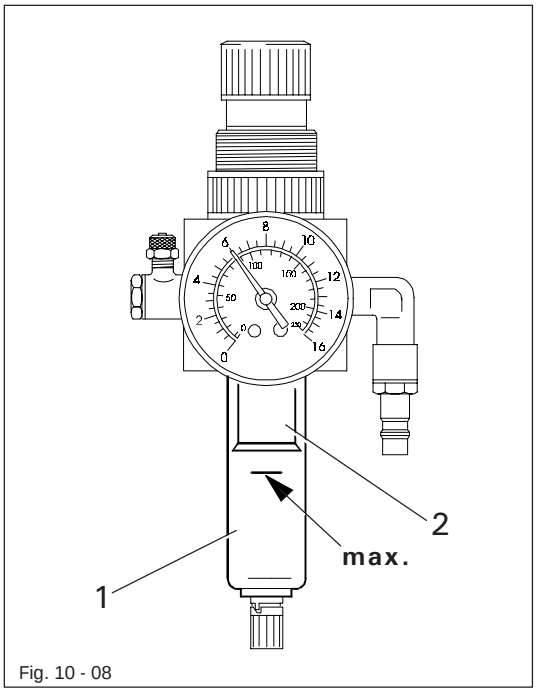


Fig. 10 - 08

Turn the machine off!
Remove the compressed-air hose from the air filter.

Emptying the water trap 1

- Water trap 1 empties itself automatically when the compressed-air hose is removed from the air filter.

Cleaning the filter 2

- Unscrew water trap 1 and filter 2.
- Clean the filter with compressed air or with isopropyl alcohol, Part number 95-665 735-91
- Screw filter 2 back in and water trap 1 back on.

11 Adjustment

11.01 Tools, gauges and other accessories

- Screwdrivers with blade width from 2 to 10 mm
- Spanners (wrenches) with jaw width from 7 to 14 mm
- Allan keys from 2 to 6 mm
- Metal rule, Part No. 08-880 218-00
- Adjustment gauge, Part No. 08-880 218-00
- Terminal screw, Part No. 08-880 137-00
- Gauge, (top feed lift 7 mm), Part No. 61-111 630-14
- Needles, system 134-35
- Sewing thread and test material

11.02 Notes on adjusting

All adjustments in this manual are based on a completely assembled machine. Covers on the machine which have to be removed and replaced for checks and adjustment work are not mentioned in the text. The screws and nuts written in brackets are to be loosened before making the adjustment and tightened again when the adjustment is complete.

11.03 Abbreviations

tdc = top dead center
bdc = bottom dead center

11.04 Adjusting the basic machine

11.04.01 Positioning the feed dog

11.04.01.01 Lateral positioning of the feed dog

Requirement
The clearances from the left and right of the bottom feed dog 1 to the needle plate cutout must be the the same size.

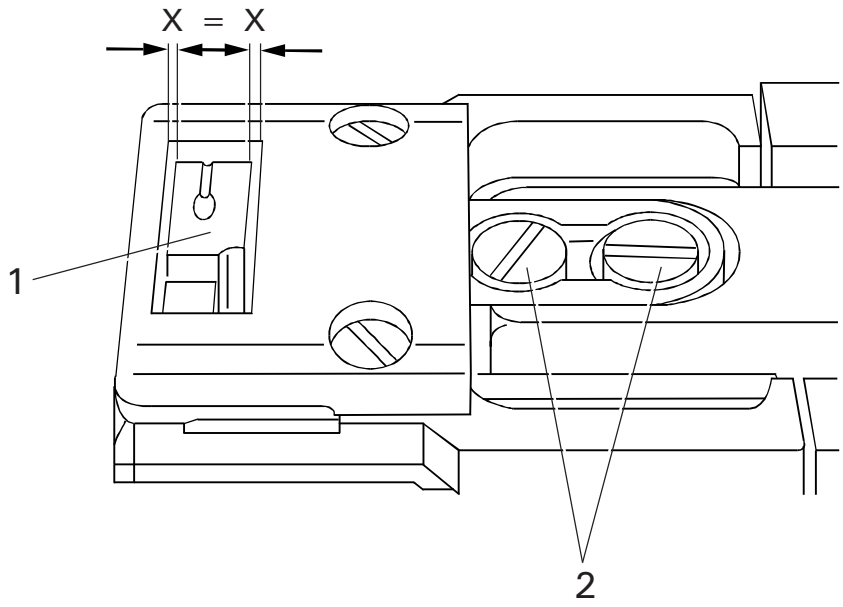
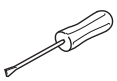


Fig. 11 - 01



- Move the bottom feed dog 1 (screws 2) in accordance with the requirement.

11.04.01.02 Lengthwise positioning of the feed dog

Requirement
With the stitch length set at its longest the clearances behind and in front of the bottom feed dog 5 to the needle plate cutout must be the same.

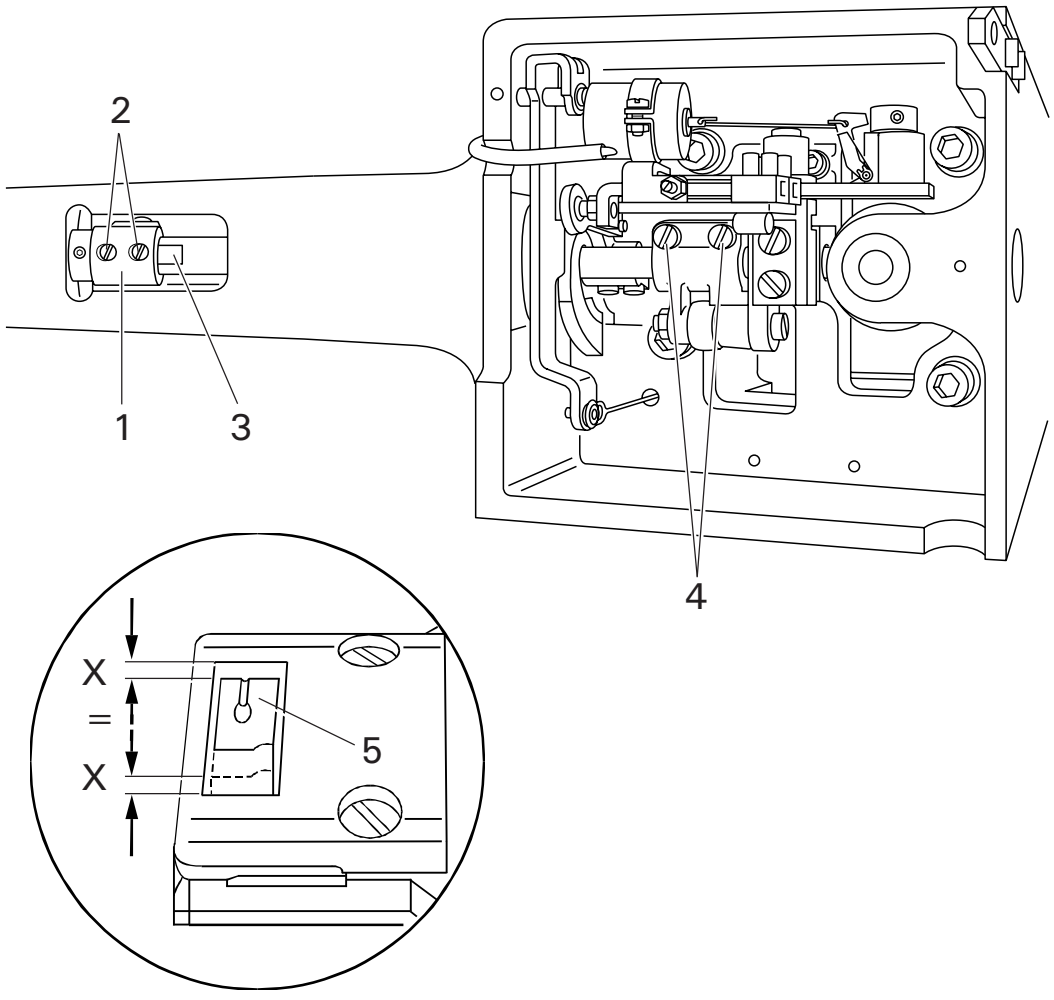


Fig. 11 - 02

- Set the longest stitch length.
- Move the clamp piece 1 (screws 2) as far to the left as possible on the clamp surface 3 of the rock shaft. The left screw must still be on the clamp surface.
- Loosen screws 4.
- Move the bottom feed dog 5 in accordance with the requirement.
- Tighten screws 4.

11.04.02 Centering the needle in the needle hole

Requirement
With the stitch length set at “0“ the needle must enter the needle hole exactly in the middle.

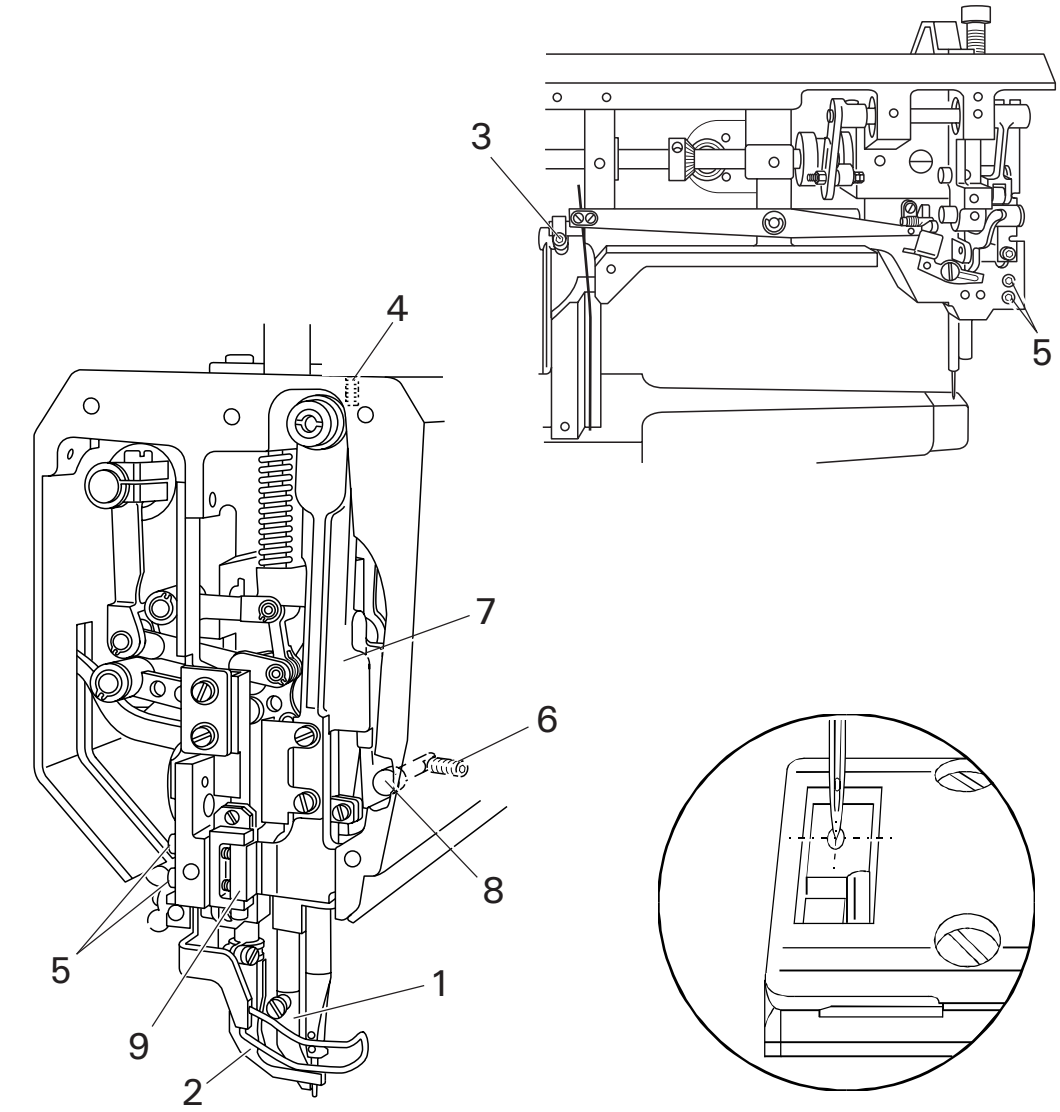


Fig. 11 - 03

- Unscrew the vibrating presser foot 1 and the presser foot 2.
- Set the stitch length at “0“ and bring the needle to its tdc.
- Insert a new needle. Loosen screws 3, 4, 5 and 6.
- Bring the needle to a position directly over the bottom feed dog by turning the handwheel.
- Move the needle bar frame 7 in accordance with the requirement.
- Tighten screws 3, 4 and 5.
- Position stop 8 so that it is touching the needle bar frame 7 and tighten screw 6.

The needle bar frame 7 in guide 9 and the vibrating presser drive shaft must move freely.

11.04.03 Pre-adjusting the needle height

Requirement
With the needle bar at its bdc the distance between the needle bar and the needle plate must be 15 mm.

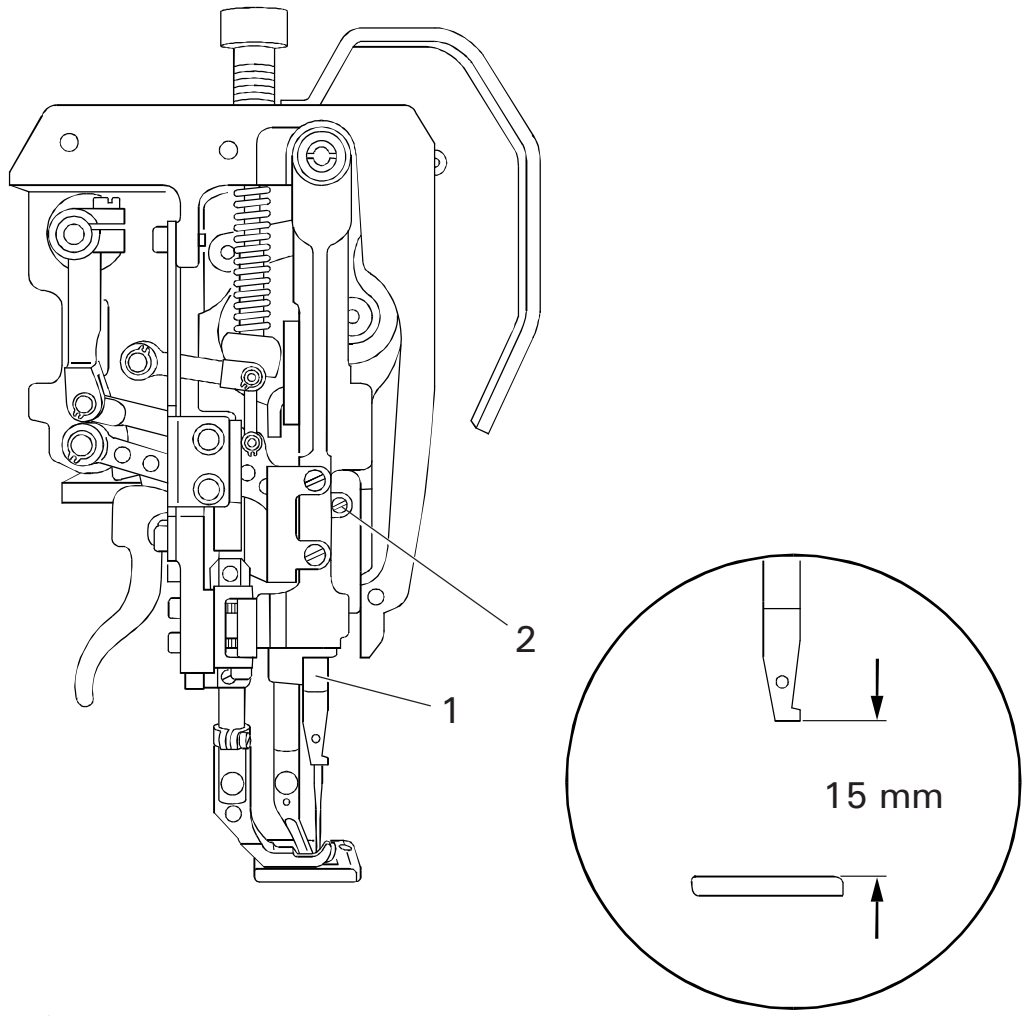
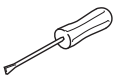


Fig. 11 - 04



- Move the needle bar 1 (screw 2) in accordance with the requirement without twisting it.

11.04.04 Driving motion of the top and bottom feed dogs

Requirement
With the longest stitch length set and the needle bar at its bdc the top and bottom feed dogs should not move when the reverse feed lever is activated.

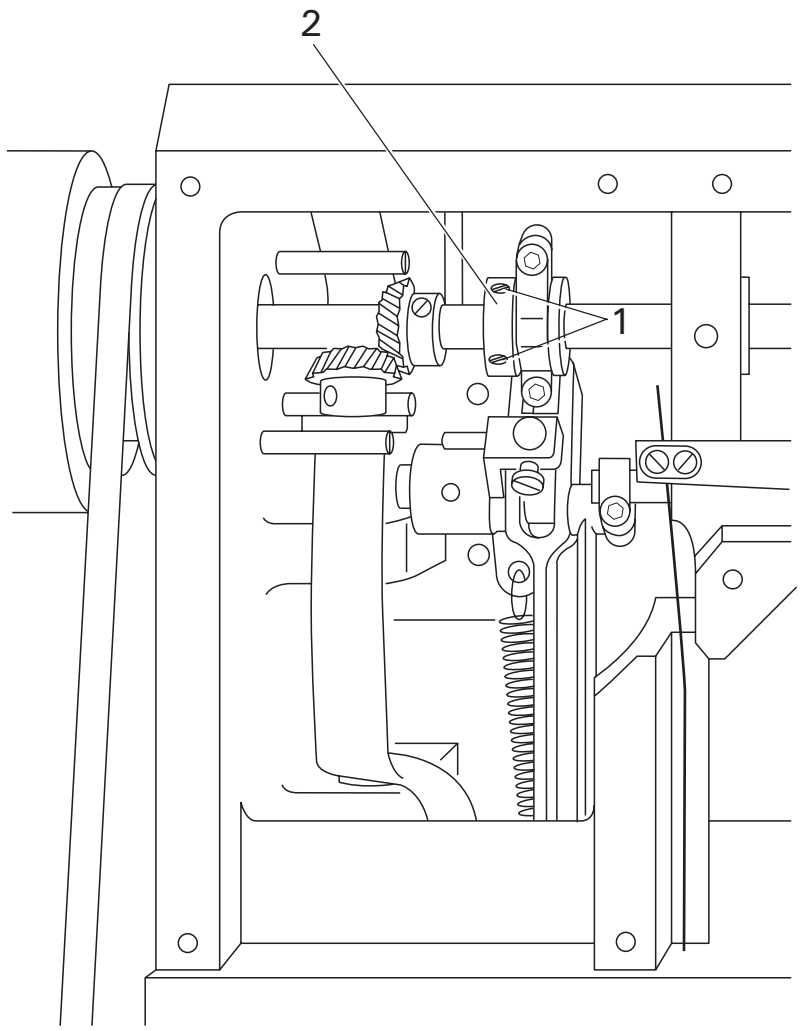
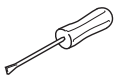


Fig. 11 - 05



- Set the longest stitch length.
- Loosen screw 1 far enough so that the feed driving eccentric 2 can be turned on the shaft with some difficulty.
- Bring the needle to its bdc.
- While keeping this position, move the feed driving eccentric 2 to the top and then move it slightly so that the requirement is fulfilled when the reverse feed lever is activated.
- Tighten screws 1.

11.04.05 Needle rise, hook-to-needle clearance and needle height

Requirement
With the stitch length set at "0" (1.8 mm after the bdc of the needle bar) the following must be correct:
1. The hook point must be opposite the middle of the needle and the distance to the needle must be 0.05 - 0.1 mm.
2. The top edge of the needle eye must be 0.8 mm from the hook point.

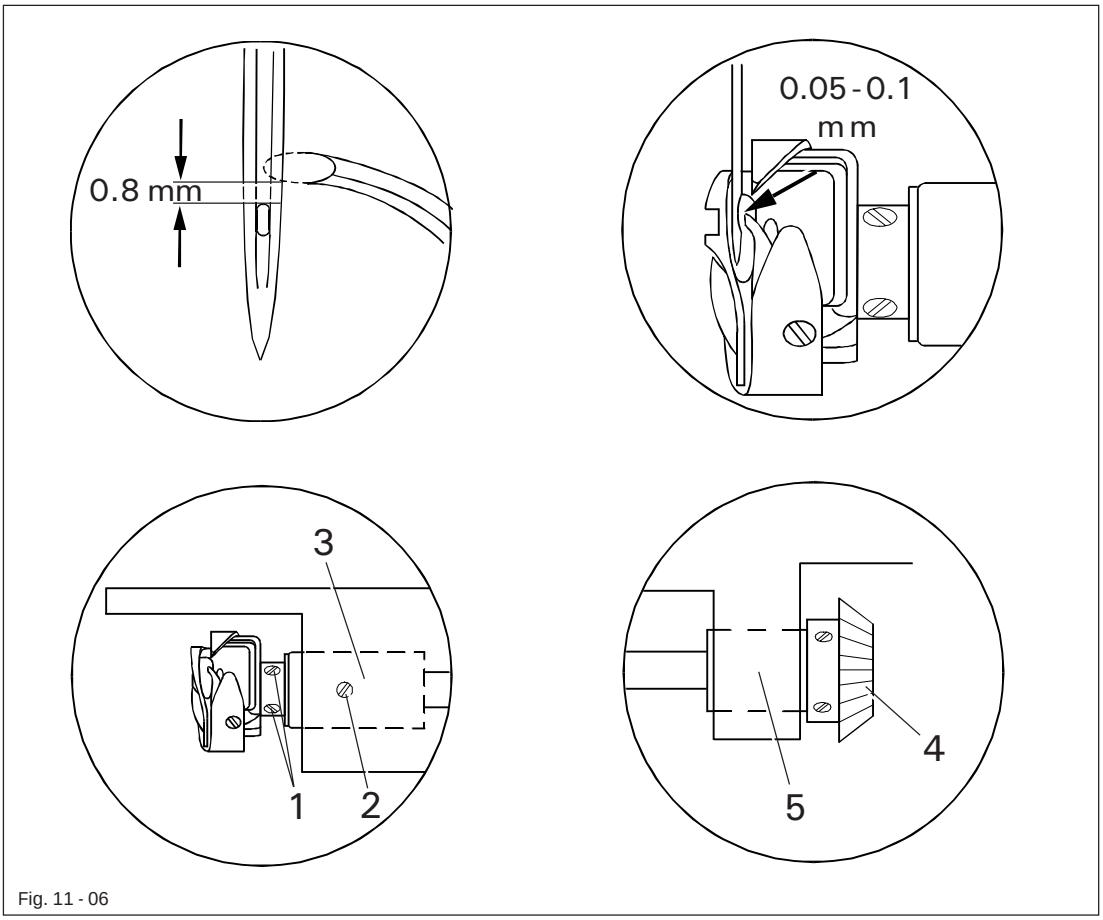
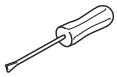


Fig. 11 - 06



- Set the stitch length at "0" and loosen screws 1 and 2 (screw 2 is on the back of the machine).
- Bring the needle to its bdc and slide the 1.8 mm measuring plate with its slot directly under the needle bar bearing. Position the screw clamp so that it rests on the measuring plate and screw it tight.
- Remove the measuring plate and turn the handwheel in its direction of rotation until the screw clamp is touching the needle bar bearing.
- Move the hook on the hook shaft in accordance with requirement 1.
- Rotate the hook in accordance with requirement 2 (adjust needle height if necessary).
- Bring the hook shaft bearing 3 to rest on the hook and tighten screw 2.
- Taking care to ensure that the bevel gear 4 is resting on the bearing, tighten screws 1.

On machines with a thread trimmer the adjustment of the axial play on the hook shaft and the adjustment of the hook shaft bearing 3 are not necessary.

11.04.06 Vibrating presser feeding motion

Requirement
With the presser foot 3 resting on the needle plate the vibrating presser 6 and the needle point must both reach the needle plate at the same time with the vibrating presser stroke at maximum.

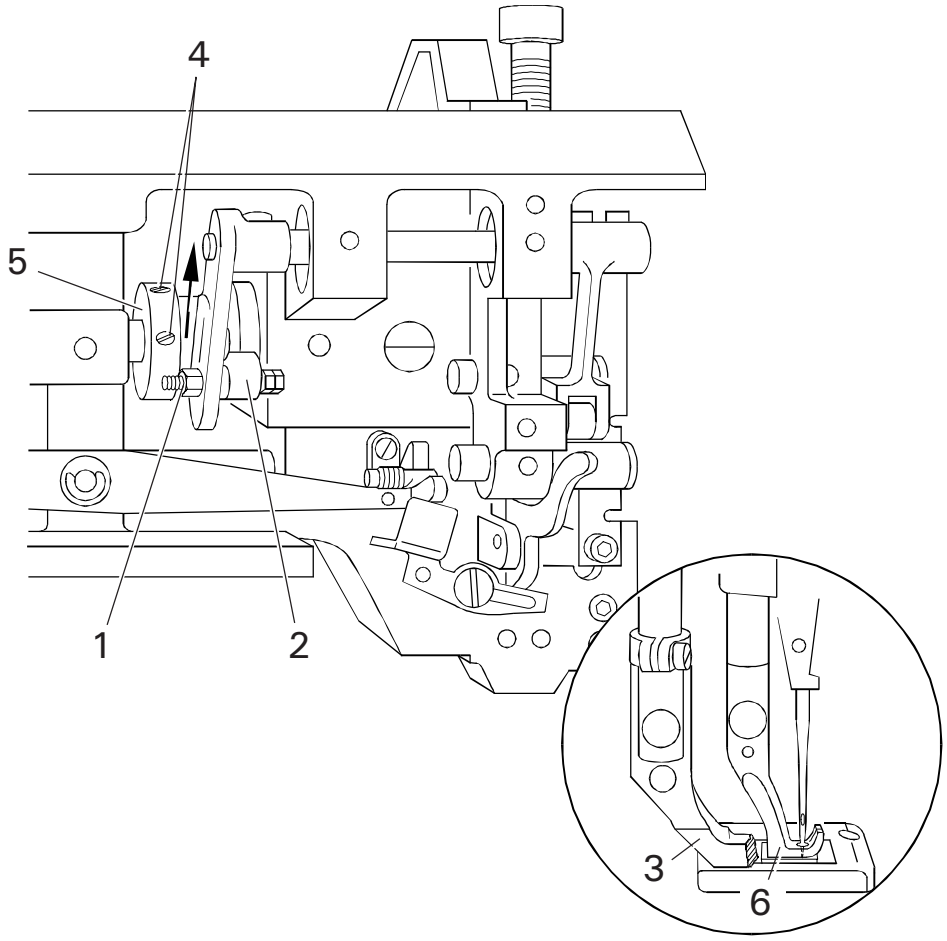


Fig. 11 - 07

- Loosen nut 1.
- Slide bolt 2 upwards in the elongated hole and tighten nut 1.
- Allow the presser foot 3 to rest on the needle plate.
- Loosen screws 4 enough so that the feed lifting eccentric 5 can be rotated with difficulty.
- Rotate the lifting eccentric 5 in accordance with the requirement.
- Tighten screws 4.
- Carry out a check.

11.04.07 Vibrating presser lift

Requirement
With the vibrating presser lift at maximum and the stitch length set at “0“, presser foot 1 and vibrating presser foot 2 must lift 7.0 mm from the needle plate when the handwheel is rotated.

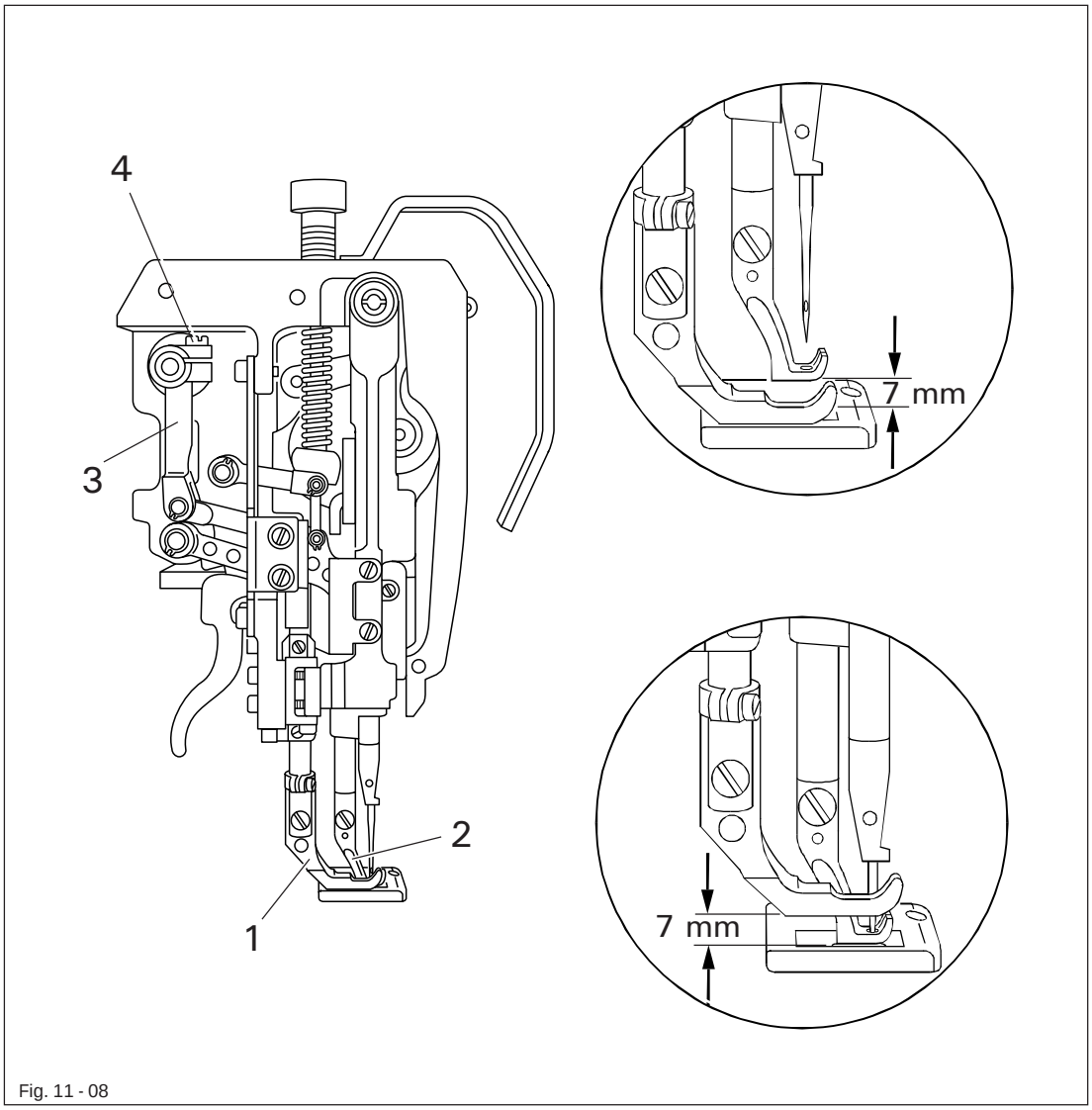


Fig. 11 - 08

- Set the vibrating presser lift at maximum and the stitch length at “0“.
- Allow the presser foot 1 to rest on the needle plate.
- Turn the handwheel in its direction of rotation until the vibrating presser foot 2 has reached its highest point.
- Turn crank 3 (screws 4) in accordance with the requirement.
- Carry out a check.

11.04.08 Needle thread tension release

Requirement
With the presser foot lifted, the two tension disks must be at least 0.5 mm apart.

The distance of 0.5 mm is the minimum clearance. The clearance can range up to more than 1 mm with thick threads.

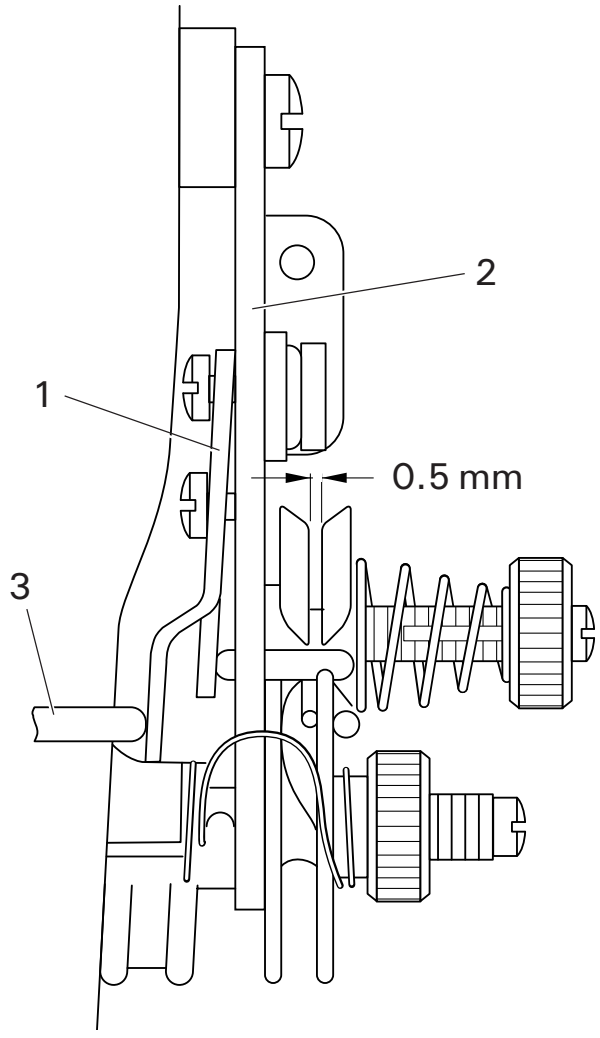


Fig. 11 - 09

- Raise the presser foot using the hand lever.
- Align the compression plate 1 behind the tension bearing board 2 in accordance with the requirement.

When the tension is correct the release pin must not be under pressure.

11.04.09 Thread check spring

Requirement
The movement of the thread check spring must be finished when the needle point enters the material (= approx. 7 mm spring movement).

The length of the spring movement can vary a little upwards or downwards due to changes in the sewing parameters.

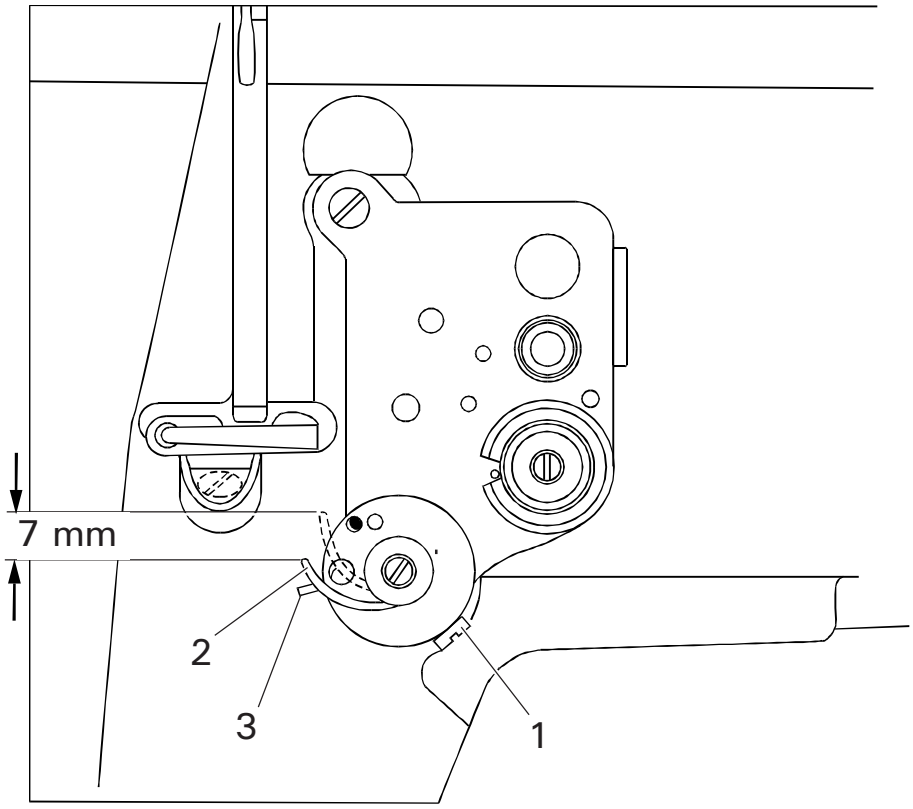


Fig. 11 - 10

- Thread the machine, place the test material under the presser foot and lower the presser foot onto the material using the hand lever.
- Loosen screw 1.
- Sew a few stitches by turning the handwheel and then raise the take-up lever to its tdc.
- When continuing to turn the handwheel (in direction of rotation) the thread check spring 2 should move back about 7 mm.
- In this position bring stop 3 to rest on the thread check spring and tighten screw 1.

11.04.10 Bobbin winder

Requirement
1. With the bobbin winder engaged the winder spindle must be driven reliably. With the bobbin winder disengaged, however, the friction wheel 5 must not touch the drive wheel 1.
2. The bobbin winder must stop automatically when the thread wound on the bobbin has reached a point approx. 1 mm below the bobbin rim.

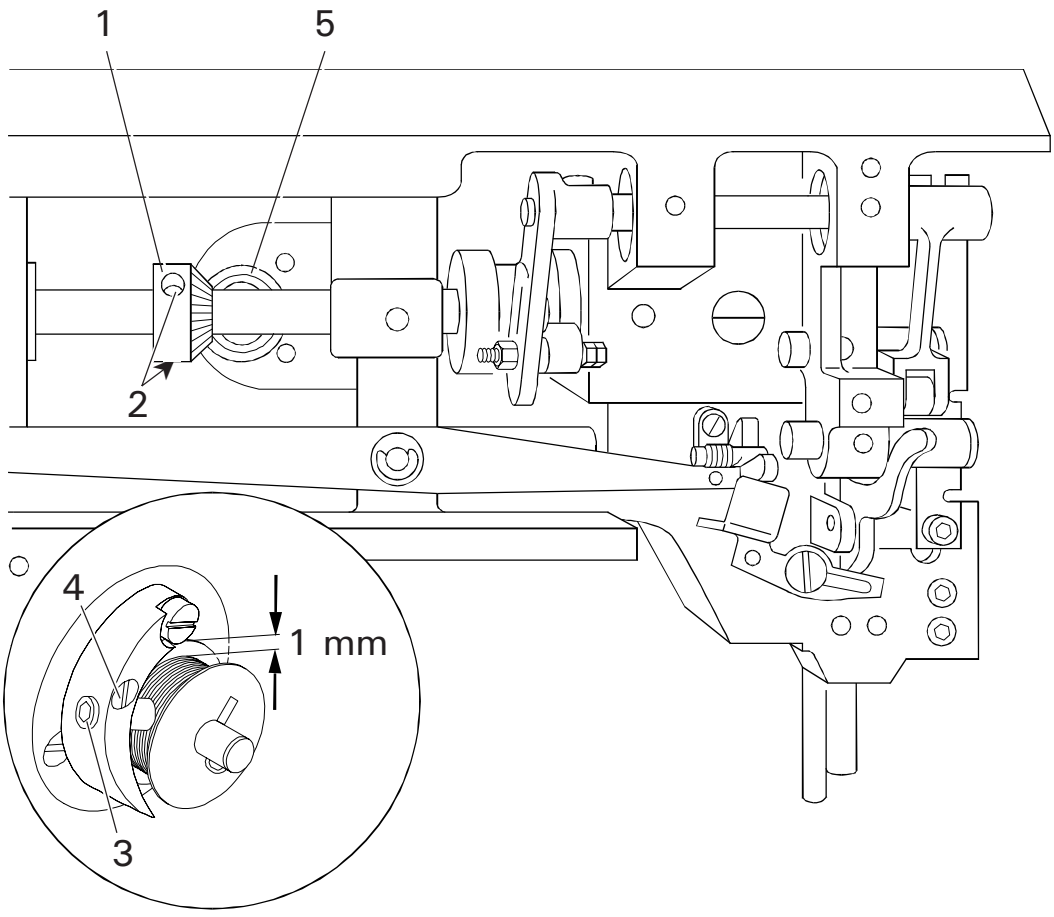
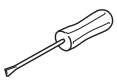


Fig. 11 - 11



- Adjust the drive wheel 1 (screws 2) in accordance with requirement 1.
- Place a bobbin on the winder spindle, thread the bobbin and switch on the bobbin winder.
- Shift the regulating pin 3 (screws 4) in accordance with requirement 2.

11.04.11 Regulating the pressure on the presser foot

Requirement
The material must be fed perfectly even at top sewing speed. There must not be any pressure marks on the material.

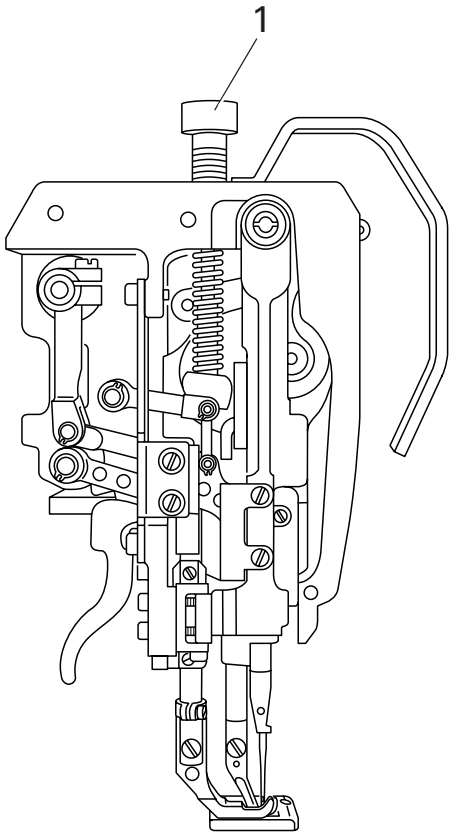
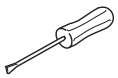


Fig. 11 - 12



- Turn screw 1 in accordance with the requirement.

11.05 Adjusting the thread trimmer -900/52 (optional)

11.05.01 Preadjusting the control cam

Requirement
With the take-up lever at its bdc, projection 4 on the control cam 2 must be directly underneath the cam follower 5.

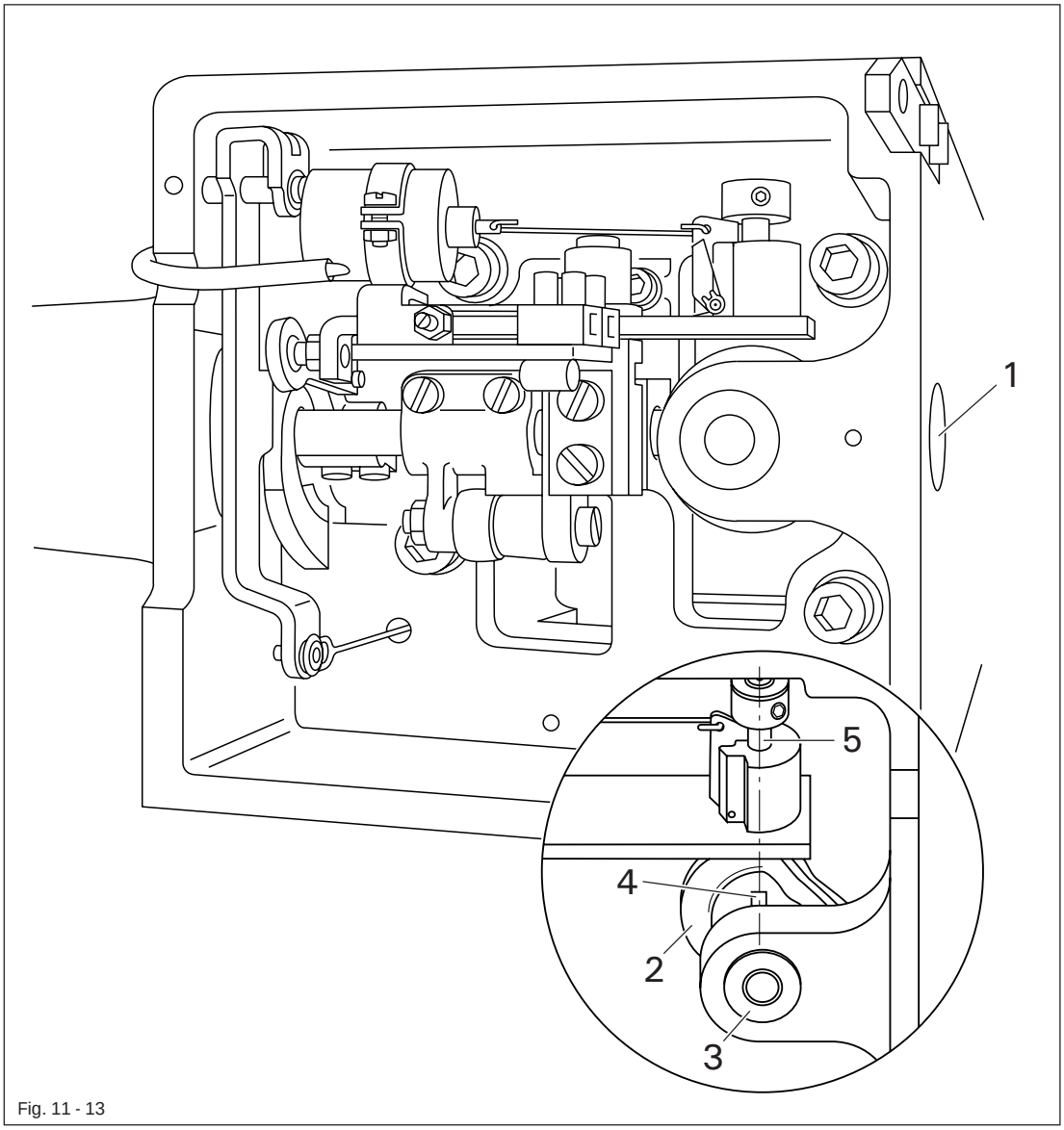
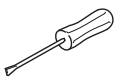


Fig. 11 - 13



- Loosen the two screws on the control cam 2 through the assembly hole 1.
- Bring the take-up lever to its bdc by turning the handwheel .
- Turn the control cam 2 on its shaft in accordance with the requirement.
- In this position, and taking care to ensure that the control cam 2 is touching the bearing 3 below it, tighten the accessible screw on the control cam 2.
- Make the second screw on the control cam 2 accessible and tighten it.
- Carry out a check.

11.05.02 Tripping lever height

Requirement
With the needle bar at its bdc there must be a distance of 1.0 mm between the tripping lever 3 and the control cam 4.

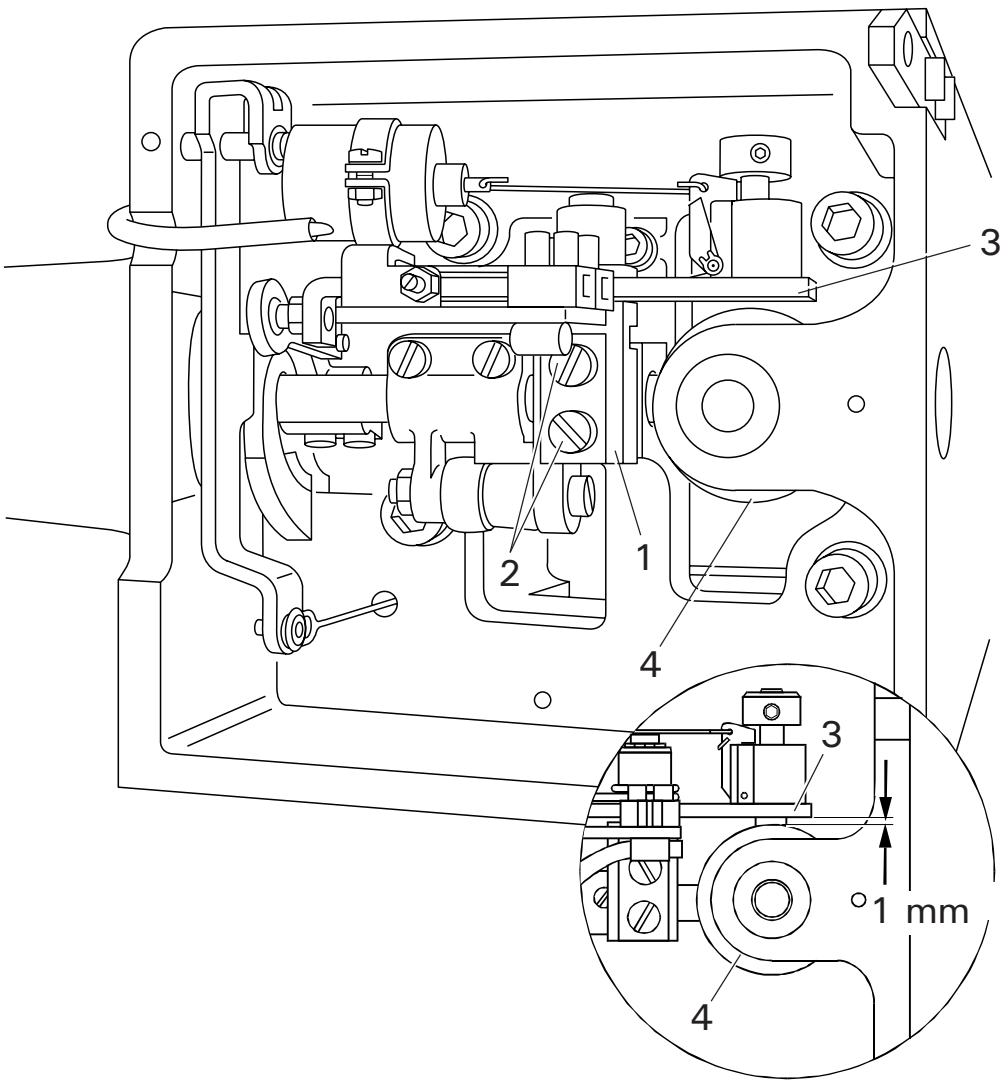


Fig. 11 - 14

- Bring the needle bar to its bdc by turning the handwheel.
- Move the carrier 1 (screws 2) of the tripping lever 3 in the elongated hole in accordance with the requirement.

11.05.03 Feed regulator pin

Requirement
With the needle bar at its bdc, the feed regulator pin 5 must be able to fall lightly into the path of the control cam 7 when the engaging solenoid 6 is activated.

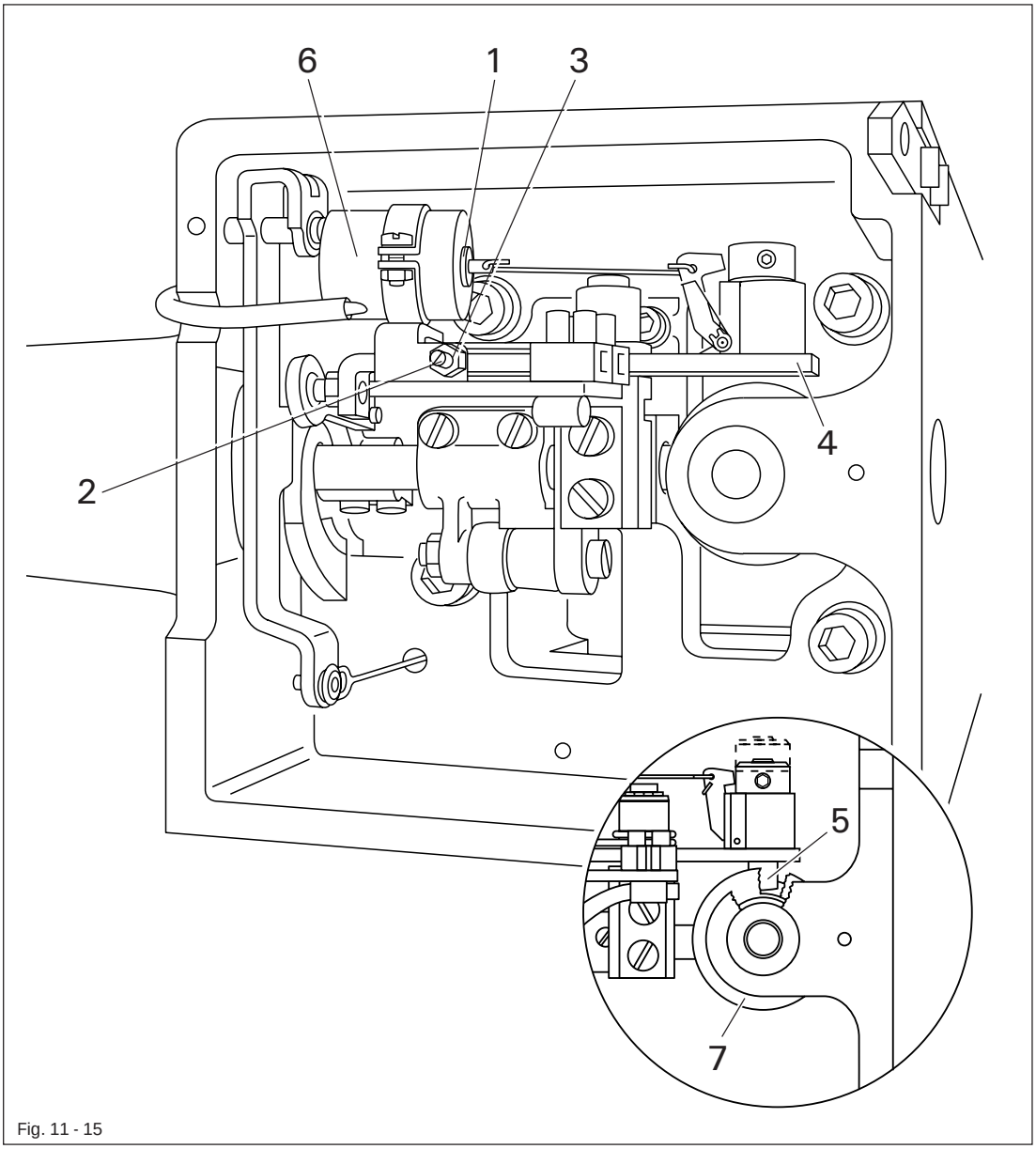


Fig. 11 - 15

- Bring the needle bar to its bdc by turning the handwheel.
- Activate the magnet core 1 manually.
- Tighten locking screw 2 (nut 3) far enough so that it just touches the tripping lever 4.
- Loosen locking screw 2 approx. 1/2 a turn until the movement of the feed regulator pin 5 is in accordance with the requirement.
- Carry out a check.

11.05.04 Engaging solenoid

Requirement
With the needle bar at its bdc and with the magnet core 1 fully activated, there must be a clearance of approx. **0.5 mm** between the pawl 7 and the retaining collar 6.

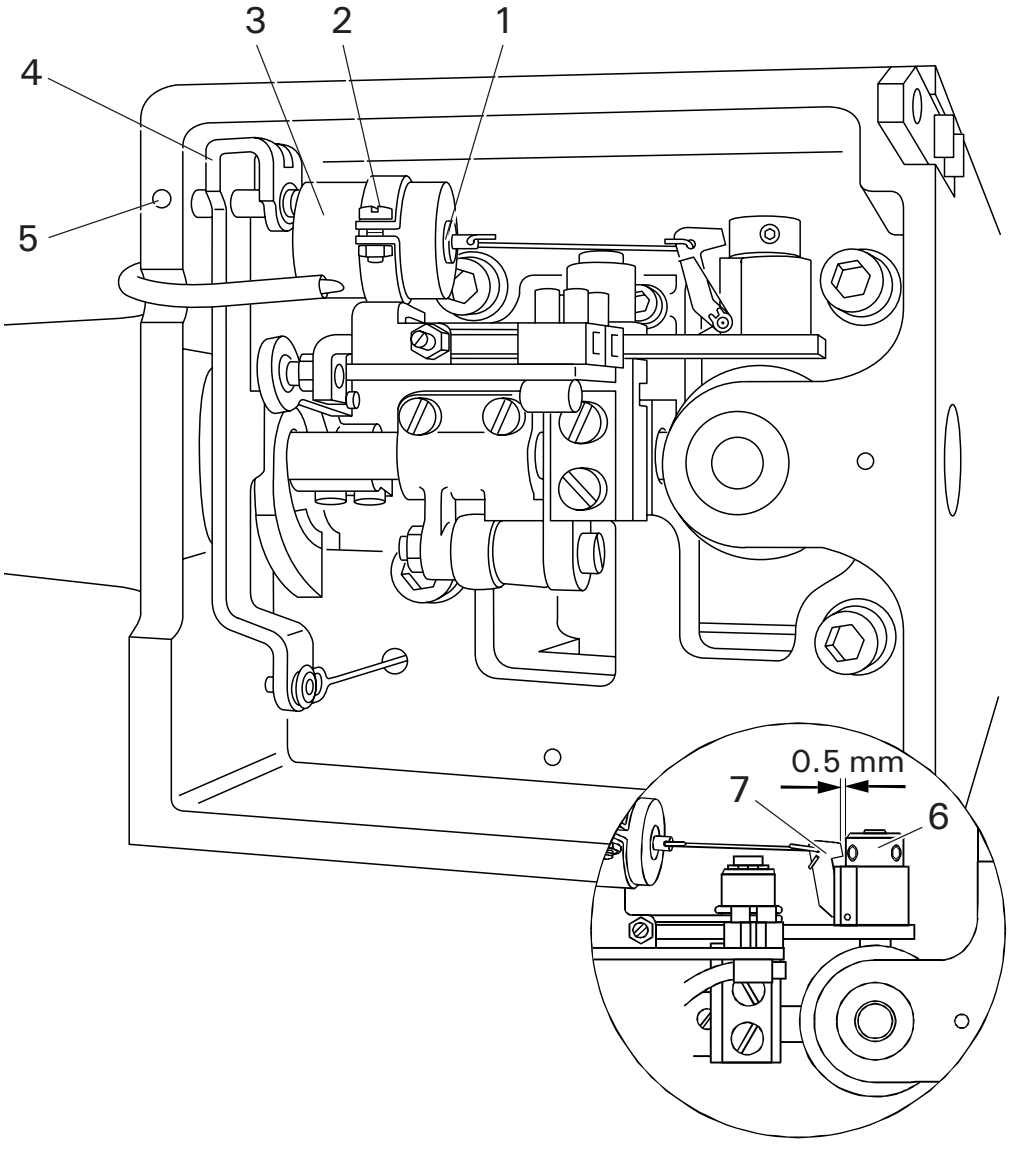


Fig. 11 - 16

- Bring the needle bar to its bdc by turning the handwheel.
- Push the magnet core 1 in as far as it will go and leave it in this position.
- Loosen screws 2.
- Move the magnet housing 3 axially in accordance with the requirement.
- In this position, tighten screws 2.
- Carry out a check.

If the magnet housing 4 touches lever 4, move lever 4 (screw 5) a little to the left.

11.05.05 Adjusting the height of the feed regulator pin

Requirement
With the thread trimmer in resting position and the pawl 4 clicked in place there must be a clearance of 0.3 mm between the highest point of the control cam 5 and the feed regulator pin.

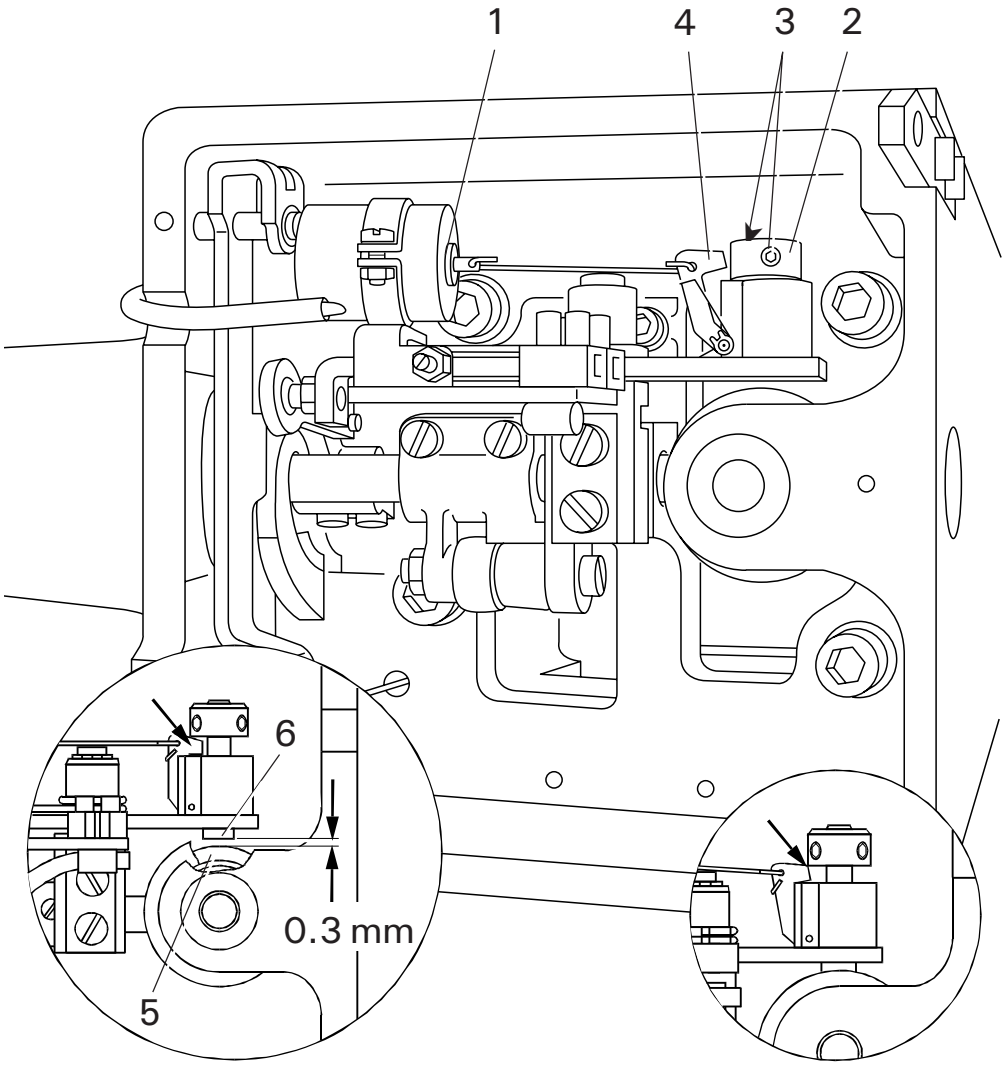


Fig. 11 - 17

- Bring the needle bar to its tdc by turning the handwheel.
- Activate the magnet core 1.
- Allow the retaining collar 2 (screws 3) to lightly touch pawl 4 (see arrow in small circle).

With the pawl 4 clicked into place, this adjustment procedure fulfills the requirement (see large circle).

- Carry out a check.

11.05.06 Thread catcher, front point of reversal

Requirement
With the thread catcher 3 at its front point of reversal, the rear edge of the thread catcher cutout must still be 1 mm over the front edge of the bobbin case position-finger 6.

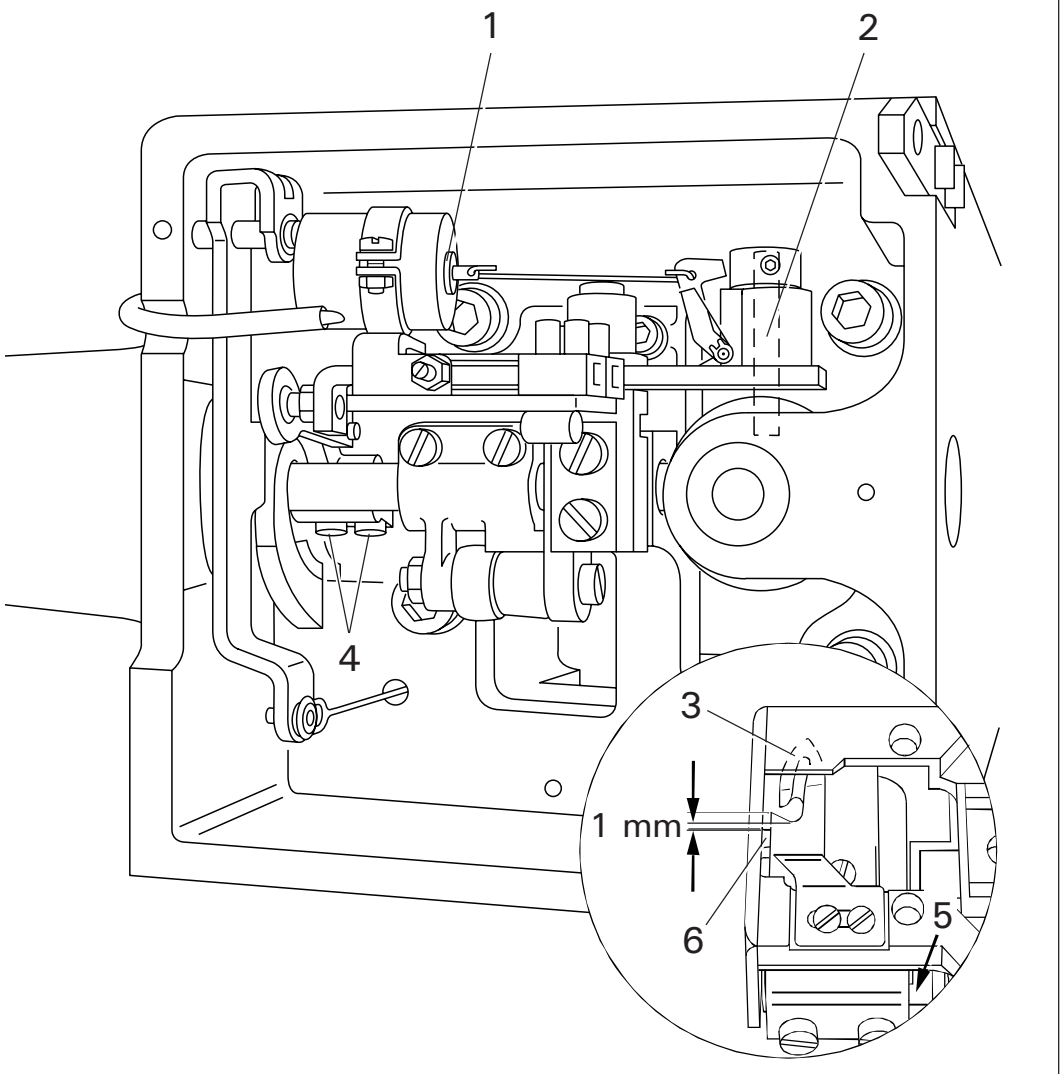


Fig. 11 - 18

- Bring the needle bar to its bdc by turning the handwheel.
- Activate the magnet core 1 allowing the feed regulator pin 2 to fall into the path of the cam.
- Bring the thread catcher 3 to its front point of reversal by turning the handwheel in its direction of rotation.
- Loosen screws 4.
- Adjust the thread catcher 3 in accordance with the requirement by turning the thread catcher carrier 5.
- Tighten screws 4.

11.05.07 Lateral adjustment of the thread catcher

Requirement
With the needle bar at its bdc, the tip of the thread catcher 3 must point exactly at the middle of the needle.

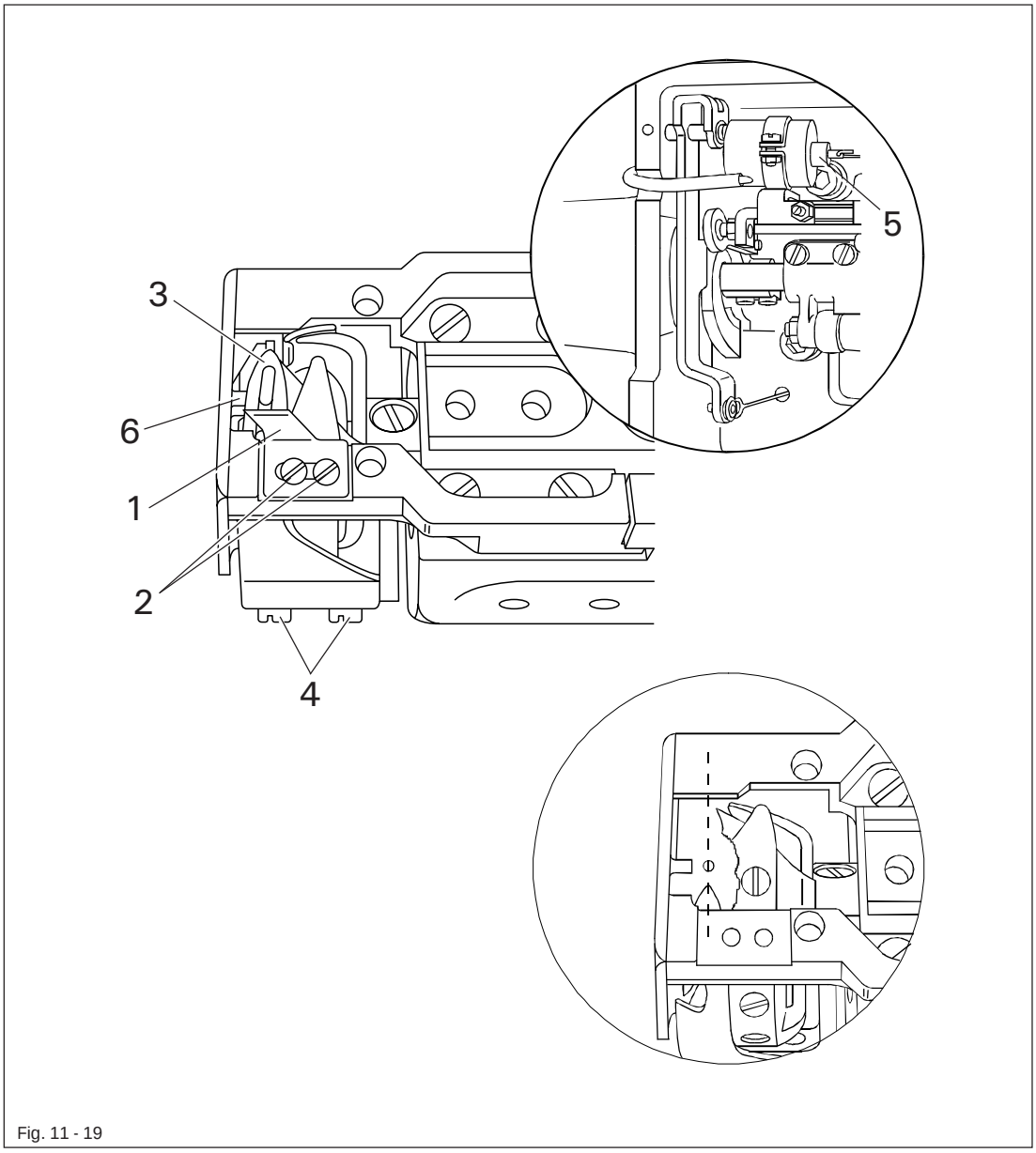


Fig. 11 - 19

- Remove knife 1 (screws 2).
- Bring the needle bar to its bdc by turning the handwheel.
- Align the thread catcher 3 (screws 4) laterally in accordance with the requirement.
- Activate the magnet core manually and turn the handwheel until the needle bar is at its tdc. Take care to ensure that the thread catcher 3 does not come into contact with the thread bobbin case position-finger 6 during its course of movement.
- Screw on knife 1 (screws 2).

11.05.08 Control cam, final adjustment

Requirement
With the end of the thread guard 2 mm behind the middle of the bobbin case position-finger 3, the clearance between the thread catcher point 4 and the thread guard 2 must be approx. 4 mm as viewed in the direction of feed.

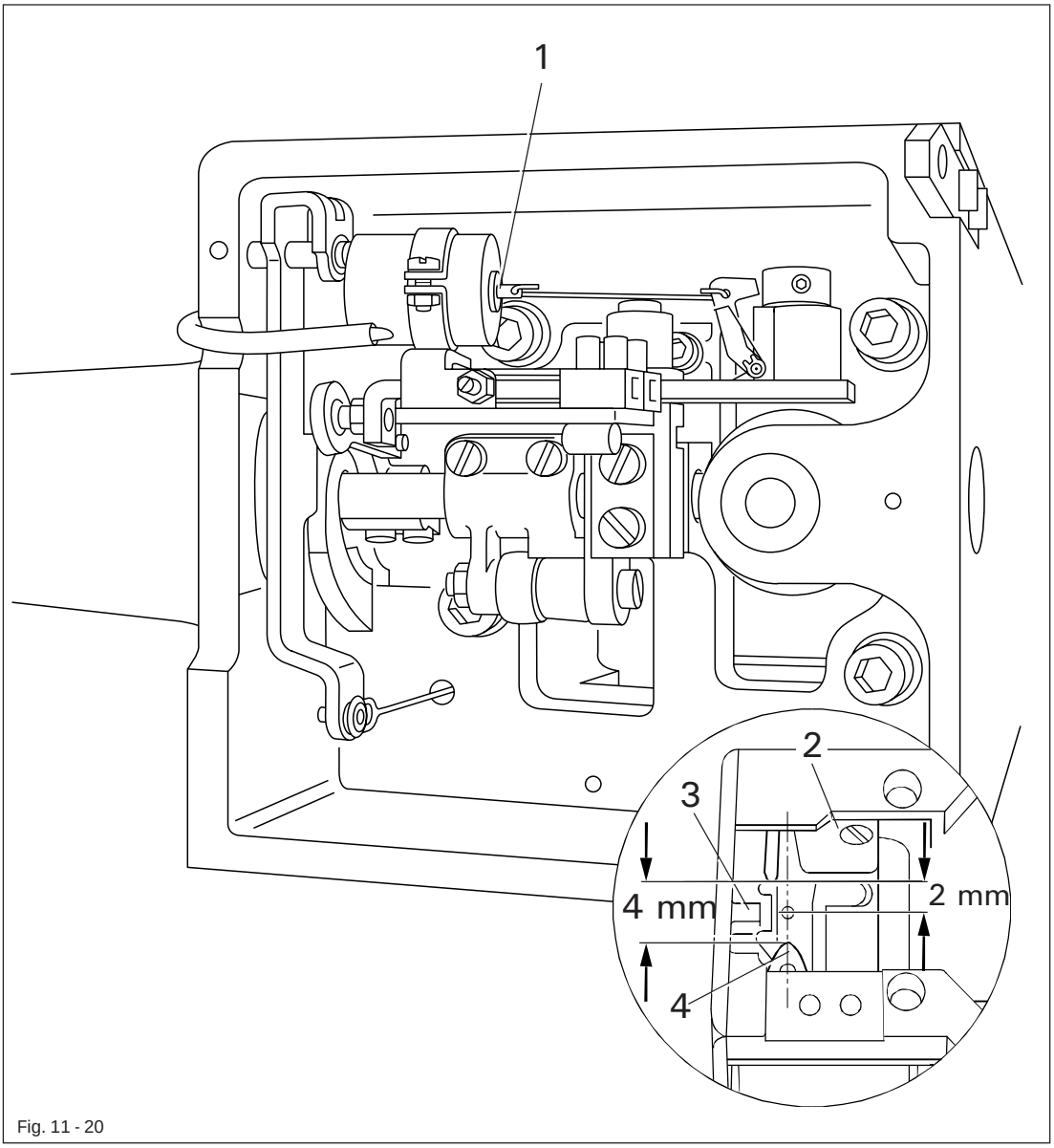


Fig. 11 - 20

- Bring the needle bar to its bdc by turning the handwheel.
- Activate the magnet 1 core manually.
- Continue turning the handwheel (direction of rotation) until the end of the thread guard 2 is 2 mm behind the middle of the bobbin case position-finger 3 as viewed in the direction of feed.
- In this position the position of the thread catcher point 4 must be in accordance with the requirement.
- If necessary, adjust the control cam accordingly (see page 11-14).

11.05.09 Knife

Requirement
With the left edge of the thread catcher notch 1 mm in front of the knife edge, the left knife edge must be flush with the edge of the thread catcher (see arrow in circle).

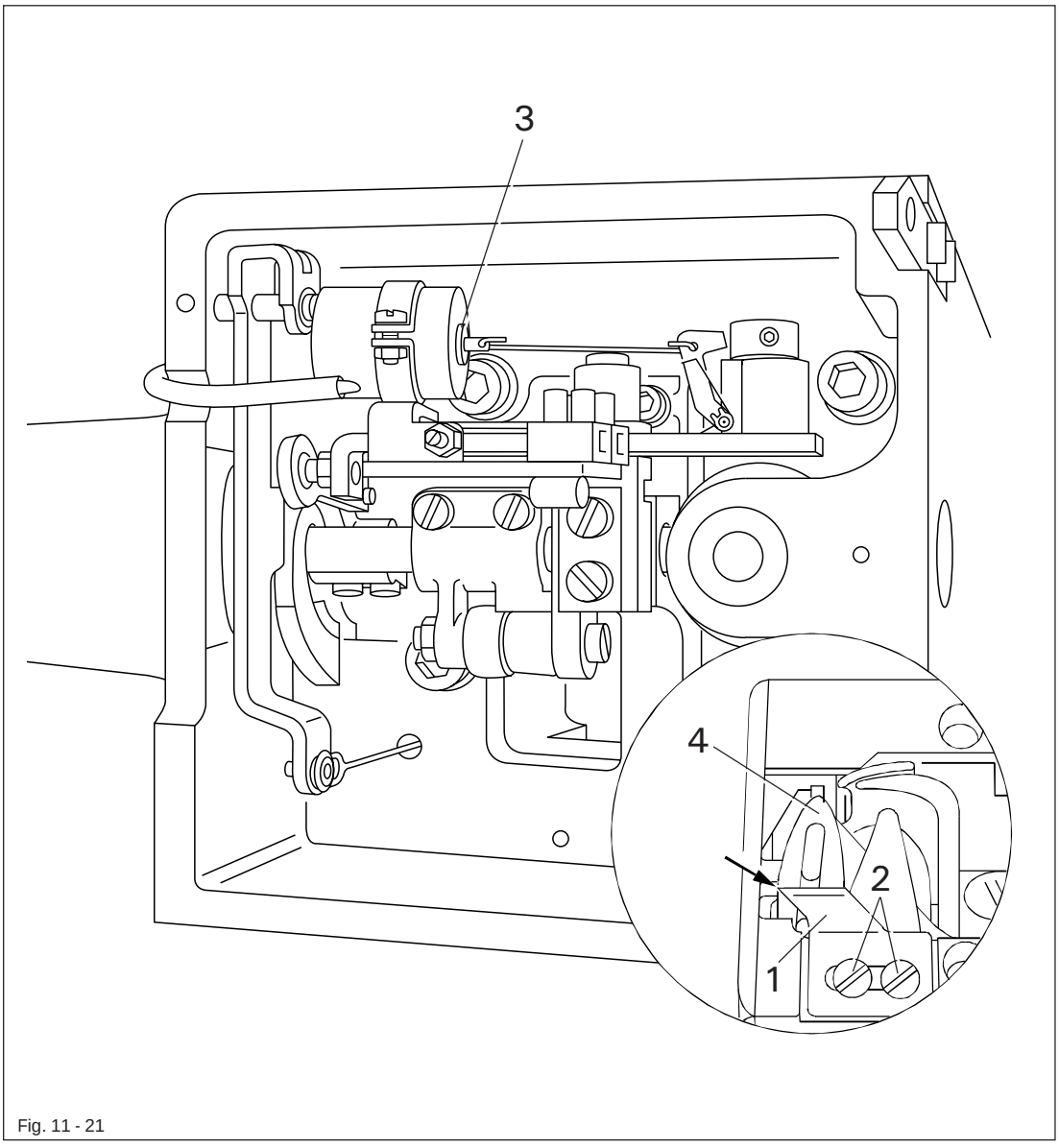
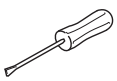


Fig. 11 - 21



- Loosen screws 2 on knife 1.
- Bring the needle bar to its bdc by turning the handwheel and activate the magnet core 3.
- Turn the handwheel in its direction of rotation until the point of the thread catcher 4 is at the same level as the knife blade.
- Laterally align knife 1 in accordance with the requirement (see arrow).
- Tighten screws 2.
- By turning the handwheel, check that the back of the thread catcher does not catch on the knife blade. Re-adjust the thread catcher 4 if necessary (see page 11-20).

11.05.10 Triggering the needle thread tension

Requirement
With the tip of the release lever 5 at the highest point of the tension release cam 4, the tension disks must be at least 5 mm apart.

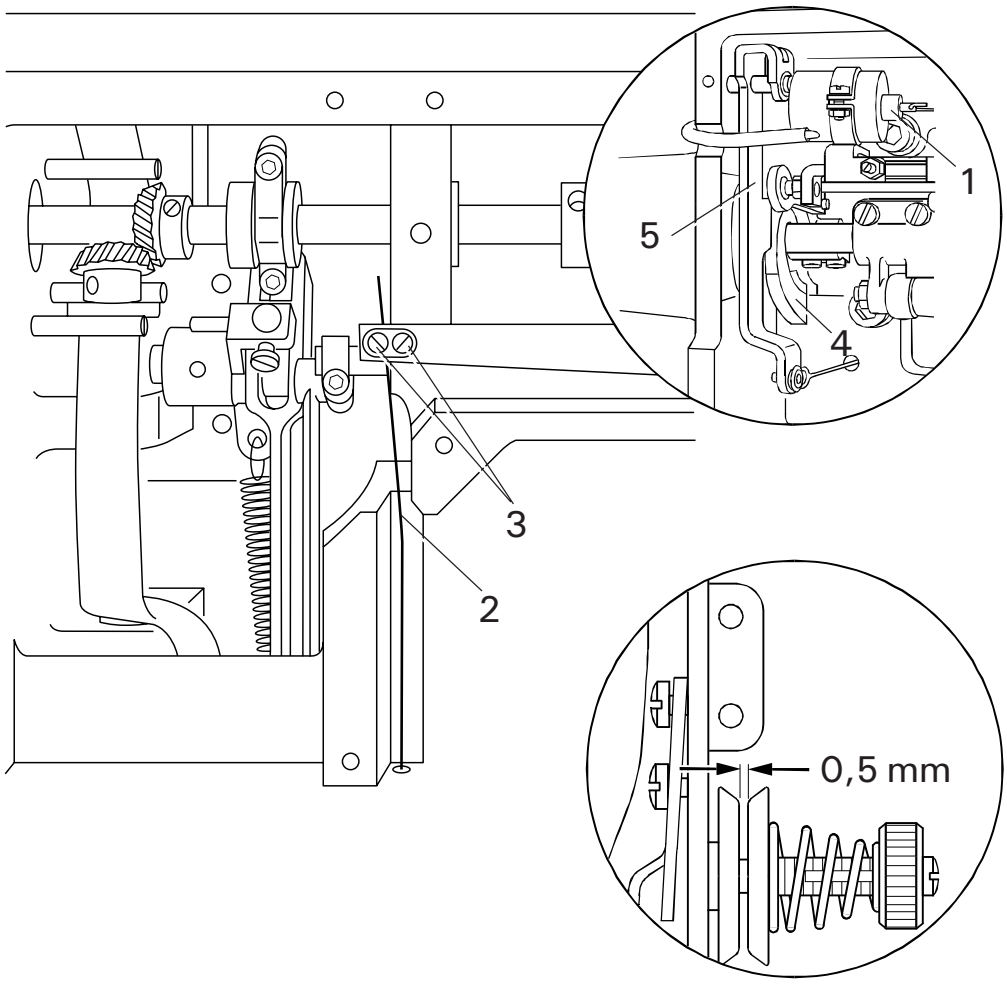


Fig. 11 - 22

- Bring the sewing foot to rest on the needle plate using the hand lever.
- Bring the needle bar to its bdc by turning the handwheel and activate the magnet core 1.
- Turn the handwheel in its direction of rotation until the thread catcher has reached its front point of reversal.
- Adjust the height of the transmission bar 2 (screws 3) so that the distance between the tension disks is in accordance with the requirement.
- Finish the thread trimming process by turning the handwheel and bring the take up lever to its tdc. In this position the needle thread tension must be fully activated.

- Finally, apply a light coat of grease to the surface of the release cam 4 and the tip of the release lever 5.

11.05.11 Cutting test

Requirement
Both threads must be trimmed perfectly.

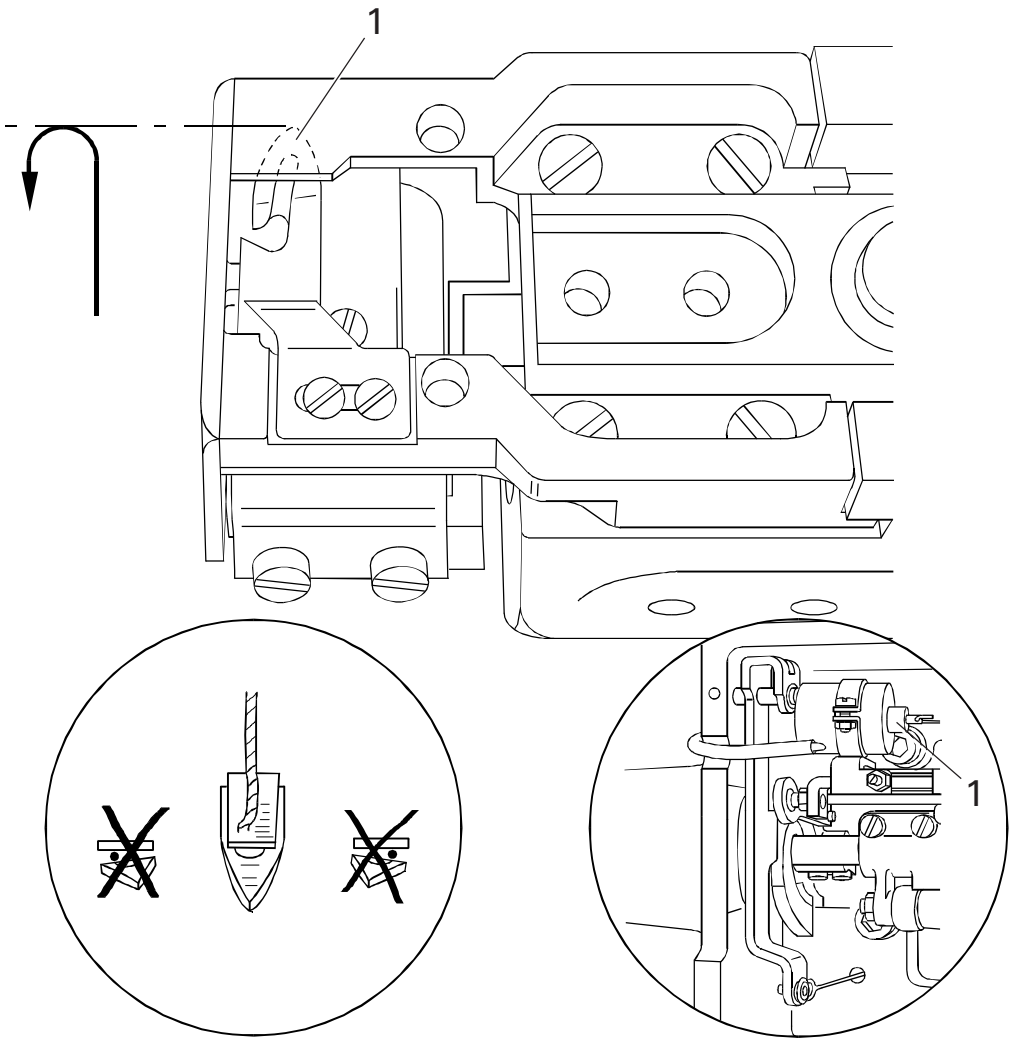
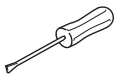


Fig. 11 - 23

- Bring the needle bar to its bdc by turning the handwheel and activate the magnet core 1.
- Turn the handwheel in its direction of rotation until the thread catcher 2 is at its front point of reversal.
- Take one thread doubled and pull it into the cutout of the thread catcher 2. Carry out a cutting test by continuing to turn the handwheel.
- If one of the threads is not cut properly, adjust the relationship of the thread catcher to the knife (11-20).

11.05.12 Positioner

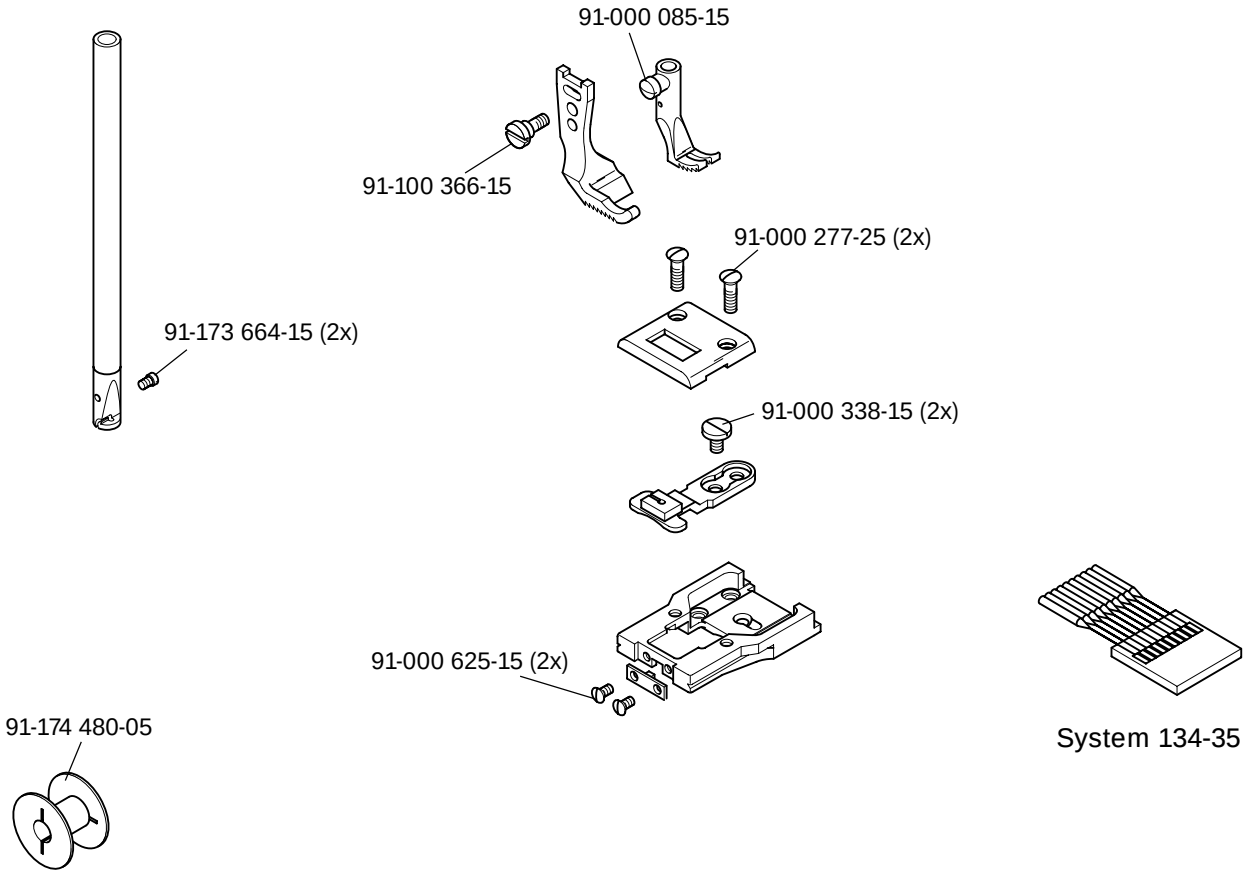
Requirement
When interrupting the sewing procedure the machine must position itself at 4 mm after the bdc of the needle bar. After trimming the thread, the machine must position itself at the tdc of the take-up lever.

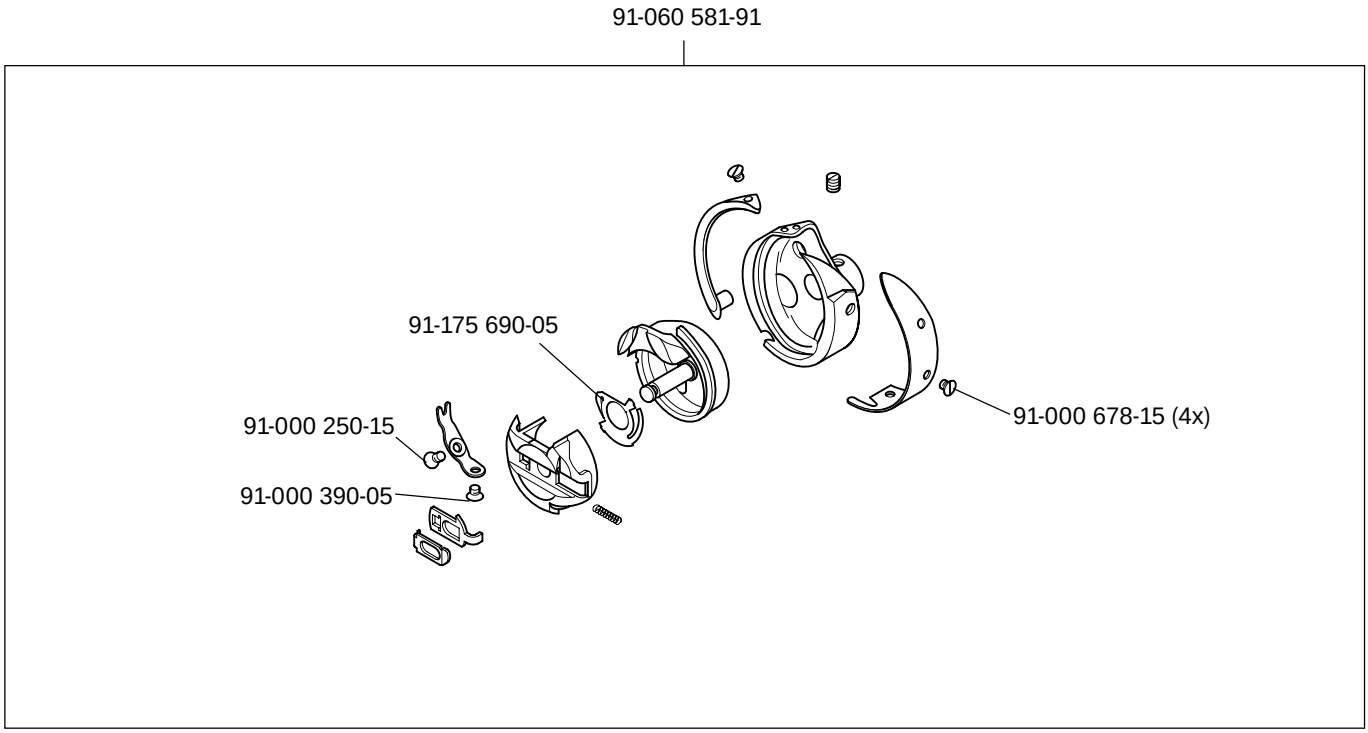


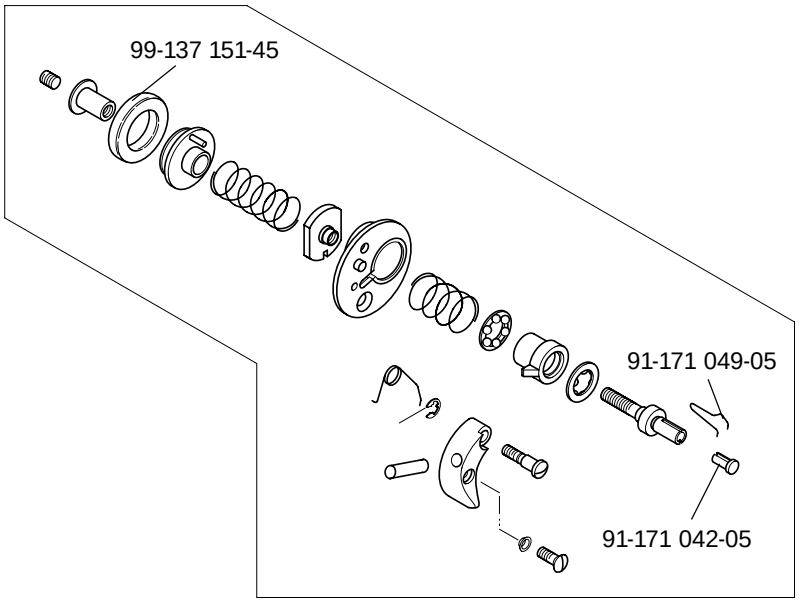
- Carry out the adjustment in accordance with the instruction manual of the motor.

12 Wearing parts

This list indicates the most important wearing parts.
You can request a detailed parts list for the complete machine under parts number 296-12-18 284.







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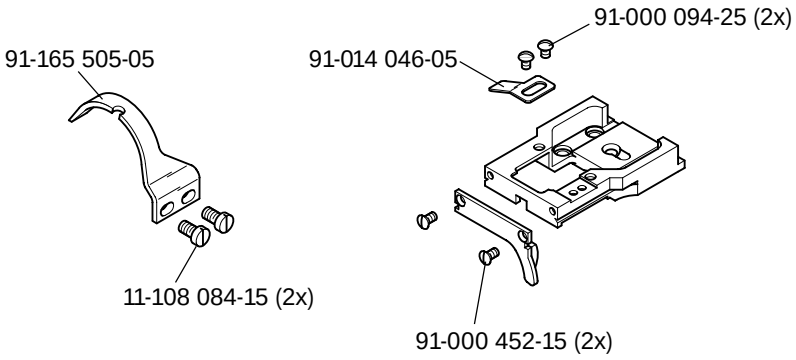

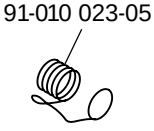

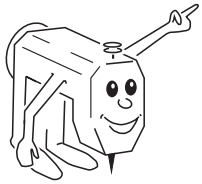

Notes

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