

114

INSTRUCTION MANUAL

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

6 001 000 →



This Instruction Manual is valid for all models and subclasses listed in the chapter "**Specifications**".



The adjustment manual for the machines can be downloaded free of charge from the internet address

www.pfaff-industrial.com/pfaff/de/service/downloads

As an alternative to the internet download the adjustment manual can also be ordered in book form under part no. **296-12-18 614/002**.

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**PFAFF Industriesysteme
und Maschinen AG**

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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, also observe all generally accepted, statutory and other regulations and legal requirements and all valid environmental protection regulations!

The regionally valid regulations of the social insurance society for occupational accidents or other supervisory organizations 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!
- The danger and safety instructions on the machine itself are to be followed!
- 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, roller presser, needle plate and 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!
- 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! The only exceptions to this rule are found in the regulations EN 50110.
- Modifications and alterations to the machine may only be carried out under observance of all the relevant safety regulations!
- 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 structural characteristics of the machine. We are not liable for any damage which may be caused by non-original parts.

1.03

Safety symbols



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 an integral 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 user to only operate the machine in perfect running order.
- It is the obligation of the user to ensure that none of the safety mechanisms are removed or deactivated.
- It is the obligation of the user to ensure that only authorized persons operate and work on the machine.

Further information can be obtained from 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 for taking care of problems arising in the sewing area.

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

- always observe the Notes on Safety in the Instruction Manual!
- never use any working methods which could adversely affect the safety of the machine!
- not wear loose-fitting clothing or jewelery such as chains or rings!
- also ensure that only authorized 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!
- wait until the luminous diode on the control box is no longer blinking or on before beginning adjustment or repair work.
- never work on parts which are still connected to the power supply! Exceptions are explained in the regulations EN 50110.
- replace the protective coverings and close the electrical control box after all repairs or maintenance work!

1.06

Danger



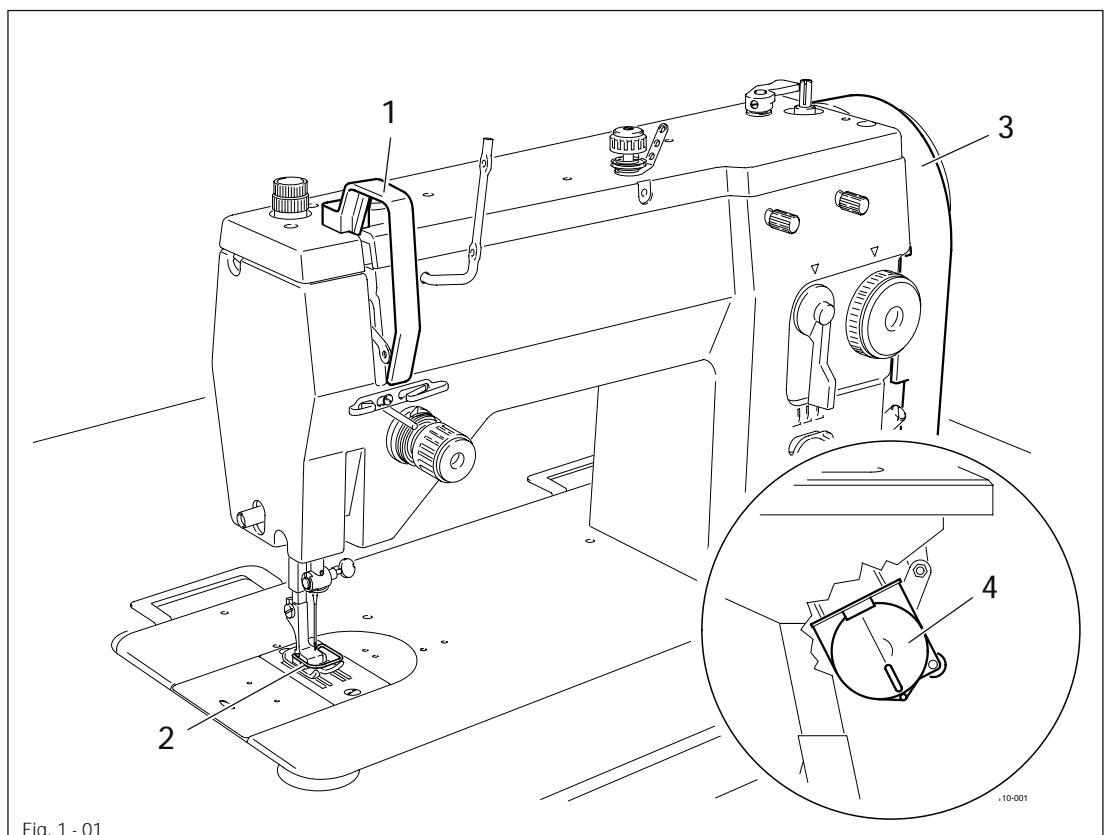
A working area of 1 meter is to be kept free both in front of and behind the machine while it is in operation so that it is always easily accessible.



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



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



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



Do not operate the machine without the finger guard 2!
Danger of injury by the needle!



Do not operate the machine without belt guards 3 and 4!
Dange of injury by the rotating v-belt!

2

Proper use

The PFAFF 114 is a lockstitch, zig-zag sewing machine with bottom feed.
The machine is used for sewing zig-zag seams in the craft sector.



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 damage 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 ▲

Stitch type: 304 (zigzag lockstitch)

Needle system: DPx5

Needle size in 1/100 mm: 80 - 100

Model B: for sewing medium-weight material

Effective balance wheel diameter: 74 mm

Presser foot clearance: 6 mm

Clearance width: 211 mm

Clearance height: 130 mm

Bedplate dimensions: 399 x 178 mm

Sewing head dimensions:

Length: ca. 410 mm

Width: ca. 310 mm

Height (above table): ca. 270 mm

Max. stitch length: 5.0 mm

Max. zig-zag stitch width: 9.0 mm

Max. speed: 2000 spm

Connection data:

Operating voltage: see Motor Instruction Manual

Max. power consumption: see Motor Instruction Manual

Fuse protection: see Motor Instruction Manual

Noise data:

Noise emission level at workplace with a sewing speed of 2000 spm: $L_{pA} < 84,5$ dB(A) ■

(Noise measurement in accordance with DIN 45 635-48-A-1, ISO 11204, ISO 3744, ISO 4871)

Net weight of sewing head: ca. 19.5 kg

Gross weight of sewing head: ca. 25.5 kg

▲ Subject to alterations

■ $K_{pA} = 2,5$ dB

4 Disposal of machine

- The proper disposal of the machine is the responsibility of the customer.
- The materials used in the machines are steel, aluminium, brass and various plastics. The electrical equipment consists of plastics and copper.
- The machine 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!

Transport, packaging and storage

5 Transport, packaging and storage

5.01 Transport to the customer's premises

The machines are delivered completely packed.

5.02 Transport within the customer's premises

The manufacturer bears no liability for transport within the customer's premises or to the individual locations of use. Make sure that the machines are always transported upright.

5.03 Disposal of the packaging

The packaging of these machines consists of paper, cardboard and VCE fiber. 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, must be protected from 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:



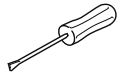
Note, information



Cleaning, care



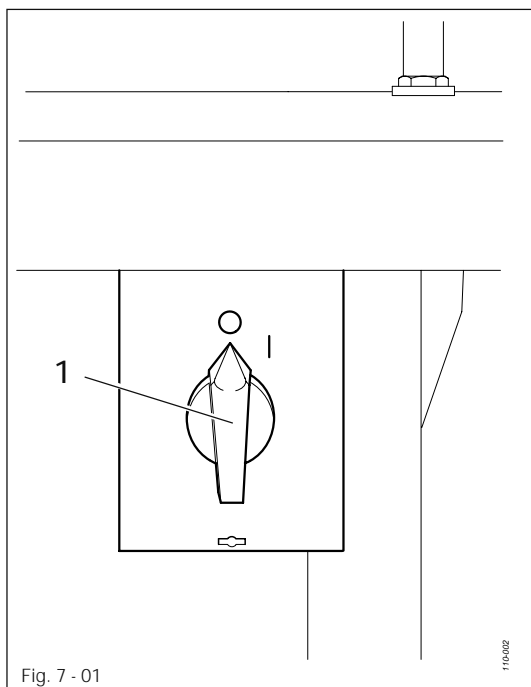
Lubrication, greasing



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

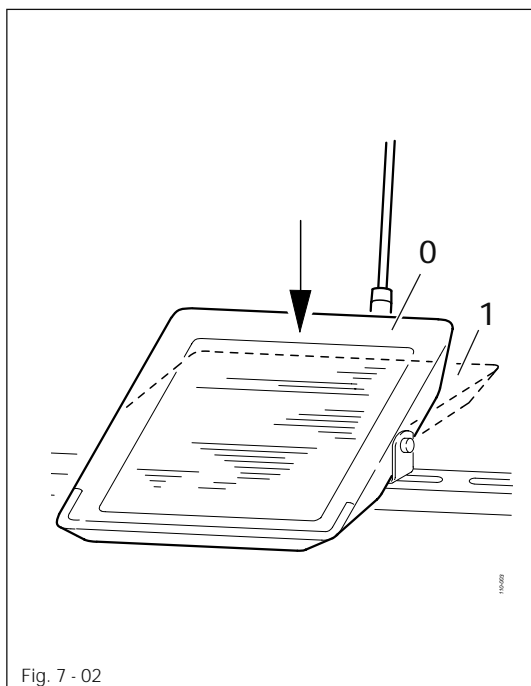
7 Controls

7.01 On/off switch



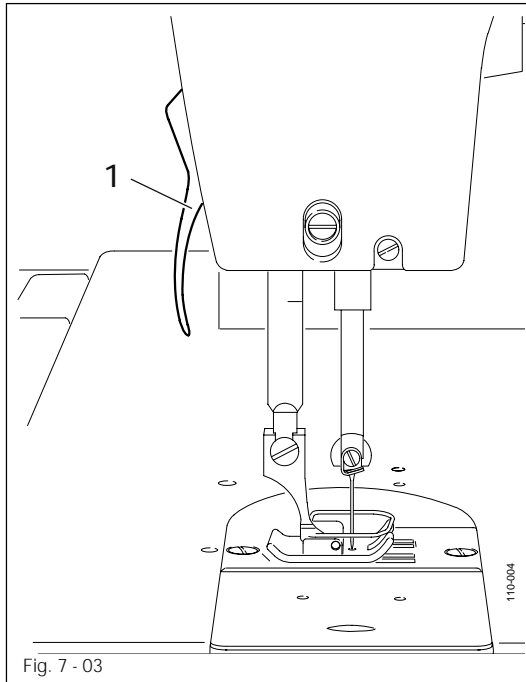
● Switch the machine on or off by turning main switch 1.

7.02 Pedal



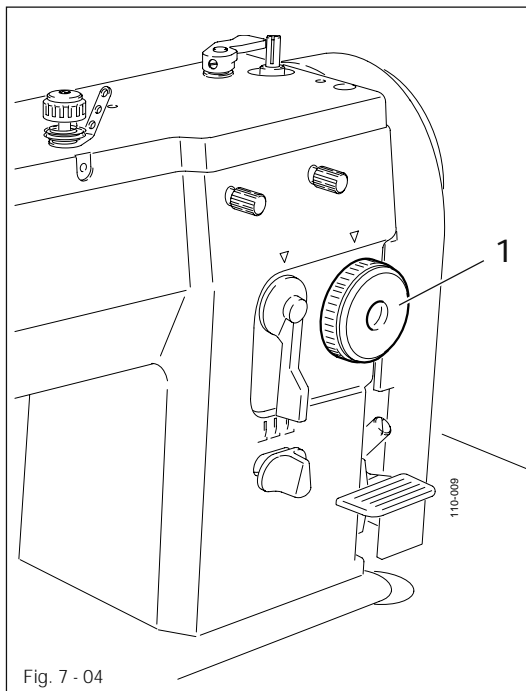
0 = Machine stop
1 = Sew

7.03 Presser foot lift lever



- The presser foot is raised by raising lever 1.

7.04 Stitch length adjustment wheel

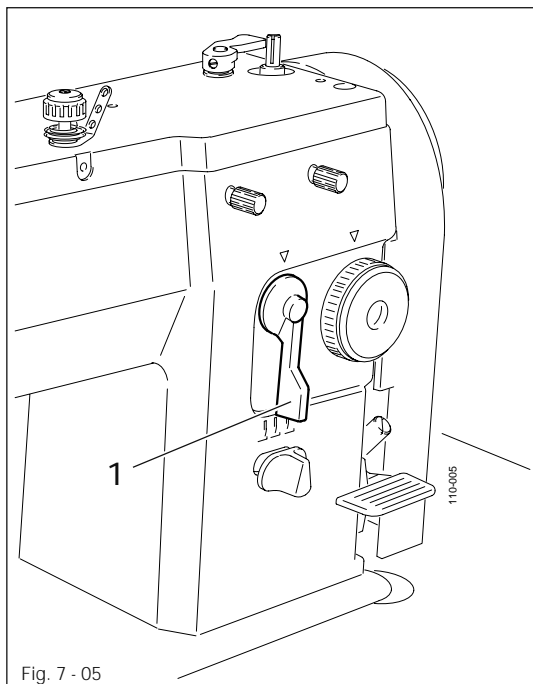


- To adjust the stitch length turn the stitch length adjustment wheel 1.



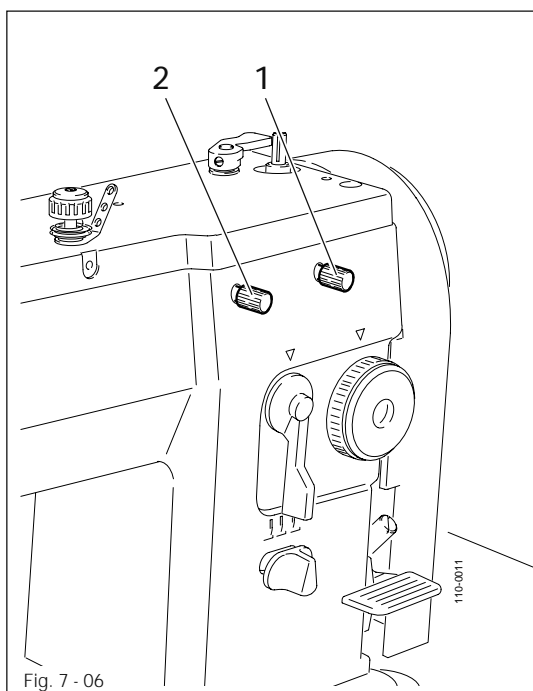
The stitch length setting can be read on the scale.

7.05 Zig-zag stitch lever



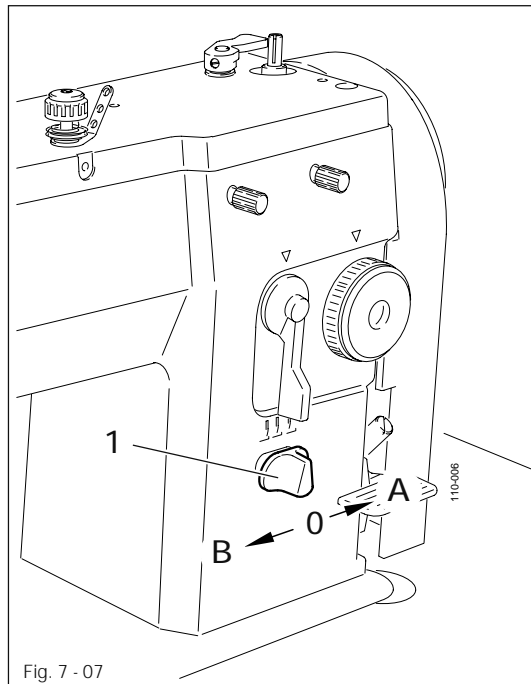
- To adjust the width of the zig-zag stitch operate the zig-zag stitch lever 1.

7.06 Limiting and setting the zig-zag stitch



- By tightening screw 1 the maximum zig-zag stitch width can be limited, see Chapter 9.07 Setting the zig-zag stitch width.
- By tightening screw 2 the selected zig-zag stitch width can be set, see Chapter 9.07 Setting the zig-zag stitch width.

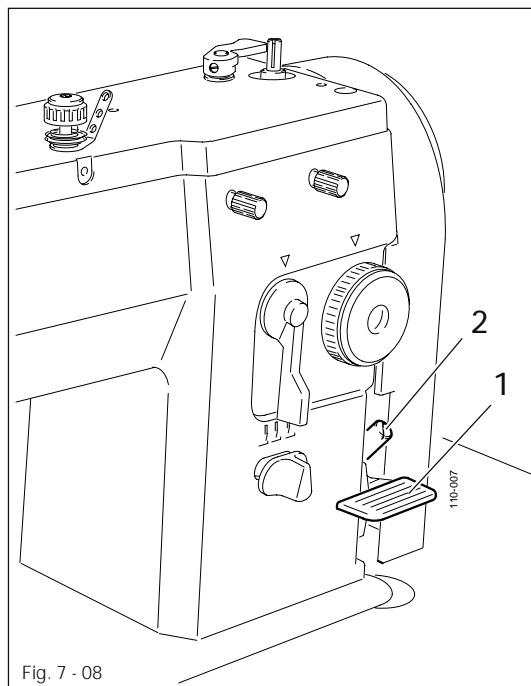
7.07 Stitch position adjustment lever



- To set the required stitch position adjust the stitch position adjustment lever 1.

Position "A" = stitch positioned to the left
Position "O" = stitch positioned in the centre
Position "B" = stitch positioned to the right

7.08 Reverse feed control key / limiting the stitch length for reverse sewing



- As long as the reverse feed control key 1 is pressed, the machine sews in reverse.
- By turning screw 2, the stitch length for reverse sewing is limited.

7.09 Setting the straight stitch

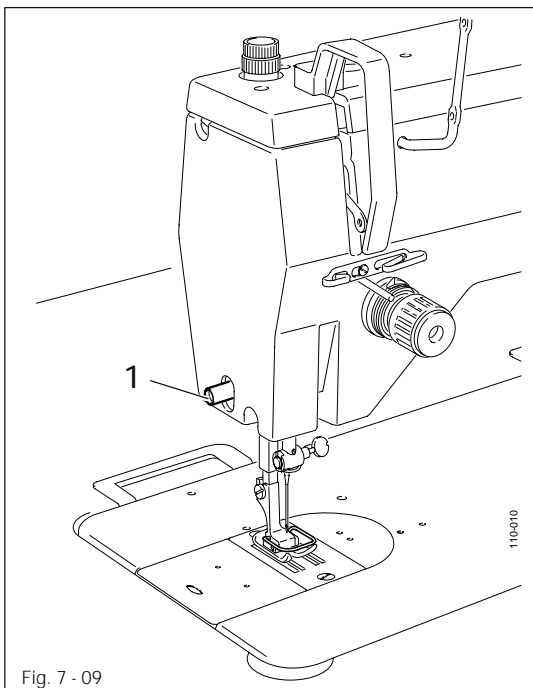


Fig. 7 - 09



The straight stitch may only be set if no zig-zag stitch has been selected. Danger of damage to the machine!

- Set the position of the needle bar frame by tightening adjusting screw 1.

7.10 Knee lever

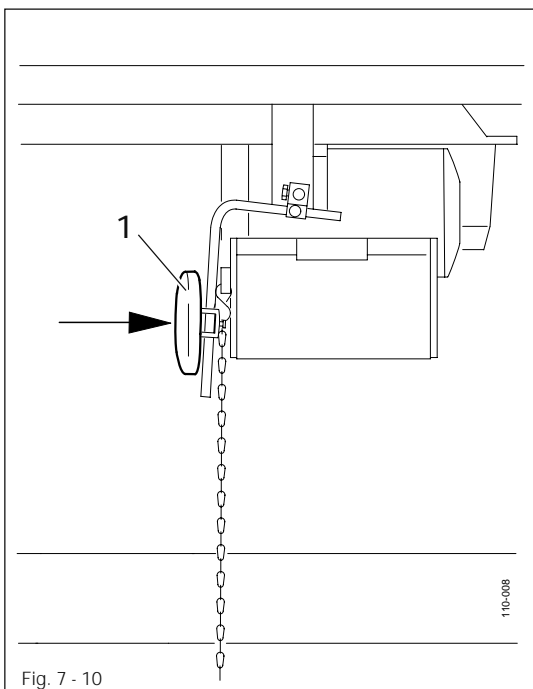


Fig. 7 - 10

- Depending on the type of assembly, by pressing knee lever 1 either the presser foot is raised or the zig-zag stitch width altered.

8 Installation and commissioning



The machine must only be installed and commissioned by qualified personnel!
All relevant safety regulations must be strictly adhered to!



If the machine is delivered without a table, be sure to use a stand and table top that can hold the weight of the machine with its motor.
It is very important to ensure that the stand of the machine is firm and steady, also during sewing.

8.01 Installation

The site where the machine is installed must be provided with suitable connections for the electric current, see **Chapter 3 Specifications**.

It must be ensured that the standing surface of the machine site is firm and horizontal, and that sufficient lighting is provided for.



For packing and transportation reasons the table top is in the lowered position.
The table height is adjusted as described below.

8.01.01 Adjusting the table height

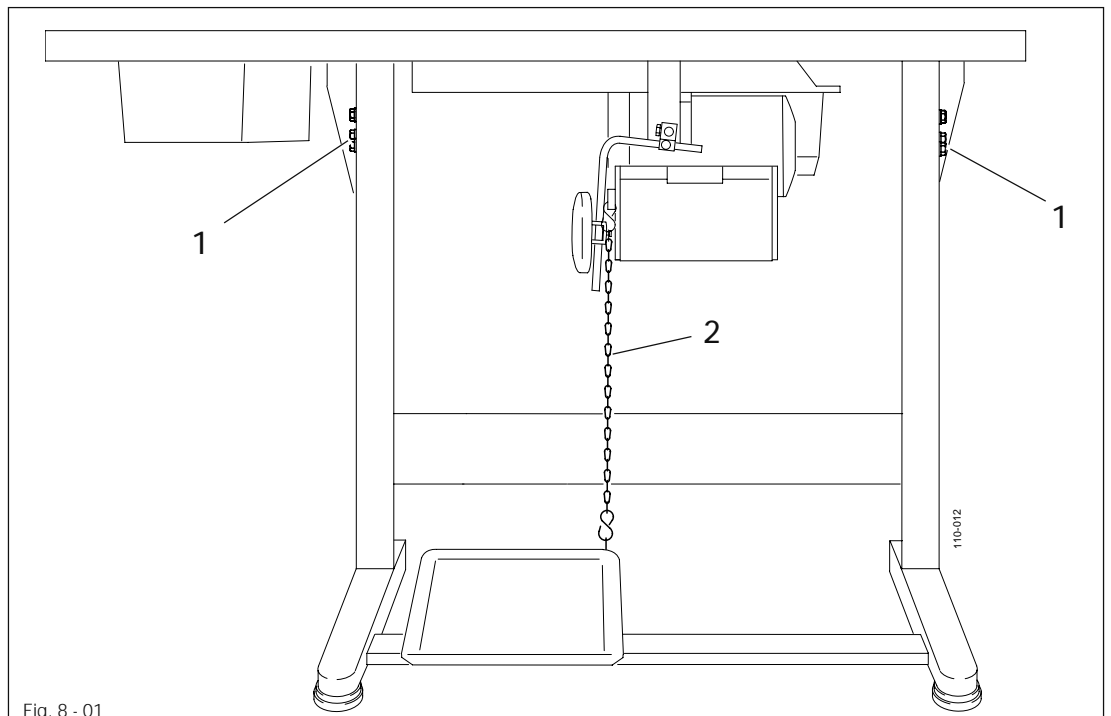
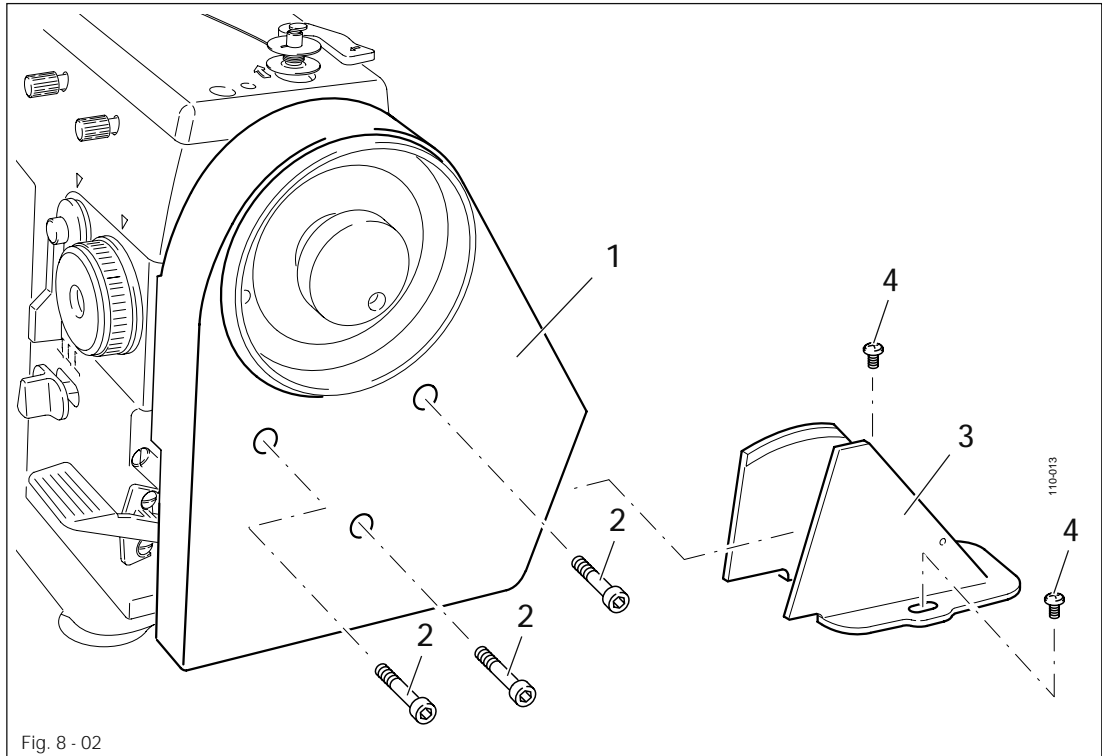


Fig. 8 - 01

- Loosen screws 1 and 2 and set the table height as required.
- Firmly tighten screw 1.
- Secure chain 2 to the motor linkage rod in such a way to achieve the required pedal position.

Installation and commissioning

8.01.02 Fitting the top V-belt guard



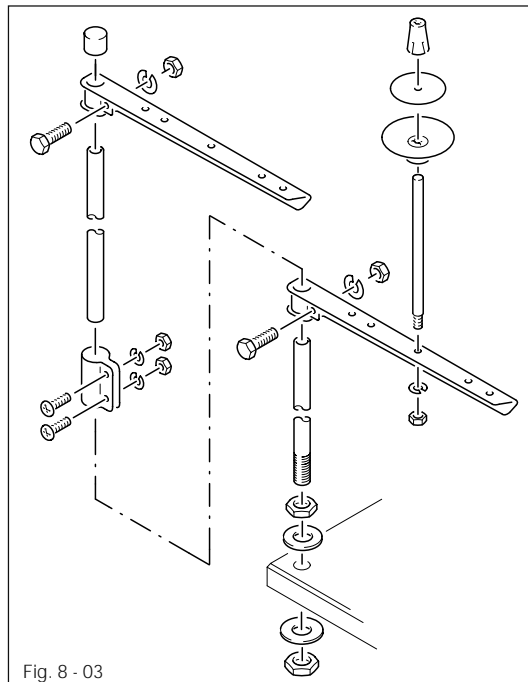
- Fasten belt guard 1 with screws 2.
- Fasten belt guard 3 with screws 4.

8.01.03 Fitting the bottom V-belt guard



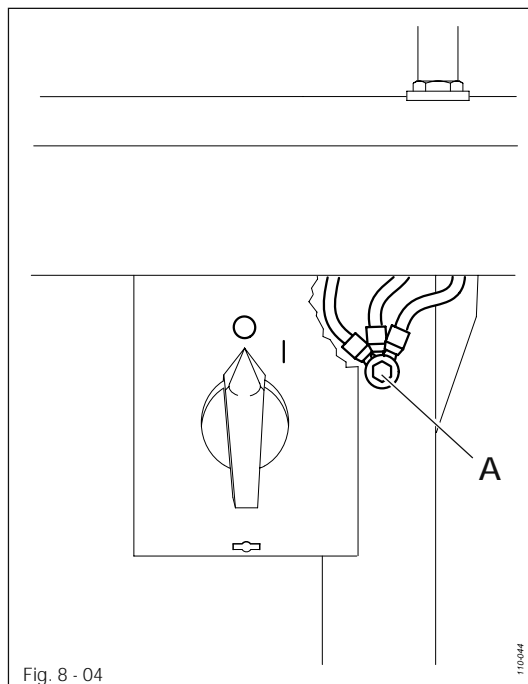
Attach the bottom V-belt guard as specified in the motor Instruction Manual.

8.01.04 Fitting the reel stand



- Fit the reel stand as shown in Fig. 8 - 03.
- Afterwards insert the stand in the hole in the table top and secure it with nuts provided.

8.01.05 Connecting the earth cables



- Screw the earth cables from the sewing head, main switch and motor to earth point A.

8.02 Commissioning

- Examine the machine, in particular the electric cables, for any damage.
- Before commissioning the machine, clean it thoroughly and then oil it, see **Chapter 10 Care and Maintenance!**



The machine may only be connected to an earthed socket!



Have qualified personnel check whether the machine's motor can be operated with the available voltage and whether it is connected properly. If there are any irregularities do **not** operate the machine!

- When the machine is running, the balance wheel must turn towards the operator. If this is not the case, have the motor adjusted by qualified personnel, see the Motor Instruction Manual.

8.03 Switching the machine on/off

- Switch on the machine, see **Chapter 7.01 Main switch.**
- Carry out a test run.

9

Preparation



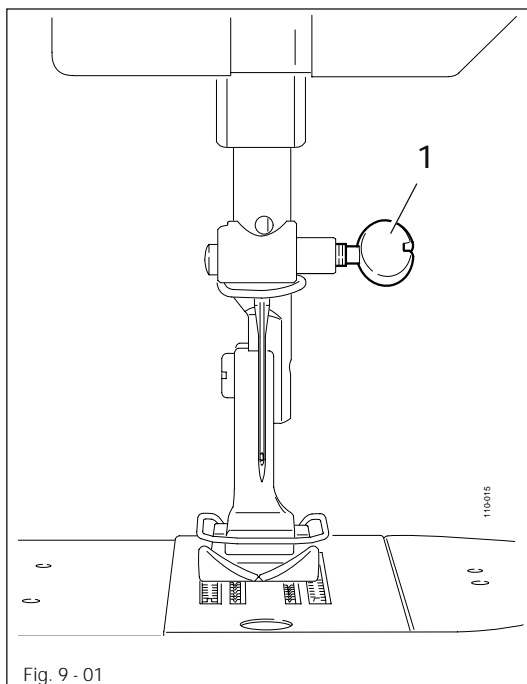
All regulations and instructions in this Instruction Manual are to be observed!
Special attention is to be paid to the safety regulations!



All preparation work is only to be carried out by appropriately trained personnel.
Before all preparation work, the machine is to be separated from the electricity supply by removing the plug from the mains or switching off the On/Off switch!

9.01

Inserting the needle



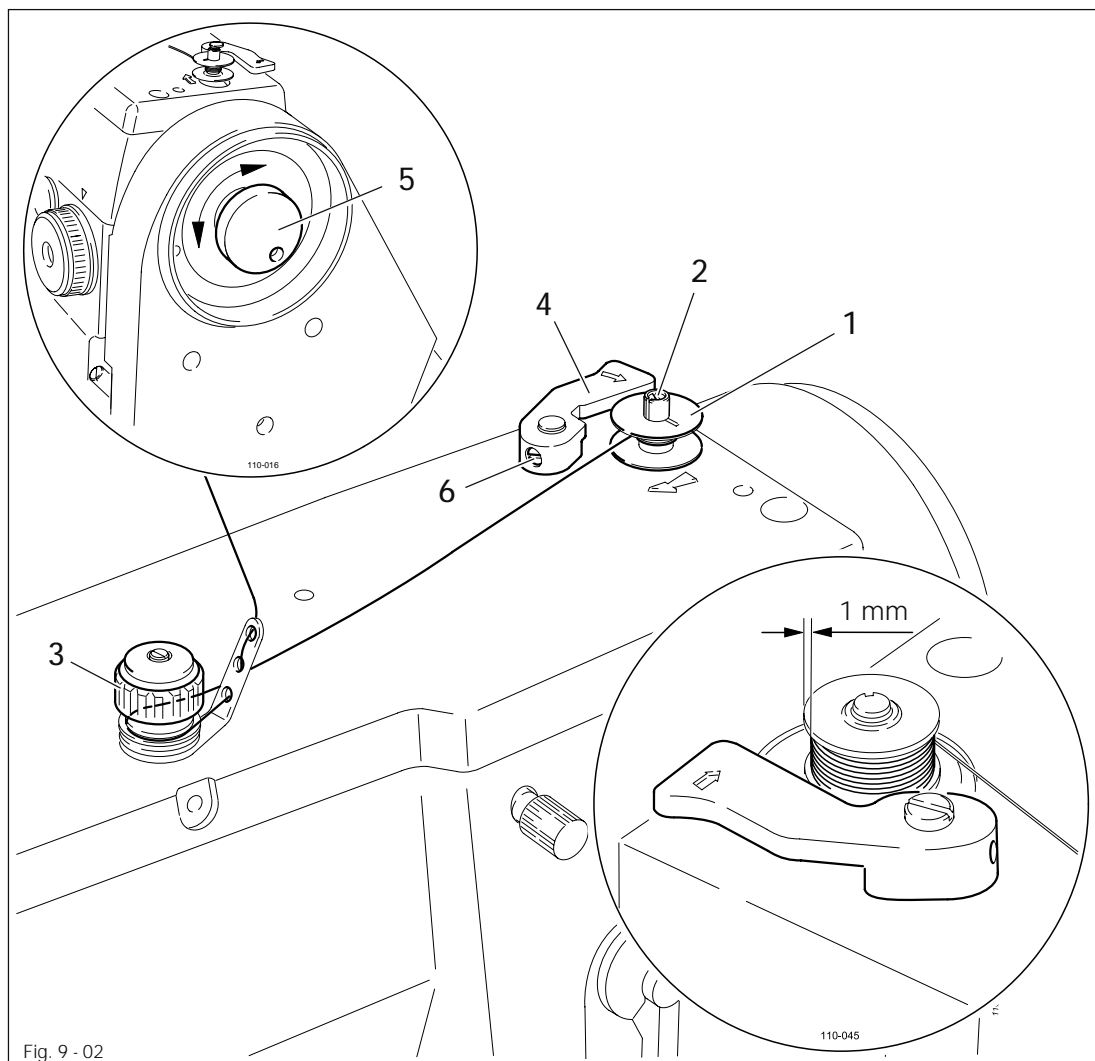
Switch off the machine!
Danger of injury due to unintentional starting of the machine!



Only use needles from the system intended for the machine, see **Chapter 3 Specifications**.

- Raise the needle bar to its top position and loosen screw 1.
- Insert the needle as far as possible and align it so that the long needle groove is facing forwards.
- Tighten screw 1.

9.02 Winding the bobbin thread



- Place empty bobbin 1 on bobbin winder spindle 2.
- Thread the thread as shown in Fig. 9.02 and wind it around bobbin 1 a few times in a clockwise direction.
- Set the preliminary thread tension by turning milled screw 3.
- Press lever 4 in the direction of the arrow until it clicks into place.

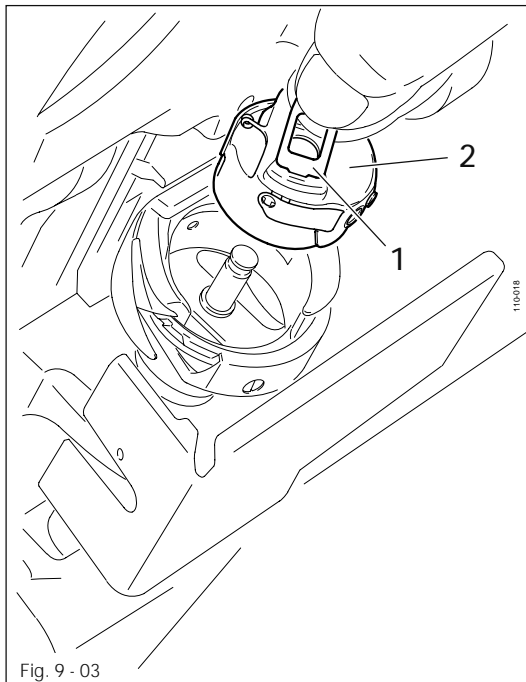


The bobbin is filled during sewing. If the bobbin is filled outside the sewing operation, the balance wheel can be released by turning knob 5, so that the needle bar does not move during the winding process.

Setting the amount of thread wound on the bobbin:

- Loosen screw 6.
- Turn lever 4 so that the bobbin switches off automatically when the thread is still approx. 1 mm from the edge of the bobbin.
- Tighten screw 6.

9.03 Removing / Inserting the bobbin case



Switch off the machine!
Danger of injury due to
unintentional starting of the
machine!

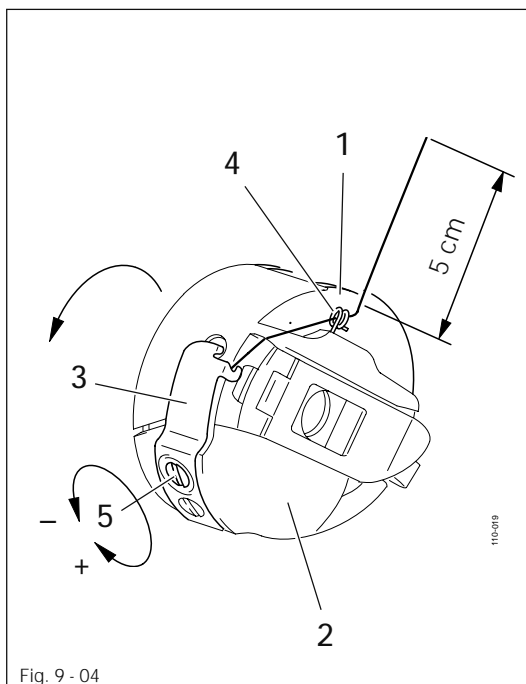
Removing the bobbin case:

- Raise latch 1 and remove bobbin case 2.

Inserting the bobbin case:

- Press bobbin case 2 until you feel it snap into the bobbin case base.

9.04 Threading the bobbin case / adjusting the bobbin thread tension



- Insert bobbin 1 in bobbin case 2.
- First pass the thread through the slit under spring 3.
- Then guide the thread through the hole in bobbin case 2.
- Finally pass the thread through eye 4.
- Adjust the thread tension by turning screw 5.

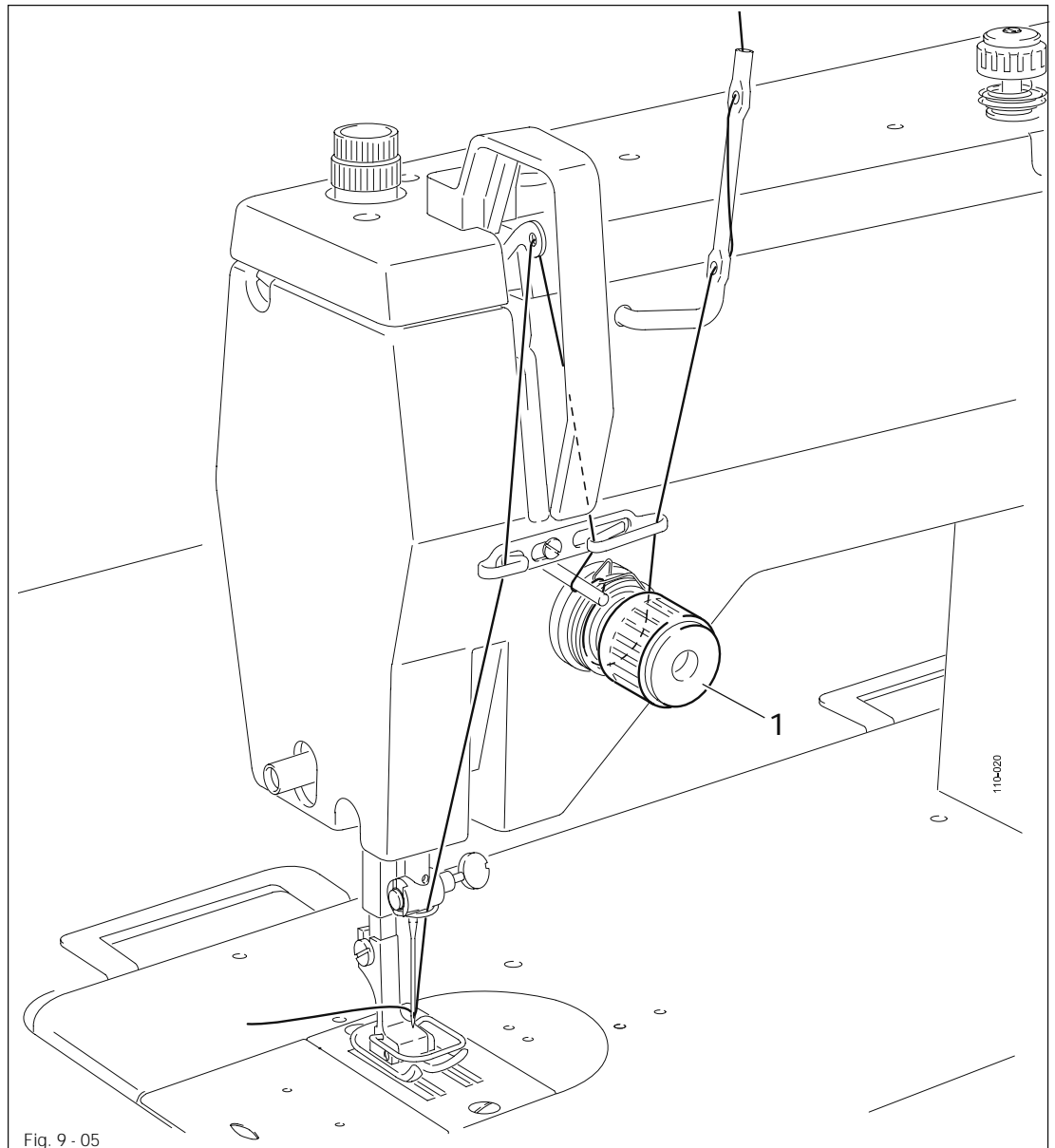


When the thread is pulled, bobbin 1 must turn in the direction of the arrow.



If only straight stitches are being sewn, the thread does not have to be passed through eye 4.

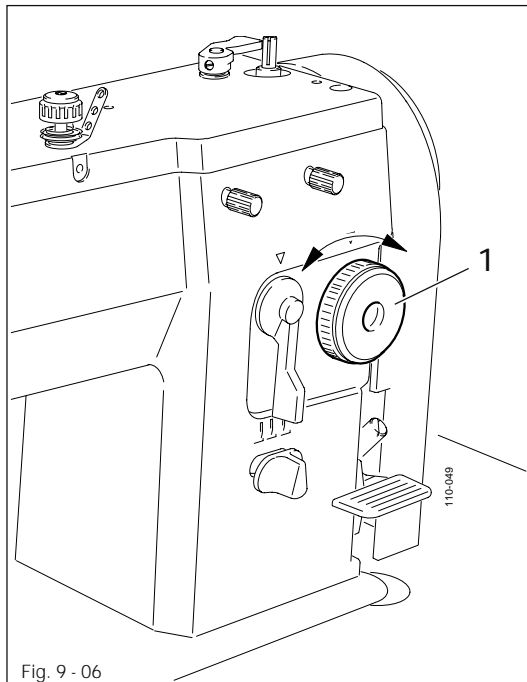
9.05 Threading the needle thread / Adjusting the needle thread tension



Switch off the machine!
Danger of injury due to unintentional starting of the machine!

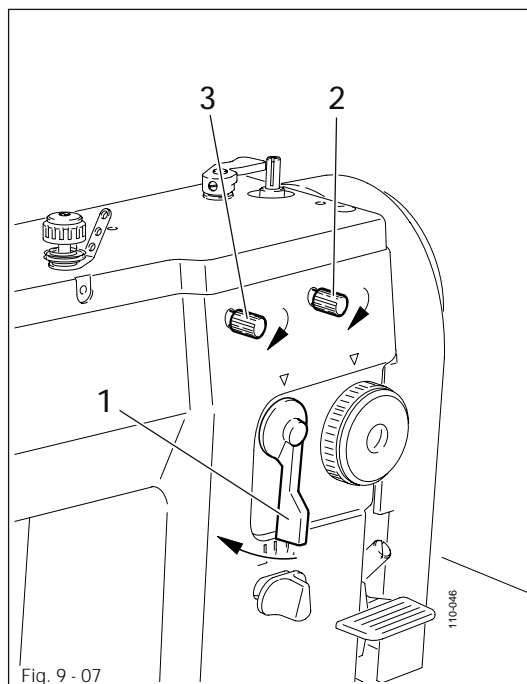
- Thread the machine as shown in Fig. 9-05.
- Adjust the needle thread tension by turning the milled screw 1.

9.06 Adjusting the stitch length



- Set the required stitch length with the stitch length adjustment wheel 1.

9.07 Adjusting the width of the zig-zag stitch



Short period of work with zig-zag stitch

- Set the required width of the zig-zag stitch by operating zig-zag stitch lever 1. During sewing hold the zig-zag stitch lever 1 in the required position.

Limiting the width of the zig-zag stitch:

- Select the required maximum zig-zag stitch width by operating zig-zag stitch lever 1.
- Tighten screw 2 (by turning in the direction of the arrow). The zig-zag stitch lever 1 is now limited and can only be operated to the extent of the set zig-zag stitch width.

Setting the width of the zig-zag stitch:

- Select the required zig-zag stitch width by operating the zig-zag stitch lever 1.
- Tighten screw 3 (by turning in the direction of the arrow). The selected zig-zag stitch width is now set and cannot be altered.

9.08 Adjusting the stitch position

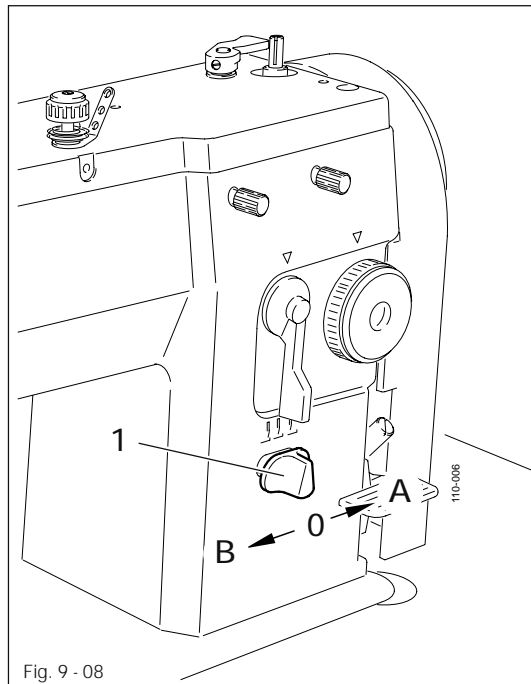


Fig. 9 - 08

- Set the required stitch position with stitch position adjustment lever 1.
Position "A" = stitch positioned to the left
Position "O" = stitch positioned in the centre
Position "B" = stitch positioned to the right

10 Care and maintenance

10.01 Maintenance intervals

Cleaning	daily, several times if in continuous use
Oiling the hook	daily, several times if in continuous use
Oiling the machine	once a week



During all cleaning work the machine must be disconnected from the power supply by switching off the main switch or pulling out the plug!
Danger of injury if the machine is started accidentally!

10.02 Cleaning the machine

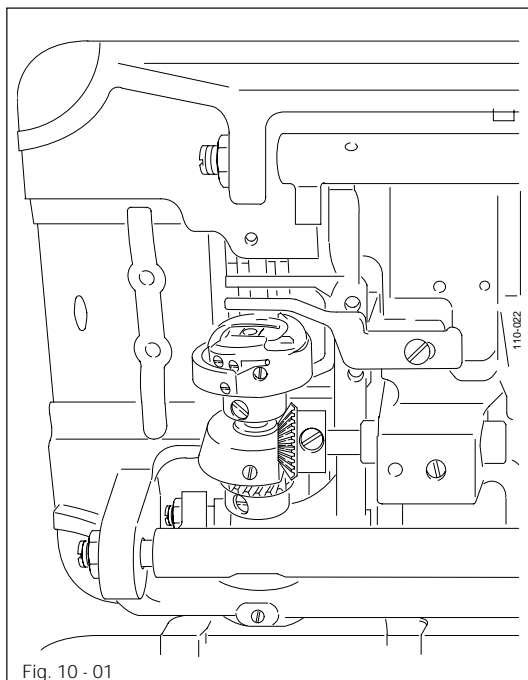
The cleaning cycle required for the machine depends on following factors:

- Single or several shift operation
- Amount of dust resulting from the workpiece

It is therefore only possible to stipulate the best possible cleaning instructions for each individual case.



For all cleaning work the machine must be disconnected from the mains by switching off the on/off switch or by removing the mains plug!
Danger of injury if the machine suddenly starts up .

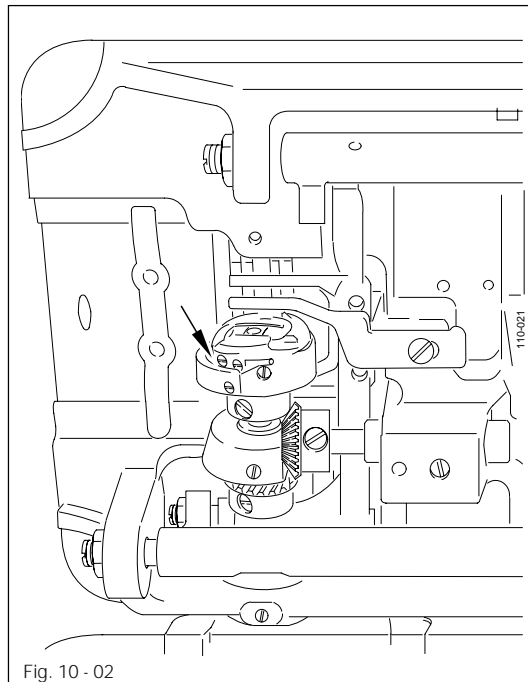


- Tilt back the machine.
- Clean the hook and hook compartment daily, more often if in continuous operation.



Return the machine to its upright position using **both** hands!
Danger of injury by crushing between the edge of the machine and the table top!

10.03 Oiling the hook



Switch off the machine!
Danger of injury due to unintentional starting of the machine!

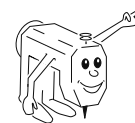
- Tilt the machine back.
- Apply 1 – 2 drops of oil to the hook race daily, see arrow in Fig. 10-02.



Return the machine to its upright position using **both** hands!
Danger of injury by crushing between the edge of the machine and the table top!



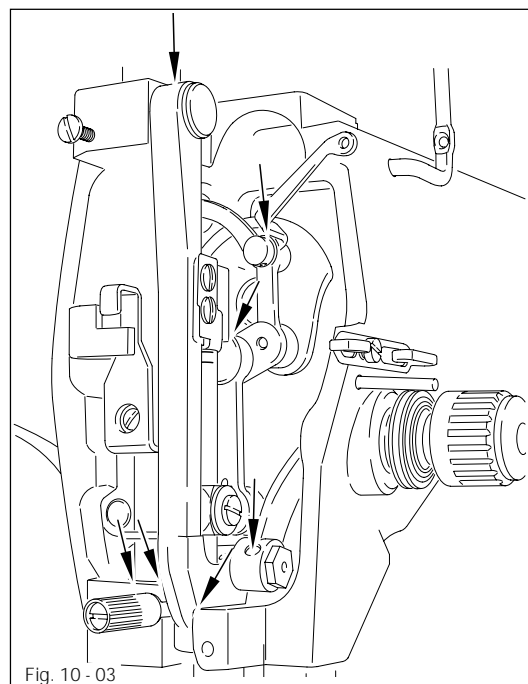
Only use oil with a mean viscosity of 22.0 mm²/s at 40°C and a density of 0.865 g/cm³ at 15°C.



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

10.04 Oiling the machine

10.04.01 Oiling points on the machine head

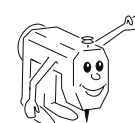


Switch off the machine!
Danger of injury due to unintentional starting of the machine!

- Apply a few drops of oil once a week to the points marked, see arrows in Fig. 10-03.

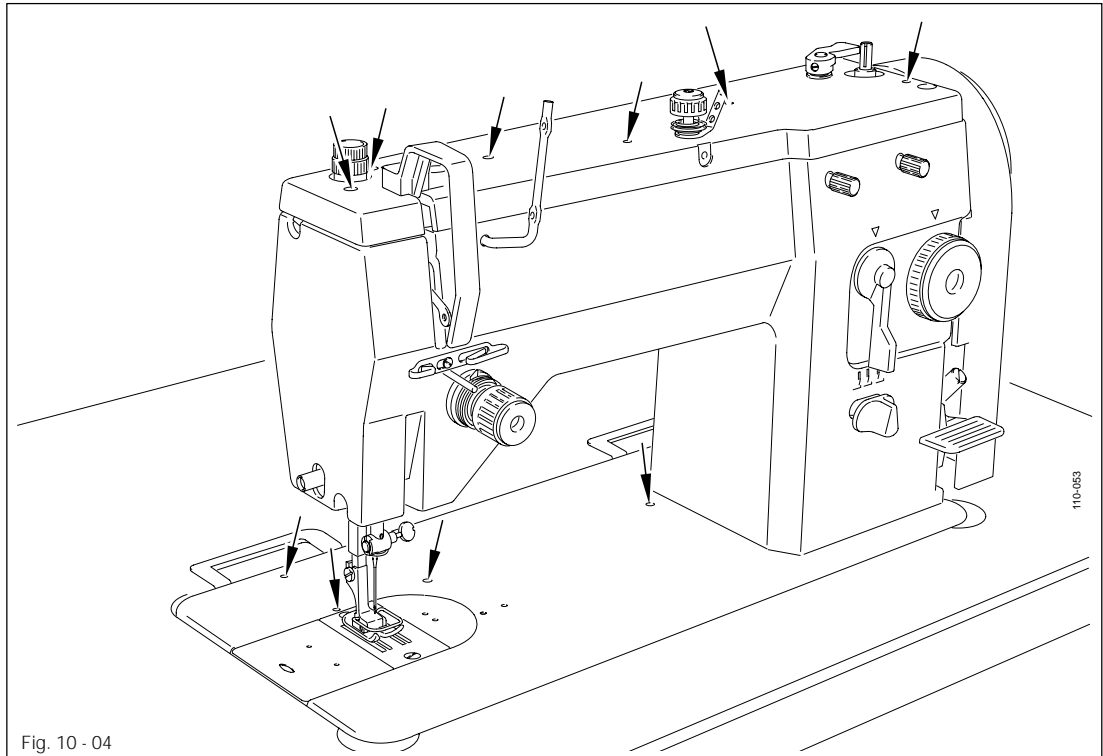


Only use oil with a mean viscosity of 22.0 mm²/s at 40°C and a density of 0.865 g/cm³ at 15°C.



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

10.04.02 Oiling points in the arm cover and bed plate

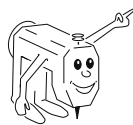


Switch off the machine!
Danger of injury due to unintentional starting of the machine!

- Pour a few drops of oil once a week into the holes marked, see arrows in Fig. 10-04.

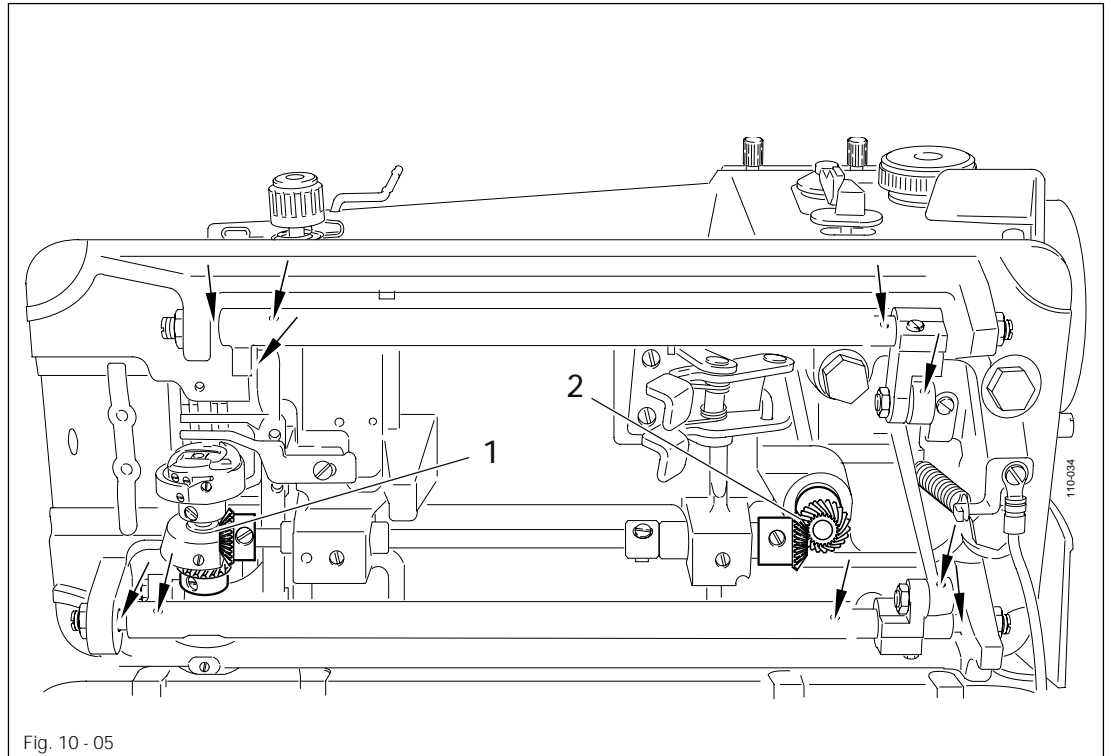


Only use oil with a mean viscosity of $22.0 \text{ mm}^2/\text{s}$ at 40°C and a density of 0.865 g/cm^3 at 15°C .



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

10.04.03 Oiling points under the bed plate

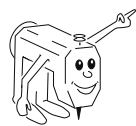


Switch off the machine!
Danger of injury due to unintentional starting of the machine!

- Tilt the machine back.
- Apply a few drops of oil once a week to the points marked, see arrows in Fig. 10-05.

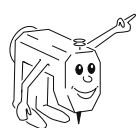


Only use oil with a mean viscosity of $22.0 \text{ mm}^2/\text{s}$ at 40°C and a density of $0.865 \text{ g}/\text{cm}^3$ at 15°C .



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

- Apply fresh grease to the bevel gears 1 and 2 as required.



We recommend PFAFF sodium soap grease with a dripping temperature of ca. 150°C , part no. 2801-1-120 243.



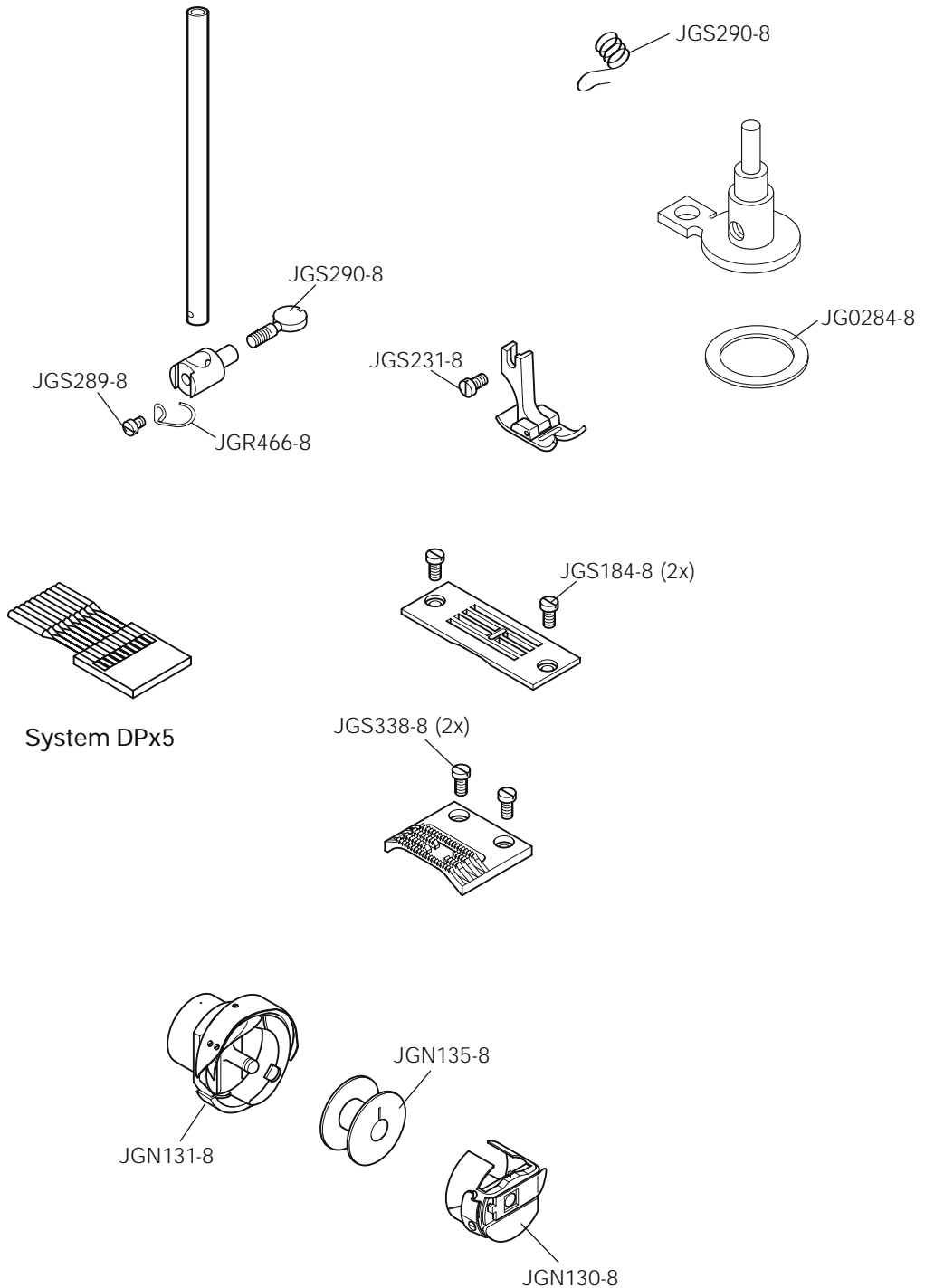
Return the machine to its upright position using both hands!
Danger of injury by crushing between the edge of the machine and the table top!



This is a list of the most important wearing parts.

A detailed parts list for the complete machine is included with the accessories.

In case of loss, the parts list can be downloaded from the internet address www.pfaff-industrial.com/de/service/download/index.php3. As an alternative to the internet download the parts lists can also be ordered in book form under part no. 296-12-18 613.





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