

PFAFF

3582-2/01

Instruction Manual

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

006141101 →



This instruction manual applies to all versions and subclasses listed under "**Specifications**".

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1 Safety

1.01 Regulations

This machine is constructed in accordance with the European regulations indicated in the conformity and manufacturer's declarations.

In addition to this instruction manual, please also observe all generally accepted, statutory and other legal requirements, including those of the user's country, and the applicable pollution control regulations!

The valid regulations of the regional social insurance society for occupational accidents or other supervisory authorities are to be strictly adhered to!

1.02 General notes on safety

- The machine must only be operated by adequately trained operators and only when the instruction manual has been fully read and understood!
- All notices on safety and the instruction manual of the motor manufacturer are to be read before the machine is put into operation!
- All notes on the machine concerning danger and safety must be observed!
- The machine must be used for the purpose for which it is intended and must not be operated without its safety devices; all regulations relevant to safety must be adhered to.
- When part sets are changed (e.g. needle, presser foot, needle plate, feed dog or bob-bin), during threading, when the workplace is left unattended and during maintenance work, the machine must be isolated from the power supply by turning off the on/off switch or removing the plug from the mains!
- Daily maintenance work must only be carried out by appropriately trained persons!
- Repairs and special maintenance work must only be carried out by qualified technical staff or persons with appropriate training!
- During maintenance or repairs on the pneumatic system the machine must be isolated from the compressed air supply! The only exception to this is when adjustments or function checks are carried out by appropriately trained technical staff!
- Work on the electrical equipment must only be carried out by technical staff who are qualified to do so!
- Work on parts or equipment connected to the power supply is not permitted! The only exceptions to this are specified in regulations EN 50110.
- Conversion or modification of the machine must only be carried out under observation of all relevant safety regulations!

- Only spare parts which have been approved by us are to be used for repairs! We draw special attention to the fact that spare parts and accessories not supplied by us have not been subjected to testing nor approval by us. Fitting and/or use of any such parts may cause negative changes to the design characteristics of the machine. We shall not accept any liability for damage caused by the use of non-original parts.

1.03

1.03 Safety symbols



Danger!
Special points to observe.



Danger of injury to operating or technical staff!



Danger: Laser beam!



Caution

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

1.04

1.04 Important notes for the user

- This instruction manual belongs to the equipment of the machine and must be available to the operating staff at all times.
This instruction manual must be read before the machine is operated for the first time.
- Both operating and technical staff must be instructed on the safety devices of the machine and on safe working methods.
- It is the duty of the user to operate the machine in perfect running order only.
- The user must ensure that none of the safety devices are removed nor put out of working order.
- The user must ensure that only authorized persons operate and work on the machine.

For further information please refer to your PFAFF agency.

1.05 Notes for operating and technical staff

1.05.01 Operating staff

Operating staff are the persons responsible for setting up, operating and cleaning the machine and for removing any disturbances in the sewing area.

The operating staff are obliged to observe the following points, and must:

- always observe the notes on safety in this instruction manual!
- avoid using any working methods which adversely effect the safety of the machine!
- avoid wearing loose-fitting clothing or jewelry such as necklaces or rings!
- also ensure that only authorized persons are allowed near the danger area of the machine!
- immediately report to the user any changes to the machine that may affect its safety!

1.05.02 Technical staff

Technical staff are persons who have been trained in electrical engineering, electronics, pneumatics and mechanical engineering. They are responsible for lubricating, servicing, repairing and adjusting the machine.

The technical staff are obliged to observe the following points, and must:

- always observe the notes on safety in this instruction manual!
- switch off the on/off switch before carrying out adjustment and repair work and ensure it cannot be switched on again unintentionally!
- never work on parts or equipment still connected to the power supply! Exceptions to this are only permissible according to regulations EN 50110;
- isolate the machine from the compressed air supply when carrying out maintenance or repair work on pneumatic equipment!
Exceptions to this are only permissible for function checks;
- replace all safety covers after carrying out maintenance or repair work!

1.06 Danger warnings

A working area of **1 m** must be kept free both in front of and behind the machine, so that easy access is possible at all times.



Never put your hands in the sewing area during sewing!
Danger of injury by the needle!



Do not leave any objects on the table during adjustment work!
Objects can be caught in the machine or flung out!
Danger of injury!

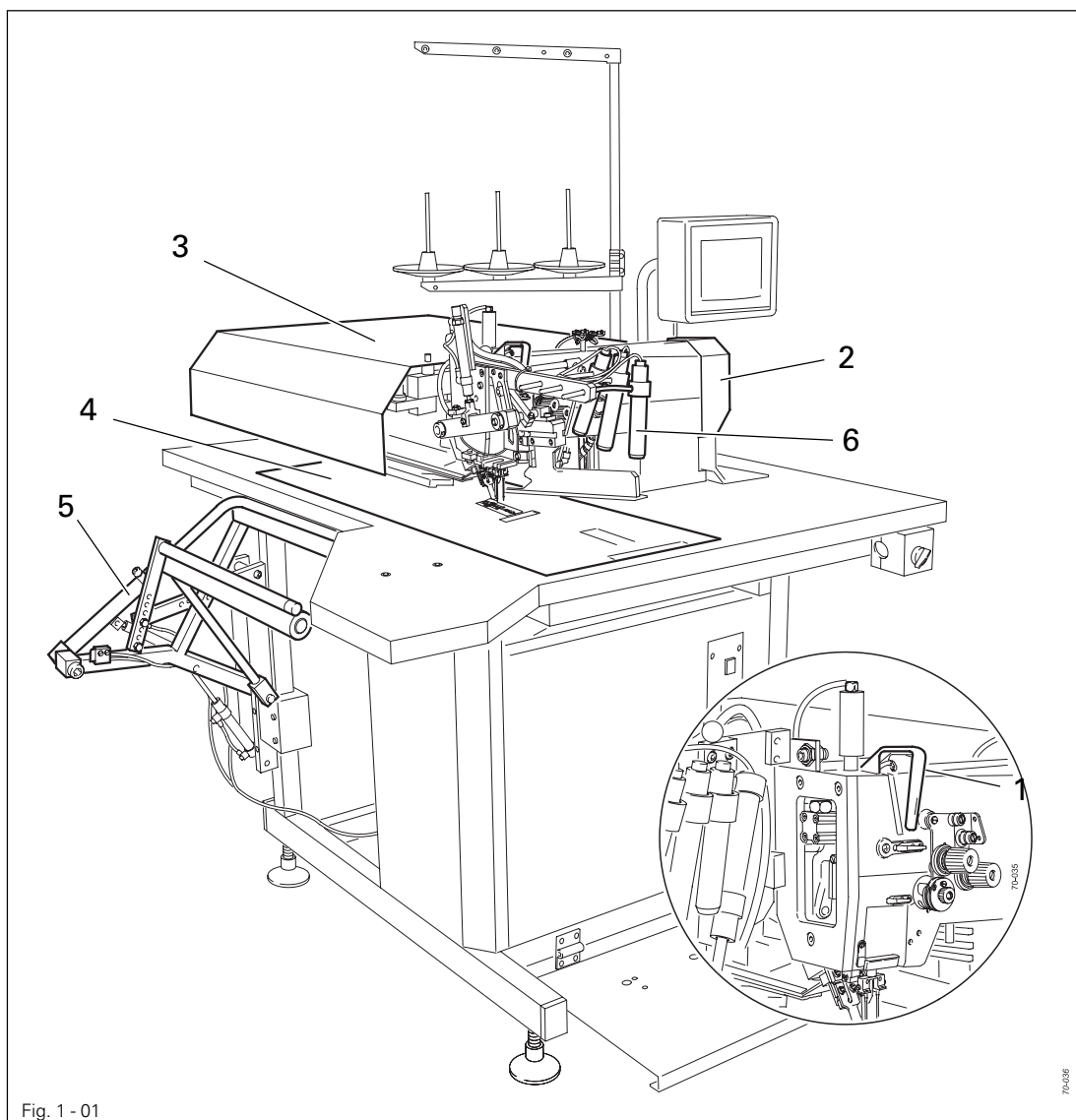


Fig. 1 - 01

70-036



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



Do not operate the machine without covers 2 and 3!
Danger of injury from running drive belts!



Do **not** switch on the machine when cover plate 4 is retracted!
Danger of injury in hook area!



During operation do not place hands in the swing area of stacker 5!
Danger of injury from the moving arms of the stacker.



During operation do not look into the positioning device 6!
Danger of injury from laser beams!

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2

Proper use

The PFAFF 3582-2/01 is a mechanised sewing unit for manufacturing plackets and pocket piping in the clothing industry



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 means that all operational, adjustment, maintenance and repair measures required by the manufacturer are to be observed!

3 Specifications ▲

Specifications

Speed: 2100 s.p.m.

Stitch length: 2.5 mm

Stitch type: 301

Needle system: 134

Needle size: 80 – 100 Nm

Sewing motor: See Motor Service Manual

Connection voltage: 230 V, 50 – 60 Hz A/C

Power requirement: 1.2 kW

Working air pressure: min. 6 bar

Air consumption: approx. 5 l/work cycle

Noise data:

Emission sound level at the workplace at a speed of 2000 spm: $L_{pA} = 74$ dB(A) ■

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

Machine dimensions:

Length: approx. 1300 mm

Width: approx. 1200 mm

Height: approx. 1300 mm

Table height: 850 mm

Net weight: 234 kg

▲ Subject to technical alterations

■ $K_{pA} = 2,5$ dB , $\Delta L_1 = 4$ dB

4 Disposal of the machine

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



Special care is to be taken that parts soiled by lubricants are separately disposed of in accordance with the applicable local environmental protection regulations!

5 Transport, packaging and storage

5.01 Transport to the customer's premises

Within Germany, machines are delivered without packaging.
Machines for export are packaged.

5.02 Transport within the customer's premises

The manufacturer bears no liability for transport within the customer's premises or to the location of use.

The machine may only be transported in an upright position.

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, should be protected against corrosion, e.g. by a film of oil.

Explanation of the symbols

6 Explanation of the symbols

In this Instruction Manual, tasks to be carried out and important information are drawn to your attention by symbols. The symbols have the following meanings:



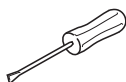
Note, information



Cleaning, care



Lubrication

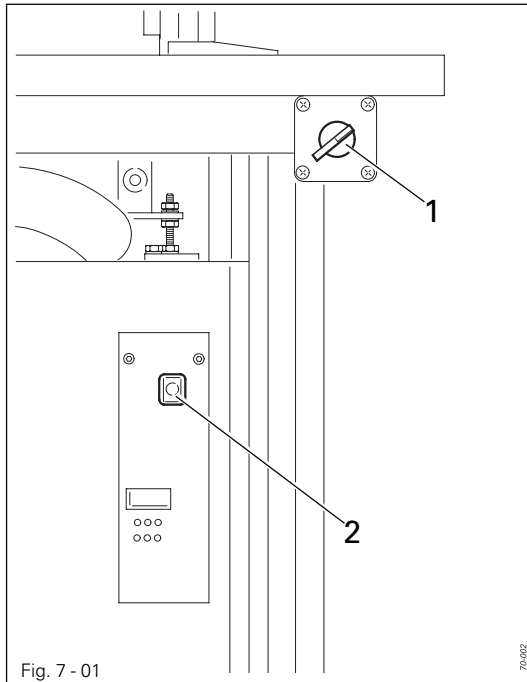


Servicing, repairing, adjustment, maintenance
(only to be carried out by specialist personnel)

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7 Controls

7.01 Main switch

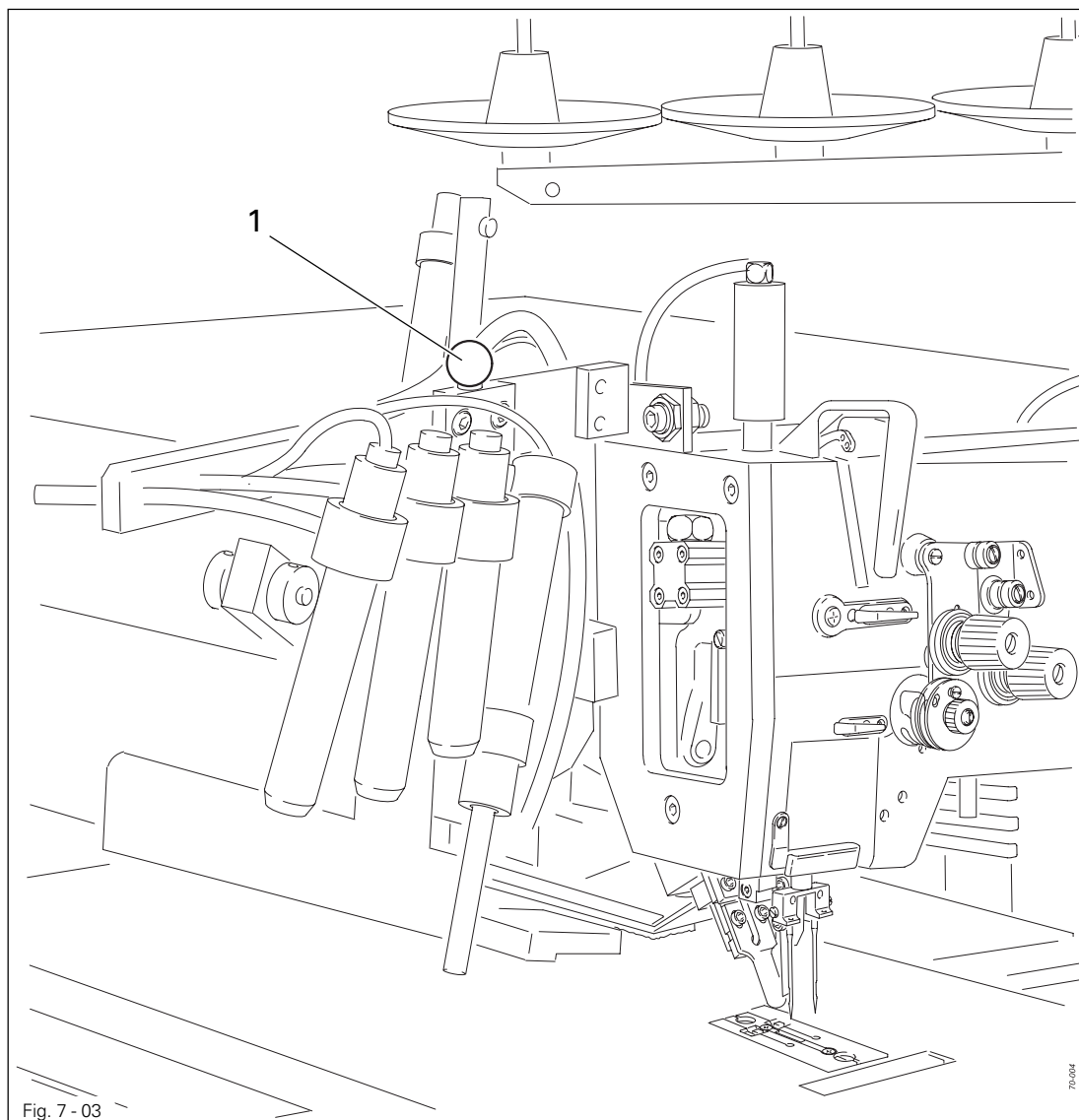


- Switch the machine on or off by turning main switch 1.

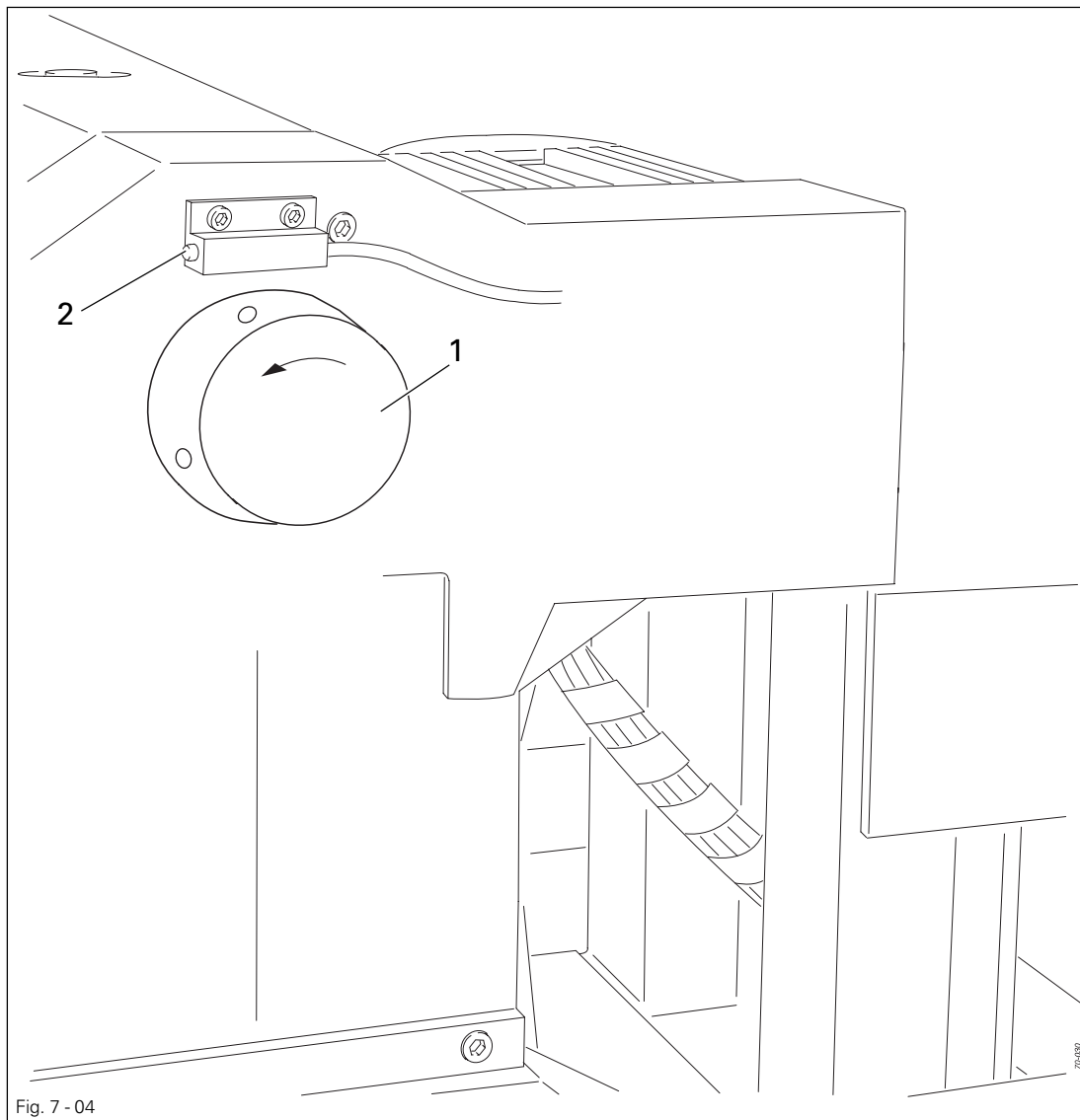


The motor control switch 2 must always be switched on.

7.02 Catch of the folding unit



- After lifting catch 1 the folding unit can be retracted.

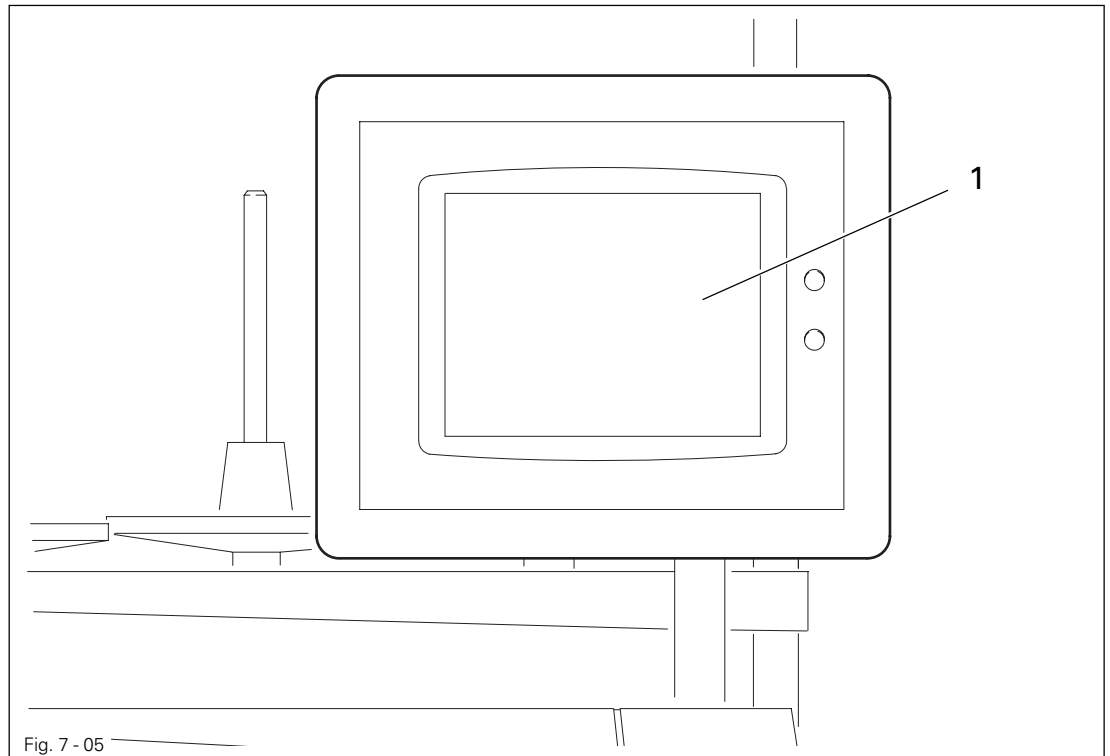


- Balance wheel 1 is used to adjust the needle bar, e.g. when changing the needle.



When sewing begins, the needle bar must be positioned **1 mm after t.d.c.** If necessary, set the needle bar in the right position using balance wheel 1 (LED 2 must be on).

7.04 Control panel

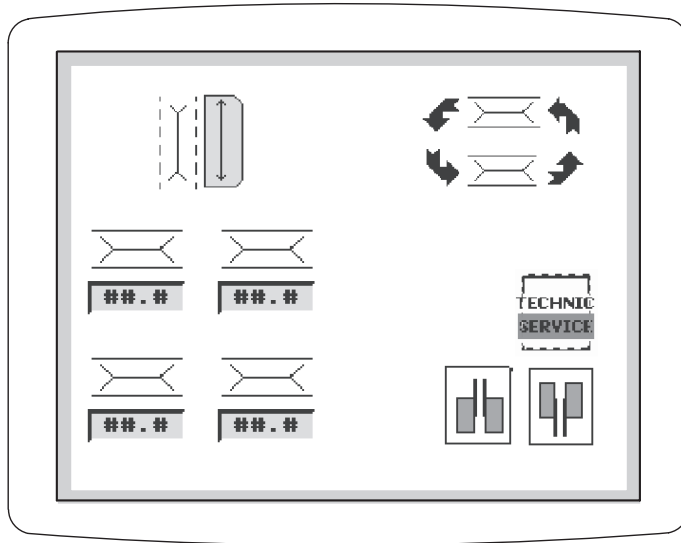


The machine's control panel consists of a touch screen monitor **1** where the functions can be selected by touching the appropriate function symbol.

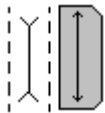
The display on the monitor is dependent on the operating condition of the machine. In addition to function symbols, fields are also displayed, where it is possible to enter a value (e.g. the length of the pocket) after touching the screen. Symbols for error signals and operating conditions (e.g. amount of remaining thread) are also displayed.

- When the machine is switched on the start display screen appears.
- When the monitor screen is touched, the basic display screen for controlling the machine appears. The functions on the basic display screen are used to enter further functions of the machine control.

Basic display screen



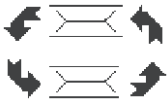
Explanation of the symbols



Flap

By touching this symbol a menu is opened for entering the required flap.

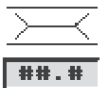
Further functions of this menu are explained in **Chapter 9.07 Entering flap values**.



Cycle

By touching this symbol a menu is opened for entering a work cycle.

Further functions of this menu are explained in **Chapter 9.09 Entering work cycle**.



Pocket (1-4)

By touching this symbol a menu is opened for entering the appropriate pocket.

4 different pockets can be entered. Further functions of this menu are explained in **Chapter 9.08 Entering pocket values**.



Main clamp forwards

By touching this symbol the main clamp is moved forwards.



Main clamp backwards

By touching this symbol the main clamp is moved backwards.



Technics/Service

By touching this symbol the service level of the control system is opened.

Explanation of further symbols:

Below further symbols are explained, which are displayed in different operating conditions.

The functions shown are the same in every operating condition.



Needle thread and bobbin thread knife

With this function the threads can be cut and trapped.

- Press once: Needle thread trap is opened, the bobbin thread is cut and the cutter closed.
- Press again: Thread trap is closed and the needle threads are cut. Bobbin thread cutter opens.



Feeding interface on/off

This function switches the interface tape feed on or off.



Interface knife

This function is used to feed and cut the interface tape.



Corner knife on/off

When this symbol is touched, the corner knife function is switched on or off.

When the centre knife is switched off, the corner knives are automatically switched off too.



Centre knife on/off

When this symbol is touched, the centre knife function is switched on or off.

When the centre knife is switched off, the corner knives are automatically switched off too.



Open/close thread tension

By touching this symbol, the thread tension unit is opened or closed.



Thread remaining

This symbol is used to display the amount of thread remaining.

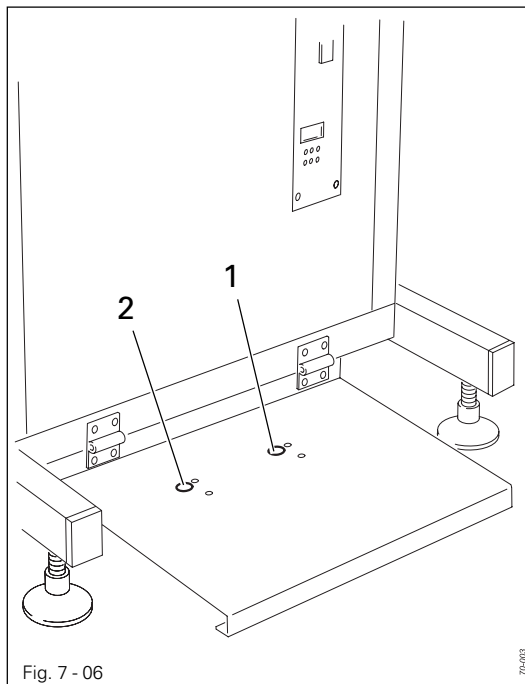


Piece counter

This symbol is used to display the number of pockets sewn, or the number of work cycles.

7.05

Foot switch





- The function of the foot switch 1 depends on the setting in the machine configuration.
- With foot switch 2 the functions carried out with foot switch 1 are cancelled step by step.
- After sewing starts, a sewing stop is carried out by operating foot switch 2.

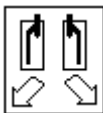
Standard functions of foot switch 1:

Number of operations/steps	Function
1	Move main clamps forwards
2	Lower both main clamps
3	Lower folding unit/engage folding slide
4	Close left flap clamp
5	Close right flap clamp
6	Sewing start

On the control panel the functions of foot switch 1 can be adapted to various requirements when placing the workpiece as follows.

- Switch on the machine.
- Select the basic screen display by touching the monitor screen.
- 
 - Select the service level by touching the symbol **technics/service**.
- 
 - Select the menu for **machine configuration** by touching the appropriate symbol.

Using the symbols displayed on the screen, the functions of the foot switch can be altered as follows.



- Both flap clamps are closed at the same time.

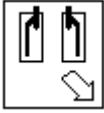
Number of operations/steps	functions
1	Move main clamps forwards
2	Lower both main clamps
3	Lower folding unit/engage folding slide
4	Close both flap clamps
5	Sewing start



- First the left and then the right flap clamp is closed.

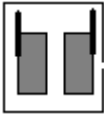
Number of operations/steps	functions
1	Move main clamps forwards
2	Lower both main clamps
3	Lower folding unit/engage folding slide
4	Close left flap clamp
5	Close right flap clamp
6	Sewing start

Controls



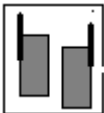
- First the right and then the left flap clamp is closed.

Number of operations/steps	functions
1	Move main clamps forwards
2	Lower both main clamps
3	Lower folding unit/engage folding slide
4	Close right flap clamp
5	Close left flap clamp
6	Sewing start



- Both main clamps are lowered at the same time.

Number of operations/steps	functions
1	Move main clamps forwards
2	Lower both main clamps
3	Lower folding unit/engage folding slide
4	Close left flap clamp
5	Close right flap clamp
6	Sewing start



- The right main clamp is lowered after the left main clamp.

Number of operations/steps	functions
1	Move main clamps forwards
2	Lower left main clamp
3	Lower right main clamp
4	Lower folding unit/engage folding slide
5	Close left flap clamp
6	Close right flap clamp
7	Sewing start



- With the function **More** a menu for selecting further functions is opened.



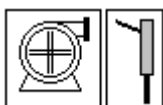
- The stacker function is generally switched off.
When the stacker function is switched off, the automatic material recognition function of the main clamp is also switched off.



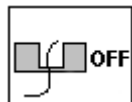
- Switch on stacker function.



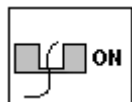
- Switch off vacuum and stamp.



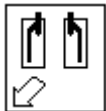
- Switch on vacuum and stamp.
The vacuum is used to retain the workpiece on the cover plate.
When the vacuum is switched on, the functions of the foot switch are altered as follows.



- Switch off needle thread monitor.



- Switch on needle thread monitor.



Number of operations/steps	functions
1	Switch on suction (vacuum or stamp)
2	Move main clamps forwards
3	Switch off suction (vacuum or stamp)
4	Lower both main clamps
5	Lower folding unit/engage folding slide
6	Close left flap clamp
7	Close right flap clamp
8	Sewing start



- Return to the basic display screen with the **Exit** function.

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8 Installation and commissioning

After unpacking the machine, examine it for any transport damages. If there are any damages, inform the carrier and your local PFAFF agency.



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

8.01 Installation

Suitable connections for electricity and compressed air must be available at the installation site (see Chapter 3 Specifications).

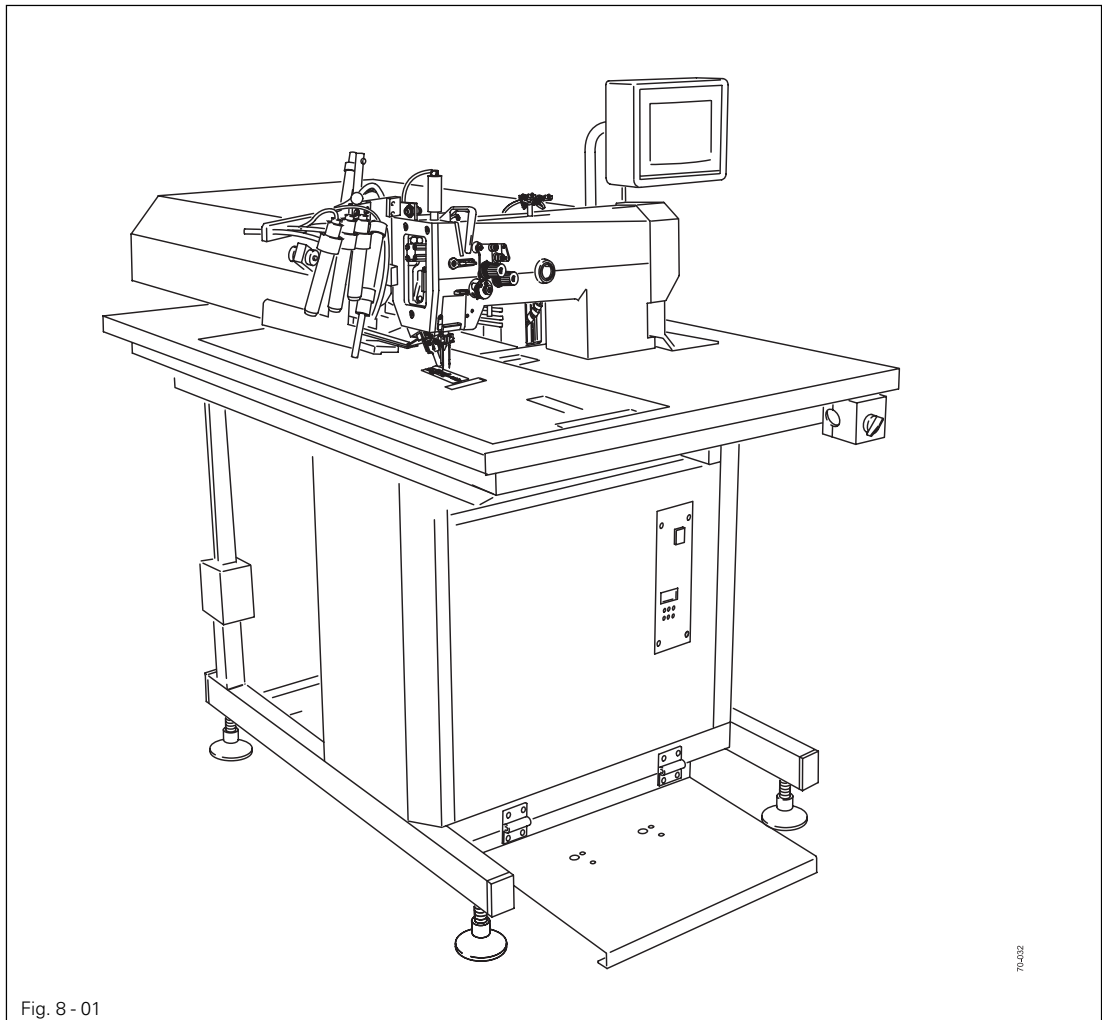
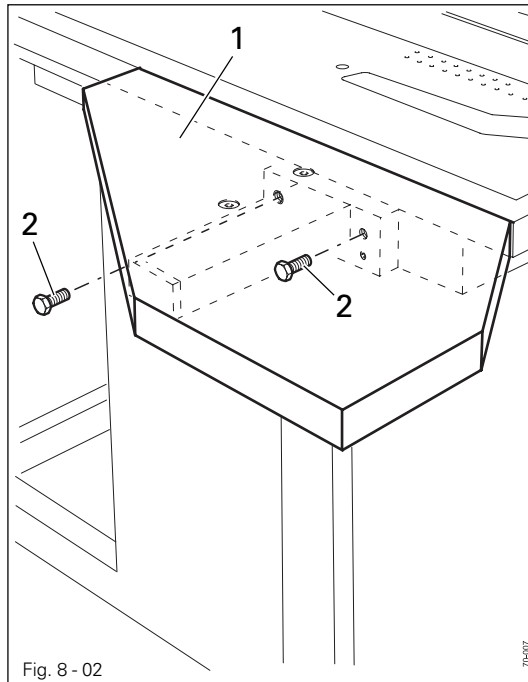


Fig. 8 - 01

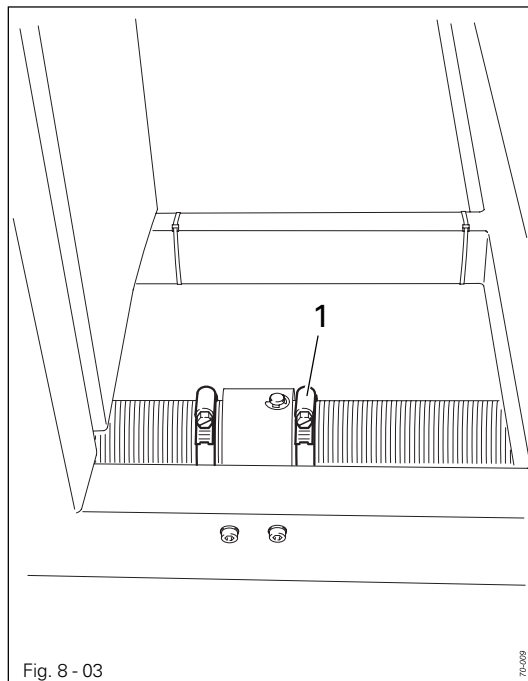
- Lift the machine off the transport pallet with a fork-lift.
- Just above the floor, align the machine until it is level and adjust the four legs accordingly before setting the machine down onto the floor.

8.01.01 Mounting the bearing plate



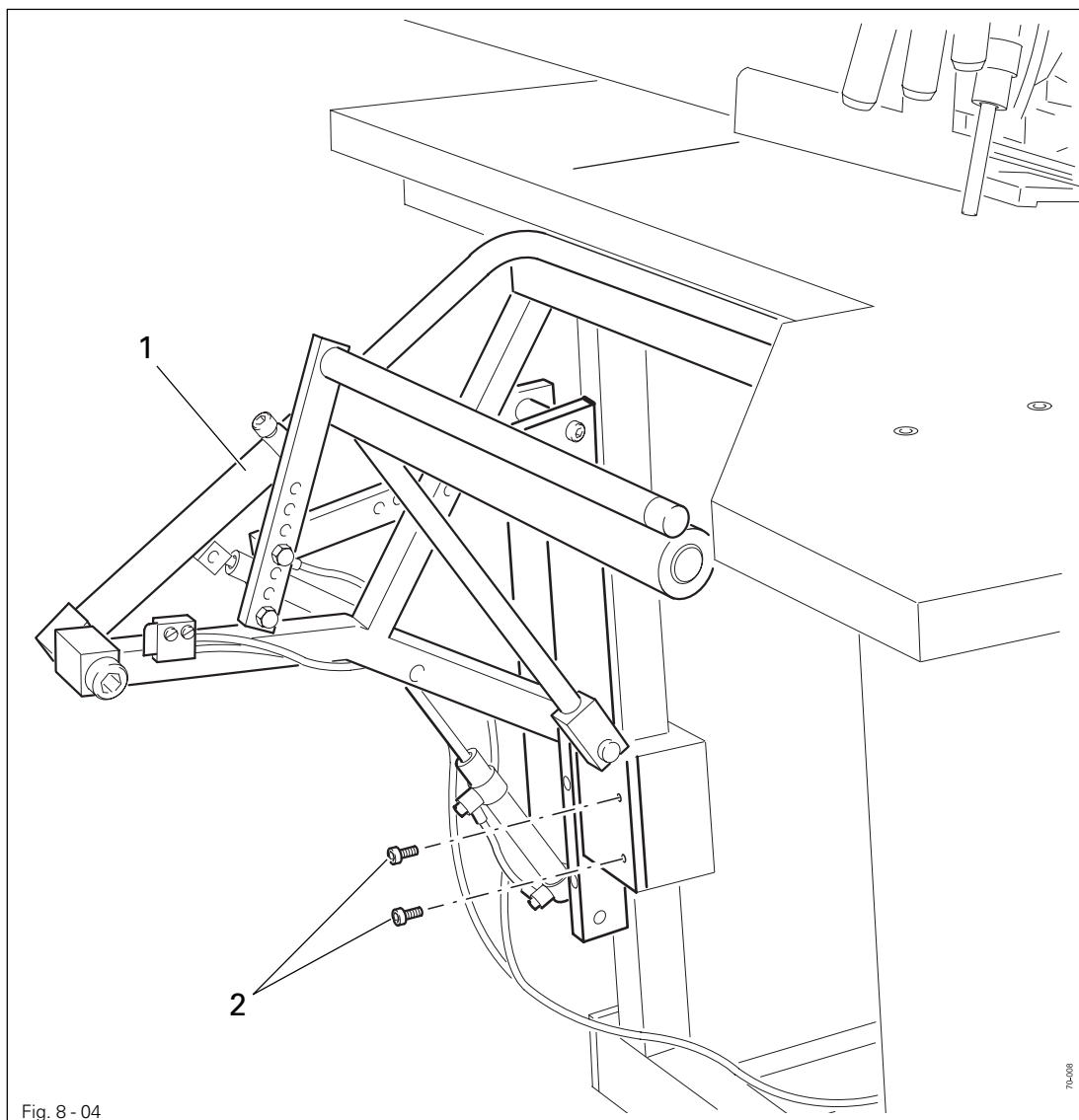
- Attach the bearing plate 1 to the sewing table with screws 2.

8.01.02 Connecting the vacuum system



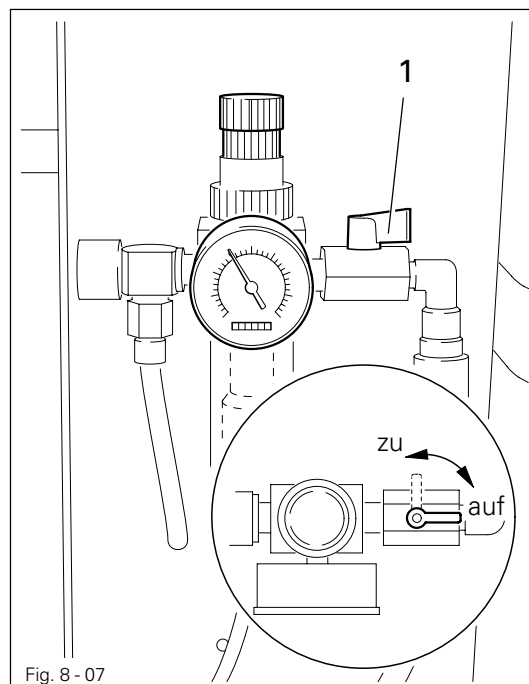
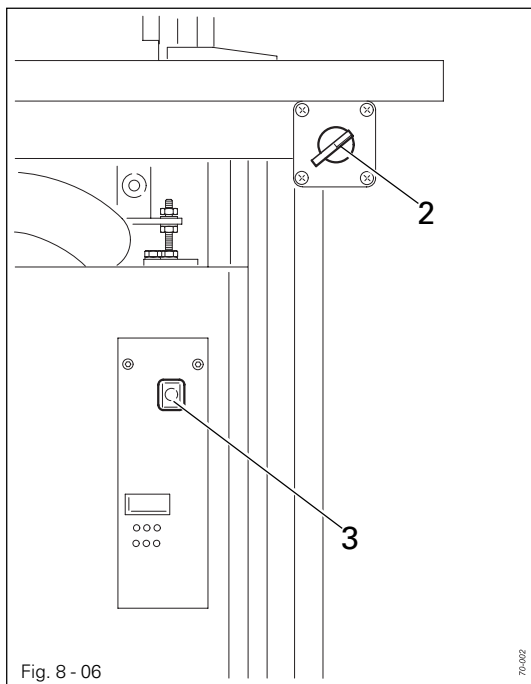
- Place the tube delivered for the vacuum system on the connection piece and fasten it with clip 1.

8.01.03 Mounting the stacker



- Attach the stacker **1** to the frame with screws **2** (four screws).
- Connect pneumatic tubes as shown in the circuit diagram.

8.03 Switching the machine on/off



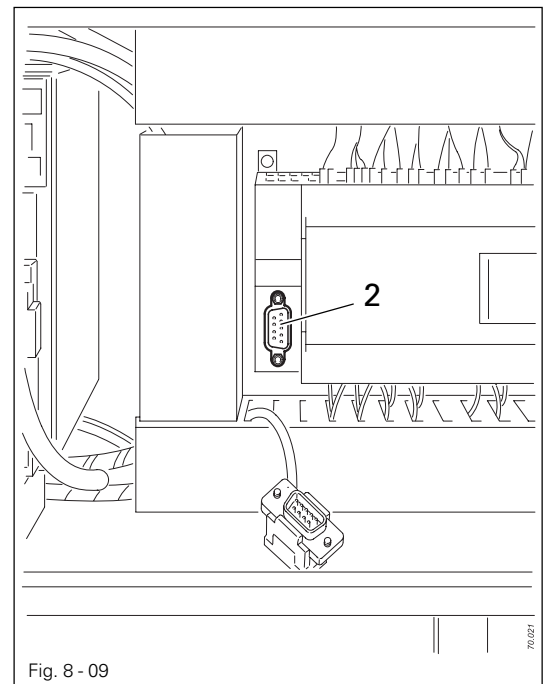
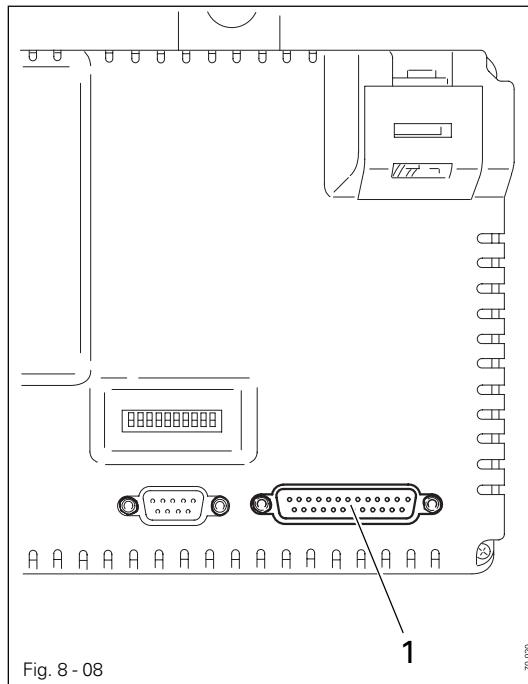
- Open the main air supply 1.
- Check the air pressure and adjust if necessary (see **Chapter 11.04 Checking/adjusting the air pressure**).
- Turn main switch 2 to position "I".



Switch 3 of the motor control unit must always be switched on.

- To switch off the machine, turn main switch 2 to position "0" and close the main air supply 1.

8.04 PC interfaces



- Parallel interface 1 on control panel.
- Serial interface 2 on control unit in switch box.

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9

Setting up



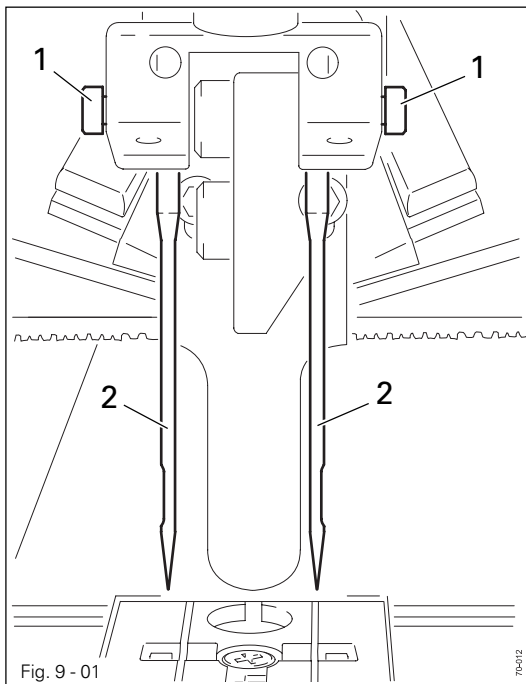
All instructions and regulations in this instruction manual must be observed. Special attention must be given to all safety regulations!



All setting-up work must only be done by personnel with the necessary training.

9.01

Inserting the needles



Switch the machine off!
Danger of injury if the machine suddenly starts running!

Only use needles from System 134!

- Retract the folding unit.
- Loosen screws **1** and insert needles **2** as far as possible into the needle bar.
- Align needles **2** as shown in the adjacent illustration and tighten screws **1**.
- Swing in the folding unit and let it snap into place.

9.02

Winding the bobbin thread / adjusting the preliminary thread tension

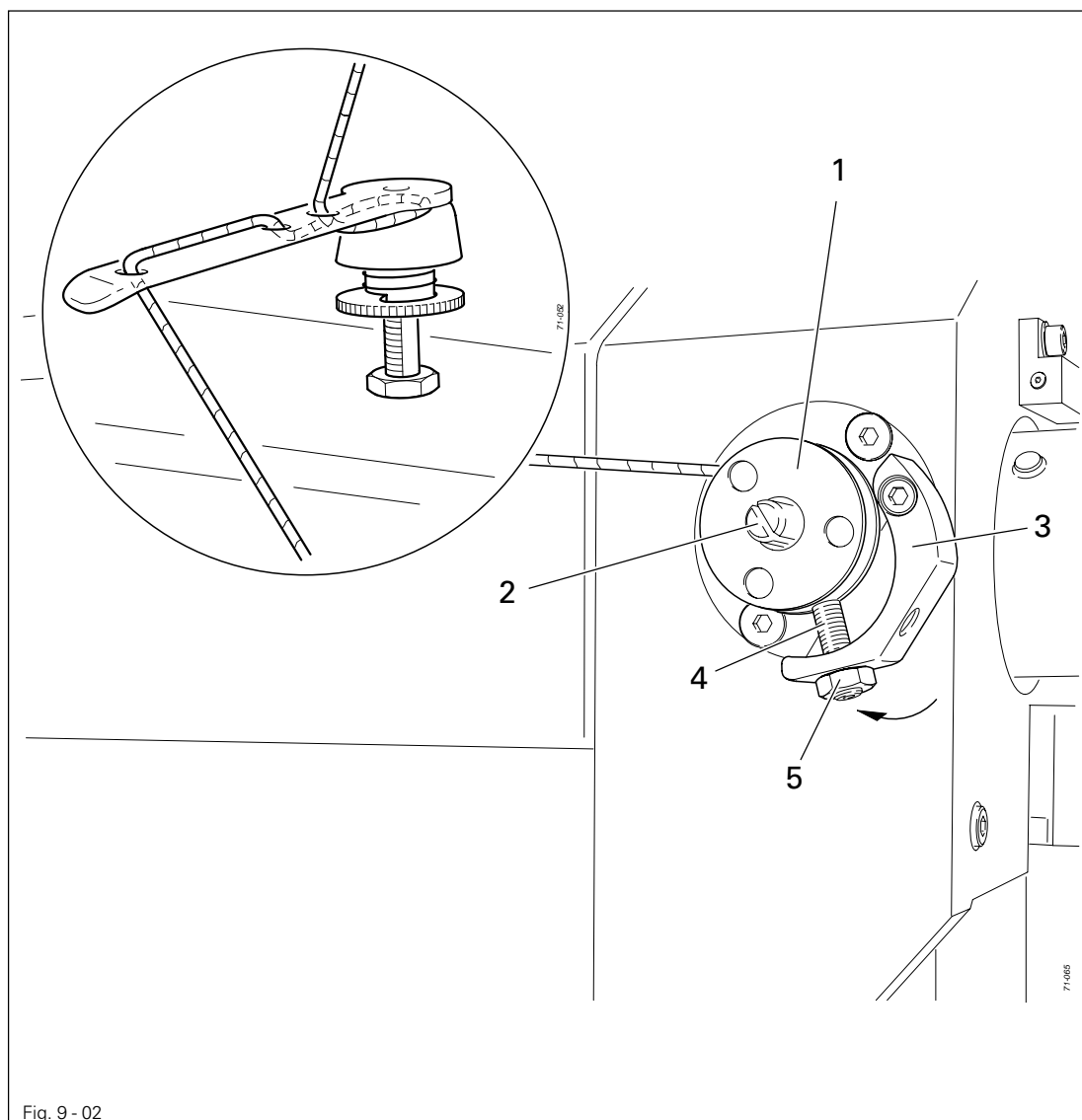


Fig. 9 - 02

- Place empty bobbin 1 on spindle 2.
- Thread up as shown in Fig. 9-02 and wind the thread around bobbin 1 a few times in a clockwise direction.
- Engage the bobbin winder by pressing lever 3 in the direction shown by the arrow.

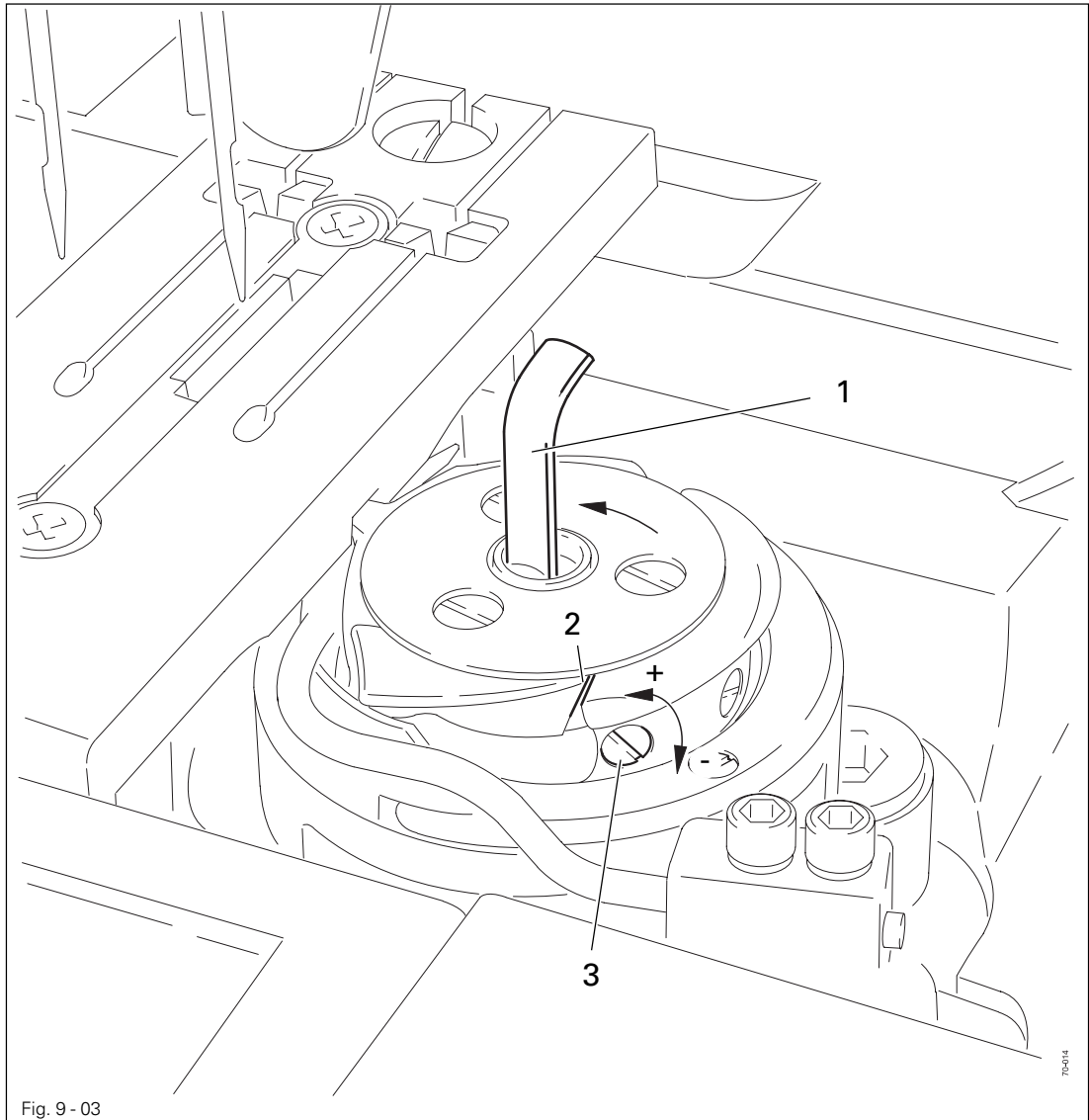


Bobbin 1 is filled during sewing.

- The tension of the thread on bobbin 1 can be set on screw 4.
- The bobbin winder will stop automatically, when there is enough thread on bobbin 1.



The adjustment of the amount of thread is described in **Chapter 12 Adjustment**.

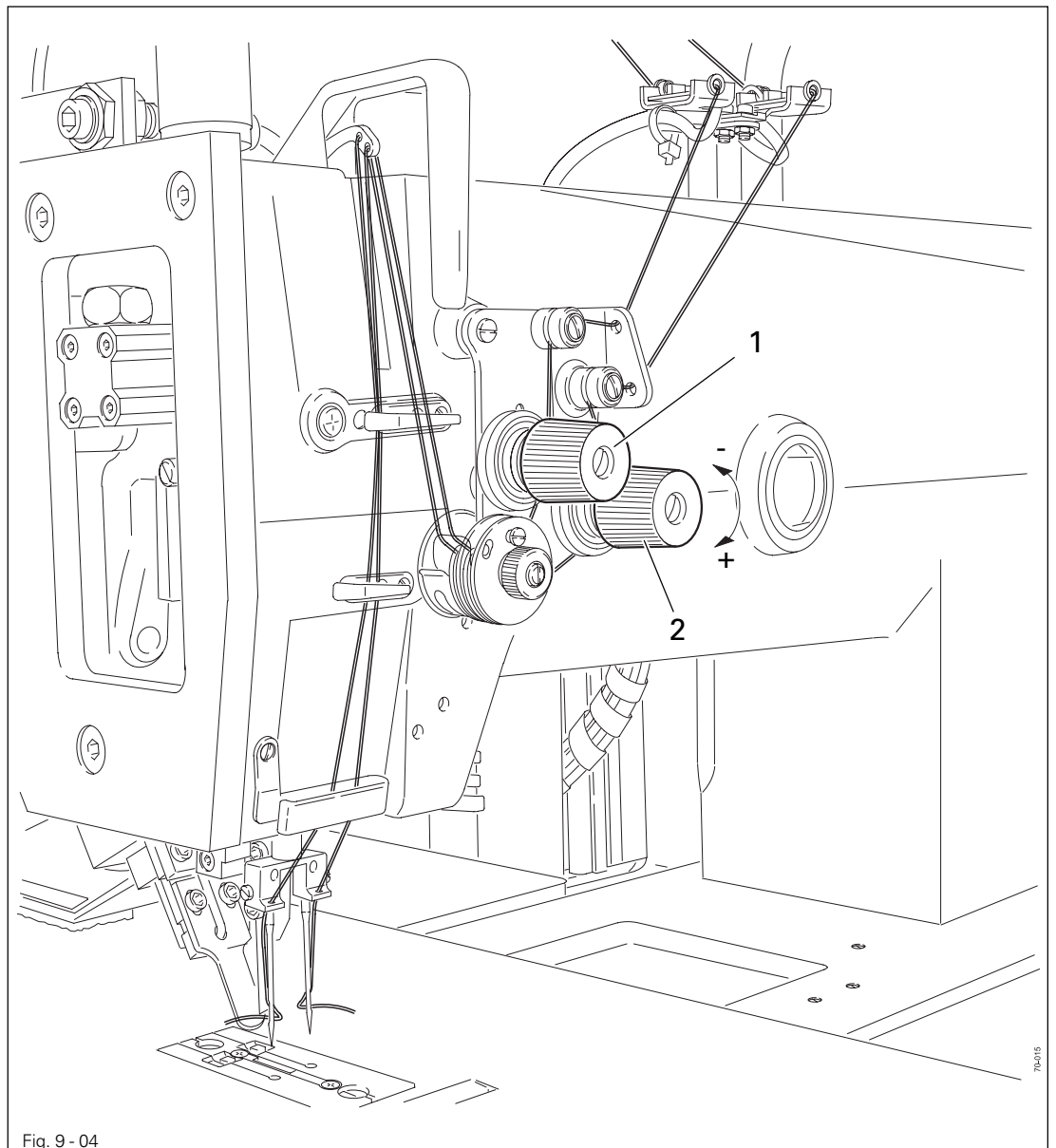


- Once the number of stitches entered beforehand has been reached, the corresponding symbol appears on the screen and the sewing operation stops, see **Chapter 10.02 Error signals**.
- To change the bobbin, switch off the machine.
- Open the folding unit and cover plate.
- Pull up latch **1** and remove the empty bobbin.
- Place the filled bobbin in the hook, so that it moves in the direction of the arrow when the thread is pulled out.
- Close down latch **1**.
- First lead the thread through slot **2** and then around the finger of the bobbin case.
- Adjust the bobbin thread tension by turning screw **3**.
- Replace the folding unit and the cover plate.



- Acknowledge the bobbin change by pressing the error signal.

9.04 Threading the needle thread / adjusting the needle thread tension



- Switch off the machine.
- Retract the folding unit.
- Thread both needle threads as shown in the above illustration.
- Adjust the needle thread tension by turning knurled screws 1 and 2.

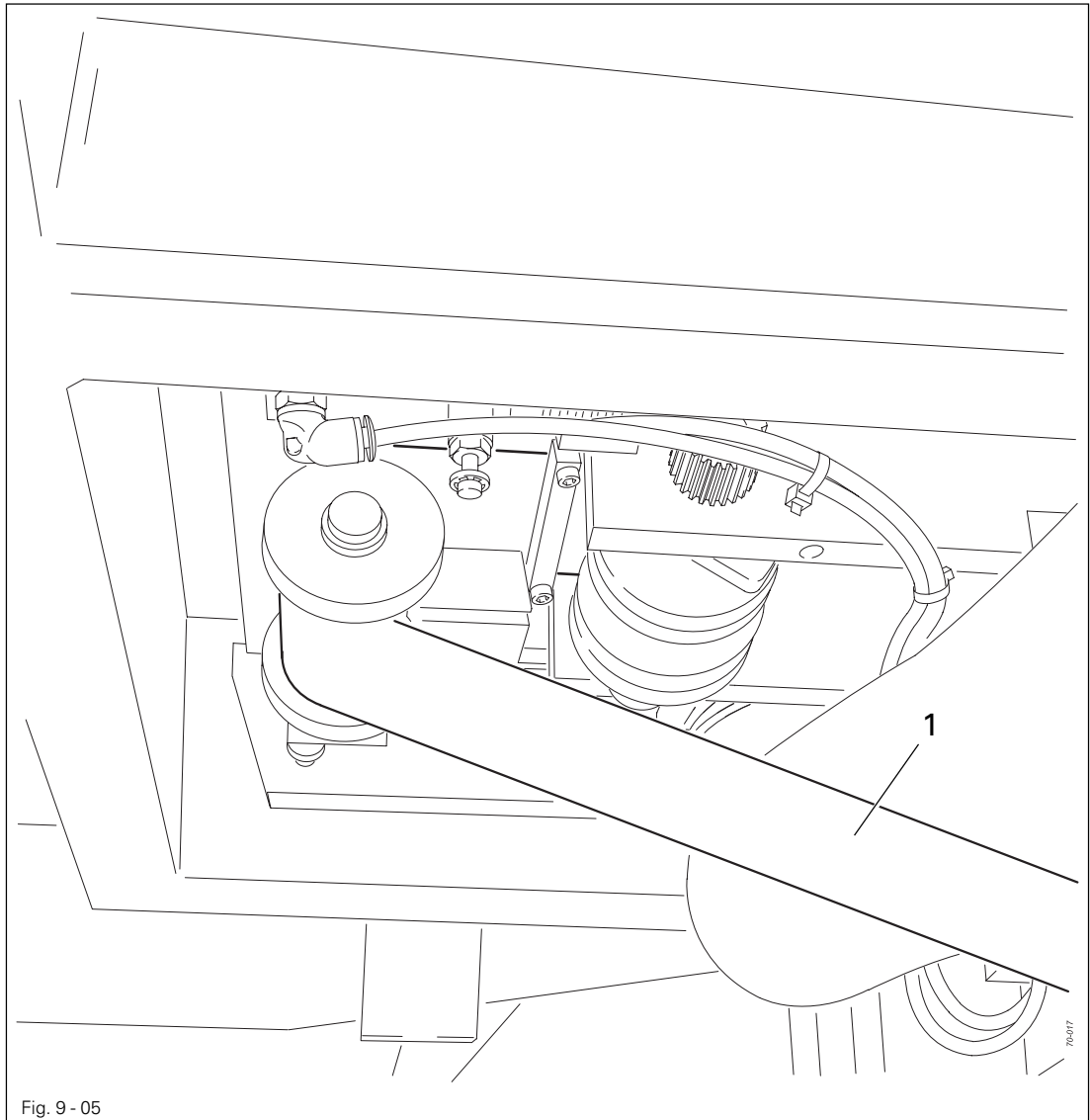


Fig. 9 - 05

- Insert the interfacing tape as shown in **Fig. 9-05**.
- Switch on the machine.
- Select the basic display by touching the screen.
- Select one of the **Pocket** functions by touching the appropriate symbol.
- Touch the feed/cut interface function.



- The interface is fed and cut.
- Move back to the basic display with the **Exit** function.

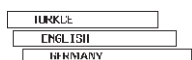
9.06 Display settings

9.06.01 Selecting the language

- Switch on the machine.
- Select the basic display by touching the screen.
- Select the **Technics/Service** function by touching the appropriate symbol.



- Select the **Display** function.
- Select the choice of languages by touching the appropriate symbol.



- Select the desired language by touching it.



- Move back to the basic display with the **Exit** function.

9.06.02 Adjusting the contrast setting

- Switch on the machine.
- Select the basic display by touching the screen.
- Select the **Technics/Service** function by touching the appropriate symbol.



- Select the **Display** function.



- By touching the appropriate symbol, the screen setting can be made darker or brighter.



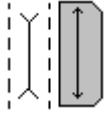
- The selected setting can be saved by touching the appropriate symbol.



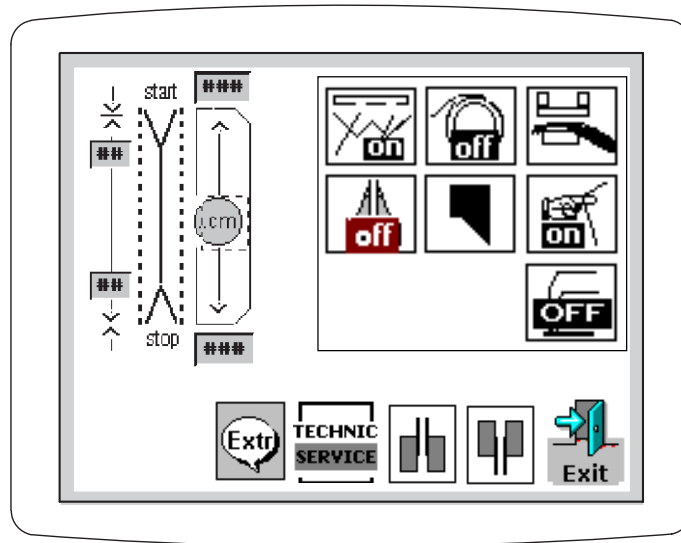
- Move back to the basic display with the **Exit** function.

9.07 Entering the flap values

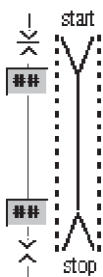
- Switch on the machine.
- Select the basic display by touching the screen.
- Select the menu for entering the flap values by touching the appropriate symbol.



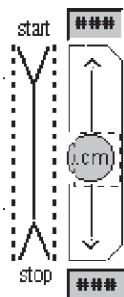
Basic display for entering flaps



For the fields described below, a number field can be selected by touching the appropriate field. The appropriate value can then be entered by touch. To conclude the entry, press Enter.



- Enter the required value for the distance of the corner knife from the beginning of the seam in the top field.
- Enter the required value for the distance of the corner knife from the end of the seam in the bottom field.



- Enter the required distance to the flap edge for the beginning of the seam in the top field. The flap will be recognized by the sensor.
- Enter the required distance to the flap edge for the end of the seam in the bottom field. The flap will be recognized by the sensor.



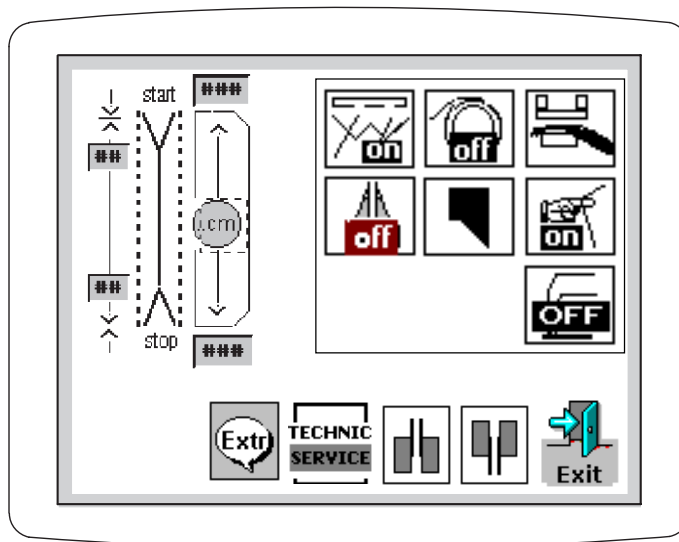
- After touching the symbol, a menu for entering the flap length appears. The flap length must be entered on the number field.



- After the flap length has been entered, an extended menu can be selected with the **Extra** function. Here the distance to the flap is set, at which the main clamp moves at a reduced speed until the flap has been sewn on.



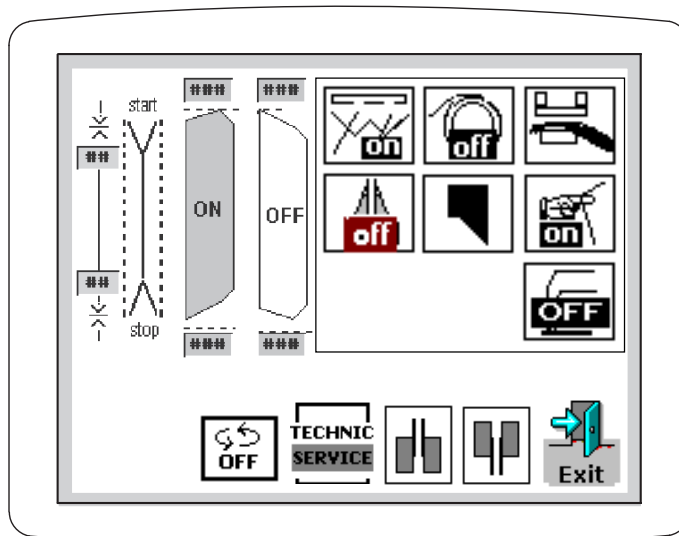
- To move back to the basic display for entering the flap, press the **Exit** function.



In the extended menu two different flaps (e.g. left and right flap) can be entered. The flaps can then be selected separately or processed alternately. In this case the flap to be processed first must be selected.



- Select the extended menu for entering the flap with the **Extra** function.

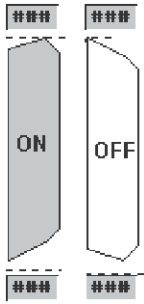


- Enter the values for the flaps as described above.



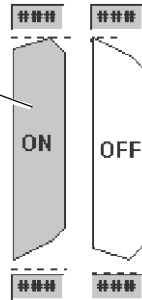
- With the **off/on** function select either alternate (on) or separate (off) processing.

Setting up



- By touching the appropriate flap symbol, select which flap is to be sewn (OFF), or which flap is to be sewn first when the flaps are sewn alternately (ON).

Right front jacket section,
front positioning point
(active)



Left front jacket section,
back positioning point
(inactive)



The functions of the other symbols are not dependent on the menu and are described in **Chapter 7.04 Control panel**.

9.08 Entering pocket values

- Switch on the machine.
- Select the basic display by touching the screen.

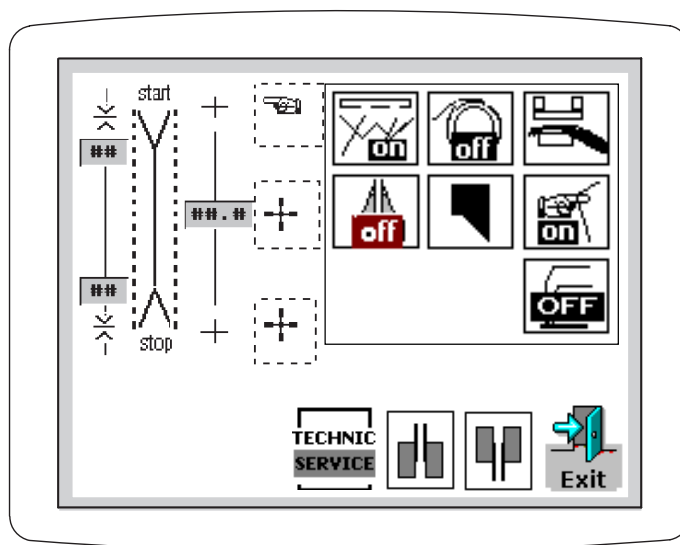


- Select the menu for entering the appropriate pocket value by touching one of the symbols.

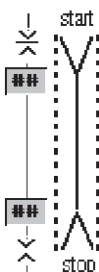


4 pockets can be entered independent of each other. The entry described below is the same for all pockets.

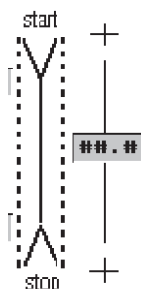
Basic display for entering pockets



For the fields described below, a number field can be selected by touching the appropriate field. The appropriate value can then be entered by touch. To conclude the entry, press Enter.

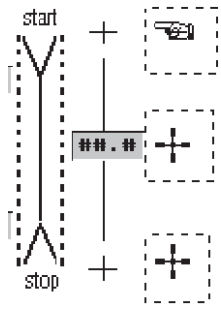


- Enter the required value for the distance of the corner knife from the beginning of the seam in the top field.
- Enter the required value for the distance of the corner knife from the end of the seam in the bottom field.



- Enter the required pocket length in this field.

Setting up



- By touching the appropriate field, set the positioning point for the pocket. The screen display corresponds to the projection of the positioning point on the cover plate of the machine. The selected positioning point is shown by the "finger".

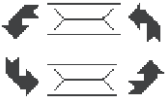


The functions of the other symbols are not dependent on the menu and are described in **Chapter 7.04 Control panel**.

9.09 Entering the work cycle

If values have been set for at least 2 pockets, these can be combined in one work cycle, so that in one operation up to 4 different pockets can be sewn automatically one after the other.

- Switch on the machine.
- Select the basic display by touching the screen.
- By touching the appropriate symbol select the menu for entering the work cycle.



- By touching the appropriate field select the desired pocket.



- Switch the stacking function for the selected pockets on or off as required.

9.10 Changing the folding unit

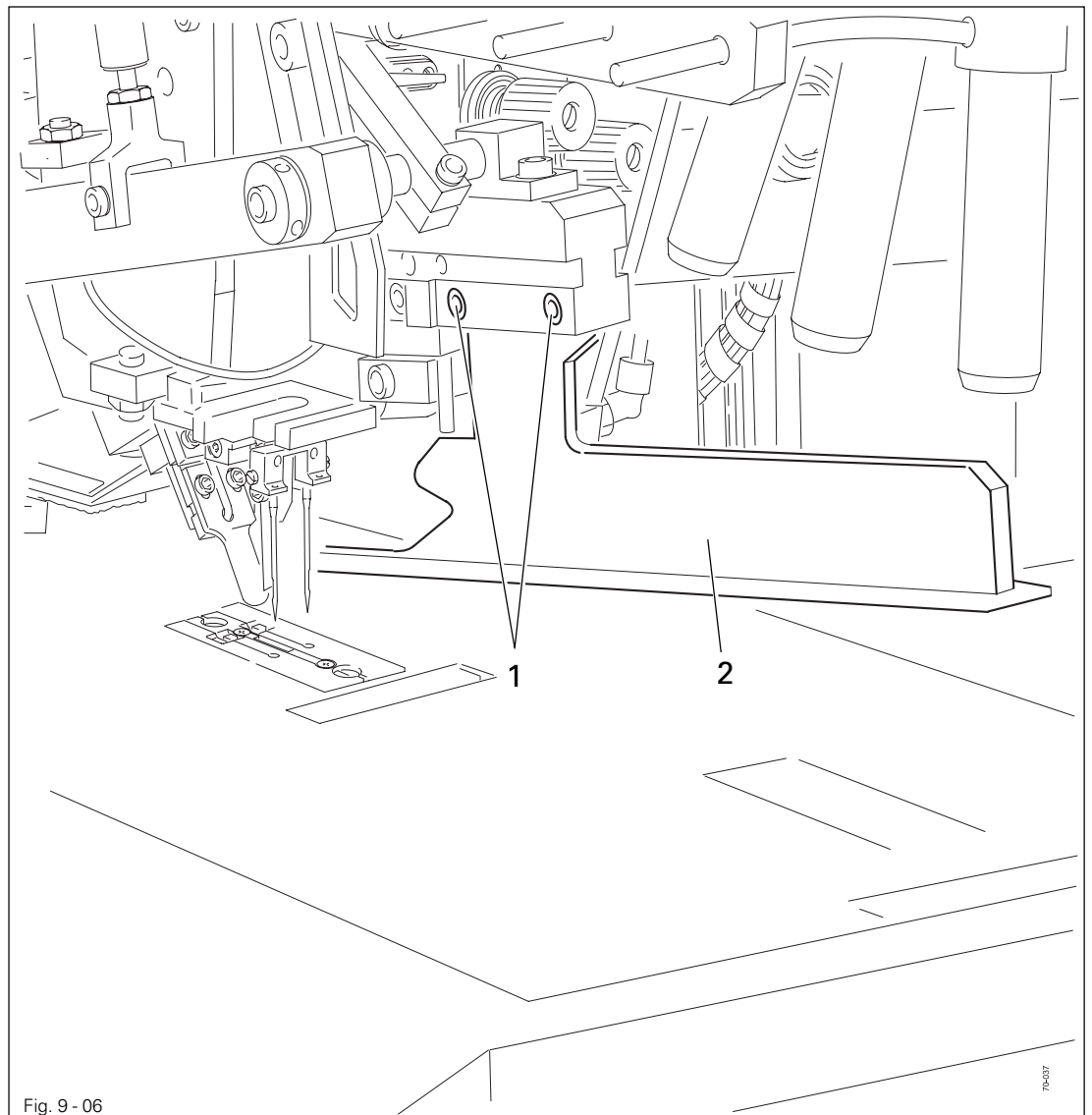


Fig. 9 - 06

- Switch off the machine.
- Loosen screws 1.
- Pull the folding unit 2 out of its holder and insert the desired folding unit, e.g. folding unit for single piping.



The folding unit (single or double piping) is recognized automatically.

9.11 Switch on bobbin thread counter / enter bobbin thread length

- Switch on the machine.
- Select the basic display by touching the screen.



- By touching the appropriate symbol select the **Technics/Service** function.



- Select the **Options** function.



- By touching the appropriate symbol select the next menu.



- By touching the appropriate symbol select the next menu.



- By touching the appropriate symbol the bobbin thread count function is switched on. The thread length is entered by touching the number field using a number keyboard.



- By touching the appropriate symbol the bobbin thread count function is switched off.



- Use the **Exit** function to return to the basic display.

	Contents	Chapter - Page
10	Sewing	10 - 1
10.01	Re-setting the piece counter	10 - 1
10.02	Error signals	10 - 2

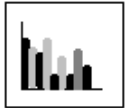
10 Sewing

The machine must be installed and connected in accordance with **Chapter 8 Installation and Commissioning**.

- Setting up the machine, see **Chapter 9 Setting up**.
- By operating the foot switch, insert the material step by step and trigger off the sewing start.

10.01 Re-setting the piece counter

- Switch on the machine.
- By touching the screen, select the basic display.
- By touching the appropriate symbol, select the **Technics/Service** function.



- Select the **piece counter** function.









- By touching the appropriate symbol, set the piece counter at zero.



- Use the **Exit** function to jump back to the basic display.

10.02 Error signals

The following symbols may appear on the screen during sewing. They indicate the corresponding errors.

Symbol	Error	Correction
	Flap seam switched on but no flap inserted.	Insert flap
	Thread error. Carry out sewing start.	Re-thread needle thread.
	Incorrect needle position.	Turn balance wheel until error signal goes off.
	Bobbin thread counter has run out.	Change the bobbin. Acknowledge correction by touching the symbol.
	Folding unit open.	Close folding unit.
	Machine stop with left foot switch.	Operate right foot switch. Return main clamp without sewing.

		Chapter - Page
	Contents	
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11.01	Cleaning the machine	11 - 2
11.02	Cleaning the hook	11 - 3
11.03	Checking the oil level	11 - 3
11.04	Checking/adjusting the air pressure	11 - 4
11.05	Cleaning the air filter of the air-filter/lubricator	11 - 4
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12	Adjustment	12 - 1
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12.02	Tools, gauges and other accessories	12 - 1
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12.05.01	Preliminary adjustment of the needle height	12 - 3
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12.05.22	Distance of both main clamps from the folding unit	12 - 25
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12.05.27	Adjusting the mitre knives	12 - 30
12.05.28	Adjusting the sensors	12 - 31
12.05.29	Summary of the functions in the service menu	12 - 32

11 Care and maintenance

Clean the entire machine	once a week
Clean the hook compartment	several times daily
Check the oil level	daily, before use
Grease the clamp guides	every 2 months
Check the air pressure	daily, before use
Clean the air filter of the air filter/lubricator	when required



These maintenance intervals are calculated for the average running time of a single shift operation. If the machine is operated more than this, shorter intervals are recommended.

11.01 Cleaning the machine

The required cleaning intervals for the machine depend on the following factors:

- Single or multi-shift operation
- Amount of dust caused by the workpiece

Optimum cleaning instructions can therefore only be given for each case individually.

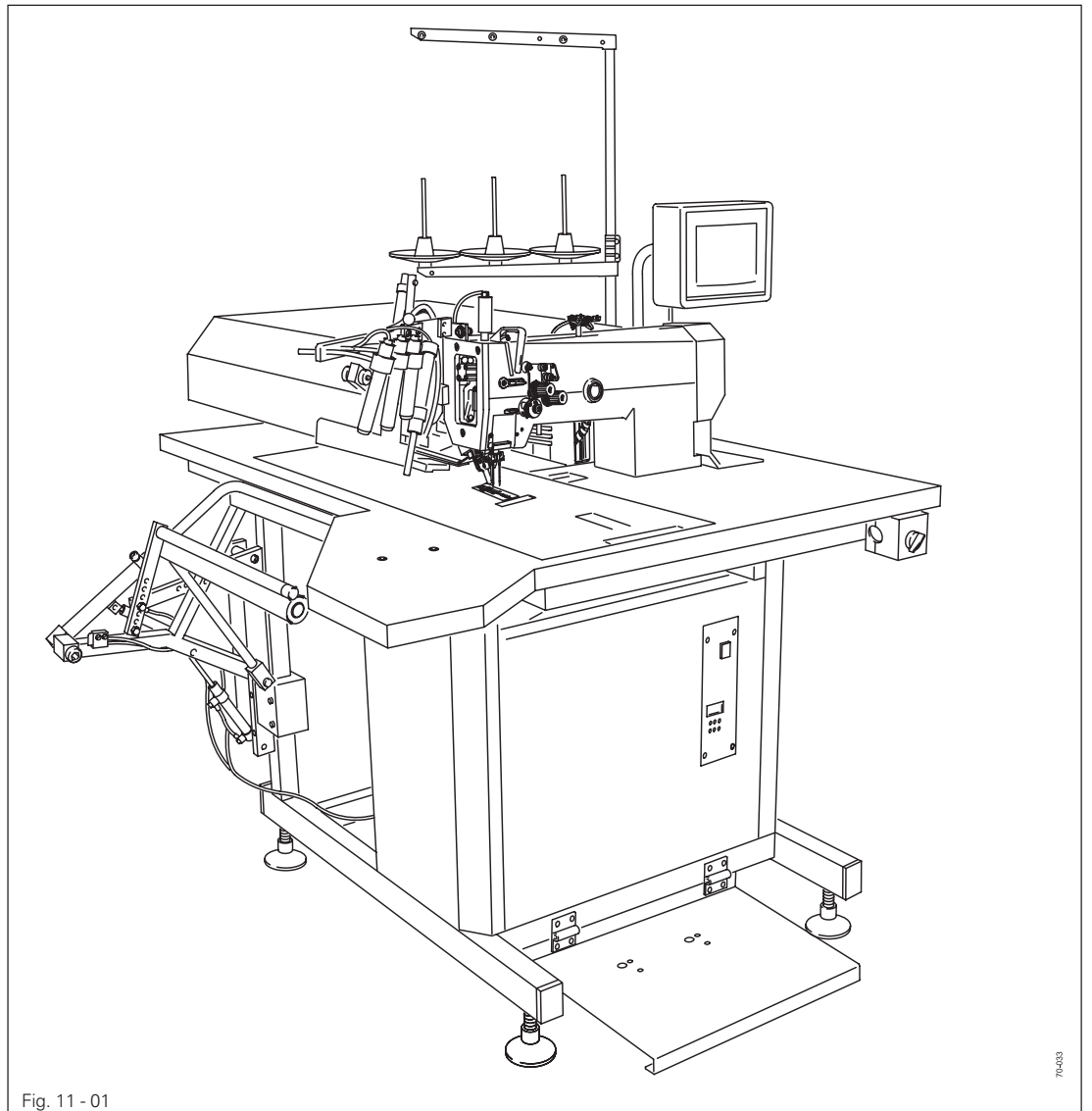


Fig. 11 - 01



To avoid interruptions following cleaning work is recommended for single-shift operation:

- Clean the hook compartment and needle area of the sewing head several times daily.
- Clean the entire machine at least once a week.



Switch off the machine.
Turn off the compressed air.

11.02 Cleaning the hook

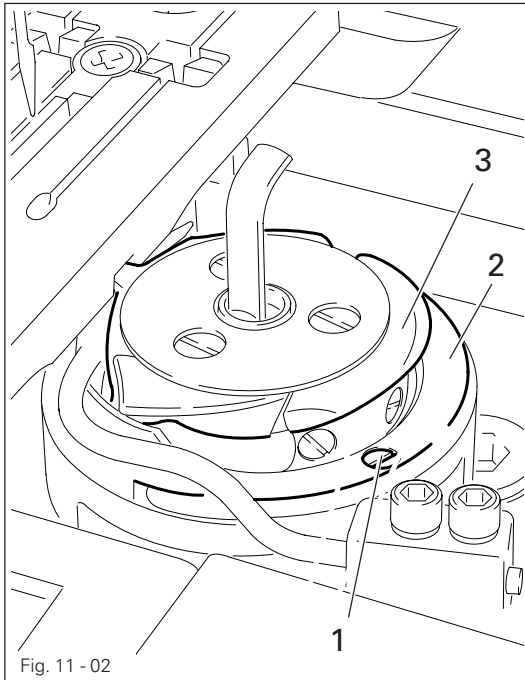


Fig. 11 - 02

- Remove screws 1.
- Remove hook gib 2.
- Turn the balance wheel until the edge of the bobbin case is positioned vertically below the bobbin opener.
- Remove bobbin case 3.
- Clean the hook race.
- Insert the bobbin case 3.
- Screw on hook gib 2.

11.03 Checking the oil level

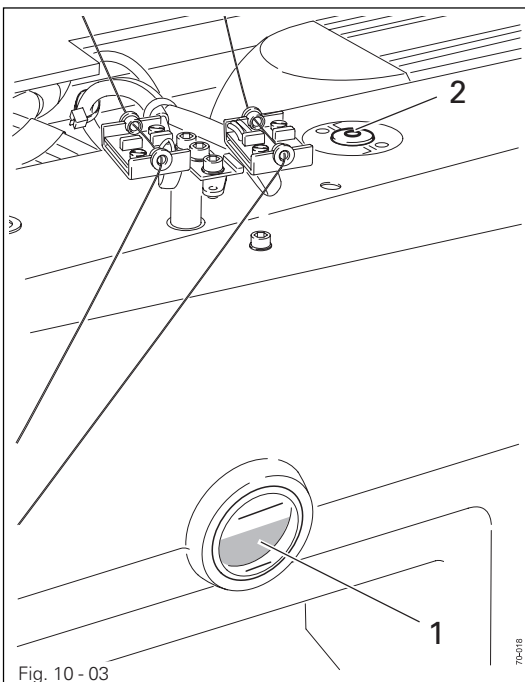


Fig. 10 - 03

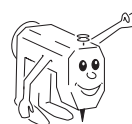


Switch off the machine!

- Check the oil level through the inspection glass 1 daily before use.
- If the oil level is below the marking, oil must be poured in through hole 2, until the oil level rises again between the top and bottom marking on inspection glass 1.



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.

11.04 Checking/adjusting the air pressure

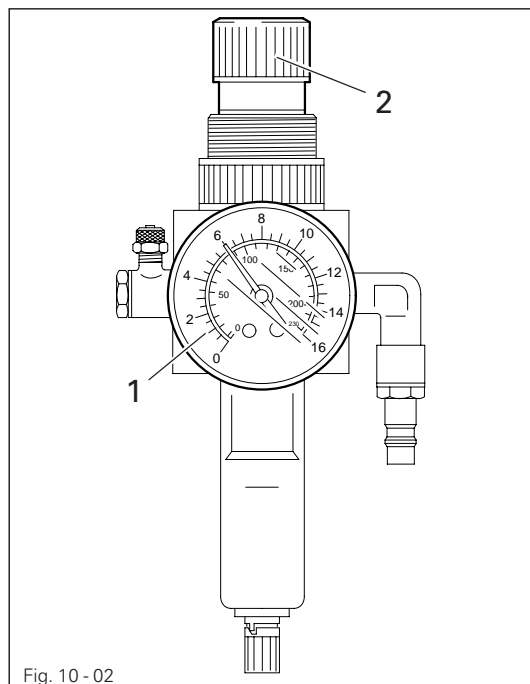


Fig. 10 - 02

- Before operating the machine, always check the air pressure on gauge 1.
- Gauge 1 must show a pressure of 6 bar.
- If necessary adjust to this reading.
- To do so, pull knob 2 upwards and turn it so that the gauge shows a pressure of 6 bar.

11.05 Cleaning the air filter of the air-filter/lubricator

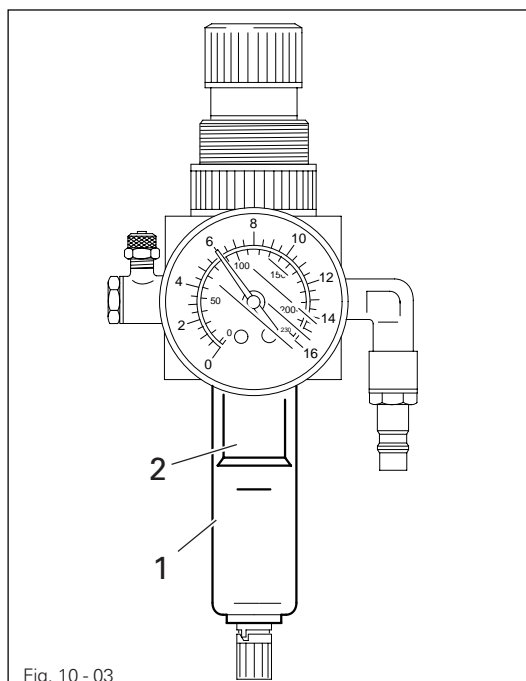


Fig. 10 - 03



Switch the machine off!
Disconnect the air hose at the air-filter/lubricator.

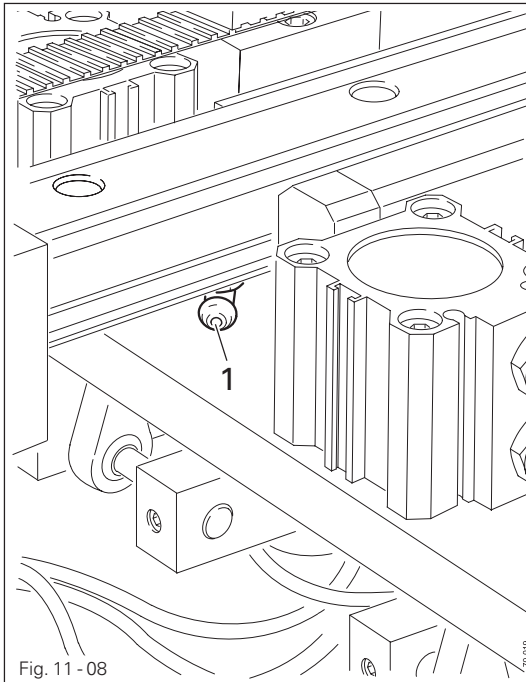
To drain water bowl 1:

- Water bowl 1 drains itself automatically when the compressed-air hose is disconnected from the air-filter/lubricator.

Cleaning filter 2:

- Unscrew water bowl 1.
- Take out filter 2.
- Clean filter 2 with compressed air or isopropyl alcohol (part No. 95-665 735-91).
- Screw in filter 2 and screw on water bowl 1.

11.06 Greasing the clamp guide



Switch off the machine and take precautions to prevent it being switched on again!



Only use Isoflex Topas L32 heavy-duty grease, part no. 280-1-110 210.

- Grease the guides with a grease nipple using a grease gun every 2 months for single-shift operation and once a month for two-shift operation.



There are more grease nipples on the machine, which ought to be greased with a grease gun at regular intervals.

12 Adjustment

12.01 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 and nuts indicated in brackets () are fastenings for machine parts, which must be loosened before adjustment and tightened again afterwards.

12.02 Tools, gauges and other accessories

- 1 set of screwdrivers with blade widths from 2 to 10 mm
- 1 set of wrenches with jaw widths from 6 to 22 mm
- 1 set of Allan keys from 1.5 to 6 mm
- 1 universal screwdriver with exchangeable blades
- 1 metal ruler
- 1 needle rise gauge, Part no. 61-111 600-01
- 1 screw clamp, Part no. 08-880 137 00
- Sewing threads and test material
- Needles

12.03 Abbreviations

t.d.c. = top dead centre

b.d.c. = bottom dead centre

12.04 Opening up the sewing head



Turn off the compressed air supply!
Switch off the machine and take measures to prevent it being switched on again!



The opened sewing head must be prevented from falling back down with support 6!
If the sewing head falls down suddenly there is a danger of being crushed between the sewing head and table top!

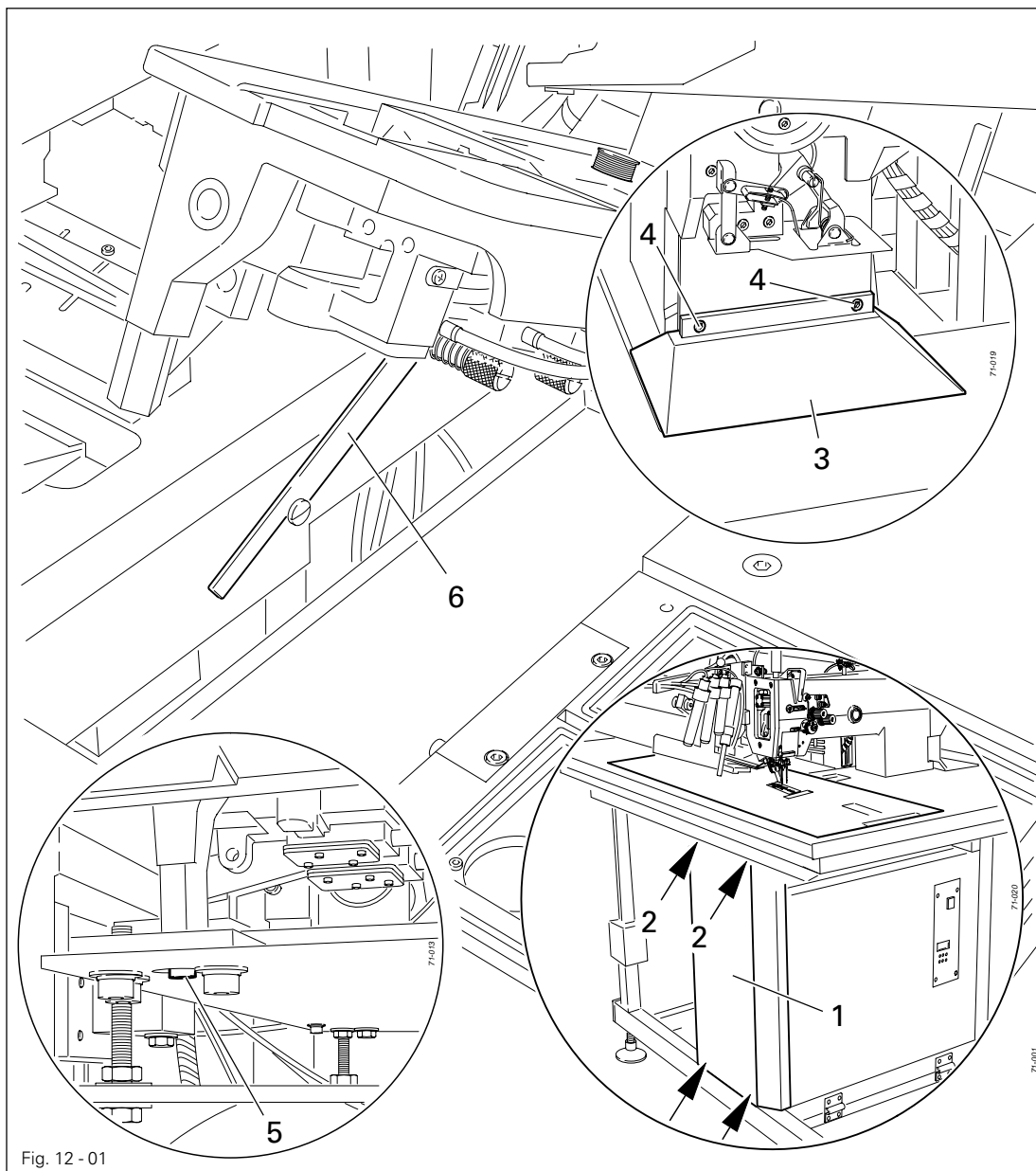
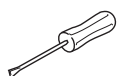


Fig. 12 - 01

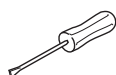
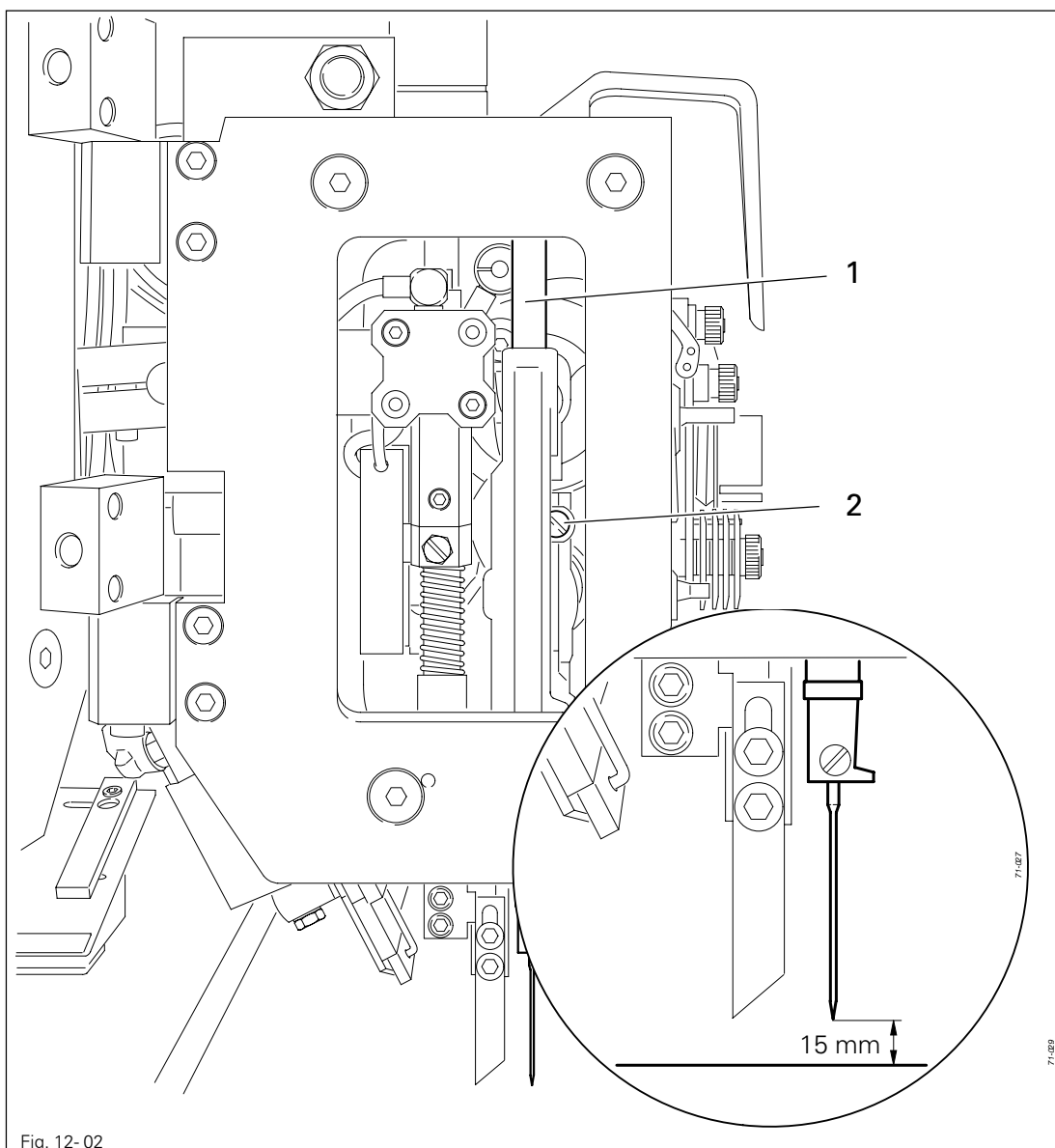


- Remove cover 1 (screws 2, 4 ea).
- Remove cover 3 (screws 4).
- Unscrew screw 5 and swing out the cover plate.
- Swing the control panel aside. If necessary loosen the terminal screws.
- Open up the sewing head and protect it from falling back down with support 6.
- To replace the sewing head repeat the steps in reverse order.

12.05.01 Preliminary adjustment of the needle height

Requirement

When the needle bar is at t.d.c. there should be a distance of approx. 15 mm between the needle points and the needle plate.



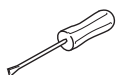
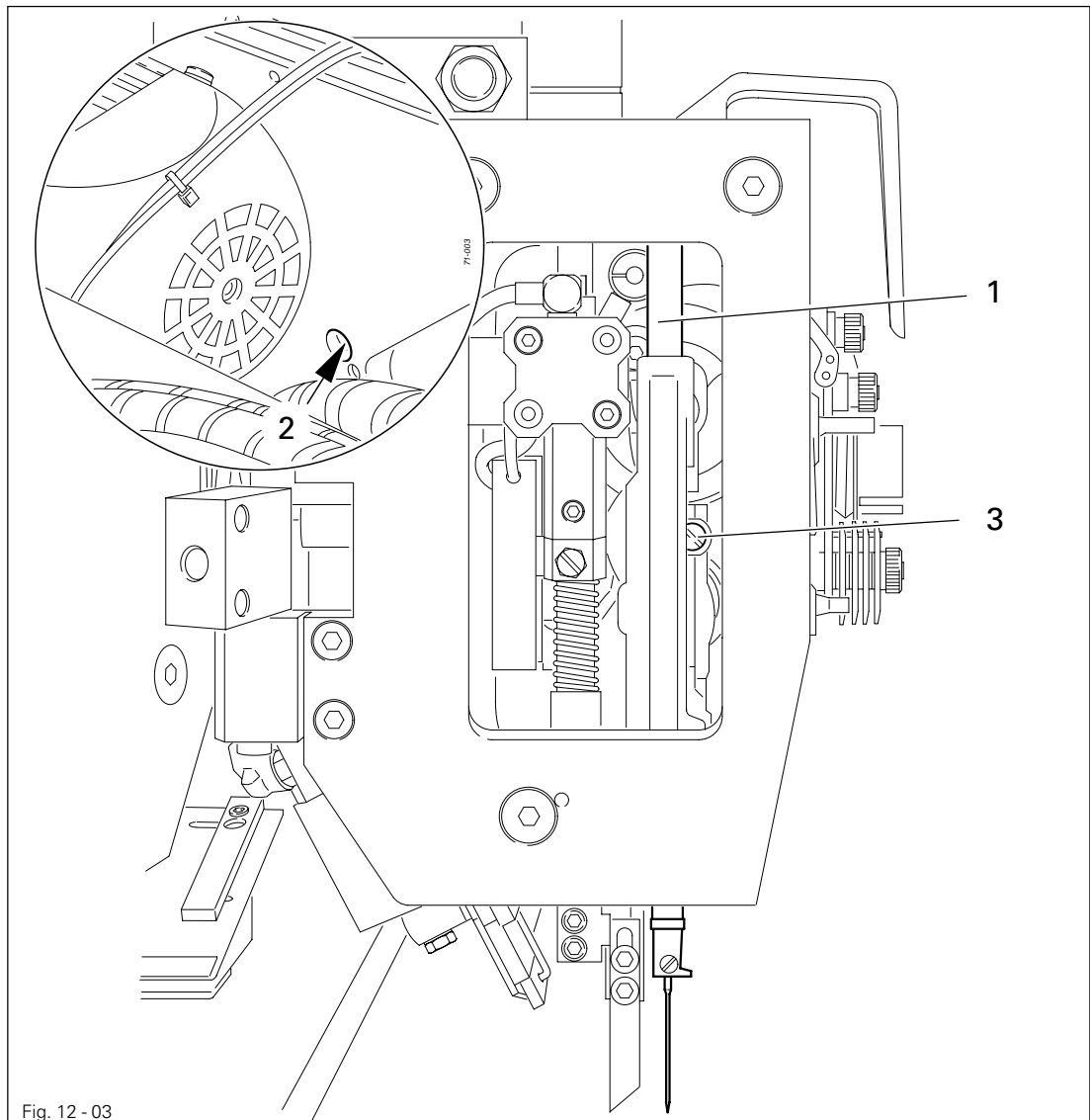
- Without twisting it, adjust needle bar 1 (screw 2) in accordance with the requirement.

Adjustment

12.05.02 Position of the needles to the needle hole

Requirement

Both needles should enter the respective needle holes in the centre.



- Adjust needle bar 1 (screw 2) in accordance with the **requirement**.
- If necessary, adjust needle bar 1 (screw 3) in accordance with the **requirement**.

12.05.03 Needle bar rise, needle height, hook-to-needle clearance and needle guard

Requirement

When the needle bar is positioned 2.2 after b.d.c. (needle bar rise)

1. The top edge of the needle eye should be **1.0 mm** below the hook point
2. The hook point, at a distance of **0.05 – 0.10 mm** from the needle, should be positioned at **needle centre**
3. Needle guard **5** should be touching the needle lightly.

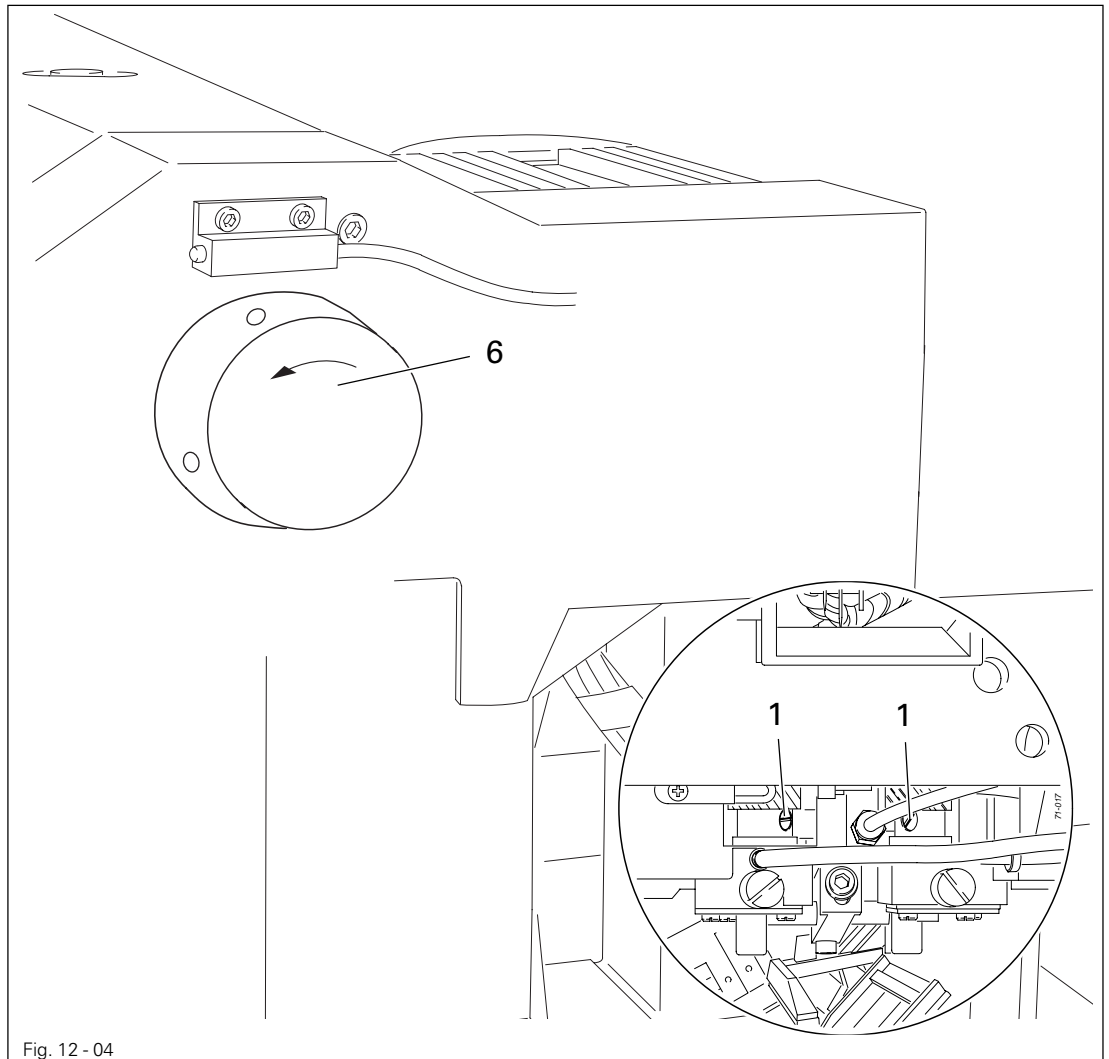
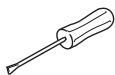


Fig. 12 - 04



Needle bar rise

- Loosen screws **1**.
- Position the needle bar at b.d.c.
- In this position slide the 2.2 mm thick feeler of the needle rise gauge directly under the needle bar bearing.
- Move screw clamp (part no. 08-880 137 00) to touch the feeler gauge and screw tightly onto the needle bar.
- Remove the feeler and turn balance wheel **6** in the direction of the arrow, until the screw clamp fits tightly.
- Set the hook tip towards the centre of the needle and tighten the fastening screws of the bevel gear **1**, taking the backlash into consideration.

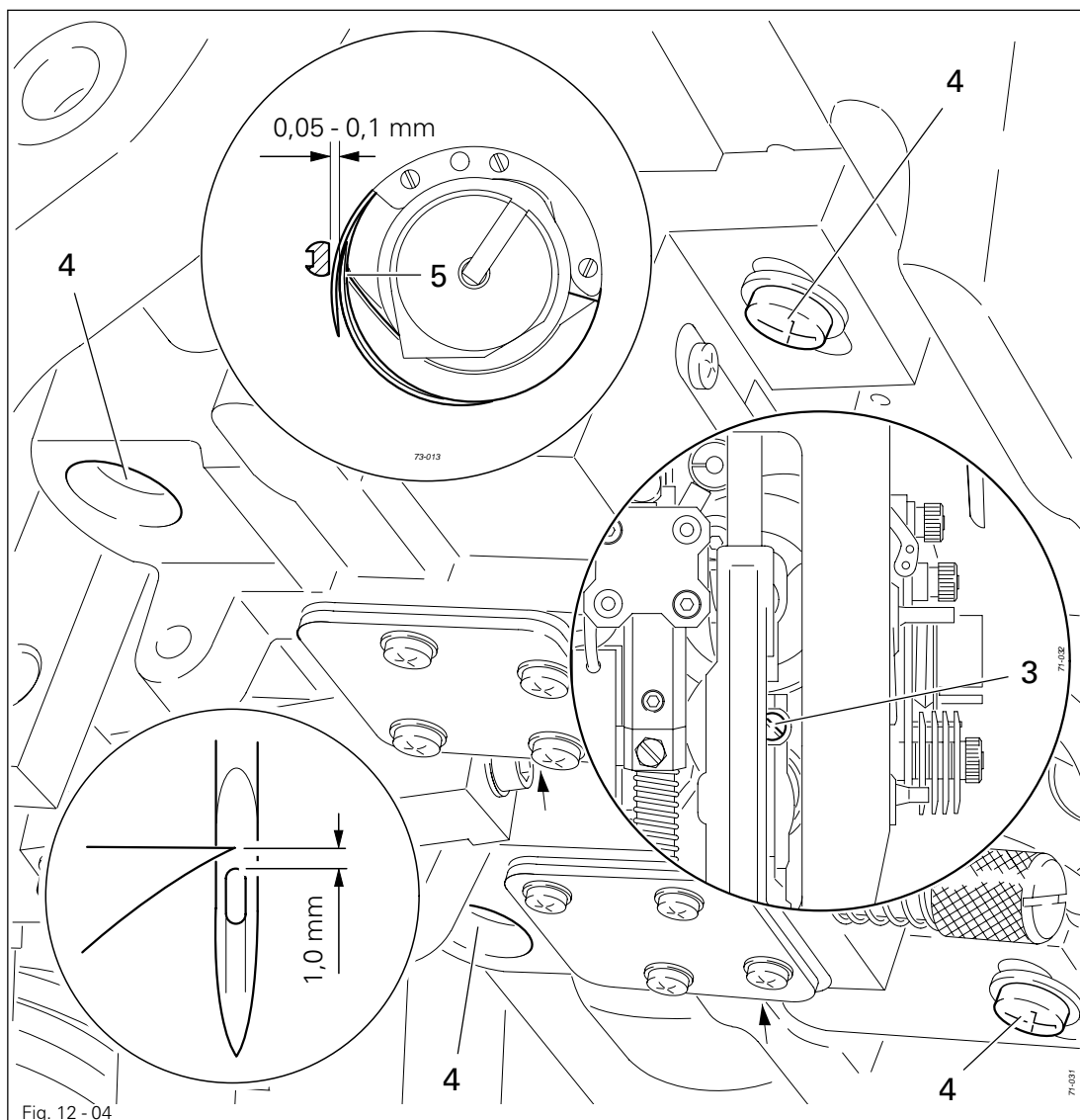
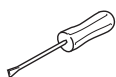


Fig. 12 - 04



Needle height

- Without twisting it, adjust the needle bar (screw 3) in accordance with the **requirement 1**.

Hook to needle clearance

- Loosen the screws of the hook gear drive through the installation holes (arrows).
- Adjust the hook bearing (screws 4) in accordance with **requirement 2**, taking care that the needle is not deflected by needle guard 5.
- Control the movement of the lifting eccentric.

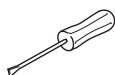
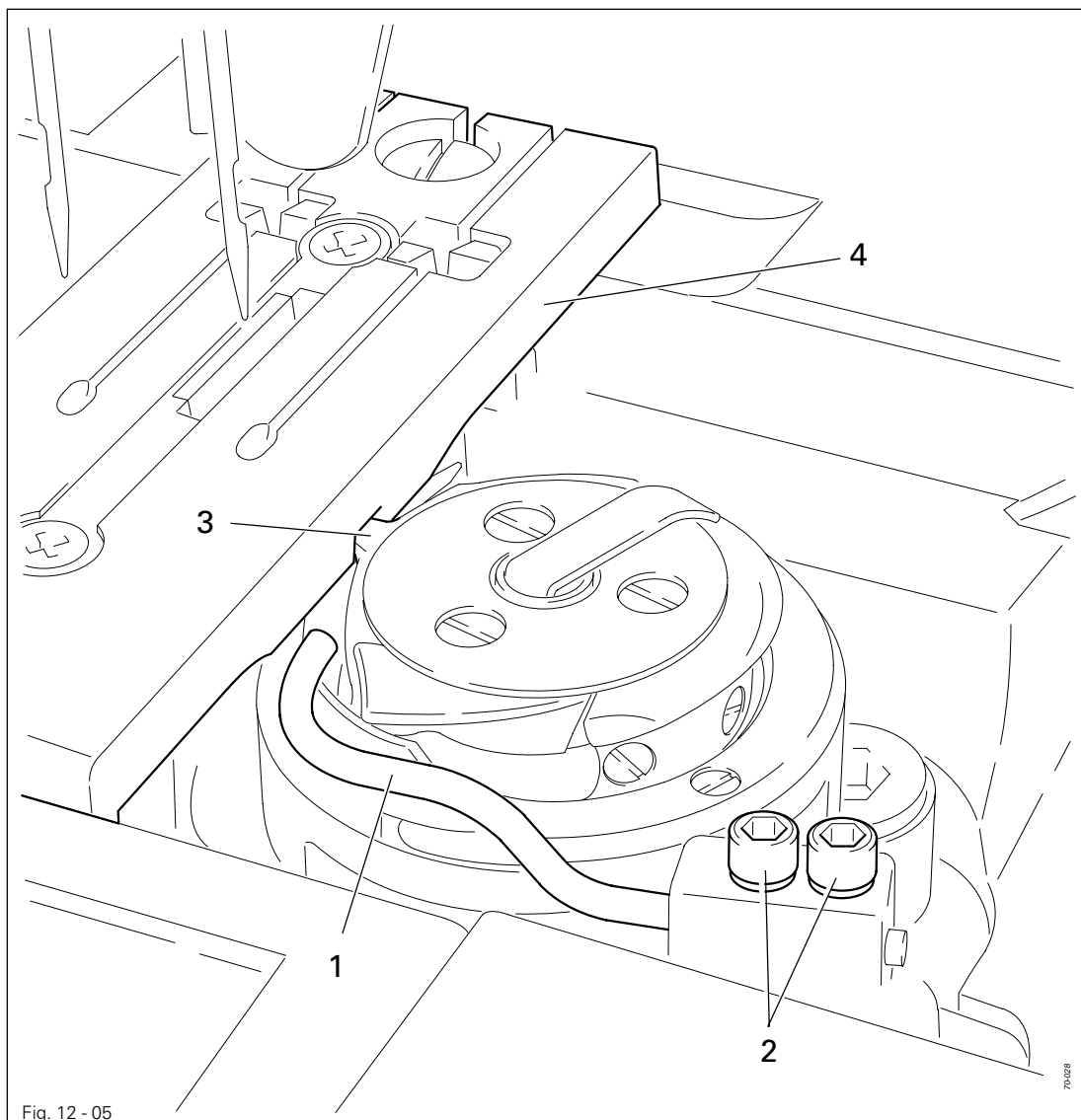
Needle guard

- Bring the needle bar into the needle rise position by turning the balance wheel.
- Align needle guard 5 in accordance with **requirement 3**.

12.05.04 Bobbin case opener stroke

Requirement

At the end of the back stroke of the bobbin opener, the catch **3** of the bobbin case should be at such a distance from the edge of the recess of the needle plate **4** that the thread can pass through unhindered.



- Adjust bobbin opener **1** (screws **2**) in accordance with the requirement.

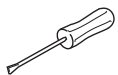
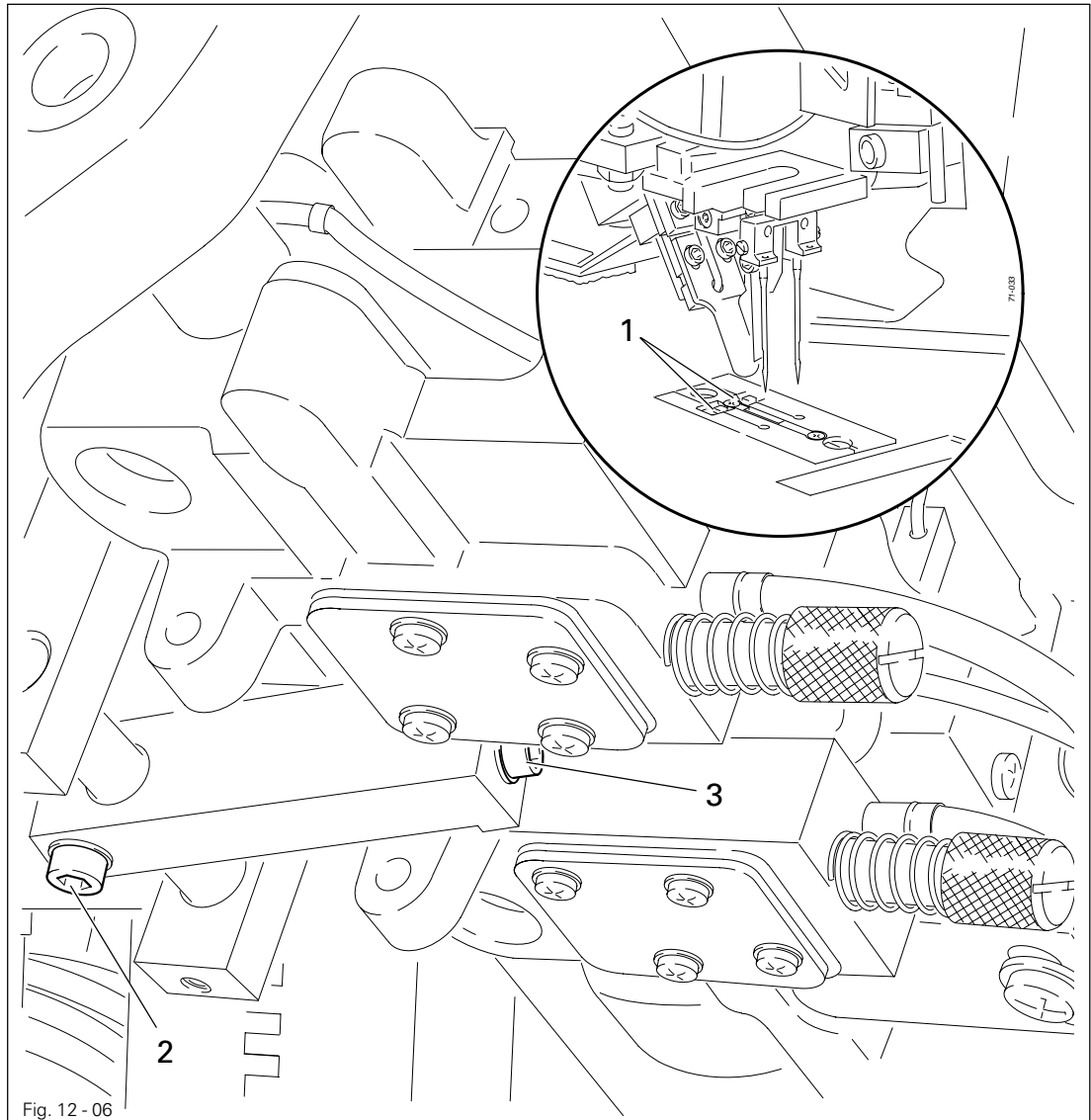
Adjustment

12.05.05 Position of the bobbin thread cutter

Requirement

Bobbin thread cutter 1 should

1. Be positioned in the centre of the needle plate cutout and
2. Must not jut out above the edge of the table top.

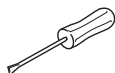
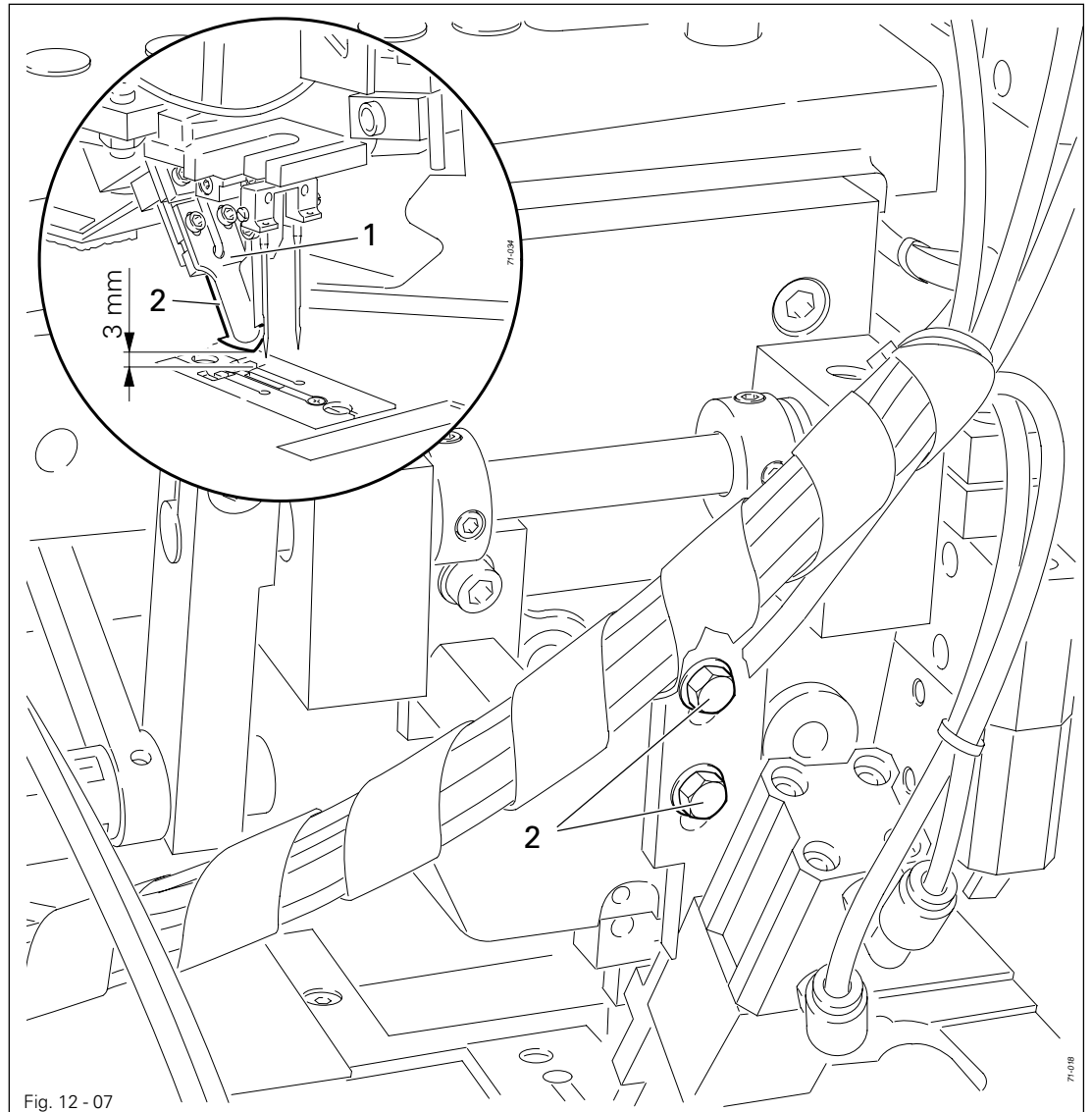


- Adjust bobbin thread cutter 1 (screw 2) in accordance with requirement 1.
- Adjust bobbin thread cutter 1 (screw 3) in accordance with requirement 2.

12.05.06 Position of the needle thread cutter

Requirement

The needle thread cutter should be positioned in the centre between the needles at a distance of 3 mm from the needle plate (extended thread catcher 3) and catch the thread reliably.

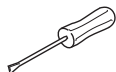
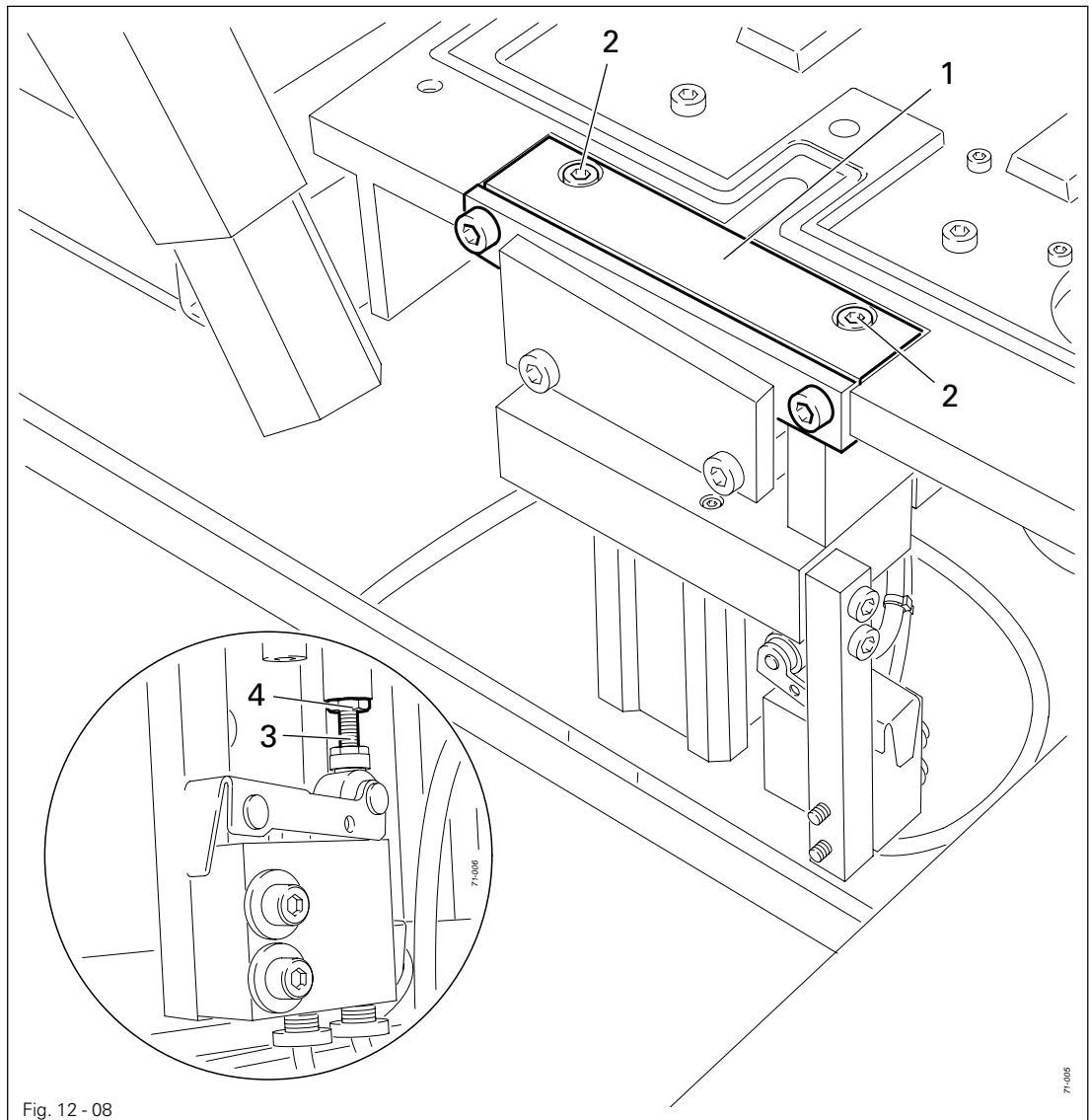


- Adjust needle thread cutter 1 (screws 2) in accordance with the requirement.

12.05.07 Cutting device of the interfacing feed unit

Requirement

1. The interfacing should be cut smoothly with the lowest possible cutting pressure.
2. The roller lever should be activated when the bottom knife is lowered.

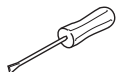
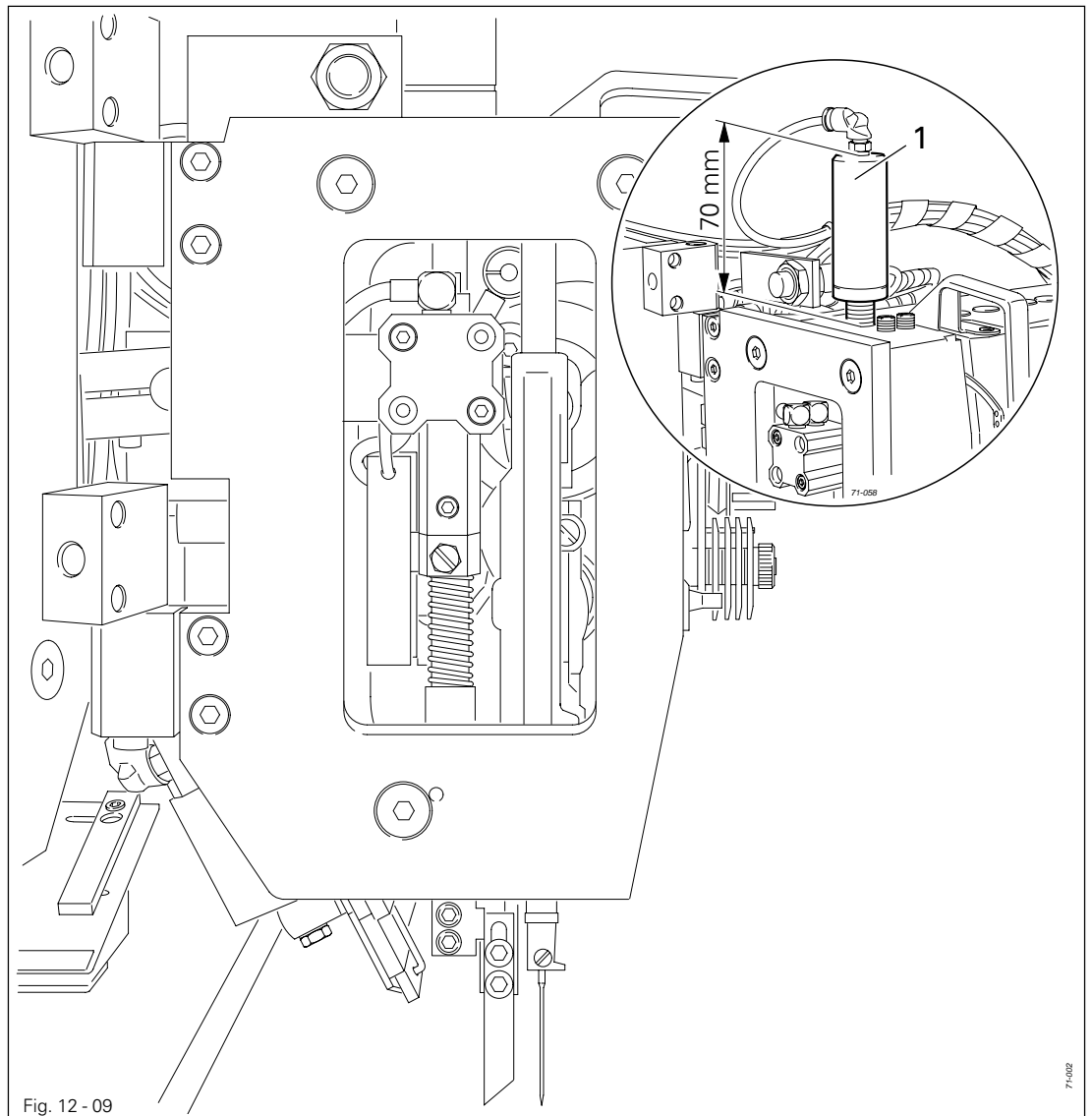


- Adjust knife holder 1 (screws 2) in accordance with **requirement 1**.
- Adjust screw 3 (nut 4) in accordance with **requirement 2**.

12.05.08 Basic position of the middle knife

Requirement

The top edge of the cylinder 1 should be approx. **70 mm** above the top edge of the machine.

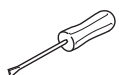
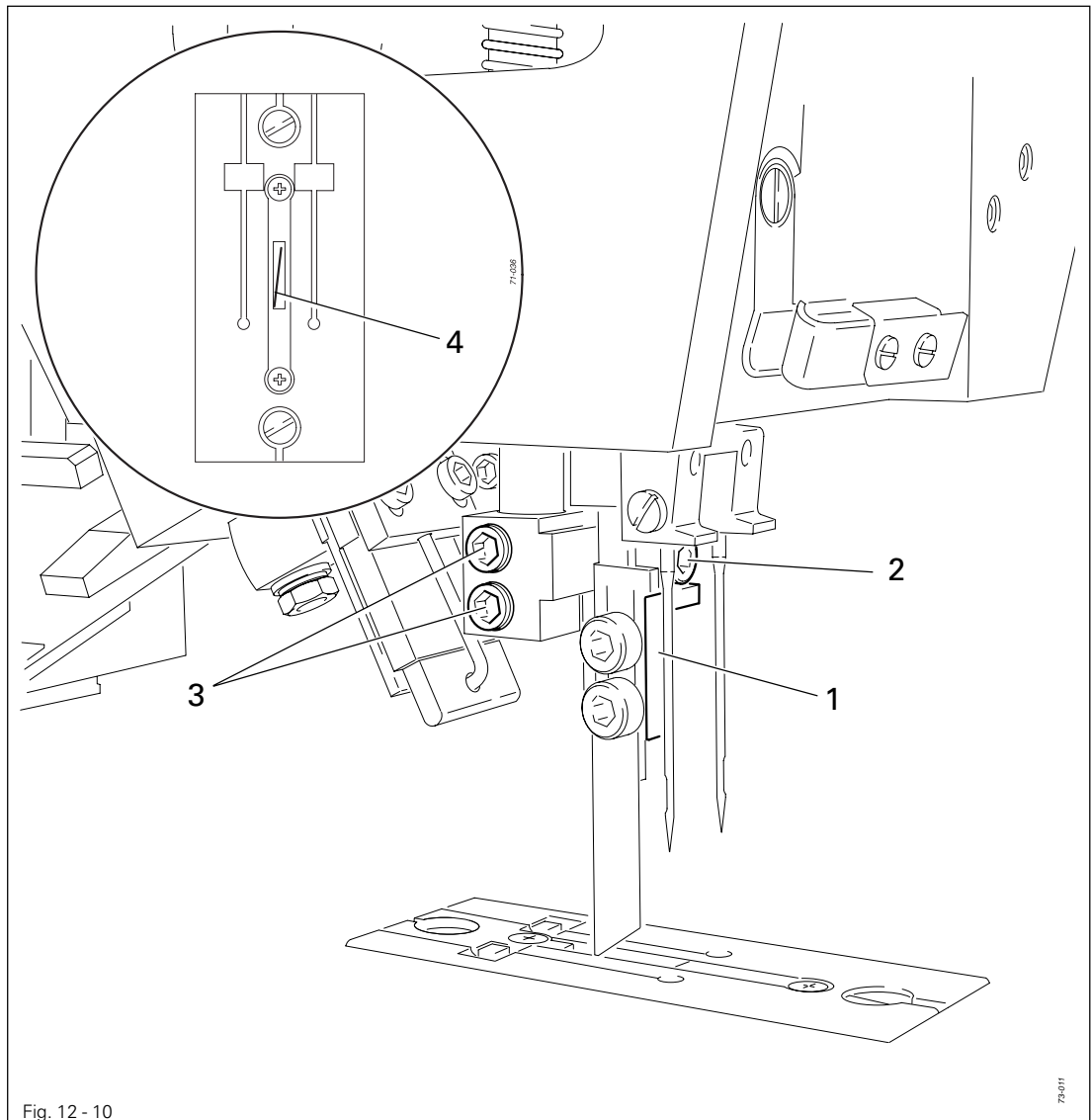


- Adjust cylinder 1 in accordance with the **requirement**.

12.05.09 Knife pressure and angle of the middle knife blade

Requirement

1. Middle knife 4 should cut smoothly with the lowest possible knife pressure.
2. Middle knife 4 should be at a slight angle to the counter knife.



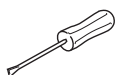
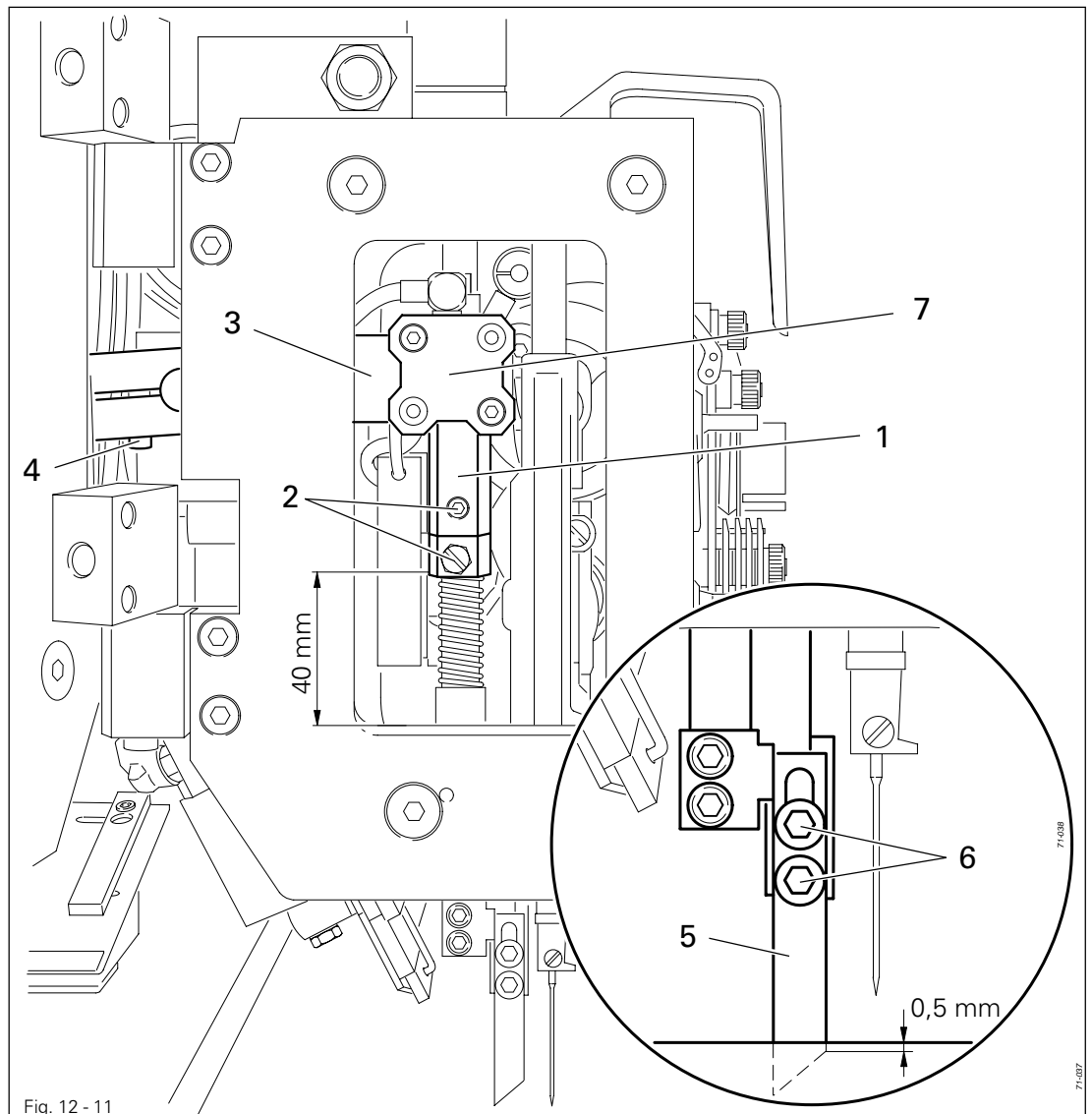
- Adjust knife holder 1 (screw 2) in accordance with **requirement 1**.
- Adjust knife holder 1 (screws 3) in accordance with **requirement 2**.

12.05.10 Height of the middle knife

Requirement

When the middle knife **5** is at its b.d.c.

1. The bottom edge of the knife holding bar **1** should be **40 mm** above the edge of the cast-iron machine head.
2. Cylinder **7** should slot into the corresponding groove of the knife holding bar **1**.
3. The top edge of middle knife **5** should be **0.5 mm** below the needle plate cutout.



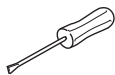
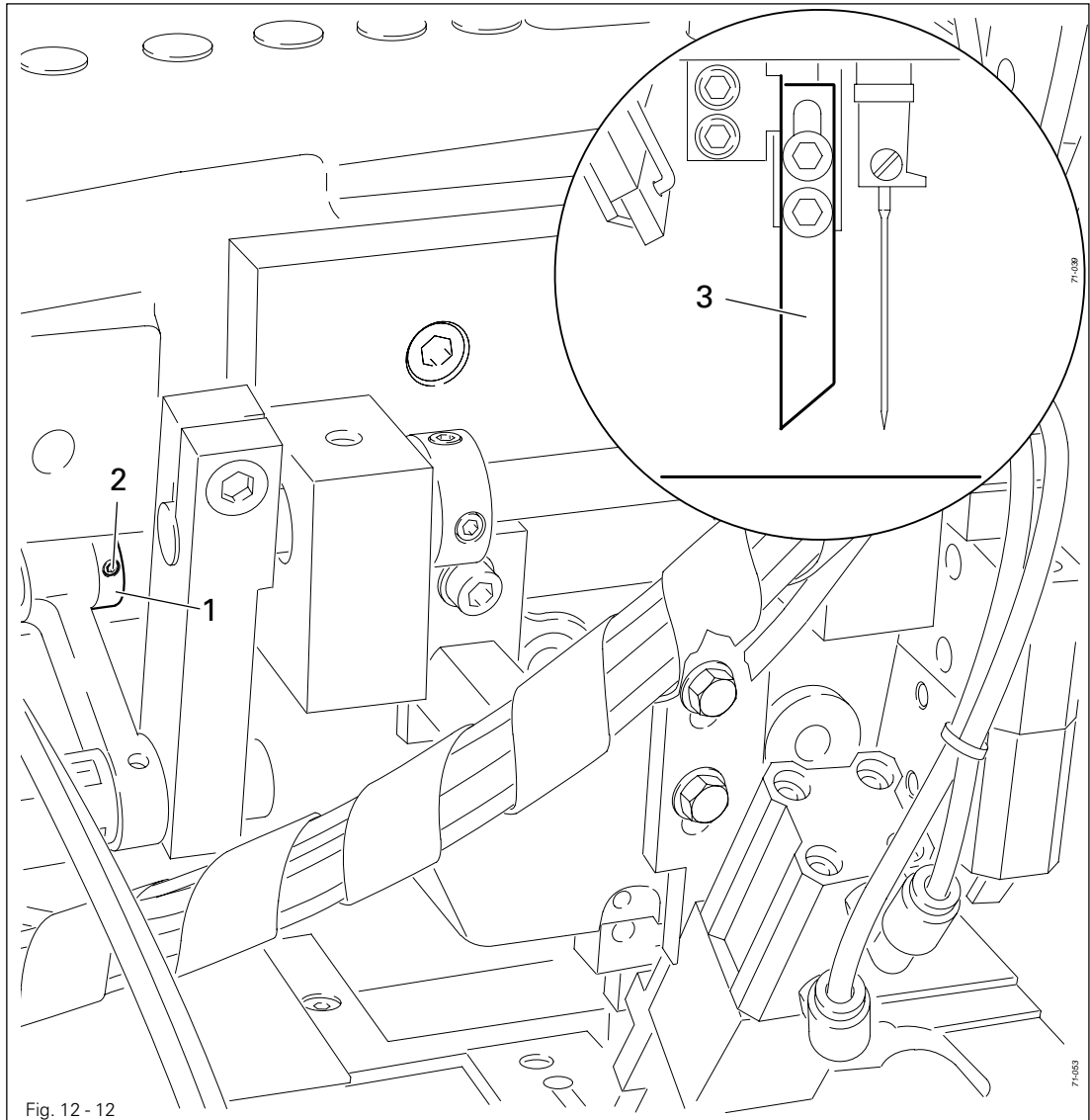
- Adjust knife holding bar **1** (screw **2**) in accordance with requirement 1.
- Move cylinder bracket **3** (screw **4**) in accordance with requirement 2.
- Adjust middle knife **5** (screws **6**) in accordance with requirement 3.

Adjustment

12.05.11 Middle knife motion

Requirement

When the needle bar is at b.d.c., the middle knife 3 should be at the bottom of its stroke.



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

12.05.12 Needle thread tension release

Requirement

Tension disks **3** should be **0.5 mm** apart when the thread tension is released.

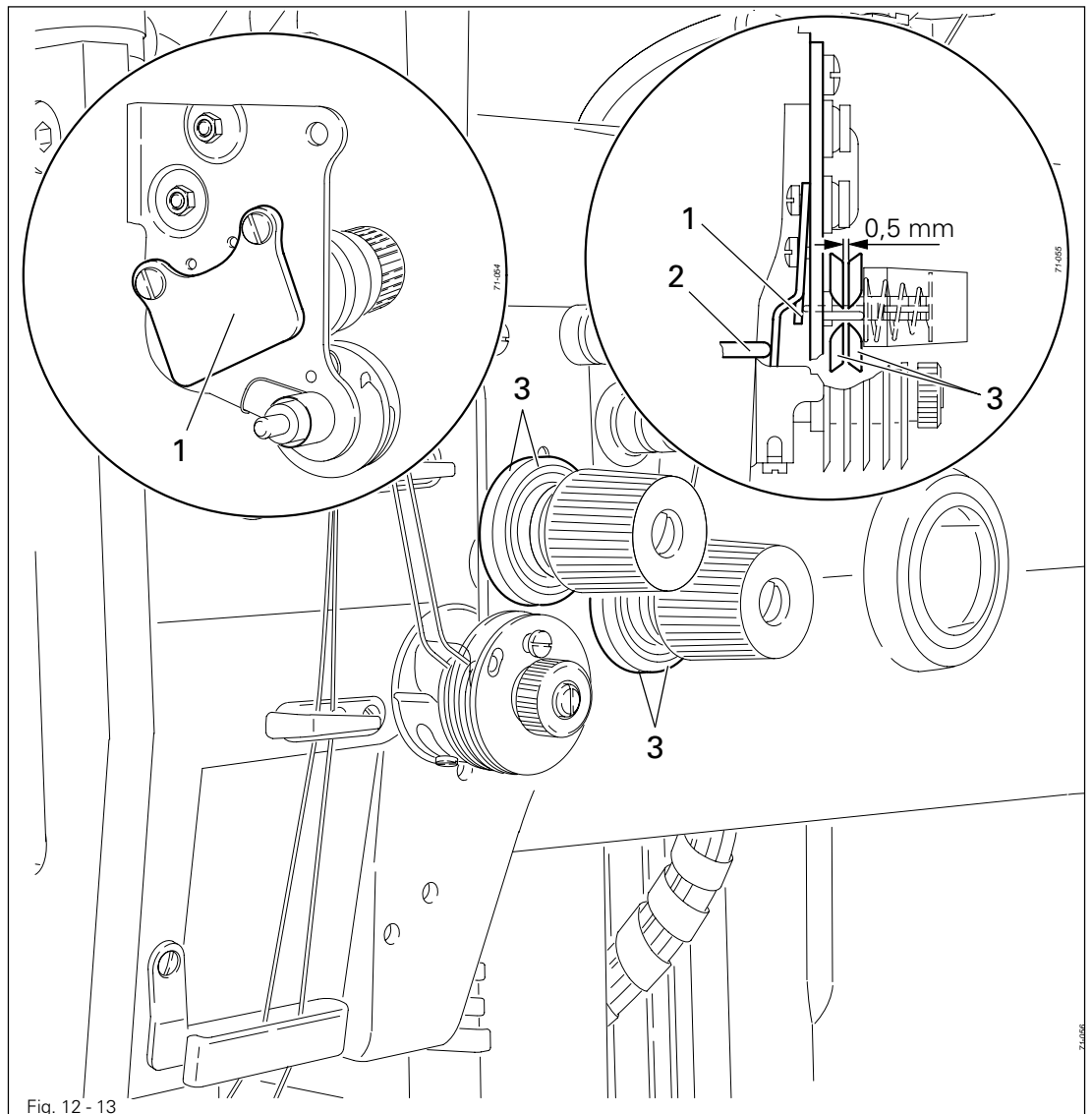
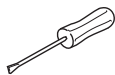


Fig. 12 - 13



- Align pressure plate **1** in accordance with the **requirement**.



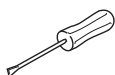
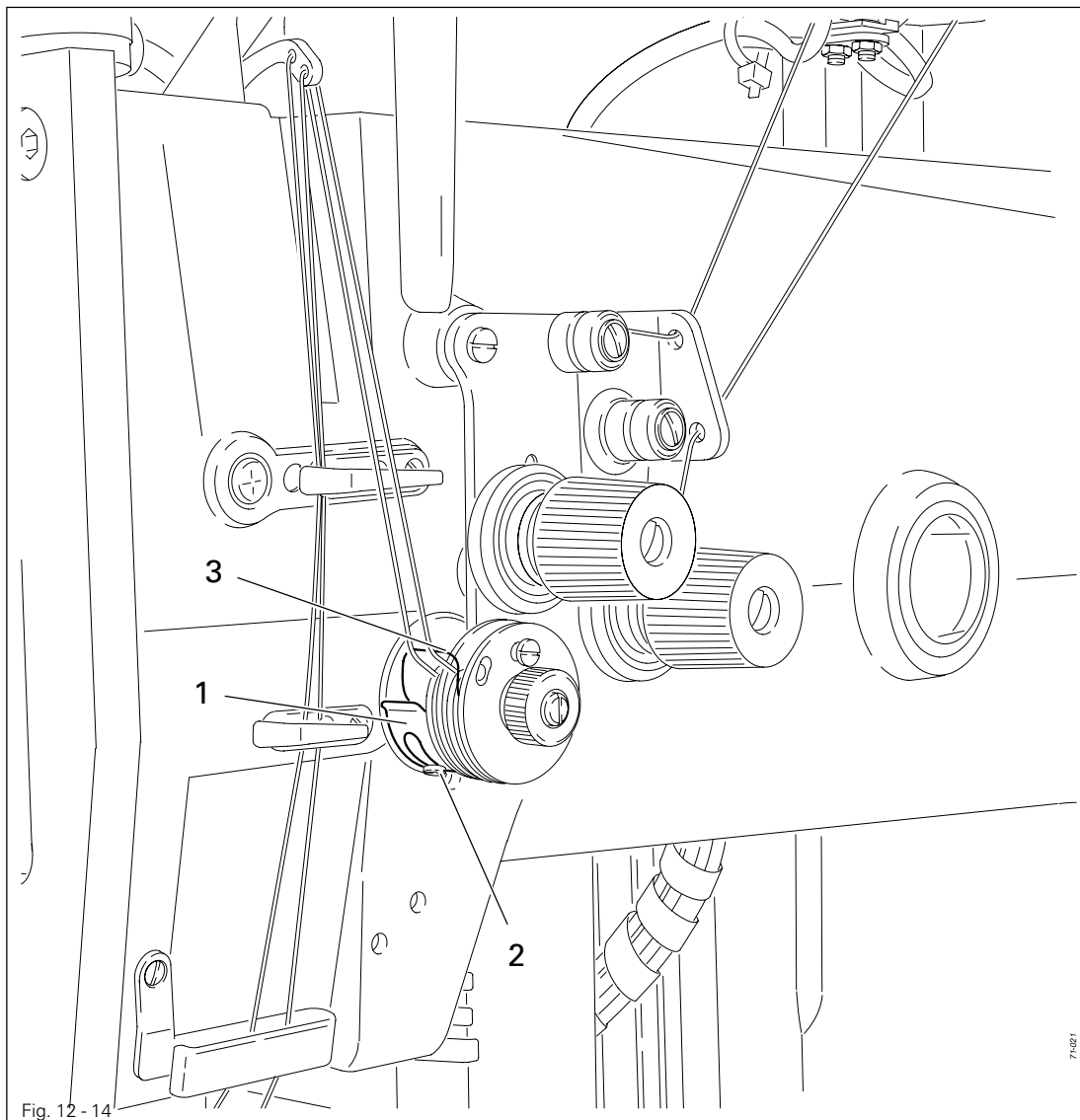
The distance of **0.5 mm** is a minimum distance and can be over **1 mm** when thick threads are used. If the thread tension is effective, the release pin **3** should not be under stress

Adjustment

12.05.13 Thread check spring

Requirement

The movement of the thread check spring **3** should have come to an end when the needle point penetrates the material (spring stroke approx. 7 mm).



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

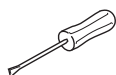
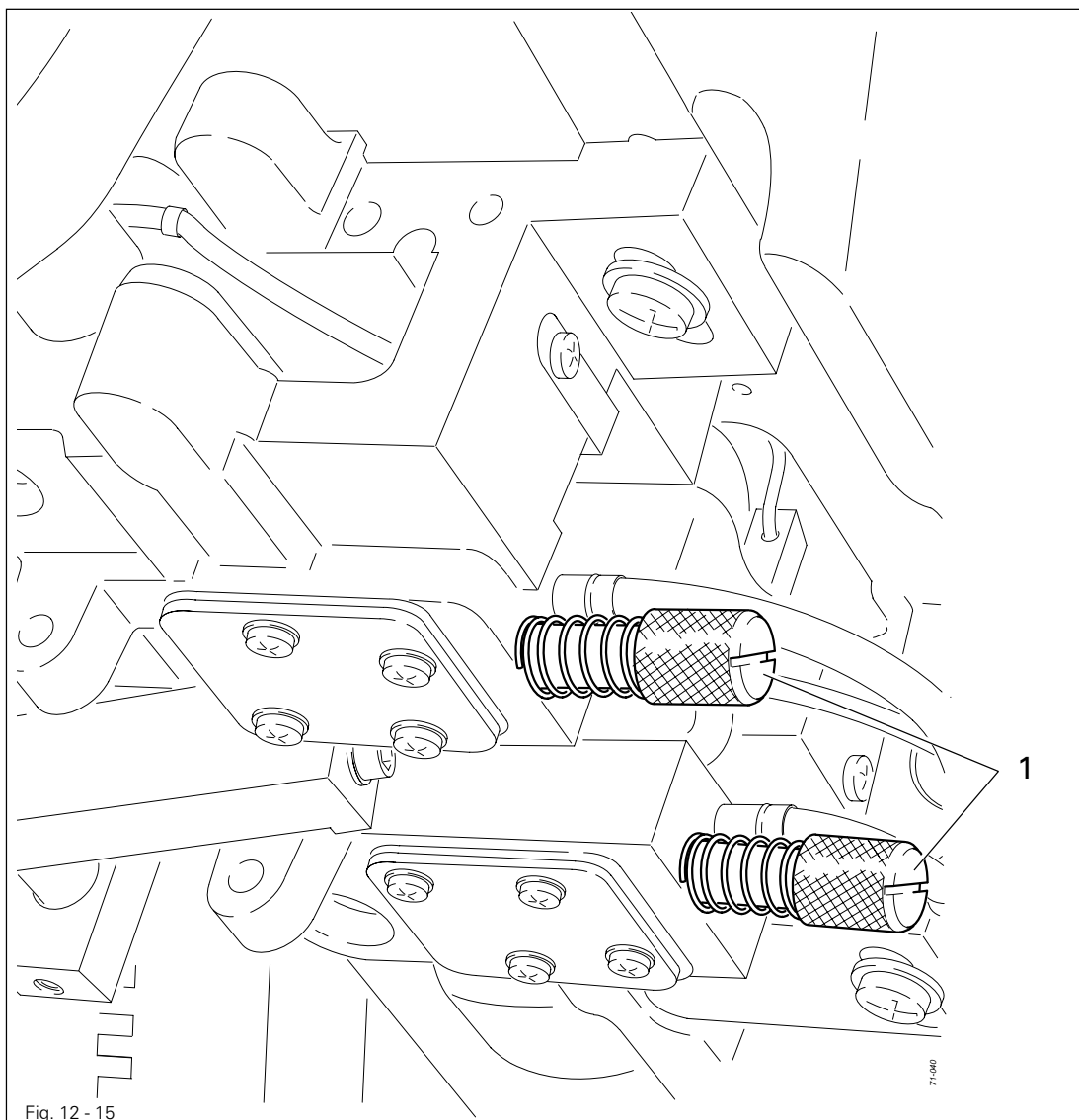


For technical reasons it may be necessary to deviate from the specified spring stroke or from the spring tension.

12.05.14 Hook lubrication

Requirement

After a running time of 10 seconds, a fine oil film should be visible on a paper strip held next to the hook.



- Adjust screws 1 in accordance with the requirement.

12.05.15 Setting the reference point

Requirement

When the needle bar is positioned 1 mm after t.d.c., LED 2 should be on.

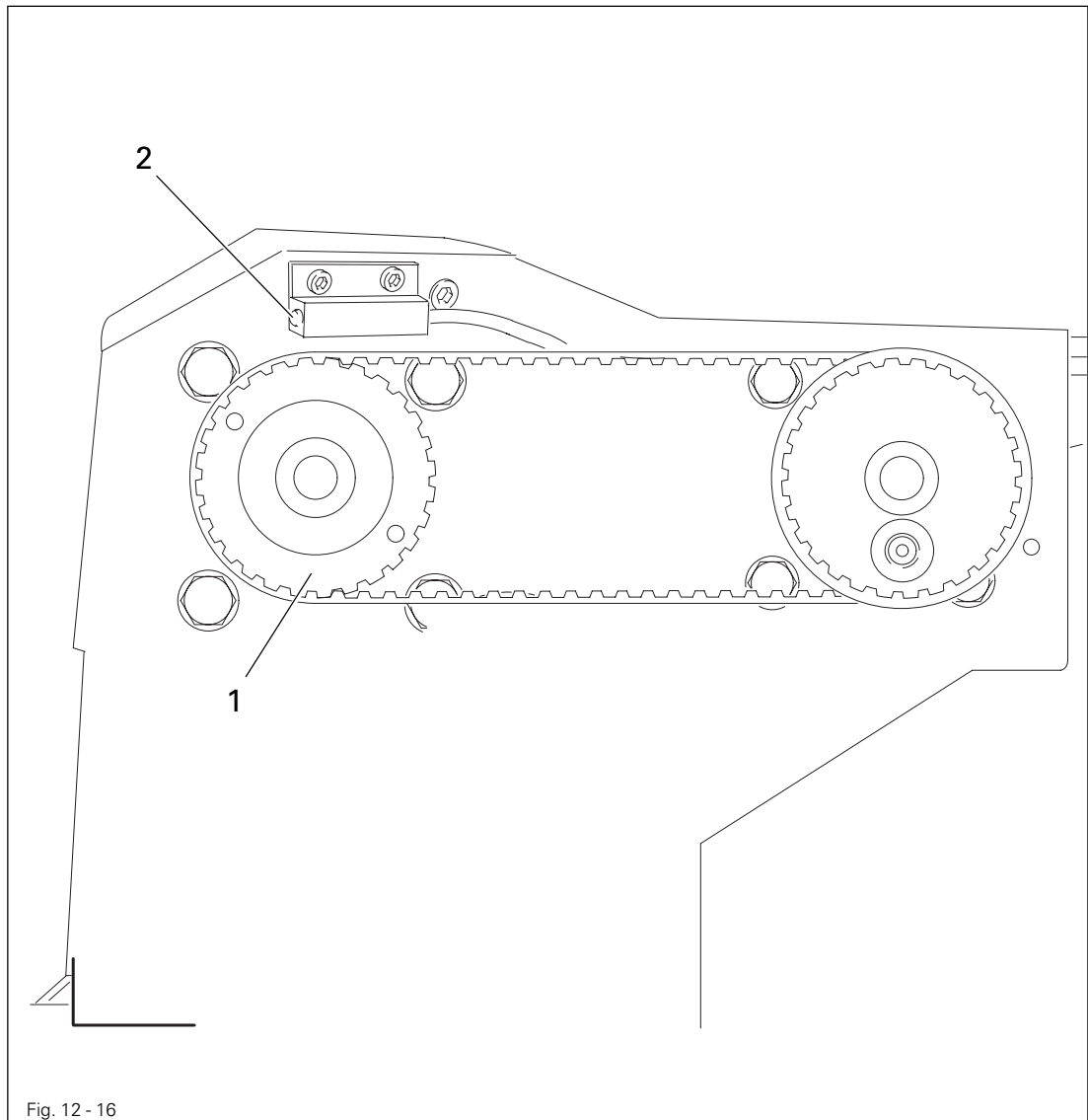
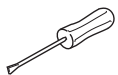


Fig. 12 - 16



- Bring toothed belt wheel 1 into the position in accordance with the **requirement** and fit the toothed belt.

12.05.16 Adjusting the laser points

Requirement

1. The distance from the needle centre to the front edge of the first laser cross should be **110 mm**.
2. The distance from the centre of the middle laser cross to the outer edges of each of the outer laser crosses should be **90 mm**.
3. All three laser crosses should be in alignment with the centre of the middle knife.

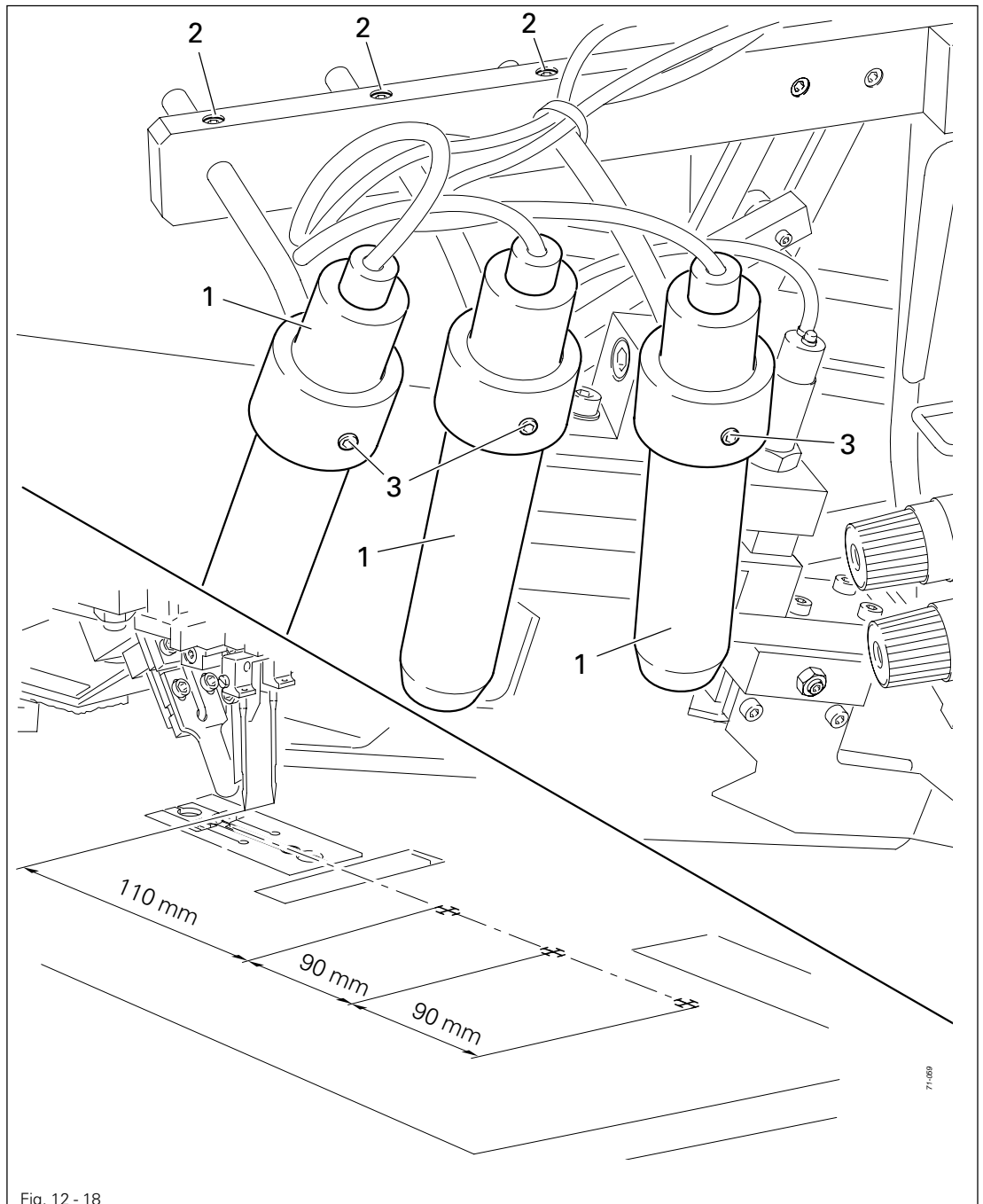
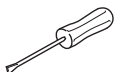


Fig. 12 - 18



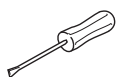
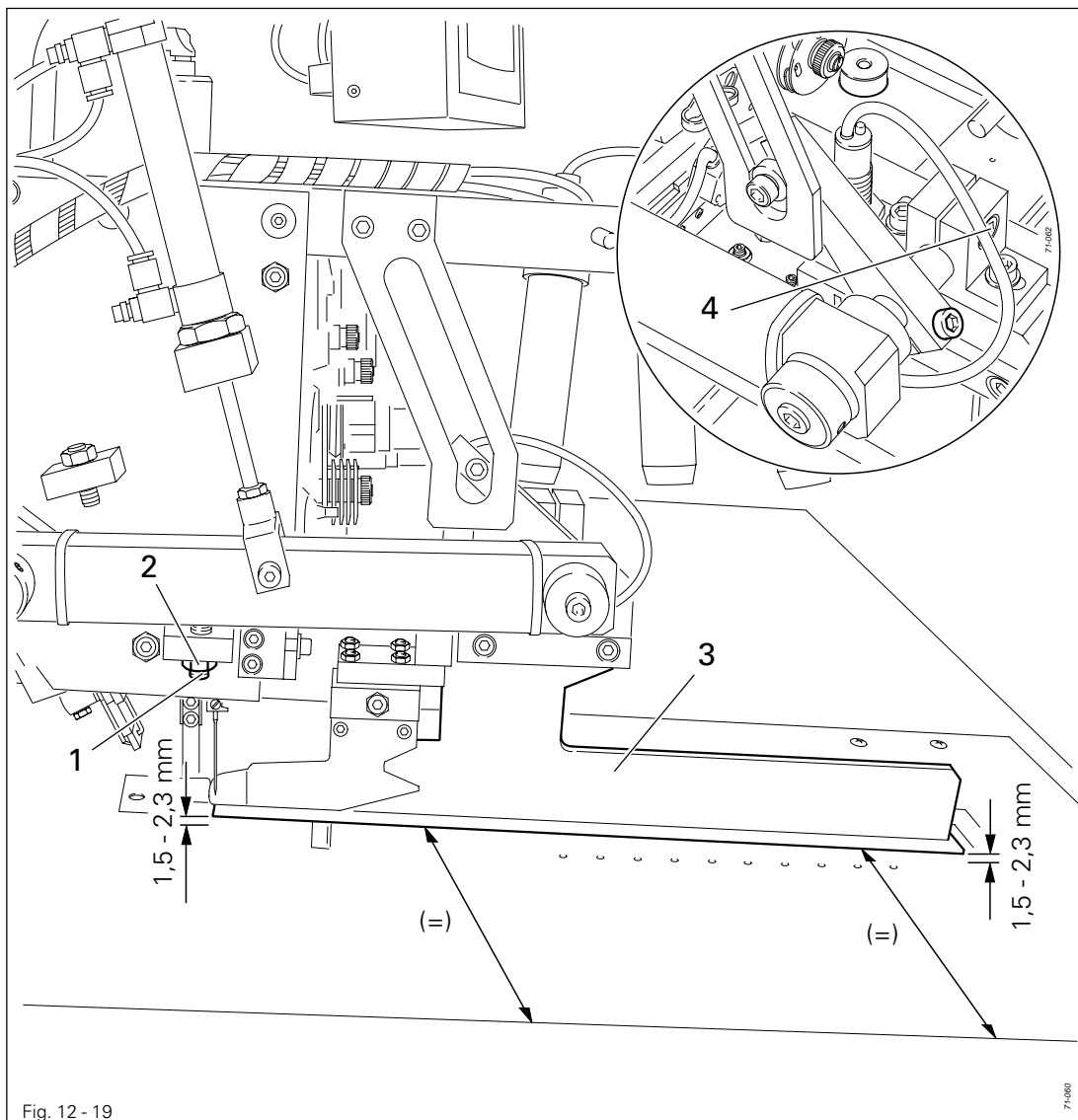
- Adjust the positioning aids 1 (screws 2 and 3) in accordance with the requirements.

12.05.17 Height and lateral adjustment of the folding unit

Requirement

When lowered, folding unit 3 should be

1. At a distance of 1.5 - 2.3 mm (depending on the material) from the cover plate.
2. Parallel to the top edge of the cover plate and centred to the needles and
3. Parallel to the outer edge of the cover plate.

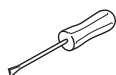
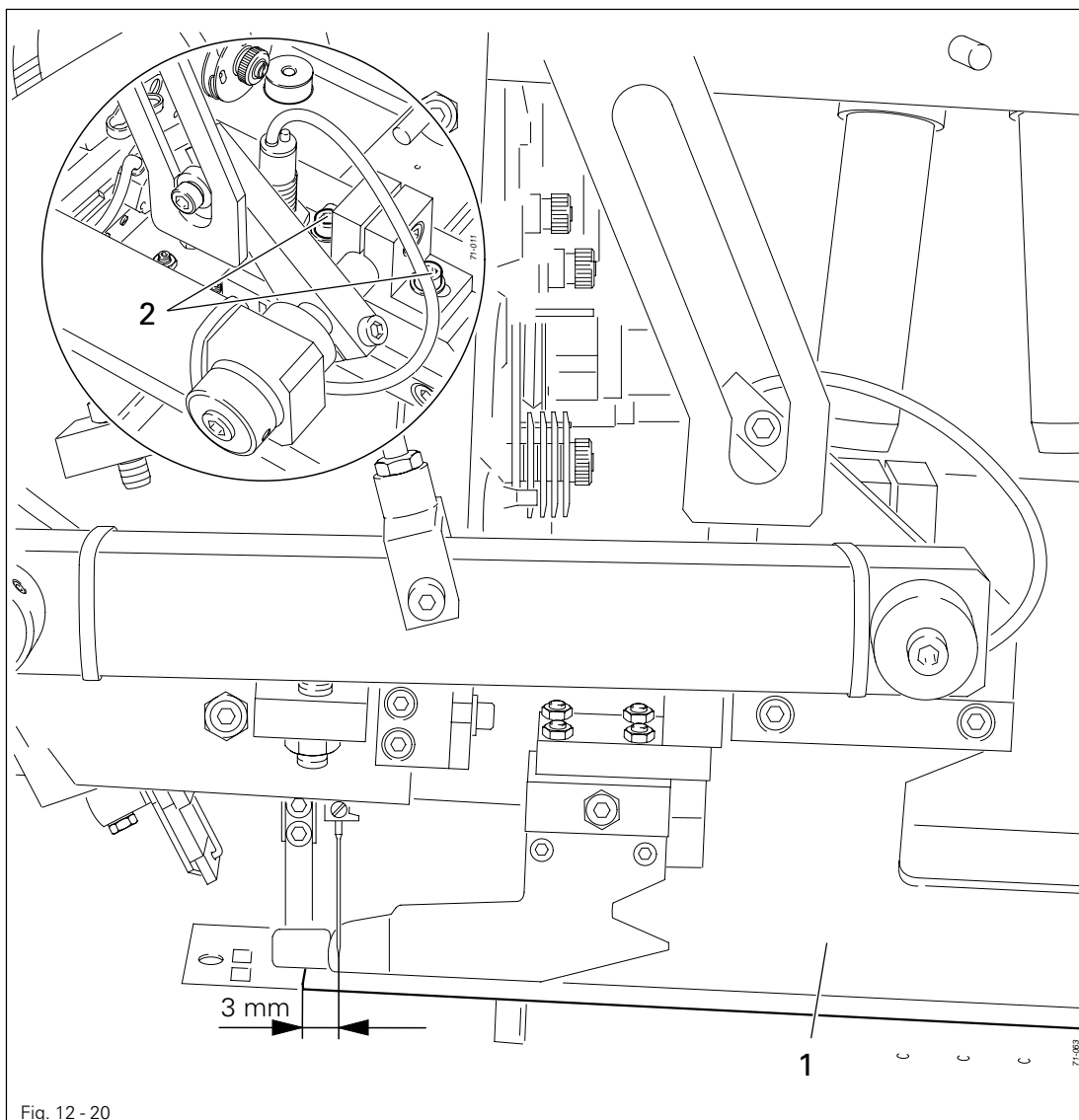


- Adjust screw 1 (nut 2) in accordance with **requirement 1**.
- Swing or shift folding unit 3 (screw 4) in accordance with **requirements 2 and 3**.

12.05.18 Folding unit to needle clearance

Requirement

When lowered, folding unit 1 should be at a distance of **3 mm** from the rear edge of the needle.

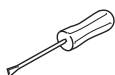
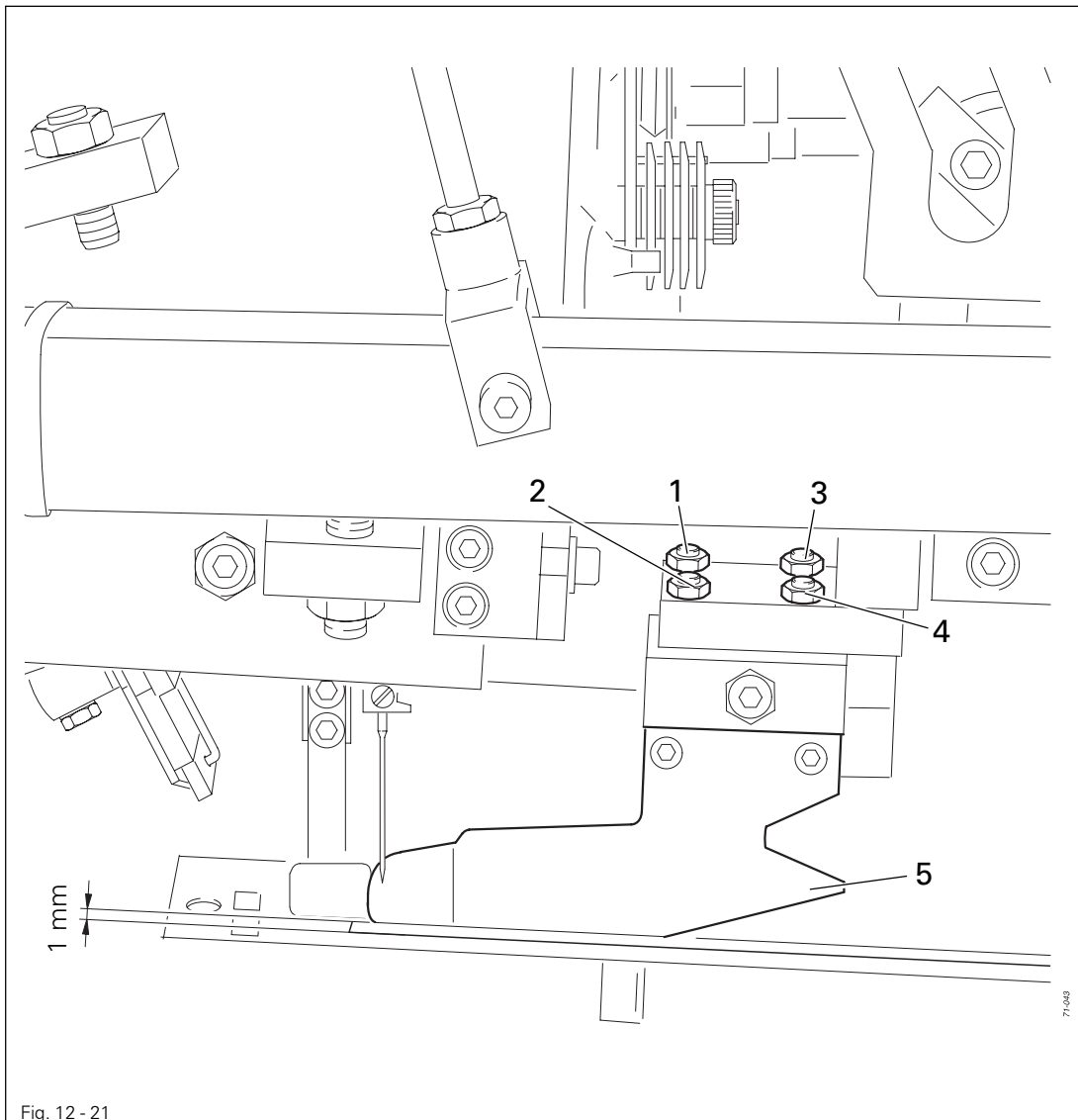


- Shift folding unit 1 (screws 2) in accordance with the requirement.

12.05.19 Position of the flap retainers

Requirement

1. Flap retainer **5** should be **approx. 1 mm** above the work surface.
2. The spring pressure should be set so that the flap is held reliably.



- Turn screw 1 (nut 2) in accordance with **requirement 1**.
- Turn screw 3 (nut 4) in accordance with **requirement 2**.



Carry out the adjustment of the second flap retainer in the same way.

12.05.20 Flap retainer to needle clearance

Requirement

When the folding unit is lowered, the back edge of the flap retainer 1 should be at a distance of 1 mm behind the edge of the needle.

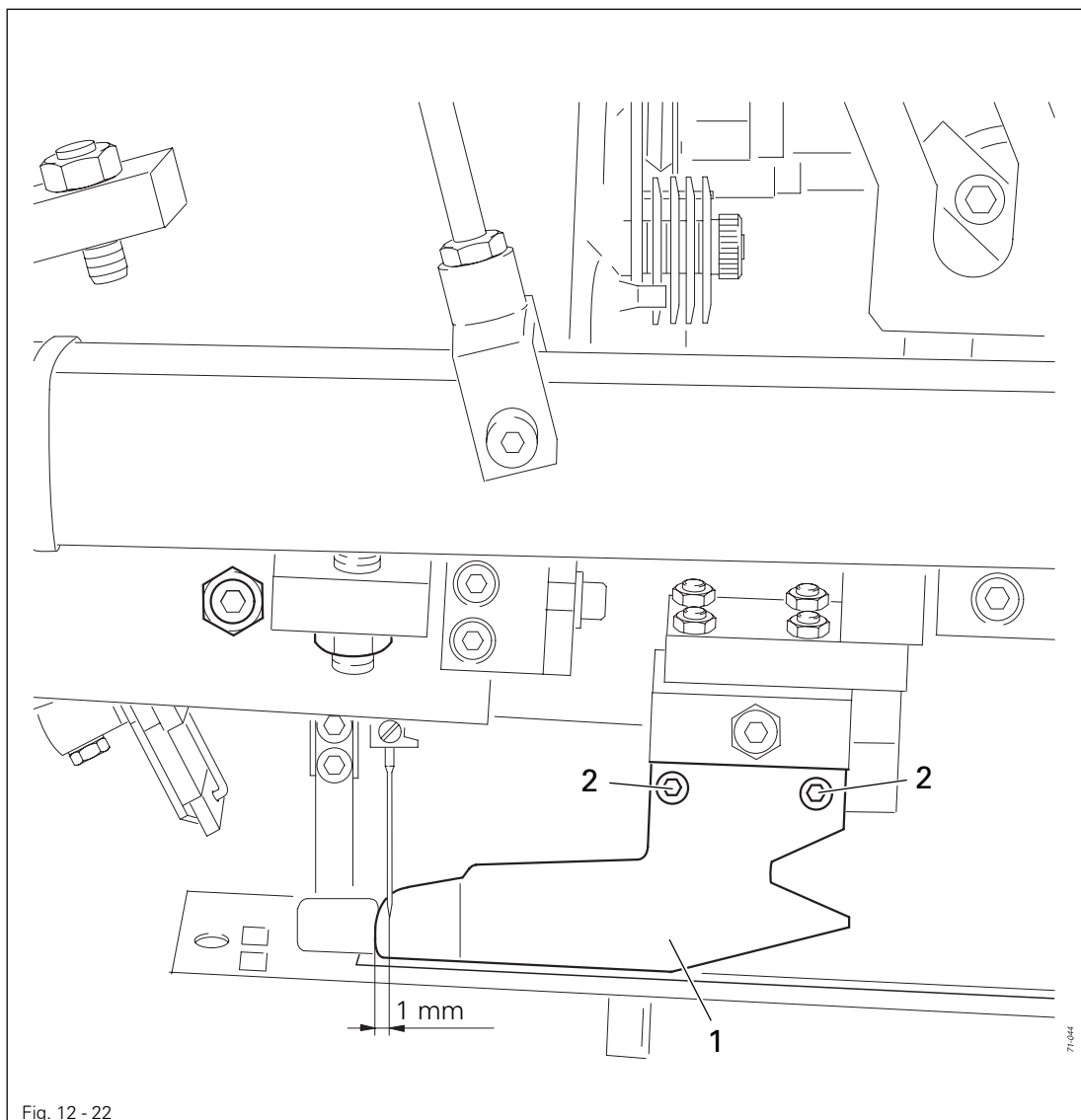
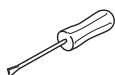


Fig. 12 - 22



- Shift flap retainer 1 (screws 2) in accordance with the requirement.



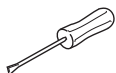
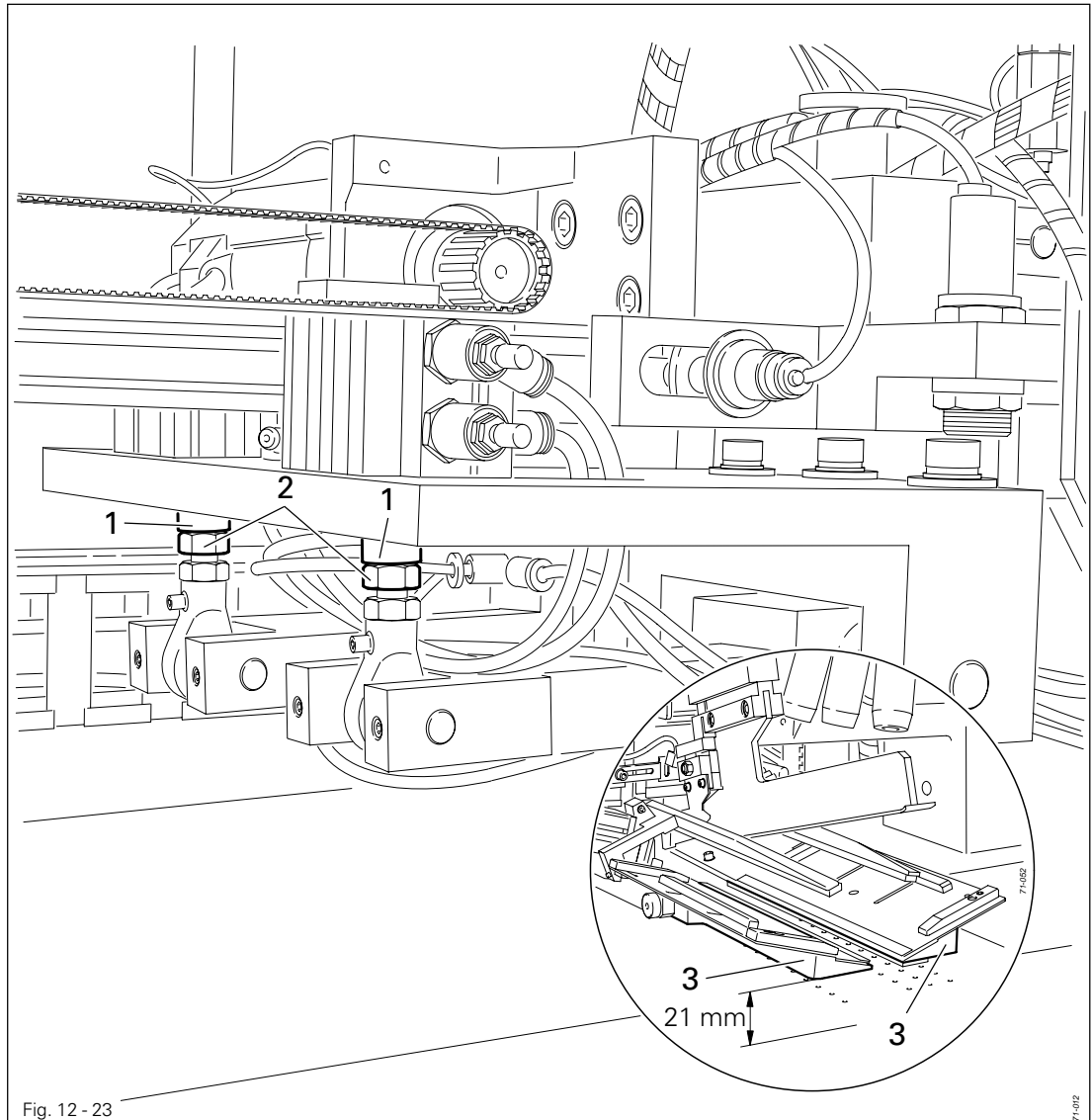
Carry out the adjustment of the second flap retainer in the same way.

Adjustment

12.05.21 Height of the main clamps

Requirement

The front edge of the main clamps **3** should be at a height of **21 mm** above the cover plate.



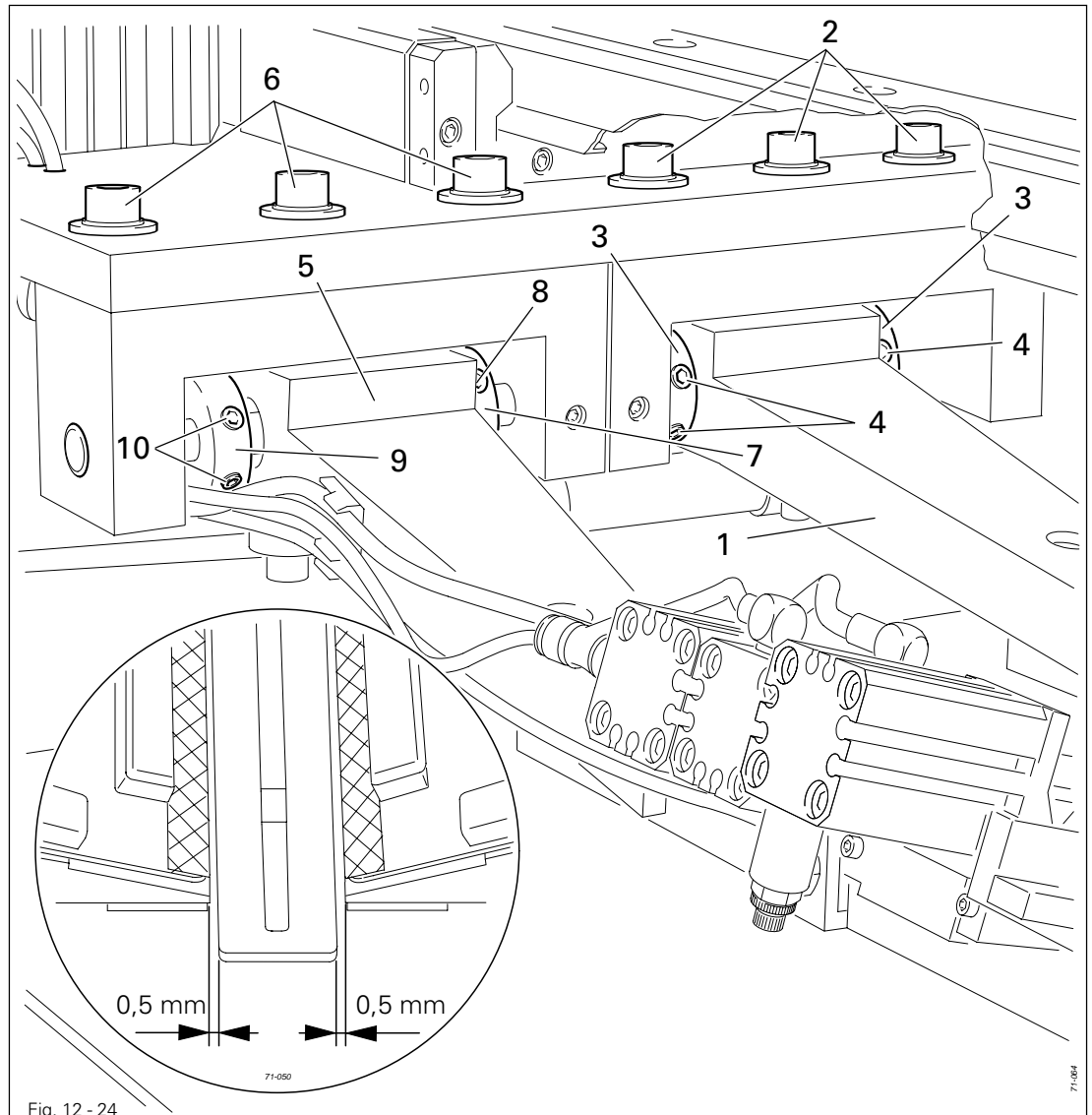
- Adjust piston rods **1** (nuts **2**) in accordance with the **requirement**.

12.05.22 Distance of both main clamps from the folding unit

Requirement

Both main clamps **1** and **5** should be

1. Parallel to the folding unit over their entire length and
2. At a distance of **0.5 mm** from the folding unit.

**Left main clamp**

- Align main clamp **5** (screws **6**) in accordance with **requirement 1**.
- Insert folding unit for double piping.
- Adjust adjustment ring **7** (screws **8**) in accordance with **requirement 2**.
- Insert folding unit for single piping.
- Making sure that main clamp **1** is touching adjustment ring **9**, adjust adjustment ring **9** (screws **10**) in accordance with **requirement 2**.

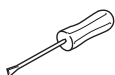
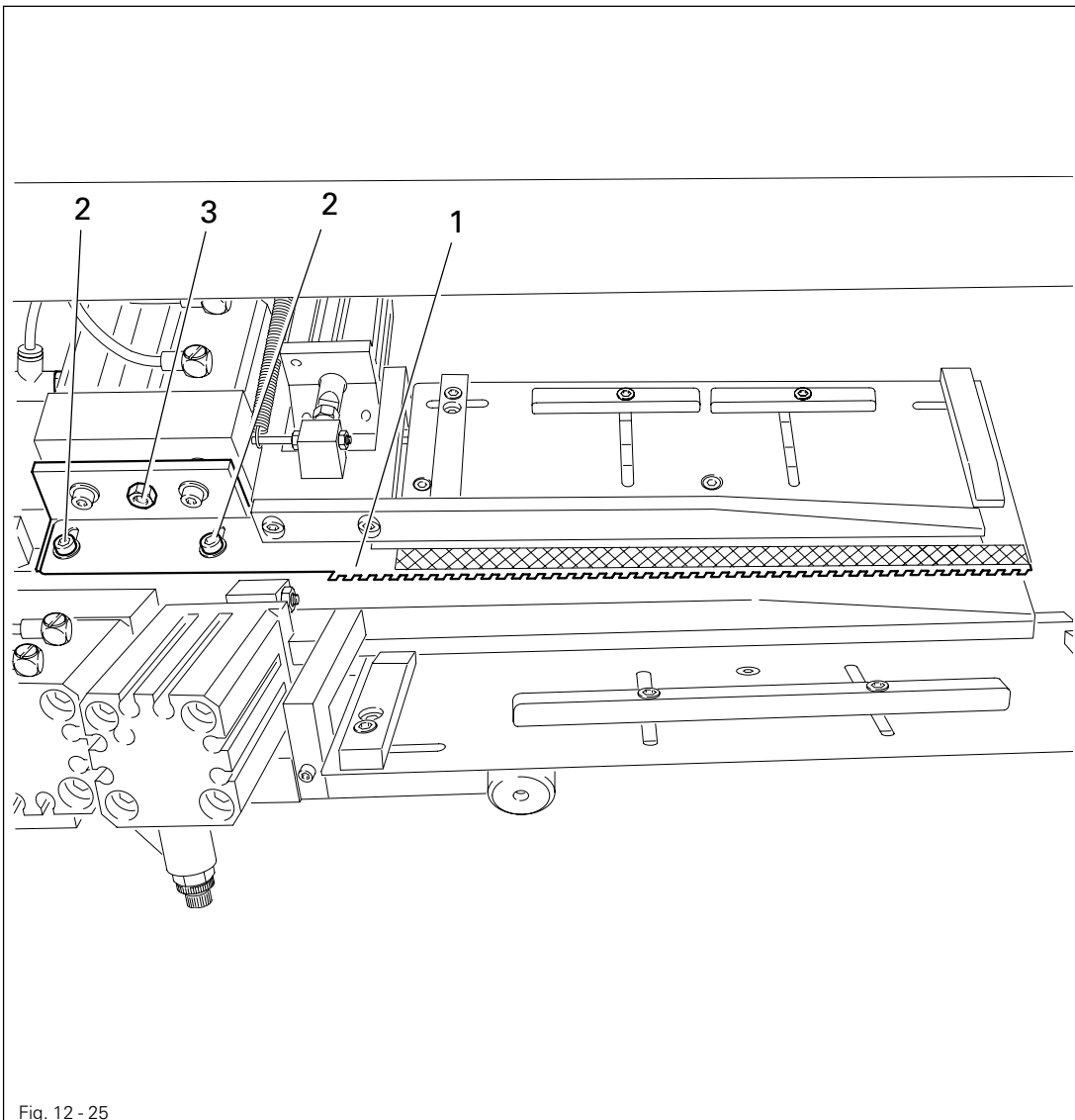
Right main clamp

- Align main clamp **1** (screws **2**) in accordance with **requirement 1**.
- Adjust adjustment rings **3** (screws **4**) in accordance with **requirement 2**.

12.05.23 Adjusting the fold slider

Requirement

1. Fold sliders 1 should extend **4 mm**, parallel to the main clamp.
2. When retracted, the fold sliders should be positioned behind the edge of the main clamp.



- Adjust fold slider 1 (screws 2) in accordance with **requirement 1**.
- Adjust fold slider 1 (nut 3) in accordance with **requirement 2**.

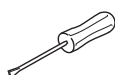
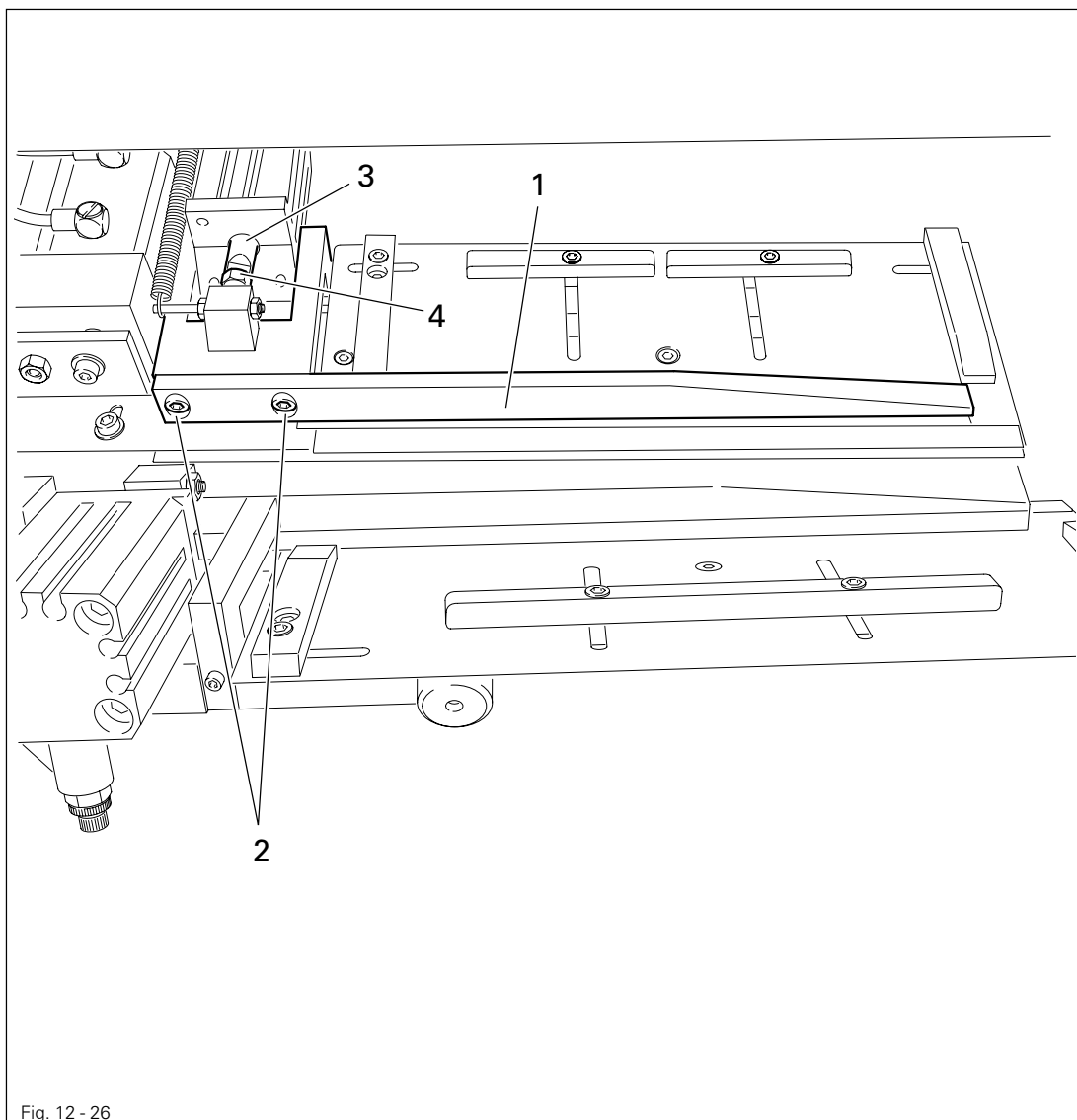


Repeat the adjustment of the second fold slider in the same way.

12.05.24 Adjusting the flap clamps

Requirement

The flap clamps **1** should hold the flaps reliably over the entire length.



- Adjust flap clamp **1** (screw **2**) in accordance with the **requirement**.
- Adjust flap clamp pressure with piston rod **3** (nut **4**) in accordance with **requirement**.

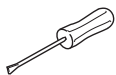
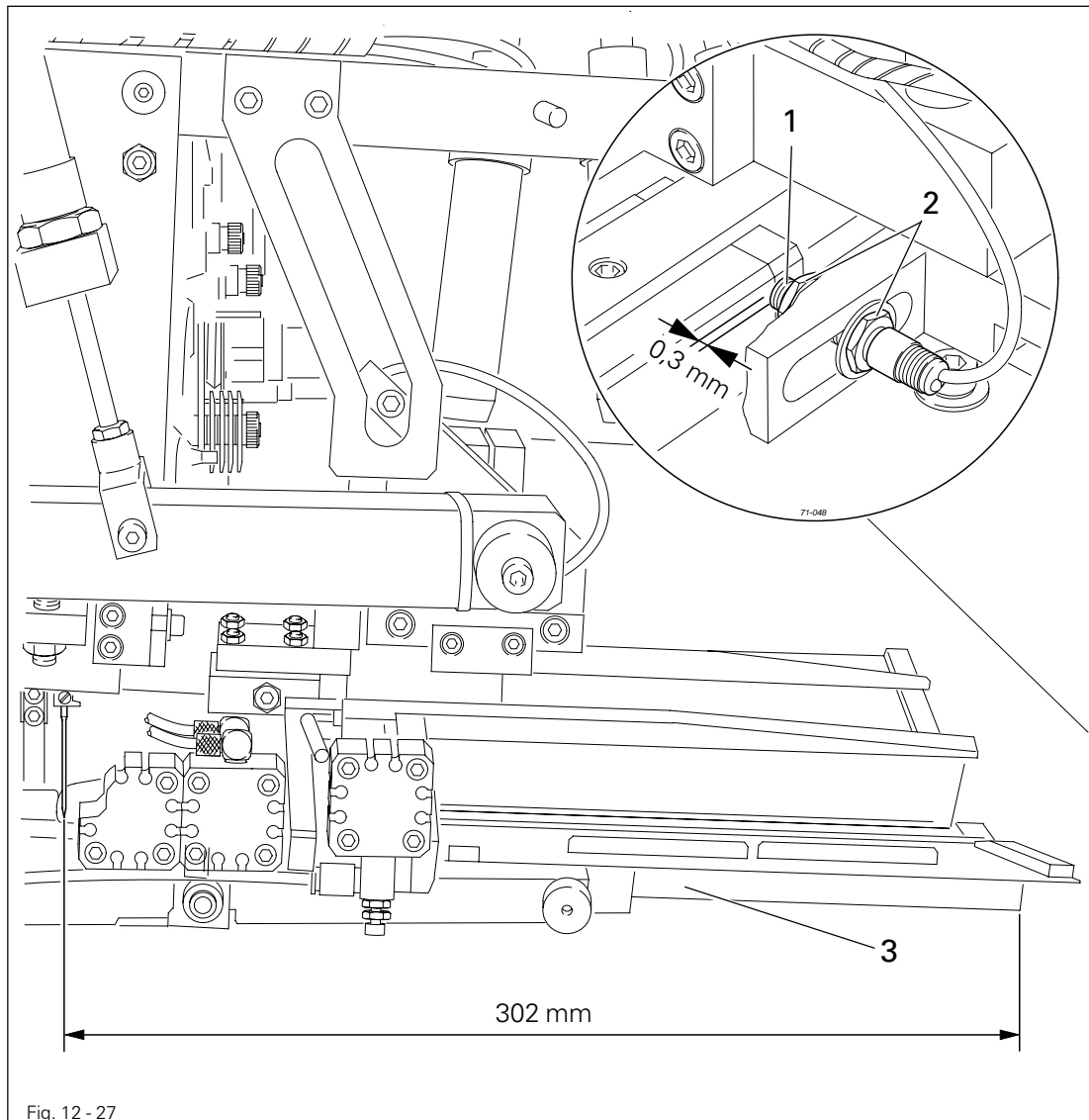


Repeat the adjustment of the second flap clamp in the same way.

12.05.25 Basic position of the main clamps

Requirement

1. In the basic position the main clamps **3** should be at a distance of **302 mm** from the centre of the needle.
2. Initiator **1** should be at a distance of **0.3 mm** from the contact surface.



- Adjust initiator **1** (nuts **2**) in accordance with the requirements.

12.05.26 Preliminary adjustment of the mitre knives

Requirement

1. The distance between the needle and the tip of the right mitre knife **1** should be approx. **185 mm**.
2. The distance between the tips of mitre knives **1** and **2** should be approx. **45 mm**.

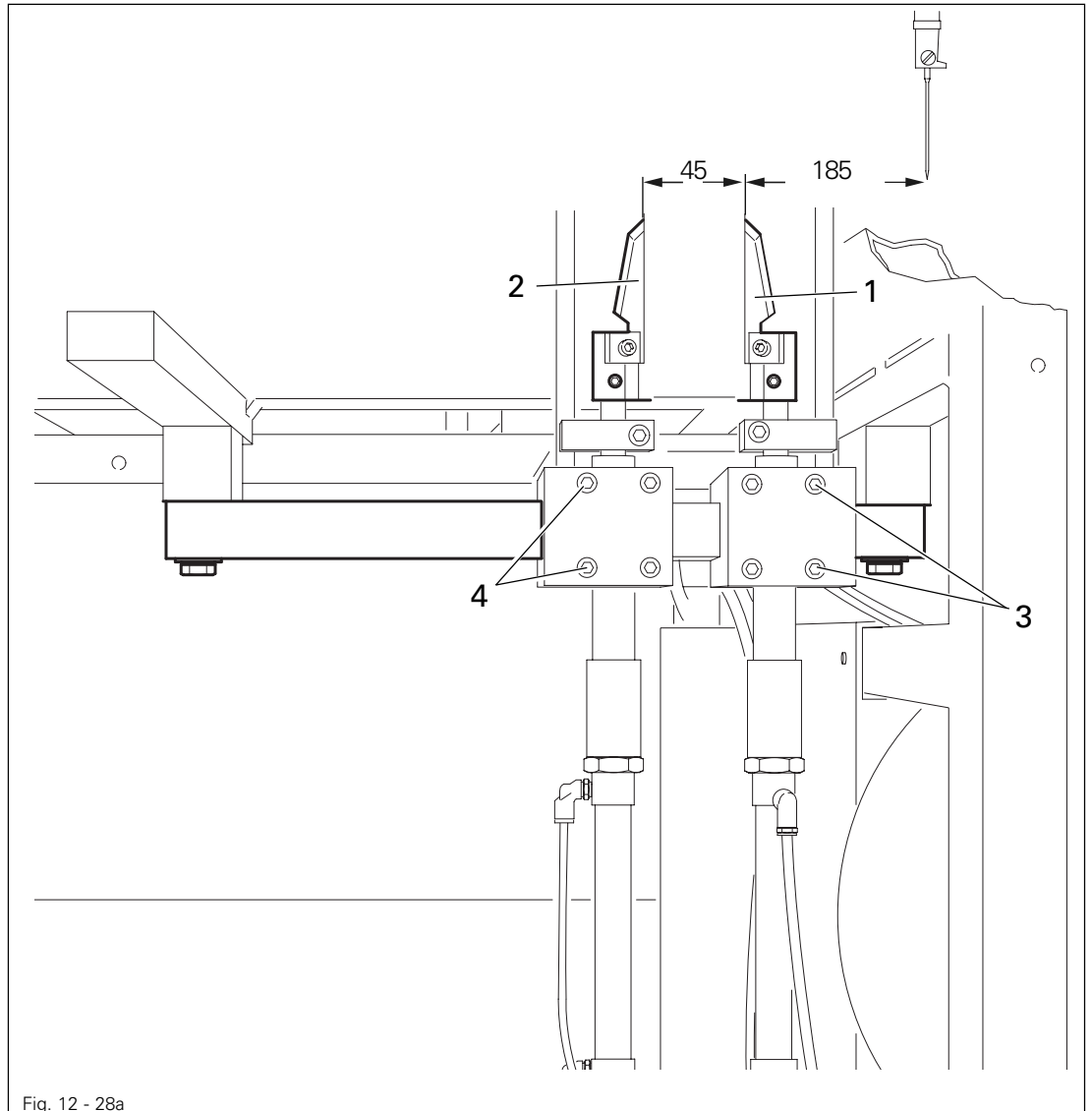
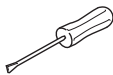


Fig. 12 - 28a



- Remove compressed air tube.
- Push mitre knives **1** and **2** upwards by hand.
- Adjust mitre knife **1** (screws **3**) in accordance with **requirement 1**.
- Adjust mitre knife **2** (screws **4**) in accordance with **requirement 2**.

12.05.27 Adjusting the mitre knives

Requirement

The cut of the mitre knives should be

1. Centred to the seam,
2. Should not be distorted and
3. Should have a distance on the right and left of approx. **0.5 mm** to the seam.

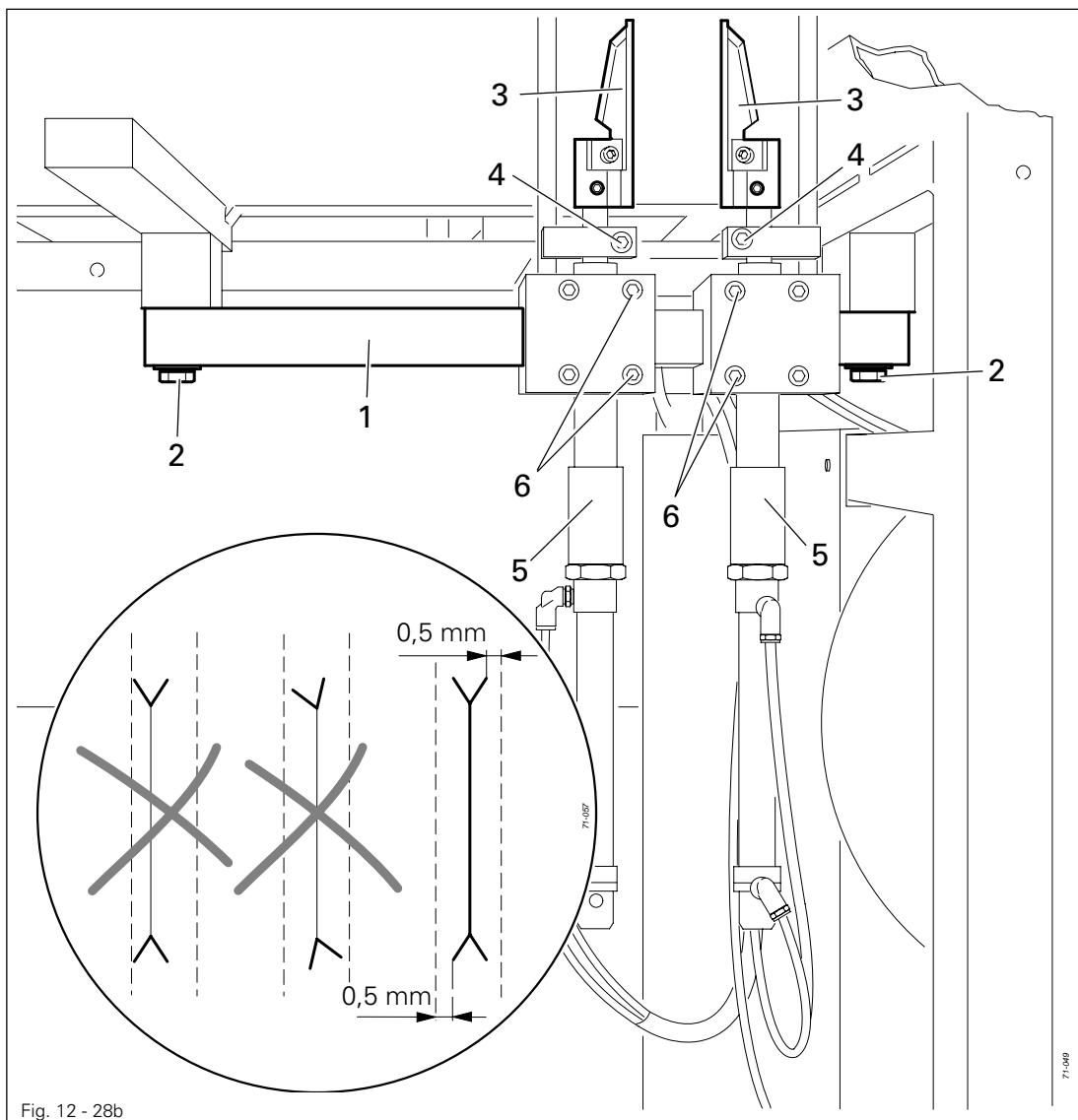
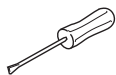


Fig. 12 - 28b



- Adjust bracket **1** (screws **2**) in accordance with **requirement 1**.
- Adjust mitre knives **3** (screws **4**) in accordance with **requirement 2**.
- Adjust cylinder **5** (screws **6**) in accordance with **requirement 3**.

12.05.28 Adjusting the sensors

Requirement

1. Sensor 1 must be directed to the centre of the reflection surface of the folding unit over the entire length.
2. The two LEDs 4 and 5 must be on.

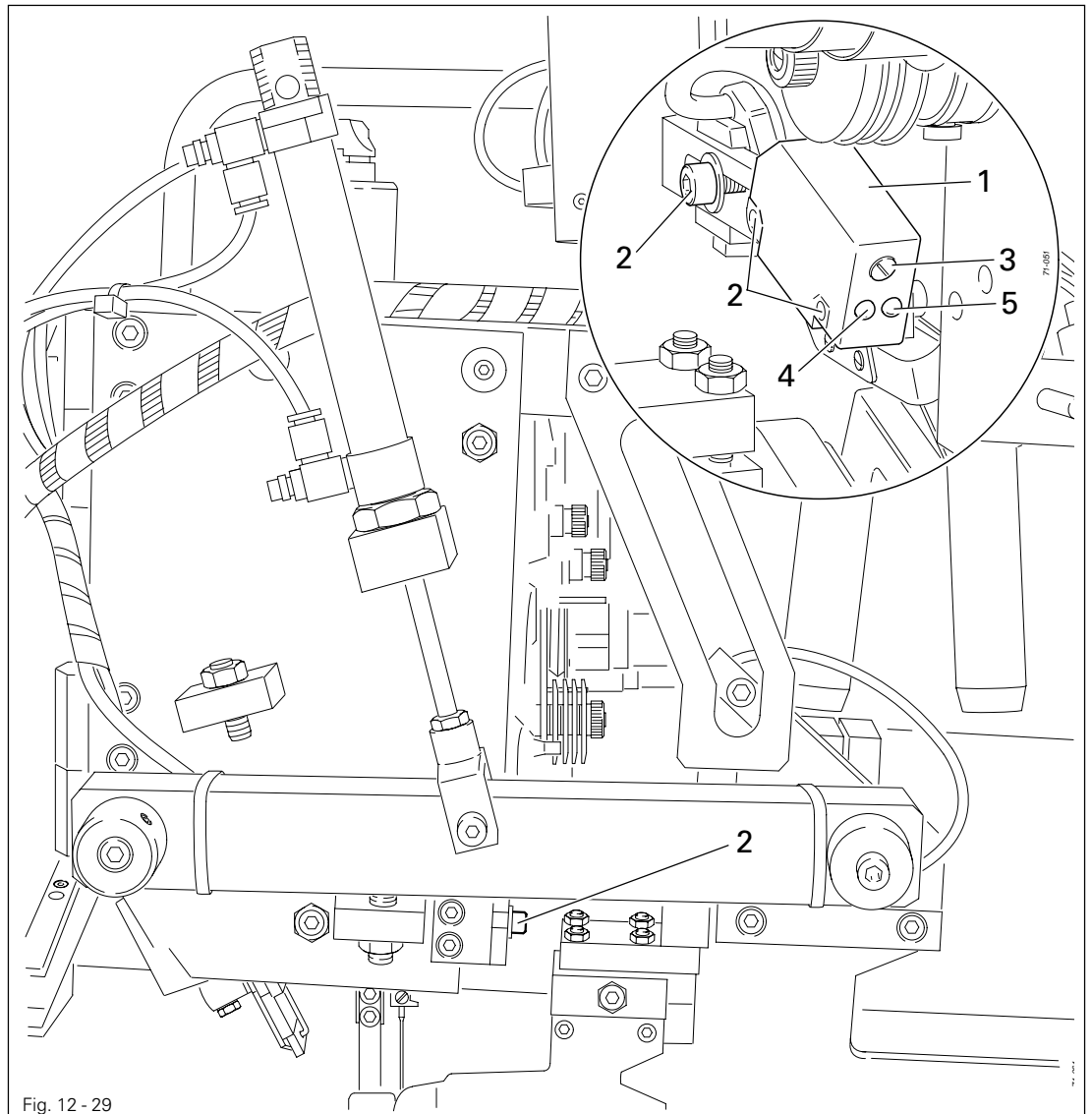
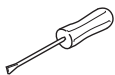


Fig. 12 - 29

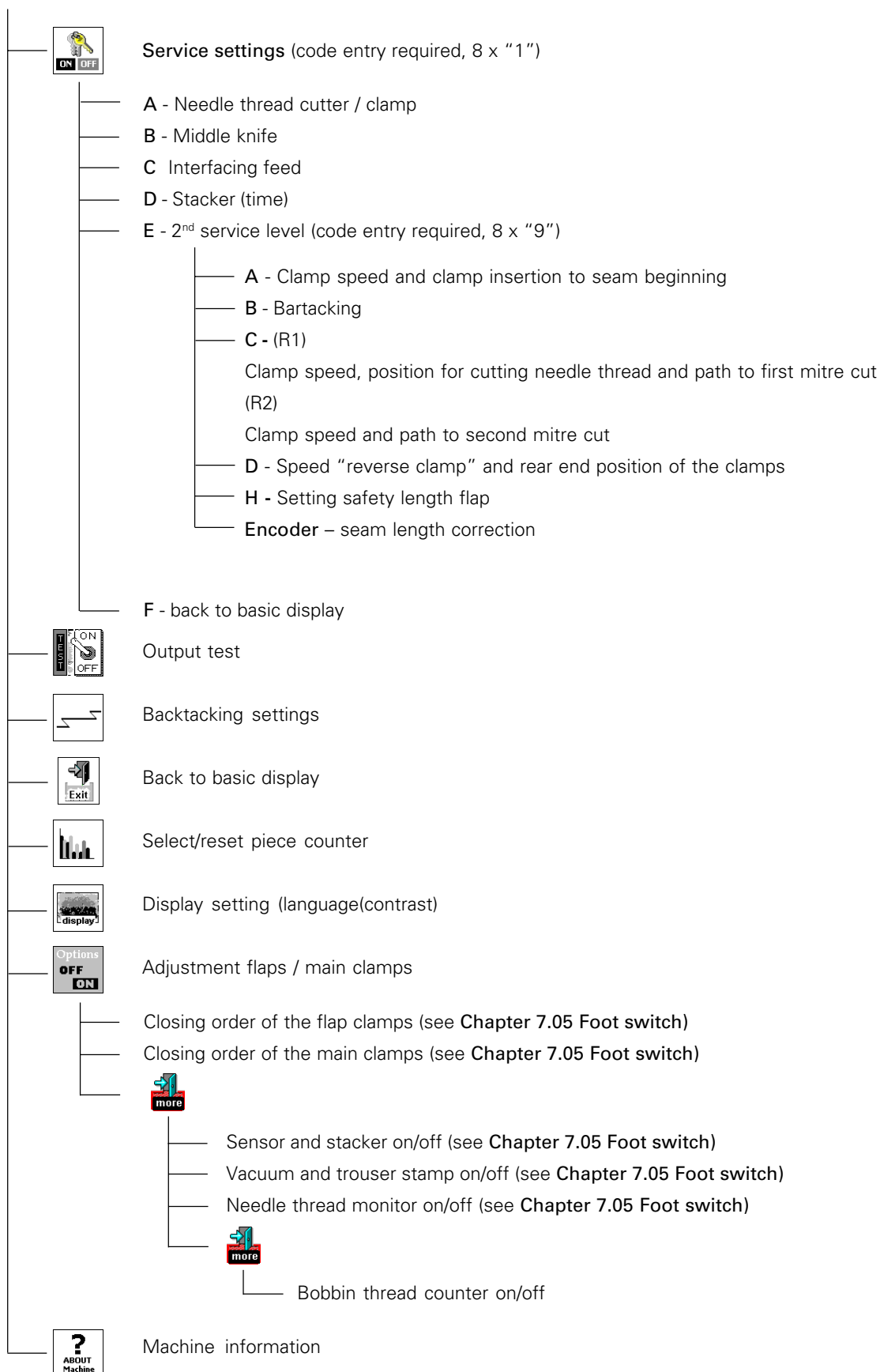


- Adjust sensor 1 (screws 2) in accordance with requirement 1.
- Adjust potentiometer 3 in accordance with requirement 2.

12.05.29 Summary of the functions in the service menu



Select the service menu with the Technics/Service function .



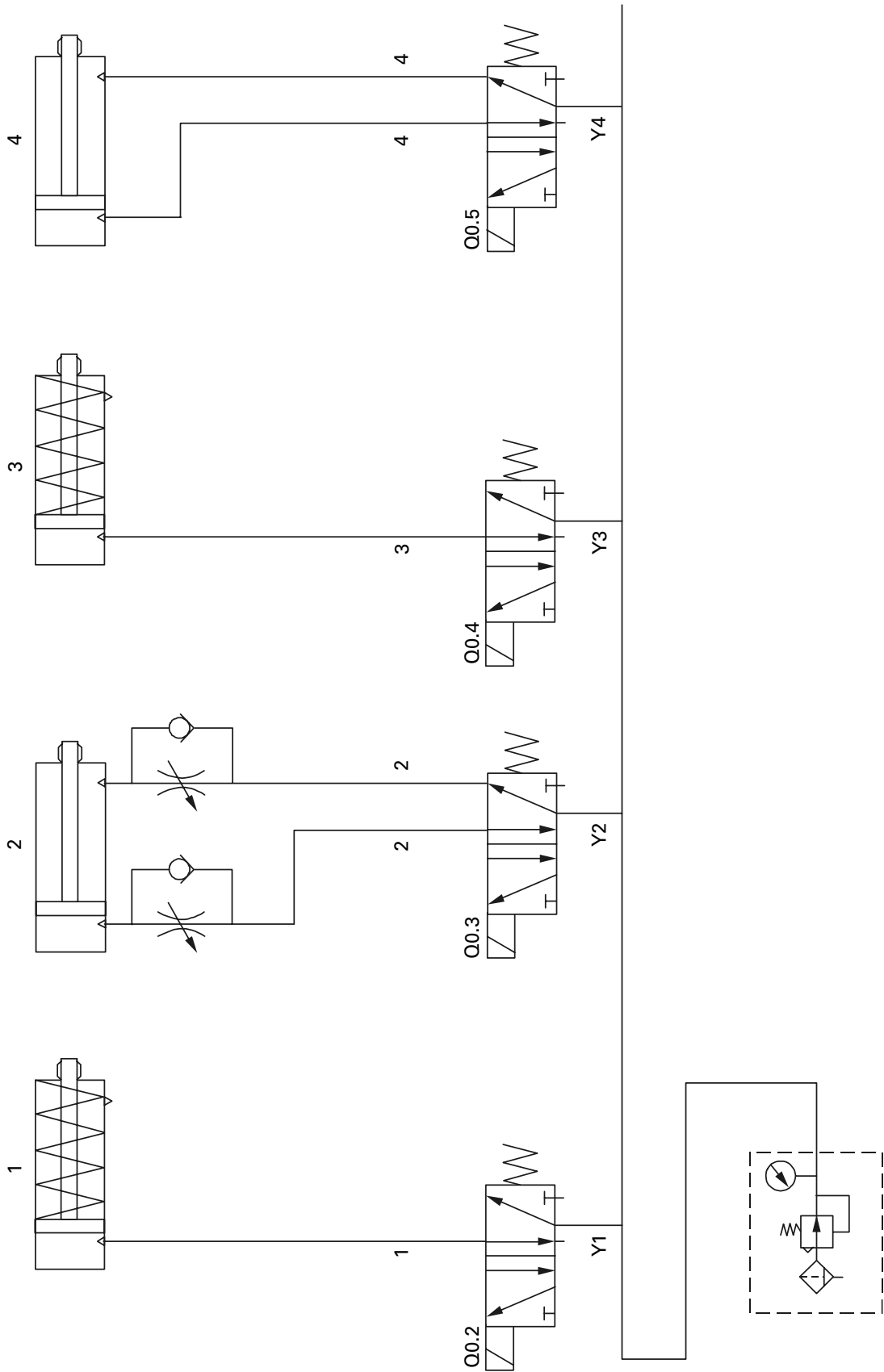
	Contents	Chapter - Page
13	Pneumatics circuit diagramc	13 - 1
	Circuit diagrams	13 - 8

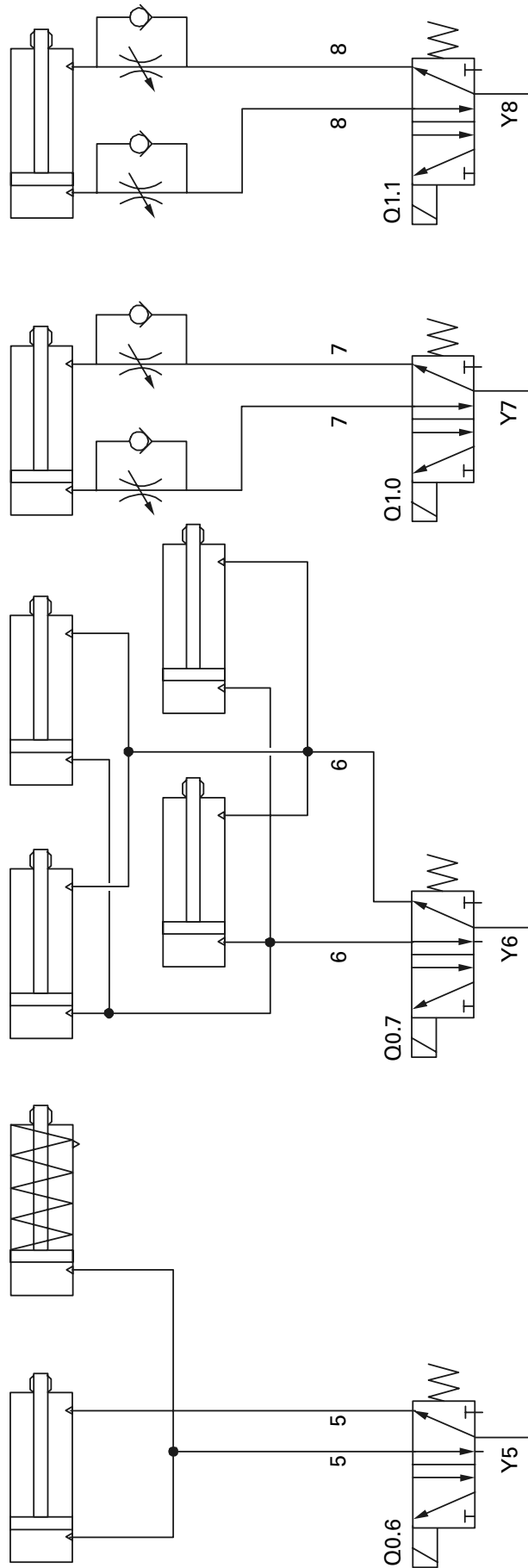
Reference list for the diagrams of the pneumatic systems

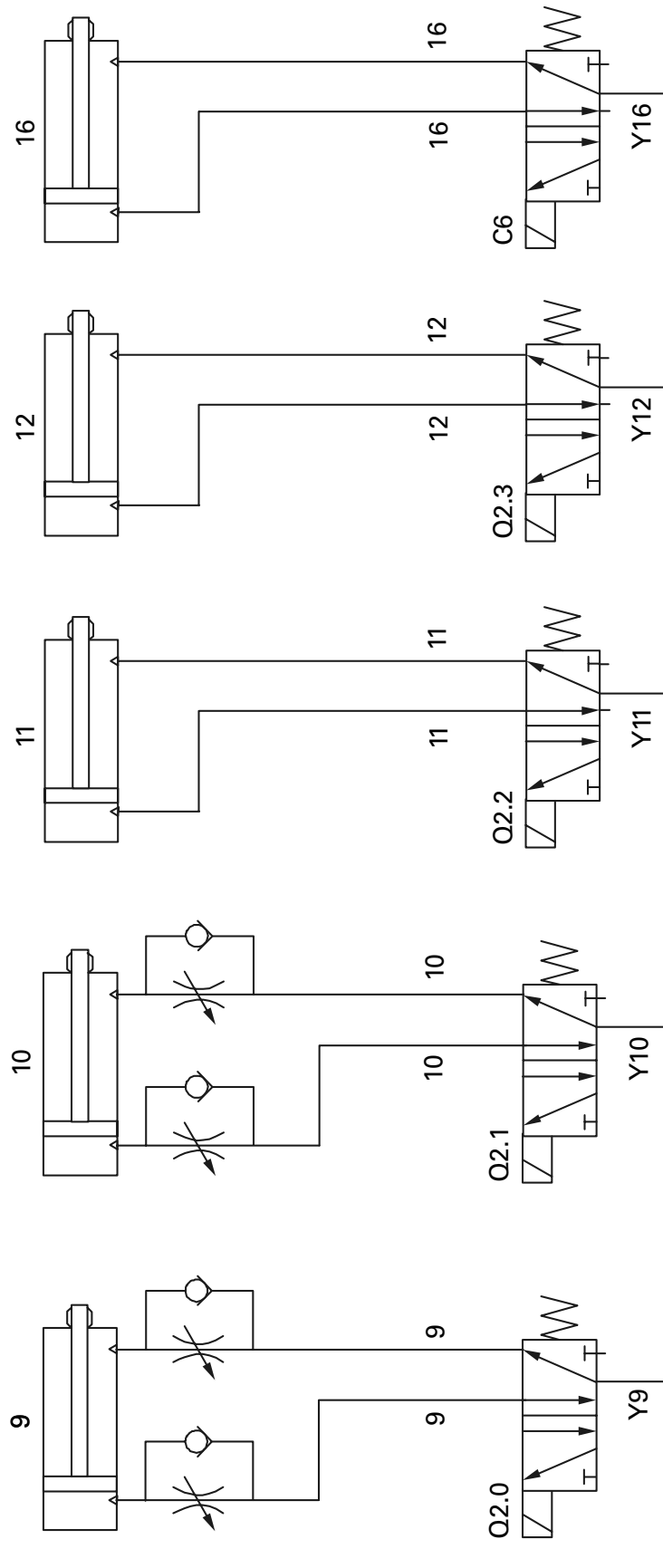
Solenoid valve	Connection	Designation
Y16	C6	Quick adjustment main clamp
Y15	Q2.6	Vacuum/option stamp
Y14	Q2.5	Interfacing feed
Y13 A/B	Q2.4	Stacker forwards/reverse A = 2-arm stacker, B = 3-arm stacker
Y10	Q2.1	Left flap clamp
Y9	Q2.0	Right flap clamp
Y8	Q1.1	Left main clamp
Y7	Q1.0	Right main clamp
Y6	Q0.7	Fold slider
Y5	Q0.6	Thread clamp up and cut
Y4	Q0.5	Middle knife carrier
Y3	Q0.4	Switch on middle knife
Y2	Q0.3	Raise/lower folding unit
Y1	Q0.2	Thread tension release
Y12	Q2.3	Front mitre knife
Y11	Q2.2	Back mitre knife

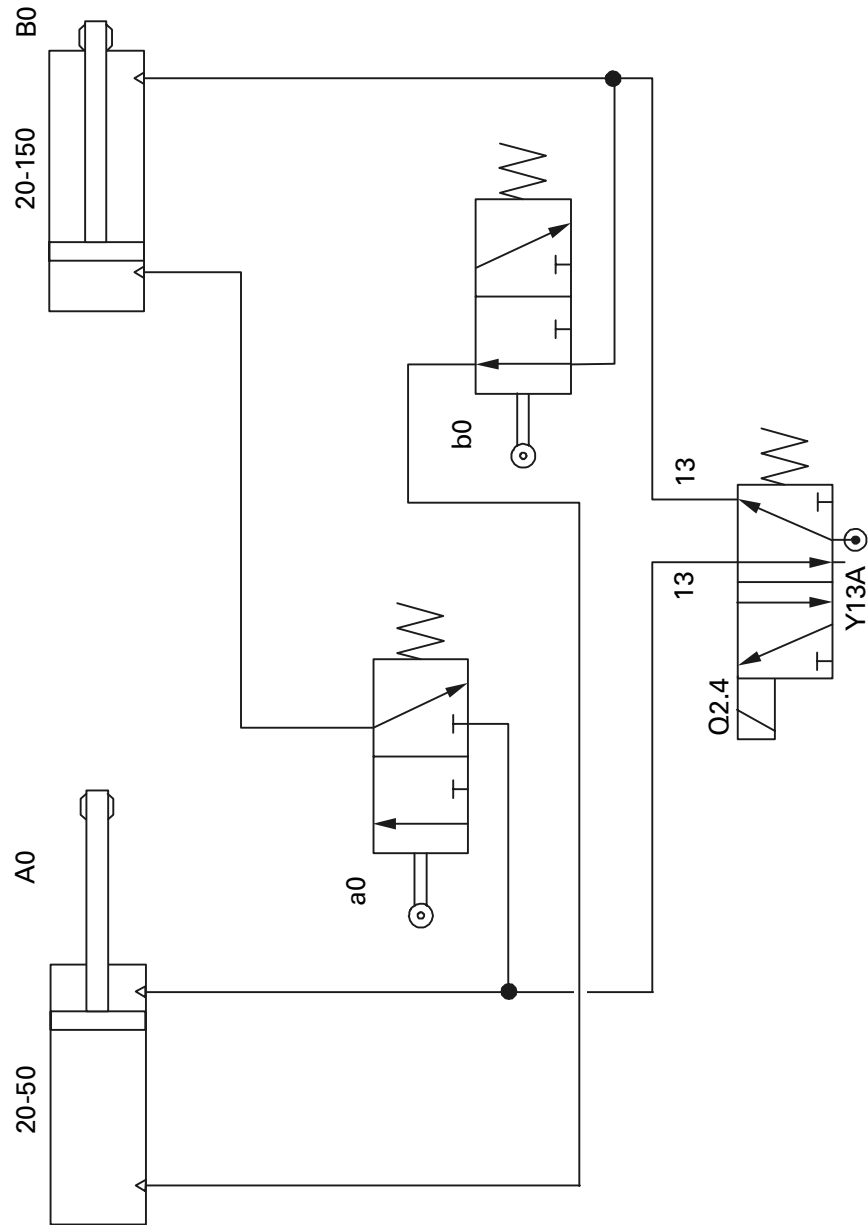


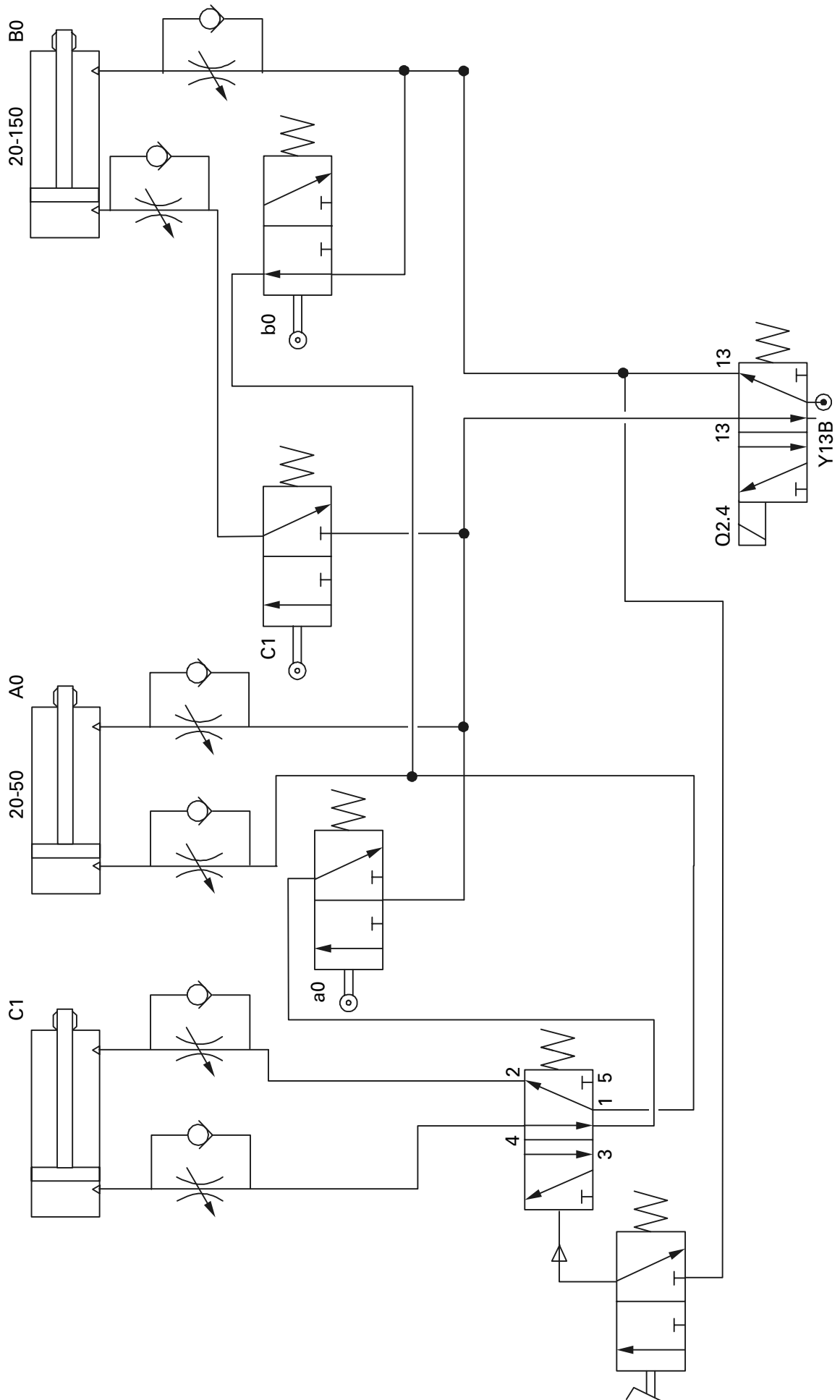
For the Vacuum and Stacker functions, the menu options must be switched to ON

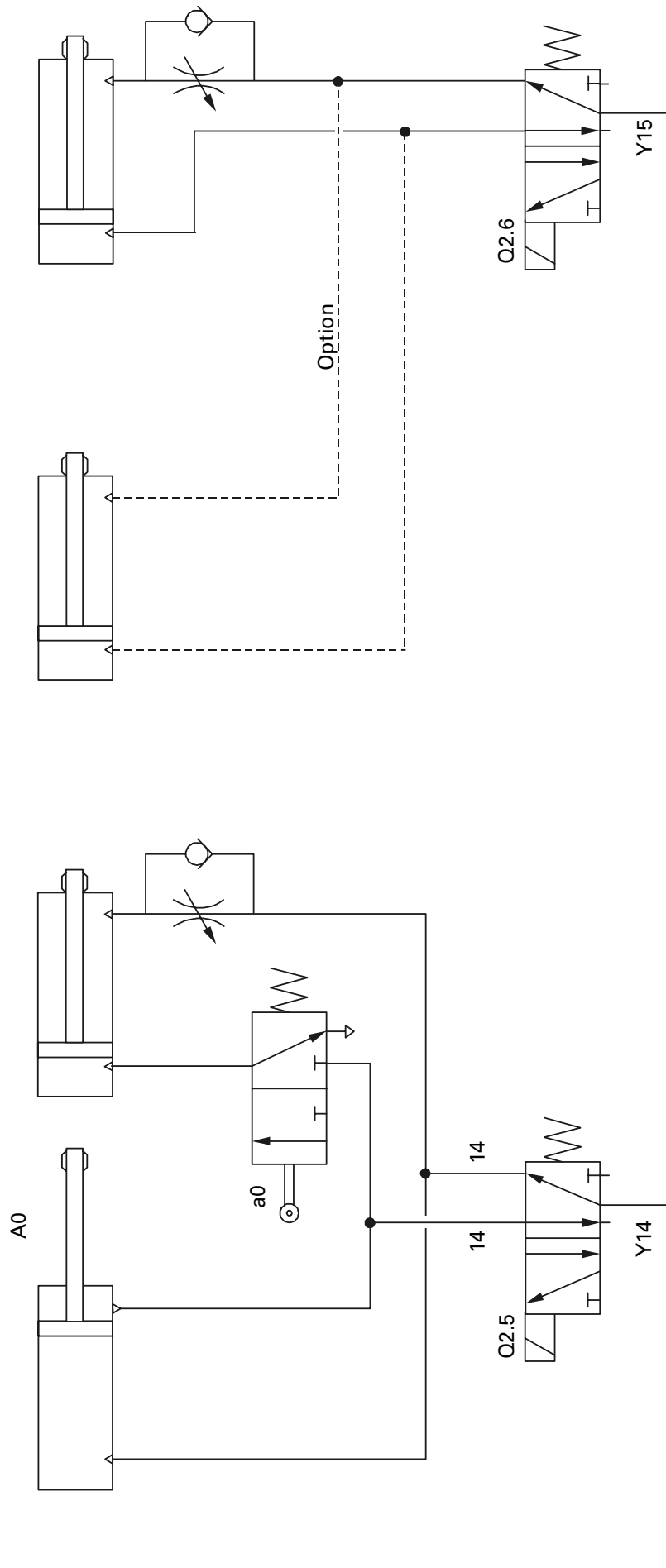






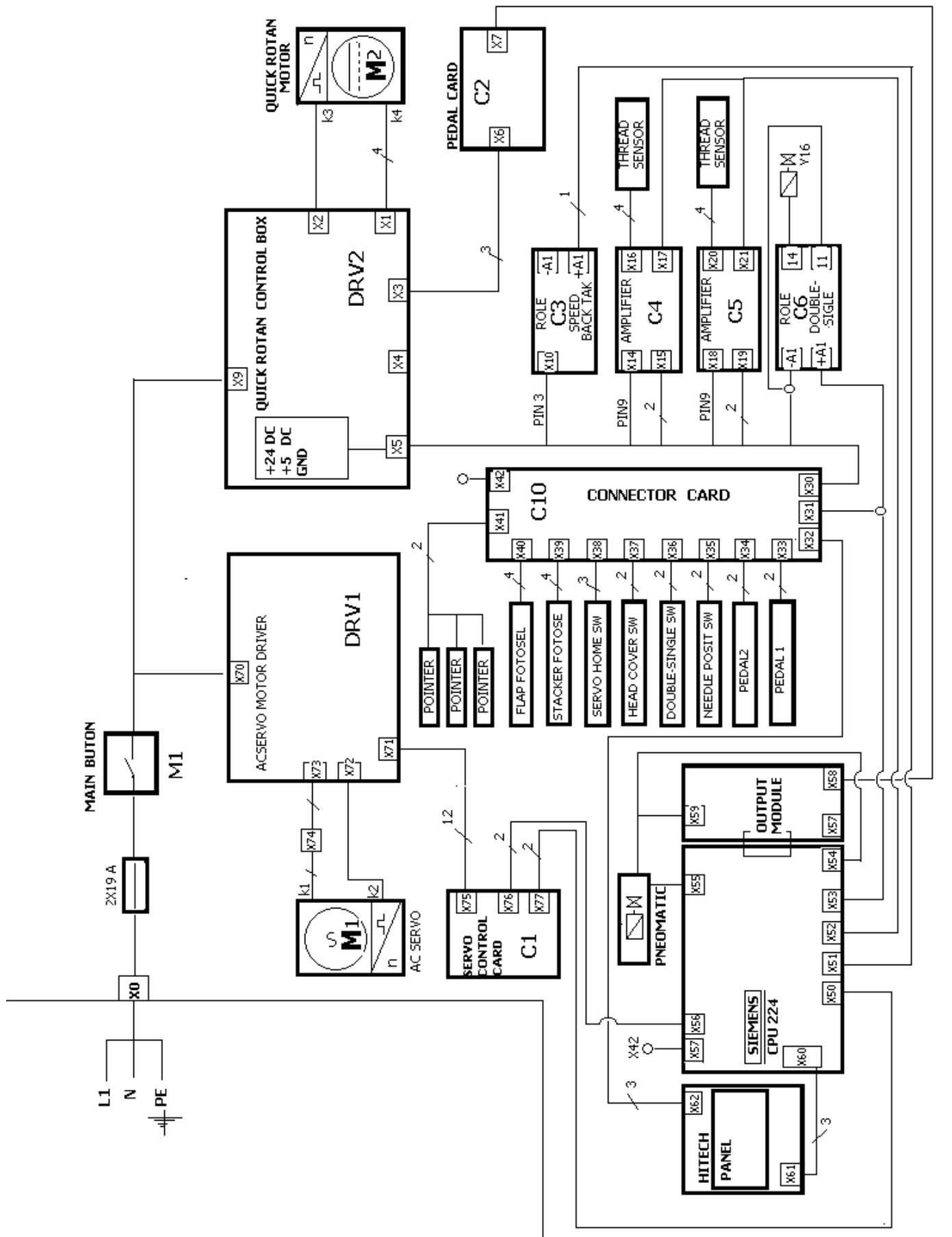


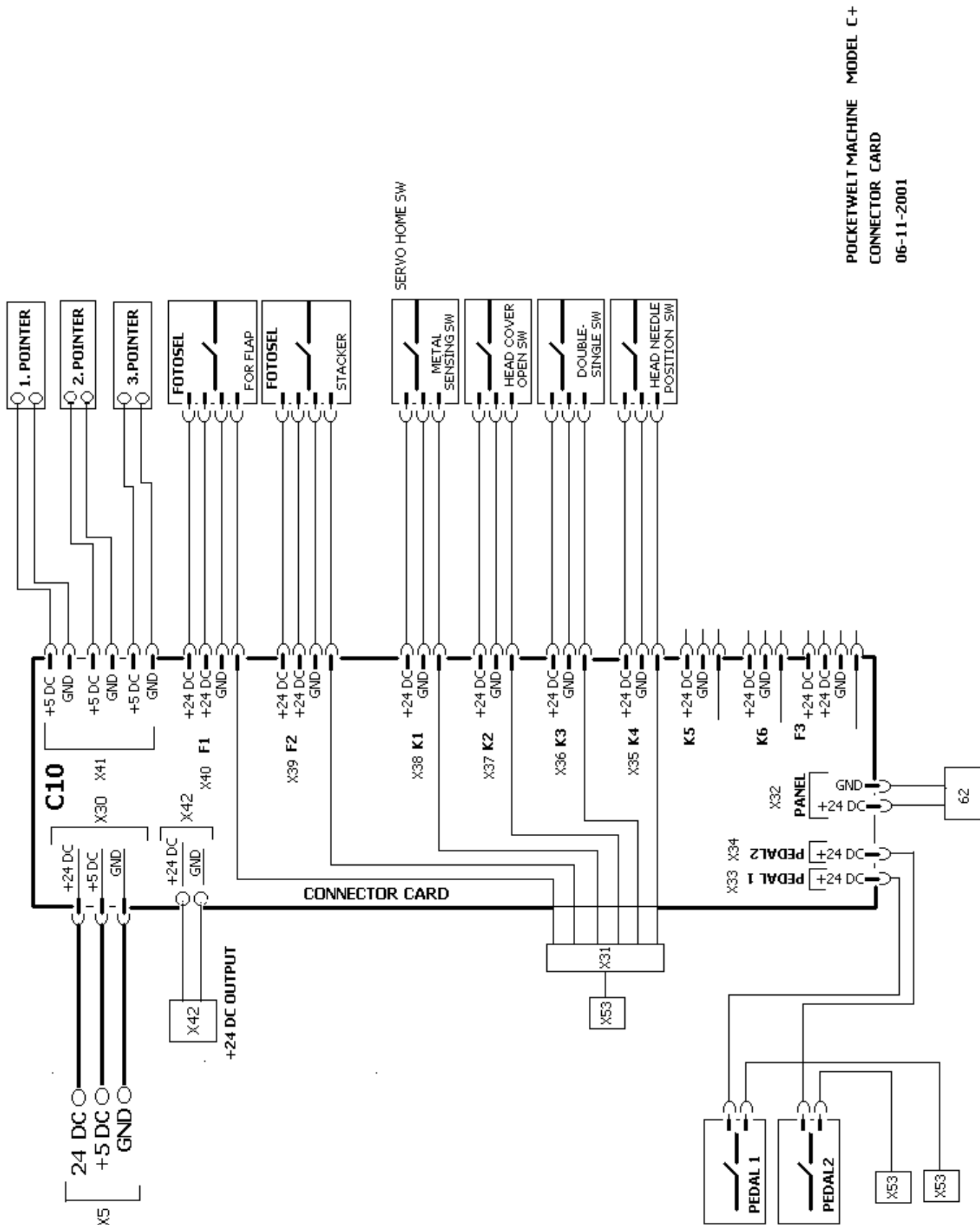




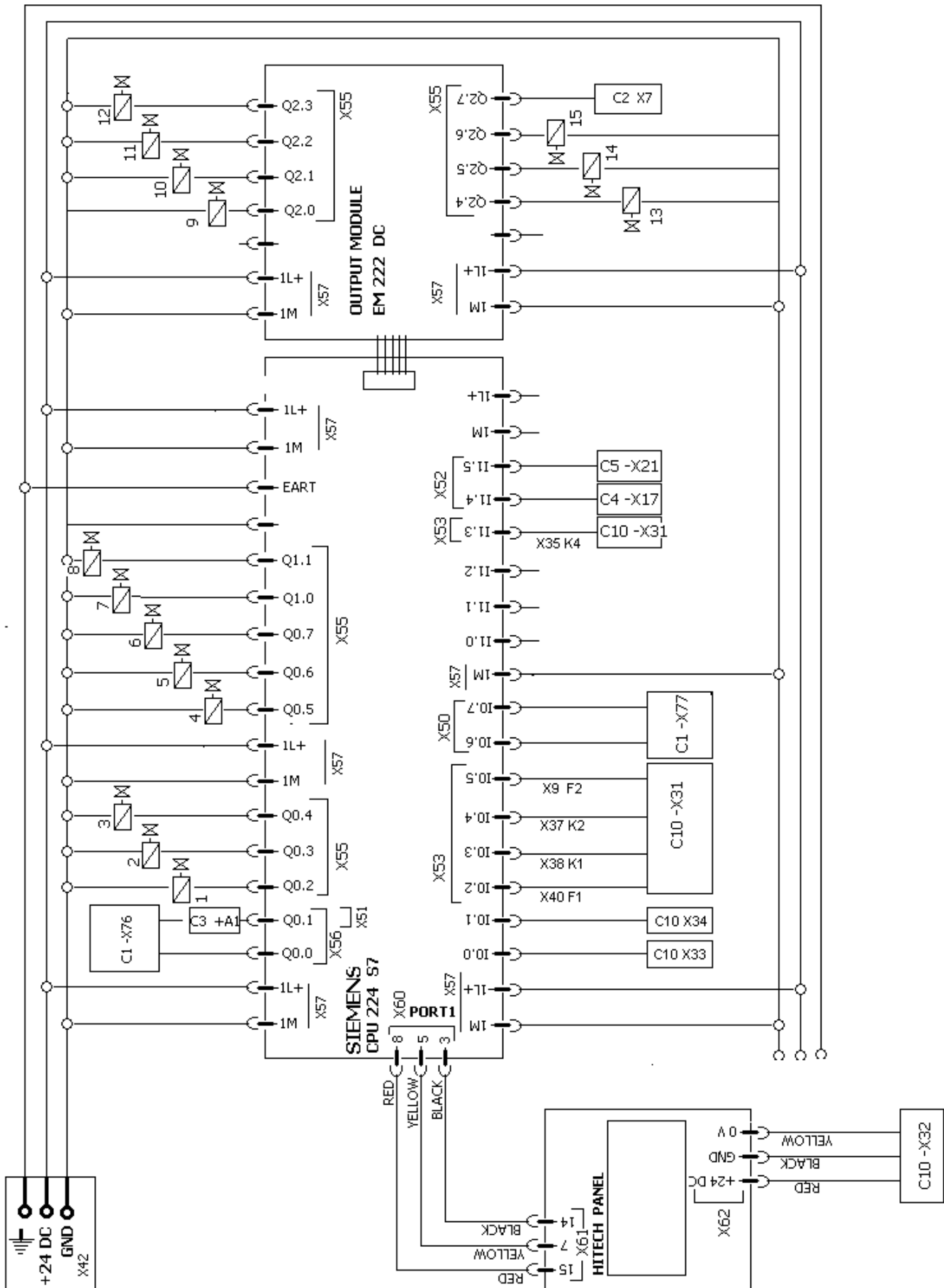
Reference list for the circuit diagrams

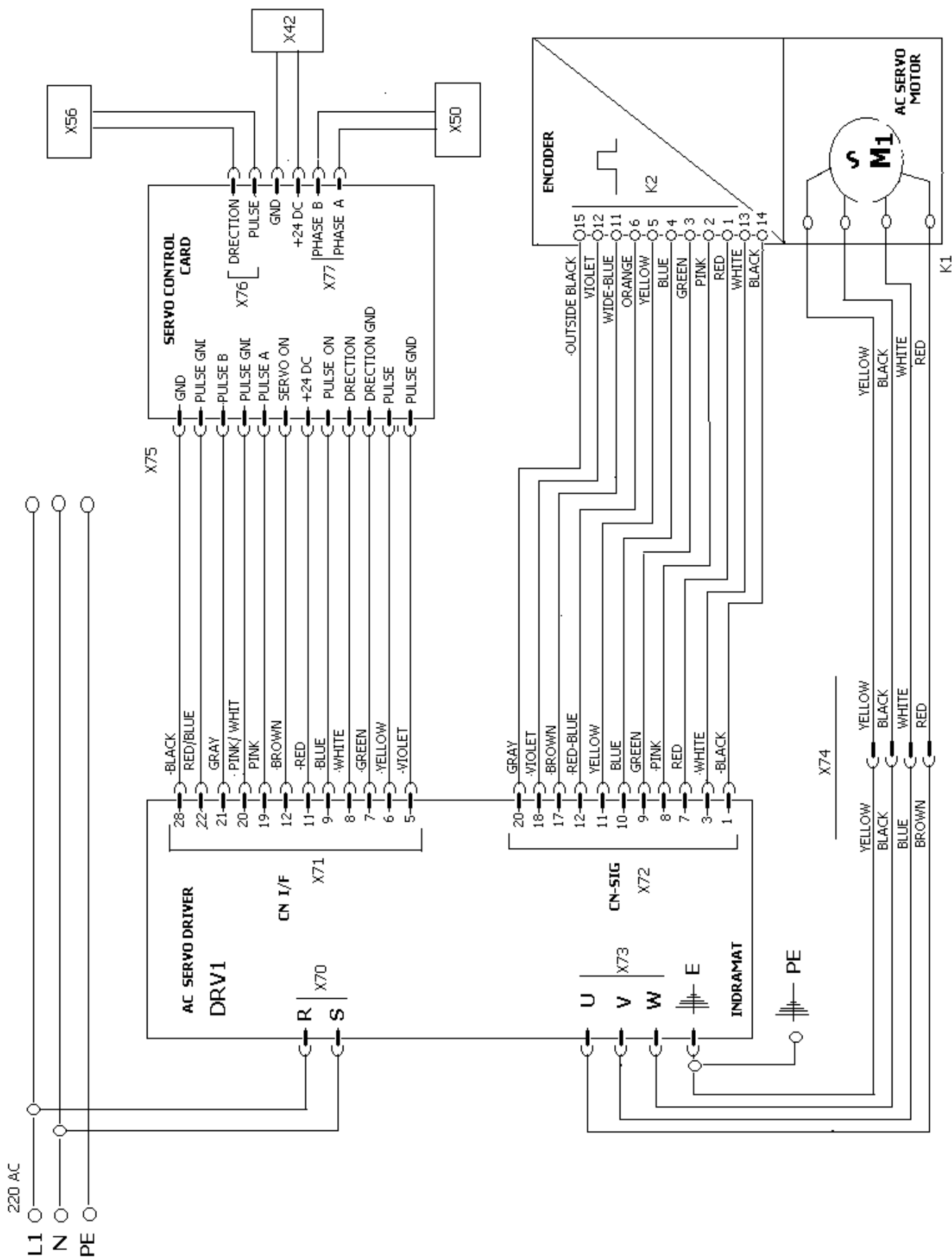
S1	Main switch
DRV1:	Controller for clamp drive motor
DRV2:	Controller for QUICK-Mini-Stop
M1:	Clamp drive motor
M2:	QUICK-Mini-Stop motor
C1:	Control card Servo –motor
C2:	Control card QUICK-Mini-Stop motor
C3:	Relay, reduced speed for backtacks
C4:	Amplifier for thread monitor
C5:	Amplifier for thread monitor
C6:	Relay, quick adjustment for double- or single-piping
C10:	Motherboard
PLC:	SIEMENS CPU 224 S7
	Outlet (EM 222 DC)
PANEL:	Control panel (HITECH LCD SCREEN 1711)
POINTER:	Marking lamps
SERVO	
SW:	Switch for clamp reference point
FLAP	
FOTOSEL:	Sensor for flap recognition (PNP Type +24 DC)
HEAD:	
COVER SW:	Safety switch folder retracted
DOUBLE-	
SINGLE SW:	Switch for folder (single-/double piping)
NEEDLE	
POSITION SW:	Needle position switch on balance wheel
PEDAL SW:	Pedal switch

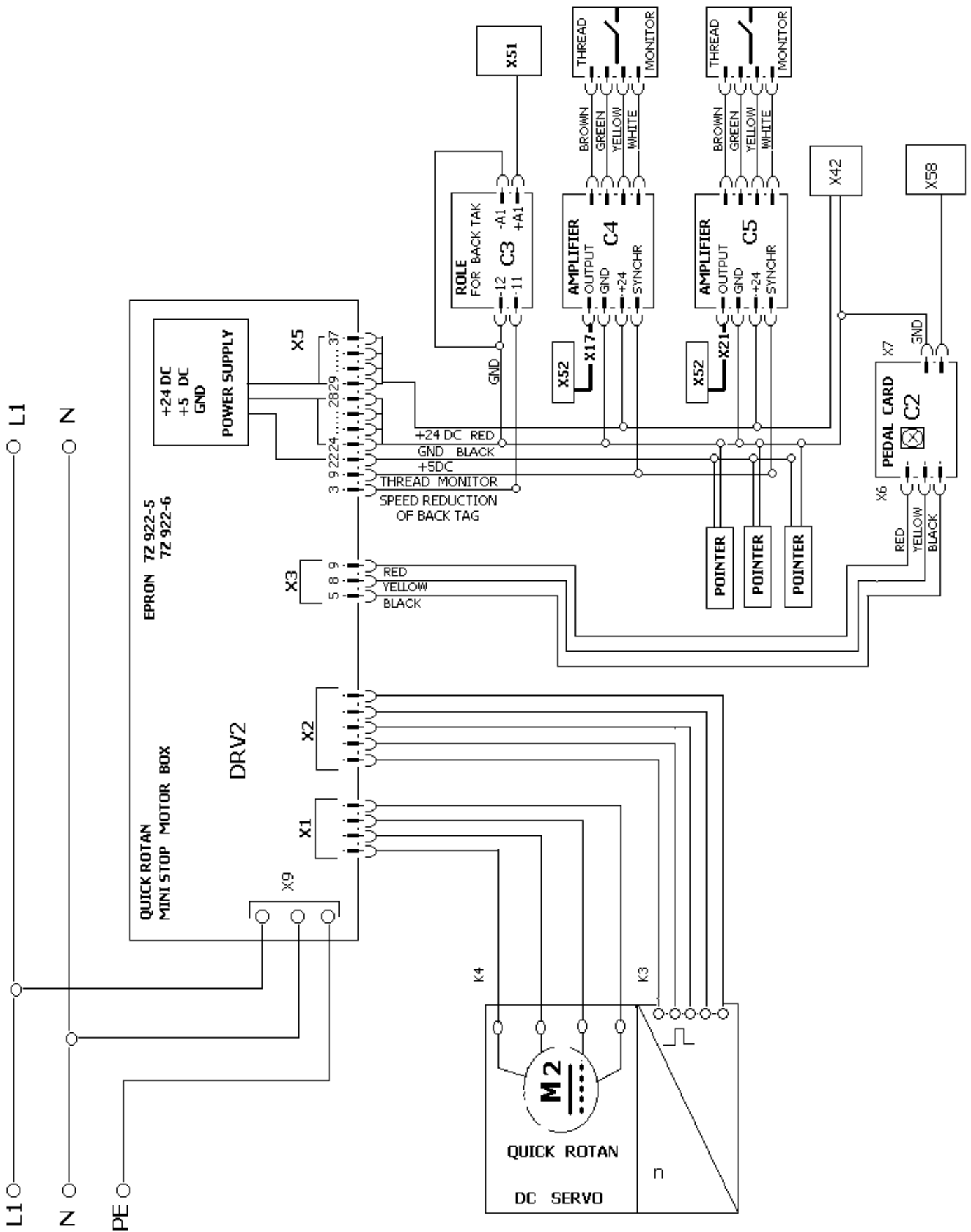




POCKETWELT MACHINE MODEL C+
CONNECTOR CARD
06-11-2001







PFAFF

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