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

# 2721275
This instruction manual applies to all versions and subclasses listed under "Specifications".

The reprinting, copying or translation of PFAFF Instruction Manuals, whether in whole or in part, is only permitted with our previous authorisation and with written reference to the source.

PFAFF Industrie Maschinen AG
Postfach 3020
D-67653 Kaiserslauern
Königstr. 154
D-67655 Kaiserslauern
## Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Safety .......................................................... 1 - 1</td>
</tr>
<tr>
<td>1.01</td>
<td>Directives .............................................................. 1 - 1</td>
</tr>
<tr>
<td>1.02</td>
<td>General notes on safety ........................................ 1 - 1</td>
</tr>
<tr>
<td>1.03</td>
<td>Safety symbols ......................................................... 1 - 2</td>
</tr>
<tr>
<td>1.04</td>
<td>Important points for the user .................................... 1 - 2</td>
</tr>
<tr>
<td>1.05</td>
<td>Operating and specialist personnel .......................... 1 - 3</td>
</tr>
<tr>
<td>1.05.01</td>
<td>Operating personnel .................................................... 1 - 3</td>
</tr>
<tr>
<td>1.05.02</td>
<td>Specialist personnel .................................................... 1 - 3</td>
</tr>
<tr>
<td>1.06</td>
<td>Danger ................................................................. 1 - 4</td>
</tr>
<tr>
<td>2</td>
<td>Proper use .......................................................... 2 - 1</td>
</tr>
<tr>
<td>3</td>
<td>Specifications ...................................................... 3 - 1</td>
</tr>
<tr>
<td>3.01</td>
<td>PFAFF 3734-12/31 ...................................................... 3 - 1</td>
</tr>
<tr>
<td>3.02</td>
<td>Model, needles and threads ......................................... 3 - 2</td>
</tr>
<tr>
<td>4</td>
<td>Disposal of machines ................................................ 4 - 1</td>
</tr>
<tr>
<td>5</td>
<td>Transport packaging and storage .............................. 5 - 1</td>
</tr>
<tr>
<td>5.01</td>
<td>Transport to the customer’s premises .......................... 5 - 1</td>
</tr>
<tr>
<td>5.02</td>
<td>Transport within the customer’s premises .................... 5 - 1</td>
</tr>
<tr>
<td>5.03</td>
<td>Disposal of the packaging ........................................ 5 - 1</td>
</tr>
<tr>
<td>5.04</td>
<td>Storage ............................................................... 5 - 1</td>
</tr>
<tr>
<td>6</td>
<td>Explanation of the symbols ........................................ 6 - 1</td>
</tr>
<tr>
<td>7</td>
<td>Controls ............................................................. 7 - 1</td>
</tr>
<tr>
<td>7.01</td>
<td>On/off switch ............................................................. 7 - 1</td>
</tr>
<tr>
<td>7.02</td>
<td>Pedal ................................................................. 7 - 1</td>
</tr>
<tr>
<td>7.03</td>
<td>Knee switch ............................................................... 7 - 2</td>
</tr>
<tr>
<td>7.04</td>
<td>Lever for raising the Roller presser ............................. 7 - 2</td>
</tr>
<tr>
<td>7.05</td>
<td>Control panel ............................................................. 7 - 3</td>
</tr>
<tr>
<td>7.05.01</td>
<td>Displays on the screen ............................................... 7 - 3</td>
</tr>
<tr>
<td>7.05.02</td>
<td>Function keys ............................................................. 7 - 3</td>
</tr>
<tr>
<td>8</td>
<td>Mounting and commissioning the machine .................... 8 - 1</td>
</tr>
<tr>
<td>8.01</td>
<td>Mounting ............................................................... 8 - 1</td>
</tr>
<tr>
<td>8.01.01</td>
<td>Adjusting the table-top height ................................... 8 - 1</td>
</tr>
<tr>
<td>8.01.02</td>
<td>Fitting the tilt lock ....................................................... 8 - 2</td>
</tr>
<tr>
<td>8.01.03</td>
<td>Fitting the machine cover ........................................... 8 - 2</td>
</tr>
<tr>
<td>8.02</td>
<td>Mounting the flange motor ........................................ 8 - 3</td>
</tr>
<tr>
<td>8.02.01</td>
<td>Mounting the flange motor to the bearing plate ............. 8 - 3</td>
</tr>
<tr>
<td>8.02.02</td>
<td>Mounting the flange motor to the machine .................... 8 - 3</td>
</tr>
<tr>
<td>8.02.03</td>
<td>Connecting the plug-in connections and earth cables ......... 8 - 4</td>
</tr>
<tr>
<td>8.02.04</td>
<td>Mounting the toothed belt / Basic position of the machine drive unit 8 - 5</td>
</tr>
</tbody>
</table>
## Contents

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.02.05</td>
<td>Mounting the belt guard of the flange motor</td>
<td>8-6</td>
</tr>
<tr>
<td>8.02.06</td>
<td>Connecting the safety switch</td>
<td>8-7</td>
</tr>
<tr>
<td>8.02.07</td>
<td>Checking the function of the start inhibitor</td>
<td>8-7</td>
</tr>
<tr>
<td>8.03</td>
<td>Fitting the reel stand</td>
<td>8-8</td>
</tr>
<tr>
<td>8.04</td>
<td>Commissioning</td>
<td>8-8</td>
</tr>
<tr>
<td>8.05</td>
<td>Switching the machine on/off</td>
<td>8-8</td>
</tr>
</tbody>
</table>

### 9 Setting up

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.01</td>
<td>Inserting the needle</td>
</tr>
<tr>
<td>9.02</td>
<td>Winding the bobbin thread, adjusting the thread tension</td>
</tr>
<tr>
<td>9.03</td>
<td>Removing / Inserting the bobbin case</td>
</tr>
<tr>
<td>9.04</td>
<td>Threading the bobbin case / Adjusting the bobbin thread tension</td>
</tr>
<tr>
<td>9.05</td>
<td>Threading the needle thread / Adjusting the needle thread tension</td>
</tr>
<tr>
<td>9.06</td>
<td>Entering the stitch length</td>
</tr>
<tr>
<td>9.06.01</td>
<td>Entering the standard stitch length</td>
</tr>
<tr>
<td>9.06.02</td>
<td>Entering a second stitch length or amount of fullness</td>
</tr>
<tr>
<td>9.06.03</td>
<td>Entering the fullness area for the pedal adjustment</td>
</tr>
<tr>
<td>9.07</td>
<td>Entering the start and end backtacks</td>
</tr>
<tr>
<td>9.08</td>
<td>Entering/changing the code number</td>
</tr>
<tr>
<td>9.09</td>
<td>Switching on/adjusting the bobbin thread control with reverse stitch count</td>
</tr>
</tbody>
</table>

### 10 Sewing

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.01</td>
<td>Manual sewing</td>
</tr>
<tr>
<td>10.02</td>
<td>Programmed sewing</td>
</tr>
<tr>
<td>10.03</td>
<td>Altering seam programs</td>
</tr>
<tr>
<td>10.04</td>
<td>Error messages</td>
</tr>
</tbody>
</table>

### 11 Care and maintenance

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.01</td>
<td>Cleaning</td>
</tr>
<tr>
<td>11.02</td>
<td>Oiling the hook</td>
</tr>
<tr>
<td>11.03</td>
<td>Checking the oil levels</td>
</tr>
<tr>
<td>11.04</td>
<td>Lubricating the bevel gears</td>
</tr>
</tbody>
</table>

### 12 Adjustment

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.01</td>
<td>Notes on adjustment</td>
</tr>
<tr>
<td>12.02</td>
<td>Werkzeuge, Lehren und sonstige Hilfsmittel</td>
</tr>
<tr>
<td>12.03</td>
<td>Abbreviations</td>
</tr>
<tr>
<td>12.04</td>
<td>Adjusting the basic machine</td>
</tr>
<tr>
<td>12.04.01</td>
<td>Positioning the needle in the direction of sewing</td>
</tr>
<tr>
<td>12.04.02</td>
<td>Positioning the needle across the direction of sewing</td>
</tr>
<tr>
<td>12.04.03</td>
<td>Preadjusting the needle height</td>
</tr>
<tr>
<td>12.04.04</td>
<td>Needle rise, hook-to-needle clearance, needle height and needle guard</td>
</tr>
<tr>
<td>12.04.05</td>
<td>Height and stroke of the bobbin case opener</td>
</tr>
<tr>
<td>12.04.06</td>
<td>Height of the feed wheel</td>
</tr>
<tr>
<td>12.04.07</td>
<td>Clearance between roller presser and feed wheel</td>
</tr>
</tbody>
</table>
12.04.08 Roller presser .............................................................................................................. 12 - 10
12.04.09 Puller .......................................................................................................................... 12 - 11
12.04.10 Tension release and tension control ............................................................................ 12 - 12
12.04.11 Höhenniveauschalter des Rollfußes ............................................................................ 12 - 13
12.04.12 Automatic presser foot lift .......................................................................................... 12 - 14
12.04.13 Retainer ..................................................................................................................... 12 - 15
12.04.14 Thread check spring .................................................................................................... 12 - 16
12.04.15 Bobbin winder ............................................................................................................ 12 - 17
12.04.16 Roller presser pressure ............................................................................................... 12 - 18
12.04.17 Locking the set value transmitter ................................................................................ 12 - 19
12.04.18 Lubrication ................................................................................................................... 12 - 20
12.04.19 Re-engage safety coupling .......................................................................................... 12 - 21
12.05 Adjusting the thread trimmer –900/81 ......................................................................... 12 - 22
12.05.01 Resting position of the roller lever / radial position of the control cam ................ 12 - 22
12.05.02 Position of the thread catcher holder .......................................................................... 12 - 23
12.05.03 Distance between thread catcher and needle plate .................................................... 12 - 24
12.05.04 Position of the thread catcher ..................................................................................... 12 - 25
12.05.05 Knife position and knife pressure ................................................................................ 12 - 26
12.05.06 Bobbin thread retaining spring .................................................................................... 12 - 27
12.05.07 Manual cutting test ..................................................................................................... 12 - 28
12.06 Parameter settings .......................................................................................................... 12 - 29
12.06.01 Overview of the parameter functions ......................................................................... 12 - 29
12.06.02 Parameter input example ............................................................................................ 12 - 30
12.06.03 List of parameters ....................................................................................................... 12 - 31
12.07 Explanation of the error messages .................................................................................. 12 - 34
12.08 Warning messages .......................................................................................................... 12 - 34
12.09 Carrying out a cold start ................................................................................................. 12 - 35
12.10 Internet update of the machine software ....................................................................... 12 - 36

13 Wearing parts ........................................................................................................... 13 - 1

14 Circuit diagrams ........................................................................................................ 14 - 1
1 Safety

1.01 Directives

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

In addition to this Instruction Manual, observe also all generally accepted, statutory and other regulations and legal requirements and all valid environmental protection regulations!

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

1.02 General notes on safety

● This machine may only be operated by adequately trained operators and only after having completely read and understood the Instruction Manual!

● All Notes on Safety and Instruction Manuals of the motor manufacturer are to be read before operating the machine!

● 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, or bobbin), when threading the machine, when leaving the machine unattended and during maintenance work, the machine is to be separated from the power supply by switching off the On/Off switch or by removing the plug from the mains!

● Everyday maintenance work is only to be carried out by appropriately trained personnel!

● Repairs and special maintenance work may only be carried out by qualified service staff or appropriately trained personnel!

● Work on electrical equipment may only be carried out by appropriately trained personnel!

● Work is not permitted on parts and equipment which are connected to the power supply! Exceptions to this are only to be 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 shall not be 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 a component part of the machine and must be available to the operating personnel at all times.
- The Instruction Manual must be read before operating the machine for the first time.
- The operating and specialist personnel is to be instructed as to the safety equipment of the machine and regarding safe work methods.
- It is the duty of the 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 at your PFAFF agent.
1.05 Operating and specialist personnel

1.05.01 Operating personnel

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

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

- always observe the Notes on Safety in the Instruction Manual!
- never use any working methods which could limit the level of safety in using the machine!
- not wear loose-fitting clothing or jewellery 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!
- never work on parts which are still connected to the power supply! Exceptions are contained only 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 or in the needle plate area while adjusting the machine settings! Objects can become trapped or be slung away! Danger of injury!

Do not operate the machine without support 1!
Danger due to top-heavy sewing head!
Machine can tip over backwards when tilted!

Do not operate the machine without its take-up-lever guard 2!
Danger of injury due to the motion of the take-up lever!

Do not operate the machine without cover 3!
Danger of injury from moving drive belts!

Do not operate the machine without tilt lock 4!
Danger of crushing between sewing head and table top!
Proper use

2 Proper use

The PFAFF 3734-12/31 is a high-speed, single needle, postbed sewing machine (post to the right of the needle) with forwards and reverse feeding feed-wheel and driven puller. This machine is used for sewing lockstitch seams 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 includes the observance of all operational, adjustment, maintenance and repair measures required by the manufacturer!
### Specifications

#### 3.01 PFAFF 3734-12/31▲

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stitch type</td>
<td>301 (lockstitch)</td>
</tr>
<tr>
<td>Roller presser clearance</td>
<td>9 mm</td>
</tr>
<tr>
<td>Clearance width</td>
<td>245 mm</td>
</tr>
<tr>
<td>Clearance height</td>
<td>115 mm</td>
</tr>
<tr>
<td>Post height</td>
<td>180 mm</td>
</tr>
<tr>
<td>Sewing head dimensions:</td>
<td></td>
</tr>
<tr>
<td>Length</td>
<td>approx. 615 mm</td>
</tr>
<tr>
<td>Width</td>
<td>approx. 240 mm</td>
</tr>
<tr>
<td>Height (above table)</td>
<td>approx. 500 mm</td>
</tr>
<tr>
<td>Bed-plate dimensions</td>
<td>518 x 177 mm</td>
</tr>
<tr>
<td>Max. speed</td>
<td>3500 s.p.m. ●</td>
</tr>
</tbody>
</table>

#### Connection data:
- Operating voltage: 230 V ± 10%, 50/60 Hz, alternating voltage
- Max. power consumption: 1,2 kVA
- Fuse protection: 1 x 16 A, inert

#### Noise data:
- Noise emission level at workplace with a sewing speed of 2700 spm: $L_{pA} < 80$ dB(A) ■
  (Noise measurement in accordance with DIN 45 635-48-A-1, ISO 11204, ISO 3744, ISO 4871)

Net weight of sewing head: approx. 61 kg
Gross weight of sewing head: approx. 71 kg

▲ Subject to alternation
● Varies according to material, work process and stitch length
■ $K_{pn} = 2.5$ dB

#### 3.02 Model, needles and threads

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model:</td>
<td>A</td>
</tr>
<tr>
<td>Needle system:</td>
<td>134-35</td>
</tr>
<tr>
<td>Needle size in 1/100 mm:</td>
<td>80</td>
</tr>
<tr>
<td>Max. thread size:</td>
<td>120</td>
</tr>
</tbody>
</table>
Disposal of machines

4  Disposal of machines

- The proper disposal of machines 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

5.01 Transport to the customer’s premises
All 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.
Always ensure that the machine is only transported upright.

5.03 Disposal of the packaging
The packaging of these machines consists of paper, cardboard and VCE fibre.
The proper disposal of the packaging is the responsibility of the customer.

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

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

- Turn the machine on/off by turning On/Off switch 1.

7.02 Pedal

- 0 = Neutral position
- 1 = Sewing
- 2 = Raise roller presser
- 3 = Trim thread and raise roller presser
- 1 + 4 = Variable application of fullness
7.03 Knee switch

- By operating knee switch 1 it is possible to select 2 pre-set values for fullness.

7.04 Lever for raising the roller presser

- Raise the roller presser by turning lever 1.
7.05 Control panel

The control panel consists of display 1 and the function keys described below. Display 1 consists of a two-row, alpha-numerical display with 16 symbols per row. The special symbols 3 and texts 4 show the respective status of the function keys and the operating modes of the machine.

During the power-on phase the control panel automatically switches on all LCD segments and a beep tone for a short time. Afterwards the lettering PFAFF appears on the display, until the higher-ranking control unit sends commands to the control panel.

7.05.01 Displays on the screen

- Activated functions are shown with a triangular symbol 2 below or next to the respective function key.
- In sewing mode all relevant sewing data is displayed and can be changed directly depending on the machine status, also see Chapter 10 Sewing.
- When entering the parameters, the selected parameter number with the corresponding parameter value is displayed, see Chapter 12.06 Parameter settings.

7.05.02 Function keys

The function keys described below are used basically to switch the machine functions on and off.

If a value must be given for the activated function, this is entered with the relevant +/- key. By pressing down the relevant +/- key the corresponding value 5 is changed slowly. If the +/- key is held down longer, the values change more quickly.

Start backtacks

- By pressing this key, the backtacking function at the beginning of the seam (start backtacks) is switched on or off. The number of forward stitches (A) or reverse stitches (B) for the start backtacks can be changed in each case by pressing the +/- key underneath. To convert from double backtacks to single backtacks the relevant number of stitches for the seam segment is set at zero.
- When entering the code number, the key 3 corresponds to the number 1.
Controls

End backtacks
- By pressing this key, the backtacking function at the end of the seam (end backtacks) is switched on or off. The number of reverse stitches (C) or forward stitches (D) can be changed in each case by pressing the +/- key underneath. To convert from double backtacks to single backtacks the relevant number of stitches for the seam segment is set at zero.
  - When entering the code number, the key corresponds to the number 2.

Needle position
- By pressing this key the function “Needle raised after sewing stop” is switched on or off. When the function is switched on, the needle positions at t.d.c. after sewing stops.
  - When entering the code number, the key corresponds to the number 3.

Foot position after stop
- By pressing this key the function “Foot raised after sewing stop” is switched on or off. When the function is switched on, the sewing foot is raised after sewing stops.
  - When entering the code number, the key corresponds to the number 4.

Foot position after trimming
- By pressing this key the function “Foot raised after thread trimming” is switched on or off. When the function is switched on, the sewing foot is raised after sewing thread trimming.
  - When entering the code number, the key corresponds to the number 5.

Thread trimmer
- By pressing this key the thread trimming function is switched on or off.
  - When entering the code number, the key corresponds to the number 6.

Stop
- By pressing this key the corresponding function is switched on or off. If the function is activated, the roller presser and feed wheel drive are switched off, in order to e.g. fill the bobbin thread spool outside the sewing operation.
  - When entering the code number, this key corresponds to the number 0.

This key has no function.

This key has no function.
**Controls**

**TE/Speed**

- By pressing this key once the speed limitation for sewing mode is activated.
- By pressing the key twice (within 5 seconds) the machine switches to parameter input mode. In the parameter input mode the lettering 'TE' is displayed on the control panel. In the alpha-numerical section of the display the parameters are listed with their corresponding values, see Chapter 12.06 Parameter settings.

**Scrolling**

- When this key is pressed, it is possible to scroll through the input menus on the display.

**PM**

- By pressing this key the Programmed Sewing function is switched on or off. When the function is switched on, the lettering “PM” appears in the display of the control panel.
- The parameters of the programs are shown in the alpha-numerical section of the display.

**F1**

- This key has no function.

**F2**

- This key has no function.

**F3**

- This key has no function.

**F4**

- After this key has been pressed, the next bartack will not be sewn.
Mounting and commissioning the machine

8 Mounting and commissioning the machine

⚠️ The machine must only be mounted and commissioned by qualified personnel!
All relevant safety regulations are to be observed!

⚠️ If the machine is delivered without a table, it must be ensured that the frame and the table top which you intend to use can hold the weight of the machine and the motor, even while sewing.

8.01 Mounting

The necessary electricity supply must be available at the machine’s location.
There must be a stable and horizontal surface and adequate lighting at the machine’s location.

 ❗️ Due to reasons of packaging, the table top is lowered for transport.
The following is a description of how to adjust the height of the table top.

8.01.01 Adjusting the table-top height

- Loosen screws 1 and 2 and set the desired table-top height
- Tighten screws 1 well.
- Adjust the position of the pedal so that you can operate it comfortably and tighten screw 2.

Fig. 8 - 01
8.01.02 Fitting the tilt lock

**Switch off the machine!**
Danger of injury if the machine is started accidentally!

- Screw on the tilt lock parts 1 and 2, provided in the accessories, using screws 3 and 4.

Do not operate the machine without tilt lock 1. Danger of crushing between sewing head and table top!

Fig. 8-02

8.01.03 Fitting the machine cover

- Slide the slots of the lower section of the cover 1 behind the heads of screws 2 and attach with screws 3, then tighten screws 2 through the holes.
- Attach right and left cover sections with screws 4.
Mounting and commissioning the machine

8.02 Mounting the flange motor

8.02.01 Mounting the flange motor to the bearing plate

- Attach bearing plate 1 to motor 2 with screws 3 as shown in Fig. 8 - 04.
- Remove the wedge from motor shaft 4.
- Attach angle bracket 5 with screws 6.
- Fit toothed belt wheel 7 to the motor shaft 4, so that the point of the screw is located in the groove of the motor shaft.
- Screw threaded stud 8 into the bearing plate 1.

8.02.02 Mounting the flange motor to the machine

- Attach bearing plate 1 of motor 2 to the machine case with screws 3 (only tighten screws 3 slightly).
8.02.03 Connecting the plug-in connections and earth cables

- Connect all plugs as labelled to the control box 1.
- Screw the earth cable from the sewing head to earth point A.
- Screw the earth cable 2 from the motor to earth point B.
- Connect earth point C and earth point A with an earth cable.
- Fasten the earth cable of the main switch to earth point A.
Mounting and commissioning the machine

8.02.04 Mounting the toothed belt / Basic position of the machine drive unit

● Switch on the machine.

2 x [TE/Speed] ● Press TE/Speed key twice to select the input mode.

No ● Select the parameter group “600” by pressing the corresponding +/- key.

No 600 ● Confirm the selection by pressing the corresponding +/- key.

No 603 ● Enter the code number, see Chapter 9.08 Entering/changing the code number.

No 603 11 ● Select the parameter group “603” by pressing the corresponding +/- key.

● Turn the motor shaft by hand until value “11” appears in the display.

● Turn the balance wheel in sewing direction until the needle point descending from above, is level with the top edge of the needle plate.

● Taking care not to turn the motor shaft 4 (Fig. 8 - 07) or the machine, fit synchronous belt 5.
● Swing the bearing plate 6 of the motor, so that the belt 5 is tightened.
● In this position tighten screws 7.
● Turn the balance wheel in sewing direction until the needle point descending from above, is level with the top edge of the needle plate and re-check the value. A tolerance of ± 2 increments is allowed.
● Conclude the adjustment of the sewing motor by pressing the TE/Speed key.

8.02.05 Mounting the belt guard of the flange motor

● Attach belt guard 1 with screws 2 and 3.
Mounting and commissioning the machine

8.02.06 Connecting the safety switch

● Connect plug 1 of safety switch 2 as shown in Fig. 8-09.

When the sewing head is tilted back, the safety switch prevents the machine starting when the main switch is on.

Fig. 8 - 09

8.02.07 Checking the function of the start inhibitor

● Switch the machine on at the main switch and tilt back the sewing head. The error message „STOP“ must appear on the control panel.

● If the message does not appear, check the setting of switch 3.

● After the sewing head has been set upright, the machine is ready for operation again.
8.03 Fitting the reel stand

- Fit the reel stand as shown in Fig. 8-10.
- Afterwards insert the stand in the hole in the table top and secure it with the nuts provided.

![Fig. 8-10](image-url)

8.04 Commissioning

- Clean the machine thoroughly and then oil it, or fill in oil, see Chapter 11 Care and Maintenance.
- Examine the machine, in particular the electric cables, for any damage.
- Have a qualified person check whether the motor can be driven with the existing power voltage.

⚠️ If there are any differences, the machine must definitely not be operated!

⚠️ The machine must only be connected to a suitably earthed socket!

- When the machine is running, the balance wheel must turn towards the operator. If this is not the case, have the motor adjusted by specialist staff, see Chapter 12.06 Parameter settings.

8.05 Switching the machine on/off

- Switch on the machine, see Chapter 7.01 Main switch.
All instructions and regulations in this instruction manual must be observed. Special attention must be paid to all safety regulations!

All setting-up work must only be carried out by personnel with the appropriate training. For all setting-up work the machine must be disconnected from its power supply by turning off the on/off switch, or removing the plug from the electric power socket.

9.01 Inserting the needle

Switch the machine off! Danger of injury if the machine is started accidentally!

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

- Raise the roller presser 1.
- Pull down roller presser 1 a little and swing it towards the left.
- Loosen screw 2 and insert the needle as far as possible. The long needle groove must be facing towards the left.
- Tighten screw 2 and swing the roller presser back into position.

Fig. 9 - 01

The choice of needle depends on the model of the machine and the thread and material used (see Chapter 3.02 Needles and threads).
9.02 Winding the bobbin thread, adjusting the thread tension

- Place an empty bobbin 1 onto bobbin winder spindle 2.
- Thread the bobbin in accordance with Fig. 9 - 02 and wind it clockwise around bobbin 1 a few times.
- Switch on the bobbin winder by pressing the bobbin winder spindle 2 and lever 3 at the same time.

The bobbin is filled during sewing.

If the bobbin is filled outside the sewing operation, the drive for the roller presser and the feed wheel should be switched off by pressing the Stop key. This function of the Stop key is only available in the manual sewing mode.

- The tension of the thread on bobbin 1 can be adjusted with knurled screw 4.
- The bobbin winder stops automatically when bobbin 1 is full.

If the thread is wound unevenly:
- Loosen nut 5.
- Turn thread guide 6 accordingly.
- Tighten nut 5.
9.03 Removing / Inserting the bobbin case

Maschine ausschalten!
Switch the machine off!
Danger of injury if the machine is started accidentally!

Removing the bobbin case:
- Open the post cap.
- Raise latch 1 and remove bobbin case 2.

Inserting the bobbin case:
- Insert bobbin case 2.
- Close the latch and close the post cap.

---

9.04 Threading the bobbin case / Adjusting the bobbin thread tension

- Insert the bobbin into the bobbin case 1.
- Pass the thread through the slot under spring 2.
- Pass the thread through the notch.
- Adjust the thread tension by turning screw 3.

When the thread is pulled, the bobbin must rotate in the direction of the arrow.
9.05 Threading the needle thread / Adjusting the needle thread tension

Switch the machine off!
Danger of injury if the machine is started accidentally!

- Thread needle thread as shown in Fig. 9-05.
- Adjust the needle thread tension by turning knurled screws 1 and 2.
Setting up

9.06  Entering the stitch length

The stitch length is determined by adjusting the feed strokes of the feed band and the feed wheel. When applying fullness, the feed stroke of the feed band must be larger or smaller that the feed stroke of the feed wheel.

9.06.01 Entering the standard stitch length

● Switch on the machine.

After the machine has been switched on, the current values of the stitch lengths for the roller presser and the feed wheel are shown on the display.

● Set the stitch length (feed stroke) for the roller presser by pressing the corresponding +/- key.

● Set the stitch length (feed stroke) for the feed wheel by pressing the corresponding +/- key.

9.06.02 Entering a second stitch length or amount of fullness

With the PM key, in addition to the standard stitch length a second stitch length or fullness setting can be determined. In the programmed sewing mode (text “PM” on the display) it is possible to switch from one setting to the other by operating the knee switch.

● Switch on the machine and press the PM key to move into the programmed sewing mode.

● Select the program number (1 or 2) by pressing the corresponding +/- key.

● Set the stitch length (feed stroke) for the roller presser by pressing the corresponding +/- key.

● Set the stitch length (feed stroke) for the feed wheel by pressing the corresponding +/- key.
9.06.03 Entering the fullness area for the pedal adjustment

With parameter “107” it is possible to stipulate the maximum stitch length, which can be called up in infinite variations with the fullness pedal (left pedal).

Switch on the machine.

Press the TE/Speed key twice to call up the parameter input function.

Select parameter “107” by pressing the corresponding +/- key.

By pressing the corresponding +/- key, set the maximum stitch length for the fullness pedal (left pedal).

Conclude the parameter input by pressing the TE/Speed key. The value entered is stored.

When the fullness pedal is activated, a bar display appears on the screen which shows the actual amount of fullness in the fullness area entered, dependent on the pedal setting.
Setting up

9.07 Entering the start and end backtacks

- Switch on the machine.

- Switch on the relevant function by pressing the **Start backtack** and/or **End backtack** keys. (Arrow appears under the corresponding function key)

- By pressing the **Scroll key** switch to the input menu for the start and end backtacks.

- By pressing the corresponding **+/- key** select the desired value for the number of forward stitches (A) of the start backtack.

- By pressing the corresponding **+/- key** select the desired value for the number of reverse stitches (B) of the start backtack.

- By pressing the corresponding **+/- key** select the desired value for the number of reverse stitches (C) of the end backtack.

- By pressing the corresponding **+/- key** select the desired value for the number of forward stitches (D) of the end backtack.

- Switch back to the stitch length input menu by pressing the **Scroll key**.
9.08 Entering/changing the code number

- Switch on the machine.

2 x TE/Speed

- Press the TE/Speed key twice to call up the parameter input function.

No

- By pressing the corresponding +/− key select the parameter group "800".

CODE: 1500

- Enter the code number by pressing the corresponding keys (factory code setting is "1500"), also see Chapter 7.05.02 Key functions.

- Conclude code input by pressing the corresponding +/− key.

The code input is stored until the machine is switched off at the main switch. As long as the machine is not switched off, there is free access to all parameters without having to enter the code number again.
Setting up

- Enter the desired code by pressing the corresponding keys, also see Chapter 7.05.02 Key functions.

- Conclude the input by pressing the corresponding +/- key. The new code number is stored and the parameter input concluded.

- By pressing the corresponding +/- key select the parameter "810".

- Confirm the selection by pressing the corresponding +/- key.

- No
9.09 Switching on/adjusting the bobbin thread control with reverse stitch count

- Switch on the machine.

2 x TE/Speed key

- Press the TE/Speed key twice to call up the parameter input function.

No

- Select parameter „105“ by pressing the corresponding +/- key.

VAL

- By pressing the corresponding +/- key set the number of stitches to be sewn with one bobbin.

- Conclude the parameter input by pressing the TE/Speed key. The value enter is stored.

To activate the stitch counting function, the value of parameter „104“ must be set at “1”.

Shortly before the number of stitches entered have been sewn, the signal “WARNING 2“ appears on the display after the thread has been trimmed, also see Chapter 12.08 Warning signals.

To be able to continue sewing after the bobbin has been changed, the error elimination must be acknowledged by pressing any key on the control panel.
10 Sewing

In the sewing mode all relevant settings for the sewing operation are displayed. Functions can be switched on or off by pressing a key. Values for start and end backtacks or stitch placement can be changed directly.

In this mode a difference is made between manual sewing and programmed sewing. To change from manual to programmed sewing, press the PM key. In programmed sewing the text „PM“ appears on the display. Under the program numbers 1 – 2 seam programs are stored, which can each altered, see Chapter 10.03 Altering seam programs.

10.01 Manual sewing

After the machine has been switched on (Chapter 7.01 Main switch) and the manual sewing mode has been selected with the PM key, the display appears for entering the stitch length, also see Chapter 9.06 Entering the stitch length.

If the backtack function is switched on, the display appears for entering the backtack values, also see Chapter 9.07 Entering the start and end backtacks.

It is possible to switch from one display to the other by pressing the scroll key.

Further functions in manual sewing, also see Chapter 7.05.02 Function keys:

- Start backtacks on/off
- Roller presser raised on/off
- End backtacks on/off
- Roller presser raised at end of seam on/off
- Needle position raised on/off
- Thread trimming on/off

Sewing is carried out with the pedal functions, see Chapter 7.02 Pedal.
10.02 **Programmed sewing**

In programmed sewing seam programs (program numbers 1 and 2) can be called up and altered if necessary. These seam programs are used for the quick and easy production of seams with different stitch lengths or amounts of fullness. With the knee switch function it is possible to move to each of the 2 or 3 seams sections, also see **Chapter 7.03 Knee switch**. The seam programs are designed as cyclic running programs and are terminated with the pedal function, also see **Chapter 7.02 Pedal**.

After the machine has been switched on (Chapter 7.01 Main switch) and programmed sewing has been selected with the **PM** key, the display appears for selecting the program number, seam section and stitch length.

![Display for selecting program number, seam section and stitch length](image)

When the backtack function is activated, the display for entering the backtack values appears, also see **Chapter 9.07 Entering the start and end backtacks**.

It is possible to switch to other displays by pressing the scroll key.

![Display for entering backtack values](image)

Further functions in programmed sewing, also see **Chapter 7.05.02 Function keys**:

- **F4** Backtack suppression on/off
- **Start backtacks on/off**
- **End backtacks on/off**
- **Needle position raised on/off**
- **Roller presser raised on/off**
- **Roller presser raised after thread trimming on/off**
- **Thread trimming on/off**

Sewing is carried out with the pedal functions, see **Chapter 7.02 Pedal**.
10.03 Altering seam programs

- Switch on the machine.

- Select the programmed sewing mode with the **PM** key.

- With the corresponding +/- key select the seam program to be altered.

- With the corresponding +/- key select the seam section of the seam program which is to be altered.

- By pressing the corresponding +/- key select desired value for the stitch length of the roller presser.

- By pressing the corresponding +/- key select desired value for the stitch length of the feed wheel.

10.04 Error messages

If an error occurs, the text „ERROR“ appears on the display, together with an error code and short instructions. An error message is caused by incorrect settings, defective elements or seam programs and by overload conditions.

For an explanation of the error codes see Chapter 12.07 Explanation of the error messages.

- Eliminate the error.

- Confirm error elimination by pressing the **TE/Speed** key.
Care and maintenance

Cleaning ..................................................... daily, several times if in continuous operation
Oiling the hook .......................................................... daily, before operation
Checking the oil levels ..................................................... daily, before operation
Lubricating the bevel gears ............................................................. once a year

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

Clean the hook, hook compartment and toothed wheel 3 daily, several times if in continuous use.

Switch the machine off!
Danger of injury if the machine is started accidentally!

- Bring the needle bar to its highest position.
- Open the post cap and remove the bobbin case cap and the bobbin.
- Unscrew hook gib 1.
- Turn the handwheel until the point of bobbin case 2 penetrates into the groove of the hook race approx. 5 mm.
- Remove bobbin case 2.
- Clean the hook race with paraffin.
- When inserting the bobbin case 2, ensure that the horn of the bobbin case 2 engages in the groove of the needle plate.
- Screw hook gib 1 back on and close the post cap.

- Remove the puller cover and clean the puller gears daily, several times if in continuous operation.
11.02 Oiling the hook

Switch the machine off!
Danger of injury if the machine is started accidentally!

- Pour 1-2 drops of oil into hole 1 of the hook gib daily.
- Before commissioning the machine, and after long periods out of operation, pour a few drops of oil into the hook race (see arrow).

11.03 Checking the oil levels

Before each operation check the oil levels.

Oil must always be visible in the reserve tanks 1 and 2.

- If necessary, fill in oil through the respective hole of the reserve tank.

Use only 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 Best.-Nr. 280-1-120 144.
Switch the machine off!
Danger of injury if the machine is started accidentally!

- All bevel gears must be supplied with new grease once a year.
- Tilt the sewing head back onto the support.
- To set the sewing head upright, press tilt lock 1 backwards and set the sewing head upright using both hands.

Use both hands to set the sewing head upright!
Danger of crushing between the sewing head and the table top!

We recommend PFAFF sodium grease with a dripping point of approx. 150C, Order No. 280-1-120 243.
Adjustment

12 Adjustment

Unless stated otherwise, during all adjustment work the machine must be disconnected from the electric and pneumatic power supply!
Danger of injury if the machine is started accidentally!

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

12.02 Werkzeuge, Lehren und sonstige Hilfsmittel

- 1 set of screwdrivers with blade widths from 2 to 10 mm
- 1 set of wrenches with jaw widths from 7 to 13 mm
- 1 set of Allen keys from 1.5 to 6 mm
- 1 adjustable clamp (part no. 08-880 137 00)
- 1 metal ruler (part no. 08-880 218-00)
- 1 locking pin for needle bar rise (part no. 61-111 641-39)
- Needles, system 134-35 R
- Threads and test material.

12.03 Abbreviations

TDC = top dead center
BDC = bottom dead center
12.04 Adjusting the basic machine

12.04.01 Positioning the needle in the direction of sewing

Requirement
The needle must penetrate the middle of the needle hole as viewed in the direction of sewing.

Fig. 12-01

- Move the needle bar frame 1 (screws 2 and 3) in accordance with the requirement.

Screws 3 are accessible through the holes on the back of the housing.
**Adjustment**

12.04.02 Positioning the needle across the direction of sewing

**Requirement**
The needle must penetrate the middle of the needle hole as viewed across the direction of sewing.

- Move the feed wheel post 1 (screws 2, 3 and 4) in accordance with the requirement.

Screws 4 remain loosened for the following adjustments.
12.04.03 Preadjusting the needle height

**Requirement**
With the needle bar at TDC there must be approx. 21 mm between the point of the needle and the needle plate.

- Move the needle bar 1 (screw 2) in accordance with the requirement without turning it.
12.04.04 Needle rise, hook-to-needle clearance, needle height and needle guard

**Requirement**

When the needle bar is positioned at 2.0 mm after b.d.c.

1. The point of the hook must be pointing to the centre of the needle and have a clearance of 0.05 – 0.1 mm to the needle.
2. The top edge of the needle eye must be 0.8 – 1.00 mm below the hook point and
3. The needle guard 7 must lightly touch the needle.

- Loosen screws 1, 2, 3, 4 and 5.
- Bring the needle bar to 2.0 after b.d.c.
- Place the adjustment pin in hole 6 and apply pressure.
- Position the hook point towards the centre of the needle, taking care to ensure that the needle is not deflected by needle guard 7.
- Adjust the needle height according to **requirement 2**.
Adjustment

- Adjust the hook post according to requirement 1 and tighten screws 4.
- Taking the play of the bevel gear into account, tighten screws 2.
- Remove the adjustment pin from hole 6.
- Install the retaining collar 8 on bevel gear 9 and tighten screws 1 and 3.
- Tighten screws 5 on both sides of the post.
- Align needle guard 7 in accordance with requirement 3.

When changing the hook, care must be taken to ensure that the markings 11 and 12 are on one side.
Height and stroke of the bobbin case opener

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

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

Depending on the thread size, a variation of the setting in **Requirement 2** is permitted.
12.04.06 Height of the feed wheel

Requirement
The feed wheel should jut 0.4 mm out of the needle plate.

- Swing out the roller presser.
- Loosen screw 1.
- Adjust the eccentric (screw 3), which is accessible through hole 2, in accordance with the requirement.
- Tighten screw 1.
Adjustment

12.04.07 Clearance between roller presser and feed wheel

Requirement
When lever 1 is raised, the clearance between feed band and feed wheel should be 7 mm.

- Raise lever 1.
- Adjust the presser bar (screws 2) in accordance with the requirement, making sure that the roller presser is parallel to the feed wheel.
12.04.08  Roller presser

**Requirement**
When the roller presser 1 touches the feed wheel 6,
1. Seen in the direction of sewing, the roller presser should be parallel to the feed wheel 6,
2. Seen in the direction of sewing, the centre of the roller presser should be approx. 2 mm in front of the needle,
3. Seen crosswise to the direction of sewing, the roller presser should be as close as possible to the needle.

- Raise the roller presser 1.
- Adjust roller presser 1 (screw 2 and 3) in accordance with requirement 1 and 2.
- Adjust bracket 4 (screw 5) in accordance with requirement 3.
Adjustment

12.04.09  Puller

Requirement
The puller 1 should be positioned horizontally to the needle plate and the toothed belt of the puller should move freely.

● Adjust puller 1 (screws 2) in accordance with the requirement.
12.04.10 Tension release and tension control

**Requirement**

1. When lever 1 is raised, or when the automatic presser foot lift is activated and for materials less than 3 mm thick, the two tension disks 9 should be at least 0.5 mm apart.

2. When the roller presser is touching the material, for materials over 3 mm thick, the second thread tension unit 10 should be switched on (solenoid 6 is released).

- Raise lever 1 and adjust screw 2 (nut 3) in accordance with requirement 1.
- Raise the roller presser with the automatic presser foot lift or with the knee lever and adjust catch 4 (screw 5) in accordance with requirement 1.
- Press solenoid 6 as far as possible.
- Adjust bracket 7 (screws 8) in accordance with requirement 1.

The position of the tension release unit can be changed with parameter "308", see Chapter 12.06 Parameter settings.

The setting in requirement 2 is a basic setting, which can be changed depending on the material thickness.
12.04.11 Roller presser height level switch

**Requirement**
1. There should be a space of **approx. 1 mm** between switch 1 and retaining collar 5.
2. When the roller presser is raised **approx. 3mm** with the hand lever, the diode 6 of switch 1 should light up.

- Switch on the machine.
- Adjust switch 1 (screws 2) in accordance with **requirement 1**.
- Adjust bracket 3 (screws 4) in accordance with **requirement 2**.

The height adjustment of switch 1 defines from which material thickness the increased thread tension becomes effective. This adjustment may therefore differ depending on the material.
12.04.12 Automatic presser foot lift

**Requirement**
When solenoid 1 is activated, lever 3 should drop automatically to raise the roller presser.

- Adjust solenoid 1 (screws 2) in accordance with the requirement.
- Switch on the machine and check the requirement.
- Switch off the machine.

Depending on the material thickness, the clearance between roller presser and feed wheel can be increased up to 10 mm by moving the solenoid 1 to the right.
Requirement
The retainer 3 should just rest on the material, so that the material does not start fluttering during sewing.

- Adjust pin 1 (screw 2) according to the requirement.
12.04.14 Thread check spring

Requirements
1. The motion of the thread check spring 7 must be finished when needle point enters the material (spring stroke approx. 7 mm).
2. When the thread loop is at its largest when going around the hook, the thread check spring must raise slightly from the workpiece rack 1.

Due to technical sewing reasons it may be necessary to deviate from the spring stroke/spring strength mentioned here. Move the slack thread regulator 5 (screw 6) toward the ‘+’ (= more thread) or toward the ‘-’ (= less thread).
Adjustment

Bobbin winder

Requirements

1. With the bobbin winder on, the bobbin winder spindle must engage reliably. With the bobbin winder off, the friction wheel 5 must not engage the drive wheel 1.
2. The bobbin winder must turn off automatically when the thread level is approx. 1 mm from the edge of the bobbin.

- Move drive wheel 1 (screws 2) in accordance with requirement 1.
- Move pin 3 (screw 4) in accordance with requirement 2.
12.04.16 Roller presser pressure

**Requirement**
The material should be fed without difficulty. No pressure marks should be visible on the material.

---

Adjust screw 1 (under a cover) in accordance with the requirement.

If the roller presser pressure is low enough, the lowering speed of the roller presser can be increased with parameter "202".

The maximum pressure is 25 N.
**Requirement**
The pedal for selecting the fullness (left pedal) should be held securely in every position without being too stiff.

![Diagram showing screw 1](image_url)

- Adjust screw 1 in accordance with the **requirement**.
12.04.18 Lubrication

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

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

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

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

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

- Remove jammed thread.
- Hold coupling 1 with screw 2 and turn the balance wheel, until you feel coupling 1 snap back into place again.
12.05 Adjusting the thread trimmer –900/81

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

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

Fig. 12 - 20

- Having made sure that piston 6 is positioned against the left stop, adjust magnet 1 (2 screws) in accordance with requirement 1.
- Adjust control cam 3 (screws 4) in accordance with requirement 2.
Adjustment

12.05.02 Position of the thread catcher holder

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

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

   If requirement 2 cannot be fulfilled, loosen screw 2 and move the toothed segment 4 by one tooth.
12.05.03 Distance between thread catcher and needle plate

**Requirement**
During its swivel movement thread catcher 1 should not pass the edge of the needle plate (see arrow).

- Move thread catcher 1 (screws 2, **two screws**) parallel to the thread catcher holder in accordance with the **requirement**.
Position of the thread catcher

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

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

Thread catcher 1 must be parallel to the surface of the thread catcher holder 4.
12.05.05 Knife position and knife pressure

**Requirement**
1. The knife 1 should be touching the needle plate.
2. The knife pressure should be set as low as possible but the cutting operation should still be carried out reliably.

![Diagram](image_url)

- Move knife 1 (screws 2) in accordance with requirement 1 or swivel it in accordance with requirement 2.
**Adjustment**

12.05.06  Bobbin thread retaining spring

**Requirement**
1. The bobbin thread clamp spring should be guided reliably in the thread groove of the thread catcher 3.
2. The tension of the bobbin thread spring clamp should be as low as possible, but the bobbin thread should be held reliably after the cutting operation.

- Adjust bobbin thread clamp spring 1 (screws 2) in accordance with requirement 1.
- Adjust the tension in accordance with requirement 2 by bending side 4 of the bobbin thread clamp spring 1.

**Control – requirement 1**
- Switch off the machine and bring the take-up lever to its b.d.c.
- Engage and disengage the thread catcher 3 by hand and check requirement 1. Adjust if necessary.

**Control – requirement 2**
- After the thread has been cut, sew a few stitches by turning the balance wheel, checking whether the bobbin thread is drawn out of the bobbin thread clamp spring between the 1st and 3rd stitches. If necessary, correct the tension.
**Manual cutting test**

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

- Sew a few stitches.
- Turn off the on/off switch.
- Carry out the cutting operation manually.
- Check requirement 1 and 2, and if necessary readjust thread catcher 1 in accordance with Chapter 12.05.04 Position of the thread catcher.
- Check requirement 3, and if necessary readjust the bobbin thread retaining spring 2 in accordance with Chapter 12.05.06 Bobbin thread retaining spring.
12.06 Parameter settings

12.06.01 Overview of the parameter functions

By pressing the **TE/Speed key** twice the input mode is called up. From the following parameter groups parameters can be called up and altered. With a code the parameter groups can be protected against unauthorised access.

2x **TE/SPEED**

Select parameter group (appropriate +/- key)

- 100 Operator level
- 200 Mechanic level
- 300 Sewing motor positions
- 400 Times
- 500 Counters and speeds
- 600 Service
- 700 Sewing motor
- 800 Access rights
12.06.02 Parameter input example

- Switch on the machine

2x TE/Speed
- Select input mode by pressing TE/Speed key twice.

No
- Select parameter group “500” by pressing the corresponding +/- key.

No
- Confirm selection by pressing the corresponding +/- key.
- Enter the code number, see Chapter 9.08 Entering/changing the code number.

No
- Select the desired parameter, e.g. “501” by pressing the corresponding +/- key.

VAL
- Set the desired parameter value by pressing the corresponding +/- key.

TE/Speed
- By pressing the TE/speed key, the value is taken over and the machine changes to the sewing mode.
The operator has free access to the “100” parameters. Parameters “200” – “800” can only be changed after entering a code number and many only be changed by authorised personnel.

<table>
<thead>
<tr>
<th>Group</th>
<th>Parameter</th>
<th>Description</th>
<th>Setting</th>
<th>Set value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>101</td>
<td>Start backtack, pedal-controlled (I = OFF, II = ON)</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>102</td>
<td>Reversing (I = OFF, II = ON)</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>103</td>
<td>Stitch placement (I = OFF, II = ON)</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td></td>
<td>104</td>
<td>Bobbin thread monitoring (0 = OFF, 1 = reverse counter, 2 = thread monitor)</td>
<td>0 - 2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>105</td>
<td>Bobbin thread reverse counter</td>
<td>0 - 99999</td>
<td>12000</td>
</tr>
<tr>
<td></td>
<td>106</td>
<td>Remaining bobbin thread counter</td>
<td>0 - 999</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>107</td>
<td>Maximum stitch length of fullness pedal (mm)</td>
<td>0.8 - 6.5</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>108</td>
<td>Display software version of main processor</td>
<td>0329/...</td>
<td></td>
</tr>
<tr>
<td></td>
<td>110</td>
<td>Display software version of the control panel</td>
<td>V004H202</td>
<td></td>
</tr>
<tr>
<td></td>
<td>111</td>
<td>Display software version of the sewing drive</td>
<td>V35</td>
<td></td>
</tr>
<tr>
<td></td>
<td>112</td>
<td>Key tone of the control panel (I = off, II = on)</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td></td>
<td>113</td>
<td>Horn for section change (I = off, II = on)</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>202</td>
<td>Lowering speed roller presser (I = slow, II = quick)</td>
<td>II</td>
<td></td>
</tr>
<tr>
<td></td>
<td>203</td>
<td>Puller (I = OFF, II = ON)</td>
<td>I</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>301</td>
<td>Position take-up lever t.d.c</td>
<td>0 – 127</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>302</td>
<td>Position needle lowered</td>
<td>0 - 127</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>303</td>
<td>Position cutting solenoid “on”</td>
<td>0 - 127</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>304</td>
<td>Position cutting solenoid “tacting”</td>
<td>0 - 127</td>
<td>103</td>
</tr>
<tr>
<td></td>
<td>305</td>
<td>Position cutting solenoid “off”</td>
<td>0 – 127</td>
<td>123</td>
</tr>
</tbody>
</table>
## Adjustment

<table>
<thead>
<tr>
<th>Group</th>
<th>Parameter</th>
<th>Description</th>
<th>Setting range</th>
<th>Set value</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>306</td>
<td>Reverse position</td>
<td>0 – 127</td>
<td>103</td>
</tr>
<tr>
<td></td>
<td>307</td>
<td>Placement stitch position</td>
<td>0 – 127</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>308</td>
<td>Position thread tension release</td>
<td>0 – 127</td>
<td>101</td>
</tr>
<tr>
<td>4</td>
<td>401</td>
<td>Delay time lifting roller presser [s]</td>
<td>0.01 – 1.50</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>402</td>
<td>Start delay after lowering roller presser [s]</td>
<td>0.01 – 1.50</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>403</td>
<td>Set lift roller presser [s]</td>
<td>0.01 – 0.20</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>404</td>
<td>Tact thread cutting solenoid (%)</td>
<td>10 - 50</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>405</td>
<td>Time for cleaning thread monitor [s]</td>
<td>0.01 - 1.50</td>
<td>0.25</td>
</tr>
<tr>
<td>5</td>
<td>501</td>
<td>Maximum speed</td>
<td>100 – 3500</td>
<td>3500</td>
</tr>
<tr>
<td></td>
<td>502</td>
<td>Speed start backtack</td>
<td>100 – 1500</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td>503</td>
<td>Speed end backtack</td>
<td>100 – 1500</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td>504</td>
<td>Speed soft start</td>
<td>100 – 3500</td>
<td>1500</td>
</tr>
<tr>
<td></td>
<td>505</td>
<td>Soft start stitches</td>
<td>0 – 15</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>601</td>
<td>Move stepping motor roller presser and feed wheel</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>602</td>
<td>Display inputs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0123456789ABCDEF</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>0: not assigned (E16)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1: not assigned (E15)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2: Coding intermittent (E14)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3: not assigned (E13)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4: not assigned (E12)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5: not assigned (E11)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>6: not assigned (E10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>7: not assigned (E9)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>8: not assigned (E8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>9: Bobbin thread error (E7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>A: Knee switch (E6)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>B: not assigned (E5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>C: not assigned (E4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>D: not assigned (E3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>E: not assigned (E2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>F: not assigned (E1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>603</td>
<td></td>
<td>Basic position of the machine drive unit (see Chap. 8.02.04)</td>
<td></td>
<td>11 ± 2</td>
</tr>
<tr>
<td>604</td>
<td></td>
<td>Carry out cold start (see Chap. 12.09)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>605</td>
<td></td>
<td>Stitch formation check by turning the balance wheel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Adjustment

<table>
<thead>
<tr>
<th>Group</th>
<th>Parameter</th>
<th>Description</th>
<th>Setting range</th>
<th>Set value</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>701</td>
<td>P-quota speed controller</td>
<td>1 – 50</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>702</td>
<td>I-quota speed controller</td>
<td>0 – 100</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>703</td>
<td>P-quota position controller</td>
<td>1 – 50</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>704</td>
<td>D-quota position controller</td>
<td>1 – 100</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>705</td>
<td>Time for position controller</td>
<td>0 – 100</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>706</td>
<td>P-quota position controller for rest brake</td>
<td>1 – 50</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>707</td>
<td>D-quota position controller for rest brake</td>
<td>1 – 50</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>708</td>
<td>Maximum moment for rest brake</td>
<td>0 – 100</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>709</td>
<td>Minimum machine speed</td>
<td>3 – 64</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>710</td>
<td>Maximum machine speed</td>
<td>1 – 35</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>711</td>
<td>Maximum motor speed</td>
<td>1 – 35</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>712</td>
<td>Positioning speed</td>
<td>3 – 25</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>713</td>
<td>Acceleration ramp</td>
<td>1 – 50</td>
<td>35</td>
</tr>
<tr>
<td></td>
<td>714</td>
<td>Brake ramp</td>
<td>1 – 50</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>715</td>
<td>Reference position</td>
<td>0 – 127</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>716</td>
<td>Time-out</td>
<td>0 – 255</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>717</td>
<td>Starting current motor</td>
<td>3 – 10</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>718</td>
<td>Anti-vibration filter</td>
<td>1 – 10</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>719</td>
<td>Rotation direction allocation</td>
<td>0 – 1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>720</td>
<td>Reference position correction</td>
<td>0 – 127</td>
<td>64</td>
</tr>
<tr>
<td>8</td>
<td>801</td>
<td>Right of access function group 100</td>
<td>0 – 1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>802</td>
<td>Right of access function group 200</td>
<td>0 – 1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>803</td>
<td>Right of access function group 300</td>
<td>0 – 1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>804</td>
<td>Right of access function group 400</td>
<td>0 – 1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>805</td>
<td>Right of access function group 500</td>
<td>0 – 1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>806</td>
<td>Right of access function group 600</td>
<td>0 – 1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>807</td>
<td>Right of access function group 700</td>
<td>0 – 1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>808</td>
<td>Right of access function group 800</td>
<td>0 – 1</td>
<td>1</td>
</tr>
</tbody>
</table>
## Adjustment

### Group Parameter Description Setting Set Range

<table>
<thead>
<tr>
<th>Group</th>
<th>Parameter</th>
<th>Description</th>
<th>Setting range</th>
<th>Set value</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>809</td>
<td>Right of access program creation</td>
<td>0 – 1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>810</td>
<td>Enter access code</td>
<td>0 - 9999</td>
<td>1500</td>
</tr>
</tbody>
</table>

### 12.07 Explanation of the error messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Error 1</td>
<td>System error</td>
</tr>
<tr>
<td>Error 2</td>
<td>Sewing motor</td>
</tr>
<tr>
<td>Error 3</td>
<td>Section</td>
</tr>
<tr>
<td>Error 4</td>
<td>End of section</td>
</tr>
<tr>
<td>Error 5</td>
<td>Pedal activated when machine switched on</td>
</tr>
<tr>
<td>Error 6</td>
<td>Communication error with stepping motor processor</td>
</tr>
<tr>
<td>Error 7</td>
<td>End of ramp</td>
</tr>
<tr>
<td>Error 8</td>
<td>End position of needle drive not found</td>
</tr>
<tr>
<td>Error 9</td>
<td>Centre position of needle drive not found</td>
</tr>
<tr>
<td>Error 10</td>
<td>Error of stepping motor processor</td>
</tr>
<tr>
<td>Error 11</td>
<td>Stepping motor stepping frequency too high</td>
</tr>
<tr>
<td>Error 12</td>
<td>Error in sewing start deflection</td>
</tr>
<tr>
<td>Error 13</td>
<td>Error in docu-seam system</td>
</tr>
<tr>
<td>Error 14</td>
<td>Incorrect program number ( larger than 99 )</td>
</tr>
<tr>
<td>Error 15</td>
<td>Incorrect section number</td>
</tr>
<tr>
<td>Error 16</td>
<td>Memory full</td>
</tr>
<tr>
<td>Error 17</td>
<td>Incorrect stitch length</td>
</tr>
<tr>
<td>Error 18</td>
<td>Interface to external controller</td>
</tr>
<tr>
<td>Error 19</td>
<td>Power supply unit overloaded</td>
</tr>
<tr>
<td>Error 20</td>
<td>Mains voltage</td>
</tr>
<tr>
<td>Error 21</td>
<td>Power supply 24V too high/too low</td>
</tr>
</tbody>
</table>

### 12.08 Warning messages

<table>
<thead>
<tr>
<th>Message</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warning 2</td>
<td>Bobbin thread error</td>
</tr>
</tbody>
</table>
12.09 Carrying out a cold start

- Switch on the machine.

2x Press the TE/Speed key twice to select the input mode.

- Select parameter group “600” by pressing the corresponding +/- key.

- Confirm selection by pressing the corresponding +/- key.

- Enter the code number, see Chapter 9.08 Entering/changing the code number.

- Select parameter “604” by pressing the corresponding +/- key.

- Carry out cold start by pressing the corresponding +/- key.

- Switch off the machine.

After a cold start all programmed values are reset to their status at the time of delivery.
12.10 Internet update of the machine software

The machine software can be updated with PFAFF flash programming. For this purpose the PFP boot program and the appropriate control software for the machine type must be installed on a PC. To transfer the data to the machine, the PC and the machine control unit must be connected with an appropriate null modem cable (part no. 91-291 998-91).

The PFP boot program and the control software of the machine type can be downloaded from the PFAFF-homepage using the following path:
www.pfaff-industrial.de/pfaff/de/service/downloads

To update the machine software carry out the following steps:

While the machine software is being updated, no setting up, maintenance or adjustment work may be carried out on the machine!

- Switch off the machine.
- Connect the PC (serial interface or appropriate USB-adapter) and the machine control unit (RS232). To do so disconnect the plug of the control panel.
- Switch on the PC and start the PFP boot program.
- Select the machine type.
- Press the "programming" button.
- Hold down boot key 1 and switch on the machine.
- Press the "OK" button.

The software update is carried out, the update progress is shown on the bar display of the PFP boot program.
- During the up-dating procedure the machine must not be switched off.
- When the update has been completed, switch off the machine and end the PFP boot program.
- End the connection between the PC and the machine control unit and reconnect the control panel to the machine control unit.
- Switch on the machine.
  A plausibility control is carried out and, if necessary, a cold start.

More information and assistance is at your disposal in the file "PFPHILFE.TXT", which can be called up from the PFP boot program by pressing the "help" button.
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/pfaff/en/service/downloads](http://www.pfaff-industrial.com/pfaff/en/service/downloads) As an alternative to the internet download the parts lists can also be ordered in book form under part no. 296-12-18 935.
Wearing parts

For Subclass -900/81

91-263 139-05
11-130 092-15 (2x)
12-315 080-15 (2x)
11-108 846-15 (2x)
91-263 348-05
11-108 093-15 (2x)
91-263 294-05

99-137 151-45

91-171 049-05
91-171 042-05
95-774 464-25
91-700 996-15
# Circuit diagrams

## Reference list for circuit diagrams

<table>
<thead>
<tr>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Controller Quick P 320MS</td>
</tr>
<tr>
<td>A2</td>
<td>Control panel S2</td>
</tr>
<tr>
<td>A14</td>
<td>Sewing head identification (OTE)</td>
</tr>
<tr>
<td>B10</td>
<td>Initiator material height</td>
</tr>
<tr>
<td>H1</td>
<td>Sewing lamp</td>
</tr>
<tr>
<td>H20</td>
<td>LED Stitch counter (option)</td>
</tr>
<tr>
<td>M1</td>
<td>Sewing motor</td>
</tr>
<tr>
<td>M2</td>
<td>Stepping motor feed wheel</td>
</tr>
<tr>
<td>M3</td>
<td>Stepping motor roller presser</td>
</tr>
<tr>
<td>M45</td>
<td>Pullermotor</td>
</tr>
<tr>
<td>Q1</td>
<td>Main switch</td>
</tr>
<tr>
<td>R45</td>
<td>Resistance 330 ohm</td>
</tr>
<tr>
<td>S1</td>
<td>Pedal set value transmitter</td>
</tr>
<tr>
<td>S2</td>
<td>Pedal 2 Fullness</td>
</tr>
<tr>
<td>S21</td>
<td>Manual backtacking key (option)</td>
</tr>
<tr>
<td>S22</td>
<td>Single stitch switch (option)</td>
</tr>
<tr>
<td>S23</td>
<td>Needle position change switch (option)</td>
</tr>
<tr>
<td>S24</td>
<td>Start inhibitor switch</td>
</tr>
<tr>
<td>S26</td>
<td>Knee switch (program)</td>
</tr>
<tr>
<td>XP1</td>
<td>Pedal set value transmitter</td>
</tr>
<tr>
<td>XP2</td>
<td>Pedal 2 Fullness</td>
</tr>
<tr>
<td>X1</td>
<td>Mains plug</td>
</tr>
<tr>
<td>X1A</td>
<td>RS232 – interface 1 (Control panel BDF S2)</td>
</tr>
<tr>
<td>X1B</td>
<td>VSS Sewing head identification</td>
</tr>
<tr>
<td>X3</td>
<td>Incremental transmitter (sewing motor)</td>
</tr>
<tr>
<td>X4A</td>
<td>Stepping motor feed wheel</td>
</tr>
<tr>
<td>X4B</td>
<td>Stepping motor roller presser</td>
</tr>
<tr>
<td>X5</td>
<td>Inputs</td>
</tr>
<tr>
<td>X8</td>
<td>Sewing motor</td>
</tr>
<tr>
<td>X11B</td>
<td>Pedal set value transmitter and fullness</td>
</tr>
<tr>
<td>X13</td>
<td>Outputs</td>
</tr>
<tr>
<td>X20</td>
<td>Stepping motor feed wheel</td>
</tr>
<tr>
<td>X21</td>
<td>Stepping motor roller presser</td>
</tr>
<tr>
<td>X30</td>
<td>Initiator material height</td>
</tr>
<tr>
<td>X31</td>
<td>Key row</td>
</tr>
<tr>
<td>X34</td>
<td>Start inhibitor</td>
</tr>
<tr>
<td>X36</td>
<td>Knee switch (program)</td>
</tr>
<tr>
<td>X41</td>
<td>-910/. Automatic presser foot lift</td>
</tr>
<tr>
<td>X42</td>
<td>-900../../Thread trimmer</td>
</tr>
<tr>
<td>X43</td>
<td>Thread tension 2</td>
</tr>
<tr>
<td>X44</td>
<td>Thread tension 1</td>
</tr>
<tr>
<td>X45</td>
<td>R45 Resistor + Pullermotor</td>
</tr>
<tr>
<td>Y1</td>
<td>-910/. Automatic presser foot lift</td>
</tr>
<tr>
<td>Y2</td>
<td>-900/.Thread trimmer</td>
</tr>
<tr>
<td>Y3</td>
<td>Thread tension 2</td>
</tr>
<tr>
<td>Y4</td>
<td>Thread tension 1</td>
</tr>
</tbody>
</table>
Schrittmotore

Schiebepad

1 7

2 8

3 9

4 10

P320 MS X4A

P320 MS X4B

Steuergerät A1 Quick P320MS

9 poliger D-Sub Buchse

1 Phase 1A

2 Phase 1B

3 Phase 2A

4 Phase 2B

X20

X21

9 poliger D-Sub Stecker

1 Phase 1B

2 Phase 1A

3 Phase 2A

4 Phase 2B

SM

2

M2

M3

Reiffuß

SM

2

General plan - circuit diagrams
Version 25.08.05
91-191 442-95 Part 2
Ausgänge
25 poliger D-Sub

Steuergert A1
Quick P320MS

Rollfu3 heben
Fadenschneider
Fadenspannung 2
Fadenspannung 1
Pullermotor
PFAFF Industrie Maschinen AG

Postfach 3020
D-67653 Kaiserslautern

Königstr. 154
D-67655 Kaiserslautern

Telefon: (0631) 200-0
Telefax: (0631) 17202
E-Mail: info@pfaff-industrial.com

Gedruckt in der BRD
Printed in Germany
Imprimé en R.F.A.
Impreso en la R.F.A.