

3811 -3/55; -15/65; -16/65

INSTRUCTION MANUAL

This instruction manual applies to machines from the serial number **2 792 321** and software version **0352/013** onwards.

296-12-18 591/002 Instruction Manual engl. 07.17



This instruction manual applies to all models and subclasses listed in Chapter 3 Technical Data.

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1 Safety

1.01 Directives

The machine was built in compliance with the European regulations specified in the declaration of conformity and declaration of incorporation.

As a supplement to this instruction manual, please also observe the generally applicable, legal and other regulations and legislation – also in the country of use – and the valid environmental protection regulations! Always comply with the locally applicable regulations of the professional associations and other supervisory authorities!

1.02

General safety instructions

- The machine may only be operated after you have become acquainted with the associated instruction manual and only by operating personnel who have received appropriate training!
- Always read the safety instructions and the instruction manual of the motor manufacturer before starting up the machine!
- Always follow the hazard and safety instructions attached to the machine!
- The machine may only be operated for its intended purpose and only with the associated safety covers, while adhering to all the relevant safety requirements.
- The machine must always be disconnected from the power supply by pressing the main switch or pulling out the mains plug when sewing tools are replaced (such as the needle, presser foot, needle plate and bobbin) and when threading, leaving the workstation, or performing maintenance!
- The daily maintenance work may only be carried out by suitably qualified personnel!
- Repairs and special maintenance work may only be carried out by technical staff or people with appropriate training!
- Work on electrical equipment may only be carried out by qualified technical staff!
- Work on parts and equipment under voltage is not permitted!
- Exceptions are regulated by the EN 50110 standards.
- Modifications and changes to the machine may only be made in compliance with all of the relevant safety requirements!
- Only the replacement parts approved by us for usage may be used for repairs! We warn you expressly that spare parts and accessories that are not supplied by us are also not tested and approved by us.

Fitting or using these products may therefore have negative effects on features which depend on the machine design. We are not liable for any damage caused by the use of non-Pfaff parts.

Safety

1.03

Safety symbols



Hazard point! Special points of attention.

Electric voltage! Danger to operating personnel or technical staff

Risk of injury to operating personnel or technical staff!



Danger of hands being crushed!

Danger to operating personnel or technical staff



Caution!

Do not operate without finger guard and safety covers! Turn off the main switch before threading, changing the bobbin or needle, cleaning, etc.!

1.04

Special points of attention for the owner-operator

- This instruction manual is a part of the machine and must be made available to the operating personnel at all times. The instruction manual must have been read before the initial start-up.
- The operating personnel and technical staff must be instructed about the machine's safety covers and about safe working methods.
- The owner-operator may only operate the machine in a flawless condition.
- The owner-operator must ensure that no safety covers are removed or disabled.
- The owner-operator must ensure that only authorised persons work on the machine.

Additional information can be requested from the responsible sales centre.

1.05 Operating personnel and technical staff

1.05.01 Operating personnel

Operating personnel are persons responsible for equipping, operating and cleaning the machine and for fault clearance in the sewing area.

The operating personnel are obligated to comply with the following points:

- The safety instructions provided in the instruction manual must be followed for all work!
- Any work method jeopardising machine safety must be refrained from!
- Tight-fitting clothing must be worn. The wearing of jewellery such as chains and rings is prohibited!
- Care must be taken to ensure that no unauthorised persons are located in the machine's hazard zone!
- Any changes occurring on the machine which impair its safety must be reported to the owner-operator immediately!

1.05.02 Technical staff

Technical staff are persons with technical training in electricity/electronics and mechanics. They are responsible for lubricating, servicing, repairing and adjusting the machine.

The technical staff are obligated to comply with the following points:

- The safety instructions provided in the instruction manual must be followed for all work!
- Turn off the main switch and secure it against reactivation before starting any adjustment and repair work!
- Never work on live parts and equipment!
 Exceptions are regulated by the EN 50110 standards.
- Reattach the safety covers following repair and maintenance work!

Safety

1.06

Danger warnings



A work area of 1 m must be kept free in front of and behind the machine during operation to ensure unobstructed access at all times.



Do not reach into the needle range during the sewing operation! Risk of injury from the needle!



Do not allow any objects to be placed on the table during the adjustment work! The objects could become jammed or be slung away! Risk of injury from parts flying around!





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



Do not operate the machine without the finger guard 2! Risk of injury from the needle!



Do not operate the machine without the belt guard 3 and 4! Risk of injury due to the rotating driving belt!



Do not operate the machine without the anti-tipping device 5!



Risk of injury from crushing between the sewing head and the table top!



Do not operate the machine without the support 6! Risk of damage due to the top-heavy sewing head! Machine can tip over backwards when moving it!



Do not operate machines with edge trimmer without finger guard 7! Do not reach into the cutting area between the needle plate and the blade! Risk of injury due to the cutting motion of the blade!

Proper Use

Proper Use

2

The **PFAFF 3811-3/55 is** an integrated work station that is used in the shoe industry for the incorporation of fullness into one material layer.

The **PFAFF 3811-15/65 is** an integrated work station that is used in the upholstery industry for the incorporation of fullness into one material layer.

The **PFAFF 3811-16/65** is an integrated work station that is used in the upholstery industry for the incorporation of fullness into one material layer while simultaneously trimming the material edge.



Any usage not approved by the manufacturer is deemed misuse! The manufacturer shall assume no liability for damage caused by misuse! Proper use also includes compliance with the operating, maintenance, adjustment and repair measures specified by the manufacturer!

Technical Data

3	Technical Data	
3.01	PFAFF 3811	
	Stitch type:	:h)
	Needle system:	
	3811-15/65; 3811-16/65:	35
	3811-3/55	(D
	Needle size in 1/100 mm	10
	Basic stitch length:	
	3811-3/552.2 m	m
	3811-15/65; 3811-16/65:	m
	Differential feed - feed motion	
	3811-3/552.2 - 6.5 m	m
	3811-15/65; 3811-16/65:4.0 - 8.0 m	m
	Speed max.:	ן •
	Clearance beneath the presser foot:	
	3811-3/557 m	m
	3811-15/65; 3811-16/65:1 m	m
	Sewing head dimensions	
	Length:approx. 1250 m	m
	Width:approx. 600 m	m
	Height (with spool holder):approx. 1700 m	m
	Working air pressure:6 b	ar
	Air consumption:0,3 - 0,5 / work cyc	le
	Connection data:	
	Operating voltage:	Ηz
	Max. input power:	/Α
	Fuse protection:1 x 16 A, ine	ərt
	Noise data:	
	Emissions sound pressure level in the workplace at n = 2600 min ⁻¹ : $L_{pA} = 79 \text{ dB}(A)$	
	(Noise measurement in accordance with DIN 45 635-48-A-1,	
	ISO 11204, ISO 3744, ISO 4871)	
	Net weight: approx. 97	kg
	Gross weight: approx. 132	kg
	 Subject to alterations 	
	 Depending on the material, workstep and stitch length 	
	■ K _{oA} = 2,5 dB	

Disposal of the Machine

- It is up to the customer to dispose of the machine properly.
- The materials used for the machine include steel, aluminium, brass and various plastics. The electrical equipment consists of plastics and copper.
- The machine must be disposed of in accordance with the locally valid environmental protection regulations, with a specialised company being contracted if necessary.



4

Please ensure that parts coated with lubricants are disposed of separately in accordance with the locally valid environmental protection regulations!

Transportation, Packaging and Storage

5 Transportation, Packaging and Storage

5.01 Transport to the customer's premises

All machines are completely packed for delivery.

5.02 Transportation within the customer's premises

The manufacturer assumes no liability for transport within the customer's premises or to the individual usage sites. Please ensure that the machines are only transported in a vertical position.

5.03 Disposal of the packaging materials

The packaging materials of these machines consists of paper, cardboard and VCI fleece. It is up to the customer to dispose of the packaging properly.

5.04 Storage

The machine can be stored for up to 6 months when not in use. It must then be protected from dirt and moisture. For longer storage periods, the machine's single components, especially its sliding surfaces, must be protected against corrosion, e.g. by an oil film.

6 Work Symbols

Activities to be performed or important information in this instruction manual are emphasised by symbols. The symbols used have the following meaning:





Cleaning, care



Lubrication



Maintenance, repairs, adjustment, service work (only to be carried out by technical staff)

Operating Controls



7.02 Pedal



- With the main switch turned on
 - 0 = Neutral position
 - +1 = presser foot raised / feed bridle tape
 - +2 = Sewing
 - 1 = Raise presser foot
 - -2 = Thread trimming (Option)/ need up/edge knife off (if parameter 210 is at "ON", see Chapter 13.07 Parameter settings)





Turning the hand lever 1 raises the presser foot.

7.04 Knee switch



When sewing with fixed programs:

 Actuating the knee switch 1 switches between two predefined fullness settings

With programmed sewing:

 By actuating the knee switch 1, the fullness is switched according to the program specification.

Operating Controls

7.05 Edge guide (only with PFAFF 3811-3/55 and PFAFF 3811-15/65)



- By pushing down lever 1 the edge guide is switched on.
- By lifting lever 1 the edge guide is switched off.

7.06 Lever for releasing thread tension



Press down lever 1 to release thread tension.

7.07 Keypad

Keypad 1 is used to quickly operate the machine during sewing. Each key can be assigned an individual fullness value, see **Chapter 9.05 Input fullness**. By means of the respective light-emitting diode of the **20** keys, activated key functions are displayed (function activated = luminous diode).



Numeric keys (0 - 15)

• The pre-assigned fullness value is retrieved by pressing the key.

The corresponding average value is called by pressing two adjacent numeric keys at the same time.



In the basic setting of the keypad, the set range is divided into 15 sub-steps from "0" to "max." The basic setting is e.g. after a cold start, see Chapter 13.13 Cold start.

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Tape brake (option)

The tape brake is switched on or off by pressing the key. When the belt brake is engaged, the gathering of the material is enhanced.

Edge trimmer

The edge trimmer device is switched on or off by pushing the key.



Correction value +/correction value -

By pressing the key the value for the multiple width is increased or decreased by 2 steps.

Operating Controls





The current operating statuses are indicated on the control panel **1**. The machine is operated with constant dialogue between the control unit and the operator; different pictograms and / or texts are displayed for this purpose according to the operating status of the machine. Pictograms or texts with a border represent

functions that can be called up by pressing on the respective point on the monitor. Pressing the respective function causes its immediate actuation or activation/deactivation or another menu will appear, e.g. for entering a value. Activated functions are indicated by pictograms shown inversely. Apart from the bobbin change function, the pictograms and texts without border are only for display purposes and cannot be called up by pressing them. SD card **2** in the control panel can be used to import seam programs.

Presentation of functions



Normal pictogram = Function deactivated (inactive) Inverse pictogram = Function activated (active)



The machine may only be set up and started up by qualified personnel! All of the relevant safety regulations must always be complied with in this process! If the machine was delivered without a table, then the stand and the table top

provided must safely support the weight of the machine and its motor.

Adequate stability of the stand must be guaranteed, even during the sewing operations.

8.01 Set-up

8

Suitable electrical supply connections must be provided at the erection site, see **Chapter 3 Technical data.** The erection site must also have a firm and level subsurface and adequate lighting.



The table top is lowered for packaging purposes. The adjustment of the table height is described below.

8.01.01 Setting the table height



• Loosen the screws 1 and 2

Move the table top to the desired working height by pulling it out and pushing it in and align the table top horizontally.



Adjust the stand on both sides evenly to prevent it tilting.

- The stand must have all four feet firmly on the ground to make sure it is positioned securely.
- Firmly tighten the screw 1.
- Adjust and tighten the desired pedal position on the screws 2.

8.01.02 Tension v-belt



- Fit the V-belt.
- Loosen the nut **1** and tension the V-belt by turning the motor bracket **2** out of position.
- Tighten nut 1.

8.01.03 Mounting the upper V-belt guard



- Screw in screws 1 and 2.
- Screw in screw 3 together with spacing bush 4.
- Slide belt guard halves 5 with their slots behind the heads of the screws 1 and 3.
- Gently tighten screw 1.
- Take note that the lug of the belt guard half 6 is located between belt guard half 5 and spacing bush 4, align the complete belt guard and tighten screws 1, 2 and 3.

8.01.04 Mounting the lower V-belt pulley



- Loosen screws 2 and align the belt guard bracket 1 so that the motor pulley and v-belt run freely.
- Tighten screws 2.
- Secure the belt guard 3 with screw 4

8.01.05 Fitting the position sensor



- Attach the position finger 1 with the screws 2.
- Slide the synchroniser 3 onto the shaft so that the position finger 1 is positioned in the groove of the synchroniser 3, see arrow.
- Gently tighten the screws 4.
- Insert the synchroniser plug on the female coupling of the control box.
- Set synchroniser 3, see Chapter 13.05.01 Home position of the machine.

8.01.06 Connecting the plug-in connections and ground cable





Insert all plugs on the control box 1 in accordance with their designation.

Insert the "motor" into the bushing X 3 and the bushing X 8.



Caution

Inserting the plug incorrectly can damage the control unit!

• Attach the following ground cables in order to discharge static electricity

- Securely attach ground cable from sewing head to ground point A.
- Securely attach the ground cable from the control point **B** to ground point **B**.
- Securely attach the ground cable from the main switch 3 to ground point C.
- Securely attach the ground cable from the stand 4 to ground point D.
- Securely attach the ground cable 5 from the motor to ground point E.

8.01.07 Assembling the reel stand



Assemble the reel stand as shown in the adjacent illustration.

- Then insert the stand into the
- hole in the table top and secure it with the enclosed nuts.

8.01.08 Mounting the control panel on the table top



- Mount control panel bracket 1 on table plate 4 with screws 2 and washers 3.
- Screw control panel 5 to control panel bracket 1 with screws 6.
- Connect the connecting cable 7 to the control unit together with the control panel 5 and the provided plug-in connection.

8.02 Initial commissioning





Before initial commissioning, remove the protective film from the sight glass **1**.

- Clean the machine thoroughly and then check the oil level, see Chapter 12 Maintenance and Care.
- Inspect the machine, particularly the electric cable, for any damage.
- Arrange for technical staff to check whether the machine's motor may be operated at the existing mains voltage and whether it is connected properly.



Never operate the machine if there are any differences.



The machine must only be connected to a grounded socket!

- With the machine running, the handwheel must turn towards the operator, otherwise arrange for technical staff to adjust the motor, see **Chapter 13.07 Parameter settings**.
- For machines with pneumatic devices, the machine must be connected to the compressed air system. The manometer should show a pressure of 6 bar. Or set this value (see Chapter 12.04 Checking/setting the air pressure).

8.03 Switching the machine on/off

- Switch machine on and off (see Chapter 7.01 Main switch).
- Perform test run

Set-up



Observe and comply with all regulations and instructions in this instruction manual.

Pay particular attention to all safety regulations!



All set-up work may only be carried out by appropriately instructed personnel. Disconnect the machine from the electricity mains for all set-up work by operating the main switch or by removing the mains plug!

9.01

9

Inserting the needle



Switch off the machine! Risk of injury due to accidental machine start-up!



Only use needles of the system intended for the machine, see Chapter 3 Technical Data!

Bring the needle bar to the top position.

 Loosen the screw 1 and insert the needle 2 until you feel it stop. The long groove must point forwards.

• Tighten the screw 1.

Set-up

9.02 Threading the needle/adjusting the needle thread





Switch off the machine! Risk of injury due to accidental machine start-up!

- Thread the needle as shown in Fig. 9-02.
- Adjust the needle thread tension by turning the knurled thumb screw 1.

9.03 Threading the looper thread/adjusting the looper thread





Switch off the machine! Risk of injury due to accidental machine start-up!

• Open the looper compartment cover and swing out the thread guide plate1.

• Thread the looper thread according to Fig. 9-03 and 9 - 09 and pull it under guide plate 2.

• Use tweezers **3** to thread in the looper.

• Adjust the looper thread tension by turning the knurled thumb screw 4.

Set-up

9.04

Selecting program numbers

• Switch the machine on.



• Call up the menu to input the program number.



• Select the desired program number.

Enter

• Confirm the selection and leave the selection menu.



The selection of the program number determines the type of sewing, see **Chapter 10 Sewing**.

Program number 0: Program numbers 1 and 2: Program numbers 3 to 49: Manual sewing Sewing with fixed programs Programmed sewing



Or enter the current fullness value of a numeric key (0 - 15) of the keypad.
 To do this, press and hold down the desired key until a sound is heard.

Set-up



2

0

1

+/-

3

▼

Esc

Enter



Adopt input code number





The code input remains saved until the machine is switched off by the main switch. Provided that the machine is not turned off, all parameters can be accessed without re-entering the template code.



Call up parameter '810'.



3800

Call up the input menu for the code number and enter the desired code number.

CODE 3811				
0 - 9999	-[7]	8	9	Clear ⊢
	4	5	6	
	1	2	3	
	+/-	0		Esc
				Enter
l				

Enter

Adopt new code number.

Conclude input.



Remember the code!

Protected functions cannot be called up without the corresponding code! In this case request support from the PFAFF service centre.

Set-up



PFAFF[®]Industrial

10 Sewing

In sewing mode, all settings relevant to the sewing process are shown on the display and can be altered there directly using the corresponding function.

In the sewing mode a difference must be made between manual sewing, sewing with fixed programs and programmed sewing.

The selection is made by selecting the corresponding program number:

- 0: Manual sewing
- 1 and 2: Sewing with fixed programs
- 3 to 49: Programmed sewing

(with up to 15 seam zones for left and right seams)

10.01 Manual sewing

In manual sewing, the values for the width and the target stitching position are displayed on the control panel during sewing and can be changed directly by means of the corresponding function, such as the functions at the seam end, the material type as well as the needle and foot positions.

Switch on the machine and select the program number "0", see Chapter 9.04 Selecting program number



Description of the functions



12

Program selection

Opens the menu for inputting the program number, see chapter 9.04 Selecting a program number.



Input mode

Quit the sewing mode and call up the input mode.



Fullness

Changes the value for the fullness, see Chapter 9.05 Input fullness.



Material type

The functions are used to select the material type, see Chapter 10.01.02 Selecting the material type.



Needle raised

Positions the needle in the top position.

Sewing



Needle position raised

If this function is on, the needle moves to top position when sewing stops.



Thread trimming

- When the function is activated, thread trimming with the pedal function is possible (optional).
- When switched on this function enables the edge knife to be switched off via pedal function, see Chapter 7.02 Pedal.

Presser foot up

When this function is activated, the presser foot is raised after sewing stops.



Presser foot down after the edge knife is turned off

When the function is switched on, the presser foot is not raised after the edge knife has been switched off.

Sewing is carried out using the pedal function, see Chapter 7.02 Pedal.

10.01.01 Selecting material type

In order to obtain the same results (multiple widths) during the processing of different materials, you can select between **3** types of material at any time in Manual Sewing and when working with fixed programs:



Material type light (here without quilting)



Material type medium (here without quilting)



Material type heavy (here without quilting)

The icon of the currently selected material type is displayed inversely.

For each material type, **4** different quilting levels can be selected. To do this, the symbol of the corresponding material type has to be pressed until the appropriate fullness level appears in the display:


10.02 Sewing with fixed programs

Fixed programs are set under the program numbers 1 and 2. The fixed programs are are used for the quick and easy sewing of seams with different fullness. When sewing with fixed programs, 2 or 3 seam areas are processed one after the other. The advance seam zone is effected by actuating the knee switch. The fixed programs are designed as concentric programs, meaning after the end of the last seam zone, the first seam area is started again. The value for the multiple width can be set for each seam zone, the settings for the target stitch position as well as the needle and foot positions apply across the entire area and can be changed at any time via the corresponding function.

12

Switch on the machine and select the program number "1" or "2", see Chapter 9.04 Selecting program number



Explanation of the displays and functions

1)2)

Program selection

Opens the menu for inputting the program number, see chapter 9.04 Selecting a program number.

t 2 Seam zone

Displays the number of seams of the sewing program.



Input mode

Quit the sewing mode and call up the input mode.



Fullness

Changes the value for the fullness, see Chapter 9.05 Input fullness.



Material type

The functions are used to select the material type, **see Chapter 10.01.02 Selecting the material type**.



Needle raised

Positions the needle in the top position.

Sewing

Needle position raised

If this function is on, the needle moves to top position when sewing stops.



Thread trimming

- When the function is activated, thread trimming with the pedal function is possible (optional).
- When switched on this function enables the edge knife to be switched off via pedal function, see Chapter 7.02 Pedal.

Presser foot up

When this function is activated, the presser foot is raised after sewing stops.



Presser foot down after the edge knife is turned off

When the function is switched on, the presser foot is not raised after the edge knife has been switched off.

Sewing is performed using the pedal and knee switch functions, see Chapter 7.02 Pedal or 7.04 Knee switch.



10.03 Programmed sewing

Pre-programmed seams can be called up via program numbers **3** - **49**. In the programmed sewing mode all seam zones are set in a seam program. The information on the seam program, such as the program number, the number of programmed seam zones, and the programmed comment are displayed. For easier orientation, a seam sketch with the programmed seam areas is shown. The seam start, the seam end, the already processed seam zones, the current seam zone and the seam zones still to be sewn are indicated by symbols and different line types and line thicknesses. The respective seam zone number parameter, fullness and the functions at the seam end are displayed for the current seam zone. The material type can be changed directly as well as other functions.

Switch on the machine and select the required program number "3" to "49", see Chapter 9.04 Selecting program number



Explanation of the displays and functions



12

Program selection

Opens the menu for inputting the program number, **see chapter 9.04 Selecting a program number.**

5

Seam zones right/left

Displays the number of seam zones of the seam program for the right/left seam.



Input mode

Quit the sewing mode and call up the input mode.

\$27 Fullness

Displays the current value for the fullness.

I→ 3 Current seam zone

Displays the current seam zone.

Sewing



Current seam

Serves for selecting and displaying the current seam (right/left).



Automatic seam change

Switches automatically between the right and the left seam with this function switched on.



Material type

The functions are used to select the material type, **see Chapter 10.01.02 Selecting the material type.**



Needle raised

Positions the needle in the top position.



Program interrupt

Interrupts the seam program sequence, see chapter 10.03.01 Program interruption.



Thread trimming

- When the function is activated, thread trimming with the pedal function is possible (optional).
- When switched on this function enables the edge knife to be switched off via pedal function, see Chapter 7.02 Pedal.



Presser foot up

When this function is activated, the presser foot is raised after sewing stops.



Presser foot down after thread trimming

When this function is activated, the presser foot is not raised after thread trimming.

• Sewing is carried out using the pedal and knee switch function, see Chapter 7.02 Pedal .

Sewing

10.03.01 Program interruption

The "program interruption" function is used to interrupt the programmed seam sequence (e.g., in the case of a thread break).

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1→ 2

Interrupt program sequence

49 (ال	5 5	
0		 1
	ž	27
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	‡ 2 (·	
_(T		

Or sequence program forwards and backwards.

Or change values and perform the other functions as in manual sewing, see Chapter 10.01 Manual sewing.

Or call up manual sewing.

10.04 Error messages

If an error occurs, the text "ERROR" appears on the display, together with an error code. An error message is generated by incorrect settings, faulty elements or seam programs, as well as overloading.

For an explanation of the error codes, see chapter 13.09 Explanation of error messages.

ß	
ERROR: E005	

Correct the error.

Acknowledge the elimination of the error.

8

11 Input

The functions Parameter input, Info, Sewing program set/correct, Teach-in, Program management and Service are available In the operating mode Input.

• Switch the machine on.



• Call up "Input" mode.



Description of the functions



Sewing mode

Quit the input mode and call up the sewing mode.



Parameter selection

Select the hundred and unit figures of the desired parameters, **see chapter 13.07.02 Example of a parameter input.**



Altering the parameter value

Change the value of the selected parameter, **see chapter 13.07.02 Example of a parameter input.**



Software information

Calls up information about the current machine software.



Create/correct program

Opens the menu for input or change seam programs, **see Chapter 11.01.02 Seam program input via the function "Program set/correct"**



Teach In

Opens the menu for inputting seam programs by stitching a sewing sample, see Chapter 11.01.04 Seam program input via the function "Teach- in".



Program management

Opens the menu managing sewing programs, **see Chapter 11.03 Managing seam programs**.



S

Service

Opens the service menu, see Chapter 13.12 Service menu.

11.01 Entering seam programs

Seam programs can be created by inputting parameters in the function "Create / correct seam programs" or sewing a seam sample with the "Teach in" function. Irrespective of which function is changed, the program number and basic settings of the sewing program to be processed must first be selected.

11.01.01 Basic settings for seam program input

The basic settings are the same in the functions "Create/correct program" and "Teach in".

Switch the machine on.



• Call up "Input" mode.



• Call up the function "Create / correct seam program" and "Teach in".





Enter

Or change the selected program number and confirm the selection.



abc

Or input or change a comment.



Define the type of seam (by pressing the corresponding symbol multiple times until the respective type of seam is displayed). Explanation of symbols:

Sewing program with left and right seam, beginning with right seam



Sewing program only with left seam



Sewing program only with right seam

Sewing program with left and right seam, beginning with left seam

Enter

End the input the basic settings and change to the input of the seam zone, see Chapter 11.01.02 input via the "Create/correct program" function or Chapter 11.01.04 Seam program input via the "Teach in" function.



The input can also be completed by calling up the sewing mode. This function is used to conclude the seam program input and the machine switches to the programmed sewing mode.

11.01.02 Seam program input via the function "Create/correct program"

This function is used to enter the seam program by entering or changing the corresponding values on the keypad. This type of seam program input is particularly suitable for correcting already existing seam programs.

Switch the machine on.
 Call up "Input" mode.
 Call up the function "Create/correct seam program".
 Enter
 Make basic settings and complete with the "Enter" function, see Chapter 11.01.01 Basic settings for seam program input







Change the fullness setting, see Chapter 9.05 Entering fullness setting



Change the maximum speed for the current seam zone.



The functions are rolled by the current seam program. The current seam zone is displayed alongside all other current values.



Enter the functions for the end of the seam zone, see Chapter 11.01.05 Seam zone input when programming the seam



Select seam type.

The selection by left and right seam is only possible if the seam type "left and right seam" is selected in the basic settings, see Chapter 11.01.01 Basic settings for seam program input.

Or insert the seam zone.
 The current seam zone is copied and all subsequent seam zones are set backwards.



Ins

• Or delete the current seam zone.



• Or end the current seam entry and save the parameters in reverse order for the other seam (mirroring).



Define seam or programming end.

When entering, the program the end of a seam is set in the desired seam zone. Analogous to the end of the program, the seam end is set when entering the right and left seam. The seam end is set in the first seam and the program end is set in the second seam.



Complete the first seam zone and change to the next seam zone.



End input and change to the input of the basic settings.

• End the input and change to programmed sewing.

11.01.03 Entering the actual and target length of the seam zone



After calling the corresponding function, the menu for entering the values for the seam length (in mm) of the current seam zone appears. After entering the values for the actual and target length, the stitch count and the fullness settings are calculated. A later change in the fullness setting or the number of stitches also changes the values for actual and target length.





Enter

Change value for actual length (via numeric input or via arrow keys).

Change value for target length (via numeric input or via arrow keys).

• Conclude the input.

11.01.04 Seam program input via the function "Teach In"

This function is used to create the seam program by sewing a sewing pattern. A new creation is always made, meaning that when selecting an already existing program it is overwritten.



The following displays and functions appear on the display before sewing:





Input the fullness setting, see Chapter 9.05 Entering fullness setting

Input the maximum speed for the current seam zone.

Use the pedal to sew the first seam zone.
The number of stitches in the current seam zone is counted and shown in the display.

 → → 49
 5 ◆ 4
 ABCDEFGHIJKLMNO PORSTUVWXYZ1234
 O

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 ↓

 ↓
 ↓
 ↓
 Enter

After sewing, the following information and functions appear on the display:



- Pressing the Enter key defines the seam zone by stitch counting.
- Actuating the pedal in position "2" executes the end of the seam zone by actuating the pedal, see Chapter 7.02 Pedal
- Actuating the knee switch executes the end of the seam zone by actuating the knee switch, see Chapter 7.04 knee switch
- After calling the function, further inputs for the end of the seam zone can be performed and erroneous inputs corrected, see Chapter 11.01.05 Seam zone input when programming the seam.



A stitch condensation is defined when entering the functions for the end of the seam zone is performed on completion of the seam program entry. Up to **30** stitches are sewn. Risk of injury in the vicinity of the needle.

Define seam or programming end.

When entering, the program the end of a seam (only left or right) is set in the desired seam zone.

Analogous to the end of the program, the seam end is set when entering the right and left seam. The seam end is set in the first seam and the program end is set in the second seam.

- Enter O Con
 - Conclude the input.
 - End input and change to the input of the basic settings.



11.01.05 Seam zone input during seam programming

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After calling up the corresponding function, the menu for inputting the functions and values for the end of the seam zone without stitch concentration appears.



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If necessary switch off stitch concentration.



Switch the seam zone relaying using the pedal function on and off.



Switch the seam zone relaying using the knee switch on and off.

Enter or change the number of stitches for the seam zone (via numeric input or by using the arrow keys).

• Activate or deactivate automatic sewing stop at the end of the seam zone.

Activate or deactivate the "Lift sewing foot " function, see Chapter 10.01 Manual sewing.

Activate or deactivate the "Thread trimming" function, see Chapter 10.01 Manual sewing.

 Activate or deactivate the "Needle position up" function, see Chapter 10.01 Manual sewing.





Not every combination of functions is adjustable. All activated functions are displayed inversely.

11.02 Examples for setting seam program

11.02.01 Example of seam program input using the function "Create/correct program"

The seam program to be created should

- contain 4 seam zones and
- saved under program number 4 with the comment "PROG".
- Switch the machine on.



Call up "Input" mode.



• Enter the "Create/correct seam program" function and enter the program number "4".

2 4	15 🌗 15	0
□		
abc		Enter

• Press the key until the corresponding symbol appears, set the sewing type (right seam).



• Call the menu to enter the comment.

• Enter "PROG" using the keypad and numeric keypad.

Enter

Enter

• Conclude the comment input.

• Switch to the input of seam zone 1.



The first seam zone should

- be worked without a fullness setting,
- the end of the seam zone should be executed by the knee switch.



Enter value "0" for the fullness.



ľ

Call up the seam zone menu.

Enable the seam zone relaying via the knee switch.





• Complete the input of the seam zone.



Enter

• Change to the second seam zone.

In the second seam zone, a target length of 140 mm is to be used for an actual length of 242 mm.



• Call up the menu for entering the target/actual length of the seam zone.





Enter value "242" for the actual length.

Enter value "140" for the target length.

	0
▲ 242 ▼	
	Enter

Enter

• Complete the entry of the target/actual length.





The number of stitches ("37") and the value for the fullness setting ("70") are determined from the values entered. Since conversion must be based on whole stitches, the value for the target length ("141") must deviate slightly from the entered value.

Enter

• Change to the third seam zone.

In the third seam zone, a target length of **160 mm** is to be used for an actual length of **190 mm**.



Call the menu for entering the target/actual length of the seam zone and enter the values for target and actual length.

Enter

• Complete the entry of the target/actual length.



Enter

Change to the fourth seam zone.

In seam zone four

- it should be worked without a fullness setting,
- the end of the seam zone should be executed by the pedal function.
- the functions "trim thread" and "lift sewing foot" should be enabled.

Enter value "0" for the fullness. 27 Call up the seam zone menu. Enable the seam zone relaying via the pedal function. Switch on the "trim thread" function Ĵ Switch on the "presser foot up" function Conclude the entry. ▶15 PROG 2)4 76 Σ. 76 0 420 ~~~ ▲ 1⇒4 ▼ lns ∥Del ∥<u>‡</u>↓ $\langle D \rangle$ Enter Activate "End program" function.

Complete the input of the seam program and change to the programmed sewing.



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11.02.02 Example for seam program input via the function "Teach In"

The seam program to be created should

- consist of one seam,
- contain 10 seam zones and
- saved under program number 11 with the comment "TEACH".







The tenth seam zone should be worked with gather setting "12".



Sew the tenth seam zone using the pedal function.

• Define the end of the seam zone via the pedal position "- 2", see Chapter 7.02 Pedal

	10 I TEACH	0
	ک (▲ ک 12 (▼) 421	
t⇒10 ⊶		یہ کے لچ
		Enter



• Activate "End program" function.

Complete the input of the seam program and change to the programmed sewing.

11.03 Managing seam programs

The program management displays the contents of the machine memory in the left-hand half of the screen and the SD card in the right-hand half of the screen, and is used to erase and copy programs. The selected programs are displayed in red. If the MDAT function is activated, the machine data of the machine can be set to be saved to the SD card or loaded from the SD card. The Format function is used to format the SD card. The individual operations are displayed in a dialogue window in English. After inserting the SD card, it will take up to **20 s until the SD card is recognised as inserted**.

Switch the machine on.



Call up "Input" mode.

Call up program management.

SD card and machine memory are read.



Description of the functions

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\sim	

Input mode

Calls up the basic screen of input mode.



Sewing mode

Quit the input mode and call up the sewing mode.



Program selection

After calling up the program management, at least one seam program is always marked. Use the arrow functions to select the desired sewing program.

A block of sewing programs can be marked with the * function and the arrow functions. Pressing the *-function again turns off the block function.



Сору

Press the Copy key to copy the selected program to or from the SD card.



Delete

Press the Delete key to delete the selected programs.

Dialogue box

The dialogue box is used to communicate the current operation. If necessary, additional keys are shown for answering questions.



Enter key

Approval for a program.



All key

Approval for one or all marked programs.



Esc key

Reject for one or all marked programs.



Next key Reject a program.



Select machine data

After pressing MDAT, the machine data can be copied or deleted on the SD card.



Format the SD card

The SD card is formatted after pressing FORMAT. A prompt for confirmation is displayed before the SD card is formatted.

The card is completely formatted if it cannot be read. All programs and machine files in this directory are deleted if it can be read and the directory \P3811 for 3811 exists.

If the directory \P3811 for the 3811 does not exist, only the directory is created.

This is to ensure that programs from other machines and other files are not lost.

Maintenance and Care

12 Maintenance and Care

12.01 Maintenance intervals



These maintenance intervals are based on an average running time of a single shift production shop. Shorter maintenance intervals are recommended for increased running times.

12.02 Cleaning the machine

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

- Single or multi-shift operation
- Dust formation caused by the workpieces

Optimal cleaning instructions can therefore only be determined on a case-by-case basis



Disconnect the machine from the electricity mains for all cleaning work by shutting off the main switch or removing the mains plug! Risk of injury due to accidental machine start-up!





The following tasks are recommended during single shift operation to avoid operational errors:

- Tilt the machine backwards.
- Clean the hooks and hook area daily or more often during continuous operation.
- When righting the sewing head, ensure pressing the anti-tipping device 1.



Return the machine to its upright position using both hands!

Danger of injury by crushing between the edge of the machine and the table top.



12.03 Machine oil level



Check the oil level before every start-up.

The oil level must be between the markings in the sight glass.

Refill oil through hole **1** as needed.



Only use oil with a centre 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 Order No. **280-1-120 144**.

12.04 Cleaning/lubricating the top feed joints

Fig. 12 - 02

C



- Clean the areas marked in the illustration once a week or if the machine has been standing still for a prolonged period of time with special cleaning agent, order no. 99-137 468-91.
- Then lubricate these areas with special lubricant, order no. 99-137 467-91 (wipe off excess lubricant with a cloth).

Maintenance and Care

12.05 Checking/setting the air pressure



- Check the air pressure on the manometer 1 before every start-up.
- The manometer 1 must show a pressure of 6 bar.
- Adjust this value if needed.
- To do this, pull up the button 2 and turn it so that the manometer 1 shows a pressure of 6 bar.

12.06 Cleaning the maintenance unit air filter





Switch off the machine! Detach the compressed air tube on the maintenance unit.

- Empty water tank 1
- Water tank 1 empties itself automatically after the compressed air tube for the maintenance unit has been removed.
- Clean filter 2:
- Unscrew the water tank 1.
- Unscrew the filter 2.
- Clean filter 2 with compressed air or isopropylalcohol (order no. 95-665 735-91).
- Screw in the filter 2 and screw on the water tank 1.

Maintenance and Care

Cleaning the blower air filter 12.07 • Remove the cover 1. Ì • Remove the filter element and blow it S out with compressed air. • Insert the cleaned filter element and fit the cover 1. 8 D P 1 0 Fig. 12 - 06

13 Adjustment



Observe and comply with all instructions in the operating manual's **chapter 1 Safety!** In particular make sure that all safety covers are installed again correctly after making adjustments, **see chapter 1.06** Operating manual hazard information!

Unless otherwise stated, the machine must be disconnected from the mains before all adjustment work!

Risk of injury due to accidental machine start-up!

13.01 Notes on adjustment

All adjustments in this manual are based on a fully assembled machine and may only be carried out by technical 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 that have to be completely adjusted. Both the preceding and following chapters must be observed if only specific individual work steps are carried out. The screws and nuts indicated in brackets () are fastenings for machine parts, which must be loosened before any adjustment and tightened again afterwards.

13.02 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 7 to 14 mm
- 1 set of Allen keys from 1.5 to 6 mm
- 1 feed dog setting gauge (order no. 61-111 639-71)
- 1 setting gauge (order no. 61-111 639-73)
- 1 adjustment pin (5 mm diameter), order no. 13-033 346-05
- 1 metal ruler (order no. 08-880 218-00)
- Thread and testing material

13.03 Abbreviations

t.d.c. = top dead centre b.d.c. = bottom dead centre

13.04 Explanation of symbols

Activities to be performed or important information in this adjustment manual are emphasised by symbols. The symbols used have the following meaning:



Note, information



Maintenance, repairs, adjustment, service work (only to be carried out by technical staff)

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13.05
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Checking and adjustment aid



By inserting the locating pins into the adjustment holes (Ø 5 mm) 1, 3, 4, and 5 it is possible to precisely locate the needle bar position.





• Turn the handwheel until the needle bar is approximately in the required position.

Place the adjustment pin in the corresponding adjustment hole and press it down.

Turn the handwheel slightly back and forth until the adjustment pin engages the rear crank cutout, blocking the machine.

Adjustment hole 1	=	= top dead centre of the needle bar (t.d.c)
Adjustment hole 3	=	= below dead centre of the needle bar (b.d.c)
Adjustment hole 4	=	0.8 mm before top dead centre of the needle bar
		(0.8 in front of t.d.c.)
Adjustment hole 5	=	5.5 mm before top dead centre of the needle bar
		(5.5 in front of t.d.c.)



Turn the handwheel in the sewing direction to determine the number of increments per revolution (this maximum value appears in the display under "POS" before the display jumps back to "0")



Call up "Input" mode.

Call up parameter '**721'**.



Enter the determined maximum value

	Call up parameter '301'.
	\bigcirc
	No. VAL.
	301 36
	I I I I I I I I I I I I I I I I I I I
•	Turn the handwheel in the direction of rotation until the needle point (approaching from above) is flush with the upper edge of the needle plate.
	Conclude the input.
	Switch the machine off.

13.06.01.02 With P320 ED control



 M ■ Call up "Motor Service"
۶ <u>ک</u> 2000
Esc 1:X
1:X • Press this key to teach the ratio.
Caution!
On pressing this key the machine performs 3 stitches at a speed of 360 r.p.m.
Call up "Input" mode.
\bigcirc
No. VAL. 102 OFF
i Z (T) S
Call up parameter '301'.
No. VAL. 301 36
I I I I I
Turn the handwheel in the direction of rotation until the needle point (approaching from
above) is flush with the upper edge of the needle plate.

Conclude the input.

|O|

• Switch the machine off.

Rule

- 1. The needle **5** should pierce the middle of the stitch hole looking crossways to the sewing direction.
- 2. The clearance between the needle **5** and the front edge of the needle hole should be approximately **0.8 mm.**



Loosen the screws 1 and 2.

- Move needle bar frame **3** according to **rule 1** and tighten screw **1**.
- Loosen screws 4 and engage needle bar frame 3 in accordance with rule 2.
- Tighten screws 2 and 4.

E.

^{13.06.02} Needle to needle hole

13.06.03 Pre-calibrating needle height

Rule	
3811 -3/55	When the needle bar is at t.d.c., Needle bar (adjustment hole 1), the clear- ance X between the needle plate and the needle point should be 11 mm.
3811-15/65 -16/65	When the needle bar is at t.d.c., Needle bar (adjustment hole 1), the clear- ance X between the needle plate and the needle point should be 14 mm.





• Move the needle bar 1 to t.d.c.

• Adjust the needle bar 1 (screws 2) according to the rule.

13.06.04 Zero position of the main feed dog

Rule

The main feed dog **7** is not intended to perform a sliding movement when the stitch length regulation setting is "**0**"



- Unscrew screw 1 (nut 2) (remove the stitch length limiting lever).
- Set the stitch length to "0" using the adjusting lever.
- Loosen screw 4 until the crank 5 is difficult to twist on the shaft.
- Whilst continuously turning the handwheel rotate crank 5 so that crank 6 does not move.
- Tighten the screw 4.

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For further settings, screw 1 (nut 2) remains unscrewed.

(The stitch length limiting lever is still lifted.)

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13.06.05 Zero position of the differential feed

Rule

The differential feed **5** should not move with the stitch length regulation "**0**" and the adjustment gauge **1** attached.



- Set the stitch length to "0".
- Fit adjustment gauge 1
- Loosen screw 2 until crank 3 is difficult to turn on the shaft.
- Whilst continuously turning the handwheel rotate crank 3 so that crank 4 does not move.
- Tighten the screw 2.



E D

The adjustment gauge1 remains attached for further adjustments.
13.06.06 Sliding movement of the main and differential feed.

Rule

With a stitch length regulation of "4", needle bar position 0.8 before t.d.c. (Adjustment hole 4) and attached adjustment gauge 8 – when actuating the roller 5 the main and differential feed should not move.



- Slightly loosen screws 1 and 2 (4 screws).
- Move the needle bar to 0.8 before t.d.c. and set the stitch length to "4".
- Whilst continuously moving the roller up and down turn the eccentrics 6 and 7 so that the cutout can be seen and cranks 3 and 4 do not move.
- Tighten screws 1 and 2.

13.06.07 Lifting movement of main and differential feed (only with PFAFF 3811-3/55)

Rule

When the needle bar is at t.d.c., Needle bar (adjusting hole 1) the cutout of the eccentrics 3 and 4 must point vertically downwards.





Loosen screws 1 and 2 (4 screws).

• Move the needle bar to t.d.c.

- Turn the eccentrics 3 and 4 according to the instructions and tighten screws 1 and 2 when they are accessible.
- Make the rest of the screws 1 and 2 accessible by turning the handwheel and tighten.

13.06.08 Lifting movement of the main feed dog

Rule

When the needle bar is at t.d.c., Needle bar (adjustment hole 1) the cutout of the eccentrics 3 and 4 must point vertically downwards.





Loosen 2 screws 1.

• Move the needle bar to t.d.c.

Turn the eccentric 2 according to the instructions and tighten screw 1 when it is accessible.

• Make screws 1 accessible by turning the handwheel and tighten.

13.06.09 Lifting movement of the differential feed

Rule

In needle bar position **5.5 mm** before t.d.c (Adjustment hole **5**) the cutout of the eccentric **2** must point vertically downwards.





- Loosen two screws 1.
- Move needle bar to **5.5 mm b**efore t.d.c.
- Turn the eccentric 2 according to the instructions and tighten screw 1 when it is accessible.
- Make screws 1 accessible by turning the handwheel and tighten.

13.06.10 Position of the main and differential feed for PFAFF 3811-3/55

Rule

When the needle bar is in t.d.c. (adjusting hole 1) is established and the largest stitch length is set, then

- 1. The main feed dog should be parallel at **1.4 mm** and the differential feed should be parallel at **1.9 mm** above the stitch plate,
- 2. Both feed dogs lie in the centre of the stitch plate cutout and
- 3. stand at a clearance of 4 mm apart.



• Move the needle bar to t.d.c. and set the largest stitch length.

- Loosen the screws 1, 2, 3 and 4.
- Turn the feed dog carrier **5** and **6** according to rule **1**.
- Lightly tighten screws 1 and 2.
- Turn eccentric bushes 7 and 8 in accordance with rules 2 and 3.
- Tighten the screws 3 and 4 in this position.
- Tighten the screws 1 and 2 in accordance with rule 1.

13.06.11 Position of the main and differential feed with PFAFF 3811-15/65 and 3811-16/65

Rule

At the largest stitch length and in its highest position,

- 1. The main feed dog should be parallel at **1.7 mm** and the differential feed should be parallel at **2.0 mm** above the stitch plate.
- Both feed dogs lie in the centre of the stitch plate cutout and stand at a clearance of 4 mm apart.





- Set the largest stitch length and move the main feed dog to its highest position.
- Set carrier 1 of the main feed dog by turning the cranks 2 and 3 (screws 4 and 5) and the eccentric clamping sleeve 6 in accordance with rule 1 and 2.
- Move carrier 7 of the differential feed to its highest position.
- Set the differential feed by turning cranks 8 and 9 (screws 10 and 11) and the eccentric clamping sleeve 12 in accordance with rule 1 and 2.

13.06.12 Zero position of the vibrating presser

Rule

With the stitch length regulation "0" and the adjustment gauge 4 attached, the vibrating presser should not perform any sliding movement.





The stitch length limiting lever (screw 1 in Chapter 13.06.04 zero position of the main feed dog) must be lifted.



• Set the stitch length to "0".

 Whilst continuously turning the handwheel rotate crank 1 (screw 2) so that lever 3 does not move.

13.06.13 Front connecting rod of the top feed

Rule

In needle bar position **0.8 mm** before t.d.c (Adjustment hole **4**) there should be a clearance of approximately **16.5 mm** between the eye of connecting rod **2** and the machine housing **3**.





- Move needle bar to **0.8** before t.d.c.
- Loosen screw 1.
- Adjust connecting rod 2 in accordance with the rule.
- Tighten screw 1.
- Check the setting.

13.06.14 Align the sewing foot

Rule

- 1. When the hand lever **1** is raised, the clearance between the presser foot **13** and needle plate **13** should be should be **5 mm**.
- 2. The needle should pierce the centre of the needle hole in the presser foot 13.
- 3. The sewing foot should be parallel to the bottom feed.



Raise the hand lever 1.

- Move vibrating presser 2 to its upper reversal point by turning the handwheel.
- Lift pressing bar 3 and the push the 5 mm thick part of the adjustment gauge 4 (order no. 61-111 642-19) under the presser foot from the rear.
- Move the lower pressing bar lifting piece 5 (screw 6) into contact.
- Remove pin 7 (screw 8).
- Swing lever 9 out of the yoke of lever 10.
- Remove eccentric pin 11 (screw 12).
- Align the presser foot **13** in accordance with the rules.

-S

- Tighten screw 6.
- Remove adjustment gauge 4 and fit the presser foot 13 onto the sewing plate.
- Loosen the screw 14.
- Swing lever 9 into the yoke of lever 10.
 (Lever 9 must move easily, otherwise adjust lever 10)
- Insert pin 7 (screw 8) ensure free movement.
- Adjust lever 10 if necessary.
- Move needle bar to **0.8** before t.d.c.
- Move the vibrating presser 2 in the sewing direction to the centre of the sewing foot cutout and tighten screw 14.
- Loosen screw 15.
- Connect lever 16 to connecting rod 17 using the eccentric pin (screw 12), in doing so set the eccentric pin 11 with the largest eccentricity downwards.
- Move lever 16 to eccentric pin until it abuts and tighten screws 15.
- Align the vibrating presser 2 (screw 18) so that it does not abut against the side of the sewing foot 13.



All of the moving parts on the top drive must move freely and without play. Regularly lubricate links, see **Chapter 12.03 Lubricating links on the top feed**

13.06.15 Sliding movement of the vibrating presser

Rule

With a stitch length regulation of "4", needle bar position **0.8 mm** before t.d.c. (adjustment hole **4**) lever **4** should not move when lever **2** is actuated.





- Loosen two screws 1.
- While continuously moving the lever 2 up and down, set eccentric 3 so that the slot on the operator side can be seen and lever 4 does not move.
- Tighten the screws 1.

13.06.16 Lift of the vibrating presser

Rule

With stitch length regulation "4" and attached adjustment gauge 12, the highest reversal point of the vibrating presser 2 should have a clearance of 3.2 mm to the sewing plate.





- Lower presser foot 1 onto the needle plate.
- Set the stitch length to "4".
- Move vibrating presser 2 to its upper reversal point by turning the handwheel.
- Turn the eccentric pins 3 (screw 4) so that its largest eccentricity lies towards the needle.
- Move pins 5 (nut 6) into the elongated hole in the lever 7 until they abut.
- To preset the clearance between the vibrating presser 2 and the sewing plate, move the lever 8 (screw 9).
- Turn the eccentric pins 10 (screw 11) in accordance with the rules.

13.06.17 Lifting movement of the vibrating presser

Rule

With a stitch length regulation of "4" and attached setting gauge 3, the vibrating presser should fit against the bottom feed, once this has reached the upper surface of the sewing plate coming from below.



• Set the stitch length to "4".

• Turn eccentric 1 (screws 4) according to the rule.

-A

13.06.18 Stitch length limitation

Rule	
3811 -3/55	 The lower rocker stop should be set so that the stitch length is 2.2 mm (x = 22 mm for 11 penetrations). For the same stitch length the screw 4 should lightly abut on the casting. (Rocker 6 must no longer move.)
3811-15/65 -16/65	 The lower rocker stop should be set so that the stitch length is 4.2 mm (x = 42 mm for 11 penetrations). The upper rocker stop should be set so that the stitch length is 3.1 mm (x = 31 mm for 11 penetrations).





- Set the stitch length on lever 1 according to rule 1.
- Turn screw 2 (nut 3) according to rule 1.
- Set the stitch length on lever 1 according to rule 2.
- Turn screw 4 (nut 5) according to rule 2.

13.06.19 Home position of the differential setting

Rule	
3811 -3/55	 With fullness setting "0", stitch length regulation "2.2" and attached adjustment gauge 5, the roller 2 should abut on the pressure sleeve.
3811-15/65 -16/65.	For the largest fullness setting (key "15" in the keypad 1) stitch length regulation "4" and attached adjustment gauge 5, the roller 2 should have a clearance of 6.1 mm to the pressure sleeve 4.





Switch the machine on.

The following work step depends on the machine type.
 PFAFF 3811-15/65, -16/65:
 Press key "15" in keypad 1 (LED must illuminate).
 PFAFF3811-3/55
 Set fullness to "0".

- Switch the machine off.
- Adjust roller 2 (screw 3) according to the rule.

13.06.20 Setting the basic stitch length (not for PFAFF 3811-3/55)

Rule

With stitch length regulation "and activated button "15" (cylinder 4 completely extended) the stitch length should be 3 mm.



- Set stitch length "3" (lever 1)
 - Switch the machine on and press button "15" on the keypad.
 - Turn crank 2 (screw 3) according to the rule.

13.06.21 Looper avoiding motion

Rule

When the needle bar is at t.d.c., Needle bar (adjustment hole 1) the cutout of the eccentric 2 must point vertically downwards.



- <u>S</u>
- Loosen two screws 1.
- Move the needle bar to t.d.c.
- Turn the eccentric **2** according to the rule.
- Tighten the screws 1.

13.06.22 Looper motion

Rule

The hook point should be at the same height in the following positions:

- a) When the hook point is on the left side after turning the handwheel in the direction of rotation.
- b) When the hook point is on the right side after turning the handwheel back from position a).



Insert a new needle.

A

- Turn the handwheel until the hook point are on the left side of the needle coming from the right.
- In this position tighten the clamping screw (Order no. 08 880137-00) onto the needle bar so that the upwards movement of the needle bar is blocked.
- Turn the handwheel against the direction of rotation until the c-clamp lays again on needle bar frame.
- Check the rule.
- If necessary remove the clamping screw and gear wheel 1 (screws 2) according to the rule.

13.06.23 Looper height and looper angle

Rule

When the looper driver 2 is vertical

- 1. a clearance of **0.7 mm** should be present between the highest point of the back of the hook and the stitch plate support, and
- 2. the looper 7 abuts against the looper adjustment gauge 9.





- Disassemble the stitching plate and bottom feed.
- Place adjustment gauge 1 (Order No. 61-111 642-19) on the stitch plate support.
- Set looper carrier 2 vertically.
- Turn the eccentric bearing pins 3 (screws 4 and 5) according to rule 1.
- Check the setting.



If the necessary clearance is not achieved, replace spacer 6, looper 7 (screw 8) must also be dismantled.

- Place the looper adjustment 9 (order no. 61 111 643 06) on the left edge of the cover plate guide (see arrow) and push against the looper.
- Move looper 7 (screw 8) to the hook adjustment gauge 9 (rule 2).

Spacer	Order no.
0.3 mm	91-170 693-05
0.5 mm	91-169 614-05
0.8 mm	91-169 615-05
1.2 mm	91-170 694-05

13.06.24 Hook to needle clearance in the sewing direction

Rule

The clearance between the hook points and the needle in the direction of sewing should be approx. **0.1 mm**.





Turn the handwheel until the hook point reaches the left side of the needle from the right side.

Adjust looper unit 1 (screws 2) according to the rule.



If the clearance of **0.1 mm** is not achieved, this can be corrected on the eccentric bearing pins **3**.

After making this setting the hook height and hook angle must be checked, see Chapter 13.06.23 Looper height and looper angle.

13.06.25 Hook to needle clearance across the sewing direction

Rule

At the right reversal point of the looper 1, the hook point across the sewing direction should have a clearance of **3.6** mm to the centre of the needle.





• Move looper 1 to its right reversal point by turning the handwheel.

- Place the feeler gauge "3.6" of the looper adjustment gauge 2 (order no. 61 111643 0 6) with its notch in the feeding direction against needle 3.
- Taking care that the drive connecting rod 4 is vertical, turn the ball pins 5 (screw 6) using the open-ended spanner (SW 6) until the point of the looper 1 touches the feeler gauge.

Rule

If the hook point has reached the left side of the needle coming from the right side, the top edge of the needle eye should be 1.0 - 1.2 mm below the under edge of the looper.





Turn the handwheel until the hook point reaches the left side of the needle from the right side.

Move needle bar 1 (screws 2) without twisting according to the rule.

^{13.06.26} Readjusting needle height

13.06.27 Height of the rear needle guard

Rule

When the needle bar is in b.d.c., Needle bar (adjustment hole 3) the vertical surface of the needle guard 1 should cover approximately 2/3 of the needle eye.





• Move the needle bar to b.d.c.

• Move needle guard 1 (screw 2) according to the rule.

13.06.28 Clearance between the rear needle guard and the needle.

Rule

When the hook point touches the side of the needle coming from the right side, the needle guard **3** should lightly touch the needle.





Turn the handwheel until the hook point is on the right side of the needle.
Adjust the bracket 1 (screw 2) according to the rule.



The needle must not be pressed by the needle guard **3** under any circumstances!

13.05.29 Position of the front needle guard

Rule

When the looper point 1 is in the centre of the needle coming from the right side, the needle guard bar should ${\bf 4}$

- 1. have a lateral clearance 0.3 0.5 mm to the needle,
- 2. stand parallel to the hook blade and
- 3. the top edge should stand at the same height as the point of looper 1.





- Move to the hook by turning handwheel 1 to its left reversal point.
- Loosen the screws 2.
- Move the needle guard carrier 3 so that the needle guard bar 4 does not strike the looper 1 in this position.
- Gently tighten the screws 2.
- Turn the handwheel until the point of the looper 1 is in the centre of the needle coming from the right.
- Turn the needle guard carrier **3** according to rule **1**.
- Adjust the needle guard bar 4 (screws 5) according to rules 2 and 3.

13.06.30 Looper avoiding motion guard

Rule

Eccentric **3** should not touch the guard **1** when moving.





Align the protective plate 1 (screws 2, accessible through the adjustment holes) according to the rule.

13.06.31 Needle thread puller

Rule

- When the needle bar is in b.d.c., Needle bar (adjustment hole 3), there should be a clearance of approximately 0.3 mm between the needle thread puller 2 and the needle bar frame 3
- 2. The needle thread puller **2** should be able to move freely in the centre of the slot and not strike either at the top or the bottom reversal point.





- Make screw 1 accessible by turning the handwheel and loosen slightly.
- Move the needle bar to b.d.c.
- Move the needle thread puller 2 according to rule 1.
- Tighten screw 1 taking rule 2 into account.

13.06.32 Home position of the needle thread controller and thread guide.

Rule

- When the needle bar is in b.d.c., Needle bar (adjustment hole 3) the eye of the needle thread controller 1 and the hole in the needle thread puller 4 should be at the same height.
- 2. The thread guide 2 should be screwed on vertically and in the centre of the elongated hole.





- Move the needle bar to b.d.c.
- After loosening the needle thread controller screw 1 adjust according to rule 1.
- Tighten the needle thread controller screw.
- Align the thread guide 2 (screw 3) according to rule 2.



A deviation from the home position may be necessary depending on the material being sewn and the type of thread.

13.06.33 Looper thread regulator and looper thread controller

Rule

- 1. The clearance between the front edge of the thread regulator 1 and the rear stitch plate edge guide should be 29 mm.
- 2. The front edges of the thread controller **3** and thread regulator **1** should have approximately **8 mm** clearance.





• Adjust the slack thread regulator 1 (screws 2) according to rule 1.

• Adjust the thread controller **3** (screw **4**) according to rule **2**.



A deviation from the home position may be necessary depending on the material being sewn and the type of thread.

13.06.34 Looper thread puller

Rule

When the needle bar is at t.d.c., Needle bar (adjustment hole 1) both looper thread puller eyes 1 should stand on the front edge of the thread controller 4.





Move the needle bar to t.d.c.

Twist the looper thread puller 1 (screw 2) according to rule 1, in doing so ensure that the yoke of the looper thread puller 1 stands centrally to the thread regulator 3.



A deviation from the home position may be necessary depending on the material being sewn and the type of thread.

13.06.35 Vibrating presser and pressure foot pressure

Rule

The pressure exerted by the vibrating presser and the presser foot should be set so that the material being sewn is optimally transported at every sewing speed.





Adjust the sewing foot pressure on screw 1 (nut 2) according to the rule.

• Adjust the vibrating presser on screw **3** according to the rule.

13.07 Adjusting the edge cutting equipment.

13.07.01 Cutting movement

Rule

When the needle bar is at t.d.c., Needle bar the knife should be in its upper reversal point.





• Turn the eccentric 1 (screw 2) according to the rule.

13.07.02 Zero point

Rule

With cylinder **3** completely extended the knife should not move when the handwheel is turned.





• Turn crank 1 (screws 2) according to the rule.

13.07.03 Cylinder drive home position

Rule

With cylinder **3** fully retracted the nut **4** should have a clearance of **10 mm** from the lower edge of cylinder **3**.





• Adjust stop 1 (screw 2) according to the rule.

13.07.04 Knife height

Rule

At the knife 1 reversal point, the front edge of the knife 1 should be approximately **0.5 mm** below the upper edge of the stitch plate.





• Adjust the knife 1 (screw 2) according to the rule.
13.07.05 Knife position crossways to sewing direction

Rule

- 1. The knife **3** should abut the stationary knife with slight pressure.
- 2. In doing so knife 3 must not make contact with the sewing plate.





Adjust the knife to its lowest position and adjust the knife carrier 1 (screw 2) according to the rule.

13.08 Adjusting the thread trimmer

13.08.01 Pre-calibrating the thread catcher

Rule

- 1. The point of the thread catcher 4 should have a clearance of 32.5 33 mm from the front edge of the carrier plate 1.
- 2. The guide rails 5 should be parallel to carrier plate 1.
- 3. The thread catcher 4 should move easily with a little play.





- Remove carrier plate 1 (screws 2).
- Loosen the screws 3.
- Move the thread catcher 4 according to rule 1.
- Align guide plates 5 according to rule 2 and 3 and tighten screws 3.
- Unscrew carrier plate 1 taking care that the ball pins 6 are engaged in the carrier of the thread catcher 4.

```
13.08.02 Position of the ball pins
```

Rule

In the vertical position the ball pins ${\bf 1}$ should

- 1. be in the centre of the actuator **5** and
- 2 have a clearance of **0.5 mm** from the root of actuator **5**.





- Set ball pins 1 vertically.
- Adjust the carrier **2** (screws **3**) according to **rule 1**.
- Turn ball pin 1 (nut 4) according to rule 2.

13.08.03 Thread catcher position to the needle

Rule

When the thread trimmer device is in neutral position, the tip of the thread catcher 4 should have a clearance of 4 mm from the centre of the needle.





```
13.08.04 Thread catcher guard
```

Rule

- 1. With the needle bar in the t.d.c. position the guide roller **3** should be in the centre of the cutout in the securing curve **2**.
- In the home position of the thread trimmer and the needle bar in the t.d.c. position there should be a clearance between the securing curve 2 and the guide roller 3 of 0.5 – 1.0 mm.





- Loosen screws 1 until the securing curve is difficult to turn on its shaft.
- Move the needle bar to t.d.c.
- In this position twist the securing curve 2 according to rule 1.
- Move the thread cutter equipment to the home position and the needle bar to the t.d.c. position.
- Adjust securing curve 2 according to rule 2 and tighten screw 1.

13.08.05 Tension release

Rule

With the cylinder fully actuated there should be a clearance between the upper edge of the slot in plate 1 and the guide pins 3 of approximately 0.5 mm.



• Fully extend the thread trimmer cylinder.

• Adjust plate 1 (screw 2) according to the rule.

13.08.06 Test cut

Rule

- 1. The point of the thread catcher **2** should reliably capture the looper thread and the rear part of the needle thread loop.
- 2. The thread must be undamaged with the cover plate 1 removed.
- 3. With the cover plate 1 removed, the thread catcher 2 must enter between the knife 3 and the thread clamping springs 5, in doing so the threads must be flawlessly cut and clamped.



- Remove the cover plate 1.
- Set the needle position shown in **Chapter 13.06.04** thread catcher guard
- Actuate the cutting cylinder by hand and in doing so check rule 1 and rule 2.
- If necessary readjust the thread catcher 2.
- Replace cover plate 1.
- Actuate the cutter cylinder once again and in doing so check rule **3**.
- If necessary carefully turn screw 4 according to rule 3 (increase the cutter pressure).

-A

13.08.07 Setting the position sensor

Rule

After trimming the thread the machine should be at **0.3 – 0.4 mm** before t.d.c. Position the needle bar.





 Adjust position sensor 1 (screw 2) according to the operating manual for the motor, see also Chapter 13.09 Parameter settings.

13.09 Parameter settings

13.09.01 Overview of the parameter functions

After switching the machine on, the input mode is called, in which the individual parameters can be directly called by pressing the desired function. All parameter groups or also individual ones can be protected by a code against unauthorised access.





• Switch the machine on.

Call up "Input" mode.





E.g, call up parameter "113" (signal tone sounds at seam zone change on/ off).

\Box			Ο
	No.	VAL.	
	113		
i			ङ



E.g., signal tone when switching on (value "ON").



13.09.03 List of parameters



The parameter "100" is accessible to the operator.

Changing the parameters "200" - "800" can only be carried out after entering the template code and may only be performed by authorised and qualified personnel.

Group	Param- eter	Description	Setting range	Setting range
1	102	Reverse rotation	OFF - ON	OFF
	113	Signal tone on changing ranges	OFF - ON	OFF
	114	Maximum speed in every forward pedal position	OFF - ON	OFF
2	201	Machine configuration 3 = 3811-3/55 4 = 3811-15/ 5 = 3811-16/	3 - 5	-
	209	Fullness correction value (keypad)	0 - 9	0
	210	Switch off the edge knife (at pedal posi- tion "-2")	OFF - ON	OFF
	212	Change the speed for fullness	OFF - ON	OFF
	213	Program termination at pedal position -2	OFF - ON	OFF
	214	Reference movement for fullness adjust- ment after thread trimming during pro- grammed sewing.	OFF - ON	OFF
3	301	Position "needle point top edge sewing plate"	0 – 127	0
	302	Cover-thread carrier position t.d.c.	0 – 127	107
	303	Needle position under	0 – 127	60
	304	Reverse rotation position	0 – 127	107
	305	Placed stitch position	0 – 127	7
4	401	Holdoff time "Lift presser foot " [s]	0.01 – 1.50	0.02
	402	Start inhibitor after "lower presser foot" [s]	0.01 – 1.50	0.15
	403	Thread trimming time [s]	0.01 – 0.20	0.12
	404	Time to clean the thread monitor [s]	0.01 - 1.50	0.25
5	501	Maximum speed	100 – 4200	4200
	504	Soft start speed	100 – 4200	1500
	505	Soft starting stitches	0 – 15	0

Group	Parameter	Description	Setting range	Setting range
7	701	P-section speed regulator	1 – 50	16
	702	I-section speed regulator	0 – 100	50
	703	P-section position controller	1 – 50	15
	704	D-section position controller	1 – 100	P320 MS (40) P320 ED (10)
	705	Time for position controller	0 – 100	20
	706	P-section position controller for remainder brake	1 – 50	25
	707	D-section position controller for remainder brake	1 – 50	15
	708	Maximum torque for remainder brake	0 – 100	0
	709	Minimum machine speed	3 – 64	6
	710	Maximum machine speed	1 – 42	42
	711	Maximum motor speed	1 – 42	42
	712	Positioning speed	3 – 25	18
	713	Acceleration ramp	1 – 50	35
	714	Braking ramp	1 – 50	P320 MS (30 P320 ED (10)
	715	Reference position	0 – 127	0
	716	Dead man time	0 – 255	40
	717	Motor starting current	3 – 10	8
	718	Anti-vibration filter	1 – 10	6
	719	Rotation direction assignment	0 – 1	0
	720	Reference position correction	0 – 127	64
	721	Number of increments (only with control P323 MS)	101 - 149	127
8	801	Access rights for function group 100	0 - 1	0
	802	Access rights for function group 200	0 - 1	1
	803	Access rights for function group 300	0 - 1	1
	804	Access rights for function group 400	0 - 1	1
	805	Access rights for function group 500	0 - 1	1
	806	Access rights Service	0 - 1	1

Group	Parameter	Description	Setting range	Setting range
8	807	Access rights for function group 700	0 – 1	1
	808	Access rights for function group 800	0 – 1	1
	809	Programming access rights	0 – 1	1
	810	Input access code	0 – 9999	3800)

13.10 Sewing motor errors

Message	Description
33	Invalid parameter value
34	Brake path too short
35	Communication error with limit monitoring
36	Switch-on sequence not complete
37	Too many commands
64	Mains off during initialisation
65	Excess current directly after mains on
66	Short circuit
68	Overcurrent in operation
69	No increments
70	Motor blocked
71	No incremental plug
73	Faulty motor operation
74	Incremental encoder missing for transmission/reduction
75	Control locked
170	Invalid ratio
171	Invalid zero mark
173	Motor blocked at 1st stitch
175	Starting error
222	Deadman supervision

13.11 Error message explanations

Message	Description		
E001	System error		
E002	Sewing motor E 002 /BB/xxx		
	BB = 20 : Deadman		
	02: Position forwards		
	03: Position in reverse		
	05: Position by shortest route		
	09: Write parameters		
	10: Speed		
	0 A: Reset stitch counter		
	0 B: Stop after xxx stitches		
	30 : Timeout for increasing speed		
	31: Timeout from uncertain positioning		
	32: Timeout from deadman command		
	33: Timeout for deleting errors		
	34: Timeout for emergency stop		
	35 : Timeout for writing parameters		
	36: Timeout for resetting stitch counter		
	37 : Timeout for stop command after x stitches		
	38: Timeout for initialisation		
	xxx = Sewing motor controller error byte (see Chapter 13.08 Sewing motor error)		
E003	Section		
E004	Section end		
E005	Pedal activated when machine turned on		
E006	Rapid job keypad (CAN)		
E007	Ramp end		
E008	Reference for the fullness setting not found		
	1: when moving to the sensor		
	2: when moving from the sensor		
E009	Tape feed		
	1: Tape distance too large when regulating		
	2: Threading terminated after 2 attempts		
E010	Hook knife		
E011	Stepping motor step frequency too high		
E012	Free		
E013	Error from the Docu-seam system		
E014	Incorrect program number		
E015	Incorrect sewing range number		
E016	Memory full		
E017	Free		
E018	Free		
E019	External control interface		
E020	Free		
E021	Power supply overloaded (24 V)		
E022	Mains voltage		
E023	Power supply 24 V too low		
E024	Error on the CAN interface		

13.12 Inputs table

⊏1	Froo
E2	free
E3	free
E4	Start inhibitor
E5	free
E6	Knee switch
E7	free
E8	free
E9	free
E10	free
E11	free
E12	free
E13	free
E14	free
E15	Light barrier tape feed (for machines with a tape feed)
E 16	Reference for the fullness adjustment

13.13 Outputs table

01	Lift sewing foot (O1.1 and O1.2)
02	Thread trimmer (O2.1 and O2.2)
03	Tape brake
04	Stitch length 4 mm / 3 mm
05	free
06	Stitch condensation
07	Edge trimmer
08	free
09	free
010	free
011	Clean thread monitor
012	Reset thread monitor
013	Cut tape (for machines with a tape feed)
014	Blower air feed forwards (for machines with a tape feed)
015	Blower air feed (for machines with a tape feed)
016	Blower air regulation (for machines with a tape feed)

13.14 Service menu

Information about machine inputs and outputs as well as values for the pedal and the handwheel position are displayed in the service menu.

In addition, the functions shown below can be performed.





Call up "Input" mode.

S

Call up the service menu.



Description of the functions



Quit the service menu and call up the input mode.



Sewing mode

Quit the service menu and call up the sewing mode.



Set/reset the outputs

Select the desired output using the arrow functions and set "Function 1" or reset "Function 2".



Cold start

See Chapter 13.13 Run cold start.



Motors

The stepping motors for the fullness as well as the sewing motor can be moved after calling up these functions.



Stepping motor home setting

The home setting of the fullness stepping motor can be changed after calling this function.



Control panel See Chapter 9.07 Set keypad



13.16 Internet update of machine software

The machine software can be updated using PFAFF flash-programming. The PFP-boot program as well as the corresponding control software for the machine type must be installed on a PC for this purpose. The PC and machine control unit must be connected to an appropriate null modem cable (order no. **91291 99891)** to transmit data to the machine.



The PFP-boot program and the control software for the machine type can be downloaded from the PFAFF-homepage using the following path:

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

Proceed as follows to update the machine software:



No set-up, maintenance or adjustment work on the machine must be carried out whilst updating the machine software!



- Switch the machine off.
- Establish a connection between the PC (serial interface or corresponding USB adapter) and the machine control unit (RS232) by loosening the control panel connector.
- Switch on the PC and start the PFP-boot program.
- Select the machine type.
- Press the "Programming" button.
- Press and hold the boot key 1 and switch on the machine.
- Press the "OK" button. The software update is conducted and the progress of the update can be determined from the bar graph display of the PFP-boot program.
- The machine must not be switched off during the update.
- Switch off the machine and end the PFP-boot program when the update is completed.
- Release the plug-in connection between the PC and machine control unit and plug the control panel back into the machine control unit.

Switch the machine on.

Perform a plausibility check and carry out a cold start if necessary.



Further information and assistance can be found in the file "PFPHILFE.TXT", which can be called up by pressing the "Help" button from the PFP-boot program.

Wear and Tear Parts

14 Wear and Tear Parts



This list shows the most important wear and tear parts. A detailed parts list for the complete machine can be downloaded at **www.pfaff-industrial.de/de/service-support/downloads/technical**. As an alternative to the Internet download, the parts list can also be requested as a hard copy under order no. **296-12-18 591**.





15.02	Circuit diagrams		
	Refere	ence list for circuit diagrams 91-191 493-95	
	A1 A2 A3 A14	Control unit Quick P 323MS +P320 ED Control panel BDF T1 Key field Sewing head direction (OTE)	
	B16	Initiator SM1 reference	
	H1	Sewing lamp	
	M1 M3	Sewing motor Fullness stepping motor (SM1)	
	Q1	Main switch	
	S6 S17 S18	Knee switch (program advancing) Pedal nominal value transmitter Synchronizer PD3	
	X1 X1A X1B X3 XR3 XS3 X4B X5 X8 X11A X11B X13 X21 X22 X36 X46 X51 X52 X53 X54 X57	Mains plug RS232 - Interface 1 Control panel BDF T1 VSS Sewing head direction (OTE) Incremental encoder (control unit) Incremental encoder (sewing motor) Synchronizer PD3 Stepping motor Fullness (SM1) Inputs Sewing motor CAN Interface (key field) Pedal nominal value transmitter Outputs Stepping motor Fullness (SM1) Key field Knee switch (program advancing) Initiator reference (SM1) Y1 910/ Automatic presser foot Y2 900/ Thread trimmer (option) Y3 Tape brake option Y4 Stitch length 3/4 mm only with PFAFF 3811-15/65, -16/65 Y7 Edge trimmer only with PFAFF 3811-16/65	
	Y1 Y2 Y3 Y4 Y7	910/ Automatic presser foot 900/ Thread trimmer (Option) Tape brake option Stitch length 3/4 mm only with PFAFF 3811-15/65, -16/65 Edge trimmer only with PFAFF 3811-16/65	



Version 01/09/2005

91-191 493-95 Part 1





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Table top assembly







Notes









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