

1243 1244

ADJUSTMENT MANUAL

This adjustment manual applies to machines from the serial number **7 262 020** and software version **0435/0**02 onwards.

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The illustrations in this chapter show the PFAFF **1244** two-needle sewing machine.

Various settings must be carried out only on one side with the **PFAFF 1243** single-needle sewing machine, i.e. in the right hook area.



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 power supply before all adjustment work!

Risk of injury due to accidental machine start-up!

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

13.01 Tools, gauges and other accessories

- 1 set of screwdrivers with knife widths from 2 to 10 mm
- 1 set of wrenches with jaw widths from 7 to 14 mm
- 1 set of Allen keys from 2 to 6 mm
- 1 metal ruler (order no. 08-880 218-00)
- Needle rise gauge (order no. 61-111 600-02)
- Screw clamp (order no. 61-111 600-35)

13.02 Abbreviations

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

13.03 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)

13.04 Adjusting basic machine

13.04.01 Feed dog position

Rule

- 1. The feed dog should have the same clearance on the right and left in the needle plate cutout.
- **2.** The feed dog should have the same clearance in the needle plate cutout in its front and rear turning point with maximum stitch length regulation.





• Loosen both of the screws 1 and 2.

- Adjust the rock shaft **3** according to **rule 1**.
- Tighten the screws 1.
- Set the maximum stitch length.
- Turn the rock shaft **3** according to **rule 2** and tighten the screws **2**.



The surfaces of the tacks 4 must face the screws 1 and the rock shaft 3 must have no backlash nor move sluggishly.

13.04.02 Feed dog height

Rule

The bottom transporter should protrude above the needle plate by the tooth height in its upper turning point at stitch length regulation "0".





- Set the stitch length to "0".
- Move the feed dog to its upper turning point by turning the handwheel.
- Adjust the bracket 1 (screws 2) according to the rule.

Needle position to needle hole 13.04.03

Rule

The needle should pierce the middle of the needle hole exactly (with stitch length regulation "0").



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- Set the stitch length to "0" and move the needle bar to t.d.c.
- Loosen the screws 1, 2 and 3.
- Move the needle directly over the needle hole by turning the handwheel.
- Move the needle bar frame 4 according to the rule.
- Tighten the screws 1, 2 and 3.

Needle height (pre-calibrating) 13.04.04

Rule

When the needle bar is in b.d.c., the clearance between the needle bar and needle plate should be 15 mm.



• Adjust the needle bar 1 (screw 2) without twisting according to the rule.

13.04.05 Feeding motion

Rule

The feed dog should not move when the reverse-feed lever is activated with maximum stitch length regulation and when the needle bar is in t.d.c.





• Set the maximum stitch length.

- Loosen the screws 1 until the eccentric 2 is difficult to turn on the shaft.
- Move the needle bar to t.d.c.
- While maintaining this position, initially position the eccentricity of the eccentric 2 to "down" and then adjust it slightly so that it complies with the rule when the reverse-feed lever is activated.
- Tighten the screws 1.



13.04.06 Feed lifting motion

Rule

- 1. The bottom transporter should be in its upper turning point when the needle bar is in b.d.c.
- 2. The tooth tips of the feed dog should be at the same level as the surface of the needle plate with maximum stitch length regulation when the needle points pierce the middle of the needle holes.





- Move the needle bar to b.d.c.
- Turn the eccentric 1 (screws 2) according to rule 1.
- Tighten the accessible screw 2 in this position so that the eccentric 1 is still difficult to turn.
- Turn the eccentric 1 a little further according to **rule 2**.
- Tighten both the screws 2.

13.04.07 Home position of roller presser drive

Rule

- 1. The clamping surfaces of the lever **1** in the front turning point position should be horizontal with maximum stitch length regulation.
- 2. The lever **3** should be in the centre of the cutout in the lever **1**.
- 3. The lever 5 should have a clearance of 8 mm (model N8) to the side cover at its rear turning point.





- Set the maximum stitch length.
- Turn the lever 1 (screw 2) according to rule 1.
- Turn the lever 3 (screw 4) according to rule 2.
- Turn the lever 5 (screw 6, accessible from the top through the hole in the housing) according to rule 3.

13.04.08 Synchronisation of roller presser and feed dog

Rule

The feed motion of the roller presser and feed dog must be equal.





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

13.04.09 Release of roller presser when reverse sewing

Rule

- 1. The roller presser should be released when sewing in reverse (cylinder ${\bf 8}$ activated).
- 2. When the roller presser and feed dog are lowered, there should be a clearance of
 - 0.5 mm between the c-lock pin 6 and the bearing 7 when the cylinder 8 is not activated.





Adjust the valve 1 (screws 2) so that the valve 1 is switched between the scale setting 0 and 1 when the lever 3 is activated.

• Adjust the coupling part 4 (screws 5) according to rules 1 and 2.

13.04.10 Hook-to-needle clearance, needle bar rise, needle height and needle guard

Rule

When the needle rise is positioned 2.0 mm after b.d.c. of the needle bar (on model C) and 2.4 mm (on models C/D and D):

- The hook point should be at the needle midpoint and have a clearance of 0.05 to 0.1 mm to the needle.
- 2. The upper edge of the needle eye should be **0.8** to **1.0 mm** under the tip of the hook point.
- 3. The needle guard **5** should lightly touch the needle.





Loosen the screws 1, 2 and 3.

- Move the needle bar to b.d.c. and slide the feeler gauge corresponding to the version with its cutout tightly under the lower needle bar bearing. Move the screw clamp so that it touches the feeler gauge and tighten it.
- Remove the feeler gauge and turn the handwheel in the direction of rotation until the screw clamp rests on the needle bar bearing.
- Adjust the hook bearing bracket 4 according to rule 1.
- Tighten the screws 1
- Set the hook point on the middle of the needle and take care that the needle is not squeezed by the needle guard **5**.
- Tighten the screws 2, ensuring that the bevel gear 6 is not too tight, but that there is not too much play on the hook.
- Adjust the retaining collar 7 up against the bevel gear 6 and tighten the screws 3.
- Adjust the needle height according to **rule 2**.
- Align the needle guard **5** according to **rule 3**.



With the PFAFF **1244** it is important to readjust the position of the connecting rod to the thread trimmer after changing the needle gauge (see **chapter 13.05.10 Connecting rod**).

13.04.11 Bobbin lifter (make this adjustment on both bobbin lifters with the Pfaff 1244).

Rule

The needle thread should not become jammed between the bobbin lifter 1 and the bobbin case base 3 or between the retaining lug 4 and the retaining dog of the needle plate.



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- Thread the machine and insert the testing material.
- Fit the roller presser.
- Sew a few stitches by turning the handwheel and carry out a check according to the rule.
- Turn the bobbin lifter 1 (screw 2) according to the rule.

13.04.12 Safety clutch



The safety clutch **4** is set ex works. If the thread jams, the safety clutch **4** disengages to avoid damage to the hooks. The process to engage the clutch is described below.



Remove the thread jam.

• Press the catch 1 and turn the handwheel until the pawl 2 engages in the groove 3.

13.04.13 Clearance between roller presser and needle plate

Rule

The clearance from the raised roller presser to the needle plate should be 5 **mm** in machines with a roller presser.





• Raise the roller presser with the hand lever.

Reduce the pressure on the roller presser (screw 1).

• Adjust the presser rod 2 (screw 3) according to the rule.

• Make the adjustment as explained in chapter 13.04.14 Roller presser pressure.

Roller presser pressure 13.04.14

Rule

The material should be transported properly even at top sewing speed.



• Turn the screw 1 according to the **rule**.



The pressure can also be increased with the screw 2 in machine versions with a D.

13.04.15 Needle thread tension release

Rule

When the presser foot is raised, both tension discs should be at least 0.5 mm apart.



The clearance of **0.5 mm** is the minimum size and may be over **1 mm** with thick types of yarn.





Raise the presser foot with the hand lever.

• Align the pressure plate 1 behind the tension mounting plate 2 according to the rule.



The release pin 3 must not be loaded with effective tension.

13.04.16 Thread check spring (with the PFAFF 1243 and PFAFF 1244 without thread trimmer -900/56)

Rule

The movement of the thread check spring **5** should be finished when the needle point punctures the material (spring deflection = approx. **7 mm**).



The length of the thread check spring deflection may deviate slightly upwards or downwards for reasons relating to the sewing technology.





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

Turn the screw 3 (screw 4) to set the spring tension

13.04.17 Thread check spring (with the PFAFF 1244 with thread trimmer -900/56)

Rule

The movement of the thread check springs 1 and 6 should be finished when the needle points puncture the material (spring deflection = approx. 7 mm).



The length of the thread check spring deflection may deviate slightly upwards or downwards for reasons relating to the sewing technology.





- Turn the screw 2 (screw 3) to set the spring tension of the thread check spring 1.
- Turn the support 4 (screw 5) according to the rule.
- Turn the screw 7 (screw 8) to set the spring tension of the thread check spring 6.
- Turn the support 9 (screw 10) according to the rule

13.04.18 Bobbin winder

Rule

- When the bobbin winder is switched on, the bobbin winder spindle should be moved easily; when the bobbin winder is switched off, the friction wheel 5 must not touch the drive wheel 1.
- The bobbin winder should switch off automatically when the fill amount is still around 1 mm from the edge of the bobbin.





• Adjust the drive wheel 1 (screws 2) according to rule1.

• Adjust the bolt **3** (screws **4**) according to **rule 2**.

13.05 Adjusting thread trimmer -900/56

13.05.01 Control cam (pre-calibrating)

Rule

- The bearing surface of the control cam 5 should be positioned centrally to the pawl 8 on the side.
- 2. When the thread lever is at t.d.c., the start of the largest eccentricity of the bearing surface (in the direction of rotation) should be under the tip of the pawl 8.





- Remove the catch 1 (screws 2).
- Remove the plate 3 (screws 4).
- Loosen the four screws of the control cam 5 and the screws 6 of the retaining collar 7.
- Move the control cam 5 sideways according to rule 1.
- Adjust the retaining collar 7 in this position so that it touches the control cam 5 and tighten the screws 6.
- Move the thread lever to t.d.c. by turning the handwheel.
- Turn the control cam 5 in the direction of rotation according to rule 2, ensuring that it rests on the retaining collar 7.
- Tighten the four screws of the control cam 5 in this position.

13.05.02 Tripping lever

Rule

The bevelled bolt of the tripping lever **6** (see arrow) should drop easily into the track of the control cam **7** when the engaging lever **8** is activated in the needle rise position.





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- Unscrew the screw 1 and swivel the connecting rod 2 away.
- Loosen the screws **3** and **4**.
- Move the needle bar to the needle rise position by turning the handwheel.
- Move the clamping piece 5 until it abuts the housing on the right.
- While maintaining this position, press the tripping lever 6 to the bottom of the cam track and adjust according to the rule.
- Tighten the screw **3** in this position.

The screw 4 remains loosened to set the release cam.

13.05.03 Pawl

Rule

There should be a clearance of **0.3** mm between the largest eccentricity of the control cam **1** and the pawl **2** when the thread trimmer is in the neutral position.





Position the control cam 1 with its largest eccentricity under the pawl 2 by turning the handwheel.

• Adjust the bearing bolt **3** (screw **4**) according to the rule.

13.05.04 Engaging solenoid

Rule

There should be a clearance of **0.3** mm between the engaging lever **2** and the pawl **3** in the needle rise position and when the engaging solenoid **5** is activated.





- Loosen the screw 1 until the engaging solenoid is hard to push.
- Activate the engaging lever 2 by hand so that the pawl 3 drops into place.
- Press the magnet armature 4 into the magnet housing 5 up to the stop and adjust the magnet housing together with the magnet armature according to the rule.
- Tighten the screw 1 in this position.

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13.05.05 Release cam

Rule

There should be a clearance of approx. **0.3 mm** between the tripping lever bolt and the bottom of the cam track in the needle rise position and when the engaging lever **4** is dropped in place.





- Move the machine to the needle rise position.
- Activate the engaging lever 1 by hand so that the pawl 2 drops into place.
- Press the tripping lever 4 to the bottom of the control cam 5, ensuring that the screw 3 is still loosened.
- While maintaining this position, move the release cam 6 in the direction of the arrow so that it touches the engaging lever 1 and the side of the tripping lever 4 and then gently tighten the screw 3.
- Create a clearance between the bolt and the bottom of the cam track according to the rule by gently knocking on the release cam 6 in the direction of the arrow and tapping on the tripping lever 4 at the same time.
- Tighten the screw **3** in this position.

13.05.06 Engaging lever

Rule

When the needle bar is at t.d.c. and the tripping lever **3** is in the basic position, there should be a clearance of approx. **0.3 mm** between the bolt **4** and the outside diameter of the control cam **5**.





- Move the needle bar to t.d.c. by turning the handwheel.
- Turn the screw 1 (nut 2) according to the rule.
- Carry out a check by tapping on the tripping lever 3.

13.05.07 Connecting rod

Rule

The lever **6** should lift off the stop **7** when the shaft **9** starts to move with a sliding motion.





- Fasten the ball head 1 to the tripping lever 3 with the screw 2.
- Loosen the nuts 4 (right and left-hand thread).
- Move the machine to the needle rise position and activate the engaging lever 5 by turning the handwheel.
- Turn the connecting rod 8 according to the rule, ensuring that the lever 6 rests on the stop 7 (see arrow).
- Tighten both of the nuts 4 in this position.

13.05.08 Control cam (pre-calibrating)

Rule

The movement of the thread catcher **5** should start when the tripping lever **3** is dropped in place and the point of the needle coming from b.d.c. is positioned **12 mm** above the needle plate.





- Quickly move the thread lever after t.d.c. by turning the handwheel and loosen the accessible screws of the control cam 1.
- Continue turning the handwheel in the direction of rotation until the machine is in the needle rise position and then activate the engaging lever 2.
- Loosen the remaining screws of the control cam 1, ensuring that the tripping lever 3 has dropped in place.
- Continue turning the handwheel in the direction of rotation until the needle point is positioned 12 mm above the needle plate.
- Turn the handwheel in the direction of rotation in this position until you feel resistance, ensuring that the control cam 1 rests on the retaining collar 4.
- Tighten the accessible screws of the control cam 1 in this position.
- Make the remaining screws of the control cam 1 accessible and tighten them.

13.05.09 Catch

Rule

There should be a clearance of approx. **5 mm** between the catch **1** and the tripping lever **6** when the thread trimmer is in the neutral position.





- Gently secure the catch 1 and the cover plate 2 with the screws 3.
- Move the catch 1 to the stop in the direction of the arrow and move it sideways according to the rule.
- Tighten the screws **3** in this position.
- Attach the plate 4 with the screws 5.

13.05.10 Connecting rod (only with the PFAFF 1244)

Rule

The length of the connecting rod 2 should correspond to the clearance between the shaft 3 and the shaft 4 when the thread trimmer is in the neutral position.





Loosen the nuts 1 (right and left-hand thread) when the thread trimmer is in the neutral position.

- Turn the connecting rod **2** according to the **rule**.
- Tighten the nuts 1.

13.05.11 Thread catcher height (make this adjustment on both thread catchers with the PFAFF 1244)

Rule

If the thread catcher 2 is pushed forward by hand when the thread lever is at t.d.c., the lower thread catcher point should be 0.1 mm above the back of the hook 4.





- Loosen the screw 1 until the thread catcher 2 can be turned.
- Loosen the screws in the retaining collar **3**.
- Move the thread lever to t.d.c. by turning the handwheel.
- Move the thread catcher 2 according to the rule.
- Tighten the screws of the retaining collar 3 in this position, ensuring that the retaining collar 3 rests on the shaft bushing.



The screw 1 remains loosened for the subsequent adjustment.

13.05.12 Knife (make this adjustment on both knives with the PFAFF 1244)

Rule

- 1. The elongated hole of the knife 3 should run parallel to the knife carrier 5; the knife should not rest on the metal edge (see arrow).
- 2. If the tip of the thread catcher 4 protrudes approx. 3 mm above the knife edge, the knife 3 should slightly touch the thread catcher 4.



• Loosen the screws 2.

- First adjust the knife **3** so that it cannot collide with the thread catcher **4**.
- Turn the thread catcher 4 by hand according to rule 2, ensuring that the screw 1 is loosened.
- Move the knife 3 slightly so that it touches the thread catcher 4 and align it according to rule 1.
- Tighten the screws **2** in this position.



The screw 1 remains loosened for the subsequent adjustment.

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13.05.13 Thread catcher reverse position (make this adjustment on both thread catchers with the PFAFF 1244)

Rule

The back edge of the thread catcher **3** should be flush with the cutting edge of the knife **4** when it is in the front turning point (see arrow).





Move the machine to the needle rise position and activate the engaging lever, ensuring that the screw 1 is loosened.

- Move the rock shaft 2 to its left turning point by continuing to turn the handwheel.
- While maintaining this position, turn the thread catcher **3** according to the **rule**.
- Tighten the screw 1 in this position, ensuring that there is no vertical play.

13.05.14 Bobbin thread clamp spring (make this adjustment on both clamp springs with the PFAFF 1244)

Rule

- 1. There should be a clearance of **0.3 mm** between the clamp spring **5** and the underside of the thread catcher **4**.
- 2. The tips of the clamp spring 5 should be flush with the back edge of the thread catcher 4 when the thread catcher 4 is in the front turning point (see arrow).
- 3. There should be a clearance of approx. 12 mm between the inner edge of the clamp spring 5 and the guide bushing 7.
- 4. It should be easy to insert and remove the bobbin case from the hook.





- Remove the spring 3.
- Swivel the thread catcher 4 by hand over the clamp spring 5.
- Bend the clamp spring **5** according to **rule 1**.
- Insert the spring 3.
- Move the machine to the needle rise position, activate the engaging lever and move the thread catcher to its front turning point by turning the handwheel.
- Align the clamp spring 5 (screws 6) and the bracket 1 (screws 2) if necessary in the elongated hole according to rules 2 and 3.
- Tighten the screws 2 and 6 in this position, ensuring that the bracket 1 is still parallel to the machine bed plate.



Check the height of the spring below the bobbin in the hook if you have sewing problems after trimming the thread!

The height of the spring should be approx. 1 mm.

mm

13.05.15 Tension release lever

Rule

- 1. There should be a clearance of approx. **7 mm** between the left edge of the release lever **8** and the housing **9** when the thread trimmer is in the neutral position and the roller presser is raised.
- 2. The tension discs should be loosened far enough that the needle thread can be pulled through easily when the tip of the thread catcher **5** is at the same level as the back edge of the stop cam **6** of the needle plate (see arrow) when the roller presser is fitted.





• Raise the roller presser, ensuring that the thread trimmer is in the neutral position.

Loosen the screws 1.

• Adjust the height of the actuating lever 2 (screws 3) according to rule 1.



The angle bracket 4 should be unscrewed to access the screws 3 in machines without automatic backtacking and presser foot lift (-911/97).

- Move the machine to the needle rise position and activate the engaging lever by hand by turning the handwheel.
- Lower the roller presser onto the needle plate.
- Set the tip of the thread catcher 5 to the same height as the edge of the rear stop cam 6 of the needle plate by continuing to turn the handwheel and use the retaining collar 7 to push the release lever 8 to the left according to rule 2.
- Tighten the screws 1 in this position.



The eccentricity of the retaining collar 7 must point downwards.

13.06 Adjusting lifting lever with subclass -911/97

Rule

When the automatic presser foot lift is activated

- 1. The roller presser must lift **5 mm** off the needle plate and
- 2. The tension discs of the thread tension must be $0.5\ mm$ apart.



- Check and make the adjustment as explained in chapter 13.04.13 Clearance between roller presser and needle plate.
- Turn the nut 1 according to rule 1.
- Adjust the lever 2 (screw 3) according to rule 2.
- Check if the raised hand lever lowers under its own weight when the automatic presser foot lift is activated; readjust the nut **1** accordingly if necessary.

13.07 Adjusting lifting lever without subclass -911/97

Rule

When the knee lever is activated

- 1. The roller presser must lift **5 mm** off the needle plate and
- 2. The tension discs of the thread tension must be 0.5 mm apart.



- Check and make the adjustment as explained in chapter 13.04.13 Clearance between roller presser and needle plate.
- Turn the linkage 1 (nut 2) according to rule 1.
- Adjust the lever **3** (screw **4**) according to **rule 2**.
- Check if the raised hand lever lowers under its own weight when the knee lever is activated; readjust the linkage 1 accordingly if necessary.

13.08 Parameter settings

The separate parameter list for the machine describes how to select the user level and change parameters (see chapter 1.1.2 Technician level).

13.09

Internet update of control P40 CD

- You need a dongle with the appropriate machine software to be able to perform a control update.
- You can obtain an empty dongle using the order number 72-250 303-91.
- The "DongleCopy" PC tool is needed to upload software onto the dongle.



A description of how to perform an Internet update of **control P40 CD** as well as the **"DongleCopy" PC tool** can be downloaded from the Internet address **https://partnerweb.pfaff-industrial.com/**.

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Circuit Diagrams 91-191 585-95











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