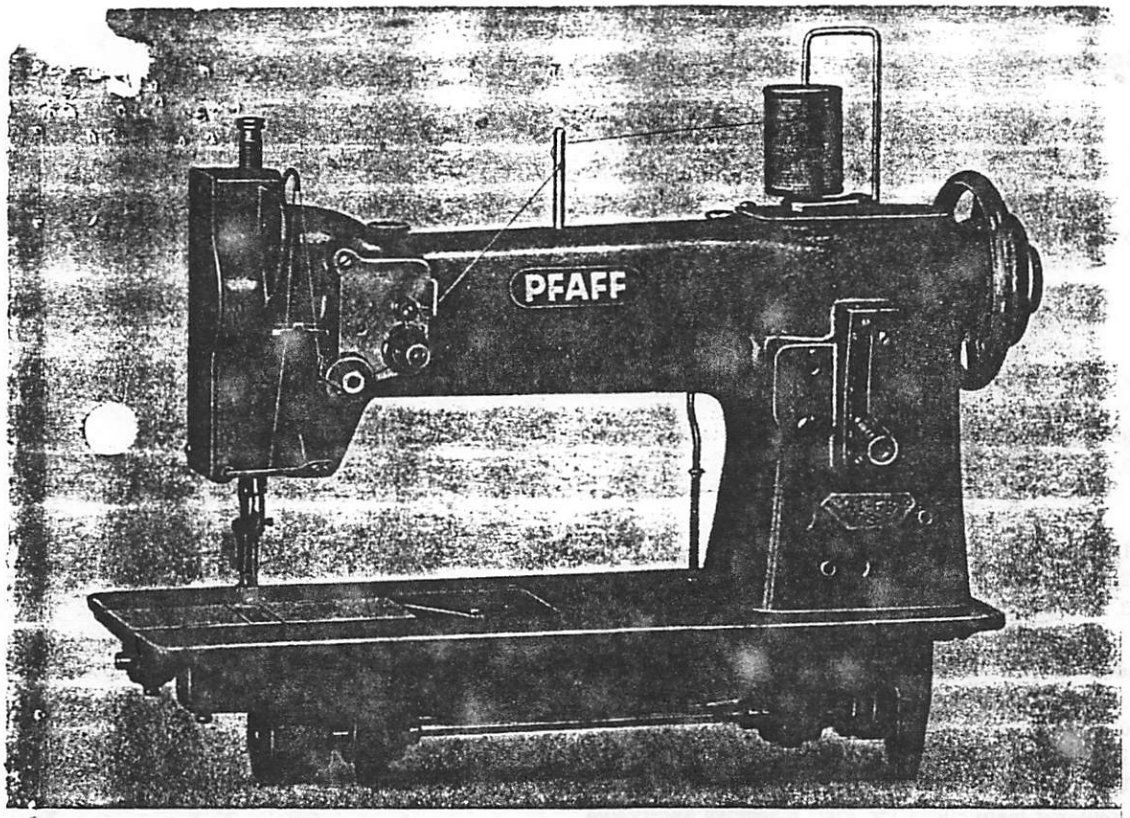

R 6499

PFAFF®

141; 143; 145; 151; 153

541; 543; 543-712; 545; 555

Single-needle flatbed sewing machines

and

PFAFF®

142; 144; 146

542; 542-748/01; 544; 546; 546-748/01

Two-needle flatbed sewing machines

Instruction Book

Contents

1. General

Since the operation of the machines listed on the title page is more or less the same the general instructions compiled in this book apply to all of them.

Additional instructions for the Pfaff 141-705/03; 141-705/03-725/01; 142; 143-705 03; 144; 145; 146; 151; 153; 552-748/01; 543-712/..; 546-748/01; 4141; 4145 and -900'.. appear at the back of this booklet.

We reserve the right to make alterations serving progress. The illustrations in this book are also subject to change.

It is recommended to run these machines at the following top speeds:

Pfaff 143	3 000 s.p.m.	Pfaff 4141	2 200 s.p.m.
Pfaff 141 and 144	2 900 s.p.m.	Pfaff 545 H3	2 100 s.p.m.
Pfaff 142	2 800 s.p.m.	Pfaff 546 H2	1 900 s.p.m.
Pfaff 151 and 544	2 700 s.p.m.	Pfaff 546 H3	1 800 s.p.m.
Pfaff 153 and 542	2 600 s.p.m.	Pfaff 545 H4	1 700 s.p.m.
Pfaff 543	2 500 s.p.m.	Pfaff 4145	1 600 s.p.m.
Pfaff 145 and 541	2 400 s.p.m.	Pfaff 546 H4	
Pfaff 146	2 300 s.p.m.	and 543-712/..	1 400 s.p.m.

When sewing tightly woven and heavily dressed materials, the sewing speed should be reduced in order to prevent overheating of the needle.

The maximum speed of two-needle machines decreases as the needle gauge increases. The maximum speeds which can be attained with machines fitted with special attachments or trimming mechanisms are often far below the recommended top speeds because the nature of the work and the thickness of the material tend to limit the machine's capacity. If the maximum speed is exceeded, trouble may develop chiefly in the trimming mechanism.

To avoid trouble in the mechanism, run the machine at about 75 per cent of its top speed until the parts which are in movable contact have become thoroughly glazed by their action upon each other. This should normally be the case after about two weeks' constant use.

All machines are regularly equipped with a fixed pulley which is cast in one with the balance wheel. If desired, however, these machines can be supplied with a disengageable pulley.

If fitted with the latter type pulley, the machine is dispatched with the sewing mechanism disengaged. To engage this mechanism for sewing, hold the balance wheel steady with your left hand and turn the large lock nut clockwise.

2. Fundamentals of machine operation

Before you put the machine in operation for the first time, carefully remove all dust which has accumulated in transit and oil the machine thoroughly (see Chapter 3).

Oil the machine only with Pfaff sewing machine oil which is non-resinous and acid-free.

Check to make sure the finger, take-up lever and belt guards are properly fitted.

Never run a threaded machine unless you have fabric under the presser foot or the vibrating presser.

Before you start sewing, lay both threads back under the presser foot.

To prevent thread jamming, hold both thread ends until the machine has made a few stitches.

Do not pull the material during sewing; the machine will feed the fabric automatically.

Use needles of the correct system only (see Chapter 6).

Never use rusty needles.

Use high-quality threads only.

Always bring the take-up lever to its highest point before you remove the material.

3. Cleaning and oiling

Careful cleaning and regular oiling will increase the service life of your machine.

After you have removed the dust which has accumulated on the machine in transit, take a clean rag and remove the grease from all nickel-plated and polished parts. Apply a few drops of kerosene to all oiling points marked with dash lines in Figs. 1, 2 and 3, raise the presser foot, unthread the needle, remove the bobbin case and let the machine run briefly. Apply a few drops of Pfaff sewing machine oil No. 280-1-120122 to all points of friction.

While these points of friction should be oiled twice a week, the sewing hook must be oiled each day the machine is in operation. Make particularly sure that oil is applied to oilhole **R** (Fig. 4).

Although the bevel gears are enclosed in cases and require no special maintenance, it is recommended to replace the old grease by Pfaff grease No. 280-1-120 243 once a year. Owing to the special lubricating properties of this grease, the flanks of the bevel gear teeth should be greased only lightly.

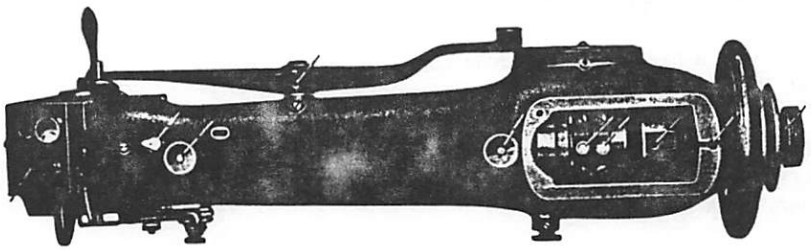

Fig. 1

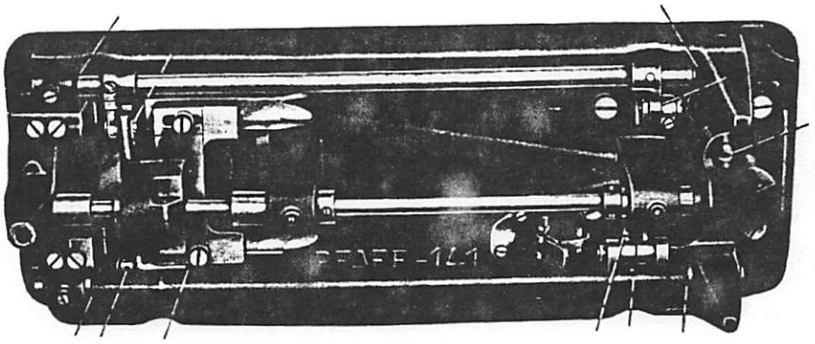

Fig. 2

From time to time remove the needle plate after taking out set screws **14** and **15** (Fig. 4) and remove the lint which has accumulated underneath. It is recommended at the same time to dismantle the sewing hook and clean it thoroughly (see Chapter 13). In replacing the needle plate make sure that position finger **F** (Fig. 13) on the bobbin case base enters slot **P** on the underside of the needle plate.

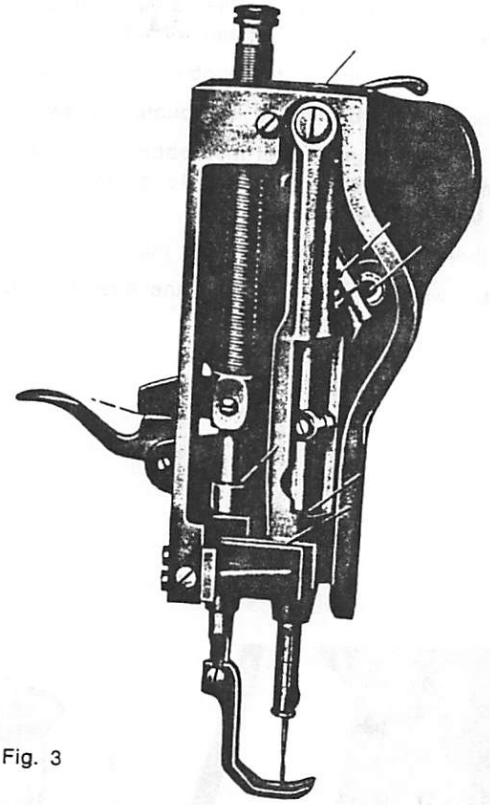

Fig. 3

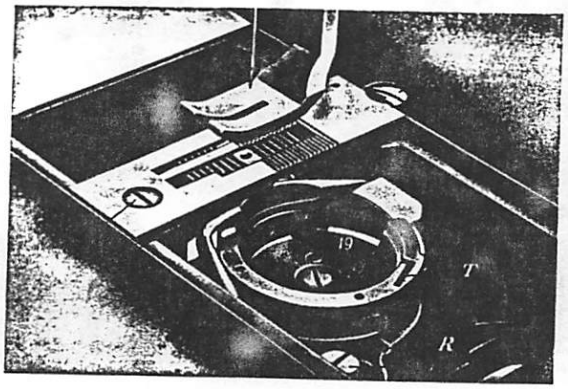

Fig. 4

4. Winding the bobbin

Place a spool of thread on pin **1** (Fig. 5) and pass the thread from left to right through eyelet **2**, clockwise around and between tension discs **3** and from the inside through the slot in the bobbin. Wind a few turns of thread on the bobbin and place the latter on spindle **4**. Start the bobbin winder by pressing down lever **5**. The bobbin is wound automatically while the machine is sewing. When a sufficient amount of thread has been wound on the bobbin, a latch stops the bobbin winder.

The amount of thread to be wound on the bobbin is regulated by screw **6**.

Turn this screw clockwise for more thread, or counter-clockwise for less thread.

If the thread should pile up at one end of the bobbin, adjust the position of the bobbin winder tension sideways, as may be required. To do this, loosen screw **7**, adjust th tension and tighten the set screw again.

The tension on the thread is regulated by turning nut **8**.

Make sure the bobbin winder pulley rotates in the direction indicated by an arrow in Fig. 5.

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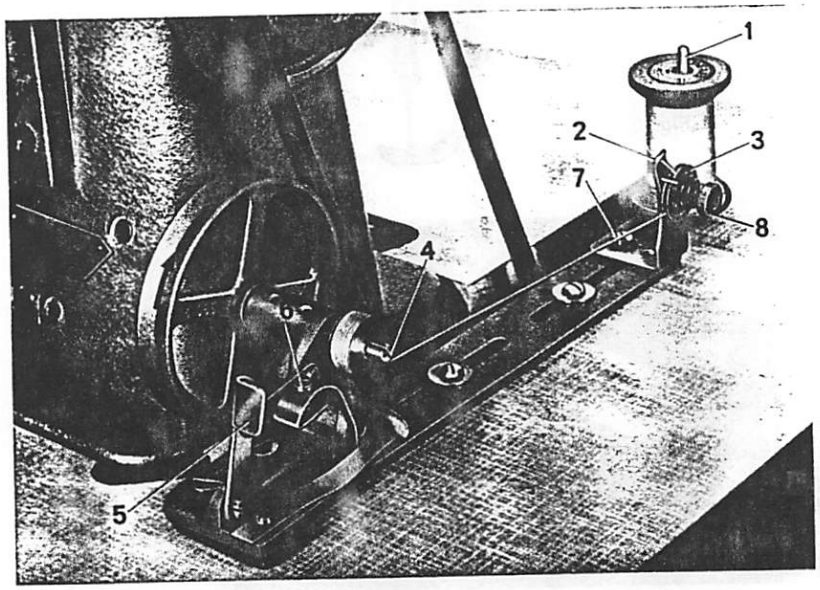

Fig. 5

5. Changing the bobbin and threading the bobbin case

Raise the needle to its highest position and open the bed slide. With the thumb of your right hand open latch **B** (Fig. 6), then push the thumb nail under the projecting flange **C** of the bobbin case cap and lift the latter out of the machine with thumb and fore-finger. The bobbin is now exposed in the bobbin case base and can be taken out easily.

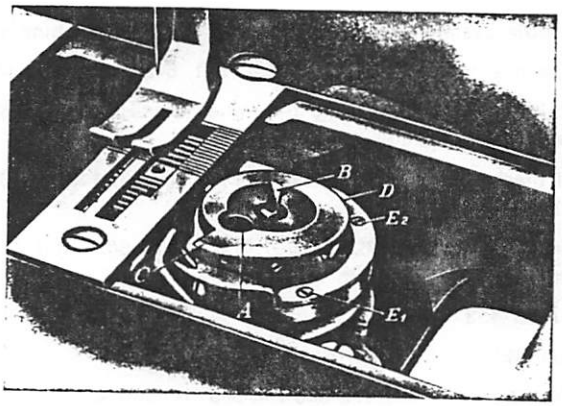

Fig. 6

Place a full bobbin in the bobbin case cap so that the thread draws on top from left toward the right, as shown in Fig. 7.

Hold the bobbin steady in the bobbin case, pull the thread into slot **X** and draw it under tension spring **Y**. Leave a loose end of thread about 7 mm long outside the bobbin case.

Place the bobbin case with the bobbin on the center stud in the bobbin case base and close latch **B** (Fig. 6) as well as the bed slide.

Note that the rotary hook of Pfaff machines 151 and 153 is located on the left of the needle plate.

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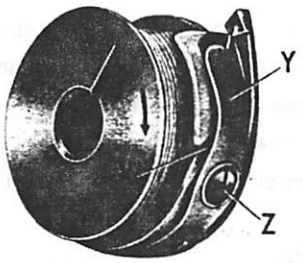


Fig. 7

6. Selecting the correct needle

To ensure reliable stitch formation, check to see that the correct needle is inserted in the machine.

Needle systems

The following needle systems are used for the individual machine classes:

134 for Pfaff machines 141, 142, 143, 144, 151, 541, 542, 543 and 544.

34 for Pfaff machines 142; 144; 542 and 544, when these machines have needle holders with smaller holes (shank size 1.65 mm).

134–35 for Pfaff machines 142-732/09, 142-732/11, 145 H3, 146 H3, 545 H3, 546 H3, 555 H3 and 4141

134 FLG for Pfaff machines 142-720/01-6/01, 142-721/01-6/01 and 144-720/01 in needle gauges from 1.6 to 2.2 mm inclusive.

134 KK for the Pfaff 153.

134 RER and 134 REL for the Pfaff 546 H2.

190 for the Pfaff 543-712/ . . , 545 H4, 546 H4, 555 H4, and 4145 H3.

Needle point styles

These needles are available with different type points to suit different requirements. The various needle point styles are identified by a letter following the needle system, e. g. 134 R.

Fabrics are stitched with a round-point needle, identified by R, while for leather work needles are available with the following styles of points:

LR		Narrow reverse twist point
LL		Narrow twist point
LACK		Patent leather point
P		Extra-narrow wedge point
PCR		Extra-narrow wedge point with right-twist groove
PCL		Extra-narrow wedge point with left-twist groove
S		Narrow cross point; for long, straight stitches
D		Triangular point; for short, straight stitches
VR		Reverse twist spear point
VL		Twist spear point

Rubberized fabrics and plastic materials are sewn with round-point needles.

Needle and thread sizes

The correct needle size is dependent on the fabric and thread weights. For best results, select the needle as thin as possible, but make sure the thread can be pulled through the needle eye easily. The needle size (Nm) is indicated on the shank in hundredths of a millimeter.

Select the proper needle and thread sizes from the chart below:

Needle size (Nm)	Cotton	Silk	Synthetic	Linen
60	130/3 130/4	140/3	200/3–150/3	
70	130/3 100/4	140/3	140/3–120/3	
80	80/3 80/4	100/3	120/3–100/3	
90	70/3–60/3 70/4–60/4	80/3	100/3– 80/3	70/3
100	50/3–40/3 50/4–40/4	70/3	70/3	60/3
110	30/3 30/4 30/6	60/3	60/3	50/3
120	24/3 24/6	50/3	50/3	40/3
130	20/3	40/3	40/3	35/3
140	12/3 12/6	30/3	30/3	30/3
150	10/9 8/6	25/3	20/3	25/3
160	6/6	20/3	18/3	20/3
170	6-ply fancy-effect thread	10/3	15/3 10/3	20/3
180	9-ply fancy-effect thread	10/3	0.6 mm dia.	18/3

The needle size should be selected to match not only the thread weight, but also the machine model, as follows:

Model **A**: Needle sizes 60— 70
Model **B**: Needle sizes 80—100
Model **C**: Needle sizes 110—140
Model **D**: Needle sizes 160—180

The needle size is indicated on the shank in hundredths of millimeters. Thus, a No. 100 needle has a shaft diameter of 100/100 = 1 mm.

7. Changing the needle

Raise the needle bar to its highest point, loosen the needle set screw half a turn, and pull the damaged needle out of the needle clamp.

Insert a new needle into the clamp, making sure that its short groove faces toward the sewing hook. Push the needle up as far as it will go and tighten the needle set screw securely.

Never use rusty needles.

8. Threading the needle

Pass the thread from spool **1** (Fig. 8) through the holes in stud **2** and thread guide **3**, around thread retainer **4**, clockwise around and between tension discs **5**, under thread controller disc **6**, through thread check spring **7**, up and through thread guide **8**, from right to left through the hole in take-up lever **9**, then down and through thread guides **10**, **11** and **12**, and from left to right through the eye of the needle.

The spool holder on top of the machine arm will be supplied on special request only because the thread stand which is supplied with the machine regularly ensures a smoother passage of the thread to the needle.

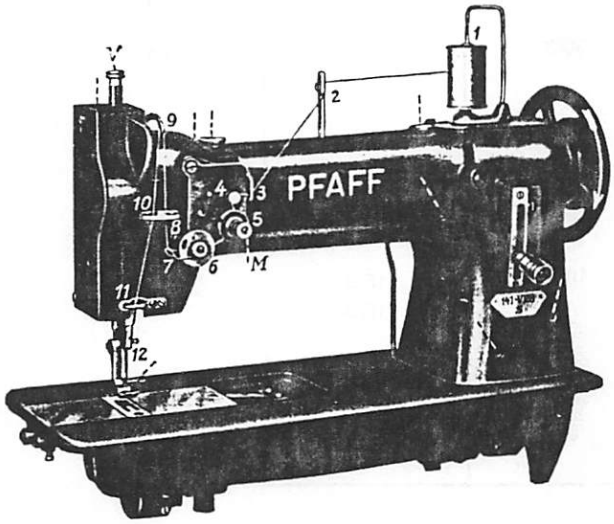


Fig. 8

9. Drawing up the bobbin thread

Hold the end of the needle thread and turn the balance wheel toward you, as indicated by an arrow in Fig. 8, until the needle moves down and up again. As the needle moves up, it catches the bobbin thread which comes up with it through the needle hole. Lay both threads back under the presser foot, place the material in the machine and lower the presser foot. Hold the ends of both threads until the machine has made a few stitches.

10. Regulating the thread tension

Adjusting the upper tension

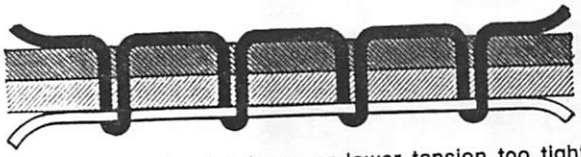
Turn tension nut **M** (Fig. 8) clockwise for more tension, or counter-clockwise for less tension.

If the upper tension is too loose, the bobbin thread will draw the needle thread down so that it forms small kinks on the underside of the material, as shown in Fig. 9.

If the upper tension is too tight, the bobbin thread will be pulled up (Fig. 10) or the needle thread will break.

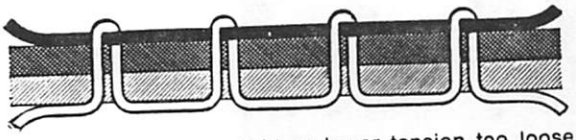
Both tensions are correctly balanced, if the needle and bobbin threads interlock in the center of the material, as shown in Fig. 11.

Fig. 9



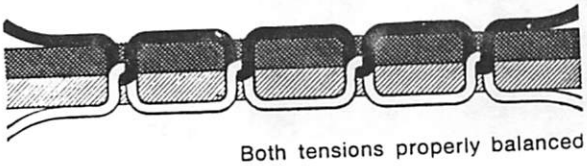
Upper tension too loose or lower tension too tight

Fig. 10



Upper tension too tight or lower tension too loose

Fig. 11



Both tensions properly balanced

When you raise the presser bar, the upper tension is released automatically so that the work can be easily removed from the machine. To do this, pull the work back (in forward feeding direction), never forward as this may cause bending of the needle, skipping of stitches or thread breaking.

Adjusting the lower tension

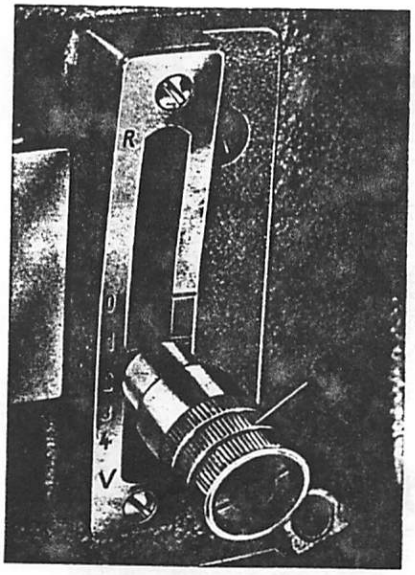
Take the bobbin case out of the machine and regulate the tension by turning screw **Z** (Fig. 7) with the hook screwdriver, as appropriate. Turn this screw clockwise for a tighter tension, or counter-clockwise for a looser tension.

The tension is correct if a noticeable resistance of spring **Y** (Fig. 7) has to be overcome when pulling the thread out of the bobbin case.

If puckering occurs on delicate materials although the tension has been set correctly, ease both tensions slightly.

11. Regulating the stitch length

The stitch length is regulated by turning thumb nut **S** (Fig. 12) on the feed regulator lever.



R 9933

Fig. 12

Turn this nut clockwise for shorter stitches, or counter-clockwise for longer stitches. The numerals on the left of the scale indicate the stitch length in millimeters. The letters **V** and **R** on the left side of the scale (Fig. 12) stand for forward and backward sewing, respectively.

All machines with the exception of the Pfaff 141-705/03 and 143-705/03 are regularly fitted with a spring-return feed regulator. This device incorporates a spring which permanently holds the feed regulator lever down in forward feeding position. When the lever is pushed up as far as it will go, the machine will sew in reverse. And conversely, when the lever is released, forward sewing will be resumed instantly.

If desired, the machine can be fitted with a pedal which makes it possible to reverse the direction of feed by foot action.

12. Regulating the pressure on the material

The amount of pressure to be exerted by the presser foot must be adapted to the material to be sewn. The pressure is set correctly if the material is advanced through the machine evenly without being injured by the teeth of the feed dog.

The pressure on the material is regulated by turning screw **V** (Fig. 8). Turn this screw in for more pressure, or out for less pressure.

Depending on the version, Pfaff 145, 146, 545, 546 and 555 machines are equipped with one or two leaf springs on the machine arm instead of the conventional presser bar spring with pressure regulating screw. On these machines the presser foot pressure is increased by turning knurled nut **V** (Fig. 13) upwards, and decreased by turning it downwards.

R 7769

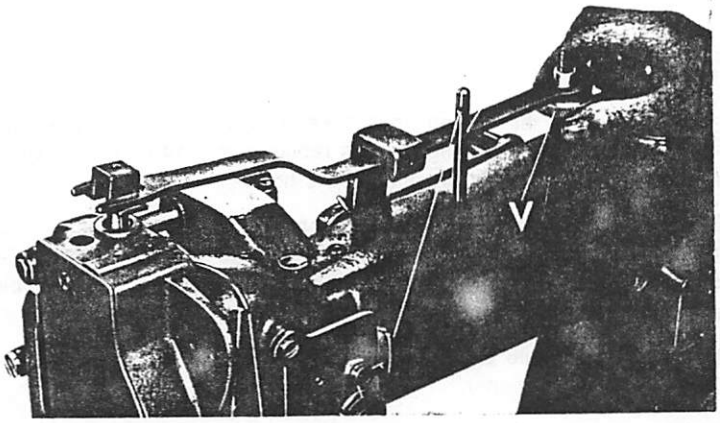


Fig. 13

13. Cleaning the sewing hook

The sewing hook is the most essential part of the whole machine and, for this reason, should be cleaned thoroughly from time to time. To do this, raise the needle bar to its highest point, open the bed slide and remove the bobbin case with the bobbin. Take out the three screws **E1**, **E2** and **E3** (Fig. 6) and strip the hook gib. Turn the balance wheel until point **S** of the bobbin case base is about to enter groove **N** of the hook (Fig. 14). When in this position, the bobbin case base can be tipped out easily by seizing center stud **Z** with thumb and forefinger while turning the balance wheel back and forth lightly.

Clean hook and hook raceway thoroughly with kerosene. If the cotton wool in slot **0** (Fig. 14) should have become matted, it should be replaced and the new cotton wool be soaked with oil.

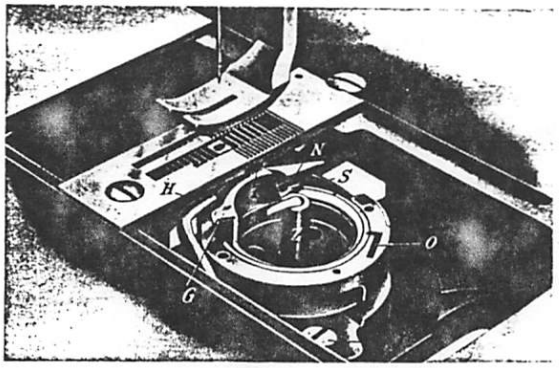


Fig. 14

To clean the parts in the vicinity of the sewing hook, take out set screw **20** (Fig. 4) and pull the hook up out of the machine. When the hook is replaced, pin **19** (Fig. 4) ensures proper positioning and eliminates the need of retiming the hook.

In replacing the bobbin case base, make sure that position finger **F** (Fig. 14) enters slot **P** on the underside of the needle plate. Replace hook gib and tighten screws **E1** – **E3**. Put a drop of oil into the hook raceway, replace the bobbin case with the bobbin and close latch **B** (Fig. 6).

Never run the machine with the needle plate removed as this may result in damage to the bobbin case or the bobbin case opener.

The above instructions also apply to all two-needle sewing machines covered by this Instruction Book.

14. The safety clutch

Model C and D machines are equipped with a safety clutch which prevents disturbance of the hook timing and damage to the bobbin case base in case of thread jamming in the hook raceway.

If an irregularly spun needle thread should jam in the hook raceway and block the sewing hook, the safety clutch automatically disengages the hook drive.

After the jammed thread has been removed, tilt back the sewing head and rotate the balance wheel, while holding the hook drive shaft steady, until the tip of the latch is positioned exactly above the groove in the clutch bushing. Now push back the spring-loaded pin so that the latch can snap into this groove.

To resume sewing, simply let down the sewing head again.

R 9343

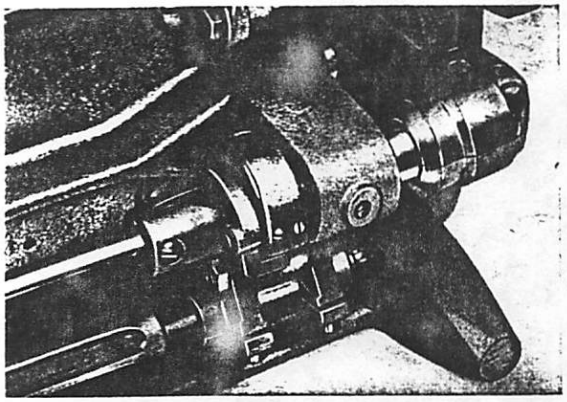


Fig. 15

Additional instructions

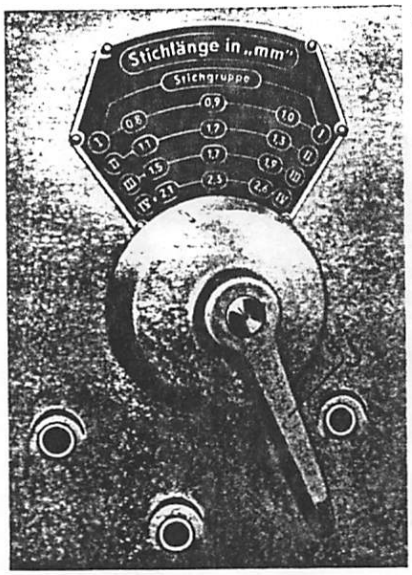
for Pfaff machines 141-705/03 and 141-705/03-725/01

The Pfaff 141-705/03 and 141-705/03-725/01 have the same feed regulator. This new mechanism makes it possible to select the proper stitch length out of twelve different stitch lengths available. These twelve stitch lengths are divided into four stitch length groups (I–IV) having three predetermined stitch lengths each (Fig. 16).

The following table lists the stitch lengths in millimeters as well as the number of stitches per inch.

For adjustment, as well as engagement and disengagement of the trimming mechanism on the Pfaff 141-705/03-725/01, see pages 19 and 20.

Stitch length group	I	II	III	IV
Stitches per inch	33 28 25½	23 21 19	17 15 13	12 11 10
Stitch length in mm	0.8 0.9 1.0	1.1 1.2 1.3	1.5 1.7 1.9	2.1 2.3 2.6
Stitches per cm	12½ 11 10	9 8 7½	6½ 5½ 5	4½ 4 3½



R 6575

Fig. 16

15. Regulating the stitch length

The stitch length is regulated as follows:

Begin by selecting the proper stitch length group from the table on p. 16 and interchange the feed gears as indicated in the feed gear housing (Fig. 18).

Press down button **K** (Fig. 17) and turn the balance wheel until the button snaps in position.

Again rotate the balance wheel backwards or forwards until notch **M** (Fig. 17) on the balance wheel is opposite the number of the stitch length group chosen (I, II, III or IV). Release button **K** and turn feed regulator lever **S** (Fig. 16) to the desired stitch length.

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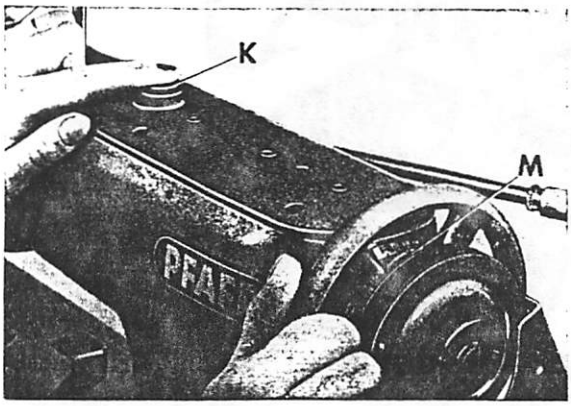


Fig. 17

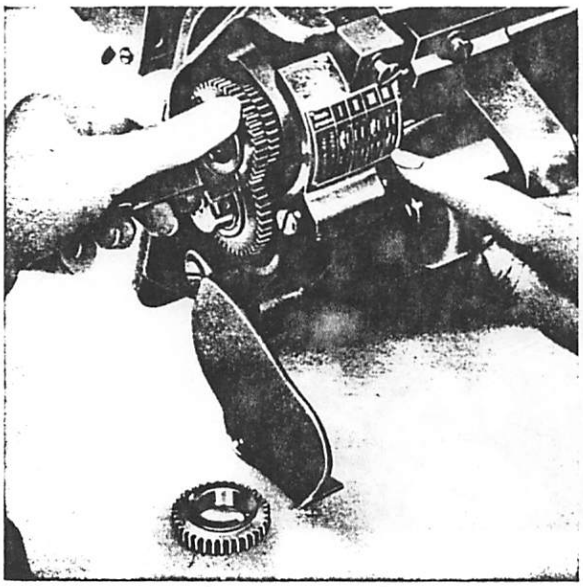
16. Changing the feed gears

Exchanging the feed gears is greatly facilitated by the wheel puller which is supplied with the machine. To pull the feed gear off its shaft, slip the fork of the wheel puller under the projecting rim of the hub and pull (Fig. 18).

Consult the diagram on the feed gear housing (Fig. 18) to see how the feed gears have to be exchanged to obtain the stitch length group and stitch length desired. Exchange the feed gears accordingly.

For better identification, the outside of the feed gears and the corresponding symbols used in the diagram are painted yellow, green, red and blue. In slipping the feed gear onto its shaft, see that the key on the shaft enters the notch in the feed gear and that the mating gears are meshed properly.

For instructions on how to adjust the trimmer of the Pfaff 141-705/03-725/01, please refer to Chapters 17 and 18.



R 6585

Fig. 18

17. Adjusting the trimmer

To take out the trimming knife for sharpening, loosen set screw **C** (Fig. 19) swing the knife halfway between its operative and inoperative positions and pull the knife out of its guide. As you replace the knife, make sure its cutting edge bears lightly against the edge of the needle plate slot which serves as a guide. However, the knife must never be set too close to this edge as this might cause the knife to jam as it is thrown out of action. When the setting is correct, tighten set screw **C** securely.

The cutting stroke of the knife should be exactly halved by the needle hole. To adjust the position of the cutting edge in relation to the needle hole, loosen nut **M** (Fig. 19) and move the knife carrier forward or backward, as appropriate. This setting also applies to knives which have been resharpened repeatedly. After the adjustment, tighten nut **M** securely.

The vertical position of the knife is adjusted by screw **S** (Fig. 19). Turn this screw clockwise to set the knife lower, or counter-clockwise to set it higher. The knife is set correctly, if its cutting edge is positioned just above the bottom of the needle plate guide.

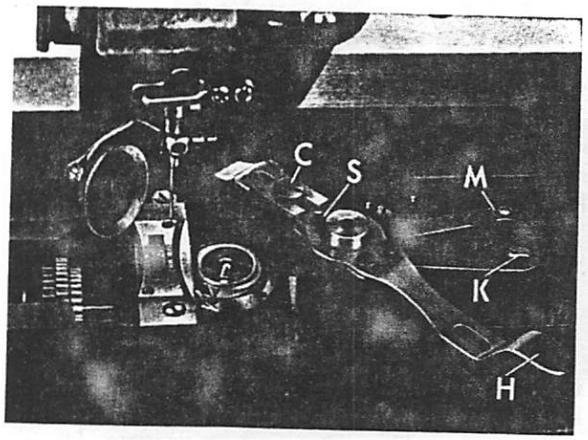


Fig. 19

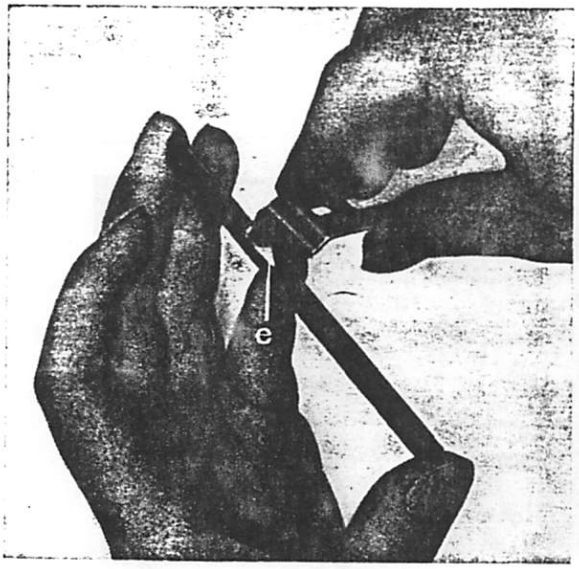
It goes without saying that only a sharp and correctly set knife will produce a clean cut.

Blunt knives are either sharpened with a triangular oilstone by hand (Fig. 20) or with the aid of a knife sharpener. In sharpening the knife, take care that the cutting angle is preserved and that the cutting edge is sharpened thoroughly up to its innermost corner **e** which has to take most of the strain.

18. Operating the trimmer

To engage the trimmer, turn lever **H** (Fig. 19) to the right until it catches on lug **K** on the knife carrier. To disengage it, lift lever **H** up slightly and swing it forward.

With the trimmer thrown out of action, the machine can be used for ordinary sewing operations.



R 5436

Fig. 20

Additional instructions

for Pfaff machines 143-705/03

The general instructions given for the Pfaff 143 apply also to the Pfaff 143-705/03 wheel-feed machine. In addition, however, the following instructions should be heeded:

9. Regulating the stitch length

On wheel-feed machines the stitch length is regulated under the bedplate instead of on the machine arm, as is customary. The feed gear assembly (Fig. 21) enables selection of three pre-determined stitch lengths.

To change the stitch length, pull out pin **P** (Fig. 21) and move lever **H** to position **a**, **b** or **c**, as desired, while turning the balance wheel. Let pin **P** snap into position.

To convert the machine to another stitch length group, consult the Spare Parts Cata – logue which contains a list of all feed gears available for this machine.

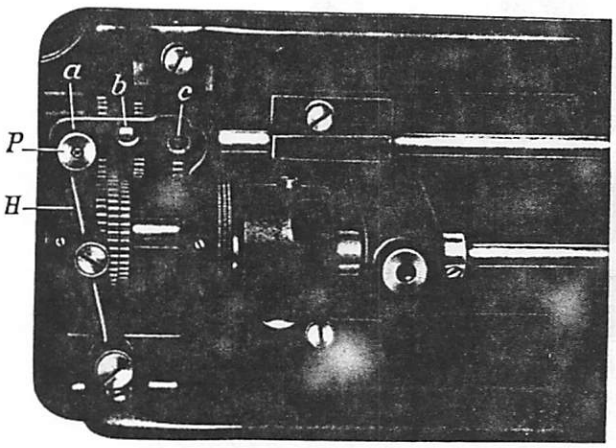


Fig. 21

Additional instructions

for Pfaff machines 145

Pfaff machines 145 are fitted not only with compound feed like the Pfaff 141, but also with alternating pressers which makes them unison-feed machines capable of feeding materials that are difficult to handle.

Apart from the general instructions given for Pfaff machines 141 and 143 which apply to Pfaff machines 145 also, the following special instructions should be heeded:

20. Exchanging the alternating pressers

Raise presser bar lifter **a** (Fig. 22) and rotate the balance wheel to bring the needle to its highest point. Loosen screw **b** and pull out the vibrating presser, rotating it slightly to the right and left.

R 3503

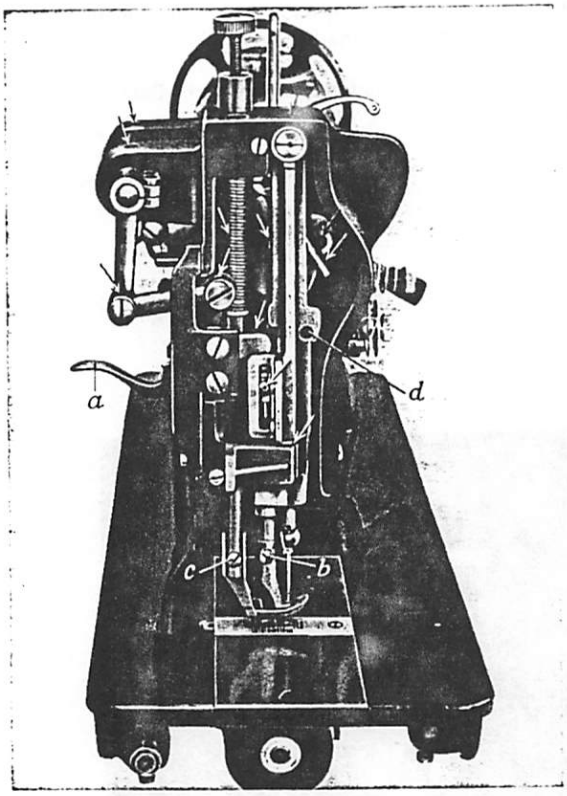


Fig. 22

In replacing the vibrating presser make sure you push it up as far as it will go and orient it so that the needle is centered in its needle hole. Then tighten screw **b** (Fig. 22) securely.

The lifting presser can be removed only when the presser bar is raised. To do this, take out screw **c** (Fig. 22) and pull out the lifting presser, tilting it back and forth slightly.

When replacing the lifting presser, push it up as far as it will go so that screw **c** can be pushed through the hole in its shank and tightened securely.

R 6189

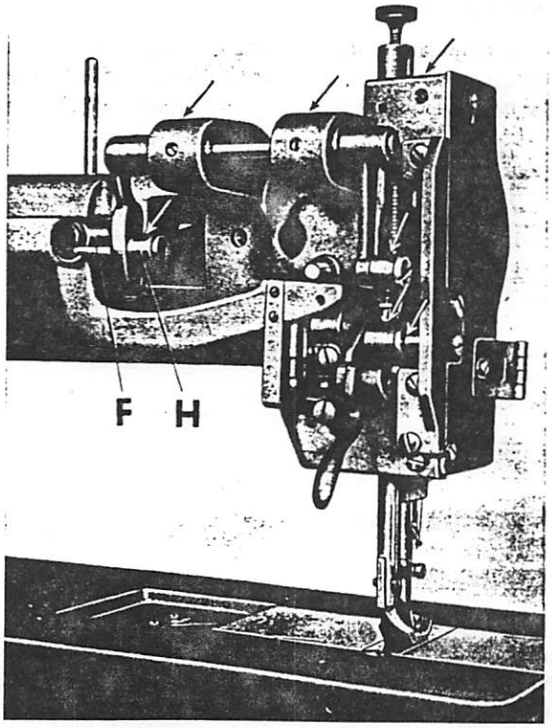


Fig. 23

21. Lubricating the machine

Since Pfaff machines 145 are fitted with alternating pressers, they have a number of additional oiling points which are marked by arrows in Figs. 22 and 23. Of these, particularly the points of friction at the needle-bar-end of the machine, such as the needle bar (inside needle bar frame in Fig. 22) and the sleeve take-up with its round shank (behind needle bar in Fig. 22), require thorough and regular lubrication.

All moving and rotating parts should be oiled regularly. To prevent soiling of the work through dripping oil, sew a few seams on a piece of scrap material to absorb all excess oil.

Never try to remedy certain faults by applying excessive quantities of oil. Excessive oiling will merely soil the work. Therefore, oil the machine sparingly, but regularly.

22. Setting the foot lift

To adapt the foot lift to the thickness of the material to be sewn, loosen wing nut **F** (Fig. 23) and adjust the position of lifting eccentric connection **H** in the slot of the lifting crank. Move the connection upward for a higher foot lift, or downward for a lower foot lift.

Additional instructions

for Pfaff machines 151 and 153

Pfaff machines 151 and 153 are single-needle sewing machines fitted with compound feed and ordinary drop feed, respectively. Both have the vertical rotary hook arranged on the left of the needle. The instructions given in Chapters 1–14 appy to them also.

Additional instructions

for Pfaff machines 142, 144, 146 and 542-748/01

23. Threading the needles

To thread the left needle, pass the thread from the spool on the thread stand through the two upper holes in stud **1** on the machine arm (not shown in Fig. 24), through thread guide **2**, around thread retainer **3**, around and between tension discs **4**, down and around thread controller disc **5**, through thread check spring **6**, up and through thread guide **7**, from right to left through the hole in take-up lever **8**, down and through thread guides **9, 10** and **11**, and from right to left through the eye of the left needle **12**.

To thread the right needle, pass the thread from the second spool on the thread stand through the two lower holes in stud **1** (not shown in Fig. 24), thence to **2, 14, 15, 5, 6, 7, 8, 9, 10** and **16**, and from left to right through the eye of the right needle **17**.

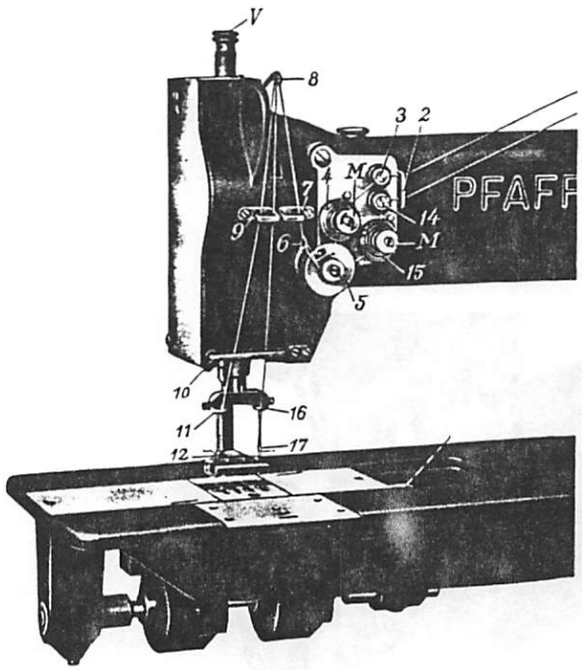


Fig. 24

24. Adjusting the puller feed of the Pfaff 542-748/01

The Pfaff 542-748/01 is equipped with an additional puller feed which is arranged back of the presser foot and, acting in synchronization with the drop feed, ensures even feeding of the material. The lower feed roller is positively driven by the feed rock shaft via a connecting link.

When the presser bar lifter is lowered, the upper feed roller is lowered onto the lower feed roller and the material is firmly gripped between them. To increase the rate of feed of the puller feed for sewing materials that are difficult to handle, loosen the hexagon nut and adjust the position of the connection in the elongated hole of lever **X** (Fig. 25). Then tighten the hexagon nut securely again. As a result of this adjustment, a stronger pull is exerted on the material back of the presser foot.

To remove the work, the top feed roller is raised by pushing up the lifting lever.

Operation and maintenance of this machine is governed by the general instructions given in this book, except that the additional oiling points shown in Fig. 25 should be supplied with oil.

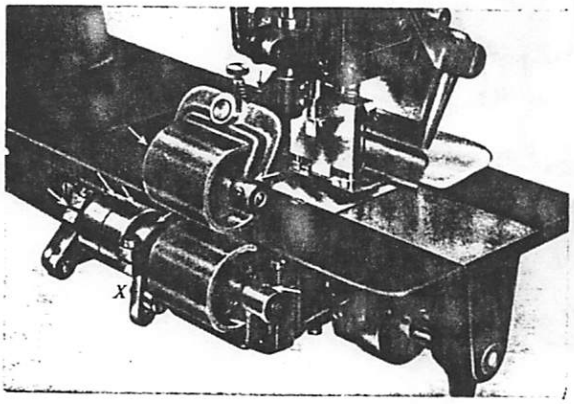


Fig. 25

Additional instructions

for Pfaff machines 543-712/01 and 543-712/02

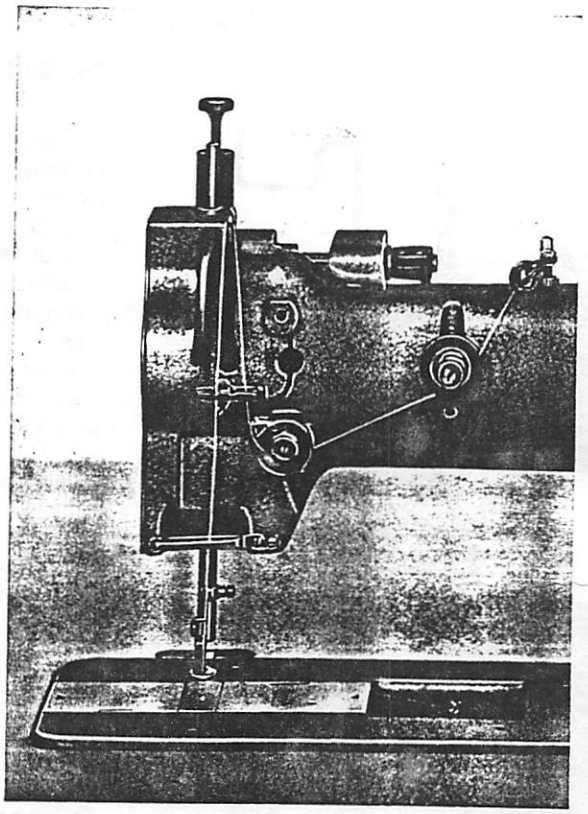
The Pfaff 543-712/02 is a single-needle sewing machine equipped with a two-speed Stop-motor and a roller thread tension, while the Pfaff 543-712/01 is fitted with a standard motor and a disc-type thread tension. Both these machines are equipped with an extra-large vertical rotary hook.

Other than that, the mechanical setup of the Pfaff 543-712 is identical with that of the Pfaff 143 flatbed sewing machine so that all operating and servicing instructions given for the latter also apply to the former, the only exception being Chapters 8 and 11.

25. Threading the needle of the Pfaff 543-712/..

Fig. 26

R 9697a



Pass the thread from the spool up and over the thread guide at the top of the thread stand, down and through the hole of the angular thread guide on the machine arm, and through the thread retainer, making sure that the thread enters the slot in the thread retainer stud. Now lead it clockwise around the roller tension of subcl. -712/02 machines or the disc-type ension of subcl. -712/01 machines. Then pass it around the thread controller disc, through the thread check spring, up and through the thread guide, from right to left through the eye in the take-up lever, down and through both thread guides, and from left to right through the needle eye.

Additional instructions

for Pfaff machines 546-748/01

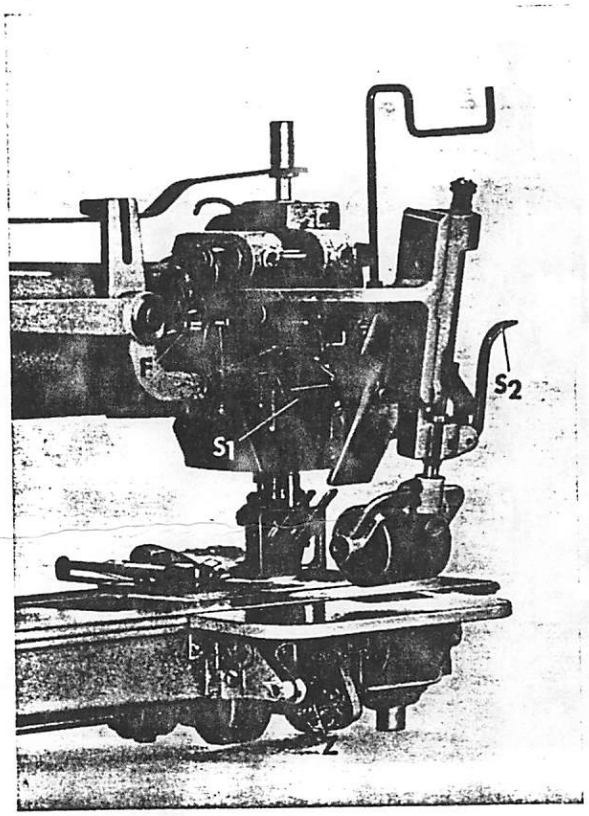
The Pfaff 546-748/01 is a two-needle, flatbed sewing machine fitted with unison feed, two extra-large vertical rotary hooks and additional puller feed which ensures smooth feeding of "problem" materials.

Fitted with a subcl. -368/01, -369/01 or -371/01 attachment this machine is primarily intended for attaching waistbands to trousers and skirts.

Other than that, the Pfaff 546-748/01 is identical with our standard two-needle, flatbed sewing machine so that the general operating and servicing instructions given for this machine apply to them also. The only exceptions are the instructions for settin the foot lift and adjusting the puller feed which are given below.

Fig. 27

R 9680



26. Setting the foot lift

To adapt the fo lift to the thickness of the materi al to be sewn, loosen wing nut **F** (Fig. 27) and adjust the position of lifting eccentric connection **H** in the slot of the lifting crank. Move the connection upward for a higher foot lift, or downward for a lower foot lift. Then tighten wing nut **F** securely.

If delicate fabrics should continue to pucker when sewn on a subcl. -368/01, -369/01 or -371/01 machine, although the foot lift was adjusted correctly, it is recommended to replace the rear swing-away folder by one having a built-in retaining mechanism and a regulating screw (**R** in Fig. 28).

To increase the pressure exerted on the fabric by the re-

taining tongue, turn screw **R** backward; to decrease the pressure, turn it forwards.

For easy removal of the material, press against the knee lever to raise the vibrating and lifting pressers and lock the latter in position by lever **S1** (Fig. 27).

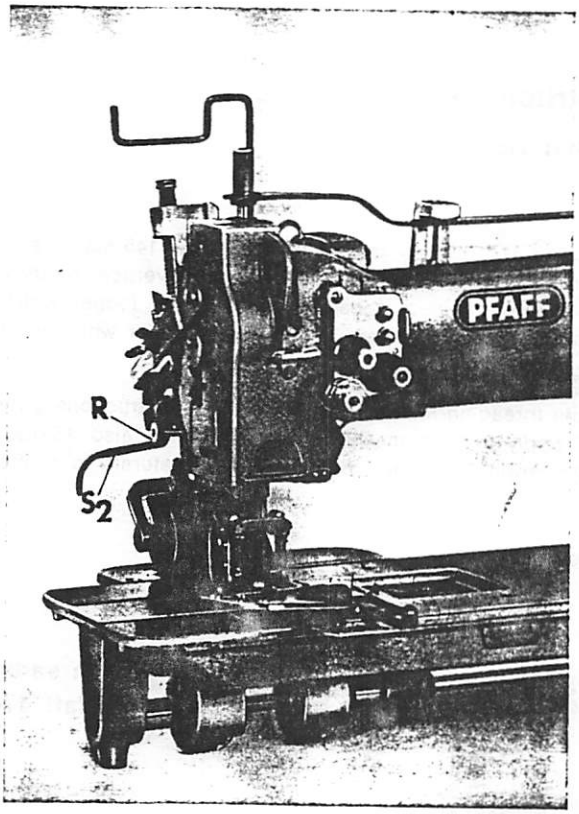


Fig. 28 R 9679

27. Adjusting the puller feed

The Pfaff 546-748/01 is equipped with an additional puller feed which is arranged behind the presser foot and, acting in synchronization with the unison feed, ensures even feeding of the material. The lower feed roller is positively driven by the feed rock shaft via a connection and has a built-in retaining mechanism.

By lowering presser bar lifter **S2** (Fig. 27), the upper feed roller is lowered onto the lower feed roller and both advance the material together. To increase the rate of feed of the puller feed so that it exerts a stronger pull on the material at the back of the needles, adjust the position of connection **Z** (Fig. 27) in relation to the feed lever. Then tighten the hexagon nut securely.

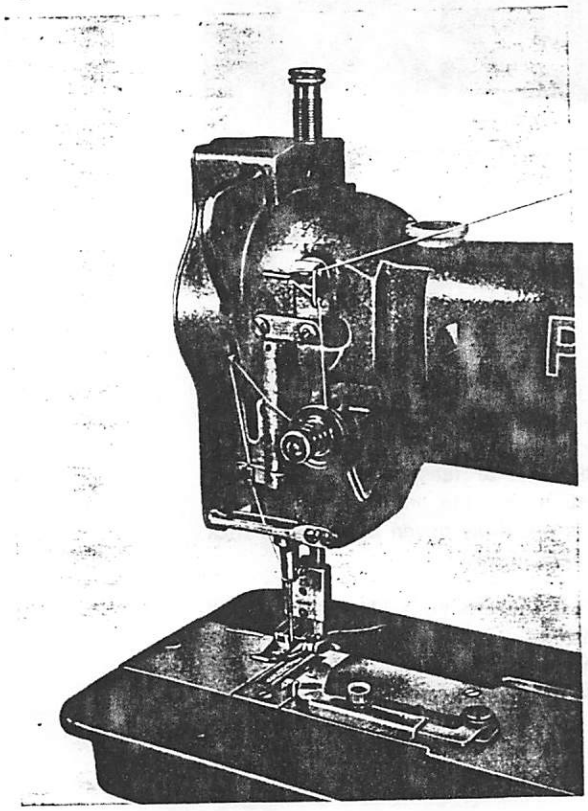
Additional instructions

for Pfaff machines 4141 and 4145

Pfaff machines 4141 and 4145 closely resemble Cl. 141 and 145 machines in their mechanical setup, exterior design and dimensions. Instead of a vertical rotary hook, however, both machines are equipped with a constant-motion rotary looper which moves counter-clockwise. In addition, they are fitted with a thread nipper which is operated by the needle bar crank.

Apart from the needle threading instructions, the general instructions given for Pfaff machines 141 and 145 apply to Pfaff machines 4141 and 4145 also. (Since the latter machines are chainstitch sewing machines, bobbin winding naturally is omitted.)

Fig. 29 R 6312



28. Threading of the Pfaff 4141 and 4145

Pass the thread from the spool up to the top thread guide of the thread stand, then down and through both holes in the pin on the machine arm, through the upper hole in the thread guide on the machine arm (as shown in Fig. 29), around the pin, through th lower hole in the thread guide, clockwise around and between the tension discs, from right to left through the hole in the take-up lever, below the lever of the automatic tension, through the lower thread guide and the thread guide on the needle clamp, and from left to right through the needle eye.

Additional instructions

for Pfaff machines fitted with thread puller/trimmer -900/..

Since these machines are equipped with Stop motor and electro-magnetic thread puller/trimmer, manual needle positioning and thread trimming are completely eliminated.

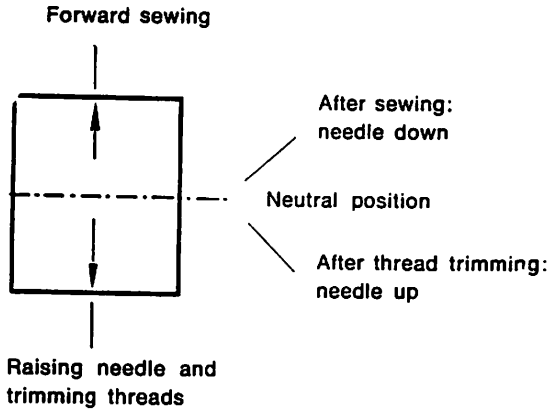
29. Pedal operation

When you depress the heel of the pedal at the completion of the sewing action, the eedle is raised automatically, the needle thread is pulled to the underside of the material and both threads are trimmed. All you have to do to remove the work is raise the presser foot. The thread ends remaining on the underside of the material are long enough to permit them to be pasted down reliably.

The pedal of these machines controls the following functions:

1. When you depress the tip of the pedal, the machine starts sewing. The harder you press, the faster the machine will run. (If it is fitted with an inching device, the pedal will also control slow stitch-by-stitch sewing).
2. When you relieve the pressure and allow the pedal to return to its neutral position, the needle is lowered for turning corners.
3. When you depress the heel of the pedal, the needle is raised to its highest point, the needle thread pulled to the underside of the material, and both threads are trimmed.
4. When the pedal is returned to its neutral position again, the needle remains at its highest point.

The various pedal positions are shown below:



If the machine is fitted with two pedals (subcl. -911/01), it will sew in reverse when both pedals are simultaneously pressed forward.

Guards

Finger guard (Fig. 30)

All machines are regularly fitted with a guard which protects the operator's fingers against injury by the needle.

The design of the finger guard and the method of fitting it depend on the machine version.

Please make sure that this guard is always fitted correctly.

R 11466

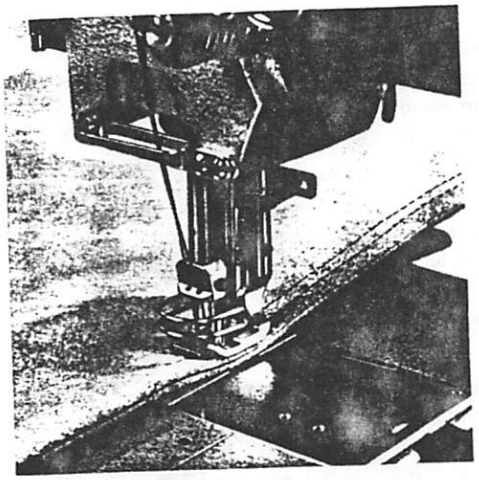


Fig. 30

Take-up lever guard (Fig. 31)

All machines are normally equipped with a take-up lever guard which conforms to the safety regulations. It is imperative that this safety device is fitted at all times.

R 7111

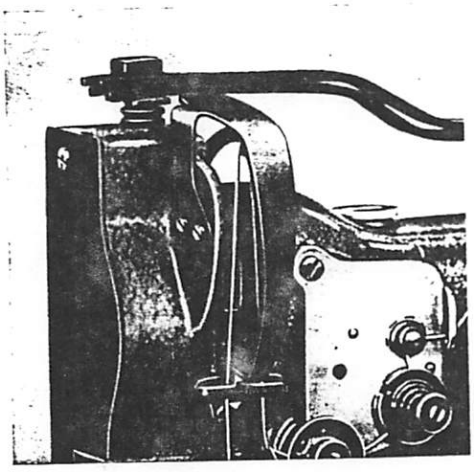


Fig. 31

Belt guard on balance wheel (Fig. 32)

This guard covers the point where the belt runs onto the balance wheel.

The belt guard is mounted as follows:

Guard **1** is secured with two screws **2** and positioned so that it covers the point of belt entrance completely.

R 11369 A

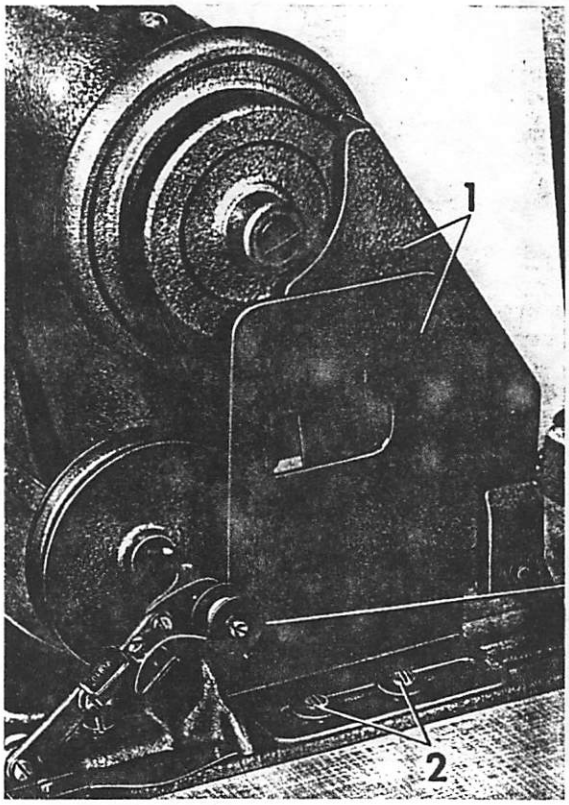
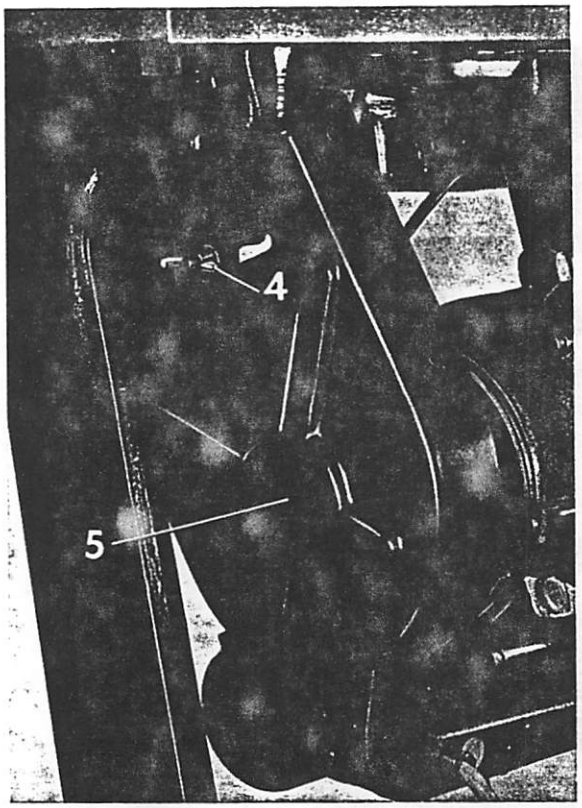


Fig. 32

Belt guard below tabletop (Fig. 33)

This guard covers the belt below the tabletop.

Loosen wing nut **4**, and position guard **5** so that motor pulley and V-belt run freely in the guard.



R 10865

Fig. 33

Trouble shooting

Machine skips stitches	
Cause	**Remedy**
Wrong needle system.	For correct needle system see Chapter 6.
Needle bent.	Insert new needle as instructed in Chapter 7.
Needle inserted incorrectly.	Orient needle so that its short groove faces toward the sewing hook.
Incorrect threading.	Thread needle as instructed in Chapters 5, 8, 23, 25 and 28.

Thread breaks	
Cause	**Remedy**
For any of the reasons indicated above.	See remedies listed above.
Thread tensions too tight.	Regulate tensions as instructed in Chapter 10.
Knotty thread.	Use high-quality thread only.
Needle point blunt or damaged.	Replace needle.
Thread snarled up.	Check upper threading from spool of thread to needle.

Faulty stitch formation	
Cause	**Remedy**
Improper tension.	Regulate tensions as instructed in Chapter 10.
Wrong needle size and/or thread used.	See Chapter 6.
Pieces of thread between tension discs or under bobbin case tension spring.	Remove thread and re-adjust tension as instructed in Chapter 10.

Needle breaks	
Cause	**Remedy**
Wrong needle system.	Insert needle of correct system as instructed in Chapter 6.
Needle bent.	Insert new needle.
Needle too thin.	Insert thicker needle.

Machine binds	
Cause	**Remedy**
Lack of oil.	Oil machine as instructed in Chapters 3, 13 and 21.
Wrong lubricant.	Use only non-resinous and acid-free sewing machine oil.
Hook race obstructed by pieces of thread.	Try to free the jammed thread as you rock the balance wheel back and forth. If this action should fail, dismantle the sewing hook as instructed in Chapter 13.

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