

SERVICE MANUAL

AND

PARTS LIST

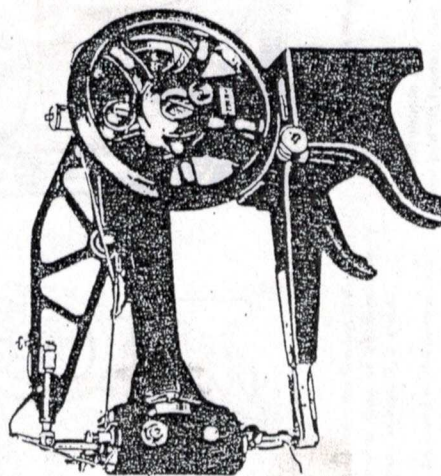
FOR

2971 / 2971LB

UNIVERSAL UPPER FEED MACHINES

SINGLE NEEDLE

LOCK STITCH



**CHONG
WANG**

SPEED

The maximum speed recommended for these machines is 500 stitches per minute, depending on material being stitched and operations performed.

For thick work, patching, mending, and stitching elastics, put the driving belt on the larger pulley of the machine and the smaller pulley of the stand.

For light work, put the belt on smaller pulley of the machine and the larger pulley of the stand.

When in operation, the hand wheel must always turn over toward the right (clockwise).

NOTE: If fitted at end of machine, hand wheel must always turn over toward the operator (counter-clockwise).

TO OIL MACHINE

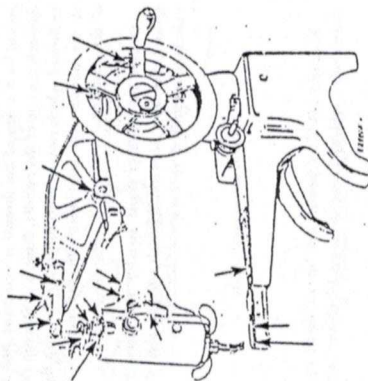


Fig. 2. Oiling Front Side of Machine

When machine is received from the factory, it should be thoroughly cleaned and a drop of oil should be applied to all parts indicated in Figs. 2, 3 and 4.

Apply a drop of oil to the stand at the centres upon which band wheel and treadle work. Also to both ends of the pitman rod connecting the treadle with band wheel.

Run machine for a few minutes to work oil into bearings. When the machine is in constant use, it should be oiled daily.

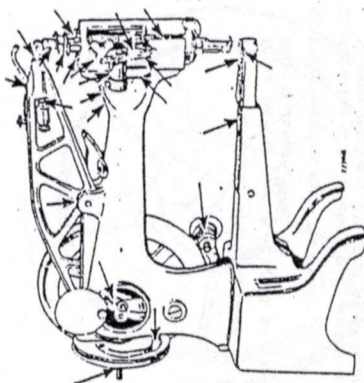


Fig. 3. Oiling Rear of Machine

See inside front cover of this book for description of these oils.

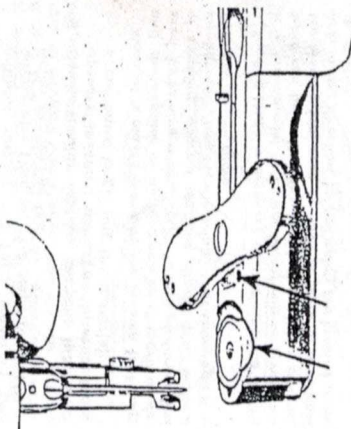


Fig. 4. Oiling Shuttle Race

To oil shuttle race, raise needle bar to its highest point and lift feeding foot A, Fig. 5 by moving lifter B upward.

Press down lever C, Fig. 5 and swing needle plate to position shown in Fig. 4.

Apply a drop of oil to the face of shuttle race and to the hole shown by arrow in Fig. 4.

TO REMOVE THE BOBBIN

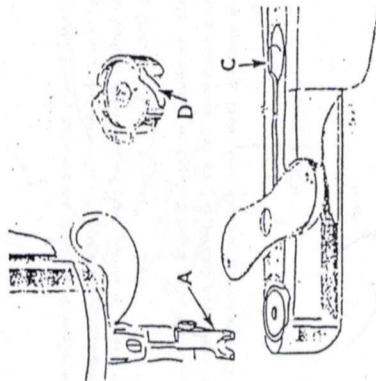
Raise needle bar to its highest point and lift feeding foot A, Fig. 7 by moving lifter B, Fig. 5 upward.

Press down lever C, Fig. 7 and swing needle plate around as shown.

Turn hand wheel until point of shuttle is nearest operator, then lift out shuttle with thumb and forefinger.

Turn shuttle over and bobbin will drop out.

NOTE: For 69422 machine, move bobbin retaining spring D, Fig. 7 outward before taking out the bobbin.



NOTE: If hand wheel and bobbin winder are fitted at end of machine, the slot in the side of the bobbin must face to the left. The top of hand wheel must then turn over toward you as when sewing, to insure properly wound bobbins.

When bobbin is sufficiently full, remove it from the spindle. Loosen thumb screw D, Fig. 9 on the winder and move screw upward in slot until the rubber ring is out of contact with the hand wheel, then tighten thumb screw.

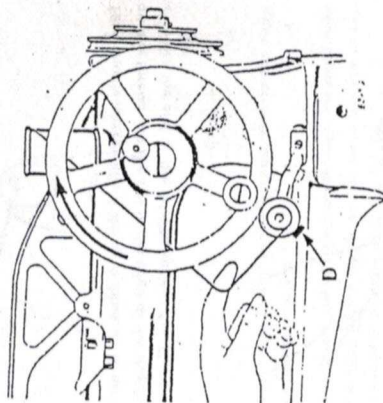


Fig. 9. Winding the Bobbin

Re-engage the hand wheel with the stitching mechanism by turning plunger F, Fig. 8 slightly while simultaneously turning the hand wheel slowly until the plunger enters the hole in the inner disc.

NEEDLES

Needles for MACHINES

DP#17

#9, 11, 14, 16, 18, 19, 21, 22, 23, 24, 25

The above needles regularly have nickel finish but can be supplied with chromium finish if ordered.

The size of the needle to be used should be determined by the size of the thread which must pass freely through the eye of the needle. Rough or uneven thread, or thread which passes with difficulty through the eye of the needle will interfere with the successful use of the machine.

Orders for needles must specify the Quantity required, the Size number, also the Class and Variety numbers separated by an x.

The best stitching results will be obtained by using the needles sold by Singer Sewing Machine Company.

THREAD

Left twist thread should be used in the needle. Either right or left twist thread can be used for the bobbin.

To determine the twist, hold the thread as shown. Turn the thread over toward you between the thumb and forefinger of the right hand; if left twist, the strands will wind tighter. If right twist, the strands will unwind.

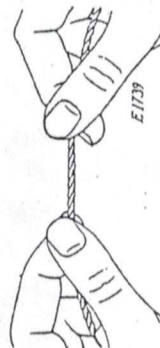


Fig. 6. Determining Twist of Thread

TO OPERATE THE MACHINE

1. Raise feeding foot A, Fig. 5 by moving lifter B upward.
2. Place both feet upon the treadle.
3. Turn top of hand wheel over toward right to start machine. (If hand wheel is fitted at end of machine, turn top of hand wheel over toward you to start machine.)
4. Allow the feet to move freely with the motion of the treadle. Continue this motion with an alternating pressure of heel and toe until a regular easy movement is acquired and the hand wheel is kept in continuous rotation by use of the feet alone.
5. When familiar with the treadle movement, and you are able to re-start the machine without turning the hand wheel in the wrong direction, place a piece of material under the feeding foot.
6. Lower feeding foot by lowering lifter and operate machine until you have become accustomed to guiding the material.

Material is moved along by the feeding foot only, and the direction of stitching can be changed as desired by turning wings, Fig. 32. To make a curved line of stitching, operate machine slowly and, without turning work, turn the revolving wings enough to produce the desired curve.

Feeding foot rises between each stitch while needle is in the material. With needle serving as pivot, material can be turned in any direction. When desired, the feeding foot may be fixed to work in a straight line, in any direction, by tightening the knurled screw A, Fig. 22.

Never turn the work or alter the direction of the feed while the foot is pressing on the material, as this may cause missed stitches and damage the surface of the work.

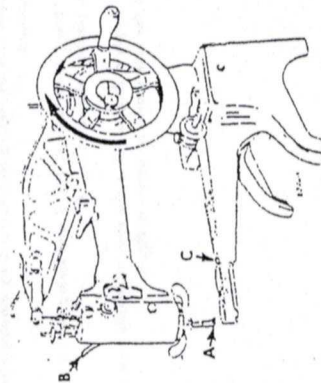
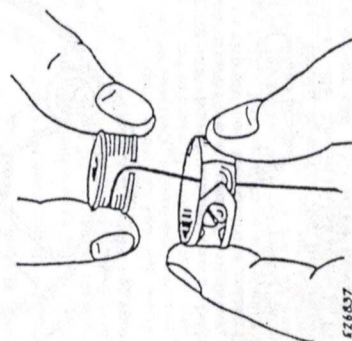


Fig. 5. Operating Machine

TO THREAD THE SHUTTLE



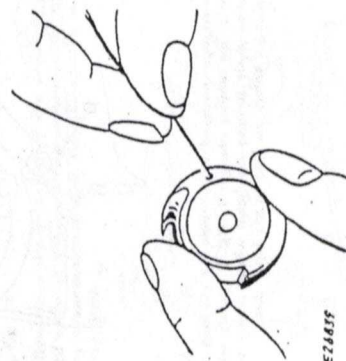
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Hold the bobbin between the thumb and forefinger of right hand, the slot in the edge of the bobbin being at the bottom. Allow two or three inches of thread to hang free.

Hold the shuttle in the left hand with the wide opening uppermost. Let end of thread pass through shuttle opening, then place bobbin into shuttle. See Fig. 10.

Fig. 10

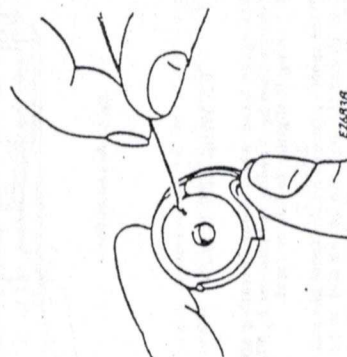
Turn shuttle over while holding bobbin in it and draw the thread into the slot in the edge of the shuttle and under the end of the tension spring. See Fig. 11.



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Fig. 11

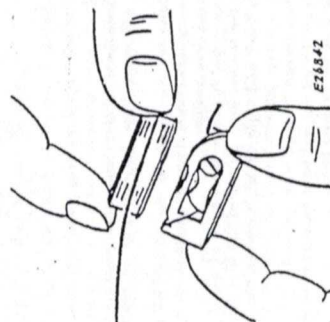
Pass the thread through delivery eye which is in the upper edge of the shuttle. See Fig. 12.



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Fig. 12

TO THREAD SHUTTLE



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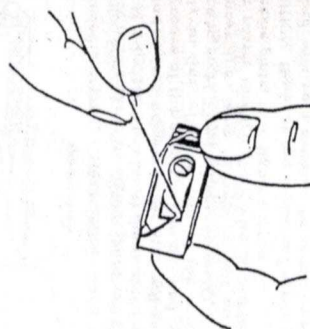
Hold the bobbin between thumb and forefinger of right hand with the thread leading from right to left.

Hold the shuttle in the left hand with its open end up and its retaining spring moved outward. See Fig. 13.

Fig. 13

Place bobbin into shuttle and push back the retaining spring which will hold the bobbin in the shuttle.

With the right hand, draw the thread into the slot in the edge of the shuttle as far as possible. See Fig. 14.

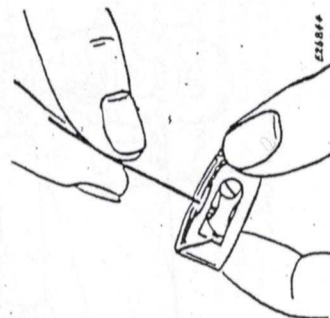


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Fig. 14

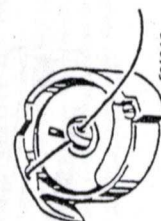
Then draw thread to the left, up, and to the right under the spring. See Fig. 15.

Now insert end of thread up through the small hole in the edge of the shuttle and through the eye in top of the bobbin position post. See Fig. 16.



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Fig. 15



E26645

Fig. 16

TO REPLACE THE SHUTTLE

After threading the shuttle, turn hand wheel until the upright part of the shuttle carrier is to the right. Then with the point of the shuttle nearest you, and pointing towards the right, place it into the recess as shown in Fig. 17. With needle bar at its highest point, press down lever C, Fig. 17 and swing back needle plate to its sewing position.

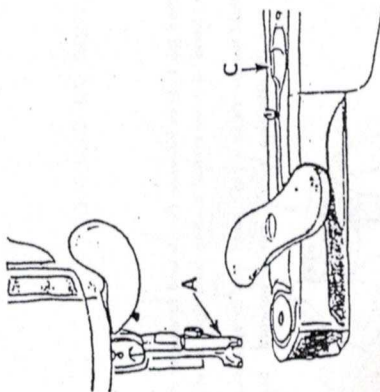


Fig. 17. Replacing Shuttle

TO SET THE NEEDLE

Raise needle bar to its highest point and loosen screw H, Fig. 18. Then insert shank of the needle up into the needle clamp as far as it will go with long groove of the needle to the left and its eye directly in line with the arm of the machine. Tighten screw H, Fig. 18. Loosen screw G, Fig. 18 and move the clamp to right or left until the needle passes through the centre of the hole in the needle plate, then tighten screw G.

CAUTION: There are two double end needle plates furnished with each machine. Be certain needle is straight and corresponds to the correct needle hole size indicated on end of needle plate.

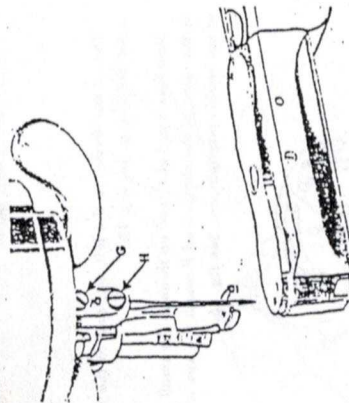


Fig. 18. Setting the Needle

TO THREAD NEEDLE

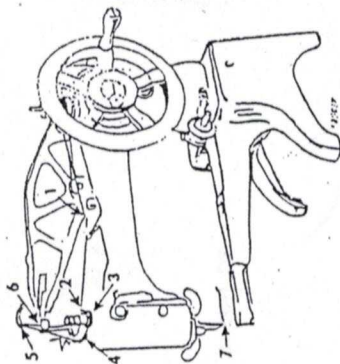


Fig. 19. Threading Needle

1. Place the spool of thread on the spool pin so that thread will draw from the rear side of spool. See Fig. 19.
2. Raise the wire guide in the oil cup on top of the arm and pass thread under guide 1, then press guide back into position.
3. Draw the thread around back of pin 2 which is near the tension discs on top of the arm and from back to front and right to left between the tension discs 3. See Fig. 20.
4. Pass thread through wire eyelet 4.
5. Lead thread up and from front to back through the hole 5 in the take-up lever.
6. Draw about 10 inches of thread through the hole in take-up lever and insert the end into the slit in the end of the threading wire supplied with the machine. Then pass end of threading wire down through hole 6 which runs through the centre of the needle bar.
7. Remove thread from threading wire then without drawing wire, pass the thread from left to right through the eye of the needle 7. Draw about three inches of thread through the eye of the needle with which to start sewing.

TO THREAD NEEDLE FOR DARNING

1. Place the spool of thread on the spool pin so that thread will draw from rear side of spool.
2. Raise the wire guide in the oil cup on top of the arm and pass thread under guide 1 then press guide back into position. See Fig. 19.
3. Pass thread over the pin 2 near the tension discs in front of the arm and from right to left under and between the tension discs 3, Fig. 21.
4. Pass thread through wire eyelet 4.
5. Pass thread up and from front to back through the hole 5 in the take-up lever.
6. Draw about 10 inches of thread through the hole in take-up lever and insert the end into the slit in the end of the threading wire supplied with the machine. Then pass end of threading wire down through hole 6 which runs through the centre of the needle bar.
7. Remove thread from threading wire then without drawing wire, pass the thread from left to right through the eye of the needle 7. Draw about three inches of thread through the eye of the needle with which to start darning.

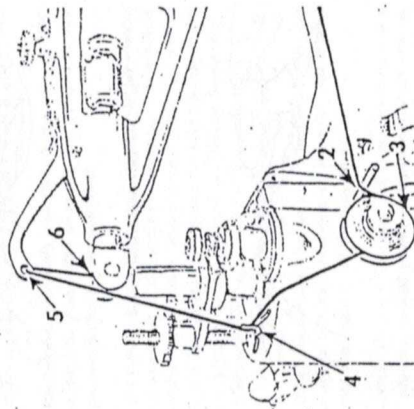


Fig. 21. Upper Threading for Darning

TO PREPARE FOR SEWING

With the left hand hold the end of the needle thread, leaving it slack from the hand to the needle. Turn top of hand wheel over to right until the needle moves down and up again to its

TO REMOVE THE WORK

Let the needle bar rest at its highest point, raise the feeding foot, then draw the material backward about 3 inches and cut the threads close to the work. Leave the ends of the threads under the feeding foot.

TO START SEWING

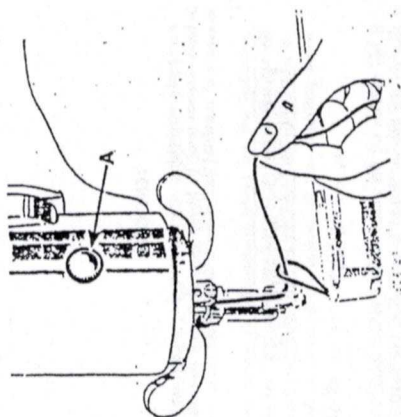
Place the material under the feeding foot, lower the foot and start to sew, turning the hand wheel over to right. (Turn hand wheel over toward you if located at end of machine.)

CAUTION: Do not try to help feeding of the work by pulling the material as this may deflect the needle and cause it to break. The machine feeds the work easily without any assistance.

NOTE: Turn top of hand wheel over toward you if hand wheel is fitted at end of machine.

highest point, thus catching the bobbin thread; draw up the needle thread and the bobbin thread will come up with it through the hole in the needle plate. See Fig. 22. Lay both threads back under the feeding foot.

Fig. 22. Drawing up Bobbin Thread



TENSIONS

For perfect stitching, the tension on needles and bobbin threads must be heavy enough to pull threads to centre of material and make a firm stitch, thus:



Fig. 23. Perfect Stitch

If the tension on the needle thread is too tight, or if that on the bobbin thread is too loose, the needle thread will lie straight along the upper surface of the material thus:



Fig. 24. Tight Needle Thread Tension

If the tension on the bobbin thread is too tight, or if that on the needle thread is too loose, the bobbin thread will lie straight along the under side of the material, thus:



Fig. 25. Loose Needle Thread Tension

NEEDLE THREAD TENSION

The tension on the needle thread is regulated by the thumb nut near the tension discs. See Fig. 26.

To increase the needle thread tension, tighten thumb nut.

To decrease the needle thread tension, loosen thumb nut.

NOTE: Tension on needle thread can be tested only when the feeding foot is down.

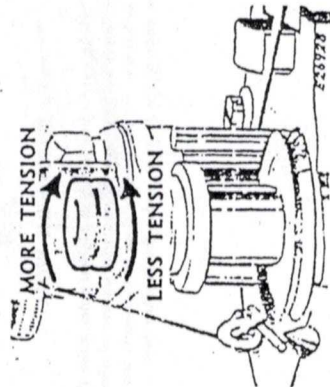


Fig. 26. Regulating Needle Thread Tension

BOBBIN THREAD TENSION

The tension on bobbin thread is regulated by the screw in Figs. 27 and 28 on the end of the shuttle tension spring.

To increase bobbin thread tension, gradually tighten screw. See Fig. 27.

To decrease bobbin thread tension, gradually loosen screw. See Fig. 28.

When bobbin thread tension has been properly adjusted, it is seldom necessary to change it because a correct stitch can be usually obtained by varying the needle thread tension.

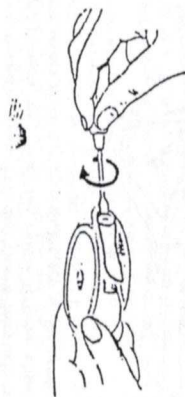


Fig. 27. Increasing Bobbin Thread Tension

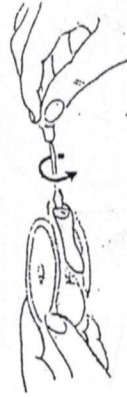


Fig. 28. Decreasing Bobbin Thread Tension

TO REGULATE THE TAKE-UP LEVER WITH REGULATOR INDICATOR

The spring tension on take-up lever J, Fig. 29 is adjusted by thumb nut K. The tension on this lever should be about the same as that applied to the upper thread by the tension discs.

When the stitch is set, at the top of the needle bar stroke, lever J should be held down far enough by the action of the thread so that the take-up action will keep the thread taut until the needle enters the work.

When sewing light weight materials with fine thread, more take-up action may be secured by turning the thumb nut K so that it screws up to decrease the take-up spring tension. This should be done instead of tightening the thumb nut of the tension discs.

For heavier materials and thread, the take-up tension must be about the same as that applied to the upper thread by the tension discs.

The travel of take-up lever J is regulated by means of knurled nut L. The indicator near nut L is marked with the figures 0 to 4. This indicator provides a useful guide to the operator in setting the take-up movement most suitable for the material and thread being used. For thin materials, such as kid or box calf, turn knurled nut L until the zero mark is opposite the small plunger U.

Other adjustments can be made in steps by turning the nut to suit any thickness of material and thread within the capacity of the machine.

NOTE: All machines sent out from the factory are so adjusted that they will give satisfactory results on a general range of materials. Before any adjustment is made to the travel of the take-up lever, the needle bar should be raised to its highest point.

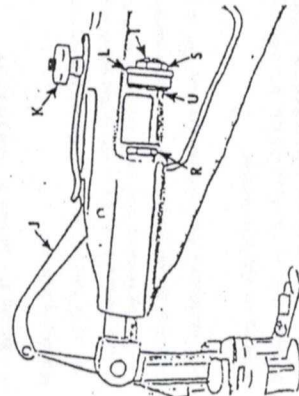


Fig. 29. Regulating Tension and Travel of Take-up Lever

ADJUSTMENT OF THREAD TAKE-UP LEVER REGULATOR INDICATOR

The range of adjustment given by the indicator, when sent out from the factory, should suffice for all general purposes, but, if desired, the range can be raised or lowered by means of the adjusting screw T, Fig. 29 at the extreme right.

To alter the range, loosen the lock nut S and, using a screwdriver, turn the centre screw T to the right to reduce the travel of the take-up lever.

To increase the travel, turn the screw T to the left. Wear at the tip of the centre screw can also be taken up in this manner. When the proper adjustment has been obtained, tighten the lock nut S.

It is most important that the hexagon head nut F be securely locked against the face of the piston.

TO CHANGE LENGTH OF STITCH

The length of stitch is regulated by the stitch regulator which is held in position by thumb screw M, Fig. 30 at back of the feeding foot bar. Loosen thumb screw M and move the regulator up or down until its top is in line with the mark indicating desired number of stitches to the inch as shown by the arrow. Then tighten the thumb screw.

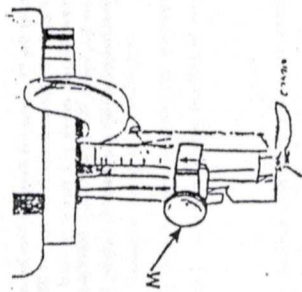


Fig. 30. Changing Stitch Length

TO REGULATE PRESSURE ON THE MATERIAL

The pressure on the material is regulated by knurled thumb nut O, Fig. 31. To increase the pressure, tighten the thumb nut. To reduce the pressure, loosen the thumb nut.

Heavier pressure is required for leather work than for sewing cloth or cotton materials. The pressure should be only heavy enough to enable the feed to move the work along evenly.

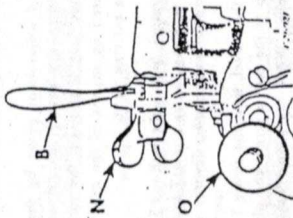


Fig. 31. Regulating Pressure on Material

TO TURN A CORNER

Stop the machine with the needle in the work and turn top of hand wheel over to right until the feeding foot rises. Then turn the work as desired, using the needle as a pivot.

NOTE: If hand wheel is located at end of machine, turn top of hand wheel over toward you.

TO REGULATE THE AUTOMATIC LIFT OF THE FEEDING FOOT

While the machine is in operation, the feeding foot rises after it has moved the work forward; then the foot moves toward the needle and descends again upon the fabric. It is advisable that the lift of the foot should be only sufficient to clear the thickest part of the work.

To adjust the lift, raise the feeding foot by means of lifter B, Fig. 31. To increase the feeding foot lift, loosen wing screw N and move the screw toward you. To reduce the lift, move the screw away from you. When the desired height of lift is obtained, tighten the wing screw.

TO CHANGE DIRECTION OF THE FEED

While stitching, the work is moved along by the action of the feeding foot only.

The direction of the stitching can be changed as desired by turning the foot around by means of the two handles E, Fig. 32.

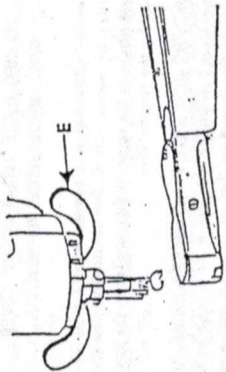


Fig. 32. Changing Feed Direction

TO CHANGE THE NEEDLE PLATE

1. Raise the needle bar to its highest position.
2. Loosen screw Q, Fig. 33 and, by lifting upward, remove needle plate and hinge pin P.
3. When replacing the needle plate, place flat side of pin P toward screw Q.
4. Tighten screw Q on flat side of pin P.

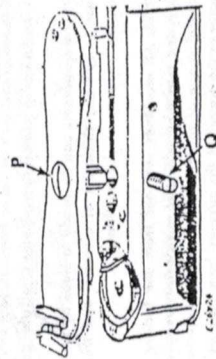


Fig. 33. Correct Position of Hinge Pin in Needle Plate

HINTS FOR PERFECT OPERATION

Oil the machine regularly.

The top of hand wheel must always turn over to the right (clockwise). If located at end of machine, the hand wheel must turn over toward you (counter-clockwise).

Never run the machine without material between the feeding foot and needle plate.

Do not run the machine when both shuttle and needle are threaded unless there is material under the feeding foot.

The Belt

See that the belt is not too tight; it should be just tight enough not to slip. If too loose, remove the hook at one end, shorten the belt and rejoin.

Machine Working Heavily

If the machine runs hard after standing idle for some time, use a little kerosene or benzine in the oiling places, run the machine rapidly, then wipe clean and oil.

To Avoid Breaking Needles

The feeding foot should be securely fastened by the thumb screw. Do not sew heavy seams or very thick material with too fine a needle. A large needle and thread to correspond should be used on heavy work. See page 5.

Avoid pulling the material when stitching. This may cause the needle to strike on the needle plate and break.

Breaking of Upper Thread

Improper threading of machine.

Tension being too light.

The thread being too coarse for the size of the needle.

The needle being bent, having a blunt point, or being set incorrectly.

Breaking of Under Thread

Improper threading of shuttle.

Bobbin Thread tension being too tight.

Skipping of Stitches

The needle may not be accurately set into the needle bar or the needle may be blunt or bent.

Remove the accumulation of dirt or lint which might gather behind thread retaining spring near bottom of needle bar by working a piece of tape or thread back and forth between spring and needle bar.

CAUTION: Do not bend spring away from needle bar or spring may become permanently damaged.

Examine feeding foot and remove any dirt or lint from the teeth to insure regular feeding of material.

Working on old, hard leather

When working on old, hard leather, it is advisable to soften the leather with oil, use a coarse needle and make a long stitch to prevent needle from splitting the leather.

TO EXAMINE, REMOVE AND RE-ASSEMBLE THE PARTS FROM THE RACK BOX

Remove machine from treadle stand or power bench after taking out the four screws located at the base of the machine. The machine should then be tilted back upon its machine pulley end, the underside facing the rack box. Parts can be examined or removed from the rack box after taking out the two screws V, Fig. 34 and removing the cover plate. The following parts are then exposed as shown in Fig. 35: long rack Y, short rack X, intermediate pinion Z, shuttle driving pinion W, needle plate locating pin and spring A2, all of which can be removed without disconnecting the rack box from the machine.

To take out the shuttle carrier, remove the small set screw in the shuttle driving pinion W by inserting a small screwdriver through the groove at the side of the rack box as shown in Fig. 35. The shuttle carrier can then be pressed through the pinion. To remove the long rack Y, insert a screwdriver through hole as shown in Fig. 36 and take out the screw X2. Before proceeding to withdraw the rack, remove the pinion Z, Fig. 35 then grip the rack and draw it straight toward the pulley end of the machine. The short rack X and shuttle driving pinion W can be removed without difficulty. When replacing any one or re-assembling the whole of these parts, care must be taken to see that the gears and racks are correctly engaged, as shown in Fig. 36.

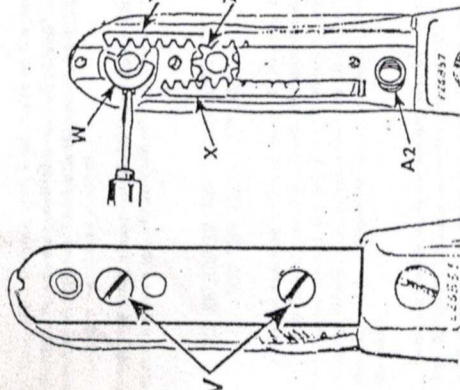


Fig. 34. Removing Cover Plate

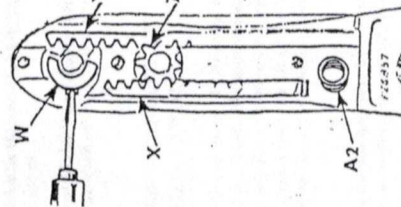


Fig. 35. Removing Parts from Rack Box

INSTRUCTIONS FOR REMOVAL OF THE RACK BOX

If for any reason it is necessary to remove the rack box from the machine, proceed as follows: Remove the machine from its treadle stand or power bench. Turn the hand wheel until the connecting rod hinge screw X2, Fig. 36 is opposite the hole in the lower arm. Then tilt the machine back upon its machine pulley end, the underside facing the adjuster. Insert a screwdriver through the hole as shown in Fig. 36, and remove the screw X2. Slightly loosen the two screws B2 by giving them a half turn with a screwdriver. Then drive out the taper pin C2 using a 3/16" punch and hammer, and take out the two screws B2. The machine should now be replaced on its feet and the horn will then, come away if pulled in a horizontal direction.

CAUTION: Never raise the front of the horn or the end of the long rack may be damaged.

When re-assembling the box to the machine, be sure that the taper pin C2 is driven in as far as it will go before finally tightening the two screws B2, Fig. 36.

NOTE: Cover plate is shown removed in Fig. 36 to illustrate how the gears and racks should be correctly engaged.

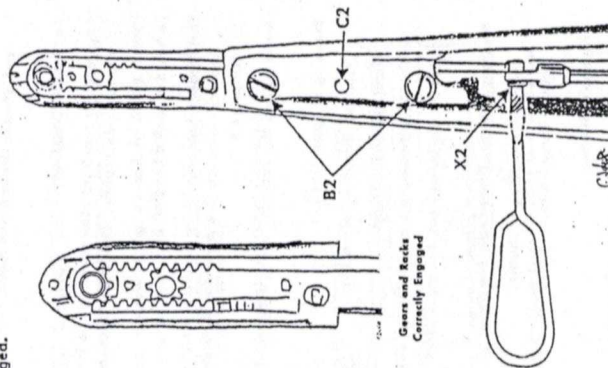


Fig. 36. Removing Rack Box

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TO TIME THE SHUTTLE

Turn hand wheel until eccentric stud is aligned with screwdriver hole D2, Fig. 37.

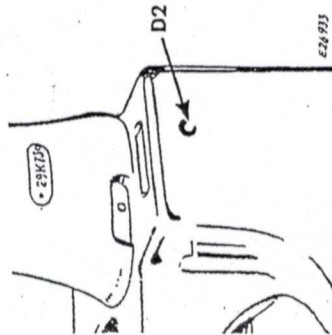


Fig. 37. Location of Eccentric Stud for Timing Shuttle

To time the shuttle, turn eccentric stud at hole D2 until the leading edge of the shuttle carrier moves at each oscillation to a position approximately one-third the distance across the needle slot below the needle plate as shown in Fig. 38.

NOTE: Shuttle is removed in Fig. 38 to illustrate correct timing of leading edge of shuttle carrier.

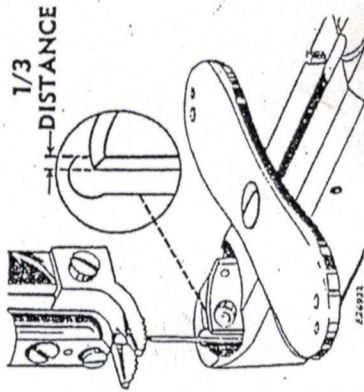
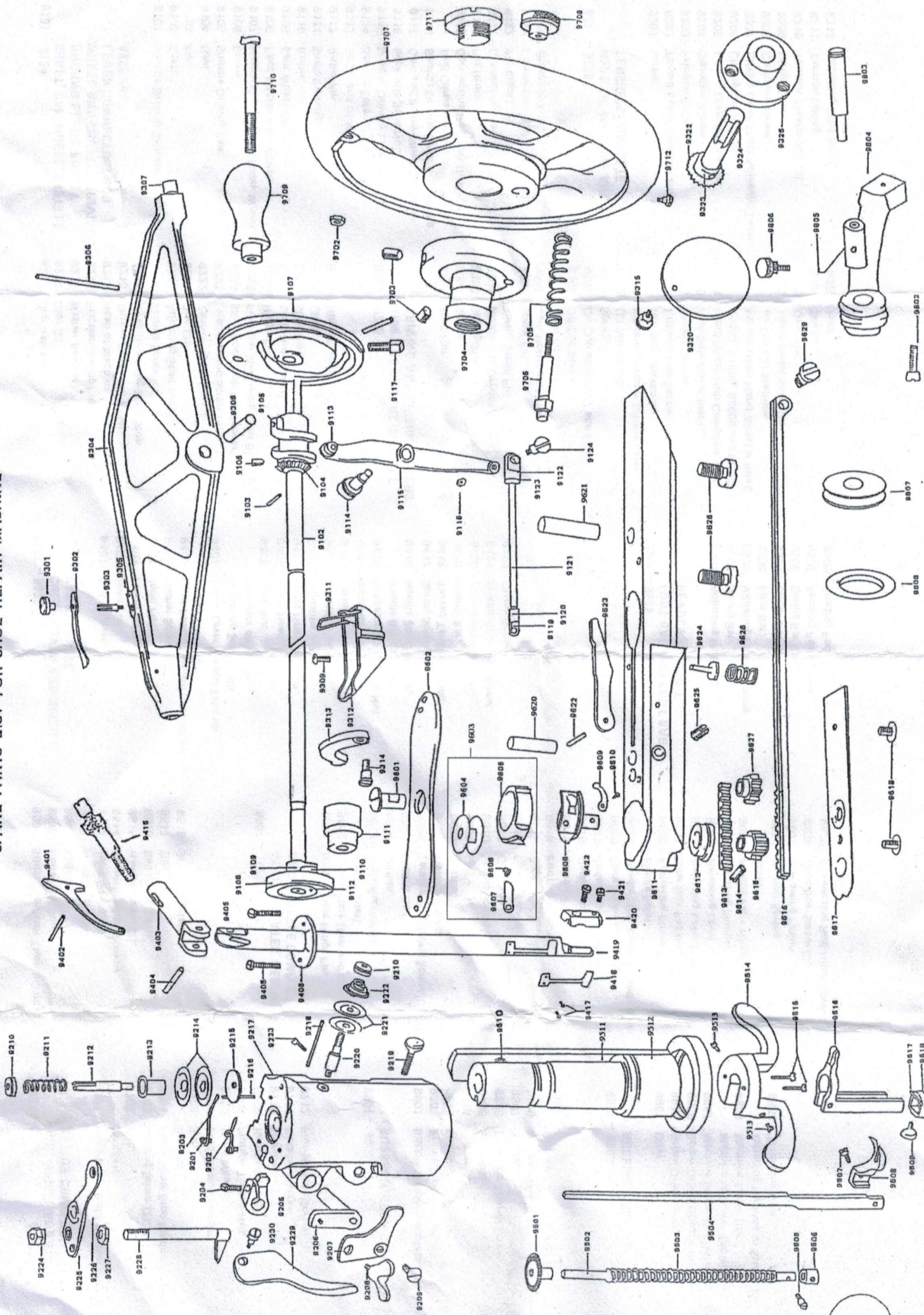


Fig. 38. Correct Timing of Shuttle Carrier

SPARE PARTS LIST FOR SHOE REPAIR MACHINE



9101 - 9124	SHAFT, CAM WHEEL, SHUTTLE DRIVING LEVER, PULLEY WHEEL AND SHUTTLE DRIVING LEVER CONNECTING ROD ASSEMBLY	9213 Cup (release). 9214 Disc (2). 9215 Washer (leather). 9216 Friction Spring Pin. 9217 Head of Machine. 9218 Thread Guide Pin (side). 9219 Head Revolving Bush Stop Thumb Screw. 9220 Adjusting Stud (side). 9221 Disc (2). 9222 Tension (side) Spring. 9223 Head Binding Screw (4). 9224 Slide Rod Lock Nut (upper). 9225 Foot Bar Revolving Joint Bearing. 9226 Hinge Pin. 9227 Lock Nut (lower). 9228 Slide Rod. 9229 Lifter. 9230 Hinge Screw.	9401 - 9422 CHECK LEVER AND NEEDLE BAR COMPLETE 9401 Check Lever. 9402 Joint Pin. 9403 Piston Joint. 9404 Joint Pin. 9405 Washer Screw (2). 9406 Head Revolving Bush Supporting Washer. 9407 Check Lever Thread Take-up Adjusting Screw with Indicator complete. 9408 Lock Nut 9409 Index Head. 9410 Index Head Stop Pin. 9411 Adjusting Screw. 9412 Locating Plunger. 9413 Spring. 9414 Indicator Body. 9415 Indicator Body Lock Nut. Needle Bar complete. 9416 Needle Bar complete, Needle Bar complete, 9417 Spring Screw (2). 9418 Thread Tension Spring. 9419 Needle Bar. 9420 Needle Bar Clamp. 9421 Needle Clamping Screw. 9422 Clamp Screw.	9509 - 9518 Stitch Regulator Thumb Screw. 9510 Roller and Stud. 9511 Slide Bar. 9512 Revolving Bush. 9513 Joint Screw (2). 9514 Revolving Bush Handle. 9515 Handle Screw (2). 9516 Ball Crank Lever. 9517 Gb. 9518 Stitch Regulator.	9701 - 9712 HAND WHEEL AND STOP MOTION COMPLETE 9701 Hand Wheel and Stop Motion complete. 9702 Nut. 9703 Binding Screw (2). 9704 Hand Wheel Stop Motion Flanged Bushings. 9705 Spring. 9706 Stop Motion Plunger. 9707 Hand Wheel. 9708 Plunger Thumb Nut. 9709 Handle (wood). 9710 Spindle. 9711 Retaining Screw. 9712 Plunger Stop Screw.
9301 - 9325	ARM SIDE COVERS, SHUTTLE DRIVING AND LIFTING LEVERS	9301 Stud Nut. 9302 Spring. 9303 Spring Stud. 9304 Needle Bar Driving Lever. 9305 Spring Stead Pin. 9306 Spool Pin. 9307 Cam Roller and Stud. 9308 Joint Pin. 9309 Oil Cup Screw. 9310 Oil Cup with 8597 and 8695 9311 Spring. 9312 Oil Pad (cloth). 9313 Vibrating Presser Lifting Lever (for medium work). 9314 Lifting Lever Screw. 9315 Thumb Screw. 9320 Arm Side Cover (back). 9321 Hand Wheel Hub Complete, Nos. 11663, 81869, 82008 and 82052 for use when Hand Wheel is fitted on front of Machine. 9322 Hand Wheel Shaft Gear. 9323 Gear Pin 9324 Shaft. 9325 Hub.	9601 - 9629 NEEDLE PLATES, GEAR BOX AND SHUTTLE COMPLETE 9601 Needle Plate Hinge Pin. 9602 Needle Plate (fine and medium needle holes). 9603 Shuttle complete. 9604 Bobbin. 9605 Shuttle Body. 9606 Tension Regulating Screw. 9607 Tension Spring. 9608 Shuttle. 9609 Spring. 9610 Spring Screw. 9611 Gear Box. 9612 Pinion Bushing. 9613 Rack (short). 9614 Pinion Screw. 9615 Driving Pinion. 9616 Rack (long). 9617 Pinion Cover Plate. 9618 Plate Screw (2). 9619 Needle Plate (medium and coarse needle holes). 9620 Following Pinion Stud. 9621 Gear Box Position Pin. 9622 Releasing Lever Hinge Pin. 9623 Releasing Lever. 9624 Locating Plunger. 9625 Needle Plate Hinge Pin Binding Screw. 9626 Plunger Spring. 9627 Following Pinion. 9628 Gear Box Screw (2). 9629 Connecting Rod Hinge Screw.	9801 - 9808 BOBBIN WINDER COMPLETE 9801 Bobbin Winder complete. 9802 Frame Screw. 9803 Spindle. 9804 Frame. 9805 Eccentric. 9806 Eccentric Thumb Screw. 9807 Pulley. 9808 Rubber Ring. Spindle.	9851 - 9863 ACCESSORIES 9851 Oiler. 9855 Screw Driver (machine). 9856 Screw Driver (shuttle tension). 9857 Machine Screw (for fastening Machine to Power Table) (4). 9859 Machine Screw (for fastening Machine to Stand) (4). 9863 Threading Wire.
9201 - 9230	HEAD OF MACHINE AND TENSIONS COMPLETE	9201 Screw. 9202 Thread Eyelet (head of arm). 9203 Friction Spring. 9204 Clamping Screw. 9205 Lifting Lever Shaft Lever. 9206 Lifting Lever Shaft. 9207 Lifting Lever Shaft Adjusting Lever. 9208 Clamping Screw. 9209 Hinge Screw. 9210 Tension Thumb Nut (2). 9211 Tension Spring. 9212 Adjusting Stud (top).	9501 - 9518 FOOT BAR AND FOOT BAR REVOLVING JOINT 9501 Adjusting Nut. 9502 Spring Bar. 9503 Vibrating Presser Spring. 9504 Foot Bar. 9505 Collar Screw. 9506 Spring Bar Collar. 9507 Feeding Foot Screw. 9508 Feeding Foot.		