

SINGER
111G157

USE SINGER* OILS and LUBRICANTS

They insure freedom from lubricating trouble and give longer life to sewing equipment

The following are the correct lubricants for this machine:

TYPE B — MANUFACTURING MACHINE OIL, HEAVY GRADE

When an oil is desired which will produce a minimum of stain on fabrics, even after a long period of storage, use:

TYPE D — MANUFACTURING MACHINE OIL, HEAVY GRADE

OTHER SINGER* LUBRICANTS

TYPE E — THREAD LUBRICANT

For lubricating the needle thread of sewing machines for stitching fabrics or leather where a thread lubricant is required.

TYPE F — MOTOR OIL

For oil lubricated motors and plain bearings in power tables and transmitters.

NOTE: All of the above oils are available in 1 quart, 1 gallon and 5 gallon cans.

GEAR LUBRICANT

This specially prepared grease is recommended for gear lubrication on manufacturing sewing machines.

BALL BEARING LUBRICANT

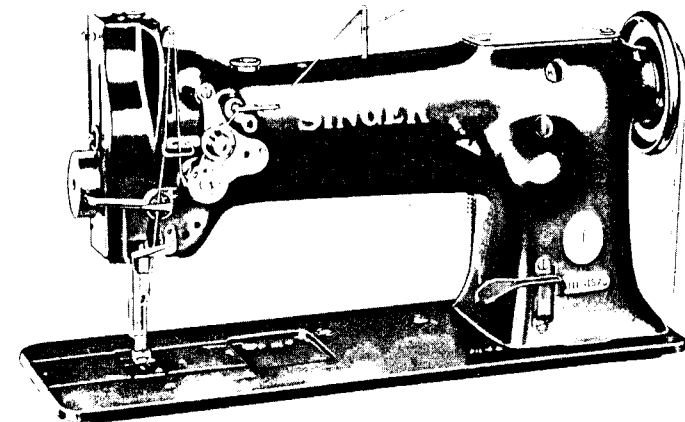
This pure grease is specially designed for the lubrication of ball bearings and ball thrust bearings of motors and electric transmitters, ball bearing hangers of power tables, etc. Furnished in 1 lb. and 4 lb. tins.

Form K6476
(1161)

INSTRUCTIONS FOR USING AND ADJUSTING **SINGER*** SEWING MACHINE **111G157**

SINGLE NEEDLE

LOCK STITCH



THE SINGER MANUFACTURING COMPANY

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DESCRIPTION

Machine 111G157 is a high speed, single needle, lock stitch, compound feed machine, with a belt driven vertical axis sewing hook. The machine is fitted with a reverse feed mechanism, which can be operated by hand or foot. It is equipped with a thread lubricator and also a safety clutch which protects the hook from damage caused by an accidental strain. It is designed for stitching medium and heavy work, such as clothing, suits, overalls, duck coats, shirts, etc.

SPEED

The maximum speed recommended for this machine is 3000 R.P.M. The machine should be run slower than the maximum speed until the parts which are in moving contact have become glazed by their action on each other. When the machine is in operation, the machine pulley turns over toward the operator.

CAUTION

After setting up, do not start the machine, not even to test the speed, until it has been thoroughly oiled, as instructed on pages 3, 4 and 5.

NEEDLES

Needles for Machine 111G157 are Catalogue 3355 (135x17) made in sizes 7, 8, 9, 10, 12, 14, 16, 18, 20, 22 and 24.

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 **CATALOGUE** number.

The following is an example of an intelligible order:

"100 Size 14, Catalogue 3355 Needles."

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

TO OIL THE MACHINE

Use "TYPE B" or "TYPE D" OIL, sold by Singer Sewing Machine Company. See inside front cover of this book for description of these oils.

To ensure easy running and prevent unnecessary wear of the parts which are in moving contact, the machine requires oiling, and when in continuous use, it should be oiled at least twice a day. A new machine should be oiled more frequently when it is in continuous use on long runs.

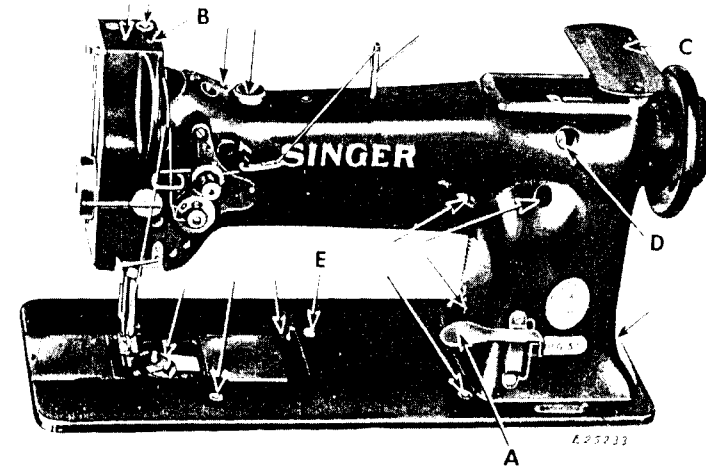


Fig. 2. Front View of Machine, Showing Oiling Points and Adjustments

Oil should be applied at the places designated by arrows as shown in Figs. 2, 3, 4, 5 and 6. Swing back the cover **C**, Fig. 2 and oil the bearings which are thus uncovered, then replace the cover.

Loosen the thumb screw in the upper end of the face plate, turn the face plate upward and oil the wick and bearings shown in Fig. 3, then replace the face plate.

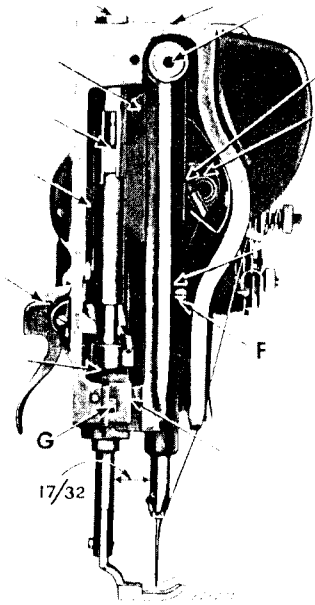


Fig. 3. End View of Machine,
Showing Oiling Points and Adjustments

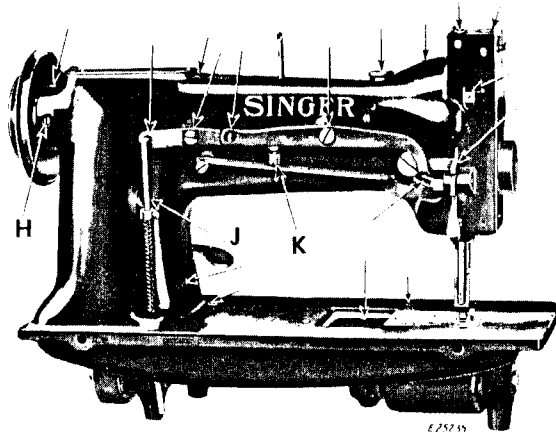


Fig. 4. Rear View of Machine,
Showing Oiling Points and Adjustments

Turn the machine back on its hinges and apply oil at the places designated by arrows as shown in Fig. 5, and all other places where there are parts in movable contact, then bring the machine forward into place.

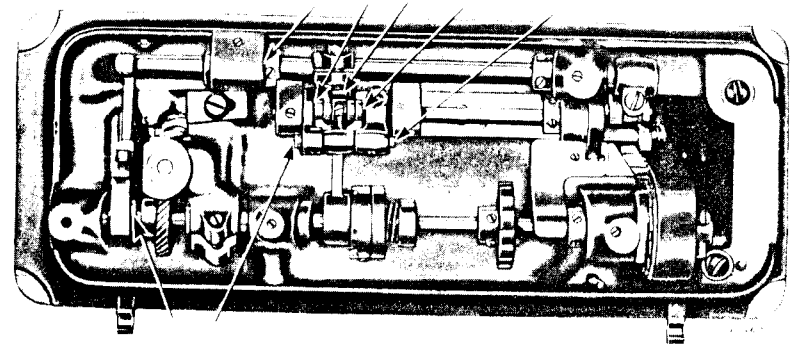


Fig. 5. Base of Machine, Showing Oiling Points

HOOKE LUBRICATION. Fig. 6 shows the means for oiling the ball bearing hook saddle. Oil should be placed in the oil well L, Fig. 6, from whence it will flow to both upper and lower bearings and also will lubricate the mechanical opener mechanism.

The small green felt pad M, Fig. 6 on the side of the bobbin case should be kept wet with oil to lubricate the hook race. When this pad is wet it appears nearly black, and when it appears light green it indicates that it is dry. When a machine is new, oil should be applied to this felt pad each time a bobbin is replaced.

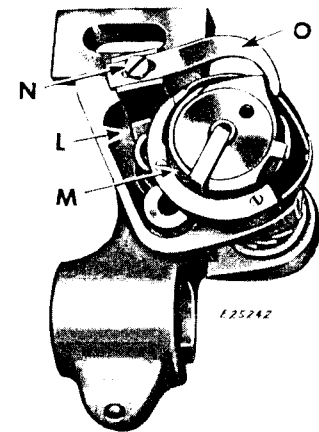


Fig. 6.
Hook Lubrication

THREAD

Use left twist thread for the needle. Either left or right twist thread may be used for the bobbin.

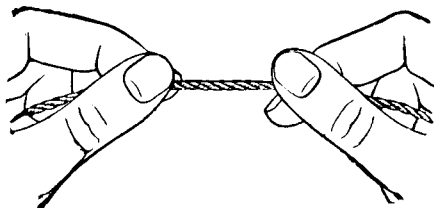


Fig. 7. How to Determine the Twist

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

THE RELATIVE SIZES OF NEEDLES AND THREAD

The following sizes of needles and thread are recommended:

Sizes of Needles	Cotton	Silk
12	70, 80	OO, O
14	60, 70	O, A
16	40 to 60	A, B
18	30 to 40	B, C
20	24, 30	D, E

TO SET THE NEEDLE

Turn the machine pulley over toward you until the needle bar moves up to its highest point; loosen the set screw in the needle bar and put the needle up into the bar as far as it will go, with its long groove toward the left, the eye of the needle being directly in line with the machine bed, then tighten the set screw.

TO REMOVE THE BOBBIN

Draw out the slide plate in the bed of the machine. Insert the finger nail of the forefinger under the latch P, Fig. 8, raise the latch and lift out the bobbin.

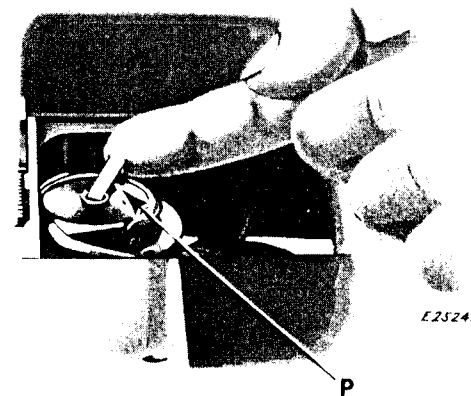


Fig. 8. Removing the Bobbin

TO WIND THE BOBBIN

See Fig. 9

Fasten the bobbin winder to the table with its driving pulley in front of the machine belt, so that the pulley will drop away from the belt when sufficient thread has been wound on the bobbin.

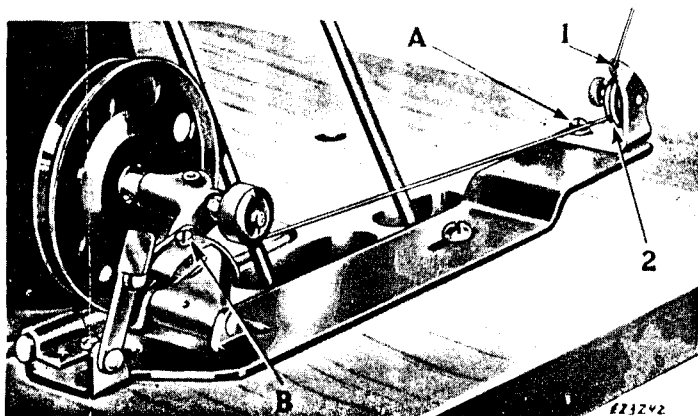


Fig. 9. Winding the Bobbin

Place the bobbin on the bobbin winder spindle and push it on as far as it will go.

Pass the thread down through the thread guide 1 in the tension bracket, around the back and between the tension discs 2. Then wind the end of the thread around the bobbin a few times, push the bobbin winder pulley over against the machine belt and start the machine.

When sufficient thread has been wound on the bobbin, the bobbin winder will stop automatically.

If the thread does not wind evenly on the bobbin, loosen the screw A in the tension bracket and move the bracket to the right or left as may be required, then tighten the screw.

The amount of thread wound on the bobbin is regulated by the screw B. To wind more thread on the bobbin, turn the screw B inwardly. To wind less thread on the bobbin, turn this screw outwardly.

Bobbins can be wound while the machine is stitching.

TO REPLACE THE BOBBIN AND THREAD THE BOBBIN CASE

Hold the bobbin between the thumb and forefinger of the right hand, the thread drawing on the top from left to right as

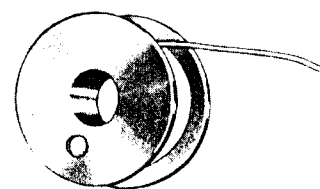


Fig. 10. Direction of Thread on Bobbin

shown in Fig. 10, and place it on the centre stud of the bobbin case, then push down the latch P, Fig. 11. Draw the thread into the slot 1, Fig. 11 and under the back of the projection 2, Fig. 11, leaving a loose end of thread about two inches long above the slide. When closing the slide plate, leave just enough space for the thread to pass through.

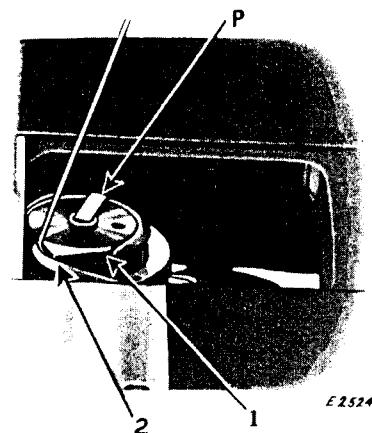


Fig. 11. Bobbin Case Threaded

TO THREAD THE NEEDLE

See Fig. 12

Pass the thread from the unwinder from back to front through the lower hole 1 in the pin on top of the machine and from right

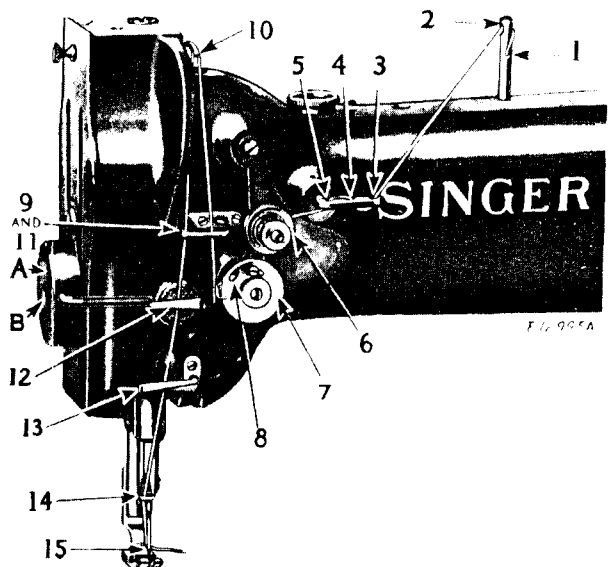


Fig. 12. Threading the Needle

to left through the upper hole 2 in the pin, down through the hole 3, up through the hole 4 and down through the hole 5 in the thread guide at the front of the machine, over from right to left between the tension discs 6, down, under from right to left around the thread controller 7, into the thread controller spring 8 and up through the thread guide 9, from right to left through the hole 10 in the thread take-up lever, down through the thread guide 11 and through the thread guides 12 and 13, through the thread guide 14 at the bottom of the needle bar and from left to right through the eye of the needle 15.

TO ADJUST THE THREAD LUBRICATOR

To ensure satisfactory results, Thread Lubricant, sold by Singer Sewing Machine Company, should be used in the thread lubricator which is attached to the face plate.

When replenishing the lubricant supply, fill the reservoir A, Fig. 12 to about 1/8 inch below the filler hole B, Fig. 12.

The amount of lubrication of the thread is controlled by raising or lowering the felt pad holder 12, Fig. 12 above or below the level of the lubricant. For more lubricant, lower the felt pad holder. For less lubricant, raise the felt pad holder.

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 the machine pulley over toward you until the needle moves down and up again to its 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 feed dog. Lay the threads back under the presser foot and close the slide.

TO START SEWING

Place the material beneath the presser foot, lower the presser foot and start to sew, turning the machine pulley over toward you.

TO REMOVE THE WORK

Have the thread take-up lever at the highest point, raise the presser foot, draw the work back and cut the threads close to the goods. Lay the ends of the threads back under the presser foot.

TENSIONS

The needle and bobbin threads should be locked in the centre of the thickness of the material, thus:



Fig. 13. 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. 14. 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. 15. Loose Needle Thread Tension

TO REGULATE THE TENSIONS

The tension on the needle thread is regulated by the thumb nut **Q**, **Fig. 16** at the front of the tension discs on the front of the machine. To increase the tension, turn this thumb nut over to the right. To decrease the tension, turn this thumb nut over to the left.

The tension on the bobbin thread is regulated by means of the screw nearest the centre of the tension spring on the outside of the bobbin case. To increase the tension, turn this screw over to the right. To decrease the tension, turn this screw over to the left.

TO REGULATE THE LENGTH OF STITCH

The number of stitches per inch is stamped on the stitch indicating disc **D**, **Fig. 2** located on the arm shaft.

To change the length of stitch, press down the plunger **E**, **Fig. 2** in the bed of the machine and at the same time turn the machine pulley slowly until the plunger enters a notch in the adjustable feed eccentric cam. Still holding the plunger **E**, turn the machine pulley over a part of a revolution until the number of the stitches per inch desired can be seen through the hole in the front of the arm at **D**, **Fig. 2**, then release the plunger **E**.

TO REGULATE THE PRESSURE ON MATERIAL

The pressure on the material is regulated by the screw **K**, **Fig. 4**, at the back of the machine, the screw acting on a flat spring. To increase the pressure, turn this screw downward. To decrease the pressure, turn this screw upward. The pressure should be only heavy enough to enable the feed to move the work along evenly.

INSTRUCTIONS FOR ADJUSTERS AND MACHINISTS

THREAD CONTROLLER

The function of the thread controller spring is to hold back the slack of the needle thread until the eye of the needle nearly reaches the goods in its descent, as without this controlling action of the spring, the slack thread or silk (more especially silk) will sometimes be penetrated by the point of the needle as the needle is descending.

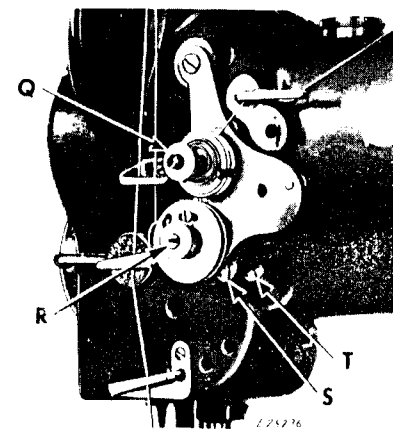


Fig. 16. Adjustment of Thread Controller

For more controller action on the thread, loosen the stop screw **S**, **Fig. 16** at the right of the tension and set the stop lower, and for less action set the stop higher.

To strengthen the action of the controller spring on the thread, loosen the tension stud screw **T**, **Fig. 16** at the right of the stop screw and turn the tension stud **R** slightly to the left with a screwdriver, or to lighten its action turn the stud **R** to the right and retighten the tension stud screw **T**.

TO SET THE NEEDLE BAR

See that the needle is up in the bar as far as it will go. There are two lines across the needle bar about two inches above the lower end. When the needle bar is at its lowest position, the upper mark should be just visible at the end of the needle bar frame.

In case the needle bar is not correctly set, loosen the needle bar connecting stud pinch screw **F**, **Fig. 3** and place the needle bar in correct position as directed above, then retighten the screw **F**.

TO SET A NEEDLE BAR WHICH HAS NO MARK: Set the feed eccentric so that there is no feeding motion, then set the needle bar so that when it rises $\frac{3}{32}$ inch from its lowest position and the point of the sewing hook is at the centre of the needle, the needle eye will be about $\frac{1}{16}$ inch below the hook point.

FORWARD-AND-BACK POSITION OF NEEDLE BAR

The needle bar should be set so that a straight needle is centred in the needle hole in the feed dog (or slightly more toward the operator) throughout its feeding movement. It should also be set so that when the feed eccentric is set for zero feeding movement, the distance between the needle bar and the presser bar will be $\frac{17}{32}$ inch, as shown in **Fig 3**.

If the needle bar is not centred correctly in the needle hole in the feed dog, adjust the feed eccentric for zero feeding movement, then loosen the clamp screw in the crank **G2**, **Fig. 20** and also the screw reached through the hole **J**, **Fig. 4** in the back of the arm; centre the needle with the feed dog, and see that the crank **G2**, **Fig. 20** is parallel with the top surface of the bed before tightening the two clamp screws.

If the needle bar is now the wrong distance from the presser bar, with zero feeding movement, loosen clamp screw **D2**, **Fig. 20** and set the needle bar $\frac{17}{32}$ inch from the presser bar, then tighten the screw **D2**. A piece of sheet metal $\frac{17}{32}$ inch wide may be used as a gauge for determining the right distance.

TO TIME THE SEWING HOOK

Set the feed eccentric so there is no feeding motion.

Remove the throat plate and turn the machine pulley over toward you until the lower mark across the needle bar is just visible at the end of the needle bar frame on the upward stroke of the needle bar. If the needle bar and sewing hook are correctly timed, the point of the hook will be at the centre of the needle and about $\frac{1}{16}$ inch above the eye.

In case the sewing hook is not correctly timed, turn the machine pulley over toward you until the needle bar has descended to its lowest point and has risen until the lower timing mark across the needle bar is just visible at the end of the needle bar frame.

Loosen the two screws in the hook shaft gear **U**, **Fig. 17** and turn the sewing hook until the point of the hook is at the centre of the needle, after which securely tighten the two screws in the gear **U**, leaving just enough play in the shaft for lubricating purposes.

TO SET THE SEWING HOOK TO OR FROM THE NEEDLE

To prevent the point of the hook from dividing the strands of the thread, it should run as close to the needle (within the scarf) as possible.

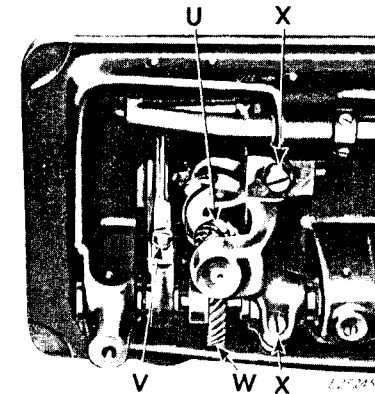


Fig. 17. Adjustment of Hook Saddle

Turn the machine pulley over toward you until the point of the sewing hook is at the centre of the needle. Loosen the two screws **X**, **Fig. 17** underneath the bed of the machine and move the hook saddle to the right or left, as may be required, until the point of the hook is as close to the needle as possible without striking it, then securely tighten the two screws **X**.

TO REMOVE THE SEWING HOOK FROM THE MACHINE

Remove the throat plate, feed dog and bobbin case opening lever **O**, Fig. 6. Turn the machine back on its hinges and remove the two screws from the hook driving pinion spiral gear **U**, Fig. 17 and place the end of a small screwdriver against the shaft end of the hook, tapping with the palm of the hand to drive out the hook.

To remove the ball bearing from the hook, rest the bearing on two pieces of sheet metal across the open jaws of a vise with the shaft end up, tap shaft until bearing is removed. This can also be easily accomplished using a T 3438 Ball Bearing Puller. As this tool will serve for several machines, it is not regularly furnished with the machine, and must be ordered separately.

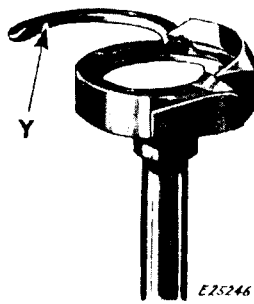


Fig. 18. Sewing Hook Removed from Machine,
Showing Hook Washer

TO REMOVE THE BOBBIN CASE FROM THE SEWING HOOK

Remove the two hook gib screws from the hook gib **Y**, Fig. 18 and remove the bobbin case.

TO RAISE OR LOWER THE FEED DOG

Usually when the feed dog is at its highest position, it should show a full tooth above the throat plate.

Remove the throat plate; clean the lint and dust from between the feed points and replace the throat plate; tip the machine back and turn the machine pulley towards you until the feed dog is at its highest position; loosen screw **V**, Fig. 17 in the feed lifting cam fork on the feed bar and raise or lower the feed dog, as may be required, and retighten the screw **V**.

When raising or lowering the feed dog, be careful that its underside does not drop so low that it strikes the sewing hook.

THE FEED ECCENTRIC

The feed eccentric is provided with a gib **Z**, Fig. 19 which can be adjusted to take up any wear or loose motion between the feed eccentric and the eccentric body. To adjust the gib, loosen the two locking screws **A2**, Fig. 19 nearest the gib, then turn in the two adjusting screws **B2** against the gib until all play is eliminated and the eccentric fits snugly in the slot in the eccentric body. Securely tighten the two locking screws **A2**.

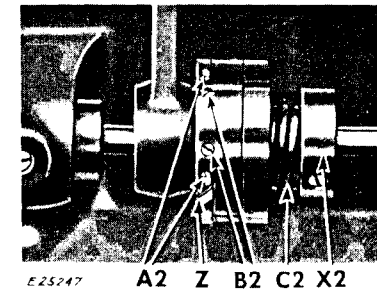


Fig. 19. Feed Eccentric

The spring **C2** presses against the feed eccentric cam to prevent it from moving out of position while the machine is operating. The collar **X2** may be moved to the right or left to change the spring pressure. It should ordinarily be set flush with the end of the hub of the eccentric body.

TO ADJUST THE STITCH LENGTH INDICATOR

Set the machine to produce eight measured stitches to the inch. Then loosen the set screw in the stitch indicating disc **D**, Fig. 2, press

down the plunger **E**, Fig. 2 in the bed of the machine and at the same time turn the machine pulley slowly until the plunger enters the notch **M2**, Fig. 20 in the adjustable feed eccentric cam. With the machine in this position, the stitch indicating disc **D**, Fig. 2 should be set so that the figure "8" can be seen through the hole in the front of the arm, then tighten the set screw in the stitch indicating disc.

TO REMOVE THE NEEDLE BAR ROCK FRAME ROCK SHAFT

Swing the face plate up, remove the screw **G**, Fig. 3 and the position bracket. Loosen the set screw **B**, Fig. 2 and remove the rock frame hinge stud, then loosen the clamp screw at **J**, Fig. 4 and draw out the rock shaft.

TO REMOVE AND REPLACE THE ARM SHAFT CONNECTION BELT

Swing back the cover **C**, Fig. 2 and loosen the two set screws (at the right of the upper belt pulley in the arm) which fasten the inner race of the ball bearing to the arm shaft; remove the machine pulley, loosen the screw **H**, Fig. 4 at the rear of the machine which holds the ball bearing container, and the entire ball bearing assembly can be removed from the machine. Slide the belt from the lower pulley **J2**, Fig. 20, then lift the belt up through the space normally occupied by the ball bearing assembly.

Owing to the fact that the sewing hook makes two revolutions to one revolution of the hook shaft, and that the feed eccentric is on the hook shaft, it is possible to have the sewing hook correctly timed without having the feed eccentric correctly timed. To overcome this, a plate is attached to the underside of the bed of the machine. This plate is marked with a line **L2**, Fig. 20 and the collar on the hook shaft is also marked with a line **K2**.

After replacing the belt over the arm shaft, replace the ball bearing assembly and securely fasten it in position by the screw **H**, Fig. 4 and the two set screws in the inner race; replace the machine pulley; place the belt on the upper pulley, and turn the machine pulley over toward you until the thread take-up lever is at its highest point; then turn the hook shaft with the fingers until the line **K2**, Fig. 20 on the collar is directly aligned with the line **L2** on the plate. Now, without disturbing the relative positions of the arm and hook shafts, slip the belt over the lower pulley. The feed will then be correctly timed with the needle bar.

CAUTION—DO NOT PINCH BELT in handling, as this will put a permanent kink in the wire reinforcements. Do not store near radiator or other hot place, but preferably in a cool, dark place until belt is installed in machine.

TO SET THE FEED DRIVING ROCK SHAFT BUSHING (SPLIT)

The feed driving rock shaft rests in split bushings, which can be adjusted to take up wear that may occur. Loosen the two lock screws **O2** and **Q2**, Fig. 21 and turn in the two set screws **N2** and **R2**, Fig. 21 until all side movement is taken up. Then securely tighten the two lock screws **O2** and **Q2**.

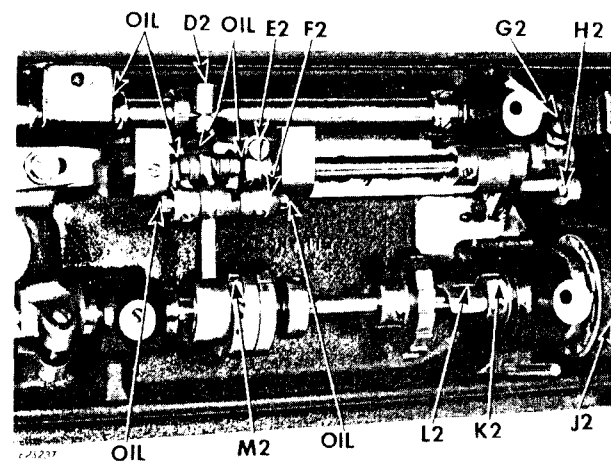


Fig. 20. Setting for Forward Feed

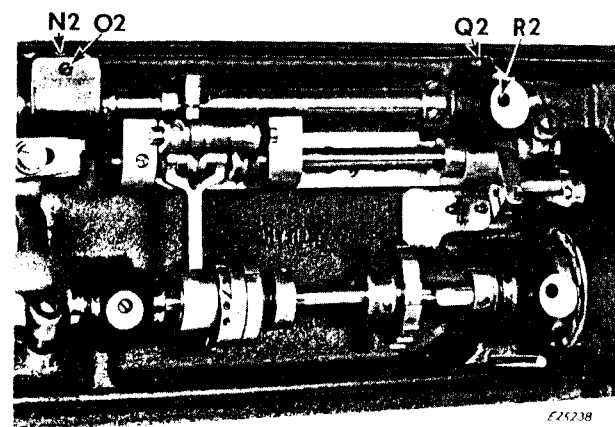


Fig. 21. Setting for Reverse Feed

TO ADJUST THE FEED REVERSING MECHANISM

The bracket on the machine bed which holds the reverse feed mechanism is set and pinned at the factory and should not be moved or taken off. If for some reason the stitch length varies between forward and reverse, loosen the pinch screw **E2, Fig. 20**. Change the position of the linkage and the stitch will become even. Also a long stitch forward and a short stitch reverse, or vice versa, can be accomplished by changing the position of the same linkage. After each change, tighten pinch screw **E2, Fig. 20**.

THE FEED REVERSING MECHANISM

To reverse the direction of feed, press down the feed reversing handle **A, Fig. 2** and the work will feed toward you. Release the handle and the work will feed away from you.

For foot reverse, connect the feed reversing treadle chain to the feed reversing lever **H2, Fig. 20** underneath the bed of the machine.

The Same!



To get replacements that are the same as parts in new machines...

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NEEDLES MADE BY **SINGER***

TO BE DOUBLY SURE...

of new machine performance, make sure that all replacement parts and needles are precisely identical to those in new SINGER machines.

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SINGER or **SIMANCO**

- ① on every package or container
- ② on the needle or numbered part

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