

SINGER
144W305

Form 3076w
Rev. (460)

INSTRUCTIONS
FOR USING AND ADJUSTING
SINGER*
SEWING MACHINE

144 W 305

THE SINGER COMPANY

DESCRIPTION

MACHINE 144 W 305, for stitching tents, tarpaulins, etc., has the following characteristics:

- Single Needle, Lock Stitch
- Rotary Sewing Hook on a vertical axis
- Compound Feed and Alternating Pressers
- Reverse Feed controlled by a treadle
- High Arm with 30 inches clearance at right of needle bar
- Balance Wheel with 6-3/4" diameter belt groove for V-belt or round belt
- Maximum length of stitch 2-1/2 to the inch
- Lift of Alternating Pressers 13/16 inch
- Needle Bar Stroke 1-27/32 inches
- Hand Wheel at front of machine for convenience of operator.

SETTING UP MACHINE

When setting up machine, connect feed reversing lever **D1, Fig. 17** in bed of machine to feed reversing treadle by means of chain.

SPEED

The maximum speed recommended for this machine is 1500 revolutions per minute, when permitted by the nature of the material being sewn. The machine should be run slower than the maximum speed until the parts which are in movable contact have become glazed by their action on each other. When the machine is in operation, the balance wheel should turn over toward the operator.

NEEDLES

Needles for this machine are of **Class** and **Variety 7x3**, made in sizes 21, 22, 23, 24, 25, 26 and 27.

The size of needle to be used should be determined by size of thread, which must pass freely through eye of needle. If rough or uneven thread is used, or if it passes with difficulty through eye of needle, the successful use of machine will be interfered with.

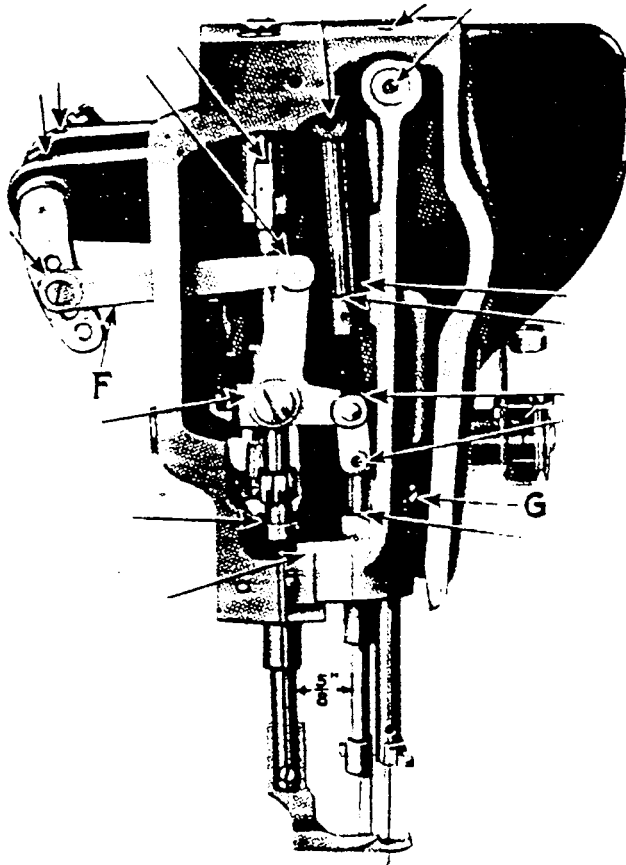
Orders for needles must specify **Quantity** required, **Size** number, also **Class** and **Variety** numbers separated by letter x.

The following is an example of an intelligible order:

"100 No. 24, 7x3 Needles"

The best results will be obtained when using the needles sold by **THE SINGER COMPANY**

Loosen the thumb screw in the upper end of the face plate, turn the face plate upward and oil the wick and bearings which are thus uncovered, then turn down the face plate and tighten the thumb screw.



**Fig. 4. End View of Machine Showing Oiling Points
Also Adjustments on the Machine**

Apply a few drops of oil four times daily to the felt pad in the side wall of the bobbin case as illustrated in Fig. 9.

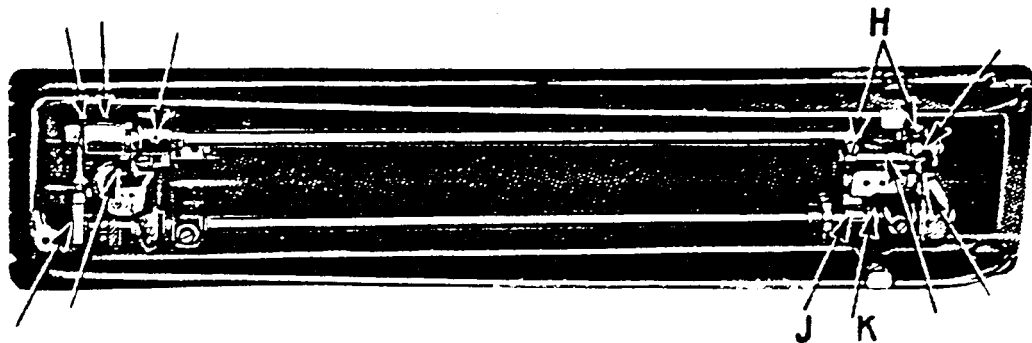


Fig. 5. Base of Machine Showing Oiling Points and Adjustments

TO WIND THE BOBBIN

See Fig. 8

Place the bobbin on the bobbin winder spindle and push it up against the shoulder until it is in line with the bobbin winder latch.

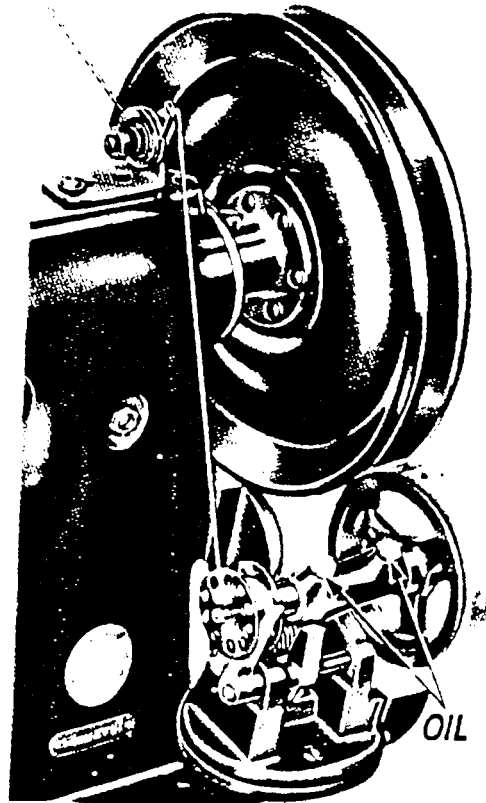


Fig. 8. Winding the Bobbin

Pass the thread from the unwinder, under and between the tension discs 1, through the eyelet 2, and wind the end of the thread around the bobbin 3 a few times. Push the bobbin winder pulley against the balance wheel and press the latch against the bobbin. When sufficient thread has been wound on the bobbin, the bobbin winder will stop automatically. Bobbins can be wound while the machine is stitching.

THREADING THE NEEDLE

See Fig. 11

Pass the thread from the unwinder through one of the holes **1** in the thread oiler, and under the wire guide **2** (which may be

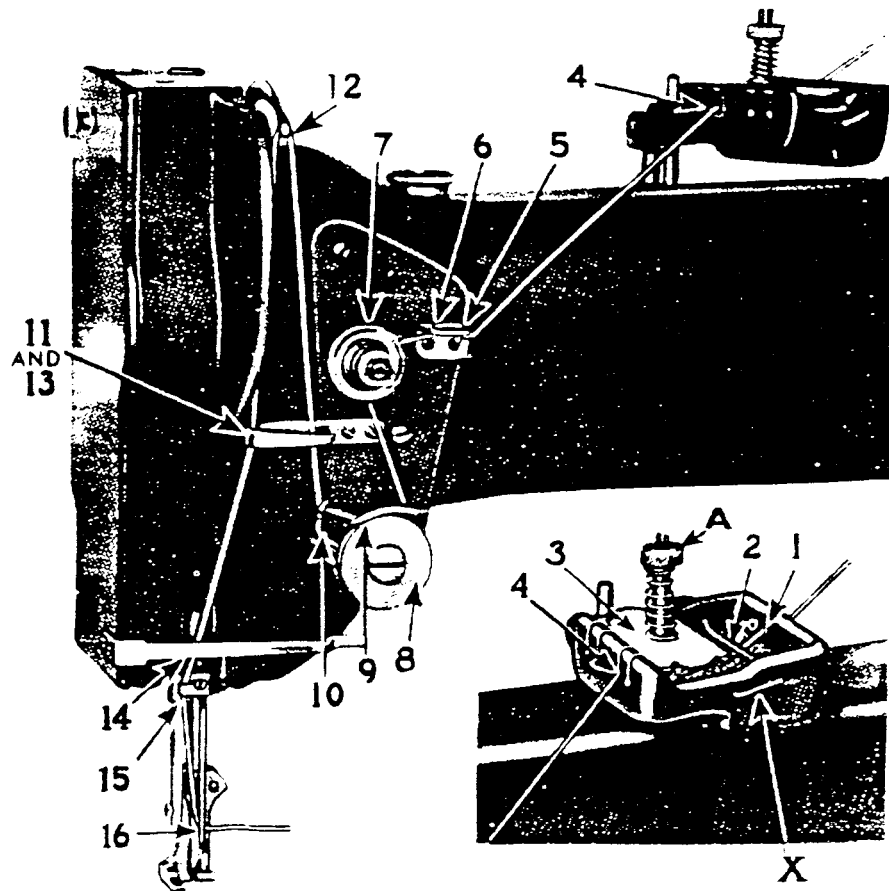


Fig. 11

raised by prying the end **X** out of its position hole with a screwdriver and turning it to the right), then under the oil pad **3** and out through one of the notches **4** in the thread oiler; downward to the thread guide, up through the eyelet **5**, down through the eyelet **6**, over between the tension discs **7**, down around the thread controller **8** and into the tension thread guide **9**, into the thread take-up spring **10**, up through the guide **11**, from right to left through the hole **12** in the take-up lever, down through the guide **13**, back of the lower guide **14**, into the self-threading needle bar thread guide **15** and from left to right through the eye **16** of the needle.

TENSIONS

The needle and bobbin threads should be locked in the center 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. 18 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 center 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 PRESSURE ON MATERIAL

To increase the pressure, turn the thumb screw **D**, Fig. 3 at the back of the machine, downwardly. To decrease the pressure, turn this thumb screw upwardly.

The pressure on the material should only be sufficient to enable the feed to move the work along evenly.

TO REVERSE DIRECTION OF FEED

The chain for the feed reversing treadle is connected to the feed reversing lever **D1**, Fig. 17 underneath the bed of the machine.

To feed the work **toward you**, press down on the feed reversing treadle.

To feed the work **from you**, release the pressure on the feed reversing treadle.

The reverse feed mechanism is set and pinned at the factory to produce the same length of stitch in reverse as it does in forward feeding and requires no adjustment.

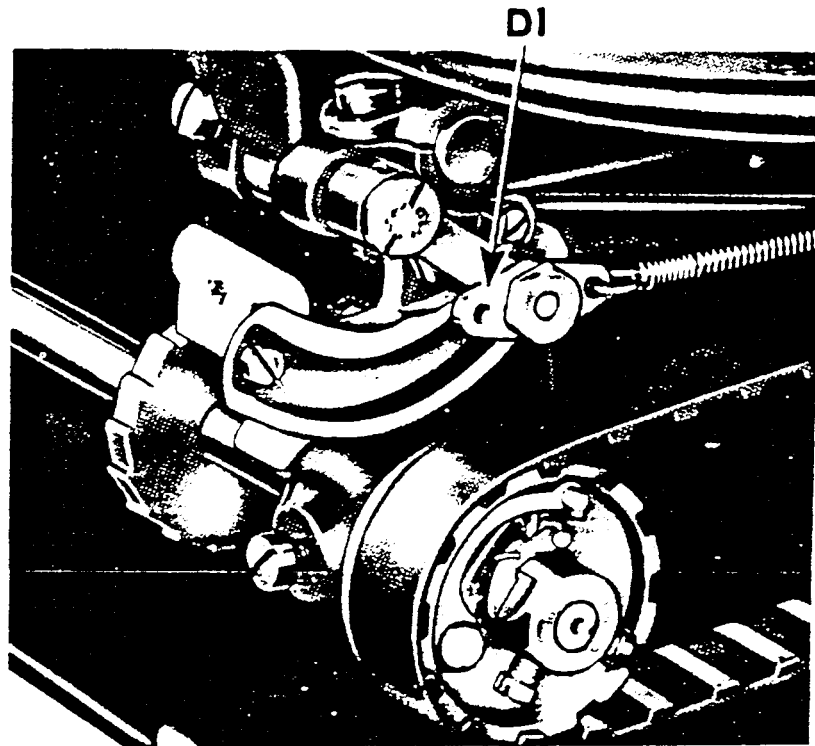


Fig. 17. Feed Reversing Mechanism

INSTRUCTIONS
FOR
ADJUSTERS and MECHANICS

TO SET SEWING HOOK TO OR FROM NEEDLE

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

Turn balance wheel over toward you until point of sewing hook is at center of needle. Loosen two screws **V**, **Fig. 19** underneath bed of machine and move hook saddle to right or left, as may be required, until point of hook is as close to needle as possible without striking it, then securely tighten two screws **V**.

The needle guard **Y**, **Fig. 21**, which is attached to side of sewing hook, should be sprung until it prevents needle from striking hook in case needle is deflected towards hook.

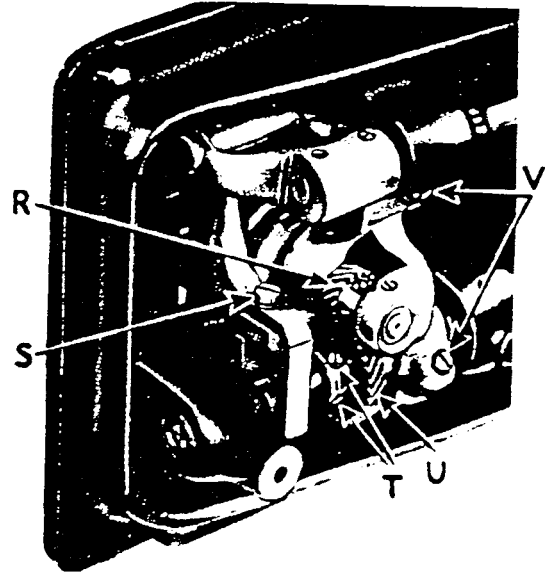


Fig. 19. Adjustment of Hook Saddle

TO REMOVE THE BOBBIN CASE FROM THE SEWING HOOK

Remove the bobbin case opener **M**, **Fig. 20**, remove the four hook gib screws **W**, **Fig. 20** from the sewing hook, lift off the hook gibs **Z**, **Fig. 21** and remove the bobbin case **X**, **Fig. 20**.

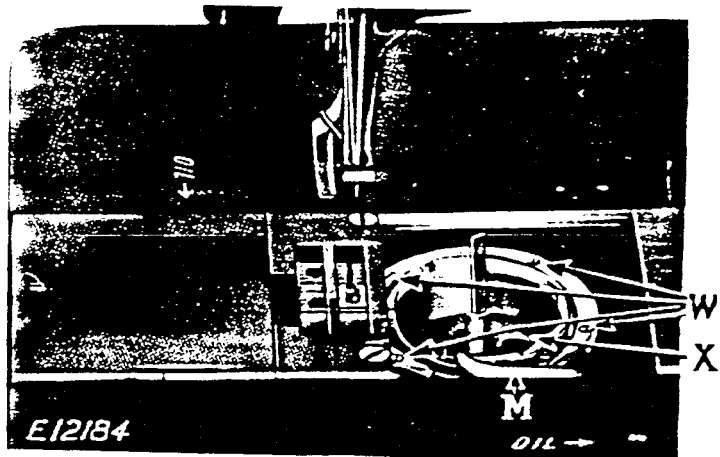


Fig. 20. Removing Bobbin Case

TO REMOVE THE NEEDLE BAR ROCK FRAME ROCK SHAFT

Remove the face plate and needle bar rock frame, then loosen the clamp screw at **C**, **Fig. 3** and draw out the rock shaft.

TO REMOVE THE ARM SHAFT CONNECTION BELT FROM WITHIN THE ARM

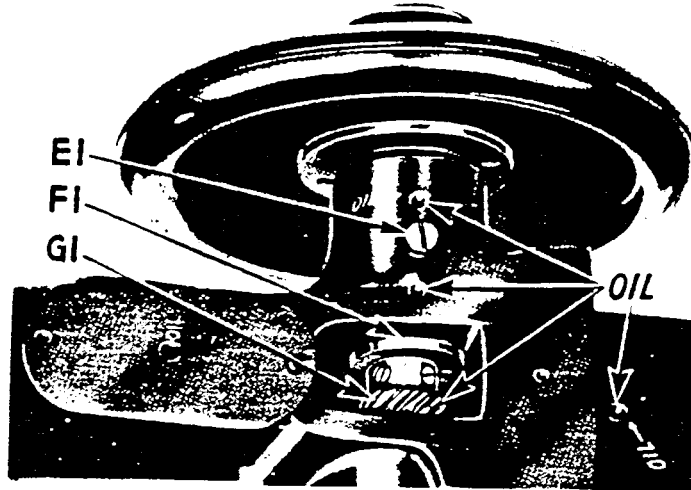
Slide the connection belt off lower belt pulley; remove the balance wheel; loosen the three screws in the arm shaft bushing near the balance wheel and remove the bushing; lift the belt up through the arm cap hole as far as possible and draw it out through the space normally occupied by the bushing.

Owing to the fact that the sewing hook makes two revolutions to one revolution of the arm shaft, and that the feed lifting eccentric is on the hook shaft, it is possible to have the sewing hook correctly timed without having the feed correctly timed. To overcome this, the plate **J**, **Fig. 5** is attached to the underside of the bed of the machine. This plate is marked with an arrow at its lower end and directly alongside of the plate is the collar **K**, **Fig. 5** mounted on the hook shaft, which is also marked with an arrow. After replacing the belt over the upper pulley, replace the arm shaft bushing and securely fasten it in position by its three screws; replace the balance wheel. With the belt on the upper pulley, turn the balance wheel from you until the thread take-up lever is at its highest point. Then turn the hook shaft with the fingers until the two arrows, one on the plate **J** and the other on the collar **K**, are directly in line. Now, without disturbing either the arm shaft or the hook shaft, 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; preferably in a cool, dark place until belt is installed in machine.

TO ADJUST THE HAND WHEEL SHAFT

The hand wheel shaft bushing **F1**, Fig. 24 is eccentric and may be rotated to bring the hand wheel gear **G1** into proper engage-



**Fig. 24. Adjustments and Oiling Points
at Top of Long-Arm Machines
(View from Rear of Machine)**

ment with the gear on the arm shaft. Remove the lock screw **E1** and loosen the bushing set screw which is underneath it. The bushing **F1** may then be tapped around until there is only a trace of backlash between the gears. Tighten the set screw and replace the lock screw **E1**.