

SINGER
167W100

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

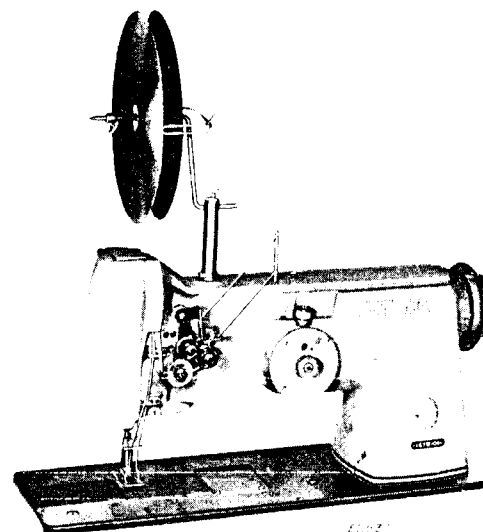
This specially prepared grease is recommended for gear lubrication on manufacturing sewing machines.

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 K6502
(262)

INSTRUCTIONS FOR USING **SINGER*** SEWING MACHINE **167w100**



THE SINGER MANUFACTURING COMPANY

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DESCRIPTION

Machine 167w100 is a two needle, drop feed, long arm, lock stitch machine for zigzag stitching on corsets, underwear, sails and articles requiring two parallel rows of stitching. Machine may be fitted for top or bottom stripping or both, with the stitching on the strip or over the edge as desired.

Machine has link take-up, two vertical axis rotating hooks mounted to vibrate in unison with the vibration of the needle bar, has mechanical bobbin case opener.

The machine may be furnished in gauges from 1/4 inch to 1 inch in steps of 1/32 inch. The width of zigzag stitch is adjustable up to 3/32 inch in 1/4 inch gauge, 1/8 inch in 9/32 inch gauge and 5/32 inch in wider gauges. Needles vibrate both sides of the centre line.

SPEED

The speed recommended for this machine is 2800 R.P.M. depending on the material being stitched. It is advisable to run a new machine slower than the maximum speed, until the movable parts have become glazed by their action upon each other. The machine pulley turns over towards the operator.

TO OIL THE MACHINE

When the machine is received from the factory, it should be thoroughly cleaned and oiled.

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

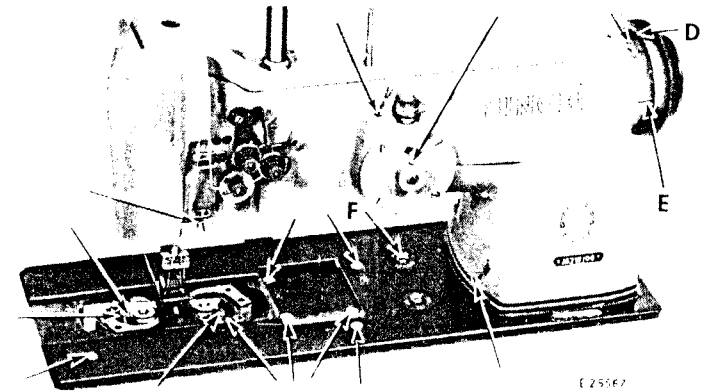


Fig. 2. Oiling Points at the Front of the Machine

All parts of this machine can be oiled without turning the machine back on its hinges. Oil should be applied at each of the places designated by arrows in Figs. 2, 3, 4 and 5. When the machine is in continuous use, it should be oiled at least twice a day. A new machine in continuous use on long runs should be oiled more frequently. Pull out the attachment slide in front of the needles and oil the feed rock shaft through the large hole in the bed.

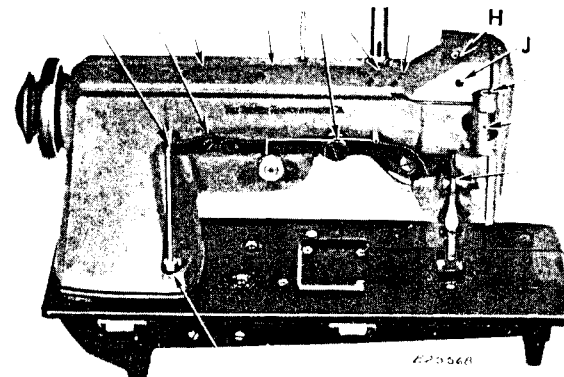


Fig. 3. Oiling Points at the Back of the Machine

Swing open the face plate and oil the wick and moving parts which are thus uncovered, then swing back the face plate in its closed position.

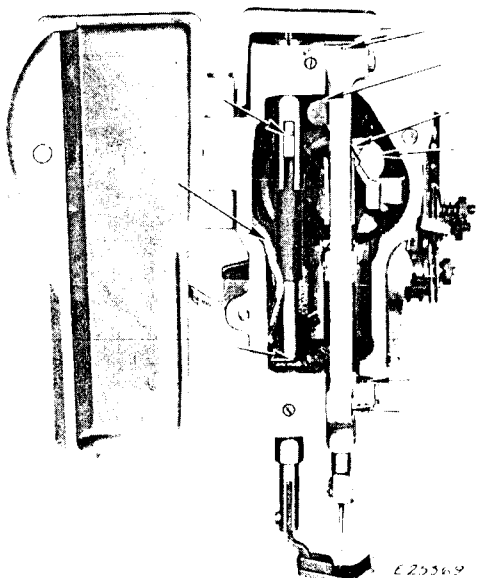


Fig. 4. End View of Machine, Showing Oiling Points

HOOK LUBRICATION. Fig. 5 shows the means for oiling the ball bearing hook saddles. Oil should be placed in the oil well L, Fig. 5, from whence it will flow to both upper and lower bearings and also will lubricate the mechanical opener mechanism.

The small green felt pads G, Fig. 7, on the side of each bobbin case should be kept wet with oil to lubricate the hook races. When these pads are wet they appear nearly black, and when they appear light green it indicates that they are dry. When a machine is new, oil should be applied to these felt pads each time a bobbin is replaced.

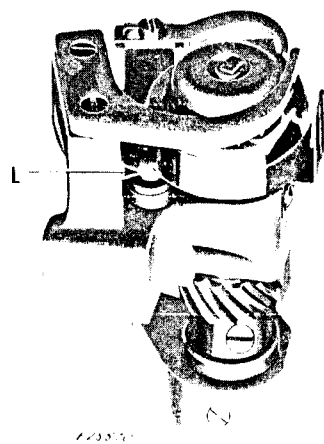


Fig. 5. Hook Lubrication

NEEDLES

Needles for this machine are of Catalogue 1901 (135x7) in Sizes 7, 8, 9, 10, 12, 14, 16, 18, 20, 22 and 24.

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

Orders for needles must specify the quantity required, the size number, and also the Catalogue number.

The following is an example of an intelligible order:

“100 Size 16—Catalogue 1901 Needles.”

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

THREAD

Use left twist thread for both needles. Either left or right twist thread may be used for the bobbins.

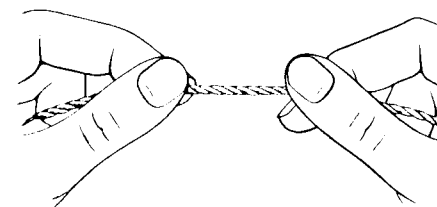


Fig. 6. How to Determine the Twist

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.

RELATIVE SIZES OF NEEDLES AND THREAD

Needle Sizes	Cotton Ticket Size	Mercerized Cotton	Nylon or Dacron Denier
9, 10, 11	90/3	—	15, 23
10, 11, 12	80/3	0000	23, 30
11, 12, 13	70/3	000	23, 30, 33
12, 13, 14	60/3	00	33, 42, 46
14, 15, 16	50/3	0	42, 46
16, 17, 18	40/3	A	42, 46, 49, 69
16, 17, 18	36/3	A	42, 46, 49, 69
17, 18, 19	30/3	B	49, 69, 92
18, 19, 20	24/3	C	69, 92, 99
19, 20, 21	20/3	D	92, 99, 115
20, 21, 22	16/3	E	99, 115, 138
21, 22, 23	12/3	F	115, 138
22, 23, 24	10/3	—	138, 207, 220

TO SET THE NEEDLES

Loosen the set screws in the needle holder and put the needles up into the holder as far as they will go, with the long grooves of the needles facing each other, then securely tighten the set screws.

TO REMOVE THE BOBBIN CASE CAPS

Draw out the slide plates in the bed of the machine. Turn the machine pulley over toward you until the needle bar moves up to its highest point. Place the thumb or finger under the bobbin case opener as shown in **Fig. 7**, raise the latches and lift out the bobbins.

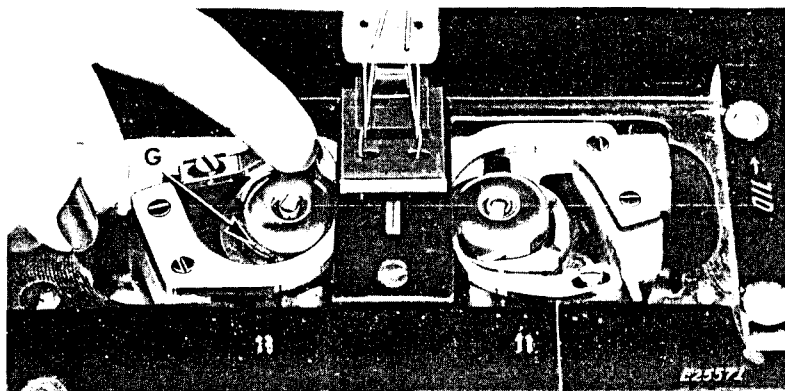


Fig. 7. Removing the Bobbin Case Caps

TO WIND THE BOBBIN

See Fig. 8

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 upon the bobbin.

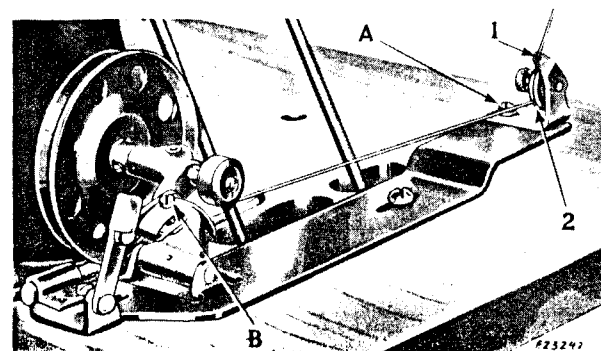


Fig. 8. Winding the Bobbin

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** and 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 upon 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 THREAD THE BOBBIN CASE CAPS

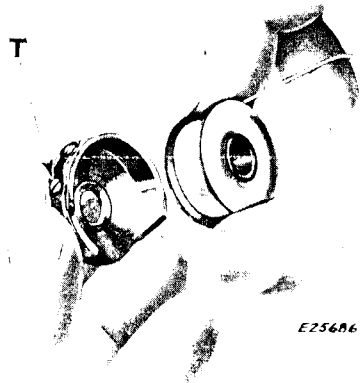


Fig. 9

With the left hand, hold the bobbin case cap as shown in Fig. 9, the tension spring being at the left, and place the bobbin into it.



Fig. 10

Then pull the thread into the slot 1, Fig. 10 in the edge of the bobbin case cap, draw the thread under the tension spring and into the notch in the end of the tension spring, as shown in Fig. 11.

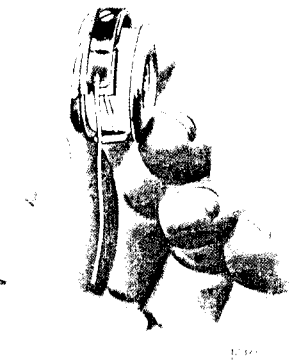


Fig. 11

TO REPLACE THE BOBBIN CASE CAPS

To replace the bobbin case cap at the right of the needles after threading, take the cap in the right hand, holding the bobbin in the cap with the thumb and replace it on the centre stud, then push down the latch, having the thread under and at the left of the projection, as shown in Fig. 12.

To replace the left bobbin case cap, after threading, take the cap in the left hand, holding the bobbin in the cap with the thumb and place it on the centre stud of the left bobbin case, then push down the latch, having the thread under and at the right of the projection, as shown in Fig. 12.

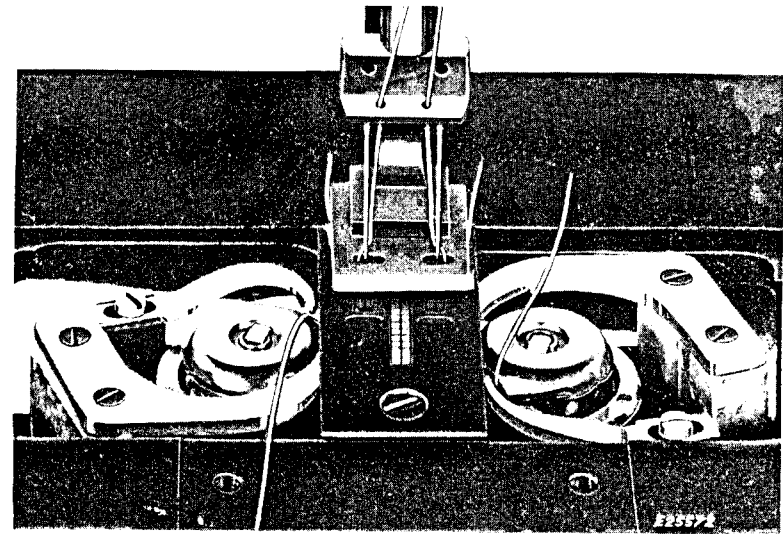


Fig. 12. Threading the Bobbin Cases

UPPER THREADING

TO THREAD THE OUTSIDE NEEDLE OR THE ONE FARTHEST FROM THE UPRIGHT PART OF THE ARM, pass the thread from the left spool

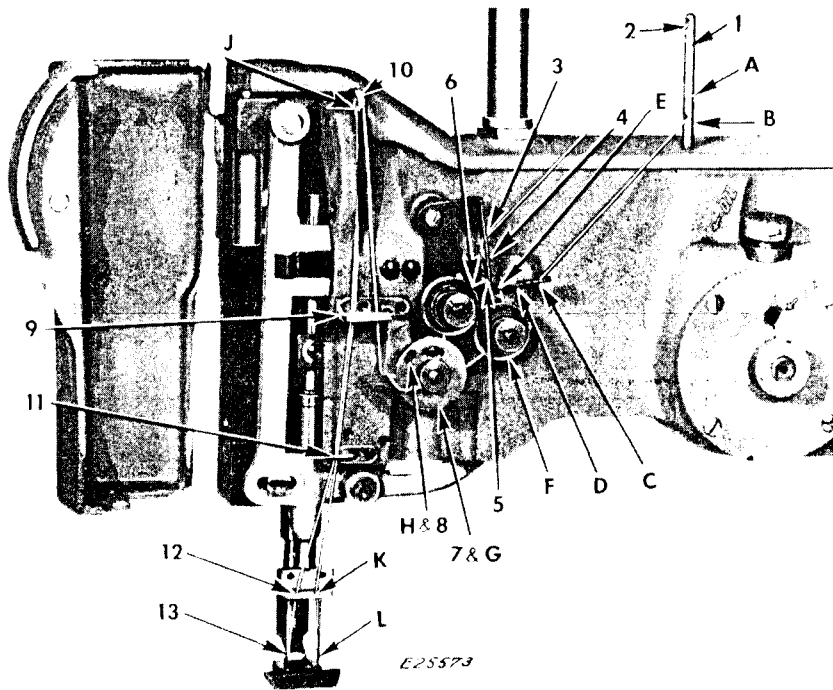


Fig. 13. Upper Threading

on the spool stand, through the left guide at the top of the spool stand, down and from the right to left through the hole 1 in the pin on top of the machine, then from back to front through the 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 left tension discs 6, down under from right to left around the thread controller 7, up into the fork 8 of the thread controller against the pressure of the wire controller spring, up through the thread guide 9, up and from right to left through the upper hole 10 in the end of the thread take-up lever, down through thread guide 9 again and through guide 11, down through the left hole 12 in the needle holder and from right to left through the eye of the left or outside needle 13.

TO THREAD THE INSIDE NEEDLE OR THE ONE NEAREST THE UPRIGHT PART OF THE ARM, pass the thread from the right spool on the spool stand, through the right guide at the top of the spool stand, down and from right to left through the hole A in the pin on top of the machine, then from back to front through the hole B in the pin, down through the hole C, up through the hole D and down through the hole E in the thread guide at the front of the machine under from right to left between the right tension discs F, down under from right to left around the thread controller G, up into the fork H of the thread controller against the pressure of the wire controller spring, up through the thread guide 9, up and from right to left through the lower hole J in the end of the thread take-up lever, down through the thread guide 9 again, down through guide 11, down through the right hole K in the needle holder and from left to right through the eye of the right or inside needle L.

Draw about three inches of thread through the eye of each needle with which to start sewing.

TO PREPARE FOR SEWING

With the left hand hold the ends of the needle threads, leaving them slack from the hand to the needles. Turn the machine pulley

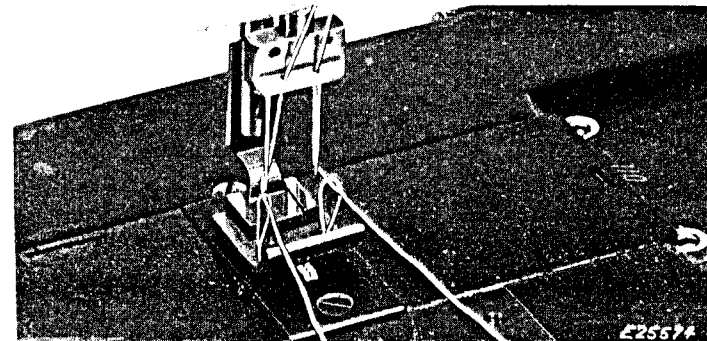


Fig. 14 Drawing Up the Bobbin Threads

over toward you until the needles move down and up again to their highest point, thus catching the bobbin threads; draw up the needle threads and the bobbin threads will come up with them through the holes in the throat plate (see Fig. 14). Lay the threads back under the presser foot and close the slides.

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 its 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. 15. 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:

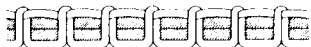


Fig. 16. Tight Needle Thread Tension

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. 17. Loose Needle Thread Tension

TO REGULATE THE TENSIONS

The tensions on the needle threads are regulated by the two thumb nuts **N**, Fig. 18 at the front of the tension discs on the front of the machine. To increase the tension, turn these thumb nuts over to the right. To decrease the tension, turn the thumb nuts over to the left.

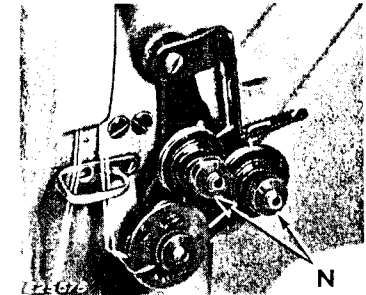


Fig. 18. Regulating Needle Thread Tensions

The tensions on the bobbin threads are regulated by means of the screw nearest the centre of the tension spring on the outside of each bobbin case. To increase the tension, turn the screw nearest the centre of the tension spring over to the right. To decrease the tension, turn the screw over to the left.

TO REGULATE THE LENGTH OF STITCH

The number of stitches per inch is stamped on the inside of the machine pulley **D**, Fig. 2.

To change the length of stitch, press down the plunger **F**, 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 adjusting feed eccentric cam. Still holding the plunger, turn the machine pulley over until the number of the stitch per inch desired, is opposite the line on the arm **E**, Fig. 2, then release the plunger **F**.

CAUTION: Make certain plunger is released before starting to sew.

TO REGULATE THE PRESSURE ON MATERIAL

The pressure on the material is regulated by the screw **H**, Fig. 3 on top of the machine. Loosen the set screw **J**, Fig. 3 at the back of the machine and turn the screw **H** down for more pressure or upward for less pressure, then tighten set screw **J**, Fig. 3. The pressure should be only heavy enough to enable the feed to move the work along evenly.

CAUTION: Zigzag adjustments must not be made by operator. Mechanic should adjust width of zigzag.