

# **SINGER**

## **78-1,2,3**

## 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**

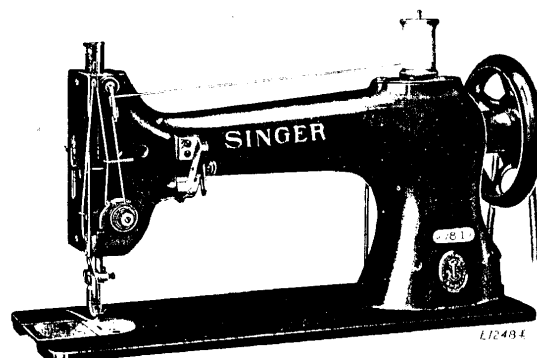
This pure grease is specially designed for the lubrication of ball bearings and ball thrust bearings of motors and electric transmitters, ball bearing hangers of power tables, etc. Furnished in 1 lb. and 4 lb. tins.

7974 Rev.

## INSTRUCTIONS

FOR USING

## SINGER\* SEWING MACHINES



## 78-1, 78-2 AND 78-3

THE SINGER MANUFACTURING COMPANY

\*A Trademark of THE SINGER MANUFACTURING COMPANY

## DESCRIPTION

**Machine 78-1** is intended for use on light weight work in fabrics only, and is especially adapted for stitching light weight awnings, carriage trimmings and many other articles where the advantage of a combined needle and upper feeding mechanism is desired. In addition to plain stitching, the machine is also extensively used for binding, cording, welting, hemming and braiding.

**Machine 78-2** has combined upper and needle feed (no under feed) and is designed for closing filled mattresses. It may also be used for binding filled mattresses, after they have been closed, when the machine is fitted with Binder 36237, Feeding Foot 36238 and Lifting Foot 36239.

These parts will be furnished on order. One end of the machine is flush with the shuttle race, so that the mattress can be brought close to the needle.

**Machine 78-3** is especially fitted for stitching light weight awnings, automobile tops, curtains, upholstery trim and other light weight work in imitation leather, etc. It is also successfully used for plain stitching in fabrics where the advantage of a combined needle and upper feeding mechanism is desired.

The above machines are not intended for use on the heavier automobile tops and curtains, nor for other classes of work that require heavier thread than No. 16. Neither should they be used for stitching material which exceeds 3/16 inch in thickness. For the heavier grades of work, machines of heavier construction, sold by Singer Sewing Machine Company, should be used.

The following fittings are included in the regular equipment of Machine 78-3:

### Fittings for Automobile Work

Feeding Foot 37326  
Lifting Presser Foot 36253  
Oil Cup 44225

### Fittings for Plain Stitching

Feeding Foot 37421  
Lifting Presser Foot 37422

## Speed

The maximum speed recommended for Machines 78-1 and 78-3 is 1600 stitches per minute. The maximum speed recommended for Machine 78-2 is 900 stitches per minute. These machines are very closely fitted and it is therefore not advisable to start them at the maximum speed, but to run them more slowly until the bearings have received the glaze which can only be produced by continued action of the surfaces upon each other. When stitching less than five stitches to the inch on Machines 78-1 and 78-3, the speed should not exceed 1000 stitches per minute.

## ATTACHMENTS

The binders, hemmers, corders, braiders, etc., sold by Singer Sewing Machine Company, for use with these machines are easily fastened in position on the machine so as to secure correct relation to the feeding and lifting presser feet, and these feet are so shaped as to produce the best results in the appearance and durability of the work.

These attachments are made for use with and upon different materials, for straight or curved edges, and with braid, woven or other binding. The binding is carried evenly on the upper and under side of the material and the action of the needle and feeding foot prevents it from slipping away from the edge while stitching, causing it to be fastened firmly to the material at the proper distance from the edge.

Perfect parallel cording is produced by the action of the presser feet specified, with or without the assistance of the edge guide; a row of stitching is first made and the action of the feeding foot keeps the cord close up while putting in the succeeding cords.

Hemming in the lighter woven fabrics is perfectly done without difficulty, and plain stitching is rapidly performed, the stitches being of a uniform length throughout, whether on straight or curved seams.

### Instructions for Ordering Binding Attachments

When ordering binding attachments, it should be noted that the binding tube is detachable from the shank, so that tubes can be furnished to order for any width of binding. It is therefore absolutely essential when ordering a binding tube or binder, to send with the order a sample of the goods to be bound, showing exactly how the work is to be done; also at least one yard of the binding to be used. Thus the folding tube can be made so as to fit exactly the thickness and width of the binding to be used, and perfect results will be obtained.

### To Oil the Machine

All places where one part of the machine is in movable contact with another require oiling, and if the machine runs hard or is noisy, even after oiling, it is certain that one or more places still require oil. After a machine has stood for some time without use, kerosene or benzine should be used to make the machine run easily and then fresh oil immediately applied.

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

The needle and presser bars, also the entire feed mechanism, are enclosed inside the head of the arm. The feeding foot bar and the presser bar are so connected by linkage that each is raised when the other is brought down upon the work by the action of the needle bar, which is also operatively connected to the other two bars. This enclosure also contains the feed mechanism by which the needle bar and feeding foot are moved forward and backward to form the length of stitch.

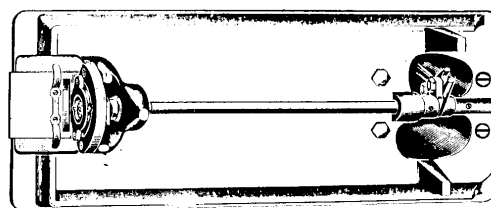


Fig. 2. Showing Under Side

In the upper surface of the arm are two oil tubes; oil these, and the needle and feeding foot bars near them; the mechanism enclosed in the arm head can be oiled through the holes in the face plate and in the side of the arm head facing the operator. The face plate should be removed occasionally to clean out the lint which accumulates, and at such times oil can be more thoroughly distributed in small quantities upon the movable surfaces. The bearings of the arm shaft are oiled through holes in the upper surface of the arm, one near the arm head, the other near the balance wheel.

Swing back the cover to which the spool pin is fastened and oil the upper bearing of the connecting rod inside the arm, oil the two holes in front of the arm base at the right and left of the brass trade mark; turn the machine back on its hinges and oil the left hand end of the shuttle shaft through the hole in the supporting lug, and the slide at the right hand end that operates the crank on the shaft.

## Needles

**Sizes.** The sizes of needles made for Machines 78-1 to 78-3 are Nos. 9, 11, 13, 14, 16, 18, 19, 21, 22, 23 and 24. The selection of the size to be used should be determined by the size of the thread, which must pass freely through the eye. If rough or uneven thread is used, the successful use of the machine will be interfered with.

**The Class.** Needles for these machines are of Class and Variety 16 x 99 and 16 x 100, also 16 x 198 (size 22, for auto top work).

Orders for needles must specify the **quantity** required, the **size**, **class** and **variety**.

The following are details of an intelligible order:

- "100 No. 18, 16 x 99 Needles, if for cloth,
- 100 No. 21, 16 x 100 Needles, if for leather;
- 100 No. 22, 16 x 198 Needles, if for auto top work."

## Thread

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

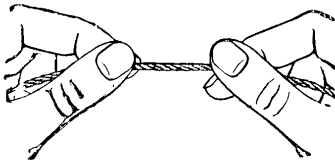


Fig. 3. How to Determine the Twist

Hold the thread as shown above. Then 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.

## To Set the Needle

First turn the balance wheel over toward you until the needle bar moves up to its highest point; loosen the screw in the needle clamp and put the needle up into the clamp as far as it will go, with its long groove to the left and the eye directly in line with the arm of the machine, then screw fast.

## To Thread the Needle

Place the spool of thread on the spool pin; draw the thread into the thread retainer guide on the front side of the head of the arm, down between the tension discs from left to right, into the hook of the thread take-up spring, under the tension thread guard, up back of the thread guard on the side of the arm head and through the eyelet hole in the end of the thread take-up lever, through the thread eyelet at the bottom of the face plate, into the guide at the bottom of the needle bar and through the eye of the needle from the long groove side. Enough thread should be drawn through the needle to leave a free end two inches long when the take-up is at its highest point, with which to commence sewing.

## To Remove the Bobbin

Reach under the left hand end of the machine, lift the end of the latch lever on the front of the bobbin case and draw out the bobbin case; turn its open end down, release the latch and the bobbin will drop out.

## To Wind the Bobbin

The spool of thread is placed upon the spool pin attached to the spool stand (No. 27308) which is fastened to the table at the back, and at the right of the end of the machine; the bobbin winder is fastened near the front end of the table and in line with the spool stand so that the thread is free to pass to the bobbin winder. Pass the thread from the spool into the thread guide under the tension discs on the spool stand, over and between the discs, then toward you to the bobbin winder.

Wind a few turns upon the bobbin, place the bobbin upon the spindle of the bobbin winder so that it comes close up to the shoulder, press the bobbin winder pulley up against the machine belt until the latch drops down between the flanges of the bobbin and start the machine as in sewing.

The bobbin winder stops automatically when filled.

### To Thread the Bobbin Case and Replace it in the Shuttle

Turn the open end of the bobbin case upward and drop the bobbin in; draw the thread into the slot in the bobbin case, under the tension spring and into the delivery eye at the end of the tension spring.

After threading, place the bobbin case on the center pin of the shuttle body, with the position finger opposite the notch in the upper

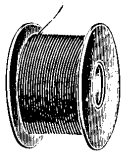


Fig. 4

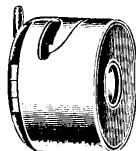


Fig. 5

part of the position plate and press it firmly back into the notch, until the bobbin case is securely latched. Fig. 5 shows the bobbin in the bobbin case, ready to be replaced in the shuttle body.

### To Commence Sewing

With the left hand take hold of the needle thread, leaving it slack between the hand and the needle, turn the balance wheel toward you until the needle moves down and up again to its highest point, thus catching the shuttle thread; draw up the needle thread and the shuttle thread with it through the hole in the throat plate, and lay both threads back from you; then place the material beneath the presser foot, lower the presser foot and commence to sew, turning the balance wheel over toward you.

### The Tensions

The shuttle tension is regulated by the screw which holds the tension spring to the bobbin case. When once properly adjusted, it will seldom require to be changed for any kind of thread commonly used, as a perfect stitch can usually be obtained by regulating the tension on the upper or needle thread. The upper tension is regulated by the thumb nut in front of the tension discs.

If there are loops or a straight thread on the under side of the fabric, the upper or needle tension should be increased; but if the under thread is drawn up so that the lock in the stitch shows on the upper side, it should be diminished and so adjusted so that the lock will be in the center of the fabric. If it is found difficult to draw up the under thread sufficiently to leave the lock in the center without requiring so much tension on the upper thread as to cause it to break frequently, there is too much tension on the **under** thread. Or, if it is found necessary to use a very **light** upper tension to prevent the upper thread from lying straight on the upper side of the fabric, better results may be obtained by tightening the **shuttle** tension.

### To Regulate the Length of Stitch

Upon the arm, facing the operator, is a pivoted lever that is fastened in position by a thumb screw, movable in a slot; to change the length of the stitch, have the needle bar up, loosen the thumb screw and move the end of the lever down to make the stitch longer, or up to make it shorter; then tighten the thumb screw.

### The Pressure on the Material

is regulated by the thumb screw which forms the upper bearing of the presser bar. This seldom requires changing for ordinary work.

### To Remove the Work

Let the take-up lever rest at its highest point; raise the presser foot and draw the fabric back and to the left and cut the threads close to the goods.

### The Knee Lifter

When ordering a knee lifter, give the thickness of the table on which the machine is to be placed, so that hangers having the proper drop may be sent. The center of the rock shaft should be set one-half inch forward of the end of the bell crank on the under part of the machine head.

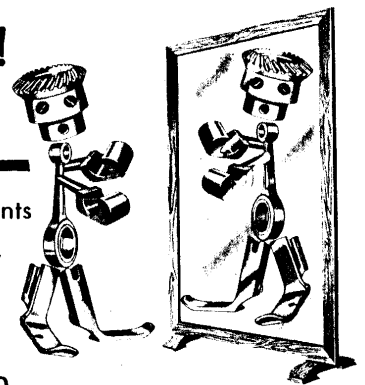
Set the lifting bracket hook in line with this bell crank and at such a height as will bring its shank about perpendicular when the presser foot reaches its highest point.

The knee plate is adjustable in all directions and should be set in the position most convenient for the operator.

Lastly, set the stop dog so that it stops the action of the lifter as soon as the presser foot reaches its highest point.

# The Same!

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



**BUY PARTS AND  
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**TO BE DOUBLY SURE...**

of new machine performance, make sure that all  
replacement parts and needles are precisely  
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**Look for the trademark**

**SINGER or SIMANCO**

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

Needles in containers marked "For Singer Machines" are NOT made by SINGER.

**TO ALL WHOM IT MAY CONCERN:**

The improper placing or renewal of the Trademark "SINGER" or any other of the Trademarks of The Singer Manufacturing Company (all of which are duly Registered Trademarks) on any machine that has been repaired, rebuilt, reconditioned, or altered in any way whatsoever outside a SINGER factory or an authorized SINGER agency is forbidden.