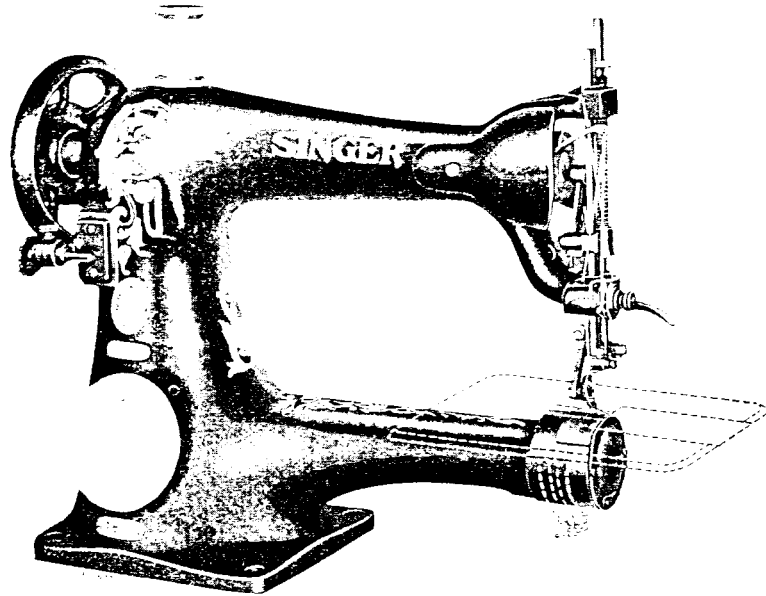


7861 Rev.

INSTRUCTIONS
FOR USING AND ADJUSTING
SINGER SEWING MACHINES



Machine 18-2

OF
CLASS 18

THE SINGER MANUFACTURING CO

Purchasing of Parts and Needles

Supplies of parts and needles for Singer machines can be purchased at any Singer shop or ordered by mail. If orders are sent by mail, money or a post office order covering their value, including postage, should be enclosed and the order will then be promptly filled and forwarded by mail or express.

DESCRIPTION

Machines of Class 18- have a cylinder bed with the balance wheel at the left hand and are designed for vamping shoes, etc., they are also successfully used for stitching other work in light and medium weight leather.

A flat work plate which can be readily attached or detached is furnished when so ordered.

Machine 18-1 has one needle and a long beak shuttle, a roller presser and a drop feed at the right of the needle. The cylinder bed is $2\frac{1}{2}$ inches in diameter and $10\frac{1}{2}$ inches in length from the needle to the base of the arm. It is used for shoe work.

Machine 18-2 is the same as Machine 18-1, except that the roller presser and drop feed are at the left of the needle. It is used for shoe work.

Machine 18-3 has one needle and a long beak shuttle, a roller presser and wheel feed at the left of the needle. The cylinder bed is $2\frac{1}{2}$ inches in diameter and $10\frac{1}{2}$ inches in length from the needle to the base of the arm. It is used for shoe work.

Machine 18-5 has two needles and two long beak shuttles, a roller presser and drop feed at the left of the needles. The cylinder bed is $2\frac{1}{2}$ inches in diameter and $10\frac{1}{2}$ inches in length from the left hand needle to the base of the arm. The distance between the two needles may be from $\frac{1}{32}$ to $\frac{1}{4}$ inch as desired. It is used for shoe vamping and other work in leather.

Machine 18-6 has two needles and two long beak shuttles, a roller presser and wheel feed at the right of the needles. The cylinder bed is $2\frac{1}{2}$ inches in diameter and $10\frac{1}{2}$ inches in length from the left hand needle to the base of the arm. The distance between the two needles may be from $\frac{1}{32}$ to $\frac{1}{8}$ inch. It is used for shoe vamping.

Machine 18-7 has one needle and a central bobbin shuttle, a roller presser and drop feed at the left of the needle. The cylinder bed is 2 inches in diameter and $10\frac{1}{2}$ inches in length from the needle to the base of the arm. It is used on children's shoes and other articles having a small opening.

Machine 18-15 has one needle and a long beak shuttle, a roller presser and drop feed at the left of the needle. The cylinder bed is $2\frac{1}{2}$ inches in diameter and $5\frac{1}{2}$ inches in length from the needle to the base of the arm. It is used for general work in leather.

Machine 18-16 has two needles and two long beak shuttles, a roller presser and drop feed at the left of the needle. The cylinder bed is $2\frac{1}{2}$ inches in diameter and $5\frac{1}{2}$ inches in length from the left hand needle to the base of the arm. The distance between the needles may be from $\frac{1}{32}$ to $\frac{1}{4}$ inch, as desired. It is used for vamping shoes and other work in leather.

Machine 18-17 has one needle and a long beak shuttle, a roller presser and wheel feed at the left of the needle. The cylinder bed is $2\frac{1}{2}$ inches in diameter and $5\frac{1}{2}$ inches in length from the needle to the base of the arm. It is used for general work in leather.

Machine 18-18 has two needles and two long beak shuttles, a roller presser and wheel feed at the left of the needle. The cylinder bed is $2\frac{1}{2}$ inches in diameter and $5\frac{1}{2}$ inches in length from the left hand needle to the base of the arm. The distance between the needles may be from $\frac{3}{8}$ to $\frac{1}{4}$ inch, as desired. It is used for general work in leather.

To Oil the Machine

To ensure easy running and prevent unnecessary wear of the parts which are in movable contact, the machine requires oiling and when in continuous use, it should be oiled at least twice each day.

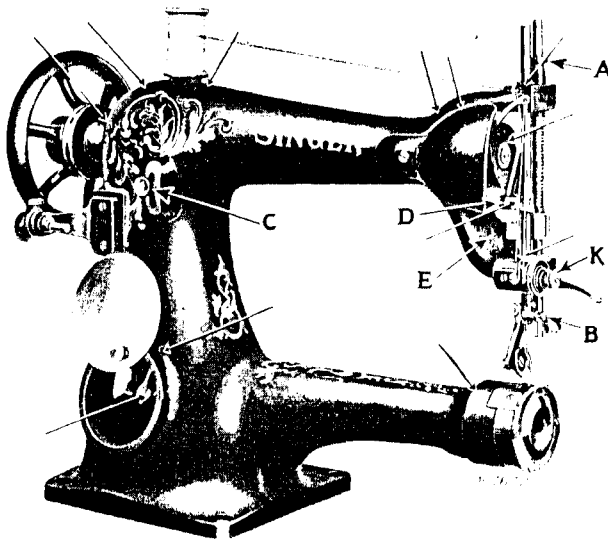


FIG. 2. OILING POINTS AT THE FRONT OF THE MACHINE
ALSO ADJUSTMENTS ON THE MACHINE

Oil should be applied to all oil holes marked "Oil" and to all oiling places indicated by arrows in Fig. 2.

Speed

The maximum speed recommended for Machines 18-1, 18-2, 18-3, 18-5, 18-6 and 18-7 is 1400 per minute and the maximum speed recommended for Machines 18-15, 18-16, 18-17 and 18-18 is 1500 per minute, depending upon 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 upon each other. When the machines are in operation, the balance wheel should always turn over from the operator.

Needles

Needles for Machines of Class 18- are of the Class and Variety as given in the following table:

MACHINES	CLASS AND VARIETY NOS. OF NEEDLES	SIZES OF NEEDLES
18-1 18-2 18-3 18-15 18-17	16 x 2	8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 21, 22 and 23.
18-5 18-6 18-16 18-18	16 x 2 or 16 x 22	8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 21, 22 and 23.
18-7	16 x 74	7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 21, 22, 23, 24 and 25.

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. If rough or uneven thread is used, or if it passes with difficulty through the eye of the needle, the successful use of the machine will be interfered with.

Orders for needles must specify the *quantity* required, the *size* number, also the *class* and *variety* numbers separated by the letter x.

The following is an example of an intelligible order:

"100 No. 14, 16 x 2 Needles"

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

To Set the Needle

Turn the balance wheel over from you until the needle bar is at its highest point, loosen the screw (B, Fig. 2) in the needle clamp at the lower end of the needle bar and put the needle up into the clamp as far as it will go, with the long groove of the needle toward the left or the upright part of the arm, then tighten the screw (B).

On two-needle machines the long groove of the needles should face each other.

To Thread the Needle

Pass the thread from the unwinder or from the spool on the spool pin into the thread guide (1) at the top of the machine, down

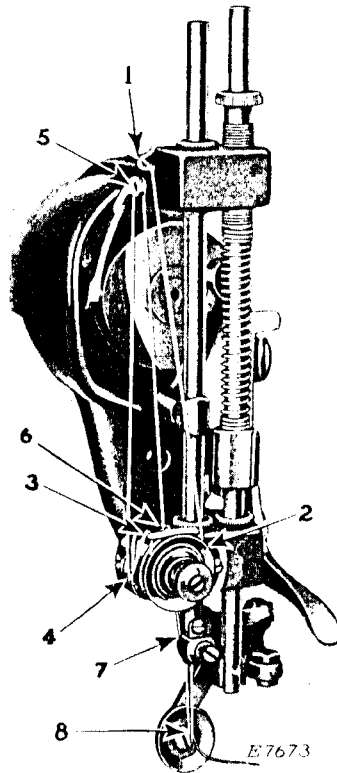


FIG. 3

under, around between the tension discs (2), up into the thread guide (3), down under the take-up spring (4), up and from front to back through the eye (5) in the take-up lever, down through the hole (6) in the machine head, into the thread guide (7) at the end of the needle bar and from left to right through the eye (8) of the needle.

Draw about two inches of thread through the eye of the needle with which to commence sewing.

To Thread Two Needle Machines

To thread the outside needle or the one farthest from the balance wheel, pass the thread from the spool on the spool

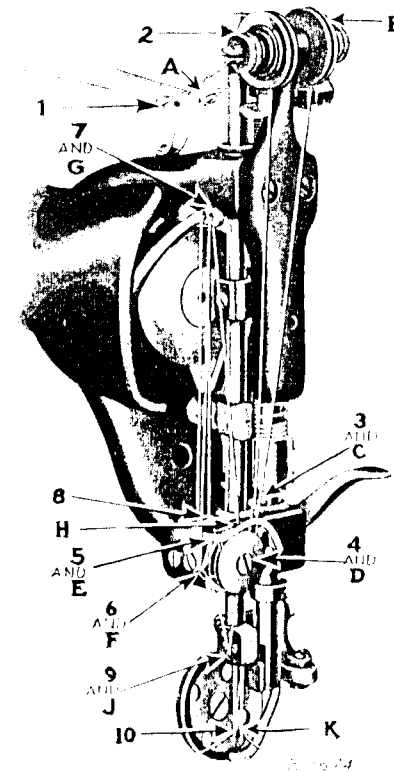


FIG. 4

pin through the guide (A), over around between the tension discs (B), down into the guide (C), around under the roller (D), over the thread guard (E), into the take-up spring (F), up and from front to back through the outer hole (G) of the take-up lever, down through the hole (H), through the guide (J) at the lower end of the needle bar, then from left to right through the eye (K) of the needle.

To thread the inside needle or the one nearest the balance wheel, pass the thread from the spool on the spool pin through the guide (1), over around between the tension discs (2), down into the guide (3), around under the roller (4), over the thread guard (5), into the take-up spring (6), up and from front to back through the inner hole (7) of the take-up lever, down through the hole (8),

through the guide (9) at the lower end of the needle bar, then from right to left through the eye (10) of the needle.

Draw about two inches of thread through the eye of each needle with which to commence sewing.

To Remove the Bobbin

Turn the balance wheel over toward you until the needle bar is at its highest point. Press outward on the spring (M) as shown in Fig. 9, so as to clear the screw (L, Fig. 9) and at the same time raise the back edge (K, Fig. 9) of the cap until the screw head (L) is under the spring, then pull outward on the cap and slide it from you. Turn the balance wheel over from you until the needle bar is at its lowest point, then with the thumb and forefinger of the right hand, lift out the shuttle; open the shuttle cover, turn the shuttle downward and the bobbin will drop out.

To Remove the Bobbin from Machine 18-5

Turn the balance wheel over from you until the needle bar is at its lowest position, swing the cover (F, Fig. 11) as shown in Fig. 11. Lift the spring (H, Fig. 11) and lower the shuttle race, the shuttles will be lowered from their positions into the race as shown in Fig. 11. After opening the race, by pulling the hinged portion downward, lift out each shuttle, open the shuttle covers and when the shuttles are turned downward, the bobbins will drop out.

To Wind the Bobbin

Place the spool of thread on the spool pin and wind the end of the thread around the bobbin a few times; then place the bobbin on the bobbin winder spindle and press it on as far as it will go. Loosen the thumb screw on the bobbin winder and push it down until the rubber ring presses against the balance wheel, then tighten the thumb screw.

Raise the roller presser and run the machine, at the same time guiding the thread with the finger as shown in Fig. 5. When sufficient thread has been wound

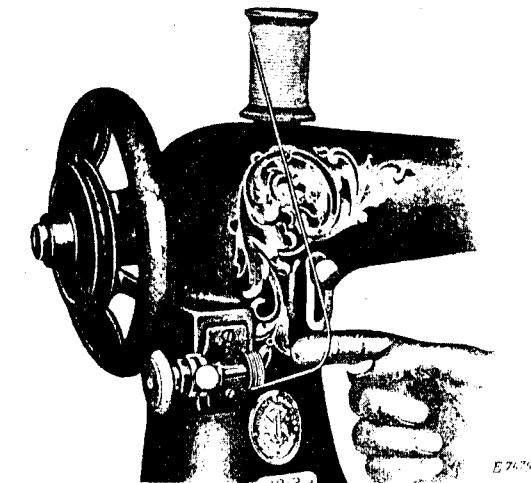


Fig. 5

upon the bobbin, stop the machine and take off the bobbin, loosen the thumbscrew on the winder, turn it up and tighten the screw.

To Thread the Shuttle

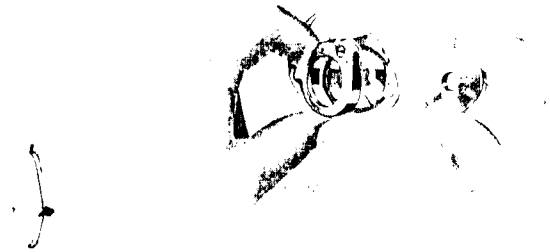


Fig. 6

Take the bobbin in the right hand with the thread drawing on top from the left toward the right (see Fig. 6).

Open the shuttle cover; hold the shuttle in the left hand with the open side up and place the bobbin into it.



Fig. 7

Pass the thread into the slot in the edge of the shuttle cover (see Fig. 7) and close the cover, then draw the thread under the delivery eye thread guard and into the delivery eye (see Fig. 8).

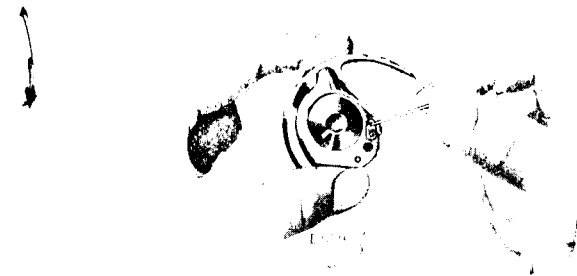


Fig. 8

To Replace the Shuttle

After threading, take the shuttle in the right hand, holding it between the thumb and forefinger with the delivery eye toward the left and the point of the shuttle pointing up and toward you.

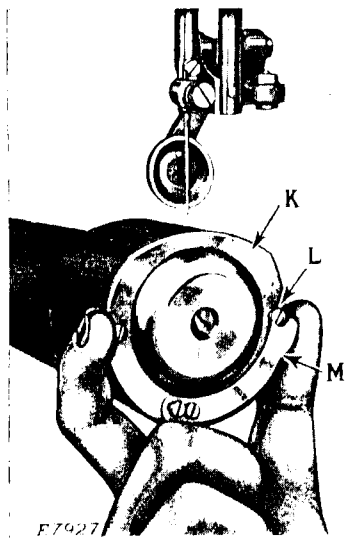


FIG. 9. REMOVING
THE CAP

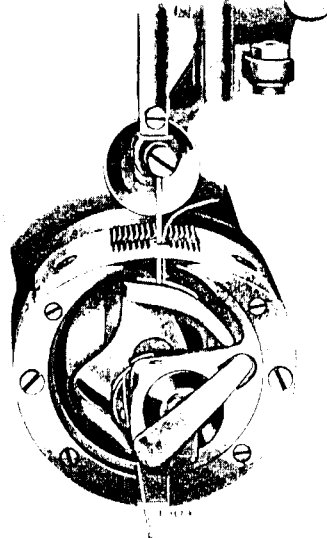


FIG. 10. SHUTTLE THREADED
AND REPLACED

Insert the bottom of the shuttle into the race first, being careful that the needle bar is at its lowest point, then push the shuttle into the race as far as it will go, having the point of the shuttle above the arm of the shuttle driver. Allow about two inches of thread to hang free from the shuttle through the slot in the bottom of the race (see Fig. 10), then replace the cap.

To Replace the Shuttles on Machines 18-5, 18-9 and 18-16

On Machines 18-5, 18-9 and 18-16, place the shuttle in the shuttle race with the point of each shuttle even with the edge of the race and the thread delivery eye of each shuttle toward the right as shown in Fig. 11.

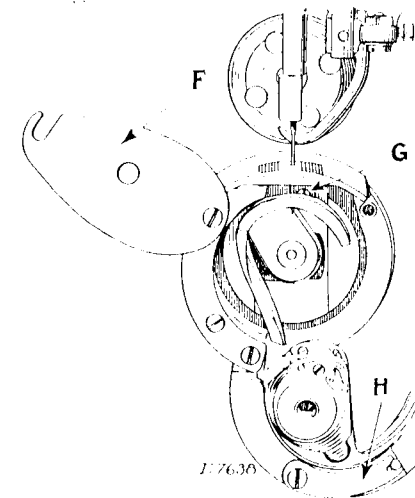


FIG. 11.

Pass the thread from the inside shuttle into the slot in the left side of the shuttle race and allow the end of the thread from the outside shuttle to hang free, see that the needle bar is at its lowest point, then close the race and replace the cover.

To Prepare for Sewing

With the right hand hold the ends of the needle threads leaving them slack from the hand to the needles; turn the balance wheel over from you until the needles move down and up again to their highest point, thus catching the under threads; draw up the needle threads and the under threads will come with them through the holes in the throat plate. Lay the threads back under the roller presser.

To Commence Sewing

Place the material and the needle threads beneath the roller presser, lower the presser and commence to sew, turning the balance wheel over from you.

To Remove the Work

Let the needle bar rest at its highest point; press the knee lifter and draw the material backward about three inches and cut the threads close to the work. Leave the ends of the threads back under the roller presser.

Tensions

For ordinary stitching, the upper and under threads should be locked in the centre of the thickness of the material, thus:



FIG. 12. PERFECT STITCH

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



FIG. 13. TIGHT UPPER TENSION

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



FIG. 14. LOOSE UPPER TENSION

To Regulate the Tensions

The tension on the upper thread is regulated by the thumb nut (K, Fig. 2) at the right of the tension discs on the side of the machine head. To increase the tension, turn the thumb nut over from you. To decrease the tension, turn the thumb nut over toward you.

The tension on the under thread is regulated by the screw near the delivery eye on the outside of the shuttle. To increase the tension, turn the screw over to the right. To decrease the tension, turn the screw over to the left.

When the tension on the under thread has been once properly adjusted, it is seldom necessary to change it, as a correct stitch can usually be obtained by varying the tension on the upper thread.

To Regulate the Length of Stitch

The length of stitch is regulated by the thumb screw (C, Fig. 2) in the slot in the front of the arm at the left. To lengthen the stitch, loosen the thumb screw (C) and move it upward. To shorten the stitch, loosen the thumb screw and move it downward. When the desired length of stitch is obtained, tighten the thumb screw (C).

To Regulate the Pressure on the Material

The pressure on the material is regulated by the thumb screw (A, Fig. 2). To increase the pressure, turn the thumb screw (A) downward. To decrease the pressure, turn the thumb screw upward. The pressure should only be heavy enough to enable the feed to move the work along evenly.

INSTRUCTIONS

FOR

ADJUSTERS AND MACHINISTS

To Set the Needle Bar at the Correct Height

Turn the balance wheel over until the needle has reached its lowest point and has risen until the point of the shuttle is at the centre of the needle. The eye of the needle should then be about $\frac{1}{16}$ inch below the point of the shuttle. If the needle bar is not set at the correct height, insert a screwdriver in the hole (E, Fig. 2) and loosen the screw (D, Fig. 2) in the needle bar clamp, then move the needle bar upward or downward as required. After the needle bar is set at the correct height, securely tighten the clamp screw (D).

To Raise or Lower the Feed Dog

The feed dog should be set so that when it is raised, slightly less than the full depth of the teeth will project above the throat plate. To raise or lower the feed dog, loosen the screw (G, Fig. 11) and raise or lower the feed dog as required, then tighten the screw (G).