# SINGER
## 135W1

# USE ONLY SINGER OILS and LUBRICANTS

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

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**"Singer Oil for High Speed Sewing Machines"** .
**(Cloth and Leather)**

For all manufacturing sewing machines except where a stainless oil is desired.

**"Singer Stainless Oil for High Speed Sewing Machines"**

For all manufacturing sewing machines where a stainless oil is desired.

**"Singer Motor Oil"**

For oil-lubricated motors, power tables, transmitters and machinery in general.

**"Singer Stainless Thread Lubricant"**

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

*NOTE: All of the above oils are available in 1 quart, 2 quart, 1 gallon and 5 gallon cans or in 55 gallon drums, and can also be supplied in customer's containers.*

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**"Singer Gear Lubricant"**

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

**"Singer 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.

*NOTE: The above greases are furnished in ¼ lb. tubes and 1 lb. and 4 lb. tins.*

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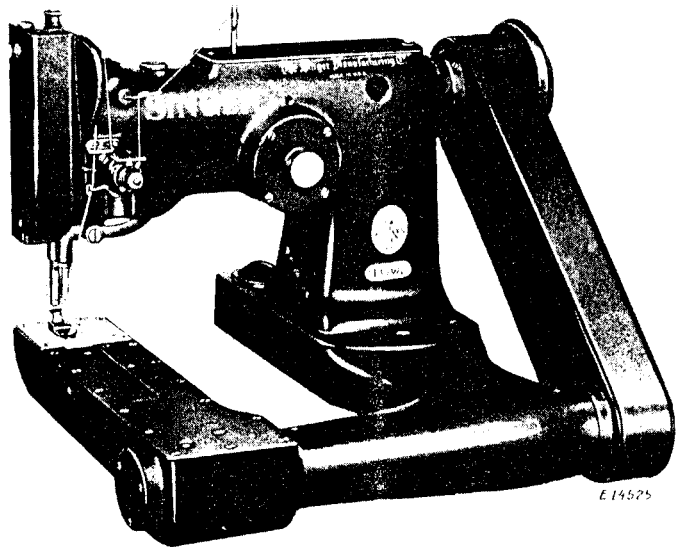
2642w

# INSTRUCTIONS

## FOR USING AND ADJUSTING

# SINGER SEWING MACHINE



E 14525

## 135w1

Feed - Off - the - Arm

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THE SINGER MANUFACTURING CO.

**To all whom it may concern:**

**The placing or renewal of the name "Singer" (Reg. U. S. Pat. Off.) or any of the trade marks of The Singer Manufacturing Company 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.**

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## THE IMPORTANCE OF USING GENUINE SINGER PARTS AND NEEDLES IN SINGER MACHINES

**The successful operation of Singer machines can only be assured if genuine Singer parts and needles are used. Supplies are available at all Singer Shops for the Manufacturing Trade and mail orders will receive prompt attention.**

**Genuine Singer Needles should be used in Singer Machines. These Needles and their Containers are marked with the Company's Trade Mark "SIMANCO."** 1

**Needles in Containers marked "For Singer Machines" are not Singer made needles.** 2



# DESCRIPTION

MACHINE 135W1 is a single needle, feed-off-the-arm zigzag machine designed for closing operations on ladies' fine lingerie, girdles, corsets, etc.

It has an automatically lubricated sewing hook on a horizontal shaft. Ball bearings are used on the bed shaft and at the pulley end of the arm shaft. The maximum needle vibration is 3/16 inch and the maximum length of stitch is 7 to the inch. The work-supporting arm is 10 1/4 inches in circumference. Presser bar lift is 5/16 inch.

## Speed

The machine should be driven at a speed not exceeding 3000 revolutions per minute for the first two or three days, after which it can be driven up to its maximum speed of 3500 revolutions per minute, depending on the nature of the work and the ability of the operator. When the machine is in operation, the top of the balance wheel must turn toward the operator.

## To Set Up the Machine

Follow the instructions given in Form 2320W Revised.

CAUTION: After setting up, do not start the machine, not even to test the speed, until it has been thoroughly oiled, as instructed below.

## To Oil the Machine

USE ONLY "SINGER STAINLESS OIL FOR HIGH SPEED SEWING MACHINES" FOR THE LUBRICATION OF THIS MACHINE.

ALL OF THE OIL IS DRAINED OUT OF THE MACHINE BEFORE IT IS SHIPPED FROM THE FACTORY, THEREFORE IT IS ABSOLUTELY NECESSARY THAT THE MACHINE BE THOROUGHLY OILED ACCORDING TO THE INSTRUCTIONS ON THE FOLLOWING PAGE BEFORE IT IS STARTED IN OPERATION.

## To Oil the Machine

After the machine has been set up as instructed in Form 2320W Revised, remove the oil gauge (D,Fig.2) and pour oil into the

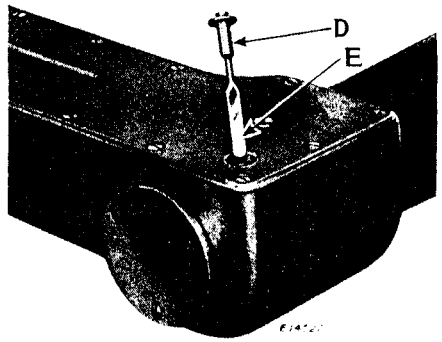


Fig. 2. Oil Level Gauge

reservoir through the opening until the oil is up to the mark (E) on the gauge. OIL MUST BE ADDED OFTEN ENOUGH TO KEEP THE OIL LEVEL UP TO THE MARK ON THE GAUGE.

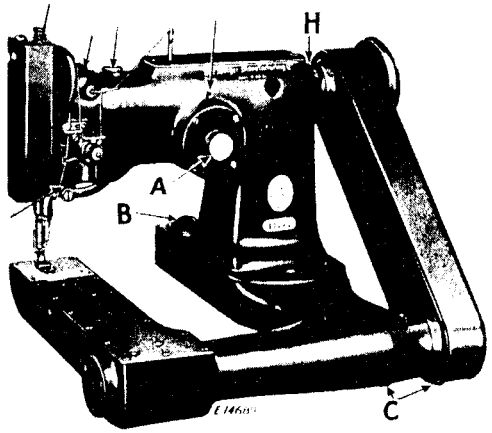


Fig. 3. Front View of Machine, Showing Oiling Points
Also Adjustments on the Machine

ONCE A WEEK, place about five drops of oil in oil hole H (Fig. 3).



Using the oil can furnished with the machine, apply oil to the points indicated by arrows (without letters) in Figs.3 and 4. THESE POINTS MUST BE OILED AT LEAST TWICE DAILY WHEN THE MACHINE IS IN CONTINUOUS USE.

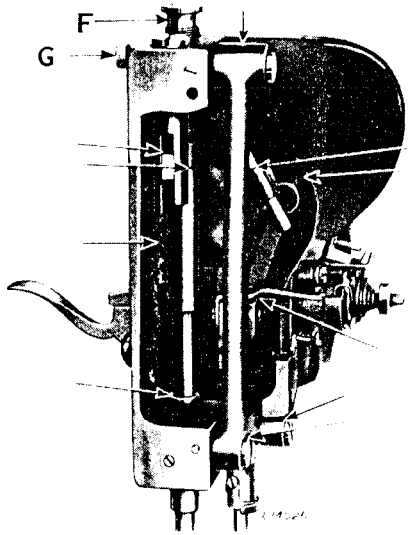


Fig. 4. End View Showing Oiling Points

The hook shaft bearing and hook race are automatically lubricated from the reservoir (K,Fig.5) which is kept filled to a constant level by gravity. The flow of oil may be regulated by pressure of the adjusting screw (J) on the felt pad (L). To increase the flow of oil, turn the screw (J) to the left, and to decrease the flow, turn it to the right.

NOTE: If the hook oiling system should be disturbed or disassembled, it is suggested that the adjusting screw (J) be turned down only as far as it can be turned with a small bobbin screwdriver. It can be further regulated afterward if the oil flow is too great or not great enough.

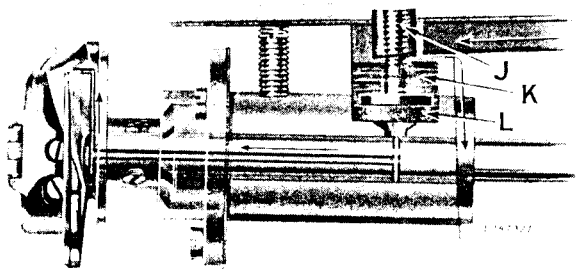


Fig. 5. Cross-section View of Work-Supporting Arm
Showing Automatic Hook Lubrication System

OIL DRAINS: Surplus oil from the machine drains into the oil well which is located in the base of the machine at the rear, as shown at B in Fig.2. This oil well may be kept empty by soaking out the oil with a dry rag. Surplus oil may also be drained occasionally from the front of the bed and belt guard by removing the two screw plugs (C,Fig.3).

## Needles

Needles for Machine 135W1 are of Class and Variety 135 X 7 and are 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. 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, also the CLASS and VARIETY numbers separated by X.

The following are details of an intelligible order:

"100 No. 14, 135 X 7 Needles."

## Relative Sizes of Needles and Thread

| Size Numbers of Needles | For Cloth Work | |
|---|---|---|
| | Cotton | Silk |
| 12 | 70 to 100 | 00 to A |
| 14 | 50 to 70 | A, B |
| 16 | 40 to 50 | B, C |
| 18 | 30 to 40 | C, D |
| 20 | 24 to 30 | D, E |

To make a smooth, even stitch with your sewing machine, use good, firmly twisted and smoothly finished thread, that passes freely through the eye of the needle. No other needles will give as good results and satisfaction as those recommended above.



## Thread

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

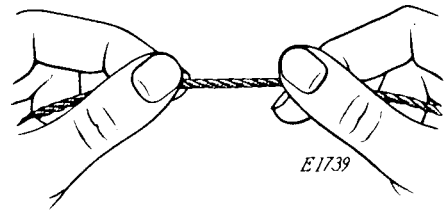


Fig. 6. How to Determine the Twist

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.

## To Remove the Bobbin Case and Bobbin

Reach back around the end of the bed with the left hand and insert the fingernail of the forefinger under the latch (M,Fig.7).

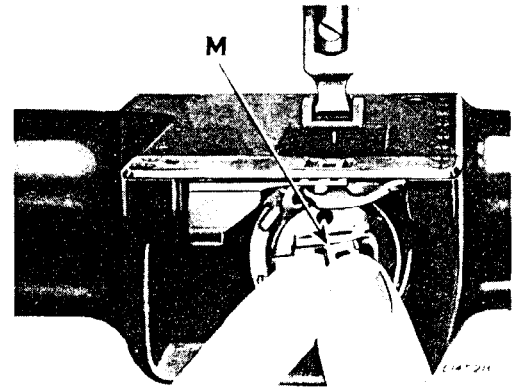


Fig. 7. Removing the Bobbin Case

Open the latch as shown in Fig.7, and draw the bobbin case out from you. Turn its open end down and release the latch, and the bobbin will drop out.

## 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.

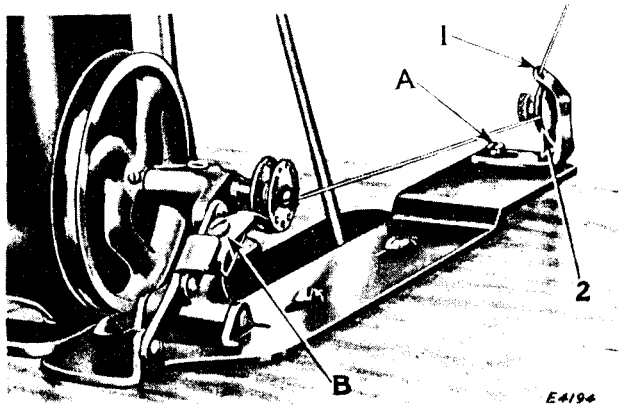


Fig. 8. Winding the Bobbin

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) 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 the screw outwardly.

Bobbins can be wound while the machine is stitching.



## To Thread the Bobbin Case

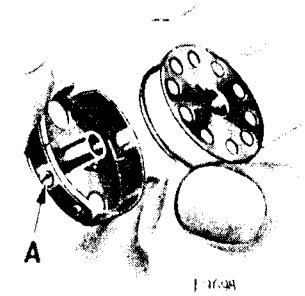


Fig. 9.

Hold the bobbin between the thumb and forefinger of the right hand, the thread drawing on the bottom from the left toward the right, as shown in Fig. 9.

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

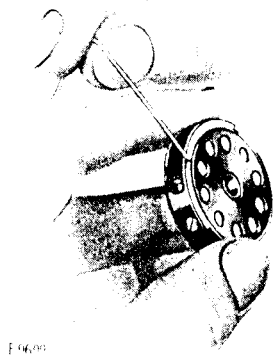

Fig. 10.

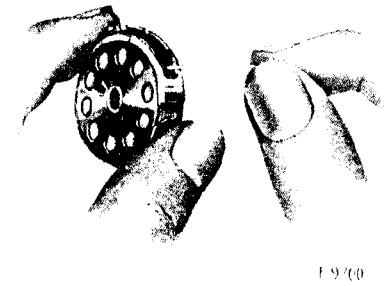

Fig. 11.

Then pull the thread into the slot in the edge of the bobbin case as shown in Fig. 10, and back under the tension spring into the slot at the end of the tension spring, as shown in Fig. 11.

## To Replace the Bobbin Case

After threading, take the bobbin case by the latch (M,Fig.7), holding it between the thumb and forefinger of the left hand, and place it on the center stud of the bobbin case base. Release the latch and press the bobbin case back until the latch catches the groove near the end of the stud. Allow about two inches of thread to hang free with which to commence sewing.

## To Set the Needle

Turn the balance wheel over toward you until the needle bar moves up to its highest position; loosen the screw in the lower end of the needle bar and put the needle up into the bar as far as it will go, with the long groove of the needle to the front, then tighten the screw.

It may be necessary to turn the needle slightly to the right or left for some threads, if stitches are missed.

Operators are liable to use needles which are too fine. Better results usually follow the use of a needle of a larger size.

## Threading the Needle

(See Fig.12)

Turn the balance wheel until the thread take-up (10) is at its highest position.

Pass the thread from the unwinder, from back to front through the lower hole (1) in the pin on top of the machine, from right to left through the upper hole (2) in the pin, downward through the hole (3), upward through the middle hole (4) and downward through the hole (5) of the thread straightener, down and to the left between the tension discs (6), and against the pressure of the controller spring into the fork at (7), to the right of the wire guard (8), up through the thread guide (9), from right to left through the thread take-up eyelet (10), down again through the guide (9), against the auxiliary thread take-up and back of the guide (11), into guide (12), down through the hole (13) at the lower end of the needle bar, and from front to back through the eye of the needle (14). Draw about two inches of thread through the eye of the needle with which to commence sewing.



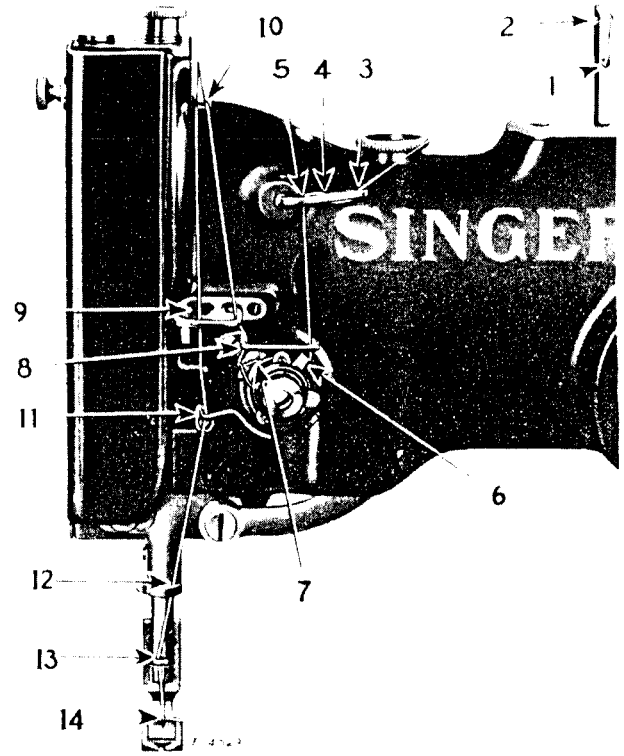


Fig. 12. Threading the Needle

## 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 balance wheel 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 throat plate. Lay both threads back under the presser foot.

## To Commence Sewing

Place the material beneath the presser foot, lower the presser foot and commence to sew, turning the balance wheel over toward you.

## To Turn a Corner

Stop the machine while the needle is rising, but before it is out of the material, raise the presser foot and turn the work, using the needle as a pivot.

## To Remove the Work

Raise the presser lifter, turn the machine by the balance wheel until the take-up lever is at its highest point and draw the work from you. If the threads do not draw out easily, the take-up lever is not in the right position, as directed. If the machine is stopped as directed, the needle will not be unthreaded in starting to sew, even if only a short end is left through the needle.

For convenience in taking out the work, the tension of the upper thread is released by raising the presser foot with the lifter; but is not released by thick goods or seams passing under the presser foot. Do not try to adjust the upper tension when the presser lifter is up as the tension is then loose.

Causes of the machine not working properly will usually be found in the tension not being correctly adjusted, or its discs may be clogged with lint or knots of thread or the thread controller spring may not have the correct tension (this is important); the thread may be too coarse or too fine for the needle, or the needle and thread too coarse or too fine for the throat plate, or the needle bent or blunt. See that a straight needle is pushed up in the needle bar as far as it should go; any particle of lint or dirt which prevents it from going up can be removed through the cross hole in the needle bar.

## To Regulate the Pressure on the Material

The pressure of the presser foot on the material should be heavy enough so that the material is fed properly at all speeds.

The pressure on the material is regulated by the thumb screw (F,Fig.4) at the top of the machine. Loosen the set screw (G, Fig.4) at the back of the machine and turn the thumb screw downward for more pressure or upward for less pressure, then tighten the set screw (G,Fig.4).



## 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 SHOULD ONLY BE REGULATED WHEN THE PRESSER FOOT IS DOWN. Having lowered the presser foot, turn the thumb nut (S,Fig.17) at the front of the tension discs over to the right to increase the tension. To decrease the tension, turn this thumb nut over to the left.

The tension on the bobbin thread is regulated by the screw (A,Fig.9) in 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.

When the tension on the bobbin 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 needle thread.

## To Regulate the Length of Stitch

To increase the length of stitch, press the button (P,Fig.16) in the bed and at the same time turn the balance wheel over toward you until you feel the button enter a slot in the stitch regulator. Continue to turn the balance wheel toward you to make the stitch longer, then release the button (P). To shorten the stitch, turn the balance wheel over from you.

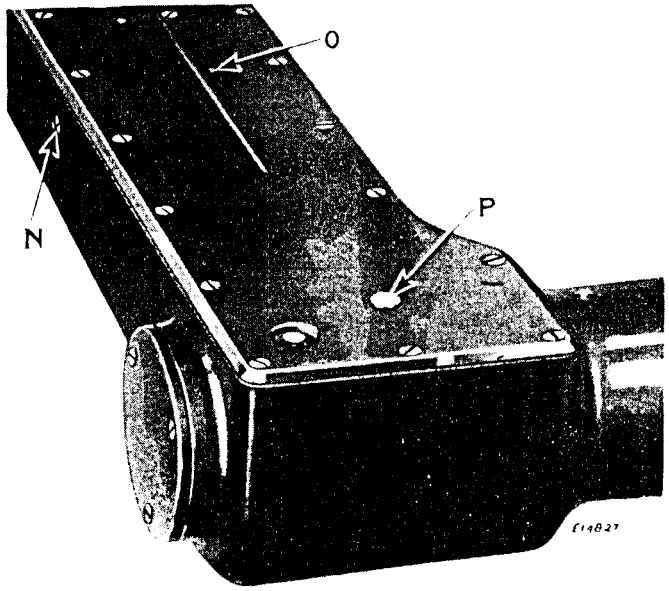


Fig. 16. Stitch Regulator Button

## To Regulate the Width of Bight

The width of bight or zigzag stitch is regulated by means of the needle vibrator regulating spindle head (A,Fig.2). To increase the width of zigzag stitch, turn the spindle head (A) over to the left. The extreme width of zigzag stitch is 3/16 inch. To decrease the width of zigzag stitch, turn the spindle head over to the right. By turning it all the way to the right, the machine will do straight stitching.



# INSTRUCTIONS
FOR
# ADJUSTERS AND MECHANICS

## Thread Controller

The function of the thread controller spring (Q,Fig.17) 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.

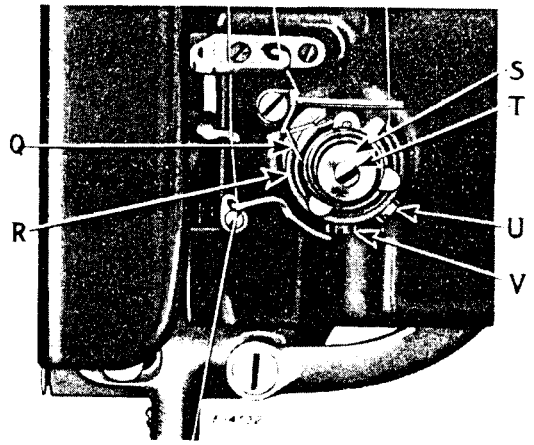


Fig. 17.

For more controller action on the thread, loosen the stop screw (U,Fig.17) and set the stop collar (R) lower. For less action, set the stop collar higher. The position of the controller spring (Q) shown in Fig. 17 is the best average setting for stitching fine fabrics and light leathers.

To strengthen the action of the controller spring on the thread, loosen the tension stud screw (V,Fig.17), and turn the tension stud (T) slightly to the left with a screwdriver. To lighten the spring action, turn the stud to the right, then tighten the tension stud screw (V).

## To Set and Time the Needle Bar Frame

First turn the needle vibrator spindle head (A,Fig.18) all the way to the right so that the needle will not vibrate when the

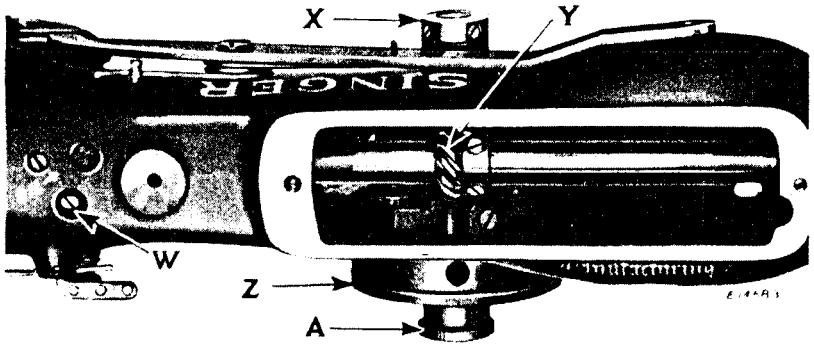


Fig. 18. Arm Cover Removed

machine is running. A straight needle should now come in the center of the needle hole in the throat plate. If it does not, loosen the set screw which holds eccentric stud (E2,Fig.19) and turn the stud (E2) until it does, then tighten the set screw.

Now turn the needle vibrator regulating spindle head (A) to the left for the widest throw. Turn the balance wheel toward you until the needle is at its lowest position. As the needle bar starts to rise, the needle bar frame should start to move sidewise. If it does not, advance or retard the vibrator gear pinion (Y,Fig.18).

## To Set the Needle Bar

See that the needle is up in the bar as far as it will go.

There are two lines 3/32 inch apart 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 lower end of the needle bar frame.

In case the needle bar is not correctly set, loosen the needle bar connecting stud set screw (D2,Fig.19) and move the needle bar to the correct position, then tighten the set screw.

TO SET A NEEDLE BAR WHICH HAS NO MARK: Set the needle bar so that when it rises 3/32 inch from its lowest position, the eye of the needle will be about 1/16 inch below the point of the hook as the hook point enters the thread loop.



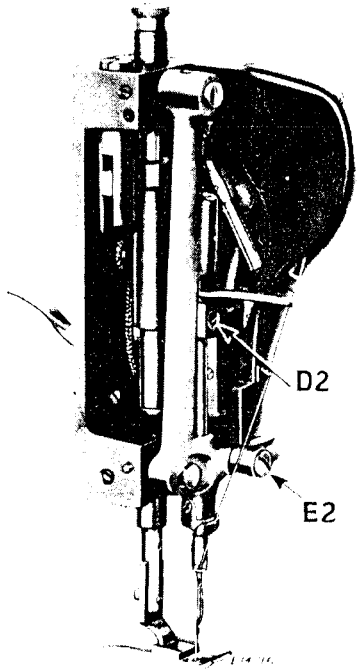


Fig. 19. Face Plate Removed

## To Remove the Needle Vibrator Gear Shaft

Remove the needle vibrator regulating spindle head (A,Fig.18) and the eccentric bracket cover (Z); remove the locking and adjusting screws (A1 and B1,Fig.20), also the screw and spring (E1). Loosen the two set screws in the gear (D1) and remove the needle vibrator gear shaft collar (X) at the back of the arm, then draw the shaft out.

When replacing these parts be careful that the large washer (C2,Fig.20) is in place between the gear and arm, that the position screws are set firmly against the flat spots on the shaft and that the set screws are at the right of the position screws when the shaft has been returned to its place.

To Set the Needle Vibrator Regulating Spindle Head So That a Wider Throw Than the One Desired Cannot Be Made

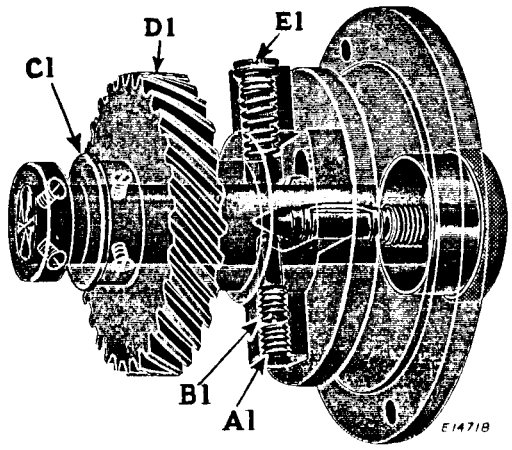


Fig. 20. Transparent view showing the needle vibrator regulating spindle head in front of Machine

Turn the spindle head to make the widest bight possible; remove locking screw (A1) and turn in screw (B1) until the stitch is of the width desired; then turn screw (A1) down tightly on screw (B1) as a check. The width of stitch may then be decreased by turning the regulating spindle head, but operators cannot make stitches wider than the adjusting screw (B1) is set to produce.

## To Raise or Lower the Feed Dog

The feed dog is usually set so that a full tooth appears above the upper surface of the throat plate when the feed dog is at its highest point. To make this adjustment, loosen the set screw (O,Fig.16) and with a screwdriver turn the eccentric stud (N,Fig.16) until the feed dog reaches the desired height, then tighten the set screw (O).

## To Change the Position of the Feed Dog

Remove the throat plate and bed cover plate, then loosen the two screws (O1,Fig.22) and move the feed bar forward or backward to the desired position, after which securely tighten the two screws (O1).



## To Time the Feeding Mechanism

The feed lifting eccentric is provided with two screws (Q1, Fig,22), the larger of these screws fitting into a spline in the bed shaft. The feed driving eccentric and gear is also provided with two screws (M1,Fig.22). The screw near the letter S stamped on the gear should be placed in the spline in the bed shaft. Care must be taken to keep the gear (N1,Fig.22) which is mounted on the feed driving eccentric in correct mesh with the gear it drives. The rise and fall of the feed dog should be timed so that the top of the teeth of the feed dog is flush with the top surface of the throat plate when the point of the needle reaches the goods. This timing is obtained by loosening the two set screws in the pulley (C2,Fig.25). Turn the bed shaft until the top of the teeth of the feed dog, on its downward movement, is flush with the top surface of the throat plate. Hold the bed shaft in this position and turn the balance wheel toward you until the point of the needle is about to enter the goods, then tighten the two set screws in the pulley. Time the sewing hook as instructed on page 20.

## To Adjust the Stitch Regulator

If it is necessary to disassemble the stitch regulator, when it is reassembled the friction may be increased or decreased by adjusting the two screws which are held in position by the two set screws (P1,Fig.22).

## To Remove and Replace the Bobbin Case Base

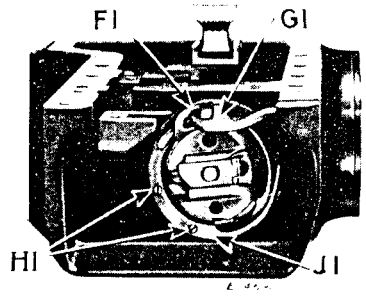


Fig. 21. Removing the Bobbin Case Base

To remove the bobbin case base (F1,Fig.21), remove the throat plate and the bobbin case stop (G1). Take out the two hook gib screws (H1) and remove the hook gib and the bobbin case base.

After replacing the bobbin case base, replace the hook gib (J1) and fasten it with the two screws (H1). When replacing the bobbin case stop (G1), be sure to have the position finger (F1) on the bobbin case base engage the bobbin case stop as shown in Fig.21.

## To Time the Sewing Hook

To determine whether the hook is correctly timed, remove the throat plate and see that a new needle is set in the machine, then turn the balance wheel over toward you until the LOWER TIMING MARK on the needle bar is just visible at the lower end of the needle bar frame, when the needle bar is on its upward stroke. When the needle bar is in this position, the point of the hook should be at the center of the needle as shown at K1 in Fig.22. (It should also be 1/16 inch above the needle eye -- see needle bar setting, page 16.)

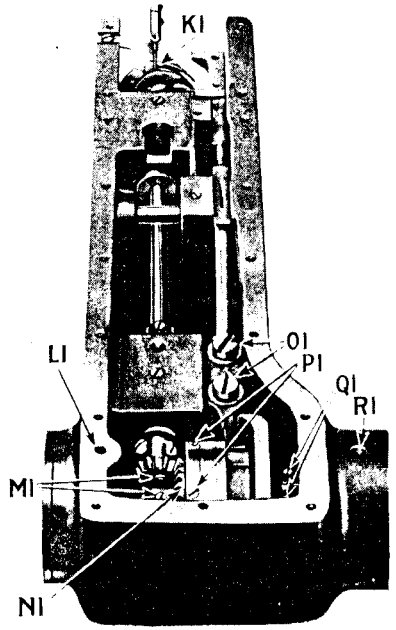


Fig. 22. Bed Cover Removed

In case the hook is not correctly timed, loosen the screws (T1,Fig.23) in the hub of the hook (which can be reached through a hole in the casting) and hold the hook with its point in the highest position while turning the balance wheel over toward you until the LOWER TIMING MARK on the needle bar is just visible at the lower end of the needle bar frame when the needle bar is on its upward stroke. Hold the balance wheel firmly in this position and at the same time turn the sewing hook until the point is at the center of the needle as at K1,Fig.22, then securely tighten the hub screws (T1).



## To Set the Hook To or From the Needle

Loosen the screws (T1,Fig.23) in the hub of the hook, and the set screw (U1) which holds the bushing. Set the point of the hook as close as possible to the needle without touching it, then tighten the hub screws (T1). Press the bushing (V1) against the hub of the hook, and tighten the set screw (U1).

## To Remove and Replace the Sewing Hook

To remove the sewing hook, turn the balance wheel until the needle bar is at its highest position, then remove the throat plate and the bobbin case stop (G1,Fig.23), loosen the two screws (T1,Fig.23) in the hub of the hook and remove the hook.

After replacing the hook, time and set it as previously instructed.

When returning the bobbin case stop (G1) to its position be sure to have it engage the position finger (F1,Fig.21) on the bobbin case base, as shown in Fig.21.

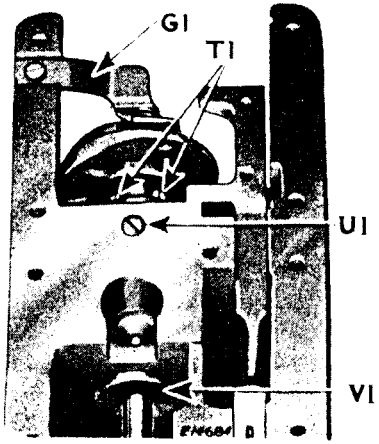


Fig. 23. Removing Hook

## To Remove and Replace the Arm Shaft Connection Belt

Remove the needle to avoid damaging it.

Remove the large screw (X1,Fig.24), loosen the balance wheel set screws (W1), and remove the balance wheel from the machine.

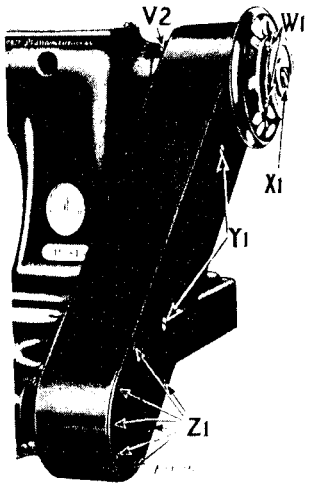


Fig. 24. Removing Balance Wheel and Belt Guard Cover

Remove the two screws (Y1) and the seven screws (Z1) and remove the belt guard cover, being careful not to damage the gasket. Slide the belt off the lower pulley (C2,Fig.25).

When replacing the belt, first place it over the upper pulley (D2,Fig.25), then turn the arm shaft until the needle bar is at its highest position. Now turn the lower pulley (C2) until the feed dog is at its highest position and, keeping the pulleys in time with each other, place the belt on the lower pulley. Carefully replace the gasket, belt guard cover, and balance wheel.

## To Remove the Arm Shaft

Remove the balance wheel, belt guard cover and belt, as instructed above. Push back the arm cap, and loosen both set screws in the gear (Y,Fig.18). Remove the position screw and loosen the set screw in the needle bar crank through the hole (W,Fig.18) in the arm. The arm shaft can then be withdrawn from the machine.



## To Remove the Belt Guard

Remove the balance wheel, belt guard cover and belt, as instructed on the preceding page. Remove the upper and lower pulleys (C2 and D2,Fig.25), loosen the set screw (V2,Fig.24) in the belt guard, and remove the four screws (B2,Fig.25) which hold the guard to the bed.

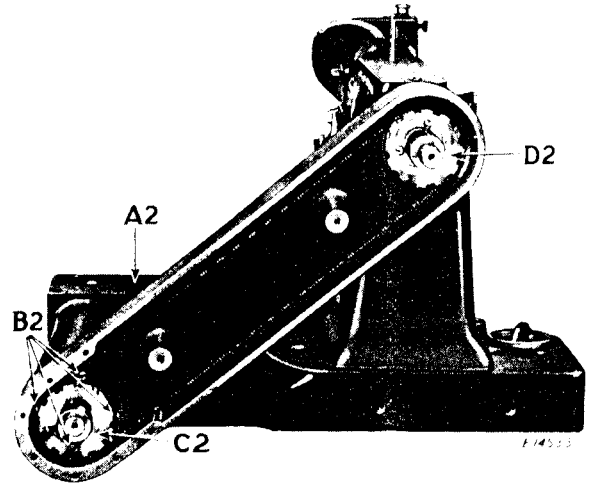


Fig. 25. Belt Guard Cover Removed (Pulleys Shown in Phantom)

## To Remove the Bed Shaft

Remove the balance wheel, belt guard cover, and belt, also the bed cover plate (A2,Fig.25). Loosen the two set screws in each of the two collars which may be reached with a screwdriver through the holes L1 and R1,Fig.22. Loosen the two set screws in the gear (M1,Fig.22) and the two set screws in the feed lifting eccentric (Q1). The bed shaft can then be withdrawn from the machine.