SINGER
107W14

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.

"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.

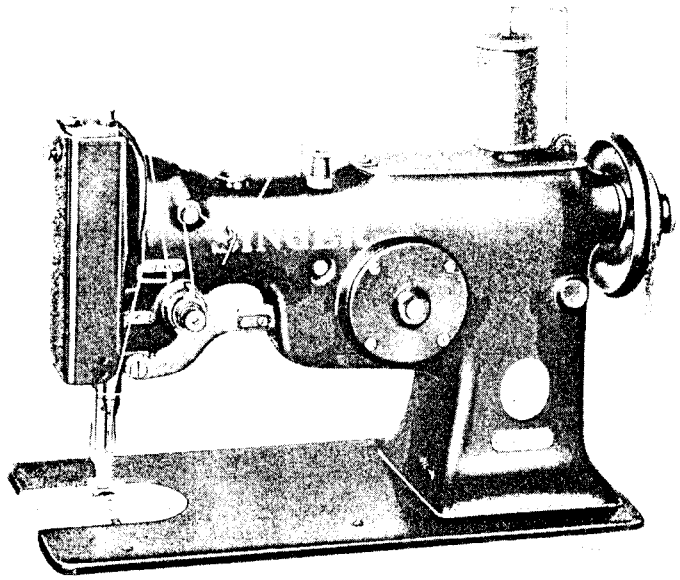
NOTE: The above greases are furnished in ¼ lb. tubes and 1 lb. and 4 lb. tins.

2686w

INSTRUCTIONS

FOR USING AND ADJUSTING

SINGER SEWING MACHINE



107 w 14

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.

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 107w14 is especially designed for stitching the goring in shoes made of elastic material. It can also be used for ornamental stitching.

It makes a zigzag lock stitch, with three stitches to each needle vibration. The maximum throw of the needle is 7/32 inch.

Speed

The maximum speed recommended for Machine 107w14 is 2500 stitches per minute. 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 machine is in operation, the balance wheel should always turn over towards the operator.

Needles

Needles for Machine 107w14 are of Class and Variety 135x7 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. 12, 135x7 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.

To Oil the Machine

When the machine is received from the factory, it should be thoroughly cleaned and oiled. Oil should be applied at each of

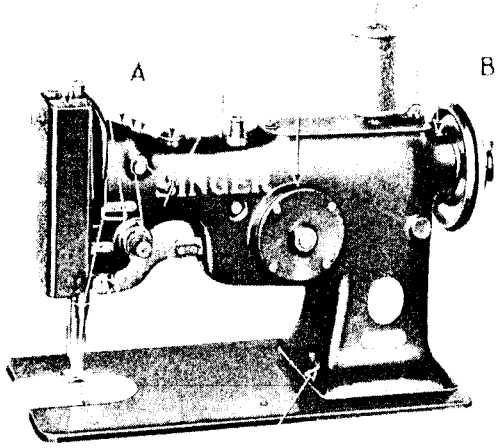


Fig. 2. Front View of Machine, Showing Oiling Points
Also Adjustments on the Machine

the places designated by arrows in Figs. 2, 3, 4 and 5, and all other places where there are parts in movable contact. When the machine is in continuous use, it should be oiled at least twice each day. Swing back the cover which is on top of the machine and oil the wicks and bearings thus uncovered, then replace the cover.

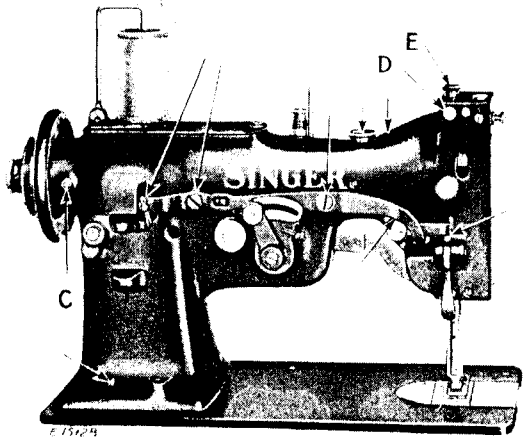


Fig. 3. Oiling Points and Adjustments at Rear of Machine

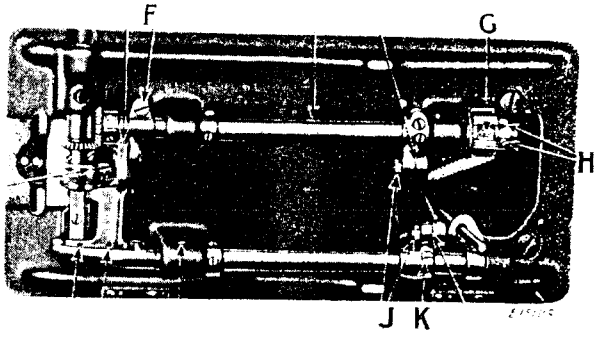


Fig. 4. Base View of Machine, Showing Oiling Points
Also Adjustments on the Machine

Remove the belt and turn the machine back on its hinges and apply oil at the places designated by arrows, as shown in Fig. 4 and all other places where there are parts in movable contact.

Apply oil freely, about four times a day, to the wicking which is retained in the oil pocket at the back of the sewing hook. Also oil the sewing hook race each time a bobbin is replaced.

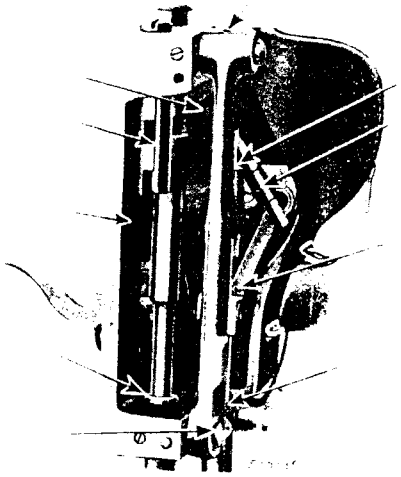


Fig. 5. End View of Machine, Showing Oiling Points

Remove the face plate and oil all of the bearings which are designated by arrows in Fig. 5, then replace the face plate. Turn back the cap which is at the top of the arm of the machine and oil the bearings which are thus uncovered, then replace the cap.

Thread

Left twist thread should be used in the needles. Either right or left twist can be used in the bobbin.

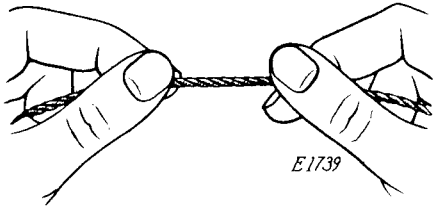


Fig. 6. How to Determine the Twist

Hold the thread as shown above. Turn the thread over toward you between the thumb and forefinger of the right hand; if left twist, the strands will wind tighter; if right twist, the strands will unwind.

To Remove the Bobbin

Draw out the slide in the bed of the machine; reach under the bed of the machine with the thumb and forefinger of the left

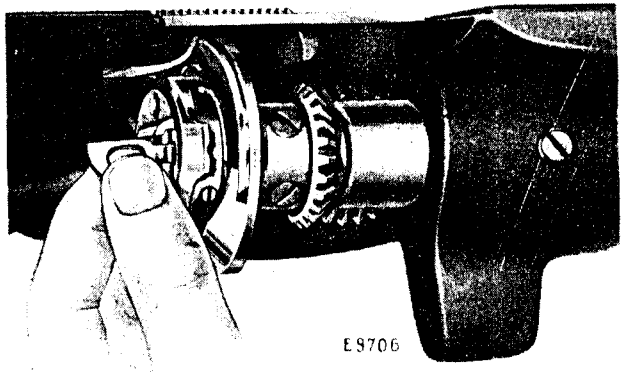


Fig. 7. Removing the Bobbin Case

hand, open the bobbin case latch with the forefinger and lift out the bobbin case (see Fig. 7).

While the latch remains open the bobbin is retained in the bobbin case. Release the latch, turn the open end of the bobbin case downward 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.

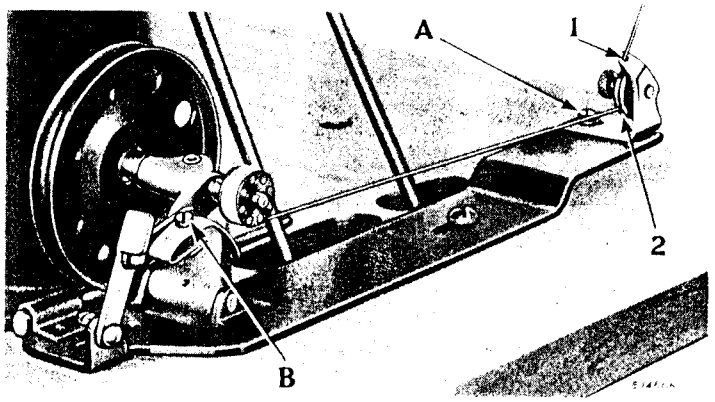


Fig. 8. Winding the Bobbin

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

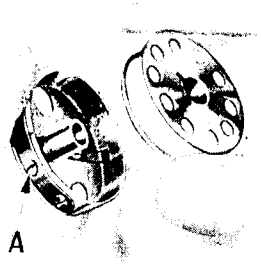


Fig. 9.

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.

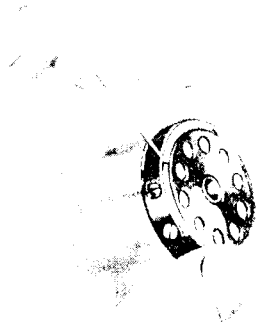


Fig. 10.

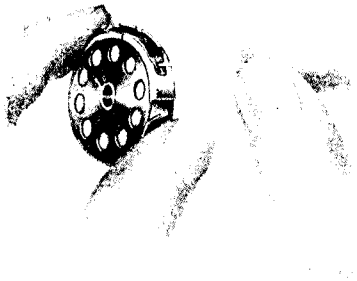


Fig. 11.

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, holding it between the thumb and forefinger of the left hand, place the

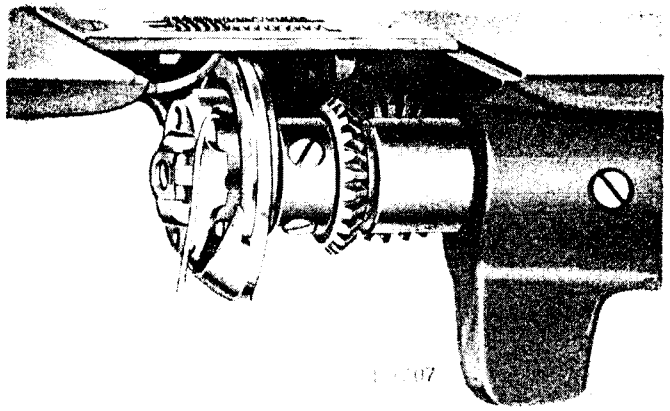


Fig. 12. Bobbin Case Threaded and Replaced

bobbin case 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 (see Fig. 12). Allow the thread to hang free and replace the slide in the bed of the machine.

To Set the Needle

Turn the balance wheel over towards you until the needle bar moves up to its highest point; loosen the set 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 squarely towards you, then tighten the set screw.

To Thread the Needle

(See Fig. 13)

Pass the thread from the spool on the machine from right to left through the lower hole (1) in the pin on top of the machine,

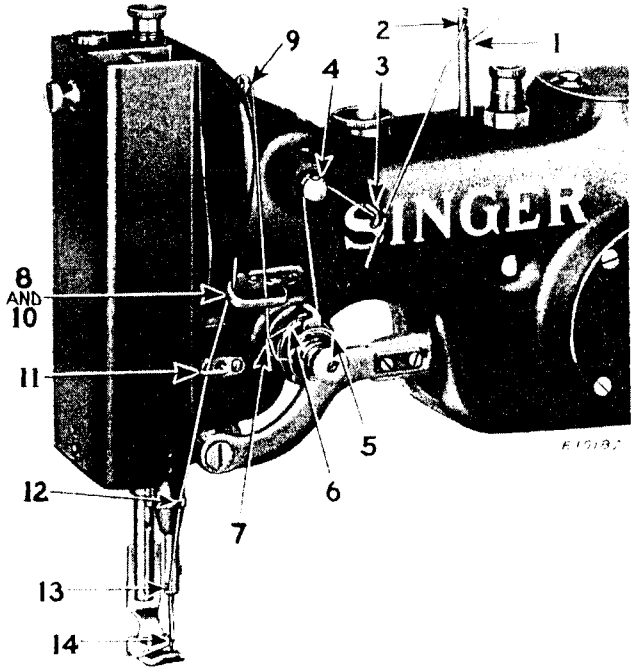


Fig. 13. Threading the Needle

up and from back to front through the upper hole (2) in the pin, to the left through the thread eyelet (3), over the top into the thread retainer (4), down, under from right to left between the tension discs (5), pull the thread up under the thread take-up spring (7) until it enters the retaining fork (6), then pass the thread up through the thread guide (8) and from right to left through the hole (9) in the end of the thread take-up lever, down through the thread guide (10), through the thread guide (11),into the thread retainer (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.

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 Remove the Work

Have the thread take-up lever (9,Fig.13) at its highest point, raise the presser foot and draw the work back and cut the threads close to the goods.

To Regulate the Pressure on the Material

The pressure of the presser foot on the material is regulated by the thumb screw (E,Fig.3) at the top of the machine. To increase the pressure, loosen the set screw (D,Fig.3) at the back of the machine and turn the thumb screw (E) downward. To decrease the pressure, turn the thumb screw (E) upward. When the required amount of pressure is obtained, tighten the set screw (D) at the back of the machine.

Tensions

The needle and bobbin threads should be locked in the center of the thickness of the material, thus:

Fig. 14. 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. 15. 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. 16. 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 (O,Fig.18) at the front of the tension discs over to the right to increase the tension. To decrease the tension, turn the thumb nut (O) 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 Width of the Sideway Stitches

(Operator Standing at the Front of the Machine)

The width of the sideway stitch is regulated by the lever (BB,Fig.17) at the back of the machine. When this lever is set

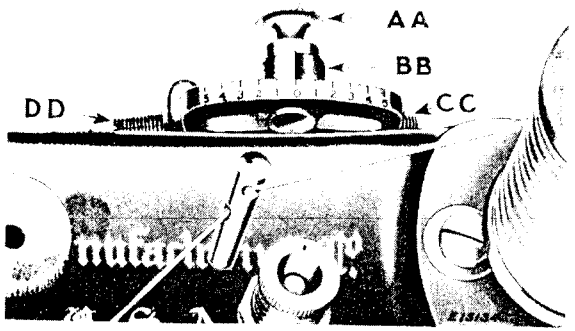


Fig. 17. Adjustment for Regulating the Width of Sideway Stitch

in line with zero on the slotted position bracket, the needle bar will make the narrowest vibration. To make the sideway stitches wider, loosen the thumb nut (AA,Fig.17) and move the lever (BB) to the right until the desired width of stitch is obtained, then securely tighten the thumb nut (AA).

Stop screw (DD) should be set against lever (BB) so the lever cannot be moved to the left of zero, and stop screw (CC) should be set so the lever cannot move to the right beyond 5, which is the widest the needle hole in the throat plate will permit the needle to vibrate.

To Regulate the Length of Feed

The length of feed (of the feed dog) is regulated by the feed regulating spindle head (B,Fig.2) at the right of the balance wheel. To lengthen the stitch, turn the spindle head (B) over toward you. To shorten the stitch, turn this spindle head over from you.

INSTRUCTIONS FOR ADJUSTERS AND MACHINISTS

Thread Controller

The function of the thread controller spring (Q,Fig.18) is to hold back the slack of the upper 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.

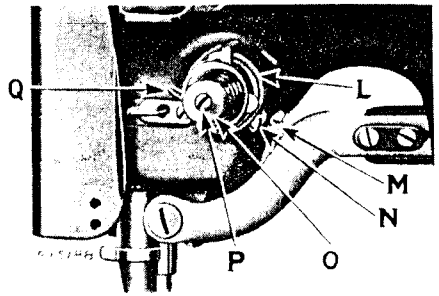


Fig. 18.

To increase the controller action on the thread, loosen the stop screw (N,Fig.18) at the right of the tension and set the stop (L,Fig.18) lower, or higher to decrease the action.

To strengthen the tension of the controller spring on the thread, loosen the tension stud screw (M) at the right of the stop screw and turn the tension stud (P) slightly to the left, or to the right to lighten the tension, then tighten the tension stud screw (M).

Feed Mechanism

To take up the lost motion of the feed driving and lifting connections, adjust their hinge screws (J,Fig.4) and pinch screws (W,Fig.21).

To prevent the feed dog from striking the ends of the throat plate slots, loosen the screw (K,Fig.4) and move the feed dog forward or backward until the longest stitch can be taken without the feed dog striking the throat plate,then tighten the screw (K).

To Raise or Lower the Feed Dog

Usually when at its highest position, the feed dog should show a full tooth above the throat plate.

Remove the throat plate; clean the lint and dirt from between the feed points and replace the throat plate; tip the machine back and turn the balance wheel toward you until the feed dog is at its highest position; loosen screw (Z,Fig.19) and raise or lower the feed dog as required, then tighten the screw (Z).

To Time the Movement of the Needle Bar Frame

Loosen the screws (R,Fig.21) in the worm gear on the arm shaft and turn the balance wheel over toward you or over from you, as the case may be. The time of the needle vibration cam should be such as to finish the extreme left vibration of the needle just prior to the entrance of the needle into the material; or, in other words, as slow as is practicable before the needle point enters the material.

To See if the Needle Bar is Set Correctly

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

There are two lines 3/32 inch apart about two inches from the lower end of the needle bar, and when the needle bar is at its lowest position, the upper mark should be just visible at the end of the needle bar frame.

To Set the Needle Bar in Correct Time

Loosen the needle bar connecting stud pinch screw and place the needle bar in the proper position as directed above, then tighten the screw.

To Set a Needle Bar which has no Mark

Set the needle vibrating lever (BB,Fig.17) at zero on the slotted position bracket. Turn the balance wheel until the needle has reached the bottom of its stroke; bring the point of the sewing hook exactly to the center of the needle and adjust the needle bar until the eye of the needle is about 1/16 inch below the point of the hook.

To Time the Sewing Hook

Remove the throat plate and turn the balance wheel over toward you until the LOWER timing mark on the needle bar is just visible at the end of the needle bar frame (or until the needle bar has risen 3/32 inch); if the needle and hook are in correct time, the point of the hook will be opposite the center of the needle.

To time the hook, loosen the set screws (H,Fig.4) in the lower belt pulley and turn the hook as required. Before tightening the set screws (H), see that there is no end play in the shaft.

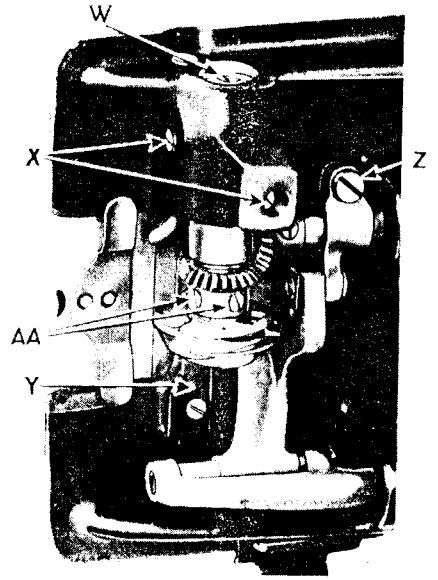


Fig. 19.

To Set the Hook To or From the Needle

The point of the hook should come as close as possible to the needle without touching it. Loosen the four screws (X and AA, Fig.19) and slide the hook to the correct position, then tighten the two screws (X). Reset the gear on the hook shaft and tighten screws (AA).

To Remove the Hook

Remove the bobbin case stop (Y,Fig.19), loosen the hook spindle screw (W) a few turns and tap it lightly to loosen the hook. Then remove the screw (W) and withdraw the hook from its socket.

To Remove the Belt from Within the Arm

Slide the arm shaft connection belt (G,Fig.4) off the hook driving shaft belt pulley, and remove the feed regulating spindle (V,Fig.21) and the balance wheel; loosen the rear arm shaft bushing set screw (C,Fig.3) at the back of the arm and remove the bushing (U,Fig.21); lift the belt (T,Fig.21) up through the arm cap hole as far as possible and draw it out through the space formerly occupied by the bushing (U).

When replacing the belt see that the sewing hook and needle are in correct time before running the belt on the lower pulley and verify the correctness of the timing before commencing to sew.

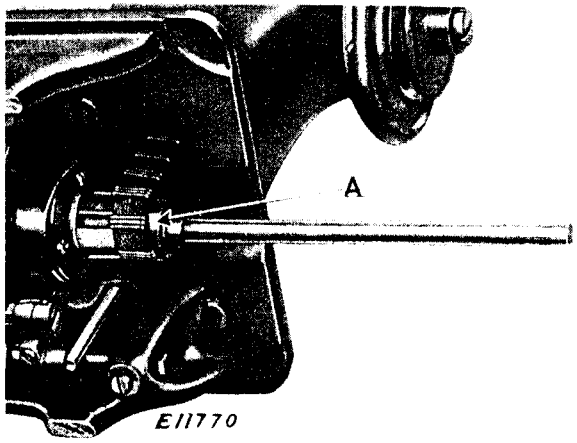


Fig. 20. Putting Belt on Lower Pulley with Belt Replacer 244005

To facilitate the replacing of the belt on the lower pulley, use belt replacer 244005 (A,Fig.20). Rest the replacer in the loop of the belt and slide it over the hub of the pulley, as shown in Fig. 20, having the notches in the replacer engage the two set screws in the hub of the pulley. Turn the balance wheel toward you until the belt is fully over the pulley, then remove the replacer.

NOTE: As belt replacer 244005 will serve for several machines, it is not regularly furnished with the machine, and must be ordered separately.

To Remove the Arm Shaft

Remove the belt (T,Fig.21) from lower and upper pulleys. Remove the set, regulating and compression screws from the feed

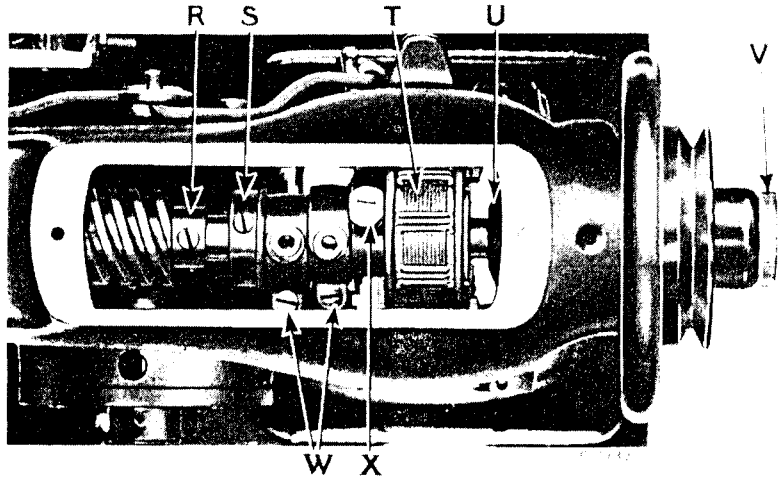


Fig. 21.

driving eccentric bracket (X,Fig.21), loosen the set screws and remove the position screws from the belt pulley, the feed lifting eccentric (S,Fig.21) and from the needle bar crank through the hole (A,Fig.2); loosen the set screws in the needle vibrator worm (R) and draw out the shaft from the balance wheel end of the machine.

To Replace the Arm Shaft and Connections

Return the shaft to its place through the belt pulley, the feed driving and lifting eccentrics, the needle vibrator worm, friction washer and needle bar crank; return the position screws to the belt pulley, feed driving and lifting eccentrics and needle bar crank, and into their position holes in the shaft; time the needle bar frame as instructed on page 16, and tighten all set screws; replace the balance wheel, leaving the least possible end play to the shaft.