SINGER
107W18,W19

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.

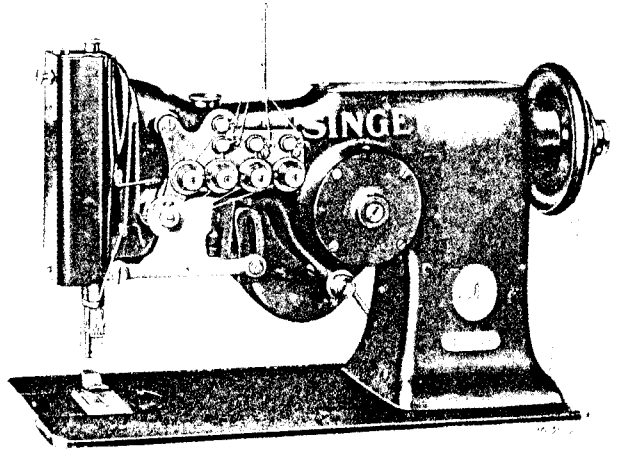
NOTE: The above greases are furnished in ¼ lb. tubes and 1 lb. and 4 lb. tins.

2835w

INSTRUCTIONS

FOR USING AND ADJUSTING

SINGER SEWING MACHINES



107w18 AND 107w19

FOR

ORNAMENTAL STITCHING

HIGH SPEED LOCK STITCH

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 107W18 short arm, lock stitch. Has cam controlled lateral movement of the needle bar frame, for ornamental stitching, cording on glove backs, etc. Has three needles and makes three rows of stitching 1/16 inch apart. Needles and fittings can be furnished for gauges 1/32, 3/64 and .069 inch if so ordered. Maximum vibration 5/16 of an inch across outside lines of stitching. Maximum stitch 5 to the inch. Cams and gears can be furnished for various ornamental patterns. See charts on pages 20 and 21.

MACHINE 107W19 has four needles and makes four rows of stitches 1/16 inch apart. Otherwise this machine is the same as the 107W18.

Speed

The maximum speed recommended for Machine 107W18 is 1800 stitches per minute and for Machine 107W19, 1600 stitches per minute according to material being stitched. The machines should be run slower than the maximum speed at first 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 toward the operator.

Needles

Needles for 107W18 and 107W19 are of class 131X, have straight blade, diameter of shank .069", are flatted on shank, and their positions are not interchangeable in the needle holder. The inside (right hand) needle is flat on the left side, the outside (left hand) needle is flatted on the right side and the center needles are flatted on both sides, so that needles clamp together and form the gauge between seams. The gauges for which needles are made with flatted shank are 1/32, 3/64 and 1/16 inch. For .069" gauge the use of round shank 128x15 is necessary.

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.

CLASS AND VARIETY NOS.	CENTER, RIGHT OR LEFT HAND	GAUGE	SIZES
128 x 15	Round Shank	.069	11, 12, 14, 16, 18
131 x 1	Right	1/32	9, 10, 12, 13, 14, 16, 18
131 x 3	Left	1/32	9, 10, 12, 13, 14, 16, 18
131 x 5	Right	3/64	9, 10, 12, 13, 14, 16, 18
131 x 7	Left	3/64	9, 10, 12, 13, 14, 16, 18
131 x 9	Right	1/16	9, 10, 12, 14, 16, 18
131 x 11	Left	1/16	9, 10, 12, 14, 16, 18
131 x 13	Center	1/32	9, 10, 12, 13, 14, 16, 18
131 x 15	"	3/64	9, 10, 12, 13, 14, 16, 18
131 x 17	"	1/16	9, 10, 12, 13, 14, 16, 18

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

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

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.

For ordinary work use the same size of thread on the bobbin as in the needle. Always use soft finished thread on the bobbin.

Thread

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

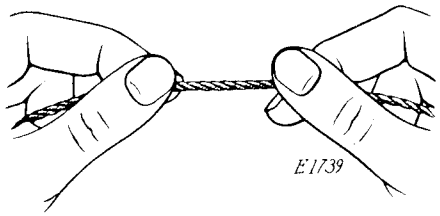


Fig. 2. How to Determine the Twist

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. Use soft finish thread of the same size for the needle and the bobbin.

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

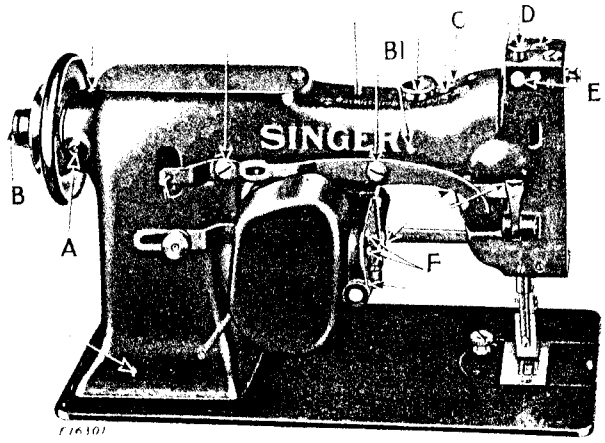


Fig. 3. Rear View of Machine, Showing Oiling Points Also Adjustments on the Machine

the places designated by arrows in Figs. 3, 4, 5 and 6, 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.

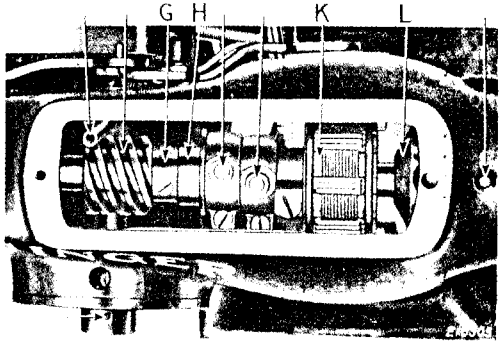


Fig. 4. Top View of Machine, Showing Oiling Points Inside of Arm

Remove the face plate and apply oil to the oil pad and all of the bearings which are thus uncovered, then replace the face plate.

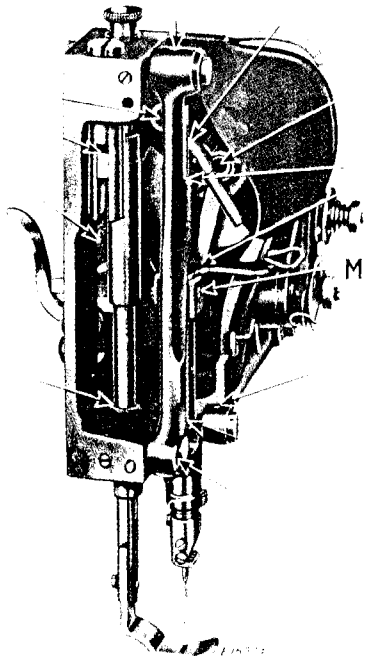


Fig. 5. End View of Machine, Showing Oiling Points

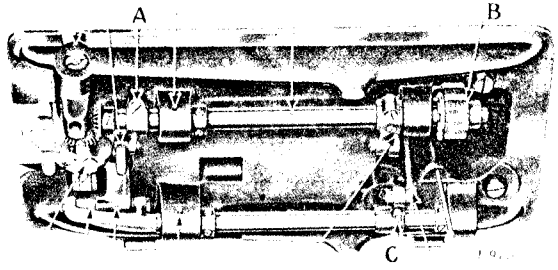


Fig. 6. Base View of Machine, Showing Oiling Points
Also Adjustments on the Machine

Remove the belt and turn the machine back on its hinges and apply oil at the places designated by arrows, as shown in Fig. 6 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.

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 hand,

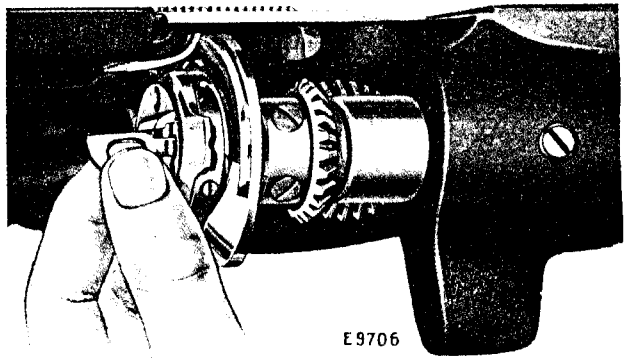


Fig. 7. Removing the Bobbin Case

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.

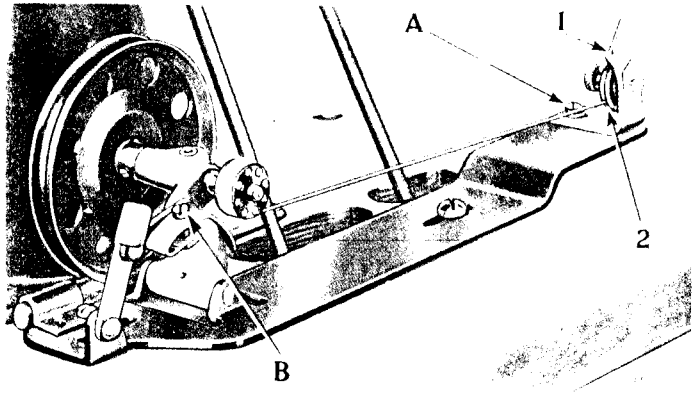


Fig. 8. Winding the Bobbin

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

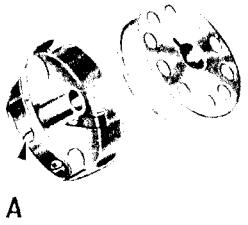


Fig. 9.

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 bobbin

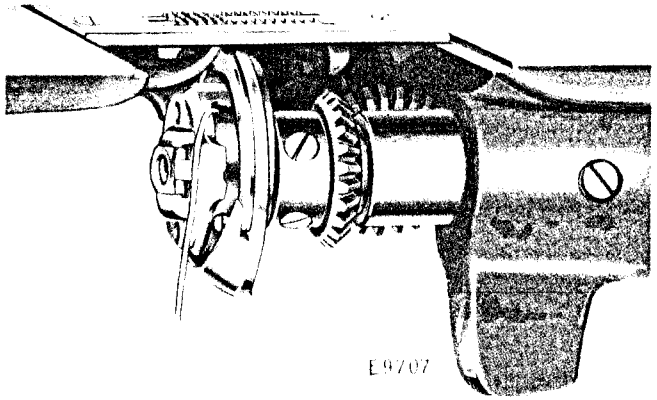


Fig. 12. Bobbin Case Threaded and Replaced

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

The needle holders for three and four needle machines have two screws at the outside and one screw at the inside of the holder. The two outside screws set the needles in a perpendicular position and the inside screw clamps the needles firmly. After the needles are set perpendicularly, a change of needles can be made without disturbing the outside screws.

Push the needles up in the needle holder as far as they should go, with the long grooves to the front, and secure them firmly with the inside set screw.

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

Upper Threading of the Machine

(See Fig. 13)

To thread the outside needle or the one at the left, pass the thread from the thread unwinder through the top hole (1) in the pin

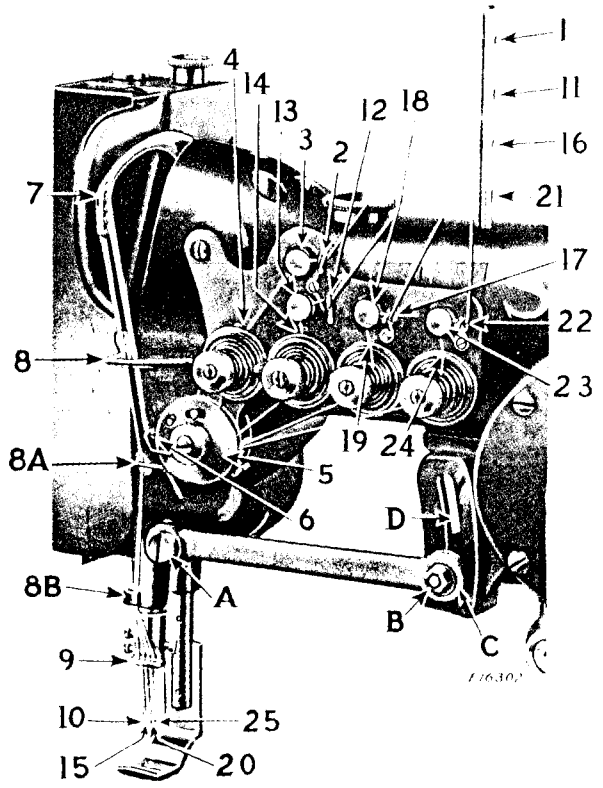


Fig. 13. Upper Threading of the Machine

on top of the machine, through the thread guide (2) and upper thread retainer (3), over from right to left between the left tension discs (4), down under from right to left into the thread controller (5), pull the thread up against the controller spring (6) until it enters the hook in the controller disc, then pass the thread up through the thread guide (8) and from right to left through the upper hole in the thread take-up lever (7), down through the thread guide (8) again and through the guides (8A and 8B), through the left hole in the needle holder (9), and from front to back through the eye of the left needle (10).

To thread the inside needle or the second from the left, pass the thread from the unwinder through the hole (11) in the pin on top of the machine, through the thread guide (12) and thread retainer (13), under from right to left between the tension discs (14), down under from right to left into the thread controller (5), pull the thread up against the controller spring (6) until it enters the hook in the controller disc, then pass the thread up through the thread guide (8) and from right to left through the second from top hole in the thread take-up lever (7), down through the thread guide (8) again, and through the guides (8A and 8B), down into the second from left hole in needle holder (9) and from front to back through the eye of the needle (15).

To thread the right needle on Machine 107W18 or second from right on 107W19, pass the thread from the unwinder from right to left through the hole (16) in the pin on top of the machine, through the thread guide (17) and thread retainer (18), under from right to left between the tension discs (19), under from right to left around the thread controller (5), pull the thread against the thread controller spring (6) until it enters the hook in the controller disc, then pass the thread up through the thread guide (8), up and from right to left through the hole third from the top in the thread take-up lever (7), down through the thread guide (8) again, and through the guides (8A and 8B), through the second rrom right hole in the needle holder (9) and from front to back through the eye of the needle (20).

To thread the right needle or the one nearest the upright part of the arm on Machine 107W19, pass the thread from the unwinder from right to left through the hole (21) in the pin on top of the machine, through the thread guide (22) and thread retainer (23), under from right to left between the tension discs (24), under from right to left around the thread controller (5), pull the thread against the thread controller spring (6) until it enters the hook in the thread controller disc, then pass the thread up through the thread guide (8), up and from right to left through the bottom hole in the thread take-up lever (7), down through the thread guide (8) again, and through the guides (8A and 8B), through the right hand hole in the needle holder (9) and from front to back through the eye of the needle (25).

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 balance wheel over toward you until the needles move down and up again to their highest point, thus catching the bobbin thread; draw up the needle threads and the bobbin thread will come up with them through the needle hole in the throat plate. Lay the threads back under the presser foot.

To Commence Sewing

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

To Remove the Work

Stop the machine with 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.

To Regulate the Pressure on the Material

The pressure on the material is regulated by the thumb screw (D, Fig. 3) at the top of the machine. To increase the pressure, loosen the lock screw (E, Fig. 3) at the rear of the machine, and turn the thumb screw (D) over to the right. To decrease the pressure, turn the thumb screw (D) over to the left. When the desired pressure on the material is obtained, tighten the lock screw (E).

To Regulate the Tensions

The tension on the needle threads is regulated by the thumb nuts (A, Fig. 14) at the front of the tension discs. To increase the tension, turn these thumb nuts over to the right. To decrease the tension, turn these thumb nuts over to the left.

The tension on the bobbin thread is regulated by the screw (A, Fig. 9) nearest the center of the bobbin case tension spring. To increase the tension, turn this screw over to the right. To decrease the tension, turn this screw over to the left.

To Regulate the Length of Stitch

The length of the straightaway stitches is regulated by the thumb screw (B, Fig. 3) at the right of the balance wheel.

There is a notch in the hub of the balance wheel and the number appearing in the notch shows the number of straightaway stitches to the inch that the machine is ready to make.

To increase the length of stitch, turn the thumb screw (B) over toward you. To decrease the length of stitch, turn this thumb screw over from you.

INSTRUCTIONS FOR ADJUSTERS AND MACHINISTS

Thread Controller

The function of the thread controller spring (E, Fig. 14) is to hold back the slack of the needle threads until the eye of each needle 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 points of the needles as the needles are descending.

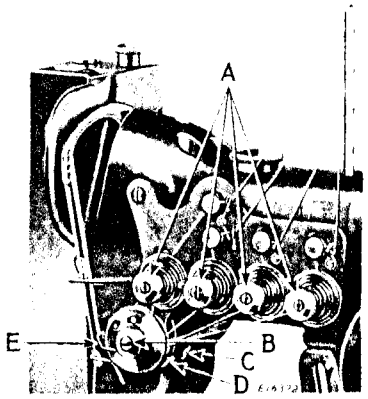


Fig. 14. Adjustment of Thread Controller

To change the thread controller stop for more controller action on the threads, loosen the set screw (D, Fig. 14) and turn the thread controller spring stop to the right; for less action, turn the thread controller spring stop to the left, after which securely tighten the set screw (D).

It may be found advisable to increase the tension of the spring for coarse thread, or to lessen it for fine thread.

To increase the tension of the thread controller on the threads, loosen the tension stud set screw (C, Fig. 14), located nearly under the tension stud, and turn the tension stud (B, Fig. 14) slightly to the left with a screwdriver, or to decrease the tension, turn it to the right and retighten the stud set screw (C).

Feed

To Take up Lost Motion of the Feed Driving and Lifting Connections, adjust their hinge and pinch screws.

To Prevent the Feed Dog from Striking at Either End of the Slots in the Throat Plate. Loosen screw (C, Fig. 6) and move the feed dog forward or backward until the longest stitch can be taken without the feed dog striking the throat plate and retighten the screw.

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 (A, Fig. 6) and raise or lower the feed dog as desired and retighten the screw (A).

When raising or lowering the feed dog be careful that its underside does not drop low enough to strike the hook.

To Set the Needle Bar

See that the needles are up in the holders as far as they should 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 end of the needle bar frame.

In case the needle bar is not correctly set, loosen the needle bar set screw (M, Fig. 5) and place the needle bar in the correct position as instructed above, then retighten the screw (A).

To Set a Needle Bar Which Has no Mark. The hook and needles should be so timed, that when the needle bar rises 3/32 inch from its lowest position, the point of the sewing hook will be at the center of the **right hand needle** and about 1/16 inch above the eye. For wider gauges, it may be necessary to slightly vary this measurement.

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; if the needles and hook are in correct time, the point of the hook will be at the center of the **right hand needle** and about 1/16 inch above its eye.

Loosen the set screws in the hook driving belt pulley (B, Fig. 6) and turn the balance wheel over toward you until the needle bar moves down to its lowest position and upward until the **lower timing mark** on the needle bar is just visible at the end of the needle bar frame, then turn the sewing hook until the point is at the center of the **right hand needle** and about 1/16 inch above its eye, then tighten the pulley screws, being careful to see that the end of the pulley hub is flush with the end of the shaft.

To Remove the Hook

Remove bobbin case stop (F, Fig. 15), then remove the hook spindle screw (A, Fig. 15) and withdraw the hook from its socket.

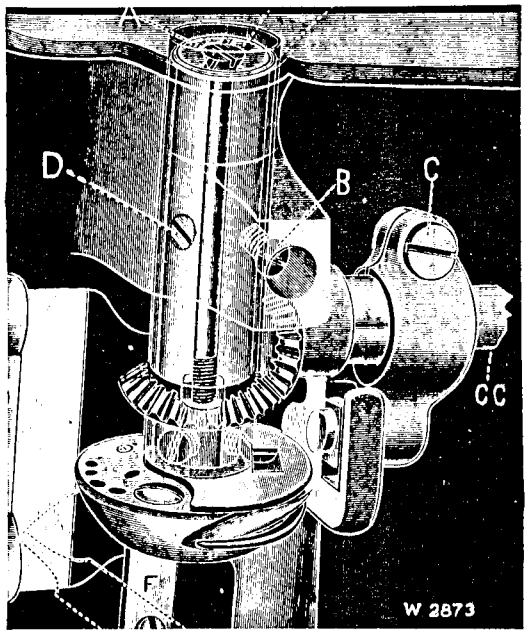


Fig. 15.

To Set the Hook to or from the Needle

Loosen the two screws (B and D, Fig. 15) and move the hook to the desired position and retighten the screws.

To Remove the Belt from within the Arm

Slide arm shaft connection belt off the hook driving bevel pinion shaft belt pulley (B, Fig. 6), remove the feed regulating spindle (B. Fig. 3) and balance wheel; loosen the arm shaft bushing (back) screw (A, Fig. 3) at the back of the arm and remove the bushing (L, Fig. 4), lift the belt up through the arm cap hole as far as possible and draw it out through the space formerly occupied by the bushing.

In replacing the belt see that the hook (sewing) and needle are in correct time before running the belt on the lower pulley (B, Fig. 6) and verify the correctness of the timing before commencing to sew.

To facilitate the replacing of the belt on the lower pulley, use belt replacer 244005 (A, Fig. 16). Rest the replacer in the loop

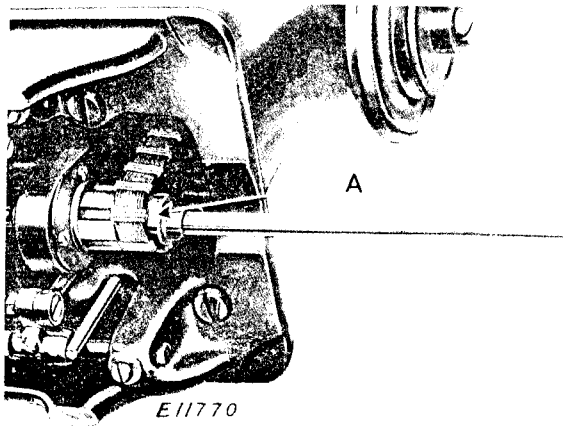


Fig. 16. Putting Belt on Lower Pulley with Belt Replacer 244005

of the belt and slide it over the hub of the pulley, as shown in Fig. 16, 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 screws (A, B, G and I, Fig. 17) and loosen the set screw in the belt pulley (K, Fig. 4). Remove the position screw from the eccentric (H, Fig. 4) and loosen the set screw in the eccentric and the set screws in the gear (G, Fig. 4). Remove the position screw from the needle bar crank and loosen the set screw. These screws are reached through the hole (C, Fig. 3) at the top of the arm. Draw the shaft out 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 lifting eccentric, the shaft gear, friction washer and needle bar crank; return the position screws to the belt pulley, feed lifting eccentric and needle bar crank, and into their position holes in the shaft; tighten the set screw of each and replace the balance wheel, leaving the least possible end play to the shaft.

To Remove the Arm Shaft Bushing (Front)

After removing the needle bar crank position and set screws reached through hole (C, Fig. 3), remove the bushing position screw (B1, Fig. 3) from the back of the arm, insert a brass rod through the arm cap hole and drive the bushing out.

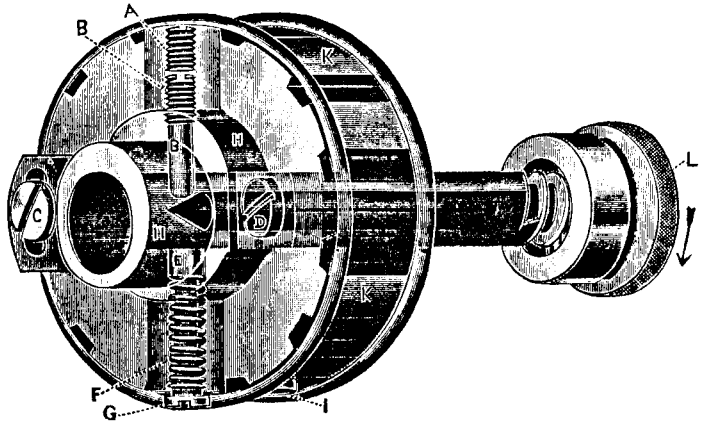


Fig. 17.

Transparent view through the arm shaft connection belt pulley and shaft showing the feed regulating spindle and feed driving eccentric regulating screw (B), which comes in contact with the cone of the spindle to gauge the length of stitch.

To Regulate the Width of Zigzag

The width of zigzag movement of the needles is regulated by loosening the nut (B, Fig. 13) and raising or lowering the end of the needle bar frame pitman (C, Fig. 13) in the elongated slot of the segment lever (D, Fig. 13) as required. The maximum overall width of the stitching is 5/16 inch.

To Set Needle Bar Frame

To centralize the needles in the needle slot of the throat plate, loosen the nut (B, Fig. 13) and move stud to the lowest position in the slot of segment lever (D, Fig. 13) and tighten it there. Loosen the set screw at the rear side of stud (A, Fig. 13) and turn the eccentric stud (A) until the needles are central, then tighten set screw.

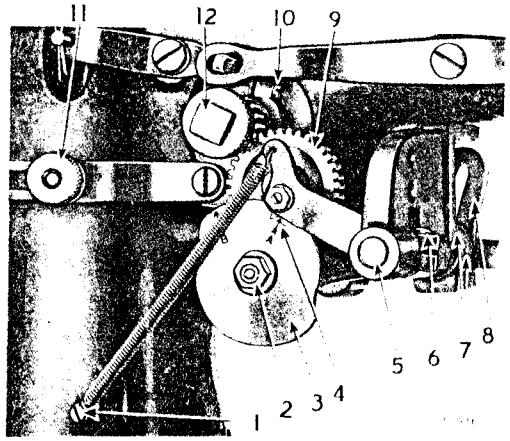


Fig. 18. Adjustment of Cam and Gears

To time the motion of the needle bar frame, turn the balance wheel until the arrow A on needle vibrator cam (3, Fig. 18) is directly under the "V" slot (4, Fig. 18). In this position, it should be possible to move the stud up and down in the elongated slot of the segment lever (8, Fig. 18) without causing sidewise motion of the needles. If there is sidewise motion, loosen the clamping screw (6, Fig. 18) and move the top of the segment lever (8) to the right or left as required, to eliminate the sidewise motion. Tighten screw (6) making sure that there is no end play in the rock shaft (5, Fig. 18) and that the rock shaft turns freely.

To time the needle vibrator cam (3, Fig. 18) turn the balance wheel until the needles are at the lowest point. Loosen the knurled screw (12, Fig. 18) (the squared portion of this screw makes possible the use of a wrench to accomplish this). Turn the cam (3) while holding the balance wheel until the arrow B is directly under the "V" slot 4, then tighten screw (12).

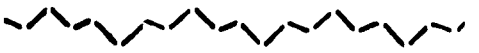
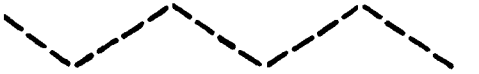
To change needle vibrator cam or driving gear, unhook the spring from stud (1, Fig. 18) and lift cam follower lever clear of cam, making sure that the needles are clear of the needle slot in the presser foot. Remove nut (2, Fig. 18) and remove the needle vibrator cam and the driving gear. Loosen nut (11, Fig. 18) and screw (10, Fig. 18) and swing gear (9, Fig. 18) out of engagement. When replacing the driving gear, have the slot in the hub entered by the driving pin on the shaft, replace the thick washer, the cam and the thin washer in the order named, then replace and securely tighten the nut (2). Attach the spring to the stud (1), re-engage the idler gear, locking it in position with screw (10) and nut (11). Retime the needle vibrator cam before starting the machine.

Ornamental Stitching Designs Produced on Machine 107w18 or 107w19 with the Following Cams and Gears

Machine 107w18 makes three parallel rows of stitches 1/16" apart.
Machine 107w19 makes four parallel rows of stitches 1/16" apart.

Changes in gauges can be made to produce different ornamental effects after removing one or more of the needles and substituting stub needle shanks for them in the needle holder.

GEAR	CAM	DESIGN
A	266117	
A,B,C	242155	
B,C,D,E,F,G,H	242156	

GEAR	CAM	DESIGN
A	242157	
B	242158	
A	242159	
A	242160	
A,B,C,D,E,F,G,H	242161	
B	242162	
A	242163	
A	242164	
A	242165	
A	242166	
B,C,D,E,F,G,H	242168	

"B" gear is recommended for use where several gears are listed for making the same design.

Gear Number	Number of Stitches Per Revolution of Pattern Cam
A-249675	6
B-249679	8
C-249682	10
D-249725	12
E-242169	14
F-242170	16
G-249952	18
H-249953	20

Either Machine 107W18 or 107W19 will produce a single needle effect by using one needle, and replacing the other needles with stub needle shanks in order that the needle may be fastened in the needle holder. Gear 249675 with Cam 242167 will produce a scallop edge pattern as illustrated below.