

**SINGER**  
**110W124 thru 110W128**

USE ONLY  
**SINGER**

“OIL FOR HIGH SPEED SEWING MACHINES  
(Cloth and Leather)”  
for general use

or  
“STAINLESS OIL  
FOR HIGH SPEED SEWING MACHINES”  
where a stainless oil is desired.

These specially prepared oils are the result of extensive research. They insure freedom from lubricating trouble and give longer life to sewing machines.

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**THE IMPORTANCE OF USING  
SINGER NEEDLES FOR  
SEWING MACHINES**

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

Singer Needles can be purchased from any Singer Shop for the Manufacturing Trade.

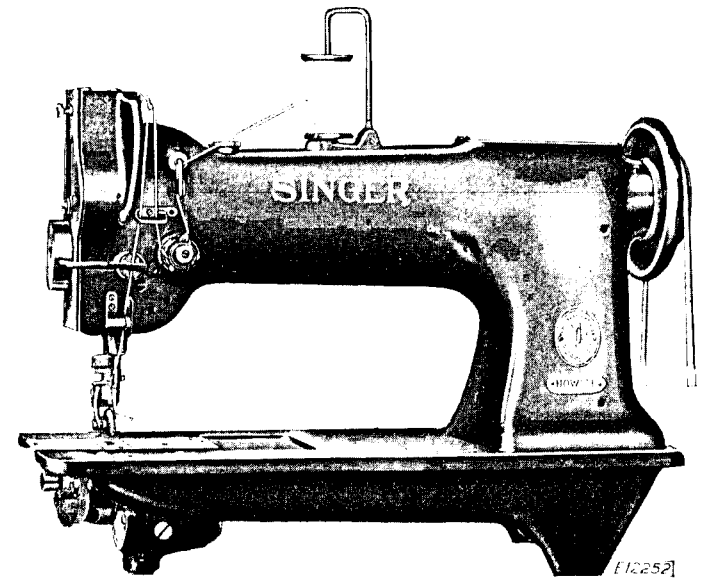
Genuine Singer Needles should be used  
in Singer Machines.  
These Needles and their Containers  
are marked with the  
Company's Trade Mark "SIMANCO." 1

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

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2111w

INSTRUCTIONS  
FOR USING AND ADJUSTING  
**SINGER SEWING MACHINES**



110w124, 110w125, 110w126  
110w127 AND 110w128

FITTED WITH CONTINUOUS WHEEL FEED  
FOR LEATHER WORK

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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.

#### Purchasing of Parts and Needles

Supplies of parts and needles for Singer machines can be purchased at any Singer Shop for the Manufacturing Trade 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.

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#### DESCRIPTION

Machine 110 w 124 is fitted with a continuously moving wheel feed in combination with a needle feed, and is intended for use in the manufacture of shoes and similar leather work. It has one needle and a gear driven rotary hook and makes the lock stitch.

Machine 110 w 125 is fitted with an offset needle bar and is for close edge stitching on fine shoes.

Machine 110 w 126 is equipped with a vertical trimmer, and is designed for stitching and trimming articles of light weight leather at one operation. It is used in the manufacture of boots and shoes, gloves, small leather cases, leather waist belts, etc., and is well adapted for similar work where it is desired to stitch and trim both the outside and lining at one operation.

Machine 110 w 127 is equipped with an oblique under edge trimmer and will stitch the edges and undertrim the linings of shoes, sandals, slippers, etc., at one operation.

Machine 110 w 128 is equipped with a horizontal under-trimmer and adjustable edge guide and will stitch the edges and undertrim articles of light weight leather at one operation. It is used in the manufacture of boots and shoes, gloves, small leather cases, leather waist belts, pump straps, etc.

**Note:** Each of the above machines is fitted with three pairs of feed gears which are instantly adjusted to make any one of three pre-determined lengths of stitches without removing any of the gears from the machine. See list of feed gears on page 10.

If desired, the machines can be limited to making but one or two lengths of stitches, as two spacing washers which are quickly substituted for the feed driving gears (as instructed on page 11), are regularly furnished with each machine.

#### Speed

The maximum speed recommended for Machines of Class 110 w is 3000 stitches per minute. The machine 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 machine is in operation, the balance wheel should always turn over toward the operator.

#### Needles

Needles for Machines of Class 110 w are of Class and Variety 16x4, and are furnished in the following sizes, Nos. 9, 10, 11, 13, 14, 16, 17 and 18.

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 an x.

The following is an example of an intelligible order:

"100 No. 14, 16 x 4 Needles."

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

### Thread

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

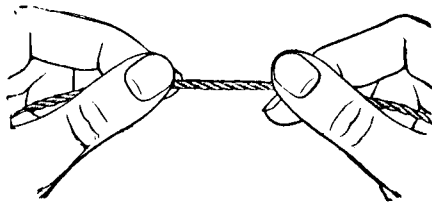


Fig. 2. How to Determine the Twist

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

### To Set the Needle

Turn the balance wheel over toward 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 needle bar as far as it will go, with the long groove of the needle toward the left and the eye directly in line with the arm of the machine, then tighten the set screw.

### To Remove the Bobbin

Draw out the slide plate at the right of the needle in the bed of the machine. Insert the finger nail of the forefinger under the latch (D, Fig. 5), raise the latch and lift out the bobbin.

### To Wind the Bobbin

(See Fig. 3)

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.

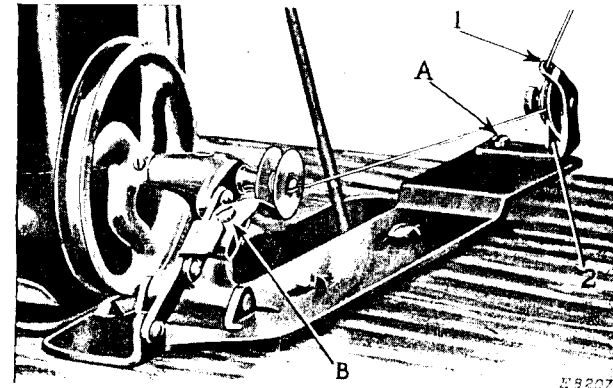


Fig. 3. Winding the Bobbin

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 Replace the Bobbin and Thread the Bobbin Case

Hold the bobbin between the thumb and forefinger of the right hand, the thread drawing on the bottom from left to right

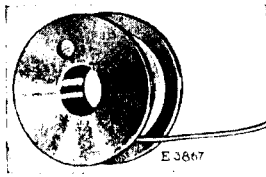


Fig. 4. Direction of Thread on Bobbin

(see Fig. 4) and place it on the centre stud of the bobbin case, then push down the latch (D) as shown in Fig. 5. Draw the thread into the slot (1, Fig. 5), under the back of the projection (2, Fig. 5), leaving a loose end of thread about two inches long above the slide. When closing the slide plate, leave just enough space for the thread to pass through.

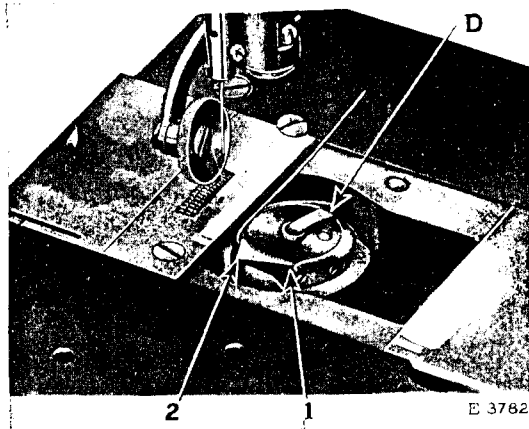


Fig. 5. Bobbin Case Threaded

### To Thread the Needle

(See Fig. 6)

Pass the thread from the spool holder, over from right to left through the upper hole, from left to right through the centre

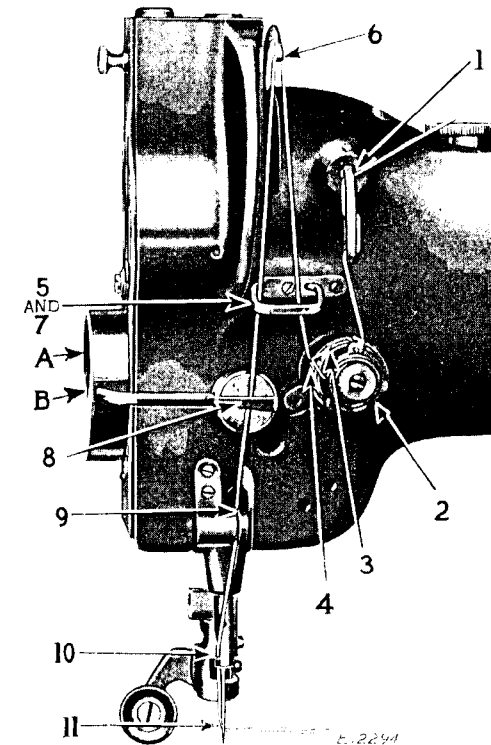


Fig. 6. Threading the Needle

hole and from right to left through lower hole in the thread leader (1) at the front of the machine, down, under from right to left between the tension discs (2), pull the thread up under the thread take-up spring (4) until it enters the retaining fork (3), then pass the thread up through the thread guide (5) and from right to left through the hole (6) in the end of the thread take-up lever, down through the thread guide (7), between the felt pad and felt pad retainer finger (8), into the thread nipper (9), down through the hole (10) at the lower end of the needle bar and from left to right through the eye of the needle (11). 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 with it through the hole in the throat plate. Lay the threads back under the roller presser.

### To Commence Sewing

Place the material beneath the roller presser, lower the roller presser 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 roller presser, draw the work back and cut the threads close to the leather.

### To Regulate the Pressure on the Material

The pressure on the material is regulated by the hexagon screw (L, Fig. 14) at the back of the machine, the screw acting on a flat spring. To increase the pressure, turn the screw downwardly. To decrease the pressure, turn the screw upwardly.

### Tensions

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

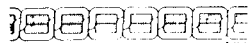


Fig. 7. Perfect Stitch

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. 8. 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. 9. Loose Needle Thread Tension

### To Regulate the Tensions

The tension on the needle thread is regulated by the thumb nut (K, Fig. 13) at the front of the tension discs on the front of the machine. To increase the tension, turn the thumb nut over to the right. To decrease the tension, turn the thumb nut over to the left.

The tension on the bobbin thread is regulated by means of the screw nearest the centre of the tension spring on the outside of the bobbin case.

### To Change the Length of Stitch

The three pairs of feed gears are located at the left underneath the bed of the machine, each pair of gears making a different

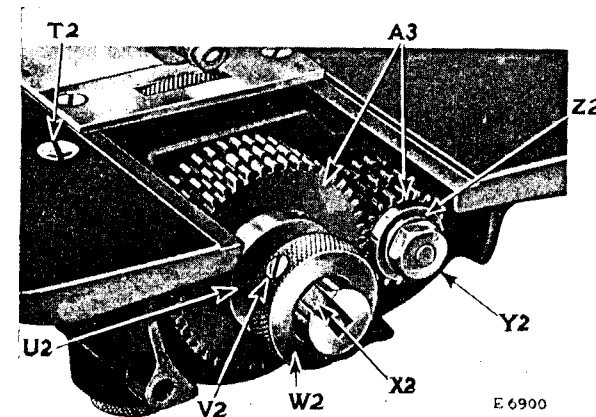


Fig. 10. Adjustment for Changing Length of Stitch

length of stitch. The location of the knurled collar (W2, Fig. 10) on its shaft determines which pair of gears is engaged. When the knurled collar (W2) is at the outer end of its shaft, the outermost pair of gears (A3, Fig. 10) are engaged. When the knurled collar (W2) is in the central position on its shaft, the middle pair of gears are engaged. When the knurled collar (W2) is set at the innermost position on its shaft, the innermost pair of gears are engaged. To change the length of stitch, raise the roller presser, then slide the knurled collar (W2) to the desired position on the shaft and turn it in either direction until the engaging latch (X2, Fig. 10) enters the notch in the gear.

**Feed Gears for Class 110w Machines  
and  
Number of Stitches Produced Per Inch**

Large Gear	Small Gear	Stitches Per Inch 110w102, 110w103, 110w117, 110w122 and 110w123	Stitches Per Inch 110w124 to 110w128 inclusive
238641	238655		12
238642	238656		14
238643	238657		15
*238605	*238618	12	16
*238606	*238619	14	18
*238607	*238620	15	20
*238608	*238621	16	21
*238609	*238622	17½	22
*238610	*238623	19	24
*238611	*238624	21	25
*238651	*238665	22	27
*238612	*238625	23	29
*238653	*238667	25	31
*238654	*238668	26	33

\* Although these feed gears are interchangeable in Machines 110w124 to 110w128, inclusive, and Machines 110w102, 110w103, 110w117, 110w122 and 110w123, it will be noticed that they produce more stitches per inch when used in Machines 110w124 to 110w128. This is due to a change in the ratio of the worm gears which transmit the drive from the arm shaft to the feed driving shaft so that shorter stitches can be made on the new machines than was possible on the old machines.

Machines 110w124, 110w126, 110w127 and 110w128 are regularly fitted to make 16, 18 and 20 stitches to the inch and Machine 110w125 is regularly fitted to make 20, 22 and 24 stitches to the inch.

Any three sets of gears as shown above will be furnished in place of the regular gears, without additional charge, when so specified on order.

Extra gears may be purchased.

**To Limit the Machine to Making but One or Two  
Lengths of Stitches**

When it is desired to limit the machine to making but one or two lengths of stitches, the spacing washers (B3, Fig. 11)

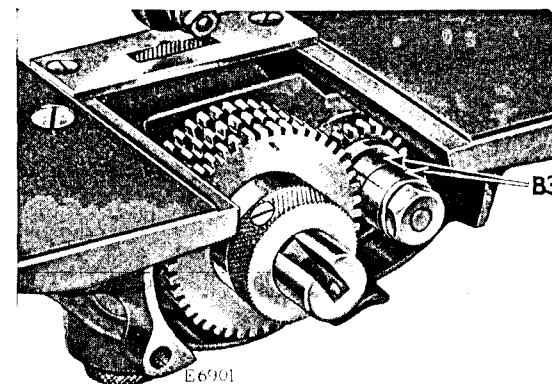


Fig. 11. Showing Spacing Washers in Position in Machine

should be substituted for the feed driving gears as instructed below:

Remove the cover plate at the left of the gears. Loosen the set screw (V2, Fig. 10) and remove the knurled collar (W2, Fig. 10), pinch collar (U2, Fig. 10) and engaging latch (X2, Fig. 10). Also remove the nut (Y2, Fig. 10) and washer (Z2, Fig. 10).

As the largest of the three small feed driving gears is placed innermost on the shaft, it will be necessary to remove two of the large stitch regulating gears in order to remove the three small gears. When removing the large gears it will be noted that there are two deflecting washers on the shaft, these washers must be placed one between the first and second gear and one between the second and third gear, when gears are replaced.

When replacing the gears, place the medium size large gear on the shaft and the largest of the large gears on the outside, at the same time replacing the small gear for making the desired length of stitch so that it meshes with its corresponding large gear and setting the spacing washers (B3) opposite the large gears which are to be disengaged. Then replace the engaging

latch (X2), pinch collar (U2), the knurled collar (W2) and tighten the set screw (V2). Also replace the washer (Z2), securely tighten the nut (Y2) and replace the cover plate at the left of the gears.

### To Regulate the Amount of Travel of the Needle Bar

When the stitch regulating gears have been changed to produce a different length of stitch, the throw or amount of travel

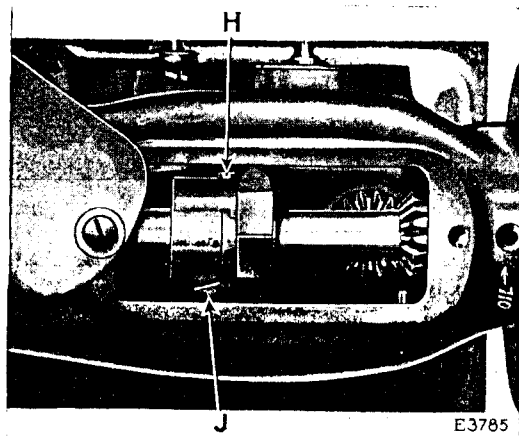


Fig. 12. Adjustment for Regulating Amount of Travel of Needle Bar

of the needle bar must also be changed, so that the needle will move forward in unison with the wheel feed for each stitch. When the variation between the three lengths of stitches the machine is set to make is not too great, the amount of travel of the needle bar should be adjusted to correspond with the middle length of stitch, this will automatically take care of the shorter and longer stitch which the machine will make.

Swing back the cover plate at the top of the machine and loosen the screw (H, Fig. 12) in the needle bar driving eccentric on the arm shaft. To increase the throw or amount of travel of the needle bar for a longer stitch, turn the large screw (J, Fig. 12) on the needle bar driving eccentric over to the left or upwardly. To decrease the throw of the needle bar for a shorter stitch, turn the large screw (J) over to the right or downwardly. When the required throw of the needle bar is obtained, firmly tighten the screw (H).

### To Raise or Lower the Feed Wheel

The height of the feed wheel is regulated by the screw (T2, Fig. 10) located immediately at the rear of the left slide plate in the bed of the machine. To raise the feed wheel, turn the screw over to the right. To lower the feed wheel, turn the screw over to the left.

The feed wheel should be set so that slightly less than the full depth of the teeth will project through the feed wheel slot in the throat plate.

### 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.

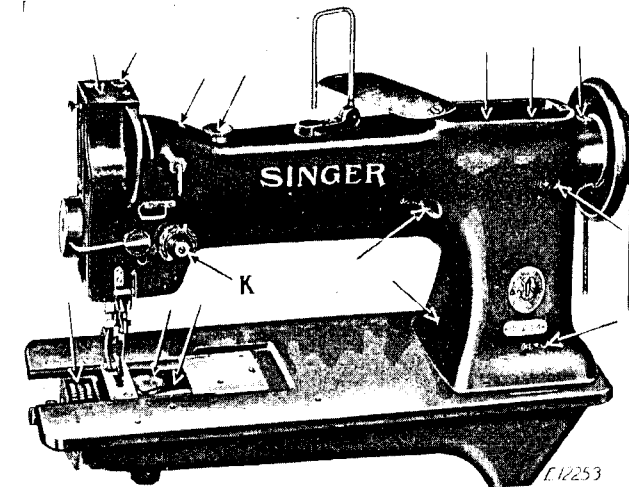


Fig. 13. Front View of Machine. Showing Oiling Points

The places where the machine should be oiled are indicated in Figs. 13, 14, 15 and 16, by arrows pointing to the oil holes and bearings.

Oil the bobbin case bearing in the hook race each time a bobbin is replaced.



Swing back the cover at the top of the machine and apply oil to the gears and needle bar driving eccentric thus uncovered.

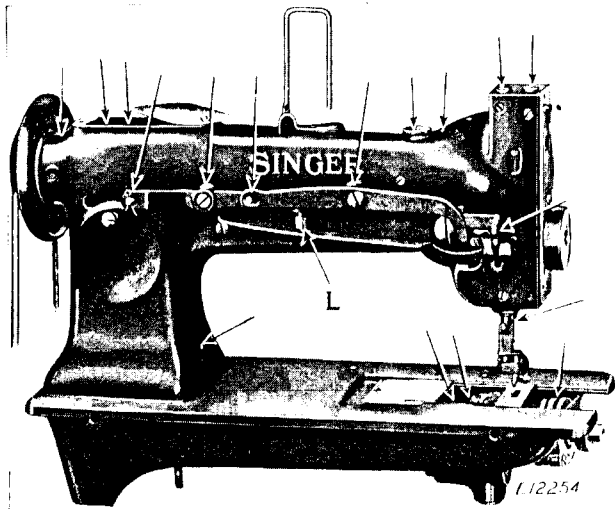


Fig. 14. Back View of Machine, Showing Oiling Points

Occasionally remove the two covers (M and N, Fig. 15) of the gear cases on the underside of the bed of the machine and

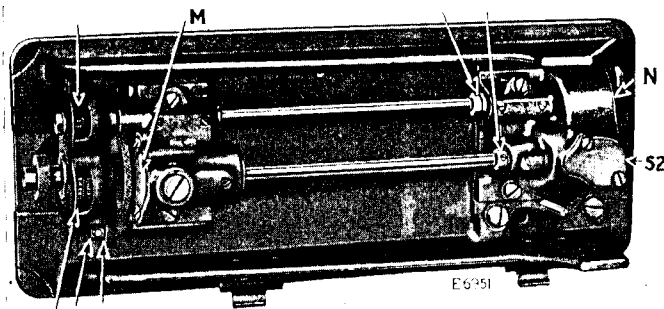


Fig. 15. Base View of Machine, Showing Oiling Points

fill the gear cases with the Singer High Speed Lubricant, a grease which is especially prepared for the purpose. When removing the cover (N) be careful not to damage the paper gasket under the cover. If this gasket is torn, the grease will leak out of the gear case when the cover is replaced.

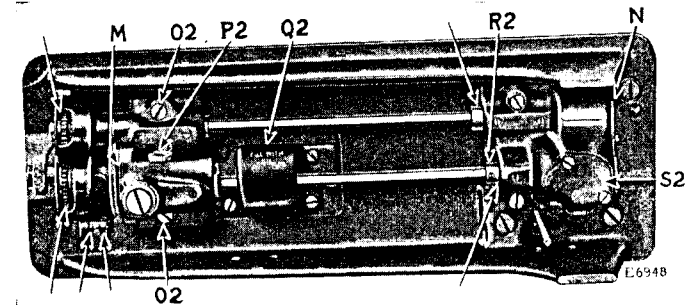


Fig. 16. Base View of Machine 110w128  
Showing Oiling Points

The oil reservoir (Q2, Fig. 16) underneath the bed of Machine 110 w 128 should be kept filled with oil to lubricate the knife driving eccentric and fork connection.

#### To Change the Trimming Margin on Machines 110 w 126 and 110 w 127

The distance from the trimmed edge to the line of stitching is determined by the throat plate used, each throat plate being adapted for but one trimming margin.

The trimming margin is measured from the centre of the needle hole to the cutting edge of the throat plate.

To change the machine from one trimming margin to another, it is only necessary to change the throat plate and adjust the knife.

**Machine 110 w 126** can be furnished with throat plates for making .045, .060 or .085 inch trimming margin, as desired, for trimming abreast of the needle. Orders for the machine should specify the trimming margin required. Unless otherwise ordered, this machine will be fitted for making the trimming margin .045 inch.

**Machine 110 w 127** can be furnished with throat plates for making .040, .050, .060 or .075 inch trimming margin, as desired, for trimming abreast of the needle.

This machine can also be furnished with throat plates for making .015, .025, .040 or .050 inch trimming margin, as desired, for trimming back of the needle.

Orders for this machine should state whether it is desired to trim abreast of the needle or back of the needle, and the order should also specify the trimming margin required. Unless otherwise ordered, this machine will be fitted to trim abreast of the needle, the trimming margin being .040 inch.

### To Adjust the Trimmer on Machine 110 w 126

The knife (T, Fig. 17) should be set so that its cutting edge presses against the cutting edge of the throat plate to ensure making a shear cut.

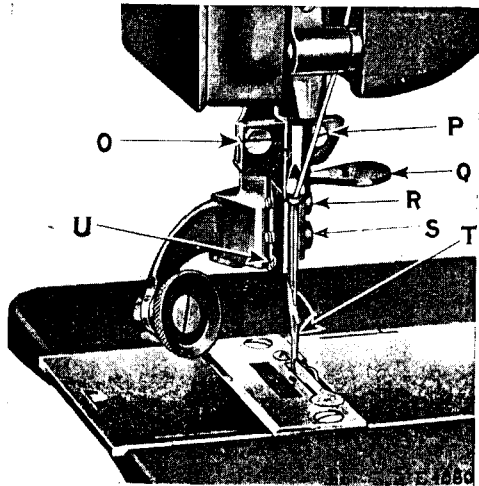


Fig. 17. Adjustments on Trimmer on Machine 110w126

The sidewise adjustment of the knife is obtained by loosening the two screws (O and P, Fig. 17) and moving the knife holder to the right or left, as may be required. The knife can also be slightly adjusted sidewise by loosening or tightening the screw (U, Fig. 17) at the lower end of the knife holder.

To adjust the knife to the correct height, loosen the two screws (R and S, Fig. 17) and move the knife up or down on the knife holder, after which the two screws (R and S) should be securely tightened.

To disengage the knife, press the lever (W, Fig. 18) to the left. To re-engage the knife, press down on the handle (Q, Fig. 17).

### To Adjust the Trimmer on Machine 110 w 127

The knife (E2, Fig. 18) should be set so that its cutting edge presses against and just passes below the cutting edge of the throat plate to ensure making a shear cut.

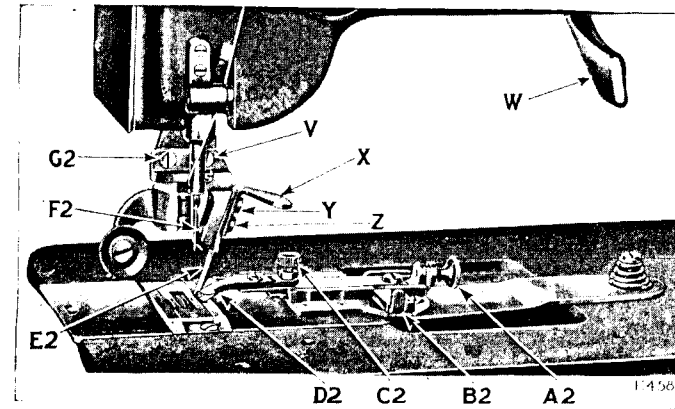


Fig. 18. Adjustments on Trimmer and Edge Guide on Machine 110w127

The sidewise adjustment of the knife is obtained by loosening the two screws (G2 and V, Fig. 18) and moving the knife holder to the right or left, as may be required. The knife can also be slightly adjusted sidewise by loosening or tightening the screw (F2, Fig. 18) at the lower end of the knife holder.

To adjust the knife to the correct height, loosen the two screws (Y and Z, Fig. 18) and move the knife up or down on the knife holder, after which the two screws (Y and Z) should be securely tightened.

To disengage the knife, press the lever (W, Fig. 18) to the left. To re-engage the knife, press down on the handle (X, Fig. 18).

### To Adjust the Edge Guide on Machine 110 w 128

The edge guide (H2, Fig. 19) can be adjusted so that the knife will trim the edge of the under ply of leather from flush up

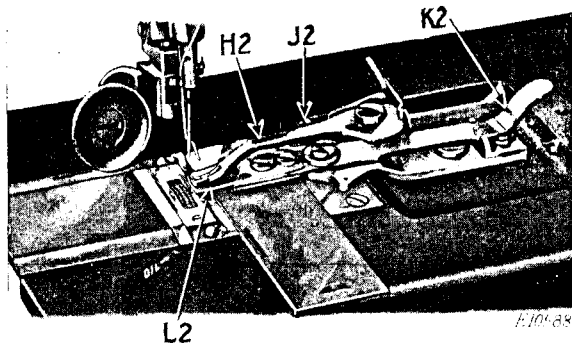


Fig. 19. Adjustments on Trimmer on Machine 110w128

to  $\frac{1}{8}$  inch under the edge of the upper ply. To change the margin from the edge to the line of stitching on the upper ply of leather, loosen the screw (J2, Fig. 19) and move the edge guide (H2) to the right or left until the desired margin is obtained, then securely tighten the screw (J2).

If desired, the edges of both the upper and under plies of leather can be trimmed simultaneously.

### To Disengage the Edge Guide on Machine 110 w 128

To disengage the edge guide (H2, Fig. 19), swing it toward the operator as far as it will go.

### To Adjust Knife to Take Up Wear of Cutting Edge

Raise handle (K2) and swing it toward you as shown in Fig. 20, loosen screw (O2), put handle (K2) back into notch in knife bracket (M2), move knife bracket (M2) forward to desired position, then securely tighten screw (O2).

### To Disengage the Trimmer on Machine 110 w 128

To disengage the knife (L2, Fig. 20), raise the handle (K2) and swing it toward you, as shown in Fig. 20, until it is locked

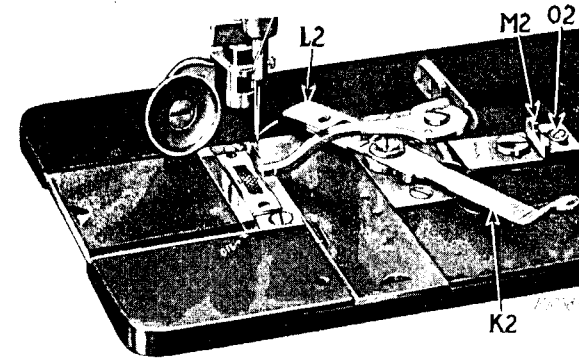


Fig. 20. Trimmer on Machine 110w128 Disengaged

out of position. When re-engaging the knife, be sure to see that the handle (K2) is pushed back until it springs into position in the notch in the knife bracket (M2, Fig. 20).

### To Time the Trimmer on Machine 110 w 128

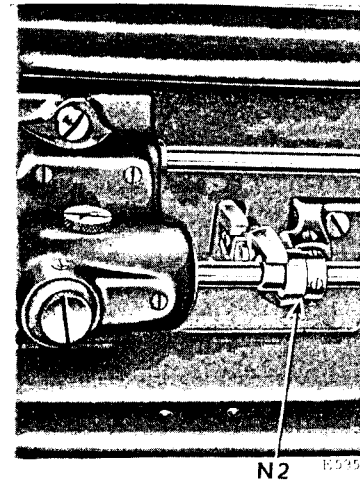


Fig. 21. View of Machine 110w128 Showing Adjustment for Timing the Knife

The knife (L2, Fig. 19) should be timed so that it is at its most forward position toward the operator and  $\frac{3}{16}$  inch in front of the needle when the needle bar is at its lowest point. In case the knife is not correctly timed, loosen the two set screws in the eccentric (N2, Fig. 21) and turn this eccentric on the shaft until the correct timing of the knife is obtained, then securely tighten the two set screws in the eccentric (N2).

### To Adjust the Edge Guide on Machine 110 w 127 (See Fig. 18 on Page 17)

The purpose of the edge guide finger (D2, Fig. 18) is to keep the shoe upper out of range of the knife, thus preventing the knife from cutting the edge of the upper while the stitching and trimming is in progress. When in proper adjustment, the edge guide finger (D2) should be slightly to the left of the knife (E2). The sidewise adjustment of the edge guide finger is obtained by turning the thumb screw (A2, Fig. 18) at the right hand end of the guide. The back edge of the guide finger should stand as close to the knife as possible without striking it.

The edge guide finger (D2) should be adjusted to a height that will permit the facing or lining to pass freely under it to the knife while protecting the edge of the upper from injury. To adjust the edge guide finger (D2) to the correct height, loosen the lock nut just below the thumb screw (C2, Fig. 18) and turn the thumb screw (C2) up or down, as may be required. When the edge guide finger is set at the correct height, securely tighten the lock nut.

When desired, the edge guide finger can be drawn back out of the way of the operator by pulling forward on the latch (B2, Fig. 18).

The complete edge guide attachment can be swung aside on its hinge screw after raising the attachment over the position pin at the left.

Adjustable guide 237904 is furnished when trimming abreast of the needle, and adjustable guide 237905 is furnished when trimming back of the needle.

### To Adjust the Thread Lubricator

To ensure satisfactory results, Singer Thread Lubricant should be used in the thread lubricator which is attached to the face plate.

When replenishing the lubricant supply, fill the reservoir (A, Fig. 6) to about  $\frac{1}{4}$  inch below the filler hole (B, Fig. 6).

The amount of lubrication of the thread is controlled by raising or lowering the felt pad holder (8, Fig. 6) above or below the level of the lubricant. For more lubricant, lower the felt pad holder. For less lubricant, raise the felt pad holder.

### To Sharpen the Knife Used in Machines 110 w 126 and 110 w 127

When it is necessary to resharpen the knife, loosen the two screws which fasten the knife to the knife holder and remove the knife. Knife hone 259367 should be used to sharpen the knife. As one hone can be used for several machines, it should be ordered separately.

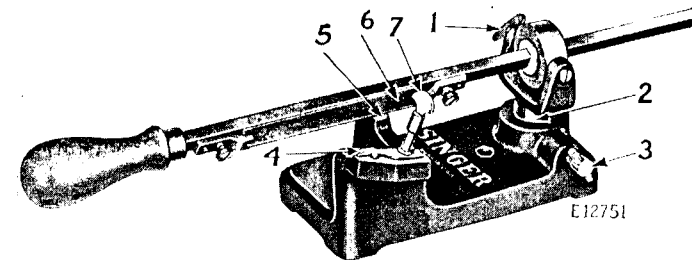


Fig. 22. Knife Hone  
Set at Proper Angle

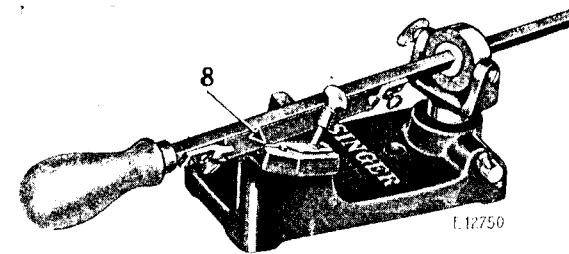


Fig. 22A. Knife Hone with  
Knife in Position  
Ready to Sharpen

To set the hone at the proper angle, loosen the wing screw (1, Fig. 22), rest the stone (6, Fig. 22) on the flat of the leveling surface (5, Fig. 22), then tighten the wing screw.

Loosen the adjusting screw (3, Fig. 22), raise or lower the guide yoke (2, Fig. 22) to get the bevel desired on the knife (4, Fig. 22), then securely tighten the adjusting screw (3).

Loosen screw (7, Fig. 22) and slide knife (4) into position as shown in Fig. 22, then tighten screw (7).

Place hone in position as shown (8, Fig. 22A) and proceed to hone knife. Care should be taken not to press down too heavily on the knife. Sharpen the cutting edge of the knife on the beveled side only, and remove as much from the projection as from the cutting edge so as to maintain their relative proportions, and to prevent the projection from striking the hook.

### To Sharpen the Knife Used in Machine 110w128

When it is necessary to resharpen the knife (L2, Fig. 20), loosen the screw and remove the knife from the knife holder. Knife Hone 259283 should be used to sharpen the knife. As this hone can be used for several machines, it should be ordered separately.

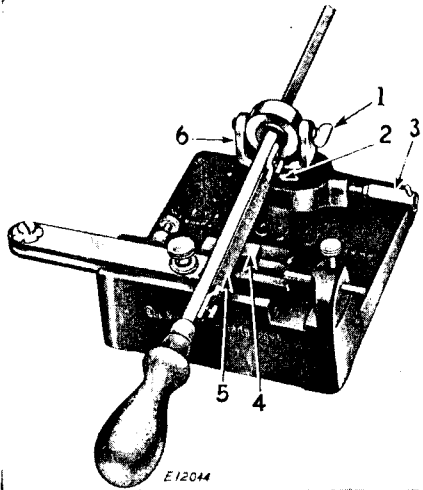


Fig. 23. Setting Hone at Proper Angle

To set the hone at the proper angle, loosen the wing screw (1, Fig. 23), rest the stone (5, Fig. 23) flat on the leveling surface (4, Fig. 23), then tighten the wing screw (1).

Loosen the adjusting screw (3, Fig. 23) and set the yoke (6, Fig. 23) as low as it will go while the end of the adjusting screw (3, Fig. 23) remains on the flat of the yoke bushing (2, Fig. 23), then securely tighten the adjusting screw (3, Fig. 23).

For 30° cutting angle knives the lower knife stop pin (7, Fig. 24) should be set flush with the outside surface of the casting (10, Fig. 24) so that the pin extends to the left toward the knife holder slide. Larger cutting angles may be obtained by moving the knife stop pin (7, Fig. 24) to the right. When flush with the inside surface of the casting (12, Fig. 24), the cutting angle will be honed to 45°.

The knife stop pin (11, Fig. 24) not being used should be set as far as possible to the right, then tighten screws (8 and 9, Fig. 24).

Clamp knife into position on knife holder (14, Fig. 24) and tighten thumb screw (15, Fig. 24), slide holder (16, Fig. 24) into position on base until knife rests against the stop pin (7, Fig. 24), tighten knife holder set screw (17, Fig. 24), place hone (13) in position as illustrated in Fig. 24 and proceed to hone knife. Care should be taken not to press down too heavily on the knife.

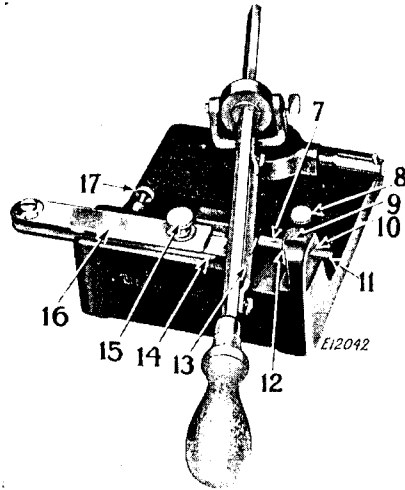


Fig. 24. Knife Hone 259283 with Knife in Position Ready to Sharpen

## INSTRUCTIONS FOR ADJUSTERS AND MACHINISTS

### Thread Controller

The function of the needle thread controller spring 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.

### To Adjust the Thread Controller

For more controller action on the thread, loosen the stop screw (N, Fig. 25) at the right of the tension and set the stop lower, and for less action, set the stop higher.

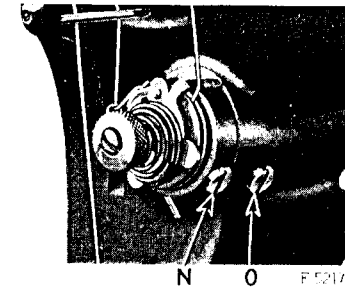


Fig. 25. Adjustments of Thread Controller

To strengthen the action of the controller spring on the thread, loosen the tension stud screw (O, Fig. 25) at the right of the stop screw and turn the tension stud slightly to the left with a screwdriver, or to lighten its action on the thread, turn the tension stud to the right and tighten the tension stud screw (O).

### To Set the Needle Bar

See that the needle is up in the bar as far as it will go. There are two lines across the needle bar about two inches above the lower end. When the needle bar is at its lowest position, the upper mark should just be visible at the end of the needle bar frame.

In case the needle bar is not set at the correct height, loosen the needle bar connecting stud pinch screw and place the needle bar in the correct position as instructed above, then retighten the screw.

**To Set a Needle Bar which has no Mark.** Set the needle bar so that when it rises  $\frac{3}{8}$  inch from its lowest position, the point of the sewing hook will be at the centre of the needle and about  $\frac{1}{8}$  inch above the eye.

**To change the forward and backward position of the needle bar.** Raise the round cover plate at the back of the machine and loosen the large screw thus brought to view. While this screw is loose, the needle bar can be moved forward or backward as required, to bring the needle in the desired position in the throat plate needle hole, after which securely tighten the large screw and replace the cover plate.

#### To Time the Sewing Hook

Remove the throat plate and turn the balance wheel over toward you until the lower mark across the needle bar is just visible at the end of the needle bar frame on the upward stroke of the needle bar. If the needle bar and sewing hook are correctly timed, the point of the hook will be at the centre of the needle and about  $\frac{1}{16}$  inch above the eye.

In case the sewing hook is not correctly timed, remove the screw (P2, Fig. 16) and loosen the two set screws in the hook driving gear thus uncovered, then turn the balance wheel over toward you until the needle bar has descended to its lowest point and has risen until the lower timing mark across the needle bar is just visible at the end of the needle bar frame. Now turn the sewing hook until the point of the hook is at the centre of the needle, after which securely tighten the two set screws in the hook driving gear and replace the screw (P2).

#### To Set the Sewing Hook to or from the Needle

To prevent the point of the sewing hook from dividing the strands of the thread, it should run as close to the needle (within the scarf) as possible.

Remove the gear case cover (S2, Fig. 16) and loosen the two screws in the hook shaft spiral driving gear thus uncovered, also loosen the screws in the collar (R2, Fig. 16), then loosen the two screws (O2, Fig. 16) and move the hook saddle toward or away from the needle, as required, after which securely tighten

the two screws (O2), then move the collar (R2) over against the bushing and tighten its set screws. Tighten the two screws in the hook shaft spiral driving gear and at the same time hold the shaft to the right and the spiral gear to the left to eliminate any end play in the hook driving shaft.

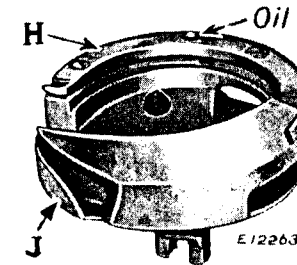


Fig. 26. Sewing Hook, Showing Oiling Wick and Hook Washer (Needle Guard)

#### To Remove the Sewing Hook from the Machine

Remove the hook gib screws and remove the gib (H, Fig. 26) to allow the base of the bobbin case to be taken out, after which remove the screw from the centre of the hook. Tapping the hook slightly on the bottom of its rim will force it from its socket. Do not try to pry it out as prying may bend the shank of the hook. In replacing the hook, be sure that the prongs of the shank properly enter the slot at the bottom of the socket, otherwise the hook will be out of time.

#### Needle Guard

The function of the hook washer (J, Fig. 26) (which is attached to the bottom of the sewing hook) is to prevent the point of the hook from striking the needle, if, when passing through the material, the needle is deflected towards the hook.

The upright portion of the hook washer should be sprung with a screw driver or other instrument until it prevents the hook point from striking the needle, it should not however be sprung outwardly enough to deflect the needle from its normal path.

#### To Remove the Needle Bar Rock Frame Shaft

Remove the face plate and needle bar rock frame, then raise the round cover plate at the back of the machine and loosen the large screw thus brought to view. The needle bar rock frame shaft can then be withdrawn from the machine.