

SINGER
CLASS 11

USE ONLY "SINGER" OILS and LUBRICANTS

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

MANUFACTURING SEWING MACHINE OIL, HEAVY GRADE

For all manufacturing sewing machines except where light grade oil is recommended or where a stainless oil is desired.

MANUFACTURING SEWING MACHINE OIL, HEAVY GRADE, STAINLESS OIL

For all manufacturing sewing machines requiring a stainless oil, except where the light grade stainless oil is recommended.

OTHER "SINGER" LUBRICANTS

MOTOR OIL

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

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, 1 gallon and 5 gallon cans or in 55 gallon drums.

GEAR LUBRICANT

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

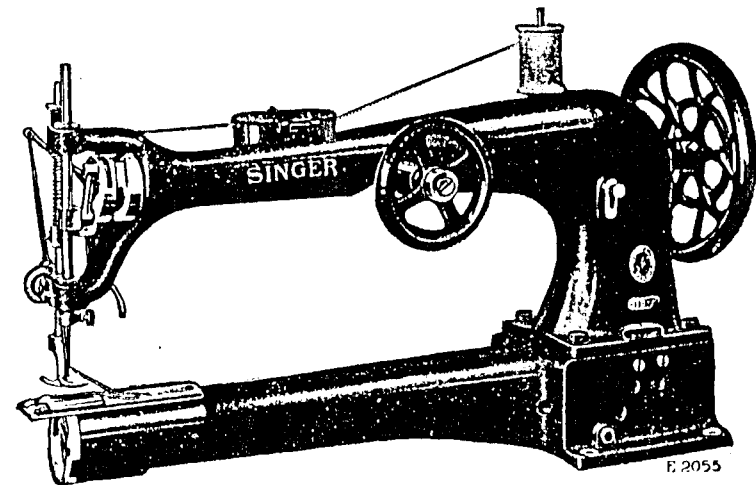
BALL BEARING LUBRICANT

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. Furnished in 1 lb. and 4 lb. tins.

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INSTRUCTIONS FOR USING AND ADJUSTING SINGER SEWING MACHINES.



MACHINE 11-17

OF

CLASS 11

THE SINGER MANUFACTURING CO.

TO ALL WHOM IT MAY CONCERN:

The improper placing or renewal of the Trade-Mark "SINGER" or any other of the Trade-Marks of The Singer Manufacturing Company (all of which are duly Registered Trade-Marks) 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

Machines of Class 11 have a cylinder bed and a drop feed, and are especially designed for stitching heavy tubular shaped articles in cloth or leather. They are used in the manufacture of mail bags, coal bags, ore bags, military boots and a great variety of similar articles. Some of the machines of Class 11 are intended for making grommet holes and overseaming or zig-zag stitching in heavy fabrics.

Following are descriptions of the individual machines:

Machine 11-11 is used for general work in leather and feeds the work across the cylinder. The maximum lift of the presser foot or roller presser is $\frac{1}{2}$ inch and stitches varying in length up to $\frac{1}{4}$ inch can be readily made.

Machine 11-13 is used for general work in leather and feeds the work up the cylinder. The maximum lift of the presser foot or roller presser is $\frac{1}{2}$ inch and stitches varying in length up to $\frac{1}{4}$ inch can be readily made.

Machine 11-16 is especially adapted for overseaming long boot legs and other tubular shaped articles while feeding up the cylinder. Parts are furnished for feeding across the cylinder for straightaway stitching. The maximum lift of the presser foot is $\frac{5}{8}$ inch. Stitches varying in length up to $\frac{3}{16}$ inch across the cylinder and $\frac{1}{4}$ inch up the cylinder can be readily made. There is a clear working space of 30 inches at the right of the needle.

Machine 11-17 is used for stitching military boot legs and other similar tubular shaped work while feeding up the cylinder. Parts are furnished for feeding across the cylinder for straightaway stitching. The maximum lift of the presser foot or roller presser is $\frac{9}{16}$ inch. Stitches varying in length up to $\frac{3}{16}$ inch can be readily made.

Machine 11-20 is especially adapted for work on cloth, quilting bed covers, binding, etc. This machine feeds the work across the cylinder and is fitted with alternating pressers and foot lifter. The maximum lift of the presser feet is $\frac{3}{8}$ inch. Stitches varying in length up to $\frac{1}{16}$ inch can be made.

Machine 11-24 is especially adapted for making eyelets or grommet holes, with or without metal rings, in sails, tents, tarpaulins, mail bags, canvas bags and similar work. This machine has a clear working space of 30 inches at the right of the needle and is fitted with "SINGER" Driving Attachment.

The height or width of stitch can be varied up to $\frac{1}{4}$ inch and the machine is regularly furnished to make eyelets having an inside diameter of $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ or $\frac{7}{8}$ inch, the eyelets being completed with or without rings.

When so ordered, the machines will be furnished with fittings to make holes from 1 inch to $4\frac{1}{4}$ inches in diameter, the variations in size being not less than $\frac{1}{4}$ inch. If metal rings are to be covered, samples of the rings must accompany the order.

Parts are furnished to feed across the cylinder for straight-away stitching.

NOTE: When the inside diameter of the finished grommet hole or eyelet is 1 inch or larger, it will be necessary to furnish cloth plate 14738 at an additional charge. For grommet holes of less than $\frac{1}{2}$ inch inside diameter, it will be necessary to furnish an extra throat plate and centre guide at an additional charge. Orders for machines cannot be filled unless sample rings are furnished.

Machine 11-26 is equipped with "SINGER" Driving Attachment, otherwise it is the same as Machine 11-16.

Machine 11-29 is used for stitching tents, tarpaulins, wagon covers and heavy tubular shaped articles in canvas. This machine is regularly fitted with alternating pressers, flexible shuttle race, foot lifter, $2\frac{1}{2}$ inch cylinder shuttle, two speed balance wheel and feeds the work across the cylinder. The machine can be readily adjusted to make stitches varying in length up to $\frac{3}{8}$ inch, as desired.

Machine 11-30 is used for stitching rubberized material in the manufacture of aeroplanes and balloons. It has two needles and simultaneously makes two parallel lines of lock stitching in gauges from $\frac{3}{16}$ to $\frac{1}{2}$ inch, as desired. Orders for the machine should specify the gauge required. For $\frac{3}{16}$ to $\frac{1}{4}$ inch gauges, the machine will be fitted with shuttles 3381 and 3229; for $\frac{1}{4}$ inch gauge, shuttles 3226 and 4729; for $\frac{5}{16}$ to $\frac{3}{8}$ inch gauges, shuttles 3229 and 3226; and for $\frac{1}{2}$ inch gauges, shuttles 3381 and 3521.

This machine has two alternating presser feet and feeds the work across the cylinder. The length of stitch is adjustable up to $\frac{1}{4}$ inch, and the machine will sew fabrics or rubberized material up to $\frac{3}{16}$ inch in thickness. This machine has a cloth plate 36 inches long by 12 inches wide and there is a clear working space of 30 inches at the right of the needle.

The machine is usually operated on an iron column stand 56688 equipped with an electric motor. This equipment is furnished, on order, at an additional charge to the machine.

Machine 11-32 is especially adapted for making eyelets or grommet holes, with or without metal rings, in sails, tents, tarpaulins, mail bags, canvas bags and similar articles. This machine is furnished with the "SINGER" Driving Attachment.

As regularly fitted, the machine will make eyelets or grommet holes of $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ or $\frac{7}{8}$ inch inside diameter, the holes being completed with or without metal rings, as desired.

Larger holes ranging from 1 inch to $4\frac{1}{2}$ inches in diameter can also be made, and for this purpose special fittings will be furnished at an extra charge to the machine, when so ordered. The minimum variation in the sizes of these holes is $\frac{1}{4}$ inch.

Smaller holes than $\frac{1}{2}$ inch inside diameter can also be made when a special throat plate and centre guide are fitted to the machine, these parts being furnished, on order, at an additional charge to the machine.

When the machine is to be used for covering metal rings, samples of rings must accompany the order.

The bight or width of stitch can be varied up to $\frac{1}{4}$ inch.

Parts are furnished to feed across the cylinder for straight-away stitching.

The machine is usually operated on Column Stand 14685 and equipped with Counter Shaft 41165. This column stand and counter shaft are furnished, on order, at an additional charge.

Machine 11-33 is especially adapted for general work in canvas or leather. It is regularly fitted with alternating presser feet and feeds the work up the cylinder. The "SINGER" Driving Attachment is regularly furnished with this machine.

This machine has a clear working space of 30 inches at the right of the needle. Fabrics up to $\frac{1}{2}$ inch in thickness can be sewn; the machine can be regularly adjusted to make stitches varying in length up to $\frac{1}{16}$ inch, as desired.

Column Stand 14685 will be furnished, on order, at an additional charge.

Machines 11-34 and 11-35 are equipped with the "SINGER" Driving Attachment, otherwise they are the same as **Machines 11-29 and 11-17** respectively.

Machine 11-36 is intended for sewing laundry hampers and similar work in canvas. A reversible drop feed enables the machine to feed the work up or off the cylinder. Stitches varying in length from $\frac{1}{8}$ to $\frac{1}{2}$ inch can be readily made. The "SINGER" Driving Attachment is regularly fitted to this machine.

Machine 11-37 is used for stitching the legs of fine quality boots and other tubular shaped articles made of light or medium weight leather. This machine feeds the work up the cylinder. The maximum lift of the presser feet is $\frac{5}{16}$ inch and stitches varying in length up to $\frac{1}{4}$ inch can be readily made. The "SINGER" Driving Attachment is regularly fitted to this machine.

Speed

The maximum speed recommended for Machines of Class 11 is 650 stitches per minute, excepting the following machines:

M A C H I N E	STITCHES PER MINUTE
11-29	600
11-30	800
11-32	500
11-33	500
11-34	600

The machines 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. The top of the balance wheel must turn over toward the operator.

To Oil the Machine

When the machine is received from the factory, it should be thoroughly cleaned and oiled. To ensure easy running and prevent unnecessary wear of parts which are in movable contact, the machine should be oiled at least twice a day when in continuous use.

Oil should be applied to all oil holes marked "Oil" and to all oiling places indicated by unlettered arrows in Figs. 2, 6 and 13.

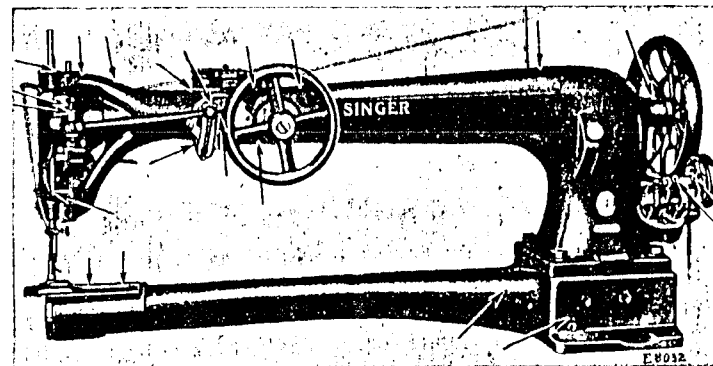


FIG. 2. OILING PLACES AT THE FRONT OF THE MACHINE

Apply a drop of oil to the shuttle bearing in the shuttle race each time a bobbin is replaced.

Thread

Left twist thread should be used in the needle of single needle machines.

Left twist thread should be used in the right needle and right twist thread should be used in the left needle of two needle machines.

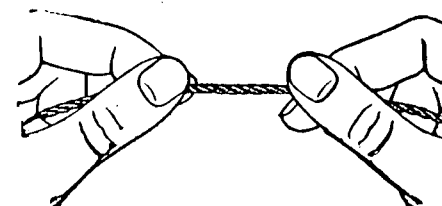


FIG. 3. HOW TO DETERMINE THE TWIST

Either right or left twist thread can be used for the bobbins. 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.

Needles for Machines of Class 11 are of Class and Variety as given in the following table:

MACHINES	CLASS AND VARIETY NOS. OF NEEDLES	STYLE OF POINT	SIZES OF NEEDLES
11-11 } 11-13 } 11-16 } 11-17 } 11-20 } 11-26 }	7 x 1	CLOTH	16, 18, 19, 21, 22, 23, 24, 25, 26 and 27.
	7 x 2	LEATHER	
11-24 }	7 x 1	CLOTH	16, 18, 19, 21, 22, 23, 24, 25, 26 and 27.
	7 x 5		28, 29, 30 and 31.
11-29 } 11-32 } 11-33 } 11-34 }	7 x 1	CLOTH	16, 18, 19, 21, 22, 23, 24, 25, 26 and 27.
11-35 } 11-36 }	7 x 2	LEATHER	16, 18, 19, 21, 22, 23, 24, 25, 26 and 27.
11-23 } 11-37 }	16 x 2	LEATHER	8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 21, 22, 23, 24, 25.
11-30	16 x 107	CLOTH	14, 16, 17, 18, 19, 21, 22, 23, 24 and 25.

The size of the needle to be used should be determined by the size of the thread which must pass freely through the eye of the needle. If rough or uneven thread is used, or if it passes with difficulty through the eye of the needle, the successful use of the machine will be interfered with.

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

The following is an example of an intelligible order:

"100 No. 18, 7 x 1 Needles."

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

To Remove the Bobbin

Turn the balance wheel over toward you until the needle bar reaches its lowest point. Press the latch (J, Fig. 5) and at the same time swing out the open end of the cylinder shuttle (L, Fig. 5), then remove the bobbin.

To Wind the Bobbin

Wind a few coils of thread around the bobbin by hand and place the bobbin on the bobbin winder spindle (A, Fig. 4), having

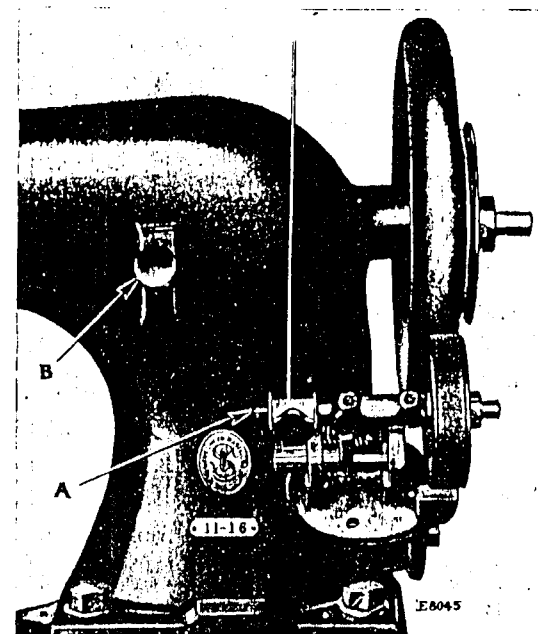


FIG. 4. WINDING THE BOBBIN

the small pin of the spindle enter the slot of the bobbin. Raise the bobbin winder latch so that the bobbin winder pulley presses against the balance wheel, then start the machine.

When a sufficient amount of thread has been wound upon the bobbin, the bobbin winder will stop automatically. Break the thread and remove the bobbin.

Bobbins may be wound while the machine is stitching.

To Replace the Bobbin and Thread the Shuttle

Place the bobbin in the cylinder shuttle, the thread drawing on top from left to right, then pull the thread into the slot (F,

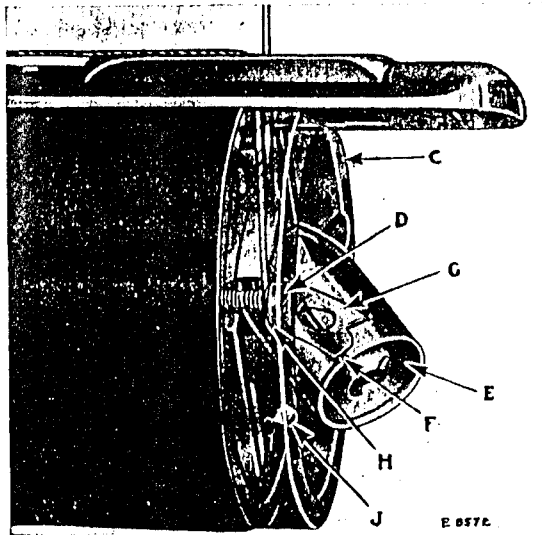


FIG. 5. SHUTTLE THREADED

Fig. 5) and under the spring (G, Fig. 5), then into the delivery eye (H, Fig. 5) as shown in Fig. 5. Press the cylinder shuttle in position and allow about three inches of thread to hang free with which to commence sewing.

To Set the Needle

Turn the balance wheel or the hand wheel until the needle bar is at its highest point, loosen the thumb screw (P, Fig. 10) 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 of the needle directly in line with the bed of the machine, then tighten the thumb screw (P, Fig. 10).

To Thread the Needle

(STANDING AT THE FRONT OF THE MACHINE)

Pass the thread from the unwinder to the left through the hole (1) in the oil cup, through the hole (2) in the centre of the oil

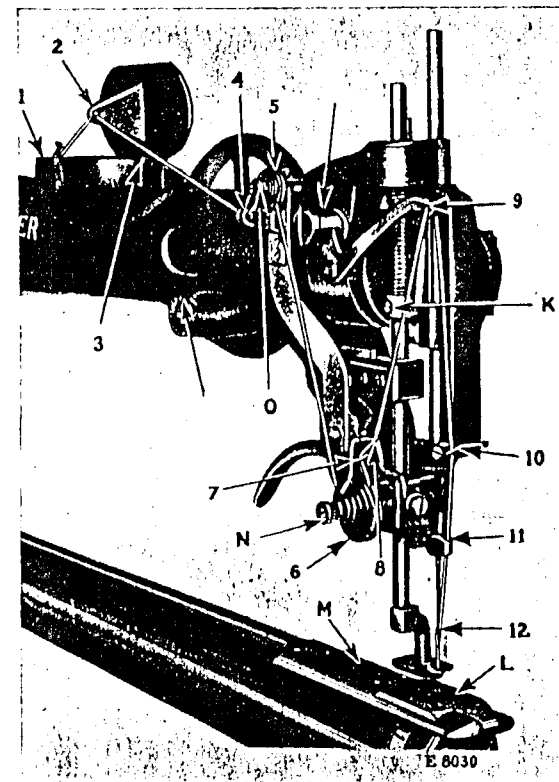


FIG. 6. THREADING THE NEEDLE

cup cover, into the notch (3) in the oil cup, through the guide (4), over and between the tension discs (5), down and around the underside of the tension wheel (6), into the loop of the thread take-up spring (7), under the wire staple (8), from back to front through the hole (9) in the thread take-up lever, down through the guide (10), down through the hole (11) in the needle clamp, and from left to right through the eye of the needle (12). Draw about three inches of thread through the eye of the needle with which to commence sewing.

Tensions

For ordinary stitching, 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:

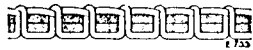


FIG. 8. TIGHT NEEDLE THREAD TENSION

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 underside 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 (O, Fig. 6) at the front of the tension discs and the thumb nut (N, Fig. 6) at the front of the tension wheel. The tension on the tension discs should be just enough to turn the tension wheel when the thread is taken from the spool.

The tension on the bobbin thread is regulated by the screw which holds the tension spring to the cylinder. 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 stitch is regulated by the thumb screw (B, Fig. 4) in the slot on the front of the upright part of the arm. To lengthen the stitch, loosen this thumb screw and move it downwardly. To shorten the stitch, loosen this thumb screw and move it upwardly. When the desired length of stitch is obtained, tighten the thumb screw (B).

To Regulate the Width of Zig-Zag Stitches

The width of zig-zag stitches is regulated by moving the end of the pitman rod (R, Fig. 10) which is fastened in position by a

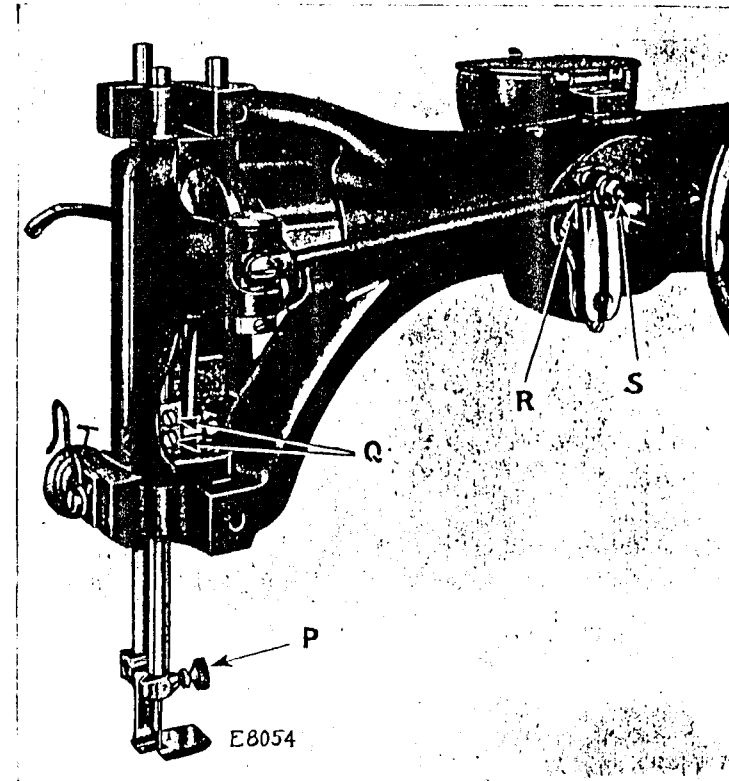


FIG. 10. ADJUSTMENTS ON THE MACHINE

nut shown at S, Fig. 10 in the slide on the front of the arm of the machine. To decrease the width of the stitch, move this pitman rod downwardly. To increase the width of the stitch, move this pitman rod upwardly. When the desired width of stitch is obtained, tighten the nut (S).

To Regulate the Pressure on the Material

The pressure on the material is regulated by the collar at the upper part of the presser foot bar. To increase the pressure, loosen the set screw (K, Fig. 6) and move the collar upwardly. To decrease the pressure, loosen the set screw (K, Fig. 6) and move the collar downwardly. After the desired pressure has been obtained, securely tighten the collar set screw (K). The pressure should be only heavy enough to enable the feed to move the work along evenly and to prevent the work from rising with the needle.

To Prepare for Sewing

When the thread take-up lever reaches its highest point, 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

Stop the machine with the thread take-up lever resting at its highest point; draw about three inches of thread through the tension discs, raise the presser foot, draw the work back and cut the threads close to the goods. Leave the ends of the threads under the presser foot.

INSTRUCTIONS

FOR

ADJUSTERS and MACHINISTS

To Set the Needle Bar at the Correct Height

Turn the balance wheel or the hand wheel over until the point of the shuttle is at the centre of the needle as shown in Fig. 11.

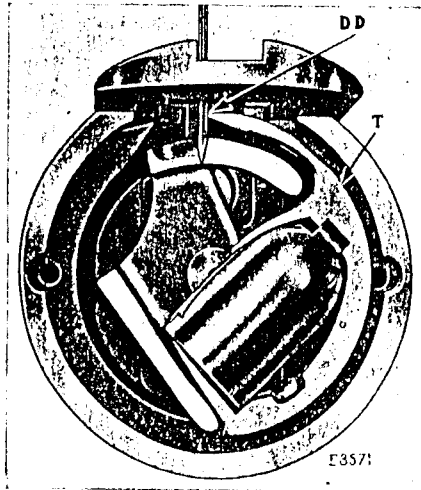


FIG. 11. SHOWING THE NEEDLE BAR SET AT THE CORRECT HEIGHT

When the shuttle is in this position, the eye of the needle should be just below the point of the shuttle as shown at DD in Fig. 11. If the needle bar is not at the correct height, loosen the two needle bar connecting stud set screws (Q, Fig. 10) and raise or lower the needle bar to the required height, as instructed above. Then securely tighten the set screws (Q).

To Raise or Lower the Feed Dog

The feed dog should be set so that the teeth protrude from $\frac{1}{16}$ to $\frac{1}{8}$ inch above the throat plate when the feed dog is raised to its highest point by the feed lifting cam on the shuttle driver.

Loosen the screw (V, Fig. 12) in the feed dog carrier slide which holds the feed dog in position. Raise or lower the feed dog to the required height, as instructed above, then securely tighten the screw (V).

To Change the Direction of Feed in Machines 11-16, 11-17, 11-24, 11-26, 11-32 and 11-35

These machines are regularly fitted to feed up the cylinder, unless otherwise ordered. They are also furnished with a presser

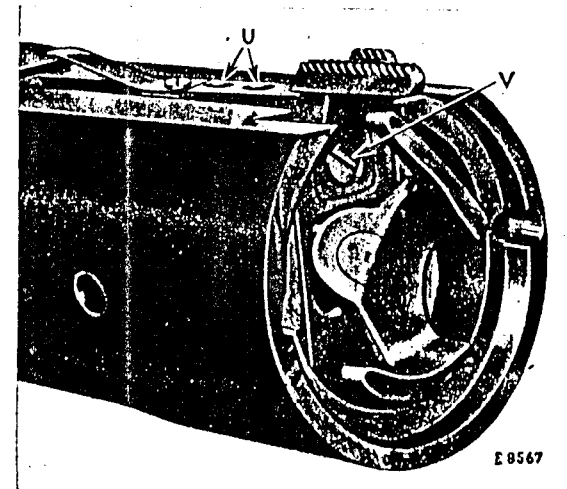


FIG. 12. ADJUSTMENT FOR CHANGING DIRECTION OF FEED

foot, feed dog and throat plate for feeding across the cylinder for straightaway stitching.

To change the direction of feed, remove the throat plate (L, Fig. 6) and throat plate holder (M, Fig. 6). Take out the two top screws (U, Fig. 12) in the feed dog shank and remove the feed dog. Remove the raising block which is held in position by the screw (V, Fig. 12), and in the seat of the raising block, fasten the feed dog for feeding across the cylinder by means of the screw (V, Fig. 12).

Replace the throat plate holder with the throat plate for feeding across the cylinder, and fasten the presser foot for feeding across the cylinder in the place of the regular presser foot.

To Time the Feeding Mechanism

The feeding mechanism should be timed so that the feed dog starts its feeding movement when the needle bar commences its

downward stroke. When sewing very thick material, the feed dog should start its feeding movement slightly before the needle bar

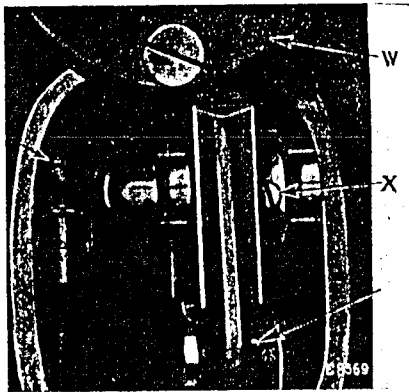


FIG. 13. ADJUSTMENT FOR TIMING THE FEEDING MECHANISM

commences its downward stroke. The feed dog should always complete its feeding movement before the point of the needle enters the material.

When it is necessary to time the feeding mechanism, turn up the plate (W, Fig. 13) on the side of the upright part of the arm and loosen the two feed cam set screws (X), one being located on each side of the cam. Then turn the cam until the feed is correctly timed, as instructed above, after which securely tighten the two set screws (X).

To Adjust the Thread Take-up Spring

The thread take-up spring (AA, Fig. 14) should be adjusted so that when the eye of the needle reaches the goods on the downward

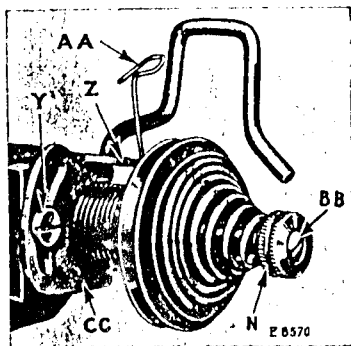


FIG. 14. ADJUSTMENT OF THE THREAD TAKE-UP SPRING

stroke of the needle bar, the spring will rest against the thread take-up stop (Z, Fig. 14).

If the take-up spring is not correctly set as instructed above, loosen the screw (Y, Fig. 14) which holds the regulator plate in position and raise or lower the plate (CC, Fig. 14) as required. When the spring is correctly set, securely tighten the screw (Y).

To regulate the tension on the take-up spring (AA), loosen the tension stud screw (BB, Fig. 14) and move the spring to the left for more tension or to the right for less tension. It is necessary to hold the spring in the desired position until the tension screw has been tightened.

The tension on the thread take-up spring should be just sufficient to take up the slack of the needle thread until the eye of the needle reaches the goods in its descent.

To Remove and Replace the Shuttle Race

Turn the balance wheel or the hand wheel over until the needle bar reaches its highest point.

Remove the screw (D, Fig. 5) and the corresponding screw in the opposite side of the shuttle race and withdraw the shuttle race (C, Fig. 5). Then remove the shuttle (T, Fig. 11).

When replacing the shuttle race, have the needle bar at its highest point and turn the shuttle in the race so that it correctly engages the shuttle driver, then securely fasten the shuttle race in position by means of the two screws.