

SINGER
175-60,175-61

USE ONLY **SINGER*** OILS and LUBRICANTS

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

The following are the correct lubricants for this machine:

TYPE B — MANUFACTURING MACHINE OIL, HEAVY GRADE

When a stainless oil is desired, use:

TYPE D — MANUFACTURING MACHINE OIL, STAINLESS, HEAVY GRADE

OTHER **SINGER** LUBRICANTS

TYPE E — STAINLESS THREAD LUBRICANT

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

TYPE F — MOTOR OIL

For oil lubricated motors and plain bearings in power tables and transmitters.

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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Form 19155

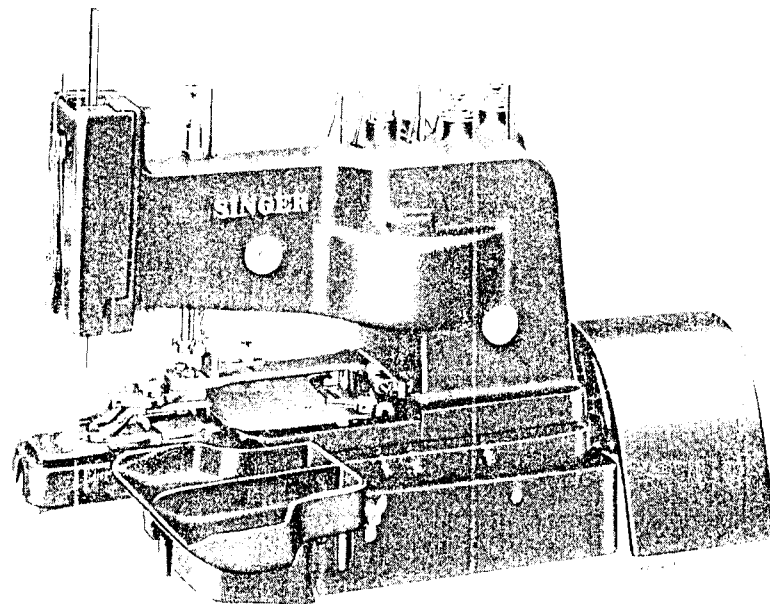
INSTRUCTIONS

FOR USING AND ADJUSTING

SINGER* SEWING MACHINES

175-60 and 175-61

SINGLE THREAD CHAIN STITCH



MACHINE 175-60

X REG. U. S. PAT. OFF. BY

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.

DESCRIPTION

THE IMPORTANCE OF USING **SINGER*** PARTS AND NEEDLES IN **SINGER** MACHINES

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

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

MACHINE 175-80 makes the single thread chain stitch, and sews on buttons with sixteen stitches including a cross-over stitch and a knotting stitch. It can be adjusted for buttons with holes from 7/84 inch to 7/32 inch apart.

It makes two parallel bars of stitches across the machine bed and one right-angle cross-over stitch in four-hole buttons. The button clamp moves up the machine bed only when making the cross-over stitch.

It makes the Rabbilstay stitch in two-hole buttons, spreading the stitches in the material for maximum strength.

It is equipped with a vibrating needle bar, and is regularly equipped with a clamp for sewing two-hole and four-hole flat buttons, from 20 to 45 ligne, close to the material, with through and through stitching, and can also be equipped to sew flat buttons in sizes from 10 to 120 ligne.

It can be equipped for sewing self-shank buttons, metal eyelet shank buttons, leather shank buttons and imitation leather shank buttons IN SIZES UP TO 45 LIGNE.

This machine can be equipped for blind-stitching flat buttons close to, or away from, the material; also for blind-stitching self-shank buttons and metal eyelet shank buttons.

All of these buttons can be attached with or without stay buttons, except buttons which are blind stitched.

The needle bar stroke is 1-7/8 inch. When sewing flat buttons, the thickness of button and material, together, should not exceed 5/8 inch.

MACHINE 175-61 is the same as Machine 175-80 with the following exceptions:

It attaches self-shank buttons, metal eyelet shank buttons, leather shank buttons and imitation leather shank buttons UP TO 28 LIGNE.

It is not recommended for blind-stitching flat buttons but can be equipped for blind-stitching self-shank buttons and metal eyelet shank buttons. It is not recommended for sewing stay buttons.

It can be equipped for sewing snap fasteners and, when ordered for this purpose, snap holders for the three regular sizes of snap fasteners - 0, 00 and 000 are furnished. Samples MUST ACCOMPANY ORDERS when special sizes and styles of snap fasteners are to be sewn. (See page 31 describing two different types of snap fastener clamps).

The needle bar stroke is 1-5/8 inch. When sewing flat buttons, the thickness of button and material, together, should not exceed 7/16 inch.

Orders for these machines must specify the sizes and types of buttons to be sewn or, preferably, the orders should be accompanied by samples of the buttons to be sewn.

For self-shank buttons SAMPLES MUST ACCOMPANY THE ORDER.

See detailed information regarding types and sizes of buttons sewn on each machine, pages 27 to 30 inclusive.

ALL OPERATIONS AND ADJUSTMENTS, COVERED BY THIS MANUAL, ARE IDENTICAL FOR BOTH MACHINES EXCEPT AS OTHERWISE STATED.

To Set Up the Machines

Each machine is set up with its face plate toward the operator as shown in Fig.2. It is furnished with a removable base which must be properly attached to the table before the sewing machine is placed upon the base.

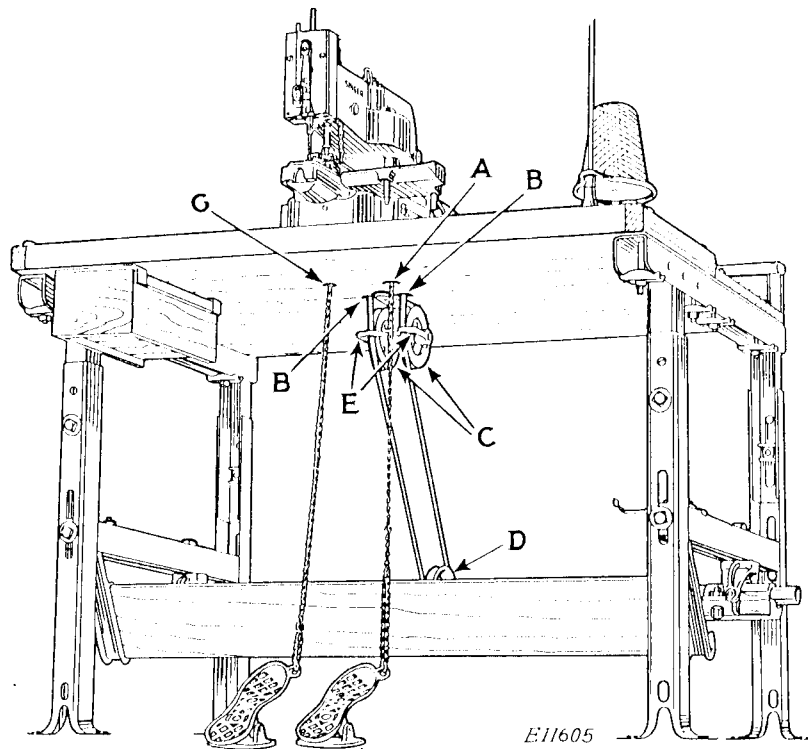


Fig.2. Machine Installed on SINGER Universal Low Shaft Power Table

In the installation shown by Figs.2 and 3, the two belt holes (B) are bored in the table to center 14-1/2 inches from the front edge of the table top. These belt holes should be spaced 2-1/2 inches center to center, and the diameter of the belt holes (B) may be from 5/8 to 1 inch.

Place the machine base on the table so that when the sewing machine is placed upon the machine base, the machine driving pulley (L, Fig.3) will be directly above the two belt holes (B, Fig.3).

The treadle chain for the button clamp lifting rod (S, Fig.3) (the left hand chain) passes through the elongated hole in the left hand side of the machine base; while the right hand treadle chain (for the starting lever which is inside the machine base)

passes through the round hole in the right hand side of the machine base. Therefore, with the machine base placed in proper relation to the belt holes (B, Figs.2 and 3), as instructed on the

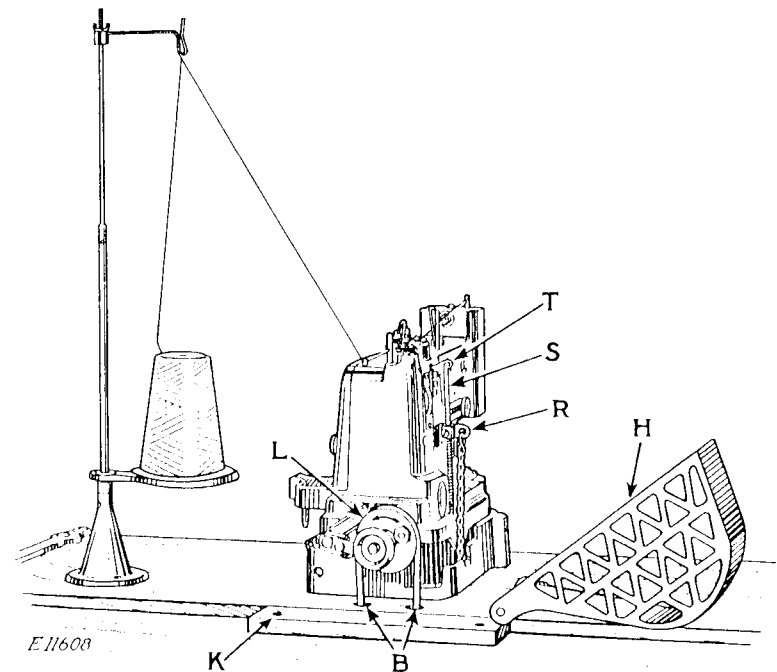


Fig.3. Rear View of Machine - Installed
(Belt and Pulley Guard Turned Aside)

preceding page, the holes (G, and A, Fig.2) should be bored in the table for the two treadle chains. The right hand treadle chain hole (A, Fig.2) should be bored in the front plank so that it is directly beneath the corresponding hole in the machine base, while the left hand treadle chain hole (G, Fig.2) should be bored in the table so that it is directly beneath the rod (S, Fig.3) which is attached to the button clamp lifting lever (T, Fig.3), thus bringing the hole at the left hand end of the elongated hole in the machine base.

The sewing machine is placed in the machine base with the cast iron hub (M, Fig.8) in the rear trunnion (N, Fig.8) of the machine base, while the stud (Q, Fig.8) is placed in the trunnion (P, Fig.8) at the front end of the machine base, as shown in Fig.8. When the sewing machine is properly placed on the trunnions

of the machine base, it can be laid over to the left, as shown in Fig.8, for oiling purposes, adjustments, etc.

Always have the wing nut (O,Figs.6 and 8) tight when the machine is in operation.

The front plank extension (rear) (K, Fig.3) is fastened to the rear plank but with its front edge against the rear edge of the front plank and in such position, with relation to the machine driving pulley (L, Fig.3), that, when the belt and pulley guard (H, Fig.3) is turned down to cover the pulley (L), the rear bottom edge of the belt and pulley guard (H) will rest, throughout its entire length, upon the front plank extension (K).

The bracket for the belt and pulley guard (H) should be attached to the table in such position that when this guard is turned down it will fully cover the machine driving pulley (L, Fig.3) and that portion of the belting which is above the top of the table and, at the same time, so that no part of the pulley (L) or the belting will come in contact with the guard (H).

Fasten the bracket, with the two idler pulleys (C, Fig.2), in such position that the two belt guides (E, Fig.2) are directly beneath the two belt holes (B, Figs.2 and 3) in the front plank.

The machine belt should then be passed around the machine driving pulley (L, Fig.3), through the belt holes (B, Figs.2 and 3), through the belt guides (E, Fig.2), under the two idler pulleys (C, Fig.2) and around the large pulley (D, Fig.2) on the drive shaft below.

Bear in mind that the direction of rotation of the machine driving pulley (L, Fig.3) is from right to left when facing the rear of the machine. This direction is indicated by the arrow, shown in Fig.3, on the pulley (L). Note that this arrow appears only in the illustration and not on the actual pulley.

Fasten the two treadles in position on the floor as shown in Fig.2. Pass the chain from the right hand treadle up through the right hand hole (A, Fig.2) and fasten it to the machine starting lever in the machine base..

Pass the chain from the left hand treadle up through the left hand chain hole (G, Fig.2) and fasten it to the clamp (R, Fig.3) on the lifting rod (S, Fig.3), all as shown in Fig.3.

As will be seen in Fig.2, the length of each chain is easily regulated, at its lower end, for proper installation.

When Machines 175-60 and 175-61 are installed on SINGER Universal Safety Power Tables, Transmitter control device 126890 should be bolted to under side of front plank. This device is provided with a cam action. When the handle is moved in one direction,

the starting lever of the transmitter is depressed, thus holding the transmitter clutch in engagement until the handle is turned in the reverse direction to release the clutch.

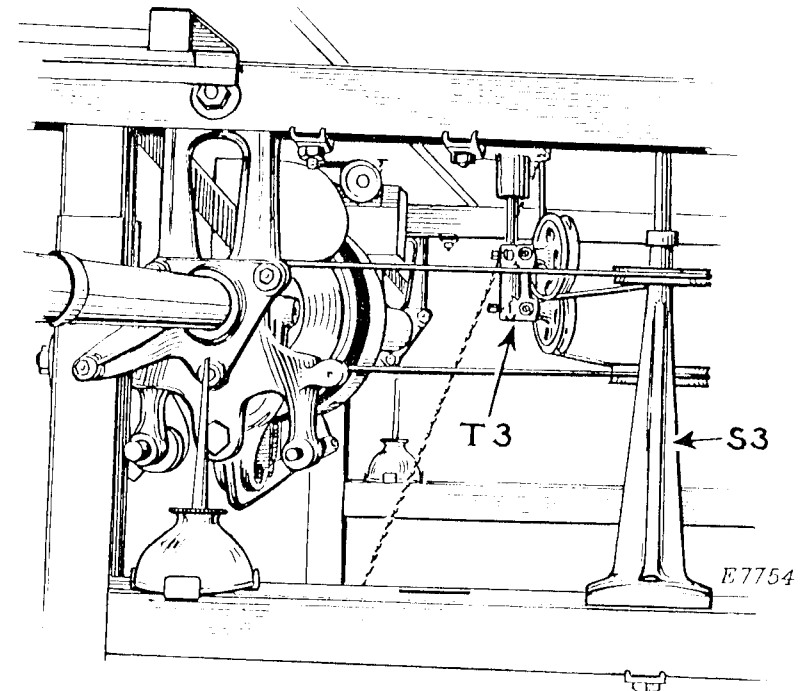


Fig.4. Underside of SINGER Universal Safety Power Table Showing Idler and Belt Guide

The belt holes in this table should be spaced three inches center to center.

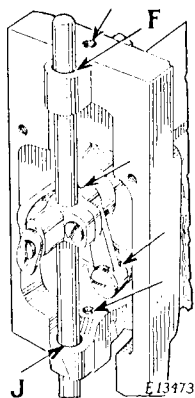
Fasten the belt guide 126870 (S3, Fig.4) to the cross member of the leg section, and fasten the idler 126885 (T3, Fig.4) to the under side of the center board as shown in Fig.4.

NOTE - The idler (T3) must be positioned directly beneath the machine to insure that the travel of the belt from the machine driving pulley (L, Fig.3) to the pulleys of idler (T3) will be approximately perpendicular, as shown in Fig.4.

Speed

DO NOT OPERATE THESE MACHINES AT SPEEDS IN EXCESS OF 1000 STITCHES PER MINUTE.

To Oil the Machines



To insure easy running and prevent unnecessary wear of the parts which are in movable contact, the machines require oiling every day.

Remove the two screws (S2, Fig. 11) which fasten the face plate to the machine, and remove the face plate.

Apply a drop or two of oil to the oil holes indicated, in Fig. 5, by the unlettered arrows; also at (F) to the upper needle bar bushing, and at (J) to the lower needle bar bushing as indicated in Fig. 5.

Fig. 5. Oiling Points in Machine Head

Remove the two knurled thumb nuts which retain the arm side cover, and remove the arm side cover.

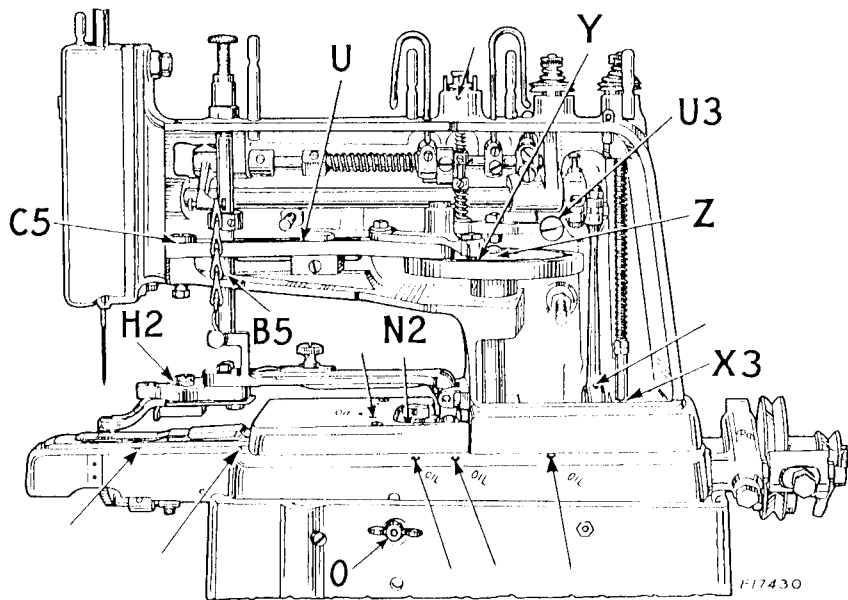


Fig. 6. Right Side of Machine, Arm Side Cover Removed To Show Oiling Points

Apply a drop or two of oil to the oil holes indicated by the unlettered arrows in Fig. 6; also to the other oiling points, in Fig. 6, as instructed on the following page.

U. Where the stud and adjusting bracket come in contact with the needle bar vibrating lever.

Y. Where the needle bar vibrating lever arm roller travels in the cam.

U3. To the thread nipper releasing lever hinge screw.

Z. To the upper end of the cam shaft.

X3. To the lower end of the tension release rod sleeve.

N2. Where the base of the regulating nut moves in the slot of the button clamp carrier.

H2. Where the head of the button stop screw is in contact with the button step base.

B5. Where the button clamp presser bar passes through the arm casting.

C5. Where the head of the needle bar vibrating lever hinge screw is in contact with the vibrating lever.

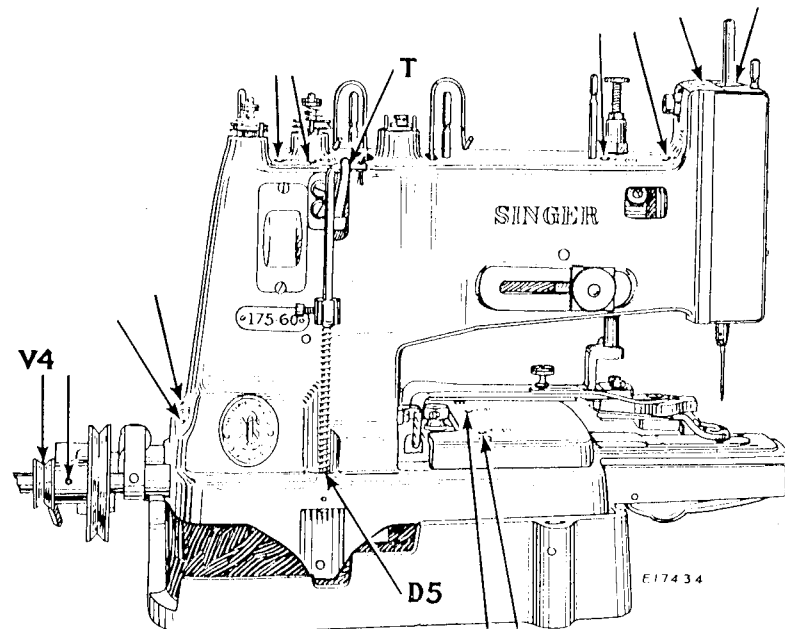


Fig. 7. Left Side of Machine, Showing Oiling Points

Apply a drop or two of oil to the oil holes at the left side and rear of the machine, as indicated by the unlettered arrows in Fig. 7; also to the other oiling points as instructed on page 10.

T. Where the upper end of the button clamp lifting rod is attached to the lifting rod arm.

D5. To the lower end of the button clamp lifting rod.

V4. In the groove of the small pulley which is engaged by the pulley shifter.

To reach the oiling points in the machine bed (not reached through oil holes at the top of the machine bed) loosen the wing nut (O, Fig. 8) and lay the machine back, to the left, as shown in Fig. 8.

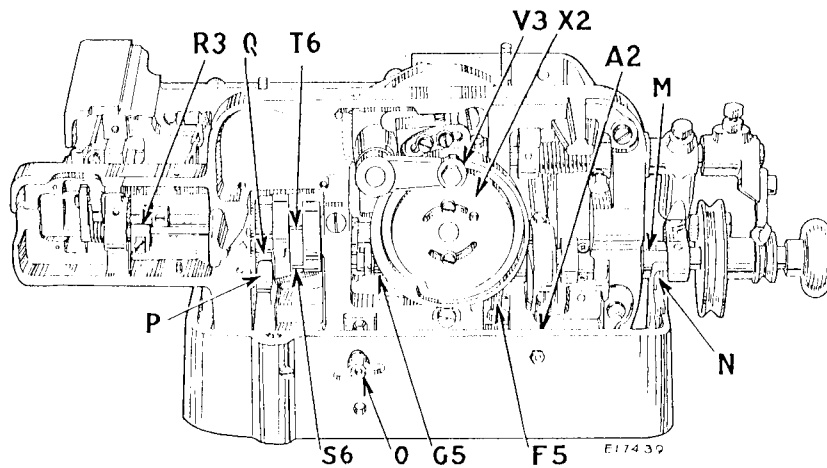


Fig. 8. Bottom View of Machine Showing Oiling Points

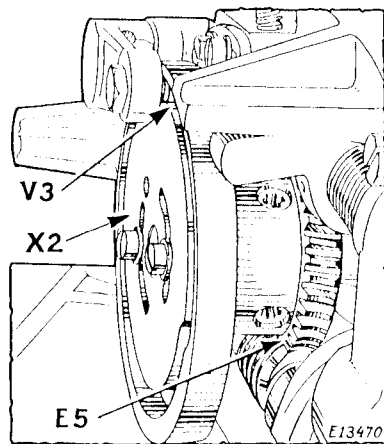
Apply a drop or two of oil to the oiling points indicated by arrows in Fig. 8, and as instructed below and on next page.

R3. Where the needle guard crank comes in contact with the needle guard cam.

S6 and T6. At each end of the looper driving shaft crank connecting link (Use plenty of oil at these points).

V3. Where the feed plate carrier driving arm roller travels in the feed cam (X2). (See insert above).

E5. To the feed cam driving worm and gear located at the upper side of the feed cam (X2) as shown in the insert above.



A2. To the hinge of the machine starting lever inside the machine base.

M. Where the rear hub turns in the trunnion (N) when the machine is turned back as shown in Fig. 8.

F5. To the needle bar eccentric pawl in its bracket.

G5. To the looper driving shaft gear and the pulley shaft gear.

Q. Where the front hub turns in the trunnion (P) when the machine is turned back as shown in Fig. 8.

When the oiling is completed, turn the machine down onto its base and firmly tighten the wing nut (O).

Caution

Use "TYPE B" or "TYPE D" OIL, sold only by Singer Sewing Machine Company. For description of these oils, see inside of front cover.

To Release the Thread Nipper for Threading

In order to draw the thread forward while threading the machine, as instructed on page 12, it is necessary to depress the thread nipper releasing screw (C7, Fig. 9) thus releasing the thread from the grip of the thread nipper (7, Fig. 9).

The thread nipper releasing screw (C7) is more clearly shown in Fig. 11 page 14.

To Set the Needle

Insert the needle up into the needle bar, as far as it will go, with the long groove of the needle in front, facing the operator, then securely tighten the needle set screw.

To Regulate the Thread Tension

To increase thread tension, turn thumb nut (J6, Fig. 11) downward, or upward for less tension. Face plate thread retainer (14, Fig. 10) is adjustable. Loosen screw (D7, Fig. 10) and move retainer (14) to left for more tension, or to right for less tension, then tighten screw (D7). Automatic tension (K6, Fig. 11) requires no change in adjustment other than to make sure that the thumb nut (K6) is turned down sufficiently to insure that the thread is held tightly.

To Sever the Thread

By means of the foot treadle, RAISE THE CLAMP ALL THE WAY UP BEFORE WITHDRAWING THE WORK, in order to sever the thread.

Causes of Thread Breakage

The machine may be improperly threaded. Needle point may be damaged. Looper may be rough, or looper point bent. Tension may be too tight. Thread finger may be damaged or rough. The needle guide may be out of time or adjustment, or needle guide spring broken. Needle may be incorrectly inserted in needle bar.

Causes of Needle Breakage

The clamp may have been raised before machine stopped. The clamp may be out of adjustment, with result that needle does not center in holes in button. Needle bar vibration not coinciding with distance between holes in button. Needle guide out of time or adjustment. Looper out of time or adjustment. Needle point damaged. Needle bar or feed plate operating cam out of time.

Needles

Needles for these machines are as follows:

MACHINE 175-60: Class and Variety 175 x 7; Sizes 16, 20 and 22.
MACHINE 175-61: Class and Variety 175 x 3; Sizes 14, 16 and 20.

The size of the needle is determined by the size of the thread which must pass freely through the needle eye. Rough or uneven thread, or thread which passes with difficulty through the needle eye will interfere with the successful use of the machine.

Orders 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. 16, 175 x 7 needles" or "100 No. 14, 175 x 3 needles".

USE ONLY GENUINE SINGER NEEDLES IN THESE MACHINES. NO OTHER NEEDLES WILL GIVE AS SATISFACTORY SERVICE.

To Thread The Machines

(See Figs. 9 and 10)

(Operator Standing at Front End of Machine)

See instructions, page 11, to release thread from thread nipper.

Lead the thread from the thread unwinder and, from right to left, through guide (1), then from right to left through guide

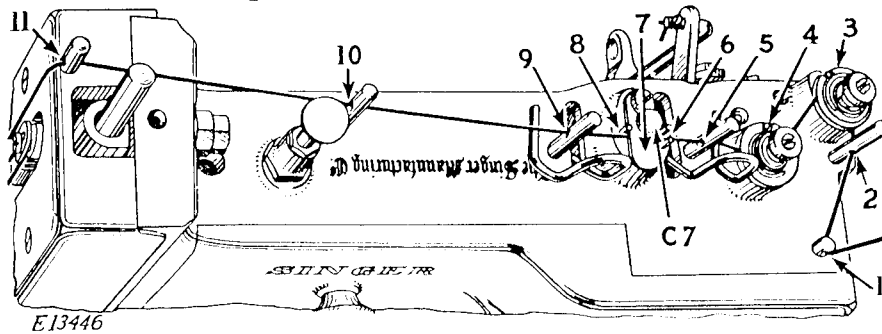


Fig. 9. Showing Threading at Top of Machine Arm

(2), around the back of, and between, the tension discs of the automatic tension (3), forward to the right hand side of, and between, the tension discs (4), forward through guide (5), then forward between guide posts (6), under thread nipper (7), to the right of guide post (8), forward and through guide (9), forward through guide (10), forward through guide (11) at top of face plate, down and from left to right through roller guide (12) at lower end of face plate, up and from left to right through thread take-up (13), down through face plate thread retainer (14) at bottom of face plate, and down and from front to back through eye (15) of the needle. See instructions on page 13 for adjusting face plate thread retainer.

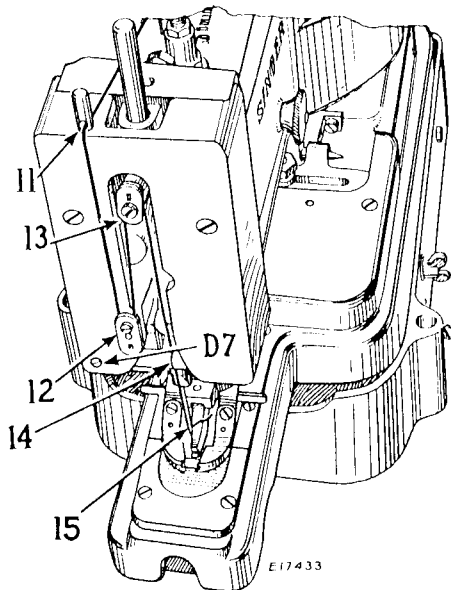


Fig. 10. Threading at Face Plate

To Adjust the Pressure on the Button Clamp

Loosen the nut (L2, Fig. 11) and turn the screw (K2) downward to increase the pressure, or upward to decrease the pressure on the button clamp. When proper adjustment has been obtained, securely tighten the nut (L2).

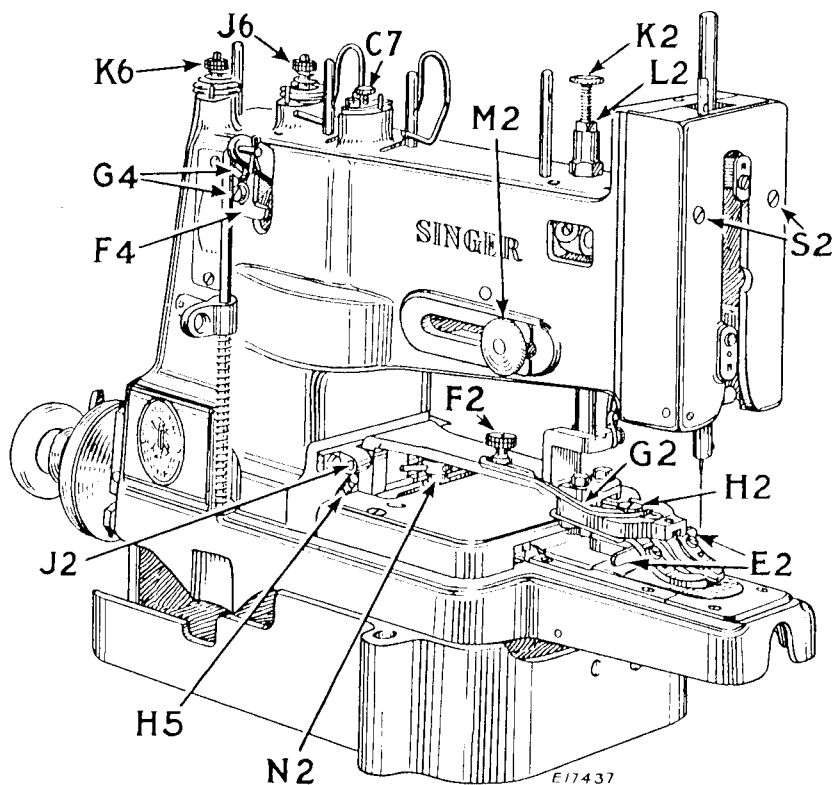


Fig. 11. Adjustments at Left Side of Machine

To Adjust the Button Clamp Opening

(For Flat Buttons)

By means of the button clamp opener (E2, Fig. 11) open the clamp and place in the clamp jaws a button of the size to be sewn. Loosen thumb screw (F2) and move the adjusting lever (G2) to a point where it just clears the button stop screw (H2). Then tighten the thumb screw (F2).

(For sewing shank buttons, see pages 21 to 26).

Adjustment for Two-Hole and Four-Hole Flat Buttons

To change adjustment from four-hole to two-hole buttons, remove hinge pin (H5, Fig. 11) and insert this pin in the hole (J2) immediately above.

To change from two-hole to four-hole buttons, reverse the operation, inserting pin (H5) in the lower hole as shown in Fig. 11.

To Regulate Forward and Backward Motion of Button Clamp

The forward and backward motion of the button clamp, which motion is utilized when the machine is sewing four-hole buttons, is regulated by means of the feed plate carrier regulating nut (N2, Fig. 11). This regulating nut is provided with four holes for its handle. Screw the handle into whichever one of the four holes will bring the handle into the most accessible position. By means of the handle on the nut (N2), loosen the nut and move it to the left to increase the movement of the button clamp, or move it to the right for less movement of the clamp. When proper adjustment is obtained, securely tighten the nut (N2).

To Adjust Feed Plate For Dubbilstay Work (for Two-Hole Buttons)

Make certain that the hinge pin (H5, Fig. 11) is in the upper hole (J2).

To regulate the spread of the Dubbilstay stitch, loosen nut (N2, Fig. 11) and move it to left or to right until the desired spread of stitch is obtained, then securely tighten nut (N2).

To Regulate Needle Bar Vibration

To change the extent of needle bar vibration, loosen nut (M2, Fig. 11). By means of the nut (M2), move the slide toward the needle to decrease the width of vibration, or away from the needle to increase the width of vibration, then tighten nut (M2).

To Adjust Button Clamp for Flat Buttons, to Center Needle in Needle Holes in Button

Should adjustment become necessary, loosen the two screws (B7, Fig. 12, page 16) and adjust forward, backward, to left or right as may be required, then securely tighten the screws (B7).

To Adjust Button Clamp for Through and Through Stitching

Shank Buttons, to Center Needle in Needle Hole in Button Shank

Adjustment is the same as for flat buttons, as instructed next above, except that, in this case, the two adjusting screws (B7) are located at the rear of the clamp arm, viz., the same as the two adjusting screws (O7) shown in Fig. 11A, page 16.

NOTE - Clamp adjustment for blind stitching shank buttons is covered at the top of page 16.

To Adjust Button Clamp for Blind Stitching Shank Buttons To Center Needle in Needle Hole in Button Shank

Loosen the two screws (O7, Fig. 11A) at rear end of clamp arm; also loosen hinge screw (P7) and clamping screw (R7) in adjustable presser bar seat (S7), and set the clamp to insure that the needle will center in hole in button shank, then tighten these four screws.

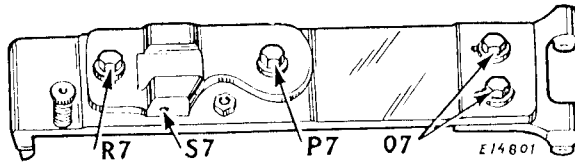


Fig. 11A. Shank Button Clamp Adjustments

To Change the Button Clamp

Unscrew thumb screw (K5, Fig. 12) from button clamp, then remove hinge pin (H5, Fig. 11). Slightly raise presser bar to relieve pressure on clamp, and remove clamp from machine. To replace, reverse the operation, first inserting hinge pin (H5) in either upper or lower pin hole, depending upon whether two-hole or four-hole button is used. See first two paragraphs of page 15.

To Change the Feed Plate or the Stay Button Holder

When both button clamp and feed plate, or button clamp and stay button holder, are to be changed, remove button clamp, as instructed above, before removing feed plate or stay button holder.

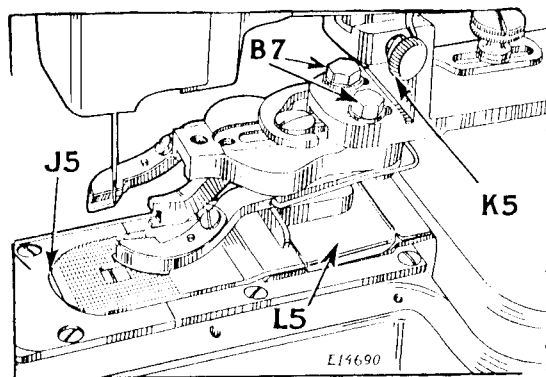


Fig. 12. To Remove the Feed Plate

CAUTION - Never pry up the spring (L5, Figs. 12 and 18) as this would probably injure the spring or render it useless.

To replace, insert the feed plate or stay button holder all the way back beneath spring (L5) to insure that the two shallow studs, on the under side of the feed plate or stay button holder, engage the holes for same in bed top cover beneath spring (L5).

To Change the Work Support

For Through and Through Stitching Shank Buttons

To change the Work Support 175715, shown as (F6) in Fig. 22, page 23, which is used for through and through stitching shank buttons, follow the same procedure as for the feed plate and stay button holder removal and replacement, as instructed on the preceding page. In this case, however, it is not necessary to insert the fingernail beneath the front end, as the front end of this work support can be conveniently grasped with the fingers. Adjust as instructed at the foot of page 23.

To Change Work Support for Blind Stitching Shank Buttons

To change the Work Support 175388, shown as (W5) in Fig. 20, page 21, first remove the wing nut (H7, Fig. 20), then remove the work support from the machine.

Similar to Work Support 175388 is Work Support 175824 which is for blind stitching shank buttons smaller than those which can be handled by Work Support 175388.

Adjust as instructed at foot of page 21.

Through and Through Stitching Flat Buttons

Close to the Material

Fig. 13 shows a 40-ligne, 4-hole, flat button in place in button clamp 175726, in conjunction with feed plate 175685, for through and through sewing of this type of button close to the

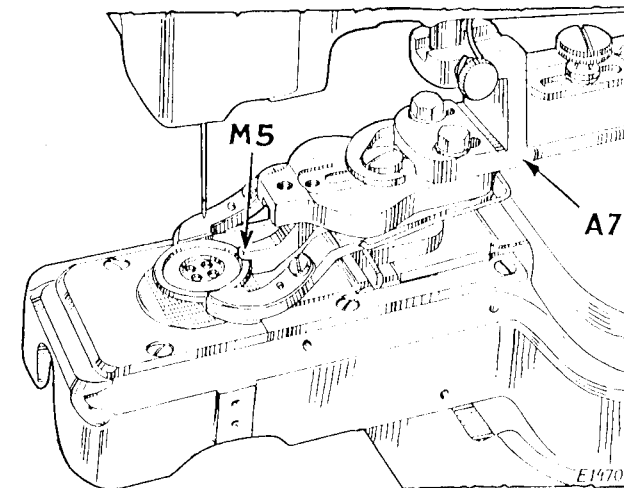


Fig. 13.

material. Note that the button is firmly held in the clamp jaws and in the notch in the button stop (M5). (See instructions to adjust button clamp opening, page 14).

To sew flat buttons away from the material, it is necessary to use the equipment, including the shanking foot, as shown in Fig. 14 and as instructed on the following page.

Through and Through Stitching Flat Buttons Away from the Material

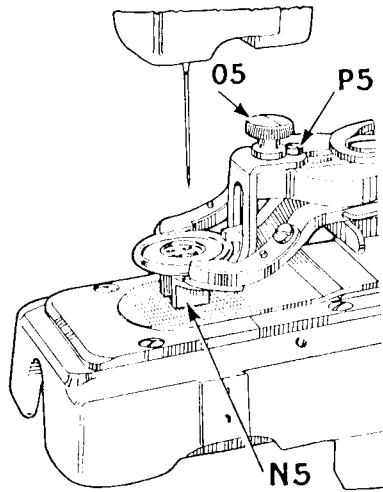


Fig. 14.

Fig. 14 shows a 40-ligne, 4-hole flat button in button clamp 175744, with feed plate 175685 and shanking foot 175411 for through and through sewing away from the material.

The shanking foot (N5, Fig. 14) is fastened to the button clamp by means of thumb screw (O5) and with the position screw (P5) in the slot of the shanking foot as shown in Fig. 14.

Blind Stitching Flat Buttons Close to the Material

Fig. 15 shows a 25-ligne, 4-hole flat button in button clamp 175726, with feed plate 175689 for blind stitching close to the material.

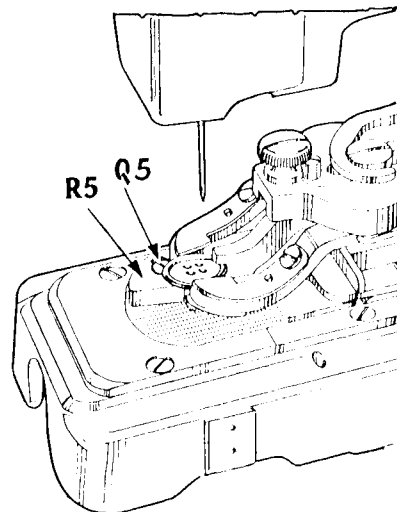


Fig. 15.

To Adjust Work Support for Blind Stitching Flat Buttons

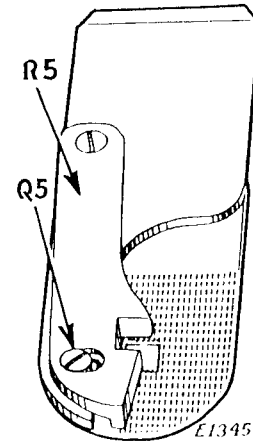


Fig. 16.

Feed Plate 175689 is provided with the adjustable work support (R5, Figs. 15 and 16).

Feed Plate 175840 is exactly like Feed Plate 175689 but is made lower (thinner) to handle lighter work.

The elongated opening for the screw head at (Q5) permits of adjustment to the right or to the left as required.

Loosen the screw at (Q5) and, for less needle penetration of the material, move the work support (R5) to the right; for more needle penetration of the material, move the work support to the left, then tighten the screw at (Q5).

Blind Stitching Flat Buttons Away from the Material

Fig. 17 shows a 30-ligne, 4-hole flat button in button clamp 175746, with shanking foot 175401 and feed plate 175689, for blind stitching away from the material.

This shanking foot 175401 (S5, Fig. 17) differs from shanking foot 175411, shown as (N5) in Fig. 14, in that the one shown in Fig. 17 has a single foot, its position being opposite the adjustable work support (R5) shown in Fig. 17.

The shanking foot (S5) is attached as instructed on page 18 and work support (R5) of feed plate 175689 is adjusted as instructed above.

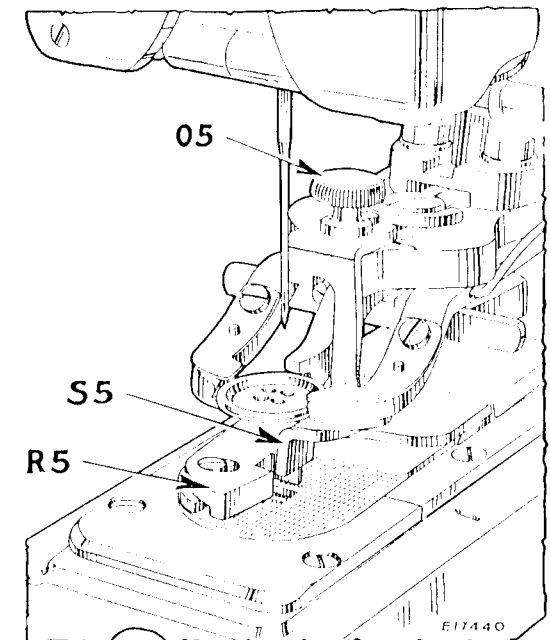


Fig. 17.

Through and Through Stitching Flat Buttons Close to the Material with Stay Buttons

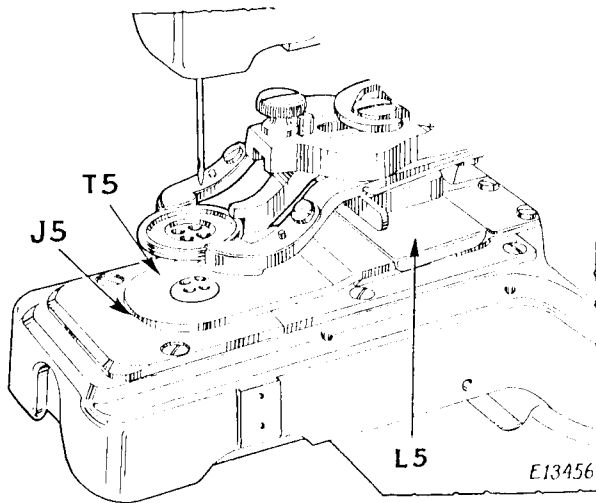


Fig. 18.

Through and Through Stitching Flat Buttons Away from the Material with Stay Buttons

Fig. 19 shows a 40-ligne, 4-hole flat button in clamp 175744 with shanking foot 175411, and with an 18-ligne stay button in the stay button holder 175693, for through and through stitching with stay buttons, away from the material.

The shanking foot (N5) is attached as instructed on page 18.

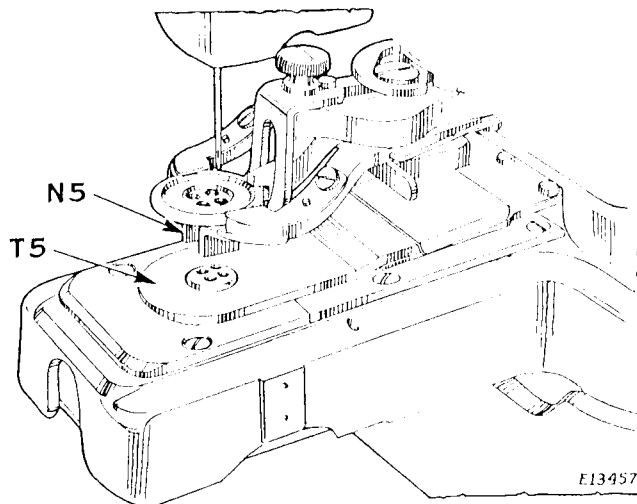


Fig. 19.

Fig. 18 shows a 40-ligne, 4-hole flat button in clamp 175726 and with an 18-ligne stay button in stay button holder 175693, for through and through stitching with stay buttons, close to the material.

The stay button holder (T5, Fig. 18) is attached to the machine as instructed on page 16.

Blind Stitching Self-Shank Buttons

(See Note at Foot of Page 24)

Fig. 20 shows a self-shank button held in place in button holder 175392 by button finger 175668, in connection with clamp 175684, and with Work Support 175388, for blind stitching self-shank buttons.

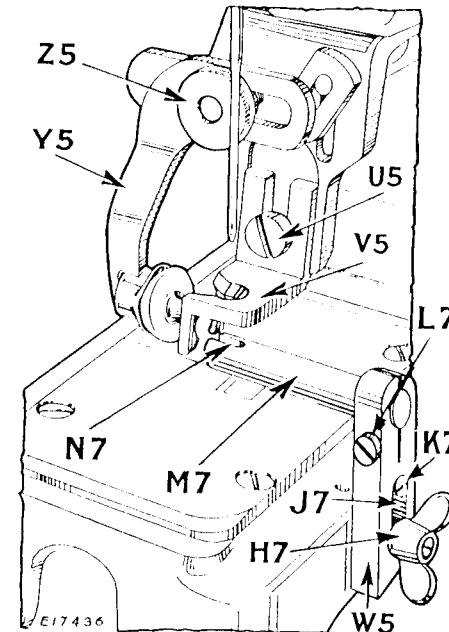


Fig. 20.

Attach button holder (V5) by means of screw (U5) and adjust for height as indicated in Fig. 20. Set it with its opening coinciding accurately with the shank of the button which is held in place by button finger (Y5). Select the button holder with reference to size of button shank. See list of fittings for self-shank buttons, page 29.

Button finger (Y5) is adjustable to left or right by means of thumb nut (Z5), and must be set to hold the button shank firmly in its opening in the button holder. Select the button finger with reference to size and convexity of the button. See note at foot of page 29. The self-

shank button must be held by the button finger (Y5) and button holder (V5) in such position that the needle, on its left hand vibration, will center in the needle hole of the button shank.

Attach work support (W5) by means of wing nut (H7) having guide screw (K7) in the slot (J7) of the work support, as shown.

To adjust, set work support (W5) to required height, then tighten wing nut (H7). Loosen screw (L7) and set bar (M7) close to right hand side of button holder (V5) - not tight against it, as this would retard the raising and lowering of button clamp.

If the button shank projects through right hand side of button holder (V5), set work support close to button shank, but not tight against it as this, also, would interfere with clamp operation. Slot (N7) of the bar (M7) must be exactly vertical and in line with travel of the needle. Tighten screw (L7).

Through and Through Stitching Leather Shank Buttons

(See Note at Foot of this Page)

Fig.23 shows a leather shank button held in place in button holder 175383 by button finger 175668, in connection with clamp 175684 and work support 175715, for through and through stitching of leather shank buttons.

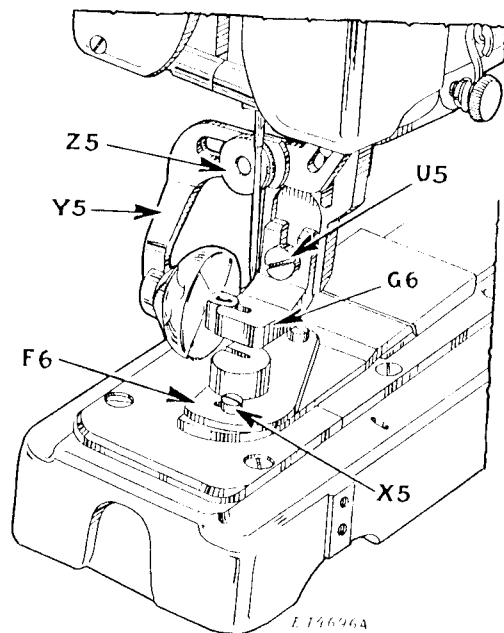


Fig.23.

Button holder (G6) is attached and adjusted in the same manner as button holder (V5, Fig.20) as instructed on page 21.

Button Finger (Y5) is adjusted as instructed on page 21.

Work support (F6) is adjustable to allow for needle bar vibration, or throw, and to insure that the material will be held close to the button during the stitching.

To adjust, loosen screw (X5) and move the work support (F6) to the left or right as required, then tighten screw (X5).

NOTE - When sewing shank buttons, position the nut (N2, Fig. 11) as far as it will go to the right (as when sewing two hole flat buttons) to stop the forward and backward motion of the feed plate. See the first paragraph of page 15.

Through and Through Stitching Leather Shank Buttons with Stay Buttons

(See Note at Foot of Page 24)

Fig.24 shows a leather shank button held in place in button holder 175383 by button finger 175668, in connection with clamp 175684, and with an 18-ligne stay button in stay button holder 175705, for through and through stitching leather shank buttons with stay buttons.

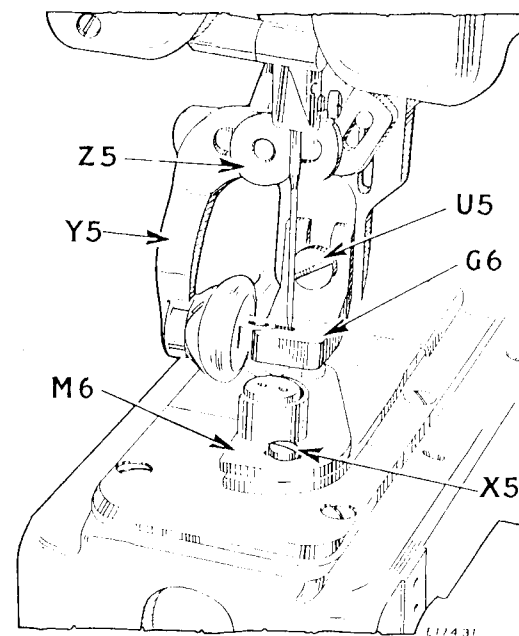


Fig.24.

Button holder (G6) is adjusted the same as button holder (V5, Fig.20) as instructed on page 21.

Button finger (Y5) is adjusted as instructed on page 21.

Stay button holder (M6) is adjustable to the right or left. Loosen screw (X5) and move the stay button holder (M6) to a position where the needle will center in the needle holes in the stay button, then tighten the screw (X5).

Through and Through Stitching Metal Shank Buttons with Stay Buttons

(See Note at Foot of Page 24)

Fig.25 shows a large eyelet metal shank button held in place in button holder 175681 by button finger 175668, in connection with clamp 175684, and with an 18-ligne stay button in stay button holder 175705, for through and through stitching metal shank buttons with stay buttons.

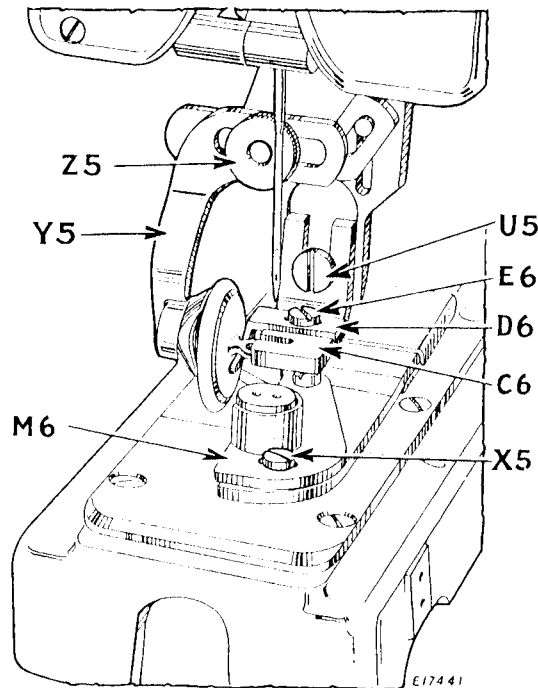


Fig.25.

Button holder (C6), for large eyelet buttons, is provided with button support (D6). To adjust, see instructions on page 23.

Button finger (Y5) is adjusted as instructed on page 21.

Stay button holder (M6) is adjusted as instructed on page 25.

NOTE - Shanking Feet 175401 and 175411, listed on the following page, are regularly furnished in 1/8 inch height and in 11/32 inch height, while shanking feet 175786 and 175764 are regularly furnished in 9/32 inch height and in 11/32 inch height, the sizes mentioned being the lowest and the highest regularly furnished.

When shanking feet of other heights, within these limits, are desired, orders should specify the heights wanted, or samples of buttons, sewn to the material, should be submitted.

VARIETIES OF BUTTONS SEWN ON BY SINGER MACHINES 175-60 AND 175-61 AND FITTINGS REQUIRED

FLAT BUTTONS - Blind Stitched

(Two or Four-Hole)

Close to Material - Machine 175-60 only

Button Clamp Complete 175726 (20 to 45 Ligne Buttons)
Feed Plate 175689 or 175840 (20 to 45 Ligne Buttons)



Away from Material - Machine 175-60 only

Button Clamp Complete 175746*(20 to 45 Ligne Buttons)
Includes Shanking Foot 175401 (1/8 inch high and 11/32 inch high).
Button Clamp Complete 175790 (40 to 55 Ligne Buttons)
Includes Shanking Foot 175786 (9/32 inch high and 11/32 inch high).
Feed Plate 175689 or 175840 (20 to 45 Ligne Buttons)



FLAT BUTTONS - Stitched Through and Through

(Two or Four-Hole)

Close to Material - Machines 175-60 and 175-61

Button Clamp Complete 175725 (10 to 24 Ligne Buttons)
Button Clamp Complete 175726 (20 to 45 Ligne Buttons)
Button Clamp Complete 175852 (20 to 45 Ligne Buttons)
Button Clamp Complete 175727 (40 to 80 Ligne Buttons)
Button Clamp Complete 175749 (80 to 120 Ligne Buttons)
Feed Plate 175685 (10 to 45 Ligne Buttons)
Feed Plate 175686 (40 to 80 Ligne Buttons)
Feed Plate 175687 (80 to 120 Ligne Buttons)



Away from Material - Machine 175-60 only

Button Clamp Complete 175744*(20 to 45 Ligne Buttons)
Includes Shanking Foot 175411 (1/8 inch high and 11/32 inch high).
Button Clamp Complete 175795 (40 to 55 Ligne Buttons)
Includes Shanking Foot 175764 (9/32 inch high and 11/32 inch high).
Feed Plate 175685 (10 to 45 Ligne Buttons)



FLAT BUTTONS - Stitched Through and Through

With Stay Button

(Two or Four-Hole)

Close to Material - Machine 175-60 only

Button Clamp Complete 175725 (10 to 24 Ligne Buttons)
Button Clamp Complete 175726 (20 to 45 Ligne Buttons)
Button Clamp Complete 175727 (40 to 80 Ligne Buttons)
Button Clamp Complete 175749 (80 to 120 Ligne Buttons)
Stay Button Holder 175693 (18 Ligne Stay Button)
Stay Button Holder 175694 (19 Ligne Stay Button)
Stay Button Holder 175695 (20 Ligne Stay Button)
Stay Button Holder 175696 (22 Ligne Stay Button)



Away from Material - Machine 175-60 only

Button Clamp Complete 175744*(20 to 45 Ligne Buttons)
Includes Shanking Foot 175411 (1/8 inch high and 11/32 inch high).
Button Clamp Complete 175795 (40 to 55 Ligne Buttons)
Includes Shanking Foot 175764 (9/32 inch high and 11/32 inch high).
Stay Button Holder 175693 (18 Ligne Stay Button)
Stay Button Holder 175694 (19 Ligne Stay Button)
Stay Button Holder 175695 (20 Ligne Stay Button)
Stay Button Holder 175696 (22 Ligne Stay Button)



*Same as Clamp 175726 but for heavier (thicker) buttons which may have to be held more firmly.

*See Page 28.

As explained on page 27, the button clamps for sewing flat buttons, through and through, close to the material, are:

175725 for 10 to 24 ligne buttons
 175726 for 20 to 45 ligne buttons
 175727 for 40 to 80 ligne buttons*
 175749 for 80 to 120 ligne buttons

Clamps 175725, 175726 and 175727 are basic clamps, and the clamp 175726 (A7, Fig. 13), shown on page 17, will serve to illustrate any of these three clamps.

Any one of these three clamps, by the addition of the necessary accessories, will perform the stitching operations described on page 27 and illustrated by Figs. 13, 14, 15, 17, 18 and 19, pages 17 to 20 inclusive. Each clamp is, however, limited to the SIZES of buttons as stated above and as listed on page 27.

(Clamp 175749 is confined solely to sewing flat buttons - 80 to 120 ligne - through and through, close to the material, with or without stay buttons, and can not be converted for any other stitching operation).

Clamps 175725, 175726 and 175727, by the addition of positioning screw 140067 (P5, Fig. 14) and thumb screw 140068 (O5, Fig. 14) are equipped for the application of the shanking feet listed on page 27 and shown in Fig. 14 for through and through stitching flat buttons away from the material; in Fig. 17 for blind stitching flat buttons away from the material, and in Fig. 19 for through and through stitching away from the material, with stay buttons.

The numbers, by which these accessories must be ordered, are stated on page 27.

For instance - Clamp 175744, listed on page 27 for through and through sewing flat buttons (20 to 45 ligne) away from the material without stay buttons, also with stay buttons, is basic clamp 175726 with positioning screw 140067, thumb screw 140068 and the two shanking feet 175411.

Clamp 175746, listed on page 27 for blind stitching flat buttons (20 to 45 ligne) away from the material, is basic clamp 175726 with positioning screw 140067, thumb screw 140068 and the two shanking feet 175401.

The required feed plate or stay button holder also is listed on page 27.

* When Clamp 175727 is to be used for sewing buttons away from the material, the order should specify the size button to be sewn or, better still, the order should be accompanied by a sample of the button to be sewn, in order that the shanking foot of the correct capacity may be furnished.

SELF-SHANK BUTTONS - Blind Stitched - Machines 175-60 and 175-61
 (Machine 175-61 is for shank buttons not larger than 28 ligne)



Button Clamp Complete 175684, Use Button Finger 175667
 Button Holder 175392
 Work Support 175824



Button Clamp Complete 175684, Use Button Finger 175667
 Button Holder 175392
 Work Support 175824



Button Clamp Complete 175684, Use Button Finger 175668
 Button Holder 175392
 Work Support 175824



Button Clamp Complete 175684, Use Button Finger 175667
 Button Holder 175392
 Work Support 175824



Button Clamp Complete 175684, Use Button Finger 175668
 Button Holder 175393
 Work Support 175824



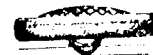
Button Clamp Complete 175684, Use Button Finger 175668
 Button Holder 175399
 Work Support 175824



Button Clamp Complete 175684, Use Button Finger 175668
 Button Holder 175398
 Work Support 175716 or 175388



Button Clamp Complete 175684, Use Button Finger 175669
 Button Holder 175399
 Work Support 175824



Button Clamp Complete 175684, Use Button Finger 175668
 Button Holder 175393
 Work Support 175716 or 175388



Button Clamp Complete 175684, Use Button Finger 175668
 Button Holder 175399
 Work Support 175716 or 175388

NOTE - The use of Button Fingers 175667 (small) and 175668 (large) is determined by the convexity and size of the button to be handled. In general, use Button Finger 175667 for small buttons, and Button Finger 175668 for large buttons.

NOTE - Work Support 175824 is for blind-stitching self-shank buttons up to 11/16 inch (28 ligne) on either the 175-60 or 175-61 Machine.

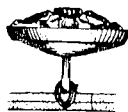
For self-shank buttons in excess of 28 ligne, Machine 175-60 is used with either the Work Support 175388 or 175716.

SHANK BUTTONS - Blind Stitches

(Machine 175-61 is for shank buttons not larger than 28 ligne)

Metal Shank - Machine 175-60 or 175-61

Button Clamp Complete 175684, Use Button Finger 175668
 Button Holder 175676
 Work Support 175716 or 175388

SHANK BUTTONS - Stitched Through and Through

Metal Shank - Machine 175-60 or 175-61

Button Clamp Complete 175684, Use Button Finger 175667
 Button Holder 175677 for Short Eyelet Buttons
 Button Holder Spring 175678, for Short Eyelet Buttons
 Button Holder 175681 for Large Eyelet Buttons
 Button Holder 175682 for Small Eyelet Buttons
 Work Support 175715



Leather Shank - Machine 175-60 or 175-61

Button Clamp Complete 175684, Use Button Finger 175668
 Button Holder 175383
 Work Support 175715

SHANK BUTTONS - Stitched Through and Through
With Stay Button

Leather Shank - Machine 175-60 only

Button Clamp Complete 175684, Use Button Finger 175668
 Button Holder 175383
 Stay Button Holder 175705 (18 Ligne Stay Button)
 Stay Button Holder 175706 (19 Ligne Stay Button)
 Stay Button Holder 175707 (20 Ligne Stay Button)
 Stay Button Holder 175708 (22 Ligne Stay Button)



Metal Shank - Machine 175-60 only

Button Clamp Complete 175684, Use Button Finger 175668
 Button Holder 175681 for Large Eyelet Buttons
 Button Holder 175682 for Small Eyelet Buttons
 Stay Button Holder 175705 (18 Ligne Stay Button)
 Stay Button Holder 175706 (19 Ligne Stay Button)
 Stay Button Holder 175707 (20 Ligne Stay Button)
 Stay Button Holder 175708 (22 Ligne Stay Button)

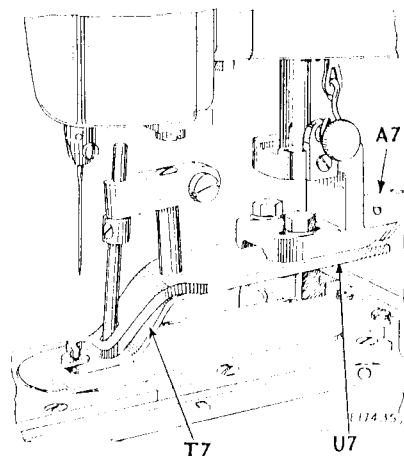
Snap Fasteners - Machine 175-61 only

Snap Fastener Clamp Complete 175842, includes 3 snap holders, as follows:
 Snap Holder 175284 for Size 000 Snap Fasteners
 Snap Holder 175283 for Size 00 Snap Fasteners
 Snap Holder 175282 for Size 0 Snap Fasteners
 Snap Fastener Clamp 175847 (Button Clamp Type)
 Adjustable for All Sizes and Types of Snap Fasteners.



Machine 175-61 Equipped for Sewing Snap Fasteners

Fig.26A shows Machine 175-61 equipped for sewing snap fasteners in sizes 000 small, 00 medium and 0 large. For this purpose, Clamp 175842 is furnished, including three snap holders for the three snap sizes respectively.

Fig.26A. Machine 175-61 with
Clamp 175842 for Sewing
Snap Fasteners

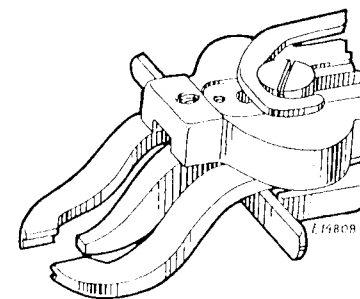
To remove snap holder (T7, Fig.26A), first remove clamp arm (A7, Fig.26A), with clamp and snap holder attached thereto, by withdrawing pin (H5, Fig.11, page 14). Then remove the screw at the under side of snap holder (T7) to detach snap holder from the clamp. NOTE - The screw, for fastening snap holder to the clamp, is not shown. However, its position is plainly indicated in Fig.26A, by (U7).

To replace snap holder, reverse the foregoing operations for its removal.

Snap Fastener Clamp 175847 (Button Clamp Type) is shown, in part, in Fig.26B at the right.

This universal snap fastener clamp handles all sizes and types of snap fasteners. It is attached to, and removed from, the machine in exactly the same manner as the regular button clamp. (See "To Change the Button Clamp") page 16.

This snap fastener clamp is adjusted for various sizes of snap fasteners in the same manner as the regular button clamp. (See "To Adjust the Button Clamp Opening", page 14.

Fig.26B. Snap Fastener Clamp
175847
(Button Clamp Type)

INSTRUCTIONS FOR ADJUSTERS AND MECHANICS

To Adjust the Stop Motion

When the machine is operated at recommended speed (not in excess of 1000 R.P.M.) it should come to a stop with the stop mechanism in locked position, and with the needle bar resting at the high point of its stroke. To adjust, loosen the two screws (O2, Fig.26) and move stop motion trip (P2, Fig.26) to the left for an earlier stop, or to the right for a later stop. When the required adjustment is made, securely tighten the two screws (O2).

To Adjust Spring Tension of Stop Motion Shaft

Loosen hexagon screw (R2, Fig.26), and by means of screw (R2), turn collar (Q2) downward for greater tension, or upward for less tension, then securely tighten screw (R2).

To Set Needle Bar at Correct Height

Take out the two screws (S2, Fig.11 page 14) which fasten the face plate, and remove the face plate. Insert needle of correct size in the needle bar, making sure that it is up into the needle bar as far as it will go.

Turn machine-driving pulley, by hand, to bring the needle bar to its highest position. Loosen clamping screw (T2, Fig.27), which fastens needle bar connecting link hinge stud (U2, Fig.27) to the needle bar; then, while the needle bar is still at the highest point of its stroke, move needle bar up or down to bring the top of the needle eye 1-5/16 inch above the top surface of the needle plate for Machine 175-60.

For Machine 175-61, the top of the needle eye should be 1-1/16 inch above the top surface of the needle plate. To further check this adjustment, for either machine, see that the needle point does not protrude through the needle hole in the looper when the needle bar is at the bottom of its stroke. This check can be made only after the looper is adjusted and timed as instructed on pages 36 and 37.

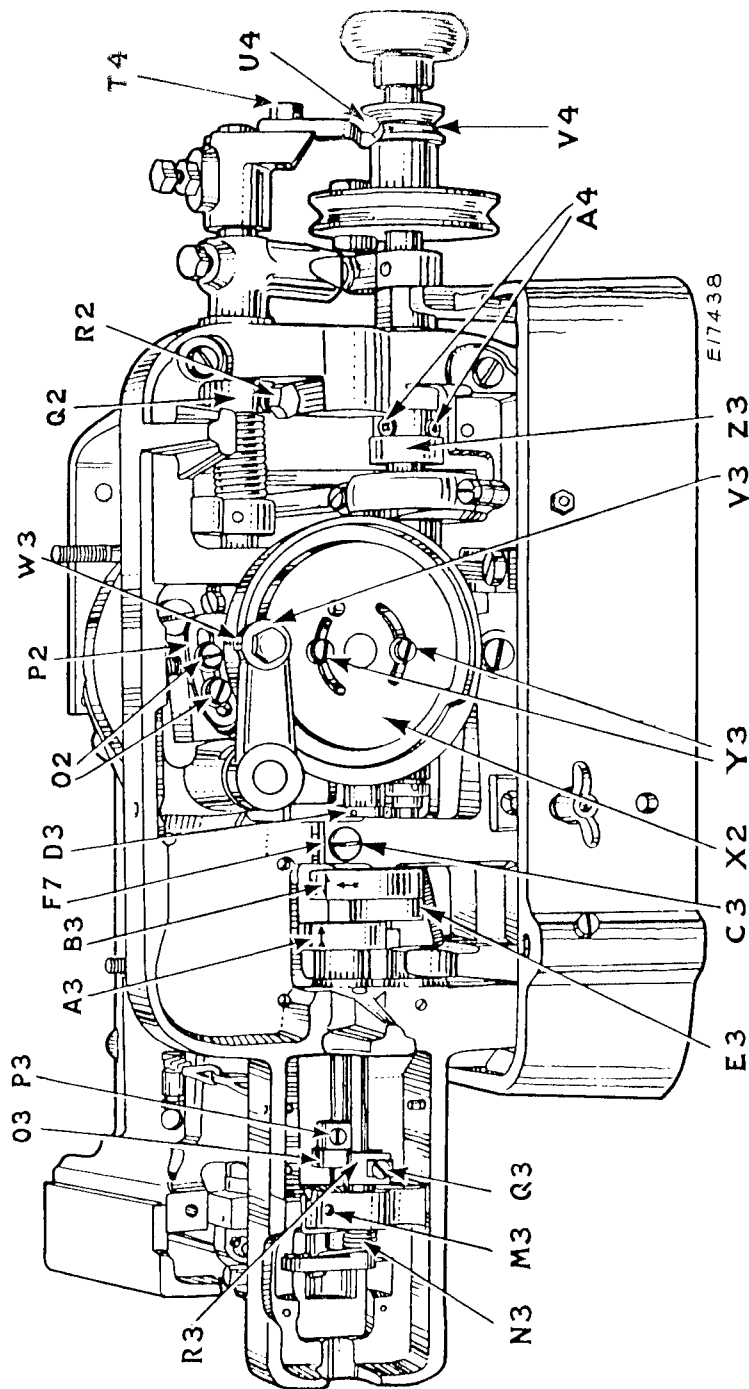


Fig.26. Adjustments in Bed of Machine

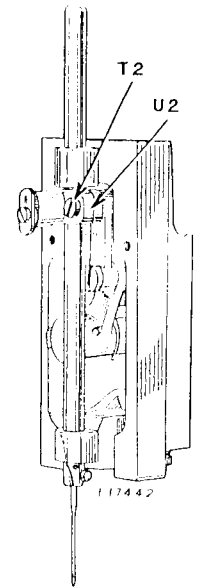


Fig.27. Setting
Needle Bar at
Correct Height

To Time the Needle Bar Vibration

Set cam (V2, Fig. 28) to bring the arrow on its rim in alignment with arrow on needle bar vibrating lever arm (W2) as shown in Fig. 28. With cam (V2) in proper time, needle bar vibration will start about 1/2 inch from top of upward stroke of needle bar.

To adjust, loosen the two screws (J5, Fig. 31, page 39) in worm gear (N6, Fig. 31) located between the lower or button clamp feed cam (X2, Fig. 28) and under side of machine bed. Use the special splined wrench which accompanies the machine. When correct adjustment is made, securely tighten the two screws (J5, Fig. 31).

To Adjust Needle Bar Vibration Centrally with Loper Shaft and with Relation to the Needle Slot in the Needle Plate

When adjusting, make sure that needle clears left hand and right hand ends of the slot in needle plate. Remove feed plate or stay button holder, needle plate and looper. In place of the looper, insert, in looper stem opening in looper shaft, a stud or pin of proper size to fit snugly in looper shaft (a size 20 drill will serve the purpose). Loosen hexagon head screw (Y2, Fig. 28) and move lever (Z2, Fig. 28) to right or left until the needle, on both vibrations, just touches both sides of the projecting stud, pin or drill, then tighten screw (Y2). By this method it is possible to determine, accurately, that both vibrations are exactly equidistant from the center of the looper shaft.

To Time the Loper Shaft Crank and the Loper Driving Shaft Crank

These cranks (A3, Fig. 26) and (B3, Fig. 26), respectively, must be set with the arrow on the rim of each in exact alignment with the other, and both arrows must be in alignment with the arrow on the machine casting at (F7, Fig. 26), when the machine is in its stopped or locked position.

To adjust, loosen clamping screw (C3, Fig. 26) which holds the shaft bushing (D3, Fig. 26) in the machine bed. Turn this bushing (which is eccentric) with its high throw toward the bed of the machine. This will unmesh the gears and permit turning the cranks to required position. After the arrows on these cranks are aligned with the arrow at (F7), turn bushing (D3) downward to again mesh the gears, then tighten clamping screw (C3, Fig. 26).

Looper shaft link (E3, Fig. 26), which connects cranks (A3, and B3, Fig. 26) should be attached so that the large crank (B3) will PULL the link. If it were attached in such manner as to be PUSHED by crank (B3), the machine would not function properly.

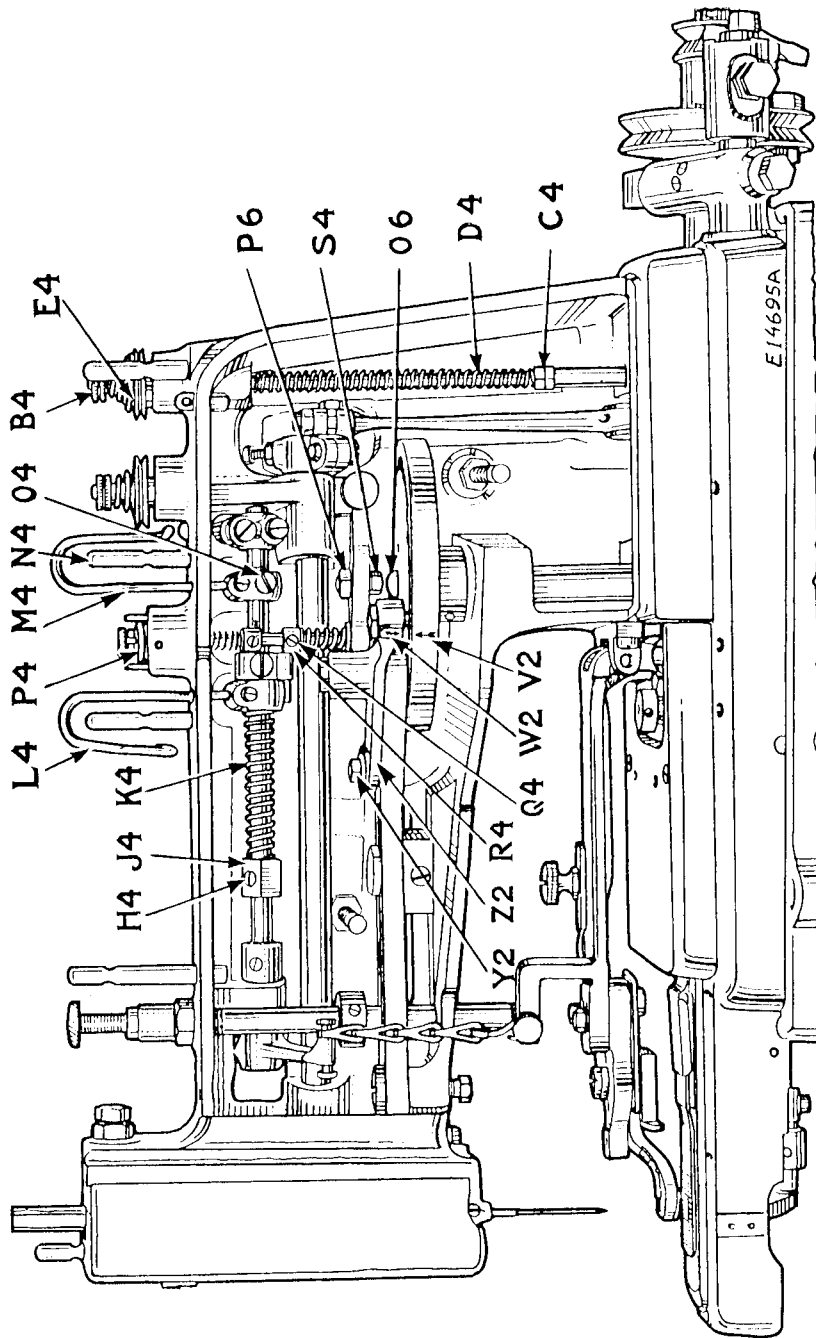


Fig. 28. Adjustments in Arm of Machine

To Adjust the Loooper with Relation to the Needle

Loosen the looper set screw (F3, Fig. 29) and set the looper as close as possible to the needle, but without actually touching it.

Be sure that the set screw (F3) engages the "flat" of the looper shank when this screw is tightened.

To Time the Loooper

With the needle bar set at correct height, as instructed on page 33, turn the machine-driving pulley, by hand, to bring the needle bar to the bottom of its LEFT HAND STROKE, then continue to turn the machine-driving pulley until, as the needle bar rises, the TOP of the looper point reaches the centre of the needle.

With the TOP of the looper point at the centre of the needle, the

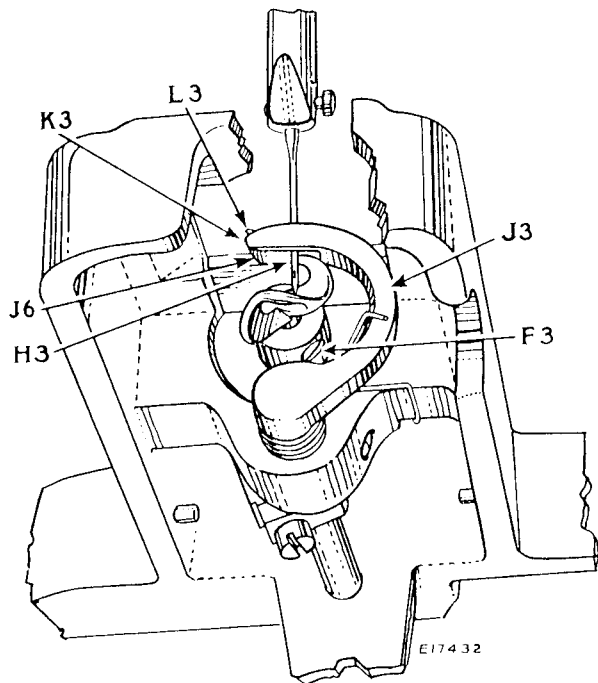


Fig. 29. Timing the Loooper
(Left Hand Stroke of the Needle Bar)

BOTTOM of the looper point should be exactly at the top of the needle eye, as indicated at (H3, Fig. 29), on the left hand stroke of the needle bar.

If the BOTTOM of the looper point is not exactly at the top of the needle eye when the TOP of the looper point is at the center of the needle on the LEFT HAND STROKE of the needle bar, make adjustment as follows:

Loosen the screws in the crank (A3, Fig. 26) using, for this purpose, the special splined wrench which accompanies the machine, and turn the looper shaft until the BOTTOM of the looper point is exactly at the top of the needle eye when the TOP of the looper point is at the center of the needle on the LEFT HAND STROKE of the needle bar when the needle bar has risen slightly from its lowest position, then securely tighten the two set screws in the crank (A3, Fig. 26).

NOTE - When the looper point is correctly set with relation to the needle on the LEFT HAND STROKE of the needle bar, the looper point will be in proper relationship to the needle on the RIGHT HAND STROKE of the needle bar.

The above setting must be made for each variation in the distance between holes in the button as the distances between holes increase; that is, if the looper is timed for a button with holes $7/64$ inch apart, it must be reset for a button with the holes farther apart.

However, if the looper is timed to handle a button with the holes $7/32$ inch apart, it is not necessary to retime the looper for every button having lesser distances between the holes.

To Adjust the Automatic Tension

When the automatic tension (B4, Fig. 28) is closed (without thread being between the discs) there should be about 1/64 inch between the upper end of the automatic tension rod (D4, Fig. 28) and the tension release disc (E4, Fig. 28).

To adjust, loosen the nuts (C4, Fig. 28) and turn the rod (D4, Fig. 28) up or down until the proper end play is obtained, then securely tighten the nuts (C4).

To Regulate the Height of Lift of the Button Clamp

The height to which the button clamp is raised is controlled by the position of the button clamp lifting rod arm stop plate (F4, Fig. 11), shown on page 14.

To adjust, loosen the two screws (G4, Fig. 11) and move the stop (F4) downward to raise the button clamp higher, or move the stop (F4) upward to lessen the height of the button clamp lift. When the desired adjustment is obtained, securely tighten the two screws (G4, Fig. 11).

To Adjust the Tension of the Thread Pull-off (Front)

Should it become necessary to adjust the tension of the thread pull-off (front) (L4, Fig. 28), loosen set screw (H4, Fig. 28) and turn the hexagon nut (J4, Fig. 28) up to tighten the spiral spring (K4, Fig. 28) thus increasing the tension of the thread pull-off (front) (L4), or turn the hexagon nut (J4) down to decrease the tension. When the tension is correctly set, securely tighten screw (H4, Fig. 28).

To Adjust the Thread Pull-off (Back)

Thread pull-off (back) (M4, Fig. 28) should move back to the left of the thread post (N4, Fig. 28) about 1/2 inch when the button clamp is lifted to its highest position.

To adjust, loosen screw (O4, Fig. 28) and move the thread pull-off (back) (M4) backward or forward (left or right), as required, to set as stated; then securely tighten screw (O4, Fig. 28).

To Adjust the Tension of the Thread Nipper

The thread nipper (P4, Fig. 28) should hold the thread tightly while the machine is in its stopped position.

Should adjustment be necessary, loosen screw (Q4, Fig. 28) in the collar (R4, Fig. 28) and move the collar (R4) downward for tighter thread nipping or upward for less thread grip. When the required adjustment is obtained, securely tighten screw (Q4).

To Adjust the Timing of the Thread Nipper

When the machine is in its stopped or locked position, the stud (S4, Fig. 28) on the under side of the thread nipper releasing lever, should rest upon the center of the stud (O6, Fig. 28) on the top surface of the cam (V2, Fig. 28).

To adjust, loosen the nut (P6, Fig. 28) at the upper side of the thread nipper releasing lever, and, by means of this nut (P6), move the stud (S4) toward or away from the needle, the slot in the lever permitting of this adjustment. When correct adjustment is made, securely tighten the nut (P6).

To Adjust Stop Motion Pulley Shifter

The pulley shifter (U4, Fig. 26) should be set as close as possible to the V-groove (V4, Fig. 26) in the pulley, but without actually touching it.

To adjust, loosen the hexagon head screw (T4, Fig. 26) and move the pulley shifter toward or away from the V-groove (V4) as may be required; then securely tighten screw (T4).

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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