SINGER
157-3

USE ONLY SINGER OILS and LUBRICANTS

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

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"Singer Oil for High Speed Sewing Machines"
(Cloth and Leather)

For all manufacturing sewing machines except where a stainless oil is desired.

"Singer Stainless Oil for High Speed Sewing Machines"

For all manufacturing sewing machines where a stainless oil is desired.

"Singer Motor Oil"

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

"Singer Stainless Thread Lubricant"

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

NOTE: All of the above oils are available in 1 quart, 2 quart, 1 gallon and 5 gallon cans or in 55 gallon drums, and can also be supplied in customer's containers.

"Singer Gear Lubricant"

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

"Singer Ball Bearing Lubricant"

This pure grease is specially designed for the lubrication of ball bearings and ball thrust bearings of motors and electric transmitters, ball bearing hangers of power tables, etc.

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

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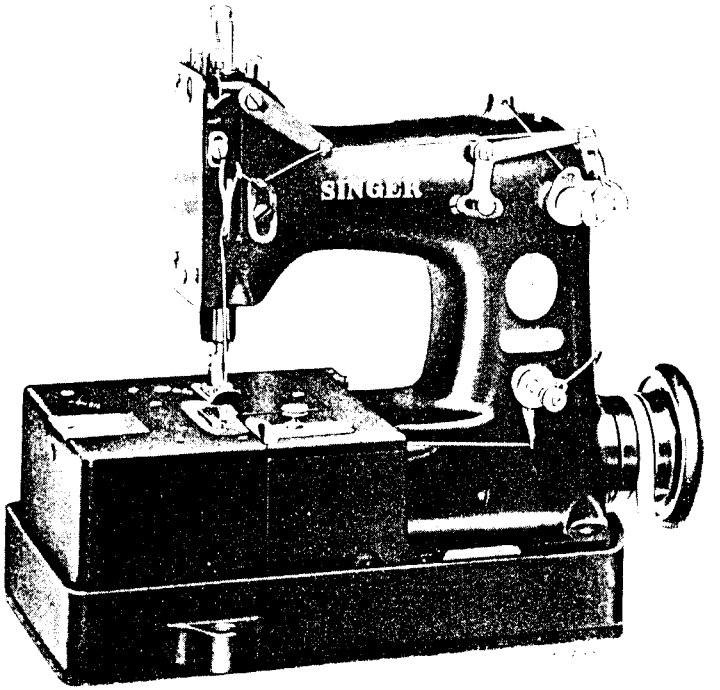
INSTRUCTIONS

FOR USING AND ADJUSTING

SINGER SEWING MACHINE



157-3

FOR MAKING BAGS

AUTOMATIC OILING SYSTEM

THE SINGER MANUFACTURING CO.

To all whom it may concern:

The placing or renewal of the name "Singer" (Reg. U. S. Pat. Off.) or any of the trade marks of The Singer Manufacturing Company on any machine that has been repaired, rebuilt, reconditioned, or altered in any way whatsoever outside a Singer factory or an authorized Singer agency is forbidden.

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

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

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

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

DESCRIPTION

MACHINE 157-3 is designed for making bags from clay-filled and other light and medium weight fabrics used for salt, sugar, rice, flour, etc.

The machine has one needle and is regularly equipped with a looper and a throat plate for making the two-thread chain stitch. An extra looper and throat plate, for making the single thread chain stitch, also accompany the machine.

The presser foot has a lift of 9/32 inch thus making it possible to sew materials up to 1/4 inch in thickness.

It is equipped with a splash oiling system which automatically lubricates all of the principal bearings.

The machine is adjustable for producing stitches ranging in length from 3-1/2 to 8 to the inch.

When the order so specifies, the machine will be equipped, without charge, with Knee Lifter or with Foot Lifter.

SPEED

Maximum speed recommended is 4500 R.P.M., depending upon the nature and thickness of the material being sewn.

The top of the balance wheel should always turn over from the operator.

To Set Up the Machine

Place the machine on the table in such position that the machine-driving pulley will be in alignment with the transmitter pulley. Mark the location for the three wood screws to center in the rubber bushings in the corresponding holes in the machine base, then fasten these three screws in place in the table. Now remove the machine and base, and place the felt cushion (which accompanies the machine) in proper position on the table, then set the machine and base upon this felt cushion and with the three wood screws in the three rubber bushings in the machine base.

To Oil the Machine

When the machine is shipped from the factory, the OIL RESERVOIR in the machine base is COMPLETELY DRY. Therefore, BEFORE OPERATING THE MACHINE, FILL THE OIL RESERVOIR TO THE CORRECT LEVEL as instructed below.

Failure to follow these instructions will result in SERIOUS DAMAGE to the machine.

Remove the screw (A2,Fig.3) and into this opening pour oil enough to cover the oil gauge (B2,Fig.2) located in the machine base at the front side of the machine.

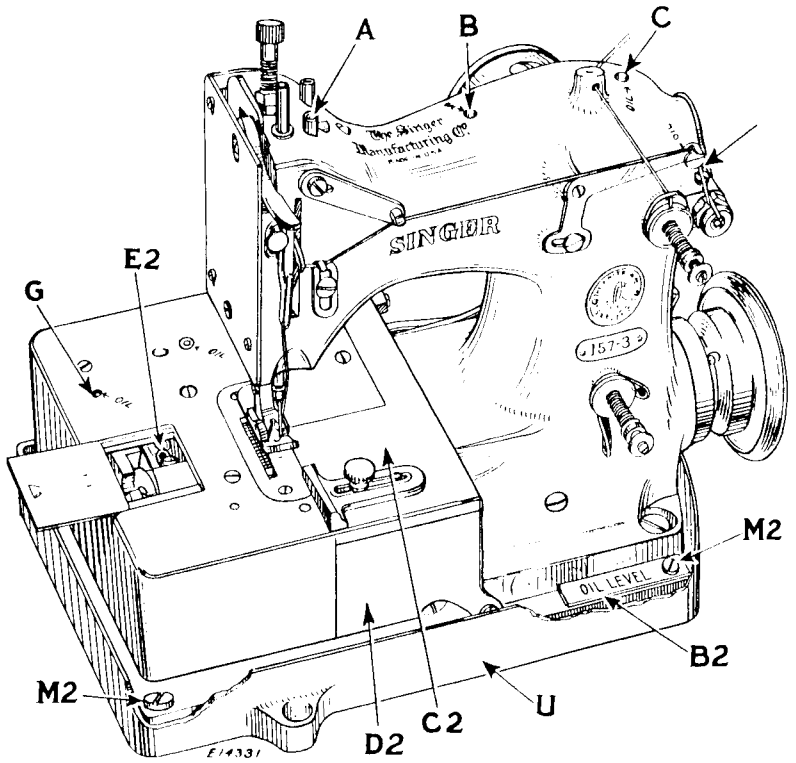


Fig. 2. Oiling Points — Front Side of Machine

NOTE - WHEN OBSERVING OIL LEVEL AT GAUGE (B2), MAKE SUFFICIENT TIME ALLOWANCE FOR OIL TO RISE UP THROUGH FILTER (L2,FIG.3).

The screw (A2) should be in place at all times except when removed for oiling or adjustment purposes.

To oil the front end of the feed connection, draw out the slide plate and apply oil to the oil hole (E2,Fig.2).

Arm side cover (H2,Fig.3), at the rear side of the machine, is transparent, thus enabling the operator to determine, at a glance, whether or not the splash system is functioning. Should the oil splash not be visible during operation of the machine, a lack of oil in the reservoir is indicated. In such case, stop the machine immediately and replenish the reservoir with the required quantity of oil.

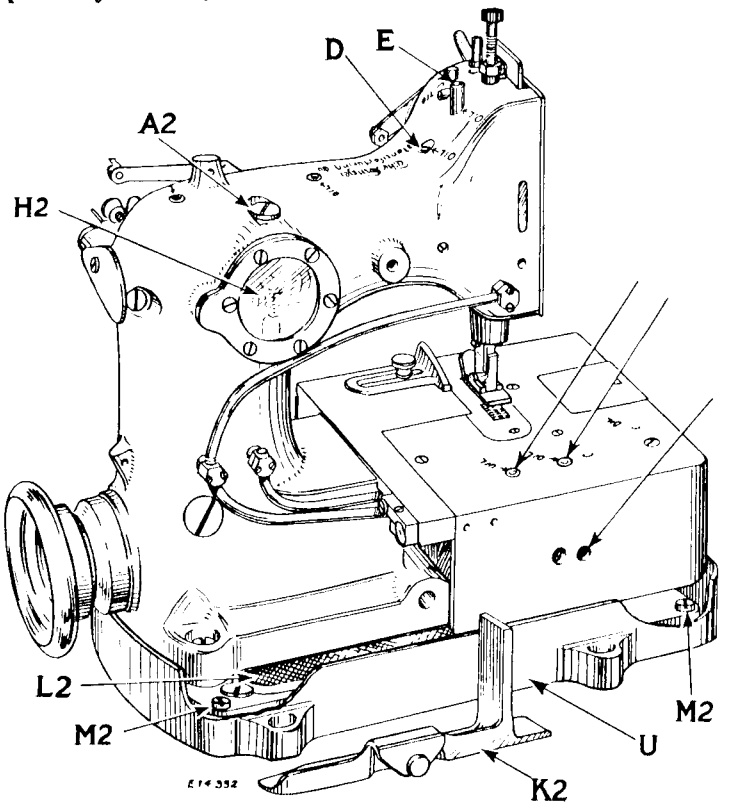


Fig. 3. Oiling Points — Rear Side of Machine

Also apply oil to all oil holes in cloth plate and machine arm, at points indicated in Figs.2 and 3 by unlettered arrows. Each of these places is marked by the word "Oil". Thoroughly saturate the wicks at (A,B and C,Fig.2) and at (D and E,Fig.3).

Attached to the under side of the cloth plate at (G,Fig.2) is a small reservoir which must be filled through the oil hole (G).

CAUTION. When cleaning beneath the cloth plate, be sure to remove filter guard (K2,Fig.3) and carefully clean filter (L2,Fig. 3). For this purpose USE A BRUSH to prevent damage to filter.

Such oiling points, beneath the cloth plate, as are not reached through oil holes in the cloth plate, are accessible with the hinged portions (C2 and D2,Fig.2) of the cloth plate open. With these hinged portions open, apply oil to the oiling points

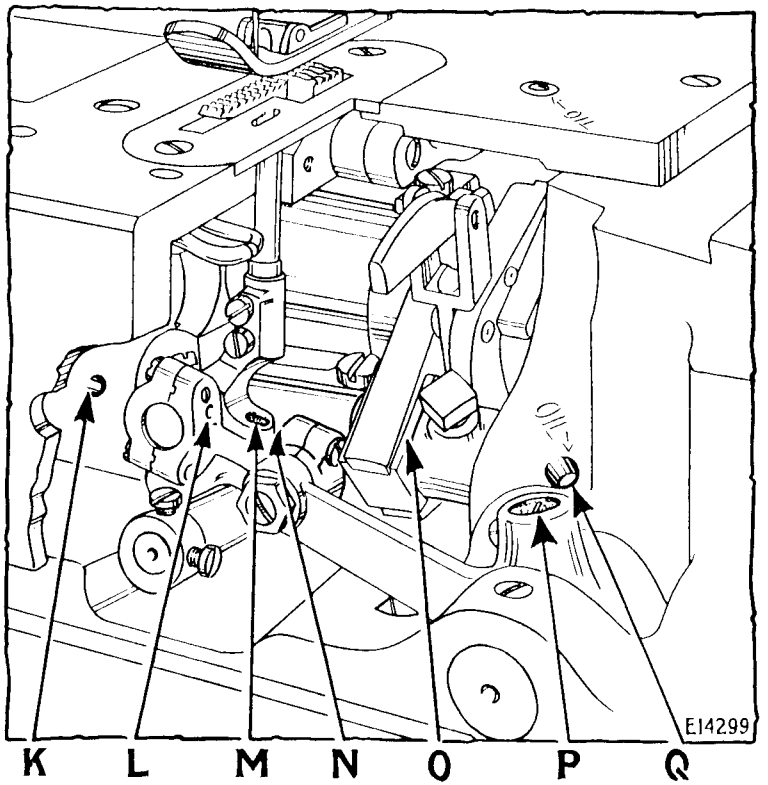


Fig. 4. Oiling Points Beneath the Cloth Plate

shown in Fig.4, as follows:

Thoroughly saturate the wicks at (M and P,Fig.4) and apply oil at (K, L, N, O and Q,Fig.4).

When the machine is in continuous use, OIL MUST BE APPLIED AT LEAST TWICE DAILY or as often as may be required.

Between the sewing machine and the sewing machine base (U, Figs.2 and 3) is a packing plate. This plate is shown as (W) in Figs.8 and 9, pages 12 and 14. The center of this plate is open and forms the sides of the oil reservoir. When it is considered

desirable to drain the oil from the oil reservoir, proceed as follows:

First remove filter cover (K2) shown already removed in Fig. 3. Its function is to protect the filter which is partly shown as (L2) in Fig.3, and is fully shown in Fig.8, page 12.

Next remove the cloth plate from the machine, then remove the four screws (M2,Figs.2 and 3) which fasten the packing plate to the base (U), and lift the machine from the machine base. The oil may then be poured from the machine base.

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.

Needles

Needles for this machine are of Class and Variety 92 X 1 and are made in sizes 21, 22, 23, 24 and 25.

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

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.24, 92 X 1 Needles"

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

Thread

As bags are made to cover such a wide range of requirements, the selection of thread of suitable size and texture is best left to the manufacturer.

Either right or left twist thread can be used in the needle and in the looper.

To Set the Needle

Loosen the clamping nut at the lower end of the needle bar and insert the needle up into the needle bar as far as it will go with the long groove of the needle toward the operator, then securely tighten the clamping nut.

Upper Threading (See Fig. 5)

Pass the thread from the unwinder from back to front through the hole (1) at the top of the machine arm, then down through the hole (2) in the needle thread tension bracket, under and from left to right between tension discs (3) and the thread nipper (4),

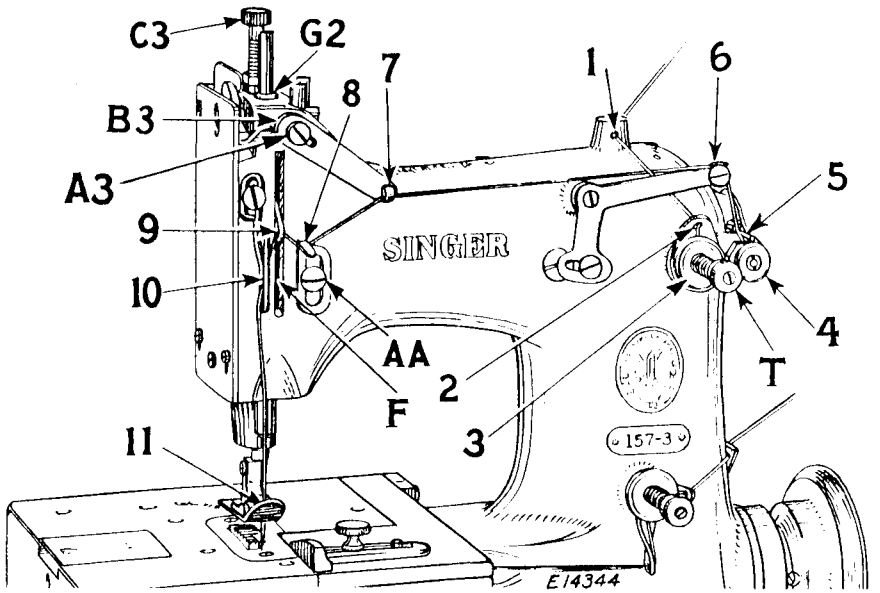


Fig. 5. Upper Threading

up and to the left of wire guide (5), over from right to left through the controller (6), from right to left through the controller (7), to the left and down under the thread pull-off (8), from right to left through the take-up eyelet (9), down and to the left of controller wire (10) and from front to back (away from the operator) through the eye (11) of the needle. Draw about two inches of thread through the needle eye with which to commence sewing.

Under Threading (See Fig. 6)

Pass the thread from the unwinder from back to front through hole (A), through the tension guide (B), then over from right to left between tension discs(C), down and from right to left through thread guide (D), through the controller as indicated at (E,F and G), then through the hole (H) in the heel of the looper and from front to back (away from the operator) through the eye (J) near the point of the looper. Draw about two inches of thread through eye of looper with which to commence sewing.

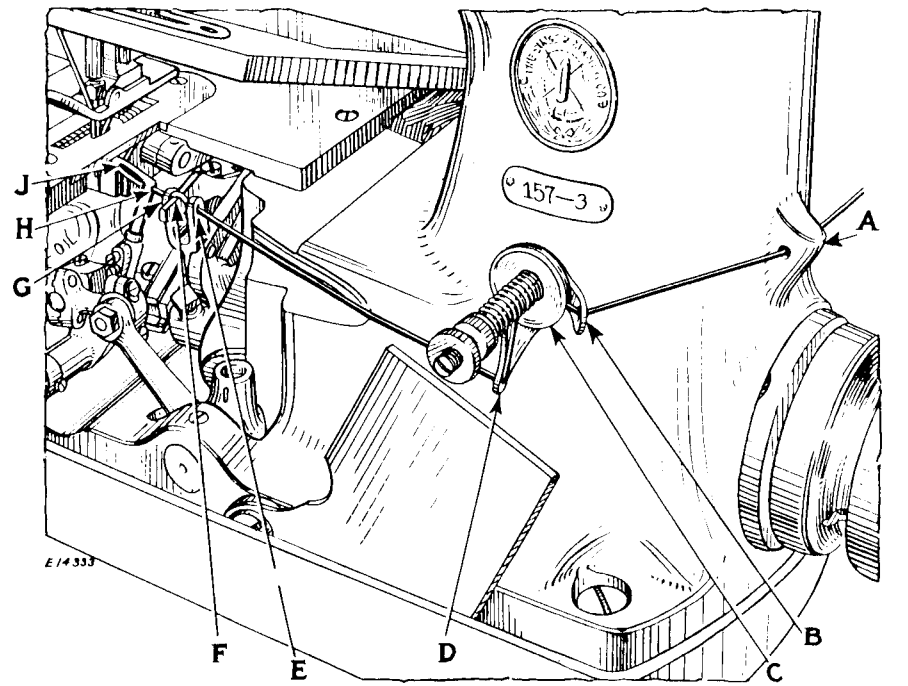


Fig. 6. Under Threading

To Adjust Tension on Needle Thread

Increase needle thread tension by turning thumb nut (T,Fig.5) over to the right, or lessen the tension by turning this thumb nut over to the left. The tension should be adjusted to control the needle thread for all lengths of stitches with as light a tension on the thread as is possible.

To Regulate Stitch Length

Stitch length is regulated by means of the large screw (Y2, Fig.7, page 10) which projects beyond the body of the feed eccentric on the rotary shaft. Draw out the slide in the cloth plate and turn the balance wheel to bring the screw (Y2) to a position where it is accessible through the slide plate opening. Loosen the lock screw (X2,Fig.7, page 10) and turn the large screw (Y2) to the left, or outward, to lengthen the stitch. To shorten the stitch, turn the screw (Y2) to the right or inward. When adjustment is completed, securely tighten lock screw (X2).

When making long stitches, if either end of the feed dog

touches the throat plate, loosen screw (Z2,Fig.7), this screw being accessible through a hole in the top of the cloth plate,

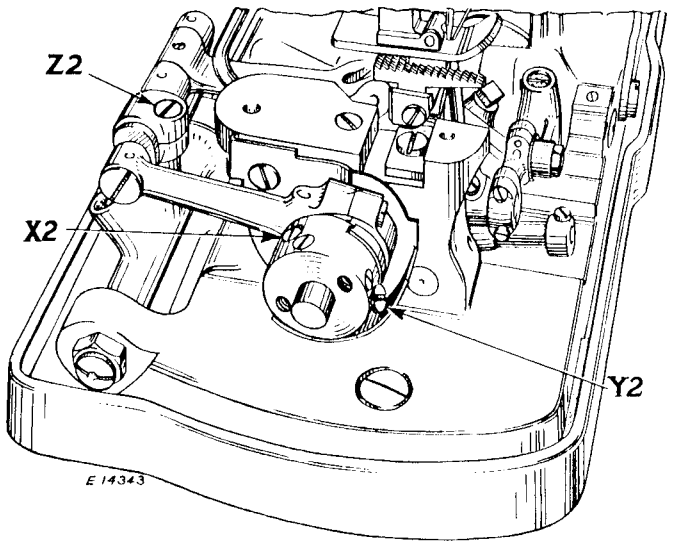


Fig. 7. To Regulate Length of Stitch

and, by means of the feed dog, push the feed bar in the required direction, then securely tighten the screw (Z2).

When once correctly set, no further adjustment of the feed bar is necessary for either short or long stitches.

To Adjust the Thread Pull-off

The thread pull-off (8,Fig.5,page 8) is for pulling off the required thread for various lengths of stitches.

To adjust, loosen the screw (AA,Fig.5) and for more thread, move the thread pull-off downward, and for less thread move it upward. Securely tighten the screw (AA).

To Regulate the Pressure on the Material

To increase the presser foot pressure, turn the thumb screw (C3,Fig.5,page 8) downward, or turn this thumb screw upward for less pressure.

INSTRUCTIONS FOR
ADJUSTERS AND MACHINISTS

To Set the Looper Thread Controller

The function of the looper thread controller (E,F and G,Fig. 6, page 9) is to keep the thread under control during the backward movement of the looper, to prevent the skipping of stitches, also to provide the correct length of thread to set the stitch. To set the looper thread controller, loosen screw (Q,Fig.9, page 14) and move the controller backward or forward as required. The looper thread controller may be aided, when making different lengths of stitches, by increasing or decreasing the tension at (C,Fig.6, page 9). For short stitches, increase the tension and for long stitches, decrease the tension.

To Adjust the Needle Thread Controller

When making short stitches, the upper needle thread controller (left) (7,Fig.5, page 8) should be raised. For longer stitches, it should be lowered. To adjust, loosen the screw (A3, Fig.5) and raise or lower the controller (7,Fig.5) as required, then tighten the screw (A3).

To Adjust the Needle Thread Nipper

Thread nipper (4,Fig.5, page 8) assists the tension (3,Fig.5) to hold the thread while the stitch is being set. This nipper is correctly adjusted when the machine leaves the factory, and no further adjustment should be necessary. However, if the nipper is subsequently removed from the machine, make sure, when replacing it, that the nipper cam (D3,Fig.8, page 12), on the end of the rock shaft, is set to insure that the nipper will close just before the eye of the needle reaches the goods. It should release the thread on the upstroke of the needle bar when the material, being fed forward, starts to draw the thread.

To Time the Machine

The needle and looper are driven by a crankshaft which is correctly timed at the factory and requires no adjustment. However, the looper is adjustable, to left or right, in case such adjustment might later be considered necessary.

The looper sidewise motion, the feed-lifting motion and the feed motion are also correctly timed at the factory. Should retiming later be considered necessary, proceed as follows:

Take out the four screws (M2,Figs.2 and 3, pages 4 and 5) and remove the machine from the iron base (U,Fig.3). DO NOT REMOVE THE PACKING PLATE (W,FIG.8) FROM THE MACHINE.

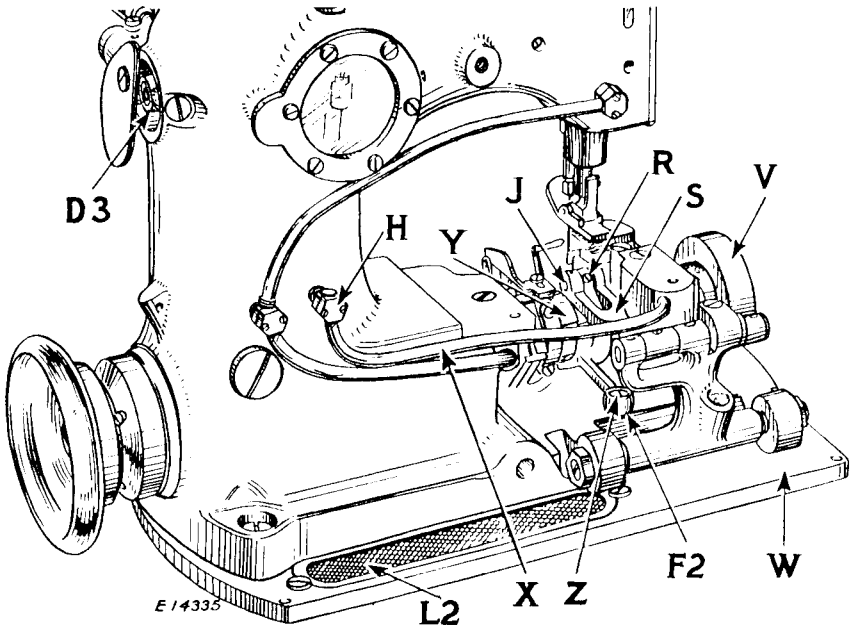


Fig. 8. Timing the Machine (Rear Side View)

Remove the cloth plate, the feed dog and presser foot. Remove oil fitting cap at (H,Fig.8) and remove oil tube (X,Fig.8).

Loosen set screw (R,Fig.8) and remove feed lifting eccentric connection hinge pin (J,Fig.8), then turn the feed bar (S,Fig.8) back, away from the machine.

Remove screw (Z,Fig.8) and remove oil guard holder (F2,Fig.8) and oil guard (Y,Fig.8). Take out the two screws which fasten the vibration damper (V,Fig.8) to the feed eccentric, and remove the vibration damper.

Place the machine (with the packing plate attached) on the table or other smooth, level surface, then turn the balance wheel over from you until the needle bar is at its highest position, at which time the top of the needle bar should be 1-1/8 inch above the top of the needle bar bushing (G2,Fig.5, page 8).

In case the position of the needle bar bushing has been disturbed, it must be set with its top exactly 1/16 inch above the top of the arm casting. To adjust, remove the face plate and the face-plate gasket, loosen the set screw which bears against the upper needle bar bushing and move the bushing to the correct position, viz: exactly 1/16 inch above the top of the arm casting; then securely tighten the upper needle bar bushing set screw. Replace face-plate gasket and face plate.

Should resetting of the needle bar be necessary, remove the face-plate gasket and the face plate, and loosen the clamping screw in the needle bar connecting stud. The needle bar can then be set at correct height, viz: 1-1/8 inch above the top of the needle bar bushing (G2,Fig.5) with the needle bar at the top of its stroke. CAUTION - When retightening the needle bar clamping screw, be sure that the thread take-up (9, Fig.5, page 8) centers in the slot (F,Fig.5, page 8) and does not scrape against either side of this slot. Replace face-plate gasket and the face plate.

With the needle bar set at the correct height, turn the balance wheel over from you to bring the needle bar down 1/2 inch from its highest position, or 5/8 inch above the top of the needle bar bushing (G2,Fig.5), THESE MEASUREMENTS BEING DETERMINED ON THE DOWNWARD STROKE OF THE NEEDLE BAR.

Next, place the gauge 138812 (J2,Fig.9, page 14), which is furnished for this purpose, on the table and at the front side of the machine, in order to locate the timing marks on the three eccentrics all in exact alignment with each other, as shown at (N2), (O2) and (P2) in Fig.9 on page 14.

With the needle bar down 1/2 inch from the top of its stroke, these three timing marks will be at the center of the rotary shaft, viz: 2-9/16 inches from the bottom of the packing plate (W,Fig.9, page 14).

These eccentrics are provided with set screws for adjustment.

The foregoing timing is correct for most work done on this machine. However, the timing of any of the motions mentioned above can, when required, be varied slightly to meet special needs, as, for instance, the sidewise motion of the looper as covered in the first paragraph of page 14.

The sidewise motion of the looper is controlled by the eccentric (P2,Fig.9). To adjust, loosen the two set screws, one of which is indicated at (R2,Fig.9) and, for a later sidewise motion, turn this eccentric over toward you, or turn this eccentric over from you for an earlier sidewise motion of the looper. When adjustment is completed, securely tighten the two set screws (R2). NOTE - This adjustment for sidewise motion of the looper would probably result in the timing mark on this cam being slightly out of alignment with the timing marks on the other two cams. However, this is entirely consistent with the instructions in the last paragraph of page 13.

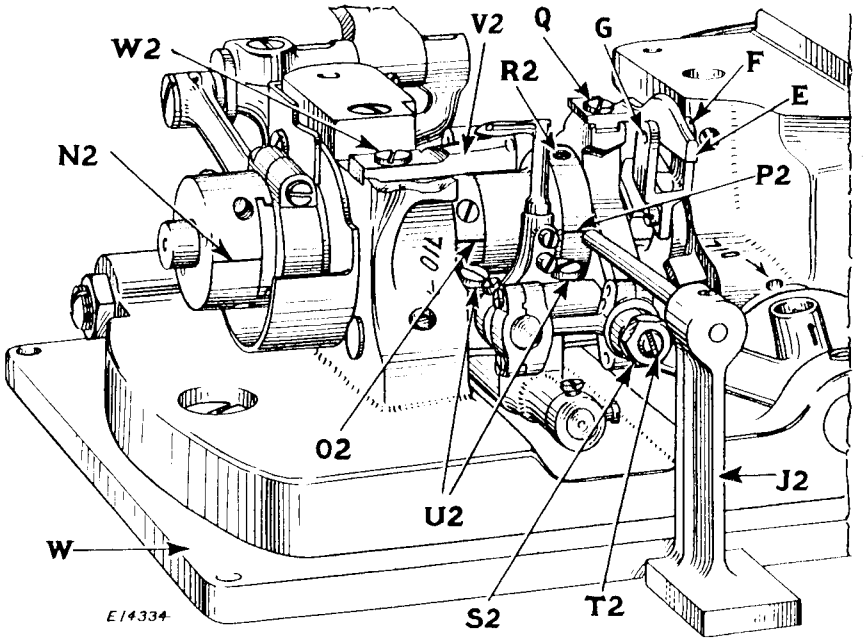


Fig. 9. Timing the Machine (Front Side View)

Replace the feed lifting eccentric oil guard (Y,Fig.8, page 12) and holder (F2,Fig.8), and fasten by means of screw (Z,Fig. 8).

Return the feed-lifting eccentric bar (S,Fig.8) to its regular position and fasten it by means of the hinge pin (J,Fig.8), having the flat of this hinge pin where the set screw (R,Fig.8) can be tightened against it.

Next replace the oil pipe (X,Fig.8) having the closed end of this oil pipe about flush with the top surface (bearing the letter "O") of the oil fitting at (H,Fig.8). Such position of the

closed end of the oil pipe (X) will insure that the oil hole in the pipe will coincide with the hole in the oil fitting (H). When tightening the two screws which fasten the cap (H) to the oil fitting, tighten these two screws alternately and by degrees.

Replace the feed dog, setting it to correct height as instructed on page 16; also replace the presser foot.

Replace the vibration damper, securely tightening the two screws which attach it to the eccentric (N2).

Attach the cloth plate to the machine. Place the machine, with packing plate attached, in the base (U,Figs.2 and 3, pages 4 and 5) and fasten in place with the four screws (M2,Figs.2 and 3).

NOTE - When the screws (M2,Figs.2 and 3, pages 4 and 5) were removed (in order to take the machine from the base plate), the oil gauge (B2,Fig.2) was detached. Be sure to REPLACE THIS OIL GAUGE when fastening the machine and packing plate to the machine base.

To Set the Looper the Correct Distance from the Needle

When the needle bar is at the bottom of its stroke, the point of the looper should be approximately 5/16 inch from the center of the needle.

To adjust, loosen nut (S2,Fig.9) and turn the screw (T2,Fig. 9), which is eccentric, to set the looper correctly with relation to the needle, then securely tighten the nut (S2).

To Change the Sidewise Position of the Looper with Relation to the Needle

The looper is made with a flat to insure the correct angle of the looper with relation to the needle when the looper is attached to the looper carrier by the two set screws.

Should the looper pass too close to, or too far away from, either the front or the rear side of the needle, loosen the two clamping screws (U2,Fig.9) in the looper carrier holder, and set the looper to provide the required clearance at both the front and rear sides of the needle, then tighten the two screws (U2).

To Adjust the Needle Guard

The needle guard (V2,Fig.9) is capable of slight adjustment to accommodate the diameter of the needle being used. Loosen screw (W2,Fig.9) and set the guard as required, then securely tighten the screw (W2).

To Set the Feed Dog

For light materials such as sugar, salt and rice bags, etc., the feed dog, at its highest position, should lift the presser foot from .070 to .075 inch above the top surface of the throat plate. For burlap and for similar softer materials, the feed dog should lift the presser foot from .080 to .090 inch above the top surface of the throat plate. The feed dog is adjustable for height by means of the screw which fastens it to the feed bar.

Presser Foot Lift

The presser foot should be set to lift 9/32 inch above the top surface of the throat plate.

To Remove Arm Rotary Shaft Flanged Bushing

To remove the arm rotary shaft from the machine, the flanged bushing (B4,Fig.10) should first be removed as follows:

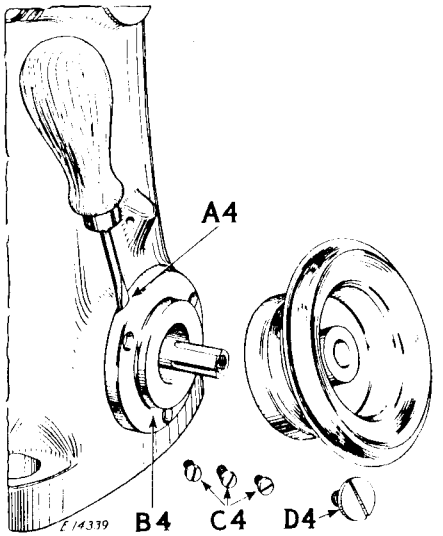


Fig. 10. Removing Arm Rotary Shaft Flanged Bushing

Loosen the two set screws in the belt groove of the balance wheel. Remove the large screw (D4) and remove the balance wheel from the arm shaft.

Remove the three screws (C4) which fasten the bushing (B4) in position. Then insert a screwdriver in the notch in the edge of the bushing, as shown at (A4) in Fig.10, and pry off the bushing.

When replacing the balance wheel on the arm rotary shaft, be sure that the two set screws enter the groove in the shaft.

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