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146-30

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or

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FOR HIGH SPEED SEWING MACHINES”

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SEWING MACHINES**

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

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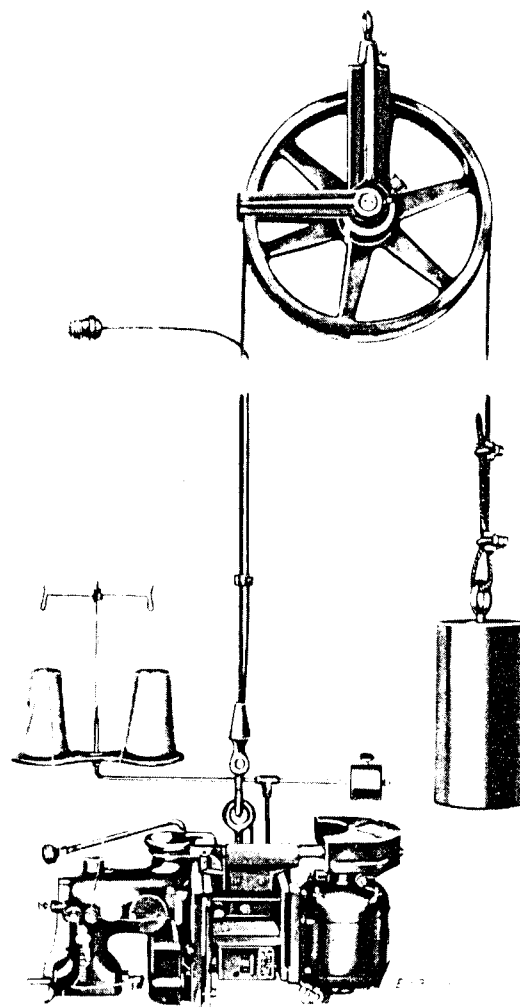
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Instructions for Installing
USING AND ADJUSTING
SINGER MACHINE 146-30



THE SINGER MANUFACTURING CO.

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INSTRUCTIONS FOR ASSEMBLING AND INSTALLING SINGER MACHINE 146-30

Description

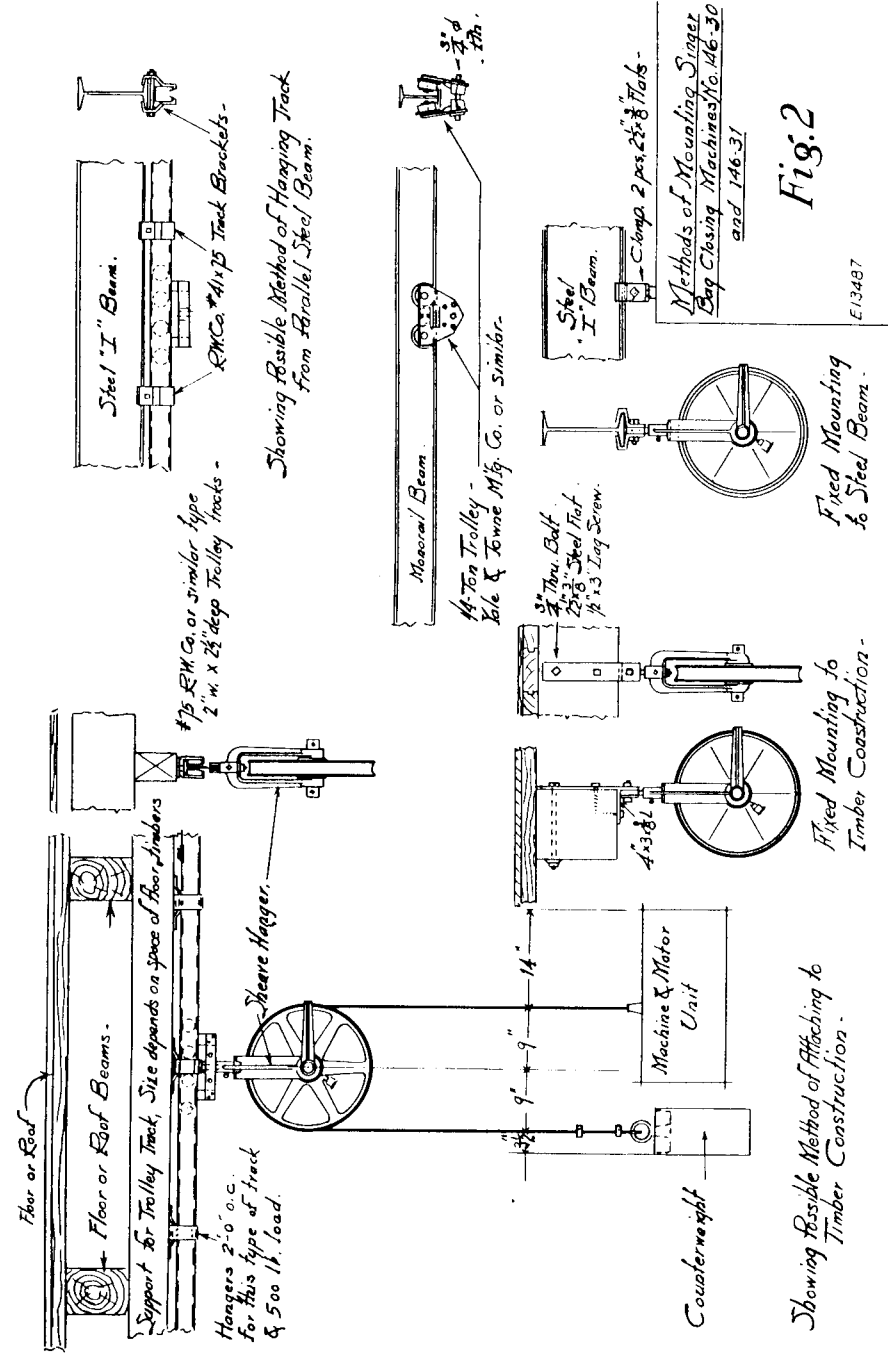
The 146-30 outfit includes a 146-1 machine head with electric transmitter motor and is designed for overhead suspension. It is used for closing bags of light and medium weight material, and the flexibility of the unit permits its use under special conditions where other equipment would be unsuitable.

Location of the Machine

The location of the machine should be carefully selected, keeping in mind that convenience in handling the bags before and after sewing is important if maximum efficiency is to be obtained. It is also important that the machine be located so as to obtain a firm overhead support such as an "I" beam or floor stringer capable of supporting a live load of AT LEAST 500 POUNDS (225kg.).

A means must be provided for fastening the sheave hanger firmly SO THAT IT CANNOT TURN ON ITS SUPPORT. Any movement of the sheave hanger will cause the machine to sway, making it difficult to handle. The sketches in Fig.2 illustrate some methods of supporting the outfit. Where ceilings are high, a drop hanger may be used, such as a length of pipe with a "U"-shaped fitting at the bottom. The eyebolt of the sheave hanger is bolted tightly between the two sides of the "U" fitting. The sheave hanger should never be supported by rope or cable, as the constant motion causes wear and finally breakage.

It is suggested that a careful study be made of each installation to insure the best results. In many cases the machine may be operated in conjunction with a conveyor system or on an overhead track, thus eliminating extra handling.



Assembling the Machine

The equipment includes the machine head, machine and motor bracket, auxiliary motor bracket, motor with switch and connec-

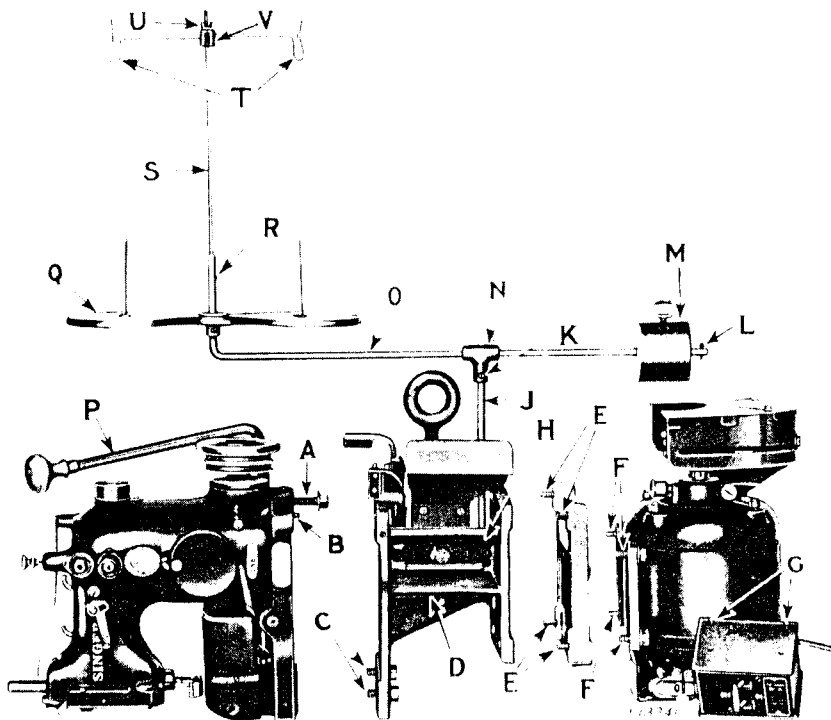


Fig.3. Showing Relative
Position of Parts Before Assembling

tions, thread unwinder, cable with eyelets and clamps, counterweight, ten pounds of buckshot, and cable sheave with hanger.

After the cable sheave and sheave hanger have been secured as previously instructed, the sewing unit is assembled as follows:

Insert the bolt (A) in the machine base as shown in Fig.3,

and have this bolt enter the slot in the bracket. Fasten the machine to the bracket by means of the four bolts (A,B and C).

When Series 38 motors are used, auxiliary motor bracket 69394 should be screwed to the motor bracket by means of the four screws (E). Then fasten the motor to the auxiliary bracket by means of the four bolts (F). After the motor is in position, connect the leather driving belt around the machine and motor pulleys. If the belt is too long, cut a little off one end before joining.

If a motor of Series 1800 or 2800 is used, the motor should be fastened directly to the motor bracket without using the auxiliary plate.

Attach the switch box to the motor bracket at (D) by means of the two screws (G), then fasten the cover to the switch box.

To Assemble the Thread Unwinder

Insert the extension (J) in the bracket and secure it by the screw (H) which must bear against the flat of the extension. Fasten the coupling (N) to the top of the extension (J) by means of the screw (K). Insert the rod (O) through the coupling and fasten by means of the set screw in the top of the coupling. Slide the equalizer (M) on the rod and insert the cotter pin at (L). Place the spool rest (Q) over the rod (O) and fasten by tightening the set screw. The rod (S) is inserted in the rod (O) and fastened by the screw (R). The two thread guides (T) are placed over the collar at the top of the rod and are held in place by the position cup (V) and the wing nut (U).

THE CUTTING LEVER (P) is fastened in position by its two screws on the rear of the machine.

Suspending Machine Head and Motor

Figure 4 shows the sewing unit supported and ready for operation. Place the machine and motor assembly on a box at about the average height of the bags to be sewn. Slip the cable hook into the large eyelet of the machine bracket as shown, and pass the cable over the sheave and through the eyelet (X) in the counterweight (W). This weight should be slightly above the level of the machine when the machine is at the desired height. Bind the end of the cable with the two clamps (Y), securely tightening both the clamp nuts and the lock nuts. The clamp (Z) holds the motor lead from the switch to the outlet socket.

CAUTION. It is important that the set screw (C2, Fig. 4) in the sheave hanger should be tightened against one of the flats on the shank of the eye bolt so that the hanger cannot turn on the eye bolt.

Ten pounds of buckshot is furnished with the outfit for final balancing of the machine. Add buckshot to the counterweight until it just balances the sewing unit. The machine should now move freely up and down and if the hanger is properly fastened, the counterweight will not sway when the machine is moved from side to side. When new thread cones are placed on the machine, a little more buckshot should be added to the counterweight, and the equalizer (M, Fig. 4) should be moved to the right. As the thread is used, this equalizer should be moved to the left from time to time to maintain a perfect, horizontal balance of the unit.

Operation of the Machine

The motor is started by moving the switch on the machine bracket to the "ON" position. When the bag to be closed is brought into position under the machine head, grasp the control handle (B2, Fig. 4) with the right hand, the fingers wrapped around the belt shifter lever (A2), and swing the machine to the edge of the bag away from you, holding the top of the bag with the left hand, ready to be fed under the presser foot. The machine is started by drawing up the belt shifter lever (A2, Fig. 4) with the fingers of the right hand, which shifts the belt from the loose pulley to the balance wheel of the machine.

As soon as the edge of the bag has passed under the presser foot, the left hand is moved to the other edge of the bag, while the machine sews across the bag in a natural manner. The machine is permitted to "chain off" about two inches beyond the edge of the bag, then the machine is stopped and while still holding the

unit toward you, press the chain cutting lever (P, Fig. 4) to the right or toward the machine to cut the chain of thread between the bag and the heel of the presser foot.

The bag is now closed and the machine is ready for the next bag.

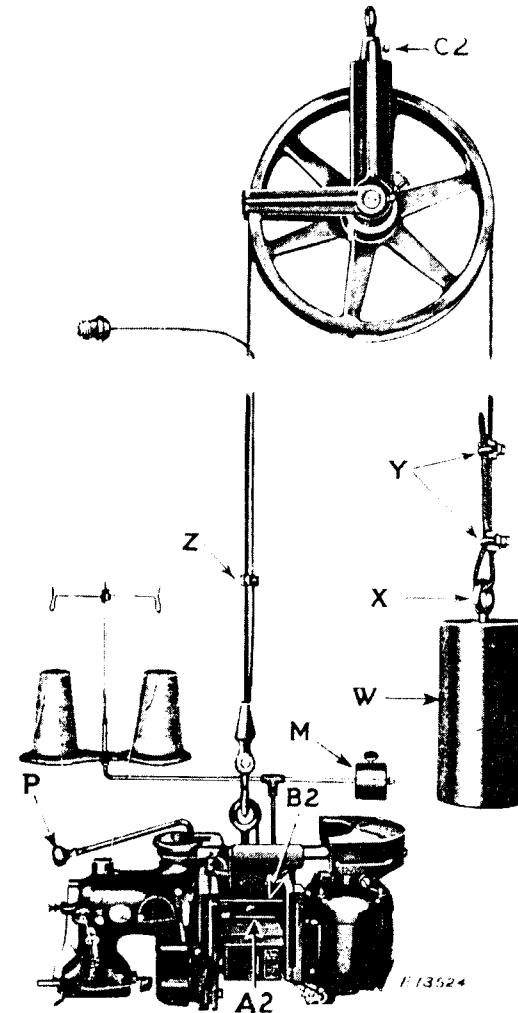


Fig. 4. Machine 146-30
Ready for Operation

INSTRUCTIONS FOR USING SINGER MACHINE HEAD 146-1

Description

Machine head 146-1 has one needle and one looper and makes the two thread chain stitch. It is fitted with chain cutting shears and is designed for operation with the balance wheel at the top.

To Oil the Machine

Before starting the machine, apply oil to all oil holes, oil tubes and the ball oilers. The ball oiler is used to prevent dust from clogging the oil tube which retains the wicking for lubricating the rotary shaft crank bearing, and care must be taken to see that the ball oiler returns to a closed position after oiling.

Sizes of Needles and Thread to be Used

Needles for Machine head 146-1 are of Class and Variety 92x1 and are made in sizes 21, 22, 23, 24 and 25.

The selection of the size of needle to be used should be determined by the size of the thread which must pass freely through the eye of the needle.

Speed

The maximum speed recommended for Machine head 146-1 is 2200 R.P.M. The machine 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.

To Set the Needle

Turn the balance wheel over to the right until the needle bar is at its highest position; loosen the nut at the lower end of the needle bar and put the needle up into the bar as far as it will go with the long groove of the needle toward the right, then tighten the nut.

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To Thread the Needle

Turn the balance wheel over to the right until the needle moves up to its highest position. Pass the thread from the spool

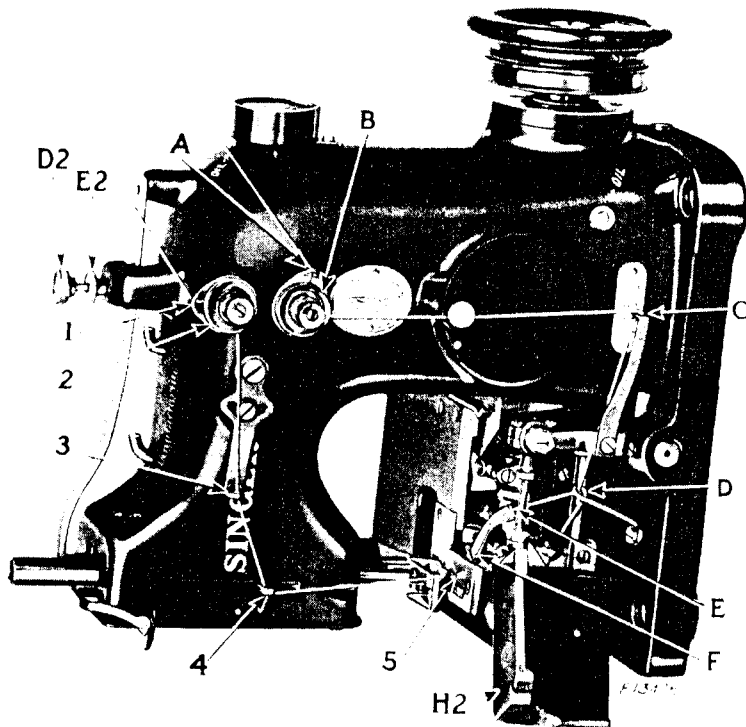


Fig. 5. Needle and Loper Threading

on the thread stand up and over the hook on the ring at the top of the thread stand, down into the tension thread guide (1, Fig. 5), around, over from front to back between the tension discs (2), down through the eye of the thread controller (3), through the hole in the end of the thread take-up (4), and from right to left through the eye of the needle (5). Draw about two inches of thread through the eye of the needle with which to commence sewing.

To Thread the Loper

Swing open the cover (H2, Fig. 5) at the front of the bed of the machine and turn the balance wheel over to the right until the needle is at its highest position.

Pass the thread from the spool on the thread stand, up and over the hook on the ring at the top of the thread stand, down into the tension thread guide (A, Fig. 5), around, under from front to back between the tension discs (B), downward through the thread controller eyelet (C), through the wire thread guide (D) attached to the bed of the machine; pass the thread under the hook (E) in the heel of the looper, along the groove in the looper and from right to left through the eye (F) in its point. Draw about two inches of thread through the eye of the looper with which to commence sewing. Close the cover (H2).

To Regulate the Pressure on the Material

The pressure of the presser foot on the material is regulated by means of the thumb screw (D2, Fig. 5) at the top of the machine. To increase the pressure, loosen the lock nut (E2, Fig. 5) and turn the thumb screw (D2) downward. To decrease the pressure, turn the thumb screw (D2) upward. When the desired pressure is obtained, securely tighten the lock nut (E2).

The pressure should be sufficient to carry the material and the chain along smoothly. Too much pressure will cause the chain to cut, too little pressure will cause the machine to chain off imperfectly.

To Regulate the Tensions

The tensions are regulated by the thumb nuts at the front of the tension discs. To increase the tensions, turn the thumb nuts over from you. To decrease the tensions, turn the thumb nuts over toward you. The needle thread requires sufficient tension to set the stitch properly in the goods, the looper thread requires less tension, in fact, only enough to prevent excessive amounts of thread being pulled off by the action of the looper.

To Regulate the Length of Stitch

Loosen the nut on the feed connection in the slot at the rear of the machine and move the feed connection toward the base of the machine to increase the length of stitch, or toward the arm of the machine to decrease the length of stitch. When the desired length of stitch is obtained, securely tighten the nut.

INSTRUCTIONS FOR ADJUSTERS AND MACHINISTS

To Set the Needle Bar at the Correct Height

To set the needle bar at the correct height, loosen the clamping screw (P2, Fig. 6) and move the needle bar upward or downward

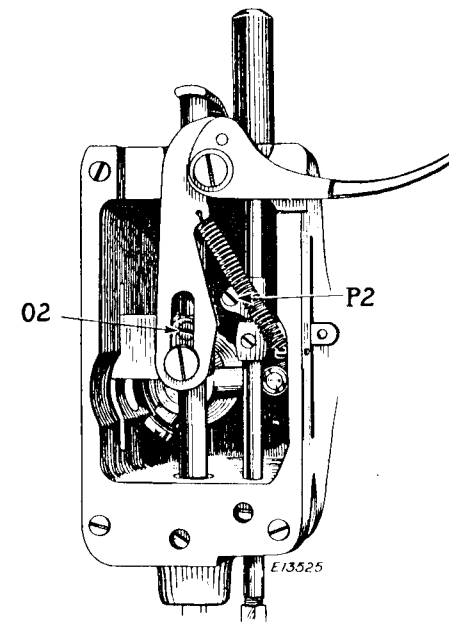


Fig. 6.

until the eye of the looper and the eye of the needle are in line when they pass each other on the upward stroke of the needle bar. Then securely tighten the clamping screw (P2).

To Set the Looper the Correct Distance from the Needle

When the needle bar is at its lowest position, the distance from the center of the needle to the point of the looper should be

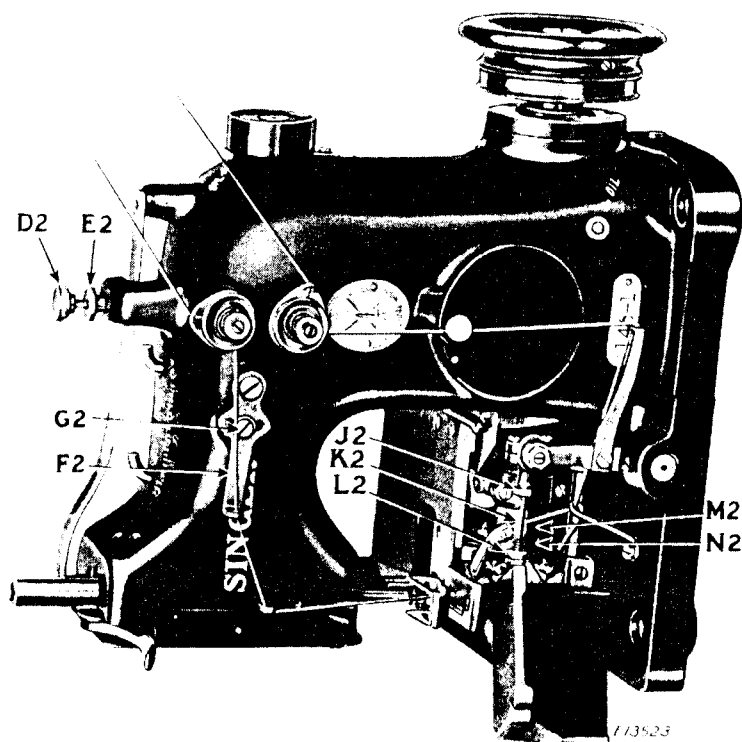


Fig.7. Adjustments

11/32 inch.

To obtain the correct distance between the center of the needle and the point of the looper, loosen the two lock nuts (J2 and L2, Fig.7), at both ends of the looper carrier pitman (K2, Fig.7), and turn the pitman as required until the correct position of the looper is obtained, then securely tighten the two lock nuts (J2 and L2).

To Set the Feed Dog at the Correct Height

The feed dog is usually set so that when it is raised to its highest position by the feed lifting eccentric, the full depth of the teeth project above the throat plate. For some thicknesses of material it may be necessary to change the height of the feed dog. To do this, turn the balance wheel until the screw which holds the feed dog in position is visible through the hole in the side of the cloth plate below the slide. Insert a screwdriver through this hole, remove the screw and take out the feed dog thus exposing the small stop screw beneath the feed dog. To raise the feed dog, turn up this stop screw; to lower the feed dog, turn down the stop screw. When the desired height has been obtained, replace the feed dog, making certain that it rests securely on the stop screw, then replace and tighten the feed dog screw.

To Time the Feed Lifting Eccentric

The timing of the feed lifting eccentric (N2, Fig.7) is fixed by tightening the second set screw in the eccentric against the flat surface of the rotary shaft. This screw is the second of the two screws which appear when the balance wheel is turned over from you.

To Change the Height of the Presser Foot

Loosen the thumb screw (D2, Fig.7) at the top of the machine, releasing the pressure of the flat spring above the presser bar, and lay the spring at the side of the bar. Raise the bar to its highest position by the lifter and loosen the set screw (O2, Fig.6) which holds the bar in position. Push the bar up until the presser foot is at the desired height, then tighten the set screw (O2), replace the flat spring on the top of the presser bar and tighten the thumb screw (D2) and lock nut (E2, Fig.7).

To Time the Feed

The feed is timed so that it starts its feeding movement just as the needle leaves the goods, and finishes its feeding movement just before the needle enters the goods.

The timing of the feed is fixed by tightening the second set

screw in the feed eccentric (M2, Fig. 7) against the flat surface on the rotary shaft. This screw is the second of the two screws which appear when the balance wheel is turned over from you.

To Adjust the Needle Thread Controller

The purpose of the needle thread controller (F2, Fig. 7) is to regulate the amount of thread drawn through the tension at the finish of the upward stroke of the needle bar. The needle thread controller (F2) can be raised or lowered to the required position after loosening the screw (G2, Fig. 7).

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