

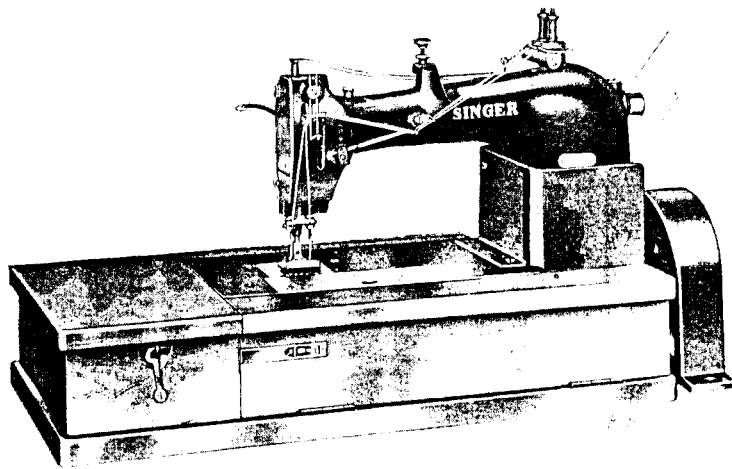
SINGER

152-1

INSTRUCTIONS
FOR USING AND ADJUSTING
SINGER SEWING MACHINE

152-1

TWO NEEDLES AND TWO LOOPERS
TWO-THREAD CHAIN STITCH



MACHINE 152-1

THE SINGER MANUFACTURING CO.

Purchasing of Parts and Needles

Supplies of parts and needles for Singer machines can be purchased at any Singer Shop for the Manufacturing Trade or ordered by mail. If orders are sent by mail, money or a post office order covering their value, including postage, should be enclosed and the order will then be promptly filled and forwarded by mail or express.

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 152-1 has two needles and two loopers and is designed for stitching facings and button stays on men's shirts, and for plain two-line, two-thread chain stitching in light and medium weight fabrics.

The distance between the two needles may be from $\frac{3}{4}$ to $1\frac{1}{2}$ inches, as ordered.

The machine has an automatic oiling system which supplies oil to all the principal bearings from a reservoir located in the base of the arm. All the excess oil drains into the machine base and flows into a convenient receptacle underneath the base.

To Set Up the Machine

Before placing the machine on the iron base, see that the rubber insulating bushings are in place in the four holes in the machine bed, and that the four felt pads are over the studs in the corners of the base. Place the machine on these pads, with the four studs through the rubber bushings.

CAUTION

After setting up, do not start the machine until it has been thoroughly oiled as instructed on pages 4 and 5.

Speed

Machine 152-1 should be driven at a speed not exceeding 3600 revolutions per minute for the first two or three days, after which it can be driven up to its maximum speed of 4000 R. P. M. when permitted by the nature of the work and the ability of the operator.

To Oil the Machine

Singer Class 152 Machines are equipped with an oiling system which automatically delivers the proper amount of oil to the principal bearings of the machine. *See large diagrams, pages 12 and 13.*

Oil in a reservoir in the arm is picked up by a scoop in the connecting rod, and lubricates the various bearings inside the arm by splash. A cup within the arm catches some of this oil, and connecting pipes and wicks distribute it to the principal bearings outside the arm.

IN ORDER THAT THIS SYSTEM MAY OPERATE, IT IS ABSOLUTELY NECESSARY THAT THE FOLLOWING INSTRUCTIONS BE OBSERVED TO THE LETTER. Failure to do this may result in **SERIOUS DAMAGE TO THE MECHANISM** of these machines.

CAUTION: Use only Singer "Manufacturing Sewing Machine Oil (Cloth and Leather)" or "Manufacturing Sewing Machine Oil (Stainless for White Goods)."

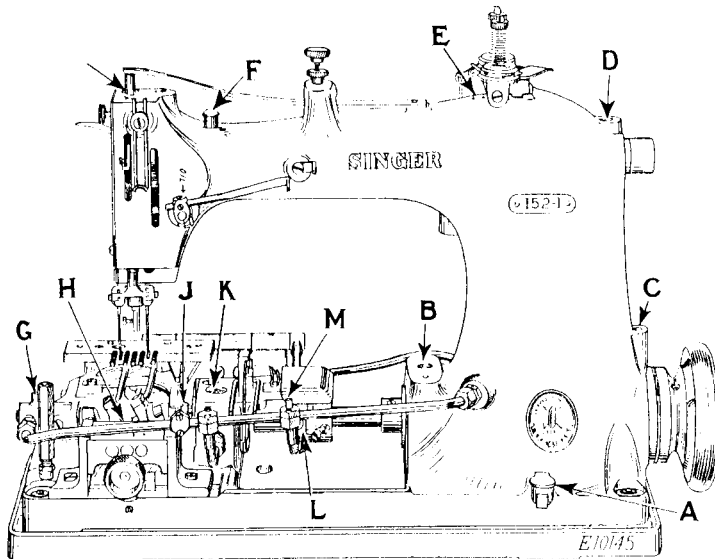


FIG. 2. PRIMING POINTS AT FRONT OF MACHINE

A machine new from the factory, or one that has not been operated for some time, must be serviced as follows:

1. Oil reservoir cup (A, Fig. 2) must be filled until it stands **LEVEL FULL** of oil approximately 2 $\frac{1}{4}$ ounces of oil. This supply must be maintained.
2. Fill oil holes (B, C, D, E, F, G, H, J, K, L, Fig. 2) and (O, Fig. 3) **LEVEL FULL** of oil.
3. Fill the main oil pipe to **OVERFLOWING** through oil hole (M, Fig. 2). This primes the various oil wicks and is very important.
4. Apply oil at all holes marked **OIL**.
5. Apply two drops of oil to upper needle bar bushing.
6. Apply a few drops of oil to the lower bearing points of the looper mechanism.

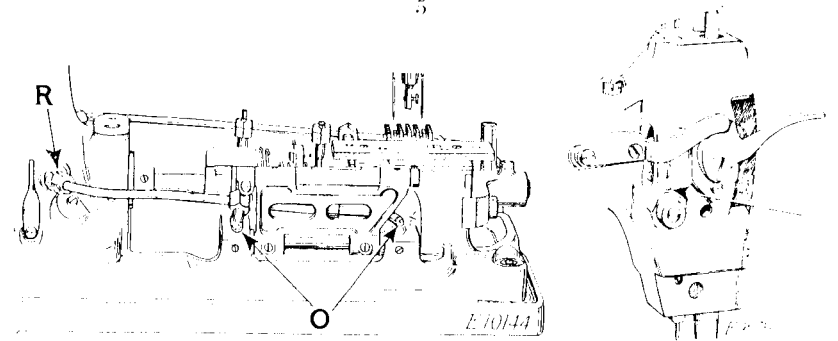


FIG. 3. PRIMING POINTS AT REAR OF MACHINE

FIG. 4. REGULAR OILING POINT AT REAR OF MACHINE

- A machine in **DAILY USE** must be oiled as follows:
1. Before starting work, fill oil cup (A) until it stands **LEVEL FULL**. The oil level in this cup indicates oil level in the reservoir. **NEVER ALLOW** the level of the oil to go more than $\frac{1}{4}$ inch below the top of the cup when the machine is at rest.
 2. Fill oil cup (F, Fig. 5) **LEVEL FULL** twice daily, or as required.
 3. Apply oil twice daily to all oil holes marked **OIL**, or as required.

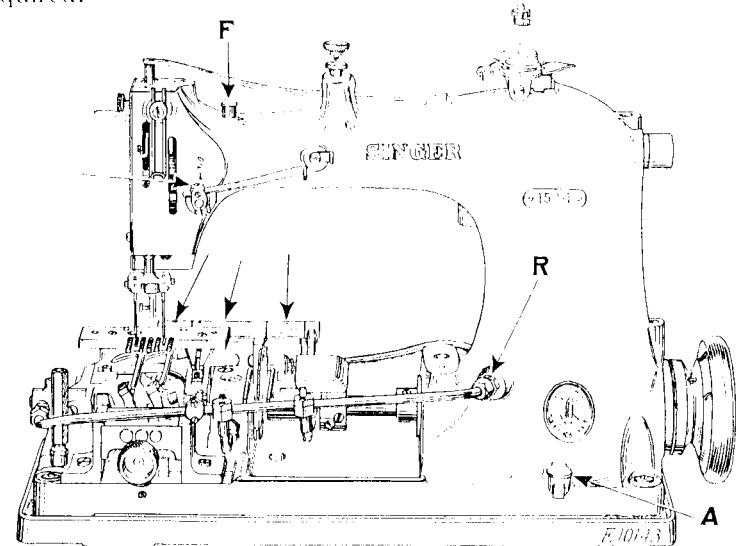


FIG. 5. REGULAR OILING POINTS AT FRONT OF MACHINE

SPECIAL NOTICE

The letter "O" which is marked on each of the oil pipe couplings (R, Fig. 3) and (R, Fig. 5) must always be at the top.

Needles

Needles for Machine 152-1 are of Class and Variety 62x41 and are made in sizes 13, 14, 16, 17, 18 and 19.

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

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

The following is an example of an intelligible order:

“100 No. 16, 62x41 Needles.”

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

To Set the Needles

Turn the balance wheel over from you until the needle bar moves up to its highest point, and loosen the two set screws in the needle clamp. Place the needles up into the needle clamp as far as they will go, with the single continuous groove in each needle toward you, then tighten the two set screws.

Upper Threading

(SEE FIG. 6)

Pass the threads from the unwinder through the holes (1 and A) in the tension thread guides and between the tension discs (2 and B)

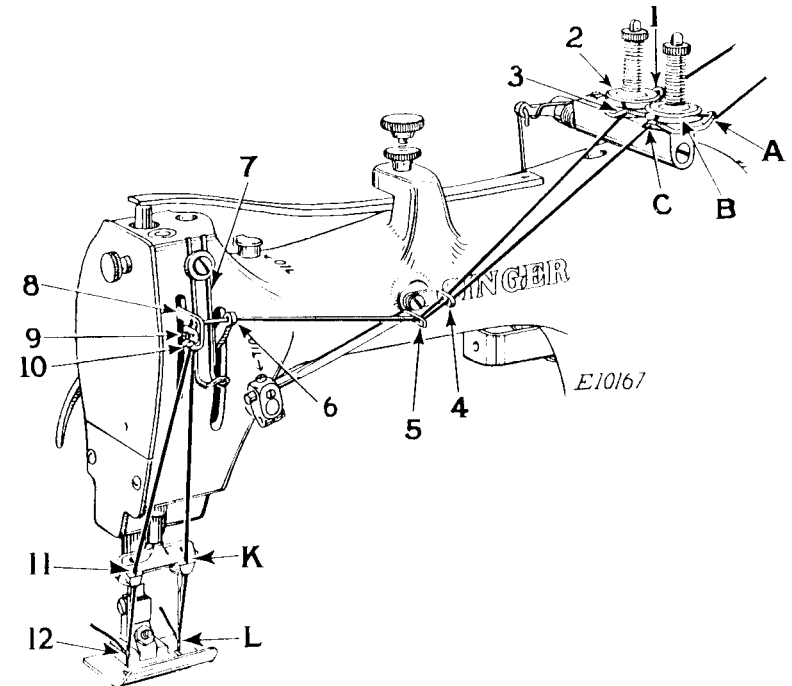


FIG. 6. UPPER THREADING

at the top of the machine, through holes (3 and C) in the tension thread guides, down through eyelets in the thread guide (4), through eyelets in slack thread regulator (5), through eyelet in thread controller (6), across front of auxiliary thread take-up wire (7) and through eyelets in thread take-up (8), under thread take-up plate (9), into notches of thread guide (10), down through holes (11 and K) in needle clamp and from front to back through eyes of the needles (12 and L).

Draw about two inches of thread through the eye of each needle with which to commence sewing.

To Thread the Loopers

OPERATOR STANDING AT THE FRONT OF THE MACHINE
(SEE FIGS. 7 AND 8)

Turn the balance wheel until the needle bar is at its highest point, and withdraw the cloth plate slide. Turn the knob (J, Fig. 8) to the left and move it downward to the position shown to bring the loopers into position for threading.

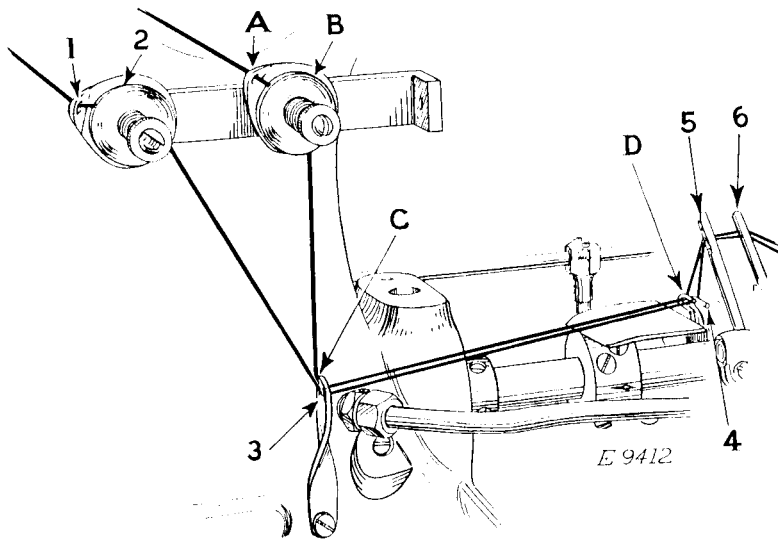


FIG. 7. THREADING THE LOOPERS

Pass the threads from the unwinder through the holes (1 and A, Fig. 7) in the tension thread guides at the rear of the machine, over between the tension discs (2 and B, Fig. 7), down through the eyelets (3 and C, Fig. 7) in the thread guide that stands up from the bed of the machine, and into the wire guides (4 and D, Fig. 7). Raise the ends of the staple which lie on both sides of the looper thread take-up and pass the threads into the eyelets (5 and 6, Fig. 8) near the ends of the staple, then through the holes (7 and G, Fig. 8) in the heels of the loopers and from you through the eyes (8 and H, Fig. 8) of the loopers.

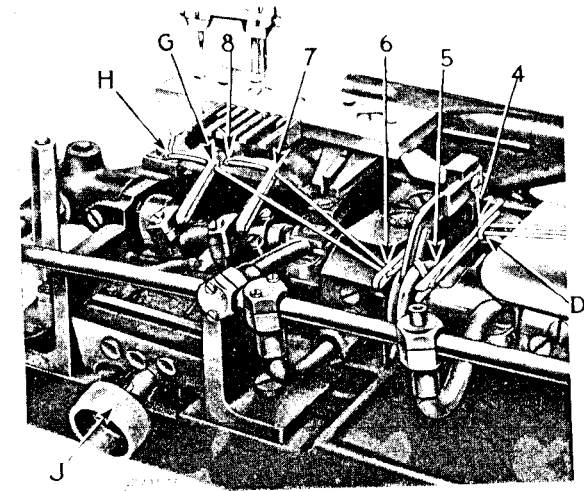


FIG. 8. UNDER THREADING

Allow about two inches of thread to hang free from the eye of each looper with which to commence sewing. After threading the loopers, push down the staple which lies on both sides of the looper thread take-up, and turn knob (J) to the right as far as it will go to lock the loopers back in sewing position.

To Regulate the Tensions

The tension on the needle threads is regulated by the thumb nuts above the tension discs at the top of the machine. The needle threads require sufficient tension to set the stitch properly in the goods.

The tension on the looper threads is regulated by the thumb nuts at the back of the machine. The tension on the looper threads should be very light.

To Regulate the Pressure on the Material

The pressure of the presser foot on the material is regulated by means of the thumb screw (D, Fig. 15, page 19) at the top of the machine. To increase the pressure, loosen the lock nut (C, Fig. 15) and turn the thumb screw (D) downwardly. To decrease the pressure, turn the thumb screw upwardly. When the desired amount of pressure is obtained, firmly tighten the lock nut (C).

To Regulate the Length of Stitch

The length of the stitch is regulated by the large screw (A, Fig. 9) which projects beyond the body of the feed eccentric on the

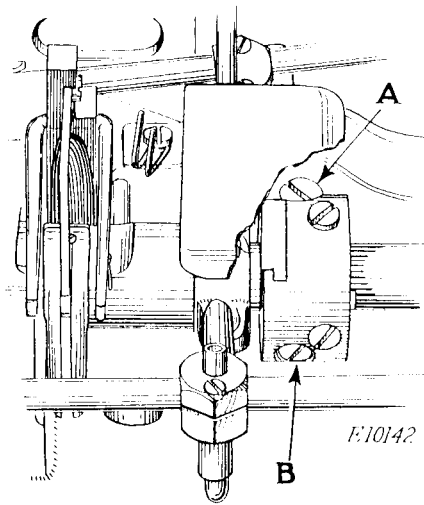
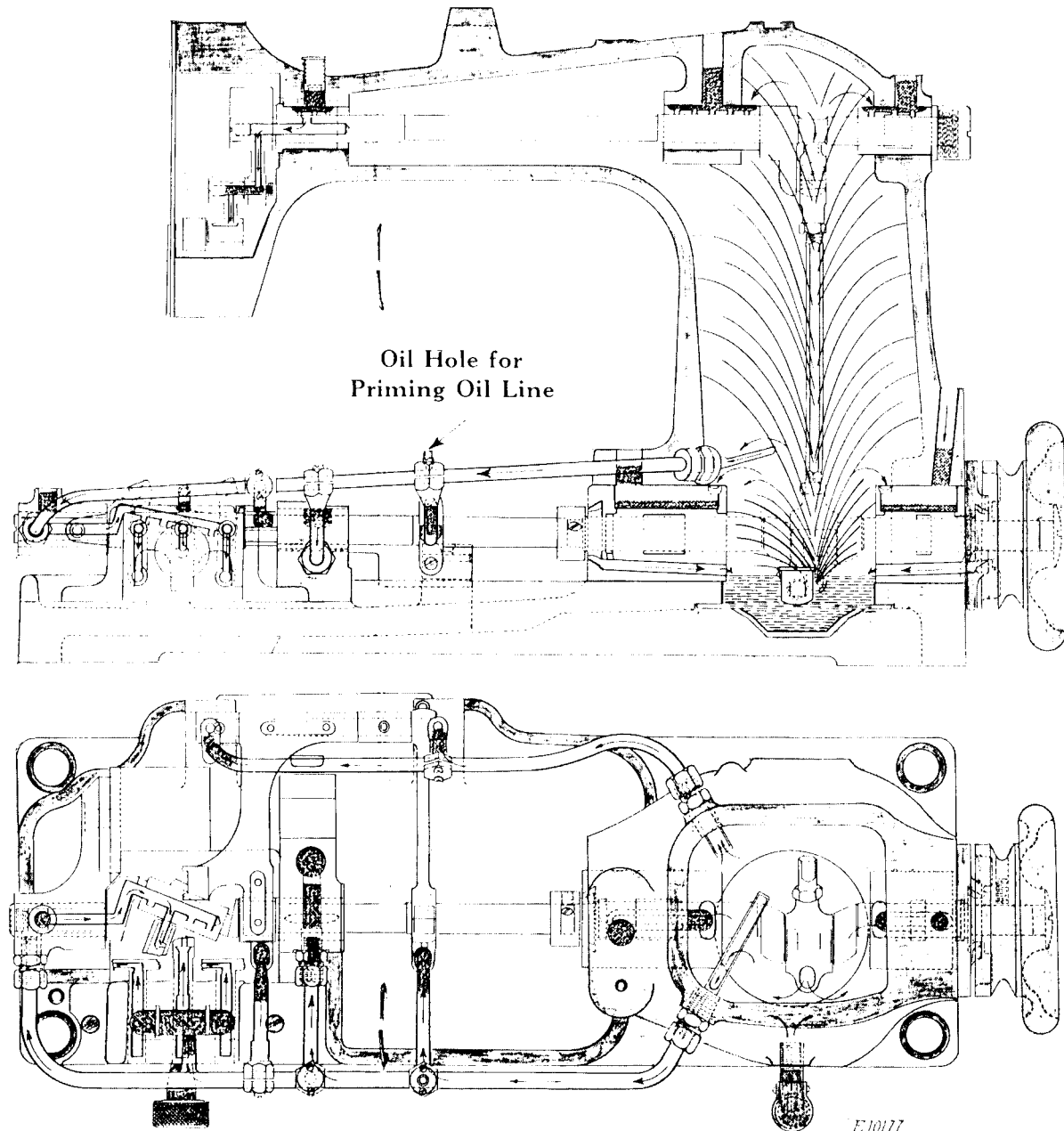


FIG. 9. FEED REGULATOR

rotary shaft. To increase the length of stitch, loosen the clamping screw (B, Fig. 9) and turn the large screw (A) over to the left or outwardly. To shorten the stitch, turn the large screw (A) over to the right or inwardly. When the desired length of stitch is obtained, securely tighten the clamping screw (B).

INSTRUCTIONS FOR ADJUSTERS AND MACHINISTS

Diagrams
of Machine showing
wicks and bearings
oiled by automatic
splash, also bearings
oiled by gravity
through tubes on
outside of the
machine.



To Remove the Cloth Plate

The presser foot and throat plate should be removed before attempting to remove the cloth plate.

To Set the Loopers in the Correct Position

When the needle bar is at its lowest position, the point of each looper should be $\frac{1}{16}$ inch from the centre of its needle. The loopers may be set at this distance after loosening the clamp screws (N, Fig. 17, page 21). See that the loopers clear the needles on both forward and backward strokes before tightening these clamp screws.

To Set the Needle Bar in the Correct Position

Turn the balance wheel over from you until the points of the loopers, on their forward stroke, reach the centres of the needles.

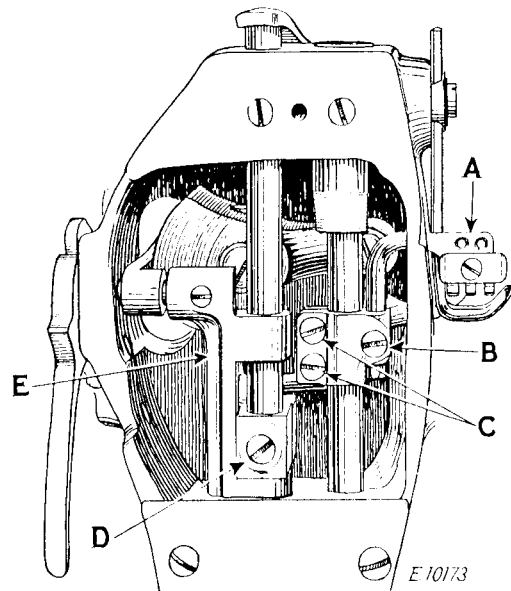


FIG. 10

When the loopers are in this position, the eyes of the needles should be about $\frac{1}{8}$ inch below the points of the loopers so that the eyes of the needles and eyes of the loopers will be in perfect alignment when they pass each other on the loop taking stroke. In case the needle bar is not set at the correct height, loosen the two set screws (C, Fig. 10) in the needle bar connecting stud and move the needle bar up or down, as required, then securely tighten the two set screws (C).

To Set the Needle Thread Take-up

The needle thread take-up (A, Fig. 10) is usually set so that the bottom of the take-up is flush with the bottom of its holder.

To Remove the Arm Rock Shaft

Remove the face plate, the needles, the presser foot and screw, and unscrew the needle clamp from the needle bar. Also remove the round cover plate at the back of the arm, carefully saving the gasket.

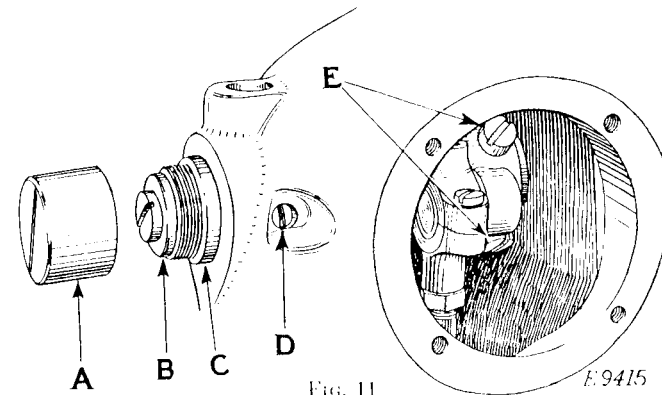


FIG. 11

Loosen the set screw (B, Fig. 10) and remove the thread take-up (A, Fig. 10). Loosen the three screws (C and D, Fig. 10) and remove the needle bar and presser bar from the top. Remove the presser bar lifting bracket (E, Fig. 10). Remove the needle bar connecting link. Remove the cap (A, Fig. 11) and the screw and washer (B, Fig. 11) at the end of the rock shaft. Loosen the two set screws (E, Fig. 11) in the rock shaft crank and with the connecting rod at its highest point, withdraw the rock shaft from the needle bar end of the arm.

When replacing the rock shaft, have the connecting rod at its highest point. Replace the screw and washer (B, Fig. 11) in the end of the shaft, then turn the balance wheel a few turns by hand to allow the rock shaft crank to align itself before tightening the two set screws (E, Fig. 11) on their flats.

The amount of end play in the rock shaft is regulated by loosening the set screw (D, Fig. 11) and moving the bushing (C, Fig. 11) endwise. Caution must be used when making this endwise adjustment, as there should be a little end play in the rock shaft when cold to allow for the expansion which takes place when the machine is warmed up.

To Change the Amount of Needle Avoiding Motion of the Loopers

The amount of sidewise movement of the loopers is regulated by moving the rotary shaft endwise, toward the needles for less

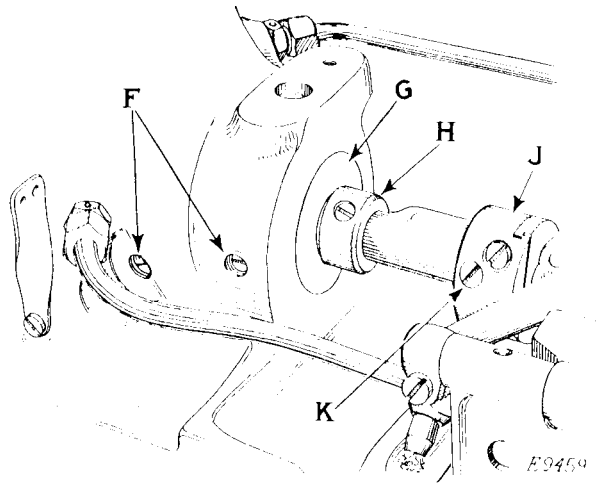


FIG. 12

sidewise motion and away from the needles for more sidewise motion. The loopers should pass as close to the needles as possible, on their forward and backward strokes, without touching the needles. To make this adjustment, loosen the two set screws (E, Fig. 11) in the rock shaft crank; also loosen the two set screws in the feed eccentric (J, Fig. 12), as these two connections must be free. As the set screws in the collar (H, Fig. 12) enter a groove in the shaft, this collar should not be disturbed. Loosen the cap screw at the right of the balance wheel, also loosen the two set screws in the belt groove of the balance wheel and the two set screws (F, Fig. 12) which hold the intermediate bushing (G, Fig. 12) in position. Tap this bushing to the right or left until the correct amount of sidewise motion of the loopers is obtained, then tighten the set screws (F, Fig. 12). Turn the screws in the belt groove of the balance wheel lightly into the grooves in the shaft, then turn the cap screw at the right of the balance wheel enough to take up end play in the shaft, allowing enough for the expansion which takes place when the machine is warmed up. Tighten the screws in the belt groove, then tighten the cap screw. Turn the balance wheel a few times by hand to allow the rock shaft crank and feed eccentric to align themselves, then securely tighten the set screws (E, Fig. 11) against their flats, and time the feed eccentric (J, Fig. 12) as instructed on page 17.

To Time the Feed

The correct timing of the drop feed is determined by having the set screw (K, Fig. 12) which is next to the lock screw in the feed eccentric (J, Fig. 12) bear against the flat portion of the rotary shaft.

To Adjust the Slack Thread Regulator

The slack thread regulator (C, Fig. 13) on the front of the machine should be set so that when the loopers are shedding

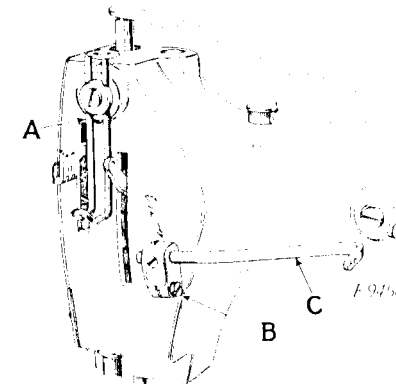


FIG. 13

the needle loops on their backward stroke, the thread will not snap off the points of the loopers nor be drawn through the tension discs. To set the slack thread regulator, it is best to start with the regulator in a low position and then continue raising the regulator until the loopers back out of the needle loops with a little tension on the thread. To make this adjustment, loosen the clamping screw (B, Fig. 13) and raise or lower the slack thread regulator as may be required, then securely tighten the clamping screw (B).

To Adjust the Auxiliary Thread Take-up

The auxiliary thread take-up (A, Fig. 13) at the front of the machine should be set so that it takes up the slack of the needle threads after the loopers have shed the needle loops and as the needle bar finishes its downward stroke and the stitch is set. To change the position of the auxiliary thread take-up, loosen the screw which holds it in position and raise or lower it, as required, then tighten the screw.

For some threads it will be necessary to set the auxiliary thread take-up at a height different from that required by others, owing to the differences in finish, twist, elasticity, etc.

To Time the Loper Thread Take-up

The looper thread take-up (D, Fig. 14) should be timed when the needles are at their highest point and the loopers are just

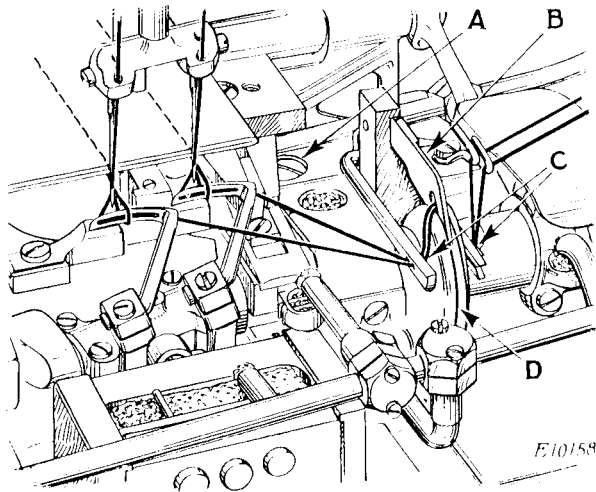


FIG. 14

commencing their backward stroke or loop shedding motion, at which time the flat or straight part of the take-up (D) should just touch the threads between the two eyelets in the thread take-up staple (C, Fig. 14). As the needles move downwardly, the take-up (D) should just take up the slack thread from the loopers, keeping the threads straight from the eyes of the loopers to the last stitch formed. The looper thread take-up (D) can be correctly timed after loosening the screws which hold it in position on the rotary shaft. The looper thread take-up should just take the slackness out of the threads when the loopers are on their backward stroke.

To Adjust the Loper Thread Take-up Stripper

The purpose of the looper thread take-up stripper (B, Fig. 14) is to cast the threads off the take-up (D, Fig. 14) after the needles have entered the triangles formed by the looper blades, the looper threads and needle loops, as shown in Fig. 14, and to hold them in position on the take-up until the points of the loopers have entered the needle loops on their loop-taking motion. At this point the stripper should release the threads and allow them to go freely with the loopers. To adjust the stripper, loosen the screw at the right of the stripper and move the stripper forward or backward, as required, then tighten the screw.

To Adjust the Needle Thread Tension Releaser

The function of the needle thread tension releaser is to release the tension on the needle threads when the presser foot is raised.

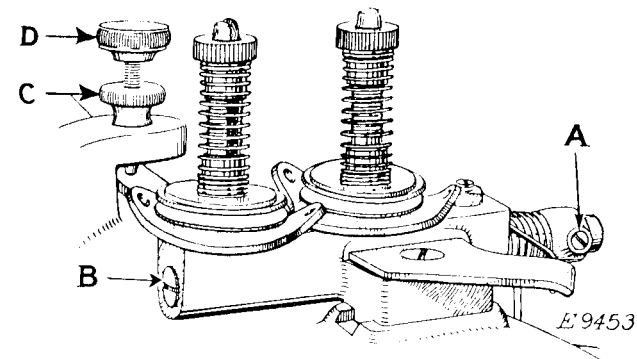


FIG. 15

If the tension releaser does not release the threads when the presser foot is raised, or if the tension is partially released when the presser foot is down, loosen the set screw (A, Fig. 15) and turn the shaft (B, Fig. 15) to the right or left until the correct adjustment is obtained, then tighten the set screw.

To Level the Throat Plate with the Feed Dog

The throat plate holder is provided with an adjustment for changing the level of the throat plate in relation to the feed dog so that the machine can be made to feed the work straight.

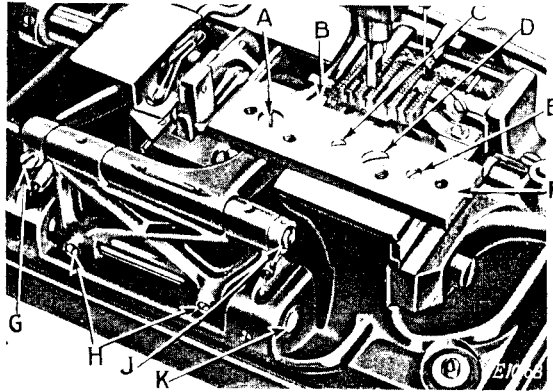


FIG. 16

If the work feeds to the right, remove the throat plate and raise the left side of the throat plate holder (F, Fig. 16) by loosening the holder screw (D, Fig. 16) and turning down the set screw (E, Fig. 16). If the work feeds to the left, raise the right side of the holder by turning set screw (C, Fig. 16). Only one of the set screws (C and E) should be used at a time so that one side of the throat plate holder will always rest on its seat.

NOTE: If for any reason it is necessary to move the throat plate holder sidewise to centre the needles in the needle holes, the screw (A, Fig. 16) should be loosened to allow the feed bar guide (B, Fig. 16) to locate itself. This should also be done if the feed rocking frame is moved sidewise to centre the feed dog in the throat plate slots.

To Remove the Feed Mechanism

Remove the throat plate holder and feed dog. Loosen the clamp screw (G, Fig. 16) in the feed connecting rod and slip the feed bar hinge pin (J, Fig. 16) out far enough to release the connecting rod. Loosen the two set screws (H, Fig. 16) in the feed rocking frame and remove the hinge pin (K, Fig. 16). The feed assembly can now be removed from the machine.

After replacing the feed mechanism, the feed dog should be centred in the slots in the throat plate by loosening the clamp screw (G) and rotating the hinge pin (J) as required.

To Set the Feed Dog at the Correct Height

When the feed dog is at its highest point, practically the full depth of the teeth should project through the slots in the throat plate. The height of the feed dog is determined by the stop screw (B, Fig. 17) which may be turned to the right or left as required after removing the feed dog.

To Set the Needle Guard

The function of the needle guard (C, Fig. 17) is to prevent the needles springing into the path of the loopers when the loopers are on their forward stroke. The needle guard should be set as close as possible to the needles without touching them. To set the needle guard in the correct position, loosen the set screw (F, Fig. 17) and move the guard to or from the needles, as may be required, then securely tighten the set screw (F).

The needle guard can be adjusted sidewise to clear the feed dog after loosening the screw (D, Fig. 17).

To Remove the Looper Mechanism

Take out the two screws which hold the cap (O, Fig. 17), unscrew the coupling nut (J, Fig. 17) and the coupling nut at the

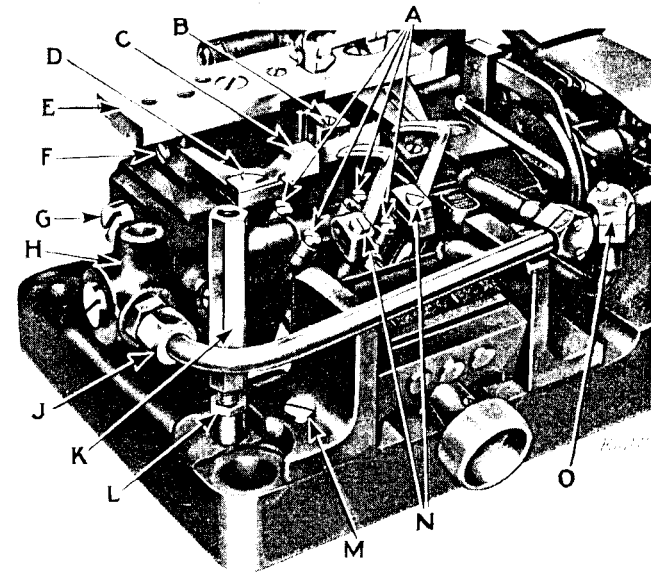


FIG. 17

base of the arm, and remove the front oil pipe. Take out the screw (F, Fig. 17) and remove the needle guard holder. Loosen

the lock nut (L, Fig. 17) and remove the cloth plate post (K). Take out the four screws (A, Fig. 17) in the looper shaft connection and remove the cap. Take out the screw (M, Fig. 17) which holds the slide block bracket, and the looper assembly may then be removed.

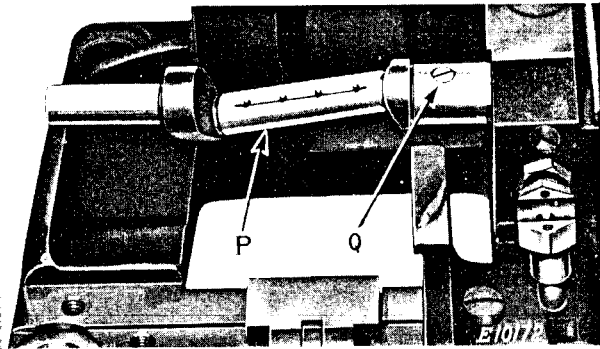


Fig. 18

To remove the looper shaft (P, Fig. 18) from the machine, first remove the feed dog and feed bar. Then take out screw (G, Fig. 17) and remove the bracket (H, Fig. 17). Take out the screw (Q, Fig. 18) which locks the looper shaft to the rotary shaft, and remove the looper shaft. Care must be taken not to spring this shaft when removing or replacing it, as this would cause it to bind and heat when bracket (H, Fig. 17) is replaced.

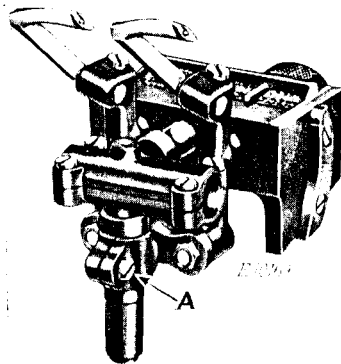


Fig. 19

NOTE: If for any reason the clamp screw (A, Fig. 19) should be loosened when the looper holders are out of the slide block, the three parallel shafts of the looper holders and connection must be replaced in the slide block to properly align the parts before retightening the clamp screw (A, Fig. 19).

When replacing the looper mechanism, first place the looper assembly in position and replace the cap with the four screws (A, Fig. 17). Now bring the left slide block bracket into position so that it fits as closely as possible against the looper throw-out slide block without preventing its free movement when throwing out the loopers for threading. Then securely tighten the screw (M, Fig. 17).

The top of the cloth plate post (K, Fig. 17) should be just level with the throat plate holder (E, Fig. 17) so as to hold the cloth plate level. When the post is set at the correct height, tighten the lock nut (L, Fig. 17).

When replacing the front oil pipe, see that the letter "O" which is marked on the oil pipe coupling (R, Fig. 5, page 5) is at the top.

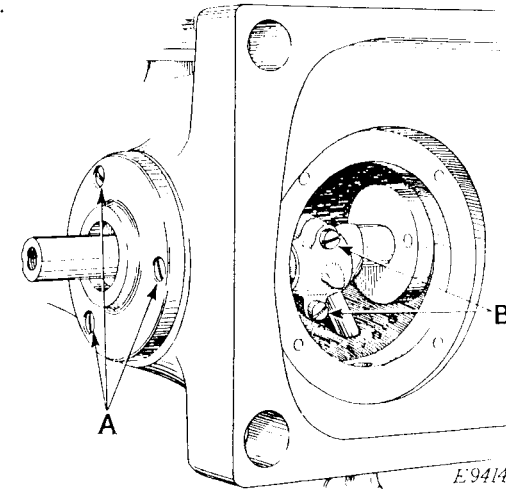


Fig. 20

To Remove the Arm Rotary Shaft

Remove the screw (Q, Fig. 18) which locks the looper shaft to the rotary shaft. Remove the arm bottom cover underneath the machine and take out the two screws (B, Fig. 20) and remove the connecting rod cap. Loosen the set screws in the collar (H, Fig. 12); also loosen the set screws in the feed eccentric (J, Fig. 12) and the looper thread take-up (D, Fig. 14). Take out the screw (A, Fig. 14) and remove the take-up stripper bracket. Take out the cap screw at the right of the balance wheel, loosen the two set screws in the belt groove and remove the balance wheel. Take out the three screws (A, Fig. 20) in the rotary shaft flanged bushing and remove this bushing. To facilitate the removal of the rotary shaft from the machine, it is advisable to replace the balance wheel on the shaft and tighten the two set screws, as some of the connections may bind slightly on the shaft.