

TM-DGSC-3530-94

**OPERATING INSTRUCTIONS, PARTS LIST
and MAINTENANCE PROCEDURES**

FOR

CONSEW MODEL 30 SEWING MACHINE

Also

Rebuilt SINGER Machine

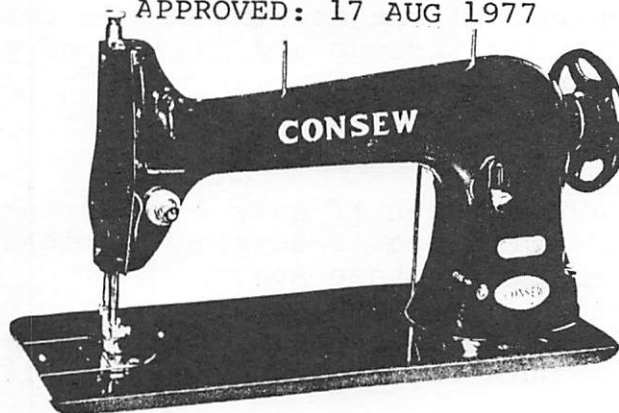
Class 31 - 15

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FED SPEC 00-S-256E, Class 3, Style A

APPROVED: 17 AUG 1977



CONSOLIDATED SEWING MACHINE

New York / California



SETTING UP THE MACHINE

Carefully unpack machine from packing case and make sure that all small parts and accessories are removed from packing material.

Wipe machine clean of protective grease and lubricate oil holes with a good grade of sewing machine oil. (see Below)

CAPACITY AND SPEED

Maximum operating speed after a break-in period is 2000-2200 stitches per minute depending, of course, on the type of material being sewn, its thickness and that of the seams being crossed.

To assure durability and trouble-free operation it is imperative that for the first several weeks of operation the maximum speed is held to not more than 2000 RPM in order to allow the parts to become properly broken in.

DIRECTION OF ROTATION

In operation the handwheel of the machine always turns toward the operator. To avoid tangled threads and jamming of the sewing hook, do not turn handwheel otherwise.

OILING

Do not operate the machine, even if only for testing, unless it has been properly oiled at every spot requiring lubrication. The following illustrations indicate these spots.

Oiling must be done at least twice daily when the machine is in continuous operation to assure free running and durability of the operating parts.

NOTE---During the break-in period a new machine should be oiled more frequently.

LUBRICATION CHART

The lubrication chart (see fig. 1) prescribes lubrication maintenance. The service interval specified on the lubrication chart is for normal operating conditions. Failure will result in malfunctioning or damage to the machine. The lubricant prescribed for use on the machine is an all-temperature lubricant.

POINTS OF APPLICATION

Lubrication points are readily located by reference to the lubrication chart, which is supplemented with individual photographs of the points of lubrication (see figs. 2 to 5). Wipe lubricators and surrounding surfaces clean before applying lubricant.

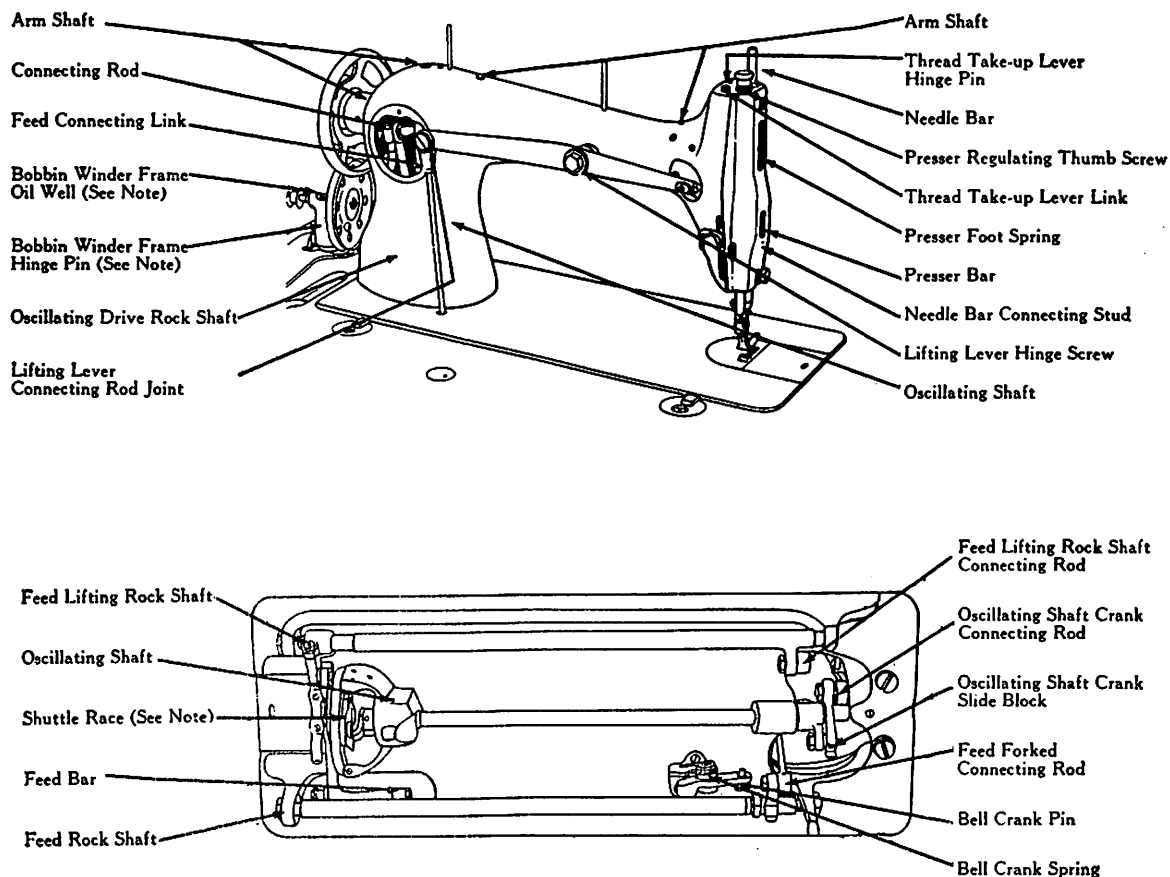
LUBRICATION CHART

CONSEW SEWING MACHINE - MOD. 30

Also

Rebuilt SINGER Machine

Class 31 - 15



— NOTES —

The machine should be oiled twice a day by applying from one to three drops of lubricating oil (oil) to each of the oil can points indicated above by an arrow. Do not flood these moving parts with oil nor ignore the four hour lubricating interval.

BOBBIN WINDER—Every day lubricate the bobbin winder frame oil well and bobbin winder frame hinge pin with one or two drops of lubricating oil (oil).

FACE ASSEMBLY—Every week the face plate should be removed and the uncovered bearings and joints lubricated with two or three drops of lubricating oil (oil).

SHUTTLE RACE—Twice every day apply lubricating oil (oil) to the shuttle bearing in the shuttle race, at the same time rubbing two or three drops of oil over the surface of the shuttle race itself. Every week remove the shuttle body from the shuttle race, clean and lubricate it.

Fig. 1

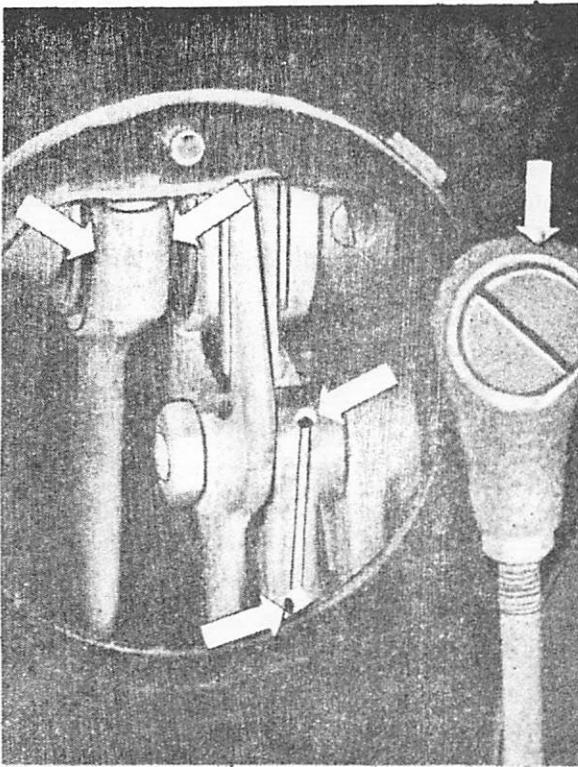


Figure 2. Feed eccentric.

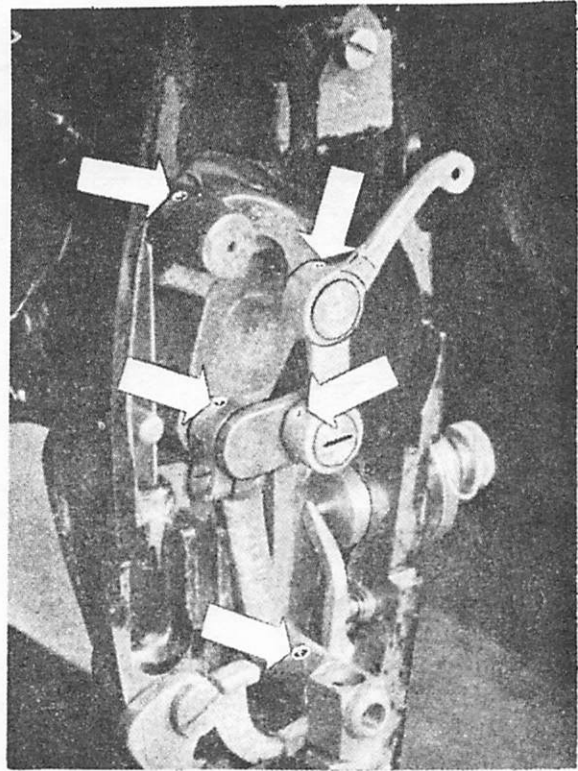


Figure 3. Face assembly.

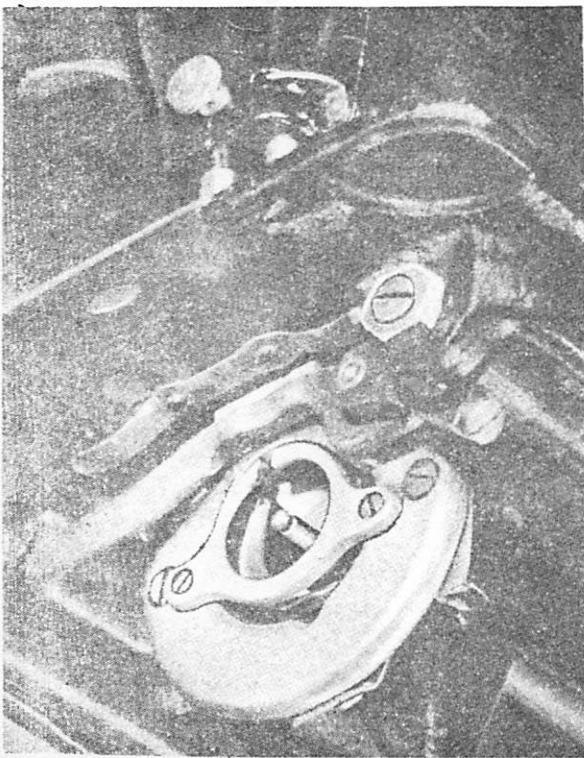


Figure 4. Shuttle race.

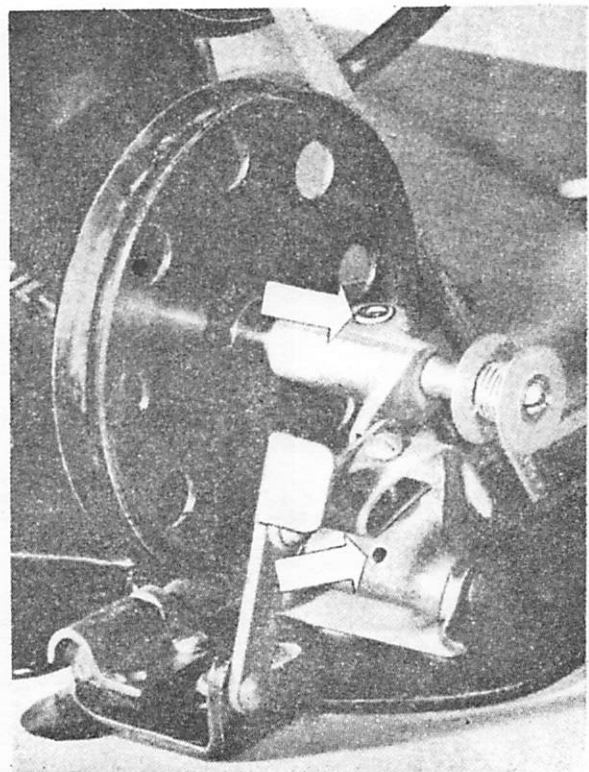


Figure 5. Bobbin winder.

Lubricant. The lubricating oil used to lubricate the tailoring machine is a highly refined mineral oil with a low pour point. It may be used in all temperatures.

LUBRICATION NOTES ON INDIVIDUAL UNITS AND PARTS

- (a) Twice daily, add one to three drops of lubricating oil to the following parts:
1. Needle bar.
 2. Needle bar connecting stud.
 3. Presser bar.
 4. Presserfoot spring.
 5. Presser regulating thumbscrew.
 6. Thread take-up lever hinge pin.
 7. Thread take-up lever link.
- (b) Every week, remove the faceplate, clean the assembly, and lubricate the following moving parts with two or three drops of lubricating oil to supplement the surface oiling of the machine (fig. 3).
1. Needle bar connecting stud roller.
 2. Thread take-up crank.
 3. Thread take-up lever crank.
 4. Thread take-up lever hinge pin.
 5. Thread take-up lever link hinge pin.

Arm assembly. Twice a day, add one to three drops of lubricating oil to the following moving parts:

- (a) Arm shaft (to be lubricated through four oilholes).
- (b) Feed connecting link. (Loosen the thumbscrew in the round cover plate on the back of the upright and turn the cover plate up to lubricate link. (see fig. 2).
- (c) Feed lifting rock shaft crank connecting rod. (See note in (b) above.)
- (d) Lifting lever connecting rod joint.
- (e) Lifting lever hinge screw.
- (f) Oscillating rock shaft.
- (g) Oscillating shaft.

Bed assembly. Twice a day, lubricate the following moving parts with one to three drops of lubricating oil ()::

- (a) Bell crank pin.
- (b) Bell crank spring.
- (c) Feed bar.
- (d) Feed drive connecting rod.
- (e) Feed lifting connecting rod.
- (f) Feed lifting rock shaft.
- (g) Feed rock shaft.
- (h) Oscillating shaft.
- (i) Oscillating shaft crank connecting rod.
- (j) Oscillating shaft crank slide block.

Bobbin winder assembly. Every day, add one or two drops of lubricating oil (MO) to the bobbin winder frame oil well and bobbin winder frame hinge pin (fig. 5).

Shuttle race. Twice a day, lubricate the shuttle bearing in the shuttle race with two drops of lubricating oil (MO). At the same time, rub two or three drops of oil over the surface of the shuttle race itself. Every week, remove the shuttle body from the shuttle race, according to page 19; clean, lubricate, and replace it.

MOTOR SWITCH

A toggle switch is located on the left side of the machine stand beneath the table top.

MOTOR CLUTCH PEDAL

The motor is connected to the motor driving pulley by a clutch, which is operated by the foot treadle. To connect the motor with the machine, press this treadle. If the brake on the clutch does not stop the machine promptly, it may be adjusted for a closer fit.

KNEE LIFTER

The presserfoot can be raised by operating the knee lifter to the right. This knee lifter connects with a knee lifting lever on the bottom of the head of the machine. A knee lifting lever push rod runs up and behind the arm of the machine to the presserfoot.

HAND LIFTING LEVER

The presserfoot may also be lifted and locked in its raised position by raising the hand lever to its highest position. After the presserfoot has been locked in its raised position, it may be released by pressing the knee lifter to the right.

PRESSERFOOT PRESSURE ADJUSTMENT

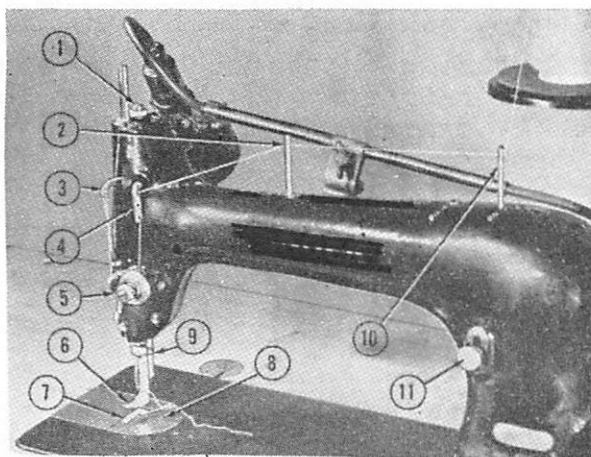
The pressure of the presserfoot upon the material enables the feed dog to push the material forward each time the needle goes up. For the needle to make an even stitch, the material must move forward at a uniform speed. If the pressure is too light, the dog does not feed the material, the needle hits in one place on the material, and the bobbin thread knots up. If the pressure is too great, the feed dog is worn unnecessarily and feeds the bottom fabric faster than the upper fabric. The pressure on the presserfoot is regulated by the pressure regulating thumbscrew (1, fig. 6) on top of the machine. To increase the pressure, turn the thumbscrew to the right; to decrease the pressure, turn it to the left.

TIMING OF FEED DOG, NEEDLE, AND THREAD TAKE-UP LEVER

If the feed dog stands too high, or if it is out of time with the needle, make the necessary adjustments in accordance with instructions on page 18.

STITCH-ADJUSTING SCREW

The feed regulator thumbscrew (11, fig. 6) on the front of the arm regulates the length of the stitch. To change the length of the stitch, loosen the thumbscrew and move it down to lengthen the stitch, and up to shorten the stitch. When the desired length is being sewed, tighten the screw.



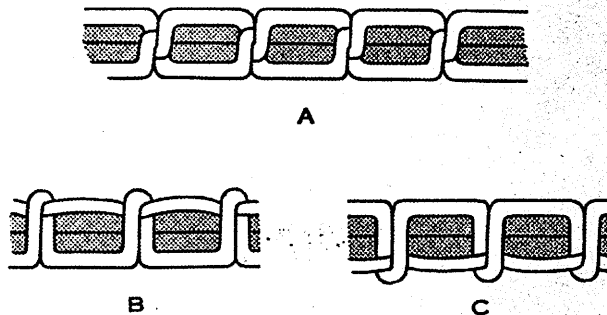
<u>Ref. No.</u>	<u>Consew Part #</u>	<u>Singer Part #</u>	<u>Nomenclature</u>
1	128	688	Pressure regulating thumbscrew
2	222	52339	Left-hand spool pin
3	157	12409	Thread take-up lever
4	133	52454	Thread retainer
5	115	1560	Tension regulating thumb nut
6	201	19336	Presserfoot
7	190	26603	Feed dog
8	188	26605	Throat plate
9	126	190	Needle clamp screw
10	222	52339	Right-hand spool pin
11	167	818	Feed regulator thumbscrew (for regulating length of stitch)

Figure 6. Operating controls and Maintenance Points

THREAD TENSIONS

a. Correct Tension. For ordinary stitching, the bobbin and needle threads should be locked in the center of the thickness of the material, as illustrated in A, figure 7. If the tension on the needle thread is too tight, or if that on the bobbin thread is too loose, the needle thread will be straight along the upper surface of the material, as illustrated in B, figure 7. If the tension on the bobbin thread is too tight, or if that on the needle thread is too loose, the bobbin thread will be straight along the under side of the material, as illustrated in C, figure 7. If both threads are too tight, the material will be puckered and drawn together by the stitches, and the threads will break.

b. Bobbin Thread Tension. The tension on the bobbin thread is regulated by the bobbin case tension spring screw pointed out by the screw driver in figure 8. To increase the tension, turn the screw to the right. To decrease the tension, turn the screw to the left. When the tension on the bobbin thread has been properly adjusted, it is seldom necessary to change it, because a correct stitch can usually be obtained by varying the tension on the needle thread.

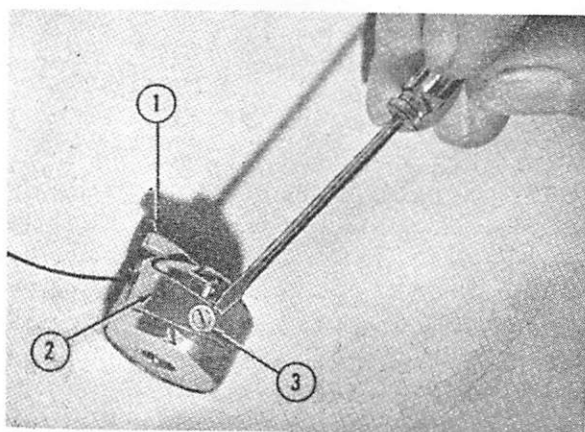


- A. Perfect stitch.
- B. Tight needle thread tension.
- C. Loose needle thread tension.

Figure 7. Effect of tension on stitch.

c. Needle Thread Tension. The tension on the needle thread is controlled by the tension regulating thumb nut (5, fig. 6) on the tension controller. To change the needle thread tension, proceed as follows:

- (1) Lower the presserfoot so that it rests upon the feed dog. The tension disks, if correctly adjusted, will then be closed. The tension should be regulated only when the presserfoot is down.
- (2) To increase the tension, turn the thumb nut to the right. To decrease the tension, turn the thumb nut to the left.



<u>Ref. No.</u>	<u>Part No.</u>	<u>Nomenclature</u>
1	Shuttle bobbin case position finger
2	15278	Shuttle tension spring
3	591F	Shuttle tension regulating screw
-	2996	Shuttle bobbin
-	62740	Shuttle bobbin case, complete
-	15140	Shuttle bobbin case latch
-	2973	Shuttle bobbin case latch lever
-	2974	Shuttle bobbin case latch lever fulcrum

Figure 8. Shuttle bobbin case with screw driver indicating shuttle tension regulating screw.

REMOVING BOBBIN

- a. Turn the balance wheel toward you until the needle moves up to its highest point.
- b. Draw out the slide (view plate) in the bed of the machine.
- c. Reach under the stand top. With the thumb and forefinger of the left hand, open the latch on the bobbin case (see fig.13) and, holding the bobbin case by the latch, lift it to the left and out of the shuttle race.
- d. As long as the latch is held open, a sliding lug inside the bobbin case holds the bobbin inside the case. When the bobbin case is turned open-side down, and the latch is released, the bobbin will drop out. Do not try to force the bobbin out of the case while the latch is open.

WINDING BOBBIN

To wind thread on bobbin, proceed as follows:

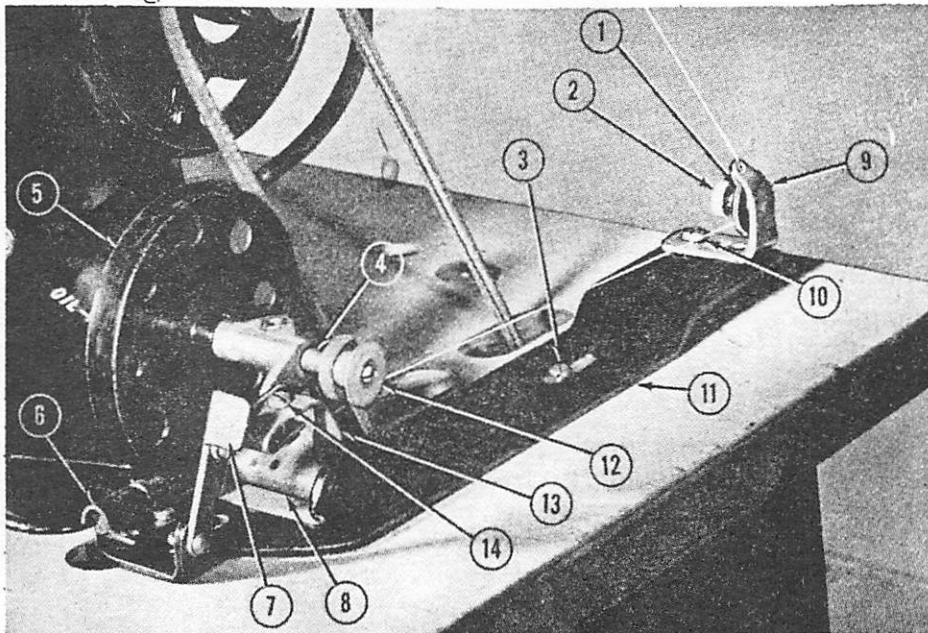
- a. Place the bobbin on the bobbin winder spindle and push it on as far as it will go, as illustrated in figure 9.
- b. Pass the thread from the bobbin thread cone on the thread stand down through the thread hole in the tension bracket (9, fig.9) and down between the bobbin winder tension disks (1, fig.9)
- c. Pull the thread from the lower side of the tension disks to the bobbin (12, fig.9)

d. Pass the thread around the bottom side of the bobbin, wind the end of the thread around the bobbin a few times, push the bobbin winder pulley (5, fig. 9) over against the machine belt by pressing on the stop latch thumb lever (7, fig. 9), and see that the automatic stop latch (13, fig. 9) catches and holds the pulley against the driving belt.

e. The bobbin may be wound while the machine is stitching. However, if no fabric is under the needle, see that the needle thread is pulled out of the eye of the needle, and lock the presserfoot in the raised position by raising the hand lifting lever. The needle thread should be pulled from the needle to prevent its catching the bobbin thread and balling up under the throat plate; and the presserfoot should be raised to prevent undue wear upon the feed dog.

f. Run the machine until the bobbin is full. If the bobbin winder is properly adjusted, the automatic stop latch (13, fig. 9) will operate & throw the bobbin winder pulley away from the machine belt when the bobbin is full.

g. If the thread fails to wind evenly on the bobbin, or piles up on one side of the bobbin, loosen the screw which holds the tension bracket (9, fig. 9) and move the bracket to the right or left as required. Then tighten the screw.



Ref. No.

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Nomenclature

Bobbin winder tension disks
Bobbin winder thumb nut
Wood screw
Bobbin winder spindle
Bobbin winder pulley
Bobbin winder brake (leather)
Bobbin winder stop latch thumb lever
Bobbin winder frame
Bobbin winder tension bracket
Bobbin winder tension bracket screw
Bobbin winder and tension bracket base
Shuttle bobbin
Bobbin winder stop latch
Bobbin winder stop latch screw

THREADING BOBBIN CASE

a. Figure 10 shows the relative positions of the bobbin case, bobbin, and thread when the bobbin is put into the bobbin case. The thread should draw over the top of the bobbin and from left to right just before the bobbin is slipped into the case.

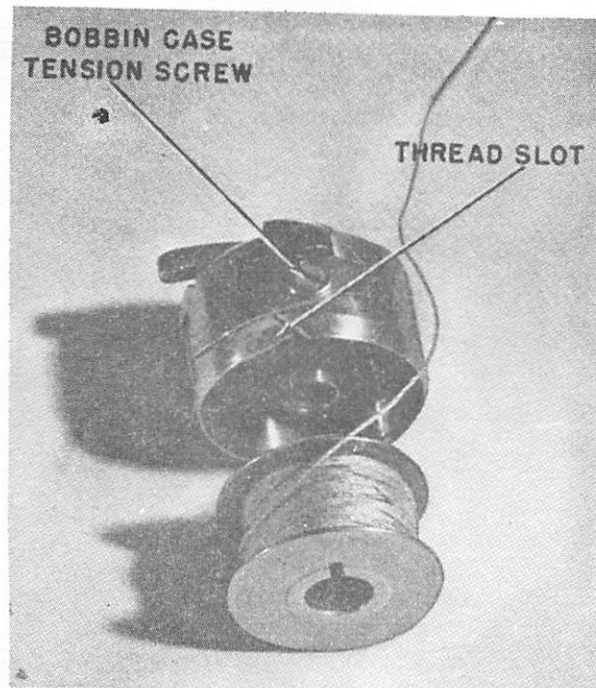


Figure 10. Bobbin case with bobbin ready to be slipped in.

b. To thread the bobbin case, hold it in the left hand, as shown in A, figure 11, the slot in the edge being near the top, and place the bobbin in the case so that the thread pulls over the top of the bobbin and away from you.

c. Pull the thread into the bobbin case thread slot, as in B, figure 11, draw the thread down under the bobbin case tension spring and into the delivery eye at the end of the tension spring, as in C, figure 11.

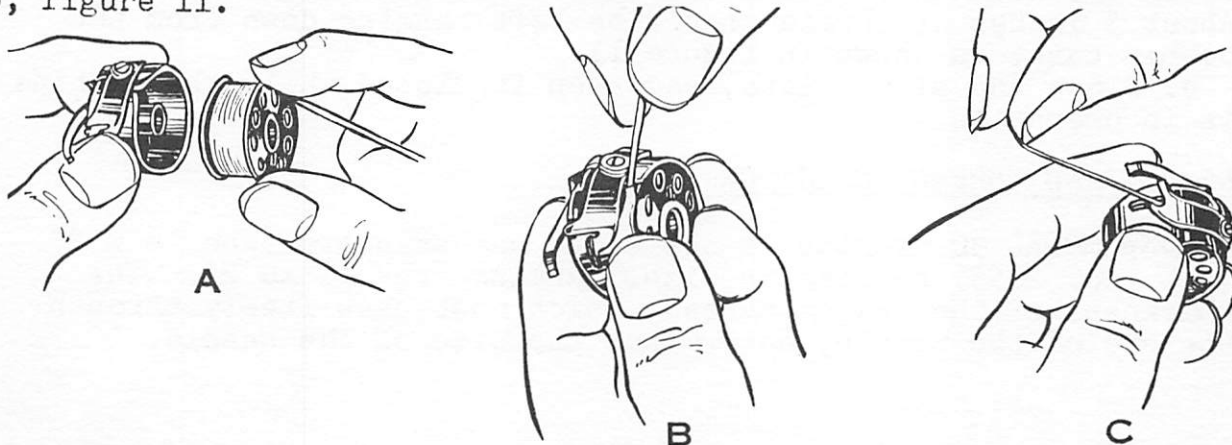
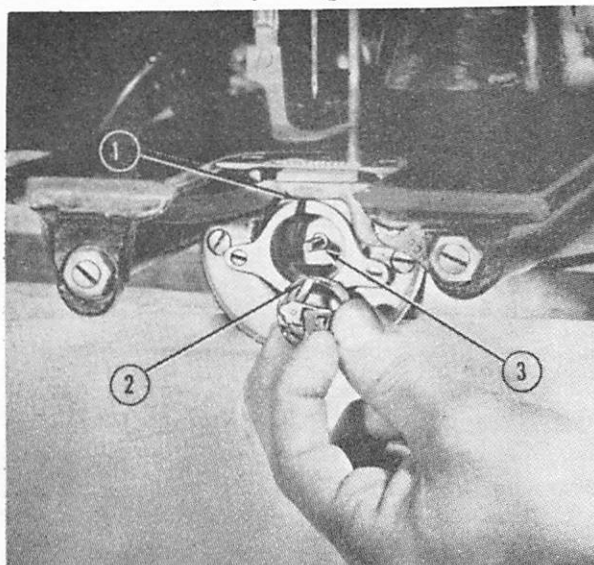


Figure 11. Threading Bobbin Case

REPLACING THE BOBBIN CASE

- a. See that the needle is raised above the throat plate.
- b. With the thumb and forefinger of the left hand, hold the threaded bobbin case by the latch. When the latch is held out, the bobbin will not drop out of the case.
- c. Reach under the stand top and place the bobbin case on the center stud of the shuttle body (3, figure 12) so that the position finger on the bobbin case (2, fig. 12) is opposite the notch at the top of the shuttle race (1, fig. 12).



Ref. No.

Nomenclature

1	Shuttle race notch
2	Bobbin case position finger
3	Stud of shuttle body

Figure 12. Placing threaded bobbin case in shuttle race.

- d. Release the latch and press the bobbin case back into the shuttle race until the latch snaps into the groove near the end of the stud of the shuttle body. Then the position finger should be in the notch at the top of the shuttle race, as shown in fig. 13. About 3 inches of thread should be left hanging down from the bobbin case, as shown in figure 13.
- e. Close the slide plate, and keep it closed while the machine is in operation.

NEEDLE AND THREAD SELECTION

CONSEW MODEL 30 machine is set up to use standard type 16 x 87 (cat. no. 2055) needles in sizes ranging from 11 to 22. The thickness of the sewing thread, which must pass freely through the eye of the needle, determines the size of the needle.

Remember--uneven, knotted or rough thread impairs the satisfactory sewing performance of your machine.

Only left twist thread is to be used for the needle. To test for twist hold a length of thread between thumbs and index fingers of your hands. Turn thread counterclockwise. If it will twist tighter, it has a left twist. If it unravels, it has a right twist.

The bobbin can be wound with either left or right twist thread.

NEEDLE AND THREAD CHART

Needle Size	Thread Size (Cotton)
11	80-100
14	60-70
16	40-60
18	30-40
20	24-30
22	16-24

SETTING NEEDLE

a. Select a good needle of the proper size as explained above. Never use a bent needle or one with the point blunted or turned. Set the needle with the long groove to the left.

b. To set the needle, turn the balance wheel toward you until the needle bar moves up to its highest point.

c. Loosen the needle clamp screw (9, fig. 6), put the shank of the needle up into the clamp as far as it will go, and turn the long groove of the needle so that it faces to the left and is directly in line with the arm of the machine.

d. Tighten the needle clamp screw. If the screw is too loose, the needle will turn or slip.

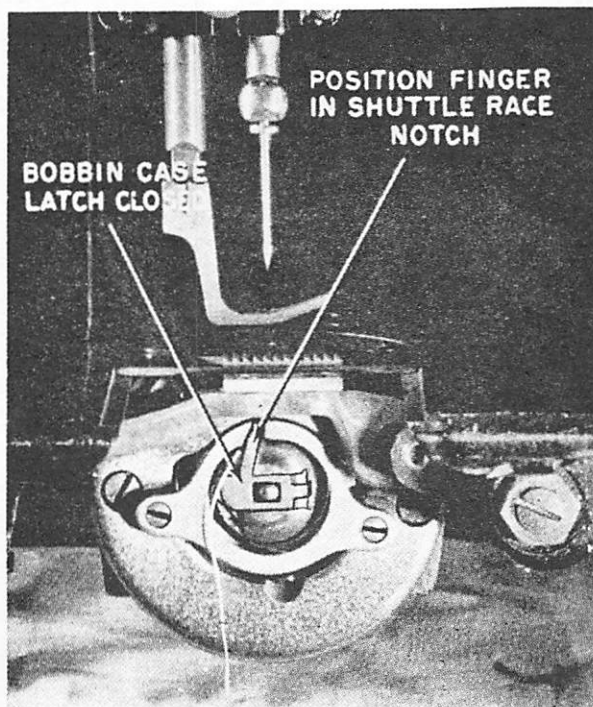
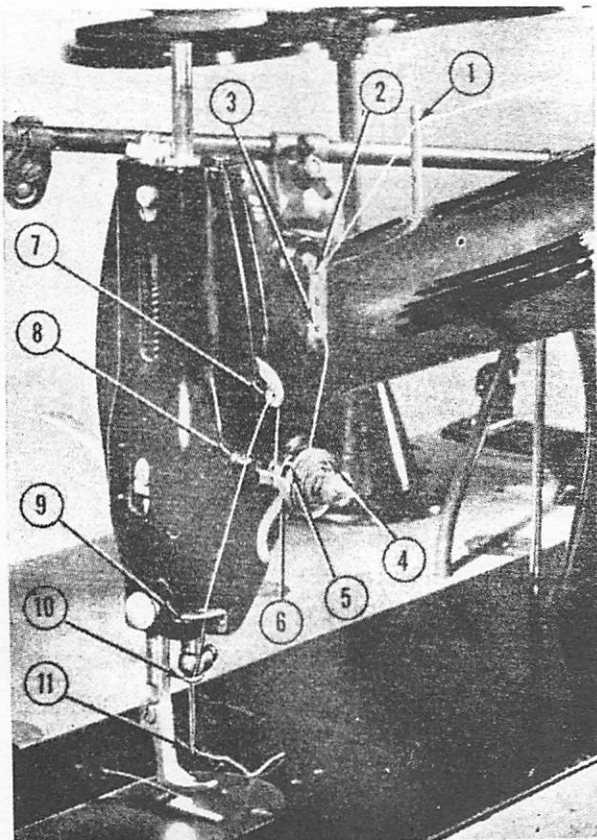


Figure 13. Bobbin case in shuttle race, with bobbin thread ready to be picked up by needle thread.

THREADING NEEDLE

To thread the machine, follow the points in the order in which they are numbered on figure 14.

- (1) Pass the thread through the top hole in the left-hand spool pin.
- (2) From right to left through the top hole of the thread retainer.
- (3) From left to right through the bottom hole of the thread retainer.
- (4) Down between the tension disks, with the thread running from right to left under the tension controller stud.
- (5) Under the hook of the thread take-up spring.
- (6) Under the slack thread regulator.
- (7) Up and from right to left through the hole in the end of the thread take-up lever.
- (8) Down through the top eyelet on the faceplate.
- (9) Down through the bottom eyelet on the faceplate.
- (10) Down through the eyelet on the needle bar thread guard.
- (11) From left to right through the eye of the needle. Leave about 4 inches of thread through the eye of the needle.



Ref.
No.

Nomenclature

1	Top hole in left-hand spool pin
2	Top hole in thread retainer
3	Bottom hole in thread retainer
4	Tension disks
5	Hook of thread take-up spring
6	Slack thread regulator
7	Hole in thread take-up lever
8	Top eyelet on face plate
9	Bottom eyelet on face plate
10	Eyelet in needle bar thread guard
11	Eye of needle

Figure 14. Threading points.

CATCHING BOBBIN THREAD

- a. After the needle has been threaded and the bobbin case replaced, the operator must use the needle thread to catch and draw the bobbin thread up through the hole in the throat plate, as illustrated in fig.15.
- b. By operating the hand lifting lever, lock the presserfoot in its raised position.
- c. With the left hand, hold the end of the needle thread a little slack.
- d. With the right hand, turn the balance wheel down toward you until the needle moves from its highest position down and back up to its highest position. If the needle thread is held with a light tension during this operation, and if the needle is correctly timed, it will catch the bobbin thread.
- e. Draw up the needle thread, and the bobbin thread will come up with it through the hole in the throat plate, as in figure 15.
- f. Pull the end of the bobbin thread entirely through the hole. Lay both threads back under the presserfoot.

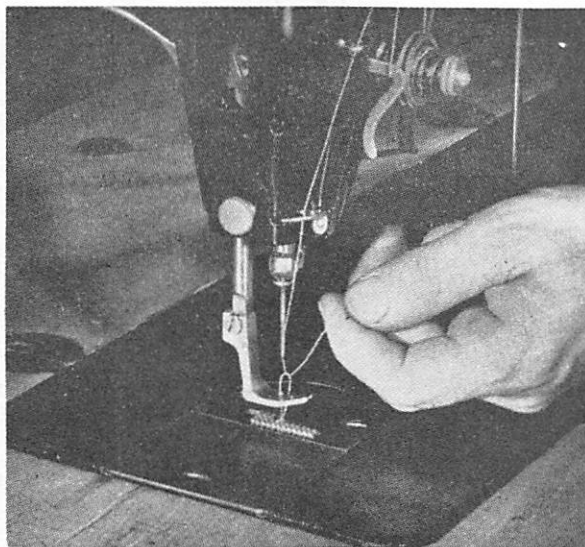


Figure 15. Needle thread being used to draw bobbin thread up through hole in throat plate

SEWING

While you are sewing, hold the work flat, but do not pull or push on the material. Let the feed dog carry the work evenly under the presserfoot and needle. If the operator pulls on the fabric, the needle bends, strikes the throat plate, and is either dulled or, more likely, broken. When the needle is about to cross a seam or other unusually thick or uneven place in the work, disengage the clutch, and hand-turn the machine over the rough place; otherwise, the needle may be broken or thrown out of time.

INSERTING WORK

Raise the presserfoot, place the edge of the material beneath the presserfoot, lower the presserfoot, turn the balance wheel by hand until the needle is in the material, and press on the foot treadle to engage the clutch with the motor. The balance wheel should turn over toward you while the machine is operating.

Before starting to sew, test the machine on a scrap of cloth to see that the machine is properly adjusted.

REMOVING WORK FROM MACHINE

- a. When a seam has been completed, take your foot off the foot treadle to stop the machine.
- b. With your right hand, turn the balance wheel until the thread take-up lever (3, fig. 6) is at its highest point, and raise the presserfoot by operating the knee lifter.
- c. With your left hand, draw the work straight behind the presserfoot, and break or cut the threads so that about 3 inches remain under the presserfoot.

MAINTENANCE & SPECIFIC TROUBLES

- a. Needle Breakage. (1) If needle is loose in clamp, tighten clamp screw (See page 11d).
(2) If needle of incorrect class and variety is being used, see needle chart.
(3) If presserfoot is loose or out of line, straighten and tighten it.
(4) If needle is too light for the fabric, select the correct needle. (See page 13.)
(5) If operator is pulling on fabric, operate the machine according to instructions on page 13.
- b. Needle-Thread Breakage. (1) If thread is too heavy for the needle, see page 11.
(2) If right-twist thread is being used, see page 11.
(3) If damp or defective thread is being used, use dry, smooth thread.
(4) If machine is incorrectly threaded, see page 12.
(5) If needle is incorrectly set, set the needle with the long groove to the left. See page 11c.
(6) If upper tension is too tight, see page 6.
(7) If thread take-up spring is out of adjustment, see page 23.
(8) If there is a sharp edge on the shuttle, bobbin case, or tension controller, smooth with fine emery cloth.
(9) If needle is rubbing against presserfoot, adjust and tighten the foot.
(10) If the needle is defective, blunted, or bent at the point, use a good needle.
- c. Bobbin-Thread Breakage. (1) If defective or damp thread is being used, use dry thread of correct size. (See page 11)
(2) If bobbin tension is too tight, adjust according to page 6.
(3) If bobbin case is incorrectly threaded, see page 9.
(4) If bobbin is wound too full to revolve freely, take off thread down to the rim of the bobbin, and adjust the bobbin winder according to paragraph 10.
(5) If rounds of thread on the bobbin are lapped over one another, wind the bobbin according to instructions on pages 7 and 8.

(6) If bobbin case is sticky with gummy oil and lint, clean the bobbin case and shuttle race according to page 19 and lubricate it according to instructions on page 4.

(7) If there is a sharp edge on shuttle, bobbin case, bobbin, or needle, smooth with fine emery cloth.

d. Skipping. If the needle thread fails to catch the bobbin thread, the machine will not sew or will leave skips in the stitches. To remedy this trouble, time the needle with the shuttle according to information on pages 19 to 22.

e. Drawing of Seam. If the threads draw or pucker the seam, adjust the tensions according to instructions on page 6.

f. Stitches Uneven or Piled Up. If the stitches pile up in one place, adjust the stitch regulator according to page 5. Then adjust the presserfoot tension according to page 4.

g. Needle Striking Shuttle Race Cap. If the needle strikes the shuttle race cap, tighten the screws which hold the shuttle race. (See page 21.)

h. Feed Dog Striking Throat Plate. If the feed dog strikes the throat plate, adjust the feed dog according to page 18.

TIMING NEEDLE WITH SHUTTLE

a. When the needle and shuttle are correctly timed, the point of the shuttle on its forward stroke passes across the diameter of the needle at a point of $1/16$ inch above the eye of the needle when the needle is on its up stroke, as illustrated in figure 16.

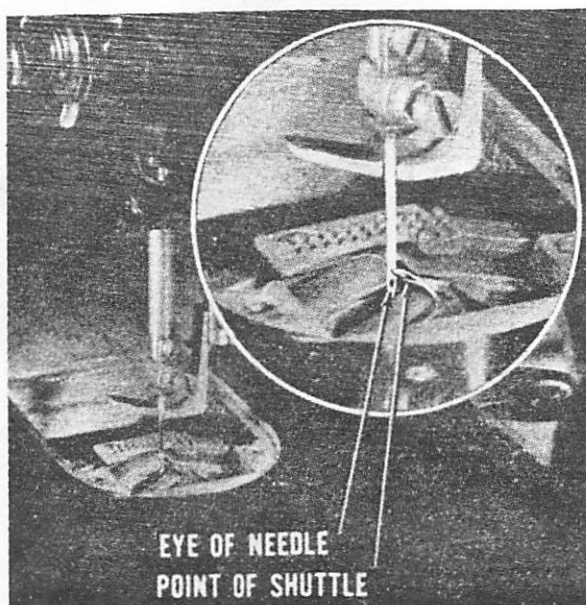


Figure 16. Correctly timed needle

b. Procedure. To time the machine so that the needle and shuttle operate properly, proceed as follows:

(1) Remove the throat plate after taking out the two screws.

(2) See that the needle is of correct class and variety, according to table on page 11, and that it is pushed up into the clamp as far as it will go.

(3) Turn the balance wheel forward until the shuttle on its forward stroke is passing across the diameter of the needle, as shown in figure 16. Leave the shuttle in this position.

(4) If the eye of the needle is not $\frac{1}{16}$ of an inch below the point of the shuttle, take off the faceplate, loosen the screw (18, fig. 18) in the needle bar connecting stud, and move the needle bar up or down as may be required to bring the needle eye into correct position when the shuttle point passes across the needle.

(5) Tighten the screw (18, fig. 18), and test the adjustment by observing the operation of the needle and shuttle while the balance wheel is slowly hand-turned.

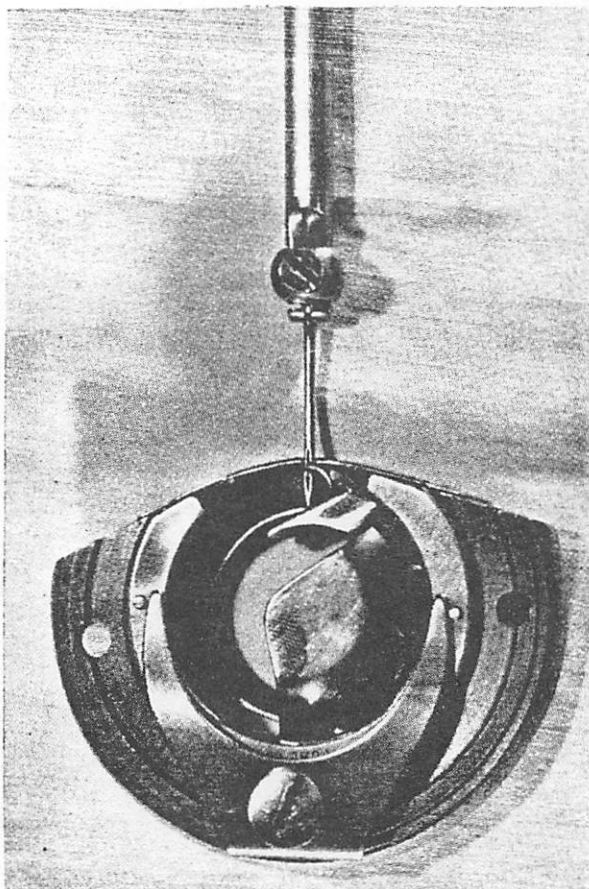
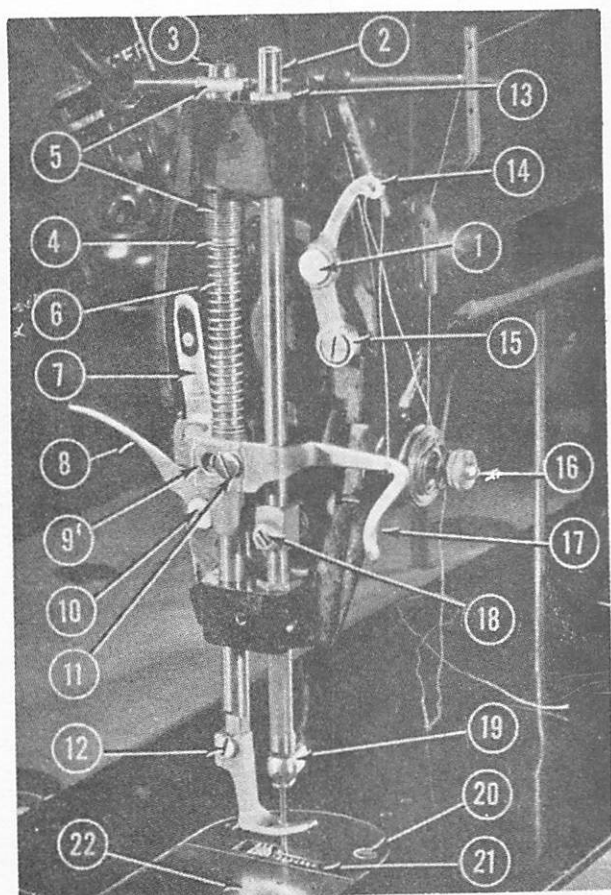


Figure 17. Back of shuttle race assembly and needle bar removed from machine to show proper timing of shuttle point

TIMING FEED DOG WITH NEEDLE

a. Normal Operation. If the needle is correctly timed with the shuttle, the feed dog (21, figure 18) should be on its down stroke and level with the throat plate when the point of the needle reaches the material. If the balance wheel is turned forward, the needle should enter the material and come back up. After the needle on its up stroke has cleared the material, the feed dog should then rise above the throat plate and push the material forward the distance of one stitch.



Ref. No.	Consew Part #	Singer Part #	Nomenclature
1	162	12166	Thread takeup lever hinge pin
2	121	12381	Needle bar
3	127	12391	Presser bar
4	-	11170	Presser bar spring washer
5	128	688	Presser regulating thumb screw
6	129	11167	Presser bar spring
7	132	12241	Lifting lever link
8	130	52016	Presser bar lifter
9	131	453	Presser bar guide bracket set screw
10	136	689	Presser bar lifter screw
11	134	225	Slack thread regulator adjusting screw
12	200	190	Presser foot screw
13	123	936	Needle bar screw bushing
14	157	12408	Thread takeup lever
15	159	775	Thread takeup lever cap screw
16	106	44118	Tension thread controller
17	133	20060	Slack thread regulator
18	131	453	Needle bar connecting stud set screw
19	126	4303	Needle clamp with screw
20	189	691	Throat plate screw
21	190	208	Feed dog
22	192	12432	Shuttle race slide (view plate) complete

Figure 18. Face assembly with faceplate removed.

b. Timing. To time the feed dog, proceed as follows:

(1) See that the needle is correctly set and timed with the shuttle, according to page 15.

(2) Loosen and press the feed regulator thumbscrew (11, figure 6) to its lowest point. The machine will then make its longest stitch.

(3) Open the round cover plate on the upright, as shown in fig.19.

(4) Loosen the feed eccentric setscrew (6, fig.19). If the screw is loosened, the feed dog can be moved without moving the needle.

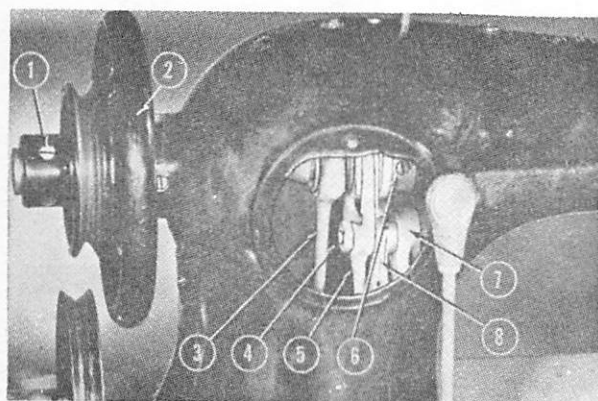
(5) By hand, turn the eccentric until the feed dog is just ready to rise above the throat plate and begin its feeding motion (toward the back of the machine).

(6) Holding the eccentric in that position, turn the balance wheel forward until the needle on its up stroke is even with the top of the throat plate. Then tighten the eccentric setscrew (6, fig.19).

(7) Because a change in the timing of the feed dog may throw it out of time in relation to the needle and shuttle, test their timing after each adjustment of the feed dog.

RAISING AND LOWERING FEED DOG

a. Normal Operation of Feed Dog. The feed dog is normally adjusted for sewing fabrics of light and medium weight.



Ref. No.	Consew Part #	Singer Part #	Nomenclature
1	247	448	Balance wheel set screw, (two each on each balance wheel)
2	246	12358	Balance wheel
3	176	43976	Feed lifting rock shaft crank connecting rod
4	171	1518	Feed regulator hinge screw nut
5	168	20284	Feed forked connection (connecting rod)
6	151	446	Feed and feed lifting (eccentric set screw)
7	164	3039	Feed regulator
8	169	52165	Feed connecting link

Figure 19 . Connecting rods and feed eccentric viewed through back of upright.

Where correctly adjusted, it rises just enough for the teeth to show their full length above the throat plate. For sewing extra heavy material like or for extra light material, raise or lower the feed dog by adjusting the feed lifting rock shaft crank (6, fig.20.)

b. Procedure. Before adjusting the height of the feed dog, see that it is in time with the needle, as explained on page 17. If the timing is correct, turn the balance wheel until the dog reaches its highest point, and adjust the height of the dog as follows:

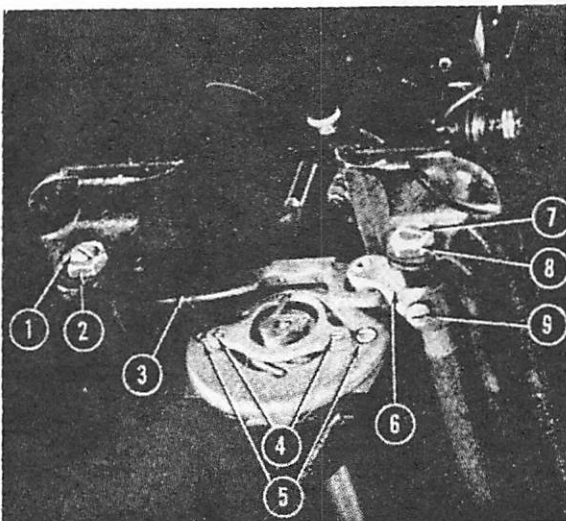
(1) Loosen screw (9, 20) and move the crank (6, fig.20), up or down, as necessary.

(2) Tighten the screw, and test the adjustment by hand-turning the balance wheel forward.

(3) A change in the height of the feed dog may throw the needle and feed dog out of time. Therefore, check and adjust the timing of the needle and feed dog as necessary, according to paragraph

REMOVING, CLEANING, AND REPLACING SHUTTLE RACE ASSEMBLY

a. Normal Operation of Shuttle. The shuttle race, which is held in place by the two screws, illustrated as 5 in fig. 20, does not move but holds the shuttle body (7, fig.23). As the shuttle body is oscillated back and forth inside the shuttle race, the point of the shuttle body catches the needle thread above the eye of the needle and forms the loop, which is tightened into a lock stitch by the thread take-up lever on its up stroke.



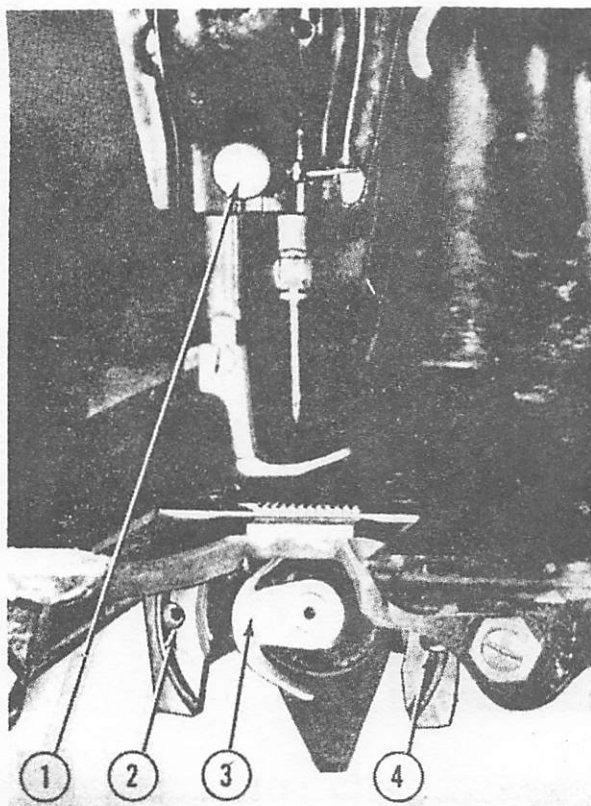
Ref. No.	Consew Part #	Singer Part #	Nomenclature
1)	231	307	(Feed rock shaft screw center
2)		1513	(Feed rock shaft screw center nut
3	224	12368	Feed bar
4	215	24412	Shuttle bobbin case position plate screws
5	219	145	Shuttle race screws
6	227	12376	Feed lifting rock shaft crank
7)	231	307	(Feed lifting rock (shaft screw center
8)		1513	(Feed lifting rock shaft screw center nut
9	-	157	Feed rock shaft crank clamping screw

Figure 20 . Left end of bed assembly.

b. Removing and Cleaning Assembly. To clean the shuttle body and shuttle race or to install new parts in the shuttle race assembly, remove the shuttle race assembly. If the needle and shuttle are in time, the shuttle driver and needle can be brought into the correct positions for removing the shuttle race assembly by turning the balance forward until the needle bar is at its highest point. If the needle and shuttle are not in time, the shuttle driver must be brought into the right position by turning the balance wheel until the driver, while still in the shuttle race, is in the position shown in fig. 21. This position is important because the shuttle race assembly cannot be disengaged from the shuttle driver if the driver

is in any other position. After bringing the shuttle driver into the correct position, proceed as follows:

- (1) Take out the two shuttle race screws (5, figure 20).
- (2) Slip the assembly to the left. Do not bend the shuttle race cap against the shuttle driver point while disengaging the race.
- (3) If the bobbin case is still in the race assembly, remove it. Then rotate the shuttle body in the shuttle race channel and draw it out the back of the shuttle race. Parts 3, 6, 8, 9, and 10 of figure 23 need not be disassembled for cleaning the race.
- (4) Clean the shuttle race assembly and body, if necessary, by dipping them in a cleaning solution.



<u>Ref. No.</u>	<u>Consew Part #</u>	<u>Singer Part #</u>	<u>Nomenclature</u>
1	103.	51224	Faceplate thumbscrew
2	-		Hole for shuttle race screw
3	183	12444 1266	Shuttle driver, with two shuttle-driver setscrews (No. 184)
4	-		Hole for shuttle race screw

Figure 21. Shuttle driver in correct position for removing or installing shuttle race assembly. The shuttle race assembly has been removed.

c. Replacing Assembly. If the shuttle race assembly must be assembled, follow instructions below. To replace the shuttle race assembly, proceed as follows:

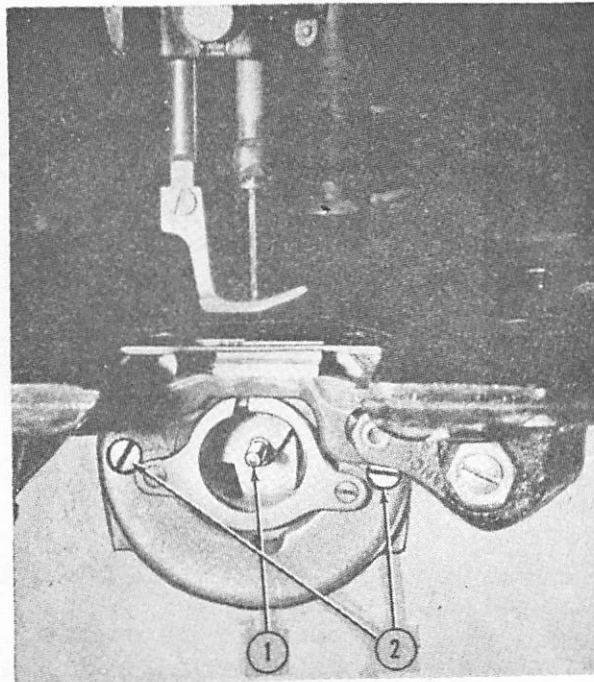
(1) Hold the shuttle race in your left hand, with the cap up, and with its front side to your left.

(2) Put the shuttle body (7, figure 23) back into the shuttle race, with the stud of the shuttle body (1, figure 22) pointing to your left and with the point of the shuttle body pointing down.

(3) Turn the balance wheel to bring the shuttle drive into the position shown in figure 21.

(4) Replace the race assembly so that the shuttle body engages the shuttle driver and fits snugly against the bed.

(5) Replace the shuttle race screws (5, fig. 20) and tighten them firmly. If these screws are loose, the point of the shuttle body will clip the needle. The shuttle race installed is shown in figure 20.



Ref. No.

Nomenclature

1

Shuttle body center stud

2

Shuttle race screws

Figure 22. Shuttle race assembly installed without bobbin case

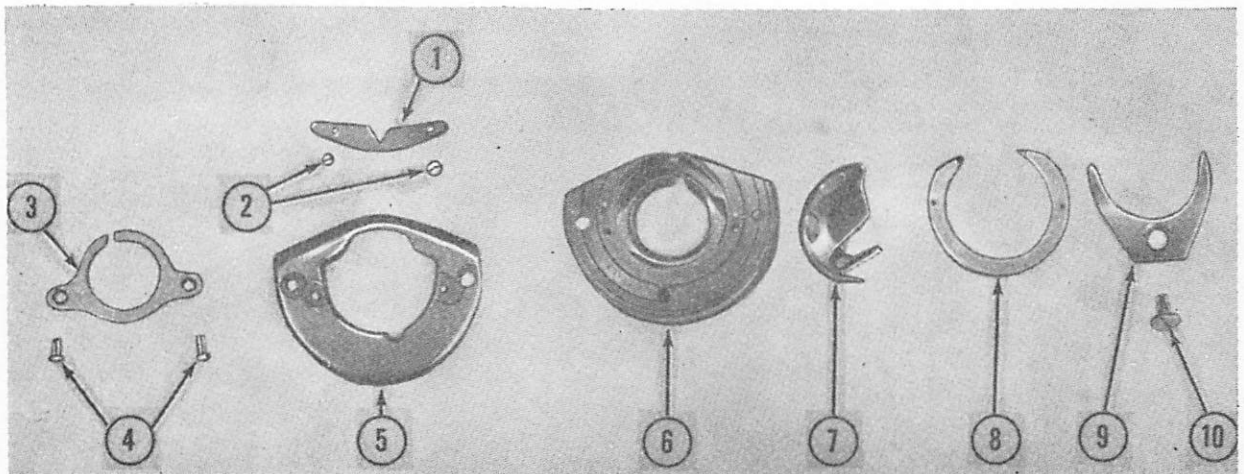
ASSEMBLING SHUTTLE RACE ASSEMBLY

Figure 23 shows the parts of the shuttle race assembly. These parts should be assembled as follows:

a. Place the shuttle race cap (1, fig.23) on the top of the shuttle race body (5, fig.23), with the notch in the cap turned toward the back of the shuttle race body (6, fig.23). Insert the screws and tighten them.

b. Install the shuttle bobbin case position plate (3, fig.23) on the front side of the shuttle race body.

c. Turn the shuttle race body over and install on the back side of the shuttle race body (figure 6) the other parts in the following order: the shuttle body, the shuttle race back, the shuttle race back spring, and the shuttle race back-spring screw. (If desired, the shuttle body may be put into the shuttle race body after the other parts have been installed.)

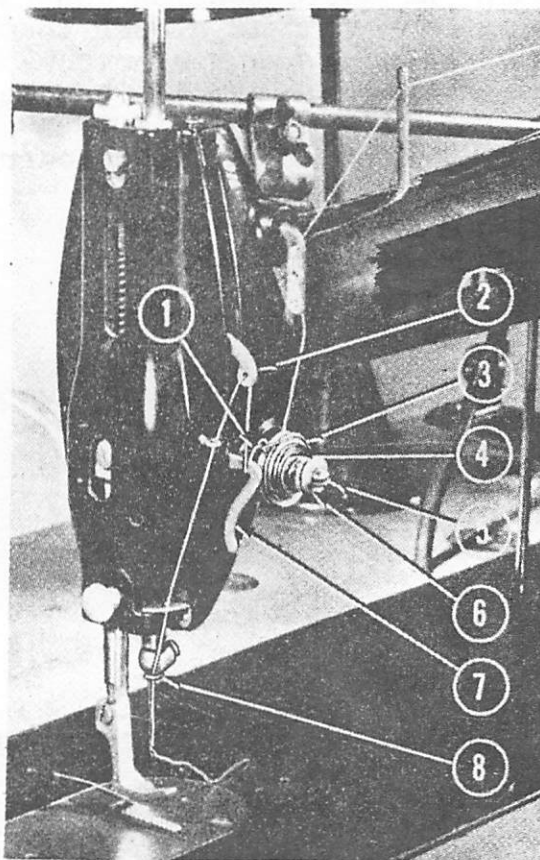


Ref. No.	Consew Part #	Singer Part #	Nomenclature
1	-	24414	Shuttle race cap
2	-	1053	Shuttle race cap screws
3	214	24412	Shuttle bobbin case position plate
4	215	391	Shuttle bobbin case position plate screws
5	213	24413	Shuttle race body (front side)
6	-		Shuttle race body (back side)
7	210	12393	Shuttle body
8	216	2531	Shuttle race back
9	217	2533	Shuttle race back spring
10	218	907	Shuttle race back spring screw
-	220	24415	Shuttle race assembly, complete

Figure 23. Shuttle race assembly

ADJUSTING THREAD TENSION CONTROLLER

a. Normal Operation. These adjustments on the thread controller should not be confused with tightening the tension on the thread, as described in paragraph . The thread take-up lever (2, fig.24) by pulling on the thread, should pull the thread take-up spring down about even with the slack thread regulator (7, fig.24) while the needle is going up. While the take-up lever is coming down with the needle, the thread take-up spring (4, fig.24) pulls slack out of the thread and keeps it from getting under the needle.



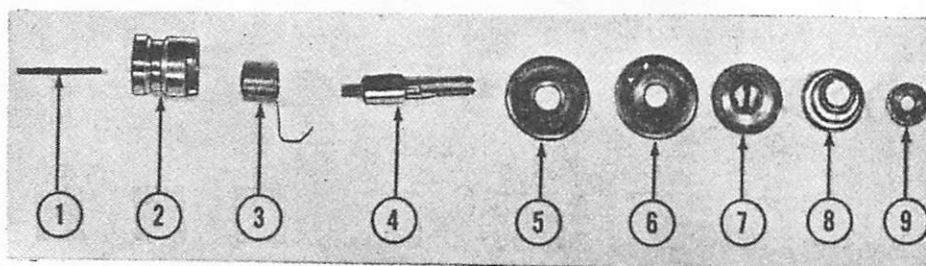
<u>Ref. No.</u>	<u>Nomenclature</u>
1	Thread take-up spring
2	Take-up lever
3	Tension disks
4	Tension spring
5	Slot in tension screw stud
6	Tension-regulating thumb nut
7	Slack thread regulator
8	Needle bar thread guard

Figure 24. Slack thread regulator and tension controller.

b. Setting Spring in Its Correct Position. The normal position of the thread take-up spring (4, fig.26) is about one-fourth inch above the slack thread regulator (2, fig.26). The thread take-up spring should be set so that, when the eye of the needle on its down stroke reaches the fabric, the spring will be through moving down and will be resting upon the bottom of the slot in the thread take-up spring regulator (2, fig.25). The position of the thread take-up spring is changed by loosening the setscrew (1, fig.26) and rotating the whole tension controller assembly to the right or left. To adjust the position of the spring, proceed as follows:

- (1) Loosen the setscrew (1, fig.26) in the arm of the machine.
- (2) With a screw driver inserted in the slot of the tension screw stud, (3, fig.26), turn the whole tension controller assembly to the left to make the spring come to rest closer to the slack thread regulator (2, fig.26). To make the spring come to rest farther from the slack thread regulator, turn the tension controller assembly to the right.

- (3) When the spring (4, fig.26) is in the correct position, tighten the setscrew (1,26).



<u>Ref. No.</u>	<u>Consew Part #</u>	<u>Singer Part #</u>	<u>Nomenclature</u>
1	114	32574	Tension-releasing pin
2	107	7336	Thread take-up spring regulator
3	112	43946	Thread take-up spring
4	113	50327	Tension screw stud
5	109	2102	Tension disk
6	109	2102	Tension disk
7	110	32572	Tension-releasing disk
8	111	43945	Tension spring
9	115	1560	Tension-regulating thumb nut
-	106	44118	Tension controller, complete

Figure 25. Tension controller complete

c. Changing Tension of Spring. The tension of the thread take-up spring should be just sufficient to take up the slack of the needle thread until the eye of the needle on its down stroke reaches the material. To change the tension of the thread take-up spring (1, fig.24 and 4, fig.26), proceed as follows:

(1) Loosen the tension regulating thumb nut (6, fig.24) and force the take-up spring (1, fig.24) from the recess in the regulator. You do not have to take the regulator assembly out of the machine, but you can see the recess in the regulator in 2, fig. .

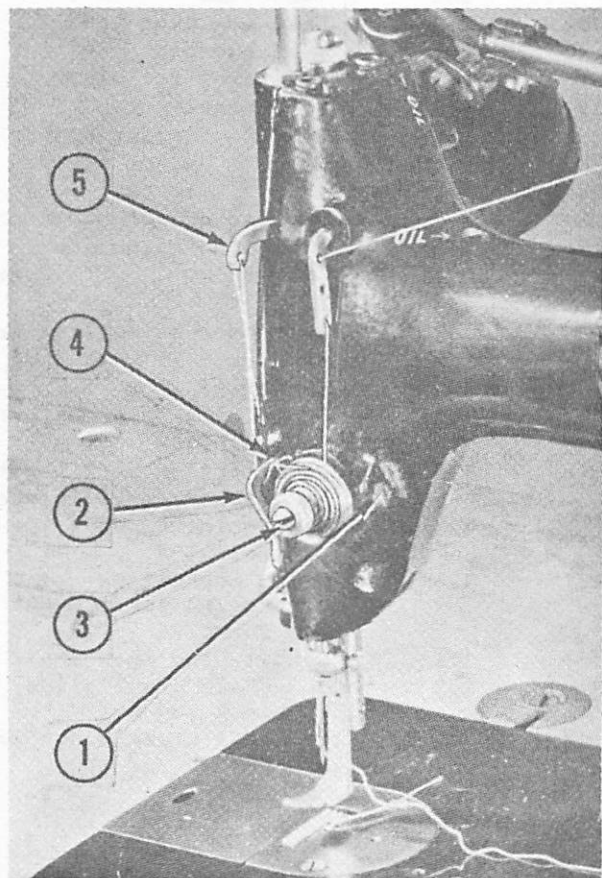
(2) To increase the tension on the spring, wind the spring to the right between the regulator and the back tension disk.

(3) To decrease the tension on the spring, wind the spring to the left between the regulator and the back tension disk.

(4) When the spring is wound or unwound enough to put the correct tension on it, force the spring back into the recess in the regulator and tighten the tension regulating thumb nut (6, figure24).

d. Removing Thread Take-up Spring. To remove the thread take-up spring (1, figure 24) insert a screw driver in the slot of the tension screw stud (5, figure 24) and turn the stud to the left until it is screwed out of the thread take-up spring regulator (2, fig.25).

e. Assembling Thread Controller. Figure shows the order in which the parts of the thread controller should be assembled. Adjustments are explained in a through c above.



Ref. No.

Nomenclature

1	Thread take-up spring regulator setscrew
2	Slack thread regulator
3	Tension-regulating thumb nut on the tension screw stud
4	Thread take-up spring
5	Thread take up lever

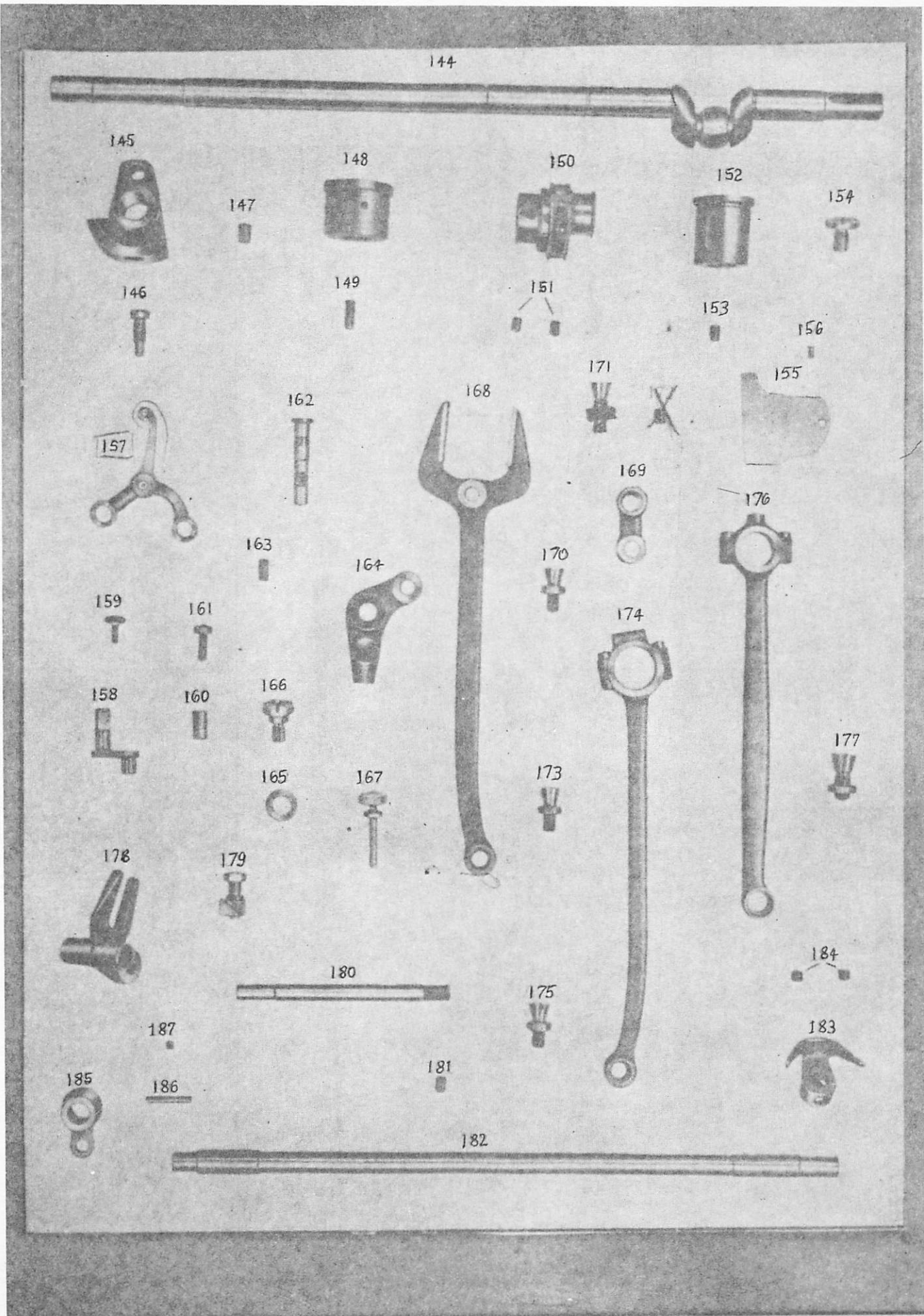
Figure 26. Tension controller installed

PARTS LIST FOR CONSEW MODEL 30 SEWING MACHINE
AND SINGER CL. 31-15 SEWING MACHINE

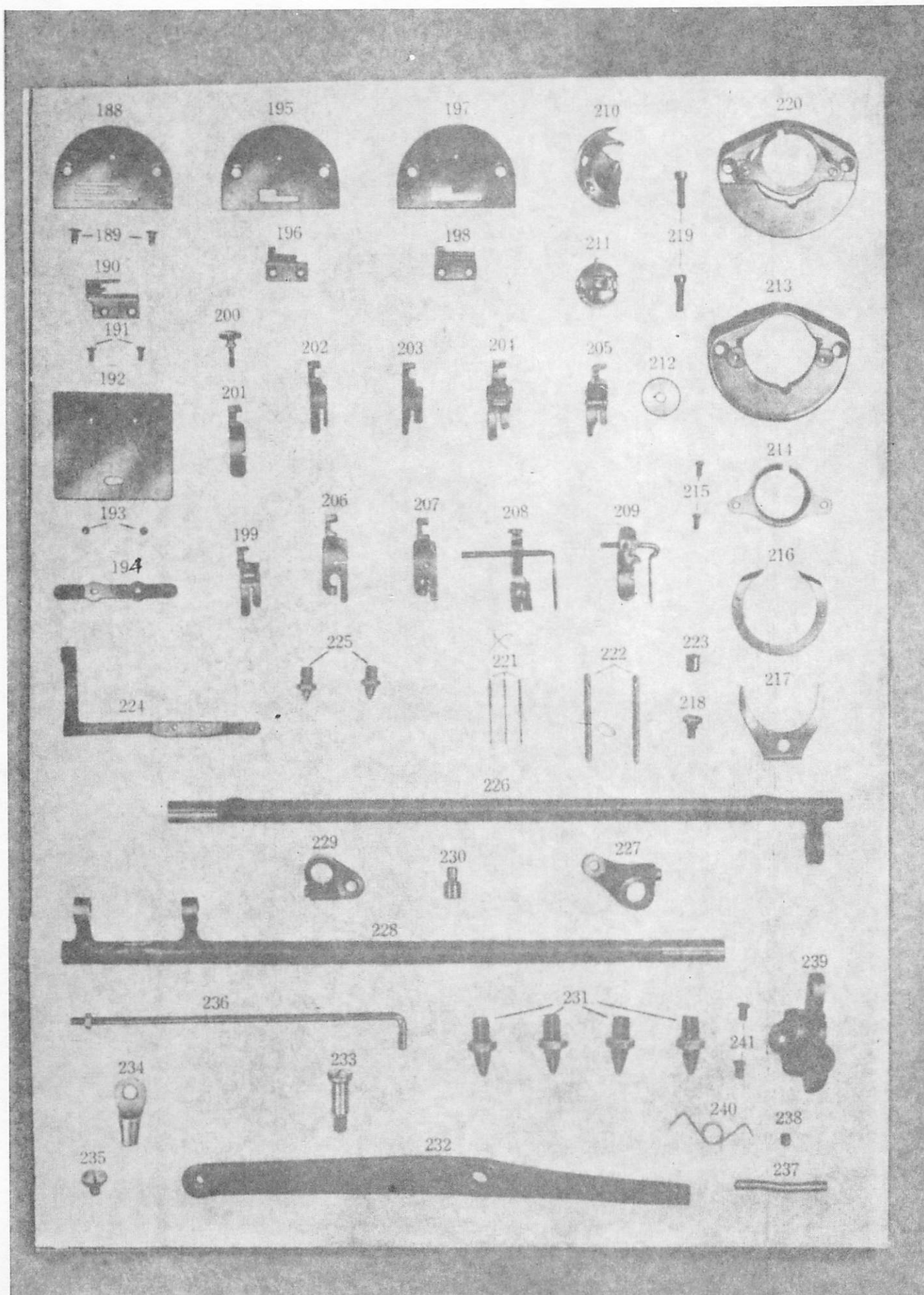
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20057	101	Face Plate	43944	140	Tension releasing lever
190	102	Screw for #101	12398	141	Tension releasing lever pin
51224	103	Thumb screw for #101	12329	142	Tension releasing lever spring
139615	104	Face plate thread guide (upper)	-	143	Thread cutter
12150	105	Face plate thread guide (lower)	12427	144	Arm shaft
44118	106	Tension controller (complete)	20188	145	Needle bar crank
7336	107	Thread take-up spring regulator	1065	146	Needle bar crank dog screw
448	108	Thread take-up spring regulator set screw	858	147	Needle bar crank set screw
2102	109	Tension Disk	-	148	Arm shaft bushing (front)
32572	110	Tension releasing disk	448	149	Set screw for #148
43945	111	Tension spring	20283	150	Feed and Feed lifting eccentric with sleeve
49346	112	Thread take-up spring	446	151	Feed and feed lifting eccentric set screw
50327	113	Tension screw stud	12357	152	Arm shaft bushing (rear)
32574	114	Tension releasing pin	448	153	Set screw for #152
1560	115	Tension regulating thumb nut	144	154	Arm cap screw
52454	116	Arm thread guard	12480	155	Arm side cap
624	117	Upper thread guide	219	156	Screw for #155
	118	Upper thread guide set screw	12409	157	Take-up lever and link
12193	119	Arm cover (rear)	12404	158	Take-up crank
51224	120	Screw for #119	775	159	Take-up lever cap screw
12381	121	Needle bar	-	160	Oil feed tube
936	122	Needle bar screw bushing (upper)	-	161	Cancelled
936	123	" " " " " " (lower)	11204	162	Take-up lever link hinge pin
4302	124	Needle bar thread guide	435	163	Set screw for #162
233	125	" " " " " screw	3039	164	Feed regulator
4303	126	Needle clamp (complete)	-	165	Feed " Spring Washer
12391	127	Presser bar	1128	166	" " Pivot screw
688	128	Presser regulating thumb screw	818	167	" " screw
11167	129	Presser foot spring	20284	168	Feed forked connection
20059	130	Presser bar guide bracket	52165	169	Feed connecting link
453	131	set screw for #130	375	170	" " " " screw
12327	132	Presser lifting lever bracket (complete)	1518	171	Feed connecting link screw nut
20060	133	Slack thread regulator		172	Cancelled
225	134	Screw for #133	375	173	Connecting screw with nut for #168
52016	135	Presser lifting lever	1518	174	Feed lifting rock shaft crank connecting rod
689/1520	136	" " " " hinge screw with nut	375 1518	175	Connecting screw & nut for #174
43997	137	Needle bar connect. link	20197	176	Crank connecting rod
12384	138	" " " " stud	988 1518	177	Connecting screw & nut for #176
1904	139	" " " " "	24104	178	Oscillating rock shaft
		Roller	988	179	" shaft crank slide block and nut
			12388	180	" shaft crank hinge pin

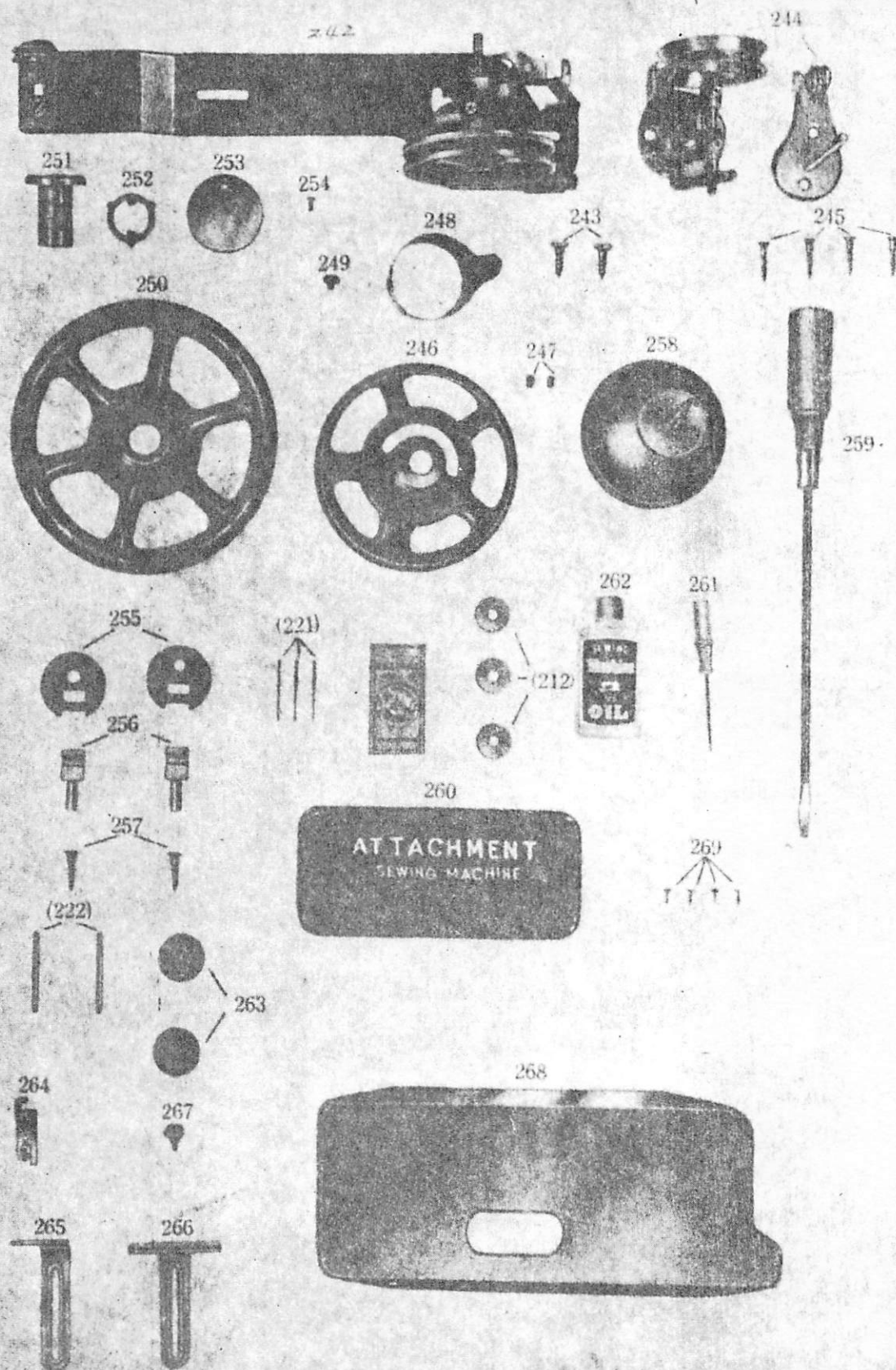
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448	181	Set screw for #180	1813	230	Roller stud for #227
12389	182	Oscillating shaft	307	231	Screw center & nut
12444	183	" shuttle driver	1513		for #226 and #228
1266	184	Set screw for #183	12237	232	Lifting lever
44134	185	Oscillating shaft crank	802	233	Hinge screw for #232
2049	186	Pin for #185	12416	234	Lifting lever hinge
453	187	Set screw for #185			connection
12481	188	Throat plate	76	235	Hinge screw for #234
691	189	Screw for #188	12415	236	Lifting lever connecting
12481	190	Feed dog for #188	1511		rod with nut
208	191	Screw for #190	12240	237	Lifting lever pin
12432	192	Shuttle cover plate	448	238	Set screw for #237
725	193	Screw for #194	558	239	Bell crank
4307	194	Shuttle cover plate spring	5735	240	" " spring
12411	195 *	Throat plate	178	241	Screw for #239
12369	196 *	Feed dog for #195	25431	242	Bobbin winder, complete
12464	197 *	Throat plate	#9x1-1/8	243	Wood screw for #242
12450	198 *	Feed dog for #197	-	244 *	Bobbin winder---complete
19336	199	Presser foot			foot treadle operation
190	200	Screw for #199			only
	201 *	Presser foot-zipper	-	245*	Wood screw for #244
12335	202 *	Presser foot	12358	246	Balance wheel
12142	203 *	" "	448	247	Set screw for #246
24982	204 *	" "	24297	248	Balance wheel oil cover
-	205 *	" "	210	249	Screw for #248
120807	206 *	Hemming foot - wide	-	250 *	Balance wheel - foot
120804	207 *	" " - narrow			treadle operation only
35137	208 *	Presser foot with guide			
-	209 *	Presser foot-zipper	-	251 *	Bushing for #250
		with guide	-	252 *	Clamp stop motion clamp
12393	210	Oscillating shuttle			washer
62740	211	" " bobbin case	-	253 *	Clamp stop motion clamp
2996	212	Bobbin			screw
24413	213	Shuttle race body	-	254 *	Lock screw for #253
24412	214	Shuttle bobbin case	12362	255	Machine hinge plate
		position plate	12361	256	" " connection
391	215	Screw for #214	#14x1-1/8	257	Wood screw for #255
2531	216	Shuttle race back	120342	258	Oil can
2533	217	" " " spring	26026	259	Screw driver - large
907	218	Screw for #217	-	260	Accessory Box
145	219	Shuttle race body screw	26485	261	Screw driver - small
24415	220	" " " complete	-	262	Lubricating oil - 3 oz.
	221	Needle 16 x 87 (Cat.2055)	8879	263	Spool pin felt
52239	222	Spool pin	36072	264	Hemmer foot
12453	223	Oil feed tube	25866	265	Cloth gauge
12368	224	Feed bar	25874	266	" "
313)	225	Screw Center & Nut for #224	732	267	Screw for #265 and #266
1519)					
44125	226	Feed lifting rock shaft	44212	268	Drip pan
12376	227	Feed lifting rock shaft	-	269	Nail for #268
		crank			
12379	228	Feed rock shaft			
29633	229	" " " crank			

* DENOTES SPECIAL ORDER PARTS - NOT STANDARD EQUIPMENT



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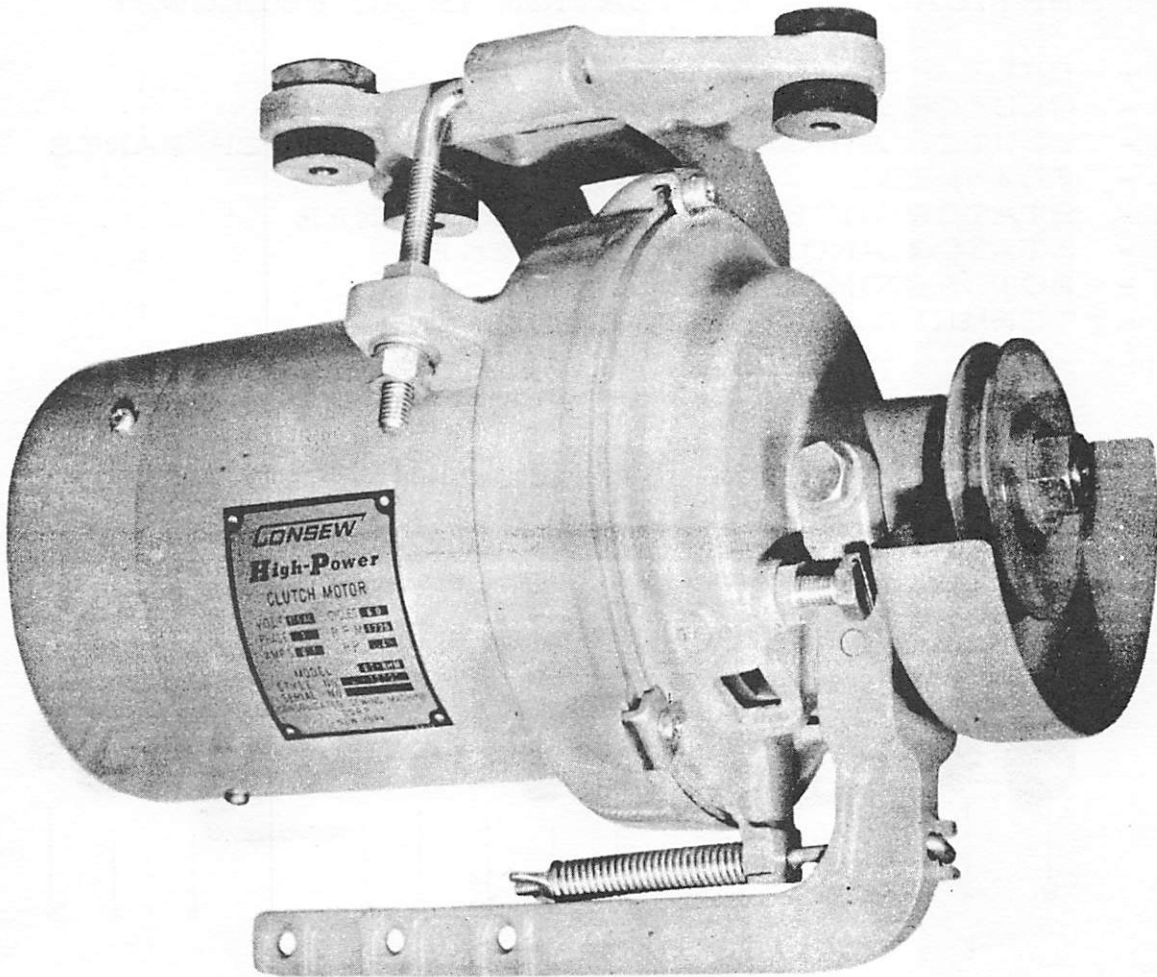
CONSOLIDATED SEWING MACHINE CO.
1115 Broadway New York 10, N.Y.

CONSEW

2/5 H.P. CLUTCH MOTOR

CATALOGUE NUMBER C1H407F

PARTS LIST and MAINTENANCE PROCEDURES



CONSOLIDATED SEWING MACHINE CORP.



INDUSTRIAL SEWING EQUIPMENT

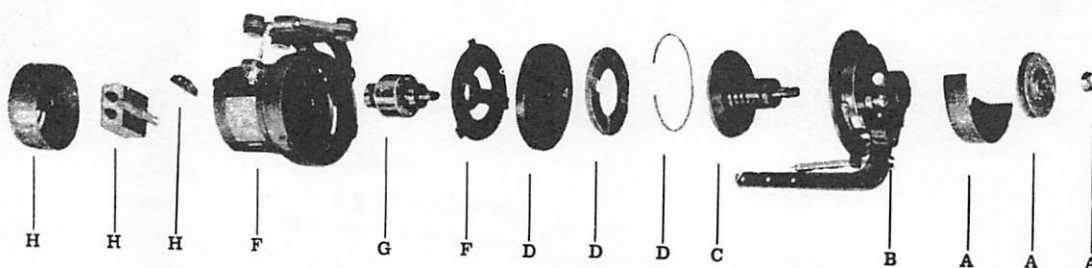
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FRAME #	MODEL #	ELECTRICAL CHARACTERISTICS	
MT-M2	C3L 4066	2/5th	HP. 1725 RPM. 3 PHASE *
MT-M2	C3H 4066	2/5th	HP. 3450 RPM. 3 PHASE
STK-M2	C1L 4062	2/5th	HP. 1725 RPM. 1 PHASE *
STK-M2	C1H 4062	2/5th	HP. 3450 RPM. 1 PHASE
STK-M2	C1H 407F	2/5th	HP. 2850/3450 1 PHASE 50/60cy.

WHEN ORDERING PLEASE NOTE THAT AN ALPHABETICAL AND NUMERICAL DESIGNATION IS REQUIRED FOR EACH PART. PARTS ARE NOT SUPPLIED IN SETS AND THEREFORE MUST BE LISTED PIECE BY PIECE.

ALPHABETICAL CLASSIFICATION IS AS FOLLOWS:

- A - BELT & BELT GUARD
- B - CLUTCH LEVER AND HOUSING
- C - CLUTCH SHAFT AND INTERNAL CLUTCH PARTS
- D - FLYWHEEL
- E - STATOR WITHOUT BELT TIGHTENER
- F - STATOR AND BELT TIGHTENER
- G - ROTOR COMPLETE
- H - TERMINAL BOX AND END COVER



* 3 PHASE IS 220/3/60

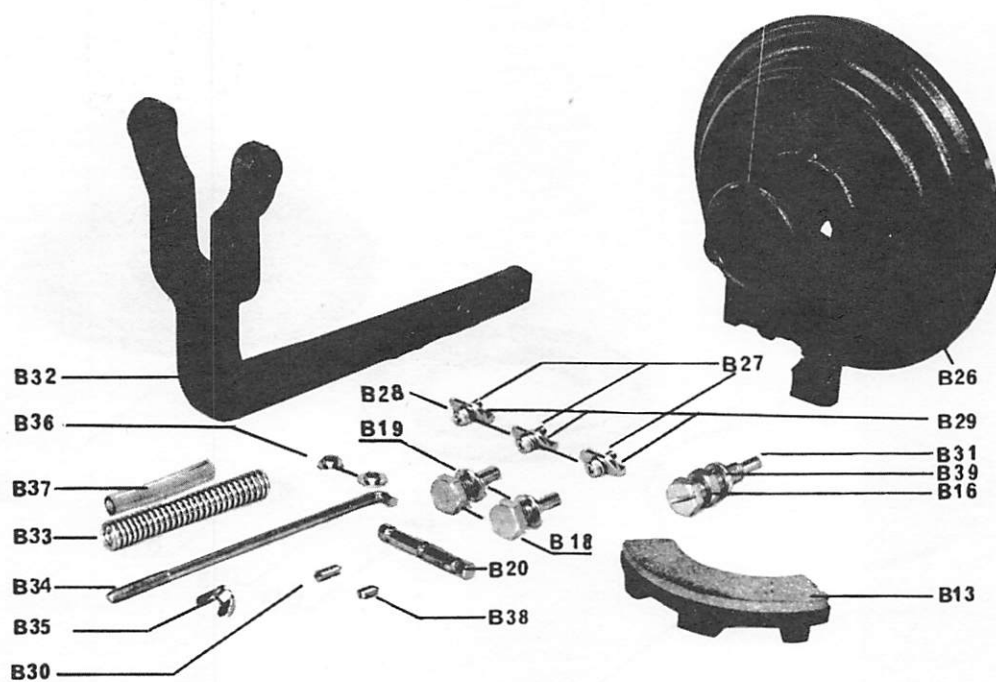
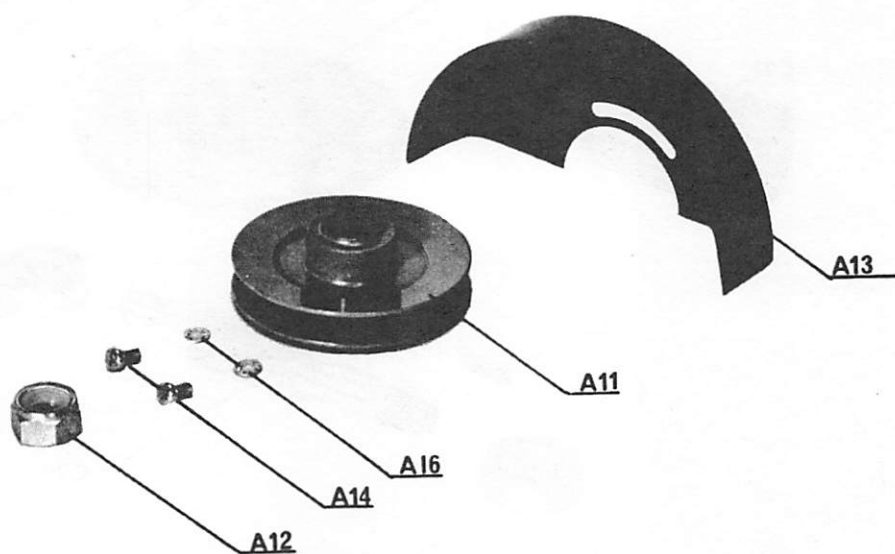
* 1 PHASE IS 115/1/60

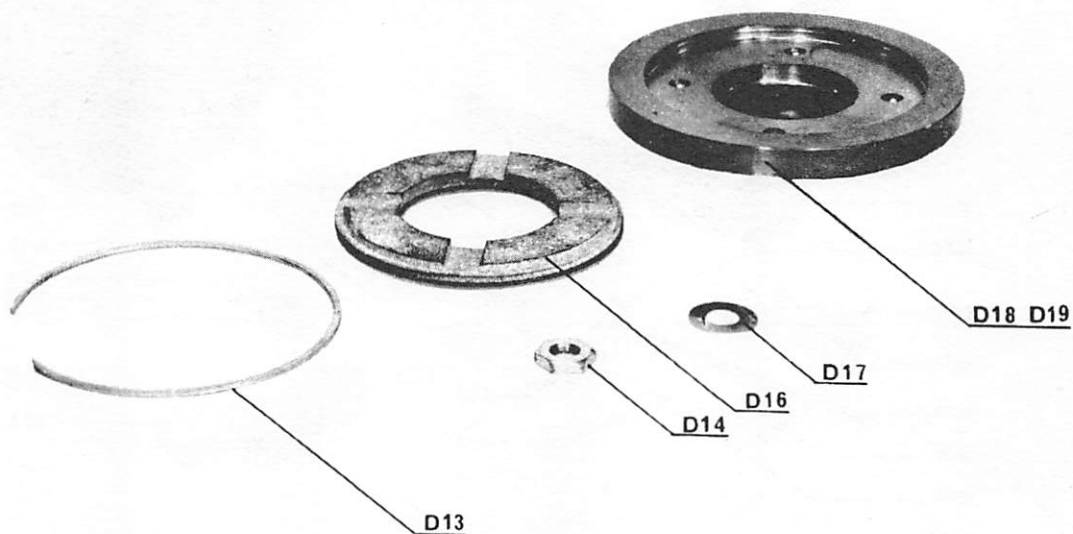
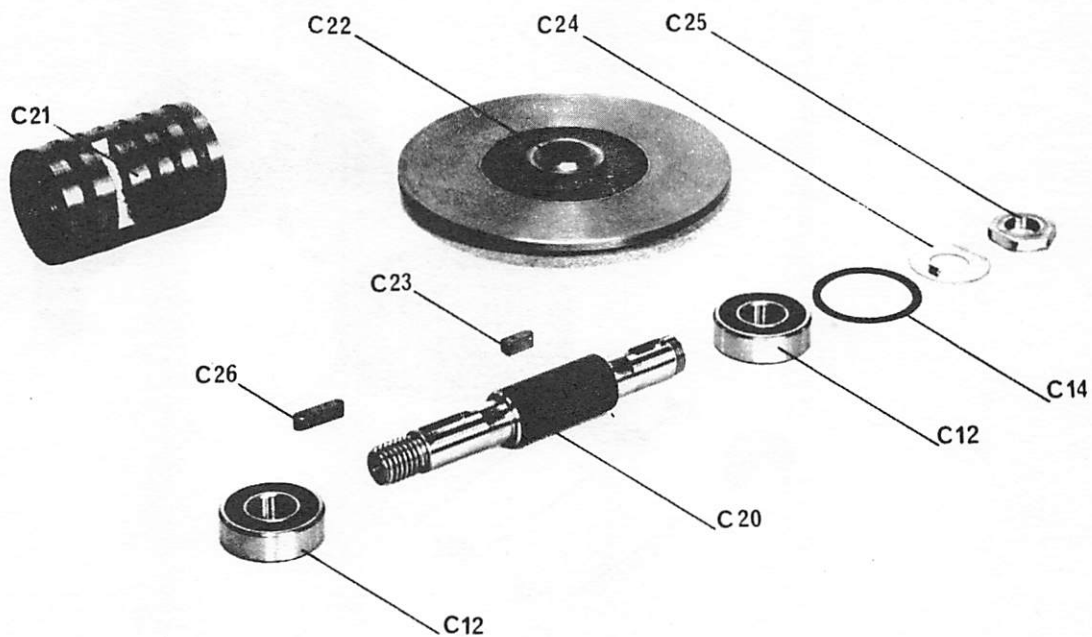
Part No.	Description	Pcs. per unit	Remarks	Page No.
A11	Belt pulley available from 2" to 4" in 1/4" increments from 4" to 5" in 1/2" increments	1	Parts are common to all models unless marked differently. Common	6
A12	Lock nut for belt pulley	1	"	
A13	Belt guard	1	"	
A14	Screw for belt guard	2	"	
A16	Toothed lock washer	2	"	
B13	Brake block	1	"	
B16	Nut for the above	1	"	
B18	Bolt for clutch actuating sleeve	2	"	
B19	Washer for the above	2	"	
B20	Lever hinge pin	1	"	
B26	Clutch end cover	1	"	
B27	Screw for clutch end cover	3	"	
B28	Lock washer for the above	3	"	
B29	Clutch end cover retainer	3	"	
B30	Set screw for brake block	1	"	
B31	Bolt for brake adjustment	1	"	
B32	Clutch actuating lever	1	"	
B33	Lever spring	1	"	
B34	Screw for lever spring	1	"	
B35	Wing nut for lever spring adjustment	1	"	
B36	Lever spring holder	2	"	
B37	Spring supporting tube	1	"	
B38	Set screw for lever hinge pin	1	"	
B39	Lock washer for the above	1	"	
C12	6202 ball bearing	2	"	7
C14	Neoprene washer	1	"	
C20	Clutch shaft	1	"	
C21	Clutch actuating sleeve	1	"	
C22	Clutch plate	1	"	
C23	Clutch plate key	1	"	
C24	Lock washer for clutch plate nut	1	"	
C25	Nut for clutch plate	1	"	
C26	Pulley key	1	"	
D13	Retaining ring for clutch friction disk	1	"	
D14	Nut for flywheel	1	"	
D16	Clutch friction disk assy.	1	"	
D17	Lock washer for flywheel	1	"	

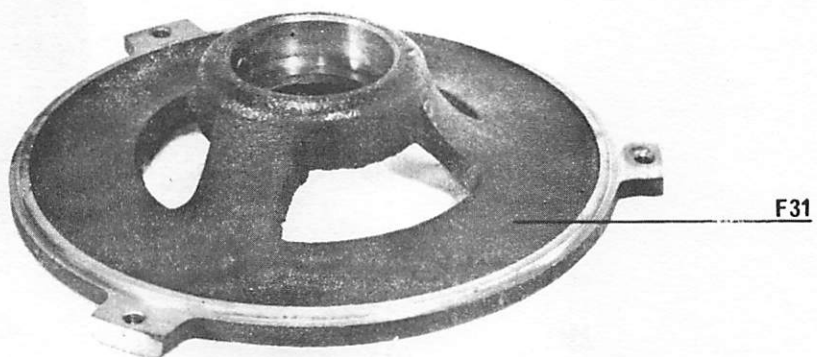
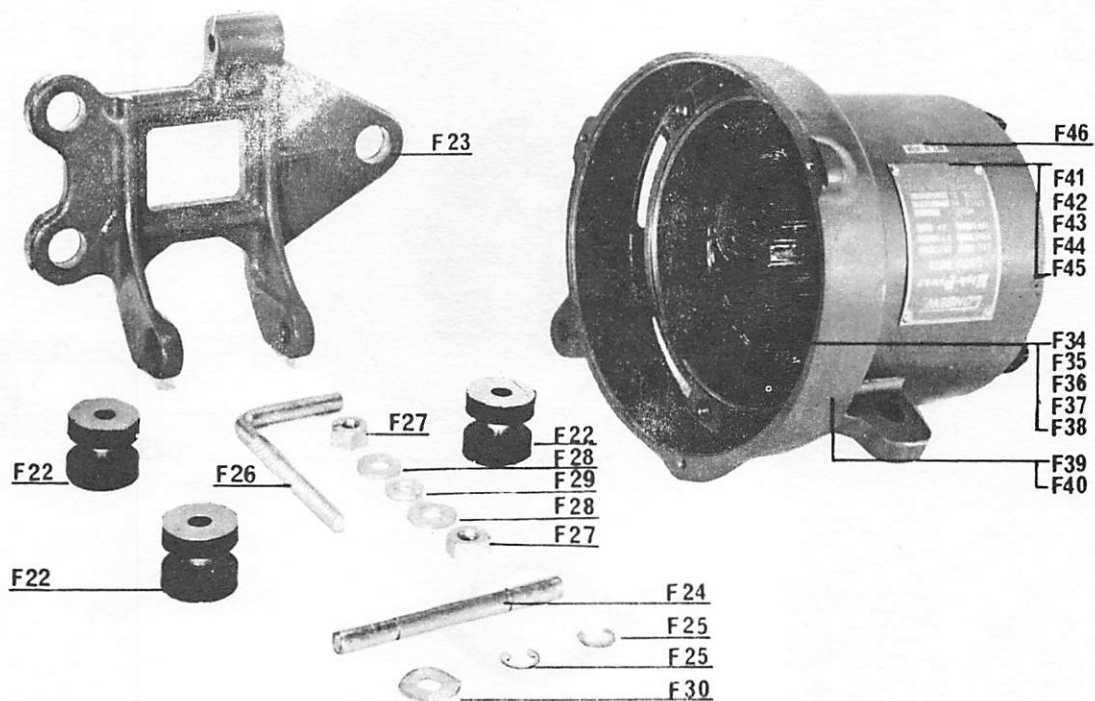
Part No.	Description	Pcs. per unit	Remarks	Page No.
D18	Flywheel	1	2/5hp. 3450rpm. 1 phase 2/5hp. 3450rpm. 1 phase 50/60cy.	7
D19	Flywheel	1	2/5hp. 3450rpm. 3 phase 2/5hp. 1725rpm. 1 phase 2/5hp. 1725rpm. 3 phase	
F22	Vibration deadening insulater	3	Common	
F23	Belt tightener	1	"	8
F24	Hinge pin	1	"	
F25	Stop ring for the above	2	"	
F26	Belt tightener adjusting screw	1	"	
F27	Nut for the above	2	"	
F28	Washer for the above	2	"	
F29	Lock washer for the above	1	"	
F30	Formed spring washer	1	"	
F31	Motor cover	1	"	
F32	Screw for the motor cover	3	"	
F33	Lock washer for the above	3	"	
F34	Stator complete	1	2/5hp. 3450rpm. 1 phase	
F35	" "	1	2/5hp. 1725rpm. 1 phase	
F36	" "	1	2/5hp. 3450rpm. 3 phase	
F37	" "	1	2/5hp. 1725rpm. 3 phase	
F38	" "	1	2/5hp. 3450rpm. 1 phase 50/60cy.	
F39	Frame	1	2/5hp. 3450rpm. 1 phase 2/5hp. 3450rpm. 3 phase 2/5hp. 1725rpm. 3 phase	
F40	Frame	1	2/5hp. 1725rpm. 1 phase 2/5hp. 3450rpm. 1 phase 50/60cy.	
F41	Name Plate A	1	2/5hp. 3450rpm. 1 phase	
F42	" " A	1	2/5hp. 1725rpm. 1 phase	
F43	" " A	1	2/5hp. 3450rpm. 3 phase	
F44	" " A	1	2/5hp. 1725rpm. 3 phase	
F45	" " A	1	2/5hp. 3450rpm. 1 phase 50/60cy.	
F46	Name Plate B	1	Common	9
G13	6203 ball bearing	2	"	
G15	Formed spring washer	1	"	
G16	Flywheel Key	1	"	
G17	Ball bearing spacer	1	"	
G18	Cast aluminum cage rotor	1	2/5hp. 3450rpm. 1 phase	

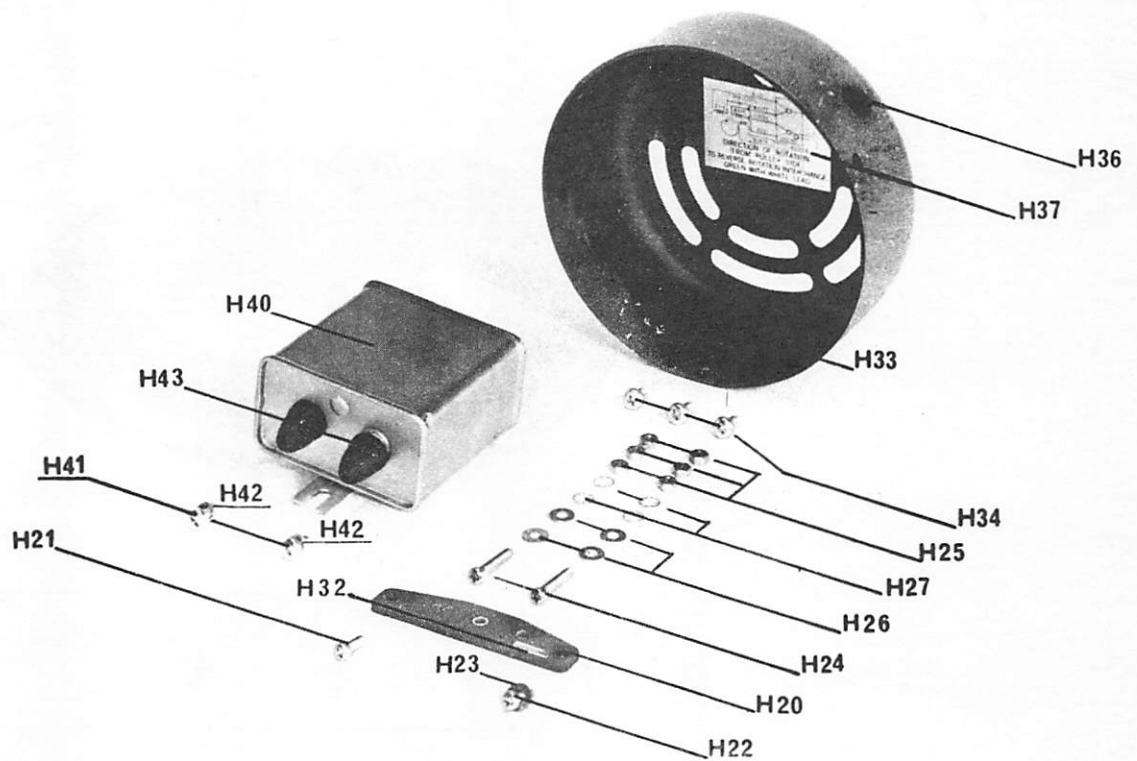
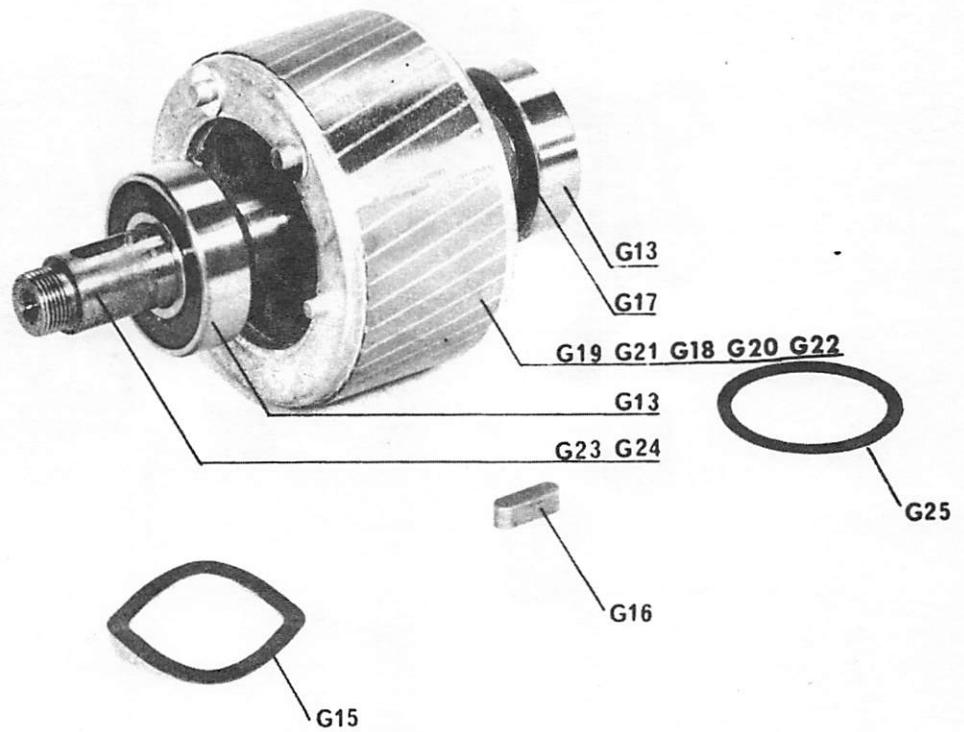
Part No.	Description	Pcs. per unit	Remarks	Page No.
G19	Cast aluminum cage rotor	1	2/5hp. 1725rpm. 1 phase	9
G20	" " " "	1	2/5hp. 3450rpm. 3 phase	
G21	" " " "	1	2/5hp. 1725rpm. 3 phase	
G22	" " " "	1	2/5hp. 3450rpm. 1 phase	
			50/60cy.	
G23	Motor shaft	1	2/5hp. 3450rpm. 1 phase	
			2/5hp. 3450rpm. 3 phase	
			2/5hp. 1725rpm. 3 phase	
G24	Motor shaft	1	2/5hp. 1725rpm. 1 phase	
			2/5hp. 3450rpm. 1 phase	
			50/60cy.	
G25	Neoprene washer	1	Common	
H20	Terminal board	1	"	
H21	Screw for terminal board	1	"	
H22	Ground screw	1	"	
H23	Washer for the above	1	"	
H24	Terminal stud screw	2	2/5hp. 3450rpm. 1 phase	
			2/5hp. 1725rpm. 1 phase	
H24	Terminal stud screw	3	2/5hp. 3450rpm. 3 phase	
			2/5hp. 1725rpm. 3 phase	
			2/5hp. 3450rpm. 1 phase	
			50/60cy.	
H25	Nut for the above	6	2/5hp. 3450rpm. 1 phase	
			2/5hp. 1725rpm. 1 phase	
H25	Nut for the above	9	2/5hp. 3450rpm. 3 phase	
			2/5hp. 1725rpm. 3 phase	
			2/5hp. 3450rpm. 1 phase	
			50/60cy.	
H26	Terminal washer	4	2/5hp. 3450rpm. 1 phase	
			2/5hp. 1725rpm. 1 phase	
H26	Terminal washer	6	2/5hp. 3450rpm. 3 phase	
			2/5hp. 1725rpm. 3 phase	
			2/5hp. 3450rpm. 1 phase	
			50/60cy.	
H27	Washer for the terminal stud screw	4	2/5hp. 3450rpm. 1 phase	
			2/5hp. 1725rpm. 1 phase	
H27	Washer for the terminal stud screw	6	2/5hp. 3450rpm. 3 phase	
			2/5hp. 1725rpm. 3 phase	
			2/5hp. 3450rpm. 1 phase	
			50/60cy.	

Part No.	Description	Pcs. per unit	Remarks	Page No.
H32	Ground marker	1	2/5hp. 3450rpm. 1 phase 2/5hp. 1725rpm. 1 phase 2/5hp. 3450rpm. 1 phase 50/60cy	9
H33	Connecting box cover	1	Same as above	
H34	Screw for the above	3	" " "	
H36	Rubber grommet for lighting fixture cord B	1	" " "	
H37	Wiring diagram	1	2/5hp. 3450rpm. 1 phase 2/5hp. 1725rpm. 1 phase	
H38	Wiring diagram	1	2/5hp. 3450rpm. 3 phase 2/5hp. 1725rpm. 3 phase	
H39	Wiring diagram	1	2/5hp. 3450rpm. 1 phase 50/60cy	
H40	Capacitor	1	2/5hp. 3450rpm. 1 phase 2/5hp. 1725rpm. 1 phase 2/5hp. 3450rpm. 1 phase 50/60cy	
H41	Screw for the above	2	Same as above	
H42	Washer for the above	2	" " "	
H43	Terminal cap of capacitor	2	" " "	









MAINTENANCE PROCEDURE

LUBRICATION

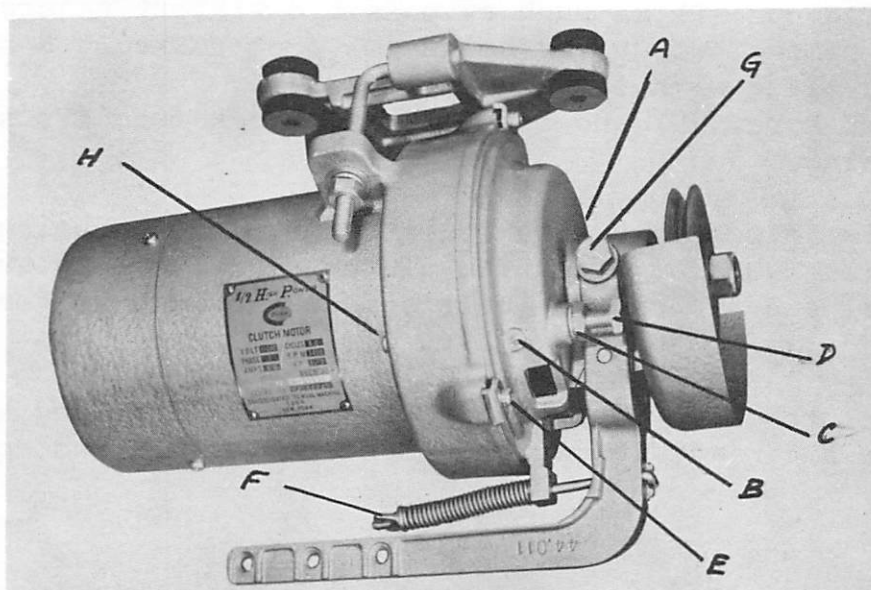
Sealed ball bearings, containing sufficient lubricant for the life of the bearings are installed in the Consew clutch motor. Therefore re-lubrication is neither possible nor required.

The only spot requiring occasional lubrication is the clutch operating sleeve. An oil hole (A) is located on top of the projection from the pulley end of the motor. It requires about 2 to 4 drops of lubricating oil S.A.E. 20 or similar, every 60 days.

CLUTCH AND BRAKE ADJUSTMENT

If clutch or brake adjustment should become necessary, this is indicated by an excessive travel of the clutch lever or of the foot pedal when starting to operate the sewing machine or upon stopping it.

To adjust clutch and brake, first loosen set screw (B) about 2 turns, then loosen lock nut (C) and turn head of adjustment bolt (D) clockwise one half turn at a time, then test for results by pressing down the clutch lever. Tighten lock nut (C) and set screw (B) upon completing clutch and brake adjustment. NOTE: Do not turn in bolt (D) so far that there is no more clutch action, as this may jam both clutch and motor, causing damage to the motor in particular.



Fig, 1

REPLACING THE CLUTCH LINING

1) Note position of treadle pitman rod and treadle and loosen the clamp tying together the two component lengths of the treadle pitman rod. Unhook upper component from clutch lever. Unscrew from clutch motor housing three clamps (E). This will permit clutch portion to become separated from motor.

2) Flywheel of motor is now exposed. Remove the retaining ring around the outer circumference of the cork clutch lining inside the flywheel, using a small screw driver inserted into the open end of the ring. Clutch lining can now be lifted out. If necessary insert screw driver at inner bore between flywheel and clutch lining to facilitate removal.

3) When placing a new clutch lining disc into the flywheel be sure that the four projections on the steel backing plate engage the four holes in the recess in the flywheel. After the new clutch lining is in place, reinsert the retaining ring, making certain that it fits into its groove in the inner face of the flywheel.

4) Replace the clutch head, the three clamps (E) with their screws and the treadle pitman employing the reverse of the procedure outlined in paragraph 1.

5) Check clutch and brake adjustment for desired lever movement, following instructions outlined in the preceding chapter.

REPLACING THE BRAKE PAD

1) Remove belt pulley from clutch end of motor.

2) Follow instructions of (1) on page 1.

3)a.) Loosen wing nut (F) as much as possible without unscrewing it altogether and remove two driver bolts (G) from forked end of lever. Pull out clutch plate with its sleeve and shaft.

b.) Loosen set screw (B) and remove brake block from its seat in the clutch housing.

4) Replace brake block inserting it into the clutch housing so that the cork friction material faces the clutch disc and make sure that the cylindrical end of bolt (D) enters into the hole in the brake block.

5) Reassemble clutch head reversing the procedure outlined under 1, 2, and 3, above and readjust clutch and brake for desired action.

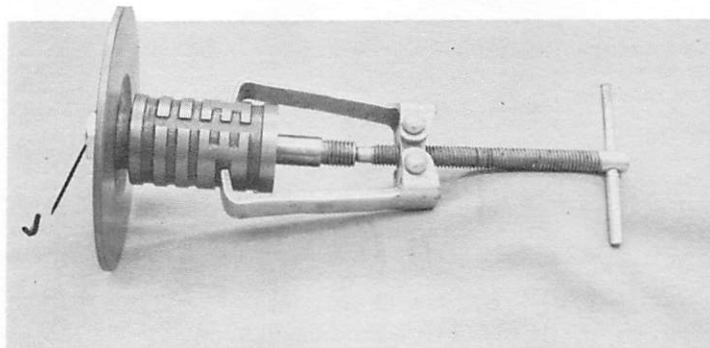


Fig. 2

REPLACING THE CLUTCH BEARINGS

- 1) Follow steps 1, 2, and 3a on page 2.
- 2) Use a bearing puller, engaging its jaws with the milled grooves in the clutch bearing sleeve (fig. 2), to pull the clutch bearing nearest the pulley end from the clutch shaft.
Now push bearing out from inside of bearing sleeve.
- 3) Clamp thickest portion of clutch shaft with clutch disc attached in a bench vise, flatten out the safety washer (J) under nut (fig. 2) and remove the nut. The clutch disc can now be removed from the clutch shaft: also remove the clutch disc key. Now the second ball bearing can be removed, using the bearing puller.
- 4) When installing new ball bearings proceed in the reverse order outlined above, first placing the new ball bearing on the clutch disc end of the shaft. Reassemble clutch disc key, safety washer and tighten nut.

NOTE: Do not strike ball bearings directly when installing sleeve on the shaft; be sure to apply force only to the inner race. When placing the bearings into a bore apply force only to outer race. Check bearing sleeve for burrs resulting from application of puller before reinstallation into clutch head.

TO REPLACE THE MOTOR BEARINGS

- 1) Follow steps 1, 2, and 3a on page 2.
- 2) Remove three screws (H) and lightly tap flywheel with punch or similar tool, placed through ventilating slots located alongside the screws. This will cause the flywheel together with the inner motor endshield and the rotor to come out of the motor housing for easy removal.
- 3) Flatten the safety washer under the nut holding flywheel, remove nut, lift out flywheel and flywheel key.
- 4) Using bearing puller, remove ball bearing from the rotor shaft and replace with new ones.
- 5) Reassemble motor endshield and flywheel with rotor and place this assembly into the motor frame, making sure that the rubber ring is placed on the inside of the bearing bore in the motor housing at the side opposite the flywheel.

- 6) Reassemble clutch head assembly with motor, replace screws and clamp (G) and reassemble treadle pitman.

BELT LENGTHS

Belt lengths required for [REDACTED] Sewing Machines with Consew clutch motors are:

CONSEW MODEL 99

- 1) CONSEW MODEL 30 Belt length is 42 inches Stock No. 150742

SINGER CL.31-15

- 2) Consew Model 225 Belt length is 45 inches Stock No. 150745

- 3) Consew Model 227 Belt length is 54 inches Stock No. 150754

NOTE: The above stock numbers call for continuous "V" belts.



CONSOLIDATED SEWING MACHINE CORP.