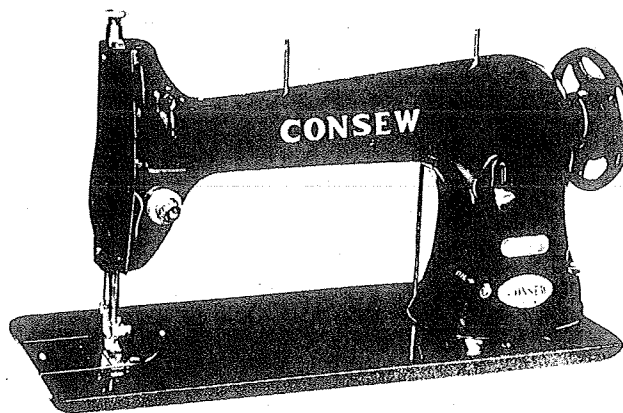


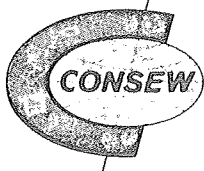
OPERATING INSTRUCTIONS, PARTS LIST
and MAINTENANCE PROCEDURES
FOR
CONSEW MODEL 30 SEWING MACHINE

Since 1898
CONSEW®



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.

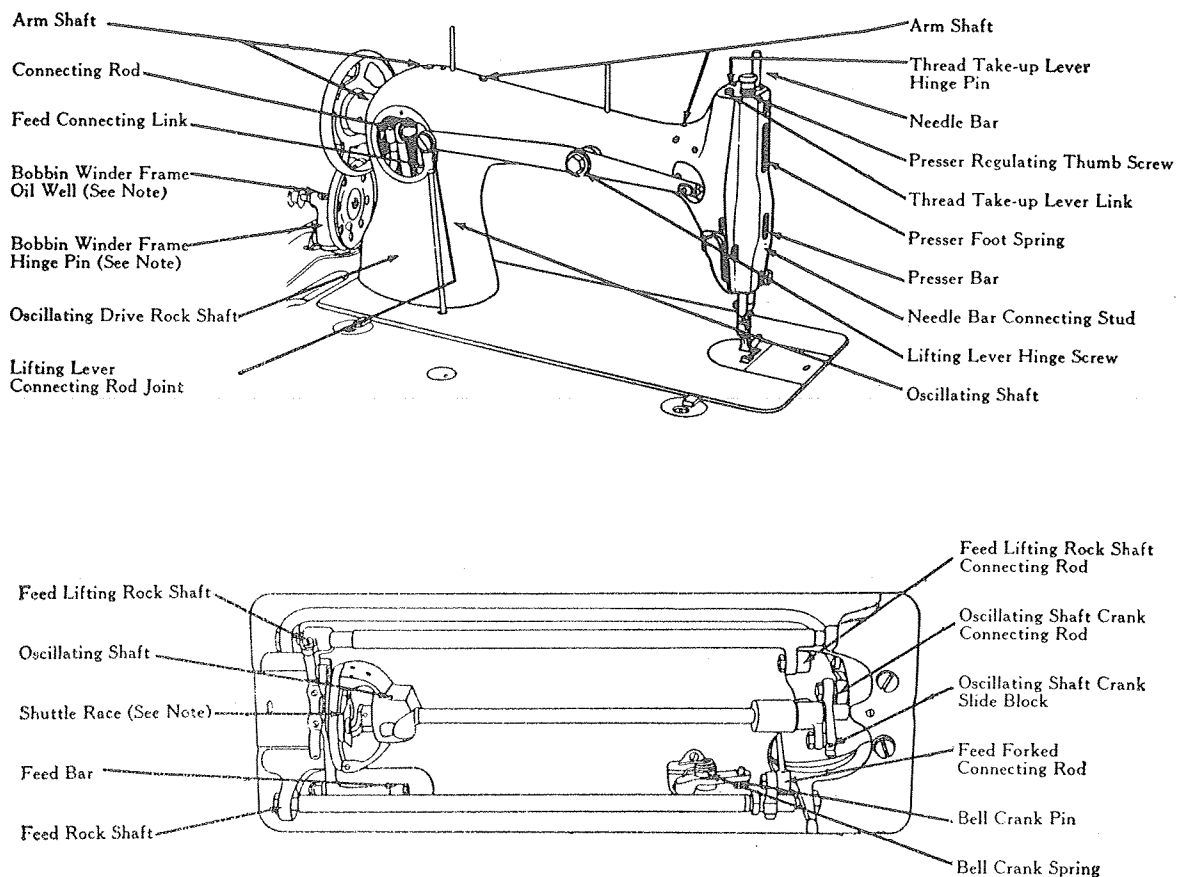
LUBRICATION CHART

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 can symbol) 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 can symbol).

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 can symbol).

SHUTTLE RACE—Twice every day apply lubricating oil (oil can symbol) 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

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 ()::

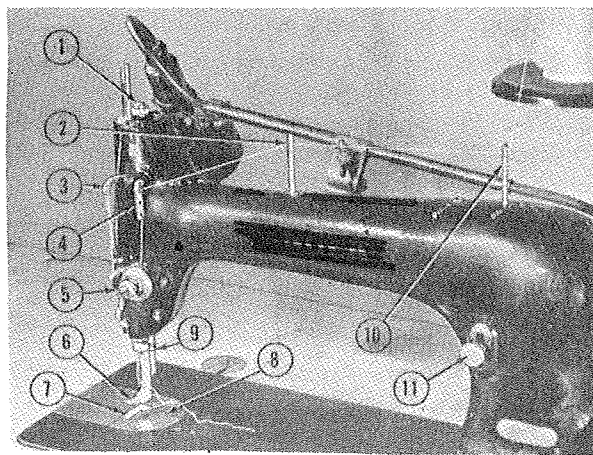
- (a) Bell crank pin.
- (b) Bell crank spring.
- (c) Feed bar.
- (d) Feed drive connecting rod.
- (e) Feed lifting connecting rod.
- (f) Feed lifting rock shaft.
- (g) Feed rock shaft.
- (h) Oscillating shaft.
- (i) Oscillating shaft crank connecting rod.
- (j) Oscillating shaft crank slide block.

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.

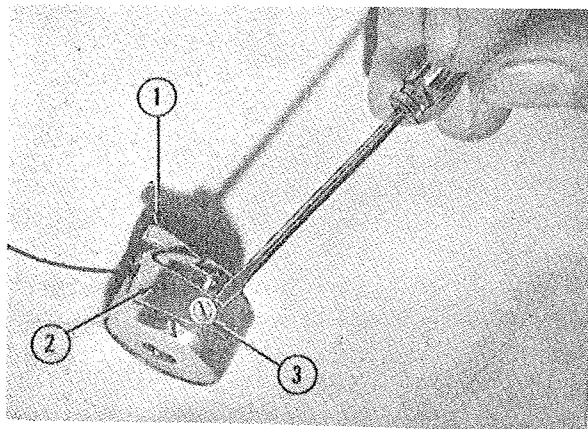
STITCH-ADJUSTING SCREW

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



<u>Ref.</u> <u>No.</u>	<u>Part</u> <u>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)

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.

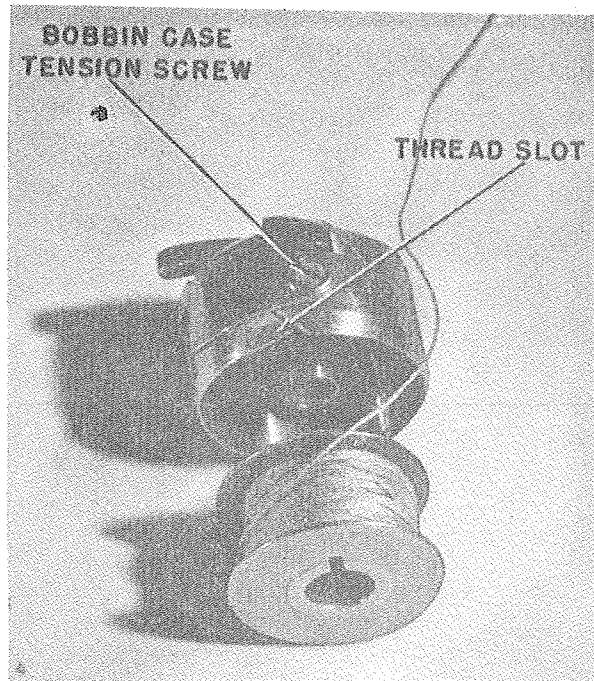


Figure 10. Bobbin case with bobbin ready to be slipped in.

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.

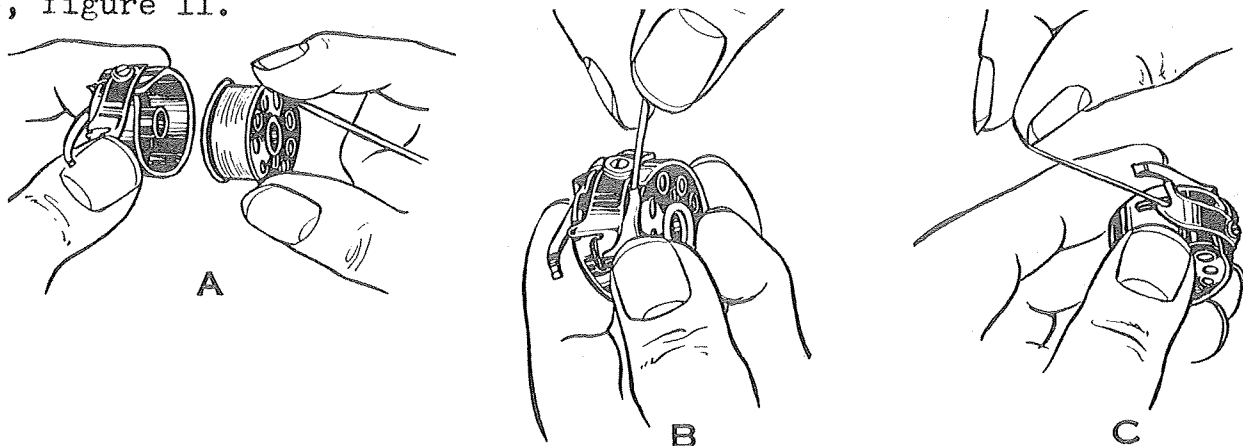


Figure 11. Threading Bobbin Case

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

- 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.
- To set the needle, turn the balance wheel toward you until the needle bar moves up to its highest point.
- 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.
- Tighten the needle clamp screw. If the screw is too loose, the needle will turn or slip.

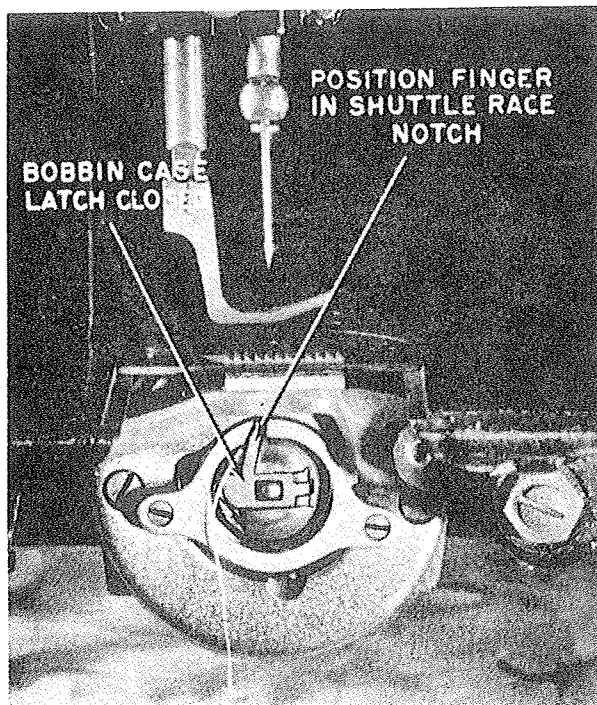


Figure 13. Bobbin case in shuttle race, with bobbin thread ready to be picked up by needle thread.

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.

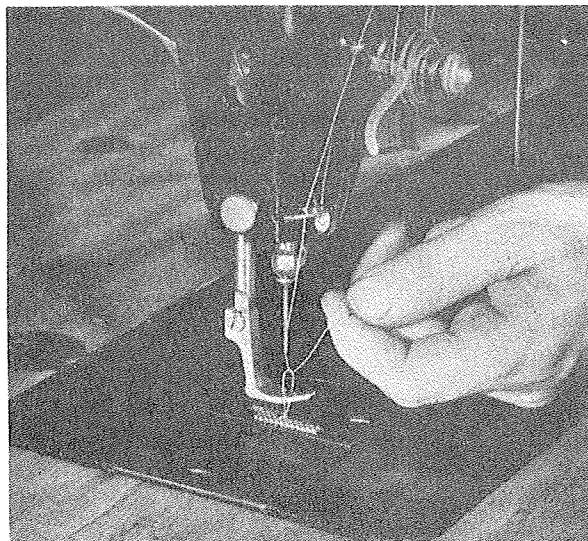


Figure 15. Needle thread being used to draw bobbin thread up through hole in throat plate

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.

(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.

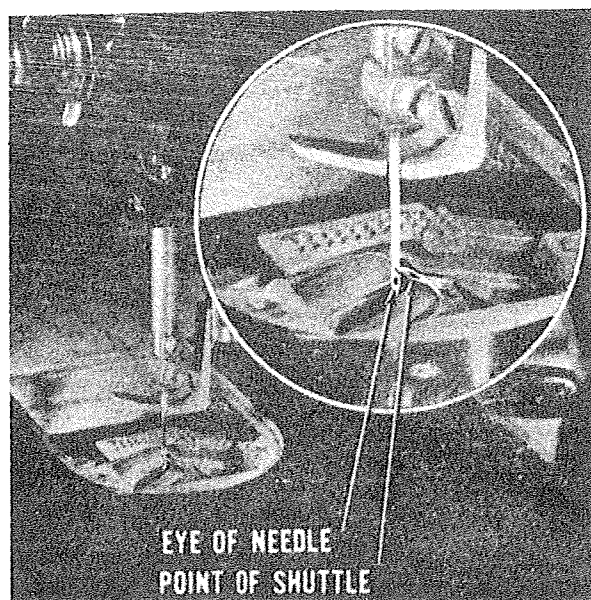
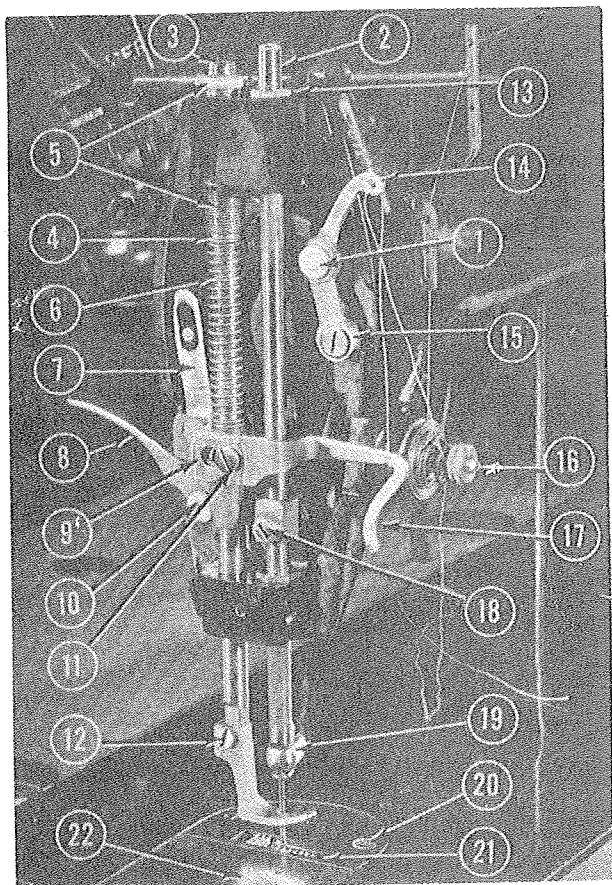


Figure 16. Correctly timed needle

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.

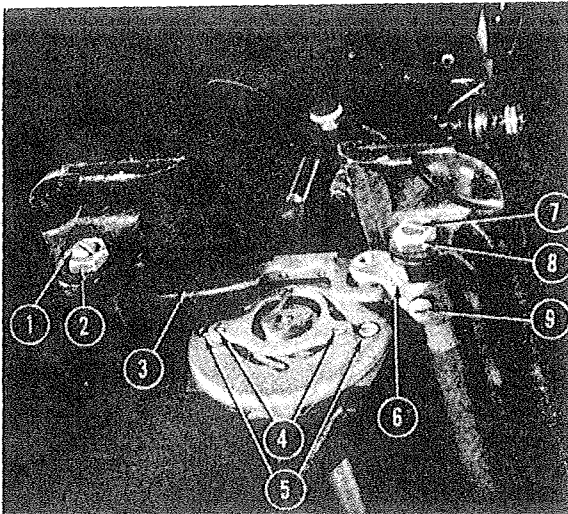
(1) Loosen screw (9, 20) and move the crank (6, fig.20), up or down, as necessary.

(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

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

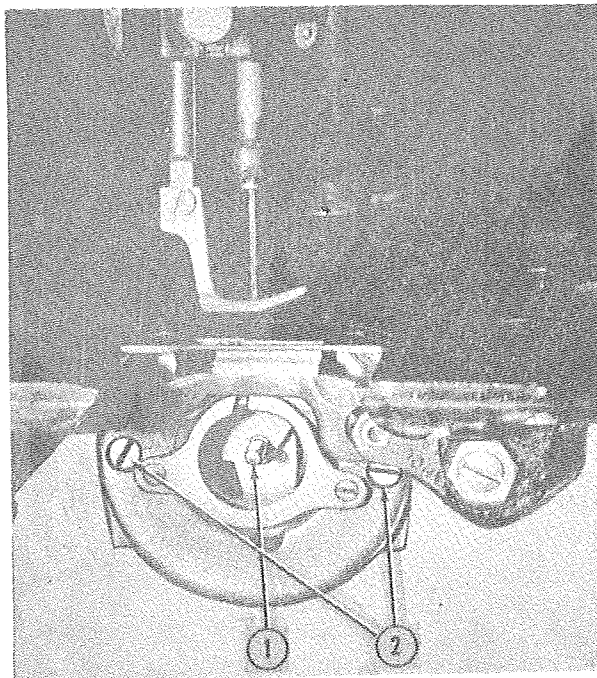
(1) Hold the shuttle race in your left hand, with the cap up, and with its front side to your left.

(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

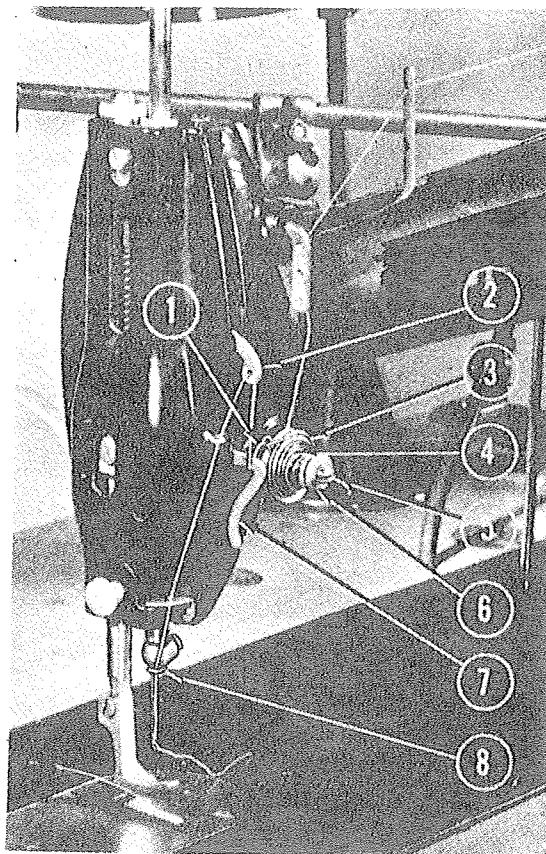
Figure 22. Shuttle race assembly installed without bobbin case

ASSEMBLING SHUTTLE RACE ASSEMBLY

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

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.

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. .

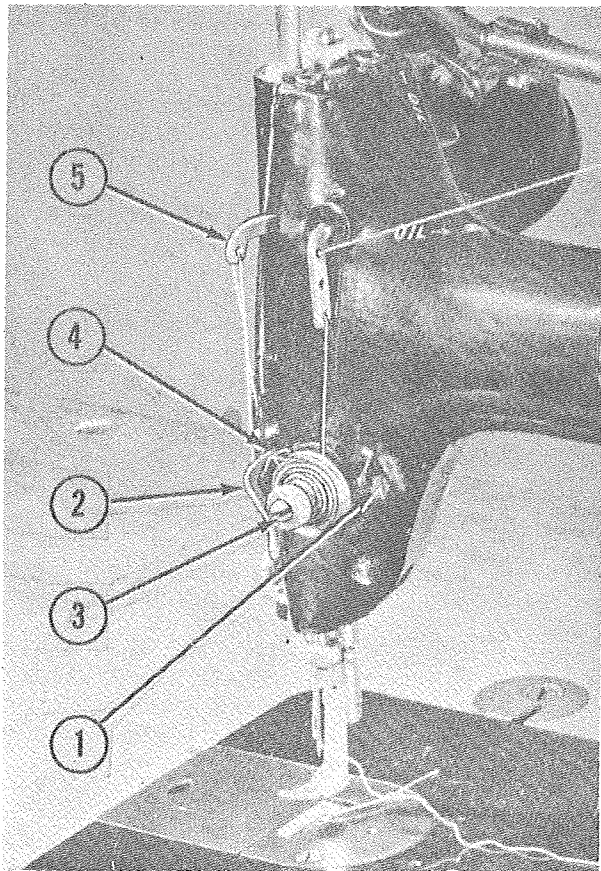
(2) To increase the tension on the spring, wind the spring to the right between the regulator and the back tension disk.

(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.

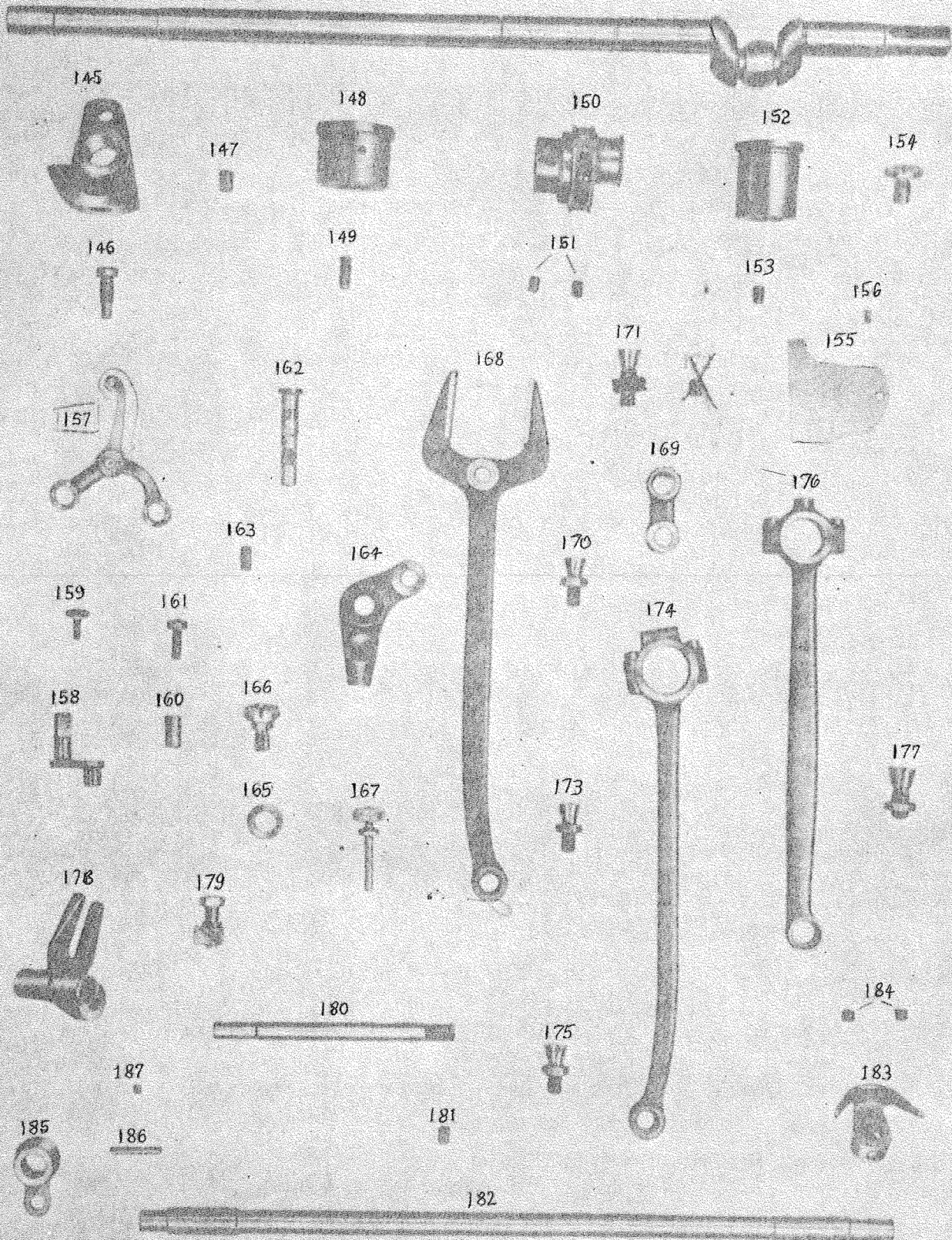
Nomenclature

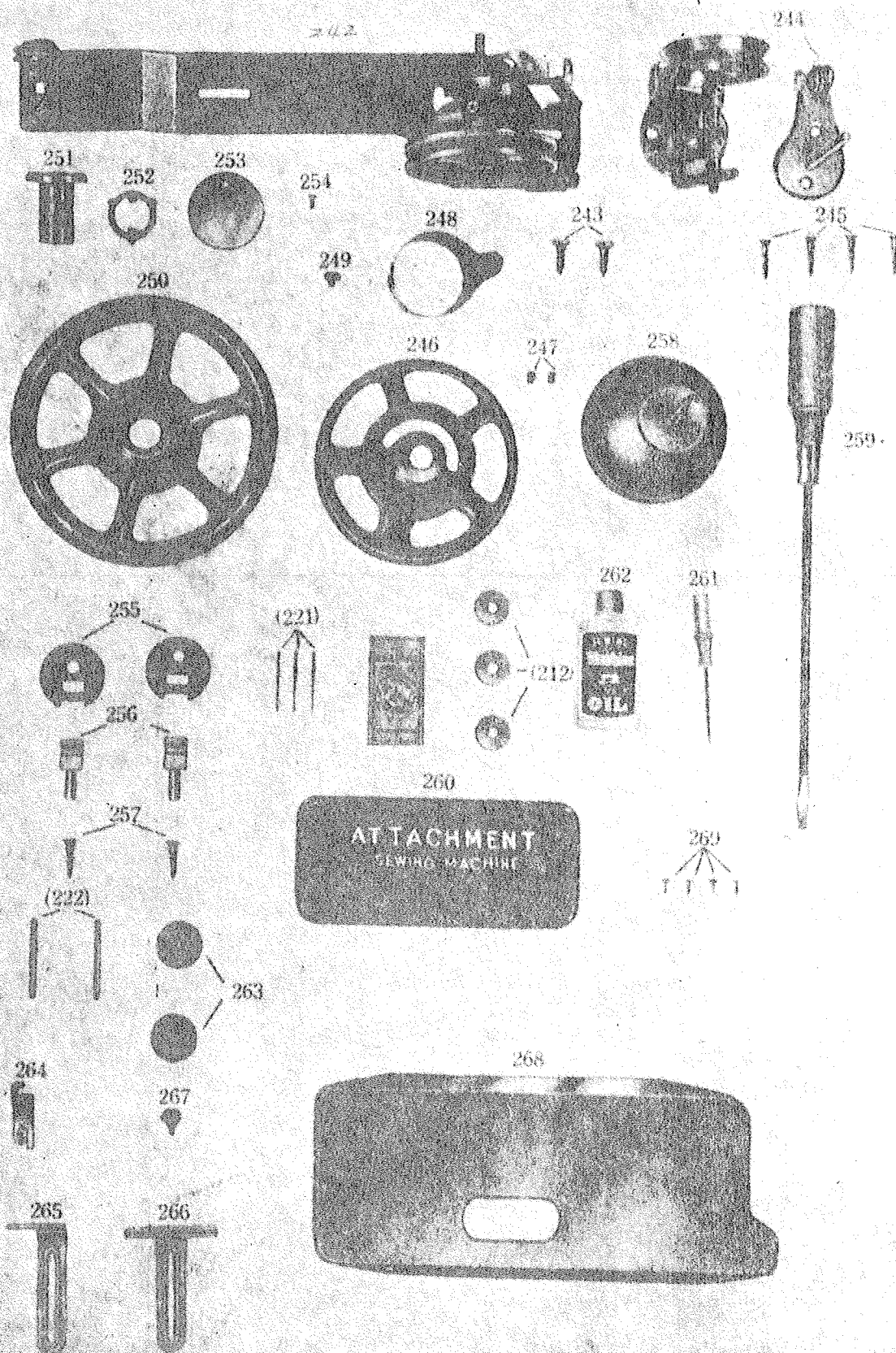
1	Thread take-up spring regulator setscrew
2	Slack thread regulator
3	Tension-regulating thumb nut on the tension screw stud
4	Thread take-up spring
5	Thread take up lever

Figure 26. Tension controller installed

SINGER PART NO.	CONSEW PART NO.	DESCRIPTION	SINGER PART NO.	CONSEW PART NO.	DESCRIPTION
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	12515	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	5558	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 operatic
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 onl
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



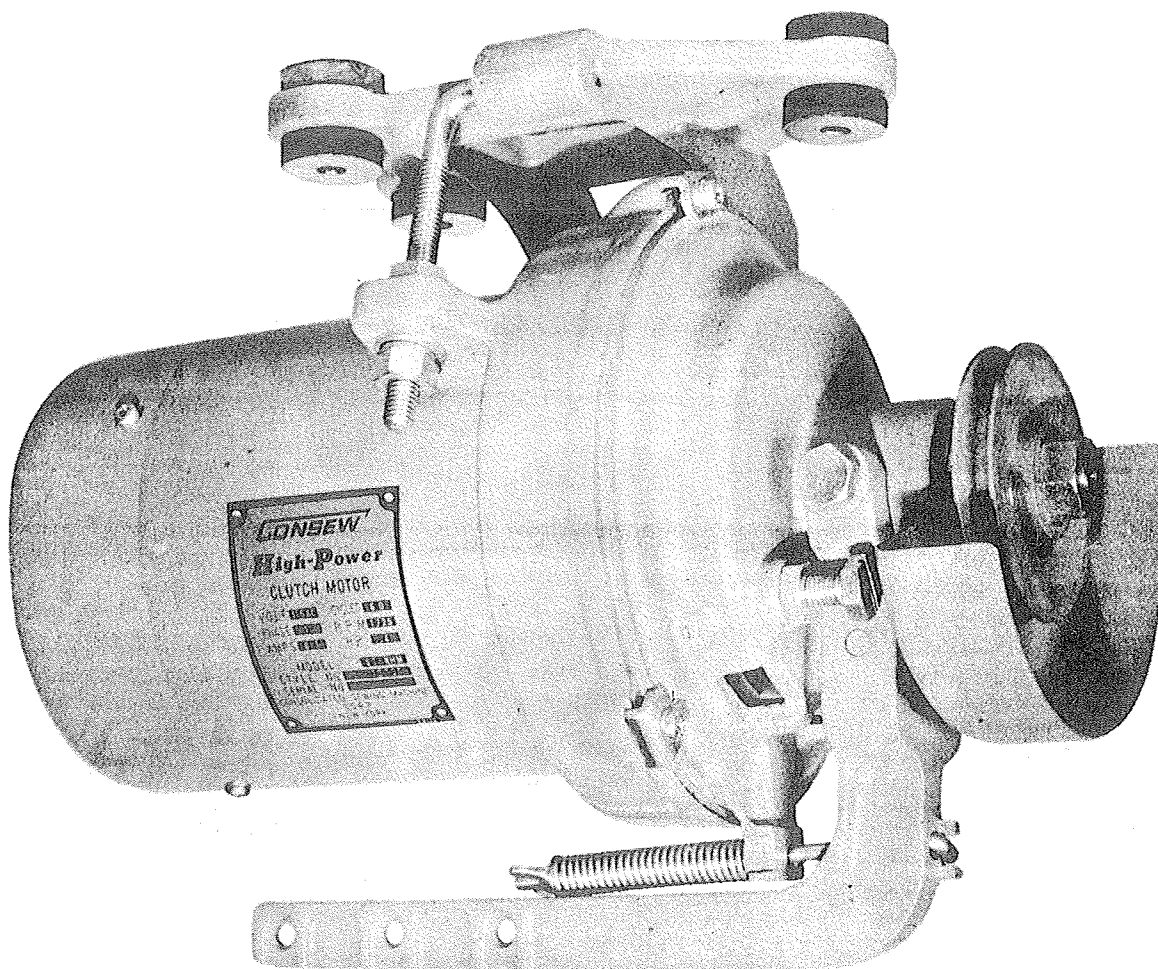


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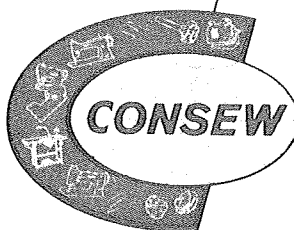
2/5 H.P. CLUTCH MOTOR

CATALOGUE NUMBER CIH407F

PARTS LIST and MAINTENANCE PROCEDURES



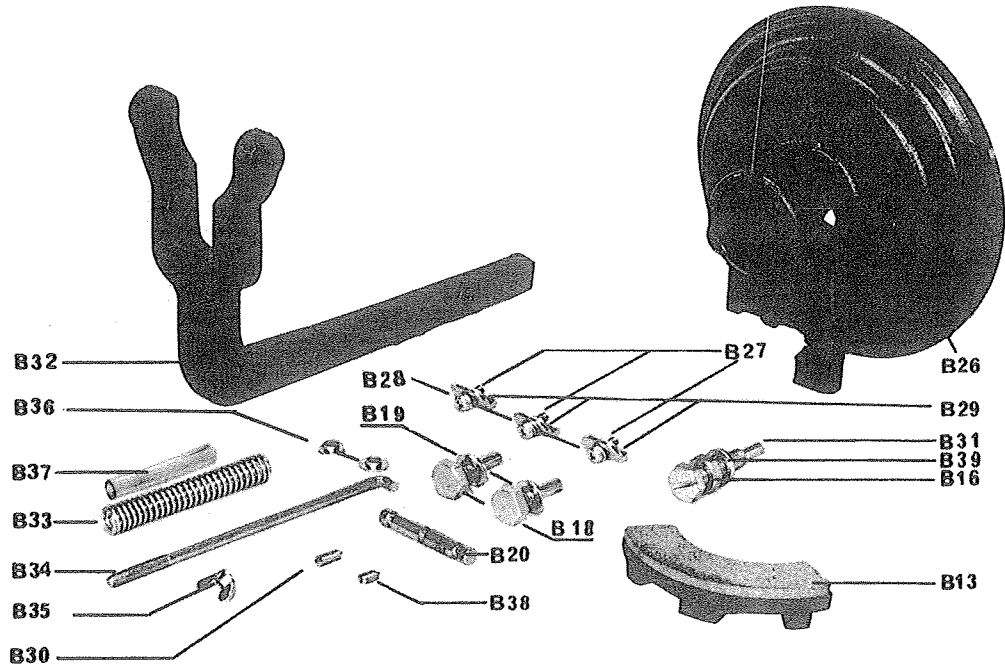
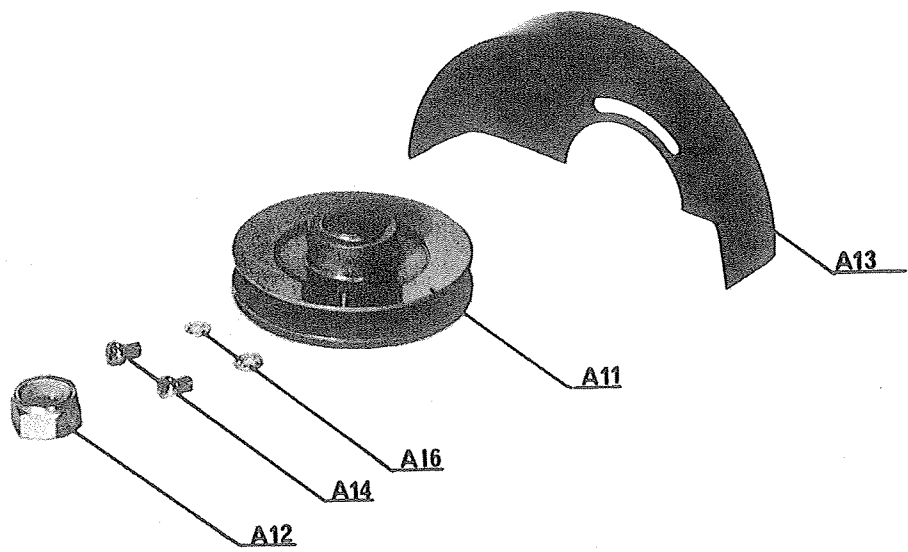
CONSOLIDATED SEWING MACHINE CORP.

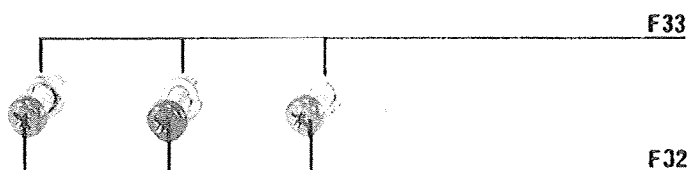
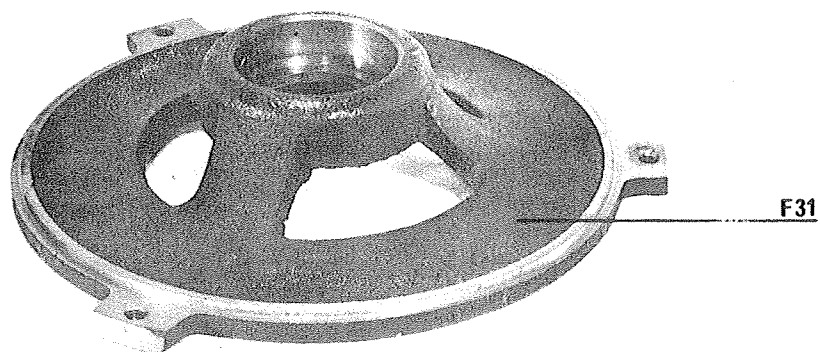
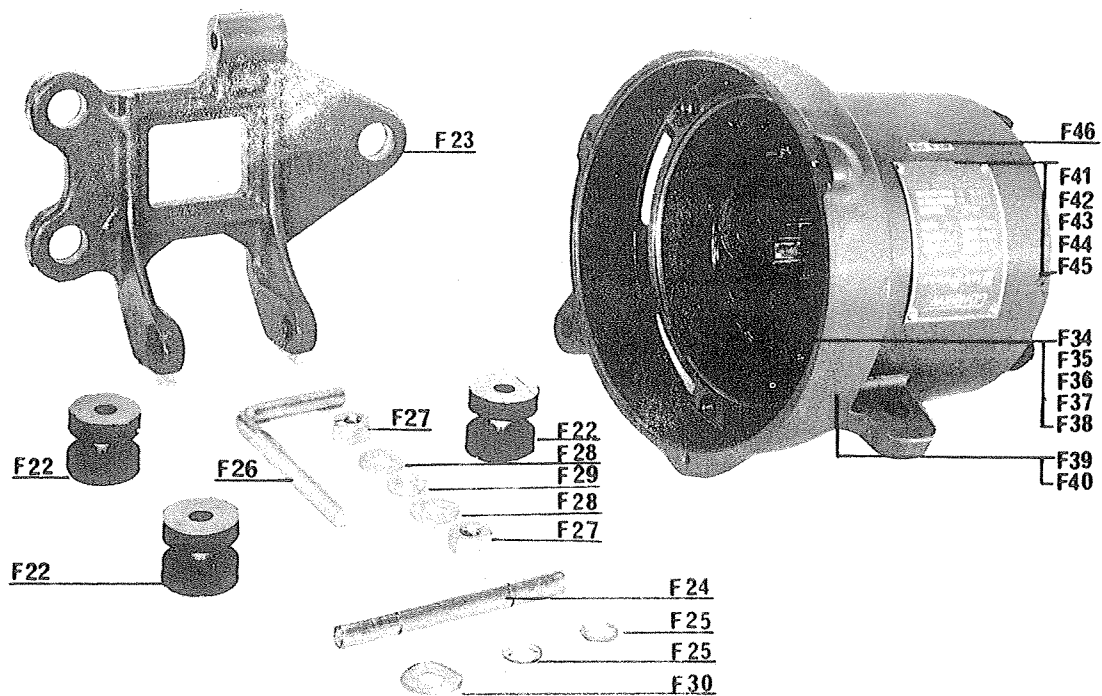


INDUSTRIAL SEWING EQUIPMENT

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.
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	





MAINTENANCE PROCEDURE

LUBRICATION

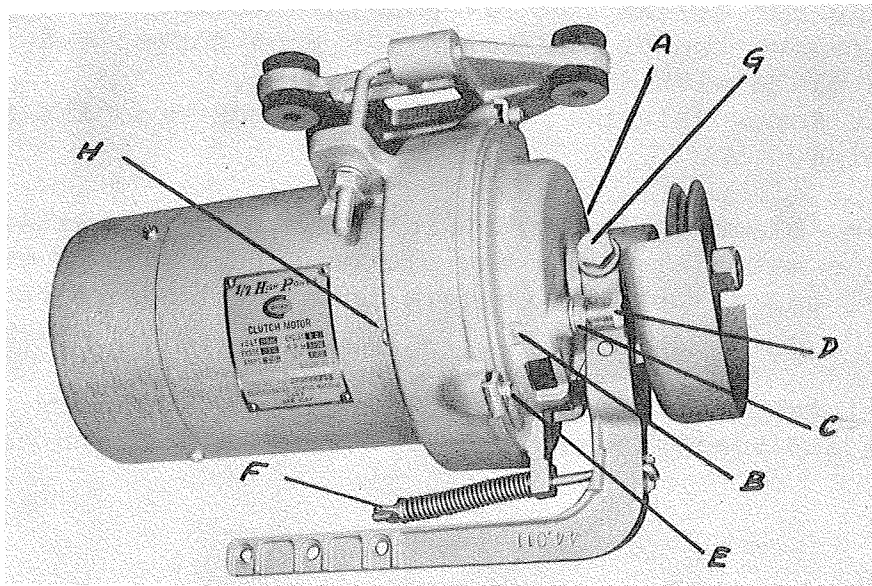
Sealed ball bearings, containing sufficient lubricant for the life of the bearings are installed in the Consew clutch motor. Therefore re-lubrication is neither possible nor required.

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 loosenthe 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.

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 end shield 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.