OPERATING INSTRUCTIONS

CONSEW

MODEL 206RB

WALKING FOOT NEEDLE FEED SEWING MACHINE

CONSEW

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CONTENTS

CHARACTERISTICS AND CAPACITY

The CONSEW MODEL 206RB is a high-speed compound walking-foot needle-feed machine.

The maximum operating speed after a break-in period is 3300 stitches per minute depending, of course, on the type of material being sewn, its thickness and that of the seams being crossed.

The maximum possible stitch length is 3½ stitches per inch (7.25mm).

The alternating presser feet have a maximum lift of 1/2" (12.7mm). The amount of lift is readily adjustable.

To assure durability and trouble-free operation, it is imperative that for the first several weeks of operation the maximum speed is held to no more than 2700 RPM in order to allow the parts to become properly broken in.

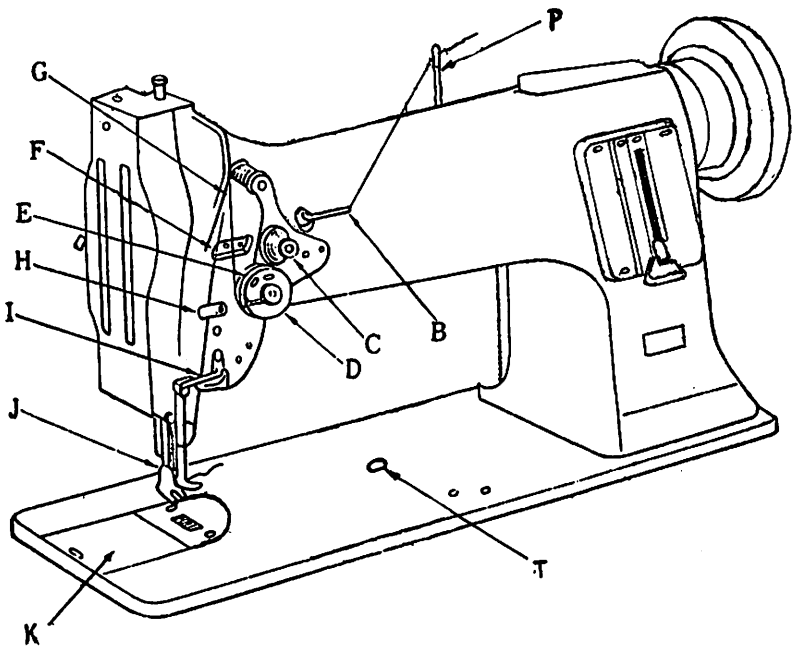


FIG. 1

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 all oil holes with a good grade of sewing machine oil.

The bed of the machine is made to standard dimensions and requires a standard "long arm" table top.

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.

THREADING THE NEEDLES

From the thread stand lead the thread from back to front through the lower guide hole in pin "P" on top of the machine arm, then again from right to left through the upper guide hole in this pin. Passthread in weaving fashion through the three holes in guide "B", and from right to left over and between the tension disc "C". Now pull thread downward and from right to left beneath and around thread controller "D"; continue to pull thread upward against the pressure of the wire spring into the fork "E" in the thread controller. Guide upward through thread guide "F" and from right to left through the eye at the tip of the take-up lever "G", down through thread guide "F" again and then through "H", "I" and "J" from left to right through the eye of the needle. (See Fig. 1).

OILING

Do not operate the machine, even if only for testing, unless it has been properly oiled at every spot requiring lubrication. The arrows marked "O" on Figures 2A, 2B, 2C and 2D indicate these spots. Also on the machine most oil holes are ringed in red.

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

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

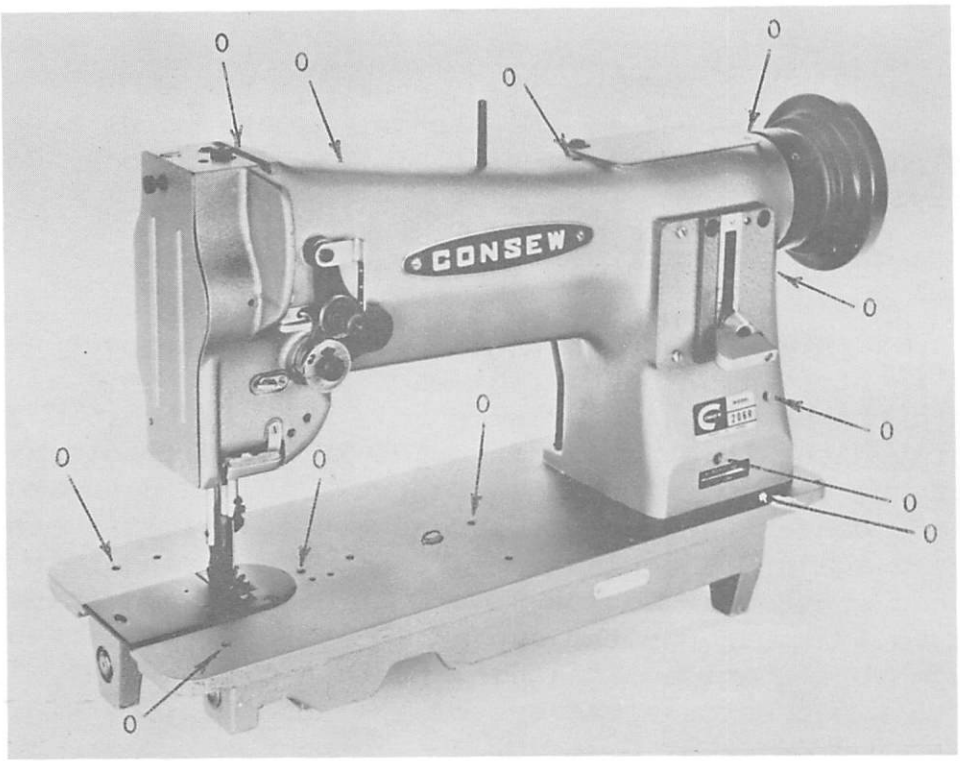


FIG. 2A

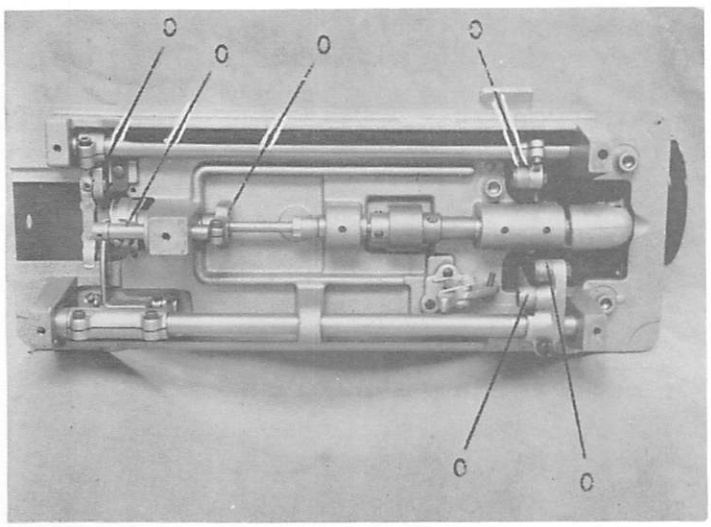


FIG. 2B

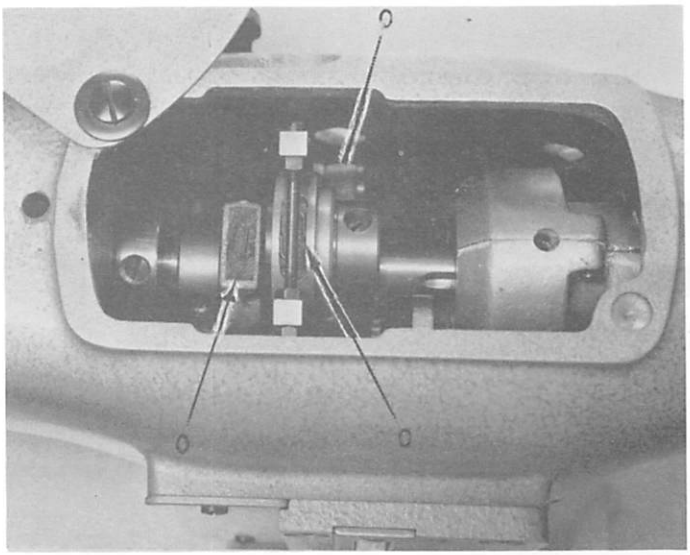


FIG. 2C

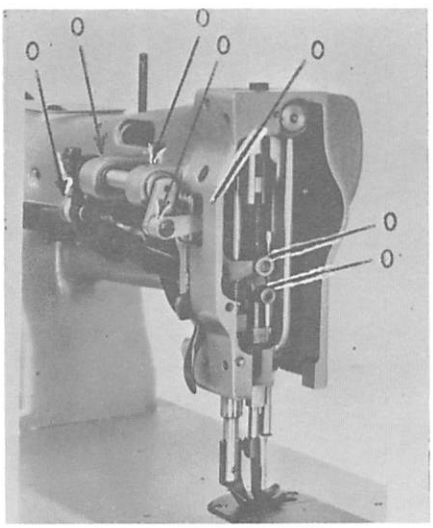


FIG. 2D

NEEDLE AND THREAD SELECTION

CONSEW MODEL 206RB machine is set up to use standard needles styles 135 x 17 (catalog 3355) for fabric or 135 x 16 (catalog 3370) for leather, vinyl, etc. in sizes ranging from 12 to 24. 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 satsifactory 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 thumband index finger of your hands. Turn thread counterclockwise. If it will twist tighter, it has a left twist. If it unravels, it has a right twist (Fig. 3).

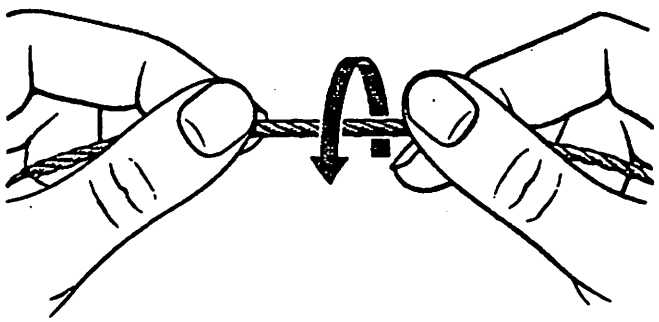


FIG. 3

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

NEEDLE AND THREAD CHART

Needle Size	Thread Size (Cotton)
12	80-90
13	70-80
14	60-70
16	40-60
18	30-40
20	24-30
22	16-24
24	12-16

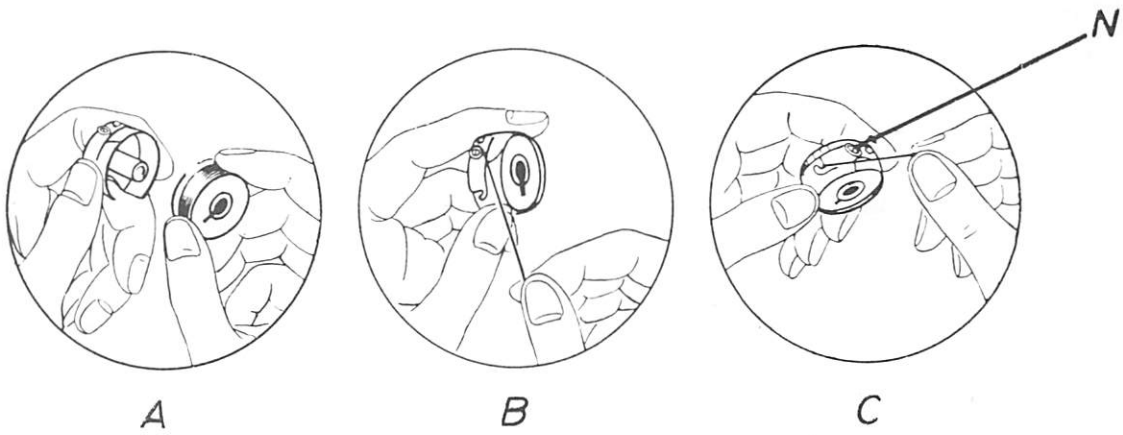
INSERTING A NEW NEEDLE

Turn handwheel toward you until needle has reached the highest point of its travel. Loosen the needle set screw about one turn, pull down and remove the old needle and insert a new one. Push the needle tip into the needle bar as far as it will go, setting its long groove toward the left with eye of the needle going from left to right. Tighten needle set screw securely.

THREADING AND INSERTING THE BOBBIN CASE

Hold the bobbin between the thumb and forefinger of your right hand and pull out a length of two or three inches of thread. Holding the bobbin case in your left hand, turn the open side up and place the threaded bobbin into it.

With the right hand guide the thread into the slot in the edge of the bobbin case, Then pull the thread to the left, under the tension spring and into the delivery eye. In order to keep the bobbin from dropping out of the case when it is turned with the open side down, always keep the hinged latch at the front of the bobbin case open (Figs. 4A, 4B and 4C).

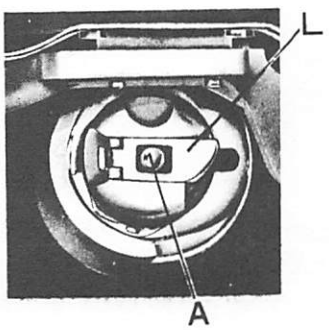


FIGS. 4A-C

Take the threaded bobbin case by the latch "L" and place it on the center stud "A" (Fig.5) of the bobbin case holder. Release latch and press bobbin case onto center stud until the latch catches the undercut thereon with a click that can be heard. Permit two to three inches of bobbin thread to hand down freely. Be sure to push slide plate to the right before starting to sew.

REMOVAL OF BOBBIN CASE

Turn handwheel toward you until needle reaches its highest point. Open slide plate "K"(Fig.1) by pulling it to the left. Pass left hand under table into opening on drip pan. With left thumb and index finger open the hinged latch "L" (Fig. 5). and pull bobbin case and bobbin from rotary hook. While the latch is held open, the bobbin will be retained in the bobbin case. Release of the latch and turning of the open side of the bobbin case downward will cause the bobbin to drop out.



WINDING BOBBINS

The bobbin winder is mounted on the table top with its pulley in front of the driving belt. The pulley will separate from the belt after the bobbin has been wound with sufficient thread.

Push the bobbin on bobbin winder spindle as far as it will go. Pass thread from thread stand downward through eye in tension bracket; then between and around the back of the tension discs bring thread foward toward bobbin and wind from below in clockwise direction several times around bobbin. Push bobbin winder lever downward until wheel contacts the drive belt and start machine. After bobbin is filled with thread, an automatic release will cause the wheel to disengage from the belt and winding will stop. Cut thread and remove bobbin from winder spindle.

An adjustment screw on the bobbin winder throw-out latch can be turned in or out to increase or decrease the amount of thread wound on the bobbin.

When fine thread is wound on bobbins, use light tension. It is regulated by turning the knurled nut on the tension bracket at the rear of the bobbin winder. Bobbin can be wound while the machine is sewing.

STITCH LENGTH ADJUSTMENT & REVERSING LEVER

The stitch length is changed by turning serrated nut "M" located behind stitch regulator lever until the desired stitch length is reached. To reverse sewing action, lift lever past "O" toward marking "R" on the plate (Fig. 6) until stopped. Machine will sew approximately same number of stitches per inch forward and reverse. Release of the spring-actuated lever will automatically return the sewing to forward direction.

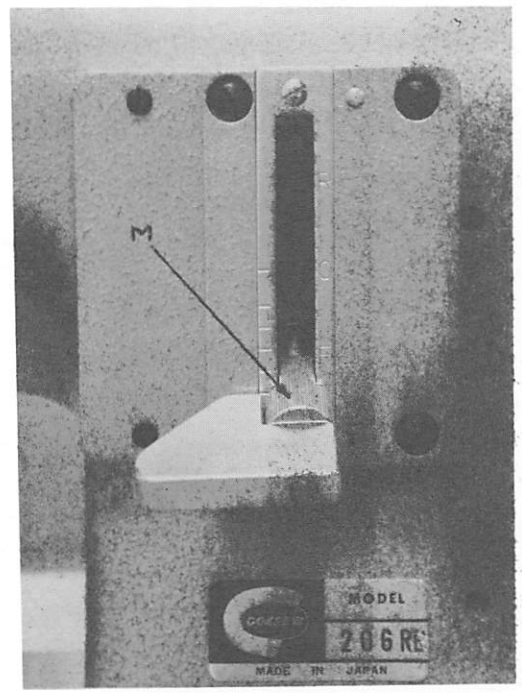


FIG. 6

SEWING PROCEDURE

Turn the handwheel toward you until the needle moves down and up again to its highest point, thus catching the lower (bobbin) thread. Now pull the end of the upper thread you are holding and the bobbin thread will be brought up with it through the needle hole in the feed dog. Place both ends of thread back under the presser foot. Place the material to be sewn beneath the presser foot, lower the foot upon it and then start the machine.

TO REMOVE THE WORK

Raise the needle bar to its highest point; lift the presser foot and draw the fabric back and to the left. Cut the ends of the threads a few inches.

REGULATING THE THREAD TENSIONS

For ordinary stitching, the tension on the upper and lower threads should be equal so as to lock both threads in the center of the material. (Fig.7A)

FIG. 7A

If the tension on either thread is stronger than on the other, imperfect stitching will be the result. If the tension on the upper thread is greater than that on the lower thread, it will lie straight along the upper surface of the material (Fig.7B)

FIG. 7B

If the tension on the lower thread is greater than that on the upper thread, the lower thread will lie straight along the underside of the material (Fig.7C)

FIG. 7C

A. Tension of the Upper (Needle) Thread:

Before adjusting the tension of the upper (needle) thread, be certain that the presser foot is let down and not in lifted position.

To adjust tension, turn serrated nut "C" on tension device (Fig.1) to the right to increase tension and to the left if you desire to decrease it.

B. Tension of the Lower (Bobbin) Thread:

The lower (bobbin) thread tension is controlled by the larger screw "N" (Fig. 4C) near the end of the spring at the outside of the bobbin case. Turning this screw to the right (clockwise) will increase the thread tension, while turning it to the left (counter-clockwise) will decrease it.

HOW TO RE-SET THE SAFETY CLUTCH MECHANISM

The sewing hook and its mechanism are protected by a safety clutch. If it should become necessary to re-engage the safety clutch, depress button "T" (Fig. 1) in the bed plate of the machine. At the same time, turn handwheel until the locking mechanism re-engages the drive shaft beneath the bed of the machine. Open bed slide plate and rock handwheel back and forth to remove any foreign matter which may have lodged itself in the hook. Do not use any sharp-edged tools,etc., lest the hook be damaged.

ADJUSTING LIFT OF THE ALTERNATING PRESSER FEET

The thickness of the material sewn should control the height of the lift of the alternating presser feet. The lift should be just enough for clearance of the material. With normal adjustment both feet lift to equal height. However, some materials may require unequal height of lift.

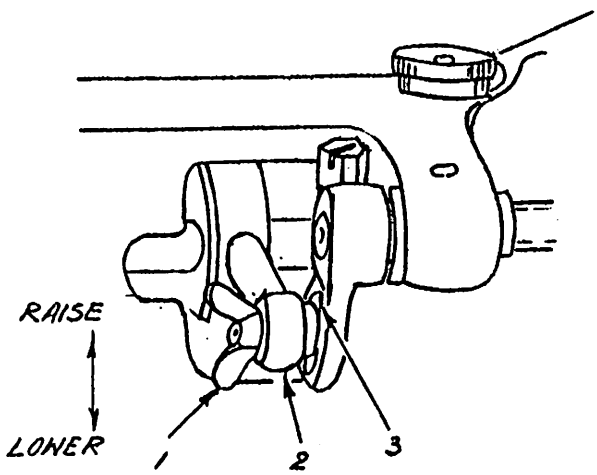
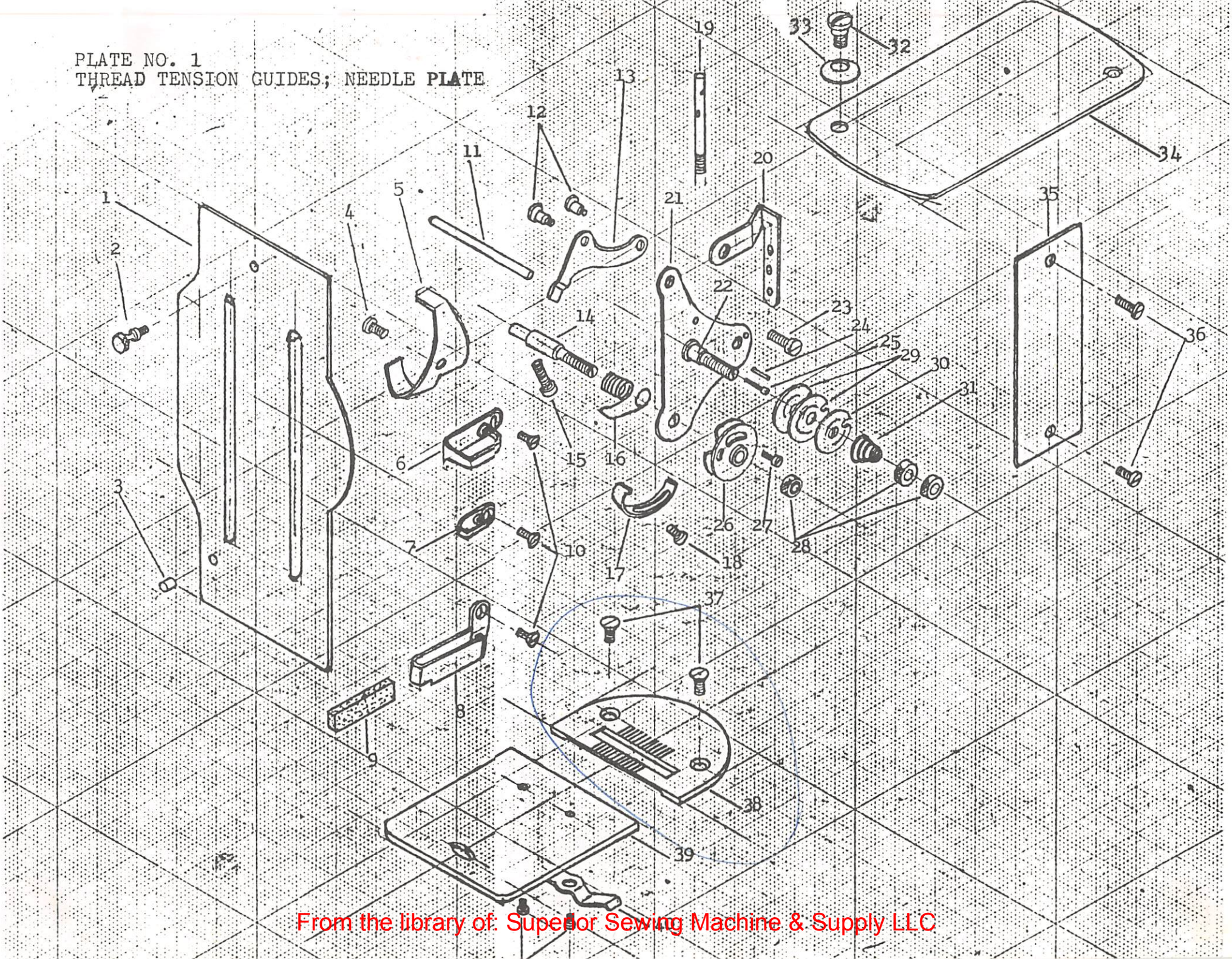


FIG. 8

To alter lift, loosen wing nut (1) Fig. 8 and move the link and stud assembly (2) along the slot (3) - move up to raise the feeding presser foot and push down to lower this foot. Tighten wing nut upon completion of adjustment.

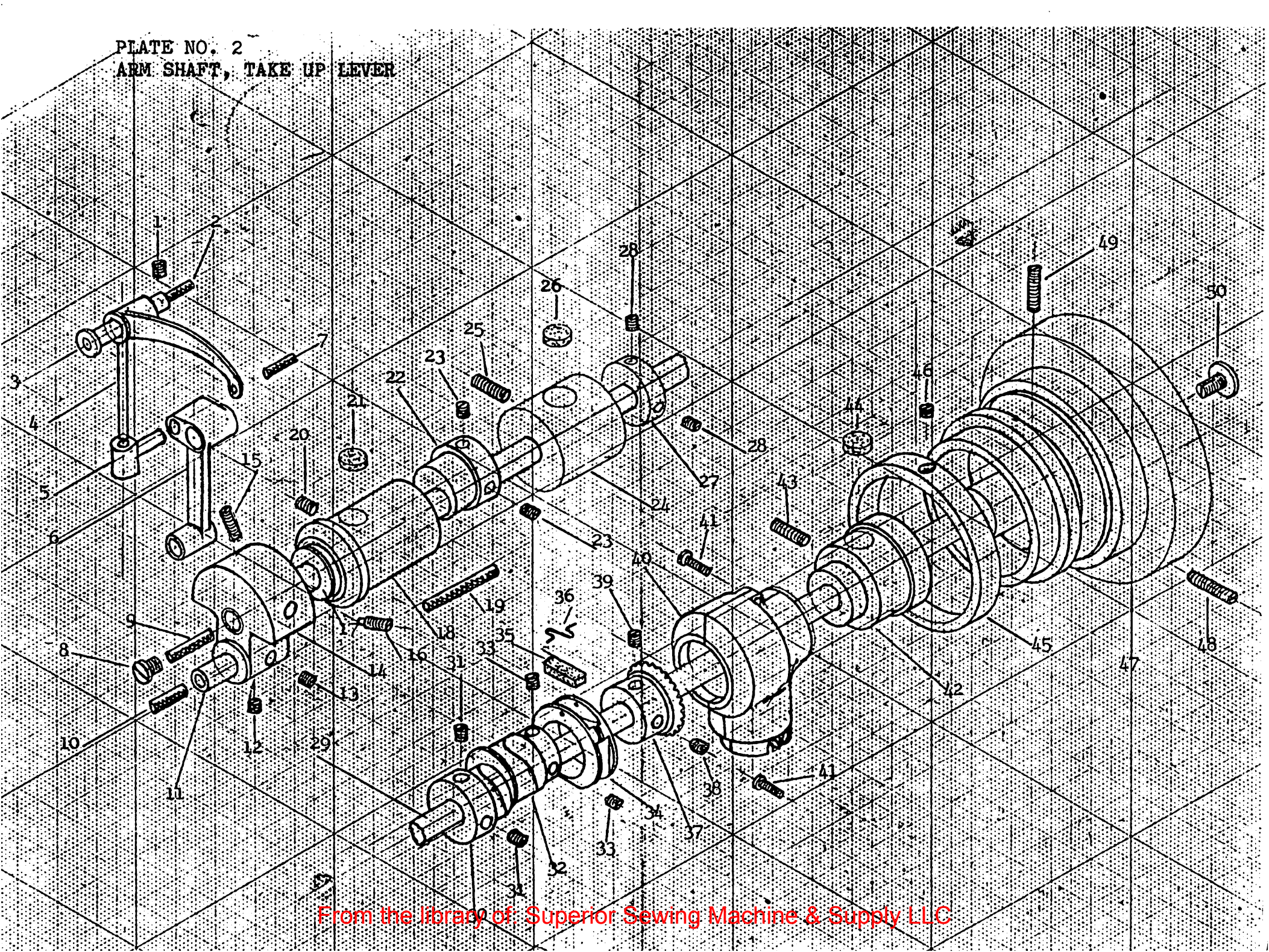
FIND NO.	PART NO.	QTY. REQD.	DESCRIPTION
1	10698	1	Face plate
2	10699	1	Face plate screw
3	10700	1	Face plate stopper pin
4	10650	1	Screw for 10551
5	10551	1	Needle bar conn. link oil guard
6	10682	1	Thread guide (upper)
7	10683	1	Thread guide (middle)
8	10759	1	Thread guide (lower)
9	10760	1	Felt for thread guide
10	10685	3	Thread guide screw
11	10720	1	Tension release lever rod
12	10679	2	Tension release lever screw
13	10678	1	Tension release lever
14	10792	1	Thread controller stud
15	10545	1	Tension stud screw
16	10689	1	Thread controller spring
17	10690	1	Thread controller spring stop
18	10650	1	Screw for 10690
19	10709	1	Spool pin
20	15062	1	Thread retainer
21	10675	1	Tension bracket
22	10789	1	Tension stud
23	15055	1	Screw for 10675
24	10791	1	Tension bracket pin
25	10793	1	Tension release plunger
26	10694	1	Thread controller disc
27	10695	1	Thread controller disc screw
28	10697	3	Tension thumb nut
29	10691	2	Thread disc
30	10692	1	Tension release washer
31	10693	1	Tension release spring
32	10704	1	Arm cap screw
33	10703	1	Arm cap screw washer
34	18004	1	Arm cap
35	18005	1	Arm side cover
36	8100	2	Screw for 18005
37	6031	2	Needle plate screw
38	18030	1	Needle plate
39	18032	1	Bed slide
40	6034	1	Bed slide spring
41	6035	2	Screw for 6034

PLATE NO. 1
THREAD TENSION GUIDES; NEEDLE PLATE



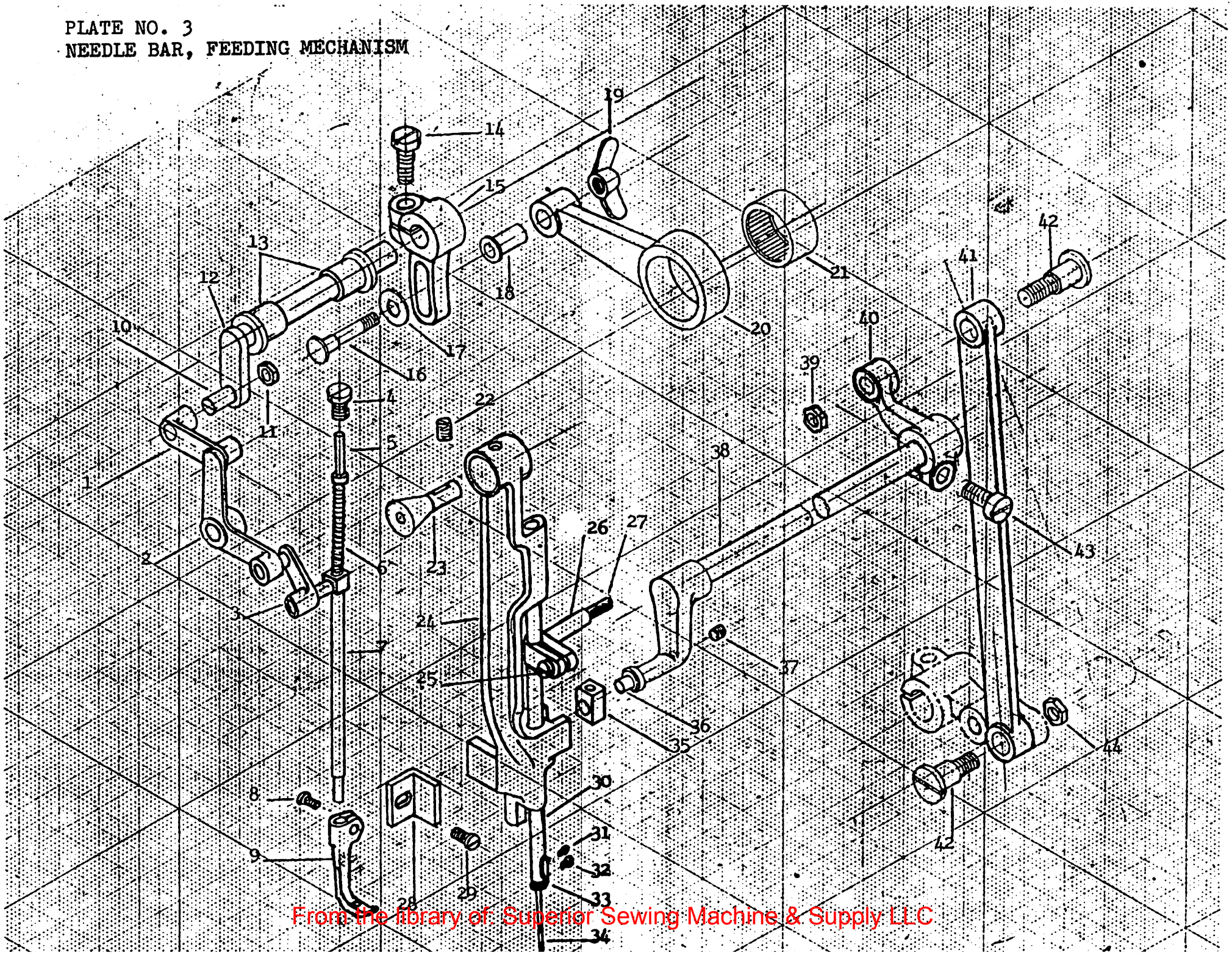
FIND NO.	PART NO.	QTY. REQD.	DESCRIPTION
1	10571	1	Set screw for 10527
2	10726	1	Oil wick for 10527
3	10527	1	Take up lever hinged stud
4	18003	1	Thread take up lever
5	15026	1	Take up lever driving stud
6	10528	1	Needle bar connecting link
7	10728	1	Oil wick for 15026
8	10506	1	Arm shaft oil packing stop screw
9	10724	1	Oiling wick for arm shaft
10	10726	1	Oiling wick for 10523
11	10523	1	Needle bar connect. link stud
12	10764	1	Set screw (B) for 10523
13	10524	1	Set screw (A) for 10523
14	10520	1	Needle bar crank
15	10522	1	Screw (B) for 10520
16	10521	1	Screw (A) for 10520
17	10563	1	Arm shaft bushing (front)washer
18	18006	1	Arm shaft bushing (front)
19	10729	1	Oil wick for 18006
20	10522	1	Set screw for 18006
21	10725	2	Oiling felt for 18006
22	10771	1	Lifting eccentric
23	10566	2	Screw for 10771
24	18008	1	Arm shaft bushing (middle)
25	10571	1	Set screw for 18008
26	10725	1	Oiling felt for 18008
27	17014	1	Arm shaft bushing collar
28	10766	2	Set screw for 17014
29	17011	1	Arm shaft
30	18020	1	Feed lifting cam
31	10766	2	Set screw for 18020
32	18009	1	Feed driving eccentric
33	10766	2	Set screw for 18009
34	17040	1	Feed fork collar
35	17041	1	Oiling felt for 17040
36	10723	1	Oiling felt presser pin
37	17017	1	Arm shaft gear (spiral)
38	17018	1	Set screw (A) for 17017
39	17019	1	Set screw (B) for 17017
40	17015	1	Gear cover (upper)
41	17016	2	Screw for 17015
42	17013	1	Arm shaft bushing (rear)
43	10571	1	Set screw for 17013
44	13081	1	Oiling felt for 17013
45	13423-B	1	Stitch length indicator
46	10566	1	Set screw for 13423-B
47	10504	1	Balance wheel
48	10576	1	Set screw (A) for 10504
49	10579	1	Set screw (B) for 10504
50	10577	1	Balance wheel adjusting screw

PLATE NO. 2
ARM SHAFT, TAKE UP LEVER



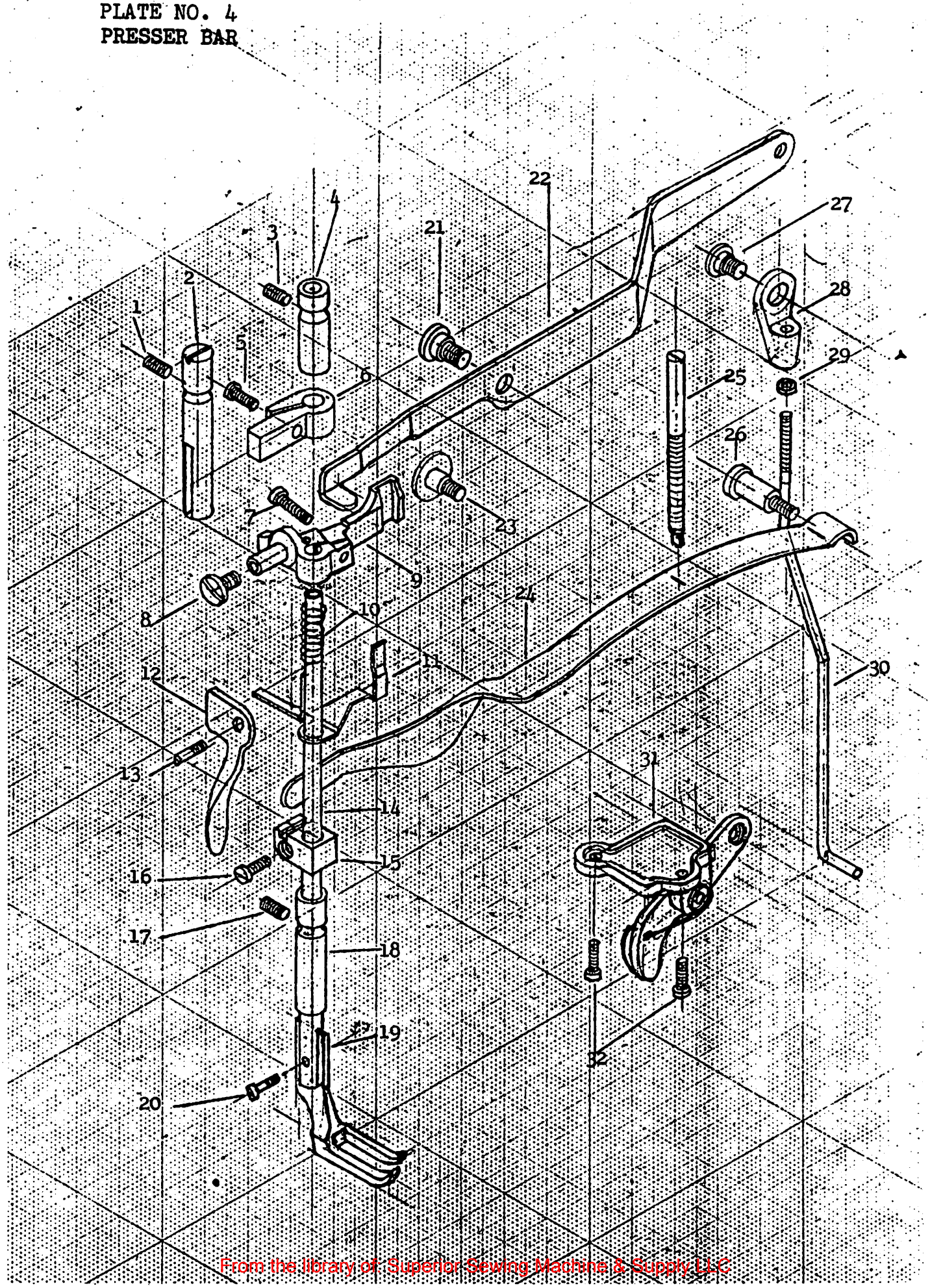
FIND NO.	PART NO.	QTY. REQD.	DESCRIPTION
1	10557	1	Lifting bell crank link
2	10558	1	Lifting bell crank
3	10556	1	Vibrating presser bar conn. link
4	15060	1	Screw for 10555
5	10553	1	Vibrating presser bar extension
6	10554	1	Vibrating presser bar ext. spring
7	10555	1	Vibrating presser bar
8	10662	1	Vibrating presser foot pinch screw
9	10795	1	Vibrating presser foot
10	10519	1	Screw for 10515
11	10517	1	Nut for 10519
12	10515	1	Lifting rock shaft
13	10514	2	Lifting rock shaft bushing
14	10754	1	Clamp screw for 10751
15	10751	1	Lifting eccentric conn. crank
16	10775	1	Screw for 10774
17	10703	1	Washer for 10774
18	10774	1	Lifting eccentric conn. collar
19	10776	1	Wing nut for 10772
20	10772	1	Lifting eccentric connection
21	10773	1	Needle bearing for 10772
22	10525	1	Screw for 10536
23	20103	1	Needle bar rock frame hinged stud
24	10536	1	Needle bar rock frame
25	10532	1	Screw for 10531
26	10531	1	Needle bar connecting stud
27	10726	1	Oil wick for 10531
28	10560	1	Needle bar rock frame position bracket
29	10561	1	Screw for 10560
30	10530	1	Needle bar
31	10534	1	Screw for 10533
32	10535	1	Needle screw
33	10533	1	Needle bar thread guide
34	6332	1	Needle DPx17 #22
35	10582	1	Needle bar rock frame slide block
36	10580	1	Needle bar rock frame slide block stud
37	10581	1	Screw for 17048
38	17048	1	Needle bar rock frame rock shaft
39	6026	1	Nut (upper) for 18017
40	18016	1	Needle bar rock frame rock shaft crank
41	18017	1	Needle bar rock frame rock shaft crank connection
42	18018	2	Hinge screw for 18017
43	10519	1	Screw for 18016
44	8105	1	Nut for 18018

PLATE NO. 3
NEEDLE BAR, FEEDING MECHANISM



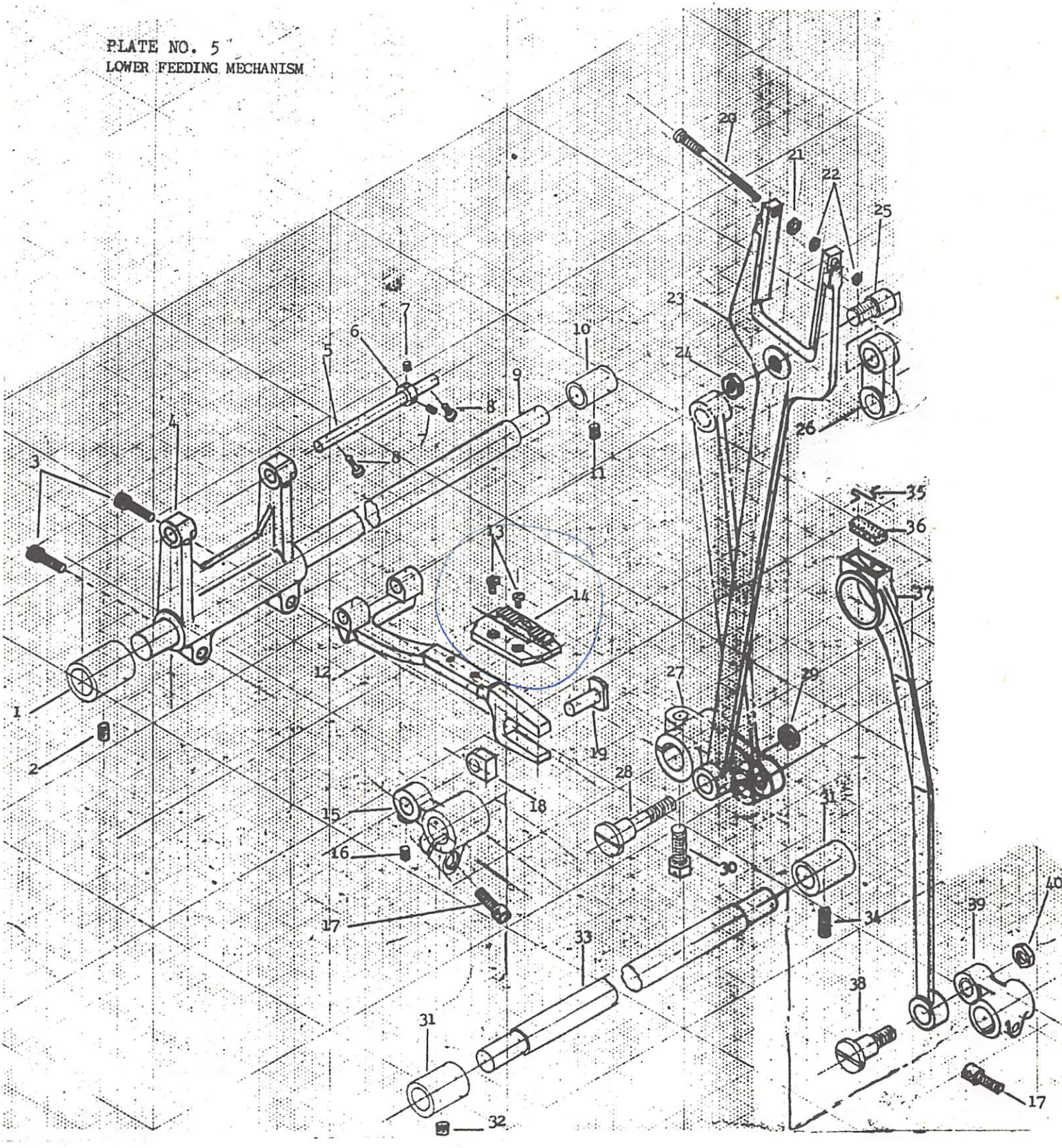
FIND NO.	PART NO.	QTY. REQD.	DESCRIPTION
1	10761	1	Set screw for 10543
2	10543	1	Presser bar position guide
3	10761	1	Set screw for 10538
4	10538	1	Presser bar bushing (upper)
5	10662	1	Pinch screw for 10543
6	10541	1	Presser bar position guide bracket
7	10545	1	Screw for 10544
8	10559	1	Screw for 10558
9	10544	1	Presser bar lifting bracket
10	10547	1	Tension release spring
11	10546	1	Tension release slide
12	10659	1	Presser bar lifter
13	10660	1	Hinge screw for 10659
14	10540	1	Presser bar
15	10549	1	Presser bar spring bracket
16	10532	1	Pinch screw for 10549
17	10761	1	Set screw for 10531
18	10531	1	Presser bar bushing (lower)
19	10796	1	Lifting presser foot
20	10664	1	Pinch screw for 10796
21	10712	1	Screw for 18080
22	18080	1	Knee lifter lifting lever
23	10548	1	Presser bar lifting bracket guide screw
24	10705	1	Presser bar spring (flat)
25	11156	1	Presser bar spring (flat) regulating screw
26	10706	1	Presser bar spring (flat) supporting screw
27	8046	1	Hinge screw for 6359
28	6359	1	Knee lifter lifting lever connecting rod joint
29	6360	1	Knee lifter lifting lever connecting rod screw
30	18081	1	Knee lifter lifting lever connecting rod
31	6038C	1	Knee lifter bell crank complete
32	6042	2	Screw for knee lifter bell crank complete

PLATE NO. 4
PRESSER BAR



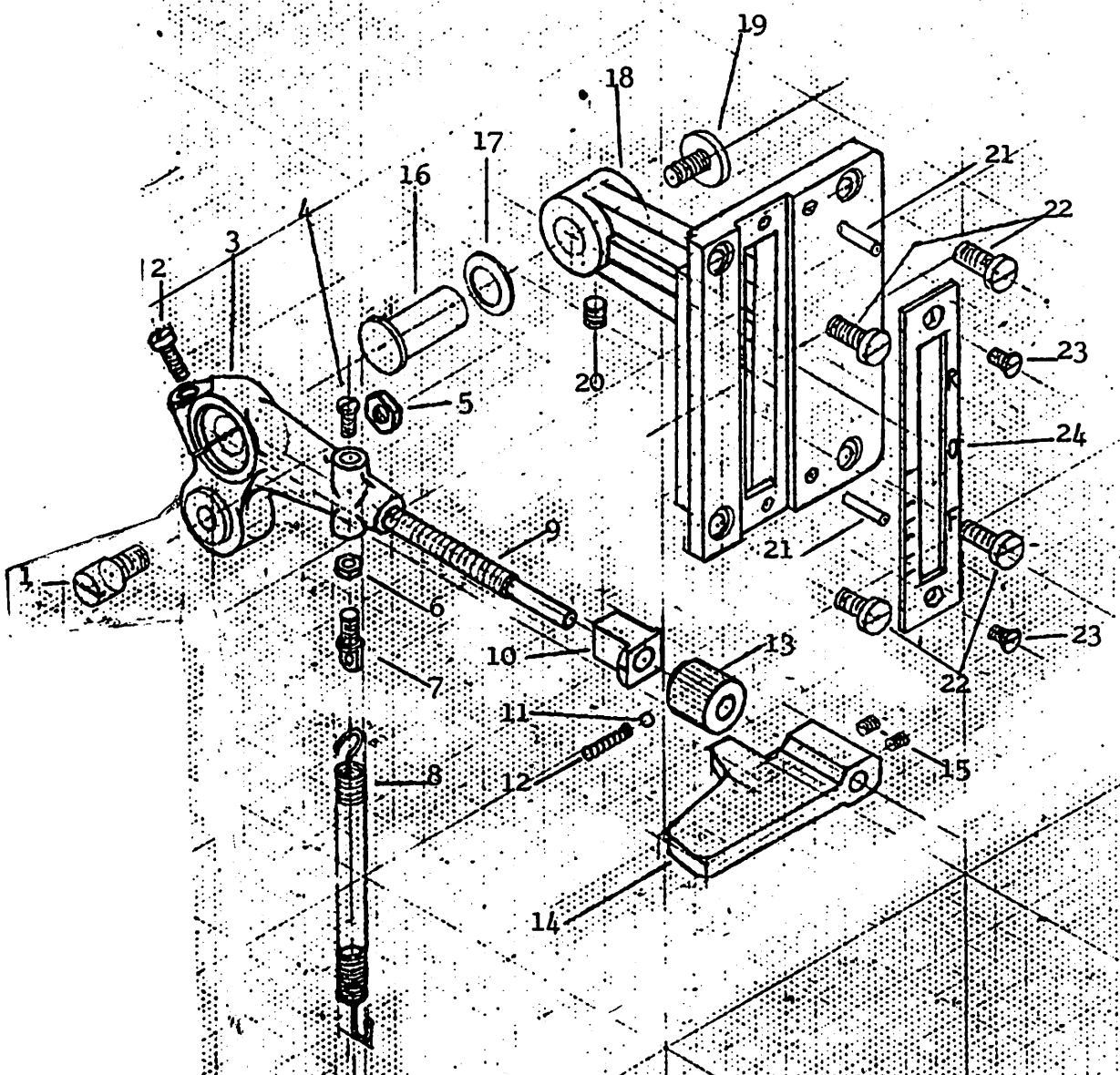
FIND NO.	PART NO.	QTY. REQD.	DESCRIPTION
1	18062	1	Feed rock shaft bushing (front)
2	8009	1	Set screw for 18062
3	18065	2	Screw for 18065
4	18064	1	Feed rock shaft base
5	18067	1	Feed base supporting pin
6	18068	1	Feed base supporting pin collar
7	8103	2	Set screw for 18068
8	21104	2	Screw for 18067
9	18061	1	Feed rock shaft
10	18063	1	Feed rock shaft bushing (rear)
11	21124	1	Set screw for 18063
12	18066	1	Feed base
13	8044	2	Feed dog screw
14	18031	1	Feed dog
15	18074	1	Feed lifting rock shaft front bell crank
16	2067	1	Set screw for 18075
17	18065	2	Screw for feed lifting rock shaft bell crank
18	18075	1	Feed lifting rock shaft slide block
19	18076	1	Pin for 18075
20	18011	1	Screw for 18010
21	4137	1	Nut (big) for 18010
22	4211	2	Nut (small) for 18010
23	18010	1	Feed forked connection
24	8105	1	Nut for 18010
25	18014	1	Hinge screw for 18010
26	17207	1	Feed connecting link
27	18070	1	Feed rock shaft bell crank (back)
28	18015	1	Hinge screw for 18010
29	8105	1	Nut for 18010
30	10754	1	Pinch screw for 18070
31	18073	2	Feed lifting rock shaft bushing
32	8009	1	Set screw (front) for 18073
33	18072	1	Feed lifting rock shaft
34	21124	1	Set screw (rear) for 18073
35	10723	1	Oiling felt presser pin
36	17041	1	Oiling felt for 18021
37	18021	1	Crank connecting rod
38	18018	1	Hinge screw for 18021
39	18077	1	Feed lifting rock shaft bell crank(back)
40	8105	1	Nut for 18018

PLATE NO. 5
LOWER FEEDING MECHANISM



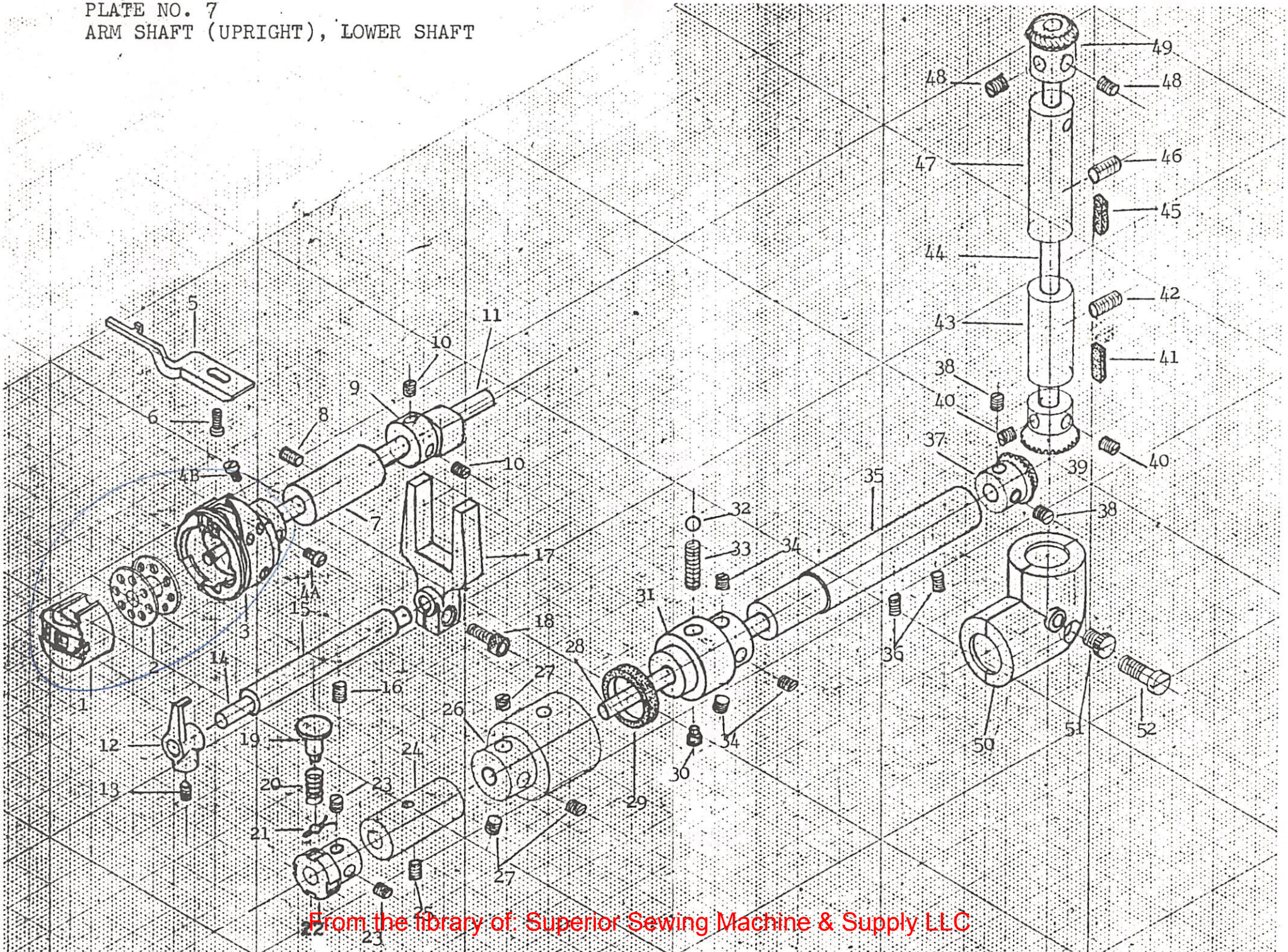
FIND NO.	PART NO.	QTY. REQD.	DESCRIPTION
1	17209	1	Feed regulating screw
2	17053	1	Screw for 18022
3	18022	1	Feed regulator
4	4019	1	Screw for 18025
5	8105	1	Nut for 18025
6	4135	1	Nut for 18026
7	17059	1	Screw for 18026
8	18026	1	Feed regulating lever spring
9	18025	1	Feed regulating lever
10	13417	1	Feed adjusting pipe
11	8158	1	Bearing ball 1/8"
12	8157	1	Spring for 8158
13	13416	1	Feed adjusting knurling tool
14	18027	1	Reverse stitch lever
15	18028	2	Screw (small) for 18027
16	17055	1	Feed regulating support stud
17	17057	1	Washer for 17055
18	18023	1	Feed regulating base
19	1368	1	Supporting stud pushing screw
20	17056	1	Screw for 18023
21	50174	2	Pin for 18023
22	12361	4	Screw for 18023
23	17093	2	Screw for 18024
24	18024	1	Stitch length indicator

PLATE NO. 6
FEED REGULATOR



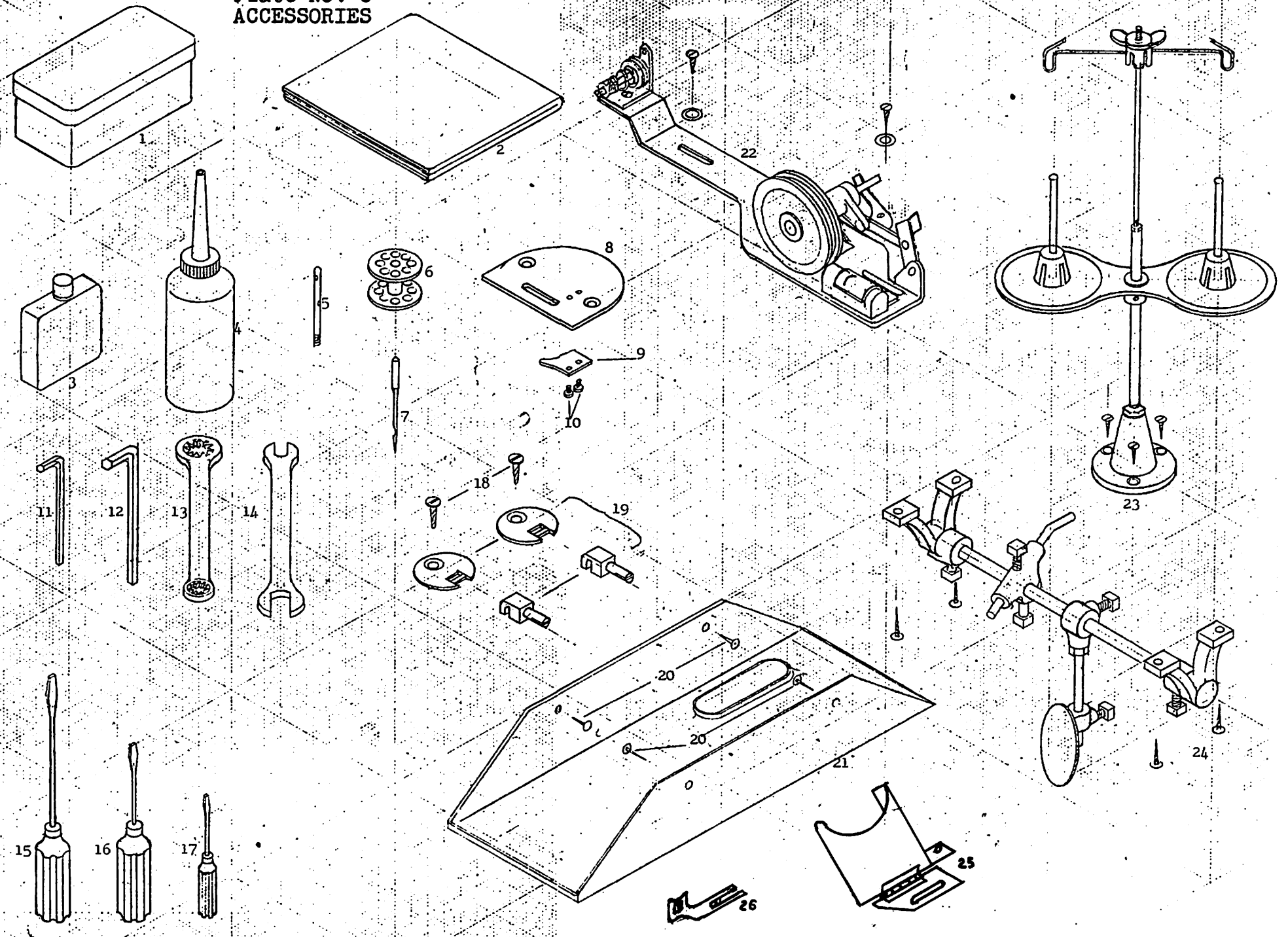
FIND NO.	PART NO.	QTY. REQD.	DESCRIPTION
1	18045	1	Bobbin case complete
2	18034	1	Bobbin
3	18033	1	Rotating hook complete
4A	18033-7	1	Hook screw (A)
4B	18033-8	1	Hook screw (B)
5	18035	1	Hook supporting plate
6	6025	1	Screw for 18035
7	18037	1	Hook shaft bushing (front)
8	8009	1	Set screw for 18037
9	18044	1	Hook shaft collar
10	50304	2	Set screw for 18044
11	18036	1	Hook driving shaft
12	18039	1	Thread release finger
13	18040	1	Set screw for 18039
14	18041	1	Thread releasing shaft
15	18042	1	Thread releasing shaft bushing
16	21124	1	Set screw for 18042
17	18043	1	Thread releasing shaft fork
18	30066	1	Pinch screw for 18043
19	18053	1	Push button
20	18054	1	Push button spring
21	10674	1	Clip for 18033
22	18052	1	Hook shaft lock ratchet
23	17022	2	Set screw for 18052
24	18038	1	Hook shaft bushing (rear)
25	8009	1	Set screw for 18038
26	18047	1	Safety clutch (left)
27	17019	3	Set screw for 18047
28	18056	1	Lower shaft
29	18046	1	Oil wick for 18047
30	18051	1	Screw for 18050
31	18041	1	Safety clutch (right)
32	18049	1	Steel ball
33	18050	1	Spring for 18041
34	17019	3	Set screw for 18041
35	18057	1	Lower shaft bushing
36	8009	2	Set screw for 18057
37	17028	1	Lower shaft gear (spiral)
38	17022	2	Set screw for 17027
39	17023	1	Arm shaft (upright) gear (lower)
40	17022	2	Set screw for 17023
41	17026	1	Oiling felt for 17025
42	10571	1	Set screw for 17026
43	17025	1	Arm shaft (upright) bushing(lower)
44	17020	1	Arm shaft (upright)
45	17026	1	Oiling felt for 17024
46	10571	1	Set screw for 17026
47	17024	1	Arm shaft (upright)bushing(upper)
48	17022	2	Set screw for 17021
49	17021	1	Arm shaft (upright) gear (spiral)
50	18058	1	Gear cover complete (lower)
51	18060	1	Gear cover (lower) sealing screw
52	18059	1	Pinch screw for 18058

PLATE NO. 7
ARM SHAFT (UPRIGHT), LOWER SHAFT



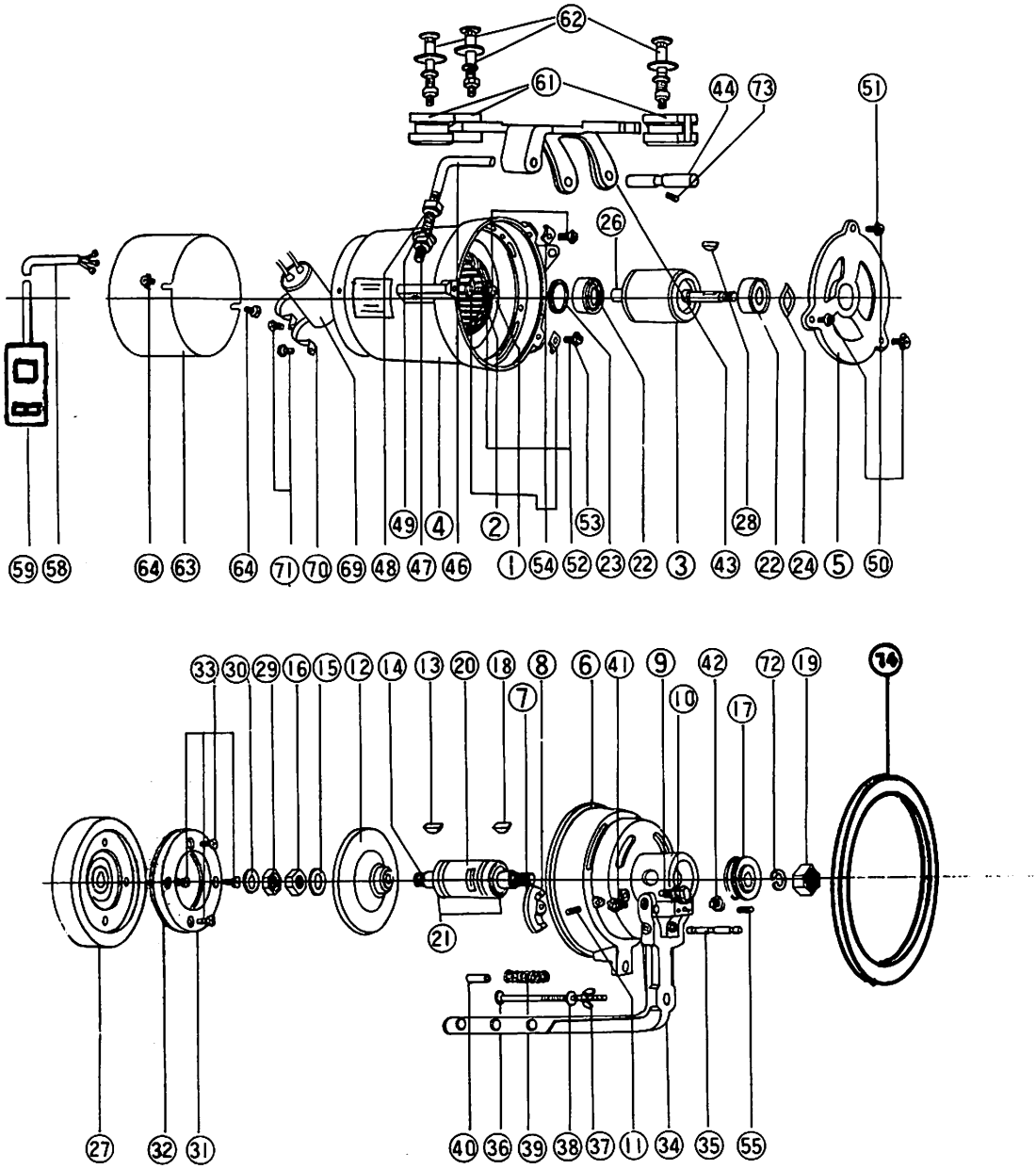
FIND NO.	PART NO.	QTY. REQD.	DESCRIPTION
1	8132	1	Accessories box
2	6057	1	Vinyl cover
3	8123	1	Oil
4	8125	1	Oiler
5	10709	1	Spool pin
6	18034	6	Bobbin
7	6332	3	Needle DPx17 #22
8	18029	1	Needle plate(for without lower feed)
9	2056	1	Needle plate spring
10	2063	2	Screw for 2056
11	15571	1	Wrench 2.5mm
12	11969	1	Wrench 4.0mm
13	10748	1	Double head wrench
14	18084	1	Spanner 6x7mm
15	8118	1	Screw driver (large)
16	8120	1	Screw driver (middle)
17	8121	1	Screw driver (small)
18	6052	2	Screw for 6051
19	6051	2	Bed hinge connection
20	6055	4	Nail for 6054
21	6054	1	Oil pan
22	10734	1	Bobbin winder complete
23	10780	1	Thread stand
24	18038	1	Knee lifter complete
25	BG1	1	Belt Guard
26	16A	1	Needle Guard

Plate No. 8
ACCESSORIES



FIND NO.	PART NO.	QTY. REQ.	DESCRIPTION
-	STK-M2	1	Clutch motor complete, 110/220V/1/60HZ-1/2 HP, 1725 RPM
1	HS-3-1	1	Stator lamination
2	HS-3-2	1	Stator coil
3	HS-3-3	1	Cast aluminum cage rotor
4	HS-3-4	1	Frame
5	HS-3-5	1	Motor cover
6	HS-3-6	1	Clutch head
7	HS-3-7	1	Brake friction disc
8	HS-3-8	1	Brake holder
9	HS-3-9	1	Bolt for brake adjustment
10	HS-3-10	1	Nut for the above
11	HS-3-11	1	Setscrew for brake holder
12	HS-3-12	1	Clutch plate
13	HS-3-13	1	Clutch plate key
14	HS-3-14	1	Clutch shaft
15	HS-3-15	1	Clutch plate retaining washer
16	HS-3-16	1	Clutch plate retaining nut
17	HS-3-17	1	Belt pulley-4¼" diameter
18	HS-3-18	1	Belt pulley key
19	HS-3-19	1	Pulley nut
20	HS-3-20	1	Clutch actuating sleeve
21	HS-3-21	2	Clutch shaft bearing
22	HS-3-22	2	Motor shaft ballbearing
23	HS-3-23	1	Neoprine thrust washer
24	HS-3-24	1	Wave shaped spring washer
26	HS-3-26	1	Motor shaft
27	HS-3-27	1	Fly wheel
28	HS-3-28	1	Fly wheel key
29	HS-3-29	1	Fly wheel retaining nut
30	HS-3-30	1	Retaining washer for the above
31	HS-3-31	1	Clutch friction disc
32	HS-3-32	1	Clutch friction disc holder
33	HS-3-33	4	Screw for the above
34	HS-3-34	1	Clutch actuating lever
35	HS-3-35	1	Lever hinge pin
36	HS-3-36	1	Screw for lever spring
37	HS-3-37	1	Wing nut for lever spring adjust.
38	HS-3-38	1	Lever spring holder
39	HS-3-39	1	Lever spring
40	HS-3-40	1	Spring supporting tube
41	HS-3-41	2	Bolt for clutch actuating sleeve
42	HS-3-42	2	Nut for the above
43	HS-3-43	1	Belt tightener
44	HS-3-44	1	Belt tightener hinge pin
46	HS-3-46	1	Belt tightener adjusting screw
47	HS-3-47	2	Nut for the above
48	HS-3-48	1	Lock washer for the above
49	HS-3-49	1	Lock washer for the foregoing
50	HS-3-50	3	Screw for motor cover
51	HS-3-51	3	Lock washer for the above
52	HS-3-52	3	Screw for clutch head
53	HS-3-53	3	Lock washer for the above
54	HS-3-54	3	Clutch head retainer
55	HS-3-55	1	Setscrew for lever hinge pin
58	HS-3-58	8 ft.	Power supply cord Leviton 10133-8
59	HS-3-59	1	Fuse switch c/o Bussmann Box cover SSU, Fuse S6¼, Adapter SA6¼
61	HS-3-61	3	U-form rubber
62	HS-3-62	3	Set screw
63	HS-3-63	1	Wind cover
64	HS-3-64	2	Screw for above
69	HS-3-69	1	Capacitor
70	HS-3-70	2	Capacitor band
71	HS-3-71	2	Screw for the above
72	HS-3-72	1	Lock washer for pulley
73	HS-3-73	1	Setscrew for belt tightener hingepin
74	HS-3-74	1	"V" belt 45V

PLATE NO. 9 CLUTCH MOTOR



MAINTENANCE PROCEDURES

A) Setting the Height of the Needle Bar

Adjust the stitch length to approximately 8 stitches per inch (3.2mm). Then set needle bar so that after it has risen 3/32" (2.4mm) from its lowest position, the point of the sewing hook will be at the center of the needle and 1/16" (1.6mm) above its eye.

B) Timing the Sewing Hook

Remove presser foot, slide plate, throat (needle) plate and bobbin case. Also remove feed dog.

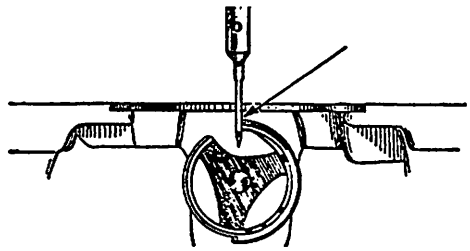


FIG. 9

Place a new needle in the machine and turn handwheel toward you until the needle bar reaches its lower point. Continue turning and allow the needle bar to rise about 3/32" while on its upward stroke. With needle bar in this position, the point of the sewing hook should be at the center of the needle (fig. 9).

If the sewing hook should not be timed correctly, loosen the three set screws in the clutch hub, "Z", (fig. 10). Turn the hook shaft to align the hook point with the center of the needle as shown in fig. 9. Re-tighten the three set screws and re-check the timing of the sewing hook. Adjust the position of the thread release finger "F" (fig.10) pursuant to instructions in paragraph "D".

C) To Remove and Replace the Sewing Hook

Remove the needle, slide plate, throat plate, thread release finger and bobbin case. Remove screw "J" (fig. 10) and hook retainer "K" (fig.10). Loosen the two screws in

the hub of the sewing hook noting the position relative to the hook point of the set screw which engages the flat on the hook shaft.

Turn handwheel until the thread guard (widest part) of the hook is at the bottom, then remove sewing hook from its shaft. When installing the new sewing hook be certain that the appropriate set screw locates on the flat of the hook shaft, then position the thread guard as described above and tighten both set screws. Now turn the bobbin case holder until its notch is at the top. Replace the hook retainer "K" watching that the tab enters the notch in the bobbin case holder. Fasten hook retainer to the underside of the bed with screw "J". Replace the needle and time the sewing hook as described in the preceding paragraph "B". Re-install bobbin case, throat plate, slide plate and thread release finger.

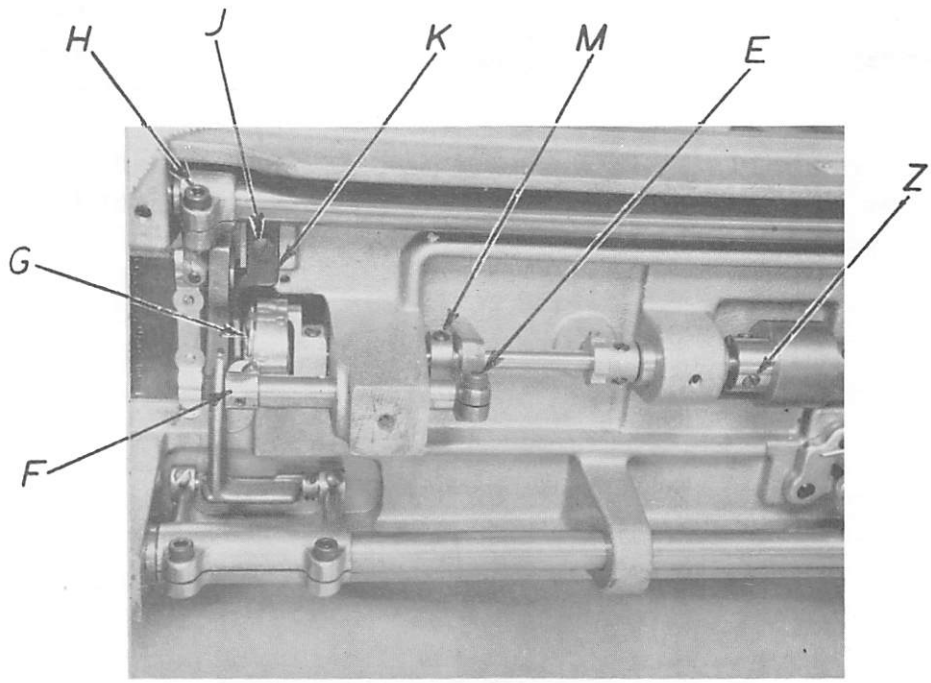


FIG. 10

D) Adjusting the Thread Release Finger

The thread release finger "F" (fig.10) facilitates the passage of the needle thread loop by slightly nudging the bobbin case holder "G" (fig.10) creating a slight rotating movement of same. This movement at that very instant opens a clearance gap between the notch on the bobbin case holder and

the tab of the hook retainer "K" (fig.10) permitting the needle thread loop to be drawn easily through the gap. The thread release finger can best be adjusted by loosening the screw "E" on the fork or alternatively the two set screws on eccentric "M". For adjusting purposes note that the nudging movement of the bobbin case holder must occur at the instant of the stitch-forming cycle when the upper thread loop is about to pass between the tab of hook retainer "K" and the notch in the bobbin case holder. The degree of the nudging movement of the bobbin case holder should just be sufficient to prevent momentary contact between tab and notch so that there is an instant of total clearance between these two components.

E) Removing and Adjusting Tension and Thread Controller

i) Normal Operation. The tension and thread controller is composed of two tension controlling components, one assembled on the tension stud "U", (fig. 11) and the other assembled on the thread controller "V", (fig.11). The individual parts are shown in fig. 12. The spring and discs on the tension controller place tension on the thread when the presser foot is down. The spring in the thread controller pulls slack out of the thread between the time the thread take-up lever starts down and the needle point reaches the material.

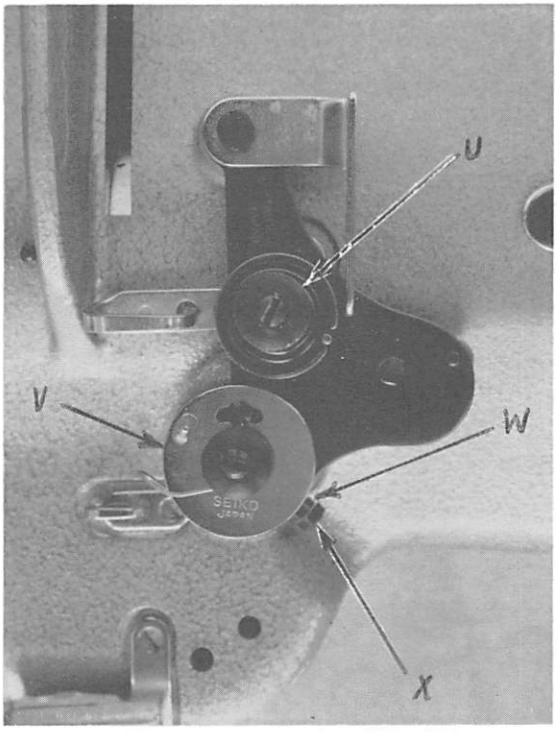
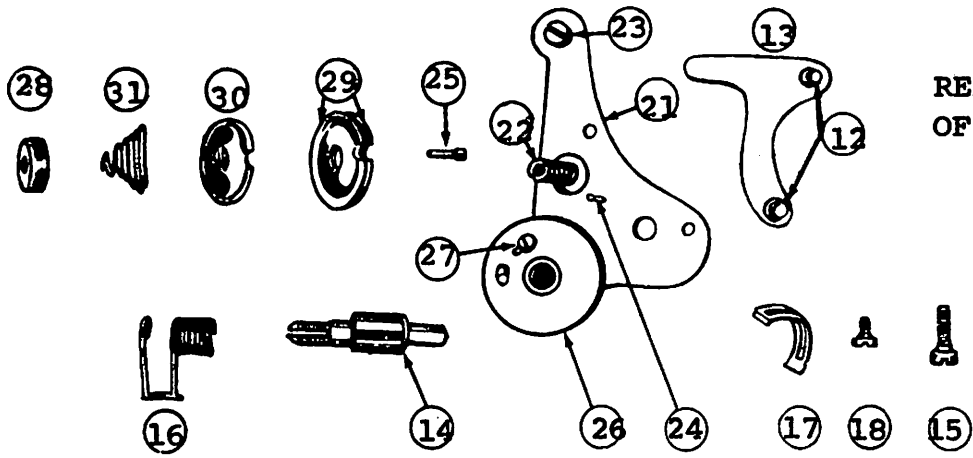


FIG 11

ii) Adjustments. The tension controller may be adjusted with the thumb nut "U" (fig.11) as explained in the paragraph entitled "Regulating the Thread Tension" on page 7 of the "Operating Instructions". The thread controller must be adjusted for the proper setting of the spring stop and for tension on the spring. The spring stop "17", (fig.12) is adjusted by loosening the screw "W", (fig.11) or "18",(fig.12) and rotating the stop enough to allow the spring to hold slack out of the needle thread while the needle is descending. The tension on the spring may be adjusted by loosening the screw "X", (fig.11) and rotating the stud "25", (fig.12) to the right or left as necessary to put tension on the spring "16",(fig.12). The amount of the tension will vary with kind of thread being used.



REFER TO PLATE 1 OF PARTS LIST

FIG. 12

F) <u>To Raise or Lower the Feed Dog</u>

When at its highest position, the feed dog should rise above the throat (needle) plate the full depth of the teeth. To adjust the position of the feed dog, loosen screw "H" (fig.10) and raise or lower the feed dog as desired, then tighten screw. When lowering the feed dog be careful that its underside does not drop so low that it strikes the hook.

G) Timing the Needle with Feed Dog

It is important that the timing relationship between the needle on its downward stroke and the feed dog movement is maintained at all times. When the scarf of the needle on the downward stroke reaches the top surface of the feed dog, the feed dog movement must start. When adjustment is required, use the following procedure:

i) Open cover plate (fig. 2C). This brings into view the two eccentrics which control the feeding mechanism. The left eccentric controls the timing of the rise and drop of the feed dog and is fastened to the arm shaft by means of two set screws.

Slightly loosen the set screws of the left eccentric and carefully rotate it on the arm shaft until the feed dog is about to rise above the surrounding surface of the throat plate and the scarf of the descending needle reaches the top surface of the feed dog. Tighten set screws.

ii) The right eccentric controls the forward or feeding motion of the feed dog. This motion is timed correctly when the feeding movement has stopped and the feed dog drops below the surrounding surface as the needle is about to leave it completely. To adjust, slightly loosen the screws of eccentric and carefully rotate it on arm shaft to obtain desired setting. Tighten set screws and re-check adjustments.

H) Timing the Lifting Presser Foot with Feed Dog

The lifting presser foot contacts the feed dog only when the top surface of the feed dog is flush with the surrounding area of throat plate. When adjustment is required, use the following procedure:

i) The lifting presser foot eccentric is located in the access port area noted in fig. 13.

ii) Loosen the two screws in the eccentric and position the eccentric so that lifting presser foot contacts the feed dog when the dog is flush to the surrounding area of the throat plate.

iii) Tighten the two screws in the eccentric and re-check timing relationship

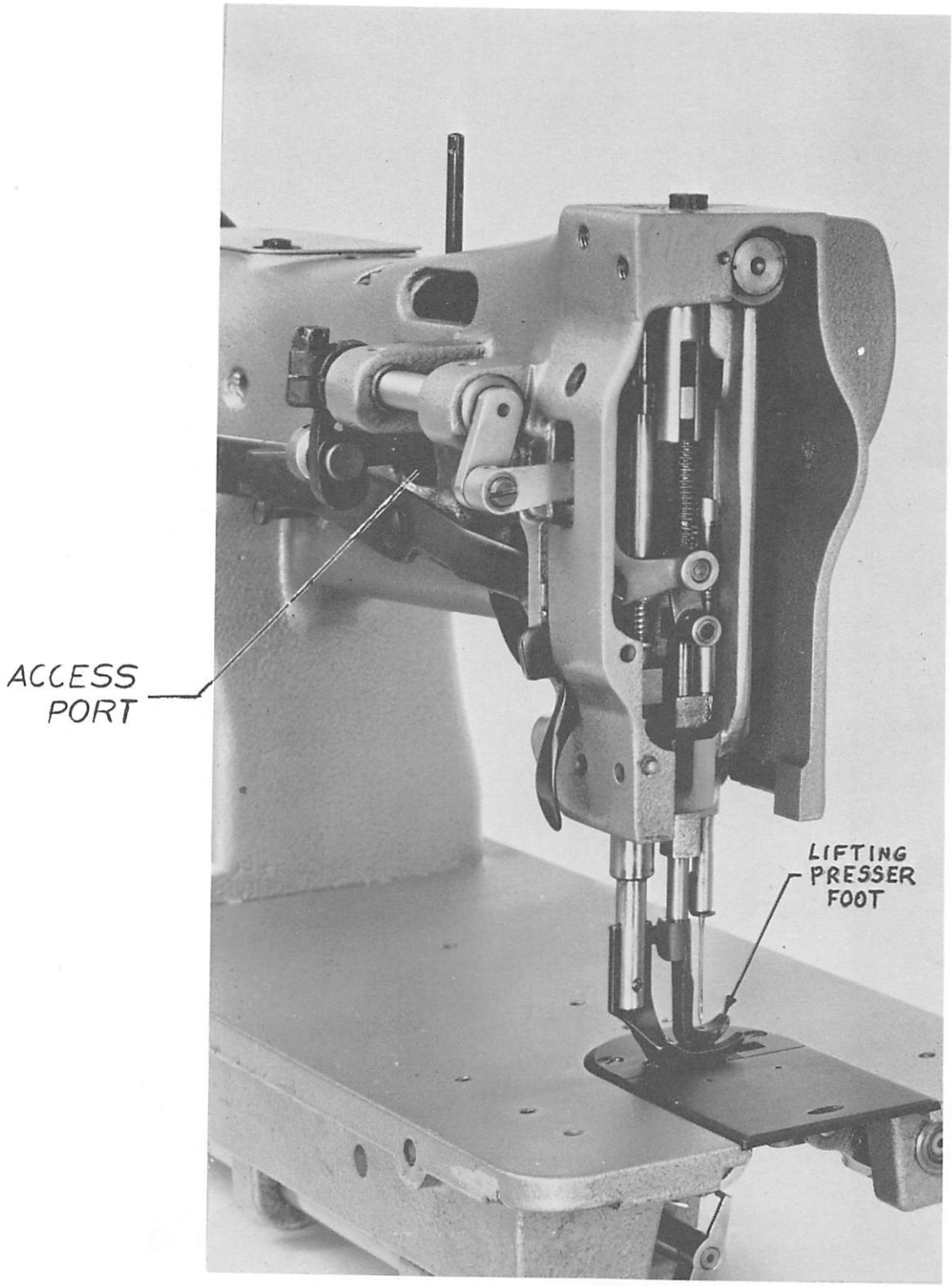


FIG. 13