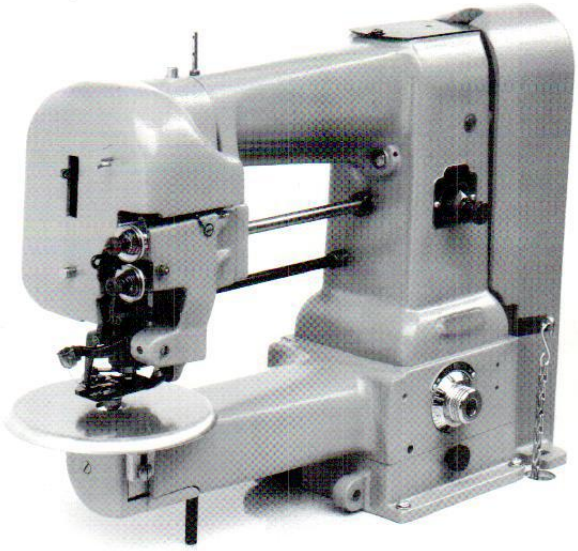
160-20

SINGLE THREAD BLINDSTITCH TACKING MACHINE



LIST OF PARTS
AND INSTRUCTIONS

CONTENTS

APPLICATION OF CATALOG

This catalog applies specifically to Style 160-20. All references to direction, such as right and left, front and back, etc., are taken from the operator's position while seated at the machine.

The operating direction of the pulley is counterclockwise.

DESCRIPTION OF MACHINE

Style 160-20 is a single thread blindstitch spot tacking machine. Curved needle. Automatic thread cutting device. Calibrated stitch selector for 6,8 or 12 stitches.Dial adjusted stitch penetration. Automatic stitching cycle. Fully enclosed arm. Work space behind needle 9 inches. Two pedal operation. For attaching labels to sweaters, neckties, jackets, and similar articles. Also used for tacking operations on trouser cuffs, linings of suit coats, uniforms, and trouser waistbands. Can be used on light, medium or heavy knitted or woven materials.

The machine will be fitted with presser foot No. 405-555 and plunger No. 26-173 suitable for medium weight work; unless otherwise specified.

Other combinations available, are as follows:

Presser Foot	Plunger	Operation
405-554	26-170	For tacking light materials.
405-554L	26-170	For tacking light materials.
405-554L	26-174	For tacking fabric labels.
405-555H	26-173	For tacking heavy materials.
405-555H	26-172	For tacking extra heavy materials.

OILING

The machine should be oiled twice daily, before the morning and afternoon starts. Use a good grade of straight mineral oil of a Saybolt Viscosity of 90 to 125 seconds at 100 Fahrenheit.

Most of the oiling places on the machine are readily identifiable because of the fact they are painted red. However, reference to the oiling diagram Fig. 21 on page 10 will be beneficial.

Please note that it will be necessary to tip the machine back and to remove the work plate, head cover, and cylinder end cover to reach some of the oiling places.

Also note that there is a label on the pulley which reads "Grease Here ". A tube of grease is furnished with the machine, and periodically the plug screw in the pulley should be removed and the grease level checked and replenished if required. The greasing place is indicated by the letter "A" in the diagram. All other places shown are oiled.

Tubes of grease may be ordered under part No.28604 P .

SPEED

The recommended operating speed of this machine is 1200 R.P.M.

NEEDLES

The recommended needle for Style 160-20 is Type 29 BD-100/040. It has a blade diameter of .040 inch(1.0mm). It is also available in the following sizes:

Needle Type	Size	
	Inches	Millimeters
29 BD-065/025	.025	.65
29 BD-075/029	.029	.75
29 BD-090/036	.036	.90
29 BD-110/044	.044	1.10
29 BD-140/054	.054	1.40

Selection of proper needle size is determined by size of thread and weight of material used. Thread should pass freely through the needle eye in order to produce a good stitch formation.

To have needle orders promptly and accurately filled, an empty container, a sample needle, or the Type number should be forwarded. Use the description on the label. A complete order would read "100 Needles, Type 29 BD-100/040".

CHANGING NEEDLES

When changing needle, make sure that it is inserted in the needle carrier as far as it will go , and tighten clamp screw completely.

Immediately discard any needle which may have a hooked or blunt point, as improper needle penetration will result.

THREADING

To thread the machine, turn pulley in operating direction until the needle carrier is in its highest position, and thread in accordance with diagram Fig.20 on page 8.

ADJUSTING

CAUTION! Do not run the Electro Drive during the following adjusting operations until ready to sew.

The 160-20 machine is equipped with a cycling mechanism, which, with one pressure on the operating treadle, produces 6, 8 or 12 stitches, and automatically stops.

In the following instructions, reference is made to "the machine in stop position".

This position is that which is shown in Fig.1 with the stop motion disc and pawl against the plunger (A).

To release the machine from stop position so that it may be manually operated, depress the operating treadle, and turn the pulley and stop motion disc in required direction.

ADJUST STOP MOTION CLUTCH

With machine in stop position, stop motion plunger (A,Fig.1) should be set so that there is 11/32 to 3/8 inch between the bottom of plunger and plunger lever bracket (B).

Loosen the lower lock nut (C) and adjust upper nut (D) to obtain this setting. Lock lower nut.

Adjust screw(E) in cam lever (F) so that there is 1/32 inch clearance between ball(G) and thin section of lever when the pulley is pressed in toward machine. Lock screw with nut (H).

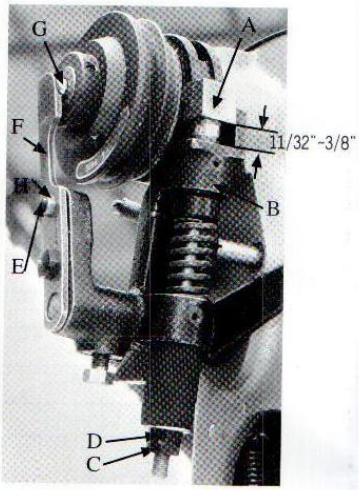


Fig.1

TIMING THREAD TAKE-UP LEVER

Remove head cover. With machine in stop position, remove gear (A,Fig.2) from main shaft. Turn head main shaft gear (B) until the take-up lever(C) is at its highest point. Replace main shaft gear (A) with spot screw (D) in line with timing slot in main shaft. Tighten screws.

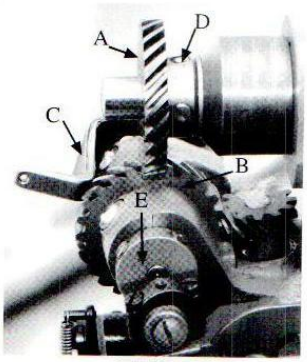


Fig.2

TIMING NEEDLE

With machine in stop position, loosen screws in the needle drive crank(E, Fig.2), and turn crank until needle carrier (A, Fig.3) is at highest point of travel, and tighten screws in crank.

At this point, the slot in needle vibrating cam (B) should be on right side of cam center, and in a vertical position. To make this adjustment, loosen accessible set screw(A, Fig.4) in gear (B), disengage stop motion lever, and rotate pulley until second set screw in gear (B) is accessible. Loosen this screw and return to stop position. With a screwdriver, align slot in vibrating cam as per above. Tighten gear set screws.

Turn pulley in operating direction until needle enters needle guide slot in presser foot on left side. There should be .012 inch clearance between left side of needle blade and presser foot needle guide slot. Lightly tap the needle vibrating crank adjusting lug(A, Fig.5) to right or left to secure this adjustment. In the photograph the needle vibrating crank has been removed for clarity.

Fig.3

TIMING THE LOOPER

Loosen set screws in the looper drive shaft gear(A,Fig.6). Turn pulley in operating direction until needle has reached the forward end of its left side travel and returned 3/32 inch. Turn looper and its shaft so that the point of looper is over center of needle, and tighten set screws in gear(A). Lower point of looper as close to the needle as possible without deflecting the needle. Loosen screw(A,Fig.7) to make this adjustment.

ADJUST STROKE OF NEEDLE

Turn pulley in operating direction until point of looper is directly over center of needle as needle is returning on its left stroke. The back of needle eye should now be 1/16 inch from looper point. If adjustment is required at this point, loosen the two locknuts(B,Fig.5) on ball joint connecting rod(C) and turn rod to secure this setting.

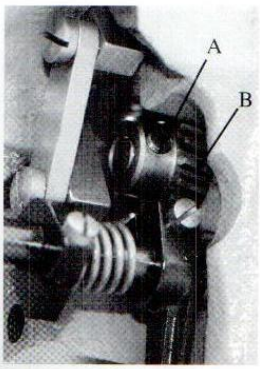


Fig.4

ADJUST NEEDLE HEIGHT

A new eccentric needle carrier stud, No. 17-175, replaces No. 1708 L and has been developed to enable the needle height to be adjusted more closely, so that it does not strike the needle guide too far forward.

To check adjustment of needle height, turn the pulley in operating direction until screw (A, Fig.7) in looper driving gear(B) points to right of machine. At this point the needle point should be approximately 1/16 inch past the front edge of needle guide (C,Fig.3) on presser foot, and just contacting needle guide.

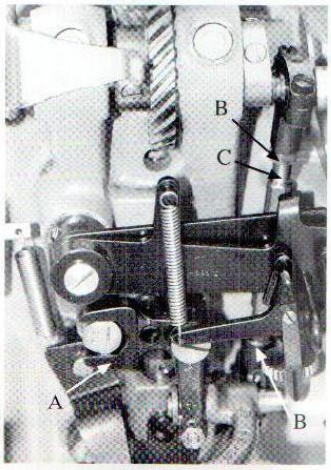


Fig.5

If needle point strikes needle guard too far forward of the 1/16 inch dimension, or too hard, an adjustment can be made by loosening set screw (C, Fig.7) and inserting a screwdriver in slot of needle carrier eccentric shaft (D). Turn eccentric shaft as required to bring needle carrier up or down and tighten set screw. After making this adjustment check and be sure there is no play between needle and needle guide when needle point is over center of plunger No.26-173. After making this adjustment it may be necessary to reset the adjustment under "Adjust Stroke of Needle " and "Timing the Looper".

ADJUST WORK CLAMP

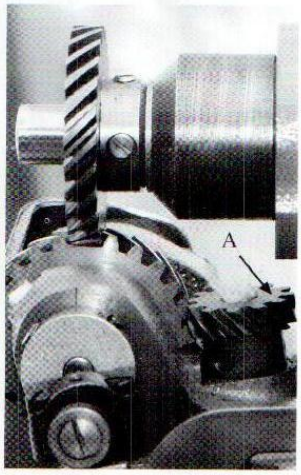


Fig.6

The distance the work clamp opens for insertion of work is set at the factory and usually does not have to be adjusted. Should it become necessary to do so,the proper setting may be obtained as follows: Tip machine on its side and loosen clamp screws (A,Fig.8). Disengage spring (B) from crank roll. Depress lever (C) until it rests against its stop pin(D). Turn plunger shaft (E) clockwise until bottom of work clamp (A, Fig.9) is 5/32 inch above plunger bearing block. Tighten clamp screws(A,Fig.8) and re-engage spring(B).

ADJUST PLUNGER

With machine in stop position, tilt machine on side, pull penetration dial out, and turn clockwise as far as it will go. Loosen locknut (F,Fig.8) ,and adjust screw (G) until space between plunger block (A,Fig.10) and crank (B) is 1/64 inch. Lock nut (F, fig.8) securely. Tip machine back, engage clutch, and turn pulley in operating direction until point of looper is over center of needle. Loosen locknut(A, Fig.11) and adjust plunger up or down by means of nut(B) until point of looper just contacts needle. Lock nut (A) securely.

ADJUST THREAD CUTTING FINGER AND THREAD WIPER

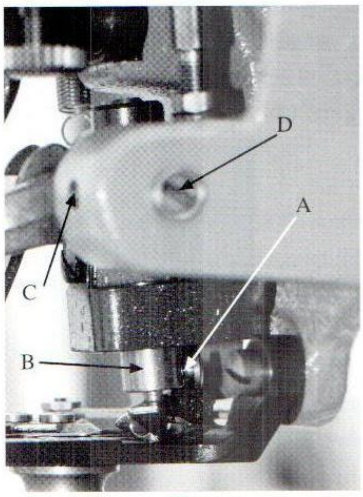


Fig.7

The purpose of the thread cutting finger is to carry the thread across the knife edge. The purpose of the thread wiper is to keep the thread taut during the cutting operation and to remove or wipe the remaining needle thread from the sewing area. In order to function properly, the thread cutting finger should start its motion before the thread wiper. The adjustment of these members are accomplished in the following manner.

tighten binding screw(B) when collar has been turned about 45° from zero tension.

With thread cutting finger (A,Fig.13)at the back of its travel, set the trimmer lever(C,Fig.12) so that it is over the center of the ball (D) from front to back.

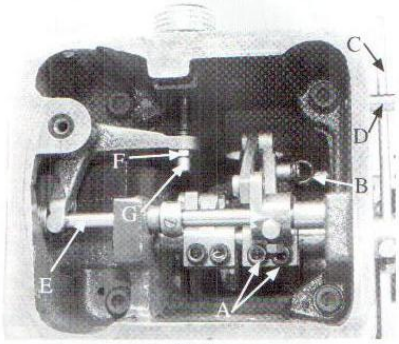


Fig.8

Check position of thread wiper crank (A,Fig.14) through the access hole at the back of the machine. With the machine in stop position, this crank should be horizontal or slightly below to the right. If the crank is not in this position, loosen the two set screws (B,Fig.13) in the thread wiper finger(C). Return to the back of the machine, and loosen the two screws (B,Fig.14) in the cam plate(C), and move the crank (A) to the desired position. Now, slightly tighten one screw in the thread wiper finger (C,Fig.13).

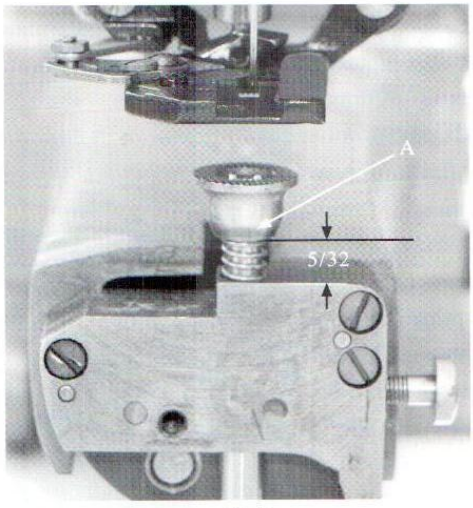


Fig.9

The screw stud in the crank (D,Fig.14) should rest against the lower edge of the cam lobe(E)and against surface of the cam below the lobe. To do this, insert a screw driver through the opening in the cam plate, and using it as a lever, apply downward pressure to the cam while tightening the two screws (B) and maintaining the cam plate (C) in its proper position to hold the crank (A) horizontally as previously described. Now, return to the thread wiper finger(C,Fig.13), and check its position.

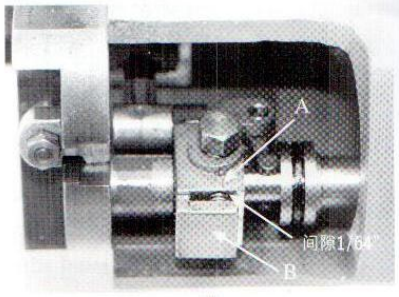


Fig.10

There should be a slight amount of side play between the finger and the presser foot. If the finger is tight against the presser foot, loosen screw (B), and move finger slightly, then, re-check previous settings, and tighten both screws(B) in wiper finger securely.

ADJUST THREAD CUTTING KNIFE

The thread cutting knife(D,Fig.13) should be set forward in its slot enough to provide proper cutting action.

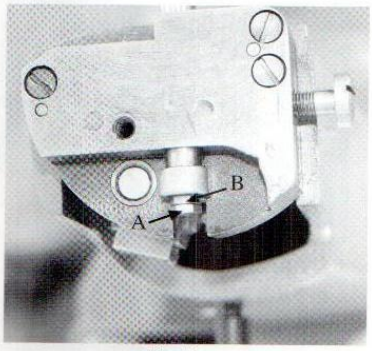


Fig.11

ADJUST THREAD PULL-OFF LEVER

The pull-off lever (A,Fig.15) is set correctly when it snaps off the plunger (B) as the stop motion plunger (A,Fig.16) comes to an abrupt stop against the stop motion disc(B) when operating machine by hand.

To adjust, release machine from its stop motion, and turn the stop motion disc opposite to direction of rotation one half turn. Then, reverse direction, and turn until stop motion disc pawl(C) comes to rest against the plunger (A).

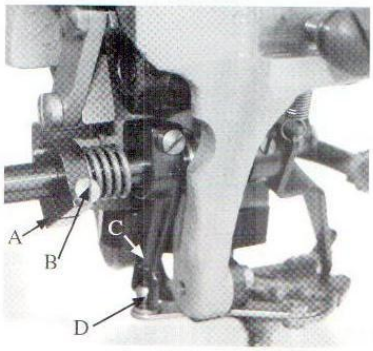


Fig.12

Check the pull-off lever plunger (B,Fig.15) to be sure it operates freely. Looking down into the head of the machine under the front main shaft bearing, loosen the clamp screw in driving crank(A,Fig.17), and manually raise the pull-off lever (A,Fig.15) and plunger operating lever (C). Then, carefully lower the pull-off lever (A) until it just drops off the point of the plunger(B). Then, carefully tighten clamp screw in driving crank(A,Fig.17).

Re-check operation of pull-off lever manually as described in paragraph one, and re-set if required.

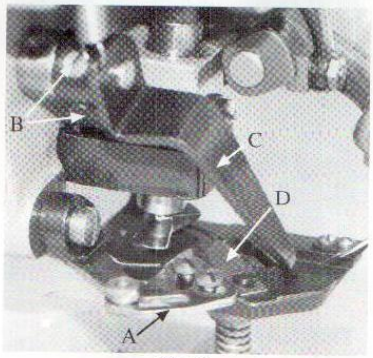


Fig.13

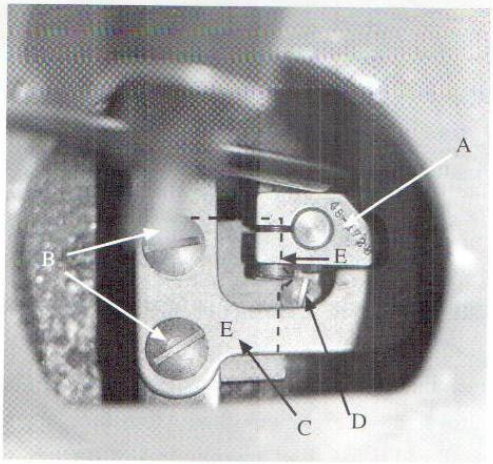


Fig.14

ADJUST AUTOMATIC TENSION

Engage clutch and turn pulley in operating direction until the needle is on its return stroke and its point is 9/16 inch to the front of the center of the plunger.

The automatic thread tension lever(A,Fig.18) should now begin to part the tension discs. This adjustment is made by manually depressing the lever(A) until its projection begins to part the discs, loosening screw(B), and moving the eccentric sleeve(C) to maintain the lever (A) in the desired position. This is an approximate setting only, and may have to be changed slightly to compensate for varying thicknesses of thread.

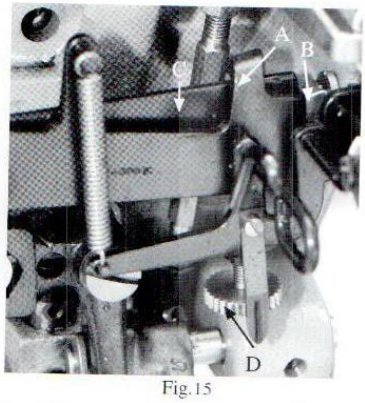


Fig.15

SELECTING NUMBER OF STITCHES

To set stitch selector to desired number of stitches, either 6, 8, or 12, operate machine until red arrow on cam shaft (A,Fig.19) coincides with red line (B) on bushing. Pull out stitch selector knob(C), and move sideways until indicator point lines up with desired number of stitches, and release selector knob.

STARTING TO OPERATE

Thread as per threading diagram (Fig. 20). Depress work clamp treadle, insert work over word clamp, and release treadle. Depress and release starting treadle. CAUTION! Do not hold starting treadle down as the machine will not stop automatically at the end of the stitch number cycle for which it is set. The red line on the right side of the presser foot is a guide line for the material being tacked.

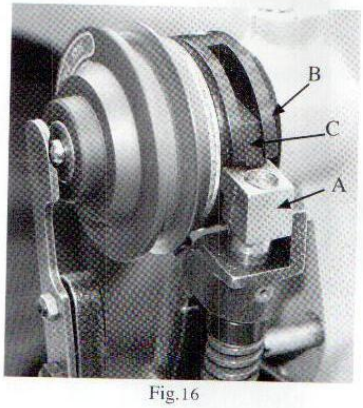


Fig.16

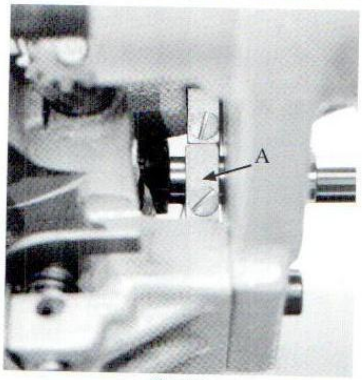


Fig.17

ADJUSTMENT FOR NEEDLE THREAD LOOP

It may be necessary to increase or decrease the size of the needle thread loop for various sizes of thread. This adjustment is made by advancing needle drive crank(D,Fig.18) slightly for larger loop, retarding slightly for smaller loop.
Loosen set screws (E) to make this adjustment.

THREAD TENSIONS

Adjust thread tensions to secure proper appearance of tack. A relatively strong pressure is carried on both tension assemblies, but may have to be varied to suit different threads.

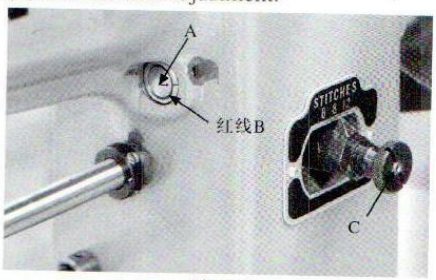


Fig.19

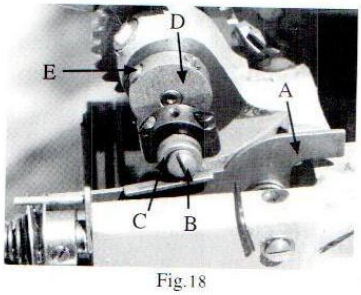


Fig.18

ADJUSTMENT FOR LENGTH OF STARTING THREAD

If too much thread tail shows on completed tack, turn pull-off lever control screw(D,Fig.15) clockwise to reduce length of tail. If stating thread is too short, causing loss of stitches, turn the control screw counterclockwise until slight amount of tail shows.

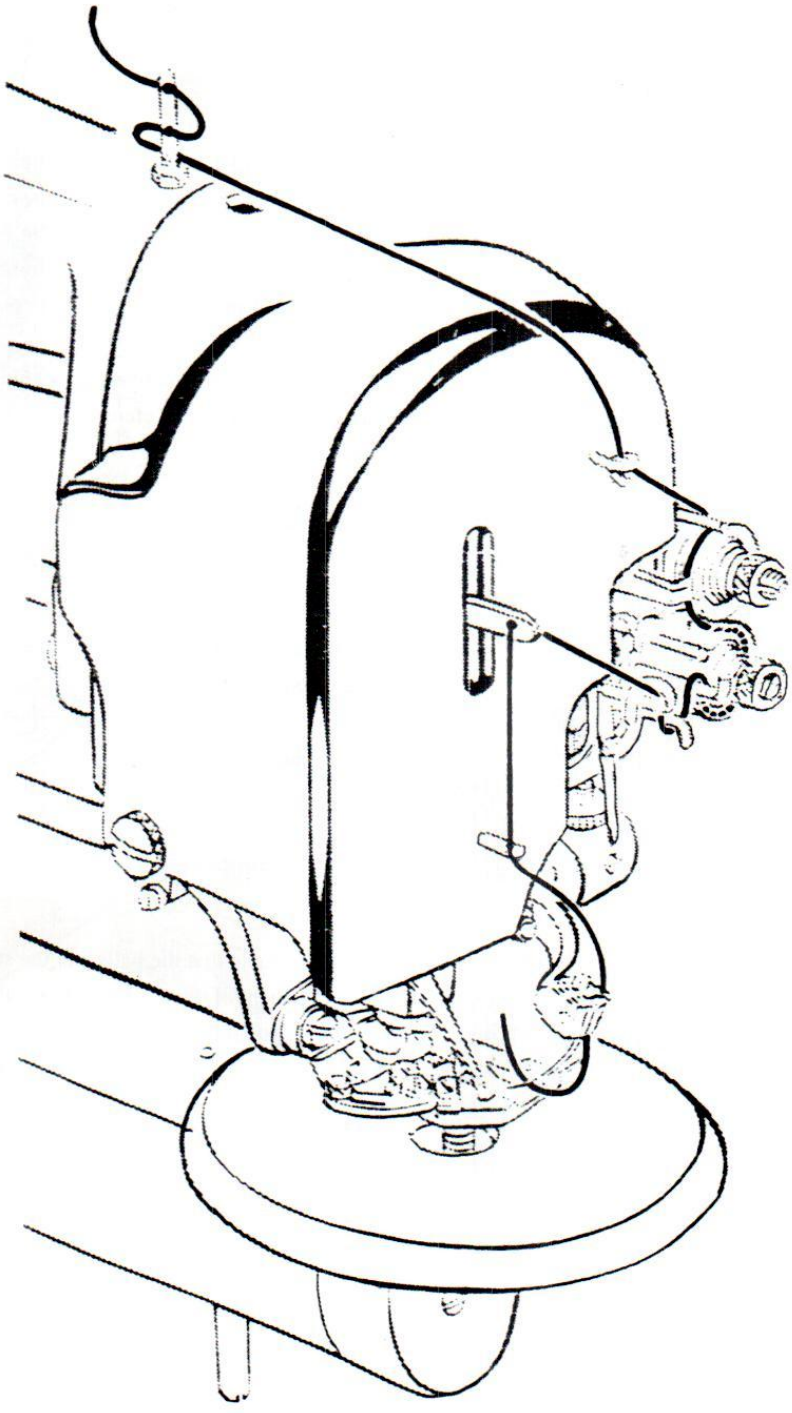


Fig.20

ORDERING REPAIR PARTS

ILLUSTRATIONS

This catalog has been arranged to simplify ordering repair parts. Exploded views of various section of the mechanism are shown so that the parts may be seen in their actual position in the machine. On the page opposite the illustration will be found a listing of the parts with their parts numbers, description and the number of pieces required in the particular view being shown.

Numbers in the first column are reference numbers only, and merely indicate the position of that part in the illustration. Reference number should never be used in ordering parts. Always use the part number listed in the second column.

Component parts of sub-assemblies which can be furnished for repairs are indicated by indenting their descriptions under the description of the main subassembly. Example:

25	447-128	Needle Carrier Connecting Rod, complete	1
26	4124-57	Ball Joint, upper, complete	1
27	18-391	Screw	2
28	1012L	Nut	1
29	71-95	Rod	1
30	869L	Nut	1
31	447-23	Ball joint,lower, complete	1
32	18-391	Screw	2

It will be noted in the above example that the balls and the straps are not listed. The reason is that replacement of these parts individually is not recommended, so the complete sub-assembly should be ordered.

At the back of the book will be found a numerical index of all the parts shown in this book. This will facilitate locating the illustration and description when only the part number is known.

OILING DIAGRAM

Oil all places indicated except at "A" which requires grease. Refer to oiling instructions on page1.

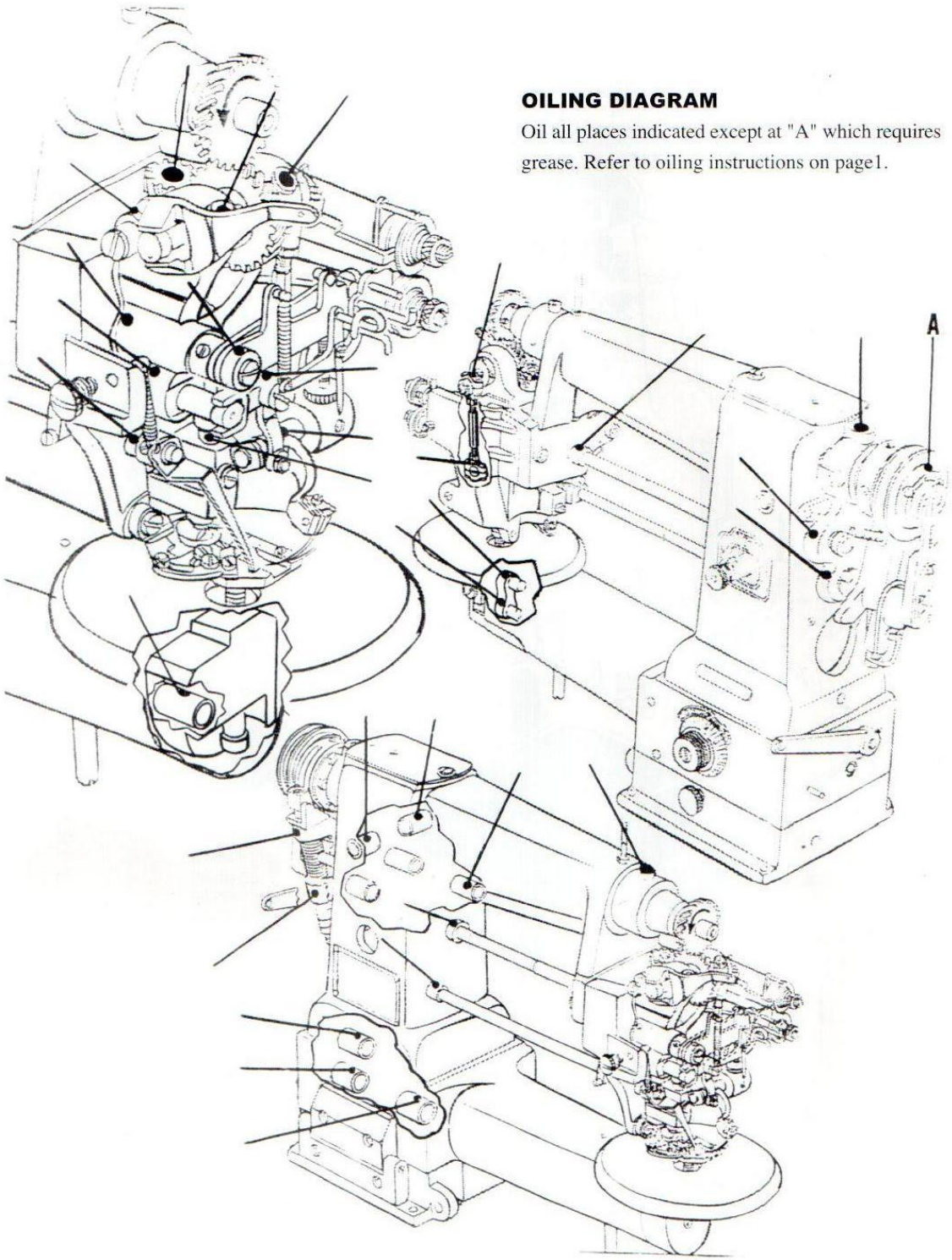
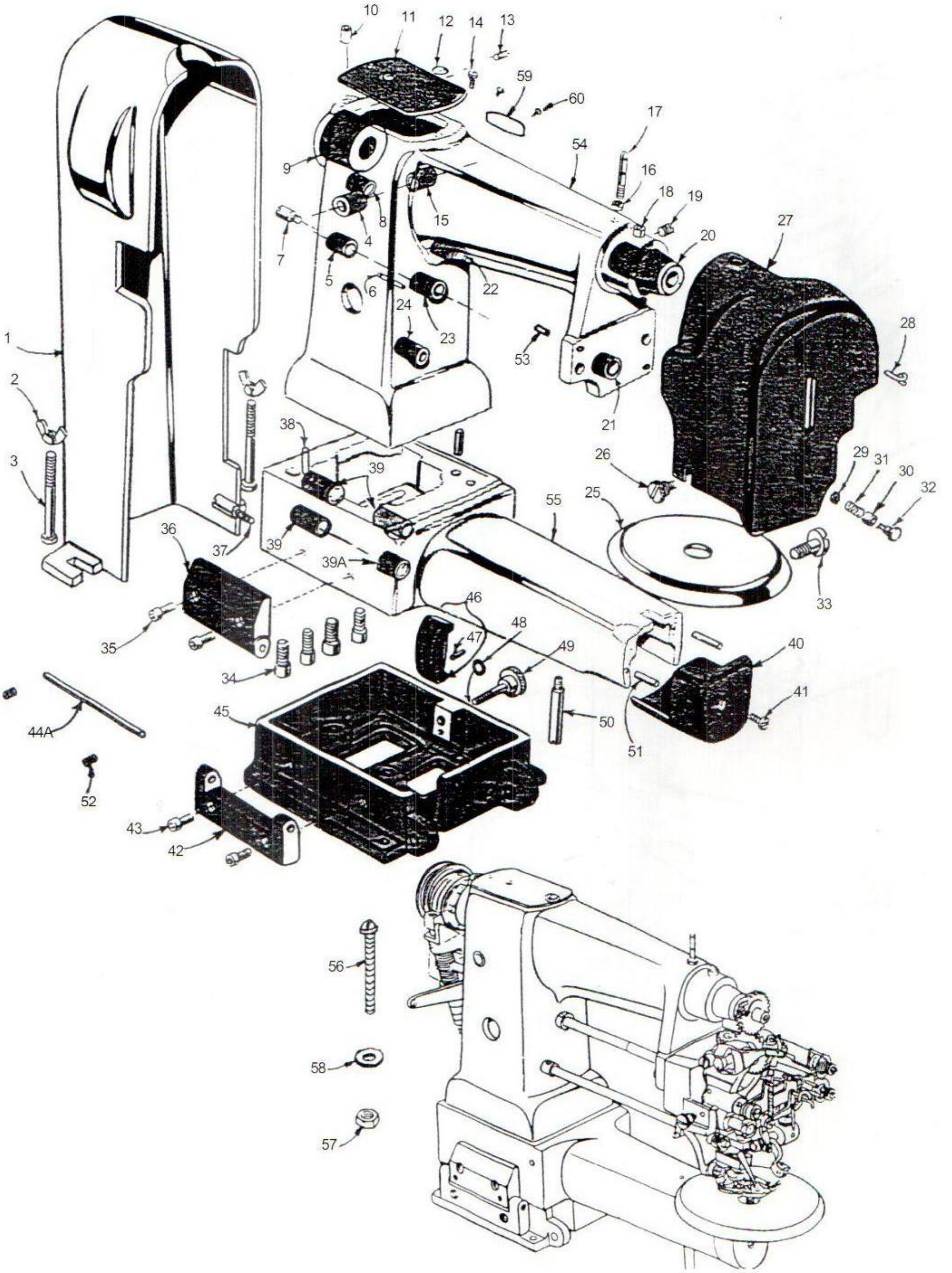


Fig.21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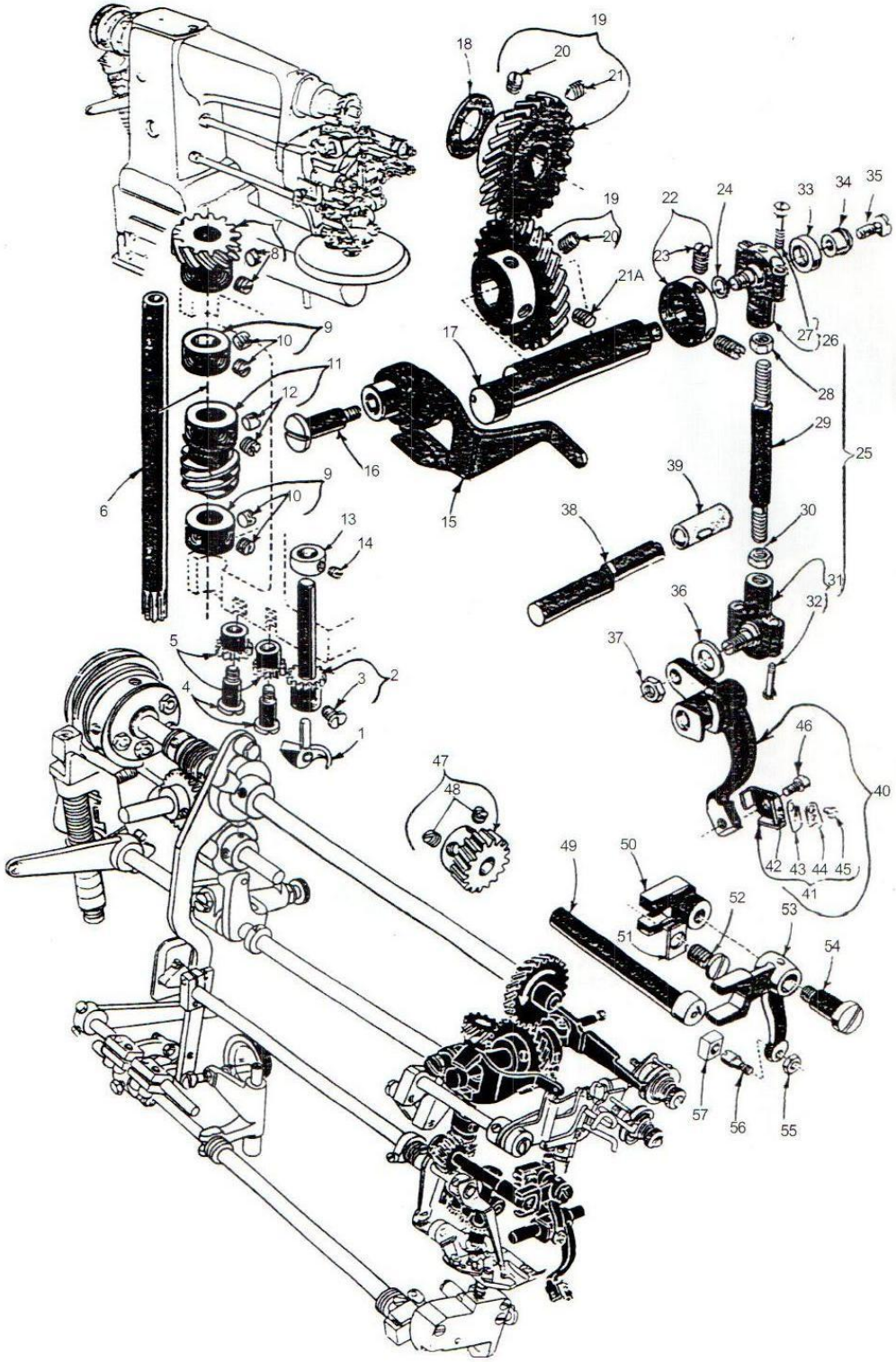
MAIN FRAME, ARM, BASE AND COVERS

Ref No.	Symbol	Part No.	Description	Amt. Req.
1	8A-1	32-265	Pulley and Stop Motion Cover	1
2	8A-2	20-130	Wing Nut	2
3	2A-10	18-993	Screw	2
4	8A-4	16-323	Jack Shaft Bushing,left	1
5	8A-5	16-326	Stop Motion Lever Shaft Bushing,back	1
6	8A-6	22-275	Plunger Restoring Spring Pin	1
7	8A-7	18-979	Stop Screw	1
8	8A-8	16-325	Cam Shaft Bushing,back	1
9	8A-9a	16-333	Main Shaft Bushing,back	1
10	8A-10	125-23	Oil Cup	1
11	8A-11	1219L	Arm Cover Plate	1
12	8A-12	1221L	Spring Washer	1
13	8A-13	1195L	Set Screw,for No,16-333	1
14	8A-14	1220L	Screw	1
15	8A-15	16-324	Jack Shaft Bushing,right	1
16	8A-16	1160L	Nut	1
17	8A-17	41-55	Thread Guide Pin	1
18	8A-18	61-76	Oil Tube	1
19	8A-19	CS320-1/2	Set Screw,for No,1196L	1
20	8A-20	1196L	Main Shaft Bushing,front	1
21	8A-21	16-345	Stop Motion Lever Shaft Bushing,front	1
22	8A-22	16-343	Cam Shaft Bushing,front	1
23	8A-23	16-344	Stop Motion Lever Shaft Bushing,middle	1
24	8A-24	16-338	Trimmer Shaft Bushing,back	1
25	8A-25	4-134	Work Support Plate	1
26	8A-26	854L	Screw	1
27	8A-27	32-266	Head Cover	1
28	8A-28	147-10	Thread Guide	1
29	8A-29	1311L	Nut	1
30	8A-30	70-77	Thread Snubber Sleeve	1
31	8A-31	21-381	Thread Snubber Spring	1
32	8A-32	17-176	Thread Snubber Stud	1
33	8A-33	LS395	Screw ,for No. 4-134	1
34	8A-34	18-1045	Screw	4
35	2A-14-13	18-998	Screw	2
36	8A-36	50-263L	Cylinder Base Hinge Bracket	1
37	8A-37	22845D	Stop Pin	1
38	8A-38	22-148	Locating Dowel Pin	2
39	8A-39	16-354	Plunger and Jack Shaft Bushing	3
39A	8A-39A	16-379	Plunger Shaft Bushing	1
40	8A-40	32-275	Cylinder Base End Cover	1
41	8A-41	CS313	Screw	1
42	8A-42	50-262	Sub-Base Hinge Bracket	1
43	2A-14-13	18-998	Screw	2
44A	8A-44A	14-508	Hinge Bracket Pivot Shaft	1
45	8A-45	3-91	Sub-Base	1
46	8A-46	51-26	Sub-Base Locking Latch	1
47	8A-47	22-C214-2	Sub-Base Locking Latch Pin	1
48	A-36	40-139	Washer	1
49	8A-49	18-1030	Sub-Base Locking Latch Adjusting Screw	1
50	8A-50	17-167	Cylinder Base Supporting Stud	1
51	8A-51	667B-20	Dowel Pin	2
52	8A-52		Set Screw	2
53	8A-53		Dowel Pin	2
54	8A-54		Main Frame	1
55	8A-55		Arm	1
56	2A-10		Sub-Base Clamp Screw	4
57	A-35		Sub-Base Clamp Nut	4
58	A-36		Sub-Base Clamp Washer	4
59	8A-59		Name Plate	1
60	8A-60		Drive Screw	2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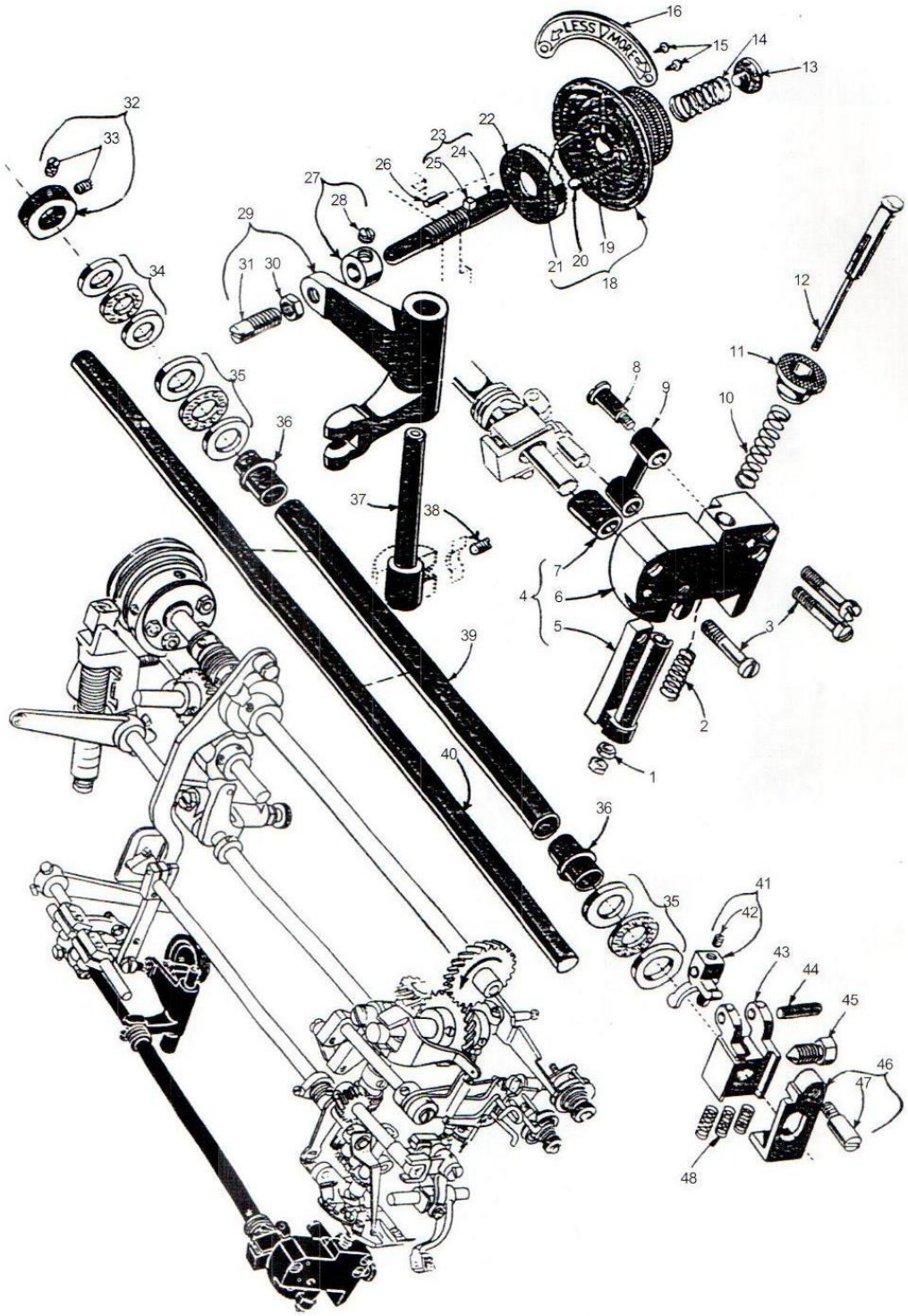
NEEDLE AND LOOPER DRIVING MECHANISM

Ref No.	Symbol	Part No.	Description	Amt. Req.
1	8B-1	36-19	Looper	1
2	8B-2	27-186	Looper Driving Gear	1
3	8B-3	18-949	Screw	1
4	8B-4	18-619	Screw	2
5	8B-5	27-187	Idler Gear	2
6	8B-6	14-447	Looper Timing Shaft	1
7	8B-7	27-188	Looper Timing Shaft Driving Gear	1
8	8B-8	1025L	Set Screw	2
9	8B-9	1027L	Collar	2
10	8B-10	1029L	Set Screw	4
11	8B-11	1762L	Needle Carrier Vibrating Worm Gear	1
12	8B-8	1025L	Set Screw	2
13	8B-13	39-95	Collar	1
14	8A-52	1022L	Set Screw	1
15	8B-15	445-366	Thread Take-up Lever,complete	1
16	8B-16	18-994	Screw	1
17	8B-17	14-448	Head Main Shaft	1
18	8B-18	40-17	Washer	1
19	8B-19	1804L	Main Shaft Drive and Driven Gears	2
20	8B-20	1005L	Set Screw	2
21	8B-21	1203L	Stop Screw	1
21A	8B-20	1005L	Set Screw	1
22	8B-22	48-154	Head Main Shaft Crank	1
23	8B-23	18-624	Set Screw	2
24	8B-24	51242M	Washer	1
25	8B-25	447-128	Needle Carrier Connecting Rod,complete	1
26	8B-26	4124-57	Ball Joint,upper,complete	1
27	8B-27	18-391	Screw	2
28	6I-8	1012L	Nut	1
29	8B-29	71-95	Rod	1
30	6I-9	869L	Nut	1
31	8B-31	447-23	Ball Joint,lower,complete	1
32	8B-27	18-391	Screw	2
33	8B-33	35-26	Eccentric Sleeve Roll	1
34	8B-34	70-61	Eccentric Sleeve	1
35	8B-35	CS327	Screw	1
36	8B-36	40-57	Washer	1
37	6I-8	1012L	Nut	1
38	8B-38	17-175	Needle carrier Eccentric Stud	1
39	8B-39	16-382	Slip Bushing	1
40	8B-40	118-34	Needle Carrier,complete	1
41	8B-41	1432AL	Needle Clamp,complete	1
42	8B-42	1420L	Pin	1
43	8B-43	41-28	Thread Guide Plate	1
44	8B-44	1016L	Thread Guide	1
45	8B-45	1036L	Screw	1
46	8B-46	1014L	Screw	1
47	8B-47	1763L	Needle Carrier Vibrating Gear	1
48	8B-8	1025L	Set Screw	2
49	8B-49	1718L	Needle Carrier Crank Shaft,marked "B "	1
50	8B-50	1717L	Needle Carrier Crank Adjusting Lug	1
51	8B-51	1719L	Rectangular Washer	1
52	8B-52	18-1094	Screw	1
53	8B-53	46-146	Needle Carrier Vibrating Crank	1
54	8B-54	782L	Screw	1
55	8A-29	1311L	Nut	1
56	8B-56	17-137	Needle carrier Vibrating Crank Slide Block Stud	1
57	8B-57	69-18	Needle carrier Vibrating Crank Slide Block	1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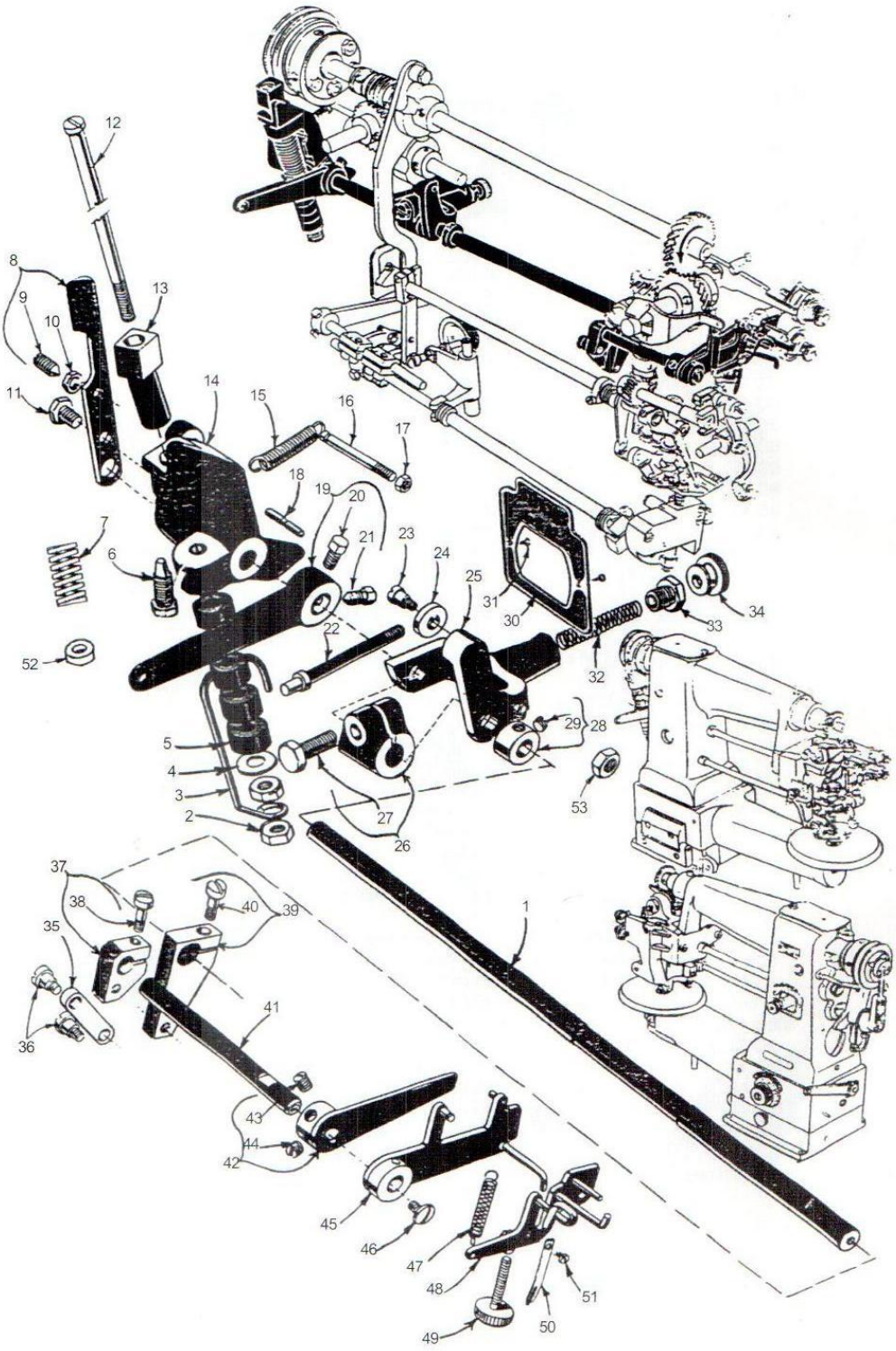
PLUNGER AND PLUNGER REGULATING MECHANISM

Ref No.	Symbol	Part No.	Description	Amt. Req.
1	8A-29	1311L	Nut	2
2	8C-2	21-383	Plunger Spring	1
3	8C-3	1279L	Screw	3
4	8C-4	4115-134-2	Plunger Bearing Block,complete	1
5	8C-5	4121-5	Plunger Frame and Barrel Assembly	1
6	8C-6	115-122	Plunger Bearing Block	1
7	8C-7	16-352	Bushing	1
8	8C-8	1306L	Screw	1
9	8C-9	1304L	Plunger Frame Link	1
10	8C-10	21-402	Cloth Clamp Spring	1
11	8C-11	30-65	Cloth Clamp	1
12	8C-12	26-173	Plunger,See Page No,29	1
13	8C-13	18-1028	Screw	1
14	8C-14	21-404	Spring	1
15	8C-15	18-768	Drive Screw	2
16	8C-16	110-323	Regulating Plate	1
18	8C-18	4149-30	Plunger Regulating Knob Assembly	1
19	3E-43	21-237	Spring	1
20	8C-20	79-31	Ball	1
21	8C-21	22-C214-4	Stop Pin	1
22	8C-22	44-301	Disc Notch Plate	1
23	8C-23	418-1026	Plunger Regulating Screw,complete	1
24	8C-24	18-1026	Regulating Screw	1
25	8C-25	22-296	Pin	1
26	8C-21	22-C214-4	Stop Pin	1
27	8C-27	1173L	Collar	1
28	8B-10	1137L	Set Screw	1
29	8C-29	48-166	Plunger Regulating Bell Crank,large	1
30	8C-30	20-34	Nut	1
31	8C-31	1192L	Set Screw	1
32	8C-32	1027L	Collar	1
33	8C-33	1029L	Set Screw	2
• 34	8C-34	478-11	Ball Bearing,complete	1
35	8C-35	478-23	Ball Bearing,complete	2
36	8C-36	16-366	Plunger Regulating Crank Shaft Bushing	2
37	8C-37	14-472	Plunger Regulating Crank Shaft	1
38	8B-20	1005L	Set Screw	1
39	8C-39	61-82	Plunger Regulating Crank Shaft Tube	1
40	8C-40	14-446	Plunger Shaft	1
41	8C-41	48-165	Plunger Regulating Bell Crank,small	1
42	C-66	18-416	Set Screw	1
43	8C-43	115-139	Plunger Regulating Block	1
44	8C-44	22-297	Small Bell Crank Pin	1
45	8C-45	1298L	Set Screw	1
46	8C-46	48-168	Plunger Crank	1
47	8C-47	18-1027	Screw	1
48	8C-48	21-403	Plunger Crank Spring	3

• Not used on new machines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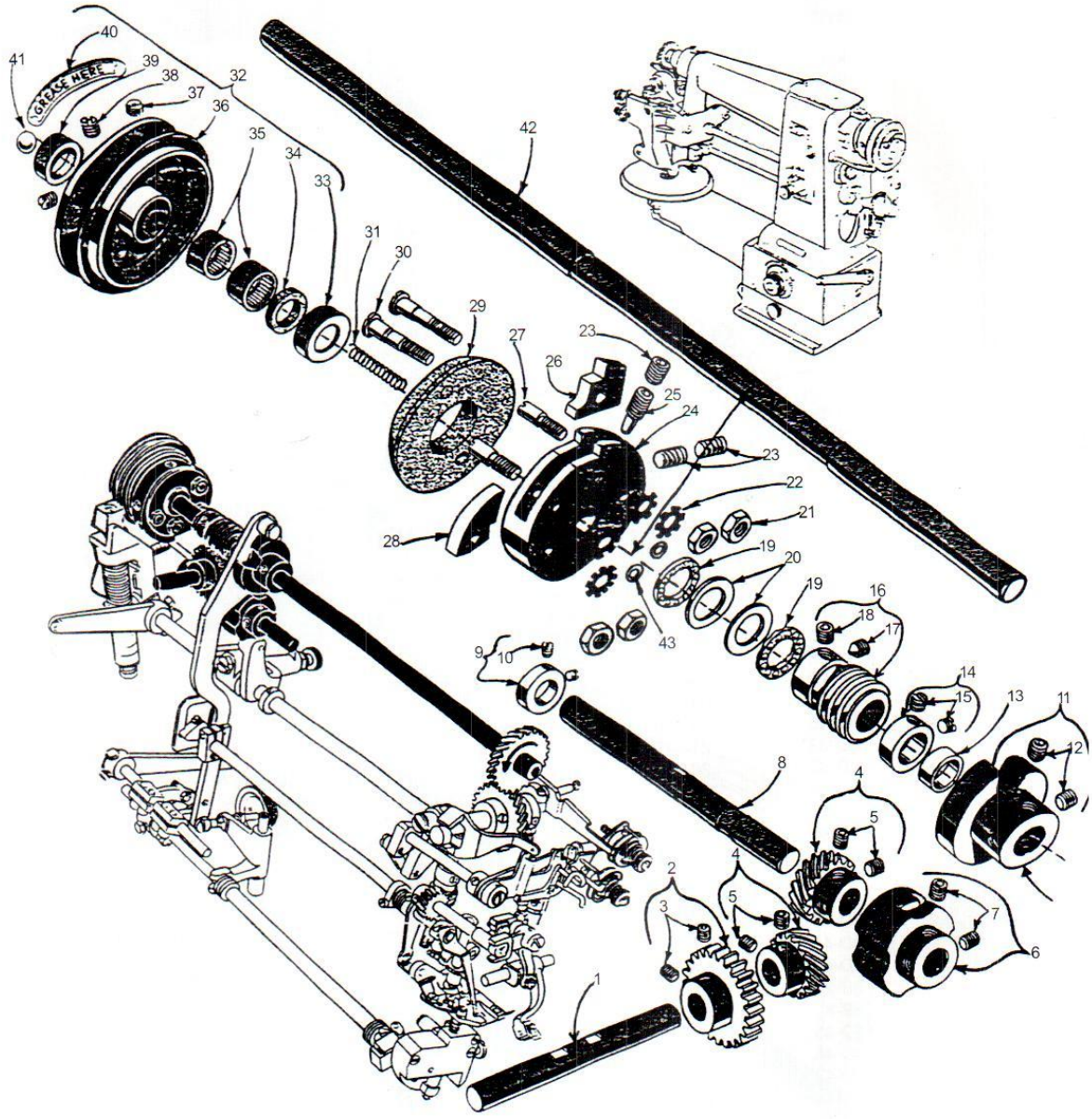
STOP MOTION, STITCH REGULATING AND THREAD PULL-OFF PARTS

Ref No.	Symbol	Part No.	Description	Amt. Req.
1	8D-1	14-467	Stop Motion lever shaft	1
2	8D-2	20-128	Nut	2
3	8D-3	8-126	Stop Motion Plunger stud Guard	1
4	8D-4	652-16	Washer	1
5	8D-5	40-190	Washer	6
6	8D-6	18-819	Screw	1
7	8D-7		Stop Motion Spring	1
8	8D-8	45-302	Lever for applying pressure on Stop Motion Disc	1
9	8D-9	18-747	Spot Screw	1
10	8C-30	20-34	Nut	1
11	8D-11	18-280	Screw	1
12	8D-12	71-92	Stop Motion Plunger Rod	1
13	8D-13	26-163	Stop Motion Plunger	1
14	8D-14	45-348	Stop Motion plunger Lever	1
15	8D-15	21-360	Stop Motion Lever Restoring spring	1
16	8D-16	22-276	Stop Motion Lever Restoring spring Pin	1
17	6I-8	1009L	Nut	1
18	8D-18	22-266	Stop Motion Lever Restoring spring Pin	1
19	8D-19	45-362	Foot Pedal Chain Lever	1
20	8D-20	18-120	Screw	1
21	8C-45	1298L	Screw	1
22	8D-22	426-166	Stitch Selector Plunger,complete	1
23	8D-23	18-1105	Screw	1
24	8D-24	35-28	Stitch Adjusting Lever Roll	1
25	8D-25	45-360	Stitch Adjusting Lever	1
26	8D-26	115-135	Stitch Selecting Cam Block	1
27	8D-27	18-978	Clamp Screw	1
28	8D-28	439-7	Collar	1
29	8D-29	SB15	Set Screw	2
30	8D-30	97-18	Stitch Indicator Plate	1
31	8C-15	18-768	Drive screw	2
32	8D-32	21-347	Stitch Selector Plunger Spring	1
33	8D-33	20-124	Stitch Selector Plunger Spring Retaining Nut	1
34	8D-34	1316L	Stitch Selector Plunger Adjusting Nut	1
35	8D-35	46-167	Link for Thread Pull-off Crank	1
36	8D-36	18-688	Screw	2
37	8D-37	48-161	Thread Pull-off Crank,short	1
38	8D-38	1073L	Screw	1
39	8D-39	48-162	Thread Pull-off Crank,long	1
40	8D-38	1073L	Screw	1
41	8D-41	14-466	Thread Pull-off Lever Shaft	1
42	8D-42	445-397	Thread Pull-off Plunger Operating Lever,complete	1
43	8B-20	1005L	Set Screw	1
44	8B-8	1025L	Set Screw	1
45	8D-45	445-398	Thread pull-off Lever,complete	1
46	8D-46	1329L-1/2	Screw	1
47	8D-47	21-390	Thread Pull-off Lever Spring	1
48	8D-48	499-325	Thread Pull-off pin Holder,complete	1
49	8D-49	18-1005	Thread Pull-off Adjusting Screw	1
50	8D-50	21-389	Thread Pull-off Adjusting Screw Retaining Spring	1
51	8D-51	1075L	Screw	1
52	8D-52		Washer	1
53	8A-16		Nut	1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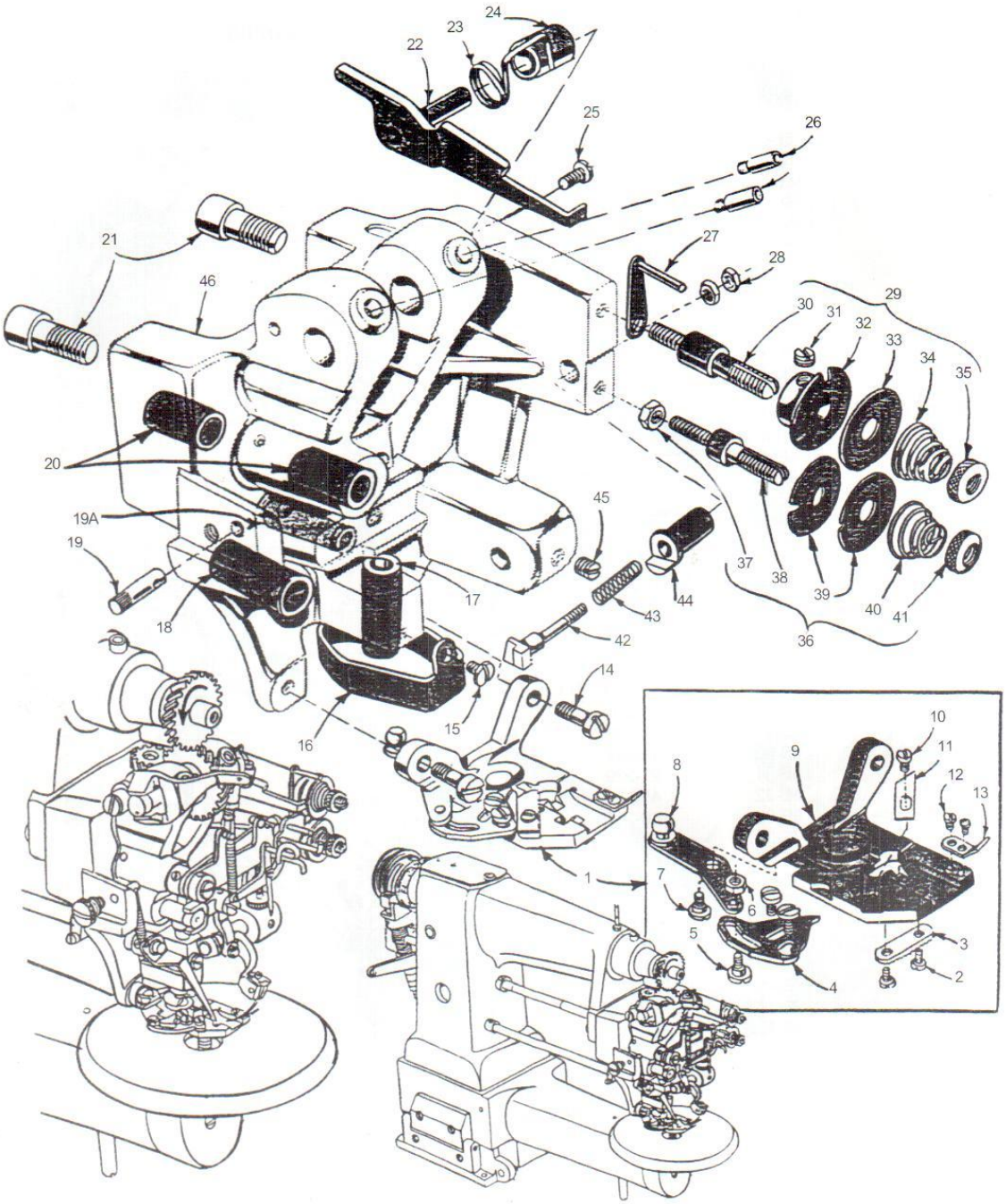
MAIN SHAFT, HANDWHEEL AND STOP MOTION DRIVE

Ref No.	Symbol	Part No.	Description	Amt. Req.
1	8E-1	14-444	Jackshaft	1
2	8E-2	27-185	Jackshaft Worm Gear	1
3	8E-3	18-730	Set Screw	2
4	8E-4	27-168	Spiral Gear	2
5	8E-3	18-996	Set Screw	4
6	8E-6	34-67	Stitch Tacking Cam	1
7	8E-3	18-730	Set Screw	2
8	8E-8	14-465	Camshaft	1
9	8D-28	439-7	Collar	1
10	8D-29	SB15	Set Screw	2
11	8E-11	34-59	Plunger Raising Cam	1
12	8E-3	18-730	Set Screw	2
13	8E-13	35-30	Roll for Plunger Lifting Connecting Rod	1
14	8E-14	39-92	Collar	1
15	8B-8	1025L	Set Screw	2
16	8E-16	27-184	Main Shaft Worm Gear	1
17	8E-17	18-976	Spot Screw	1
18	8E-3	18-730	Set Screw	1
19	8E-19	478-8	Ball Bearing	2
20	8E-20	40-135	Washer	4
21	10G-18	20-127	Nut	4
22	8E-22	652N-14	Washer	4
23	8E-23	18-967	Set Screw	3
24	8E-24	44-334	Stop Motion Disc	1
25	8E-25	18-958	Spot Screw	1
26	8E-26	166-7	Stop Motion Disc Pawl	1
27	8E-27	18-959	Screw	2
28	8E-28	51-20	Stop Motion Disc Latch	1
29	8E-29	44-288	Pulley Clutch Disc	1
30	8E-30	18-982	Screw	2
31	8E-31	21-229	Spring	1
32	8E-32	458-39	Pulley Assembly,complete	1
33	8E-33	40-169	Retainer Washer	1
34	8E-34	63-32	Grease Retainer	1
35	8E-35	478-10	Needle Bearing	2
36	8E-36	58-39	Pulley	1
37	8E-37	18-800	Set Screw	1
38	8B-20	1005L	Set Screw	1
39	8E-39	190-2L	Pulley Insert	1
40	8E-40	98-221	Instruction Label	1
41	8E-41	79-37	Ball	1
42	8E-42	14-442	Main Shaft	1
43	8E-43		Washer	2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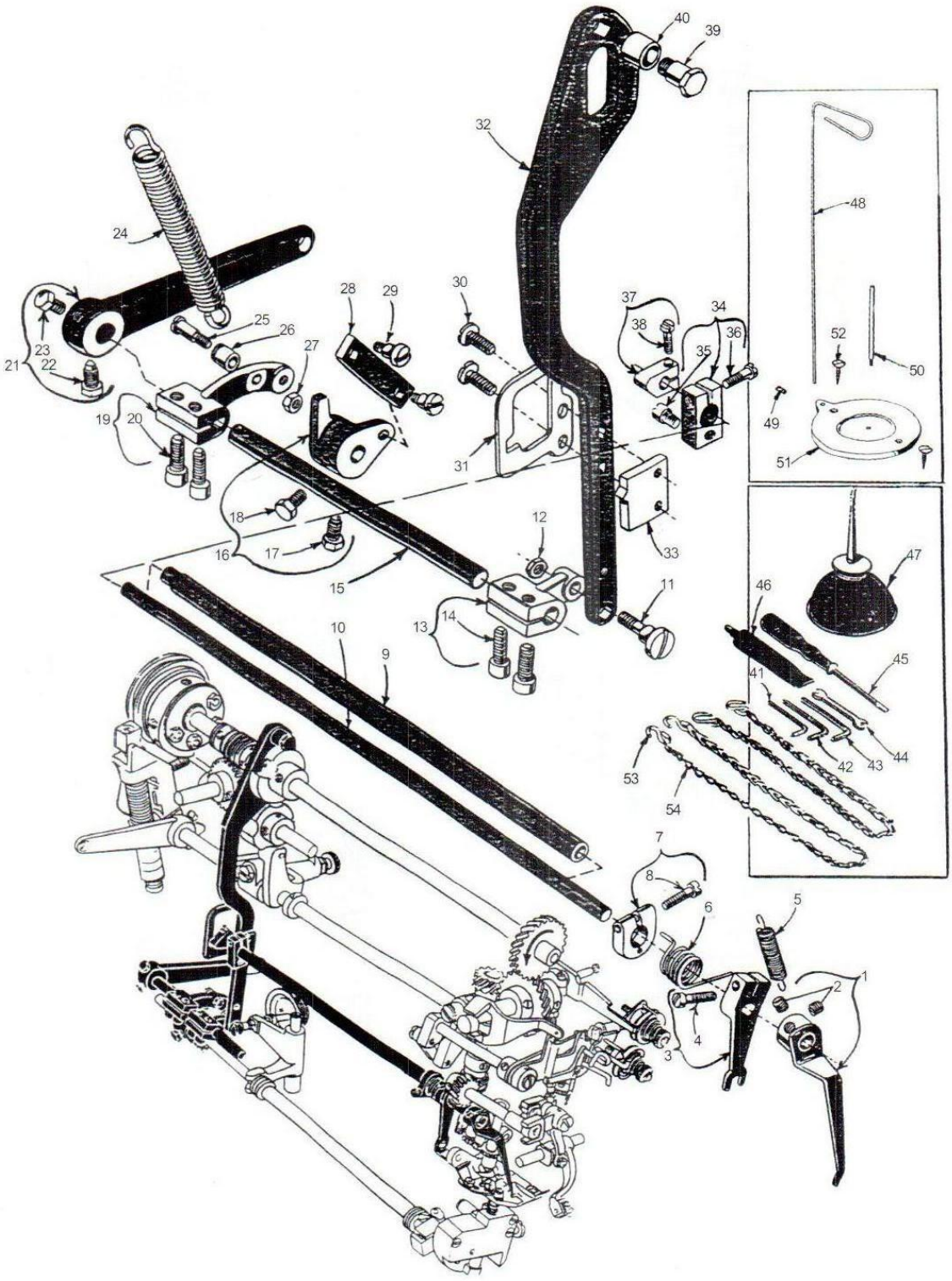
HEAD, PRESSER FOOT AND TENSION PARTS

Ref No.	Symbol	Part No.	Description	Amt. Req.
1	8F-1	405-555	Presser Foot,complete	1
2	8F-2	18-983	Screw	1
3	8F-3	6-65	Needle Guide	1
4	8F-4	119-85	Thread Breaking Finger	1
5	8F-5	18-1007	Screw	3
6	8F-6	20-13	Nut	1
7	8F-7	18-980	Screw	1
8	8F-8	445-399	Thread Cutting Finger Operating Lever	1
9	8F-9	5-555	Presser Foot,main section	1
10	8F-10	1351L	Screw	1
11	8F-11	119-76	Thread Cutting Knife	1
12	8F-12	18-621	Screw	2
13	8F-13	8-130	Needle Guard	1
14	8D-38	1073L	Screw	2
15	8F-15	CS337	Screw	1
16	8F-16	32-233	Looper Gear Cover	1
17	8F-17	16-328	Looper Driving Shaft Bushing	1
18	8F-18	16-337	Trimmer Shaft Bushing,front	1
19	8F-19	22-274	Thread Wiper Finger Spring Pin	1
19A	8F-19A	LS201	Needle Carrier Crankshaft Bushing	1
20	8F-20	16-346	Thread Pull-off Lever Shaft Bushing	2
21	8F-21	18-1045	Screw	2
22	8F-22	445-367	Thread Tension Releasing Lever,complete	1
23	8F-23	21-349	Tension Release Lever Spring	1
24	8F-24	16-264	Thread Tension Releasing Lever Bushing	1
25	8F-25	810L	Screw	1
26	8A-10	125-23	Oil Cup	2
27	8F-27	4137-127	Nipper Retainer,complete	1
28	8F-6	20-13	Nut	2
29	8F-29	468-25	Thread Nipper Staff,complete	1
30	8F-30	68-27	Tension Staff	1
31	8B-10	1029L	Set Screw	1
32	8F-32	444-282	Tension Disc,complete	1
33	10D-30	1183L	Tension Disc	1
34	8F-34	1132SL	Tension Spring	1
35	8F-35	20-60	Adjusting Nut	1
36	8F-36	468-26	Thread Tension Staff,complete	1
37	8A-16	1160L	Nut	1
38	8F-38	68-28	Tension Staff	1
39	10D-30	1183L	Tension Disc	2
40	8F-40	21-284	Tension Spring	1
41	8F-35	20-60	Adjusting Nut	1
42	8F-42	26-171	Thread Pull-off Lever Retaining Plunger	1
43	8F-43	21-339	Thread Pull-off Lever Retaining Plunger Spring	1
44	8F-44	70-63	Thread Pull-off Lever Retaining Plunger Sleeve	1
45	8B-23	1005L	Set Screw	1
46	8F-46		Head	1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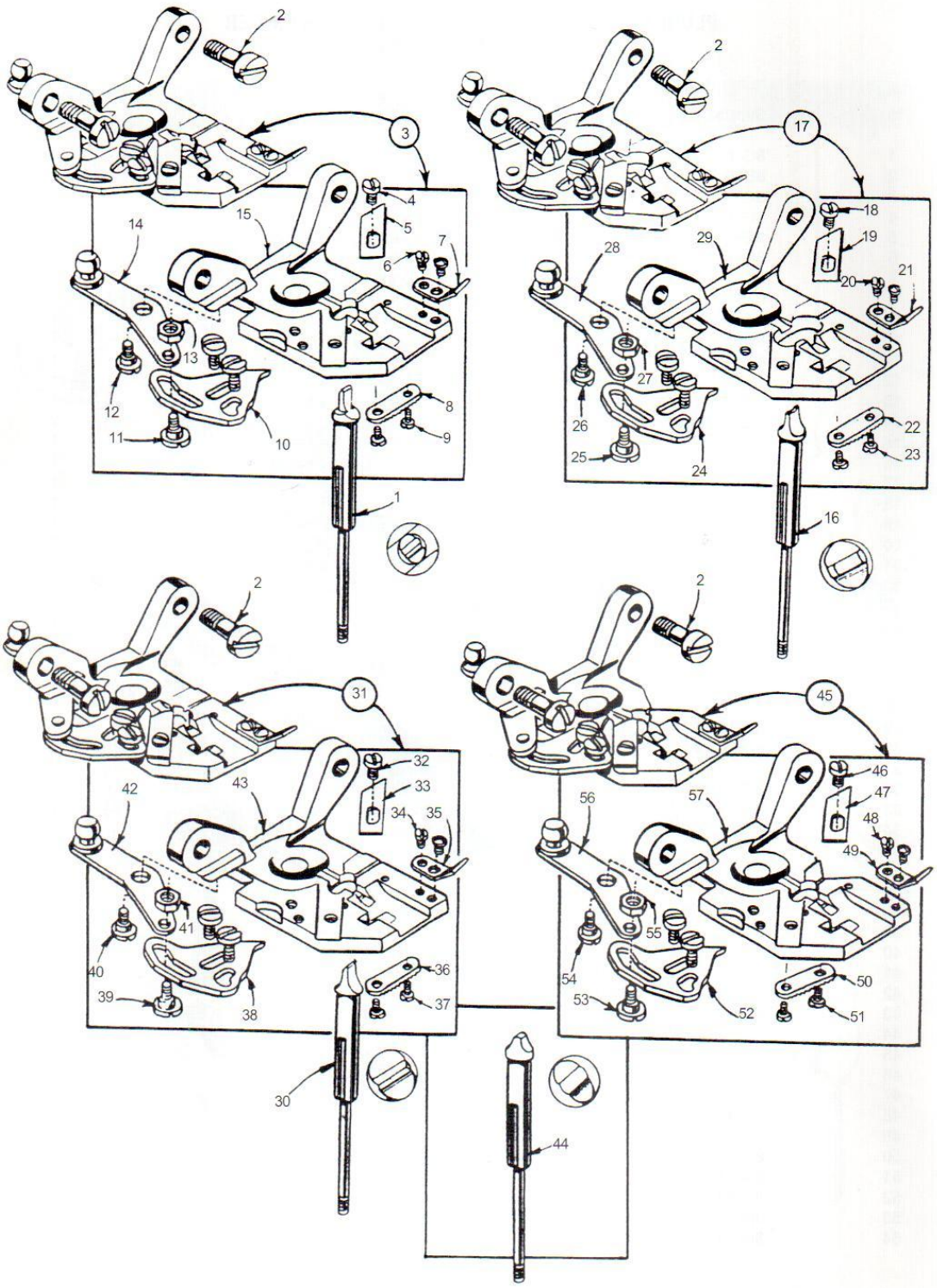
PLUNGER DEPRESSING AND THREAD WIPER FINGER MECHANISM AND ACCESSORIES

Ref No.	Symbol	Part No.	Description	Amt. Req.
1	8G-1	4122-41	Thread Wiper Finger,complete	1
2	8B-8	1025L	Set Screw	2
3	8G-3	48-156	Trimmer Lever Operating Crank	1
4	8G-4	18-40	Clamp Screw	1
5	8G-5	21-319	Thread Wiper Finger Spring	1
6	8G-6	21-380	Trimmer Knife Operating Spring	1
7	8G-7	30-64	Trimmer Spring Clamp	1
8	8G-4	18-40	Clamp Screw	1
9	8G-9	14-459	Trimmer Shaft	1
10	8G-10	14-460	Thread Wiper Shaft	1
11	8G-11	18-990	Screw	1
12	6I-8	1012L	Nut	1
13	8G-13	48-160	Plunger Restoring Crank	1
14	8G-14	18-998	Clamp Screw	2
15	8G-15	14-461	Plunger Lifting Rod Jackshaft	1
16	8G-16	48-146	Plunger Depressing Crank	1
17	8G-17	18-690	Spot Screw	1
18	8G-18	18-493	Screw	1
19	8G-19	48-159	Plunger Depressing Differential Crank	1
20	8G-14	18-998	Clamp Screw	2
21	8G-21	45-364	Plunger Depressing Lever	1
22	8G-17	18-690	Spot Screw	1
23	8G-23	1333L	Screw	1
24	8G-24	21-206	Plunger Restoring Spring	1
25	8G-25	18-408	Screw	1
26	8G-26	35-24	Plunger Restoring Spring Stud Roll	1
27	8A-16	1160L	Nut	1
28	8G-28	46-137	Link	1
29	8D-36	18-688	Screw	2
30	8G-30	FP505	Screw	2
31	8G-31	110-375	Thread Wiper Operating Cam Plate	1
32	8G-32	47-127	Plunger Lifting Connecting Rod	1
33	8G-33	34-64	Automatic Thread Trimmer Cam	1
34	8G-34	48-163	Thread Breaking Finger Operating Crank	1
35	8G-35	18-901	Screw	1
36	8G-36	18-375	Clamp Screw	1
37	8G-37	48-172	Thread Wiper Crank	1
38	8G-38	1750L	Clamp Screw	1
39	8G-39	18-991	Screw	1
40	8G-40	35-29	Plunger Lifting Rod Roll	1
41	8G-41	WR56	Wrench,1/8 inch hexagon	1
42	8G-42	WR57	Wrench,5/32 inch hexagon	1
43	8G-43	WR58	Wrench,3/16 inch hexagon	1
44	8G-44	1405L	Double End Wrench,1/4 inch and 5/16 inch opening	1
45	8G-45	21201	Screwdriver	1
46	8G-46	28604P	Grease Tube	1
47	8G-47	413	Oil Can	1
48	8G-48		Thread Guide	1
49	2F-19		Screw	1
50	8G-50		Thread Stand	1
51	8G-51		Thread Stand Base	1
52	8G-52		Wood Screw	2
53	9H-21	131-C163-1	"S" Hook	4
54	8G-54	130-10	Foot Treadle Chain	2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PRESSER FEET AND PLUNGERS

Ref No.	Symbol	Part No.	Description	Amt. Req.
			Alternate Combination for Heavy and Extra Heavy Weight Material	
1	8C-12	26-172	Plunger,for extra heavy weight material	1
	8C-12	26-173	Plunger,for heavy weight material, see ref. No.16	1
2	8F-14	1073L	Screw,for presser foot	2
3	8F-1	405-555H	Presser Foot, complete	1
4	8F-10	1351L	Screw	1
5	8F-11	119-76	Thread Cutting Knife	1
6	8F-12	18-621	Screw	2
7	8F-13	8-130	Needle Guard	1
8	8F-3	6-65	Needle Guide	1
9	8F-2	18-983	Screw	2
10	8F-4	119-85	Thread Breading Finger	1
11	8F-5	18-1007	Screw	3
12	8F-7	18-980	Screw	1
13	8F-6	20-13	Lock Nut	1
14	8F-8	445-399	Thread Cutting Finger Operating Lever	1
15	8F-9	5-555H	Presser Foot, main section	1
			Standand Combination for Medium Weight Material	
16	8C-12	26-173	Plunger	1
17	8F-1	405-555	Presser Foot, complete	1
18	8F-10	1351L	Screw	1
19	8F-11	119-76	Thread Cutting Knife	1
20	8F-12	18-621	Screw	2
21	8F-13	8-130	Needle Guard	1
22	8F-3	6-65	Needle Guide	1
23	8F-2	18-983	Screw	2
24	8F-4	119-85	Thread Breading Finger	1
25	8F-5	18-1007	Screw	3
26	8F-7	18-980	Screw	1
27	8F-6	20-13	Lock Nut	1
28	8F-8	445-399	Thread Cutting Finger Operating Lever	1
29	8F-9	5-555	Presser Foot, main section	1
			Alternate Combination for Light Weight Material	
30	8C-12	26-170	Plunger	1
31	8F-1	405-554	Presser Foot, complete	1
32	8F-10	1351L	Screw	1
33	8F-11	119-76	Thread Cutting Knife	1
34	8F-12	18-621	Screw	2
35	8F-13	8-130	Needle Guard	1
36	8F-3	6-61	Needle Guide	1
37	8F-2	18-983	Screw	2
38	8F-4	119-85	Thread Breading Finger	1
39	8F-5	18-1007	Screw	3
40	8F-7	18-980	Screw	1
41	8F-6	20-13	Lock Nut	1
42	8F-8	445-399	Thread Cutting Finger Operating Lever	1
43	8F-9	5-554	Presser Foot, main section	1
			Alternate Combination for Tacking Lables and Light Weight Material	
44	8C-12	26-174	Plunger,for tacking lables	1
	8C-12	26-170	Punger,for light weight material, see Ref.NO.30	1
45	8F-1	405-554L	Presser Foot,complete	1
46	8F-10	1351L	Screw	1
47	8F-11	119-76	Thread Cutting Knife	1
48	8F-12	18-621	Screw	2
49	8F-13	8-130	Needle Guard	1
50	8F-3	6-61	Needle Guide	1
51	8F-2	18-983	Screw	2
52	8F-4	119-85	Thread Breading Finger	1
53	8F-5	18-1007	Screw	3
54	8F-7	18-980	Screw	1
55	8F-6	20-13	Lock Nut	1
56	8F-8	445-399	Thread Cutting Finger Operating Lever	1
57	8F-9	5-554L	Presser Foot, main section	1

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