SECOND EDITION

Finest Quality

Union Special®
INDUSTRIAL SEWING EQUIPMENT

CATALOG NO. 122M

STYLES

100X
100XA

LIST OF PARTS AND INSTRUCTIONS FOR OPERATING AND ADJUSTING CLASS 100 COLUMBIA STREAMLINED SADDLE STITCH MACHINE

Catalog No. 122 M

LIST OF PARTS AND INSTRUCTIONS

FOR

OPERATING AND ADJUSTING

CLASS 100

COLUMBIA STREAMLINED SADDLE STITCH MACHINE

Styles

100 X 100 XA

Second Edition

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UNION SPECIAL CORPORATION
INDUSTRIAL SEWING MACHINES
CHICAGO

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FOREWORD

The dominating idea back of "Union Special" is to build the best industrial sewing machines in the world. The streamlined saddle stitch machines are a pronounced achievement along these lines. All parts are made to precision gauges, insuring complete interchangeability. A few of the outstanding features are:

1. Streamlined design. Pleasing in appearance, this natural functional design provides greater stability and ruggedness, free from difficult-to-clean recesses.

2. Simplified oiling. Automatically supplies oil to lower main shaft bearings, feed rocker and feed lift bearings.

3. Push button control, for quick, easy adjustment of stitch length, with a stitch length indicator of the comparison type, using letters as a means of reference, to predetermine stitch lengths.

It is our constant aim to furnish carefully prepared information that will enable the customer to secure all possible economies and advantages from the use of UNION SPECIAL machines. The following pages contain valuable operating and adjusting data and illustrate and describe the parts for Styles 100 X and 100 XA streamlined saddle stitch machines.

Union Special representatives will be found in all manufacturing centers, ready to cooperate with you to plan and estimate requirements.

UNION SPECIAL CORPORATION

Engineering Department

IDENTIFICATION OF MACHINES

Each UNION SPECIAL machine carries a style number which is stamped in the name plate on the machine. Style numbers are classified as standard and special. Those which are standard have one or more letters suffixed, but never contain the letter "Z". Example: "100 X". Style numbers containing the letter "Z" are special.

Styles of machines similar in construction are grouped under a class number which differs from the style number in that it contains no letters. Example: "Class 100".

The serial number of the machine is stamped on the back of the column at cloth plate level.

APPLICATION OF CATALOG

This catalog applies only to the standard styles of machines as listed herein. All references to directions, such as right and left, front and back, etc., are taken from the operator's position while seated at the machine. The direction of rotation of the handwheel is toward the operator.

DESCRIPTION OF MACHINES

100 X Streamlined saddle stitch machine, for decorative stitching on shoes, handbags or other leather articles. Needle travel 15/16 inch. Stitch range 3 1/2 to 5 1/2 per inch. Maximum recommended speed 1500 R. P. M.

100 XA Streamlined saddle stitch machine, for decorative stitching on medium weight knit goods. Needle travel 15/16 inch. Stitch range 3 1/2 to 5 1/2 per inch. Maximum recommended speed 1500 R. P. M.

INSTALLING

Each machine, as it leaves the factory, is sewed off, inspected, and carefully packed. When the machine reaches the customer, it is ready for service. Because of all the precautions taken by those who handle the machine, the customer needs only to place it in its proper position in the table and make only the ordinary settings to adapt the machine to the material he wishes to sew.

STANDARD ACCESSORIES

Included with each machine is a box of standard accessories containing one drip pan, oil drain jar and clamp spring, one knee lifter assembly and rubber pad, one spool pin, two hinge studs, one machine rest pin, two hinge plates and screws, four felt pads and necessary nails. These parts are indispensable when setting up the machine.

TABLE TOPS

Machine Styles 100 X and 100 XA may be installed in table top No. 21371 WD-48, prepared with cut-out so that the bed plate is flush with the top of the table. Isolated mounting parts are included with the table top. For table tops not prepared for isolated mounting, use the felt pads and nails furnished with the accessories.

When assembling the hinge plates to the table tops, be sure to locate them as accurately as possible, so that the hinge studs, attached to the machine, can swing properly in the plates.

Special care should be taken that the machine does not contact the sides of the cut-out at any point.

KNEE PRESS

The knee press is attached to UNION SPECIAL table tops at the location designated by punch marks on the underside. For other boards, locate the knee press so that the center of the shaft is 8 1/4 inches from the right side of the cut-out. The knee press assembly should appear as in (Fig. 1).

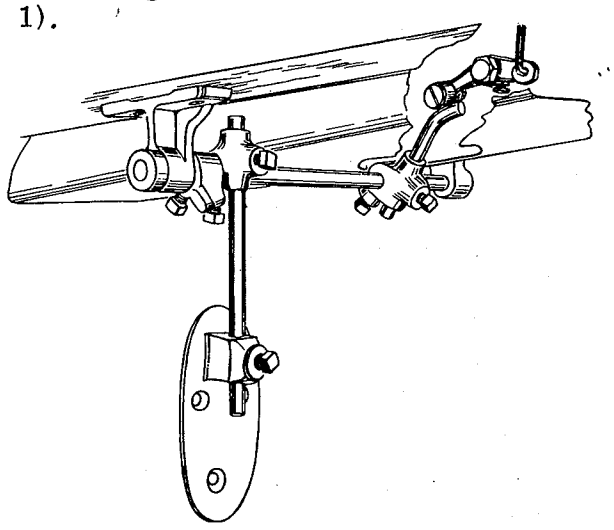


Fig. 1

DRIP PAN

The drip pan is attached to UNION SPECIAL table tops at the indentation marks on the inside of the cut-out, using the nails furnished with the accessories. For other table tops, the drip pan should be set high enough to clear the knee press and low enough to clear the bottom of the machine. It should be laterally located so that it is directly under the base of the machine.

BELTS

These machines are equipped to use either No. 1 "V" or round belt.

LUBRICATION

CAUTION!!

The oil has been drained from the main reservoir and the hook shaft gear case before shipment, and these reservoirs must be filled before starting to operate. Lubricate machine thoroughly in accordance with instructions and run slowly for several minutes to distribute the oil to the various parts. Full speed operation can then be expected without damage.

RECOMMENDED OILS

Use a straight mineral oil of a Saybolt viscosity of 90 to 125 seconds at 100° Fahrenheit in main reservoir and hook shaft gear case. This is equivalent to UNION SPECIAL oil specification No. 175.

Oils conforming to specification No. 175 may also be used in the manually oiled places.

For trouble free operation, oil the machine as indicated in the diagram (Fig. 2).

With needle bar at the top of its stroke, oil the holes (A) twice daily. In oiling hole (B), very little oil should be used and only around the outer edges of the needle bar. Do not put oil into the hole in the needle bar, as it will flow out when machine is operated at high speed. A can of oil, No. 28604 R, is included with the accessories packed with the machine. It contains a sufficient quantity to fill both reservoirs. The main reservoir is filled through oil cup (C) and the supply is usually replenished about twice a month. However, the oil level should be checked from time to time and kept between the lines on the gauge (D).

The hook shaft gear case is filled at the plug screw hole (J). A quantity of oil sufficient to bring the level up to the plug screw hole, when the machine is tilted back against the rest pin, should be used. Remove plug screw and check the level of oil about every six months.

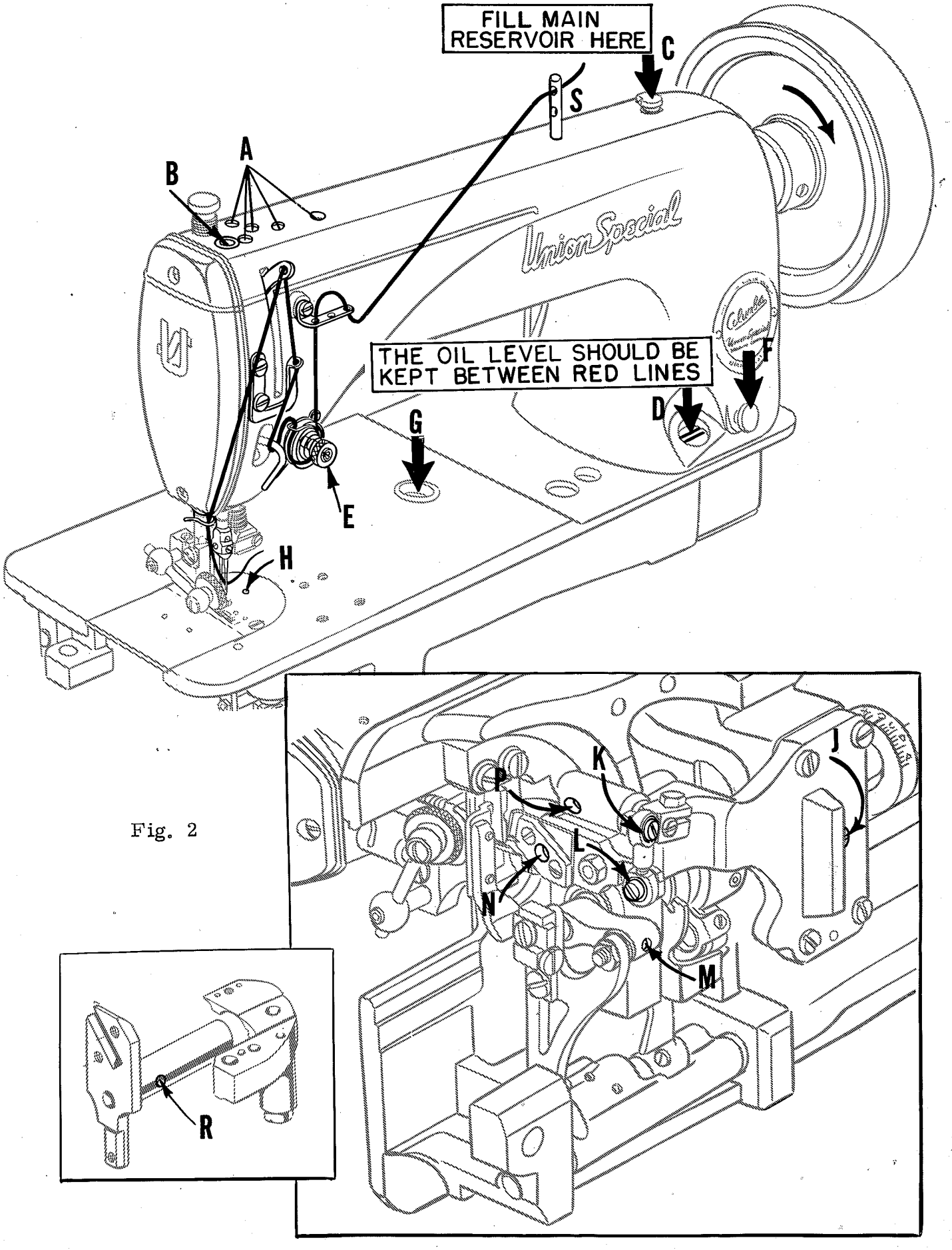

FILL MAIN RESERVOIR HERE
C
S
A
B
Union Special
THE OIL LEVEL SHOULD BE KEPT BETWEEN RED LINES
F
D
G
E
H
P
K
J
L
N
M
R

Fig. 2

CAUTION!!

Do not use a compounded oil in the feeding drive shaft gear case or hook shaft gear case, as these oils separate and froth.

Lubrication of most of the mechanism below the bed plate is automatically accomplished through the feed driving shaft which is tubular. Oil is introduced into the shaft at the gear end by means of an oil distributing plate (A, Fig. 3) which is secured to the large gear case cover (B) by means of two screws (C) and retaining block (D).

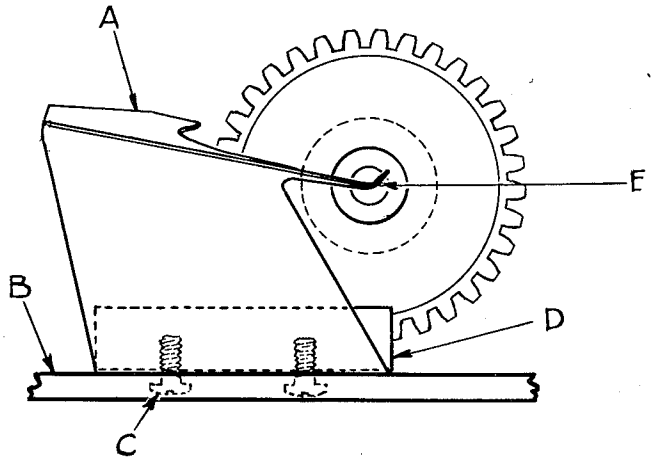


Fig. 3

Should it ever become necessary to remove any of the parts from the gear case, it is imperative that the adjustment of the oil distributing plate be checked very carefully. This can be done by removing the large plug screw at the right end of the gear housing and looking through the hole. The low point of the oil distributing plate must be even with or slightly below the center of shaft (E) and just touching it. This is a very important adjustment as the functioning of the automatic lubrication of the lower part of the machine depends upon it.

The hook driving mechanism, below the bed plate, is manually lubricated, and the oiling places are indicated at (H, K, L, M, N, P, and R, Fig. 2). A few drops daily at these points will be sufficient.

NEEDLES

Use only genuine UNION SPECIAL Columbia needles.

The recommended needles for these machines are Type 29 DED-110/044 eye needle and Type 29 DHD-110/044 hook needle. The minor number following the Type symbol indicates the size.

These needles are also available in the following sizes:

EYE NEEDLE	HOOK NEEDLE	SIZE	
		INCHES	MM.
29 DED-090/036	29 DHD-090/036	.036	.90
29 DED-100/040	29 DHD-100/040	.040	1.00
29 DED-125/049	29 DHD-125/049	.049	1.25

Styles 100 X and 100 XA are set with 29 DED-110/044 eye needle and 29 DHD-110/044 hook needle and No. 24-4 cotton thread.

To have orders promptly and accurately filled, an empty container, a sample needle, or the type and size number should be forwarded.

INSERTING THE NEEDLES

Insert the needles in the needle bar as far as they will go, with the spots or scarfs to the right, and with the eye needle in the front hole and the hook needle in the rear.

THREADING

Thread machine in accordance with threading diagram (Fig. 2).

NEEDLE THREAD TENSION

The needle thread tension is varied by turning the tension regulating nut (E, Fig. 2). Turning the nut in a clockwise direction increases the tension and counterclockwise decreases the tension. This should not be done when the presser foot is in its raised position, and is generally done while the machine is sewing on a piece of scrap material.

LENGTH OF STITCH

The showing stitch remains the same, but the space between the stitches changes when setting for a longer or shorter stitch. The total length of stitch can be set from approximately 3 1/2 to 5 1/2 stitches per inch.

TO CHANGE THE STITCH LENGTH

Press plunger (F, Fig. 2) in firmly. While holding plunger in, turn handwheel in operating direction until stitch regulating finger is felt to drop into the slot of feed eccentric. Continuing to hold the plunger in, turn handwheel in operating direction to increase the stitch length and in opposite direction to decrease the stitch length.

Comparative stitch lengths are indicated by the graduations on the dial (G) in bed plate, ranging from S (short) to L (long). Release the plunger.

The stitch regulating plunger may be locked at any setting by means of the locking screw located on the underside of the bed plate lip directly below the plunger.

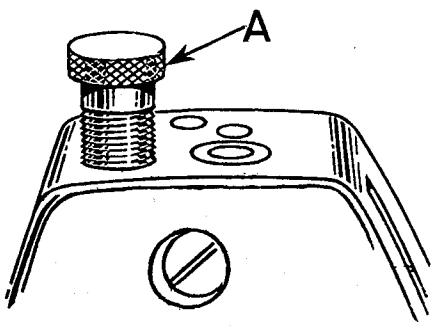


Fig. 4

PRESSURE ON MATERIAL

The presser spring should exert only enough pressure to make the work feed uniformly.

To increase the pressure on the presser foot, turn the presser spring regulator (A, Fig. 4) in clockwise direction. Turning the regulator counterclockwise decreases the pressure.

SETTING THE NEEDLE BAR TO HEIGHT

The lower needle bar bushing, the one to which the needle bar is timed, is set at the factory. The distance from the bottom of the bushing to the throat plate seat is 2.298 (2 19/64) inches (Fig. 5).

When the needle bar is in its lowest position, the upper timing line on the needle bar should be even with the lower edge of the needle bar bushing. To change the position of the needle bar, turn the handwheel in operating direction until the needle bar is in its lowest position, then, loosen the clamp screw (A) and move the bar to the proper timing line.

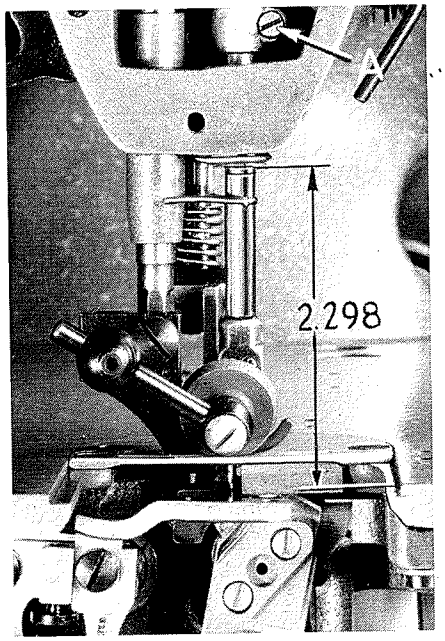


Fig. 5

FEED DOG HEIGHT

In regulating the height of the feed dog, it should be in its highest position with the presser foot resting on it. When using a rubber faced feed dog, the top of the feed should extend 3/64 inch above the surface of the throat plate. When using the toothed feed dog, the full depth of tooth should extend above the surface of the throat plate.

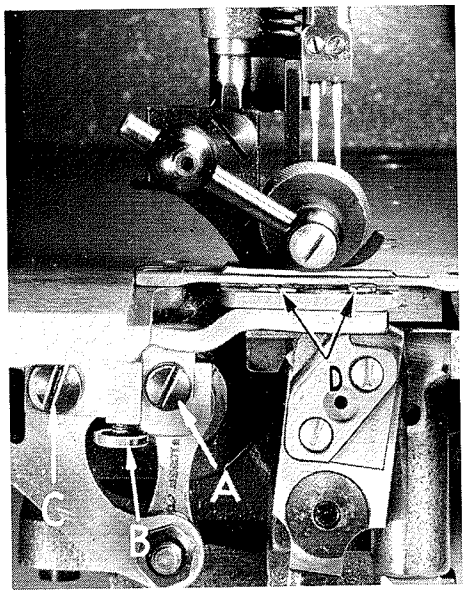


Fig. 6

To make these adjustments, loosen screw (A, Fig. 6) and turn regulating screw (B) clockwise to raise the feed dog and counterclockwise to lower it. Make sure that the bottom of the shank of the feed dog holder rests against the head of the regulating screw. The feed dog can be tilted up or down by loosening screws (A and C) and can be moved forward or backward in the throat plate by loosening screws (D).

PRESSER FOOT HEIGHT

With the feed dog at the lowest point of its travel, set the presser foot height so that there is 3/16 inch space between the bottom of the foot and the top of the throat plate with the hand lifter lever in the "up" position.

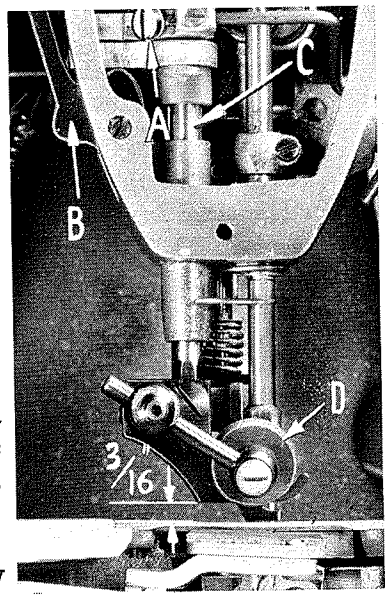


Fig. 7

To make this adjustment, loosen screw (A, Fig. 7), and with the hand lifter (B) up, move the presser bar (C) to secure proper height of presser foot and retighten screw (A).

The roller (D) should be set from .020 to .040 inch below the bottom of the presser foot, depending on the weight of the material being sewn and the radii of the turns being made.

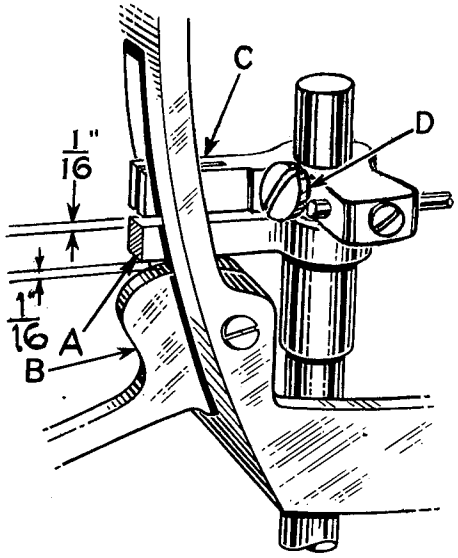


Fig. 8

PRESSER BAR CONNECTION

The presser bar connection (A, Fig. 8) should be set so that it is 1/16 inch from the hand lifter (B) at all times.

This is accomplished by turning the machine over on its side, loosening lock nut (G, Fig. 9) and relocating the stop screw (E) on the lifter lever bell crank (F). By turning the stop screw counterclockwise, the presser bar connection is brought closer to the hand lifter. Turn the stop screw to secure desired 1/16 inch space. Tighten lock nut (G) to lock screw in position.

PRESSER BAR GUIDE

When locating the presser bar guide (C, Fig. 8), the presser foot must rest directly against the throat plate with the feed dog in its lowest position.

The guide is properly set when there is a 1/16 inch space between presser bar guide and the connection.

To obtain this setting, loosen set screw (D) in the guide and insert screw driver between the connection and the guide. Tap on presser foot to insure its being down on the throat plate, center the foot by turning it so that needles enter the middle of their slot and retighten screw (D) in guide.

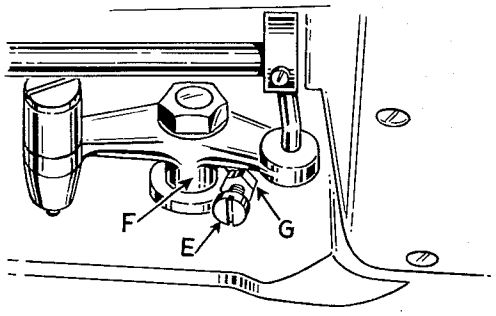


Fig. 9

NEEDLE GUIDE BAR

The needle guide bar must be set so that when the needle guide contacts the throat plate, the bar continues to descend about another 1/32 inch.

This adjustment is made by loosening screw (A, Fig. 10) and moving bar to desired height. Note: This is a socket head set screw.

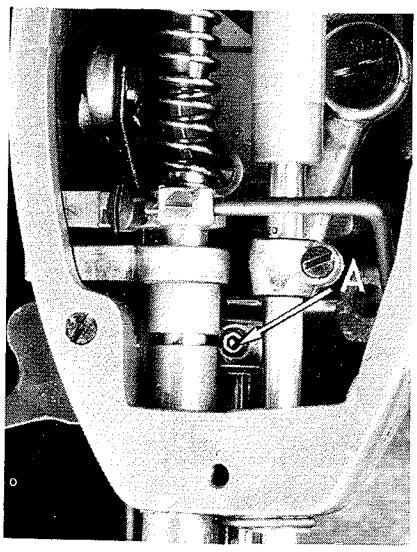


Fig. 10

THREAD CONTROL

Test check spring tension (A, Fig. 11). There should be enough tension to insure a good returning snap when spring is depressed and released. Should it require adjusting, loosen set screw in the head on right side of tension post (G, Fig. 13) and remove tension post assembly. Partially loosen tension post set screw (B, Fig. 11) in tension post socket (C). Holding the socket in the left hand, turn the tension post (D) counterclockwise with the right hand until the check spring moves away from the upper stop (E) and has no tension on it. Turn the tension post (D) in a clockwise direction until the spring again touches the upper stop (E). Then, proceed further in the same direction until the desired tension is obtained. When correctly set, the tension post set screw (B) should be drawn up snugly, but not forcefully.

THREAD CONTROL (continued)

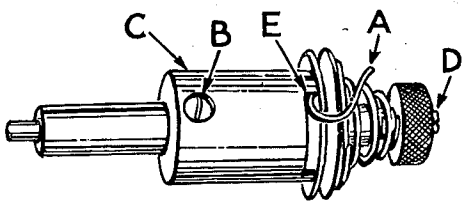


Fig. 11

Further adjustment of the check spring tension can be made by inserting a screw driver into the slotted end of the tension post (D) and turning in the required direction.

Replace tension assembly with the check spring about 3/8 inch above the thread take-up wire. While the tension post assembly is being replaced, the presser foot should be resting on the throat plate.

The frame take-up eyelet (A, Fig. 12) should be set at its highest position.

For the final setting of check spring, sew slowly on a piece of material and observe the action of the check spring. The spring should have completed its travel and rest against its stop as the needle bar reaches the bottom of its stroke.

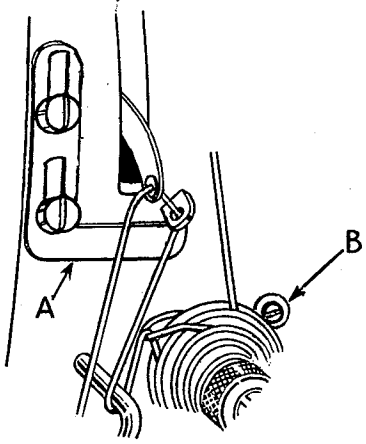


Fig. 12

LOCATING TENSION RELEASE MECHANISM

The tension assembly should be located in bed from front to back, so that, when the presser foot is raised to its highest position, the tension (F, Fig. 13) is opened just enough to allow the thread to pass the discs freely.

To position the tension assembly, see that set screw in bed (G, Fig. 13) is loose and tension assembly adjusting screw (B, Fig. 12) is screwed down to the bed.

Lift the presser foot hand lifter to its highest position. With the left hand, grasp the thread and pull it through the tensions; with the right hand, push tension post deeper into the machine until release pin (H, Fig. 13), pressing against the presser bar connection (J), has opened the tension discs just enough to allow the thread to pull through freely. Retighten set screw (G), turn tension assembly adjusting screw (B, Fig. 12) counterclockwise until it contacts the flange of the tension post socket.

SETTING THE HOOK ON THE CARRIER

Set the hook (A, Fig. 14) high on the carrier, and tilt forward as far as it will go. Loosen screws (B) to make this adjustment. The hook needle guard (C) guards the right side of the needle and has no adjustment.

When adjusting the hook, make sure that it does not contact the bottom of the plunger.

TIMING THE HOOK

Turn the handwheel in its operating direction until the needle bar has reached the bottom of its stroke. Continue to turn the handwheel until the needle bar has risen to where the hook timing line (A, Fig. 15) is even with the bottom of the needle bar bushing. At this time, the point of the sewing hook (B) should be even with the center line of the eye needle.

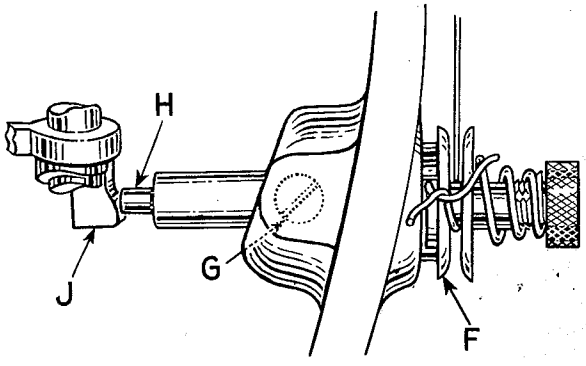


Fig. 13

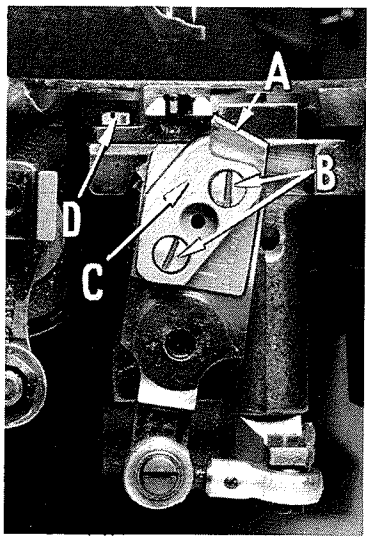


Fig. 14

TIMING THE HOOK (continued)

The foregoing adjustment may be made by loosening the three screws (E, Fig. 18) in the hook driving barrel (C) and rotating the barrel until the above condition is satisfied.

Set the hook point as close as possible to the eye needle without contacting it. This is done by loosening the Allen head set screw located in the lower bracket. Move the sewing hook shaft bushing either to the left or right to locate the sewing hook properly. Retighten the Allen head set screw.

TIMING THE PLUNGER

The plunger should be set .005 inch from the hook needle. Loosen the plunger block holder screw (D, Fig. 14) and move the block in the required direction to secure this adjustment.

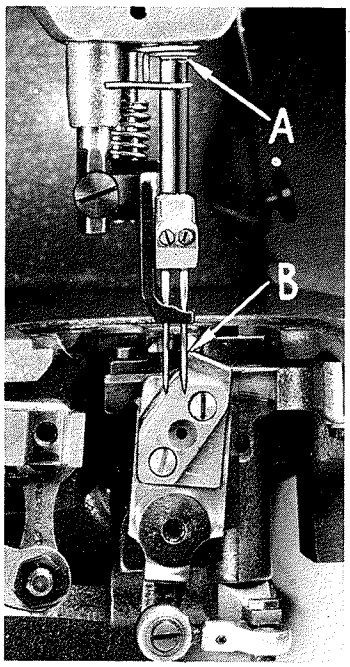


Fig. 15

Set the plunger so that its vertical portion (A, Fig. 16) extends 5/64 inch beyond the left side of the needle at its furthest point of travel to the left.

This adjustment is made by loosening clamp screw (B) and turning slotted shaft (C) in the required direction.

THROAT PLATE NEEDLE GUARD

The throat plate needle guard (A, Fig. 17) is used to guard the left side of the eye needle and to prevent it from being deflected away from the point of the hook. Only a limited amount of adjustment is required and is obtained by loosening the two screws (B) and moving the guard.

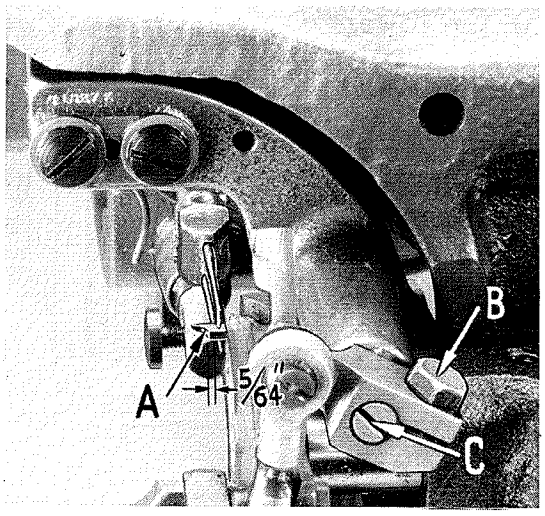


Fig. 16

STITCH FORMATION

Place material under presser foot and thread machine. Lay machine on its side and turn handwheel in operating direction. Observe how the thread is carried between the needles into the hook needle by the plunger. As the thread is released by the hook and the plunger, it is drawn up by the take-up, and the feed motion completes the stitch. Any burr or sharp groove on the plunger or sewing hook must be removed.

To turn the material at any desired corner or point, turn the handwheel in operating direction until the point of the hook needle is 1/16 inch above the material and make turn. For a square corner, it will be best to raise the foot.

HOOK CARRIER BRACKET

Should it become necessary to replace either the hook carrier bracket (A, Fig. 18) or the shim gasket (B) for it, it is extremely important that the proper distance between the hook barrel (C) and hook carrier bushing (D) be maintained. Use a micrometer to check this dimension as shown at "X" in the illustration. This dimension is 1.370 inch plus or minus .005 inch.

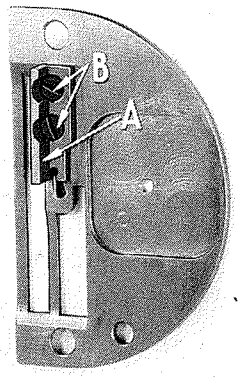


Fig. 17

In order to achieve this adjustment, it will be necessary to select shim gaskets of the proper thickness to use between the hook carrier bracket (A) and the bed casting. Shim gasket part numbers are 61482 R-3 and 61482 R-10 with a thickness of .003 and .010 inch respectively. At least one shim gasket must be used to prevent oil leakage.

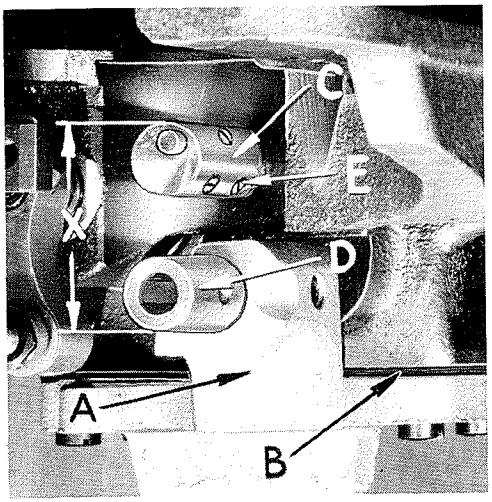


Fig. 18

MACHINE TIMING

If at any time the machine is disassembled, it will have to be retimed as follows:

1. Lay machine on its side on the bench.

2. Remove the large gear housing cover.
   Note: Caution should be observed that machine is tilted far enough back so oil will not leak out. Also, be careful in removing the housing cover that the gasket is not mutilated.

3. Loosen screws (B, Fig. 19) and slide gear (A) to the extreme right so it is out of mesh with the idler gear (D).

4. Looking through the stitch length indicator window on the top of the bed plate, rotate the lower main shaft (C) in the operating direction until the timing mark "T" appears between the pointers of the indicator window. Then, rotate upper main shaft in the operating direction until the needle bar reaches its highest position and has descended 1/32 inch. Carefully turn gear (A) without disturbing the lower main shaft setting until the set screw lies directly above the flat in the lower main shaft. The gears should then be engaged as closely as possible in this position. While holding the gear and thrust collar (E) tightly between thumb and forefinger, tighten set screw against flat in shaft securely. Then, tighten the second set screw and check to see that there is no end play in the shaft, and that the machine revolves freely.

   If, after making the above adjustments, the needle bar is not in its desired position when the timing mark is in the window, further adjustment may be made by using the slotted segment located on the counterweight in the head of the machine (Fig. 20). Loosen the two screws (B) holding the counterweight to the shaft, and also loosen the two screws (A) holding the segment to the counterweight.

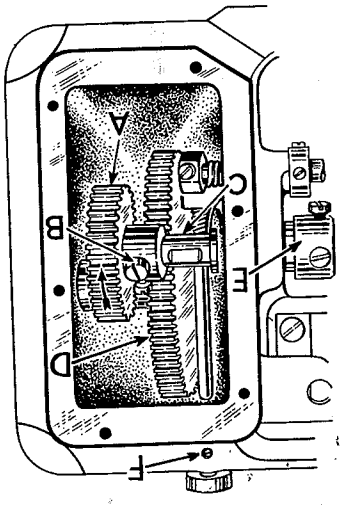


Fig. 19

MACHINE TIMING (continued)

4. (continued)
Rotate the handwheel until the timing line appears in the window. Hold the handwheel in this position and turn the counterweight on the shaft until the needle bar is in the desired position. Retighten the screws. If at any time the above adjustments are made, it will be necessary to reset the sewing hook.

5. Clean, dry, and re-seal gasket and housing cover using gasket cement.

6. Replace housing cover. Check position of oil distributing plate. This can be done by removing the large plug screw at the right end of the gear housing and looking through the hole. The low point of the oil distributing plate (A, Fig. 21) must be even with or slightly below the center of shaft (E) and just touching it. This is a very important adjustment, as the functioning of the automatic lubrication of the lower part of the machine depends upon it.

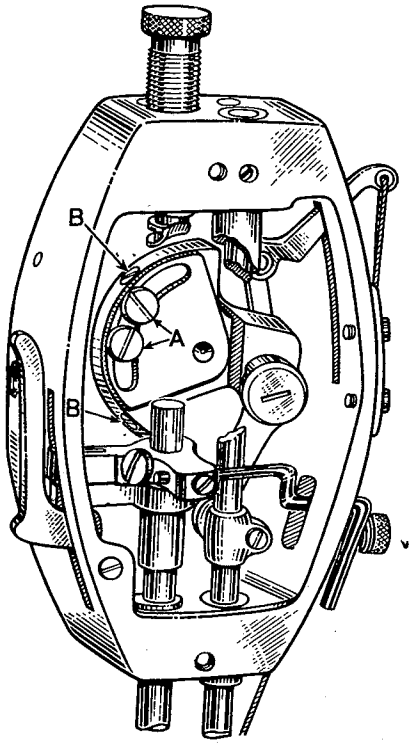


Fig. 20

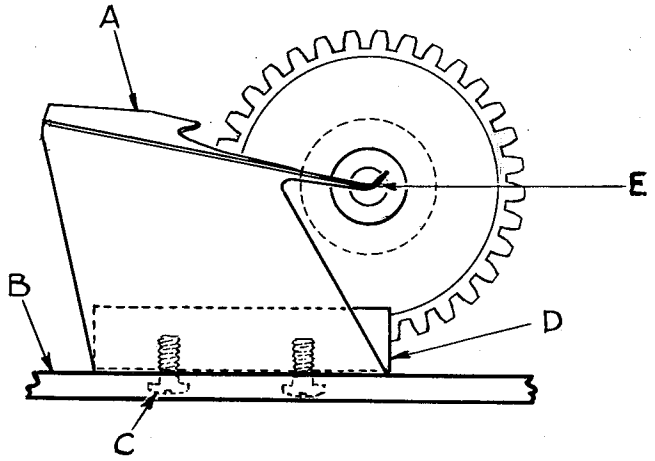


Fig. 21

USEFUL SUGGESTIONS

If the machine fails to work satisfactorily, though apparently in good repair, it is possible that some minor trouble exists. For this reason, delay may be avoided by acting on the following:

1. See that the needles are set properly; that they are the recommended needles; that they are straight and free from nicks and rough places; that they are inserted in the needle bar as far up as they will go; and that there is clearance all around needles as they enter the throat plate.

2. See that the machine is threaded correctly and the needle thread is delivered to the machine properly.

3. See that the proper tension is applied to the thread.

4. See that the presser foot is set so that the needles do not strike it.

5. See that the needles do not bind in the needle guide.

6. See that the feed dog is not striking the hook or throat plate.

7. Take off throat plate and remove accumulated lint from feed dog slots and hook.

8. See that there are no nicks or cuts in the wall of the throat plate needle hole. String out this hole with fine emery cord or cloth.

9. See that the take-up spring acts freely, is not grooved or nicked. Remove any gummy oil and dirt around tension discs.

10. See that the point of the hook is not blunted, broken or nicked.

11. See that the hook is timed correctly.

12. See that the feed is timed correctly.

13. See that the plunger is set correctly.

14. See that all screws are tight.

ORDERING REPAIR PARTS

ILLUSTRATIONS

This catalog has been so arranged as to simplify the ordering of repair parts. Exploded views of the various sections 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 the listing of the parts with their part numbers, descriptions and the number of pieces required in the particular view being shown.

The numbers in the first column are reference numbers only and indicate the position of the part in the illustration. The reference number should never be used in ordering parts. Always use the part number shown in the second column.

Those component parts of sub-assemblies which can be furnished for repairs are indicated by the fact that their descriptions are indented under the descriptions of the main sub-assembly. Example:

46	61149	Stitch Length Indicator----------	1
47	95	Set Screw----------	1
48	96	Time Spot Screw----------	1

In those cases where the parts for the various styles in Class 100 are not the same, the difference will be shown in the illustrations and descriptions. When a part is used in all machines covered by this catalog, no machine style will be mentioned.

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

IDENTIFYING PARTS

Where the construction permits, each part is stamped with its part number. Some of the smaller parts are stamped with an identification letter to distinguish them from parts similar in appearance.

All part numbers represent the same part, regardless of the catalog in which they appear.

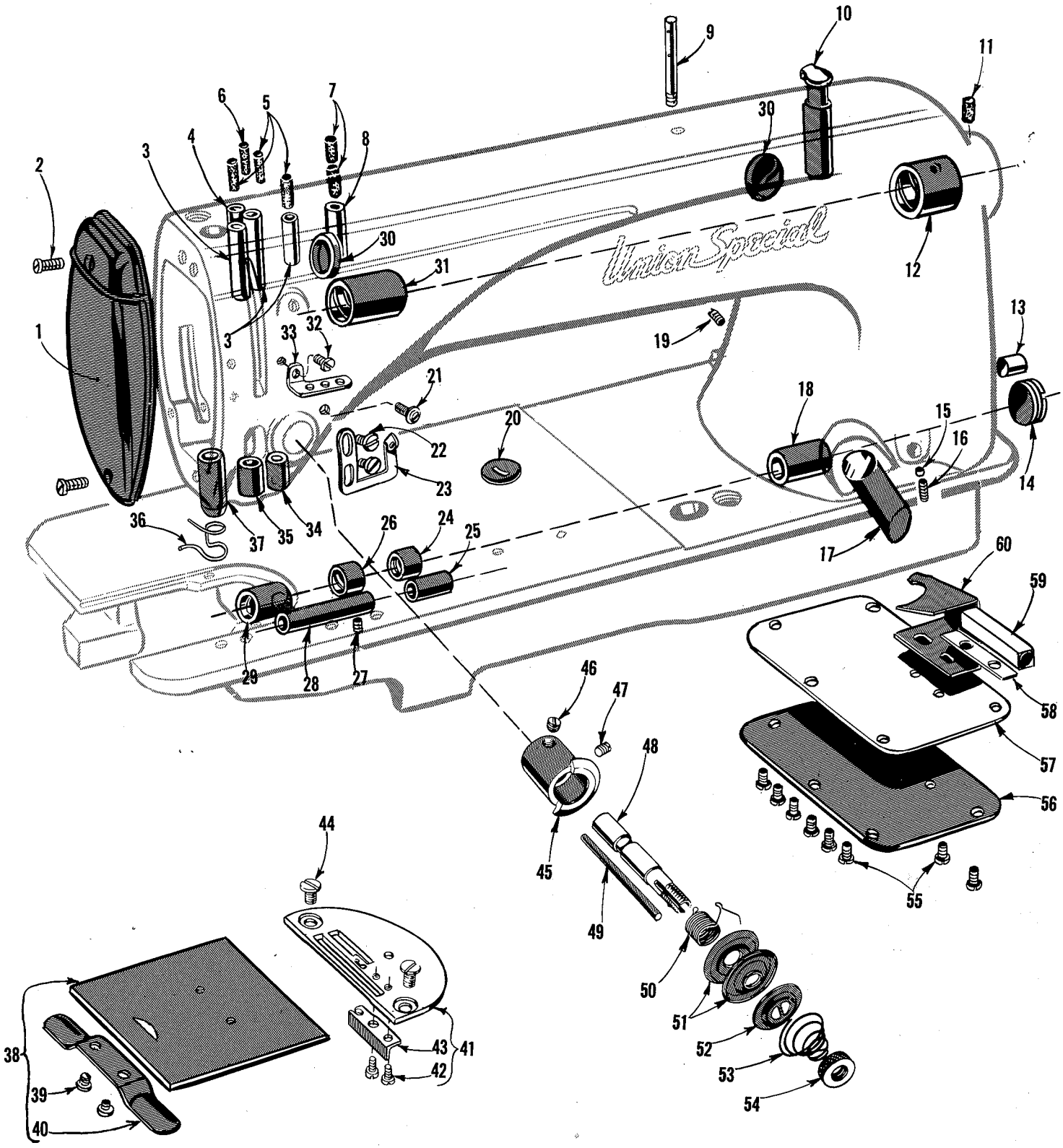
USE GENUINE NEEDLES AND REPAIR PARTS

Success in the operation of these machines can be secured only by the use of genuine UNION SPECIAL Needles and Repair Parts as furnished by the Union Special Corporation, its subsidiaries and authorized distributors. They are designed according to the most approved scientific principles, and are made with the utmost precision. The maximum efficiency and durability are assured.

Genuine repair parts are stamped with the Union Special trademark, US Emblem which is your guarantee of the highest quality in materials and workmanship.

TERMS

Prices are strictly net cash and subject to change without notice. All shipments are forwarded at the buyer's risk f. o. b. shipping point. Parcel Post shipments are insured unless otherwise directed. A charge is made to cover the postage and insurance.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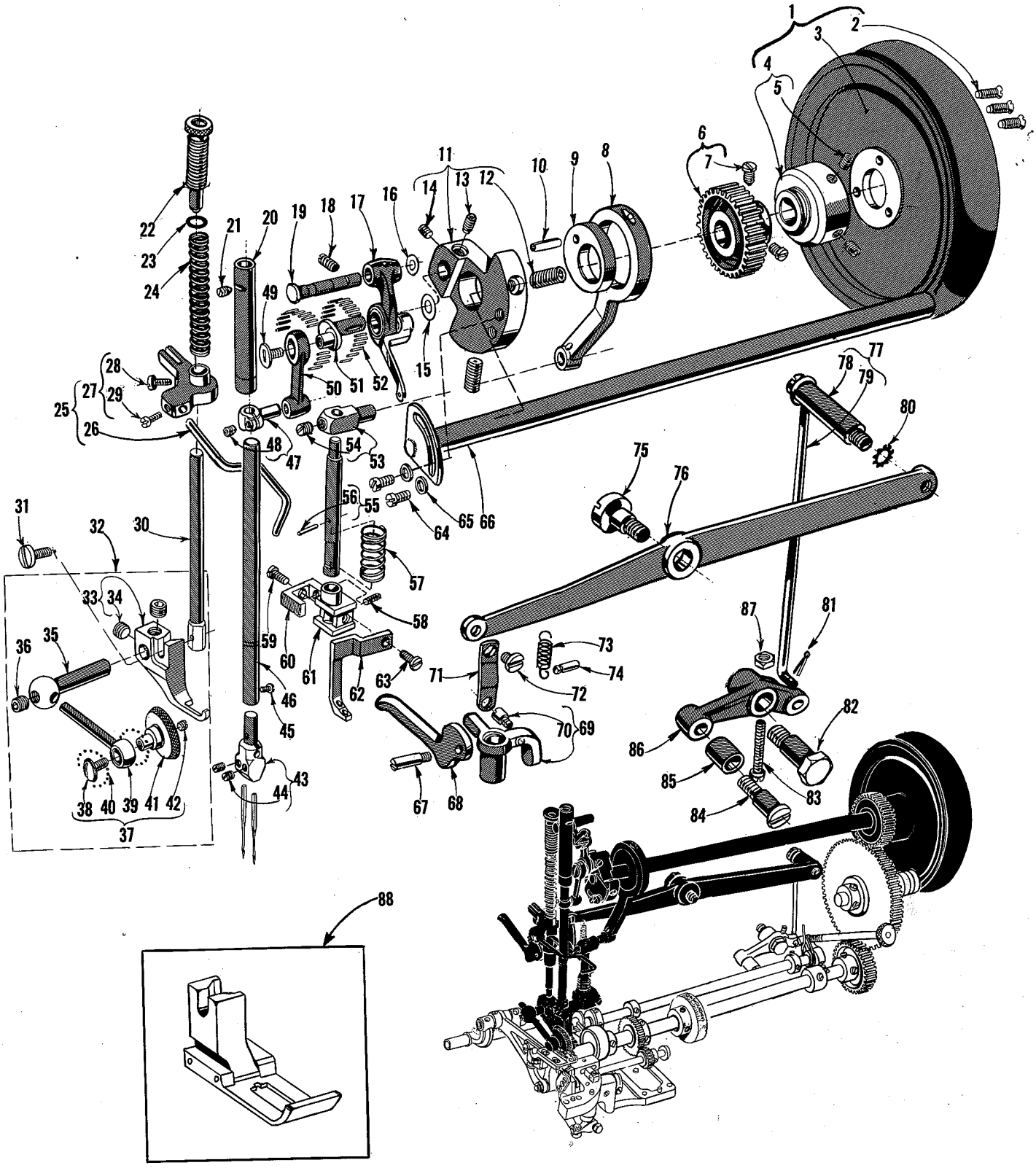
MAIN FRAME, MISCELLANEOUS BUSHING, COVERS AND PLATES

Ref. No.	Part No.	Description	Amt. Req.
1	B61382 H	Head Cover	1
2	22569 B	Screw	2
3	61293	Oil Tube	3
4	61393 C	Oil Tube	1
5	666-126	Oil Wick, for No. 61293	3
6	666-127	Oil Wick, for No. 61393 C	1
7	666-20	Oil Wick	2
8	61393 B	Oil Tube	1
9	61272	Needle Thread Guide Pin	1
10	61394 AE	Oil Cup	1
11	666-104	Oil Wick	1
12	61490	Main Shaft Bushing, right	1
13	50-558 Blk.	Plug	1
14	22539 D	Plug Screw	1
15	61245 G	Stitch Regulator Thumb Screw Locking Insert	1
16	22597 A	Screw	1
17	50-568 Blk.	Oil Sight Gauge	1
18	61432 B	Feed Driving Shaft Bushing, right	1
19	22597 A	Screw	1
20	61449 H	Stitch Regulator Indicator Window	1
21	22863 B	Tension Assembly Adjusting Screw	1
22	22585 A	Screw	2
23	C2028	Thread Eyelet	1
24	61432 D	Feed Driving Shaft Oil Retaining Bushing, right	1
25	61341 D	Hook Shaft Bushing, right	1
26	61432 E	Feed Driving Shaft Oil Retaining Bushing, left	1
27	95	Screw	1
28	61341 C	Hook Shaft Bushing, left	1
29	61432 C	Feed Driving Shaft Bushing, left	1
30	61293 N	Plug, for inside of arm	2
31	61490 A	Main Shaft Bushing, left	1
32	22570 A	Screw	1
33	61271	Thread Eyelet	1
34	C2012	Guide Bar Bushing	1
35	61454	Needle Bar Bushing, lower	1
36	61470 F	Needle Bar Bushing Thread Guide	1
37	61457 C	Presser Bar Bushing, lower	1
38	61402	Bed Slide	1
39	91 A	Screw	2
40	61273	Bed Slide Spring	1
41	C1017 X	Throat Plate	1
42	605	Screw	2
43	C1018 X	Thread Retainer	1
44	376	Screw	2
45	61492 A	Tension Post Socket	1
46	89	Set Screw	1
47	22597 E	Set Screw	1
48	61492 Z	Tension Post	1
49	61292 G	Tension Release Pin	1
50	61453	Take-up Spring	1
51	109	Tension Disc	2
52	61292 H	Tension Release Washer	1
53	61492 J-9	Tension Spring	1
54	61292 C	Tension Nut	1
55	22570 A	Screw	8
56	61382 J	Cover, for feed driving shaft gear case	1
57	61282 D	Gasket	1
58	61394 R	Gasket	1
59	61394 Q	Oil Distributing Plate Retaining Block	1
60	61394 P	Oil Distributing Plate	1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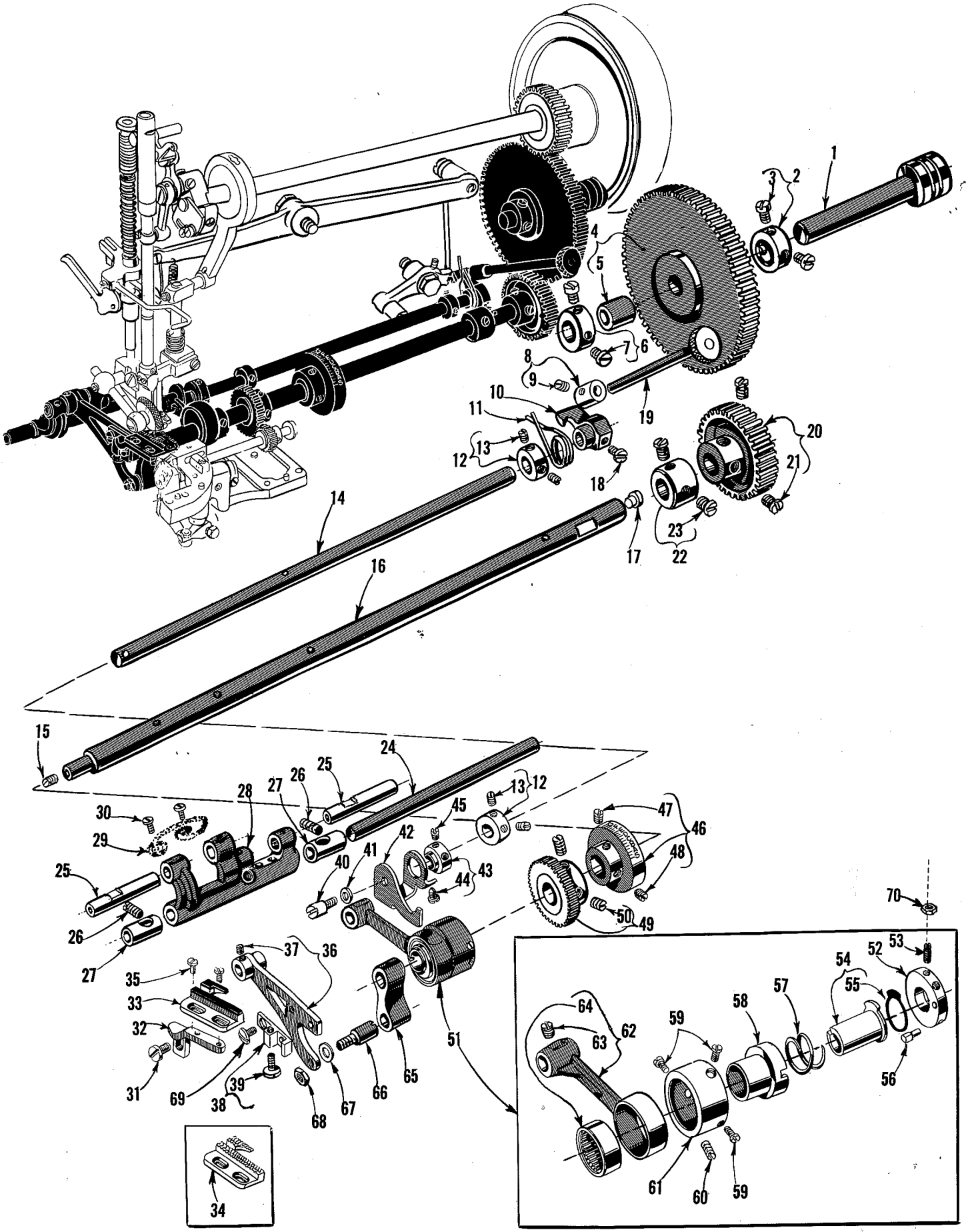
UPPER SHAFT, PRESSER BAR, NEEDLE BAR, AND FOOT LIFTER MECHANISM

Ref. No.	Part No.	Description	Amt. Req.
1	61421 H	Handwheel Assembly, for No. 1 "V" or round belt	1
2	22574	Screw	3
3	B80621 H	Handwheel	1
4	C1070 X	Pulley Hub	1
5	22894 F	Screw	2
6	61360	Main Shaft Driving Gear	1
7	22884	Screw	2
8	C2009	Guide Bar Connection Rod	1
9	C2008	Guide Bar Eccentric	1
10	660-219 A	Guide Bar Eccentric Roll Pin	1
11	61491 B	Main Shaft Counterweight	1
12	22894 V	Screw	2
13	22894 U	Spot Screw	1
14	22894 W	Set Screw	1
15	61351 C	Thrust Washer	1
16	61451 C	Thrust Washer	1
17	61351 Q	Take-up Lever Assembly	1
18	22597 A	Screw	1
19	61251 D	Take-up Lever Pin	1
20	61454 D	Needle Bar Bushing, upper	1
21	96	Screw	1
22	61457 B	Presser Spring Regulator	1
23	61256 G	Washer	1
24	61256	Presser Spring	1
25	29475 AB	Take-up Thread Wire Assembly	1
26	61453 B	Take-up Thread Wire	1
27	61459 A	Presser Bar Guide	1
28	93 A	Screw	1
29	77	Screw	1
30	61457	Presser Bar	1
31	22775	Screw	1
32	C1015 X	Roller Presser Foot Assembly, for Style 100 X	1
33	C1015 XA	Presser Foot, main section	1
34	22894 W	Set Screw	2
35	52130 F	Presser Foot Roller Arm	1
36	22894 C	Set Screw	1
37	52130 D	Roller Assembly	1
38	22818	Screw	1
39	52130 E	Roller Arm	1
40	660-31	Ball Bearing	26
41	1580 F-13	Roller	1
42	22743	Set Screw	1
43	C1022 X	Needle Holder	1
44	HA73 B	Set Screw	2
45	18-758	Screw	1
46	C2020	Needle Bar	1
47	61255	Needle Bar Connection	1
48	22562 B	Screw	1
49	22757 C	Screw	1
50	61455 D	Needle Bar Link	1
51	61452 A	Crank Pin	1
52	61351 K-625	Needle Bearing, .0625 inch diameter	38
	61351 K-626	Needle Bearing, .0626 inch diameter	38
	61351 K-627	Needle Bearing, .0627 inch diameter	38
53	C2010	Guide Bar Connection	1
54	22651 CB-4	Set Screw	1
55	C2014	Guide Bar	1
56	660-219 E	Roll Pin	1
57	C2015	Guide Bar Spring	1
58	719	Screw, for guide block key	1
59	1170 L	Screw	1
60	108-8	Guide Block Key	1
61	C2016	Guide Block	1
62	C2018 X-6	Needle Guide	1
63	1170 L	Screw	1
64	22596 D	Screw	2
65	8372 A	Washer	2
66	61322 B	Main Shaft	1
67	22799 M	Screw Pin	1
68	61265	Hand Lifter	1
69	61458	Presser Bar Connection	1
70	22892	Screw	1
71	61267	Lifter Lever Link	1
72	22758 B	Screw	1
73	15872 F	Spring	1
74	61267 G	Spring Pin	1
75	22890	Screw, left thread	1
76	61466 A	Lifter Lever	1
77	61368 A	Lifter Lever Extension Stud and Connecting Rod, complete	1
78	61366 C	Lifter Lever Extension Stud	1
79	61368	Lifter Lever Connecting Rod	1
80	652 B-20	Lock Washer	1
81	660-142	Cotter Pin	1
82	22817 A	Stud	1
83	22874 F	Screw	1
84	22712 F	Screw	1
85	61368 F	Roller	1
86	61468	Lifter Lever Bell Crank	1
87	9937	Nut	1
88	C1015 XC	Presser Foot Assembly, for Style 100 XA	1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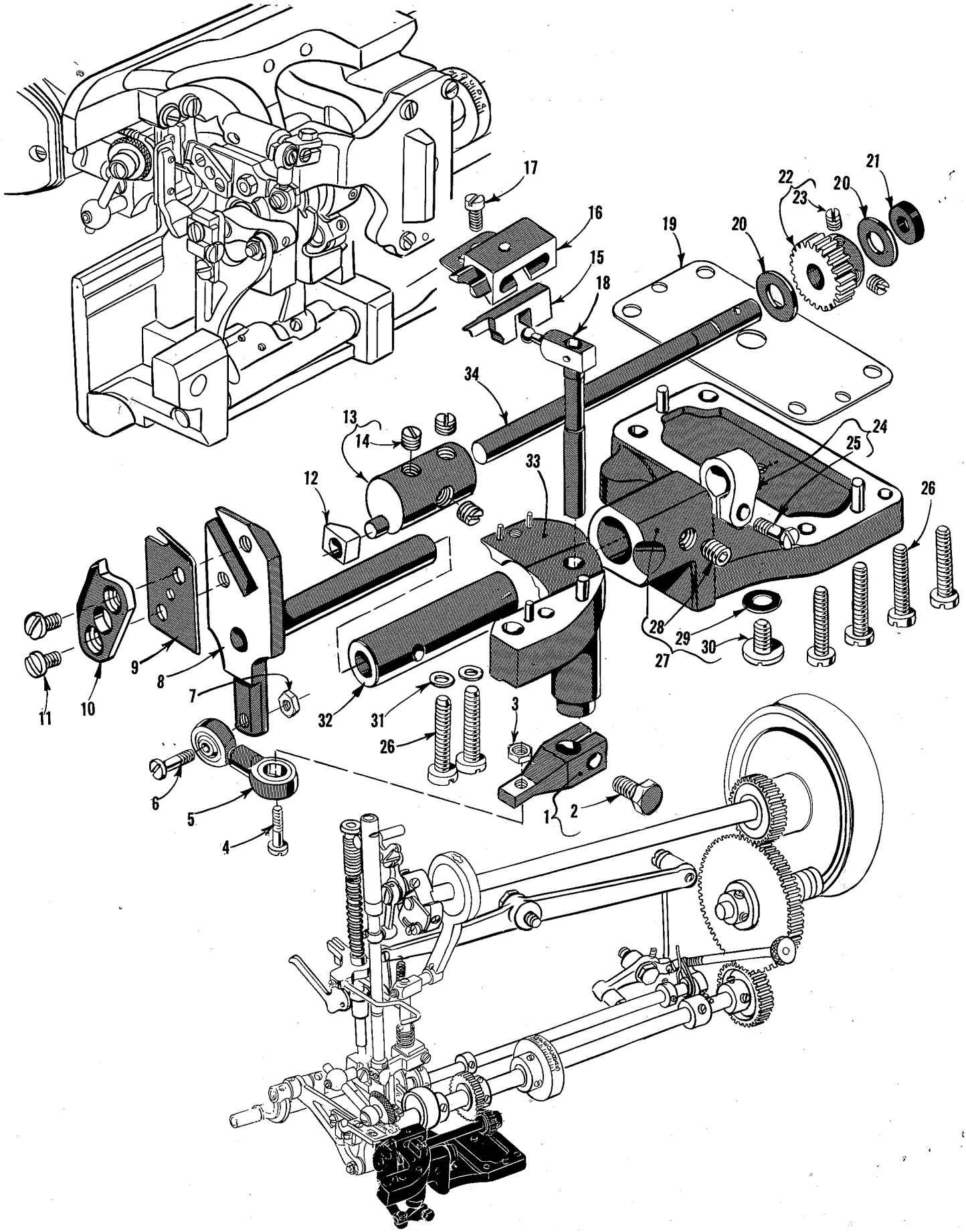
FEED DRIVING AND STITCH REGULATING MECHANISM

Ref. No.	Part No.	Description	Amt. Req.
1	62262	Intermediate Gear Shaft	1
2	61264	Intermediate Gear Shaft Collar, right	1
3	HA61 D	Screw	2
4	61261 A	Feed Driving Intermediate Gear	1
5	61263	Bushing	1
6	61264 A	Intermediate Gear Shaft Collar, left	1
7	HA61 D	Screw	2
8	161	Collar	1
9	88	Screw	1
10	61246 A	Stitch Regulator Plunger Lever	1
11	61447	Stitch Regulator Plunger Spring	1
12	61248 H	Stitch Regulator Shaft Collar	2
13	531	Screw	2
14	61348 A	Stitch Regulator Shaft	1
15	22743	Plug Screw	1
16	61432 K	Feed Driving Shaft	1
17	50-552 Blk.	Plug	1
18	93 A	Screw	1
19	61445	Stitch Regulator Plunger	1
20	61260 A	Feed Driving Shaft Gear	1
21	22884	Screw	2
22	61360 G	Feed Driving Shaft Collar	1
23	22884	Screw	2
24	61236 G	Feed Rocker Shaft	1
25	63435 A	Feed Bar and Feed Rocker Connection Link Shaft	2
26	22894 E	Screw	2
27	61336 U	Bushing	2
28	61236	Feed Rocker	1
29	61336 Y	Feed Rocker Oil Wick	1
30	90	Screw	2
31	22528	Screw	1
32	63439 A	Feed Dog Holder	1
33	C1016 X	Feed Dog, rubber faced for fine leather goods	1
34	C1016 Y	Feed Dog, toothed for heavy leather goods	1
35	22768	Screw	2
36	63434 C	Feed Bar	1
37	89	Screw	1
38	63439 AL	Feed Dog Holder Support	1
39	22775 A	Screw	1
40	22802 A	Screw	1
41	51242 M	Washer	1
42	61449 F	Stitch Regulating Pawl	1
43	61449 E	Stitch Regulating Pawl Collar	1
44	22880	Screw	1
45	22845 G	Screw	1
46	61149	Stitch Length Indicator	1
47	95	Set Screw	1
48	96	Time Spot Screw	1
49	61443	Hook Shaft Driving Gear	1
50	22894 J	Set Screw	2
51	29126 DU	Feed Drive Eccentric Assembly	1
52	61437 A	Feed Driving Eccentric Timing Collar	1
53	719	Set Screw	1
54	61149 G	Stitch Regulating Eccentric	1
55	61149 H	Stitch Regulating Eccentric Friction Disc	1
56	61437 B	Feed Driving Eccentric Pivot Pin	1
57	61449 B	Stitch Regulating Thrust Spring	1
58	61137	Feed Driving Eccentric	1
59	22564 B	Screw	3
60	719	Screw	1
61	61437 C	Feed Driving Eccentric Retaining Housing	1
62	61438 C	Connection Rod	1
63	88	Screw	1
64	660-226	Needle Bearing	1
65	61233 N	Feed Link	1
66	22845 D	Feed Link Stud	1
67	61434 G	Washer	1
68	15037 A	Nut	1
69	88 D	Screw	1
70	14077	Nut	1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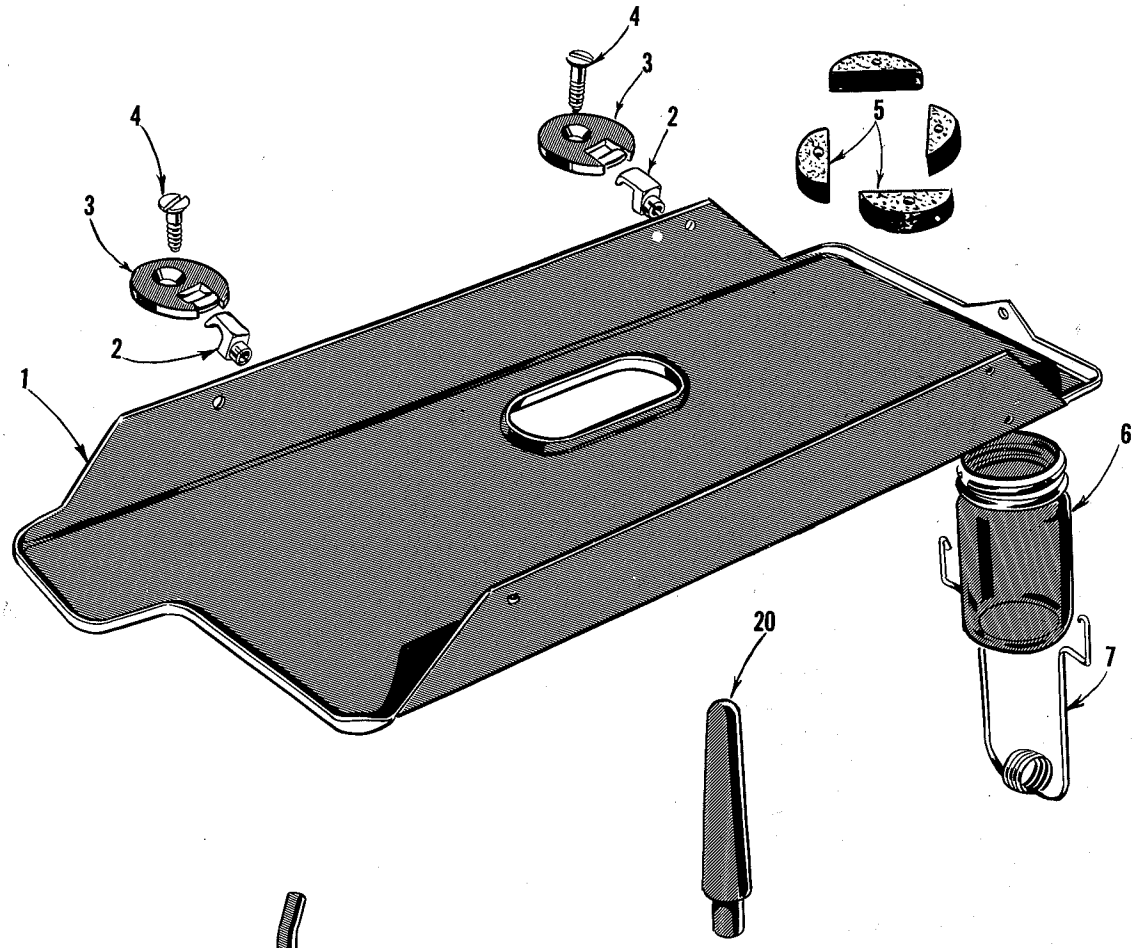
HOOK AND PLUNGER DRIVING MECHANISM

Ref. No.	Part No.	Description	Amt. Req.
1	C1029 LS	Plunger Crank	1
2	18-715	Clamp Screw	1
3	1311 L	Nut	1
4	916 L	Screw	1
5	C1034	Ball Joint	1
6	916 L	Screw	1
7	1311 L	Nut	1
8	C1033 X	Hook Carrier	1
9	C1008 X	Looper Hook	1
10	C1009 X	Looper Needle Guard	1
11	18-644	Screw	2
12	C1032 X	Slide Block	1
13	C1030 X	Hook Shaft Barrel	1
14	18-634	Set Screw	3
15	C1024 X	Plunger Slide	1
16	C1019 X	Plunger Block	1
17	22562 A	Screw	1
18	C1025	Plunger Ball Crank	1
19	61482 R-3	Shim Gasket, .003 inch (as required)	
	61482 R-10	Shim Gasket, .010 inch thick (as required)	
20	61341 J	Thrust Washer	2
21	61341 G	Oil Seal Washer	1
22	61244	Hook Shaft Pinion	1
23	89	Set Screw	2
24	439 C-116 R	Collar	1
25	22562 A	Screw	1
26	22874	Screw	6
27	C1002 P	Hook Bracket	1
28	22650 AD-4	Set Screw	1
29	660-257	Gasket	1
30	18-C87	Screw	1
31	69 H	Washer	2
32	C1000-1	Carrier Shaft Bushing	1
33	C1027 X	Plunger Bracket	1
34	61440 A	Hook Shaft	1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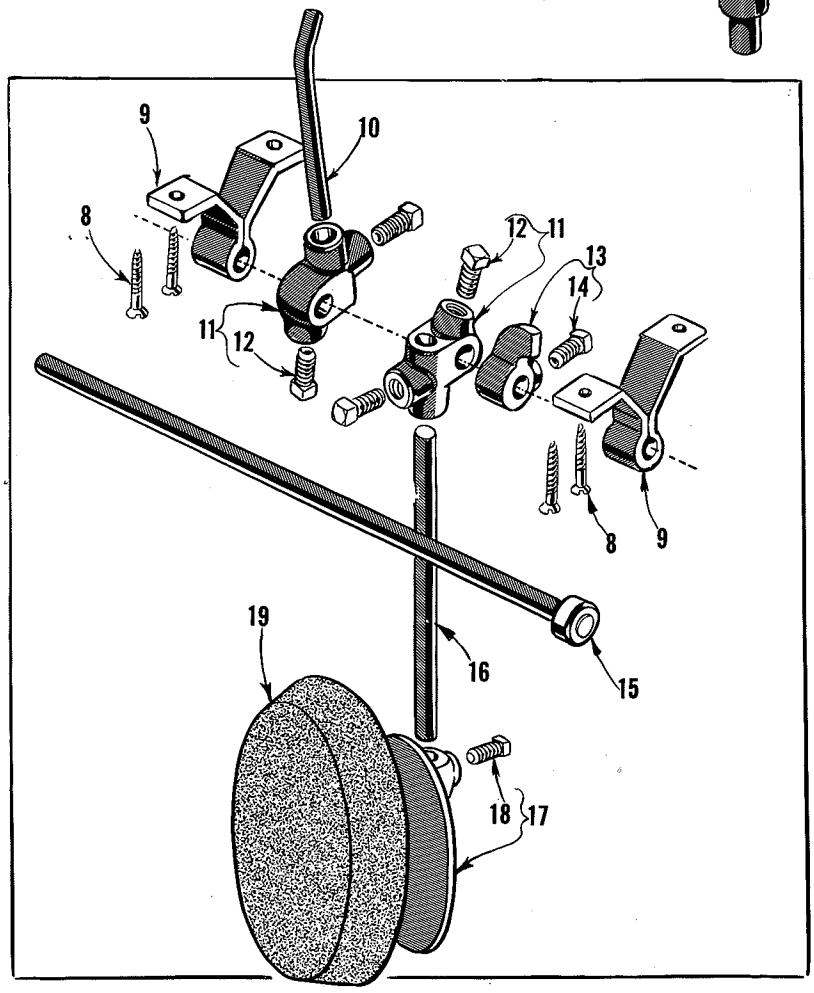
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INSTALLATION ACCESSORIES

Ref. No.	Part No.	Description	Amt. Req.
1	21393 E	Drip Pan	1
2	61175	Hinge Stud	2
3	61374	Hinge Plate	2
4	22846 Q-16	Flat Head Wood Screw	2
5	61376 G	Felt Pad	4
6	666-166	Oil Drain Jar, glass	1
7	21393 F	Oil Drain Jar Clamp Spring	1
8	SC329 A	Wood Screw, for knee lifter hanger	4
9	21662 C	Knee Lifter Hanger	2
10	21665 C	Knee Lifter Rock Shaft Connection Arm	1
11	21665	Knee Lifter Rock Shaft Connection	2
12	69 FD	Screw	2
13	21661 D	Knee Lifter Rock Shaft Stop	1
14	69 FD	Screw	1
15	21661 P	Knee Lifter Rock Shaft	1
16	21663 C	Knee Lifter Plate Rod	1
17	21664	Knee Lifter Plate	1
18	69 FD	Screw	1
19	660-168	Knee Pad, rubber	1
20	61378	Machine Rest Pin	1
-	660-457	Dust Cover (not shown)	1
-	28604 R	Can of Oil, Spec. 175 (not shown)	1
-	NA-12	Nail (not shown)	4

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22894 W	21
28604 R	27
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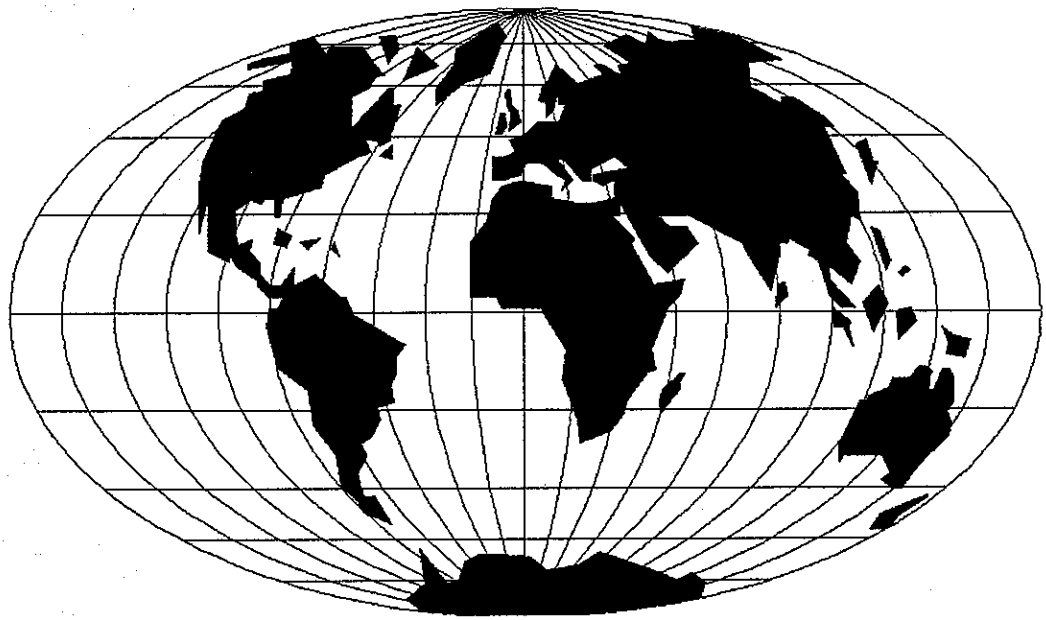

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