CATALOG NO.
142M
First Edition

Adjusting instructions and illustrated parts list

STYLES
XF511H100MF
XF511H112MF

Maximum performance XF500 Series flatbed machines for ultra high speed seaming operations

Finest Quality

Union Special®
Industrial Sewing Equipment

FOREWARD

This technical manual has been prepared to guide you in the maintenance of your new UNION SPECIAL machine. Careful attention to the instructions for operating and adjusting these machines will enable you to maintain the superior performance and reliability designed and built into every UNION SPECIAL machine.

The Adjusting Instruction portion of this manual explains in detail the proper setting for each of the components related to forming the stitch and completing the functions of the machine. Figures are used to illustrate the adjustments using reference letters to point out specific items discussed.

Adjustments are presented in sequence so that a logical progression is accomplished. Some adjustments performed out of sequence may have an adverse effect on the function of other related parts.

Implementation of preventative maintenance procedures can bring about significant improvements in operator productivity by avoiding costly equipment breakdowns. Whenever it becomes necessary to make repairs or replace parts on your machine, be sure to insist on genuine UNION SPECIAL Repair Parts. These parts are designed specifically for your machine and manufactured with utmost precision to assure long lasting service.

To simplify indentification of repair parts, the mechanisms are illustrated by exploded views. A colored insert in the center of this catalog presents the mechanisms of the machine assembled.

Catalog No. 142M

For Styles

XF511H100MF **XF511H112MF**

First Edition

Printed In U.S.A.

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IDENTIFICATION OF MACHINES

Each UNION SPECIAL machine is identified by a Style number, which on this Class machine, is stamped into the Style plate affixed to the right front of machine. Serial number is stamped into bed casting at the right rear base of machine.

STYLES OF MACHINES

Super high speed, maximum performance, medium sewing capacity, double locked stitch machine. Modular construction, totally enclosed feed and looper drive mechanism, fully automatic forced feed lubricating system with built-in oil cooler, easily replaceable oil filter, quick stitch change, adjustable feed lift, independently driven rear needle guard, quick adjustable looper avoid and built-in needle cooler.

XF511H100MF Single needle, plain feed, low inertia presser foot permitting light presser foot pressure for positive feeding and chaining, even at extremely high sewing speeds - for long seams on light to medium weight fabrics such as in trousers, skirts, coats, jackets, etc. Seam specification 401 SSa-1. Type 128 GBS needle. Stitch range 7-10 S.P.I. Maximum recommended speed 9000 R.P.M., depending on operation.

XF511H112MF Same as Style XF511H100MF except, equipped with Power "AIR-KLIPP"® chain cutter.

SAFETY RULES

CAUTION!

THIS SAFETY SYMBOL INDICATES YOUR PERSONAL SAFETY IS INVOLVED

TO PREVENT PERSONAL INJURY:

- All power sources to the machine MUST be TURNED OFF before threading, oiling, adjusting or replacing parts.
- Wear safety glasses.
- All shields and guards MUST be in position before operating machine.
- DO NOT tamper with safety shields, guards, etc., while machine is in operation.

LUBRICATION

Oil has been drained from main reservoir before shipment. Use a straight mineral oil with a Saybolt viscosity of 90 to 125 seconds at 100 degrees F. This is equivalent to UNION SPECIAL specification No. 175. Remove oil filler cap (A, Fig. 1) and fill to TOP line of level gauge (B). Replace filler cap.

LUBRICATION (Continued)

CAUTION! When starting to operate machine, watch oil filler cap (A) to assure that oil flow indicator rises in same. If the flow indicator does not rise in a short period of running time, this indicates oil is not circulating properly and machine should not be run for an extended period. With lubrication system working properly, stop machine after a nominal running period and RECHECK oil level.

To maintain maximum recommended speed and serviceability of this equipment when operating continously, the oil must be changed at least every six months. In no case should oil remain in the machine for more than one year. Two oil drain plugs are located in bottom of oil pan. ALWAYS replace oil filter when oil is changed. It is recommended to change oil filter after the first three months of operation. At this time, evaluate the contaminated condition to determine if the oil filter should be changed more or less often. To replace filter, remove four screws (C) and cover (D); lift out filter cartridge. Remove brass by-pass valve and assemble to new filter. Replace in reverse manner.

THREAD MACHINE AS ILLUSTRATED IN FIG. 1.

NEEDLES

Each needle has both a type and size number. The type number denotes the kind of shank, point, length, groove, finish and other details. The size number, stamped on the needle shank, denotes largest diameter of blade, measured midway between shank and eye. Collectively, type and size number represent the complete symbol, which is given on the label of all needles packaged and sold by UNION SPECIAL CORPORATION.

The standard recommended needle for machines covered is Type 128 GBS, Size 090/036. Below is the description and sizes available:

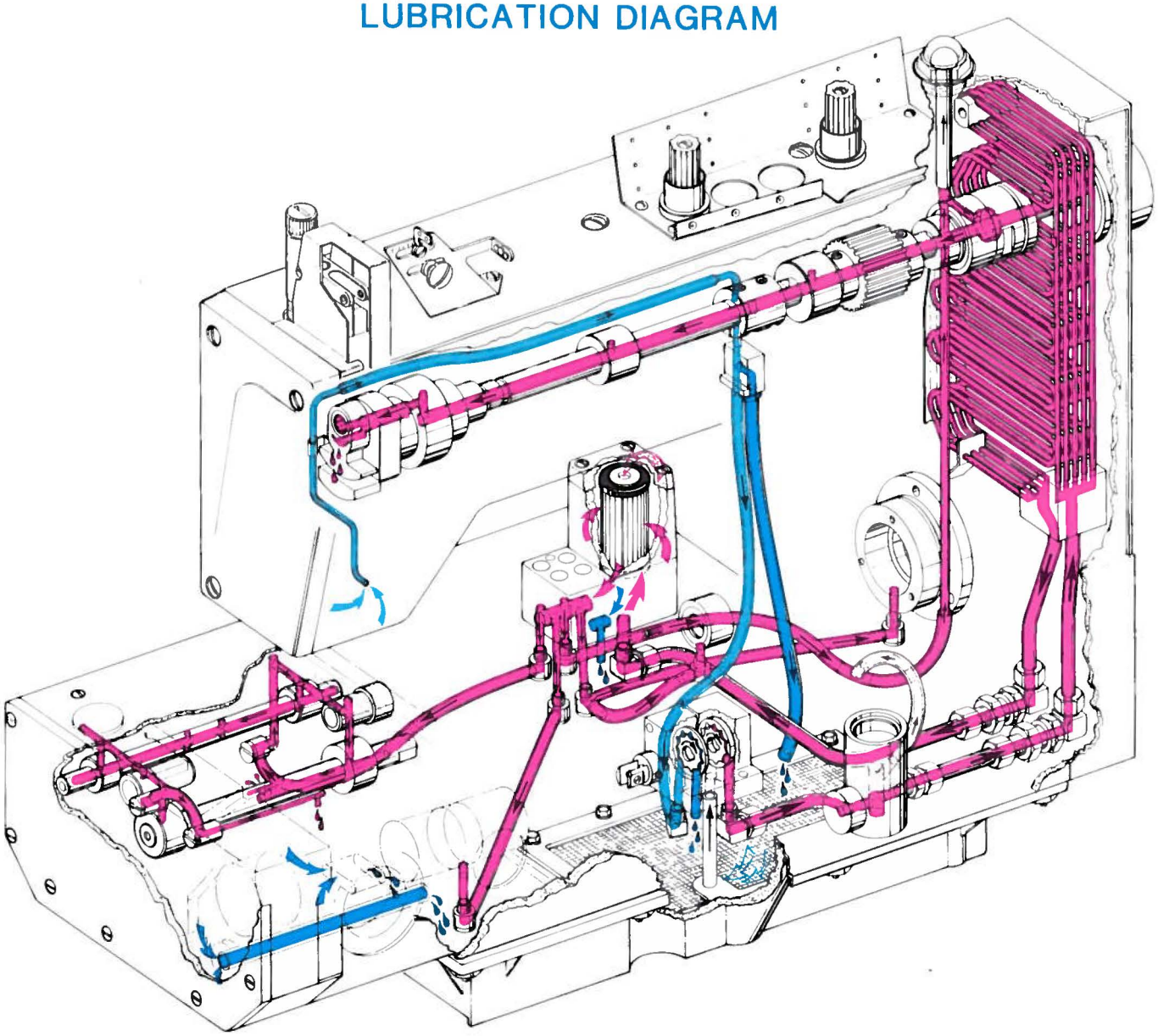
NEEDLE TYPE	DESCRIPTION	SIZES AVAILABLE
128 GBS	Round shank, round point, short, double groove, struck groove, ball eye, spotted, ball point, chromium plated.	080/032, 090/036, 100/040, 110/044, 125/049, 140/054, 150/060.

To have needle orders promptly and accurately filled, an empty package, a sample needle or type and size number should be forwarded. Use description on label. A complete order would read "1000 needles, Type 128 GBS, Size 090/036".

ADJUSTING INSTRUCTIONS

NOTE: Instructions stating direction or location, such as right, left, front or rear of machine, are given relative to operator's position at the machine, unless otherwise noted. The handwheel rotates counterclockwise, in operating direction; when viewed from the right end of machine.

LUBRICATION DIAGRAM



PRESSURE OIL

RETURN OIL

INLET

SIPHON RETURN

PRIORITY VALVE PRESSURE

FILTER BY-PASS

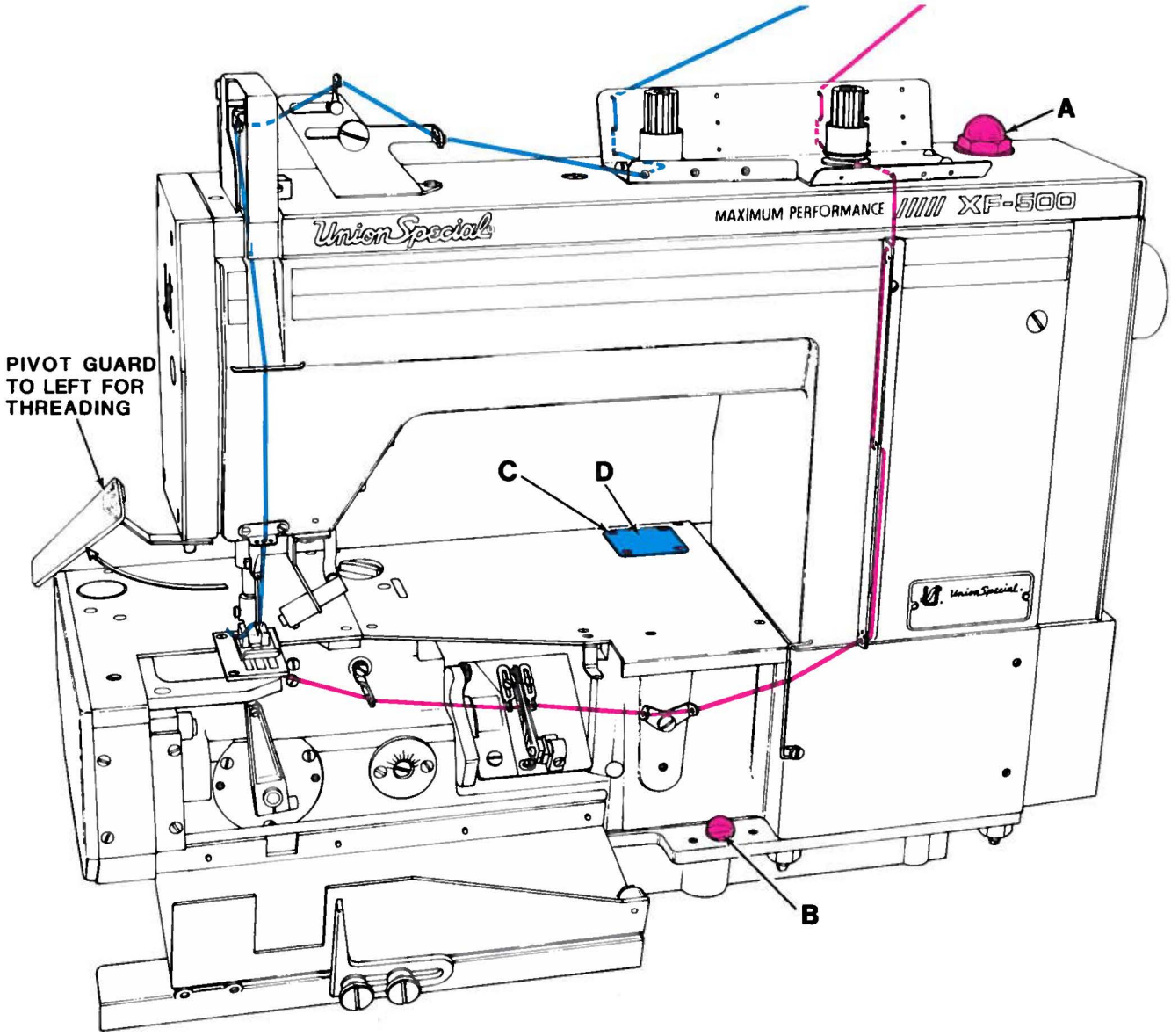


Fig. 1

THREADING AND OILING DIAGRAM

CAUTION! Oil has been drained from machine before shipping and the reservoir must be filled before beginning to operate. Use a straight mineral oil with a Saybolt viscosity of 90 to 125 seconds at 100 degrees F. Fill machine with oil at filler cap (A) to the TOP line of level gauge (B). Oil flow indicator (white bulb) should rise in filler cap (A) shortly after beginning to operate which is a visual indication of proper oil circulation. Failure of oil flow indicator to rise in filler cap indicates malfunction in lubricating system or clogged oil filter; refer to "LUBRICATION". A short running period is required to fill the oiling system; recheck oil level.

TIMING FEED TO NEEDLE

A quick check to determine if feed is timed with needle - turn handwheel in operating direction to position needle bar at TOP of stroke. Setscrew (A, Fig. 2) in the pulley (B), located on the FLAT of lower mainshaft should be to the FRONT or 9 o'clock as viewed in Fig. 2.

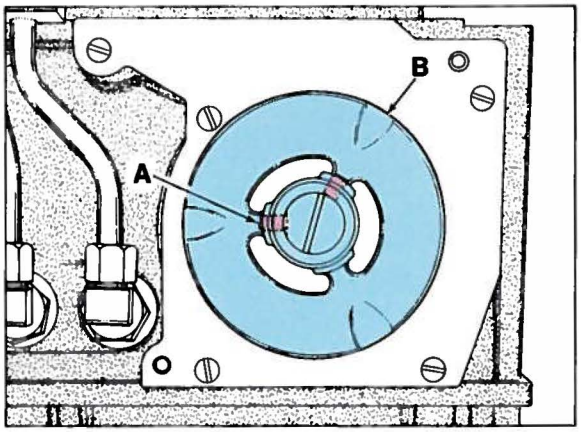


Fig. 2

Adjustment would be required if machine is feeding with needle in work - needle should be at TOP of stroke when feed is at its highest position.

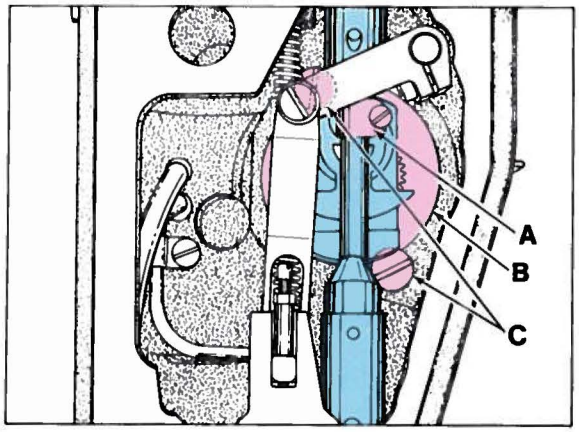


Fig. 3

Remove top cover which carries needle thread tension assembly, head cover and all covers over feed mechanism chambers.

Turn handwheel in operating direction to position needle bar clamp (A, Fig. 3) at TOP of stroke. Loosen four screws (A, Fig. 4) in upper mainshaft sprocket (B) and hold handwheel so upper mainshaft and needle bar cannot move.

While holding handwheel, turn lower mainshaft to position feed crank counterweight (A, Fig. 5) with its FLATS perpendicular to the bottom of machine and facing away from the operator as shown in Fig. 5. Tighten screws (A, Fig. 4) in upper mainshaft sprocket (B).

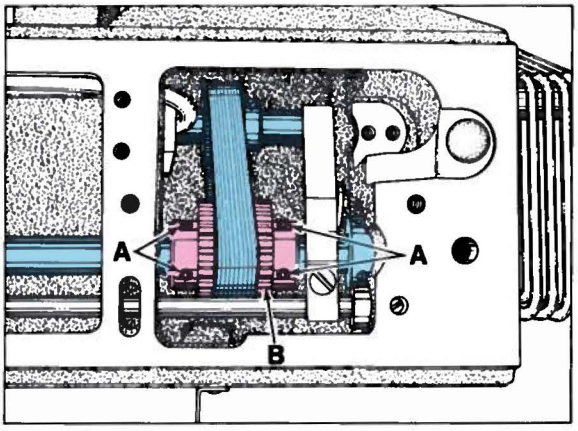


Fig. 4

NOTE: Cardan drive internal tooth ring gear (B, Fig. 3) has been set at the factory and secured with screws (C). DO NOT attempt to remove this gear. Without proper adjustments, damage to needle bar may result.

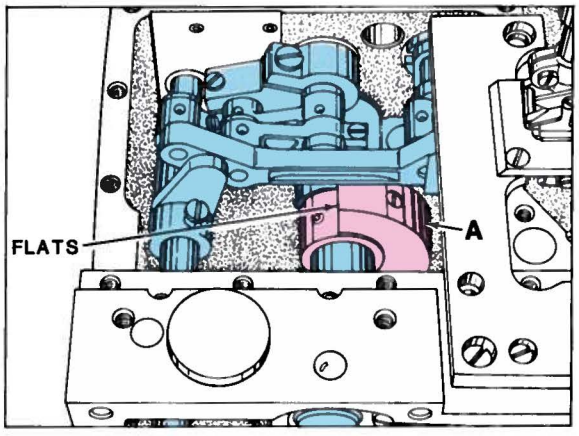


Fig. 5

NOTE: Whenever "timing feed to needle" is corrected, always check "SYNCHRONIZING LOOPER AND NEEDLE MOTIONS".

SYNCHRONIZING LOOPER AND NEEDLE MOTIONS

Looper drive belt (A, Fig. 6) has proper tension if, when turning handwheel in operating direction to position looper in the center of its (right to left) travel - there is no noticable (right to left) play in the looper mechanism. There should be approximately 1/8 inch (3.2mm) deflection in looper drive belt when pressing firmly with thumb, midway between sprockets (B and C). Adjustment can be made by loosening two screws (D) and turn looper module (E) clockwise (as viewed from handwheel end of machine) to tighten belt tension or counterclockwise to loosen belt tension.

It is easier to turn looper module by turning cast-off plate mounting bracket (F). At this time, notch (G) on end of looper module should be facing mostly in the upward position (between 9 and 3 o'clock). Loosen binder screw (H) and reposition cast-off plate mounting bracket (F) so its leading edge (J) is vertical to and parallel with bed casting. Retighten screw (H) assuring that right side of mounting bracket is flush with right side of looper module. Tighten screws (D).

Turn handwheel in operating direction until point of looper, moving to the left, is even with the left side of needle. Note the height of the eye of the needle with respect to the looper point; now turn handwheel in the reverse direction until point of looper, again moving to the left, is even with the left side of needle. If the height of the eye of the needle with respect to the looper point are the same, looper and needle motions are synchronized - a variation of .005 inch (.127mm) is allowable.

If machine is out of synchronization, proceed as follows:

Remove right cloth plate covering the dry chamber. Remove presser foot, throat plate, feed dog and looper. Using gauge No. 21227 R, place gauge plate on throat plate seat using throat plate screws for attaching. With looper holder at EXTREME right end of travel, insert pin (included with gauge) into looper holder.

Insert shank of indicator gauge into the hole used for needle thread take-up wire. Turn handwheel in operating direction until pin makes contact with edge of gauge plate. Set the height of gauge so left end of pointer rests on top of needle bar and right end of pointer aligns with "0", lock shank of gauge in this position with set screw used for needle thread take-up wire. Turn handwheel in reverse direction until pin in looper holder again makes contact with edge of gauge plate, note the reading on gauge. A variation of one graduation on the scale is permissable.

If the reading is above "0" on the gauge, loosen screws (K, Fig, 6) and advance looper drive rear sprocket (B) (towards the operator); if the reading is below "0" on the gauge, sprocket (B) should be retarded slightly (away from operator). If the variation on the scale of the gauge is to the EXTREME - a STARTING POINT for adjustment would be to position sprocket (B) so that when needle bar is at bottom of its stroke, the looper is at right end of its travel. To obtain the above condition, loosen screws (K) and turn sprocket (B) so that looper is at the right end of its travel. While holding looper shaft, turn handwheel to bring needle bar to bottom of its stroke and snug screws (K). Then proceed to fine adjustment as required to attain "0" plus or minus 1 on the gauge in both directions and tighten screws (K) securely, assuring belt is centered on sprockets.

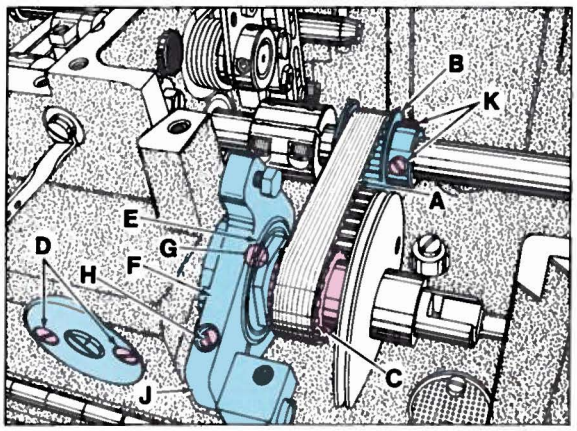


Fig. 6

If a synchronizing gauge is not available - and the distance from the eye of the needle to the bottom side of the looper was greater when the handwheel was turned in the operating direction, adjust same as if reading was above "0" on the gauge - reverse this adjustment if distance from the eye of the needle to the bottom side of the looper was less. Replace all parts that were removed for this adjustment.

LOOPER SETTINGS

Insert a new needle, type and size specified. With looper positioned at extreme right end of travel, distance from centerline of needle to point of looper should be 5/32 inch (4.0mm). Adjustment can be made by loosening screw (A, Fig. 7) and turn screw (B) clockwise to increase looper gauge or counterclockwise to decrease. Push looper holder (C) to the left while making this adjustment and locking with screw (A).

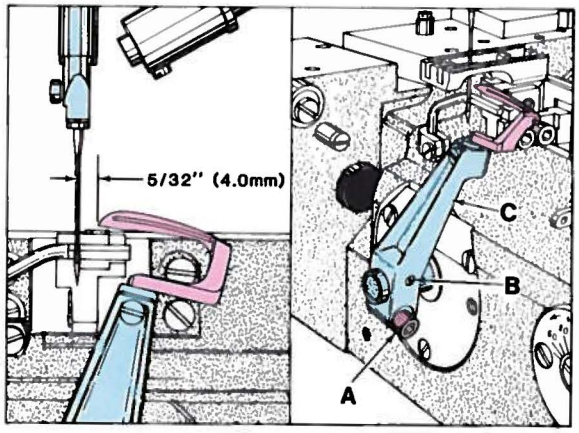


Fig. 7

Looper gauge No. 21225-5/32 can be used advantageously in making this adjustment. Looper must also be set so, as it moves to the left behind the needle, NOT to touch, but with a MAXIMUM of .005 inch (.127mm) clearance. Adjustment can be made by loosening screw (A) and moving looper holder (C) forward or rearward on its shaft to attain specified condition; push looper holder to the left while tightening screw (A).

NEEDLE BAR HEIGHT

Turn handwheel in operating direction until tip of looper is even with left side of needle. TOP of needle eye should be 1/64 inch (.4mm) below TIP of looper (as shown in Fig. 8). Adjustment can be made by loosening screw (A, Fig. 8), move needle bar (B) up or down as required, retighten screw (A) to 8 in-lbs (9.22cm/kg).

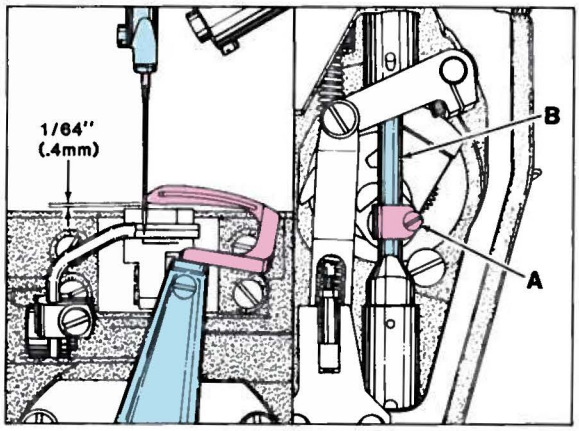


Fig. 8

NOTE: Do not wedge needle bar with screwdriver. It is made of aluminum and has a special coating. Otherwise, damage to needle bar may result.

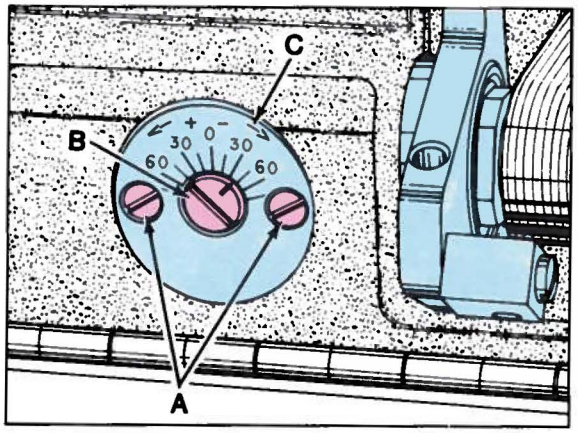


Fig. 9

LOOPER AVOID

Machine is equipped with a quick adjustable looper avoid to accomodate extreme differences in needle sizes. If looper avoid requires re-setting, loosen two screws (A, Fig. 9) and turn eccentric stud (B) towards the plus side (counterclockwise) for more looper avoid or towards the minus side (clockwise) for less looper avoid. When desired setting is acquired, tighten screws (A).

NOTE: Whenever looper avoid is changed, always recheck "LOOPER SETTINGS". Numbers on plate (C) are for reference only and have no value as to the exact amount of looper avoid.

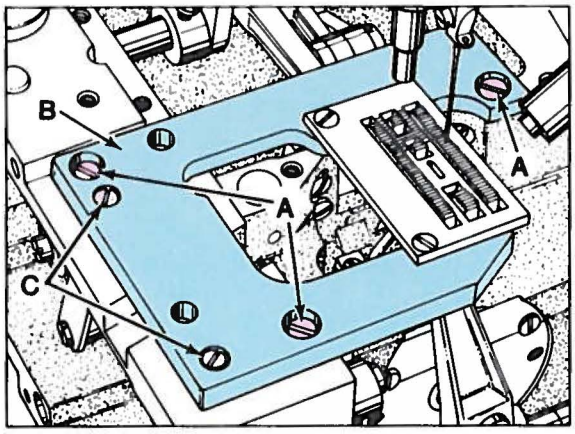


Fig. 10

Feed dog should be centered in throat plate with equal clearance on all sides and ends. At highest point of travel, feed dog teeth should extend the depth of a tooth or approximately 3/64 inch (1.2mm) above throat plate and parallel to same. Minor right to left adjustments can be made by loosening three screws (A, Fig. 10) in throat plate support (B). There are two adjustable ferrules used to align throat plate support. Loosen two screws (C) which secure the ferrules and reposition throat plate support slightly as required, considering both needle hole and feed dog slots. Tighten two screws (C) first, then tighten three screws (A).

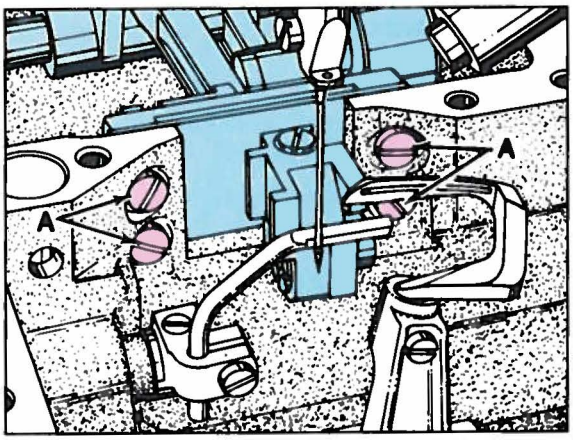


Fig. 11

If this adjustment is not enough to meet required conditions, proceed as follows;

Loosen four screws (A, Fig. 11) securing feed bar seal plate, loosen set screw (A, Fig. 12) securing feed lift bushing, loosen screw (B) securing feed bar spacer, loosen two screws (C) in thrust collar and loosen binder screw (D) in stitch control link. This will permit shifting the feed mechanism slightly as required to center feed dog in throat plate. Tighten four screws (A, Fig. 11), screw (B, Fig. 12), two screws (C) while thrusting collar against feed rocker, screw (A) and screw (D) assuring that timing mark on stitch control link is aligned with timing mark on stitch regulating shaft.

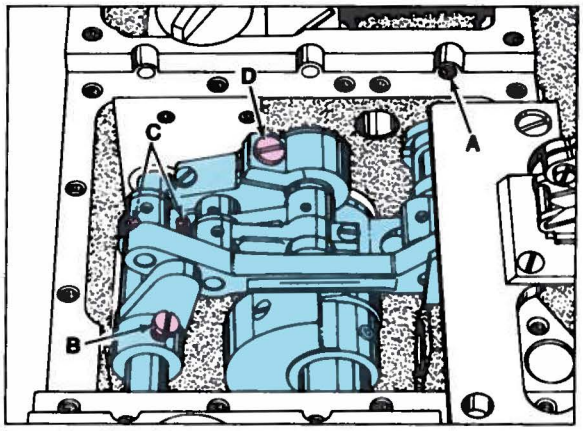


Fig. 12

FEED DOG SETTINGS (Continued)

Front to rear adjustments can be made by loosening two screws (A, Fig. 13), reposition feed dog holder (B) as required. Press down on front of feed dog (C) while tightening screws (A).

Parallel adjustment can be made by removing throat plate, loosen two screws (A, Fig. 13) and screw (A, Fig. 14) so feed dog (B) can be raised enough to loosen locking screw (C).

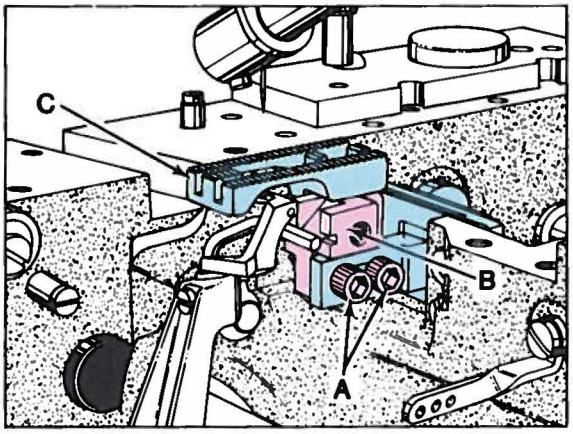


Fig. 13

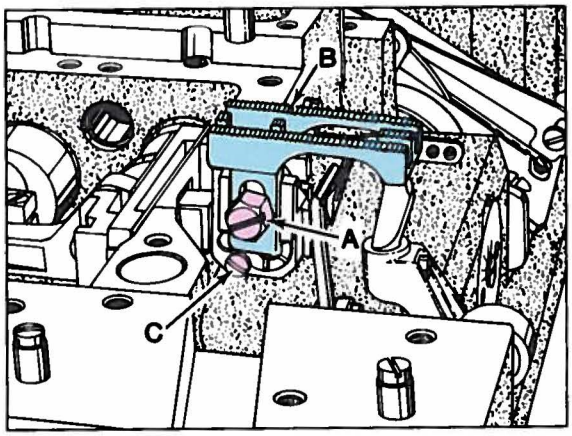


Fig. 14

Turn feed dog tilting cam (A, Fig. 15) as required to level feed dog - check parallelism by positioning throat plate; retighten screw (C, Fig. 14) and screws (A, Fig. 13) while pressing down on front of feed dog.

Set feed dog to proper height with feed dog height supporting screw (B, Fig. 15) to maintain this setting; tighten screw (A, Fig. 14) while pressing down on front of feed dog. Replace throat plate.

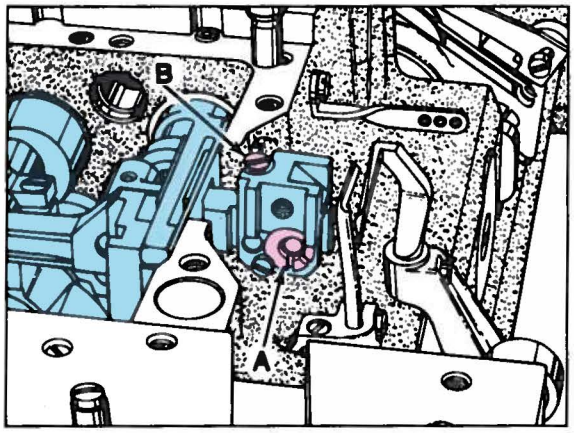


Fig. 15

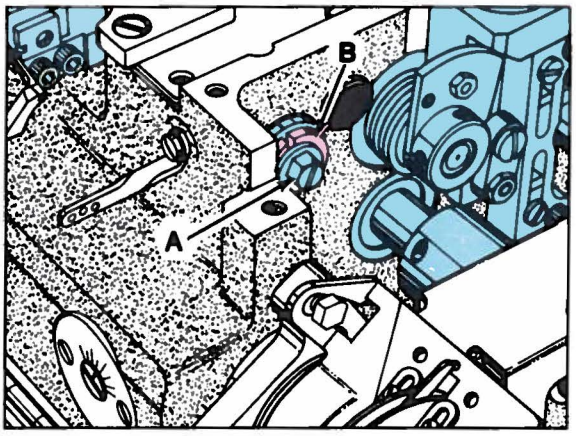


Fig. 16

NOTE: More or less "FEED LIFT" can be acquired by loosening screw (A, Fig. 16) and turning adjusting dial (B) towards the operator to increase feed lift, turning away from operator acts the reverse; retighten screw (A). Ensure that feed dog does not strike throat plate or looper throughout its path of travel.

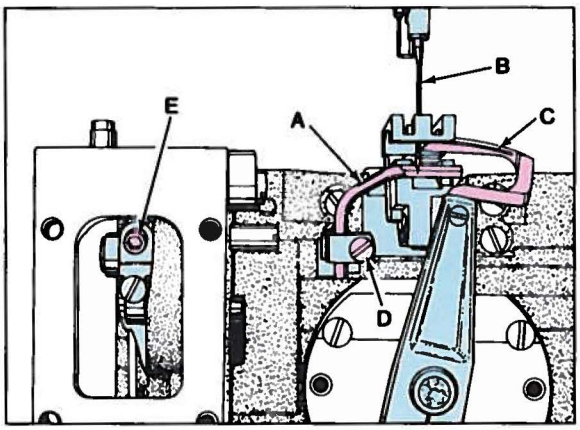


Fig. 17

REAR NEEDLE GUARD

At extreme forward end of travel, rear needle guard (A, Fig. 17) must be set horizontally not to contact needle (B) with a maximum clearance of .005 inch (.127mm). Guard should be set as low as possible, yet have its vertical face approach approximately 3/64 inch (1.2mm) of needle point until point of looper (C) moving to the left, is even with the right side of needle. Adjustment can be made by loosening screw (D), reposition needle guard as required and retighten screw.

If additional front to rear adjustment is required to maintain needle guard in a horizontal position, loosen screw (E) in pivot link which allows needle guard shaft to be rotated. Be sure to take up thrust, by exerting pressure against needle guard holder to the left and pivot link to the right, when tightening screw (E).

NOTE: Change in stitch length WILL NOT require change in needle guard setting, but a change of needle size may.

PRESSER BAR AND PRESSER FOOT

With needle bar at bottom of stroke and presser foot resting on throat plate, there should be 1/32 inch (.8mm) clearance between top of screw and top of slot in presser foot as shown in Fig. 18. There should be 1/16 inch (1.6mm) clearance between bottom of slot in lifter lever link (A) and bottom of presser bar guide (B) when foot lifter lever is released.

If adjustment is required, proceed as follows;

Loosen nut (C) and turn screw (D) down approximately 1/8 inch (3.2mm) below bottom surface of presser bar guide (B). Back off presser spring regulating screw and loosen screws (E) in presser bar guide (B) so that presser foot is sitting squarely on throat plate and screw (D) is touching the bottom of the presser bar guide fork, then secure screws (E).

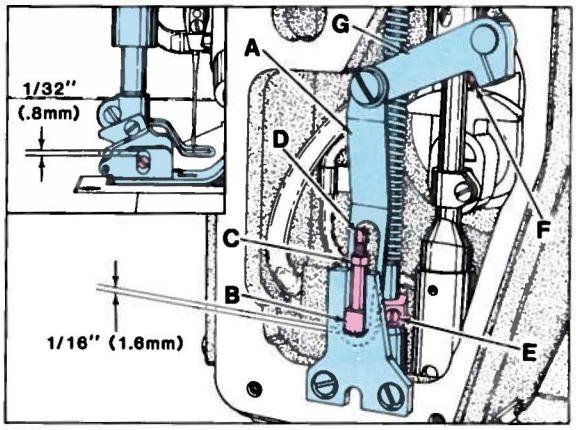


Fig. 18

Turn presser spring regulating screw all the way down, then back off screw (D) counterclockwise to obtain the 1/32 inch (.8mm) dimension in presser foot, lock nut (C). Loosen screw (F) in lifter arm (G) and rotate arm slightly as required to obtain the 1/16 inch (1.6mm) dimension between link (A) and guide (B), retighten screw (F).

THREAD TENSION RELEASE

Needle thread tension assembly (A, Fig. 19) is set correctly when the tension discs (B) start to release as the presser foot is raised to within 1/8 inch (3.2mm) of the end of its travel and completely released when presser foot has reached its highest position.

Adjustment can be made by loosening screw (C) and lower the tension assembly (A) to advance the release action or raise tension assembly to retard the release action. Hold tension assembly in position while retightening screw (C).

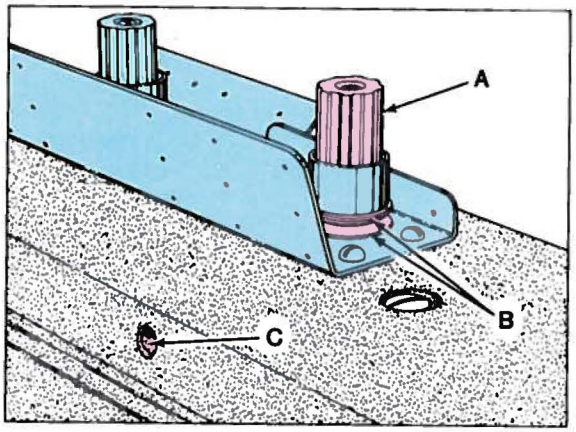


Fig. 19

CHANGING STITCH LENGTH

Stitch length is changed by pressing down and turning stitch length regulating knob (A, Fig. 20) clockwise to shorten the stitch or counterclockwise to lengthen same. Tool No. 21205 B can be used advantageously when making this adjustment.

Recheck front to rear clearances under "FEED DOG SETTINGS" whenever stitch length is changed. Bottom limit stop (B) should be set by screw (C) to prevent stitch length regulating knob (A) from accidentally being turned beyond the desired maximum stitch length.

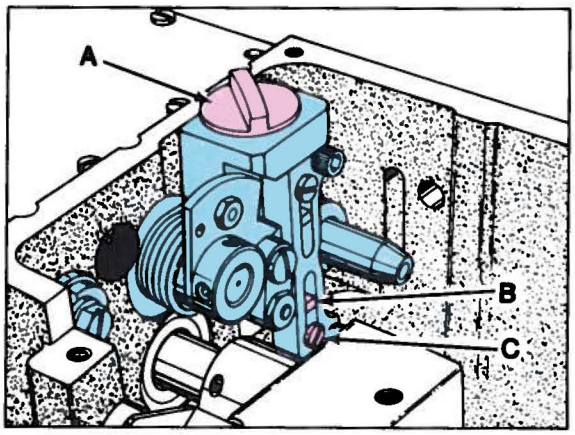


Fig. 20

LOOPER THREAD TAKE-UP AND CAST-OFF PLATE

Looper thread take-up (A, Fig. 21) should be centered, left to right, in cast-off plate (B). It should also be positioned so as the needle bar is descending, the looper thread is cast-off when the point of the needle is even with the bottom of the looper. Adjustment can be made by loosening two screws in take-up, through access hole in cast-off plate, reposition as required and retighten screws. Set adjustable eyelets (C) 1/2 inch (12.7mm) below centerline of their mounting screws.

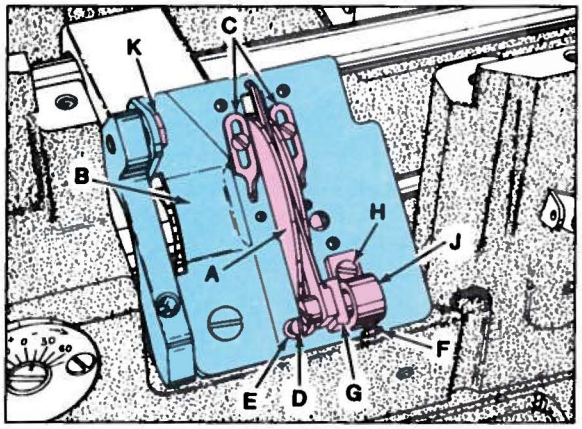


Fig. 21

If cast-off wire is rubbing take-up, loosen screw (D), center the wire (E) and retighten screw. If retaining finger is rubbing take-up, loosen screw (F), center the finger (G) and retighten screw. If retaining finger is on an angle, loosen screw (H), turn retaining finger support (J) slightly as required and retighten screw. The height of cast-off plate is set correctly when the lowest point of the take-up cam is even with top surface of the cast-off plate. To make the adjustment, turn handwheel in operating direction to locate the lowest point of the take-up cam. Loosen screw (K) and position the cast-off plate to obtain the specified condition and then secure screw (K).

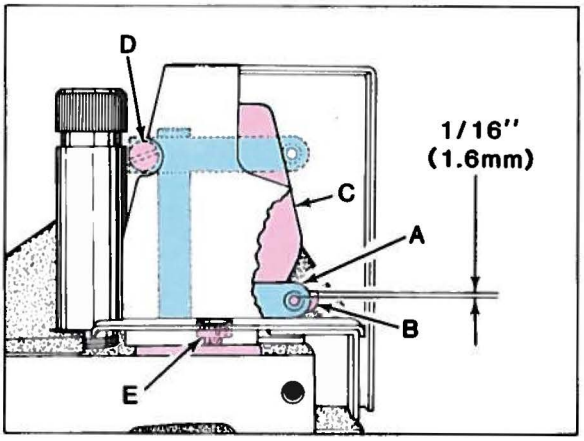


Fig. 22

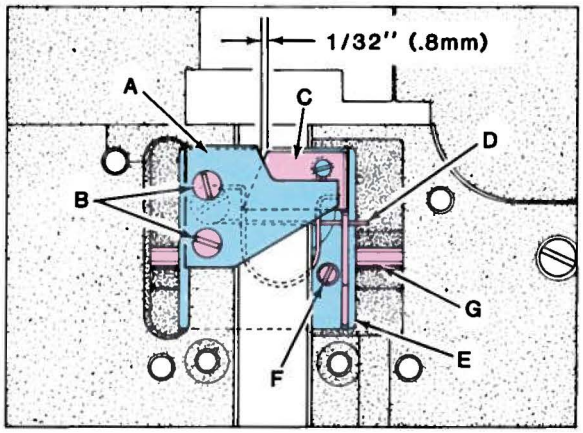


Fig. 23

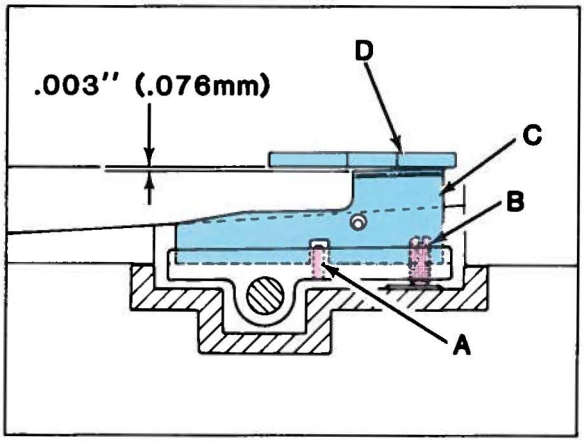


Fig. 24

THREAD CONTROL (PRELIMINARY SETTINGS)

Needle bar eyelet (A, Fig. 22) should be set with its eyelets 1/16 inch (1.6mm) below strike-off (B) on needle thread cam (C) as shown in Fig. 22, with needle bar at BOTTOM of stroke. Adjustments can be made by bringing needle bar up, loosen screw (D) slightly, bring needle bar down to BOTTOM of stroke, reposition eyelet (A) as required and bring needle bar back up to tighten screw (D).

Needle thread cam (C) should be set to barely contact needle thread with needle bar at TOP of stroke. Adjustment can be made by loosening needle thread cam attaching screw (E), reposition cam forward or rearward as required and retighten attaching screw (E).

Tension on needle thread should be just enough to pull up uniform stitches.

Tension on looper thread should be just enough to steady thread when sewing at high speed.

POWER "AIR-KLIPP" CHAIN CUTTER ADJUSTMENTS

NOTE: All references to Fig. 23 are as viewed from rear of machine; references to Fig. 24 are as viewed from left end of machine.

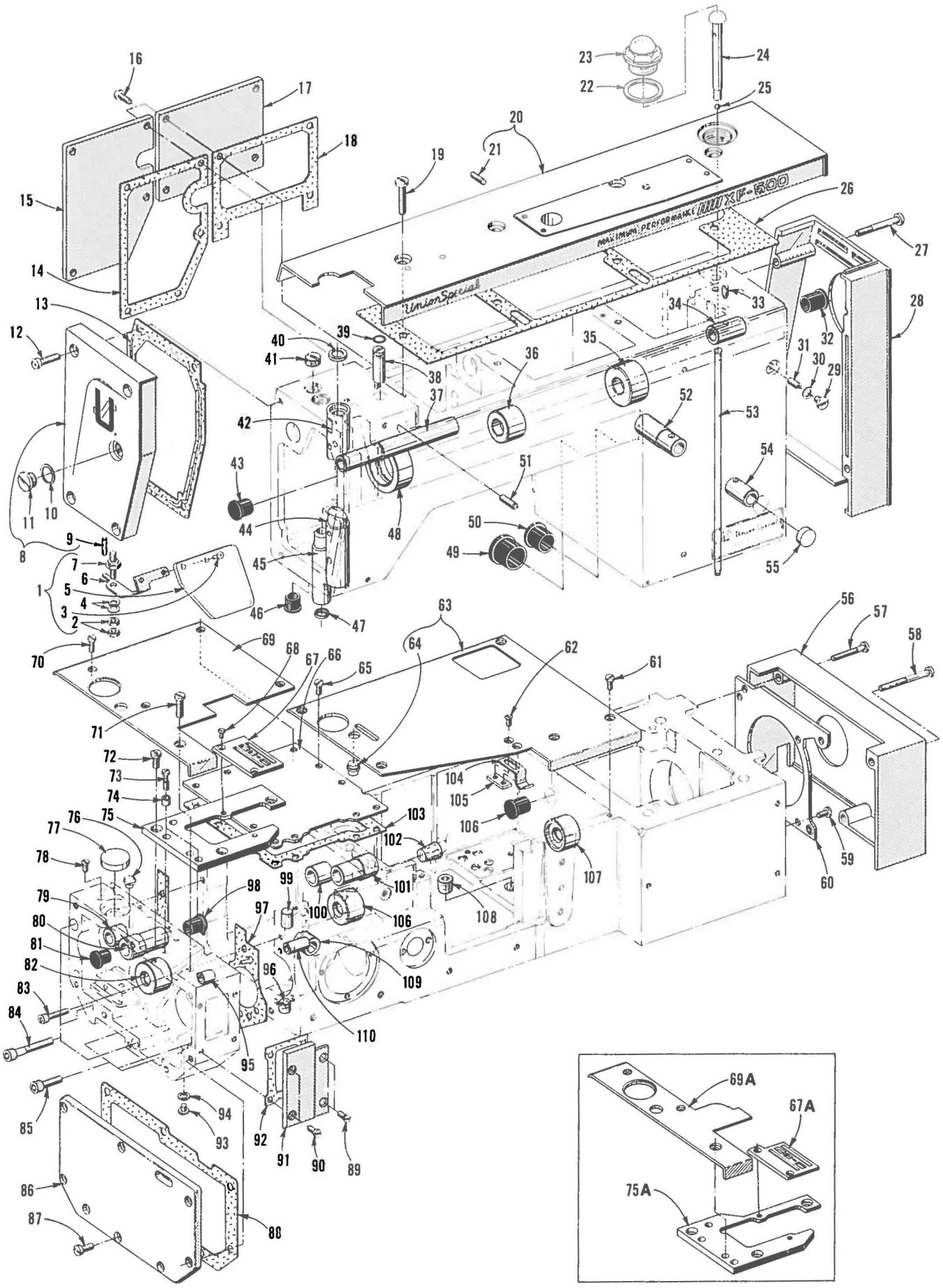
To replace the thread cutting knives, the following procedure should be followed:

The upper knife (A, Fig. 23) is replaced by removing two screws (B). In order to replace lower knife - the upper knife, rear cover and thread inlet must be removed. The lower knife (C) is held in position by a roll pin (A, Fig. 24) and tension spring (D, Fig. 23). To remove lower knife, lift up and tilt to the right. When replacing lower knife, be sure to engage end of tension spring through the hole in side of lower knife before inserting in the slide block (E). Also be sure the slot in lower knife is located over roll pin as shown in Fig. 24.

Proper left to right adjustment of lower knife is correct when at extreme left of travel there is 1/32 inch (.8mm) clearance between front of its cutting edge and upper knife cutting edge as shown in Fig. 23. To adjust, move slide block to extreme left and loosen lock screw (F, Fig. 23). Then while holding drive shaft (G) from moving, reposition slide block to proper dimension for lower knife and retighten lock screw (F).

Shear angle can be adjusted by turning screw (B, Fig. 24) clockwise to increase angle or counterclockwise to decrease angle. Proper shear angle is .003 inch (.076mm) measured at rear cutting edge of lower knife (C) and cutting edge of upper knife (D) as shown in Fig. 24.

EXPLODED VIEWS
AND
DESCRIPTION OF PARTS



MAIN FRAME, BUSHINGS AND COVERS

Ref. No.	Part No.	Description	Amt. Req.
1	C50095 G	Shield Assembly, safety	1
2	12934 A	Nut	2
3	RM2879-2	Rivet	2
4	97127	Washer, spring	2
5	C50095 F	Shield, safety	1
6	C50095 E	Bracket, mounting	1
7	C50095 D	Stud	1
8	C50082 R	Cover, head	1
9	660-219 A	Pin, roll	1
10	C50082 AA	Gasket	1
11	22883 B	Screw, plug	1
12	22541 C	Screw	4
13	C50082 S	Gasket	1
14	C50082 K	Gasket	1
15	C50082 V	Cover, head (left rear)	1
16	22569 M	Screw	9
17	C50082 M	Cover, head (right rear)	1
18	C50082 N	Gasket	1
19	22861 C	Screw	4
20	C50082 U	Cover, top	1
21	22597 E	Screw	1
22	C50082 X	Gasket	1
23	C50093 AU	Cap, oil filler	1
24	C50093 AS	Indicator, oil flow	1
25	21192 R	Ball, steel	1
26	C50082 T	Gasket	1
27	22851 D	Screw	4
28	C50082 L	Cover, oil cooler	1
29	22730	Screw	1
30	56322 B	Gasket	1
31	22894 E	Screw	1
32	C50093 AY	Plug, oil	1
33	81	Screw	1
34	C50090 K	Bushing, presser foot lifter lever (right)	1
35	C50055 S	Bushing, upper mainshaft (right center)	1
36	C50055 L	Bushing, upper mainshaft (left center)	1
37	C50090 E	Bushing, presser foot lifter lever (left)	1
*38	C50055 C	Eccentric, for internal tooth gear	1
*39	660-220	"O" Ring	1
40	C50054 D	Shield, needle bar bushing	1
41	22539 G	Screw, plug	1
42	C50054	Bushing, needle bar (upper)	1
43	C50093 CT	Plug (spreader shaft hole)	1
44	C50054 C	Bushing, needle bar (lower)	1
45	C50057 D	Bushing, presser bar (lower)	1
46	C50093 AY	Plug, oil	1
47	660-739	Seal, oil, presser bar bushing	1
48	C50055 K	Bushing, upper mainshaft (left)	1
49	C50093 AX	Plug, oil	1
*50	C50093 AW	Plug, oil	1
51	22597 E	Screw	1
52	C50090 F	Bushing, presser foot lifter lever (rear)	1
53	643-429 Blk.	Tube, oil supply	1
54	C50090 G	Bushing, presser foot lifter lever (front)	1
55	51-627 Blk.	Plug	1
56 thru 110		See following page	

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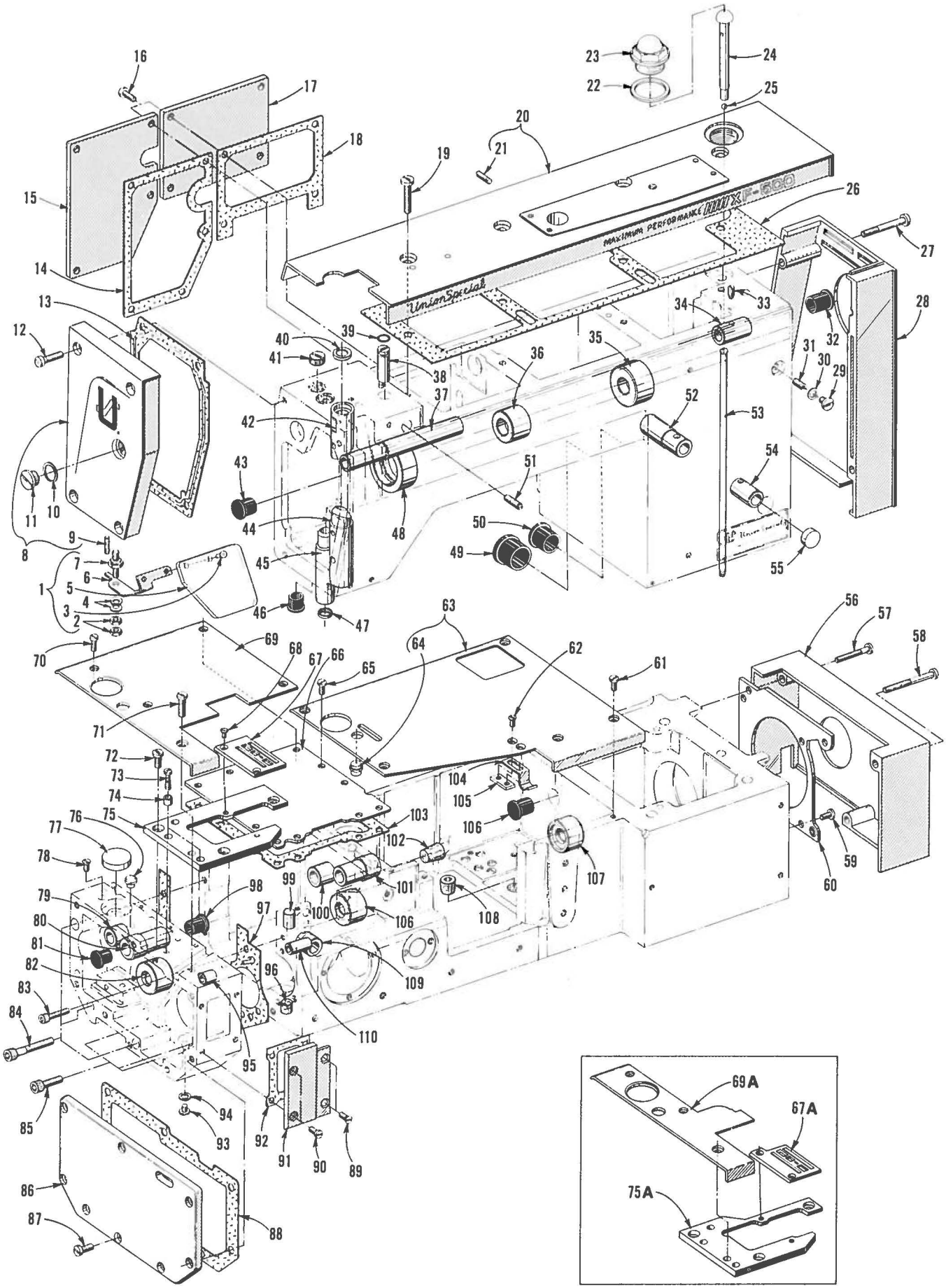
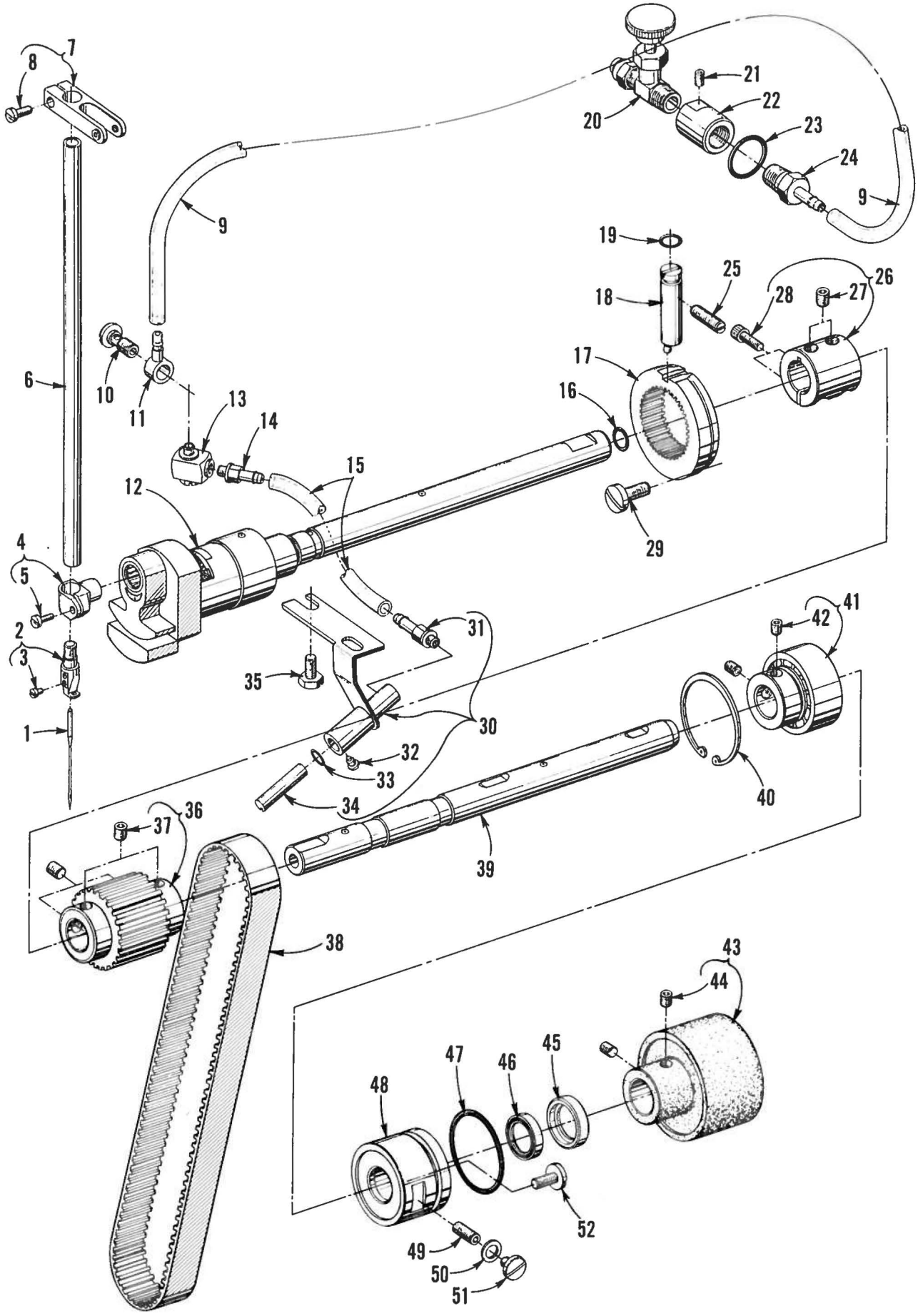


MAIN FRAME, BUSHINGS AND COVERS

Ref. No.	Part No.	Description	Amt. Req.
1 thru 55		See preceding page	
56	C50090 A	Cover, pulley assembly	1
57	22569 V	Screw	2
58	22569 W	Screw	1
59	22569 C	Screw	5
60	C50075	Cover, blower	1
61	22569 G	Screw	5
62	87	Screw	2
63	C50001 A	Plate, cloth (right)	1
64	C50049	Window, stitch indicator	1
65	22569 G	Screw	9
66	C50082 D	Cover, feed chamber for Style XF511H100MF	1
67	C50024 A	Plate, throat, for Style XF511H100MF	1
67A	C50024 B	Plate, throat, for Style XF511H112MF	1
68	87	Screw	2
69	C50001 B	Plate, cloth (left) for Style XF511H100MF	1
69A	99679 SD	Plate, cloth (left) for Style XF511H112MF	1
70	22569 B	Screw, for plate No. C50001 B	4
-	22569 B	Screw, for plate No. 99679 SD	2
71	22585 U	Screw, for cloth plates	1
72	22839	Screw	3
73	22587 N	Screw	2
74	C50080 B	Ferrule, locating	2
75	C50080 A	Support, throat plate, for Style XF511H100MF	1
75A	C50080 AA	Support, throat plate, for Style XF511H112MF	1
76	C50049 A	Window, stitch indicator (left)	1
77	C50051 X	Plug, stitch adjustment hole	1
78	22521	Screw, for bed	1
79	C50036 U	Bushing, feed rocker shaft (left)	1
80	C50035 Y	Bushing	1
81	C50035 Z	Plug	1
82	C50044 F	Bushing, driveshaft (left)	1
83	22652 B-12	Screw	1
84	22652 D-24	Screw	3
85	22652 D-12	Screw	3
86	C50082 B	Cover, end	1
87	22517	Screw	8
88	C50082 C	Gasket	1
89	22526 H	Screw	2
90	22569 G	Screw	2
91	C50082 AJ	Cover, front (end cover)	1
92	C50082 AK	Gasket	1
93	22569 D	Screw	1
94	56322 B	Gasket	1
95	C50068 F	Bushing, rear needle guard shaft (left)	1
96	C50051 Q	Plug	1
97	C50082	Gasket	1
98	C50035 Z	Plug	1
99	C50051 T	Plug	1
100	C50036 J	Bushing, feed rocker shaft (right)	1
101	C50035 G	Bushing, stitch control shaft	1
102	C067 F	Plug, cork	1
103	C50082 E	Gasket	1
104	C50032 B	Spring, latch (front cover)	1
105	C50032 D	Plate, nut	1
106	C50093 AY	Plug, oil	1
107	C50044 G	Bushing, feed drive shaft (right) and lower mainshaft (left)	2
108	660-897	Plug, screw	1
109	C50044 D	Bushing, looper rocker shaft	1
110	C50068 X	Bushing, rear needle guard shaft (right)	1



NEEDLE DRIVE (CARDAN) AND ASSOCIATED PARTS

Ref. No.	Part No.	Description	Amt. Req.
1	128 GBS	Needle	1
2	C50018	Head, needle bar	1
3	22768 A	Screw	1
4	C50055	Connection, needle bar	1
5	J87 J	Screw	1
6	C50017	Bar, needle	1
7	C50058 H	Eyelet, needle bar	1
8	18-71	Screw	1
9	C50094 N	Tube, air, 18 inches (457.0mm) long	1
10	22720 A	Screw	1
11	C50094 X	Fitting, barb	1
12	C50055 J	Cardan Drive Assembly	1
13	671 F-62	Fitting, "L"	1
14	671 F-4	Fitting, barbed, w/gasket	1
15	C50094 AD	Tube, air, 2 1/4 inches (57.1mm) long	1
16	660-206	"O" Ring	1
*17	C50055 B	Gear, internal tooth (cardan drive)	1
*18	C50055 C	Eccentric, for internal tooth gear	1
*19	660-220	"O" Ring	1
20	671-69	Valve, needle	1
21	22894 R	Screw, set	1
22	C50067 L	Housing, air	1
23	660-762	"O" Ring	1
24	671 C-4	Connector, male (barbed)	1
*25	22597 E	Screw	1
26	C50043	Coupling, upper mainshaft	1
27	22894 AE	Screw, set	2
28	22652 A-8	Screw	2
*29	22806 D	Screw	2
30	21237 DG	Needle Cooler	1
31	671 F-4	Fitting, barbed	1
32	22784 N	Screw	1
33	660-220	"O" Ring	1
34	21237 DF	Tube	1
35	22882	Screw	2
36	C50042 M	Sprocket, upper mainshaft	1
37	22894 AE	Screw	4
38	C50042 Y	Belt, upper mainshaft timing	1
39	C50022 B	Mainshaft, upper	1
40	660-713	Ring, retaining	1
41	C50036 P	Bearing and Collar Assembly	1
42	22894 AD	Screw	2
43	C50021 A	Handwheel	1
44	22894 C	Screw	2
45	C50093 BK	Shield, oil seal housing	1
46	660-719	Seal, oil	1
47	660-708	"O" Ring	1
48	C50093 AK	Housing, mainshaft oil seal	1
49	22894 E	Screw	1
50	56322 B	Gasket	1
51	22730	Screw	1
52	22569 U	Screw	2

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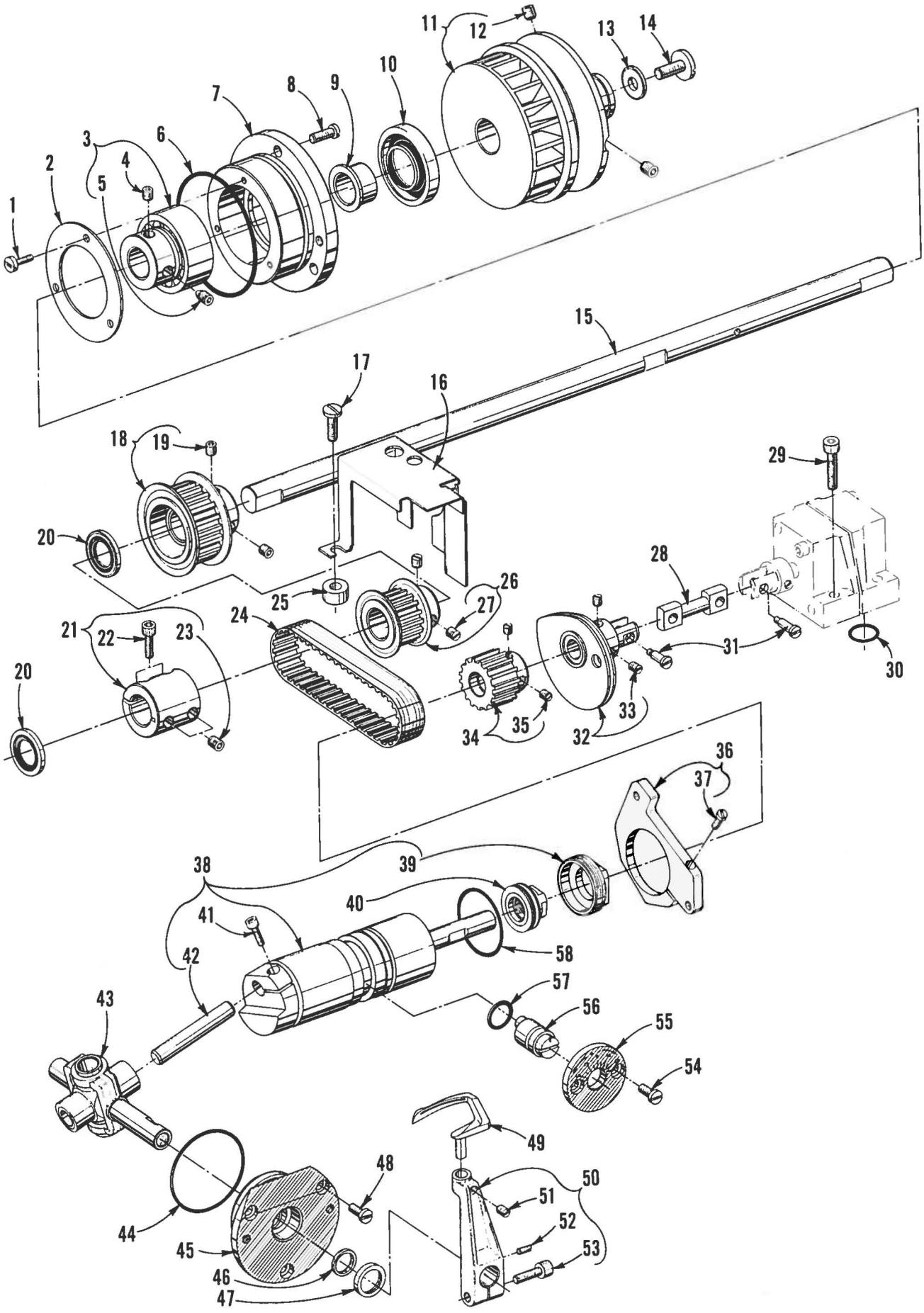
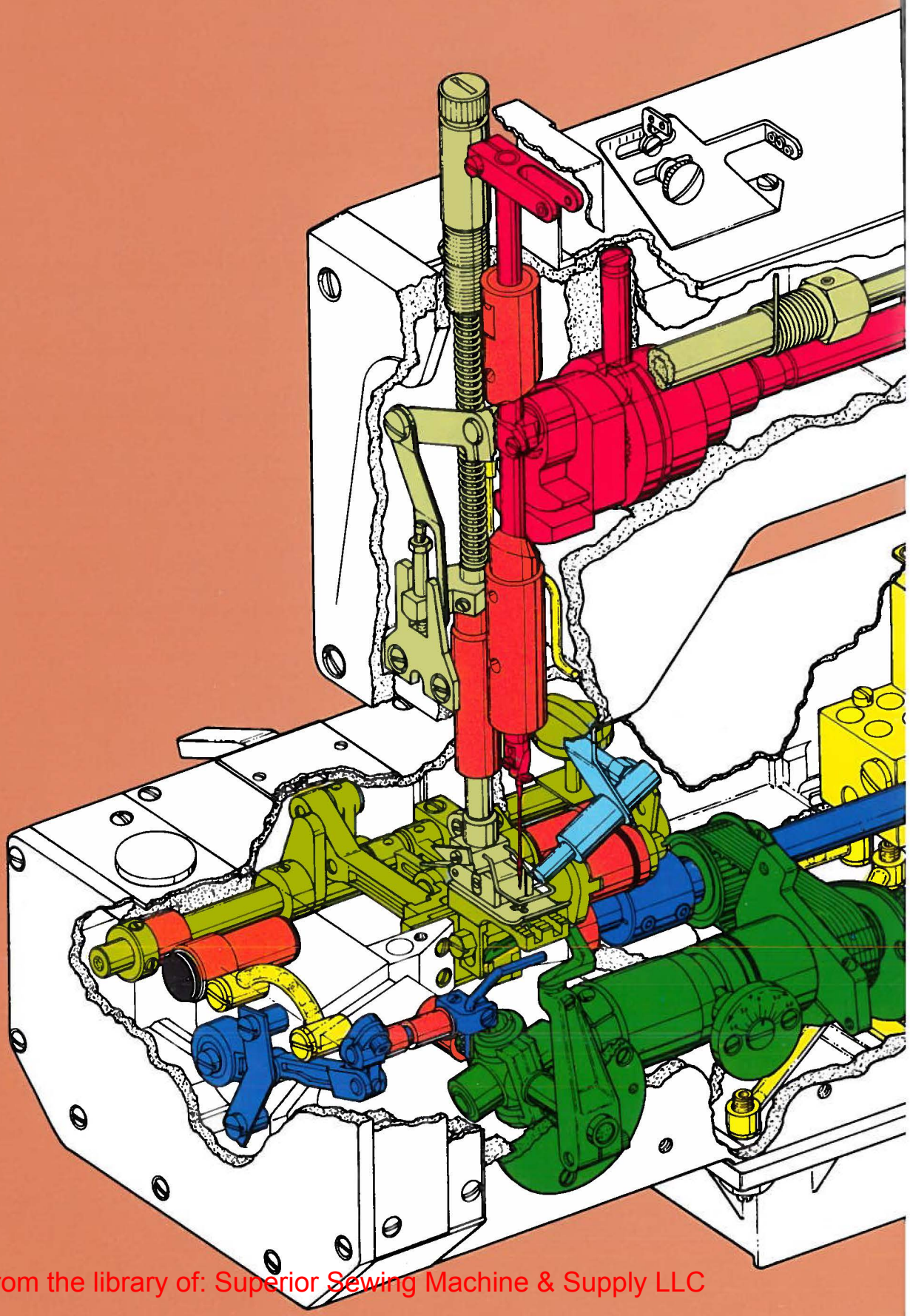
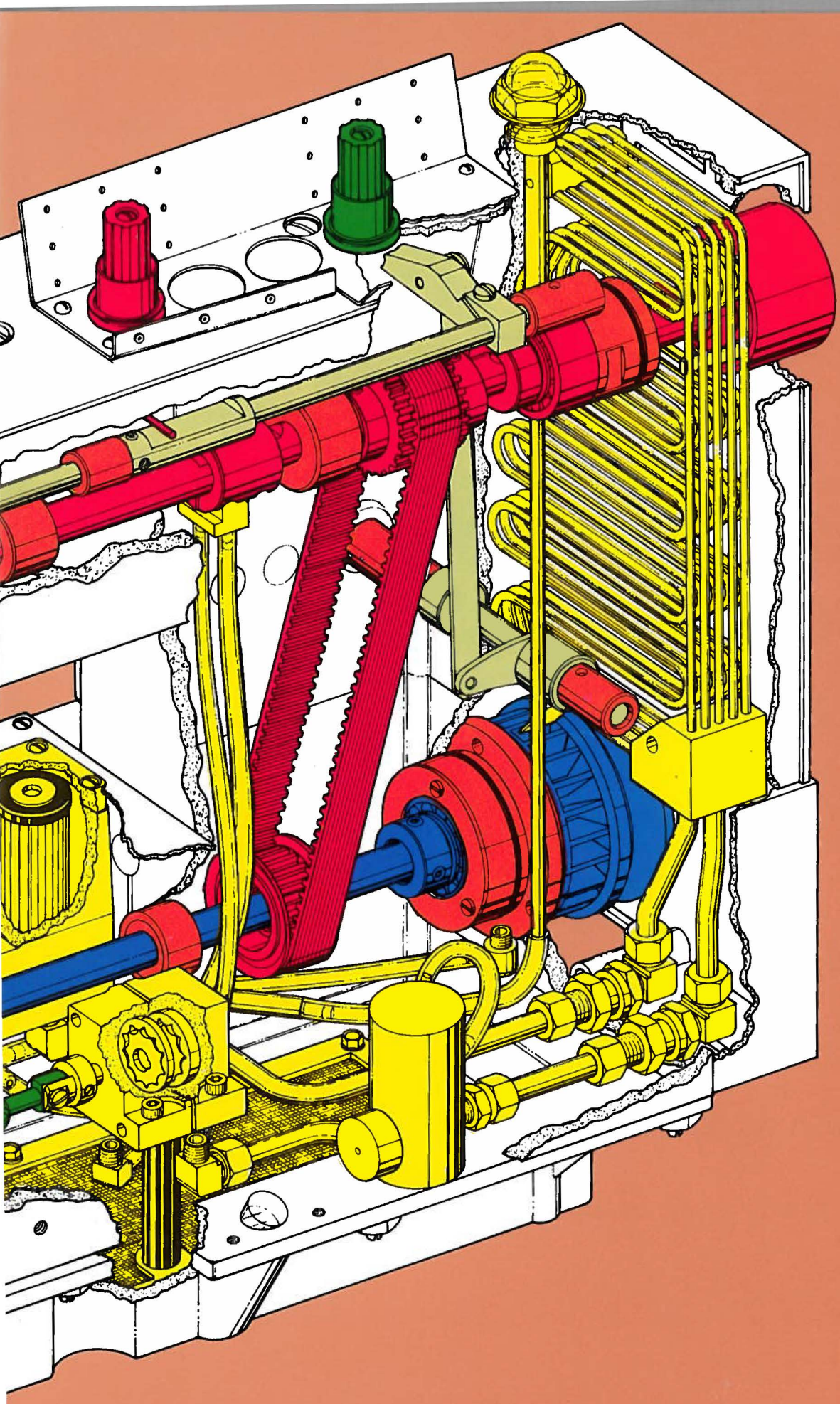
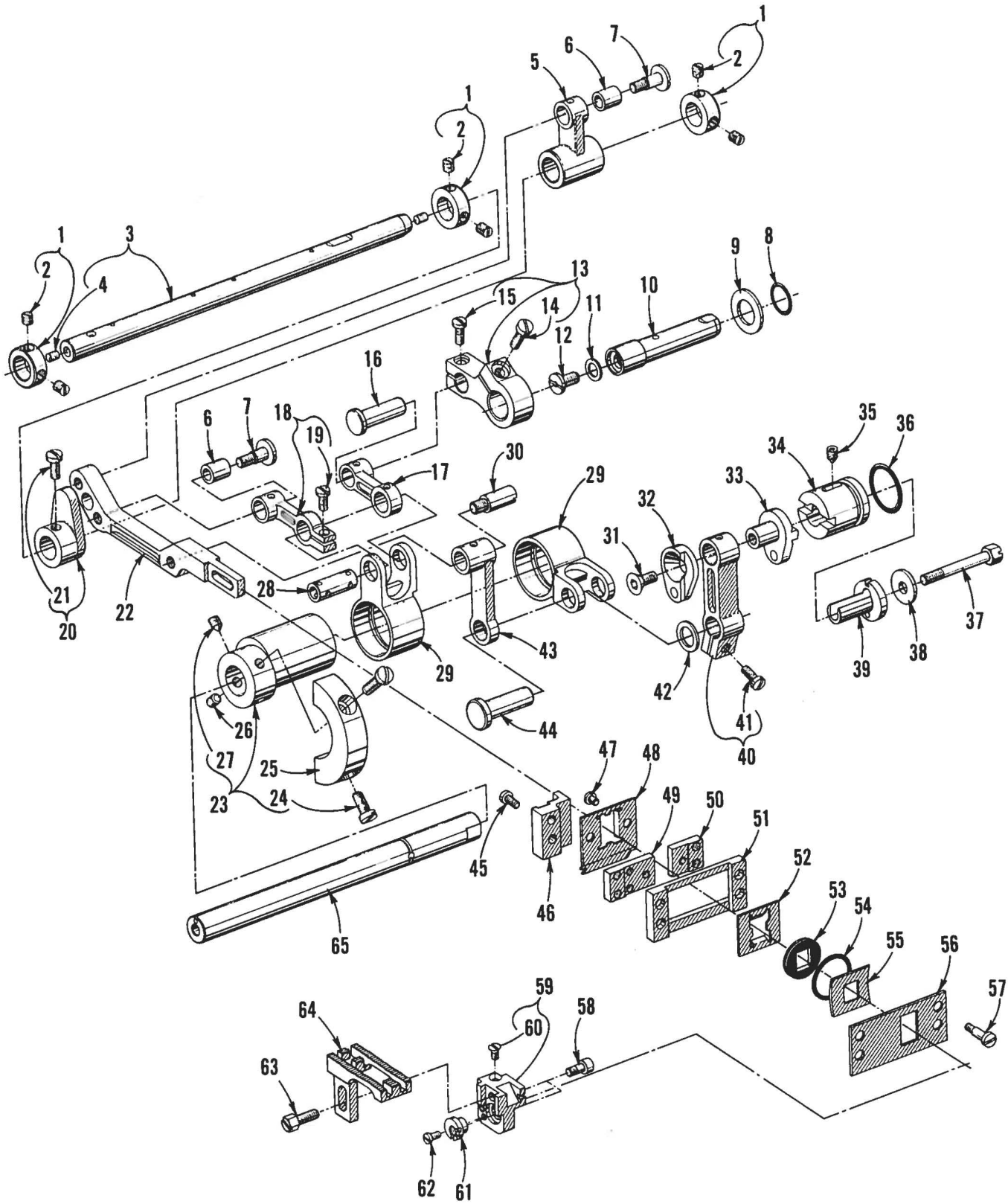


LOWER MAINSHAFT AND LOOPER DRIVE

Ref. No.	Part No.	Description	Amt. Req.
1	22520	Screw	3
2	C50090 D	Plate, retaining	1
3	C50036 P	Bearing and Collar Assembly	1
4	22894 AD	Screw	1
5	22894 L	Screw, spot	1
6	660-757	"O" Ring	1
7	C50090	Housing, mainshaft bearing	1
8	22569 B	Screw	3
9	C50090 B	Collar, mainshaft	1
10	660-688	Seal, mainshaft	1
11	C50021 D	Pulley Assembly	1
12	22651 CD-4	Screw, set	2
13	HA20 A	Washer	1
14	141	Screw	1
15	C50022 A	Mainshaft, lower	1
16	C50042 WA	Guard, looper drive sprocket	1
17	22569 J	Screw	2
18	C50042 H	Sprocket, lower mainshaft	1
19	22839 A	Screw	2
20	660-680	Seal, oil	2
21	C50043	Coupling, lower mainshaft	1
22	22652 A-8	Screw	2
23	22894 AE	Screw, set	2
24	C50042 AD	Belt, looper drive	1
25	01173 K	Spacer	2
26	C50042 G	Sprocket, looper drive	1
27	98	Screw	2
28	C50093 BC	Shaft, oil pump connecting	1
29	22652 B-12	Screw	4
30	660-683	"O" Ring	4
31	22731	Screw	2
32	C50023 B	Take-up, looper thread	1
33	22580 D	Screw, set	2
34	C50042 F	Sprocket, looper driven	1
35	88	Screw	2
36	C50057 A	Bracket, collar	1
37	22729 B	Screw	1
38	29105 AP	Drive Assembly, looper	1
39	C50042 B	Nut, retaining (outer)	1
40	C50042 A	Nut, retaining (inner)	1
41	22653 J-8	Screw	1
42	667 J-33	Crankpin	1
43	29192 AE	Rocker Assembly, looper	1
44	660-455	"O" Ring	1
45	C50044 A	Housing, looper rocker bearing	1
46	660-671	Seal, oil	1
47	C50044 C	Retainer, seal	1
48	22569 G	Screw	3
49	G51409 C	Looper	1
50	C50013	Holder, looper, marked "AF"	1
51	22565 X	Screw, set	1
52	22785	Screw, adjusting	1
53	22652 B-10	Screw	1
54	22569 G	Screw	2
55	C50014 A	Plate, eccentric retaining	1
56	C50014	Eccentric, looper avoid adjusting	1
57	660-207	"O" Ring	1
58	660-443	"O" Ring	1

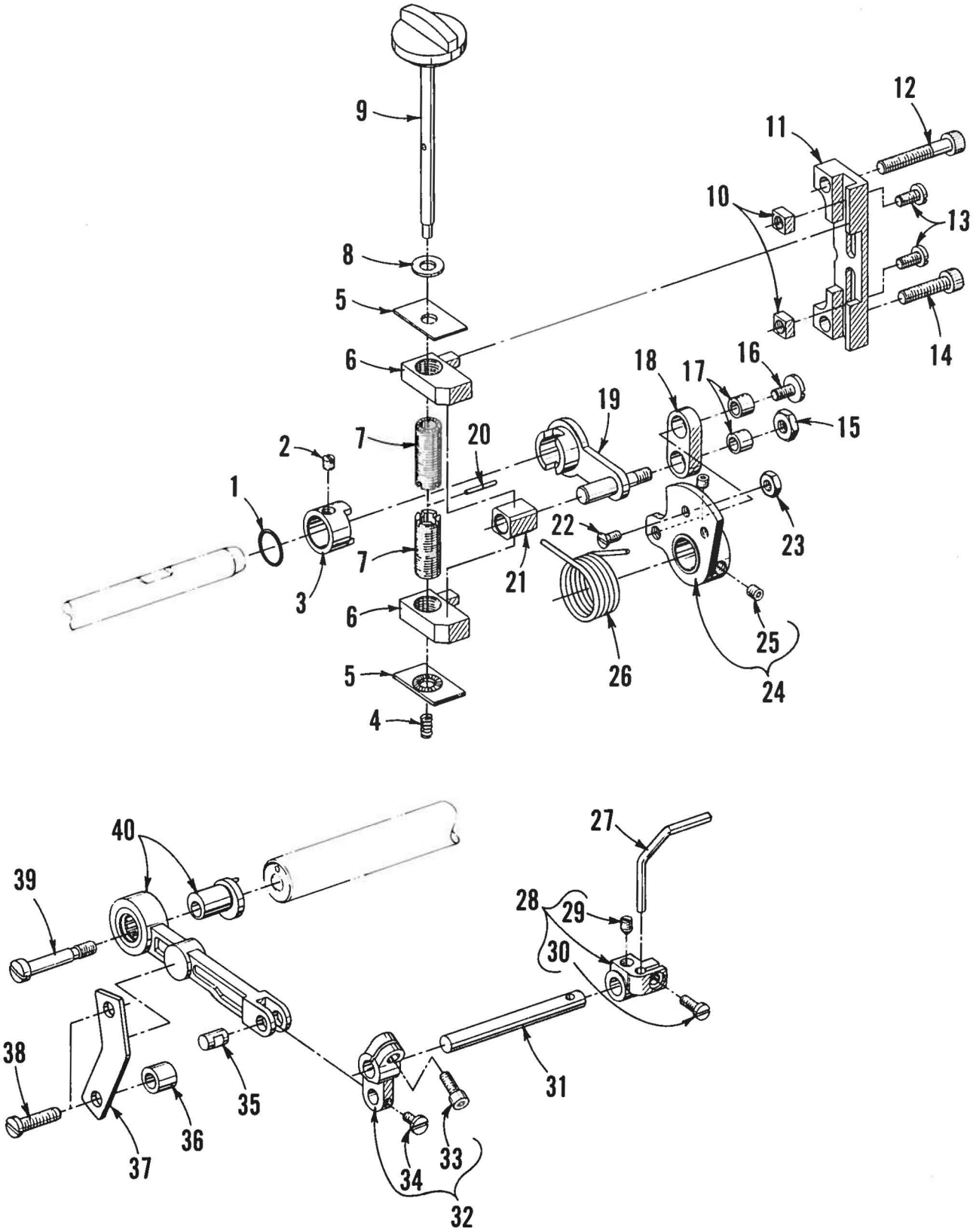






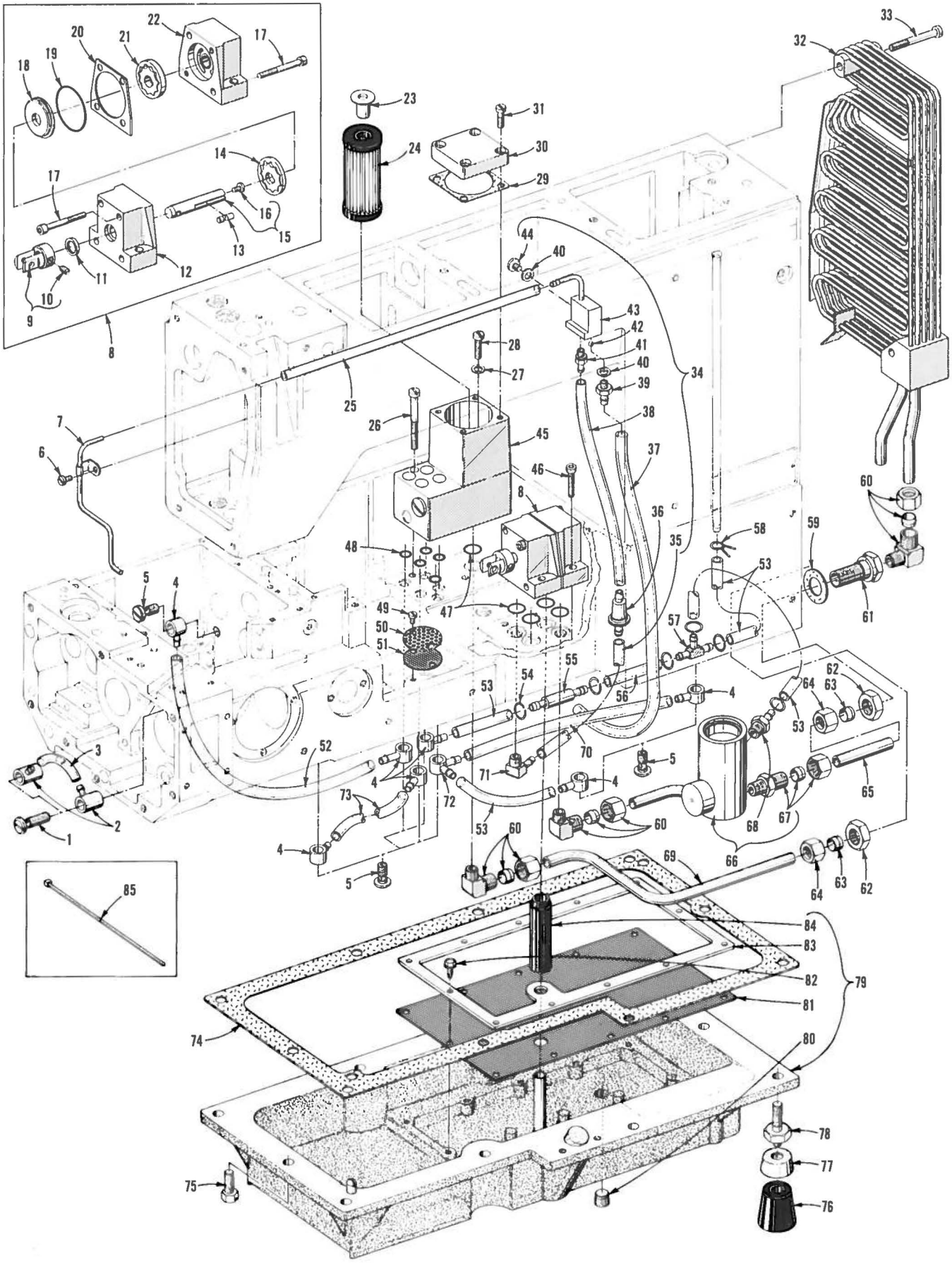
FEED DRIVING PARTS

Ref. No.	Part No.	Description	Amt. Req.
1	56335 D	Collar, thrust	3
2	98	Screw	2
3	C50035 K	Shaft, feed rocker	1
4	C067 D	Cork	2
5	C50035 F	Rocker, feed	1
6	C50035 A	Spacer	2
7	22738 M	Screw	2
8	660-683	"O" Ring	1
9	41391	Washer	1
10	C50035 T	Shaft, stitch regulator	1
11	56322 B	Gasket	1
12	22891 D	Screw	1
13	C50035 AM	Link, stitch control	1
14	22517	Screw	1
15	22516 A	Screw	1
16	C50036	Pin, link	1
17	C50035 B	Link, feed drive (intermediate)	1
18	C50035 C	Link, intermittent, marked "A"	1
19	22516 B	Screw	1
20	C50034 D	Spacer, feed bar	1
21	22570 A	Screw	1
22	C50034 X	Feed Bar	1
23	C50034 Z	Eccentric	1
24	93	Screw	2
25	C50047 G	Counterweight	1
26	95	Screw, set	1
27	96 A	Screw, spot	1
28	C50036 C	Pin, link	1
29	C50045 B	Link, connecting	2
30	22845 R	Screw	1
31	22839 G	Screw	1
32	C50036 M	Block, feed lift guide	1
33	C50036 F	Pin, feed lift adjusting	1
34	C50036 E	Bushing, feed lift adjusting	1
35	22894 K	Screw	1
36	660-677	"O" Ring	1
37	22519 M	Screw	1
38	HA20 A	Washer	1
39	C50036 D	Dial, feed lift adjusting	1
40	C50036 G	Link, intermittent, feed lift control, marked "C"	1
41	22516 B	Screw	1
42	C50043 H-025	Washer, .025 inch (.635mm) thick	1
-	C50043 H-021	Washer, .021 inch (.533mm) thick	1
-	C50043 H-029	Washer, .029 inch (.737mm) thick	1
43	C50036 A	Link, feed lift	1
44	C50036 B	Pin, link	1
45	22804	Screw	2
46	C50034 N	Bracket, feed bar thrust	1
47	187 A	Screw	2
48	C50034 L	Scraper, oil, feed bar (rear)	1
49	C50034 H	Guide, feed bar (left)	1
50	C50034 M	Guide, feed bar (right)	1
51	C50034 F	Holder, feed bar guide	1
52	C50034 K	Scraper, oil, feed bar (front)	1
53	C50034 AB	Seal, oil, feed bar	1
54	660-625	"O" Ring	1
55	C50034 G	Spring, oil seal	1
56	C50034 J	Plate, feed bar oil seal	1
57	22594	Screw	4
58	22868 C	Screw	2
59	C50034 W	Holder, feed dog	1
60	22637 P-24	Screw	1
61	C50034 V	Cam, feed dog tilting	1
62	605 A	Screw	1
63	22519 H	Screw	1
64	C50005 F	Feed Dog, 22 t.p.i.	1
65	C50022 G	Shaft, feed drive	1



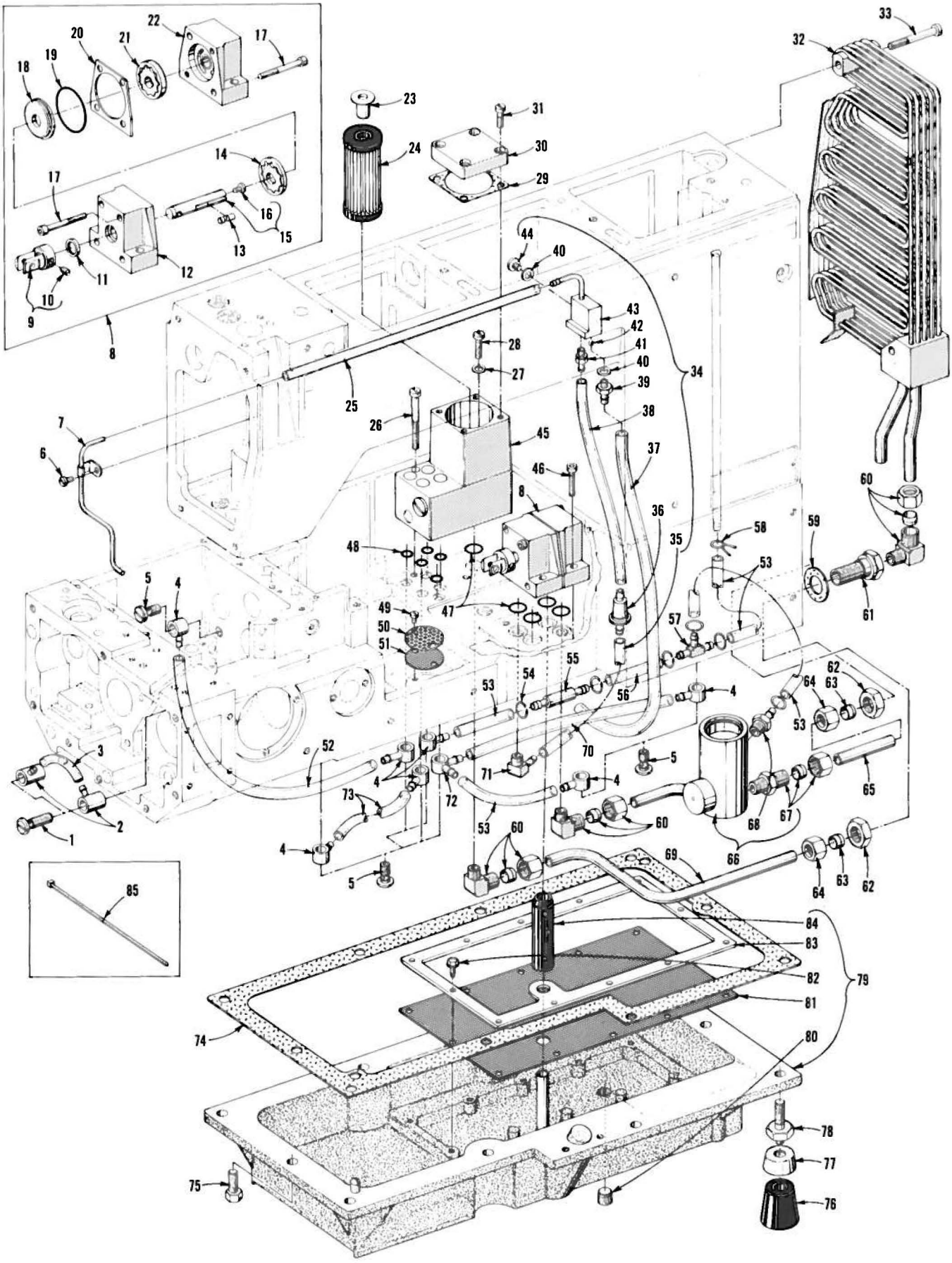
REAR NEEDLE GUARD AND STITCH REGULATING PARTS

Ref. No.	Part No.	Description	Amt. Req.
1	660-683	"O" Ring	1
2	88 B	Screw	1
3	C50035	Collar, actuating	1
4	660-693	Spring, stitch adjusting	1
5	C50035 R	Retainer, stitch length	2
6	C50035 V	Block, limit, stitch regulator	2
7	C50035 S	Screw, stitch regulating	2
8	39198 D	Washer	1
9	C50035 AL	Shaft w/Knob, stitch adjusting	1
10	C50035 H	Nut, stitch limiting	2
11	C50035 J	Bracket, guide, stitch control	1
12	22652 B-20	Screw	1
13	22570 A	Screw	2
14	22652 B-12	Screw	1
15	14077	Nut	1
16	88 D	Screw	1
17	C50037 A	Ferrule	2
18	C50035 U	Link, stitch regulating	1
19	C50035 W	Lever, stitch control	1
20	C50035 AJ	Pin, roll, for stitch adjusting shaft	1
21	C50035 P	Block, stitch regulating	1
22	87	Screw, spring stop	1
23	41071 G	Nut	1
24	C50035 X	Indicator, stitch	1
25	22894 W	Screw	2
26	C50035 N	Spring	1
27	C50025	Guard, needle	1
28	C50025 A	Holder, needle guard	1
29	22764	Screw, spot	1
30	22562 A	Screw	1
31	C50068 A	Shaft, rear needle guard	1
32	C50068 B	Link, pivot, rear needle guard	1
33	22729 L	Screw	1
34	98 A	Screw	1
35	C50068 C	Pin, pivoting	1
36	C50068 Z	Spacer, retaining plate	2
37	C50068 Y	Plate, retaining	1
38	22541 D	Screw	2
39	22758 K	Screw, needle guard eccentric retaining	1
40	C50068 U	Link Assembly, crank, rear needle guard	1



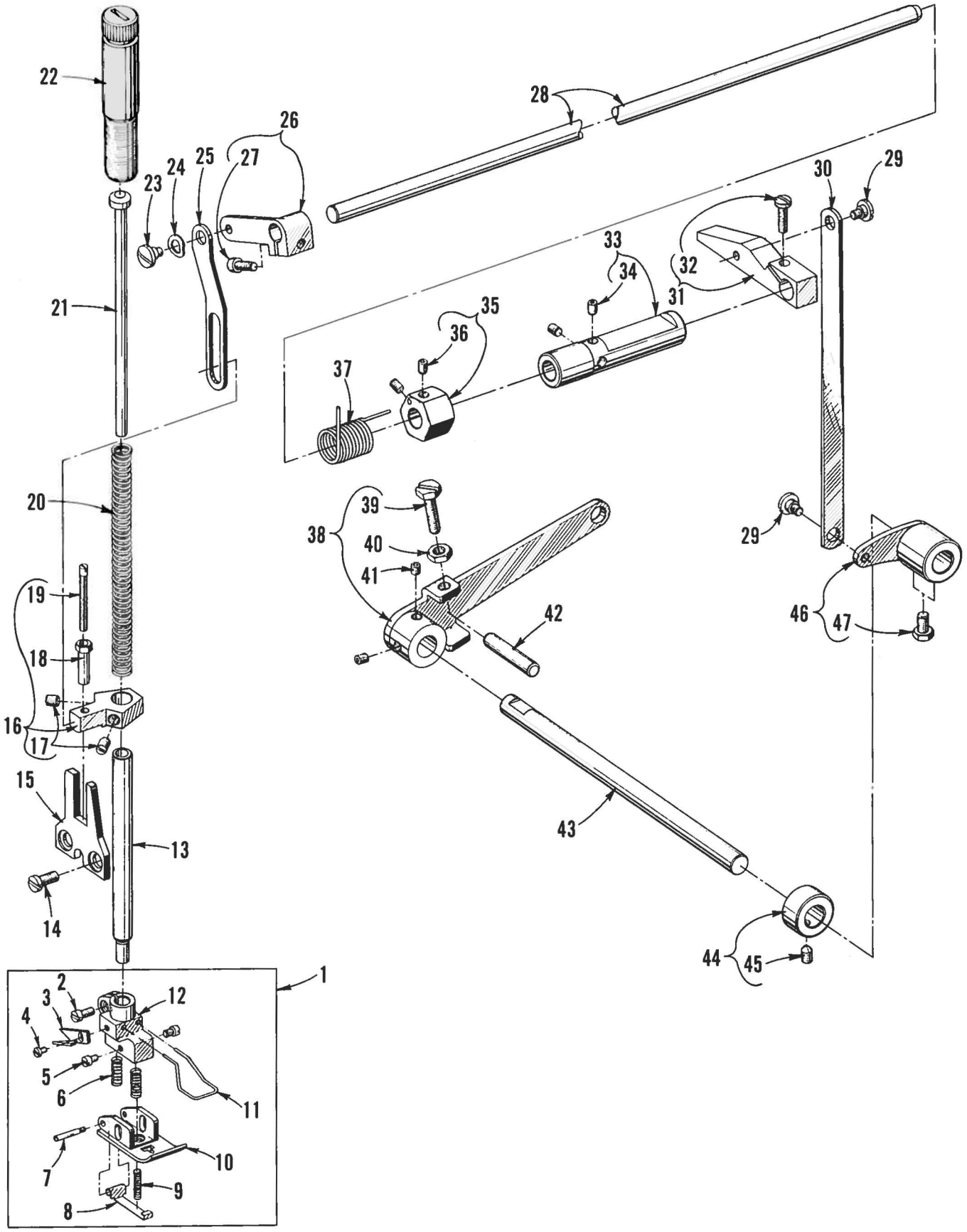
OIL PAN AND LUBRICATING PARTS

Ref. No.	Part No.	Description	Amt. Req.
1	22720 B	Screw, oil connection	2
2	C50094 U	Connection, oil, single feed	2
3	C50094 V	Tube, oil	1
4	C50094 C	Connection, oil, single feed	7
5	22720 A	Screw, oil connection	8
6	22569 D	Screw	1
7	C50093 AM	Tube, oil, head return	1
8	C50093 L	Pump Assembly, oil	1
9	C50093 BS	Coupling, drive	1
10	22764	Screw, spot	1
11	660-739	Seal, radial lip	1
12	C50093 N	Housing, pump (suction)	1
13	C50093 Z	Pin, dowel	1
14	C50093 R	Gerotor, 1/8 inch (3.2mm) thick	1
15	C50093 P	Shaft	1
16	22784 E	Screw	1
17	22708	Screw	4
18	C50093 S	Spacer, housing	1
19	660-684	"O" Ring	1
20	C50093 T	Divider, housing	1
21	C50093 U	Gerotor, 1/4 inch (6.4mm) thick	1
22	C50093 M	Housing, pump (pressure)	1
23	C50093 CB	By-Pass, oil filter	1
24	C50093 CA	Filter, oil	1
25	C50094 M	Tube, oil return	1
26	22851 A	Screw	1
27	56322 B	Gasket	1
28	22541 C	Screw	1
29	C50093 G	Gasket	1
30	C50093 F	Cover, flow control manifold	1
31	22541	Screw	4
32	C50093 AN	Cooler, oil	1
33	22592 B	Screw	2
34	C50093 CG	Syphon Assembly, oil	1
35	C50093 CK	Tube, oil return	1
36	660-856	Filter, oil return	1
37	C50093 CH	Tube, syphon drain	1
38	C50093 CJ	Tube, oil return	1
39	C50093 CL	Fitting	1
40	56322 B	Gasket	2
41	671 F-4	Fitting	1
42	79-31	Ball, steel	1
43	C50093 CM	Manifold, oil syphon	1
44	22730	Screw	1
45 thru 85		See following page	



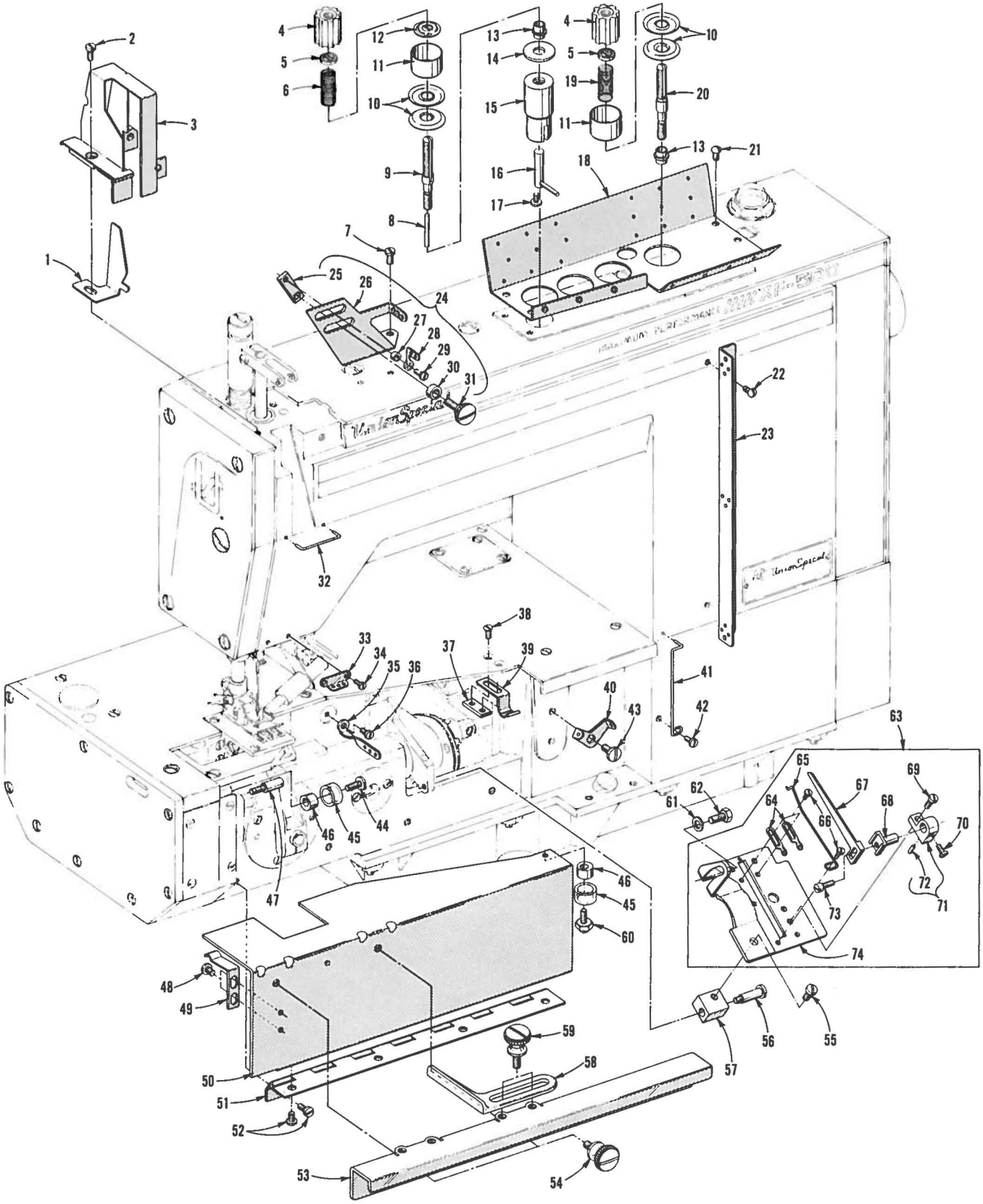
OIL PAN AND LUBRICATING PARTS

Ref. No.	Part No.	Description	Amt. Req.
1 thru 44		See preceding page	
45	C50093	Manifold, flow control	1
46	22652 B-12	Screw	4
47	660-683	"O" Ring	5
48	660-220	"O" Ring	5
49	73	Screw	2
50	C50094 F	Strainer, oil	1
51	C50094 G	Screen, oil	1
52	C50094 Y	Tube, oil	1
53	C50094 P	Tube, oil	4
54	RI-37	Ring, wire	5
55	C50093 BX	Valve, check	1
56	C50094 AA	Tube, oil	1
57	671 F-41	Tee, union	1
58	660-885	Clamp, hose	1
59	C50093 BH	Gasket	2
60	666-294	Elbow, male	4
61	C50093 AJ	Fitting, adaptor	2
62	C50093 BE	Nut	2
63	660-750	Sleeve, compression	2
64	660-749	Nut, compression	2
65	C50094 AC	Tube, oil	1
66	C50093 BV	Valve, cardan lubrication priority	1
67	660-855	Connector, compression	1
68	671 C-4	Connector, male	1
69	C50094	Tube, oil	1
70	C50094 R	Tube, oil	1
71	RM3728-1	Fitting, oil	1
72	C50094 B	Connection, oil, double feed	1
73	C50094 Z	Tube, oil	1
74	C50093 AB	Gasket, oil pan	1
75	22881 B	Screw	2
76	51295 A	Isolator	7
77	C50095 C	Retainer, isolator	6
78	C50095	Screw	8
79	C50093 AA	Pan, oil	1
80	22571 F	Plug, drain	2
81	C50093 AH	Screen, filter	1
82	660-752	Screw	12
83	C50093 AG	Plate, filter	1
84	C50093 AE	Sleeve, stand pipe	1
85	670 E-2	Tie, cable; to secure Ref. No. 37 to Ref. No. 69	1

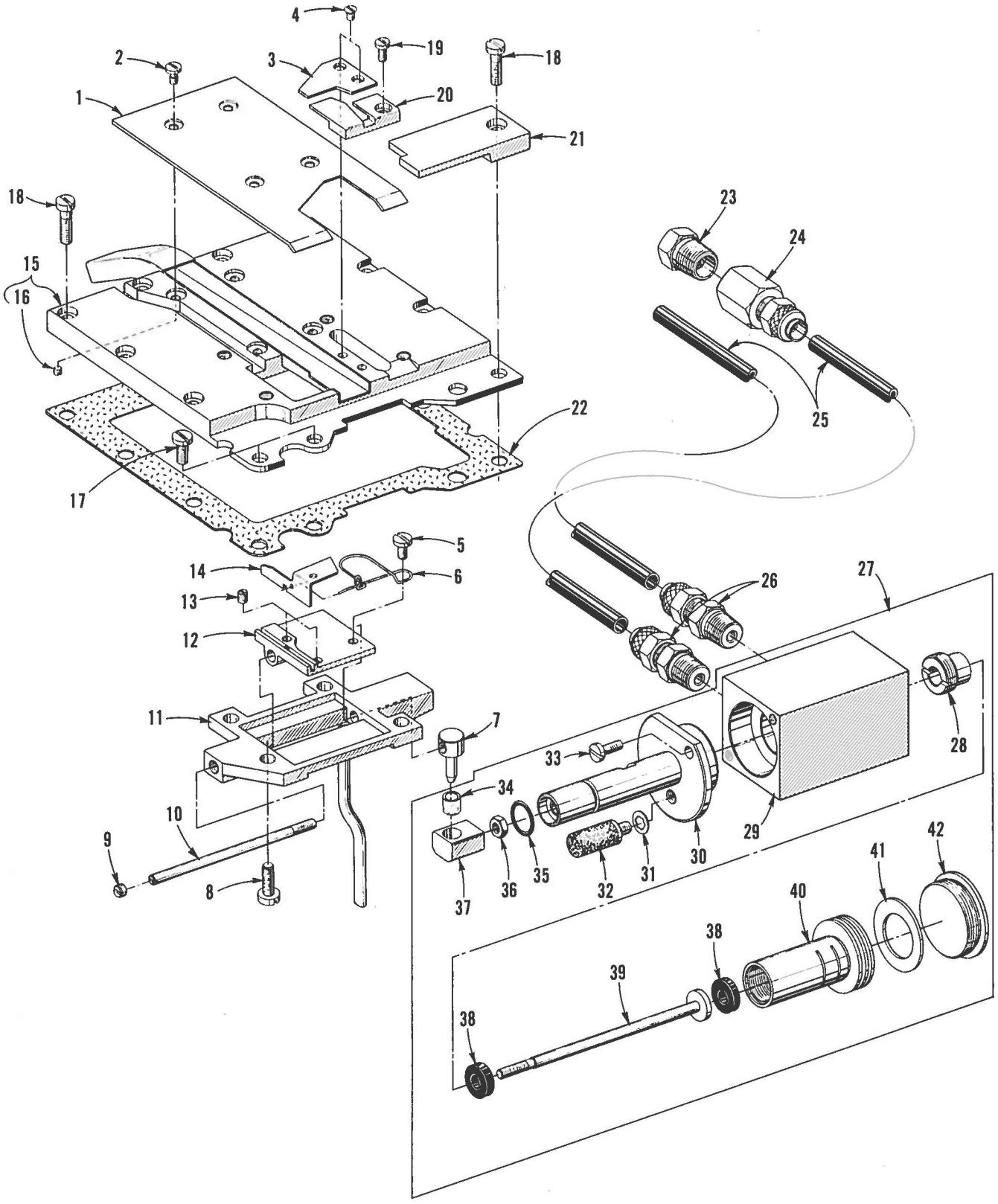


PRESSER FOOT AND LIFTER LEVER PARTS

Ref. No.	Part No.	Description	Amt. Req.
1	C50020	Presser Foot Assembly	1
2	22562	Screw	1
3	52930 AC	Knife, chain cutting, marked "D"	1
4	604	Screw	1
5	22784 M	Screw	2
6	C50030 C	Spring	2
7	22799 B	Screw, hinge	1
8	C50030 B	Section, yielding	1
9	C50030 D	Spring	1
10	C50030 A	Bottom, presser foot	1
11	C50031	Guard, finger	1
12	C50030	Shank, presser foot	1
13	C50057 E	Bar, presser	1
14	22569 C	Screw	2
15	C50067 K	Plate, presser bar guide	1
16	C50056 K	Guide, presser bar	1
17	531	Screw	2
18	C50056 J	Nut, lock	1
19	22840 C	Screw	1
20	C50056 C	Spring, presser bar	1
21	C50056 B	Guide, presser bar spring	1
22	C50056 D	Regulator, presser bar spring	1
23	22758	Screw	1
24	660-718	Washer, spring	1
25	C50067 F	Link, presser foot lift	1
26	C50067 G	Lever, upper left, presser foot lift	1
27	22596 E	Screw	1
28	C50022 C	Shaft, upper, presser foot lift	1
29	22758	Screw	2
30	C50067	Connection, presser foot lift	1
31	C50067 B	Lever, upper right, presser foot lift	1
32	22596	Screw	1
33	C50090 J	Sleeve, tension release	1
34	22894 W	Screw	2
35	C50090 M	Collar, tension release adjusting	1
36	22894 P	Screw	2
37	C50090 N	Spring, tension release return	1
38	C50067 A	Lever, outer, presser foot lift	1
39	627 A	Screw	1
40	15037 A	Nut	1
41	22894 C	Screw	2
42	667 M-14	Pin, dowel (lifter lever stop)	1
43	C50022 D	Shaft, lower, presser foot lift	1
44	C50036 R	Collar, thrust	1
45	22894 L	Screw, set	1
46	C50067 D	Lever, lower, presser foot lift	1
47	22882	Screw	2



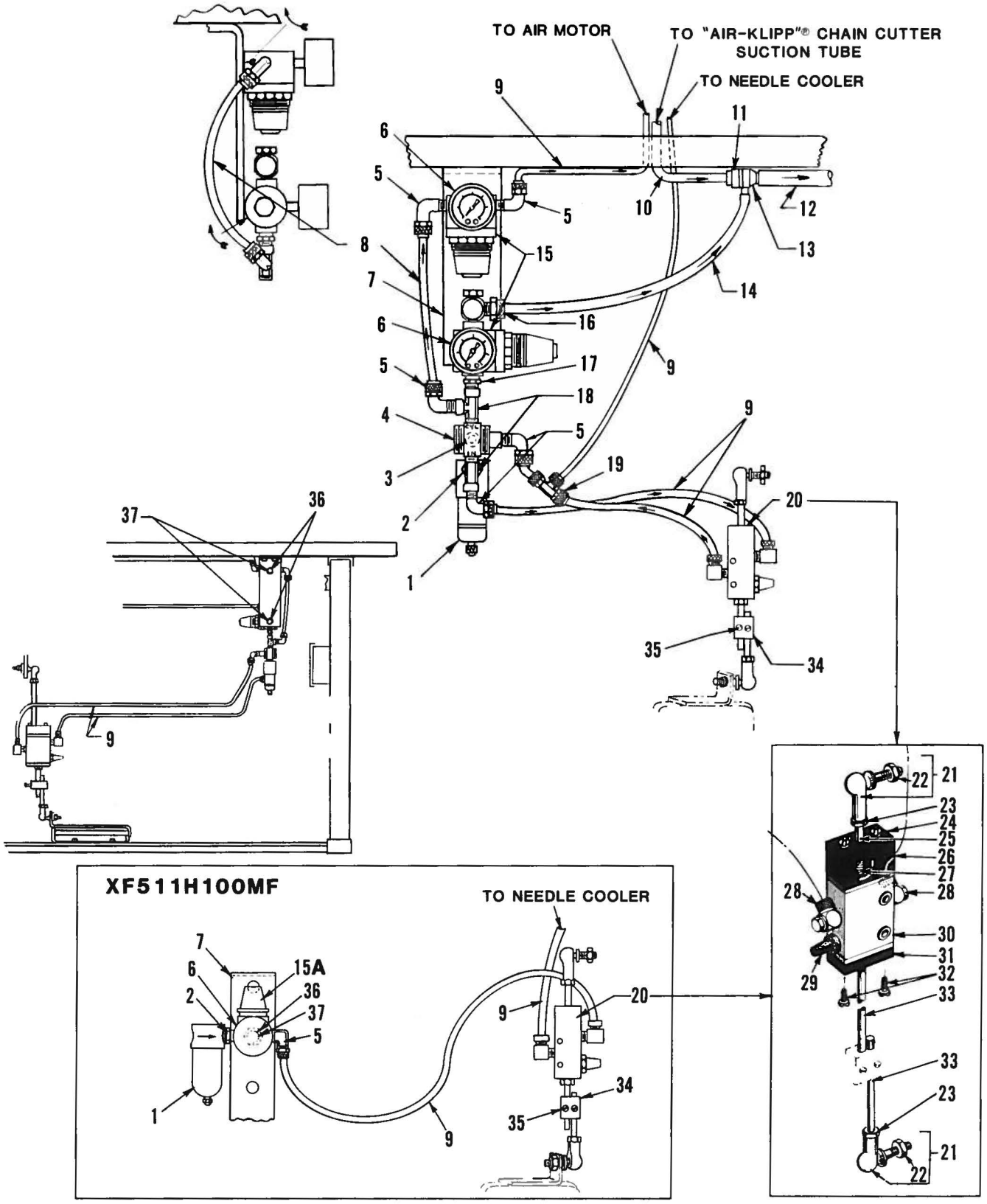
Ref. No.	Part No.	Description	Amt. Req.
1	C50070 A	Cam, needle thread take-up	1
2	22569 C	Screw	2
3	C50054 F	Guard, needle bar eyelet	1
4	C50092 S	Nut, thread tension	2
5	39592 AK	Ferrule, tension spring	2
6	51292 F-8	Spring, needle thread tension	1
7	22569 C	Screw	2
8	C50092 J	Pin, thread tension release	1
9	C50092 L	Post, tension (needle thread)	1
10	109	Disc, tension	4
11	56392 F	Shield, tension spring	2
12	C50092 M	Washer, tension release	1
13	51292 A	Ferrule, tension post	2
14	C50092 R	Washer	1
15	C50092 H	Housing, tension assembly	1
16	C50092 G	Pin, tension release actuating	1
17	18-799	Screw	1
18	C50092 N	Guide, thread	1
19	51292 F-2	Spring, looper thread tension	1
20	56392 E	Post, tension (looper thread)	1
21	22501 A	Screw	4
22	22635 G-16	Screw	2
23	C50058 A	Eyelet, looper thread	1
24	29476 PD	Thread Control Assembly	1
25	56358 B	Block, guide	1
26	C50004 A	Plate, adjusting	1
27	56358 C	Washer, guide	1
28	158 B	Eyelet, adjustable	1
29	98 A	Screw	1
30	56358 D	Washer	1
31	22837	Screw	1
32	C50058 F	Wire, rubbing (needle thread)	1
33	C50044 E	Guide, needle thread	1
34	605 A	Screw	2
35	56958	Eyelet, looper thread	1
36	22520	Screw	1
37	C50032 D	Plate, nut	1
38	87	Screw	2
39	C50032 B	Spring, latch (right)	1
40	51292 D	Eyelet, looper thread	1
41	C50058 G	Wire, rubbing (looper thread)	1
42	22585 A	Screw	1
43	22872	Screw	1
44	22569 J	Screw	1
45	C50093 BR	Bumper, rubber	2
46	C50082 W	Stop, adjustable (front cover)	2
47	22799 AH	Stud, latch spring	1
48	22513	Screw	2
49	C50032	Spring, latch (left)	1
50	C50082 Y	Cover, front	1
51	C50078 C	Hinge, front cover	1
52	22569 D	Screw	8
53	C50001 D	Extension, cloth plate	1
54	25 E	Screw	2
55	22528	Screw	1
56	9846 A	Screw	1
57	C50057 C	Block, pivot	1
58	24	Guide, edge	1
59	25	Screw	2
60	C50032 C	Screw, cover latch	1
61	53634 C	Washer	1
62	303	Screw	1
63	C50057 B	Plate Assembly, cast-off support	1
64	52958 D	Eyelet	2
65	C50004	Wire, cast-off	1
66	73 A	Screw	3
67	C50004 B	Finger, retaining	1
68	52804 E	Support, retaining finger	1
69	22768	Screw	1
70	87 U	Screw	1
71	52904 E	Bracket, retaining finger support	1
72	50-216 Blk.	Pin, dowel	1
73	22516	Screw	1
74	C50057	Support, cast-off plate	1



POWER "AIR-KLIPP"® CHAIN CUTTER AND ASSOCIATED PARTS
(STYLE XF511H112MF ONLY)

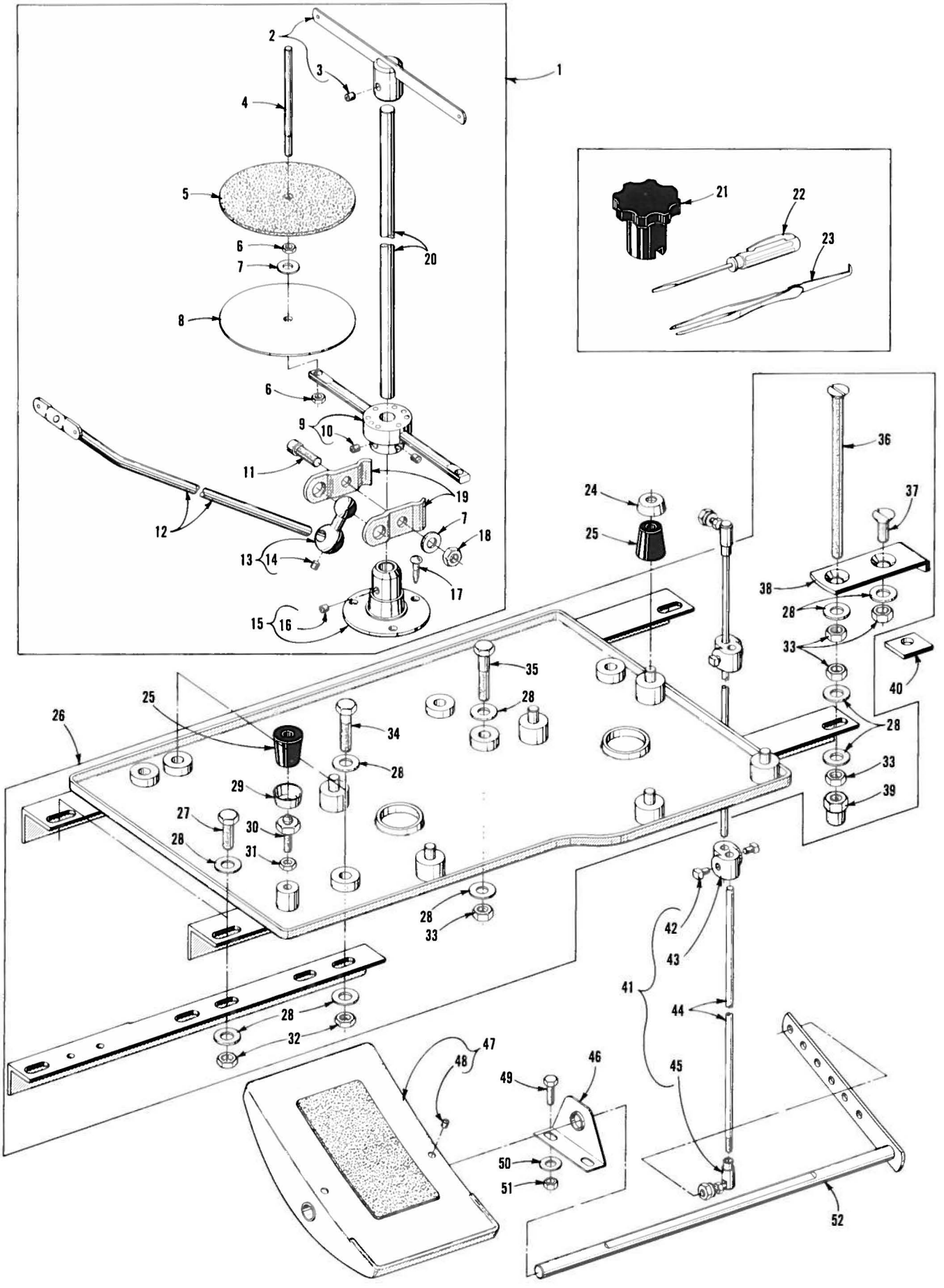
Ref. No.	Part No.	Description	Amt. Req.
1	99679 SG	Cover, suction tube	1
2	99312 A	Screw	4
3	99670 SA	Knife, upper	1
4	77 K	Screw	2
5	357	Screw	1
6	99697 SA	Spring, knife	1
7	99672 SB	Pin, coupling	1
8	93	Screw	4
9	22560	Screw	1
10	99672 SA	Rod, knife drive	1
11	99691 SA	Housing	1
12	99671 SA	Holder, knife	1
13	22565 C	Screw	2
14	99669 K	Knife, lower	1
15	99679 SA	Plate, cloth (rear)	1
16	28 B	Screw	4
17	22569 G	Screw	2
18	22572 A	Screw	9
19	22768	Screw	1
20	99677 SA	Inlet	1
21	99679 SF	Plate, cover	1
22	660-763	Muffler	1
23	C50082 E	Gasket	1
24	671 F-66	Connector, female	1
25	RM2997 D	Tubing, plastic; 5 feet (approx. 1.5m) required	-
26	660-400	Fitting, straight	2
27	671 H-2	Air-Motor Assembly	1
28	671 H-1E	Screw, plug	1
29	671 H-2A	Housing	1
30	671 H-2B	Flange, guide	1
31	999-166	Gasket, washer	1
32	999-140 B	Muffler	1
33	22585	Screw	1
34	671 H-1G	Insert, plastic (coupling pin)	1
35	660-207	"O" Ring	1
36	41071 G	Nut, lock	1
37	671 H-2D	Coupling, rod end	1
38	671 H-1H	Washer, shock absorbing	2
39	671 H-2C	Rod, piston	1
40	671 H-1A	Piston, drive	1
41	671 H-1F	Washer, stop	1
42	671 H-1D	Screw, plug	1
	V29944 A	"AIR-KLIPP" Chain Cutter Kit is available, includes Ref. Nos. 1 through 16.	

XF511H112MF



PNEUMATIC CONTROLS AND ASSOCIATED PARTS

Ref. No.	Part No.	Description	Amt. Req.
1	671 D-5	Filter, air line	1
2	RM3320-1	Nipple, reducing	1
3	660-403	Muffler, for Style XF511H112MF only	1
4	RM4098-1	Valve, pilot; for Style XF511H112MF only	1
5	660-401	Elbow, 90°; for Style XF511H112MF only	5
-	660-401	Elbow, 90°; for Style XF511H100MF only	1
6	671 D-15	Gauge, pressure; for Style XF511H112MF only	2
-	671 D-15	Gauge, pressure; for Style XF511H100MF only	1
7	99683 CC	Bracket, mounting	1
8	660-392	Tube, air, 1/4 inch (6.35mm) O.D. x 6 1/2 inches (165.1mm) long; for Style XF511H112MF only	1
9	RM2997 D	Tube, air, 1/4 inch (6.35mm) O.D. (specify length)	as req.
10	671 B-12	Tube, suction; for Style XF511H112MF only	1
11	998-332	Holder, venturi; for Style XF511H112MF only	1
12	671 B-11	Tube, discharge; for Style XF511H112MF only	1
13	671 D-2	Venturi, for Style XF511H112MF only	1
14	99675-1500	Tube, venturi supply; for Style XF511H112MF only	1
15	671 D-9	Regulator, pressure; for Style XF511H112MF only	2
15A	RM3693-1	Regulator, pressure; for Style XF511H100MF only	1
16	999-217	Connector, for Style XF511H112MF only	1
17	RM3287-2	Nipple, hexagon; for Style XF511H112MF only	1
18	RM2850 D	Tee, pipe; for Style XF511H112MF only	2
19	RM3384-1	Tee, union; for Style XF511H112MF only	1
20	99683 HC-155	Valve Assembly, treadle rod	1
21	999-146	Link	2
22	95250	Nut	1
23	95250	Nut	3
24	95073	Screw	2
25	99683 J	Stud	1
26	99683 K	Guide	1
27	110-4	Spring	1
28	999-127	Elbow, 90°	2
29	999-140	Muffler	1
30	999-139	Valve, cam, 3/2 way	1
31	99683 E	Connection	1
32	95151	Screw	2
33	99563 A-155	Rod	2
34	671-2	Block, mounting	1
35	91 D	Screw	2
36	671 C-16	Stud, mounting; for Style XF511H112MF only	2
-	671 C-16	Stud, mounting; for Style XF511H100MF only	1
37	11635 B	Nut, for Style XF511H112MF only	2
-	11635 B	Nut, for Style XF511H100MF only	1
	RM2871 B	Tie, cable (Not Shown)	4
	660-870	Mount, cable tie (Not Shown)	4
	671 F-1	Fitting, barb, air filter inlet (Not Shown)	1
	671 F-6	Bushing, reducing, air filter inlet (Not Shown)	1



THREAD STAND AND ACCESSORIES

Ref. No.	Part No.	Description	Amt. Req.
1	21102 H-2	Thread Stand Assembly	1
2	21114 H	Support, eyelet	1
3	22651 CD-4	Screw	1
4	21114 W	Pin, spool	2
5	21104 V	Pad, felt	2
6	258 A	Nut	4
7	652-16	Washer	3
8	21114	Disc, spool seat	2
9	21114 D-2	Support, spool seat	1
10	22651 CD-5	Screw	2
11	22810	Screw	1
12	21114 S-2	Eyelet, thread	1
13	21114 T	Ball, socket	1
14	22651 CD-4	Screw	1
15	21114 A	Base, thread stand	1
16	22651 CD-4	Screw	1
17	SC330	Screw	3
18	21104 H	Nut	1
19	21114 U	Socket, split	2
20	21104 B-24	Rod, thread stand	1
21	21205 B	Wrench, stitch length adjusting	1
22	21207 B	Screwdriver, 1/8 inch (3.9mm) diameter blade, length overall 4 3/16 inches (106.4mm)	1
23	660-240	Tweezer, thread	1
24	C50095 C	Retainer, isolator	6
25	51295 A	Isolator	7
26	21374 C	Cradle Assembly, machine	1
27	22604	Screw	2
28	RM3293-3	Washer	30
29	C50095 C	Retainer, isolator	1
30	C50095	Screw, mounting	1
31	651 B-16	Nut	1
32	651 B-24	Nut	4
33	11698 L	Nut	19
34	22604	Screw	2
35	22640	Screw	3
36	22638 C	Screw, flat head	4
37	SC170	Screw, flat head	4
38	21374 D	Bracket, frame mounting	4
39	21371 LR	Nut, cap	4
40	21374 U	Spacer, table board	4
41	28561 M	Rod Assembly, Pitman	1
42	22508	Screw	4
43	28562 A	Connection	2
44	1453	Rod	2
45	21374 T	Joint, connecting	2
46	21374 N	Bracket, treadle shaft mounting	3
47	21374 P	Treadle, presser foot	1
48	22651 CD-4	Screw	2
49	SC4	Screw	6
50	652-16	Washer	6
51	RM2791-3	Nut	6
52	21374 R	Shaft, presser foot treadle	1
	28604 S	Container of oil, 32 ounces (946ml) not illustrated	1

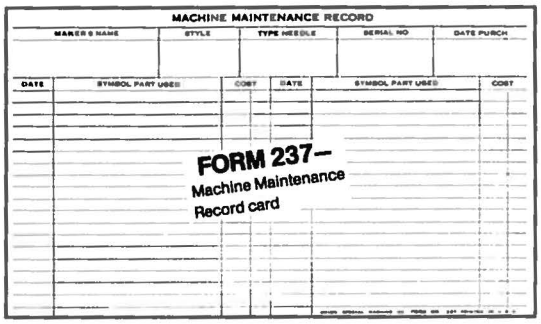
Union Special Corporation Wants to Help You Cut Sewing Machine Maintenance Costs

Union Special Corporation is offering two practical systems to help pinpoint and reduce your sewing machine maintenance costs: a record keeping system to help spot machines requiring abnormally high maintenance, and a parts inventory system to speed routine repairs.

Machine Maintenance Records

Repair-prone machines or inexperienced operators can eat up your maintenance dollars in short order. To help spot these problems, Union Special Corporation suggests two variations of a simple maintenance record keeping system using cards provided by Union Special Corporation.

The first system utilizes a "Machine Maintenance Record" card (Form 237) for each sewing machine in a plant. When a repair is required, the card is pulled from the file and the repair date, parts used, and



their cost are entered in the spaces provided and the card is refiled.

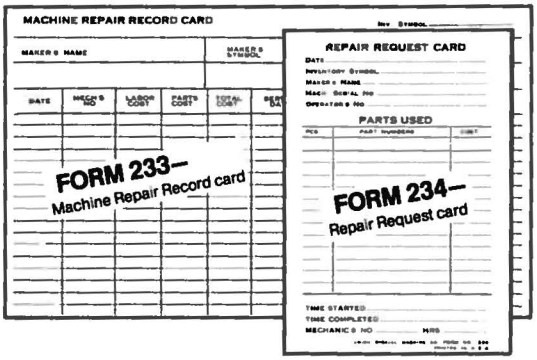
The second system is normally used when more detailed information on repair costs is desired. Two record cards are used: a "Repair Request Card" (Form 234), and a "Machine Repair Record" (Form 233). When a machine requires service, the forelady or foreman fills out the top of a "Repair Request Card" and gives it to a mechanic. He fills in the time the repair work is started, the parts used and their cost, and the completion time. This data is then transferred to the permanent "Machine Repair Record" kept in the office.

Whichever system is used, management now has an invaluable tool to reduce needless maintenance costs.

Repair Part Inventories

While record keeping tells management which machines require abnormally high maintenance, it does little to help reduce the downtime caused by routine repairs. To alleviate this situation, Union Special Corporation recommends that manufacturers establish a formal parts inventory system for each type of sewing machine they operate.

Excessive machine downtime and wasted hours by mechanics can be eliminated with an orderly in-plant inventory of the most commonly needed parts. There is no longer a need to cannibalize other machines for spare parts. Long waits for deliveries are avoided and machine downtime is kept to a minimum. The cost of a parts inventory is small when the overall savings are considered.



For free sample copies of the machine record cards and spare part inventory lists for a variety of the most popular machines, contact your local Union Special Representative or write direct to Union Special Corporation.

Union Special®
Finest Quality — Industrial Sewing Equipment

Style XF511H100MF
Style XF511H112MF

Suggested Minimum Spare Parts List*

Part Number	Description	Minimum Quantity Per 5 Machines
C50020	Presser Foot	1
22784 M	Screw	10
52930 AC	Knife, chain cutter, marked "D"	5
604	Screw, chain cutter	5
C50030 B	Section, yielding	5
C50030 D	Spring	5
C50030 C	Spring	5
22799 B	Screw, hinge	5
C50005 F	Feed Dog, 22 t.p.i.	1
22519 H	Screw, feed dog	3
C50024 A	Throat Plate, for XF511H100MF	1
C50024 B	Throat Plate, for XF511H112MF	1
87	Screw, throat plate	4
128 GBS	Needle (specify size)	200
C51409 C	Looper	1
22565	Screw, looper	3
22785	Screw, looper	3
22652 B-10	Screw, looper	3
C50025	Guard, needle	3
22562 A	Screw, needle guard	3
C50093 BC	Shaft, oil pump connecting	3
22731	Screw, oil pump connecting shaft	3
C50034 V	Cam, feed dog tilting	3
605 A	Screw, cam	5
C50093 CA	Filter	5
C50093 G	Gasket	2
22541	Screw, cover	10
C50018	Head, needle bar	3
22768 A	Screw	5
22784 N	Screw, needle cooler	10
Parts for XF511H112MF only		
99670 SA	Knife, upper	1
77 K	Screw, upper knife	5
99669 K	Knife, lower	1
357	Screw, lower knife	3
671 H-2	Air-Motor	1

*The parts and quantities listed above are intended to assist you in setting up the initial inventory of spare parts. An efficient inventory can only be established according to actual usage. The nature of the sewing operation will determine actual usage.

WORLDWIDE SALES AND SERVICE

Union Special Corporation maintains sales and service facilities throughout the world. These offices will aid you in the selection of the right sewing equipment for your particular operation. Union Special Corporation representatives and servicemen are factory trained and are able to serve your needs promptly and efficiently. Whatever your location, there is a Union Special Corporation representative to serve you. Check with him today.

It is important to remember that LEWIS® and COLUMBIA® machines are also products of Union Special Corporation, thus offering the industry the most complete line of the Finest Quality sewing machines.

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Union Special Corporation, 400 N. Franklin Street, Chicago, IL 60610, U.S.A.
Union Special, GmbH, Schwabstrasse 33, D-7000 Stuttgart 1, West Germany

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