

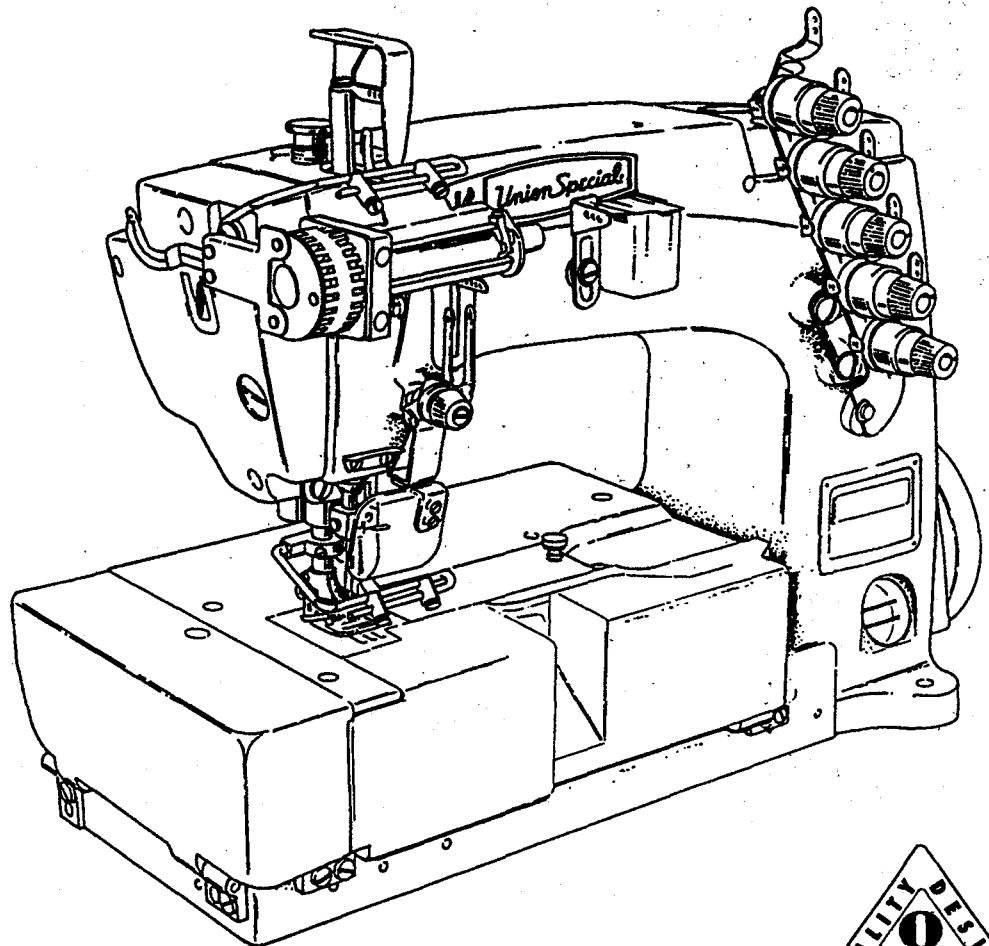
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Union Special®

INDUSTRIAL SEWING EQUIPMENT

ILLUSTRATED PARTS LIST

Differential Feed, Coverseaming Machine



P176-94



MANUAL NO. PT9402

STYLES

FS133E270MBU060

Manual No. PT9402 Illustrated Parts List for FS100 Series Machines

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By

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PREFACE

This parts manual has been prepared to assist you in locating individual parts or assemblies on FS100 Series machines. It can be used in conjunction with Union Special Adjusting Manual IN9403.

It is the desire of Union Special that each machine run at its optimum performance. Parts listed in this manual are designed specifically for your machine and are manufactured with utmost precision to assure long lasting service.

This manual has been comprised on the basis of available information. Changes in design and/or improvements may incorporate a slight modification of configuration in illustrations or part numbers.

On the following pages are illustrations and terminology used in describing the parts used on FS100 Series machines.

SAFETY RULES



General Operating Directions

The sewing machines described in this instruction manual are prohibited from being put into service until it has been ascertained that the sewing units, in which these sewing machines will be built-in have conformed with the EC Council Directives (89/392/EEC, Annex II B).

1. Before putting the machines described in this manual into service, carefully read the instructions. The starting of each machine is only permitted after taking notice of the instructions and by qualified operators.

IMPORTANT! Before putting the machine into service, also read the safety rules and instruction from the motor supplier.

2. Observe the national safety rules valid for your country.
3. Each machine is only allowed to be used as foreseen. The foreseen use of the particular machine is described in paragraph "STYLES OF MACHINES" of this instruction manual. Another use, going beyond the description, is not as foreseen.
4. All safety devices must be in position when the machine is ready for work or in operation. Operation of the machine without the appertaining safety devices is prohibited.
5. The following safety devices are components of the sewing machines: Fingerguard, needle lever eyelet guard, needle bar guard, needle break protection shield and handwheel-belt guard.
6. When gauge parts are exchanged (e.g. needle, presser foot, needle plate, feed dog and bobbin) during threading, when the operator leaves the workplace, and during service work, the machine must be isolated from the main power by switching off the main switch or disconnecting the main plug. On mechanically operated clutch motors without a start inhibitor it is necessary to wait until the motor has stopped.

7. Wear safety glasses.
8. In case of machine conversions and changes all valid safety rules must be considered. Conversions and changes are made at your own risk.
9. Commissioning of the sewing head is prohibited until such time as the entire sewing unit is found to comply with EC regulations.
10. The warning hints in the instructions are marked with one of these two symbols:



Items require special attention



Danger of injury to operative or service staff

Be sure to observe and adhere to these indications and to the generally applicable regulations.

Special Operating Directions

11. For the following the machine has to be disconnected from the power supply by turning off the main switch or by pulling out the main plug:
 - 11.1 For threading needle(s), looper, spreader etc.
 - 11.2 For replacing sewing parts such as needle, presser foot, throat plate, looper, spreader, feed dog, needle guard, folder, fabric guide etc.
 - 11.3 When leaving the workplace and when the workplace is unattended.
 - 11.4 For maintenance work.
 - 11.5 When using clutch motors without actuation lock, wait until the motor is stopped totally.

General Maintenance Directions

12. Maintenance, repair and conversion work (see item 8) must be done only by trained technicians or special skilled personnel under consideration of the instructions.
13. Any work on the electrical equipment must be done by an electrician or under direction and supervision of special skilled personnel.

Special Maintenance Directions

14. Work on parts and equipment under electrical tension is not permitted. Permissible exceptions are described in the applicable sections of standard sheet DIN VDE 0105.
15. Before doing maintenance and repair work on the pneumatic equipment, the machine has to be disconnected from the compressed air supply. In case of existing residual air pressure after disconnecting from compressed air supply (e.g. pneumatic equipment with air tank), the pressure has to be removed by bleeding.

Exceptions are only allowed for adjusting work and function checks done by special skilled personnel.

Standards

17. The sewing machines described in this manual are built according to the following standards:

EN292-2 Safety of machinery-basic concepts, general principles for design.

IEC204-3-1/EN60204-3-1 Electrical equipment of industrial machines. Part 3: Particular requirements for sewing machines, units and systems.

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IDENTIFICATION OF MACHINES

Each Union Special machine carries a style number, which on this class machine is stamped in the style plate affixed to the right front of the machine.

The serial number is stamped in the casting at the right rear base of machine.

MACHINE STYLES

FS133E270MBU060

COLLARETTE: Three needle, differential feed, medium capacity with upper elastic metering device (two stage) lower fabric undertrimmer and pneumatic elastic cutter - Typical application - For attaching 3/16" to 1 1/2" wide elastic from a roll, to panties and lingerie. Requires workstation number WS42800BK10A. Seam specifications 605 LSb-1. Standard Gauge Number 060, 15/64" (6.0 mm). Maximum recommended speed 5500 R.P.M. Recommended needle 121GBS, size 080/032.

ILLUSTRATIONS

This manual has been arranged to simplify ordering repair parts. Exploded views of 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 a listing of the parts with their part numbers, description and the number of pieces required in the particular view being shown.

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

Component parts of sub-assemblies which can be furnished for repairs are indicated by indenting their descriptions under the description of the main sub-assembly. As an example refer to the following text.

9. 29126EC	Upper Looper Drive Shaft Assembly	1
10. 22503F	Screw	1
11. 39543E	Cam Follower Locking Clamp	1

It will be noted in the previous example that the cam follower, bushing, cam guide, and the upper looper drive shaft are not listed. The reason is that replacement of these parts individually is not recommended, so the complete upper looper drive shaft assembly should be ordered.

When a part is common to all machines covered in this manual, no specific usage will be mentioned in the description. However, when the parts for the various machines are not the same, the specific usage will be mentioned in the description and, if necessary, the difference will be shown in the illustration.

A numerical index of all the parts shown in this manual is located at the back. This will facilitate locating the illustration and description when only a part number is known.

IDENTIFYING PARTS

Where the construction permits, each part is stamped with its part number. On some of the smaller parts and on those where construction does not permit, an identification letter is stamped in, to distinguish the part from similar ones.

PLEASE NOTE: Part numbers represent the same part, regardless of which manual they appear. On all orders please include part number, name and style of machine for which the part was ordered.

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 the largest diameter of the blade measured between the shank and the eye. Collectively, the type number and size number represent the complete symbol which is given on the label of all needles packed and sold by Union Special.

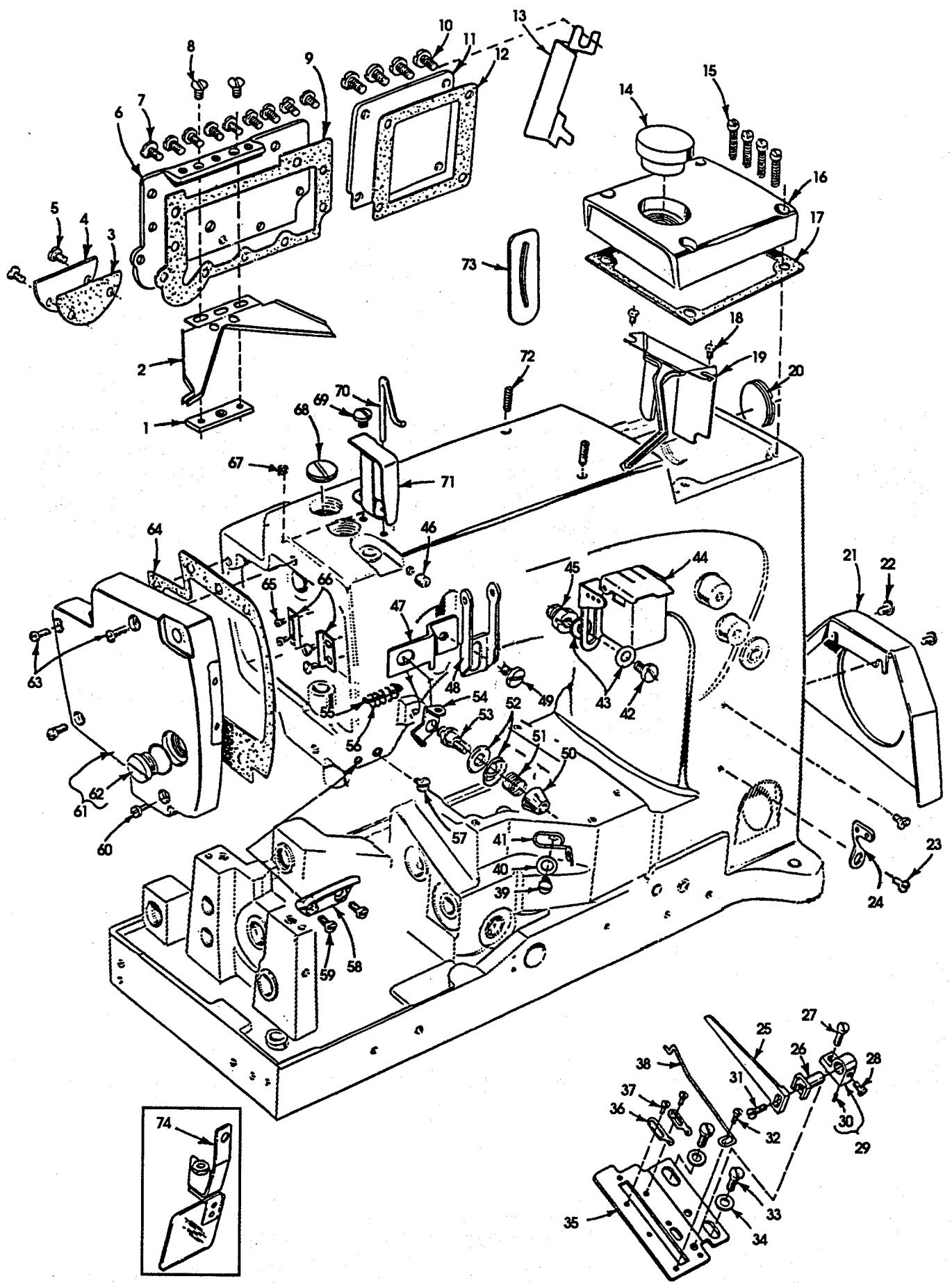
<u>TYPE</u>	<u>DESCRIPTION</u>
121 GBS	Round shank, round point, short, single groove, struck groove, spotted, ball point, chromium plated. Sizes available 065/025, 070/027, 075/029, 080/032, 090/036, 100/040.

When changing the needle, make sure it is fully inserted in the needle head before the nut is tightened.

To have needles promptly and accurately filled, an empty package, a needle sample, or the type and size number should be forwarded. Use the description on the label. A complete order should read as follows: "100 needles, type 121 GBS, size 070/027".

TERMS

Prices are net cash and subject to change without notice. All shipments are forwarded F.O.B. shipping point. A charge is made to cover postage and insurance.

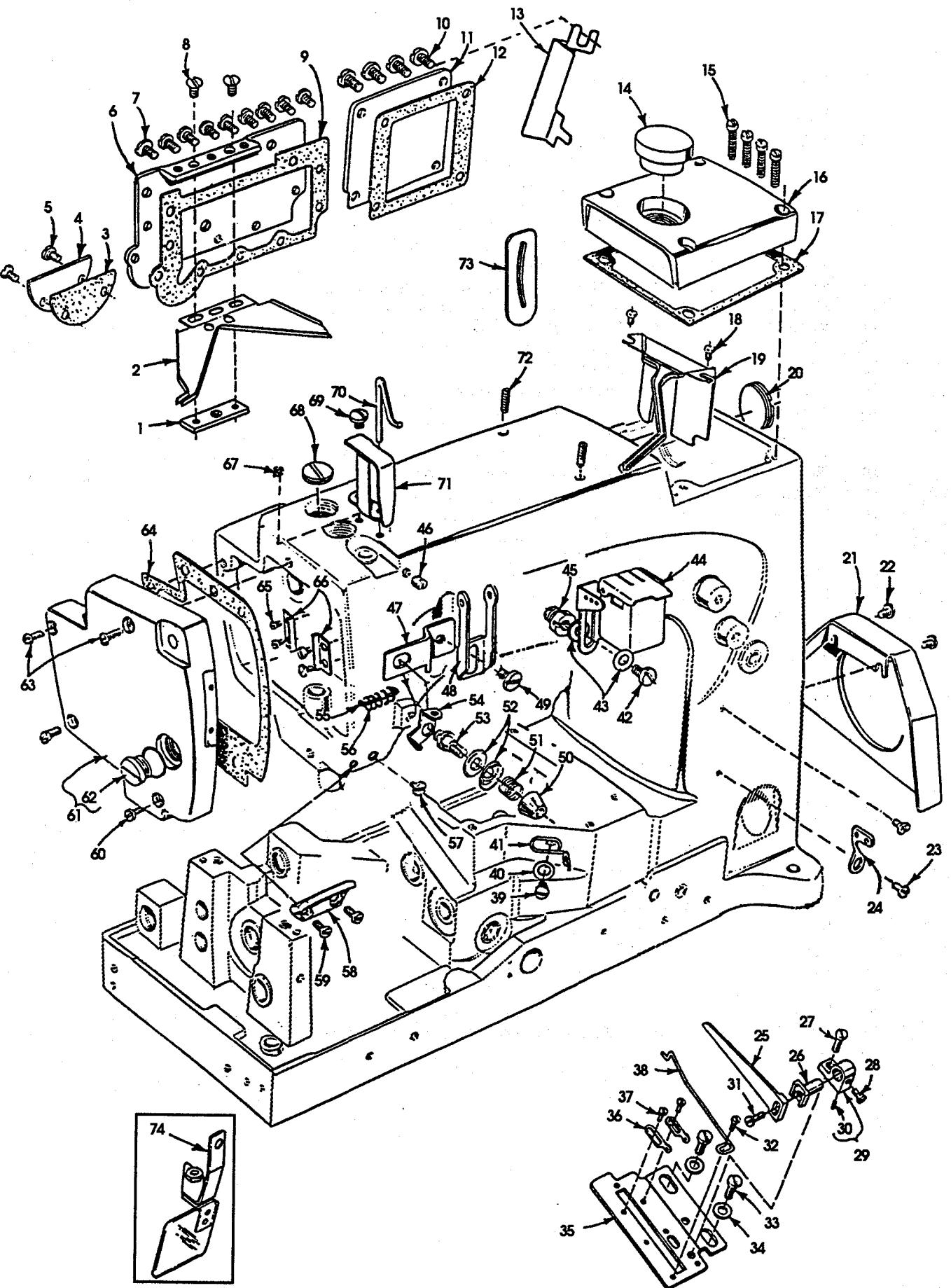


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MAIN FRAME, CAST-OFF PLATE & MISCELLANEOUS COVERS

Ref. No.	Part No.	Description	Amt. Req.
1.	56382Y	Block, for oil drip plate	1
2.	56382AB	Oil Drip Plate	1
3.	56382K	Gasket, for looper drive shaft cover	1
4.	56382J	Cover, for looper drive shaft	1
5.	22829	Screw, for looper drive shaft cover	2
6.	56382AA	Oil Reservoir Cover Back	1
7.	22848	Screw, for oil reservoir cover, back	9
8.	22524	Screw, for oil drip plate	2
9.	56382L	Gasket, for oil reservoir cover, back	1
10.	22548	Screw, for crank chamber cover, lower	4
11.	56382D	Crank Chamber Cover Lower	1
12.	56382E	Gasket, for crank chamber cover, lower	1
13.	57795B	Synchronizer Bracket	1
14.	660-1002	Plug, for crank chamber cover, upper	1
15.	22541C	Screw, for crank chamber cover, upper	4
16.	57782M	Crank Chamber Cover Upper	1
17.	56382C	Gasket, for crank chamber cover, upper	1
18.	90	Screw, for bearing oiler assembly	2
19.	56382AC	Bearing Oiler Assembly	1
20.	22539S	Plug Screw, for bed	1
21.	21375CE	Belt Guard	1
22.	22829	Screw, for belt guard	2
23.	98A	Screw, for looper guard thread eyelet	2
24.	158B	Looper Thread Eyelet	1
25.	52904B	Retaining Finger	1
26.	52804E	Retainer Support	1
27.	22768	Screw, for retaining finger support	1
28.	87U	Screw, for retainer support	1
29.	52904E	Retaining Finger Support	1
30.	50-216BLK	Pin	1
31.	22516	Screw, for retaining finger	1
32.	73A	Screw, for cast off wire	1
33.	22569C	Screw, for support plate	2
34.	69H	Washer, for support plate screw	2
35.	57757B	Cast-Off Plate	1
36.	52958D	Looper Thread Take-Up Eyelet	2
37.	73A	Screw, for take-up eyelet	2
38.	52904G	Cast-Off Wire	1
39.	22585A	Screw	1
40.	20	Washer	1
41.	53758	Looper Thread Eyelet	1
42.	22848	Screw, for lubricator bracket	1
43.	20	Washer, for lubricator bracket	1
44.	57894D	Eyelet, for needle thread lubricator	1
45.	22889H	Adapter Screw, for needle thread frame eyelet	1
46.	95	Screw	1
47.	57844C	Eyelet, for mounting plate	1
48.	57858	Spreader Thread Eyelet	1
49.	22839C	Screw	1

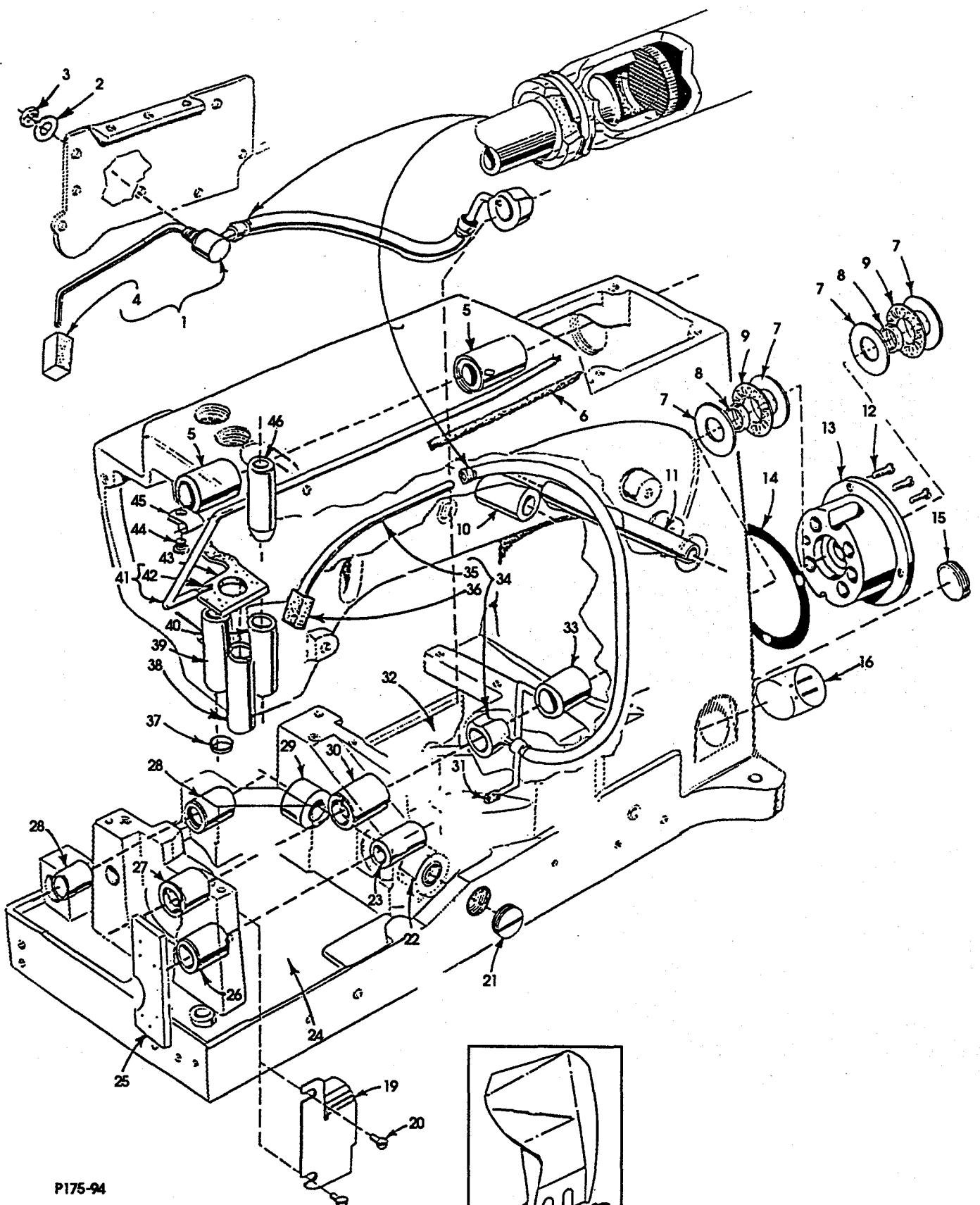
50. thru 74. See following page



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MAIN FRAME, CAST-OFF PLATE & MISCELLANEOUS COVERS (CONT.)

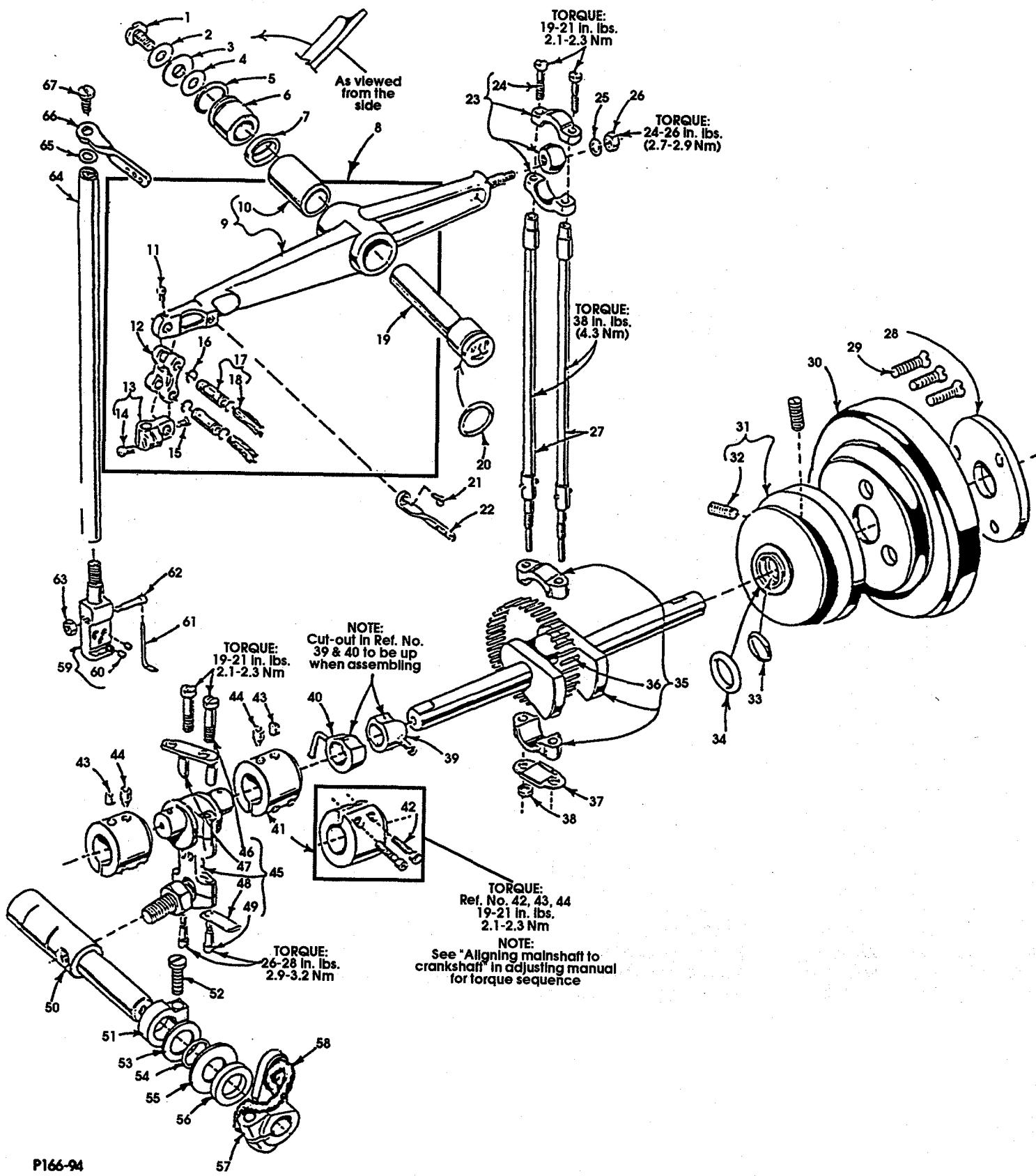
Ref.	No.	Part No.	Description	Amt. Req.
1. thru 49. See preceding page				
50.	57892H		Nut, for spreader thread post	1
51.	57892C5		Spreader Tension Spring	1
52.	80665F		Disk, for tension post	2
53.	57892J		Spreader Tension Post	1
54.	57844		Spreader Thread Guide	1
55.	34758		Needle Thread Guide	1
56.	57858A		Thread Guide Spring	1
57.	22542		Screw, for spreader thread guide	1
58.	57944B		Needle Thread Guide	1
59.	605A		Screw, for needle thread guide	2
60.	22541C		Screw, for head cover	2
61.	57882M		Head cover	1
62.	22539AB		Plug Screw, for head cover	1
63.	22851D		Screw, for head cover	2
64.	57882L		Gasket, for head cover	1
65.	22564B		Screw, for guide plate	4
66.	34831C		Guide plate	2
67.	22539AA		Plug Screw, for bed	1
68.	22894Y		Set Screw	1
69.	22585A		Screw, for eyelet guard	1
70.	57770		Needle Thread Take-Up	1
71.	33795		Guard, for needle thread eyelet	1
72.	22894E		Screw, for needle lever stud	2
73.	660-617		Gasket, for needle lever eyelet	1
74.	99682XCA		Guard, for needle break	1



From the library of: Diamond Needle Corp

MAIN FRAME, BUSHINGS, OIL SIGHT GAUGE & MISCELLANEOUS OILING PARTS

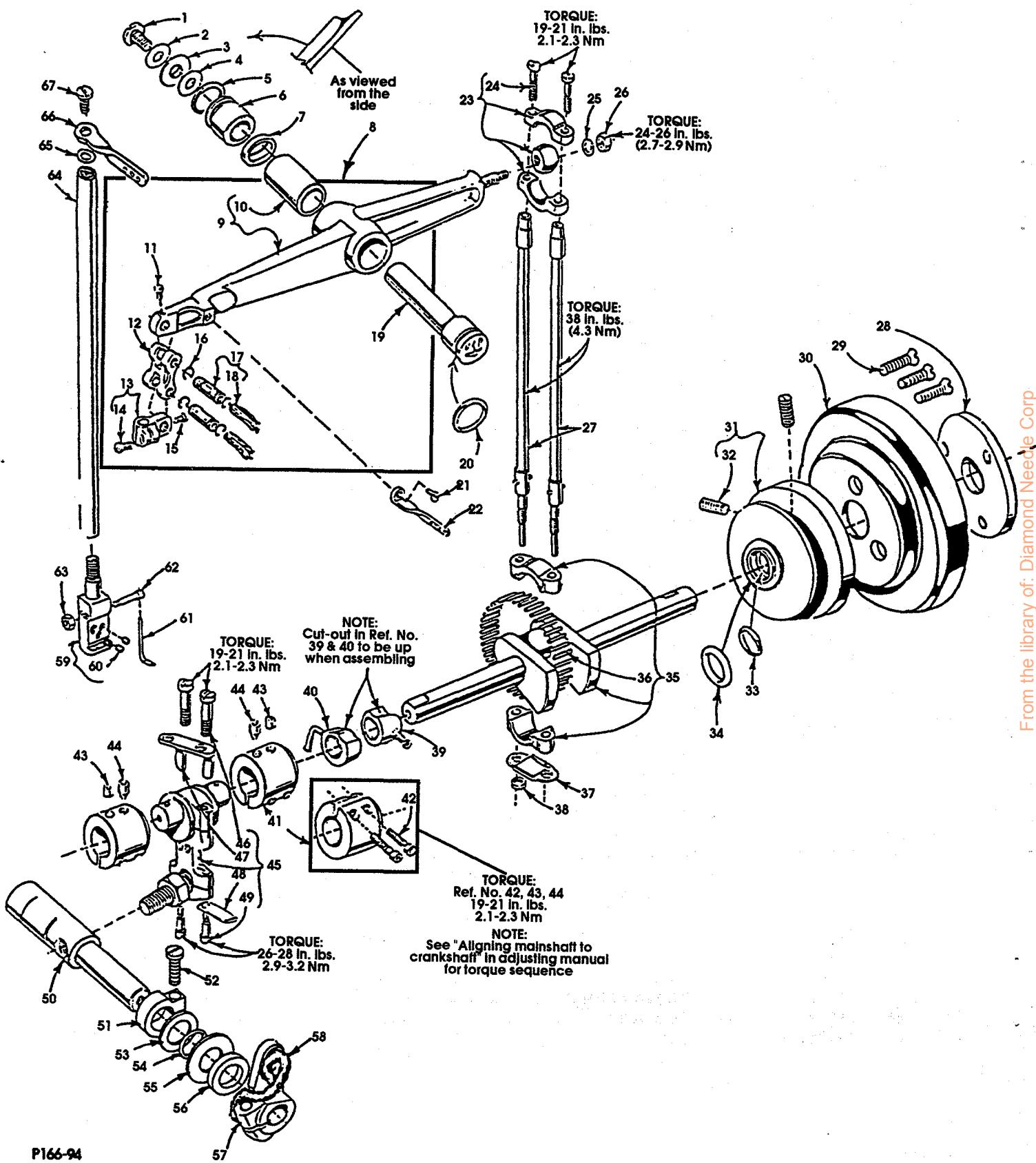
Ref. No.	Part No.	Description	Amt. Req.
1.	59493A	Base Oil Pump Assembly	1
2.	660-230	Gasket	1
3.	258A	Nut	1
4.	666-214	Felt Intake	1
5.	57849	Bushing, for spreader rocker shaft	2
6.	CL-21	Oil Wick	1
7.	56390H	Thrust Washer	4
8.	56390J	Pilot Ring	2
9.	660-665	Needle Thrust Bearing	2
10.	52883R	Bushing, for presser foot lifter	1
11.	21657X	Release Bushing	1
12.	22569B	Screw, for crankshaft bushing housing	3
13.	57890B	Crankshaft Bushing Housing	1
14.	56390E	Gasket, housing	1
15.	22539R	Oil Drain Plug	1
16.	51-902BLK	Oil Sight Gauge	1
17.	52879A	Chip Guard Lower	1
18.	22711	Screw	2
19.	57894	Oil Deflector	1
20.	90	Screw, for oil deflector	2
21.	22539	Plug Screw	1
22.	52942AB	Bushing, for looper drive lever shaft	1
23.	50-895BLK	Bushing, for looper rocker shaft	1
24.	56393P	Felt, base, front	1
25.	666-259	Felt (Must be modified)	1
26.	50-895BLK	Bushing, for looper rocker shaft	2
27.	56390	Main Shaft Bushing	1
28.	57836B	Bushing, for feed rocker shaft	1
29.	57842B	Bushing, for looper drive shaft, rear	1
30.	56190	Main Shaft Bushing, rear	1
31.	35897BV	Filter, for main shaft bushing	1
32.	56393Q	Felt, base, rear	1
33.	56390G	Main Shaft Bushing, rear	1
34.	57893	Oil Pump Assembly, head	1
35.	57893A	Oil Tube	1
36.	666-214	Felt Intake	1
37.	660-739	Oil Seal	1
38.	51257AA	Presser Bar Bushing	1
39.	57847B	Spreader Bushing	1
40.	57854	Needle Bar Bushing, lower	1
41.	57893C	Oil Tube	1
42.	6-67-125	Felt	1
43.	56393W	Felt Oil Attraction	1
44.	22585A	Screw, for clamp	1
45.	660-406	Clamp, for oil tube	1
46.	51154E	Needle Bar Bushing, upper	1



CRANKSHAFT, NEEDLE LEVER, NEEDLE BAR & LOOPER DRIVING PARTS

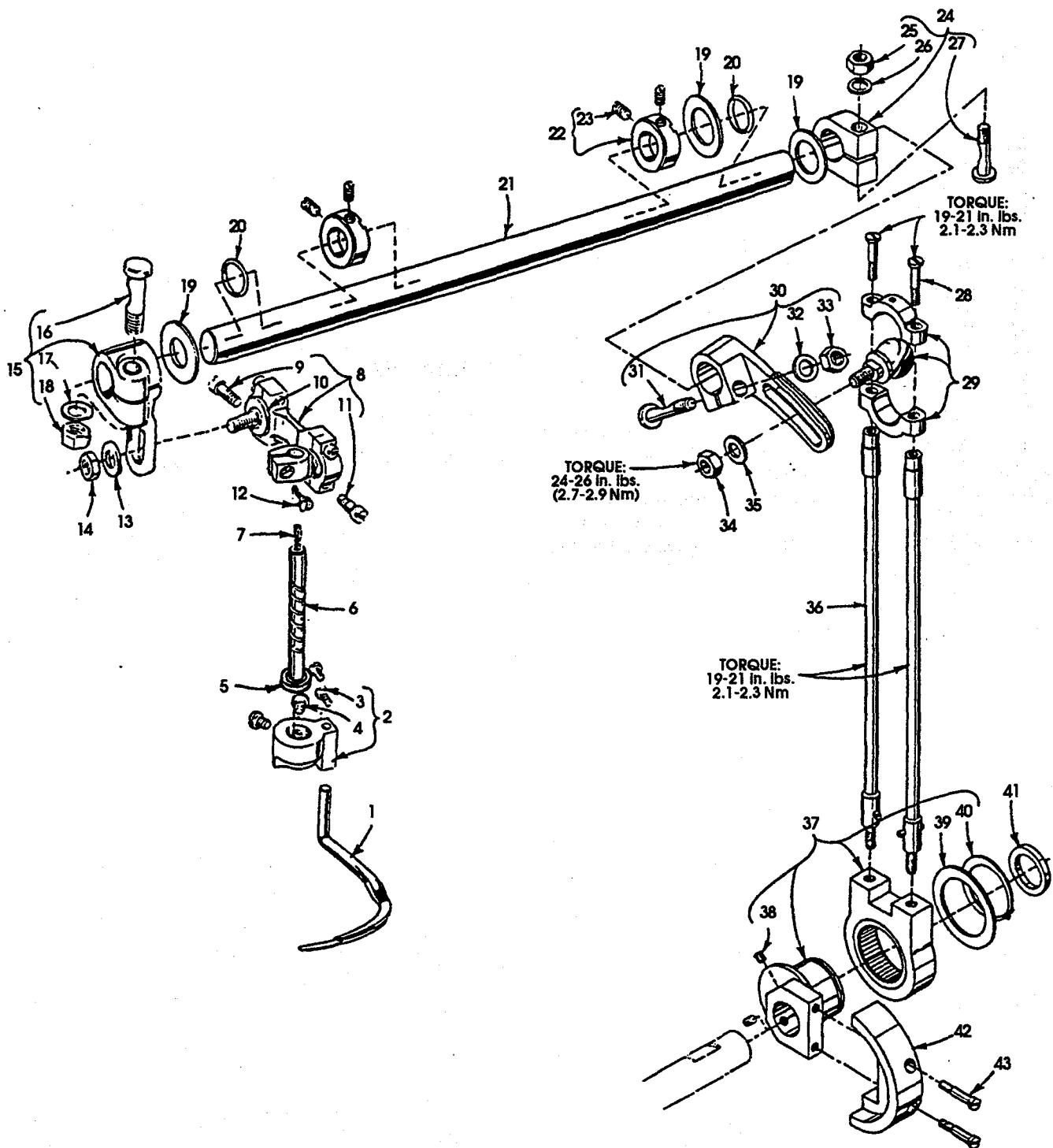
Ref.	No.	Part No.	Description	Amt. Req.
1.	22586R		Screw, for needle lever assembly	1
2.	56382AK		Gasket, for thrust collar	1
3.	51250D		Washer	1
4.	51250V		Washer	1
5.	660-625		"O"-ring	1
6.	56350J		Collar	1
7.	56350K		Retaining Washer	2
8.	29348AF		Needle Lever Assembly	1
9.	56315A		Needle Lever	1
10.	56350G		Bushing	1
11.	77		Screw	1
12.	56354D		Link, for needle bar	1
13.	51254K		Needle Bar Connection	1
14.	22562A		Screw	1
15.	22564		Screw	1
16.	660-215		Retaining Ring	4
17.	52336A		Link Pin	2
18.	WO-3		Yarn, Columbia (6 strands)	2
19.	56350D		Needle Lever Stud	1
20.	660-625		"O"-ring	1
21.	22768		Screw, for needle lever eyelet	1
22.	54458-9		Needle Lever Thread Eyelet	1
23.	29105BC		Ball Joint, for needle lever	1
24.	22559G		Screw, for ball joint	2
25.	51216N		Washer, for ball joint	1
26.	51216P		Nut, for ball joint	1
27.	56316		Needle Lever Connecting Rod	2
28.	61321L		Retaining Plate	1
29.	22574		Screw, for handwheel	3
30.	57821D		Handwheel	1
31.	56321S		Pulley, for synchronizer	1
32.	22894AB		Screw, for pulley	2
33.	660-206		Oil Seal Ring, for pulley	1
34.	660-202		"O" ring	1
35.	29476NZ		Crankshaft Assembly	1
36.	51216M		Needle Bearing	28
37.	56316C		Connecting Rod Guide	1
38.	12934A		Nut, for connecting rod guide	1
39.	57893		Oil Pump Assembly, head	1
40.	59493A		Oil Pump Assembly, base	1
41.	56343F		Coupling, for looper drive lever coupling	2
42.	22653L-8		Screw, for looper drive lever coupling	4
43.	22894C		Set Screw, for looper drive lever coupling	2
44.	22894D		Spot Screw, for looper drive lever coupling	2
45.	29105BB		Looper Lever Crank Assembly	1
46.	22587K		Screw	2
47.	56343C		Ball Joint Guide	1
48.	56343E		Oil Splasher	1
49.	22729AB		Screw	2

50. thru 67. See following page



CRANKSHAFT, NEEDLE LEVER, NEEDLE BAR & LOOPER DRIVING PARTS (CONT.)

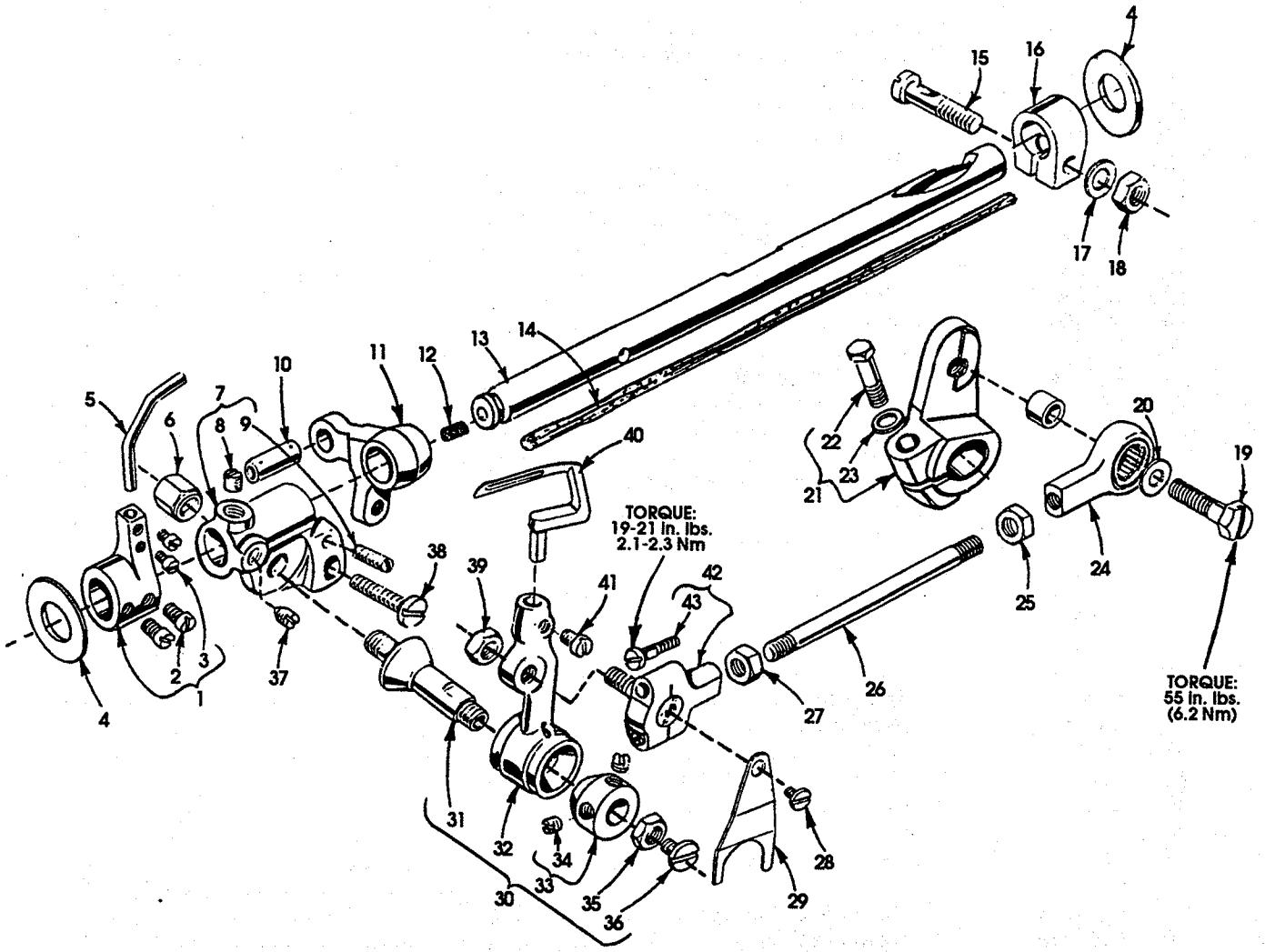
Ref.	No. Part No.	Description	Amt. Req.
1. thru 49. See preceding page			
50.	52942AF	Looper Drive Lever Rocker Shaft	1
51.	34342J	Clamp	1
52.	22652A12	Screw	1
53.	57849C	Thrust Washer	1
54.	660-202	"O"-ring	1
55.	56390H	Washer	1
56.	52951C	Thrust Washer	1
57.	56342K	Looper Drive Lever	1
58.	CL-21	Oil Wick	1
59.	57818A060	Needle Head, for all 3 needle, .060 gauge machines	1
60.	28C	Screw, needle head	3
61.	34818B	Cover Thread Guide	1
62.	99331A	Screw, for cover thread guide	1
63.	95262V	Nut, for screw	1
64.	34317	Needle Bar	1
65.	27-435BLK	Washer, for needle bar thread	1
66.	56958A	Needle Bar Thread Eyelet	1
67.	22768	Screw, for needle bar eyelet	1



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SPREADER & SPREADER DRIVE

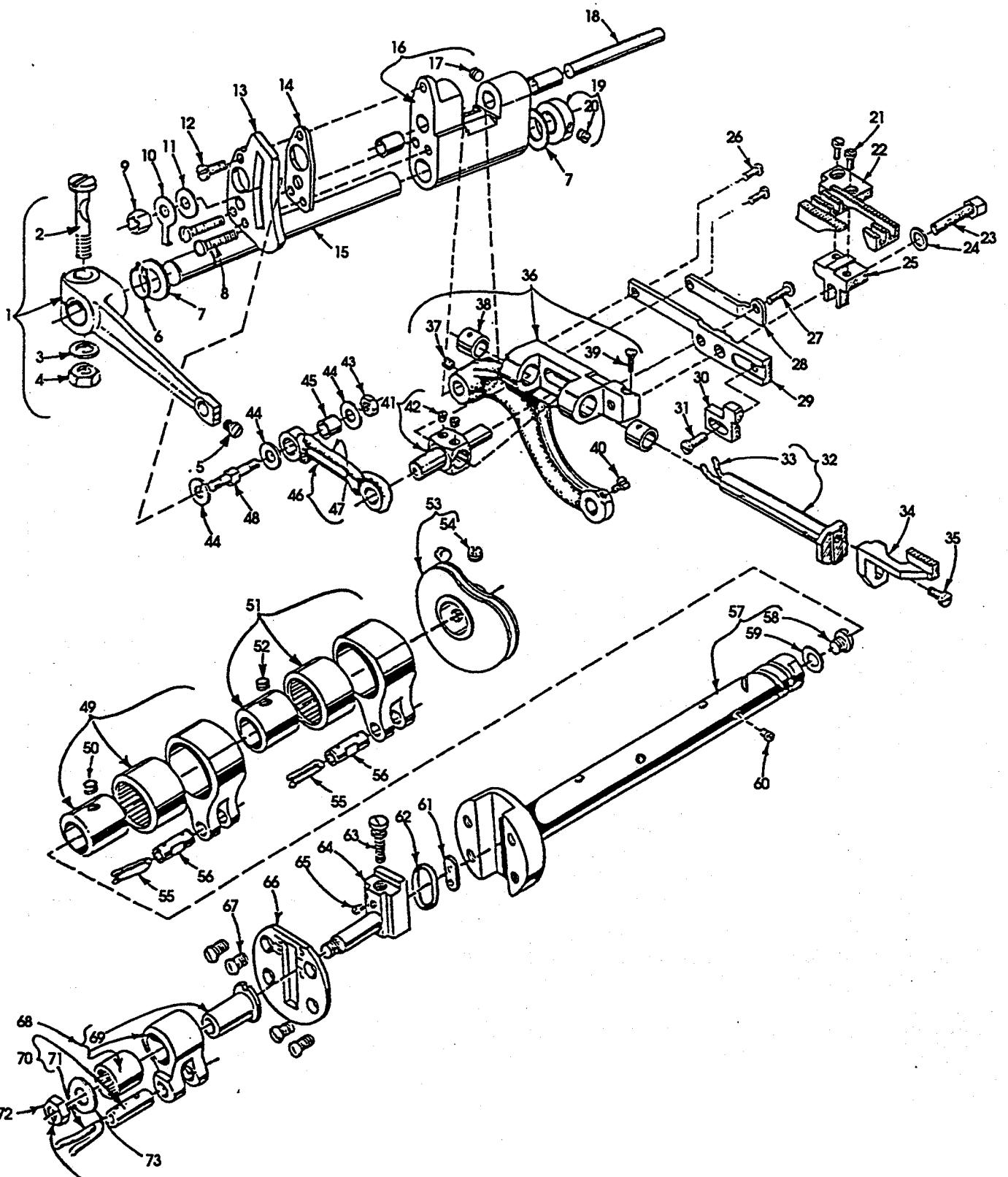
Ref. No.	Part No.	Description	Amt. Req.
1.	50345L	Spreader	1
2.	C50046	Spreader Holder	1
3.	22562B	Screw	2
4.	77	Screw	1
5.	41332J	Thrust Washer	1
6.	34847A	Spreader Holder Drive Shaft	1
7.	1204002	Oil Wick	1
8.	34848	Carrier Connecting Rod Assembly	4
9.	22729	Screw	1
10.	57835M	Washer, ball	4
11.	22729	Screw	1
12.	93	Screw	1
13.	20	Washer, for carrier connecting rod assembly	1
14.	18	Nut, for carrier connecting rod assembly	1
15.	57849A	Spreader Rocker Shaft Arm	1
16.	55235D	Locking Stud	1
17.	6042A	Washer	1
18.	55235E	Nut	3
19.	57849C	Washer, for spreader rocker shaft collar	2
20.	999-232	"O"-ring, for spreader rocker shaft	1
21.	52849	Spreader Rocker Shaft	2
22.	57847	Crankshaft Thrust Collar	2
23.	95	Screw	1
24.	57849D	Spreader Rocker Shaft Collar, inner	1
25.	55235E	Nut	1
26.	6042A	Washer	1
27.	55235D	Locking Stud	2
28.	22559G	Screw, for spreader connecting rod ball joint, upper	2
-	22569G	Screw, for ball joint	1
29.	29105BD	Spreader Connecting Rod Ball Joint, upper	1
30.	52952D	Segment Lever	1
31.	55235D	Locking Stud	1
32.	6042A	Washer	1
33.	55235E	Nut	1
34.	18	Nut, for spreader connecting rod ball joint	1
35.	HA20A	Washer	2
36.	52916	Connecting Rod	1
37.	29126CR	Spreader Drive Eccentric Assembly	2
38.	95	Screw	1
39.	52951-B	Retaining Washer	1
40.	660-246	Retaining Ring	1
41.	52951C	Spacer Washer	1
42.	52947A	Counterweight	2
43.	22587H	Screw, for counterweight	



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LOOPER ROCKER & CONNECTING ROD PARTS

Ref.	No.	Part No.	Description	Amt. Req.
1.	52825D		Holder, for front needle guard	1
2.	77		Screw	2
3.	33174B		Screw	2
4.	51244L		Thrust Washer, for looper rocker shaft	2
5.	57725B		Front Needle Guard	1
6.	57846B		Nut, for looper rocker assembly	1
7.	57744A		Looper Rocker Frame 96	1
8.	98		Set Screw	1
9.	719		Stop Screw	1
10.	51236J		Connecting Pin	1
11.	56344D		Looper Rocker Arm	1
12.	CO67E		Cork Plug, for looper rocker shaft	1
13.	57744		Looper Rocker Shaft	1
14.	WO-3		Wool Yarn, for looper rocker shaft	1
15.	55244G		Stud, for looper rocker shaft collar	1
16.	51244N		Looper Rocker Shaft Collar	1
17.	51216N		Washer, for shaft stud	1
18.	18		Nut, for shaft stud	1
19.	627		Hexagon Screw	1
20.	20		Washer, for looper lever stud screw	1
21.	56342K		Looper Drive Lever	1
22.	22882C		Screw	1
23.	20		Washer	1
24.	29476LV		Looper Connecting Rod Ball Joint, right	1
25.	18		Nut	1
26.	39141		Looper Connecting Rod	1
27.	269		Nut, for connecting rod	2
28.	87U		Screw, for ball joint oiler	1
29.	56393J		Ball Joint Oiler	1
30.	29192Z		Looper Rocker Assembly	1
31.	51745		Stud, for looper rocker cone	1
32.	57713		Looper Rocker	1
33.	15465F		Looper Rocker Cone	1
34.	88		Screw	2
35.	258		Lock Nut	1
36.	22829		Screw	1
37.	96		Spot Screw, for looper rocker frame	1
38.	22874		Lock Screw, for looper rocker frame	1
39.	18		Nut, for looper connecting rod ball joint, left	1
40.	52708B		Looper	1
41.	73		Screw, for looper	1
42.	29105BA		Looper Connecting Rod Ball Joint, left	1
43.	22729C		Screw, for ball joint	2

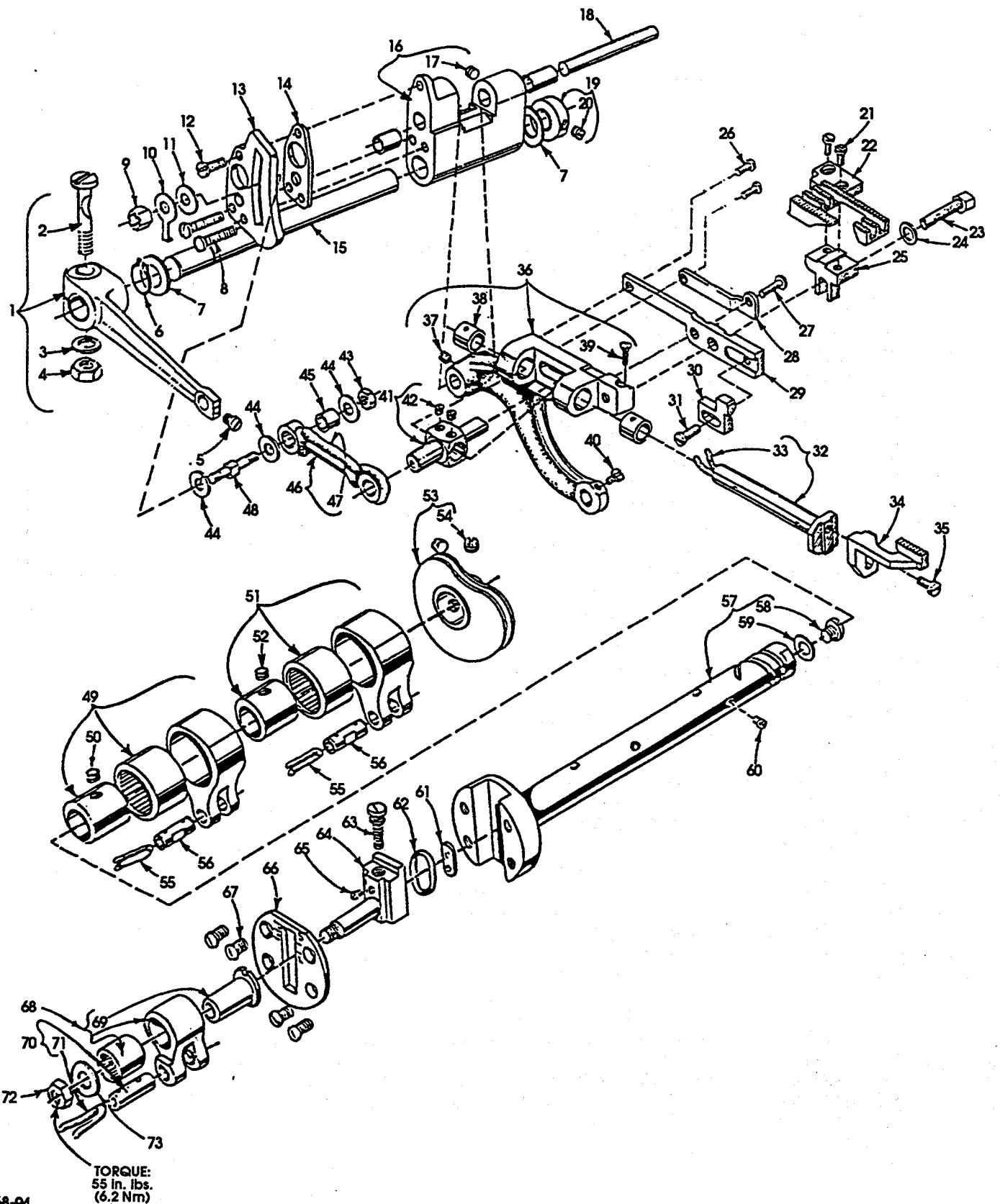


TORQUE:
55 in. lbs.
(6.2 Nm)

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MAIN & DIFFERENTIAL FEED MECHANISMS

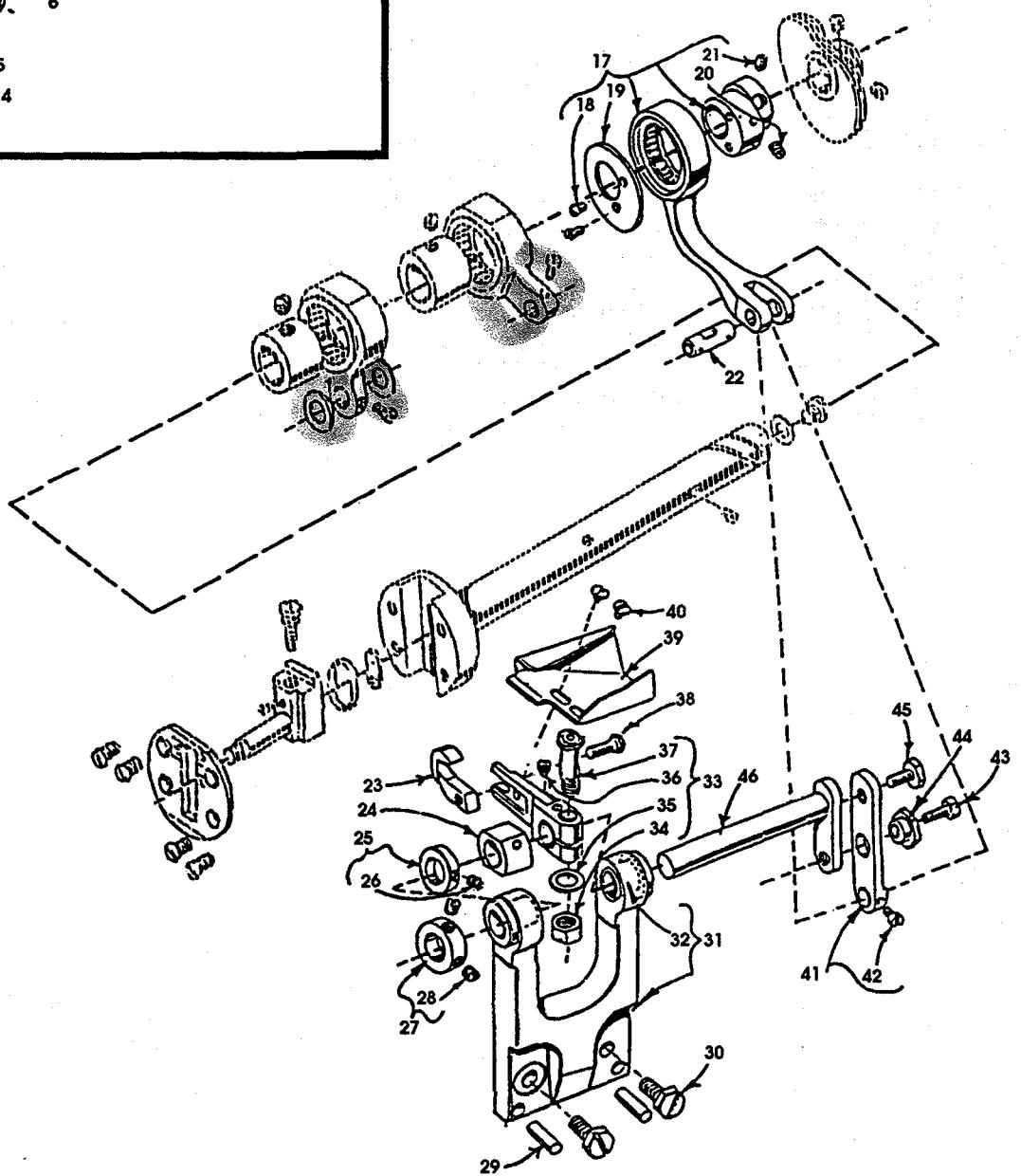
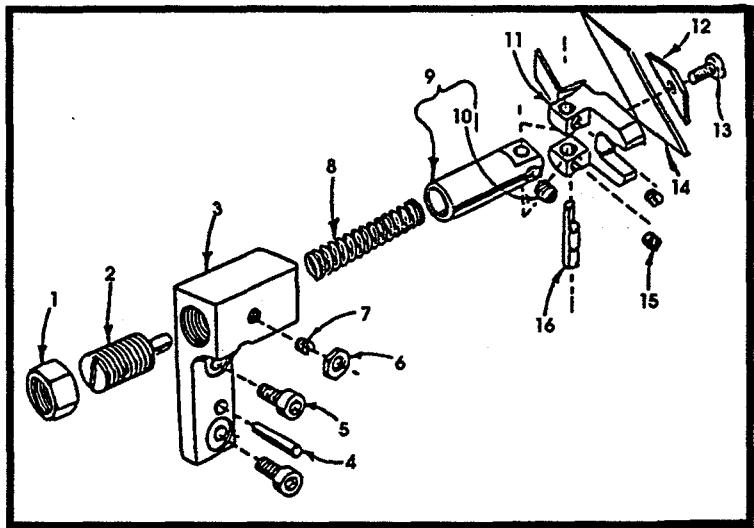
Ref.	No.	Part No.	Description	Amt. Req.
1.	57835R	Feed Rocker Arm	1	
2.	55235D	Stud, locking	1	
3.	6042A	Washer	1	
4.	55235	Nut	1	
5.	22768A	Screw	1	
6.	660-438	Retaining Ring	1	
7.	41391	Washer	2	
8.	75	Screw, for segment plate	2	
9.	52834N	Nut, for differential feed regulating stud	1	
10.	39236C	Regulating Stud Stop	1	
11.	51225W	Washer, for regulating stud	1	
12.	22516	Screw, for segment plate	1	
13.	52836Y	Feed Rocker Segment Plate	1	
14.	52836AA	Shim, for segment plate	1	
15.	56335L	Feed Rocker Shaft	1	
16.	52836AB	Feed Rocker	1	
17.	22894P	Screw, for feed rocker	2	
18.	57835X	Shaft, for feed rocker, upper	1	
19.	56335D	Collar, for feed rocker shaft	2	
20.	98	Screw, for collar	2	
21.	22593A	Screw, for feed dog	2	
22.	-----	Main Feed Dog	1	
23.	22653B10	Screw, for feed dog holder	1	
24.	51235G	Washer	1	
25.	52853	Feed Dog Holder, main	1	
26.	22593	Screw, for guide	2	
27.	22635E24	Screw	1	
28.	57837D	Guide Plate, for differential feed dog	1	
29.	57853E	Guide Plate and Support	1	
30.	57825G	Rear Needle Guard	1	
31.	91D	Screw, for rear needle guard	1	
32.	57834A	Differential Feed Bar	1	
33.	CL-21	Oil Wick	1	
34.	-----	Differential Feed Dog	1	
35.	91	Screw, for differential feed dog	1	
36.	52834P	Main Feed Bar	1	
37.	22637P-24	Screw	1	
38.	39237G	Bushing, for differential feed bar	2	
39.	22560B	Screw	1	
40.	77	Screw, for main feed bar	1	
41.	39237	Guide, for differential feed bar	1	
42.	22565C	Screw	2	
43.	907	Nut, for regulating stud	1	
44.	51225W	Washer, for regulating stud	3	
45.	39236V	Bushing, for differential feed drive link	1	
46.	52835T	Driving Link	1	
47.	CL-21	Oil Wick	1	
48.	39236B	Regulating Stud, for differential feed	1	
49.	29476RJ072	Feed Lift Eccentric Assembly	1	
50.	22894AA	Screw	1	
51.	thru 73.	See following page		



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MAIN & DIFFERENTIAL FEED MECHANISMS (CONT.)

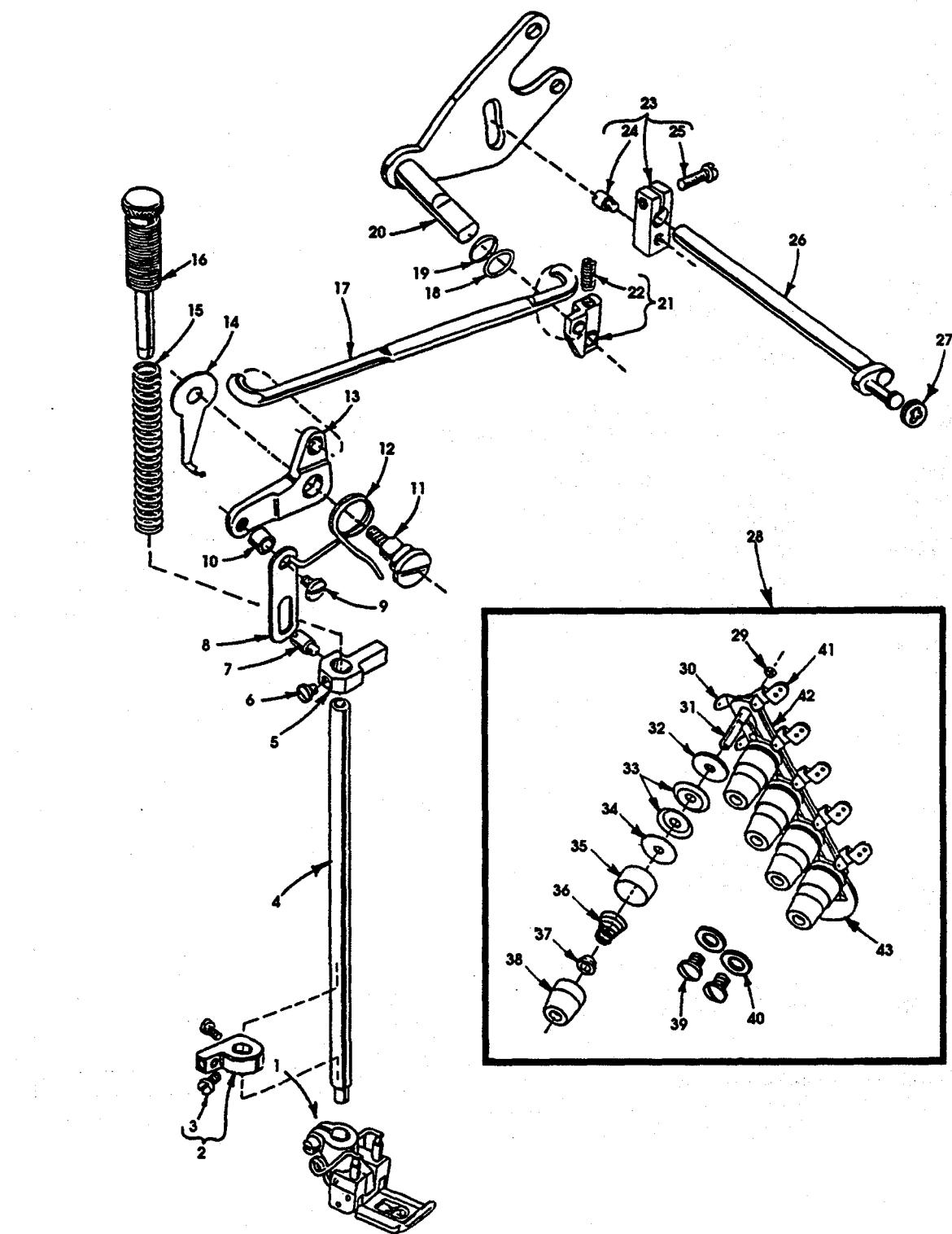
Ref. No.	Part No.	Description	Amt. Req.
1. thru 50. See preceding page			
51.	29476RS062	Looper Avoid Eccentric Assembly	1
52.	22894AA	Screw	1
53.	52923D	Looper Thread Take-Up	1
54.	22580D	Screw, for take-up	2
55.	WO-3	Wool Yarn	2
56.	51236J	Link Pin	2
57.	57722B	Main Shaft	1
58.	56322B	Screw	1
59.	22891B	Gasket	1
60.	22801	Screw, for main shaft	1
61.	56336D	Insert, feed crank stud	1
62.	660-269B	Quad Ring	1
63.	22543B	Screw, for stitch regulating	1
64.	56336	Feed Crank Stud	1
65.	22798C	Screw, for feed crank stud	1
66.	56322C	Head Plate	1
67.	22525A	Screw, for head plate	4
68.	56336K	Feed Crank Link Assembly	1
69.	56336C	Ferrule	1
70.	51236J	Link Pin	1
71.	666-149	1/8" Felt Wick	1
72.	269	Nut, for feed crank stud	1
73.	21657E	Washer, for feed crank stud	1



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MAIN SHAFT & KNIFE DRIVING PARTS

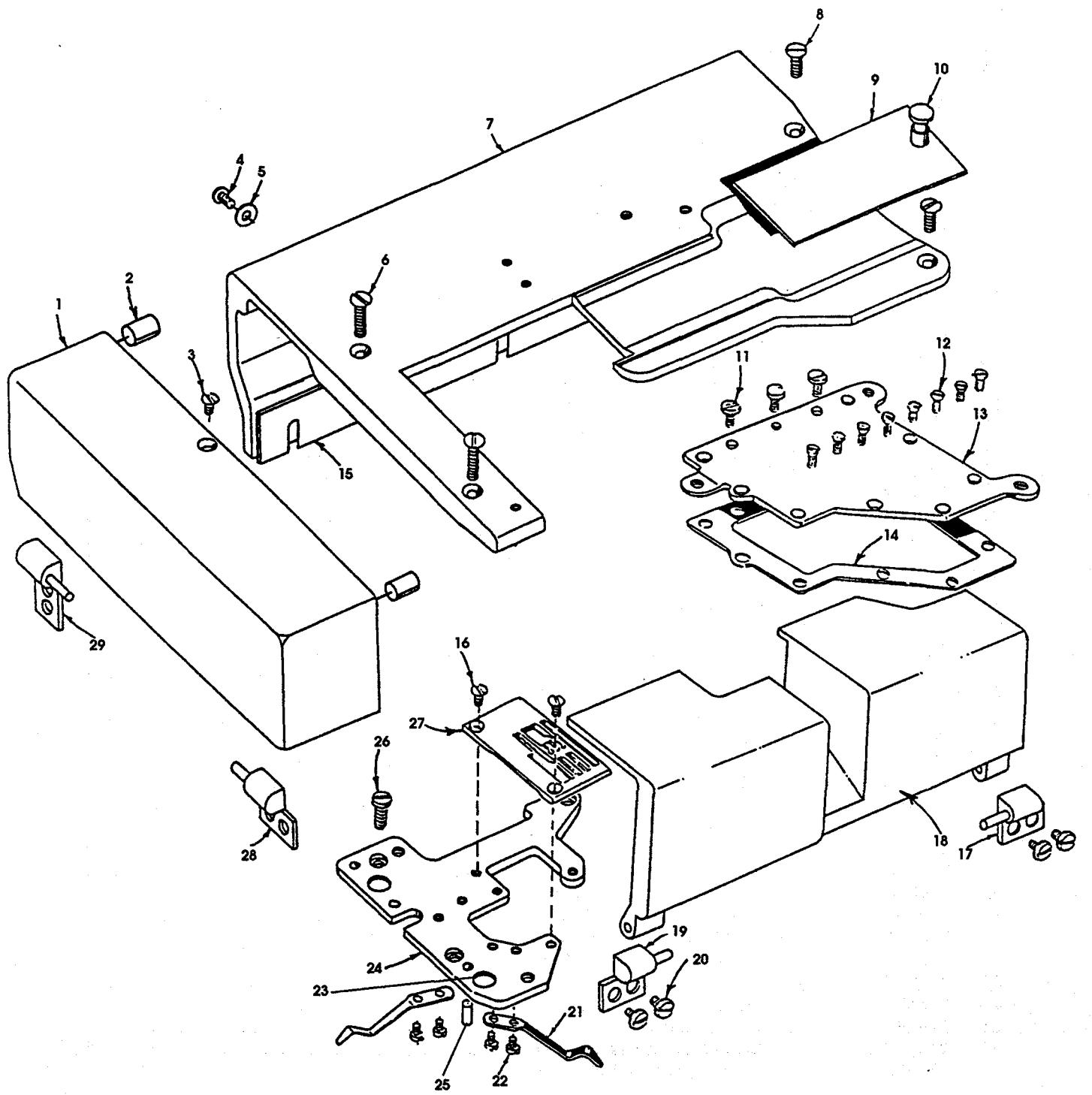
Ref. No.	Part No.	Description	Amt. Req.
1.	57795	Lock Nut	1
2.	22771A	Adjusting Screw	1
3.	57750D	Knife Bracket Lower	1
4.	667C-8	Dowel Pin	2
5.	22653B-8	Screw	2
6.	14077	Nut	1
7.	89	Screw	1
8.	57740	Spring	1
9.	57750E	Guide Shaft	1
10.	98	Screw	1
11.	57750C	Knife Block Lower	1
12.	57950B	Knife Clamp Lower	1
13.	22588A	Screw	1
14.	57949	Knife Lower	1
15.	88B	Screw	2
16.	57750H	Knife Block Pin Lower	1
17.	29132AJ	Knife Drive Eccentric Assembly, .276" (7.01 mm) throw	1
18.	22KH	Screw	2
19.	57751	Eccentric Retaining Plate	1
20.	22560	Set Screw	2
21.	88	Screw	2
22.	51236J	Link Pin	1
23.	57770A	Knife Upper	1
24.	57750G	Knife Bearing Block Lower	1
25.	57735	Stop Collar	1
26.	22565C	Screw	1
27.	39147D	Collar	1
28.	88	Screw	2
29.	667C-10	Dowel Pin	2
30.	22852A	Screw	2
31.	57773B	Knife Bracket	1
32.	57773	Bushing	2
33.	57773A	Knife Drive Lever	1
34.	55235E	Nut	1
35.	6042A	Washer	1
36.	22764	Spot Screw	1
37.	57736A	Locking Stud	1
38.	79048	Screw	1
39.	57779A	Chip Guard, upper	1
40.	87U	Screw	2
41.	57750F	Knife Drive Link	1
42.	77	Screw	1
43.	22782A	Screw	1
44.	57750B	Eccentric Nut	1
45.	22567B	Screw	1
46.	57785	Knife Drive Shaft	1



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THREAD TENSION & LIFTER LEVER PARTS

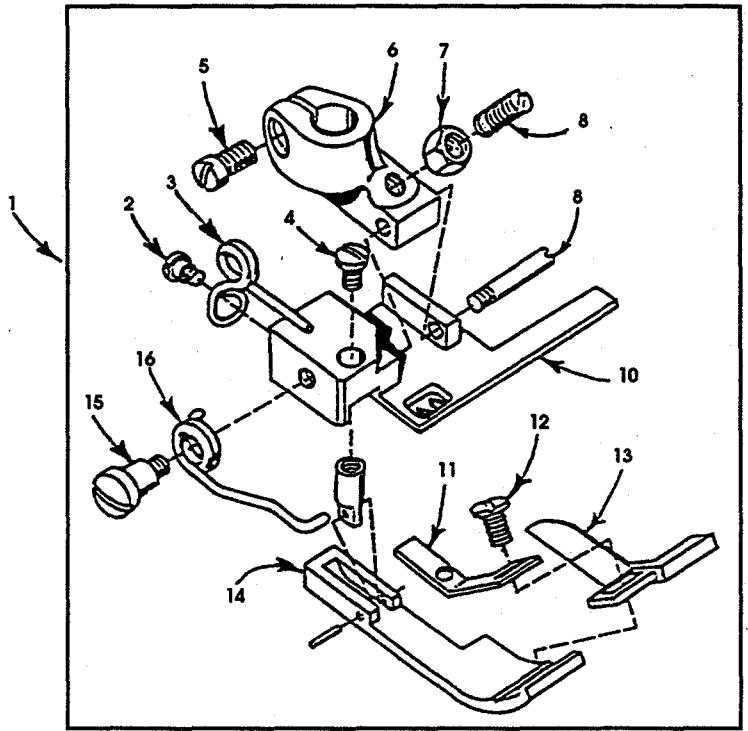
Ref. No.	Part No.	Description	Amt. Req.
1.	-----	Presser Foot	1
2.	523306AW	Collar, for presser bar stop	1
3.	22786B	Screw, for collar	2
4.	51257K	Presser Bar	1
5.	51257M	Presser Bar Guide	1
6.	22596F	Screw	1
7.	22892E	Screw, for presser bar guide	1
8.	34883	Lifter Lever Link	1
9.	99392A	Screw, for lever link	1
10.	57883	Spacer Bushing	1
11.	22557G	Screw	1
12.	56383D	Spring, for lifter rod	1
13.	34383BA	Lifter Lever	1
14.	57893B	Head Oil Tube Clamp	1
15.	51256C	Presser Bar Spring	1
16.	56356A	Regulator Spring, for presser spring	1
17.	56383AB	Connecting Rod	1
18.	39552C	Washer, for lifter lever	1
19.	660-207	"O"-ring, for lifter lever	1
20.	51283H	Lifter Lever	1
21.	53783N	Lifter Lever, right	1
22.	22537	Screw	1
23.	21657Y	Lifter Lever Connection, tension release	1
24.	402	Screw, for guide	1
25.	22596	Screw	1
26.	21657W	Lifter Lever Shaft	1
27.	660-283A	Retainer Washer	1
28.	29477NF	Tension Assembly	1
29.	U94187F	Nut (11/64-40)	5
30.	U94192K	Thread Tension Eyelet	5
31.	U94192P	Tension Post	5
32.	U94192E	Felt Tension Disc	5
33.	U94192D	Tension Disc	10
34.	U94192N	Felt Tension Disc	5
35.	U94192M	Shield, for spring	5
36.	U94192W	Spring, for spreader (blue)	1
-	U94192T	Spring, for needle (red)	3
-	U94192L	Spring, for looper (blue)	1
37.	39592AK	Ferrule, for tension spring	5
38.	U94192S	Knob, needle (red)	3
-	U94192V	Knob, for spreader (blue)	1
-	U94192J	Knob, for looper (yellow)	1
39.	22839C	Screw	2
40.	80557	Washer	2
41.	57865	Thread Guide, lead-in	5
42.	21657AP	Separator, for tension disc	1
43.	57892L	Support, for tension post	1



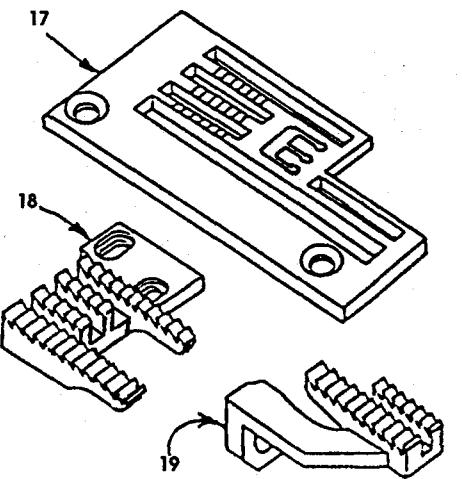
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COVERS & MISCELLANEOUS PARTS

Ref. No.	Part No.	Description	Amt. Req.
1.	52882AL	End Cover	1
2.	660-1001	Rubber Grommet	4
3.	87A	Screw	1
4.	22773A	Screw	3
5.	60038K	Washer	3
6.	80	Screw, for cloth plate	2
7.	52801M	Cloth Plate	1
8.	22839C	Screw, for cloth plate	1
9.	52802F	Cloth Plate Slide Cover.....	2
10.	53-28-106-24	Screw, for panel	1
11.	22585A	Screw	3
12.	22524	Screw	8
13.	56382G	Oil Resistant Top Cover	1
14.	56382H	Gasket	1
15.	57894E	Oil Shield	1
16.	87	Screw, for throat plate	1
17.	57885D	Hinge Bracket, right	2
18.	52882AP	Swing Down Cover	1
19.	57885C	Hinge Bracket, left	1
20.	22848	Screw, for hinge	8
21.	43281K	Spring, for hinge bracket	2
22.	90	Screw	4
23.	660-1008	Rubber Grommet	2
24.	52880C	Throat Plate Support	1
25.	51280J	Pin	2
26.	22839	Screw, for throat plate support	3
27.	-----	Throat Plate	1
28.	57885	Hinge Bracket	1
29.	57885B	Hinge Bracket	1

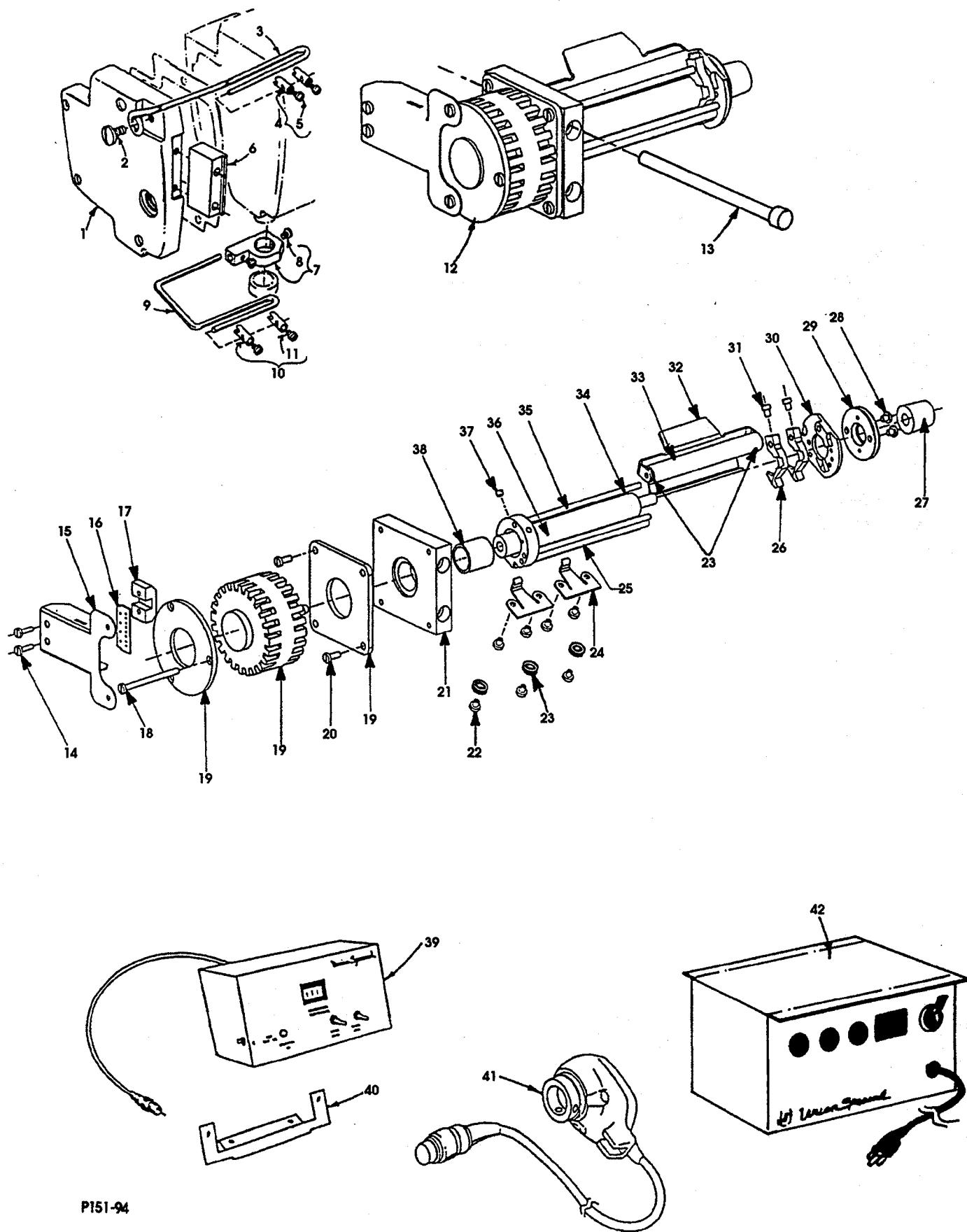


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PRESSER FOOT, THROAT PLATE & FEED DOG PARTS

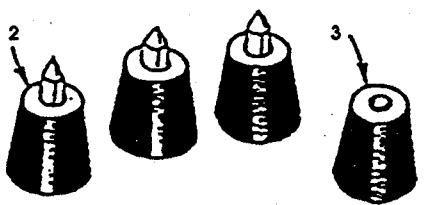
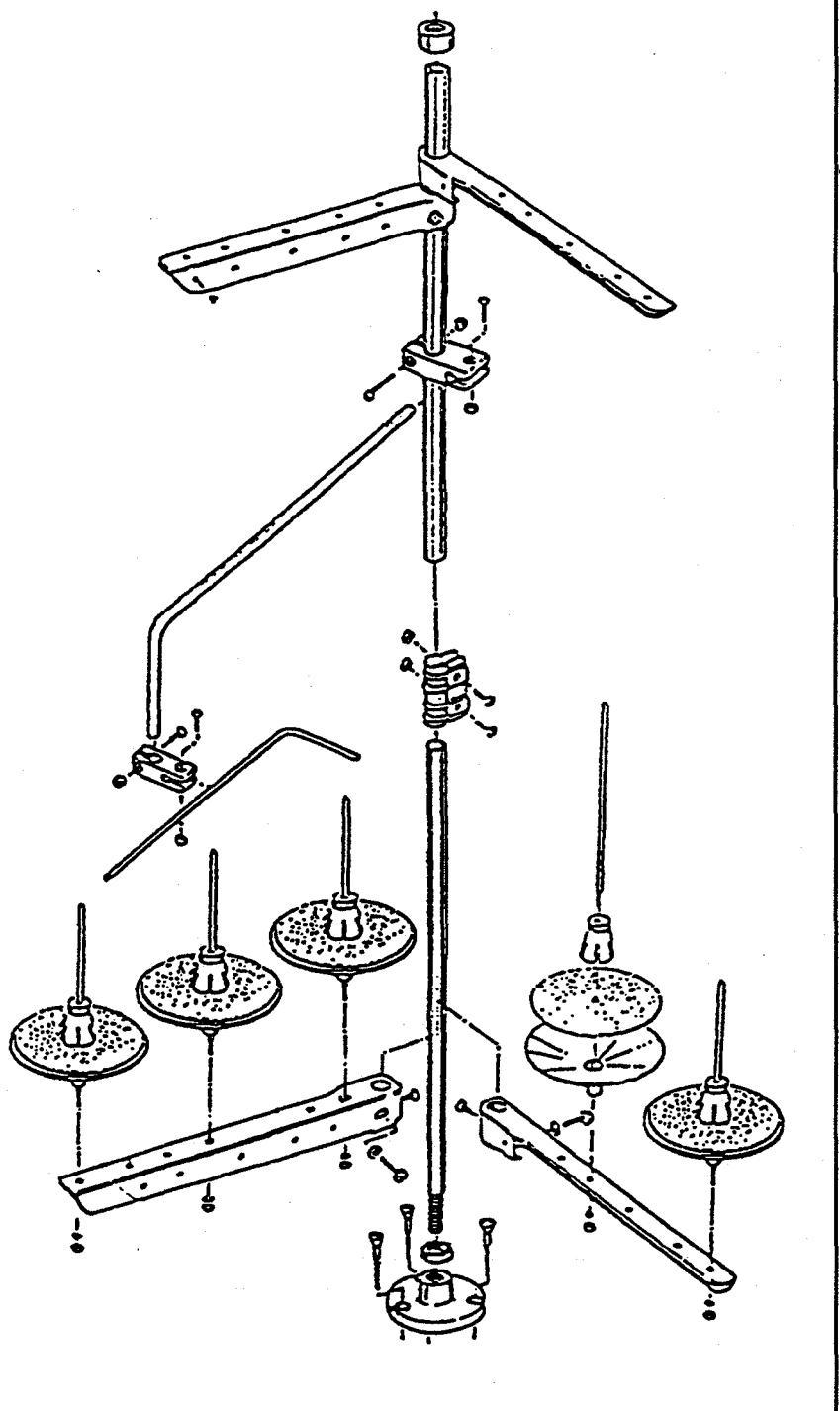
Ref. No.	Part No.	Description	Amt. Req.
1.	52720M16	Presser Foot Assembly	1
2.	605	Screw	1
3.	52730AB	Spring	1
4.	73A	Screw	1
5.	91	Screw, for shank	1
6.	52730T	Shank	1
7.	51430F	Nut	1
8.	22840A	Screw	1
9.	22799B	Screw, for hinge	1
10.	52730AC-16	Bottom, for presser foot assembly	1
11.	52730AE	Tape Guide	1
12.	605A	Screw	1
13.	52730AD	Chip Guard	1
14.	52730AF	Yielding Section	1
15.	57WD	Screw	1
16.	52730Y	Spring	1
17.	C52724M16	Throat Plate	1
18.	52705M	Main Feed Dog	1
19.	52726C	Differential Feed Dog	1



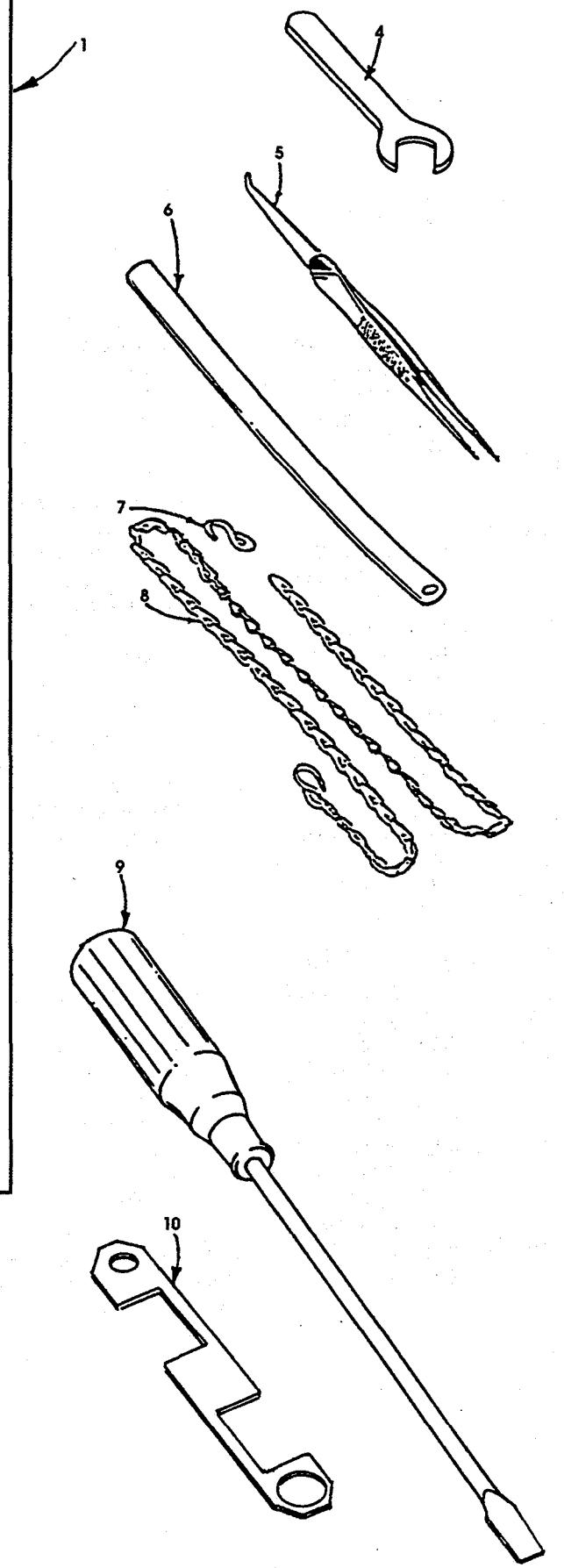
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STEPPER MOTOR METERING DEVICE & SYNCHRONIZER KIT

Ref. No.	Part No.	Description	Amt. Req.
1.	57882M	Head Cover, for upper stepper motor.....	1
2.	88D	Screw	1
3.	23306AP	Head Cover Elastic Guide Bracket	1
4.	23306AV	Elastic Stop Guide	2
5.	25B	Screw	2
6.	23306BL	Mounting Block	1
7.	23306AW	Elastic Guide Bracket	1
8.	22768B	Screw	2
9.	23306AU	Elastic Guide	1
10.	23306AV	Elastic Stop Guide	2
11.	25B	Screw	2
12.	670H139	Stepper Motor Metering Device	1
13.	22653B36	Mounting Screw	2
14.	95166C	Screw	2
15.	57849G	Connector Bracket	1
-	35086LXD	Plate	1
16.	90241G	Motor Wire Connection	1
17.	90233MBA	Clamp	1
18.	95167DV	Screw M3 x 40	3
19.	997YX-455	Motor and Cable Assembly	1
20.	95166V	Screw M3 X 8	4
21.	35086WD	Mounting Plate	1
22.	22737	Screw	7
23.	95956	Washer	5
24.	99697FC	Flat Spring	2
25.	34386AB1	Stand Off	1
26.	34386B	Elastic Guide	2
27.	998-382	Knob	1
28.	25B	Screw	2
29.	34386KC	Cover	1
30.	34386KB	Cover	1
-	999-106XA	Bearing	1
-	99316	Screw	3
31.	77A	Screw	2
32.	34386CB	Roller Bracket	1
33.	34386GD	Roller	1
34.	34386AC	Knife Holder	1
35.	34386AB2	Stand Off	2
36.	34386EH	Roller	1
37.	22743	Set Screw	2
38.	35086WD1	Bushing	1
39.	670N4	Control Box	1
40.	AS12-13	Mounting Bracket	1
41.	670M10	Synchronizer	1
42.	670N5	Driver Box	1

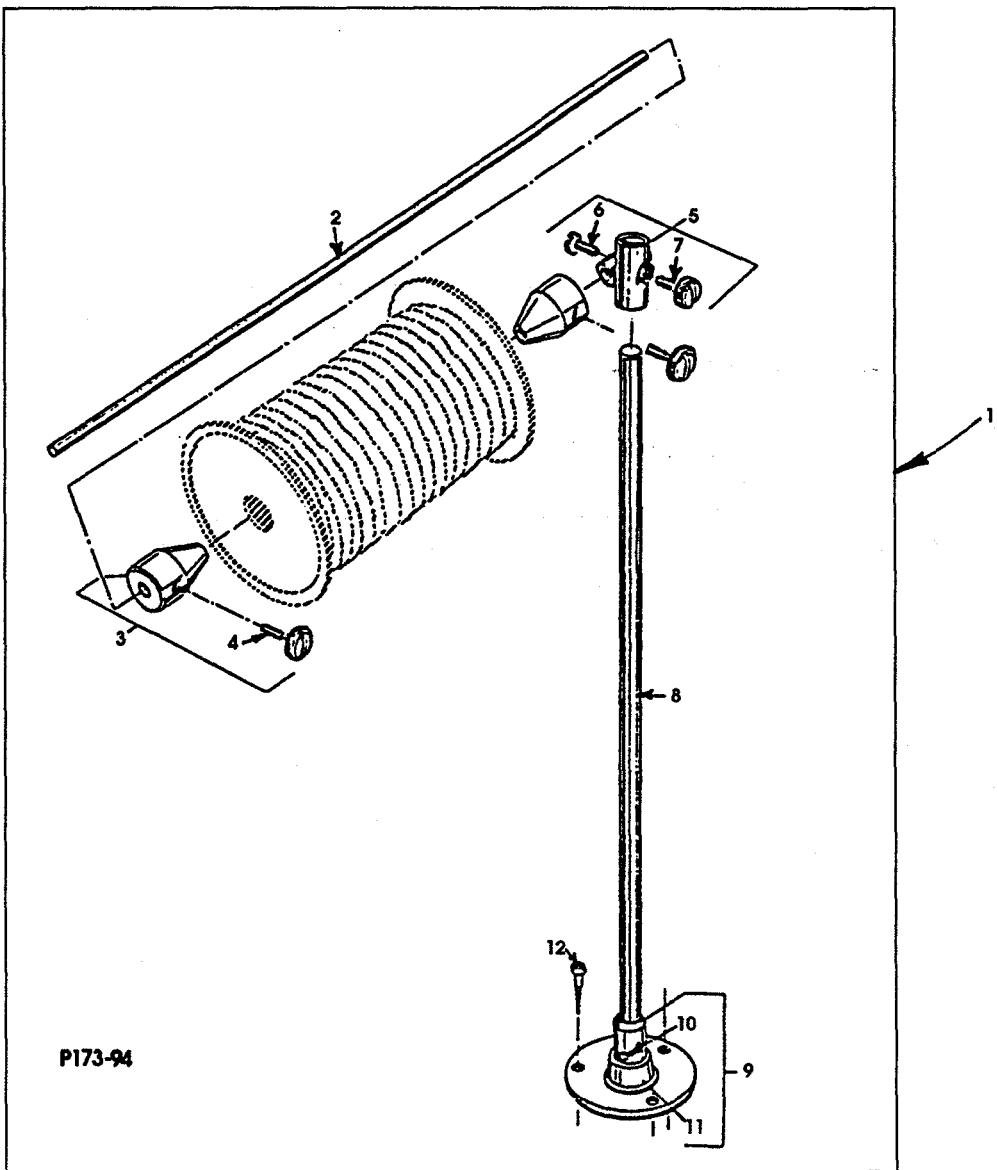


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THREAD STAND & MISCELLANEOUS ACCESSORIES

Ref.			Amt. Req.
No.	Part No.	Description	
1.	21101W5	Thread Stand	1
2.	51295B	Isolator	3
3.	51295A	Isolator	1
4.	21388	Wrench.....	1
5.	660-240	Thread Tweezer	1
6.	23279D	Threader.....	1
7.	660-264	"S" Hook	1
8.	421D34	Chain	2
9.	G21201	Screw Driver	1
10.	TT35	Looper Gauge (sold separately)	1
-	660-457	Plastic Cover (not shown)	1
-	28604R	Oil Can (not shown)	1
-	660-662A	Bundling Strap (not shown)	3



TAPE REEL ASSEMBLIES

Ref. No.	Part No.	Description	Amt. Req.
1.	90561K	Tape Reel Assembly	1
2.	29480AHW	Tape Reel Rod	1
3.	21102B	Cone	2
4.	93064H-1	Thumb Screw	2
5.	201C	Rod Support	1
6.	G21217A	Thumb Screw	1
7.	188D	Thumb Screw	1
8.	22728	Rod	1
9.	21104B-18	Base	1
10.	21114AU	Set Screw	1
11.	22651CD-4	"O"-ring	1
12.	660-304	Wood Screw	3

NOTES

NOTES

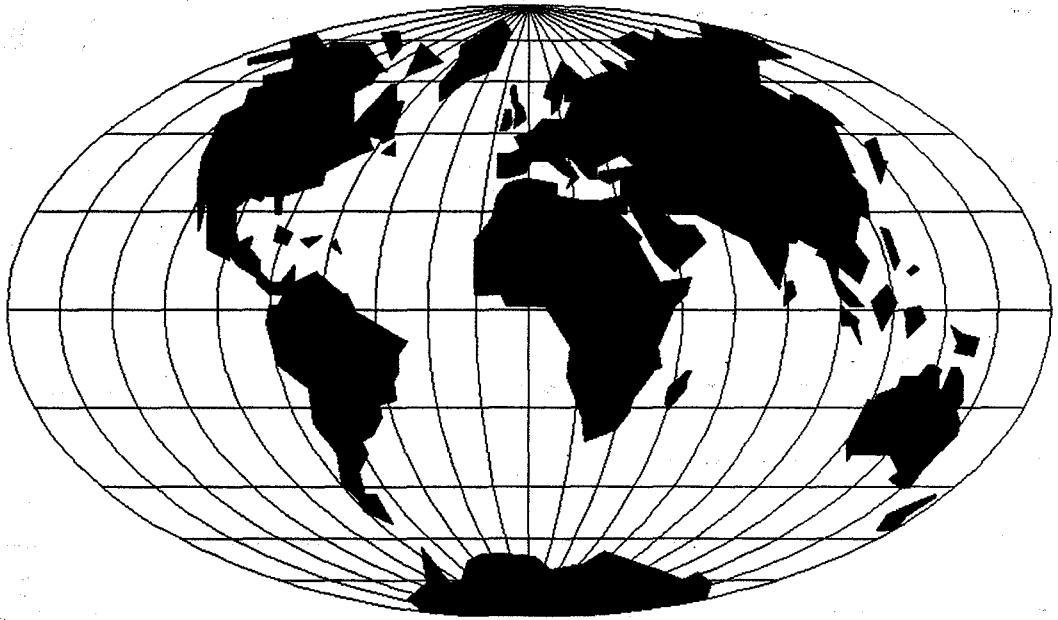
NUMERICAL INDEX OF PARTS

1204002	19	22593A	23	269	21, 25	50373CQ	11	52882AJ	38
12934A	15	22596	29	27-435BLK	17	51-902BLK	13	52882AK	31
14077	27	22596F	29	28604R	37	51054	25	52882AL	31
15465F	21	22635E24	23	28C	17	51154E	13	52882AP	31
158B	9	22637P-24	23	29105BA	21	51216M	15	52882M	35
18	19, 21	22651CD-4	38	29105BB	15	51216N	15, 21	52883R	13
188D	38	22652A12	17	29105BC	15	51216P	15	52888B	29
20	9, 19, 21	22653B-8	27	29105BD	19	51225W	23	52904B	9
201C	38	22653B10	23	29126CR	19	51235G	23	52904E	9
21101W4	37	22653B36	35	29132AJ	27	51236J	21, 25, 27	52904G	9
21101W5	37	22653L-8	15	29192Z	21	51244L	21	52916	19
21102B	38	22711	13	29348AF	15	51244N	21	52923D	25
21104B-18	38	22728	38	29476LV	21	51247	19	52942AA	17
21114AU	38	22729	19	29476NZ	15	51250D	15	52942AB	13
21201	37	22729AB	15	29476RJ062	25	51250V	15	52942AC	13
21375CE	9	22729C	21	29476RJ072	23	51254K	15	52942AF	17
21388	37	22737	35	29477NF	29	51256C	29	52947A	19
21388BA	37	22743	35	29477NG	29	51257AA	13	52951-B	19
21657AP	29	22764	27	29480AHW	38	51257K	29	52951C	17, 19
21657E	25	22768	9, 15, 17	33174B	21	51257M	29	52952D	19
21657W	29	22768A	23	33795	11	51283H	29	52958D	9
21657X	13	22768B	35	33795C	11	51295A	37	53-28-106-24	31
21657Y	29	22771A	27	34317	17	51295B	37	53634C	38
22516	9, 23	22773A	31	34342J	17	51430F	33	53758	9
22519C	23	22782A	27	34383BA	29	51745	21	53783N	29
22524	9, 31	22786B	29	34386AB1	35	523306AW	29	54458-9	15
22525A	25	22798C	25	34386AB2	35	52336A	15	55235	23
22537	29	22799B	33	34386AC	35	52705M	33	55235D	19, 23
22539	13	22801	25	34386B	35	52708B	21	55235E	19, 27
22539AA	11	22829	9, 21	34386CB	35	52720M12	33	55244G	21
22539AB	11	22839	31	34386EH	35	52720M16	33	56190	13
22539R	13	22839C	9, 29, 31	34386GD	35	52726C	33	56315A	15
22539S	9	22840A	33	34386KC	35	52730AB	33	56316	15
22541C	9, 11	22848	9, 11, 31	34758	11	52730AC-12	33	56316C	15
22542	11	22851D	11	34818B	17	52730AC-16	33	56321S	15
22543B	25	22852A	27	34831C	11	52730AD	33	56322B	25
22548	9	22852G	38	34847A	19	52730AE	33	56322C	25
22557G	29	22874	21	34848	19	52730AF	33	56335D	23
22559G	15, 19	22882C	21	34883	29	52730T	33	56335L	23
22560	27	22889H	9	35086LXD	35	52730Y	33	56336	25
22560B	23	22891B	25	35086WD	35	52801M	31	56336B	25
22562	29	22892E	29	35086WD1	35	52802F	31	56336C	25
22562A	15	22894AA	25	35086X	35	52804E	9	56336D	25
22562B	19	22894AB	15	35897BV	13	52825D	21	56336K	25
22564	15, 31	22894C	15	39141	21	52834N	23	56342D	13
22564B	11	22894D	15	39147D	27	52834P	23	56342K	17, 21
22565C	23, 27	22894E	11	39236B	23	52834R	23	56343C	15
22567B	27	22894P	23	39236C	23	52835T	23	56343E	15
22569B	13	22KH	27	39236V	23	52836AA	23	56343F	15
22569C	9	23279D	37	39237	23	52836AB	23	56344D	21
22569G	19	23306AP	35	39237G	23	52836W	23	56350D	15
22569J	11	23306AU	35	39552C	29	52836Y	23	56350E	15
22574	15	23306AV	35	39592AK	29	52849	19	56350F	15
22580D	25	23306AW	35	402	29	52853	23	56350G	15
22585A	9, 11, 13, 31	23306BL	35	41391	23	52853B	23	56350J	15
22585C	9	23432B	38	421D34	37	52864Y	31	56350K	15
22586R	15	23439G	13	43281K	31	52879A	13	56354D	15
22587K	15	258	21	50-216BLK	9	52880A	31	56356A	29
22588A	27	258A	13	50-895BLK	13	52880C	31	56382AA	9
22593	23	25B	35	50345L	19	52882AG	38	56382AB	9

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56382AC	9	57835X	23	660-207	29	95956	35
56382AK	15	57836B	13	660-215	15	96	21
56382C	9	57837D	23	660-230	13	98	21, 23, 27
56382D	9	57842B	13	660-240	37	98A	9
56382E	9	57844	11	660-246	19	99316	35
56382G	31	57844A	11	660-264	37	99331A	17
56382H	31	57844C	9	660-269B	25	99392A	29
56382J	9	57846B	21	660-283A	29	99682XCA	11
56382K	9	57847	19	660-304	38	99697FC	35
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