

MANUAL NO.

IP9107-GR

First Edition

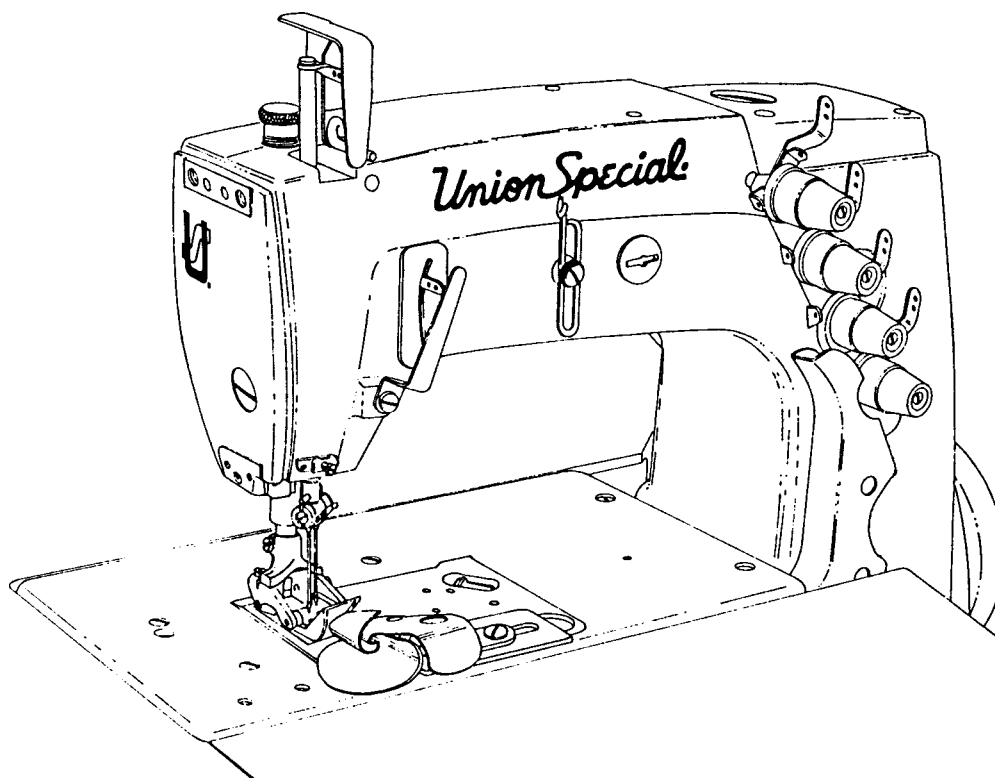
ADJUSTING INSTRUCTIONS AND ILLUSTRATED PARTS LIST

STYLES

56500R

56900P

56900R



SERIES 50000 - FLAT BED MACHINES



Union Special
INDUSTRIAL SEWING EQUIPMENT



MANUAL NO. IP9107-GR ADJUSTING INSTRUCTIONS & ILLUSTRATED PARTS LIST
FOR 50000 SERIES MACHINES

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PREFACE

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

The adjusting 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. Illustrations are used to show the adjustments and reference numbers are used 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.

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

To simplify identification of repair parts, the mechanisms are illustrated by exploded views. A numerical index at the back of the manual will help you locate an item when only the part number is known.

Implementation of preventative maintenance procedures can bring about significant improvements in operator productivity by avoiding costly equipment breakdowns. Wherever 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.

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

SAFETY RULES

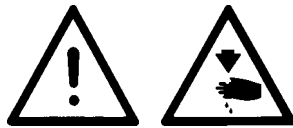
1. Before putting the machines described in this manual into service, carefully read the instructions. The starting of each machine is only permitted after taking notice of the instructions and by qualified operators.

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

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

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. Wear safety glasses.
6. In case of machine conversions and changes all valid safety rules must be considered. Conversions and changes are made at your own risk.
7. The warning hints in the instructions are marked with one of these two symbols:



8. When doing 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:
 - 8.1 When threading needle(s), looper, spreader etc.
 - 8.2 When replacing any parts such as needle(s), presser foot, throat plate, looper, spreader, feed dog, needle guard, folder, fabric guide etc.
 - 8.3 When leaving the workplace and when the workplace is unattended.
 - 8.4 When doing maintenance work.
 - 8.5 When using clutch motors without actuation lock, wait until the motor is stopped totally.
9. Maintenance, repair and conversion work (see item 8) must be done only by trained technicians or special skilled personnel under consideration of the instructions.
10. Any work on the electrical equipment must be done by an electrician or under direction and supervision of special skilled personnel.
11. Work on parts and equipment under electrical power is not permitted. Permissible exceptions are described in the applicable sections of standard sheet DIN VDE 0105.
12. 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 (i.e. pneumatic equipment with air tank), the pressure has to be removed by bleeding.

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IDENTIFICATION OF MACHINES

Each UNION SPECIAL machine is identified by a Style number, which on these classes of machines, is stamped into 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.

CLASS DESCRIPTION (56500)

Advanced high speed, high throw, flat bed machines. Two needles, independent row, two loopers, enclosed automatic lubricating system. Maximum recommended speed 6000 R.P.M. Maximum work space to right of needle bar 8 1/4 inches (209.6mm).

MACHINE STYLES

56500R Typical application - For attaching riser to dungarees, piecing sleeves on denim jackets and for attaching overall bibs made of medium heavy to heavy weight materials.

- Seam specification 401 LSc-2
- Type 147 GKS needle
- 16 and 18 gauge

CLASS DESCRIPTION (56900)

Advanced high speed, high throw, flat bed machines. Three needles, independent row, left needle in front, three loopers, enclosed automatic lubricating system. Maximum recommended speed 6000 R.P.M. Maximum work space to right of needle bar 8 1/4 inches (209.6mm).

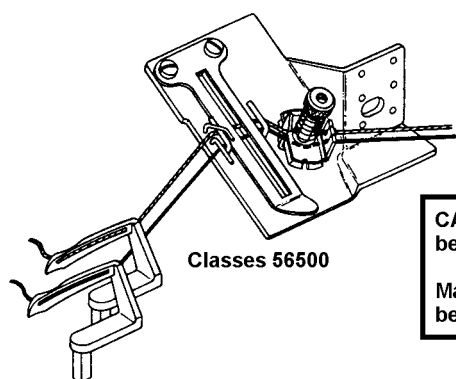
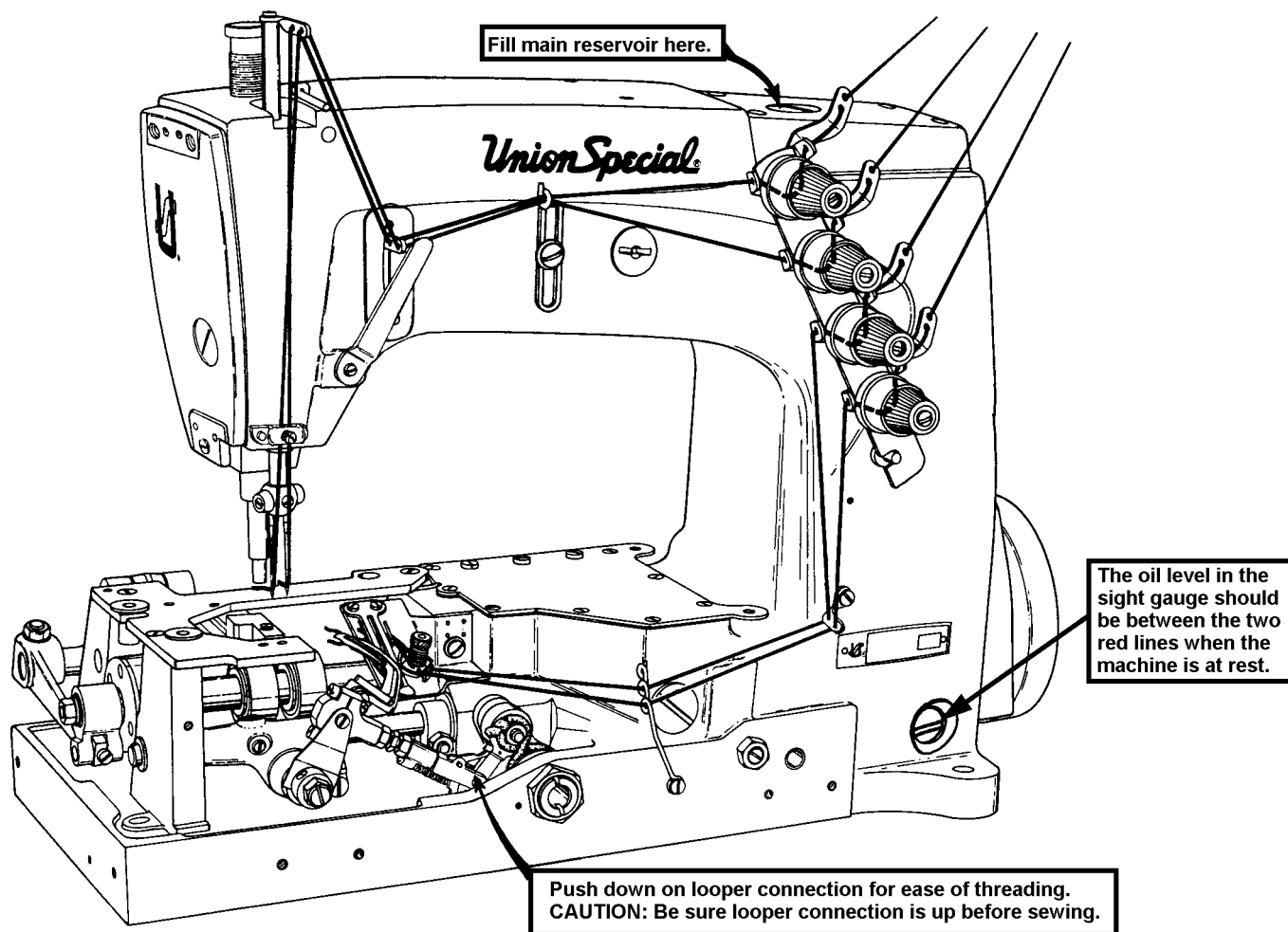
MACHINE STYLES

56900P Typical application - For attaching risers to the back of jeans made with medium heavy to heavy weight materials.

- Seam specification 401 LSc-3
- Type 147 GKS needle
- 8 and 9 gauge

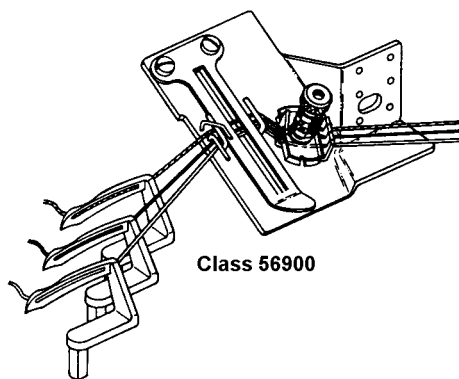
56900R Typical application - For seat seams, outseam or inseam on jeans made from heavy weight denim.

- Seam specification 401 LSc-3
- Type 147 GKS needle
- 8 and 9 gauge



Classes 56500

CAUTION: Fill oil reservoir before starting
Machine has been drained before shipping.



Class 56900

THREADING AND OILING DIAGRAM

The oil has been drained from the machine before shipping and the reservoir must be filled before starting to operate. Maintain oil level in "OPERATE" zone; add oil when the needle on the gauge registers on the black line marked "LOW". The machine is automatically lubricated and no oiling other than keeping the main reservoir filled is necessary. Refer to instructions under "LUBRICATION" and "CHANGING LENGTH" for additional information.

Threading is illustrated above for all Styles.

LUBRICATION

Use a straight mineral oil with a Saybolt viscosity of 90 to 125 seconds at 100 degrees Fahrenheit. This is equivalent to Union Special Corporation Specification No. 175.

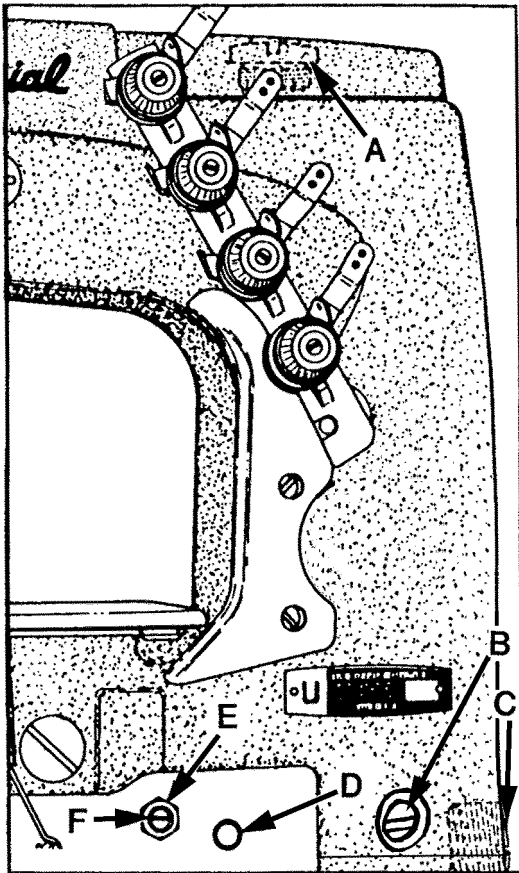


Fig. 2

The oil should be between the two red lines in sight gauge (B) when the machine is at rest.

1. If oil is required remove oil cap (A).
2. Fill between lines with Union Special Specification 175 oil (Union Special Part No. 28604R).



Caution: Do not exceed the upper red marker line. Excessive oil in machine will result in oil leakage and possible overheating.

3. To drain oil reservoir, remove plug screw (C), on lower right end of machine below the handwheel. Oil must be changed every 2000 operating hours to minimize wear.
4. On new machines, or a machine out of service for an extended period of time; lubricate machine as follows:

Remove head cover, clean out lint, then directly oil needle bar link and needle bar. Replace head cover and fill machine with oil to proper level. Run machine at low RPM to ensure proper lubrication of components preventing any damage which may occur from lack of oil distribution.

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 packed and sold by UNION SPECIAL.

To have needle orders promptly and accurately filled, an empty package, a sample needle, or the type and size number should be forwarded. Use description on label. A complete order would read as follows: "1000 needles, Type 147 GKS, Size 125/049".

NEEDLES (CONT.)

<u>Type No.</u>	<u>Description and Sizes</u>
128 GAS	Round shank, round point, short, double groove, struck groove, ball eye, spotted, chromium plated - sizes 080/032, 090/036, 100/040, 110/044, 125/049, 140/054, 150/060, 170/067.
128 GJS	Round shank, RG chain stitch point, short, double groove, struck groove, ball eye, spotted, conical blade feature, chromium plated - sizes 090/036, 100/040, 110/044, 125/049, 140/054.
147 GKS	Round shank, round point, long, double groove, struck groove, oversize ball eye, spotted, short point, standard eye and grooves, chromium plated - sizes 090/036, 100/040, 110/044, 125/049, 140/054.

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

ADJUSTING INSTRUCTIONS

NEEDLE BAR ALIGNMENT

Insert a new set of needles (type and size required). Turn handwheel to bring needle bar (A, Fig. 3) down to ensure that needles center in needle holes of throat plate as shown in Fig. 3. Adjustment can be made by loosening screw (B) slightly, allowing needle bar to be turned as required. Tighten clamp screw.

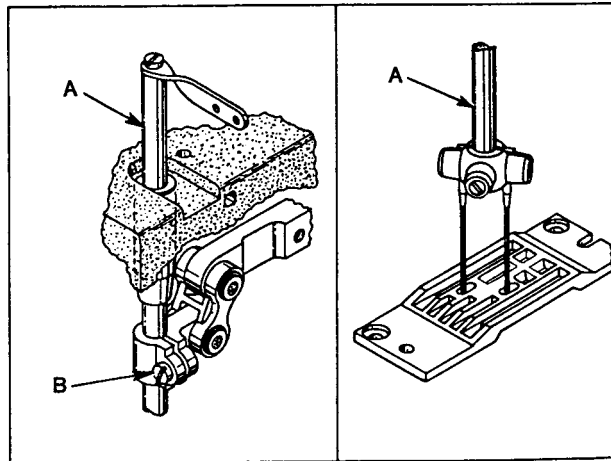


Fig. 3

SYNCHRONIZING LOOPER AND NEEDLE MOTIONS

Insert looper into the looper rocker, pushing it all the way down and tighten screw against flat on shank of looper. Turn handwheel in operating direction until the point of the looper (A, Fig. 4) moving to the left, is even with the left side of the right needle (B). Note the height of the eye of the needle with respect to the looper point (See Fig. 5). Turn the handwheel in the reverse direction until the point of looper, again moving to the left, is even with the left side of right needle (See Fig. 5). 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 (.127 mm) is allowable. If the distance from the eye of the needle to the point of the looper is greater when the handwheel is turned in the operating direction, the looper drive lever rocker shaft will have to be moved slightly towards the rear. Moving the shaft towards the front acts the reverse.

NOTE: The 1/64 inch (.4mm) dimension shown in Fig. 5 is for final setting of needle bar height.

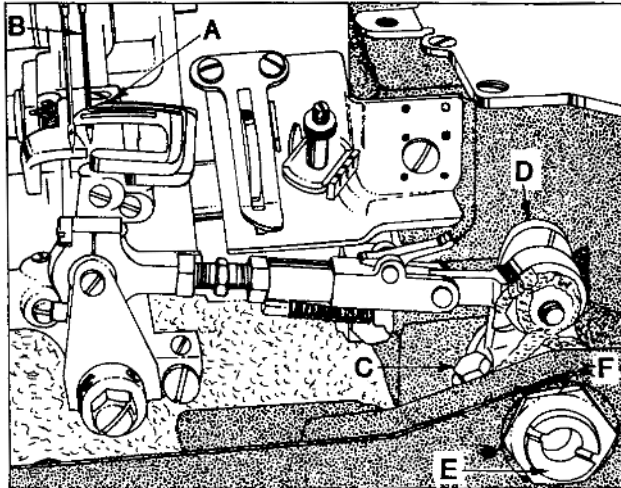


Fig. 4

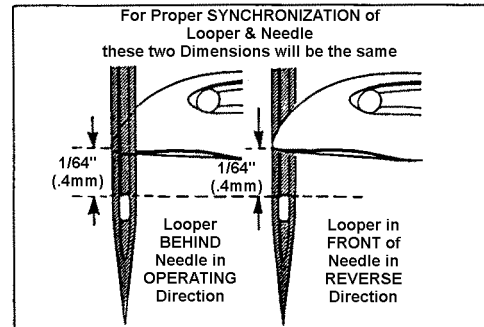


Fig. 5

Adjust the looper drive rocker lever shaft as-follows:

Loosen screw (C, Fig. 4) in looper drive lever (D). A rod of .146-40 thread or Union Special Screw No. 22870A can be threaded into the looper drive lever rocker shaft through the center of thrust adjusting screw (E). Tap or pull slightly as required to position shaft for proper synchronization. Tighten screw (C) securely and remove rod or screw used to position shaft. Loosen lock nut (F) and torque thrust adjusting screw (E) to 6 in. lbs. (7cm/kg); retighten lock nut (F) securely.

SYNCHRONIZING LOOPER AND NEEDLE MOTIONS (CONT.)

Turn handwheel in operating direction until looper is at the extreme right end of its travel. Check location of the center-line of right looper connecting rod bearing using gauge TT35. Place hole in gauge (B, Fig. 6) over threaded stud (A). The left end of gauge should locate against the RIGHT side of looper rocker cone (C). If adjustment is necessary, loosen clamp screw (D), reposition looper driver lever (E) as required and retighten screw (D). If a gauge is not available, the setting can be checked with a scale. "X" dimension is from centerline of stud (A) to centerline of cone (C) which should be $4 \frac{1}{16}$ inch (103.2mm).

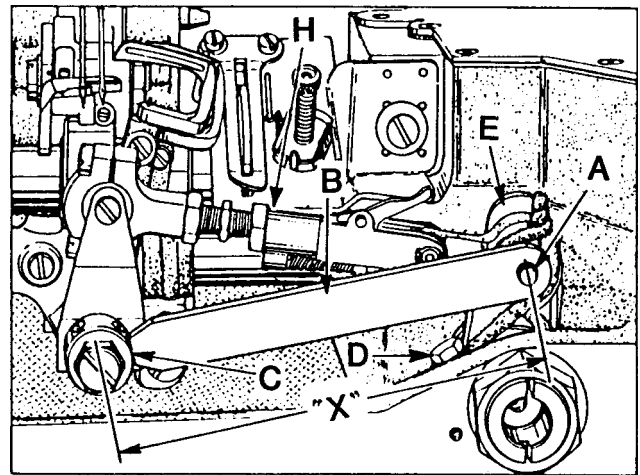


Fig. 6

CAUTION: After adjusting the looper gauge and looper avoid, there should be shake at both end points of the looper connecting rod while rotating handwheel a full 360° (H, Fig. 6). If bind occurs loosen nuts (D and E, Fig. 7) and reposition strap (H). Retighten nuts.

LOOPER SETTINGS

Insert a new needle, type and size as specified. Using the $\frac{1}{8}$ inch (3.2mm) looper gauge, set the looper (A, Fig. 7) so the distance from the center of the needle (B) to the point of the looper is $\frac{1}{8}$ inch (3.2mm), when the looper is at its farthest position to the right.

Looper gauge No. 21225- $\frac{1}{8}$ (C) can be used advantageously in making this adjustment. On two needle machines set the back looper to the right needle and on three needle machines set the middle looper to the middle needle, when setting the looper gauge. The chart on the following page indicates needle Type, looper gauge setting and looper gauge number. If adjustment is required, loosen nut (D) (it has a left hand thread) and nut (E) on connecting rod (F), turn the connecting rod forward or backward to obtain the $\frac{1}{8}$ inch (3.2mm) dimension. Retighten both nuts, first nut (E), then nut (D). Make sure the left ball joint is in vertical position and does not bind after adjustment.

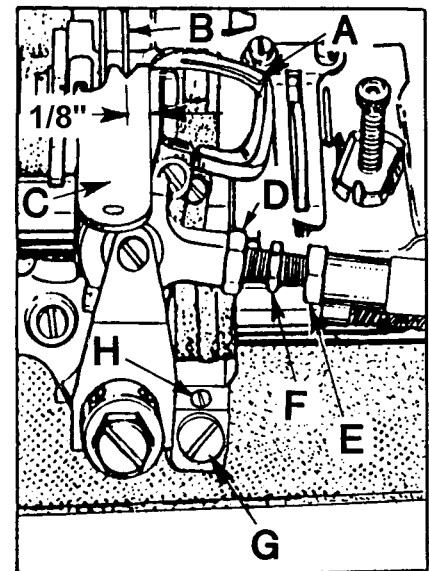


Fig. 7

LOOPER SETTINGS (CONT.)

Machine Style	Needle Type	Looper Gauge Setting	Looper Gauge Number
56500R	147 GKS	1/8 Inch (3.2mm)	21225-1/8
56900P	147 GKS	1/8 Inch (3.2mm)	21225-1/8
56900R	147 GKS	1/8 Inch (3.2mm)	21225-1/8

The looper is set correctly if, as it moves to the left behind the needle, its point (A, Fig. 8) clears the rear of needle (B) by .002 inch (.051mm).

If adjustment is necessary, loosen lock screw (G, Fig. 7) and turn stop screw (H) as required. Turning stop screw clockwise sets the looper to the rear and turning it counterclockwise acts the reverse. Holding looper to the front while making this adjustment may prove helpful. Tighten lock screw when setting is obtained and recheck the adjustment.

Insert the other needles and loopers. Other than applying pressure on the looper at the front or back Fig. 8 of the blade, so as to get the proper in-line-of-feed setting, the same looper to needle relationship should exist without any further adjustment while clamping the looper in the looper rocker.

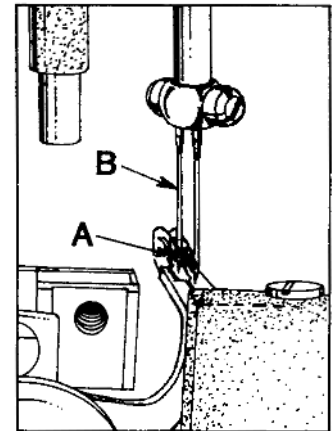


Fig. 8

NEEDLE BAR HEIGHT

The height of the needle is correct when the top of its eye is 1/64 to 1/32 inch (.4 - .8mm) below the underside of the looper, when the looper point flush with the left side of the needle as shown in Fig. 5. If adjustment is necessary, loosen screw (B, Fig. 3) and move needle bar (A) up or down as required and retighten screw. Care should be taken not to disturb alignment of needle bar when moving the needle bar either up or down. The descending needles must be deflected alike on the back of the loopers.

REAR NEEDLE GUARD

Rotate handwheel in operating direction to position looper point at the right hand side of needle. At this time the needle guard (C, Fig. 9) should be at its extreme end of forward travel. Set the guard front to back to just touch the needles, up to .002" (.05mm) deflection is permissible on one or two needles. Guard should be set as low as possible, yet have its vertical face approach approximately 3/64 +/- 1/64 inch (1.2mm +/- .4mm) above the needle point. To move needle guard forward or backward, loosen the screw (F), move needle guard as required, and retighten screw. To raise or lower needle guard, loosen screw (F), and turn screw (G) clockwise to lower needle guard or counterclockwise to raise it. Retighten screw (F) after guard is properly set.

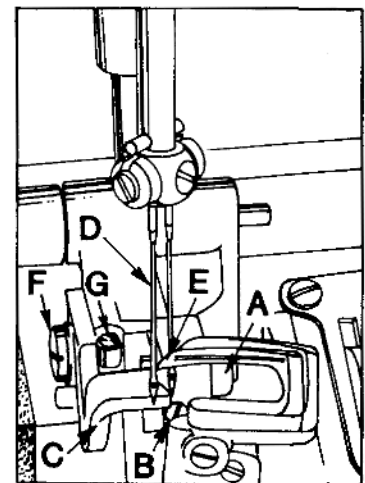


Fig. 9

REAR NEEDLE GUARD (CONT.)

NOTE: Any change in stitch length will require a change in rear needle guard setting.

FEED DOG SETTINGS

Feed dog (A, Fig. 10) should be centered in throat plate (B) with equal clearance on all sides and ends with feed travel set to desired stitch length. At highest point of travel, tips of feed dog teeth should extend the depth of one full tooth + $1/32$ inch, above throat plate and parallel to same. Loosen screw (D), which secures feed dog in position, and adjust screw (C) up or down to support feed dog. Retighten screw (D).

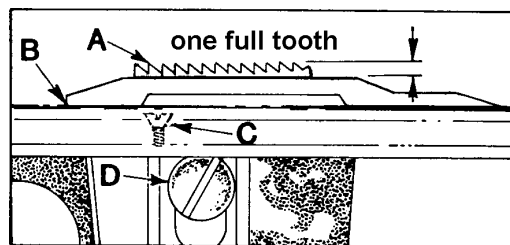


Fig. 10

Parallel adjustment can be made by loosening nut (A, Fig. 9) and turn screw (B) clockwise to lower front of feed dog, counterclockwise acts the reverse. When properly set, retighten nut (A).

Right to left adjustment can be made by loosening screw (A, Fig. 11) and slightly move feed rocker (B) on feed rocker shaft (C) as required, then retighten screws. Check to ensure that feed rocker arm (D) does not bind after adjustment.

Forward or rearward centering of the feed dog can be accomplished by loosening nut (E, Fig. 11). Move feed rocker (B) as required and retighten nut.

CAUTION: Feed crank link sub-assembly (M, Fig. 11) **MUST** have shake with **NO** binds at a 360° rotation of the handwheel. Nut (F) should be torqued at 55 in. lbs. (63 cm/kg).

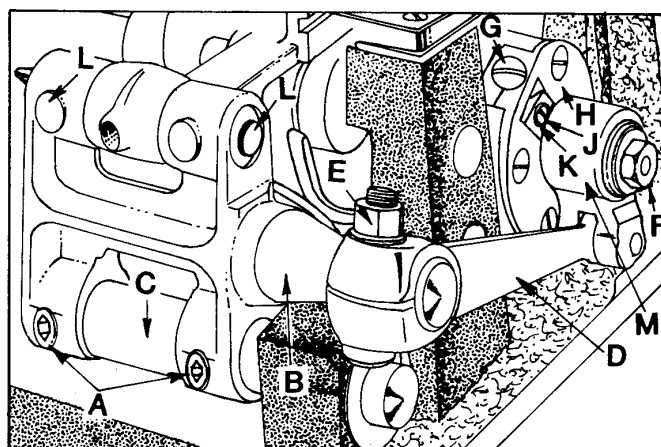


Fig 11

PRESSER BAR HEIGHT AND PRESSER FOOT

Height of presser bar (A, Fig. 13) is correct when presser foot can be removed by depressing foot lifter lever (B, Fig. 12). There should be approximately $1/32$ inch (0.8mm) clearance between the lower surface of the presser bar connection and guide (B, Fig. 13) and the bottom surface of the casting head opening when foot lifter lever is released and the presser foot is lying flat on throat plate. Make sure feed dog is below throat plate surface.

PRESSER BAR HEIGHT (CONT.)

Adjustment can be made by turning handwheel to position needle bar at bottom of stroke. Loosen screw (C, Fig. 13) and while holding presser foot down on throat plate, position presser bar connection and guide as required to attain specified clearance and retighten screw.

PRESSER FOOT PRESSURE

Regulate presser spring regulating screw (A, Fig. 14) so that it exerts only enough pressure on the presser foot to feed the work uniformly when a slight tension is placed on the fabric. Turning it clockwise increases the pressure counterclockwise acts the reverse.

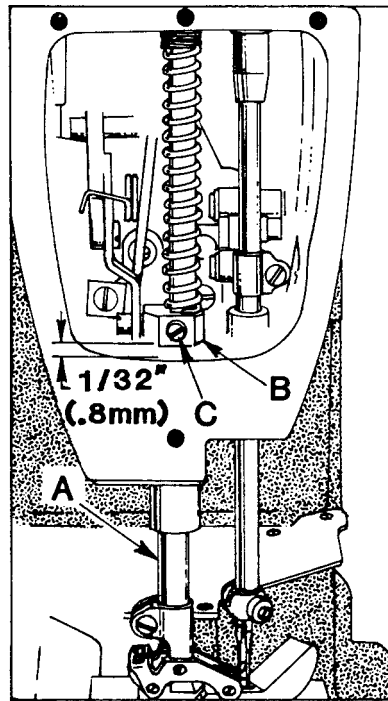


Fig. 13

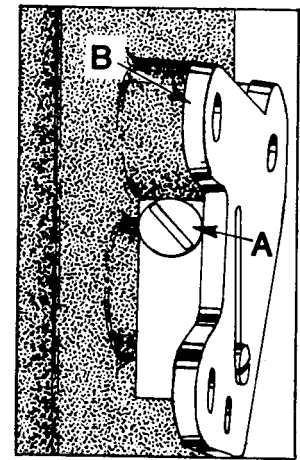


Fig. 12

NEEDLE THREAD TAKE-UP WIRE AND FRAME EYELET

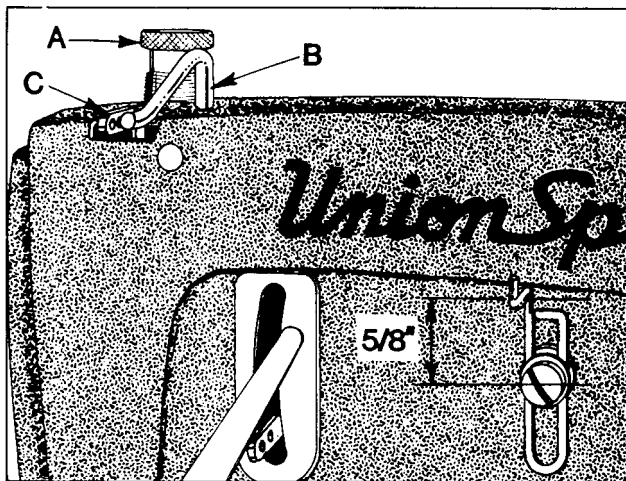


Fig. 14

Set needle thread take-up wire (B, Fig. 14), so that its upper surface is even with the top of the holes in needle bar thread eyelet (C) when needle bar has completed its downward stroke. Lower this setting for a smaller needle thread loop, or raise it for a larger loop. Set needle thread frame eyelet (D) so that the eyelet hole is 5/8 inch (15.9mm) above the attaching screw.

CHANGING STITCH LENGTH

Set the stitch to required length. This is accomplished by loosening locknut (F, Fig. 11) on the end of the stitch regulating stud 1/2 turn (it has a left hand thread). Turn stitch adjusting screw (G) located under the left end of the cloth plate, in the end of main shaft (H), which is marked with "L" and "S". Turning the screw clockwise shortens the stitch (moves stitch regulating stud toward the "S") and turning it in a counterclockwise direction lengthens the stitch (moves stitch regulating stud toward the "L"). Retighten locknut securely. To prevent destructive damage to the feed drive bearing, key screw (J) must engage the "U" shaped key slot in ferrule (K).

CHANGING STITCH LENGTH (CONT.)

NOTE: Any change in stitch length will necessitate a corresponding change in the rear needle guard setting.

Needle bearings in the feed rocker at locations (L, Fig. 11) may require repacking after years of service. Bearings should be thoroughly cleaned and repacked with Union Special Corporation grease No. 28604P.

THREAD TENSIONS

The tension on the needle thread should be only sufficient to produce uniform stitches on the under surface of the fabric.

The looper thread tension is applied at the cast-off support tension disc assembly, and the adjusting nut should be set so that the tension on the looper thread is just sufficient to steady the thread.

THREAD TENSION RELEASE

The thread tension release is set correctly when it begins to function as the presser foot is raised to within 1/8 inch (3.2mm) of the end of its travel and is entirely released when the presser foot has reached its highest position.

If adjustment is required, loosen tension release lever screw (A, Fig.12), located at the back of machine and move tension disc separator as required. Retighten screw. After adjustment there should be no binding at any point.

TORQUE REQUIREMENTS

Torque specifications given in this catalog are measured in inch-pounds or centimeter/kilograms. All straps and eccentrics must be tightened to 19-21 in. lbs. (22-24cm/kg) unless otherwise noted. All nuts, bolts, screws, etc., without torque specifications must be secured as tightly as possible, unless noted. Special torque specifications for connecting rods, links, screws, etc., are shown on parts illustrations.

SPECIAL INSTRUCTIONS

NEEDLE LEVER

When adjusting needle lever or replacing related parts, follow instructions in sequence as listed:

1. Install "O" rings (A, Fig. 15) onto needle lever stud (B) and thrust collar (C).
2. With needle lever (D) in machine and positioned properly; insert stud (B) through hole in needle lever until its shoulder contacts the needle lever and the word "UP" on stud is in the upright position. While making sure no binding exists in the needle bar link, secure stud (B) with the front set screw in top of machine bed.
3. Install temper load ring (E) and compression cups (F) onto stud (B), then push ring and cups through opening in machine bed.
4. Install thrust collar (C) onto stud (B) being careful not to damage "O" ring. Compress components together by tightening screw (G) until washer (H) bottoms against stud (B). Secure stud (B) in position using the rear set screw in top of bed.
5. To check temper load ring for proper compression, remove screw (G) from stud (B) and loosen rear set screw in top of bed. Thrust collar (C) should spring out .003 -.007 inch (.08-.18mm). Compress load ring in reverse order, then tighten rear set screw.
6. With indented "UP" on stud (B) in upright position, install bearing oiler (J) so it's hook sets in oil supply hole (K) of stud. When hook and stud are secured in their proper position, the proper amount of oil will be channeled to stud for lubricating needle lever (D).

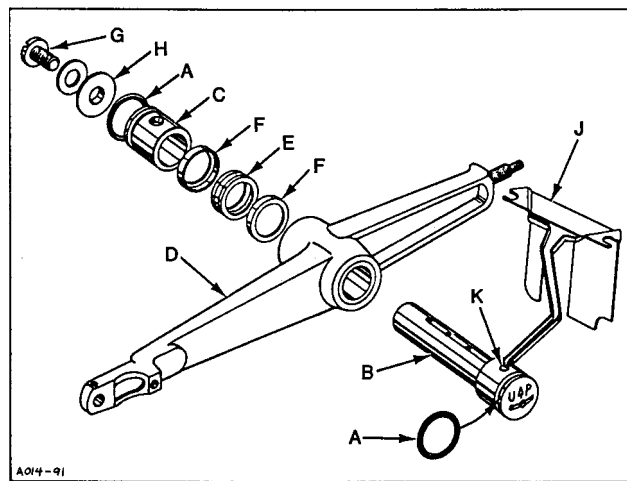


Fig. 15

ALIGNING MAINSHAFT TO CRANKSHAFT

As viewed looking down from rear of machine, spot screw (A, Fig. 16) in the couplings must align with the spots in the looper drive crank (B) and set screws (C) must align with the flats on crankshaft (D) and mainshaft (E). Mainshaft must be positioned laterally with .045 inch (1.14mm) clearance between the right side of its head and the bed casting as shown (Fig. 17).

NOTE: Recheck to make sure that the take-up cam is centered in the cast-off plate without rubbing either side.

Looper drive crank (B, Fig. 16) must be positioned laterally so that strap (G, Fig. 16) is vertical and 1/32 inch clearance is maintained between end of crank and end of mainshaft (E) as shown. Once these settings are made, it is very important that the couplings are tightened in the following sequence for best performance.

Snug spot screws (A) temporarily, to the looper drive crank. Snug set screws (C) temporarily, to the crankshaft and mainshaft. Torque screws (F) to 19-21 in. lbs. (22-24cm/kg). Loosen spot screws (A) and set screws (C). Re-torque screws (F) to 19-21 in. lbs. (22-24cm/kg), then, torque screws (A and C) to 19-21 in. lbs. (22-24cm/kg).

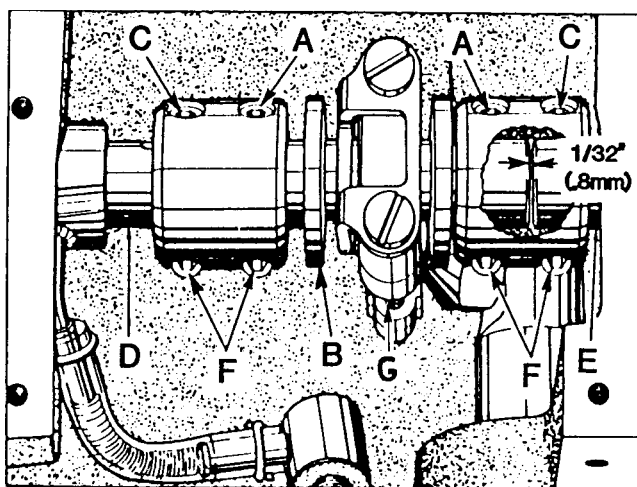


Fig. 16

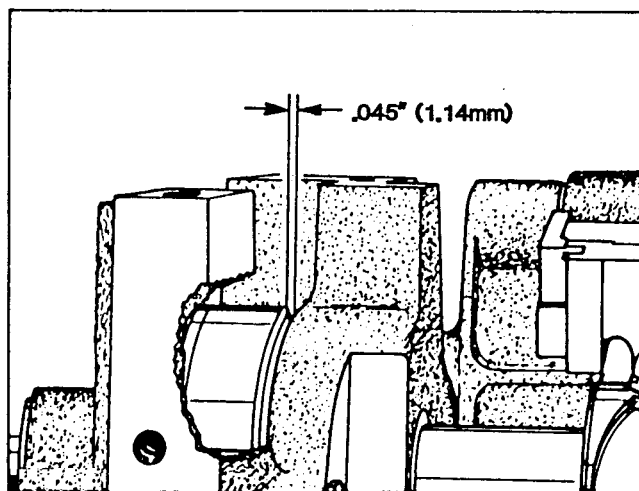


Fig. 17

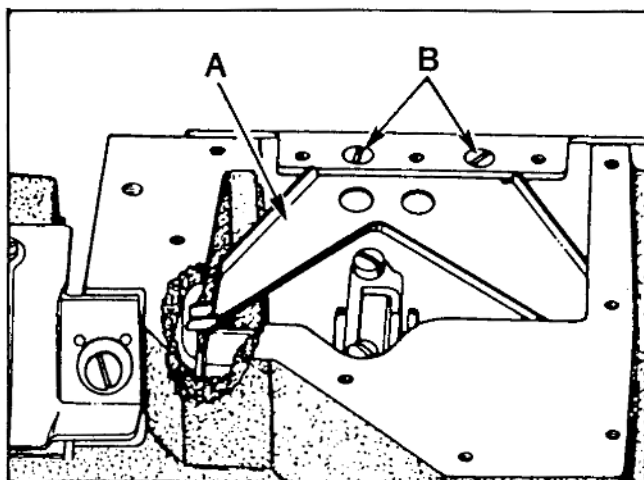


Fig. 18

The oil drip plate (A, Fig. 18) located in the oil reservoir should be positioned with its tip in the recessed cut out in the bed casting, as far to the left as possible without touching. It has elongated mounting holes and can be adjusted by loosening (2) screws (B) in top of the oil reservoir back cover to position as required, retighten screws.

ORDERING REPAIR PARTS ILLUSTRATIONS

This catalog 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, descriptions and the numbers of pieces required in the particular view being shown.

Numbers in the first column are reference numbers only and merely indicate the position of that part in the illustration. Reference numbers 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. Example:

9.	29105AK	Looper Drive Lever Crank Assembly, for all Styles	1
10.	22559A	Bearing Cap Screw, lower	2
11.	56343E	Oil Splasher	1
12.	56343C	Ball Joint Guide Fork	1
13.	22587K	Bearing Cap Screw, upper	1

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

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 catalog they appear. On all orders, please include part name and style of machine for which part is ordered.

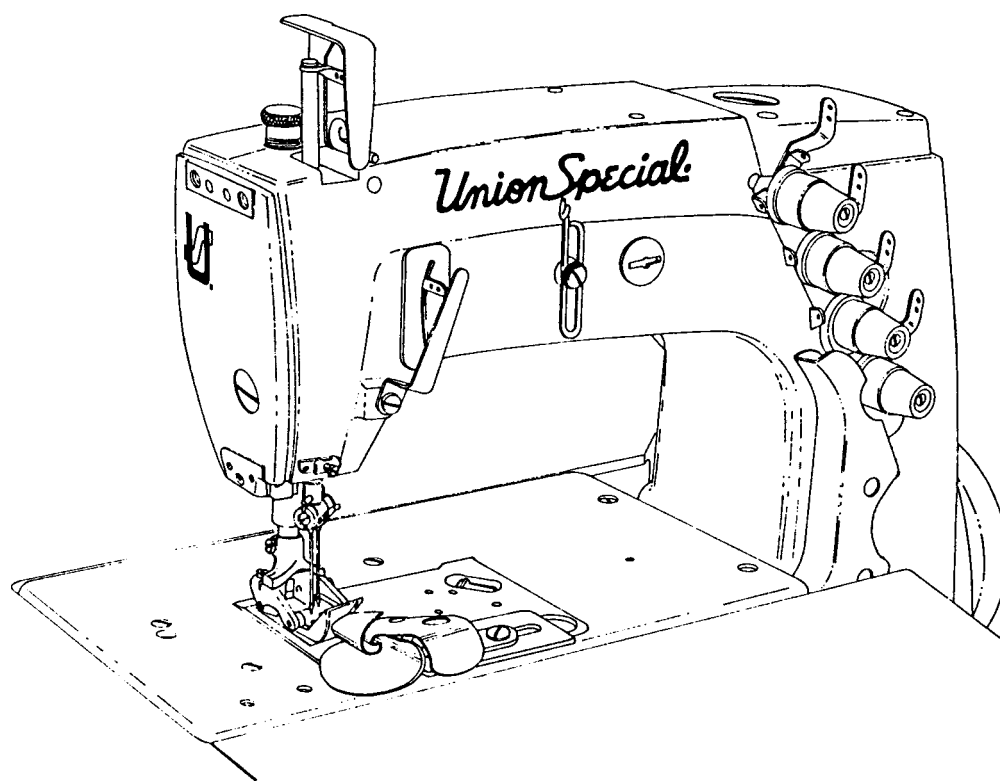
TERMS

Prices are net cash and subject to change without notice. All shipments are forwarded f.o.b. shipping point. Parcel Post shipments are insured unless otherwise directed. A charge is made to cover postage and insurance.

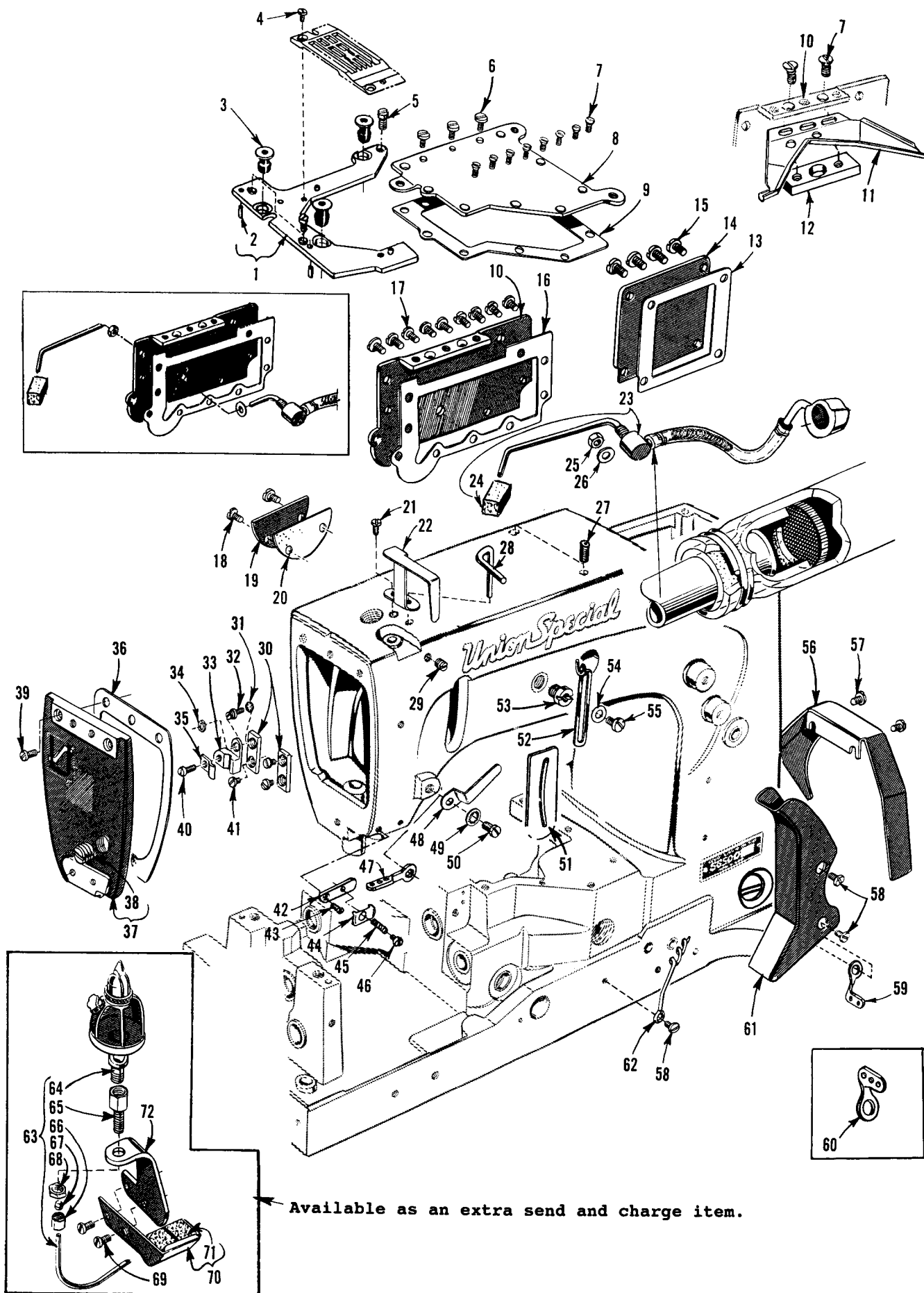
Before this machine left the factory it was adjusted and inspected to give you the utmost satisfaction and durability at all times. If, however, the machine is not sewing properly, see chart below for suggestions which may prove beneficial to you.

SKIPPED STITCHES

Condition	Causes	Cures
Needle loop too small.	Take-up wire set too low.	Raise take-up wire slightly
	Needle thread stretched at bottom of stroke - loop not formed till stretched relieved.	Lower frame thread eyelet and/or reduced needle tension.
	Machine is not threaded properly.	See page 8 for threading diagram.
	Needle thread pinched by needle guard, collapsing needle loop.	Drop needle guard slightly.
	Thread twisting around needle.	Keep needle loop as small as possible and needle thread tension to a minimum. Use a left twist thread.
	Needle thread sticking in needle grooves due to heat.	Use oversize ball eye needle 147 GKS to reduce friction.
	Needle thread creased because thread is too big for needle eye.	Use larger needle or needle with oversized eye and grooves.
	Needle does not rise enough to form needle loop properly.	Reset looper gauge and needle height to specifications.
Looper misses needle loop as presser foot is coming on or coming off the seam.	Material is not held down in front or back of seam and is flagging.	Use tractor type presser foot if available or see if presser bar is sticking.
	Needle deflecting toward operator.	Use sharp point needle 128 GAS.
Needle loop formed properly but brushed out of the way by looper.	Needle bar set too high or too low.	Set needle bar to specifications.
Looper misses needle loop when operator is trying to match seams or ends of garments.	Needle deflecting toward operator who may be holding back on material while matching seams or ends of garments.	Do not hold back excessively on material. Properly adjust feed and maintain a uniform presser foot pressure so operator does not hold back.
Machine misses needle loop when stitch length is increased.	Needle deflecting toward the operator because the needle guard is set too far forward.	Move needle guard to the rear.
Needle misses triangle on looper thread side.	Looper thread too loose - not making a good triangle.	Increase looper thread tension.
	Needle being deflected to the rear by burr on needle point, or needle glancing off when coming on a seam.	Use a sharp needle to stop needle from glancing off seam. Check needle for burr.



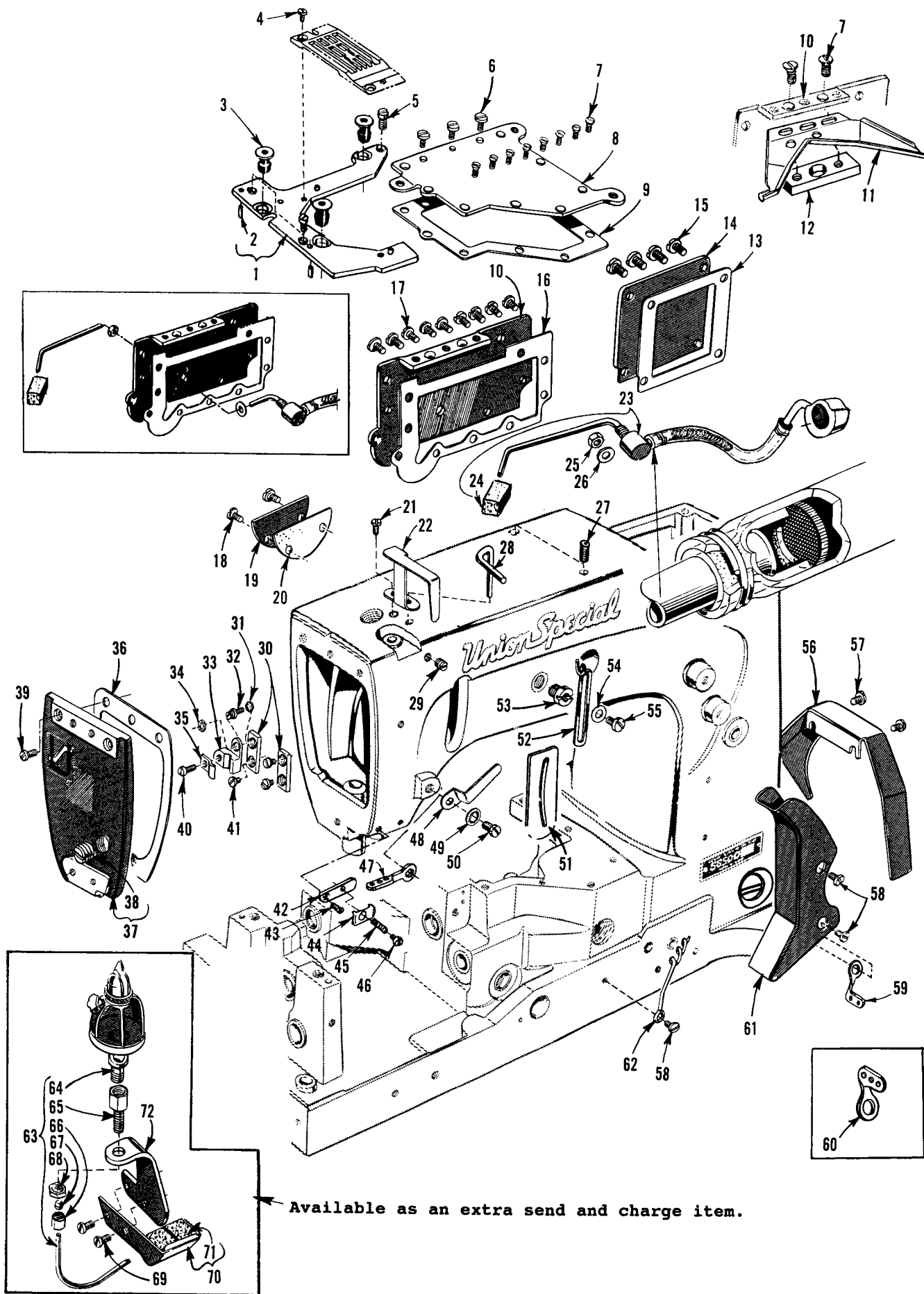
EXPLODED VIEWS
AND
DESCRIPTION OF PARTS



MAIN FRAME, THROAT PLATE SUPPORT, MISC. COVERS & OILING PARTS

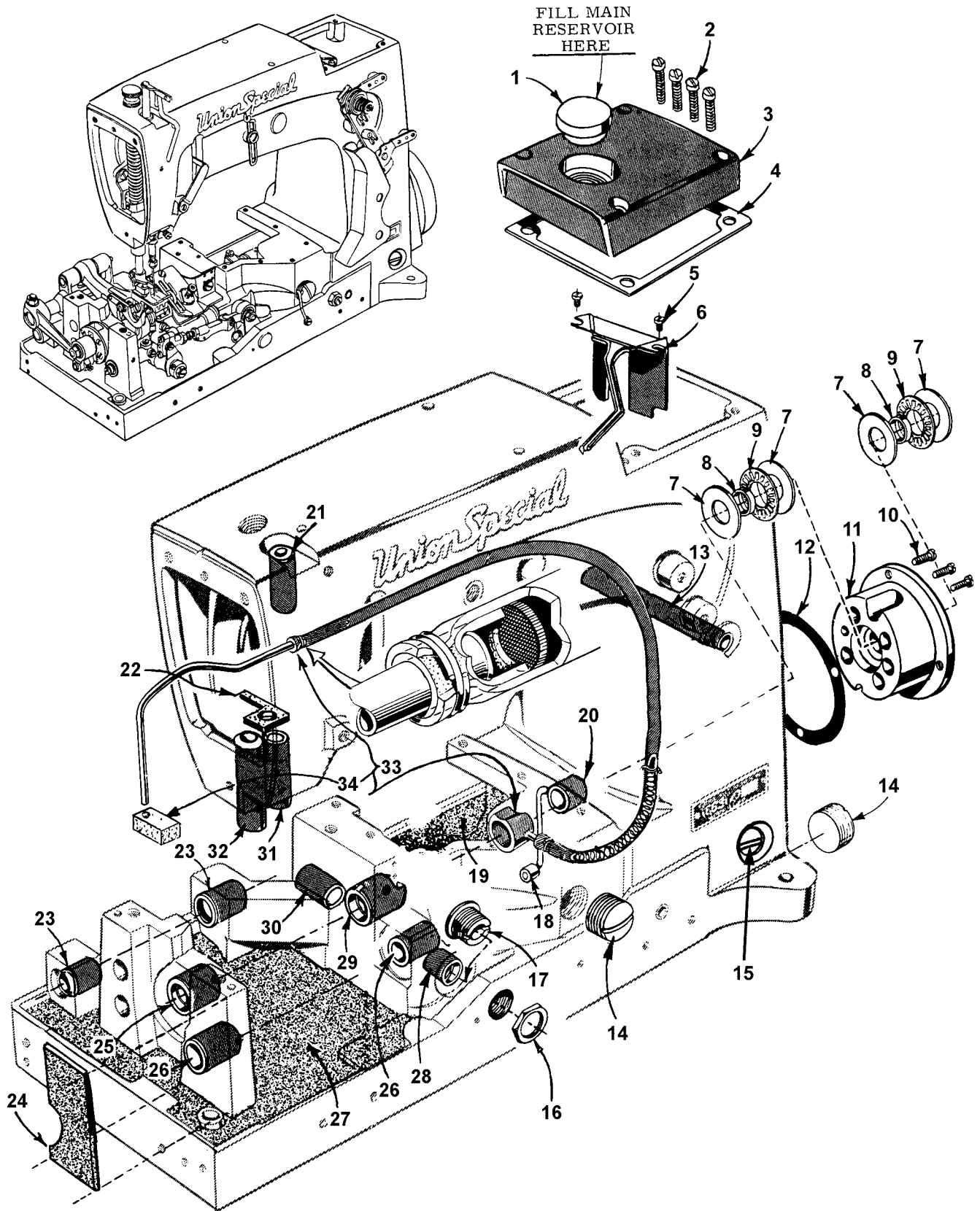
Ref. No.	Part No.	Description	Amt. Req.
1.	56480	Throat Plate Support	1
2.	51280J	Dowel Pin	2
3.	660-313	Well Nut	3
4.	22570	Screw, for throat plate	2
5.	22839	Screw, for throat plate support	3
6.	22585A	Screw	3
7.	22524	Screw, for ref. no. 8 and 12	10
8.	56382AW	Oil Reservoir Cover, top	1
9.	56382H	Gasket	1
10.	56382AA	Oil Reservoir Cover, back	1
11.	56382AB	Oil Drip Plate	1
12.	56382Y	Oil Drip Plate Clamping Block	1
13.	56382AX	Gasket	1
14.	56382D	Crank Chamber Cover, lower	1
15.	22548	Screw	4
16.	56382AU	Gasket	1
17.	22848	Screw	9
18.	22829	Screw	2
19.	56382J	Looper Drive Shaft Reservoir Cover	1
20.	56382AV	Gasket	1
21.	22585A	Screw, for needle bar	1
22.	33795	Needle Bar Eyelet Guard	1
23.	59493A	Base Oil Pump Assembly	1
24.	666-214	Intake Felt	1
25.	258A	Nut, for ref. no. 22	1
26.	666-230	Gasket, for ref. no. 22	1
27.	22894E	Screw, for ref. no. 10, 42 on page 29	2
28.	56470	Needle Thread Take-up Wire	1
29.	95	Plug Screw	1
30.	35731A	Presser Bar Connection Guide Plate	2
31.	660-342	Lockwasher	1
32.	51294R	Screw, for ref. no. 29	1
33.	56393C	Head Oil Tube Mounting Block	1
34.	7947	Nut	1
35.	56393D	Head Oil Tube Clamp	1
36.	56382AT	Gasket, for head cover	1
37.	56382B	Head Cover, all Styles	1
38.	22733C	Plug Screw	1
39.	22569C	Screw, for head cover	3
40.	22585	Screw, for head oil tube mounting bracket	1
41.	22513	Screw, for ref. no. 30	3

42. thru 72 See following page.



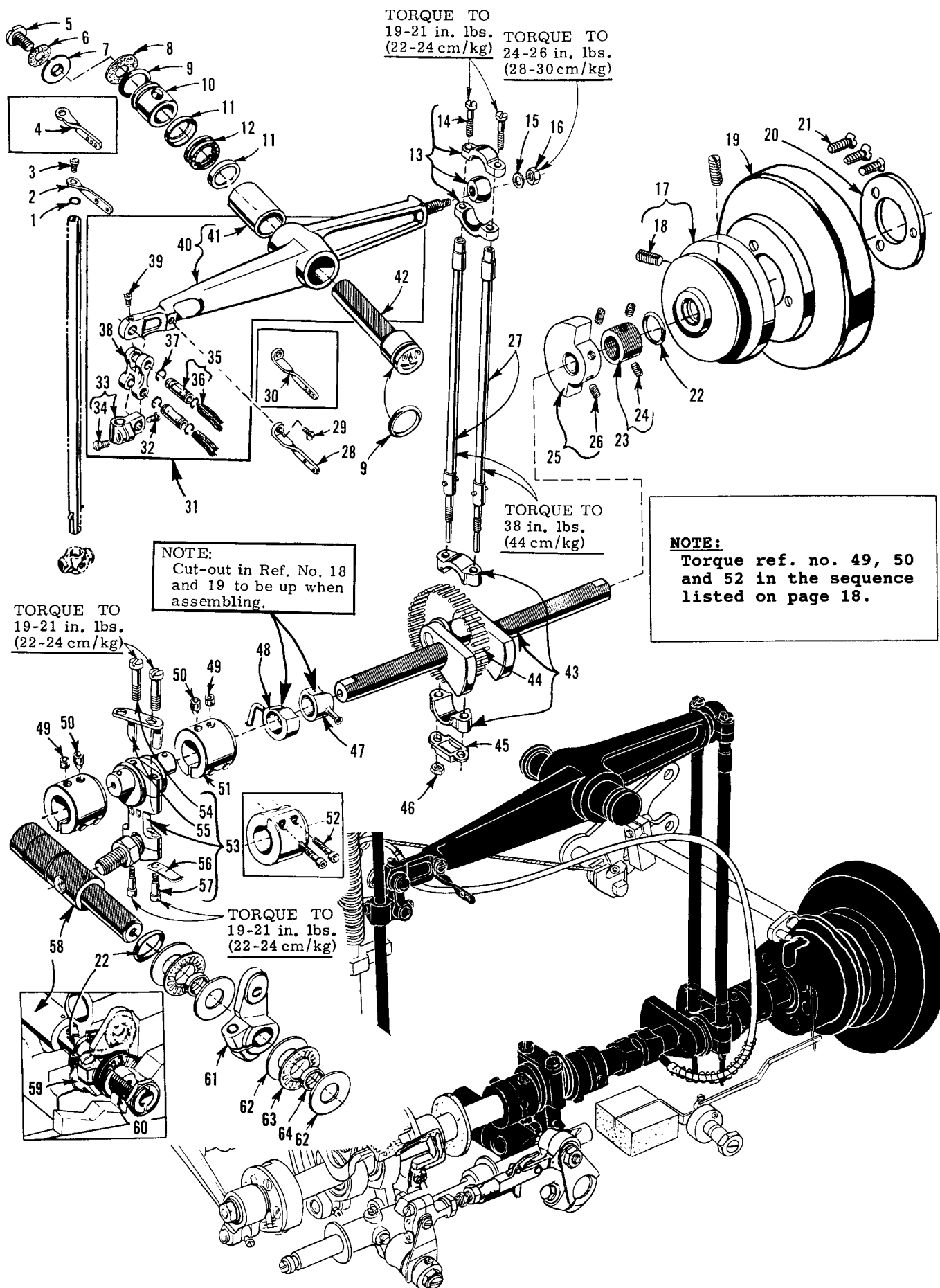
MAIN FRAME, THROAT PLATE SUPPORT, MISC. COVERS & OILING PARTS (CONT.)

Ref.			Amt.
No.	Part No.	Description	Req.
1. thru 41. See preceding page.			
42.	43296	Base, nipper spring	1
43.	605A	Screw	1
44.	57WB	Nipper Spring Plate	1
45.	15438C	Spring	1
46.	57WD	Screw, nipper spring	1
47.	56958B	Eyelet	1
48.	99680	Needle Lever Eyelet Guard	1
49.	96120	Lockwasher	1
50.	22517C	Screw, for needle lever eyelet guard	1
51.	660-617	Needle Lever Eyelet Gasket	1
52.	539	Frame Needle Thread Eyelet	1
53.	22889A	Adapter Plug Screw	1
54.	20	Washer	1
55.	22848	Screw, for frame needle thread eyelet	1
56.	21375CA	Belt Guard	1
57.	22829	Screw, for belt guard	2
58.	98A	Screw, for looper thread guard and eyelet	3
59.	158B	Looper Thread Eyelet, for Class 56500	1
60.	158A	Looper Thread Eyelet, for Class 56900	1
61.	56391A	Looper Thread Guard	1
62.	52958G	Looper Thread Eyelet	1
63.	21396BR	Needle Thread Lubricator Oil Reservoir	1
64.	660-73	Oil Cup	1
65.	21396AL	Adapter	1
66.	660-75	Coupling	1
67.	660-74	Connecting Sleeve	1
68.	11638M	Nut	1
69.	22569C	Screw, for thread lubricator	2
70.	21396BP	Needle Thread Lubricator	1
71.	21396AG	Felt Pad	2
72.	21396BK	Needle Thread Lubricator Oil Reservoir Bracket	1



MAIN FRAME, BUSHINGS, OIL GAUGE & LOOPER DRIVING PARTS

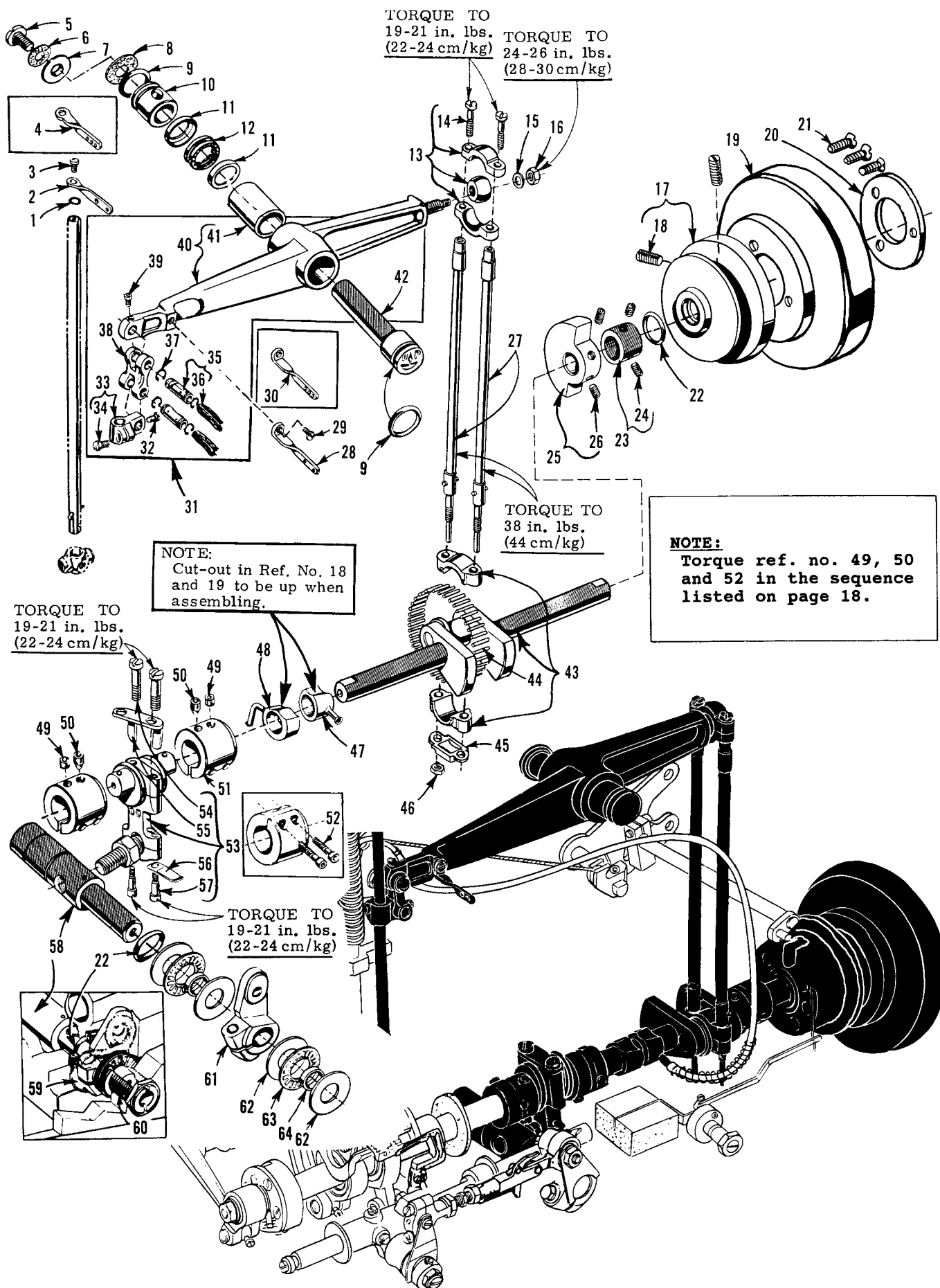
Ref. No.	Part No.	Description	Amt. Req.
1.	660-1002	Oil Filter Plug Screw	1
2.	22541C	Screw, for chamber cover	4
3.	56382AM	Upper Crank Chamber Cover	1
4.	56382AY	Gasket, for chamber cover	1
5.	90	Screw, for oiler and baffle plate assembly	2
6.	56382AC	Needle Lever Bearing Oiler and Baffle Plate Assembly	1
7.	56390H	Thrust Washer	4
8.	56390J	Pilot Ring	2
9.	660-665	Needle Thrust Bearing	2
10.	22569B	Screw, for crankshaft bushing housing	3
11.	57890B	Crankshaft Bushing Housing	1
12.	56390E	Gasket, for bushing housing	1
13.	21657X	Tension Release Lever Shaft Bushing	1
14.	22539R	Plug Screw	2
15.	51-902BLK	Oil Sight Gauge	1
16.	56342D	Nut, for thrust adjusting screw	1
17.	52942AC	Thrust Adjusting Screw	1
18.	35897BV	Oil Intake Filter	1
19.	56393Q	Base Felt, rear	1
20.	56390G	Main Shaft Bushing, right	1
21.	51154E	Needle Bar Bushing, upper	1
22.	56393W	Oil Attraction Felt	1
23.	57836B	Feed Rocker Shaft Bushing	2
24.	666-259	Felt	1
25.	56390	Main Shaft Bushing, left	1
26.	50-895BLK	Looper Rocker Shaft Bushing	2
27.	56393P	Base Felt, front	1
28.	52942W	Looper Drive Lever Shaft Bushing, front	1
29.	56190	Main Shaft Bushing, intermediate	1
30.	57842B	Looper Drive Lever Shaft Bushing, rear	1
31.	57954	Needle Bar Bushing, lower	1
32.	51257AA	Presser Bar Bushing, lower	1
33.	GR-56393T	Head Oil Pump Assembly	1
34.	56393L	Intake Felt	1



CRANKSHAFT, NEEDLE LEVER & LOOPER DRIVING PARTS

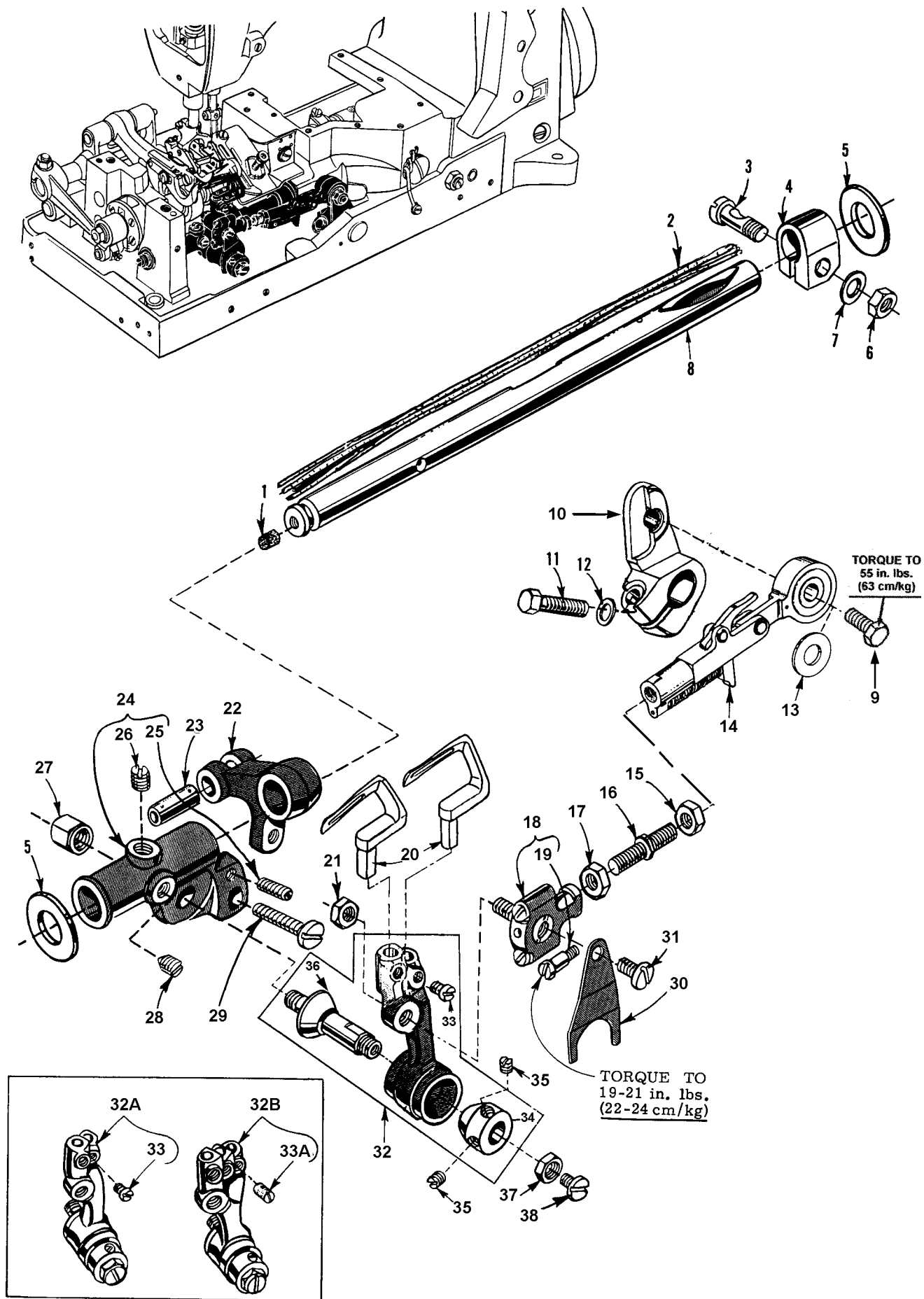
Ref. No.	Part No.	Description	Amt. Req.
1.	27-435BLK	Needle Bar Eyelet Washer	1
2.	56458A	Needle Bar Thread Eyelet, for Class 56500	1
3.	22804	Screw	1
4.	56958A	Needle Bar Thread Eyelet, for Class 56900	1
5.	22586R	Screw	1
6.	GR-51250V	Gasket	1
7.	51250D	Washer	1
8.	56382AK	Gasket	1
9.	660-625	Oil Seal Ring	2
10.	56350E	Needle Lever Thrust Collar	1
11.	56350F	Compression Cup	2
12.	660-614	Temper Load Ring	1
13.	29066R	Needle Lever Connecting Rod Upper Ball Joint Assembly	1
14.	22559G	Screw	2
15.	51216N	Washer	1
16.	51216P	Nut	1
17.	56321R	Pulley	1
18.	22894AB	Screw	2
19.	57821A	Handwheel	1
20.	61321L	Retaining Plate	1
21.	22574	Screw	4
22.	660-202	"O" Ring, for pulley and looper drive lever rocker shaft	2
23.	57847	Thrust Collar	1
24.	95	Screw	2
25.	51247	Counterweight	1
26.	22894J	Screw	2
27.	56316	Needle Lever Connecting Rod	2
28.	56458	Needle Lever Thread Eyelet, for Class 56500	1
29.	22768	Screw	1
30.	56958	Needle Lever Thread Eyelet, for Class 56900	1
31.	29348AF	Needle Lever Assembly	1
32.	22564	Screw	1
33.	51254K	Needle Bar Connection	1
34.	22562A	Screw	1
35.	52336	Link Pin	2
36.	WO3	Yarn (6 Strands)	-
37.	660-215	Retaining Ring	4
38.	56354D	Needle Bar Link	1
39.	77	Screw	1
40.	56315A	Needle Lever	1
41.	56350G	Bushing	1
42.	56350D	Needle Lever Stud	1

43. thru 64. See following page.



CRANKSHAFT, NEEDLE LEVER & LOOPER DRIVING PARTS CONT.

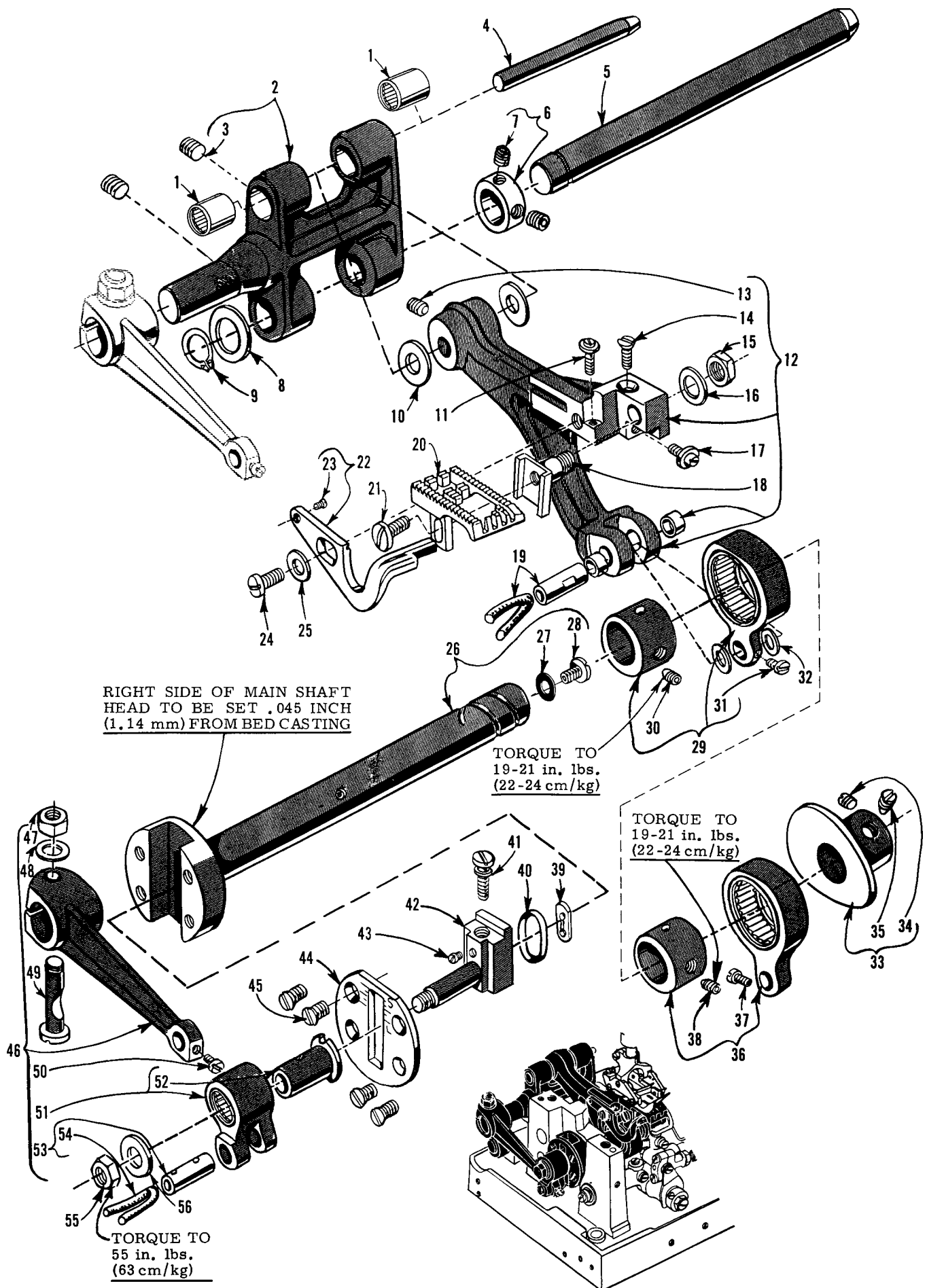
Ref.			Amt.
No.	Part No.	Description	Req.
1. thru 42. See preceding page.			
43.	29476LN	Crankshaft Assembly	1
44.	51216M	Needle Bearing	28
45.	56316C	Connecting Rod Guide	1
46.	12934A	Nut	2
47.		Head Oil Pump, ref. no. 44 on page 27	1
48.		Base Oil Pump, ref. no. 23 on page 23	1
49.	22894C	Set Screw	2
50.	22894D	Spot Screw	2
51.	56343F	Looper Drive Lever Coupling	2
52.	22653L8	Screw	2
53.	29105AK	Looper Drive Lever Crank Assembly	1
54.	22587K	Bearing Cap Screw, upper	2
55.	56343C	Ball Joint Guide Fork	1
56.	56343E	Oil Splasher	1
57.	22559A	Bearing Cap Screw, lower	2
58.	52942AA	Looper Drive Lever Rocker Shaft	1
59.	CL21	Oil Wick	1
60.	52942AC	Thrust Adjusting Screw	1
61.	56342G	Looper Drive Lever	1
62.	56390H	Thrust Washer	4
63.	660-665	Needle Thrust Bearing	2
64.	56390J	Pilot Ring	2



LOOPER ROCKER & CONNECTING ROD PARTS

Ref. No.	Part No.	Description	Amt. Req.
1.	CO67E	Cork Plug	1
2.	WO3	Yarn (4 strands - 8 inches long)	-
3.	55244G	Looper Rocker Shaft Collar Stud	1
4.	51244N	Looper Rocker Shaft Clamp	1
5.	51244L	Thrust Washer	2
6.	18	Nut	1
7.	51216N	Washer	1
8.	56344	Looper Rocker Shaft	1
9.	627	Looper Lever Stud	1
10.	56342K	Looper Drive Lever	1
11.	22882C	Screw	1
12.	51242M	Washer	1
13.	20	Washer	1
14.	56341N	Looper Connecting Rod Jointed Section Assembly, right	1
15.	18	Nut, right hand thread	1
16.	51240D	Looper Connecting Rod	1
17.	269	Nut, left hand thread	1
18.	57841	Looper Connecting Rod Ball Joint, left	1
19.	22729C	Screw	2
20.		Looper (see page 39)	-
21.	18	Nut	1
22.	56344B	Looper Rocker Shaft Arm	1
23.	51236J	Looper Avoid Link Pin	1
24.	56344C	Looper Rocker Frame	1
25.	719	Stop Screw	1
26.	98	Screw	1
27.	51246	Looper Rocker Stud Nut	1
28.	96	Screw	1
29.	22874	Looper Rocker Frame Lock Screw	1
30.	56393J	Looper Connecting Rod Ball Joint Oiler, left.....	1
31.	87U	Screw.....	1
32.		Looper Rocker Assembly (see chart below)	-
33.	73	Screw, for Class 56500	2
33A.	22565	Screw, for Class 56900	3
34.	15465F	Cone, Looper Rocker.....	1
35.	88	Screw	2
36.	51745	Stud, Looper Cone.....	1
37.	258A	Lock Nut	1
38.	22829	Lock Nut Screw.....	1

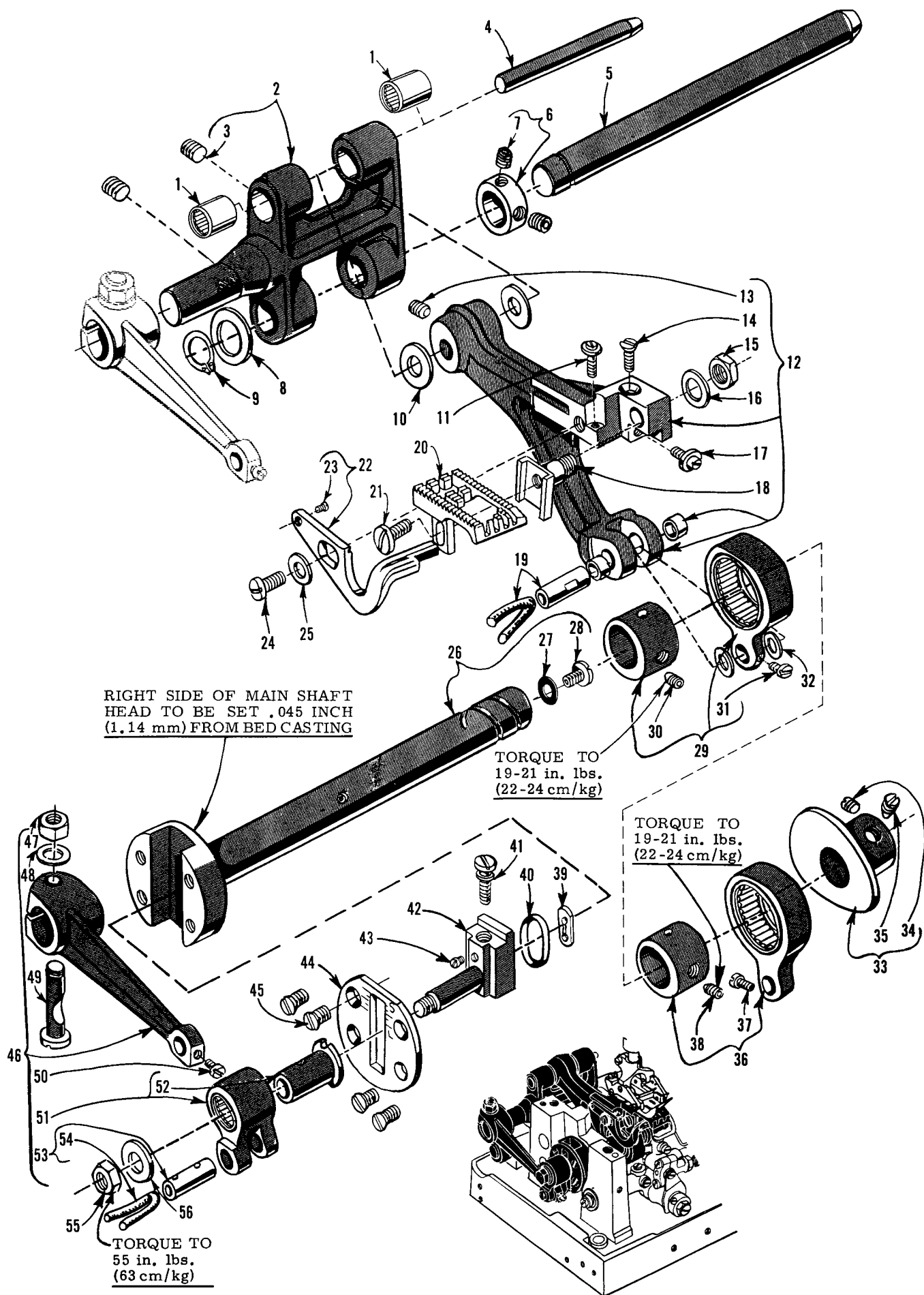
Ref. No.	Ref. No. 32 Assembly	Machine Class	Amt. Req.
32A	29192AA	56500	1
32B	29192AF	56900	1



MAIN SHAFT, TAKE-UPS & FEED DRIVING PARTS

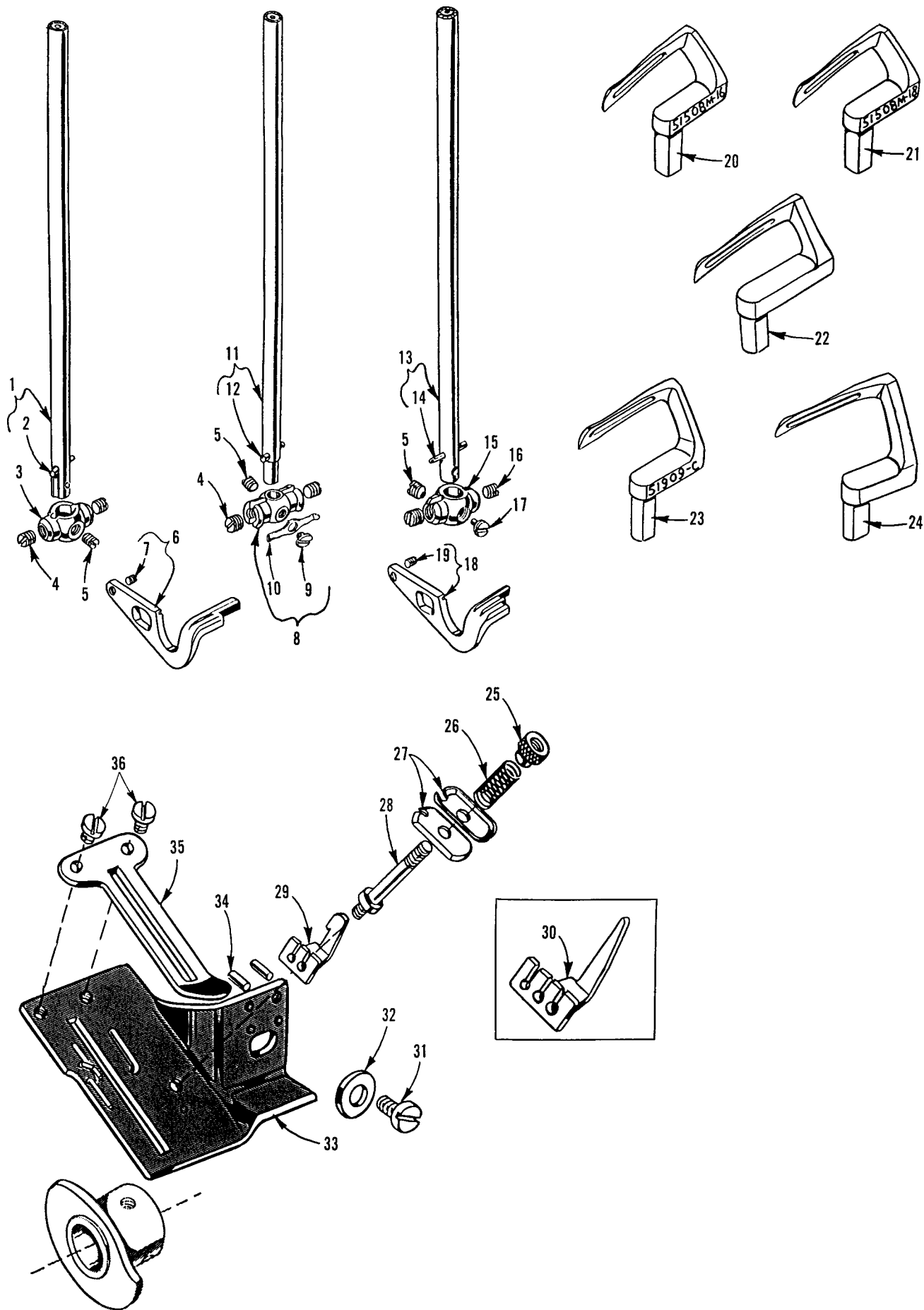
Ref. No.	Part No.	Description	Amt. Req.
1.	660-359	Bearing, for feed rocker	2
2.	56335B	Feed Rocker	1
3.	22651CD4	Screw, for feed bar shaft	2
4.	56334B	Feed Bar Shaft	1
5.	56335L	Feed Rocker Shaft	1
6.	56335D	Collar, for feed rocker shaft	1
7.	98	Screw	2
8.	41391	Washer	1
9.	660-438	Retaining Ring	1
10.	61341J	Feed Bar Washer	2
11.	22834A	Needle Guard Adjusting Screw	1
12.	56334N	Feed Bar	1
13.	22651CB4	Screw	1
14.	22637P24	Feed Dog Height Adjusting Screw	1
15.	258A	Nut	1
16.	6042A	Washer, for feed dog holder	1
17.	22863C	Feed Dog Holder Adjusting Screw	1
18.	56334L	Feed Dog Holder	1
19.	51236J	Link Pin	1
20.		Feed Dog (see page 47, 49)	1
21.	22528	Screw, for feed dog	1
22.		Needle Guard (see page 39)	1
23.	22801	Screw	1
24.	22875H	Screw, for needle guard	1
25.	61434G	Washer, for needle guard screw	1
26.	56122A	Main Shaft	1
27.	56322B	Gasket	1
28.	22891B	Oil Flow Regulating Screw	1
29.	29476NM096	Feed Lift Eccentric Assembly, for all Styles	1
30.	22894AA	Spot Screw	1
31.	77	Screw, for link pin	1
32.	39543N	Thrust Washer, for feed bar	2
33.	56323	Looper Thread Take-up	1
34.	22580D	Set Screw	1
35.	22764C	Spot Screw	1
36.	29476NM072	Looper Avoid Eccentric Assembly, for all Styles	1
37.	77	Screw, for link pin	1
38.	22894AA	Spot Screw	1

39. thru 56. See following page.



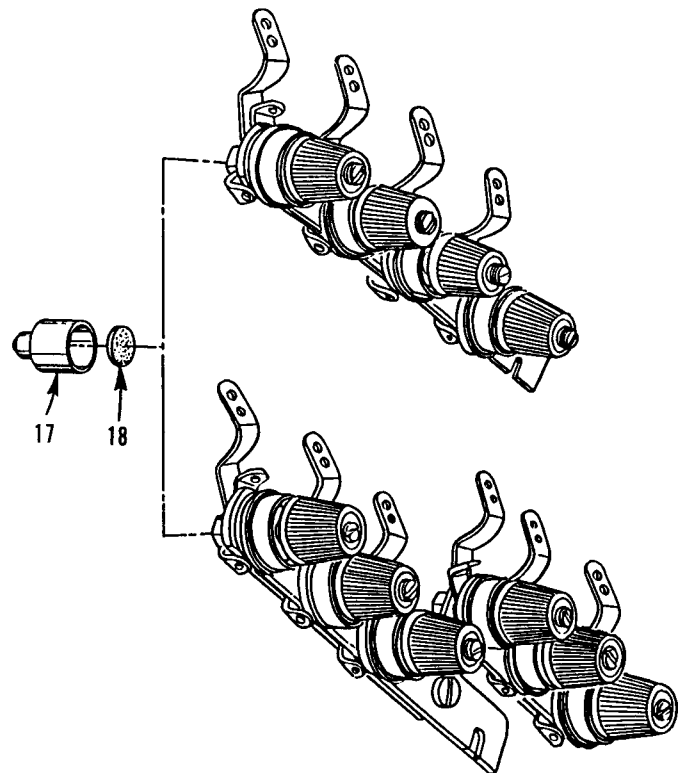
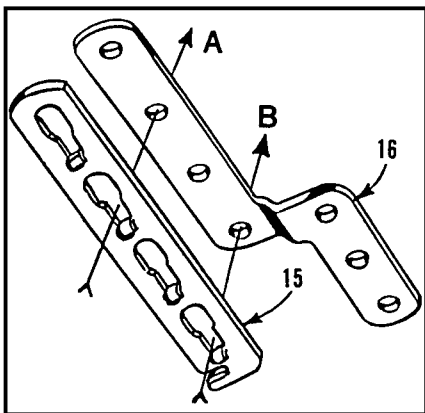
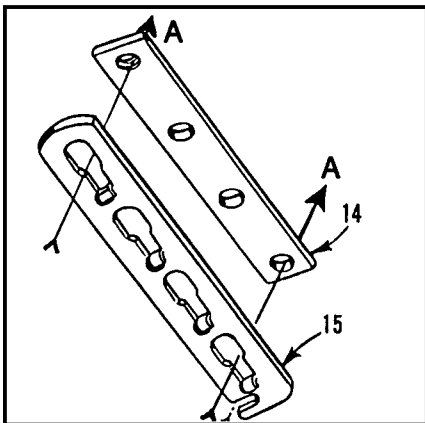
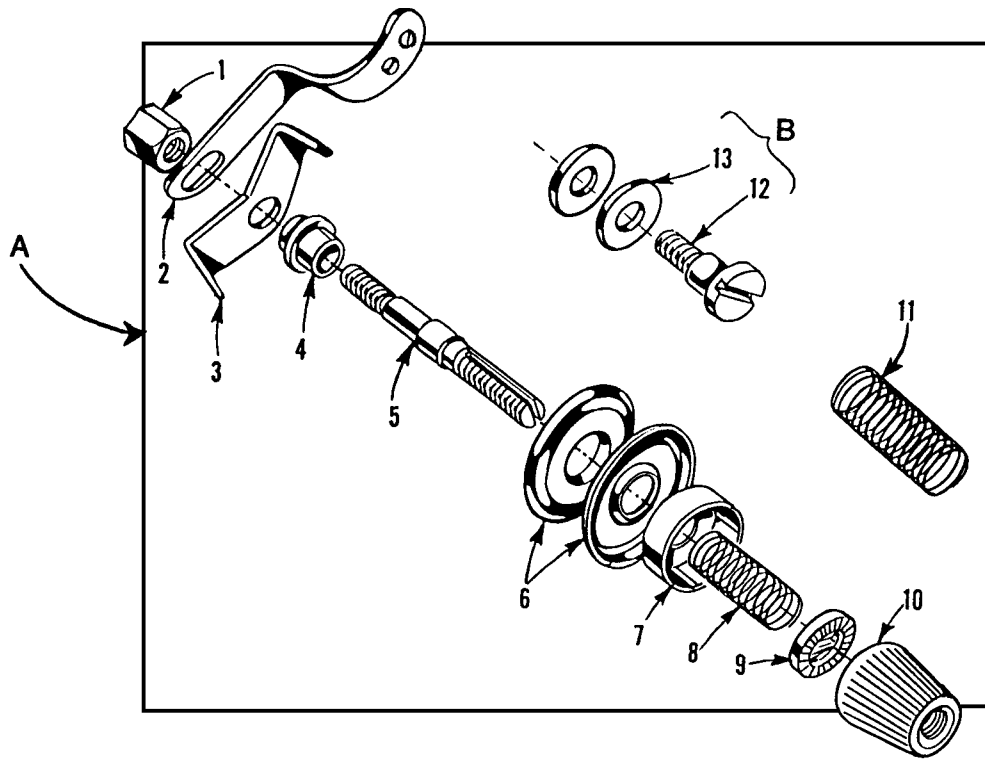
MAIN SHAFT, TAKE-UPS & FEED DRIVING PARTS CONT.

Ref.			Amt.
No.	Part No.	Description	Req.
1. thru 38. See preceding page.			
39.	56336D	Feed Crank Stud Insert	1
40.	660-269B	Quad Ring	1
41.	22543A	Stitch Regulating Screw	1
42.	56336	Feed Crank Stud	1
43.	22798C	Screw	1
44.	56322C	Main Shaft Head Plate	1
45.	22525A	Screw	4
46.	56335S	Feed Rocker Arm and Feed Crank Link Sub-Assembly	1
47.	55235E	Nut	1
48.	6042A	Washer	1
49.	55235D	Locking Stud	1
50.	77	Screw, for link pin	1
51.	56336K	Feed Crank Link	1
52.	56336C	Feed Crank Link Ferrule	1
53.	51054	Feed Crank Link Pin	1
54.	666-149	Oil Wick	1
55.	269	Nut, left thread	1
56.	21657E	Washer	1



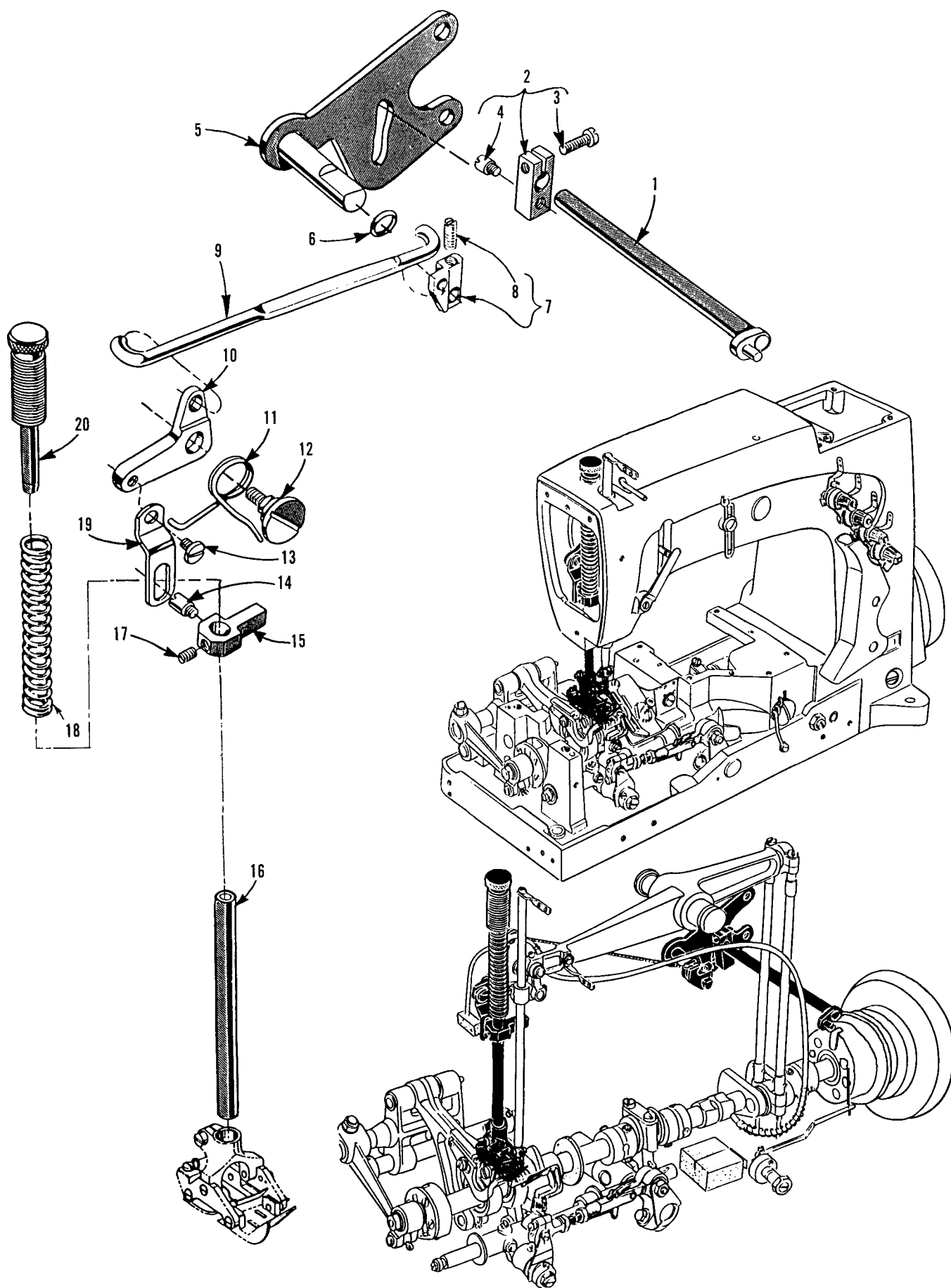
NEEDLE BARS, HOLDERS & GUARDS, LOOPERS & LOOPER THREAD TAKE-UP PARTS

Ref. No.	Part No.	Description	Amt. Req.
1.	56517B16	Needle Bar, for Style 56500R16	1
2.	50J16	Stop Pin	1
3.	51418-16	Needle Holder, for Style 56500R16	1
4.	98	Screw, for needle	2
5.	89	Spot Screw	1
6.	56525	Needle Guard, for Class 56500, all gauges	1
7.	22801	Screw	1
8.	7018E5	Needle Holder, for Style 56500R18	1
9.	187B	Screw	1
10.	7040-6	Thread Guide	1
11.	56517B18	Needle Bar, for Style 56500R18	1
12.	50J16	Stop Pin	1
13.	56917	Needle Bar, for Class 56900, all gauges	1
14.	50J26	Stop Pin	1
15.	35818N8	Needle Holder, for Styles 56900P8, R8	1
-	C50018B9	Needle Holder, for Styles 56900P9, R9	1
16.	22580	Screw, for needle	2
17.	22752	Screw, for center needle	1
18.	56925	Needle Guard, for Class 56900, all gauges	1
19.	22801	Screw	1
20.	51508M16	Looper, front, for Style 56500R16	1
21.	51508M18	Looper, front, for Style 56500R18	1
22.	51908B8	Looper, front, for Style 56900P8, R8	1
	51908B9	Looper, front, for Style 56900P9, R9	1
23.	51909C	Looper, Middle, for Class 56900 and back looper for Class 56500	1
24.	51909D8	Looper, back, for Style 56900P8, R8	1
	51909D9	Looper, back, for Style 56900P9, R9	1
25.	51959D	Tension Nut	1
26.	51959K	Tension Spring	1
27.	51959B	Tension Disc	2
28.	51492	Tension Post	1
29.	51459A	Looper Thread Guide, for Class 56500	1
30.	51959J	Looper Thread Guide, for Class 56900	1
31.	22528	Screw	1
32.	21657E	Washer	1
33.	51457A	Take-up Shield	1
34.	50-216BLK	Dowel Pin	2
35.	52804A	Cast-off Plate	1
36.	28	Screw	2



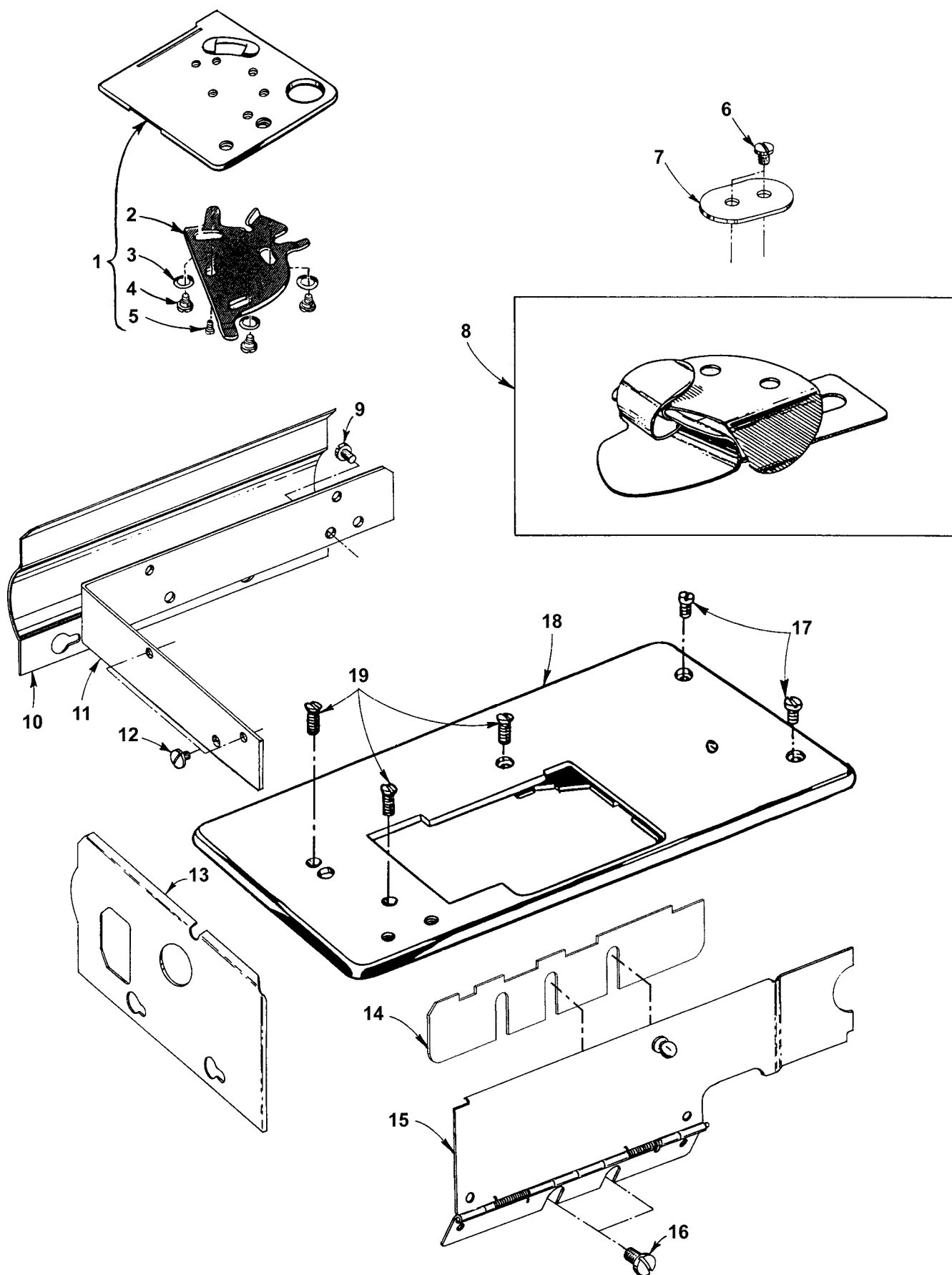
DISC THREAD TENSION PARTS

Ref. No.	Part No.	Description	Amt. Req. Per Style	
			Two Needle	Three Needle
1.	43266	Nut	2	5
2.	51491C	Lead-in Guide	4	6
3.	51292D	Tension Thread Eyelet	4	6
4.	51292A	Ferrule	4	6
5.	56392E	Tension Post	4	6
6.	109	Tension Disc	8	12
7.	56392F	Tension Spring Shield	4	6
8.	51292F8	Needle Thread Tension Spring	2	3
9.	39592AK	Tension Spring Ferrule	4	6
10.	39592Z	Tension Nut	4	6
11.	51292F2	Looper Thread Tension Spring	2	3
12.	22598C	Screw		1
13.	80557	Washer		2
14.	56382X	Tension Post Support, for Class 56500	1	
15.	21657-4	Tension Disc Separator, for all Styles	1	1
16.	51992A	Tension Post Support, for Class 56900		1
17.	59292	Auxiliary Tension Post Support, for al Styles	1	1
18.	59292A	Felt Washer, for auxiliary tension post support	as required	



TENSION & LIFTER LEVER PARTS

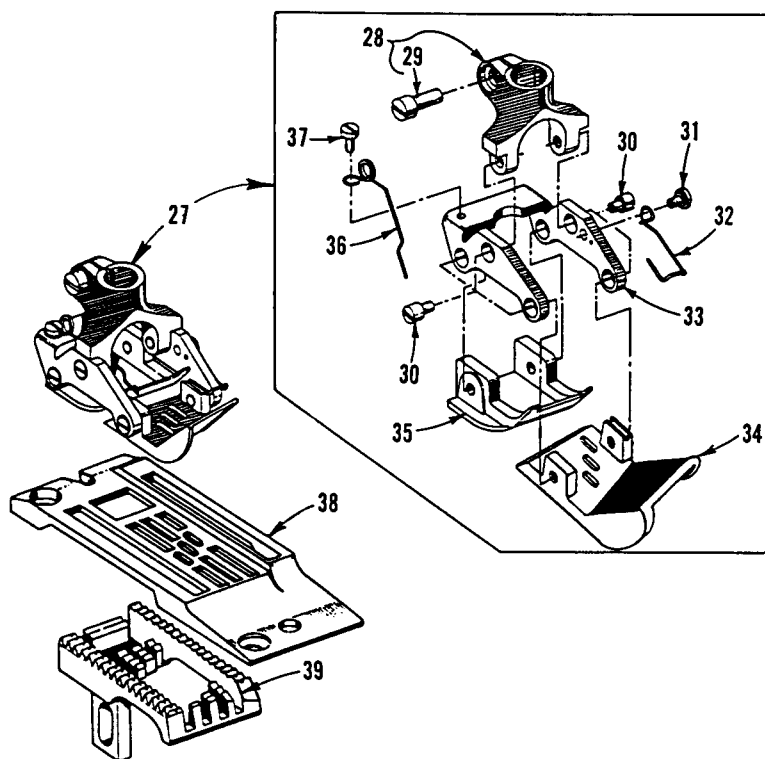
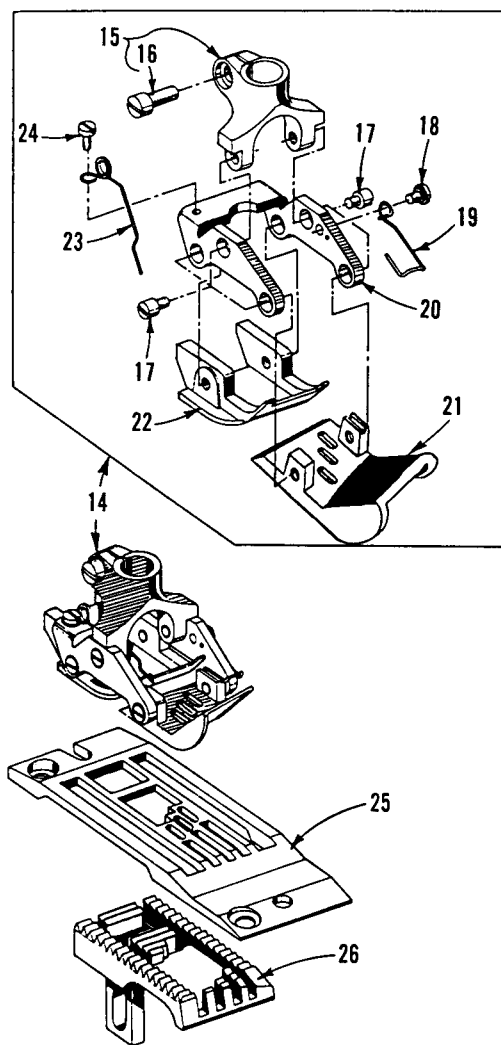
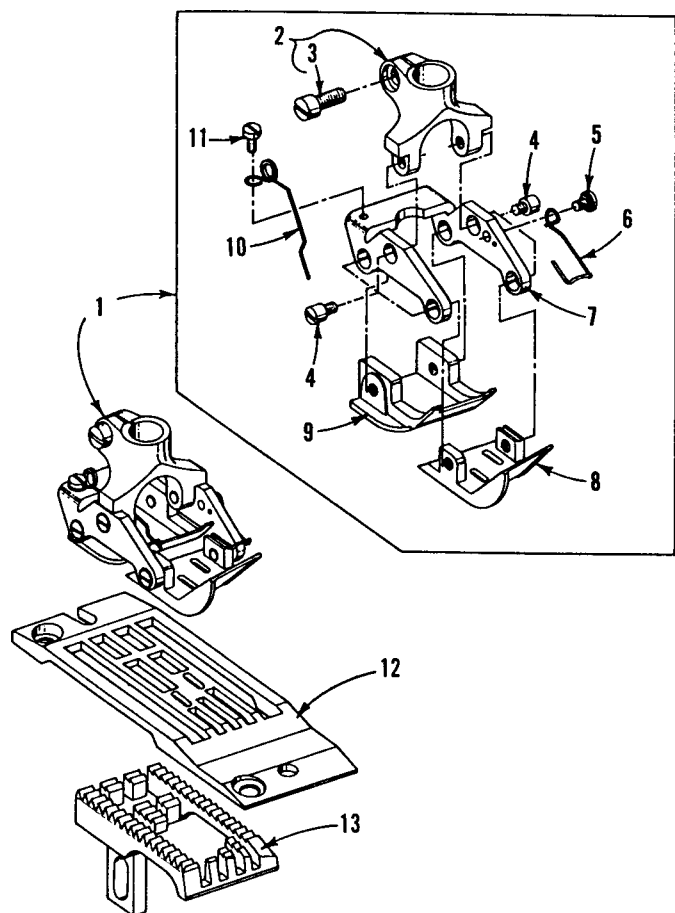
Ref. No.	Part No.	Description	Amt. Req.
1.	21657W	Tension Release and Lifter Lever Shaft	1
2.	21657Y	Tension Release and Lifter Lever Shaft Connection	1
3.	22569	Screw	1
4.	402	Screw	1
5.	51283H	Lifter Lever	1
6.	660-207	Oil Seal Ring	1
7.	53783N	Lifter Lever Connection	1
8.	22537	Screw	1
9.	56383AB	Lifter Lever Connecting Rod	1
10.	56383AA	Lifter Lever Bell Crank	1
11.	56383D	Lifter Lever Bell Crank Spring	1
12.	22557G	Screw	1
13.	22758C	Screw	1
14.	402	Screw	1
15.	51257M	Presser Bar Connection and Guide	1
16.	51957E	Presser Bar	1
17.	22569F	Screw	1
18.	53787	Presser Spring	1
19.	56383A	Lifter Lever Link	1
20.	56356	Presser Spring Regulator	1



CLOTH PLATE, CLOTH PLATE COVER, FOLDER & OIL SHIELD PARTS

Ref. No.	Part No.	Description	Amt. Req.
1.	56381-207A	Cloth Plate Cover	1
2.	51281AC	Cloth Plate Cover Spring	1
3.	35772H	Spring Washer	3
4.	22760A	Screw, for spring washer	3
5.	22845B	Screw	1
6.	25C	Screw, for washer plate	2
7.	23425V	Washer Plate	1
8.		Double Lap Seam Feller Assembly (see chart below)	1
9.	22848	Screw, for oil shield bracket	3
10.	G51381BD	Oil Shield, rear	1
11.	G51382BA	Bracket, for oil shield	1
12.	99295	Screw, for oil shields, rear, left	4
13.	G51381BA	Oil Shield, left	1
14.	52978Z	Shim Stop	1
15.	51282AJ	Hinged Oil Shield	1
16.	25S	Screw, for hinged oil shield	2
17.	22839C	Screw, for cloth plate	2
18.	56401C	Cloth Plate	1
19.	22526C	Screw, for cloth plate	3

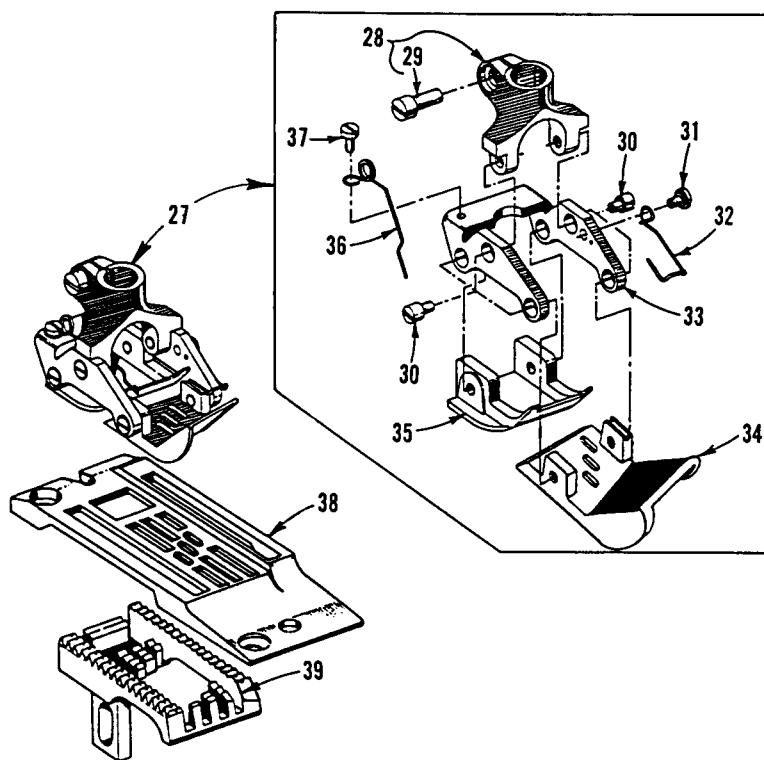
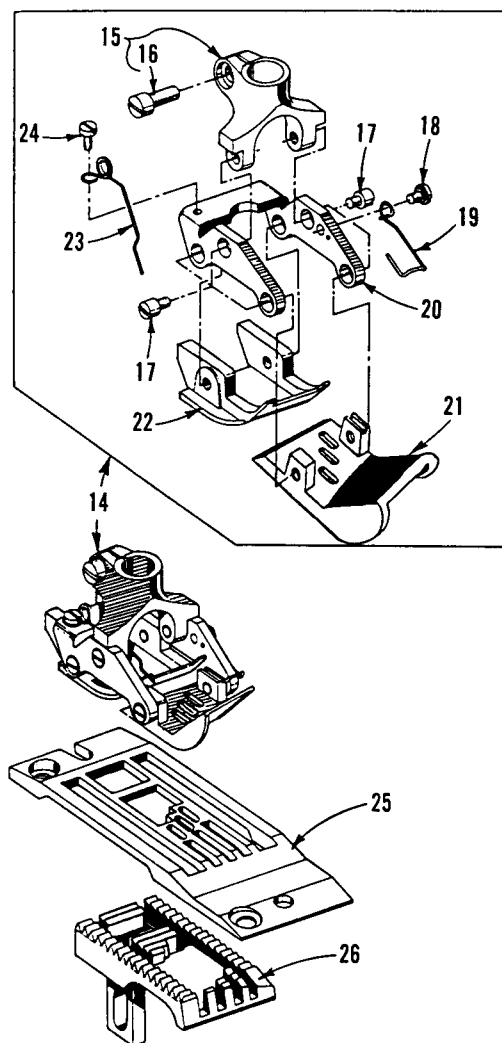
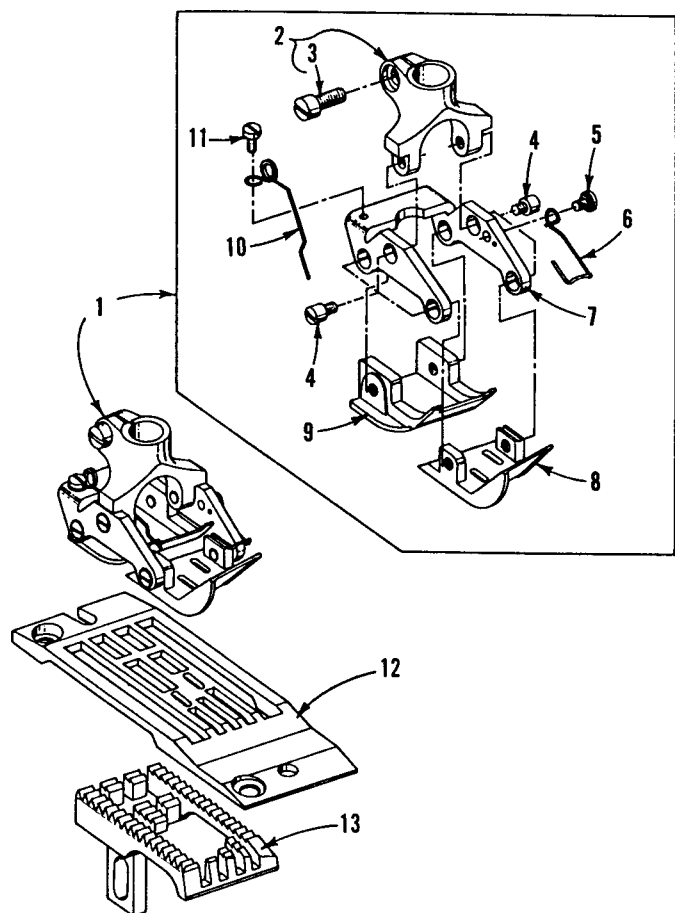
		56500R16	56500R18	56900P8	56900P9	56900R8	56900R9
23420S8 3/32		X		X		X	
23420S9 3/32			X		X		X
23420S8 1/8	STD	X		X		X	
23420S9 1/8	STD		X		X		X
23420S8 5/32		X		X		X	
23420S9 5/32			X		X		X



PRESSER FOOT, THROAT PLATE & FEED DOG PARTS

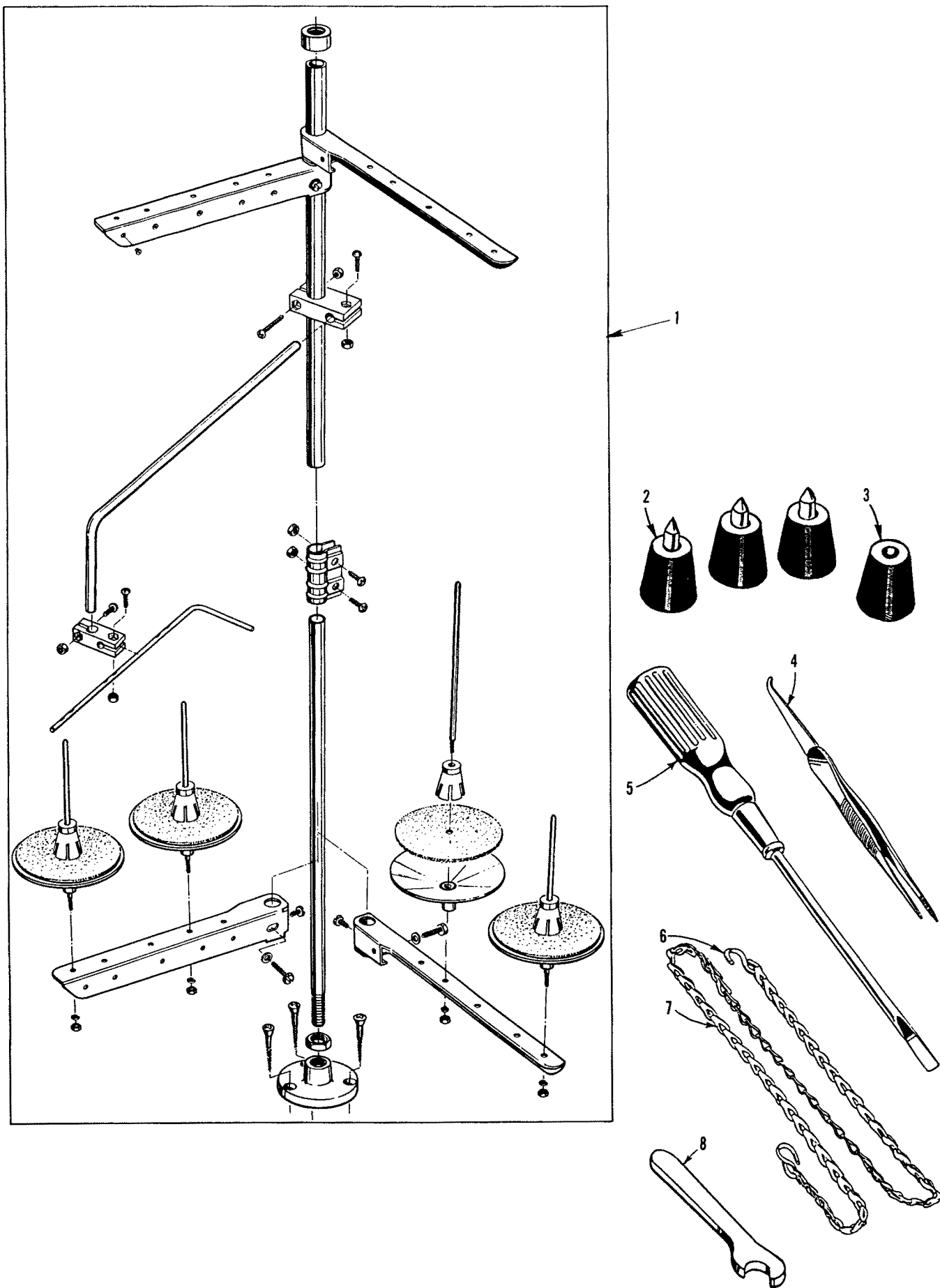
Ref. No.	Part No.	Description	Amt. Req.
1.	C50020F16	Presser Foot Assembly, for Style 56500R16	1
-	C50020E18	Presser Foot Assembly, for Style 56500R18	1
2.	35830B	Shank, for presser foot	1
3.	22585R	Screw, for shank	1
4.	22845A	Screw, for yoke	6
5.	22599	Screw, for spring	1
6.	35830K	Spring	1
7.	35830C	Yoke	1
8.	C50030AD	Bottom, presser foot (front section) for Style 56500R16	1
-	C50030AE	Bottom, presser foot (front section) for Style 56500R18	1
9.	C50030AC	Bottom, presser foot (rear section) for Style 56500R16	1
-	56930	Bottom, presser foot (rear section) for Style 56500R18	1
10.	35830H	Spring	1
11.	73A	Screw, for spring	1
12.	C50024R16	Throat Plate, for Style 56500R16	1
-	C50024U18	Throat Plate, for Style 56500R18	1
13.	C50005N	Feed Dog, for Styles 56500R16, R18	1
14.	50320M8	Presser Foot Assembly, for Style 56900P8	1
-	56920A9	Presser Foot Assembly, for Style 56900P9	1
15.	35830B	Shank, for presser foot	1
16.	22585R	Screw, for shank	1
17.	22845A	Screw, for yoke	6
18.	22599	Screw, for spring	1
19.	35830K	Spring	1
20.	35830C	Yoke	1
21.	35830R8	Bottom, presser foot (front section) for Style 56900P8	1
-	35830R9	Bottom, presser foot (front section) for Style 56900P9	1
22.	50330BF8	Bottom, presser foot (rear section) for Style 56900P8	1
-	56930	Bottom, presser foot (rear section) for Style 56900P9	1
23.	35830H	Spring	1
24.	73A	Screw, for spring	1
25.	50324N8	Throat Plate, for Style 56900P8	1
-	C56924A9	Throat Plate, for Style 56900P9	1
26.	56905A9	Feed Dog, for Styles 56900P8, P9	1

27. thru 39. See following page.



PRESSER FOOT, THROAT PLATE & FEED DOG PARTS

Ref.			Amt.
No.	Part No.	Description	Req.
1. thru 26. See preceding page.			
27.	50320N8	Presser Foot Assembly, for Style 56900R8	1
-	56920R9	Presser Foot Assembly, for Style 56900R9	1
28.	35830B	Shank, for presser foot	1
29.	91D	Screw, for shank	1
30.	22845A	Screw, for yoke	6
31.	22599	Screw, for spring	1
32.	35830K	Spring	1
33.	35830C	Yoke	1
34.	50330BE8	Bottom, presser foot (front section) for Style 56900R8	1
-	35830S9	Bottom, presser foot (front section) for Style 56900R9	1
35.	50330BG8	Bottom, presser foot (rear section) for Style 56900R8	1
-	56930B	Bottom, presser foot (rear section) for Style 56900R9	1
36.	35830H	Spring	1
37.	73A	Screw, for spring	1
38.	50324P8	Throat Plate, for Style 56900R8	1
-	C56924R9	Throat Plate, for Style 56900R9	1
39.	56905R9	Feed Dog, for Styles 56900R8, R9	1



THREAD STAND PARTS & MISC. ACCESSORIES

Ref. No.	Part No.	Description	Amt. Req.
1.	GR-21101W4	Thread Stand Assembly, for 4-thread machines	1
-	GR-21101W6	Thread Stand Assembly, for 6-thread machines	1
2.	51295B	Isolator	3
3.	51295A	Isolator	1
4.	12288403	Thread Tweezers	1
5.	21201	Screwdriver, 9/64 inch round blade, overall length 7 11/16 inches	1
6.	660-264	"S" Hook, for all Styles	1
7.	421D34	Treadle Chain, 34 inches long, for all Styles	1
8.	21388	Wrench, 3/8 inch open end, for all Styles	1

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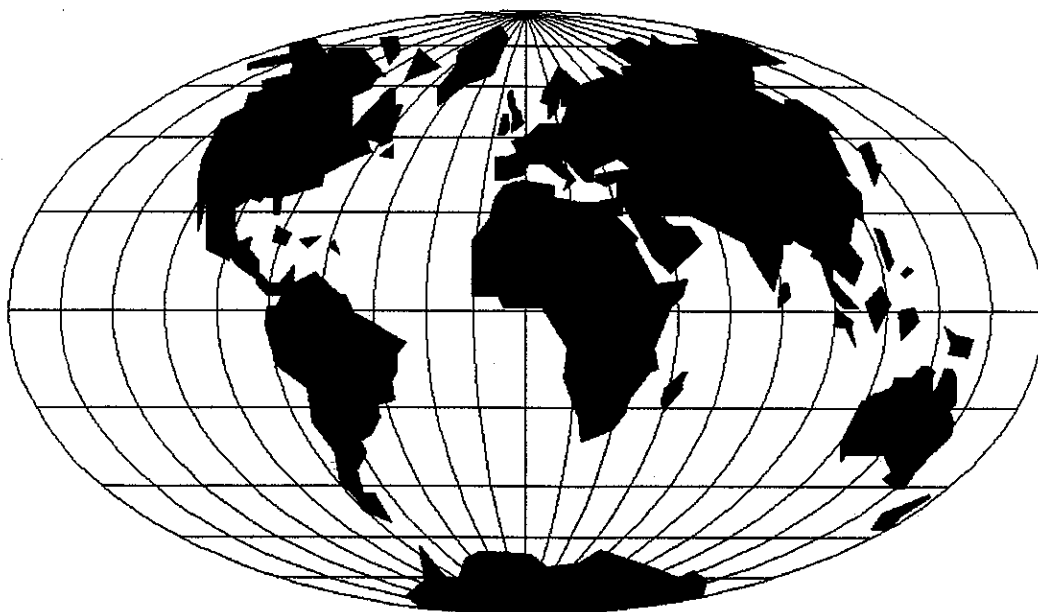


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