

**FIRST  
EDITION**



*Union Special*<sup>®</sup>  
INDUSTRIAL SEWING EQUIPMENT

**CATALOG NO. 103QJ**

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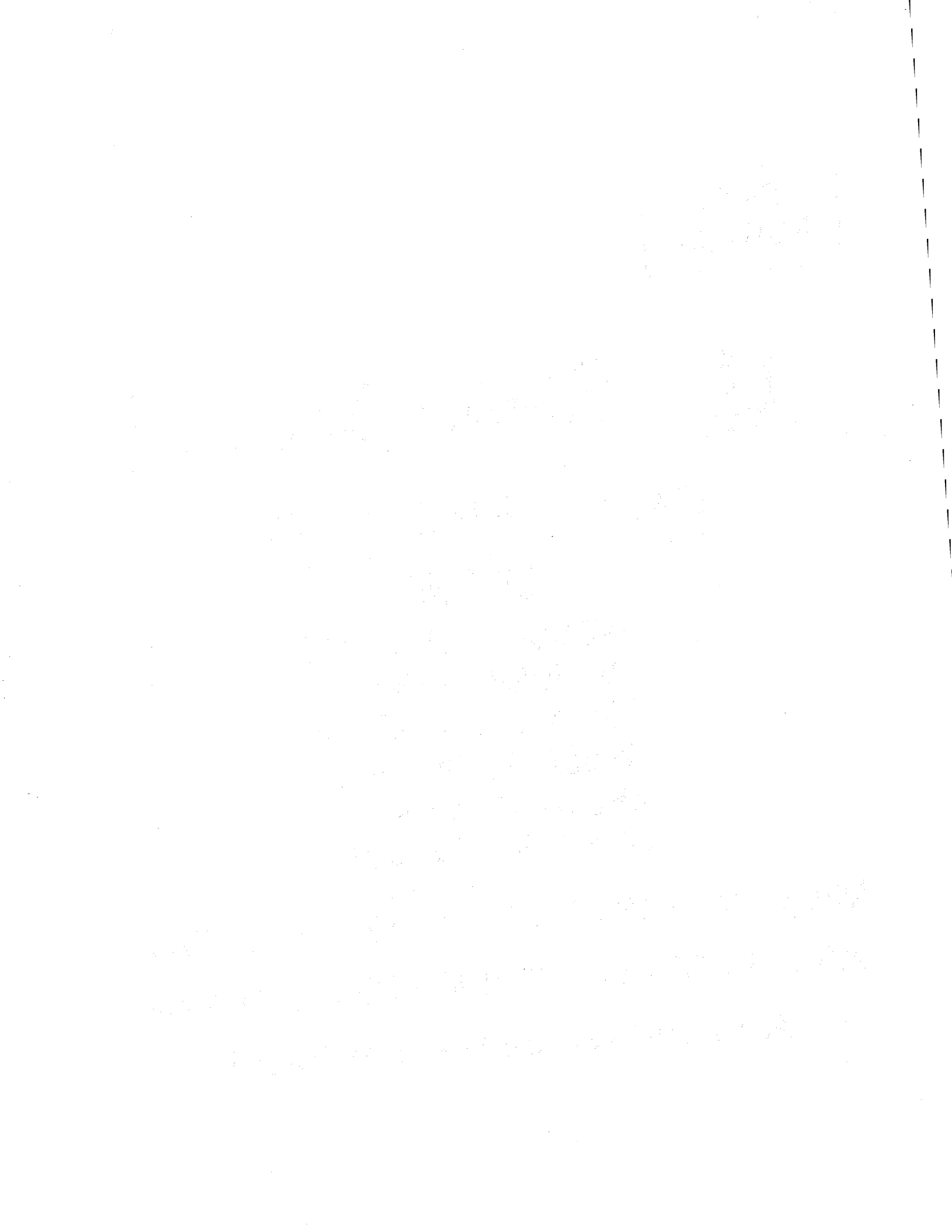
**STYLES**

**39500QJ 39500RU  
39500QL 39500SJ  
39500QN 39500SR  
39500QV 39500SX  
39500QX 39500TG  
39500RP 39500TY**

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**MARK IV HIGH SPEED SINGLE NEEDLE TWO  
AND THREE THREAD PLAIN FEED SERGING  
AND OVERSEAMING MACHINES**



## IDENTIFICATION OF MACHINES

Each UNION SPECIAL machine is identified by a Style number on a name plate on the machine. Style numbers are classified as standard and special. Standard Style numbers have one or more letters suffixed, but never contain the letter "Z". Example: "Style 39500 QJ". Special Style numbers contain the letter "Z". When only minor changes are made in a standard machine, a "Z" is suffixed to the standard Style number. Example: "Style 39500 QJZ".

Styles of machines similar in construction are grouped under a Class number which differs from the Style number in that it contains no letters. Example: "Class 39500".

## APPLICATION OF CATALOG

This catalog applies specifically to the standard Styles of machines as listed herein. It can also be applied with discretion to some Special Styles of machines in Class 39500. References to directions, such as right, left, front, back, etc., are given from the operator's position while seated at the machine. Operating direction of handwheel is away from operator.

## STYLES OF MACHINES

MARK IV Hi-Styled High Speed, Single Curved Blade Needle, One Looper, One Spreader, Two Thread or Two Looper, Three Thread Serging Machines. Plain Feed, Trimming Mechanism with Spring Pressed Lower Knife. Automatic Lubricating System, Improved Air Cooling System.

39500 QJ Light to medium duty machine for serging light, medium and heavy weight trousers and similar garments. Two thread stitch. Seam specification 503-EFd-1; standard seam width 3/16 inch (4.76 mm); stitch range 4-8 per inch; cam adjusted feed. Maximum recommended speed 7500 R. P. M.

39500 QL Light to medium duty machine for serging light, medium and heavy weight trousers and similar garments. Three thread stitch. Seam specification 505-SSa-1; standard seam width 3/16 inch (4.76 mm); stitch range 4-8 per inch; cam adjusted feed. Maximum recommended speed 7500 R. P. M.

39500 QN Medium to heavy duty machine for overseaming pants, jackets, snow suits, garment pockets and similar operations on medium to heavy weight materials. Three thread stitch. Seam specification 504-SSa-1; standard seam width 3/16 inch (4.76 mm); stitch range 8-20 per inch; cam adjusted feed. Maximum recommended speed 7500 R. P. M.

39500 QV Medium to heavy duty machine for turned edge seaming and straight over- edging without cord on rayon bedspreads, bed blankets, towels, wiping cloths and other articles made from fabrics that fray readily. Three thread stitch. Seam specification 504-EFe-1 (inverted); standard seam width 3/16 inch (4.76 mm); stitch range 7-20 per inch; cam adjusted feed. Maximum recommended speed 7500 R. P. M.

39500 QX Medium to heavy duty machine for simultaneously attaching right pants flies and zipper tapes to pants fronts; also attaching zippers to right flies only and similar operations. Three thread stitch. Seam specification 504-SSa-1 or SSj-1; standard seam width 3/8 inch (9.52 mm); stitch range 6-16 per inch; cam adjusted feed. Maximum recommended speed 7500 R. P. M.

## STYLES OF MACHINES (Continued)

- 39500 RP Light to medium duty machine for serging and trimming light, medium and heavy weight trousers and similar garments. Three thread stitch. Seam specification 504-EFd-1; standard seam width 3/16 inch (4.76 mm); stitch range 4-10 per inch; cam adjusted feed. Maximum recommended speed 7500 R. P. M.
- 39500 RU Light to medium duty machine for simultaneously attaching zippers with sliders and staples already in place (and overedge the facings) to pants flies, skirts, jackets and similar garments. Three thread stitch. Seam specification 504-SSa-1; standard seam width 3/16 inch (4.76 mm); stitch range 4-10 per inch; cam adjusted feed. Maximum recommended speed 7500 R. P. M.
- 39500 SJ Light to medium duty machine for serging light and medium weight trousers and similar garments of Durable Press material. Two thread stitch. Seam specification 503-EFd-1; standard seam width 3/16 inch (4.76 mm); stitch range 4-8 per inch; cam adjusted feed. Maximum recommended speed 7500 R. P. M.
- 39500 SR Medium to heavy duty machine for simultaneously attaching right pants flies and zipper tapes to pants fronts; also attaching zippers to right flies only and similar operation of Durable Press material. Three thread stitch. Seam specification 504-SSa-1 or SSj-1; standard seam width 3/16 inch (4.76 mm); stitch range 6 to 16 per inch; cam adjusted feed. Maximum recommended speed 7500 R. P. M.
- 39500 SX Medium to heavy duty machine for simultaneously attaching right pants flies and zipper tapes to pants fronts of Durable Press material; also attaching zippers to right flies only and similar operations on Durable Press material. Three thread stitch. Seam specification 504-SSa-1 or SSj-1; standard seam width 3/8 inch (9.52 mm); stitch range 6-16 per inch; cam adjusted feed. Maximum recommended speed 7500 R. P. M.
- 39500 TG Light to medium duty machine for serging around pants cuff before cuffs are folded and similar operations on light, medium and heavy weight trouser material. Smallest cuff that can be sewn is 2 3/8 inch (60.32 mm) diameter or 7 1/2 inches (190.50 mm) in circumference. Two thread stitch. Seam specification 503-EFd-1; standard seam width 3/16 inch (4.76 mm); stitch range 4-8 per inch; cam adjusted feed. Maximum recommended speed 7500 R. P. M.
- 39500 TY Medium to heavy duty machine for hemming 5 to 25 pound paper, cotton or synthetic mesh bags. Will turn up from 3/4 to 1 1/4 inch (19.05 to 31.75 mm) of two plies of material and finish into a tight roll approximately 1/4 inch (6.35 mm) in diameter. Three thread stitch. Seam specification 504-SSp-1 modified; stitch range, 4-20 per inch, cam adjusted feed. Maximum speed 6500 R. P. M. Maximum recommended speed 5500 R. P. M. when sewing mesh bags.

## SPEED RECOMMENDATION

39500 MARK IV machines have been tested in their complete stitch range at their maximum rated speeds. Varied field conditions, severity and cleanliness of the sewing operation may necessitate operating at a lower speed. When operating from 50-100% machine running cycle and a longer than recommended stitch length, it may be necessary to reduce the machine's speed by 10-15%.

The MARK IV is a precision manufactured and tested sewing machine. To obtain maximum performance, the machine should be operated at 1000 R. P. M. below maximum recommended speed for the first 20 days of field operation. This will minimize readjustment of precision mechanisms.

## OILING

CAUTION! Oil was drained from machine when shipped, so reservoir must be filled before beginning to operate. Oil capacity of Class 39500 is eight ounces. A straight mineral oil of a Saybolt viscosity of 90 to 125 seconds at 100° Fahrenheit should be used.

Machine is filled with oil at spring cap in top cover. Oil level is checked at sight gauge on front of machine. Red bulb on oil level indicator should show between gauge lines when machine is stationary.

Machine is automatically lubricated. No oiling is necessary, other than keeping main reservoir filled. Check oil daily before the morning start; add oil as required.

To maintain maximum recommended speed and serviceability of this equipment when operating continuously, the oil must be changed at least every six months. In no case should oil remain in machine for more than one year.

The drain plug screw is located at back of machine near bottom edge of base. It is a magnetic screw designed to accumulate possible foreign materials which may have entered the crank case. It should be removed and cleaned periodically.

## NEEDLES

Each UNION SPECIAL needle has both 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 in thousandths of an inch, 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.

Class 39500 machines use a curved blade needle. The standard recommended needle for the Styles covered here is Type 154 GAS. Below is the description and sizes available of the recommended needle.

<u>Type No.</u>	<u>Description and Sizes</u>
154 GAS	Round shank, round point, curved blade, standard length, single groove, struck groove, spotted, chromium plated and is available in sizes 055/022, 065/025, 070/027, 075/029, 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 the type and size number should be forwarded. Use description on label. A complete order would read: "1000 Needles, Type 154 GAS, Size 110/044".

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

Success in the operation of UNION SPECIAL machines can be secured only by use of needles packaged under our brand name, *Union Special*®, which is backed by a reputation for producing highest quality needles in materials and workmanship for more than three-quarters of a century.

## CHANGING NEEDLE

Release pressure on presser foot by turning presser foot release bushing (AG, Fig. 1, 1A, 1B or 1C) and swing presser arm (U) out of position. Turn handwheel in operating direction until needle is at its lowest point of travel. Using hexagonal socket wrench No. 21388 AU, furnished with machine, loosen needle clamp nut about 1/4 turn. Again turn handwheel until needle is at high position; withdraw needle.

To replace needle, leave needle holder at high position and, with the flat to the left, insert needle in holder until it rests against stop pin. Keeping needle in this position, turn handwheel until holder is again at its low point of travel; then tighten nut. Return presser arm (U) to position; re-lock presser foot release bushing (AG).

### THREAD STAND (504 and 505 STITCH)

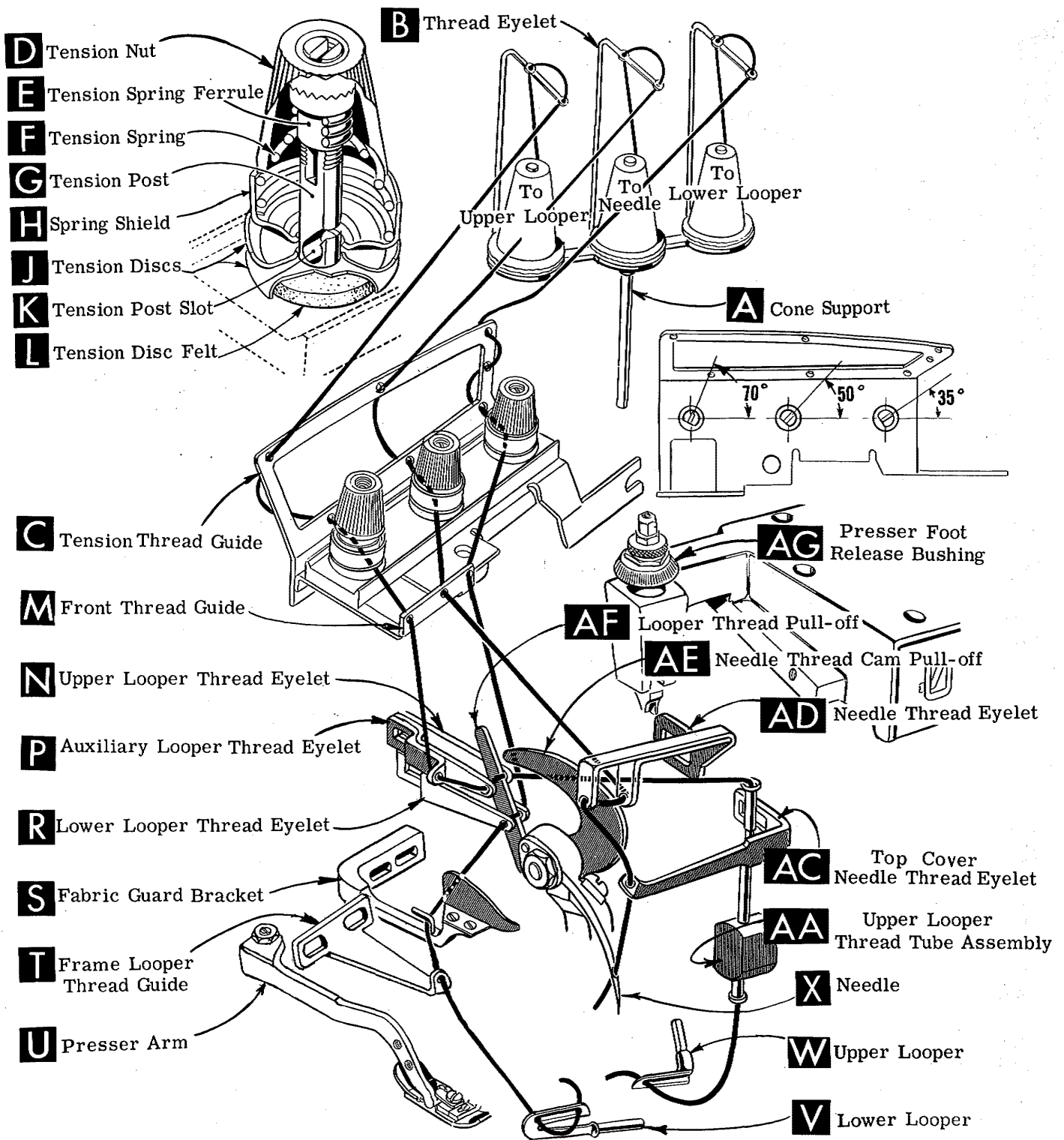
After thread comes from cones on cone support (A, Fig. 1 or 1B) as applicable, it is brought up through the back hole of thread eyelet (B), then down through the front hole of thread eyelet. The needle and upper looper threads are then threaded through the upper hole of tension thread guide (C) from front to back, and then through the lower hole from back to front. The lower looper thread is threaded through the upper hole back to front, through the middle hole from front to back, and finally through the lower hole from back to front. All three threads then continue between the tension discs (J), through tension post slot (K) in tension post (G) and on through front thread guide (M).

### THREAD STAND (503 STITCH, EXCEPT STYLE 39500 TY)

After thread comes from cones on cone support (A, Fig. 1A) it is brought up through the back hole of thread eyelet (B), then down through the front hole of thread eyelet. The needle thread is then threaded through the upper hole of tension thread guide (C) from front to back, and then through the lower hole from back to front. The lower looper thread is threaded through the upper hole back to front, through the middle hole from front to back, and finally through the lower hole from back to front. Both threads then continue between the tension discs (J), through tension post slot (K) in tension post (G) and on through front thread guide (M).

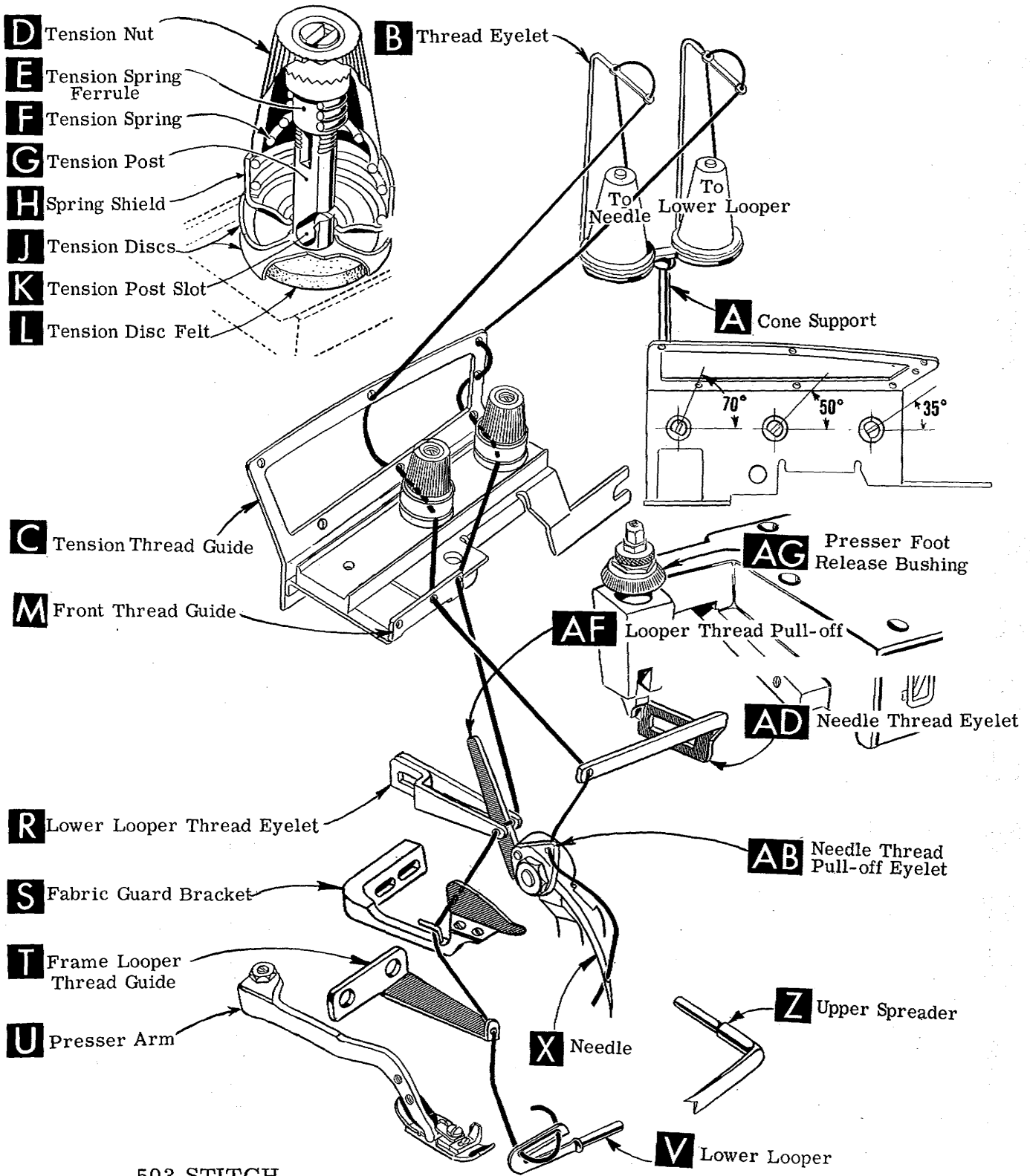
### THREAD STAND (503 STITCH FOR STYLE 39500 TY)

After thread comes from cones on cone support (A, Fig. 1C) it is brought up through the back hole of thread eyelet (B), then down through the front hole of thread eyelet. Next it is threaded through the upper holes of tension thread guide (C) from front to back and then through the lower holes from back to front. Both threads then continue between tension discs (J), through tension post slot (K) in tension post (G) and on through front thread guide (M).



504 STITCH  
 FOR STYLES 39500 QN, QV, QX,  
 RP, RU, SR, SX, TY

Fig. 1



503 STITCH  
 FOR STYLES 39500 QJ, SJ

Fig. 1A



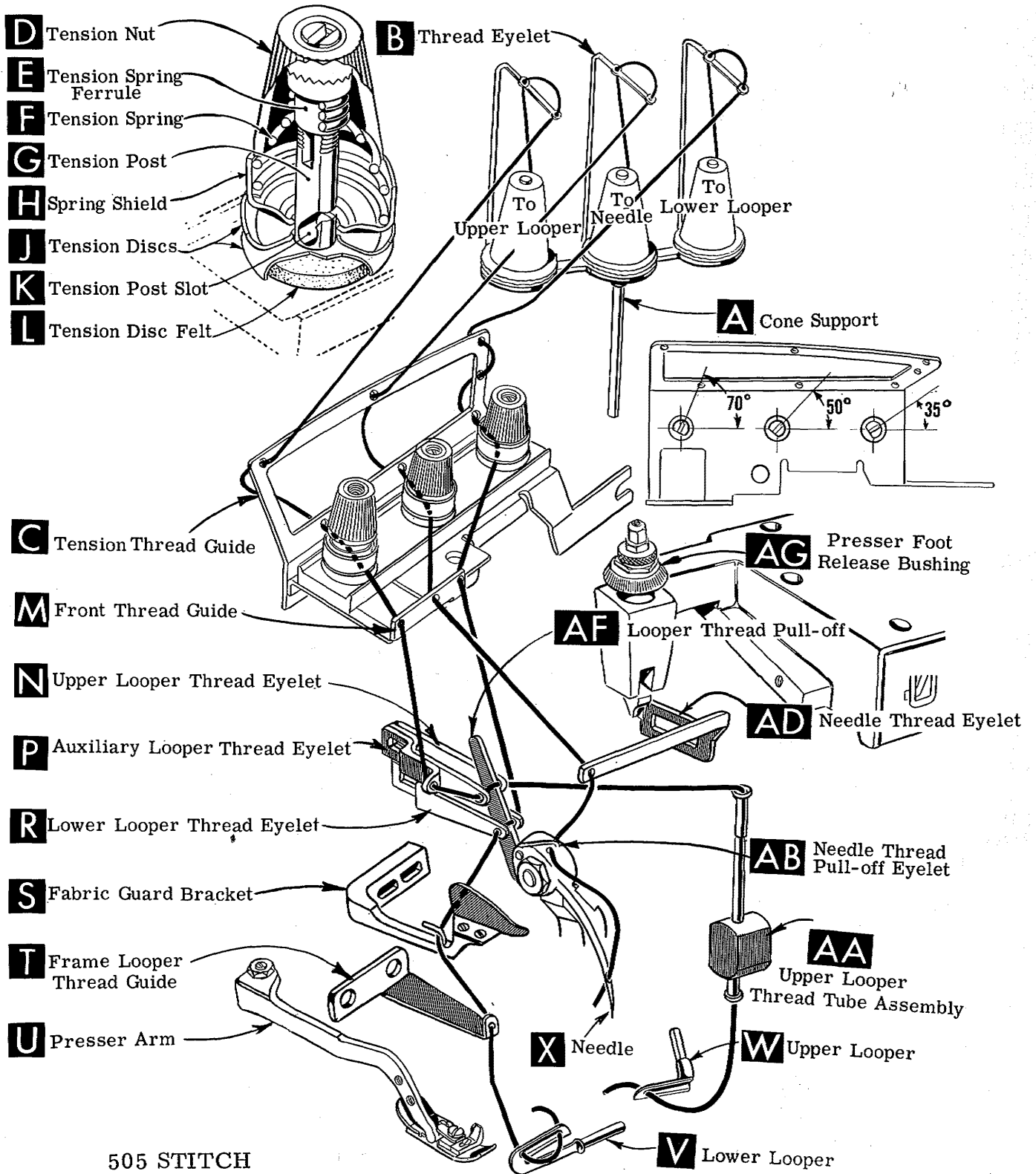
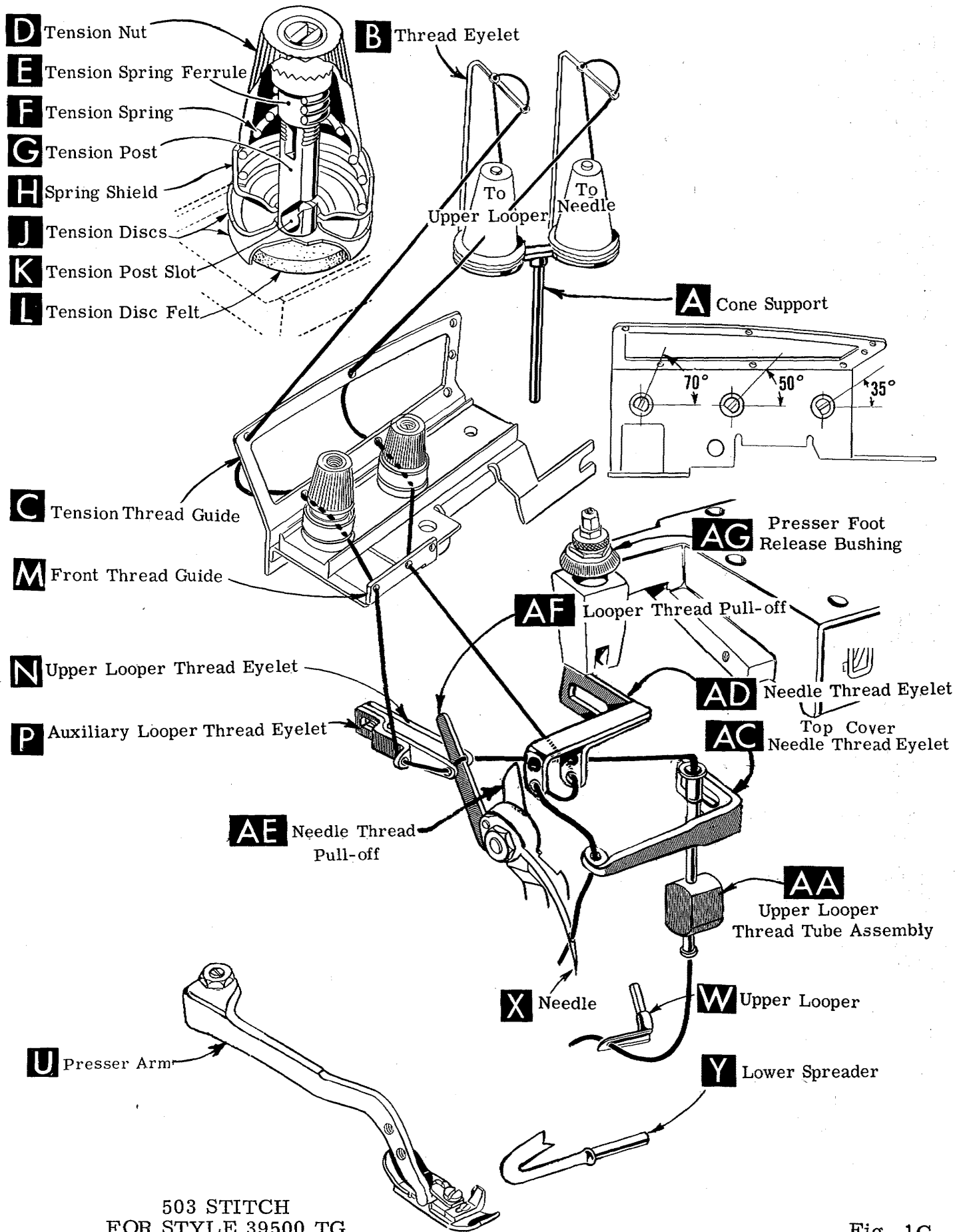


Fig. 1B



503 STITCH  
 FOR STYLE 39500 TG

Fig. 1C

## THREADING

Only parts involved in threading are shown in threading diagrams (Fig. 1, 1A, 1B and 1C). Parts are placed in their relative positions for clarity.

It will simplify the threading of these machines to follow the recommended sequence of threading the lower looper or upper looper first (as applicable) and the needle second when using the 503 stitch (Fig. 1A and 1C). The recommended sequence when using the 504 or 505 stitch (Fig. 1 and 1B) is to thread the lower looper first, upper looper second, and the needle third.

Before beginning to thread, swing cloth plate open, turn handwheel in operating direction until needle (X) is at high position, release pressure on presser foot by turning presser foot release bushing (AG) and swing presser arm (U) out of position.

Be sure threads, as they come from the tension thread guide (C), are between tension discs (J) and in diagonal slots (K) in tension posts (G).

### TO THREAD THE LOWER LOOPER (FOR ALL STYLES EXCEPT 39500 TG)

Double end of thread and lead it through the right eyelet of front thread guide (M, Fig. 1, 1A or 1B). Then lead thread through both eyes of lower looper thread eyelet (R, Fig. 1, 1A or 1B) from right to left. NOTE: Thread must pass in front of looper thread pull-off (AF). Lead thread behind fabric guard (S) and through frame looper thread guide (T). Turn handwheel in operating direction until heel of lower looper (V) is all the way to the left, then thread through both eyes from left to right. Left eye of lower looper can be threaded easily if tweezers are in left hand.

### TO THREAD UPPER LOOPER (FOR ALL STYLES EXCEPT 39500 QJ, SJ)

Thread upper looper thread through left eyelet of front thread guide (M, Fig. 1, 1B or 1C). Then turn handwheel until point of upper looper (W) is all the way left. Lead thread through auxiliary looper thread eyelet (P) from back to front, then through both eyes of upper looper thread eyelet (N) from left to right. Note: thread must pass in front of looper thread pull-off (AF). After pulling up upper looper thread tube assembly (AA), lead thread under neck of top cover casting and down through thread tube assembly (AA). Pull thread out bottom of tube; push tube down, then insert thread through upper looper eye from front to back.

**CAUTION!** Be sure upper looper thread is under lower looper thread when passing from tube assembly to upper looper eye.

### TO THREAD THE NEEDLE (FOR STYLES 39500 QJ, QL and SJ)

Turn handwheel in operating direction until needle (X, Fig. 1A or 1B) is at its highest position. Insert thread through the middle eyelet of front thread guide (M, Fig. 1A or 1B), then lead thread through eye of needle thread eyelet (AD) from back to front. Now lead the needle thread under the neck of top cover casting and through hole in needle thread pull-off eyelet (AB) from right to left. Thread needle from the front.

## TO THREAD THE NEEDLE (FOR ALL STYLES EXCEPT 39500 QJ, QL and SJ)

Turn handwheel in operating direction until needle (X, Fig. 1 or 1C) is at its highest position. Insert thread through the middle eyelet of front thread guide (M, Fig. 1 or 1C), then insert needle thread from right to left, through both eyes of needle thread eyelet (AD), under neck of top cover casting; then down through hole in top cover needle thread eyelet (AC). Thread needle from the front.

### THREAD TENSION

The amount of tension on the needle and looper threads is regulated by knurled tension nuts (D, Fig. 1, 1A, 1B or 1C). Tension on threads should be only enough to secure proper stitch formation.

### PRESSER FOOT PRESSURE

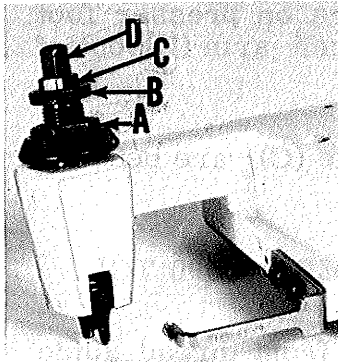


Fig. 2

Sufficient presser foot pressure to feed work uniformly should be maintained. Should it be necessary to increase or decrease amount of pressure on presser foot, loosen lock nut (A, Fig. 2) and turn adjusting screw (B). Adjusting screw has a right hand thread, so tightening increases pressure, loosening decreases pressure. When pressure adjusting screw (B) has been properly set, tighten locking nut (A). With presser foot resting on throat plate, position locking nut (C) so that its under surface is approximately 1/32 to 1/16 inch (.79 to 1.59 mm) from the top surface of adjusting screw (B). Set cap (D) against locking nut (C).

### FEED ECCENTRICS

Feed eccentrics used in Style 39500 QJ machines have been selected to produce approximately 5 stitches per inch. It will be noted that the part number of the feed eccentric is No. 39540 B-5. Minor numbers of the part symbol indicate approximately the number of stitches obtainable when using that eccentric. Unless otherwise specified, machine Style 39500 QJ will be shipped with above eccentric. Refer to exploded views in catalog for eccentrics furnished on other Styles of machines.

The following stitch number feed eccentrics are available under No. 39540 B-4, -5, -6, -7, -8, -9, -10, -11, -12, -13, -14, -15, -16, -18, -20, -22, -24, -26, -28, -30, -32, -34, -36, -40. Only one eccentric is supplied with each machine. Additional eccentrics may be ordered separately. To order an eccentric, use No. 39540 B with a minor number suffixed to indicate approximately the number of stitches desired. Example: "39540 B-5".

### ASSEMBLING AND ADJUSTING SEWING PARTS

Before assembling and adjusting sewing parts, remove cloth plate, fabric guard, chip guard, upper knife assembly and lower knife holder assembly; then follow this suggested sequence.

NOTE: Adjusting instructions will pertain to all styles of machines covered in this catalog, unless otherwise specified.

### SETTING THE NEEDLE

With throat plate (A, Fig. 3) assembled in position, needle should center in the front end of needle slot. When needle is at high position, needle point should be set 33/64 inch (13.10 mm) above throat plate (Fig. 3) for Styles 39500 QJ, QL, RP and SJ; 1/2 inch (12.70 mm) for Styles 39500 QN and SR; and 15/32 inch

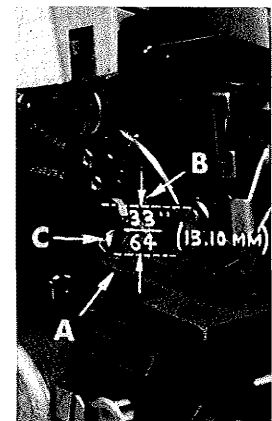


Fig. 3

## SETTING THE NEEDLE (Continued)

(11.91 mm) for Styles 39500 QV, QX, RU, SX, TG and TY. To align needle or set the height above the throat plate, move needle driving arm (B, Fig. 3) by loosening clamp screw (C). After needle has been properly set, tighten clamp screw and remove throat plate.

On all Styles except 39500 QJ, QL, SJ and TG, if needle thread cam pull-off (A, Fig. 4) overlaps looper thread pull-off (B), separate by moving looper thread pull-off back. When retightening looper pull-off screw, be sure to take up end play in needle driving arm.

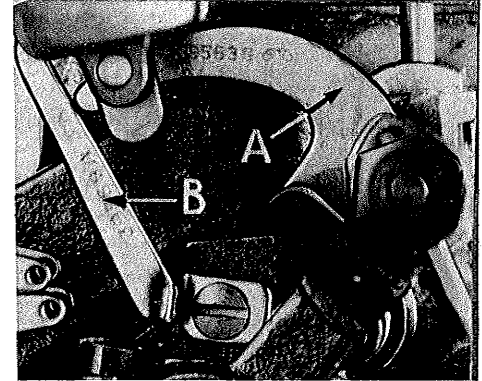


Fig. 4

At this point on all Styles except 39500 TG, insert lower looper (A, Fig. 5) into bar (B). On Style 39500 TG insert lower spreader into bar (B). With lower looper at left end of its stroke, set looper point  $1/8$  inch (3.17 mm) from center of needle (Fig. 5), using looper gauge No. 21225- $1/8$  for Styles 39500 QJ, QL, QN, QV, RP, RU, SJ and SR. Set lower looper point for Styles 39500 QX, SX and TY; and lower spreader point for Style 39500 TG  $3/32$  inch (2.38 mm) from center of needle, using looper gauge No. 21225- $3/32$ . Do not have lower looper or lower spreader deflecting needle. Tighten nut (C).

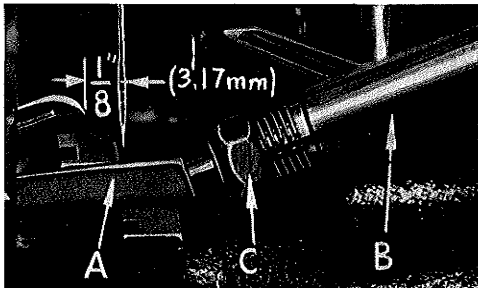


Fig. 5

Now assemble the main feed dog.

### SETTING THE REAR NEEDLE GUARD

Set rear needle guard (A, Fig. 6) as high as possible, without interfering with either lower looper or lower spreader, but still in position to deflect needle forward .002-.004 inch (.051-.102 mm). Screw (B) is used to set rear needle guard. Make sure there is no interference between rear needle guard and lower looper or spreader.

### SETTING THE LOWER LOOPER (ALL STYLES EXCEPT 39500 TG)

Now finish lower looper adjustment. As lower looper moves to the right, its point should be set into the needle scarf (A, Fig. 7) until the needle springs forward from rear guard surface another .002-.004 inch (.051-.102 mm).

### SETTING THE LOWER SPREADER (STYLE 39500 TG ONLY)

Now complete the spreader adjustment. As spreader moves to the right, its point should be set into the needle scarf (A, Fig. 7A) until the needle springs forward from rear needle guard surface another .002-.004 inch (.051-.102 mm).

### SETTING THE FRONT NEEDLE GUARD

Assemble front needle guard (C, Fig. 6). When spreader is springing needle off back guard, set front needle guard as close as possible to needle without touching. Screw (D) is used to adjust and set front needle guard. After this setting make sure there is no interference between needle guards and feed dog.

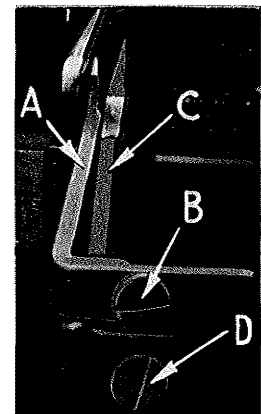


Fig. 6

## SETTING THE UPPER LOOPER (ALL STYLES EXCEPT 39500 QJ, SJ)

Insert upper looper (A, Fig. 8) in its holder. Screw (B) holds upper looper in its holder and permits it to be pushed in or out or turned around its shank. Insert upper looper holder into upper looper shaft, if it is not already in place. Screw (C, Fig. 8) on clamp holds the upper looper holder in the shaft. Locate upper looper in its holder so that the shank extends  $\frac{1}{16}$  to  $\frac{3}{32}$  inch (1.59 to 2.38 mm) beyond holder (Fig. 8), for Styles 39500 QL, QN, QV, QX, RU, SR, SX and TY;  $\frac{1}{32}$  to  $\frac{1}{16}$  inch (.79 to 1.59 mm) for Styles 39500 RP and TG.

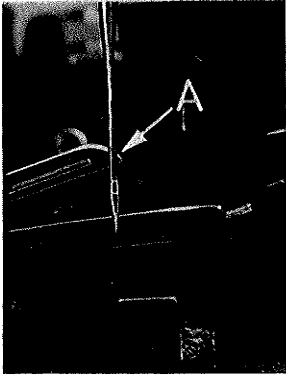


Fig. 7

When the upper looper is at the right end of its stroke, upper looper holder should be set to position upper looper shank about vertical on Styles 39500 QN, QV, QX, SX and TY (Fig. 8). On Styles 39500 QL, RP, RU, SR and TG the upper looper holder should be set to position the upper looper shank slightly back of vertical. Be sure, on all Styles, there is a clearance between heel of looper and the casting. By adjusting looper holder in or out of upper looper shaft and by turning the looper around its shank, set upper looper point to cross lower looper to the left of the lower looper eye with .002 to .004 inch (.051 to .102 mm) clearance (Fig. 9).

As the upper looper moves toward the top of its stroke, the heel of the upper looper should pass behind the lower looper head with  $\frac{1}{32}$  to  $\frac{1}{16}$  inch (.79 to 1.59 mm) clearance.

Next, turn handwheel until looper is at the left end of its travel; check dimensions of upper looper point with respect to needle and throat plate (Fig. 10). If resetting is necessary, do it by moving the upper looper holder (A, Fig. 10). Figure 10 represents the dimensional setting for Styles 39500 QL and RP.

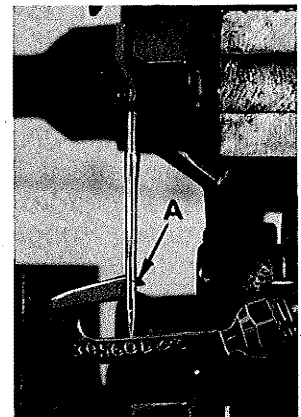


Fig. 7A

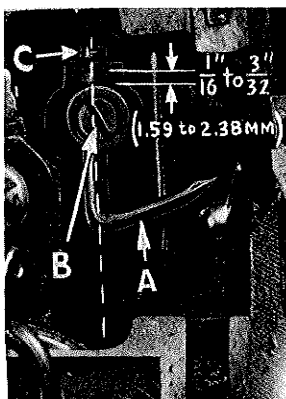


Fig. 8

NOTE: For the dimensional settings of the other Styles refer to Fig. 11. For example,  $\frac{1}{2}$  inch (12.70 mm) dimension is increased by turning upper looper holder counterclockwise, looking from left end of machine;  $\frac{5}{32}$  inch (3.97 mm) dimension is increased by pulling upper looper holder to the left, out of upper looper shaft. After these changes are made it may be necessary to turn upper looper around its shank slightly to maintain the condition shown in (Fig. 9).

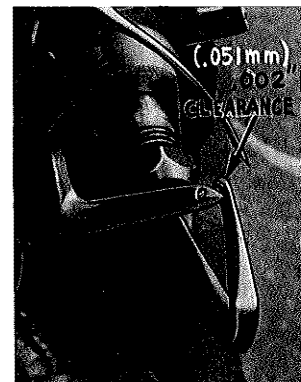


Fig. 9

When the correct setting is obtained for Styles 39500 QL, QN, QV, QX, RP, SR, SX and TY it can be checked quickly as follows: As the upper looper is moving to the right and the upper looper eye centers on the needle, the eyes of the upper looper and needle should align exactly (Fig. 12). For Styles 39500 RU and TG when the looper eye centers on the needle, the bottom of the needle eye should be about level with the top surface of the looper.

## SETTING THE UPPER LOOPER (ALL STYLES EXCEPT 39500 QJ, SJ) (Cont.)

Check setting to avoid interference between upper looper and needle on needle downstroke. If needle rubs the back of upper looper, pull looper out of its holder slightly and rotate looper a short distance counterclockwise, looking from left end of machine. Reset to maintain dimensions of Figs. 9, 10, 11, 12.

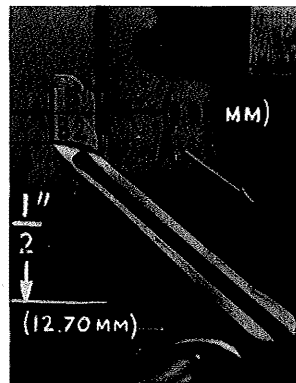


Fig. 10

<u>Machine Styles</u>	<u>Looper Point to Left Of Needle Centerline</u>	<u>Looper Point Above Throat Plate</u>
39500 QL, RP	5/32 inch (3.97 mm)	1/2 inch (12.70 mm)
39500 QN, TY	9/64 inch (3.57 mm)	1/2 inch (12.70 mm)
39500 QV, QX, SX	9/64 inch (3.57 mm)	15/32 inch (11.91 mm)
39500 RU	5/32 inch (3.97 mm)	29/64 inch (11.51 mm)
39500 SR	9/64 inch (3.57 mm)	31/64 inch (12.30 mm)
39500 TG	5/32 inch (3.97 mm)	15/32 inch (11.91 mm)

Fig. 11

## SETTING THE UPPER SPREADER (STYLES 39500 QJ and SJ)

Insert upper spreader (A, Fig. 8A) in its holder. Screw (B) holds upper spreader in its holder, and permits it to be pushed in or out or turned around its shank. Insert spreader holder into spreader shaft, if it is not already in place. Screw (C, Fig. 8A) on clamp collar holds spreader holder in the shaft, and allows holder to be rotated or adjusted laterally.

**Preliminary Setting:** When upper spreader is at the right end of its stroke, spreader holder should be set to position spreader shank about vertical (Fig. 8A). Top end of spreader shank should extend 1/32 to 1/16 inch (.79 to 1.59 mm) above the spreader holder (Fig. 8A).

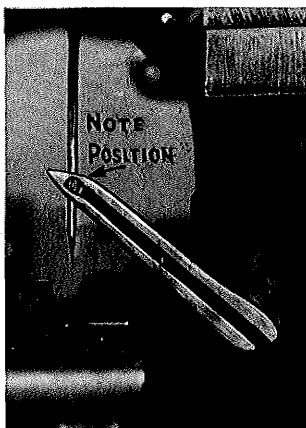


Fig. 12

As spreader moves from right to left, the Vee notch of the spreader should pass just behind the eye of the lower looper, with .002 to .004 inch (.051 to .102 mm) clearance between spreader and lower looper (Fig. 9A).

Turn the handwheel until upper spreader is at the left end of its travel. At this position, the lower point

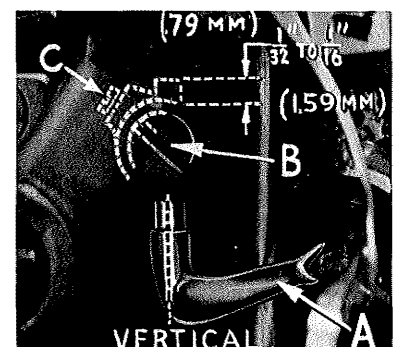


Fig. 8A

## SETTING THE UPPER SPREADER (STYLES 39500 QJ and SJ) (Cont.)

of the spreader should extend about  $\frac{5}{32}$  inch (3.97 mm) to the left of the center-line of the needle and should be  $\frac{31}{64}$  inch (12.30 mm) above the top of the throat plate (Fig. 10A). If resetting is necessary, do it by moving the spreader holder (A, Fig. 10A).

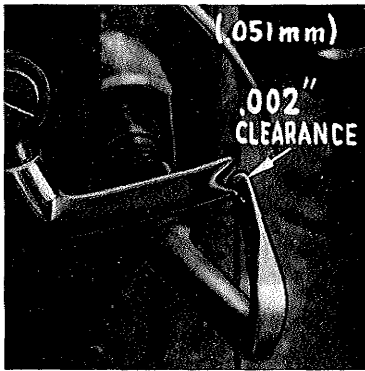


Fig. 9A

Now check setting between upper spreader and needle. If needle rubs the back of spreader, pull spreader out of its holder slightly and rotate spreader holder forward a short distance. These same adjustments, in opposite movement, will reduce the clearance between spreader and needle. Reset to lower looper (Fig. 9A).

## SETTING THE FEED DOGS

Assemble chaining feed dog (A, Fig. 13) to main feed dog (B). Main feed dog should be levelled with respect to the throat plate by rotating feed tilting adjusting pin (C). This pin raises or lowers the back end of the

feed bar.

The feed dogs should be set level at the time teeth first appear above the throat plate. Screw (D) locks feed tilting adjusting pin in place. With the feed dogs at their highest point of travel, the top of the teeth on the main feed dog should be  $\frac{3}{64}$  inch (1.19 mm) above the throat plate, on all Styles, except 39500 TY which should rise the depth of a full tooth above the throat plate. Now set chaining feed dog teeth flush with the top of throat plate, for Styles 39500 QJ, QL, QN, QX, RP, RU, SJ, SR and SX. On Style 39500 QV, the chaining feed dog teeth should be set to the same height as the main feed dog teeth.

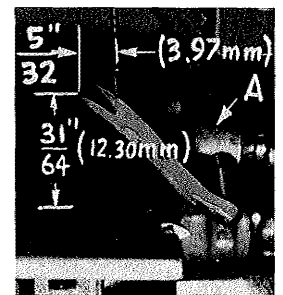


Fig. 10A

NOTE: Styles 39500 TG or TY DO NOT have a chaining feed dog.

## SETTING THE LOWER KNIFE

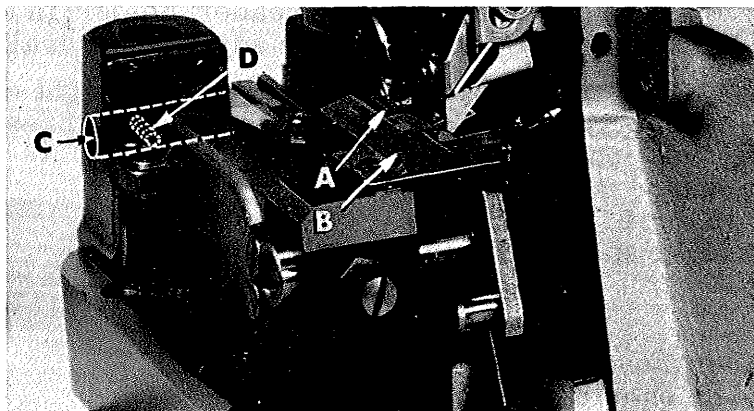


Fig. 13

Replace lower knife holder assembly. Lower knife (A, Fig. 14) should be set with cutting edge flush with throat plate surface. Adjustments are made with hexagonal head screw which holds lower knife. Lower knife is spring pressed against upper knife, so no lateral adjustment is necessary when width of trim is changed.

Lower knife may be secured in any position by tightening screw (B) and locking nut (C) against support bracket. Because

screw (B) also serves as latch pin for the cloth plate latch spring, it should always be locked with nut (C) even when screw is not tightened against lower knife holder.



## SETTING THE UPPER KNIFE

Replace upper knife assembly. Clamp upper knife (D, Fig. 14) in position, setting nut (E) to hold clamp (F) in its most clockwise position against upper knife. At the bottom of its stroke, front cutting edge of upper knife should extend not less than 1/64 inch (.40 mm) below cutting edge of lower knife. The chain guard (G) should be set down against the upper knife and slightly back from the cutting edge.

After upper knife has been set for proper width of trim, screw (H) should be tightened to lock upper knife holding block (J) in place. This will simplify resetting when upper knife is replaced.

## SETTING THE STITCH LENGTH

Length of stitch is determined by feed eccentric used. Note that the part number of the feed eccentric used on machine Style 39500 QJ is No. 39540 B-5. Refer to exploded views in catalog for eccentric on other Styles of machines.

In assembling the feed eccentric (A, Fig. 15), be sure the hub and oil groove is to the left. Beveled edge of feed eccentric spacer (B) should also be to the left side, so the undercut on the spacer will be over the hub on the feed eccentric. Be careful not to damage shaft or key. Assemble washer (D) and tighten nut (C) securely.

To change feed eccentrics, remove nut (C), washer (D) and feed eccentric spacer (B). Turn handwheel in operating direction until key slot in eccentric is toward the front. Using hooked eccentric extractor (E), supplied with machine, reach behind eccentric as shown and withdraw eccentric. It may be necessary to move handwheel back and forth slightly during extraction.

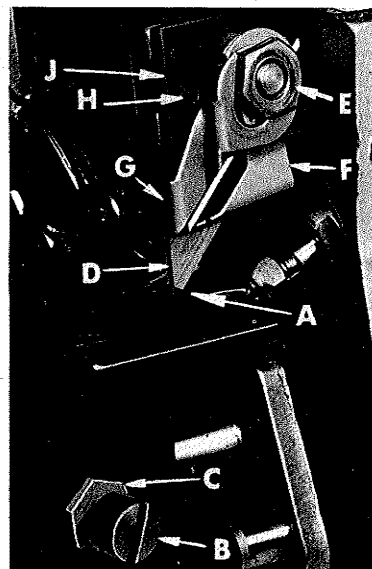


Fig. 14

## SETTING THE PRESSER FOOT

Assemble the presser foot to presser arm. With needle in high position, swing presser arm into sewing position and set the presser foot to align needle holes (front and back) and flat on throat plate. The front edge of needle hole in presser foot must be aligned with front edge of needle hole in throat plate. It is also important that the bottom of the presser foot be flat on the throat plate. If necessary, presser foot can be realigned with throat plate slots by shifting the foot lifter lever shaft (H, Fig. 16). To move the shaft, loosen collar screws (B, Fig. 16) and clamp screw (G) and then shift the foot lifter lever shaft to the left or right as required. Retighten collar screws and clamp screw.

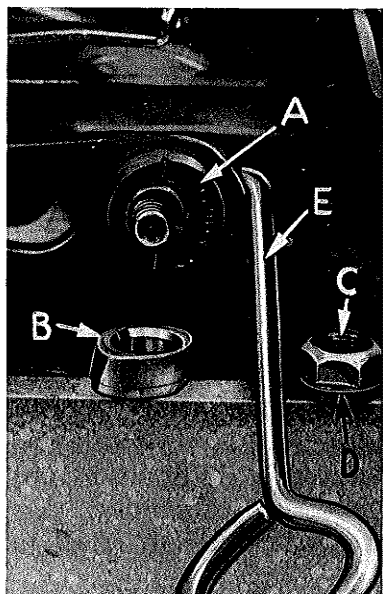


Fig. 15

The foot lifter lever arm (A, Fig. 16) and the collar (B) secure the shaft. Be sure the presser arm does not bind and rise when presser foot release bushing is unlocked.

Adjust lifter lever stop screw (C) so that presser foot can be raised no higher than upper looper or spreader will permit; then lock

## SETTING THE PRESSER FOOT (Continued)

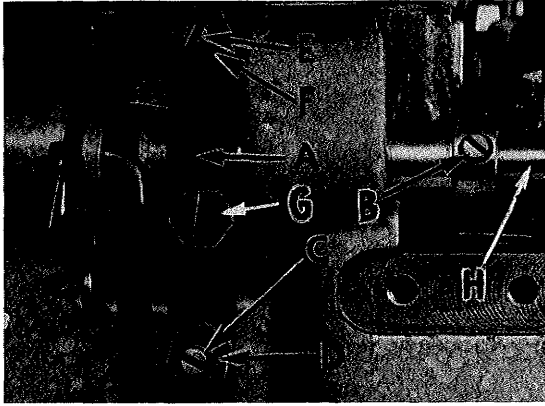


Fig. 16

### CLOTH PLATE REMOVAL AND ASSEMBLY

**CAUTION:** When removing the cloth plate (A, Fig. 17) loosen the cloth plate studlocking screw (B) and lift up cloth plate with the cloth plate stud (C) and cloth plate screw (D), assembled.

In assembly, the cloth plate screw and the cloth plate stud are tightened to the point of removing all play and yet turn in cloth plate. The cloth plate is then assembled to the machine with the flat and "V" slot of the cloth plate stud (C) towards the rear. Studlocking screw (B) is tightened securely which collapses the body of the stud to the screw (D) so that only the cloth plate will turn when opening or closing.

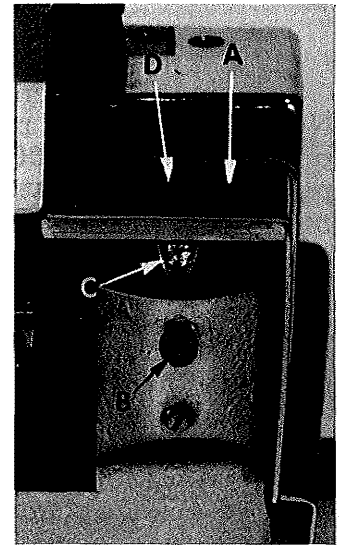


Fig. 17

### STARTING TO OPERATE

Be sure machine Styles 39500 QN, QV, QX, RP, RU, SR, SX and TY are threaded according to threading diagram Fig. 1. Machine Styles 39500 QJ and SJ are threaded according to threading diagram Fig. 1A. Thread machine Style 39500 QL according to Fig. 1B and machine Style 39500 TG according to Fig. 1C.

With thread tensions light, set looper thread eyelets (N and R, Fig. 1 and 1B) or thread eyelet (R, Fig. 1A) and thread eyelet (N, Fig. 1C) about horizontal and in the middle of their front to back locations. Operate machine slowly, without presser foot in place, to make sure chain forms and moves off the tongue freely. Swing presser foot into position, insert material and sew slowly.

### NEEDLE THREAD CONTROL (504 STITCH)

While sewing on material, check needle thread control as follows: Usually all needle thread is drawn on needle down stroke. At top of needle stroke, thread should be just tight enough to feed chain off stitch tongue. Stitch tends to pull down slightly if excessive thread is pulled on the up stroke. With needle at bottom of stroke, position needle thread eyelet (AD, Fig. 1) so that needle thread cam pull-off (AE) just contacts needle thread.

It is desirable to adjust the needle thread eyelet well-forward (toward the operator) to delay slightly, the tightening of the needle thread.

## NEEDLE THREAD CONTROL (Styles 39500 QJ, SJ, TG - 503 STITCH)

While sewing on material, check needle thread control as follows: About 75% of needle thread required for the stitch should be drawn on needle downstroke. To increase thread drawn on downstroke, position needle thread eyelet (AD, Fig. 1A and 1C) farther to the rear.

## NEEDLE THREAD CONTROL (Style 39500 QL - 505 STITCH)

While sewing on material, check needle thread control as follows: About 60% of needle thread required for the stitch should be drawn on needle downstroke.

To increase thread drawn on downstroke, position needle thread eyelet (AD, Fig. 1B) farther to the rear.

## LOWER LOOPER THREAD CONTROL (504 STITCH)

With material under presser foot, set lower looper thread eyelet (R, Fig. 1) back far enough so thread is a little slack when looper thread pull-off (AF) reaches its most rearward position. Looper thread pull-off (AF) is set about 1/32 inch (.79 mm) distance behind needle thread cam pull-off (AE). Frame looper thread guide (T) should be set with its eyelet approximately 1/8 inch (3.17 mm) to the right of lower looper (V) heel eyelet at the time lower looper is at extreme left end of its travel.

While sewing on material, check drawing off of looper thread as follows: A portion of lower looper thread should be drawn through the tension before lower looper thread comes off upper looper. To increase amount of thread drawn through the tension while lower looper thread is on upper looper, move lower looper thread eyelet (R) down, keeping the same amount of pull-off action.

## LOWER LOOPER THREAD CONTROL (503 STITCH)

With material under presser foot, set lower looper thread eyelet (R, Fig. 1A) back and down far enough so thread is a little slack when spreader reaches its extreme left position. Lower looper thread eyelet (R) should be about horizontal.

Frame looper thread guide (T) should be set with its eyelet approximately 1/8 inch (3.17 mm) to the right of heel eyelet of looper (V) at the time lower looper is at extreme left end of its travel.

## LOWER LOOPER THREAD CONTROL (505 STITCH)

Set lower looper thread eyelet (R, Fig. 1B) about horizontal and all the way forward in its slot.

Frame looper thread guide (T) should be set with its eyelet approximately 1/8 inch (3.17 mm) to the right of lower looper (V) heel eyelet, when lower looper is at the left end of its stroke.

## UPPER LOOPER THREAD CONTROL (504 STITCH)

Before proceeding to adjust upper looper thread eyelet (N, Fig. 1) balance all three tensions to give a normal appearing stitch. Moderate change in these tensions will not markedly affect the purl.

During needle downstroke, forward stroke of looper thread pull-off (AF) will draw upper looper thread through the tension. When normal amount of looper thread is drawn, upper looper thread will have almost all slack taken up as looper thread pull-off reaches its most rearward position.

## UPPER LOOPER THREAD CONTROL (503 STITCH - Style 39500 TG)

With material under presser foot, set upper looper thread eyelet (N, Fig. 1C) back and down far enough so thread is a little slack when lower spreader reaches its extreme left position. Looper thread eyelet (N) should be about horizontal.

## UPPER LOOPER THREAD CONTROL (505 STITCH)

With material under presser foot, set upper looper thread eyelet (N, Fig. 1B) to rest on top of lower looper thread eyelet (R), and back far enough so upper looper thread is a little slack when upper looper reaches the left end of its stroke.

## POSITIONING THE PURL (504 STITCH)

To move the purl more under the edge, both looper thread eyelets (N and R, Fig. 1) should be raised keeping the same amount of pull-off. Usually it is better to have slightly more pull-off on upper thread than on lower thread.

If it becomes necessary to move looper thread pull-off (AF), be sure to take up all end play in needle drive shaft before tightening. If upper looper is located so that it is higher over throat plate than recommended in Fig. 10, the purl will tend to form near top edge. If upper looper is too low, the purl will form nearer bottom edge.

## POSITIONING THE SQUARE EDGE (505 STITCH)

Position of lower looper thread at the edge is located by balancing needle and upper looper thread tensions.

To reduce amount of lower looper thread in the stitch, or close the edge more, increase lower looper thread tension.

## THREAD TENSIONS

The needle thread tension required is a function of needle thread and material being sewn. In general, lower looper thread tension should be set as high as possible without causing needle thread to be pulled down. Upper looper thread tension should be increased as long as the elasticity of the chain increases, or until the purl is pulled too far over the top.

## USE GENUINE NEEDLES AND REPAIR PARTS

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

Genuine needles are packaged with labels marked *Union Special*®. Genuine repair parts are stamped with the Union Special trademark, U S Emblem. Each trademark is your guarantee of the highest quality in materials and workmanship.

## TORQUE REQUIREMENTS

Torque (measured in inch-pounds) is a rotating force (in pounds) applied through a distance by a lever (in inches or feet). This is accomplished by a wrench, screw driver, etc. Many of these devices are available, which when set at the proper amount of torque will tighten the part to the correct amount and no tighter.

All straps and eccentrics should be tightened to 19-21 inch-pounds (22-24 cm/kg) unless otherwise noted. All other nuts, bolts, screws, etc., should be tightened by hand as tightly as possible, unless otherwise noted.

The screws requiring a specific torque, will be indicated on the picture plates.

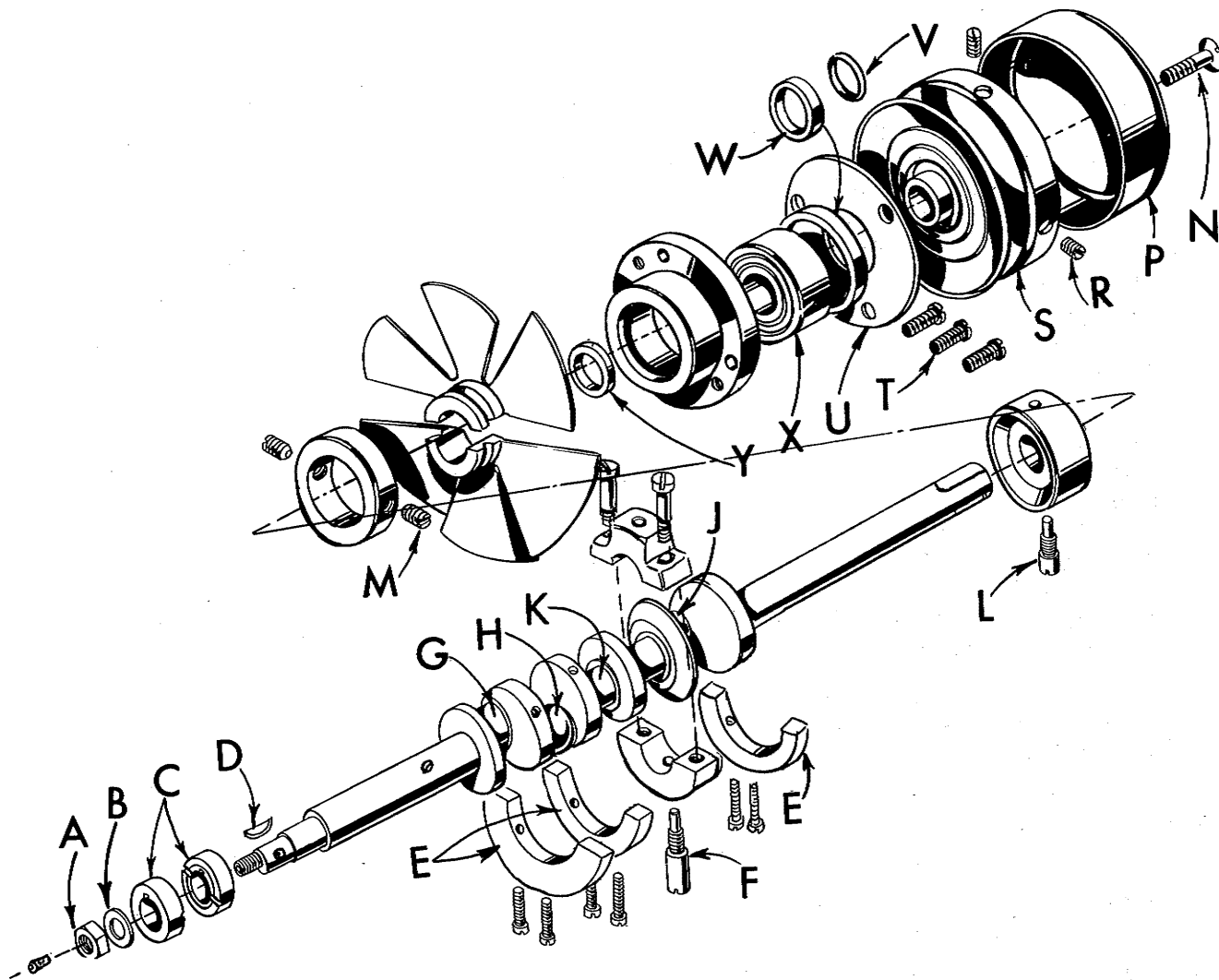


Fig. 18

### TO REMOVE CRANKSHAFT

Crankshaft can be withdrawn easier if these steps are followed:

1. Drain oil by removing plug screw located on back of machine near bottom edge of base.
2. Remove top and bottom covers of machine.
3. Remove feed eccentric nut (A, Fig. 18) and washer (B), and, with the aid of the eccentric extractor, slip off the eccentrics (C).
4. Remove key (D).
5. Remove three counterweights (E). Identify these counterweights so that they will be re-assembled in the proper places.
6. Remove screw (F) which holds crankshaft split bearing. This screw is reached through bottom of bed casting.

## TO REMOVE CRANKSHAFT (Continued)

7. Remove caps of bearings on crankshaft at points G, H and J. When re-assembling bearing caps make sure they are in their original position. Trade marks are stamped on both halves of the caps and both trade marks should be on the same side of the bearings. Also, screws should be reassembled in the same holes from which they were removed.

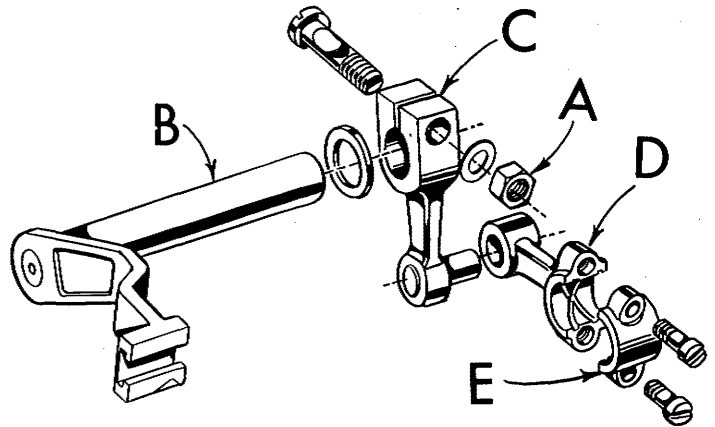


Fig. 19

8. Loosen clamp nut (A, Fig. 19) which holds upper knife driving arm (B). Access to clamp nut is through top cover. Draw driving arm to the left until upper knife driving lever (C) and connecting rod (D) drop, allowing removal of bearing cap (E). This is at bearing point (K, Fig. 18) on crankshaft. Observe same precautions when re-assembling cap as described in 7 above.
9. Remove screw (L, Fig. 18) which holds inner right crankshaft bearing. This screw is reached through bottom of bed casting.
10. Loosen two screws (M) in fan collar; remove both halves of cooling fan.
11. Remove screw (N); take off pulley cap (P).
12. Loosen two screws (R); remove pulley (S).
13. Remove three screws (T); take off bearing retaining plate (U); also, spacer collars (V) and (W) may be removed at this time.
14. Crankshaft may now be removed.
15. If necessary to replace ball bearing (X), it should be pressed off shaft on an arbor press. In replacing bearing it must be pressed on carefully until it seats against ground thrust washer (Y).
16. Carefully observing reverse of the foregoing operations should simplify re-assembly of crankshaft. Checking exploded view drawings for location of various parts and constant testing for binds during re-assembly will also prove helpful.
17. Before re-assembling thoroughly clean and dry top and bottom covers and gaskets. Before re-assembling bottom cover make sure that spring pressed oil wick which lubricates left crankshaft bearing is inserted in hole in casting and that it contacts shaft. The wick stands vertically on its spring against bottom cover. Coat oil drain plug with a sealing compound before re-assembling to prevent oil leakage. No. 1 Crane Lead Seal is recommended.

## 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, description and the number of pieces required in the particular view being shown.

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

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

23	29477 JM	Crankshaft and Needle Driving Arm Crank Assembly, for Styles 39500 QJ, QL, RP, SJ, TG -----	1
-	29477 KE	Crankshaft and Needle Driving Arm Crank Assembly, for Styles 39500 QN, QV, QX, RU, SR, SX, TY -----	1
24	29477 MC	Needle Driving Arm Crank and Connecting Rod Assembly -----	1
25	22768 C	Screw, for needle driving arm connecting rod pin -----	1
26	22596 H	Screw, for needle driving arm crank -----	1
27	22587 M	Screw, for needle driving arm connecting rod ----	2
28	51-228 Blk.	Vent Plug -----	1
29	39541 A	Feed Driving Eccentric Key -----	1
30	30-106 Blk.	Wood Plug -----	1
31	CO67 E	Cork Plug -----	1
32	40-46	Washer -----	1
33	258	Nut -----	1

It will be noted in the above example that the crankshaft, needle driving arm crank, or connecting rod are not listed. The reason is that replacement of these parts individually is not recommended, so the complete sub-assembly should be ordered.

Where the parts for all the styles covered in this catalog are not the same, the difference will be shown in the illustrations or mentioned in the descriptions. When a part is used in all machines covered by this catalog no machine style will be mentioned.

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

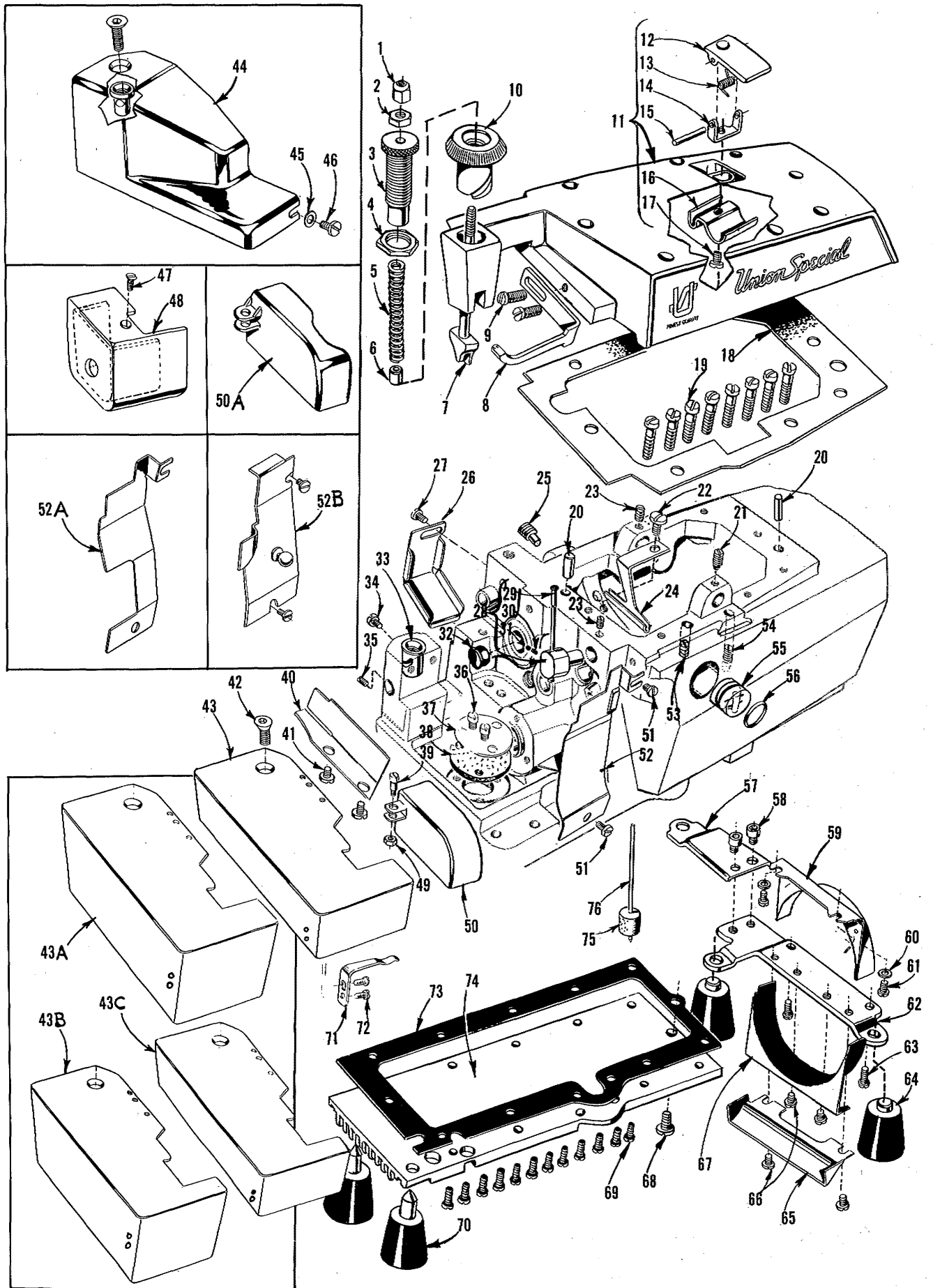
### IDENTIFYING PARTS

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.

PART NUMBERS REPRESENT THE SAME PART, REGARDLESS OF CATALOG IN WHICH THEY APPEAR.

### TERMS

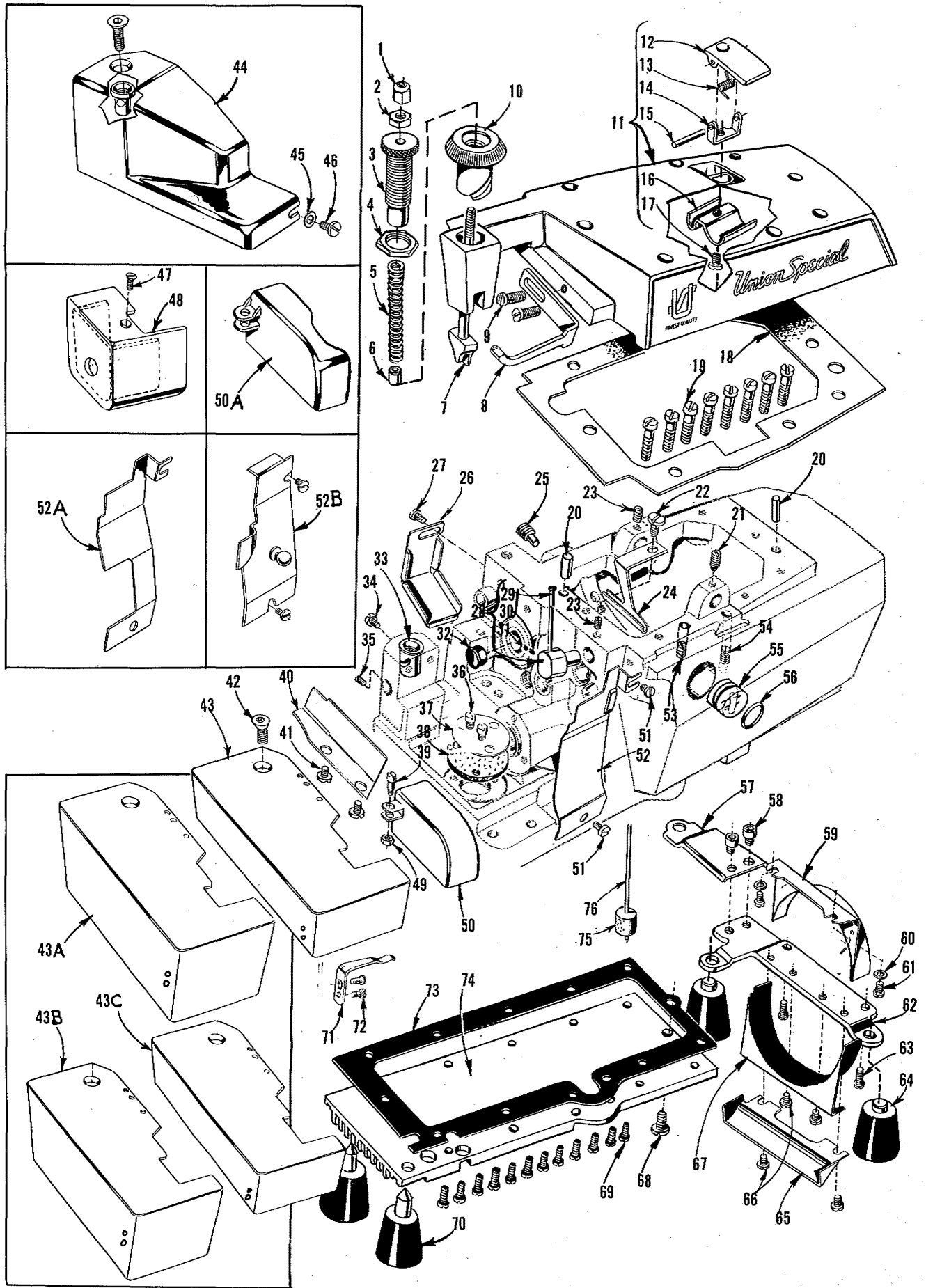
Prices are net cash and subject to change without notice. All shipments are forwarded f. o. b. shipping point. Parcel post shipments are insured unless otherwise directed. A charge is made to cover postage and insurance.





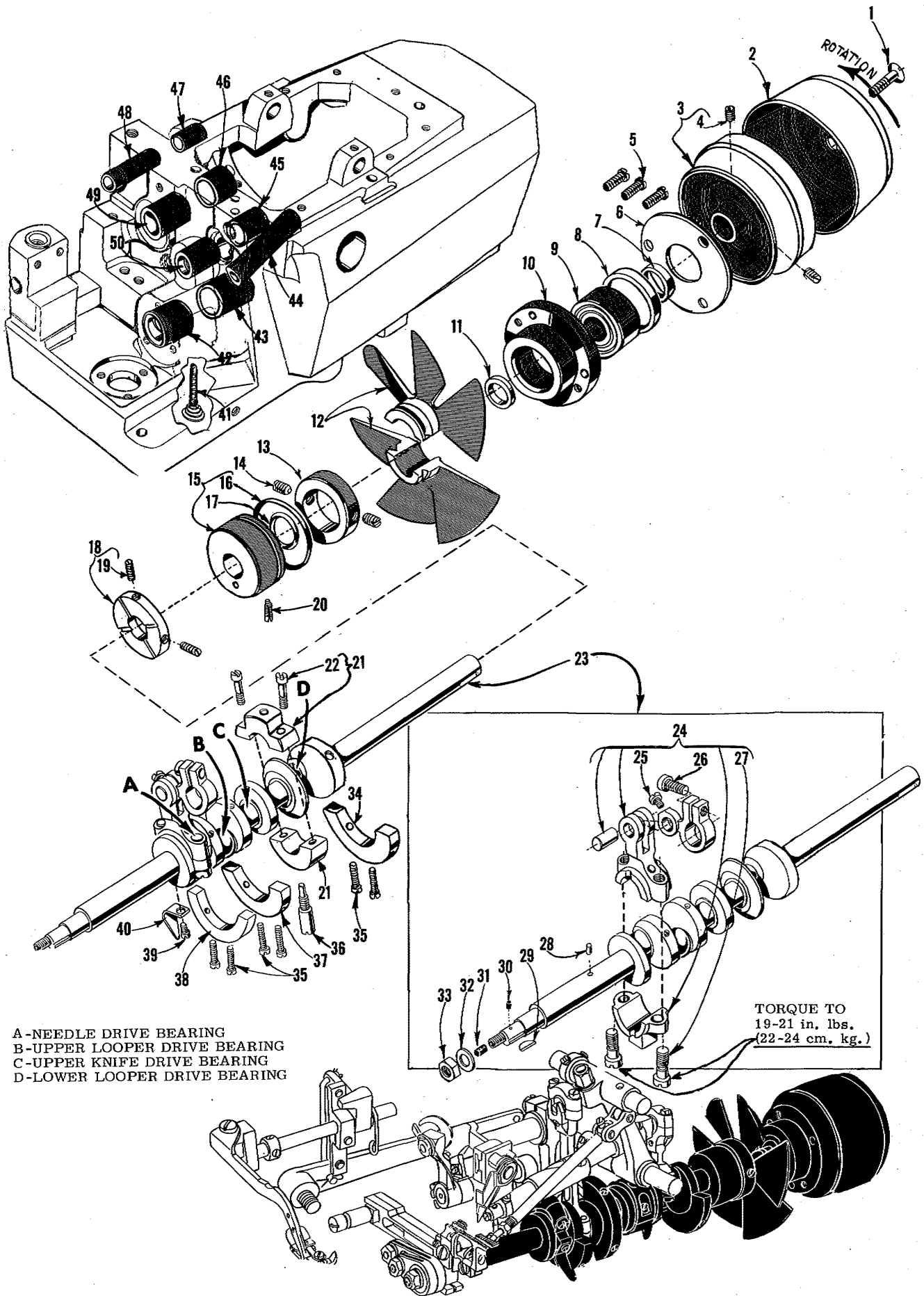
MAIN FRAME, PRESSER FOOT RELEASE PARTS,  
MISCELLANEOUS COVERS AND PLATES

Ref. No.	Part No.	Description	Amt. Req.
1	39557 B	Presser Spring Plunger Cap Nut -----	1
2	39557 E	Presser Spring Plunger Locking Nut -----	1
3	39557 C	Presser Spring Plunger Adjusting Screw -----	1
4	39557 F	Lock Nut, for adjusting screw -----	1
5	39557	Presser Spring-----	1
6	43557	Presser Spring Spacer, for Style 39500 TY -----	1
7	39557 A	Presser Spring Plunger -----	1
8	39563 F	Top Cover Needle Thread Eyelet, for all Styles except 39500 QJ, QL, QV, SJ -----	1
-	39563 T	Top Cover Needle Thread Eyelet, for Style 39500 QV-----	1
9	22569 B	Screw, for top cover needle thread eyelet -----	2
10	39556 A	Presser Foot Release Bushing -----	1
11	39582 AD	Top Cover, for all Styles except 39500 TY -----	1
-	39582 AJ	Top Cover, for Style 39500 TY -----	1
12	39582 AF	Oil Filler Cover-----	1
13	39582 V	Spring-----	1
14	39582 AG	Hinge Bracket -----	1
15	51-103 Blk.	Hinge Pin -----	1
16	39582 W	Oil Guard -----	1
17	22562 A	Screw, for hinge bracket -----	1
18	39582 AE	Top Cover Gasket -----	1
19	22541	Screw, for top cover -----	8
20	667 D-8	Dowel Pin -----	2
21	22565 S	Spot Screw, for upper looper drive lever shaft -----	1
22	22569 D	Screw, for oil collector plate -----	1
23	22565	Set Screw, for upper looper thread tube assembly and for upper looper drive lever shaft -----	2
24	39594 R	Oil Collector Plate -----	1
25	22571 E	Magnetic Oil Drain Plug Screw -----	1
26	39534 R	Feed Bar Oil Shield-----	1
27	90	Screw, for feed bar oil shield -----	1
28	29477 GW	Upper Looper Thread Tube Assembly -----	1
29	39568 G	Thread Tube -----	1
30	39568 J	Thread Tube Tension Spring -----	1
31	22743	Set Screw, for thread tube tension spring -----	1
32	51-405 Blk.	Plug, for bed on Style 39500 TY -----	1
33	39501 K	Cloth Plate Stud -----	1
34	22569	Screw, for cloth plate stud -----	1
35	22565 F	Screw, for feed adjusting pin -----	1
36	22569 B	Screw, for oil filter screen and strainer -----	2
37	39594 G	Oil Filter Screen -----	1
38	39594 H	Oil Strainer, felt -----	1
39	86 X	Screw, for feed mechanism cover on all Styles except 39500 TG -----	1
40	39578 F	Cloth Plate Fabric Guard, for all Styles except 39500 TG, TY-----	1
-	39578 FA	Cloth Plate Fabric Guard, for Style 39500 TY -----	1
41	138	Screw, for cloth plate fabric guard on all Styles except 39500 TG -----	2
42	22657 D-12	Screw, for cloth plate -----	1
43 thru 76		See following page	



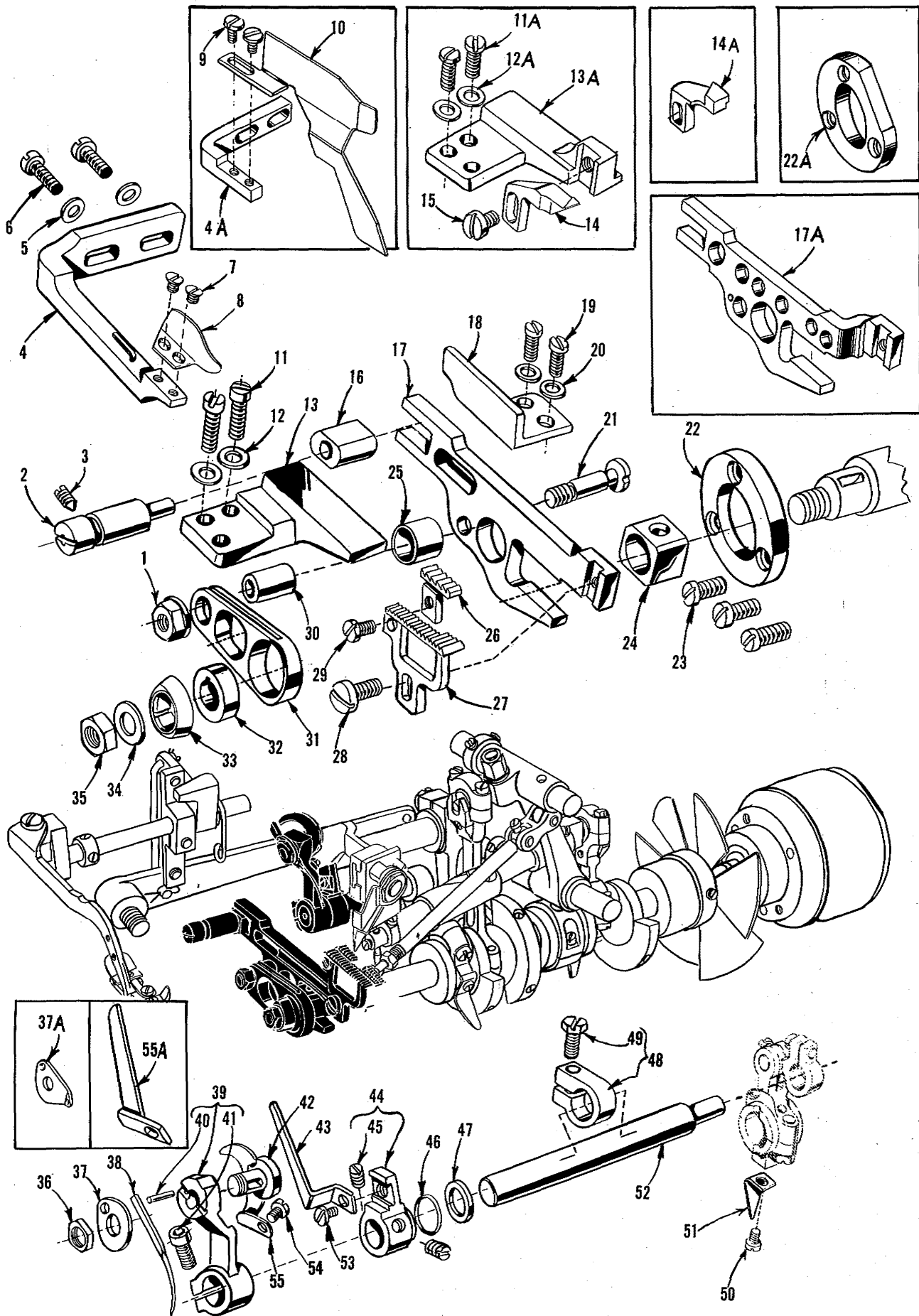
MAIN FRAME, PRESSER FOOT RELEASE PARTS,  
MISCELLANEOUS COVERS AND PLATES

Ref. No.	Part No.	Description	Amt. Req.
1 thru 42		See preceding page	
43	39501 DG	Cloth Plate, for semi or fully submerged installation of Styles 39500 QJ, QL, RP, SJ -----	1
-	39501 D	Cloth Plate, for semi or fully submerged installation on Styles 39500 QN, QV, QX, RU, SR, SX -----	1
43A	39501 EE	Cloth Plate, for non submerged installation on Styles 39500 QJ, QL, RP, SJ -----	1
43B	39501 E	Cloth Plate, for non submerged installation on Styles 39500 QN, QV, QX, RU, SR, SX -----	1
43C	39501 DF	Cloth Plate, for semi or fully submerged installation on Style 39500 TY -----	1
44	39501 N	Cloth Cover, for Style 39500 TG -----	1
45	8372 A	Washer, for cloth cover on Style 39500 TG -----	1
46	22528	Screw, for cloth cover on Style 39500 TG -----	1
47	22524	Screw, for work support on Style 39500 TG -----	1
48	39582 AU	Work Support, for Style 39500 TG -----	1
49	41071 G	Nut, for feed mechanism cover on all Styles except 39500 TG -----	1
50	39582 K	Feed Mechanism Cover, for all Styles except 39500 QV, TG, TY -----	1
50A	39582 DA	Feed Mechanism Cover, for Style 39500 QV, TY -----	1
51	22569 D	Screw, for chip guard on all Styles except 39500 TY -----	2
-	22569 D	Screw, for front cover on Style 39500 TY -----	2
52	39578 U	Chip Guard, for all Styles except 39500 QV, QX, SR, SX, TG, TY -----	1
-	39578 TA	Chip Guard, for Styles 39500 QV, QX, SR, SX -----	1
52A	39578 X	Chip Guard, for Style 39500 TG -----	1
52B	39578 AD	Front Cover, for Style 39500 TY -----	1
53	22569 K	Screw, for oil sight gauge -----	1
54	22894 AE	Screw, for lower looper bar driving lever shaft -----	2
55	39593 H	Oil Sight Gauge -----	1
56	660-243	Oil Gauge Seal Ring -----	1
57	39582 F	Bottom Cover Extension -----	1
58	22653 D-4	Screw, for bottom cover extension -----	2
59	39582 BV	Air Duct, upper -----	1
60	8372 A	Washer, for upper air duct -----	2
61	22569 C	Screw, for upper air duct -----	2
62	39582 BM	Base Plate -----	1
63	22541 B	Screw, for base plate -----	2
64	39595	Isolator -----	2
65	39582 BL	Air Duct, outer -----	1
66	22569 D	Screw, for lower and outer air duct -----	4
67	39582 BK	Air Duct, lower -----	1
68	22586 R	Screw, for bottom cover -----	1
69	22541 B	Screw, for bottom cover -----	12
70	51295 B	Isolator -----	2
71	39532 A	Cloth Plate Latch Spring, except Style 39500 TG -----	1
72	90	Screw, for cloth plate latch spring, except Style 39500 TG --	2
73	39582 BH	Bottom Cover Gasket -----	1
74	39582 BG	Bottom Cover -----	1
75	39593 C	Oil Gauge Float -----	1
76	39593 D	Oil Gauge Indicator -----	1



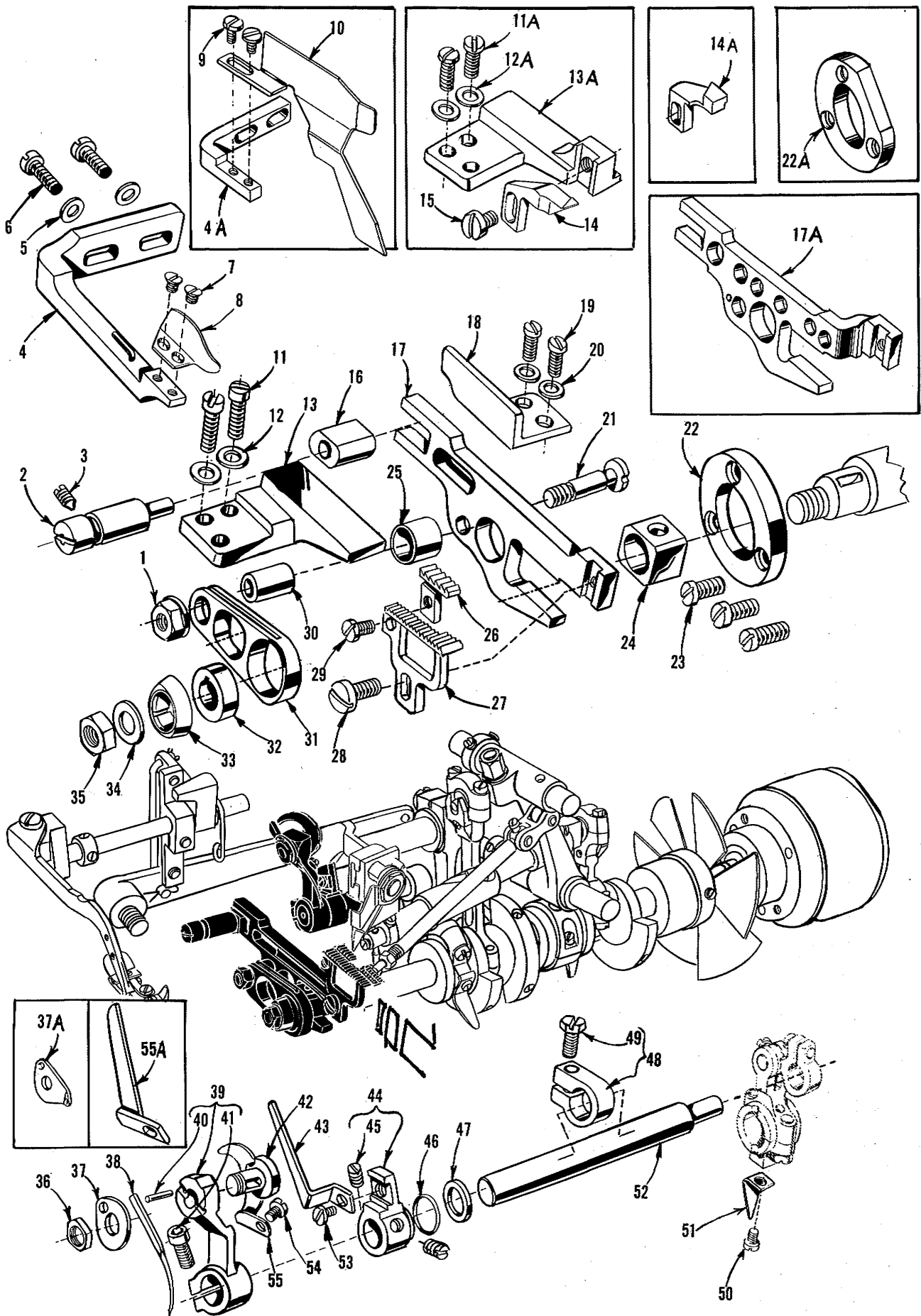
CRANKSHAFT MECHANISM AND BUSHINGS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	22769 B	Screw, for pulley cap -----	1
2	39521 D	Pulley Cap -----	1
3	39521 G	Pulley -----	1
4	95	Screw, for pulley -----	2
5	22569 B	Screw, for crankshaft ball bearing retaining plate -----	3
6	39590 H	Crankshaft Ball Bearing Retaining Plate -----	1
7	39590 S	Spacer Collar -----	1
8	39590 R	Ball Bearing Stop Collar -----	1
9	660-268	Crankshaft Ball Bearing -----	1
10	39590 G	Crankshaft Ball Bearing Housing -----	1
11	39590 J	Thrust Washer -----	1
12	39591 L	Crank Chamber Cooling Fan -----	1
13	39591 H	Crank Chamber Cooling Fan Collar -----	1
14	22894 D	Spot Screw, for crank chamber cooling fan collar -----	2
15	39590 X	Crankshaft Bearing, inner right -----	1
16	660-443	"O" Ring, for crankshaft bearing, inner right -----	1
17	660-204	"O" Ring, for crankshaft bearing, inner right -----	1
18	39590 P	Oil Slinger Collar -----	1
19	77 Q	Set Screw, for oil slinger collar -----	2
20	22565 F	Screw, for crankshaft bearing, inner right -----	1
21	39590 D	Crankshaft Split Bearing -----	1
22	97 A	Screw, for crankshaft split bearing -----	2
23	29477 JM	Crankshaft and Needle Driving Arm Crank Assembly, for Styles 39500 QJ, QL, RP, SJ, TG -----	1
	29477 KE	Crankshaft and Needle Driving Arm Crank Assembly, for Styles 39500 QN, QV, QX, RU, SR, SX, TY -----	1
24	29477 MC	Needle Driving Arm Crank and Connecting Rod Assembly -----	1
25	22768 C	Screw, for needle driving arm connecting rod pin -----	1
26	22596 H	Screw, for needle driving arm crank -----	1
27	22587 M	Screw, for needle driving arm connecting rod -	2
28	51-228 Blk.	Vent Plug -----	1
29	39541 A	Feed Driving Eccentric Key -----	1
30	30-106 Blk.	Wood Plug -----	1
31	CO67 E	Cork Plug -----	1
32	40-46	Washer -----	1
33	258	Nut -----	1
34	39591 B	Crankshaft Counterweight, right -----	1
35	22747 B	Screw, for crankshaft counterweights -----	6
36	39590 N	Stud, for crankshaft split bearing -----	1
37	39591 A	Crankshaft Counterweight, middle -----	1
38	39591 K	Crankshaft Counterweight, left -----	1
39	87 U	Screw, for oil splasher -----	1
40	39594 N	Oil Splasher -----	1
41	666-94	Oil Wick and Spring -----	1
42	39590	Crankshaft Bushing, left -----	1
43	39590 T	Crankshaft Bushing, inner left -----	1
44	39544 L	Lower Looper Bar Bushing -----	1
45	39552 P	Needle Driving Arm Crank Bushing, right -----	1
46	39573 AA	Upper Knife Driving Arm Bushing, right -----	1
47	39555 N	Foot Lifter Shaft Bushing, right -----	1
48	39555 E	Foot Lifter Shaft Bushing, left -----	1
49	39573 K	Upper Knife Driving Arm Bushing, left -----	1
50	39552 U	Needle Driving Arm Crank Bushing, left -----	1



NEEDLE DRIVE AND FEED MECHANISM

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	39536 E	Nut, for feed bar driving stud-----	1
2	39535 C	Feed Adjusting Pin -----	1
3	22565 F	Spot Screw, for feed adjusting pin -----	1
4	39578 P	Fabric Guard Mounting Bracket, for all Styles except 39500 TG, TY -----	1
-	39578 AE	Fabric Guard Mounting Bracket, for Style 39500 TY-----	1
4A	39578 Z	Fabric Guard Mounting Bracket, for Style 39500 TG-----	1
5	8372 A	Washer, for fabric guard mounting bracket -----	2
6	22569 B	Screw, for fabric guard mounting bracket -----	2
7	87	Screw, for fabric guard on all Styles except 39500 TG ---	2
8	39578 M	Fabric Guard, for Styles 39500 QJ, QL, RU, SJ -----	1
-	39578 R	Fabric Guard, for Styles 39500 QN, QV, RP -----	1
-	39578 S	Fabric Guard, for Styles 39500 QX, SR, SX -----	1
-	39578 AC	Fabric Guard, for Style 39500 TY -----	1
9	22585 A	Screw, for fabric guard on Style 39500 TG -----	2
10	39578 Y	Fabric Guard, for Style 39500 TG -----	1
11	22541 A	Screw, for feed bar guide, left, on all Styles except 39500 TY-----	2
11A	22569 B	Screw, for feed bar guide, left, on Style 39500 TY -----	2
12	53634 C	Washer, for main feed bar guide, left, on all Styles except 39500 TY -----	2
12A	8372 A	Washer, for main feed bar guide, left, on Style 39500 TY-----	2
13	39535 F	Feed Bar Guide, left, for all Styles except 39500 QV, TY -----	1
13A	39535 R	Feed Bar Guide, left, for Styles 39500 QV, TY -----	1
14	39580 H	Throat Plate Support Stop, for Style 39500 QV -----	1
14A	39680	Throat Plate Support Stop, for Style 39500 TY -----	1
15	93 A	Screw, for throat plate support stop on Styles 39500 QV, TY -----	1
16	39535 J	Feed Bar Guide Block -----	1
17	39534 G	Main Feed Bar, for all Styles except 39500 TG -----	1
17A	39534 J	Main Feed Bar, for Style 39500 TG -----	1
18	39535 D	Feed Bar Guide, right -----	1
19	22569 B	Screw, for feed bar guide, right -----	2
20	53634 C	Washer, for feed bar guide, right -----	2
21	39536 B	Feed Bar Driving Stud -----	1
22	39534 H	Feed Bar Thrust Washer, for all Styles except 39500 TG -	1
22A	39534 K	Feed Bar Thrust Washer, for Style 39500 TG -----	1
23	22569 G	Screw, for feed bar thrust washer -----	3
24	39538	Feed Lift Block -----	1
25	39536 D	Feed Bar Spacer -----	1
26		Chaining Feed Dog (See Pages 43, 45) -----	1
27		Main Feed Dog (See Pages 43, 45)-----	1
28	22528	Screw, for main feed dog-----	1
29	22 KH	Screw, for chaining feed dog on Styles 39500 QN, QV, QX, SR, SX-----	1
-	22768 B	Screw, for chaining feed dog for all Styles except 39500 QN, QV, QX, SR, SX, TG, TY -----	1
30	39536 C	Feed Bar Driving Connection Bushing-----	1
31	39536 AE	Feed Bar Driving Connection -----	1
32 thru 53A		See following page	





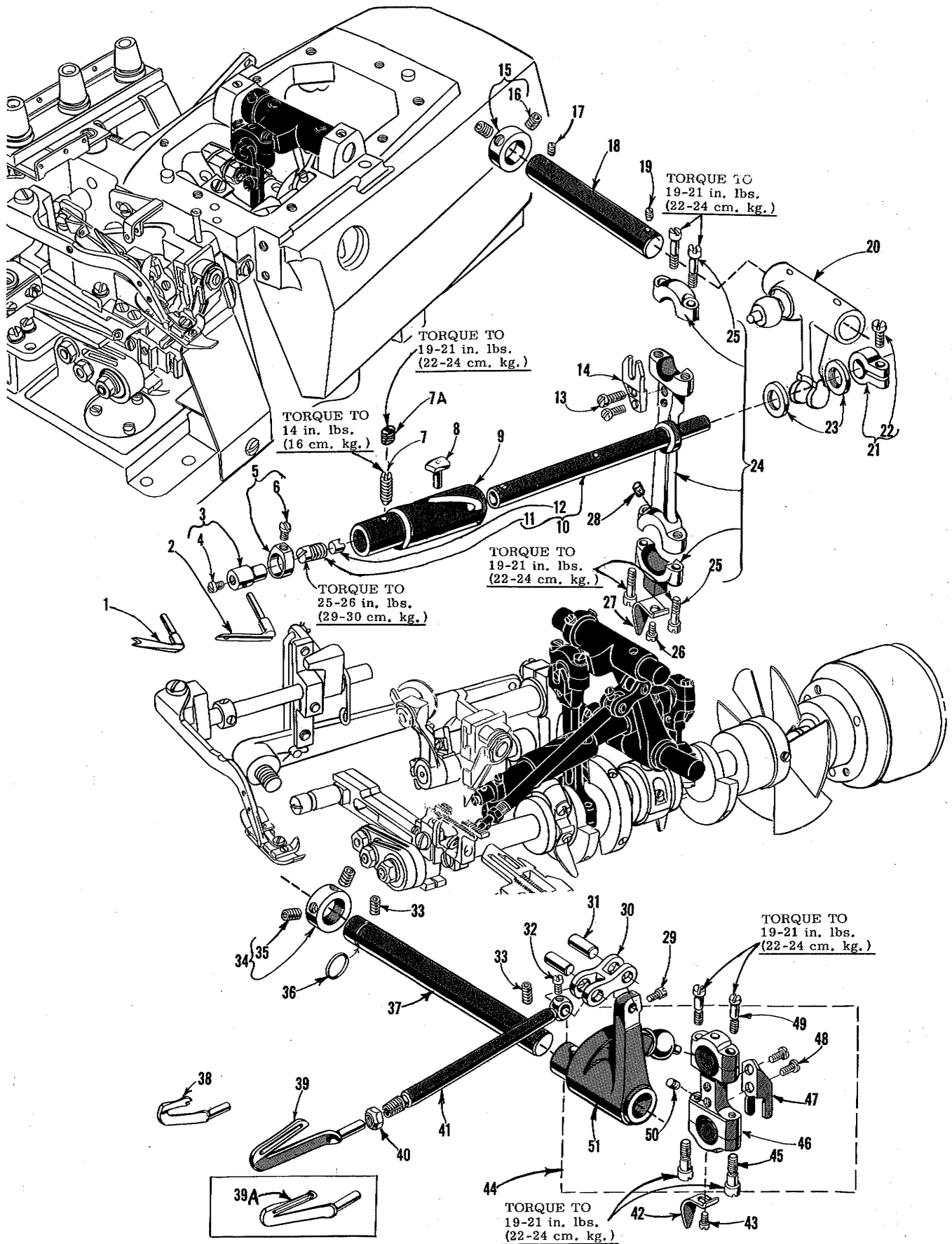
NEEDLE DRIVE AND FEED MECHANISM

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1 thru 31		See preceding page	
32		Main Feed Driving Eccentric (See chart below)-----	1
33	39540 K	Feed Eccentric Spacer -----	1
34	40-46	Washer -----	1
35	258	Nut -----	1
36	* 14077	Nut, for needle clamp stud -----	1
37	† 39551 A	Needle Clamp Washer, for Styles 39500 QN, QV, QX, RP, RU, SR, SX, TG, TY -----	1
37A	# 39563 Z	Needle Thread Pull-up Eyelet and Needle Clamp Washer, for Styles 39500 QJ, QL, SJ -----	1
38		Needle (Refer to machine description)-----	1
39	‡ 39552	Needle Driving Arm, marked "B" <sup>n</sup> -----	1
40	50-774 Blk.	Stop Pin, for needle-----	1
41	22596 E	Screw, for needle driving arm -----	1
42	§ 39551 F	Needle Clamp Stud -----	1
43	39568 A	Looper Thread Pull-off -----	1
44	39568 Y	Looper Thread Pull-off Lever -----	1
45	88 B	Screw, for looper thread pull-off lever-----	2
46	660-207	Oil Seal Ring, for needle driving shaft -----	1
47	39552 C	Needle Driving Arm Crank Thrust Washer-----	1
48	39543 Y	Needle Drive Shaft Thrust Collar -----	1
49	22782 A	Screw -----	1
50	87 U	Screw, for oil splasher-----	1
51	39594 N	Oil Splasher -----	1
52	39552 R	Needle Driving Shaft -----	1
53	22513	Screw, for looper thread pull-off-----	1
54	87 U	Screw, for needle thread cam pull-off on all Styles except 39500 QJ, QL, RP, SJ-----	1
-	77 A	Screw, for needle thread cam pull-off on Style 39500 RP -----	1
55	39563 G	Needle Thread Cam Pull-off, for all Styles except 39500 QJ, QL, SJ, TG-----	1
55A	39563 P	Needle Thread Pull-off, for Style 39500 TG -----	1

Det. 32 Main Feed Drive Eccentric	Styles
39540 B-5	39500 QJ, QL, SJ, TY
39540 B-12	39500 QN
39540 B-8	39500 QV
39540 B-10	39500 QX, RP
39540 B-7	39500 RU, SR, SX
39540 B-6	39500 TG

- \* Replaced by No. 14077 A on new machines.
- † Replaced by No. 39551 H on new machines, Styles as above.
- # Replaced by No. 39563 AA on new machines, Styles as above.
- ‡ Replaced by No. 39552 Z, (marked "K") on new machines.
- § Replaced by No. 39551 J on new machines.

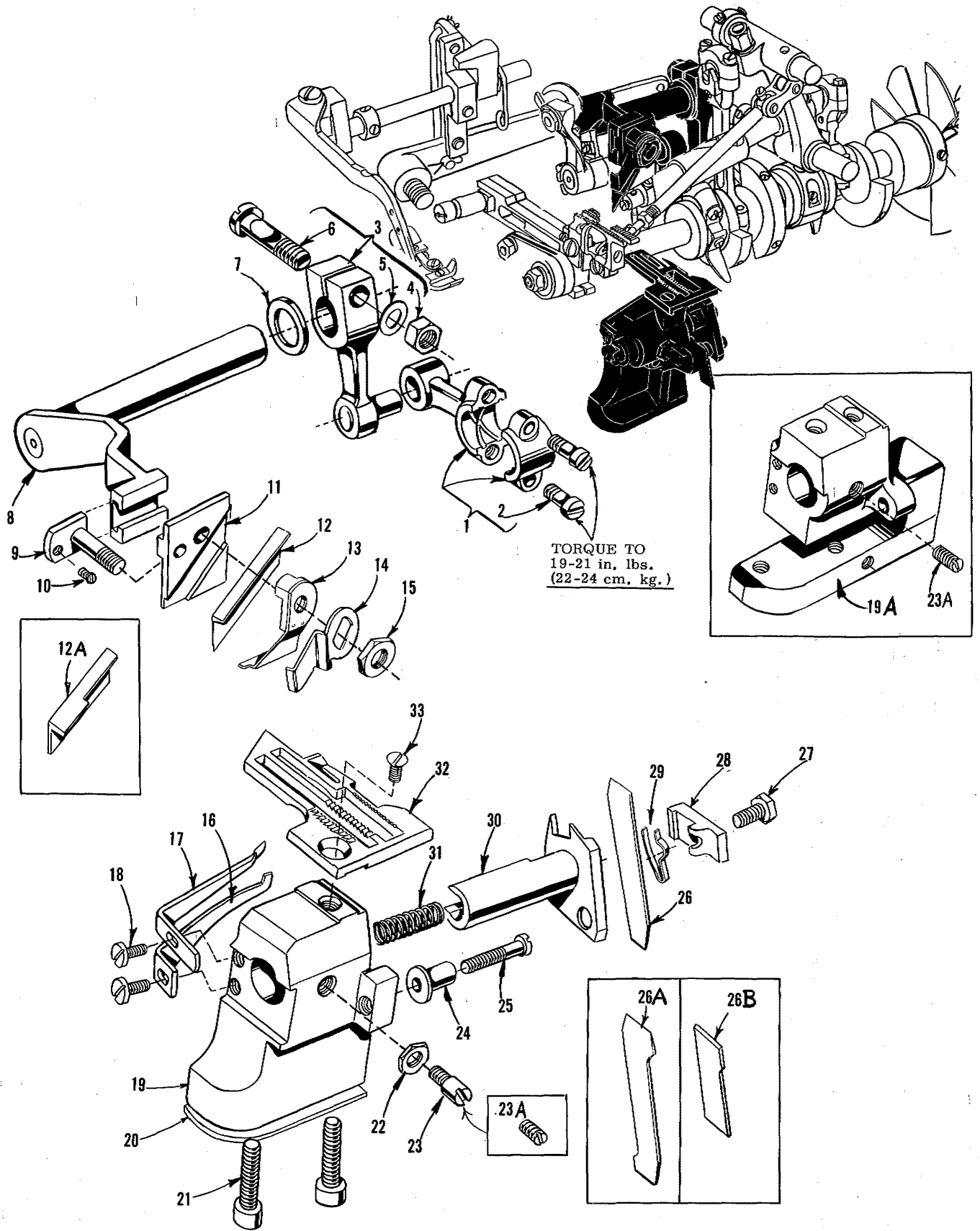
NOTE: Parts used on new machines are not interchangeable with parts used on older model machines, use all new part numbers OR use all old part numbers.



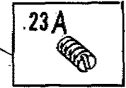
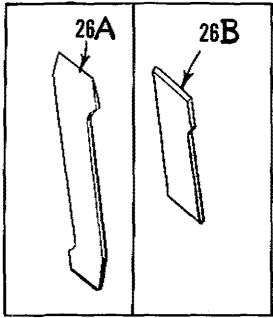
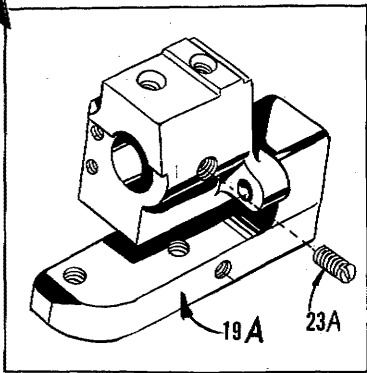
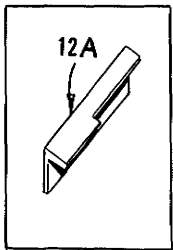
UPPER AND LOWER LOOPER DRIVING PARTS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	39560 A	Upper Spreader, for Styles 39500 QJ, SJ -----	1
2	39508 A	Upper Looper, marked "CC", for all Styles except 39500 QJ, SJ, TY-----	1
-	39508 E	Upper Looper, marked "CK", for Style 39500 TY-----	1
3	39543	Upper Looper Holder -----	1
4	22564 G	Screw, for upper looper -----	1
5	39543 A	Upper Looper Holder Collar -----	1
6	77	Screw, for upper looper holder collar -----	1
7	22565 H	Spot Screw, for bushing and cam guide -----	1
7A	1025 L	Lock Screw, for bushing and cam guide screw -----	1
8	39543 T	Cam Follower-----	1
* 9	39543 S	Bushing and Cam Guide -----	1
*10	39543 K	Upper Looper Drive Shaft -----	1
11	22503 F	Screw, for cam follower locking clamp -----	1
12	39543 E	Cam Follower Locking Clamp-----	1
13	97	Screw, for ball joint guide fork -----	2
14	39544 J	Ball Joint Guide Fork, for upper looper drive lever -----	1
15	482 C	Upper Looper Shaft Collar -----	1
16	22894 C	Set Screw, for upper looper rock shaft collar -----	2
17	22565	Set Screw, for upper looper drive lever shaft-----	1
18	39543 X	Upper Looper Drive Lever Shaft -----	1
19	22565 S	Spot Screw, for upper looper drive lever shaft -----	1
20	39543 W	Upper Looper Drive Lever -----	1
21	39543 M	Clamp Collar, for upper looper drive shaft -----	1
22	22562 A	Screw, for clamp collar -----	1
23	39543 P	Upper Looper Drive Shaft Thrust Washer -----	2
24	39543 U	Upper Looper Drive Lever Connecting Rod -----	1
25	22729 D	Screw, for upper looper drive lever connecting rod -----	4
26	87 U	Screw, for oil splasher -----	1
27	39594 N	Oil Splasher -----	1
28	666-255	Felt, for connecting rod-----	1
29	77	Screw, for lower looper bar connecting link pin-----	1
30	39544 B	Lower Looper Bar Connecting Link -----	1
31	39544 D	Lower Looper Bar Connecting Link Pin -----	2
32	77	Screw, for lower looper bar connecting link pin-----	1
33	22894 AE	Set Screw, for lower looper driving shaft -----	2
34	482 C	Lower Looper Driving Shaft Collar -----	1
35	22894 C	Set Screw, for lower looper driving shaft collar -----	2
36	660-206	"O" Ring, for lower looper driving shaft -----	1
37	39544 V	Lower Looper Driving Shaft -----	1
38	39560 B	Lower Spreader, for Style 39500 TG-----	1
39	39508 B	Lower Looper, for all Styles except 39500 TG, TY -----	1
39A	39508 D	Lower Looper, for Style 39500 TY -----	1
40	39151	Nut, for lower looper bar -----	1
41	39544	Lower Looper Bar -----	1
42	39594 N	Oil Splasher -----	1
43	87 U	Screw, for oil splasher -----	1
44	29126 DF	Lower Looper Bar Driving Lever and Connecting Rod Assembly -----	1
45	22729 E	Screw, for connecting rod -----	2
46	39544 N	Lower Looper Drive Lever Connecting Rod-----	1
47	39544 S	Ball Joint Guide Fork -----	1
48	97	Screw, for ball joint guide fork -----	2
49	22729 D	Screw, for connecting rod -----	2
50	666-255	Felt, for connecting rod -----	1
51	39544 U	Lower Looper Bar Driving Lever -----	1

\* The use of assembly No. 29126 EC is recommended instead of the individual parts.

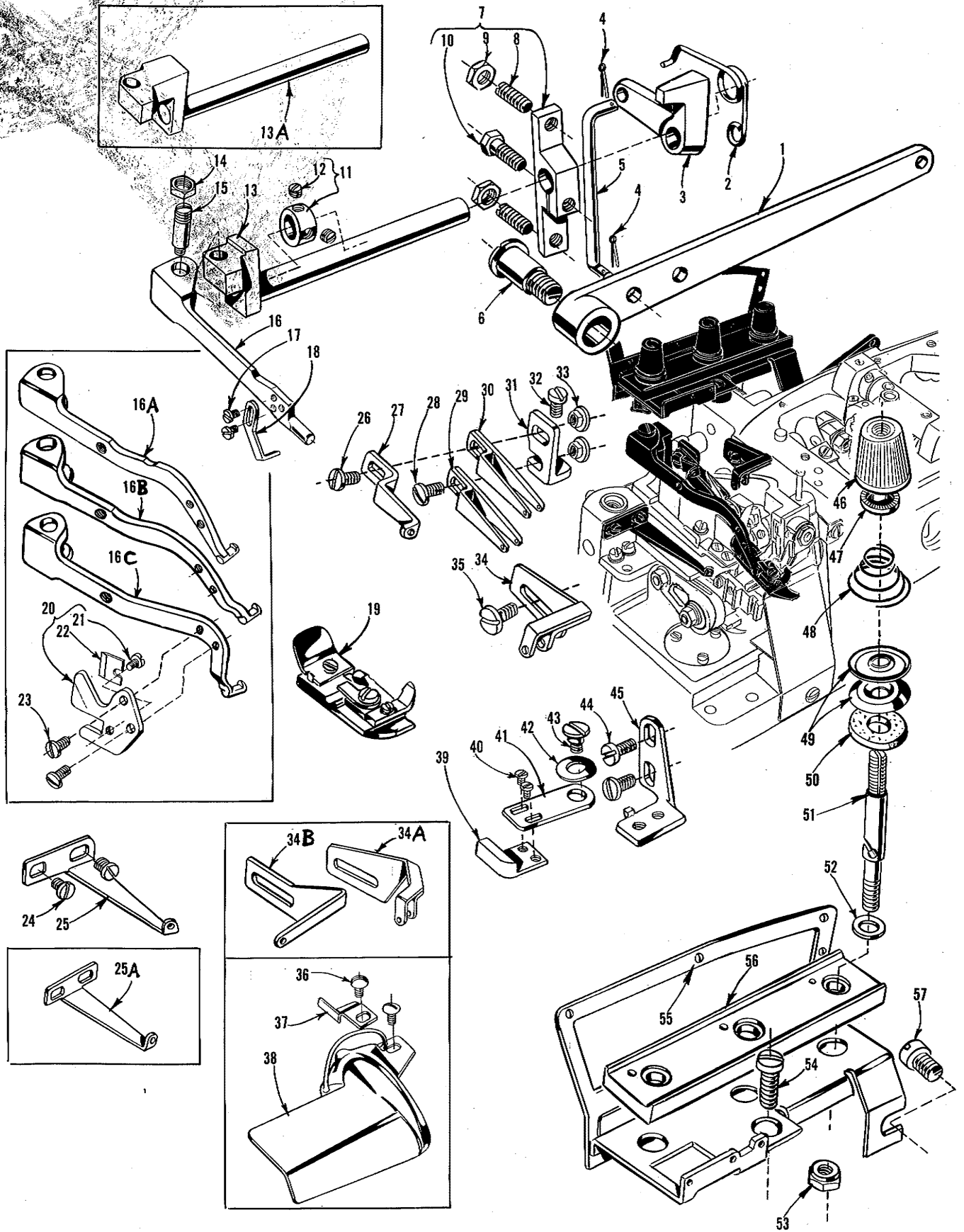


TORQUE TO  
19-21 in. lbs.  
(22-24 cm. kg.)



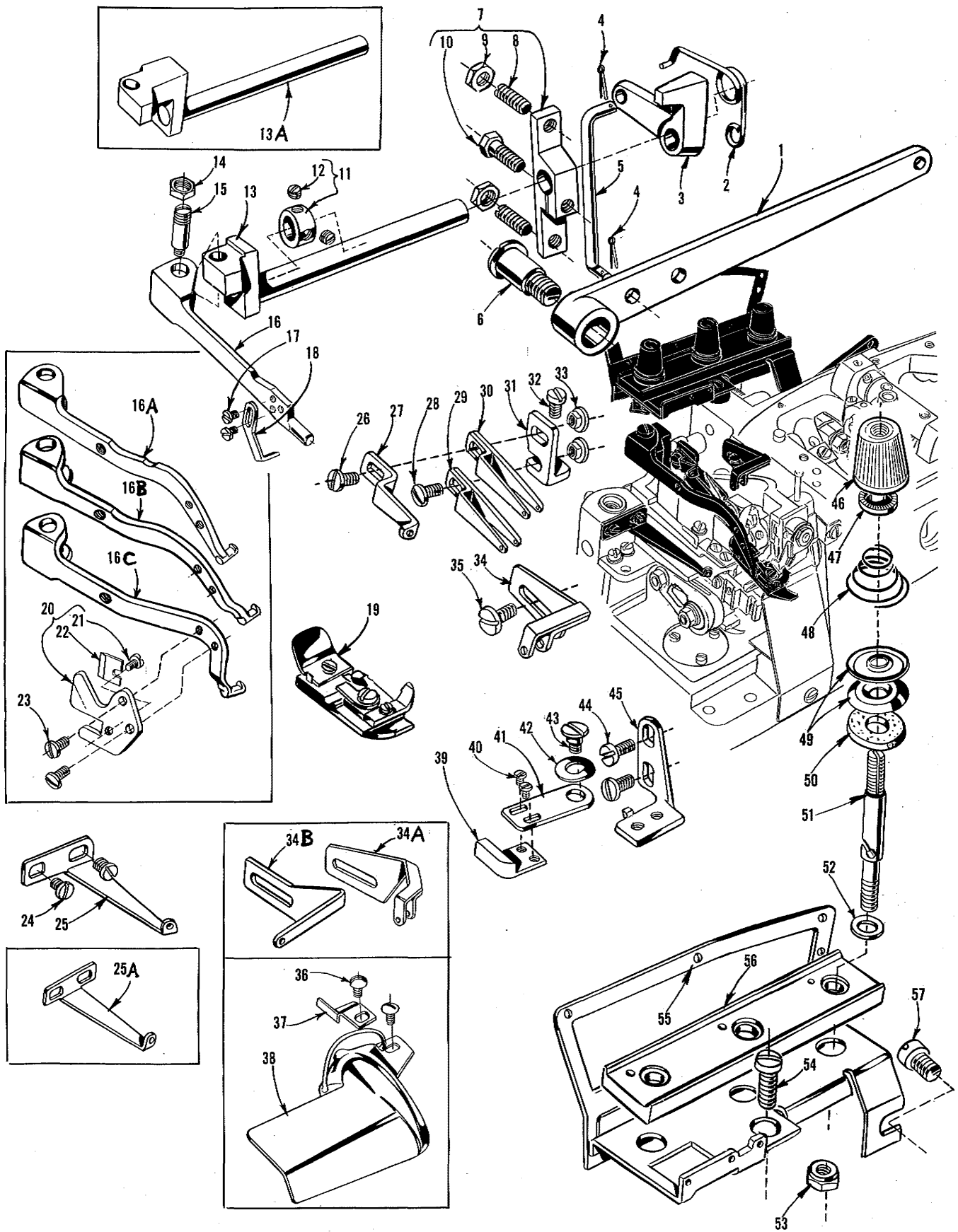
UPPER AND LOWER KNIFE MECHANISM

Ref. No.	Part No.	Description	Amt. Req.
1	39573 J	Upper Knife Driving Connecting Rod, for all Styles except 39500 TY -----	1
2	22587 J	Screw, for upper knife driving connecting rod -----	2
3	39573 E	Upper Knife Driving Lever, for all Styles except 39500 TY ----	1
4	55235 E	Nut, for upper knife driving lever -----	1
5	6042 A	Washer, for upper knife driving lever -----	1
6	55235 D	Locking Stud, for upper knife driving lever -----	1
7	39573 A	Upper Knife Driving Arm Washer, for all Styles except 39500 TY -----	1
8	39573 H	Upper Knife Driving Arm, for all Styles except 39500 TY ----	1
9	39571 C	Upper Knife Clamp Stud, for all Styles except 39500 TG, TY ---	1
-	39571 D	Upper Knife Clamp Stud, for Style 39500 TG -----	1
10	22738	Screw, for upper knife clamp stud on all Styles except 39500 TY -----	1
11	39572 A	Upper Knife Holder Block, for all Styles except 39500 TG, TY -----	1
-	39572	Upper Knife Holder Block, for Style 39500 TG -----	1
12	39570	Upper Knife, for Styles 39500 QN, SR -----	1
12A	39570 J	Upper Knife, for all Styles except 39500 QN, SR -----	1
13	39571 F	Upper Knife Clamp, for all Styles except 39500 TY -----	1
14	39571 B	Upper Knife Chain Guard, for all Styles except 39500 TY ----	1
15	14077	Nut, for upper knife clamp stud on all Styles except 39500 TY -----	1
16	39525	Needle Guard, front, for all Styles except 39500 QJ, QL, RP, SJ, TG -----	1
-	39525 L	Needle Guard, front, for Styles 39500 QJ, QL, RP, SJ, TG ---	1
17	39525 A	Needle Guard, rear, for all Styles except 39500 TG, TY -----	1
-	39525 J	Needle Guard, rear, for Style 39500 TG -----	1
-	39525 N	Needle Guard, rear, for Style 39500 TY -----	1
18	22585 A	Screw, for needle guards -----	2
19	39580 A	Throat Plate and Lower Knife Support Bracket, for all Styles except 39500 QJ, QL, RP, SJ, TG -----	1
-	39580 AE	Throat Plate and Lower Knife Support Bracket, for Styles 39500 QJ, QL, RP, SJ -----	1
19A	39580 G	Throat Plate and Lower Knife Support Bracket, for Style 39500 TG -----	1
20	39580 E	Shim, for throat plate and lower knife support bracket on Style 39500 TY -----	1
21	22653 B-12	Screw, for throat plate and lower knife support bracket -----	2
22	14077	Nut, for lower knife holder locking screw -----	1
23	22892 B	Locking Screw, for lower knife holder on all Styles except 39500 TG -----	1
23A	22560 B	Locking Screw, for lower knife holder on Style 39500 TG ----	1
24	39550 C	Lower Knife Holder Locking Stud, for all Styles except 39500 QV, QX, SX, TY -----	1
-	39550 R	Lower Knife Holder Locking Stud, for Styles 39500 QV, QX, SX -----	1
25	22729 B	Screw, for lower knife holder locking stud for all Styles except 39500 TY -----	1
26	39549	Lower Knife, for Styles 39500 QN, SR -----	1
26A	39549 J	Lower Knife, for all Styles except 39500 QN, SR, TY -----	1
26B	39549 R	Lower Knife, for Style 39500 TG -----	1
27	22588 J	Screw, for lower knife clamp, for all Styles except 39500 TY -----	1
28	39550 Z	Lower Knife Clamp, for all Styles except 39500 TY -----	1
29	39550 M	Lower Knife Clamp Spring, for all Styles except 39500 TY ----	1
30	39550 S	Lower Knife Holder, for all Styles except 39500 QJ, QL, RP, SJ, TG, TY -----	1
-	39550 U	Lower Knife Holder, for Styles 39500 QJ, QL, RP, SJ -----	1
-	39550 Y	Lower Knife Holder, for Style 39500 TG -----	1
31	39550 E	Lower Knife Holder Spring, for all Styles except 39500 QV, QX, SX, TY -----	1
-	39550 P	Lower Knife Holder Spring, for Styles 39500 QV, QX, SX ----	1
32		Throat Plate (See Pages 43, 45) -----	1
33	22524	Screw, for throat plate -----	1



FOOT LIFTER, CHAIN CUTTING KNIFE, EDGE GUIDE, THREAD TENSION  
PARTS AND MISCELLANEOUS EYELETS

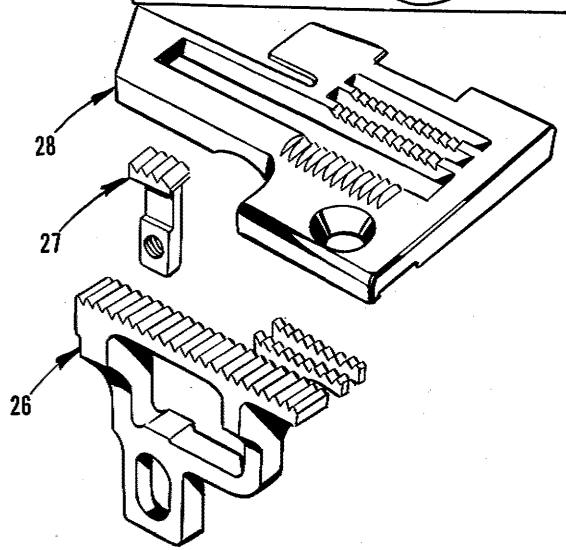
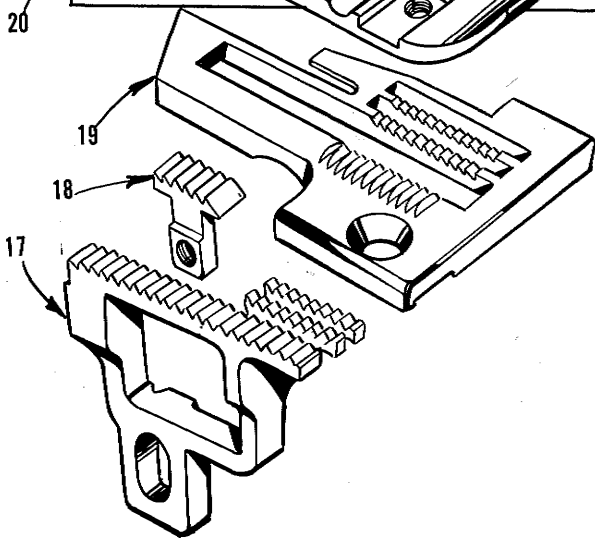
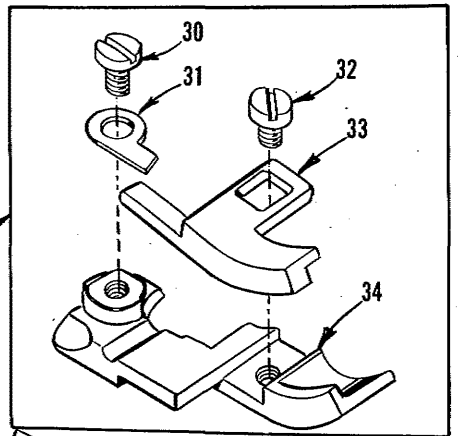
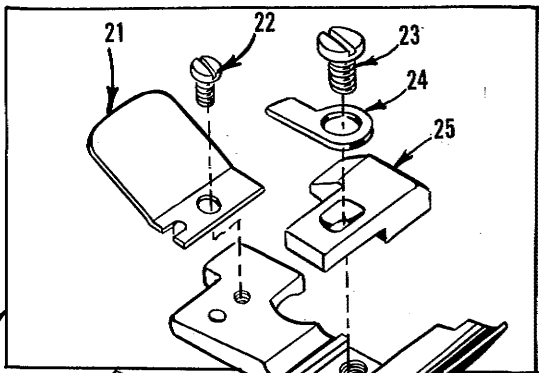
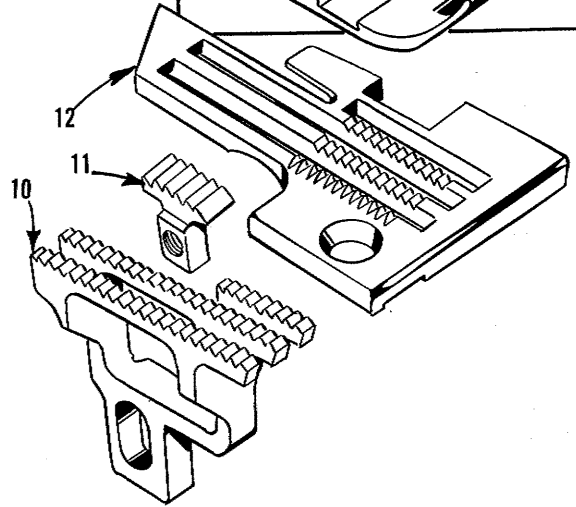
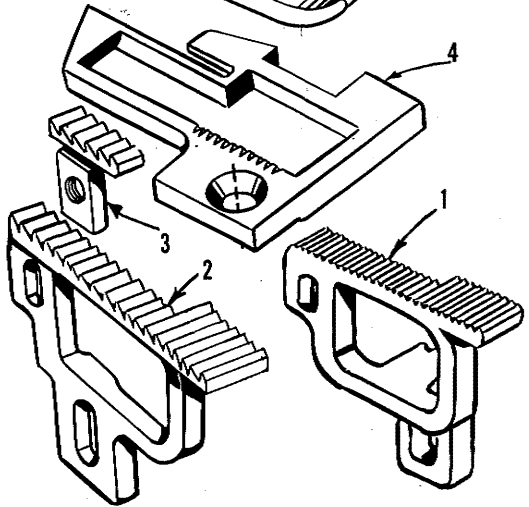
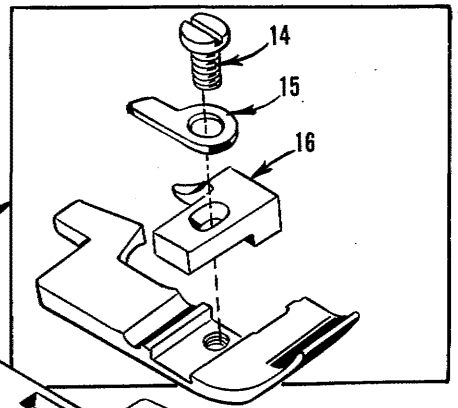
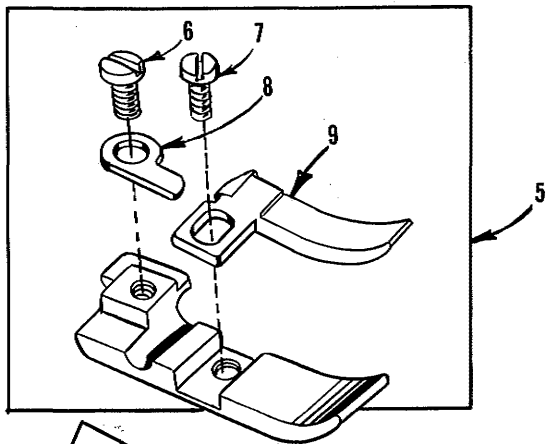
Ref. No.	Part No.	Description	Amt. Req.
1	39855	Foot Lifter Lever -----	1
2	39555 B	Foot Lifter Lever Spring-----	1
3	39555 D	Foot Lifter Intermediate Lever -----	1
4	660-142	Cotter Pin, for foot lifter lever connecting link -----	2
5	39555 F	Foot Lifter Lever Connecting Link -----	1
6	22566 B	Screw, for foot lifter lever -----	1
7	39555 C	Foot Lifter Lever Arm -----	1
8	22597 E	Set Screw, for foot lifter lever arm -----	2
9	12538	Lock Nut, for foot lifter lever arm-----	2
10	627	Screw, for foot lifter lever arm -----	1
11	12865	Foot Lifter Lever Shaft Thrust Collar-----	1
12	88	Screw, for foot lifter lever shaft collar -----	2
13	39555 A	Foot Lifter Lever Shaft, for all Styles except 39500 TY ----	1
13A	39655	Foot Lifter Lever Shaft, for Style 39500 TY-----	1
14	22791 H	Screw Pin, for presser arm -----	1
15	258 A	Nut, for presser arm screw pin -----	1
16	39656 B	Presser Arm, for Style 39500 TY-----	1
16A	39556 E	Presser Arm, for Style 39500 QV-----	1
16B	39556 F	Presser Arm, for Style 39500 QN-----	1
16C	39556 D	Presser Arm, for Styles 39500 QJ, QL, QX, RP, SJ, SR, SX, TG-----	1
-	39556 AU	Presser Arm, for Style 39500 RU -----	1
17	605	Screw, for presser foot hold down plate on Style 39500 TY -----	2
18	39656 D	Presser Foot Hold Down Plate, for Style 39500 TY -----	1
19		Presser Foot (See Pages 43, 45)-----	1
20	39556 M	Chain Cutting Knife, for all Styles except 39500 QN, QV, TY -----	1
21	22798	Screw, for chain cutter blade-----	1
22	39556 L	Chain Cutter Blade -----	1
23	605	Screw, for chain cutting knife on all Styles except 39500 QN, QV, TY-----	2
24	73 X	Screw, for frame thread guide -----	2
25	39568 W	Frame Thread Guide, for lower looper thread on all Styles except 39500 QV, TG, TY -----	1
25A	39668 W	Frame Thread Guide, for lower looper thread on Styles 39500 QV, TY -----	1
26	376 A	Screw, for upper looper thread eyelet on all Styles except 39500 QJ, SJ -----	1
27	39568 E	Auxiliary Looper Thread Eyelet, for all Styles except 39500 QJ, QV, SJ-----	1
-	39568 U	Auxiliary Looper Thread Eyelet, for Style 39500 QV-----	1
28	376 A	Screw, for lower looper thread eyelet on all Styles except 39500 TG -----	1
29	39568 B	Lower Looper Thread Eyelet, for all Styles except 39500 QJ, QV, SJ, TG -----	1
-	39568 L	Lower Looper Thread Eyelet, for Styles 39500 QJ, SJ -----	1
-	39568 S	Lower Looper Thread Eyelet, for Style 39500 QV-----	1
30	39568 L	Upper Looper Thread Eyelet, for all Styles except 39500 QJ, QV, SJ-----	1
-	39568 T	Upper Looper Thread Eyelet, for Style 39500 QV-----	1
31	39568 D	Looper Thread Eyelet Mounting Bracket -----	1
32	22569 B	Screw, for looper thread mounting bracket-----	1
33	43139 A	Nut, for looper thread eyelet screw on all Styles except 39500 QJ, SJ, TG -----	2
-	43139 A	Nut, for looper thread eyelet screw on Styles 39500 QJ, SJ, TG -----	1
34 thru 58		See following page	





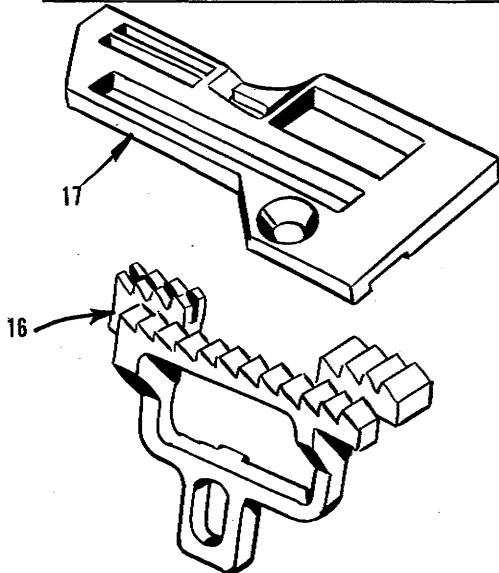
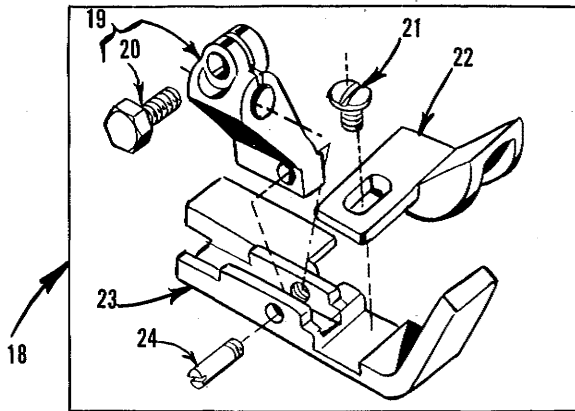
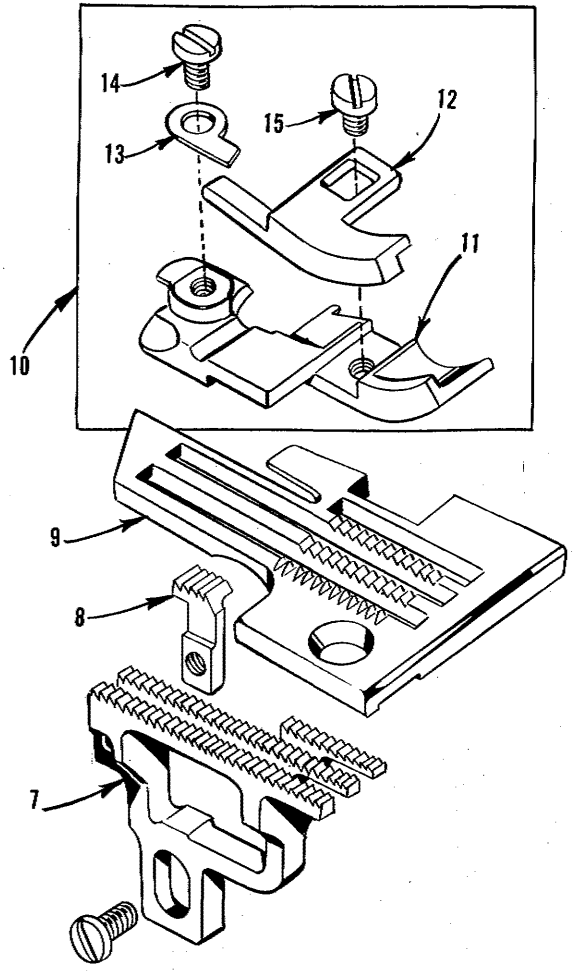
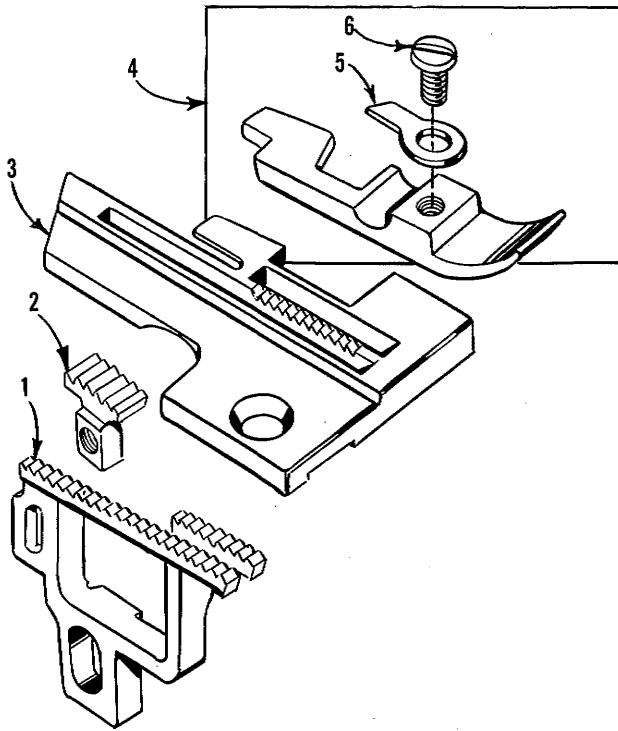
FOOT LIFTER, CHAIN CUTTING KNIFE, EDGE GUIDE, THREAD TENSION  
PARTS AND MISCELLANEOUS EYELETS

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34	39563 H	Needle Thread Eyelet, for all Styles except 39500 QJ, QL, QV, SJ, TG -----	1
-	39563 U	Needle Thread Eyelet, for Style 39500 QV -----	1
34A	39563 N	Needle Thread Eyelet, for Style 39500 TG -----	1
34B	39563 D	Needle Thread Eyelet, for Styles 39500 QJ, QL, SJ -----	1
35	22569 D	Screw, for needle thread eyelet -----	1
36	22848	Screw, for edge guide and folder on Style 39500 TY -----	2
37	39503 N	Edge Guide, for Style 39500 TY -----	1
38	23199 D	Folder, for Style 39500 TY -----	1
39	39503 A	Edge Guide Adjustable, for all Styles except 39500 QN, QV, RU, TY -----	1
40	604	Screw, for adjustable edge guide -----	2
41	39503 D	Edge Guide Swinging Arm, for all Styles except 39500 QN, QV, RU, TY -----	1
42	12957 E	Spring Washer, for edge guide swinging arm -----	1
43	22758 E	Screw, for edge guide swinging arm -----	1
44	22569 C	Screw, for edge guide mounting bracket -----	2
45	39503 C	Edge Guide Mounting Bracket, for all Styles except 39500 QN, QV, RU, TY -----	1
-	39503 M	Edge Guide Mounting Bracket, for Style 39500 TY -----	1
46	39592 AA	Needle Tension Nut, green -----	1
-	39592 AB	Upper Looper Tension Nut, blue, for all Styles except 39500 QJ, SJ -----	1
-	39592 AC	Lower Looper Tension Nut, red, for all Styles except 39500 TG -----	1
47	39592 AK	Tension Spring Ferrule, for all Styles except 39500 QJ, SJ, TG -----	3
-	39592 AK	Tension Spring Ferrule, for Styles 39500 QJ, SJ, TG -----	2
48	39592 AR-4	Upper and Lower Thread Tension Spring, for Styles 39500 QX, RP, RU, SR, SX -----	2
-	39592 AR-5	Upper and Lower Thread Tension Spring, for Style 39500 QN -----	2
-	39592 AR-8	Upper and Lower Thread Tension Spring, for Style 39500 TY -----	2
-	39592 AR-2	Needle Thread Tension Spring, for Styles 39500 QJ, SJ -----	1
-	39592 AR-4	Needle Thread Tension Spring, for Styles 39500 QL, TG -----	1
-	39592 AR-5	Needle Thread Tension Spring, for Styles 39500 QV, TY -----	1
-	39592 AR-8	Needle Thread Tension Spring, for Styles 39500 QN, QX, RP, RU, SR, SX -----	1
-	39592 AR-1	Upper Looper Thread Tension Spring, for Style 39500 QV -----	1
-	39592 AR-2	Upper Looper Thread Tension Spring, for Style 39500 TG -----	1
-	39592 AR-4	Upper Looper Thread Tension Spring, for Style 39500 QL -----	1
-	39592 AR-4	Lower Looper Thread Tension Spring, for Styles 39500 QJ, QV, SJ -----	1
-	39592 AR-8	Lower Looper Thread Tension Spring, for Style 39500 QL -----	1
49	39592 AD	Thread Tension Disc, for all Styles except 39500 QJ, SJ, TG -----	6
-	39592 AD	Thread Tension Disc, for Styles 39500 QJ, SJ, TG -----	4
50	39592 AF	Tension Disc Felt, for all Styles except 39500 QJ, SJ, TG -----	3
-	39592 AF	Tension Disc Felt, for Styles 39500 QJ, SJ, TG -----	2
51	39592 AL	Tension Post, for all Styles except 39500 QJ, SJ, TG -----	3
-	39592 AL	Tension Post, for Styles 39500 QJ, SJ, TG -----	2
52	8372 A	Washer, for tension post on all Styles except 39500 QJ, SJ, TG ----	3
-	8372 A	Washer, for tension post on Styles 39500 QJ, SJ, TG -----	2
53	39592 AH	Locating Nut, for tension post on all Styles except 39500 QJ, SJ, TG -----	3
-	39592 AH	Locating Nut, for tension post on Styles 39500 QJ, SJ, TG -----	2
54	22806 A	Screw, for tension post mounting bracket -----	1
55	39592 AG-3	Tension Post Mounting Bracket -----	1
56	39592 AM	Tension Post Bar -----	1
57	22847 B	Screw, for tension post mounting bracket -----	1



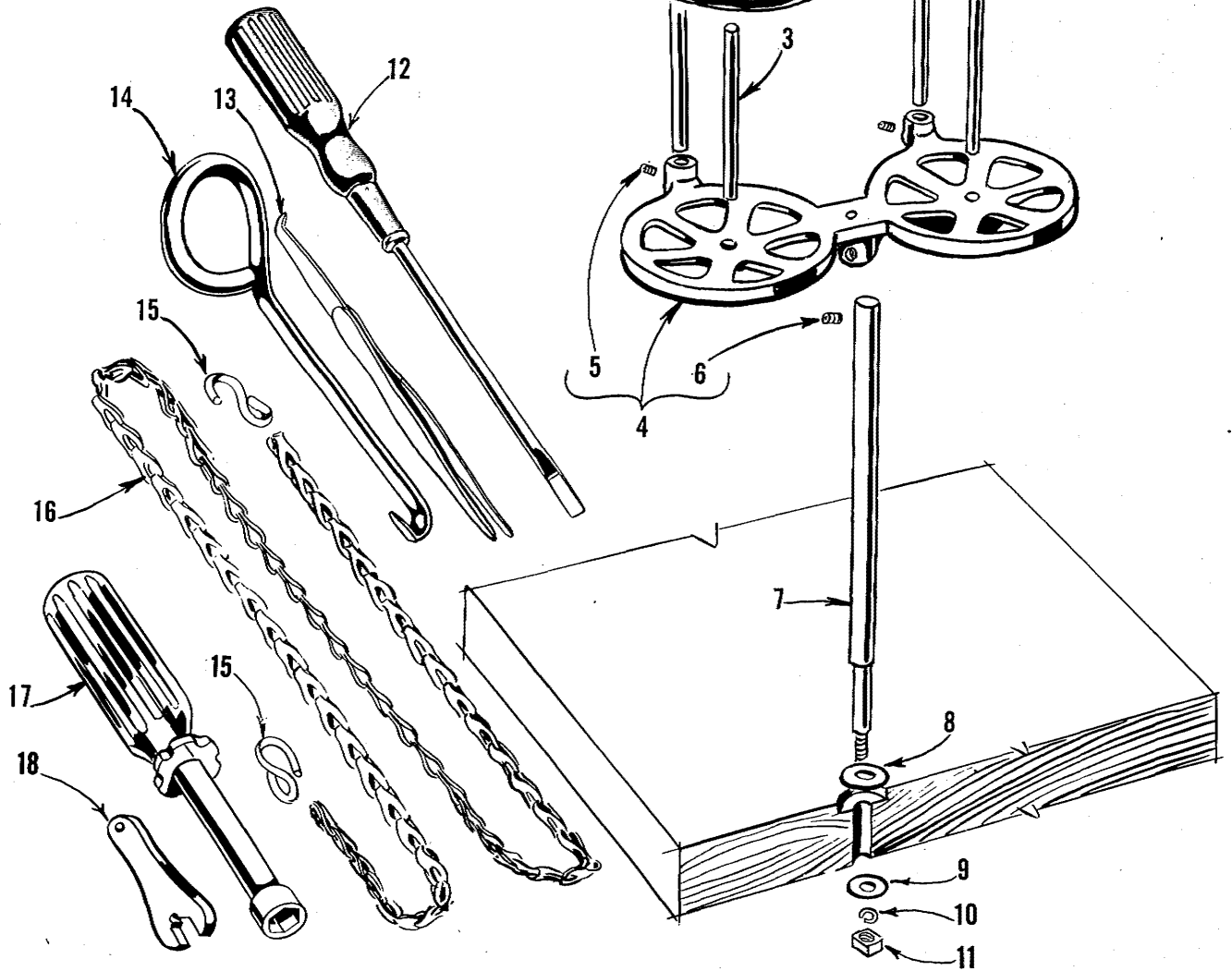
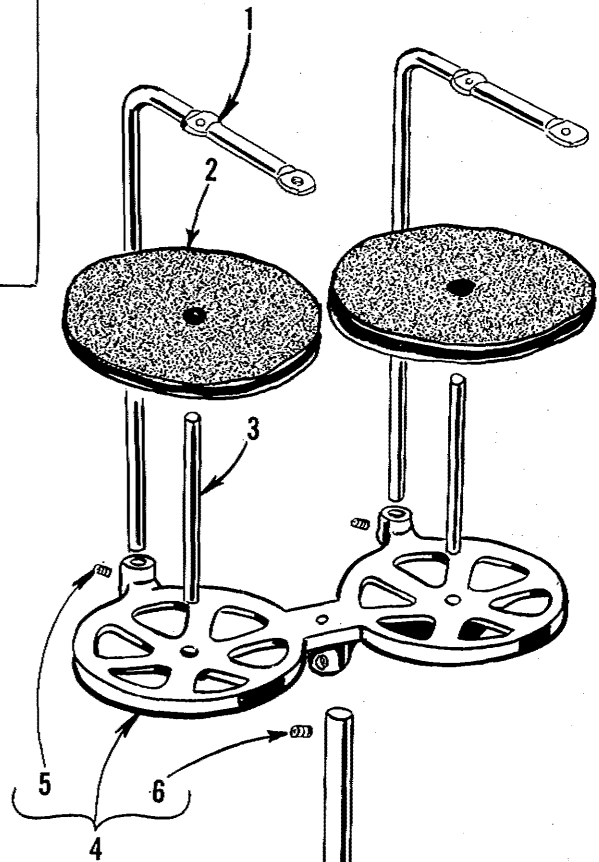
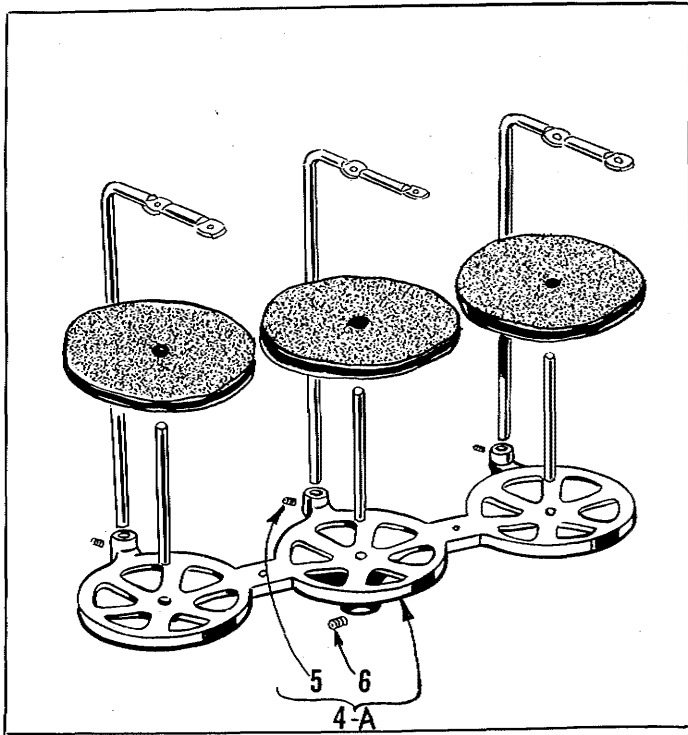
FEED DOGS, THROAT PLATES AND PRESSER FEET

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	39505 MG	Main Feed Dog, 22 t.p.i., for Style 39500 TG -----	1
2	39505 J	Main Feed Dog, 16 t.p.i., for Styles 39500 QJ, QL, RP --	1
-	39505 AJ	Main Feed Dog, 22 t.p.i., for Style 39500 SJ -----	1
3	39505 K	Chaining Feed Dog, marked "K", 16 t.p.i., for Styles 39500 QJ, QL, RP, RU -----	1
-	39505 AK	Chaining Feed Dog, marked "CF", 22 t.p.i., for Style 39500 SJ -----	1
4	39524 J	Throat Plate, for Styles 39500 QJ, QL, RP -----	1
-	39524 AJ	Throat Plate, for Style 39500 SJ -----	1
-	39524 MG	Throat Plate, for Style 39500 TG -----	1
5	39520 L	Presser Foot, for Styles 39500 QJ, QL, RP, SJ, TG -----	1
6	22768 B	Screw, for hinge spring -----	1
7	22819	Screw, for stitch tongue -----	1
8	39530	Hinge Spring -----	1
9	39597 L	Stitch Tongue, marked "DW" -----	1
10	39505 N	Main Feed Dog, 16 t.p.i., for Style 39500 QN -----	1
11	39505 U	Chaining Feed Dog, marked "H", 16 t.p.i., for Style 39500 QN -----	1
12	39524 N	Throat Plate, marked "AH-3/16", for Style 39500 QN ----	1
13	39520 N	Presser Foot, for Style 39500 QN -----	1
14	22768 B	Screw, for stitch tongue and hinge spring -----	1
15	39530	Hinge Spring -----	1
16	39597 N	Stitch Tongue, marked "DZ" -----	1
17	39505 V	Main Feed Dog, 16 t.p.i., for Style 39500 QV -----	1
18	39505 L	Chaining Feed Dog, marked "V", 16 t.p.i., for Style 39500 QV -----	1
19	39524 V	Throat Plate, marked "AP", for Style 39500 QV -----	1
20	39520 V	Presser Foot, for Style 39500 QV -----	1
21	39530 H	Chain Shield -----	1
22	22738	Screw, for chain shield -----	1
23	22768 B	Screw, for stitch tongue and hinge spring -----	1
24	39530	Hinge Spring -----	1
25	39597 V	Stitch Tongue, marked "ED" -----	1
26	39505 FX	Main Feed Dog, 16 t.p.i., for Style 39500 QX -----	1
-	39505 AE	Main Feed Dog, 22 t.p.i., for Style 39500 SX -----	1
27	39505 M	Chaining Feed Dog, marked "Y", 16 t.p.i., for Style 39500 QX -----	1
-	39505 AF	Chaining Feed Dog, marked "CJ", 22 t.p.i., for Styles 39500 SR, SX -----	1
28	39524 FX	Throat Plate, marked "CR", for Style 39500 QX -----	1
-	39528 X	Throat Plate, marked "BM", for Style 39500 SX -----	1
29	39520 FX	Presser Foot, for Style 39500 QX -----	1
-	39520 X	Presser Foot, for Style 39500 SX -----	1
30	87 U	Screw, for hinge spring -----	1
31	39530	Hinge Spring -----	1
32	28	Screw, for edge guide -----	1
33	39530 AB	Edge Guide, marked "S", for Style 39500 QX -----	1
-	39530 J	Edge Guide, marked "A", for Style 39500 SX -----	1
34	39530 AC	Presser Foot Bottom, marked "CA", for Style 39500 QX -----	1
-	39530 K	Presser Foot Bottom, marked "M", for Style 39500 SX -----	1



FEED DOGS, THROAT PLATES AND PRESSER FEET

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	39505 AU	Main Feed Dog, 16 t.p.i., for Style 39500 RU -----	1
2	39505 K	Chaining Feed Dog, marked "K", 16 t.p.i., for Styles 39500 QJ, QL, RP, RU -----	1
3	39524 AU	Throat Plate, marked "BG", for Style 39500 RU -----	1
4	39520 AU	Presser Foot, for Style 39500 RU -----	1
5	39530 G	Hinge Spring -----	1
6	22768 B	Screw, for hinge spring -----	1
7	39505 AM	Main Feed Dog, marked "CT", 22 t.p.i., for Style 39500 SR -----	1
8	39505 AF	Chaining Feed Dog, marked "CJ", 22 t.p.i., for Styles 39500 SR, SX -----	1
9	39524 AK	Throat Plate, marked "BX", for Style 39500 SR -----	1
10	39520 AJ	Presser Foot, marked "AV", for Style 39500 SR -----	1
11	39530 V	Presser Foot Bottom, marked "AV" -----	1
12	39530 W	Edge Guide, marked "H" -----	1
13	39530	Hinge Spring -----	1
14	87 U	Screw, for hinge spring -----	1
15	28	Screw, for edge guide -----	1
16	39505 BK	Feed Dog, 8 t.p.i., for Style 39500 TY -----	1
17	39524 AZ	Throat Plate, for Style 39500 TY -----	1
18	39520 AY	Presser Foot, for Style 39500 TY -----	1
19	39530 Y	Presser Foot Shank, marked "K" -----	1
20	22781	Clamp Screw -----	1
21	605	Screw, for cord guide -----	1
22	39530 AA	Cord Guide -----	1
23	39530 Z	Presser Foot Bottom -----	1
24	22799 F	Hinge Screw -----	1



THREAD STAND AND MISCELLANEOUS TOOLS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	21113 F	Thread Stand Eyelet, for Styles 39500 QJ, SJ, TG-----	2
-	21113 F	Thread Stand Eyelet, for Styles 39500 QL, QN, QV, QX, RP, RU, SR, SX, TY --	3
2	21104 V	Pad, for thread cone, for Styles 39500 QJ, SJ, TG-----	2
-	21104 V	Pad, for thread cone, for Styles 39500 QL, QN, QV, QX, RP, RU, SR, SX, TY -	3
3	69 S	Spool Pin, for Styles 39500 QJ, SJ, TG-----	2
-	69 S	Spool Pin, for Styles 39500 QL, QN, QV, QX, RP, RU, SR, SX, TY-----	3
4	21130 W-2	Cone Support, for Styles 39500 QJ, SJ, TG-----	1
4A	21130 W-3	Cone Support, for Styles 39500 QL, QN, QV, QX, RP, RU, SR, SX, TY-----	1
5	22650 CB-4	Screw, for thread stand eyelet-----	2 or 3
6	22650 CE-6	Screw, for cone support-----	1
7	21104 AA	Thread Stand Rod-----	1
8	652 J-24	Washer, for thread stand rod-----	1
9	652 J-16	Washer, for thread stand rod-----	1
10	WA9 A	Lock Washer, for thread stand rod-----	1
11	651 A-16	Nut, for thread stand rod-----	1
12	21202	Screwdriver, 3/16 inch (4.76 mm) diameter, 10 3/4 inches (273.05 mm) long overall (not furnished)-----	1
13	660-240	Thread Tweezers-----	1
14	21227 BF	Feed Eccentric Extractor Hook-----	1
15	660-264	"S" Hook, for treadle chain-----	2
16	421 D-34	Treadle Chain, 34 inches (863.00 mm) long-----	1
17	21388 AU	Socket Wrench, for 3/8 inch (9.52 mm) nut-----	1
18	116	Wrench, for 9/32 inch (7.14 mm) nut-----	1

Accessories Available As Extras (Not Illustrated)

660-458	Dust Cover (furnished with machine)
21233 HA	Light Fixture Assembly, including seal beam lamp, machine mounting for machines driven by "Electro Drive" which supplies the current.
21261 M-350	No. 1 "V" Belt, 35 inches (889.00 mm) circumference, for fully submerged individual power table installation.
21261 M-370	No. 1 "V" Belt, 37 inches (939.80 mm) circumference, for semisubmerged individual power table installation.
21261 M-390	No. 1 "V" Belt, 39 inches (990.60 mm) circumference, for non submerged individual power table installation.
21377 BP	Tray, 1 3/4 inches (44.45 mm) high, for semi submerged installation.
21695 U	Finger Protector
28604 R	Can of Oil, 16 fluid ounces of Spéc. 174 oil (furnished with machine).
39598	Knife Grinder, complete.
51278 F	Chip Disposal Chute.

	<u>Belt Slot To Right Edge of Board</u>	<u>Cloth Plate To Front Edge of Board</u>
21371 UH	Individual Power Table	
21371 PJ-48	14 inch (355.60 mm)	3/8 inch (9.52 mm)
21371 RD-48	7 1/2 inch (190.50 mm)	3 inch (76.20 mm)
21371 RF-48	7 1/2 inch (190.50 mm)	3/8 inch (9.52 mm)
21371 RJ-48	10 1/2 inch (266.70 mm)	2 1/4 inch (57.15 mm)
21371 RL-48	7 1/2 inch (190.50 mm)	2 1/4 inch (57.15 mm)
21371 WL-48	7 1/2 inch (190.50 mm)	2 1/4 inch (57.15 mm)
21371 RC-47 3/4	7 1/2 inch (190.50 mm)	3/8 inch (9.52 mm)
21371 RE-47 3/4	7 1/2 inch (190.50 mm)	3 inch (76.20 mm)
21371 RH-47 3/4	7 1/2 inch (190.50 mm)	2 1/4 inch (57.15 mm)

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

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

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 refilled.

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 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.

**U Union Special**

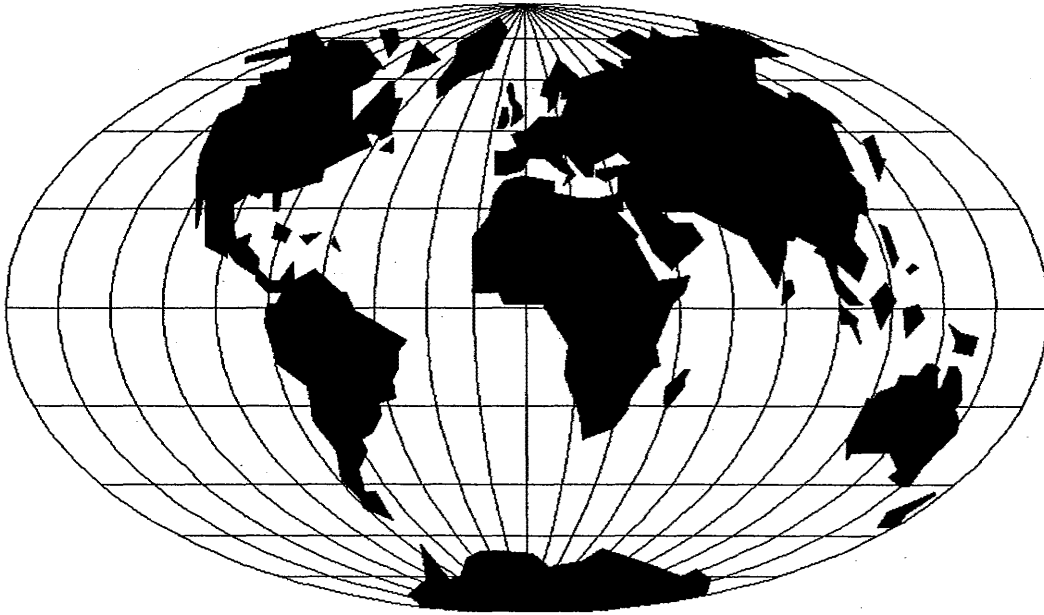
**Style 39500 OJ**

Suggested Minimum Spare Part Inventory

Part Number	Description	Minimum Quantity Per 5 Machines	Part Number	Description	Minimum Quantity Per 5 Machines
39520 L	Presser foot	1	14077	Nut for upper knife and needle clamp stud	2
39530	Presser foot hinge spring	2	39549 J	Lower knife	4
39597 L	Stitch tongue marked "DW"	1	22588 J	Screw for lower knife clamp	1
39505 J	Main feed dog, 16 TPI	1	39508 B	Lower looper	1
22528	Screw for main feed dog	2	39560 A	Upper spreader	1
39505 K	Chaining feed dog, 16 TPI, marked "K"	1	22564 G	Screw for upper spreader	2
22768 B	Screw for chaining feed dog	2	39551 F	Needle clamp stud	1
39524 J	Throat plate	1	22596 E	Screw for needle driving arm	2
22524	Throat plate screw	2	21225 1/8	Looper gauge	1
154 GAS	Needles (specify size)	100	29484	Screw assortment	1
39570 J	Upper knife	4			

\*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.





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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 service technicians are factory trained and are able to serve your needs promptly and efficiently. Whatever your location, there is a qualified representative to serve you.

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INDUSTRIAL SEWING EQUIPMENT