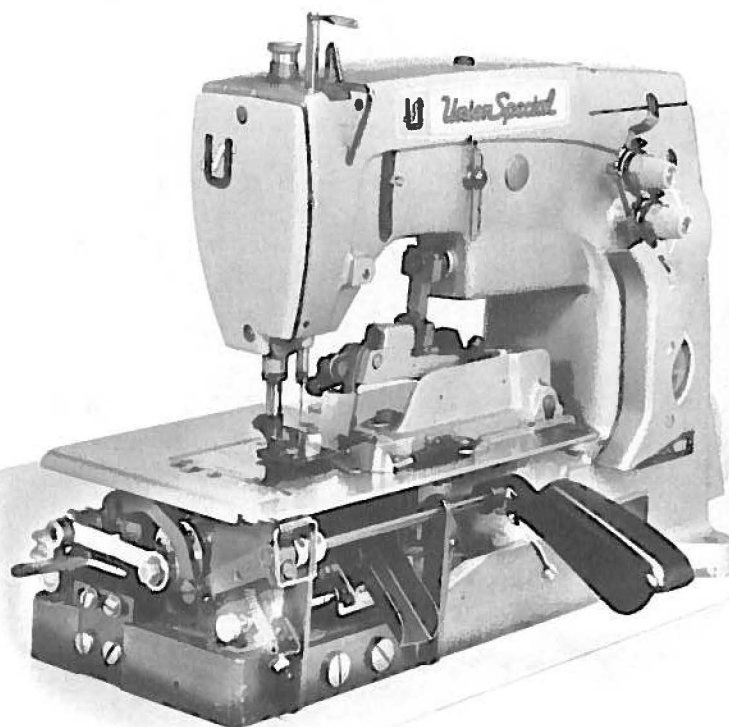


Union Special[®]
LEWIS[®] • COLUMBIA[®]

INDUSTRIAL
SEWING
MACHINES

STYLES
59400K
59400R



CLASS 59400

ADVANCED HIGH SPEED
FIFTY THOUSAND SERIES
LOOPER IN-LINE-OF-FEED
FLAT BED MACHINES
WITH PINKING ATTACHMENT

UNION SPECIAL CORPORATION

CHICAGO

From the library of: Superior Sewing Machine & Supply LLC

C a t a l o g N o . 1 3 6 M

I N S T R U C T I O N S

F O R

A D J U S T I N G A N D O P E R A T I N G

L I S T O F P A R T S

F o r S t y l e s

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U n i o n S p e c i a l C o r p o r a t i o n
R i g h t s R e s e r v e d i n A l l C o u n t r i e s

UNION SPECIAL CORPORATION

INDUSTRIAL SEWING MACHINES

CHICAGO

P r i n t e d i n U . S . A .

September, 1975

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 59400 K". 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 59400 KZ".

Styles of machines similar in construction are grouped under a Class number which differs from the style number, in that it contains no letter. Example: "Class 59400".

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 this Class. Reference to direction, such as right, left, front, back, etc., are given from the operator's position while seated at the machine. Operating direction of handwheel is toward the operator.

STYLES OF MACHINES

Advanced High Speed Single Needle Flat Bed Machine, Low Throw, With Looper Traveling in Line With Feed, Equipped With Pinking Attachment, Front Disposal of Trimmings. Light Weight Presser Bar and Weight Needle Bar Driving Mechanism, Needle Bearing Needle Bar Drive, Single Reservoir Enclosed Positive Automatic Lubricating System, Filtered Oil Return Pump for Head and Base, Large Handwheel and Improved Belt Guard. Equipped with Disc Type Thread Tensions.

59400 K-3/16 Equipped with reverse feed mechanism, for seaming and simultaneously pinking on women's slacks, street dresses, uniform dresses, slips, half slips, blouses, robes and similar garments made of light to medium weight material where back-tacking is required. Width of pink 3/16 inch (4.76 mm). Seam specification 401-SSa-1. Type 133 GS needle. Maximum recommended speed 5500 R.P.M.

59400 K-1/4 Same as Style 59400 K-3/16, except prepared for 1/4 inch (6.35 mm) width of pink and with parts furnished for 5/16 inch (7.94 mm) width of pink.

59400 K-3/8 Same as Style 59400 K-3/16, except prepared for 3/8 inch (9.52 mm) width of pink and with parts furnished for 1/2 inch (12.70 mm) width of pink.

59400 K-5/8 Same as Style 59400 K-3/16, except prepared for 5/8 inch (15.88 mm) width of pink and with parts furnished for 3/4 inch (19.05 mm) width of pink.

59400 R-3/16 Equipped with upper driven close-coupled puller, for seaming and simultaneously pinking on women's slacks, street dresses, uniform dresses, slips, half slips, blouses, robes and similar garments made of light to medium weight material. Width of pink 3/16 inch (4.76 mm). Seam specification 401-SSa-1. Type 133 GS needle. Maximum recommended speed 5500 R.P.M.

59400 R-1/4 Same as Style 59400 R-3/16 except prepared for 1/4 inch (6.35 mm) width of pink and with parts furnished for 5/16 inch (7.94 mm) width of pink.

59400 R-3/8 Same as Style 59400 R-3/16 except prepared for 3/8 inch (9.52 mm) width of pink and with parts furnished for 1/2 inch (12.70 mm) width of pink.

STYLES OF MACHINES (Continued)

59400 R-5/8 Same as Style 59400 R-3/16 except prepared for 5/8 inch (15.88 mm) width of pink and with parts furnished for 3/4 inch (19.05 mm) width of pink.

NOTE: Fraction denotes the width of pink, measured from centerline of needle to point of pinking knife.

NEEDLES

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

Standard needle for Styles 59400 K and R is Type 133 GS. It has a round shank, round point, short, double groove, struck groove, spiral groove, ball eye, spotted, chromium plated and is available in sizes 032, 90/036, 100/040, 110/044, 049, 054.

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 133 GS, Size 036".

Selection of the proper needle size should be determined by the size of thread used. Thread should pass freely through the 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.

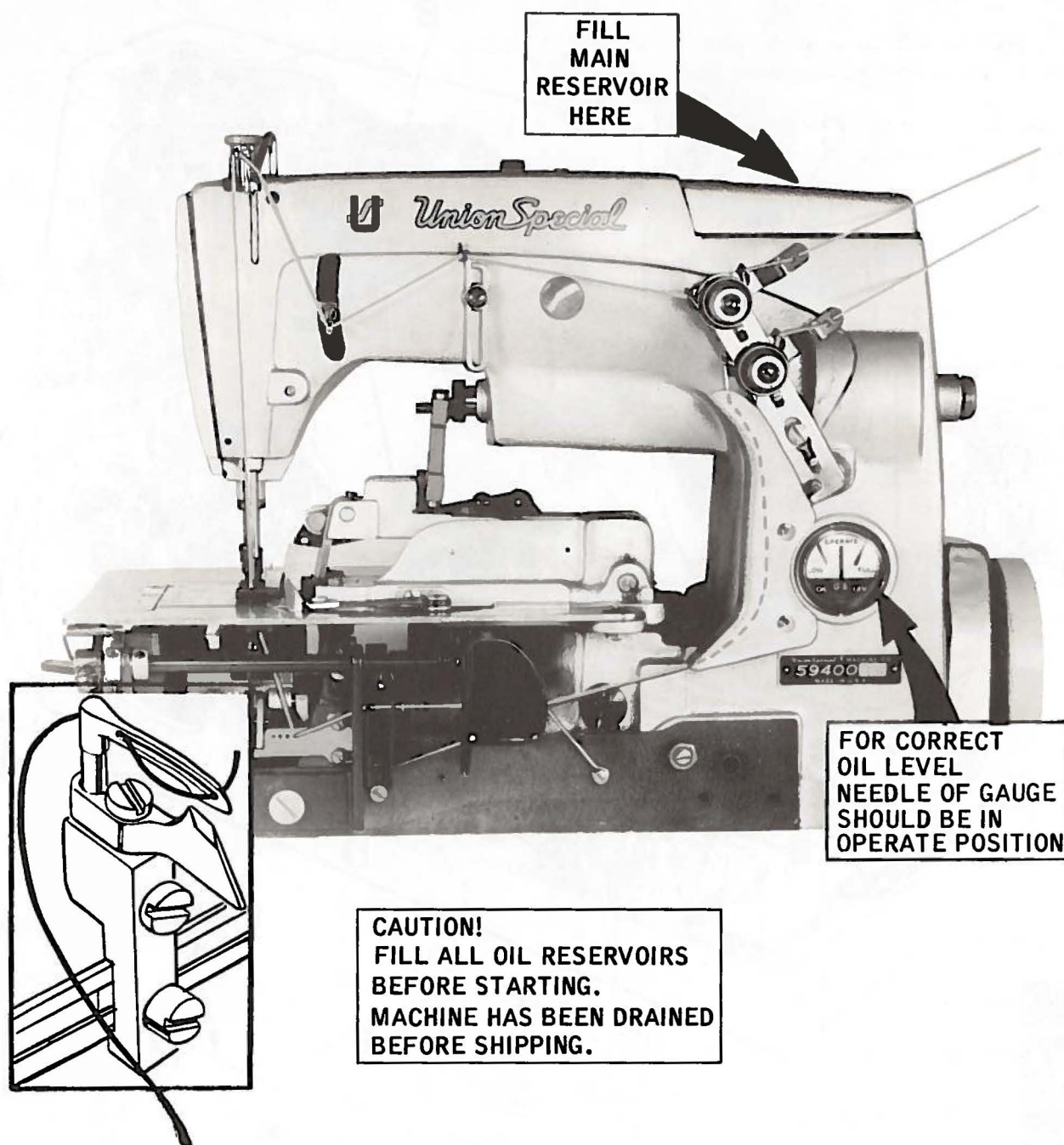
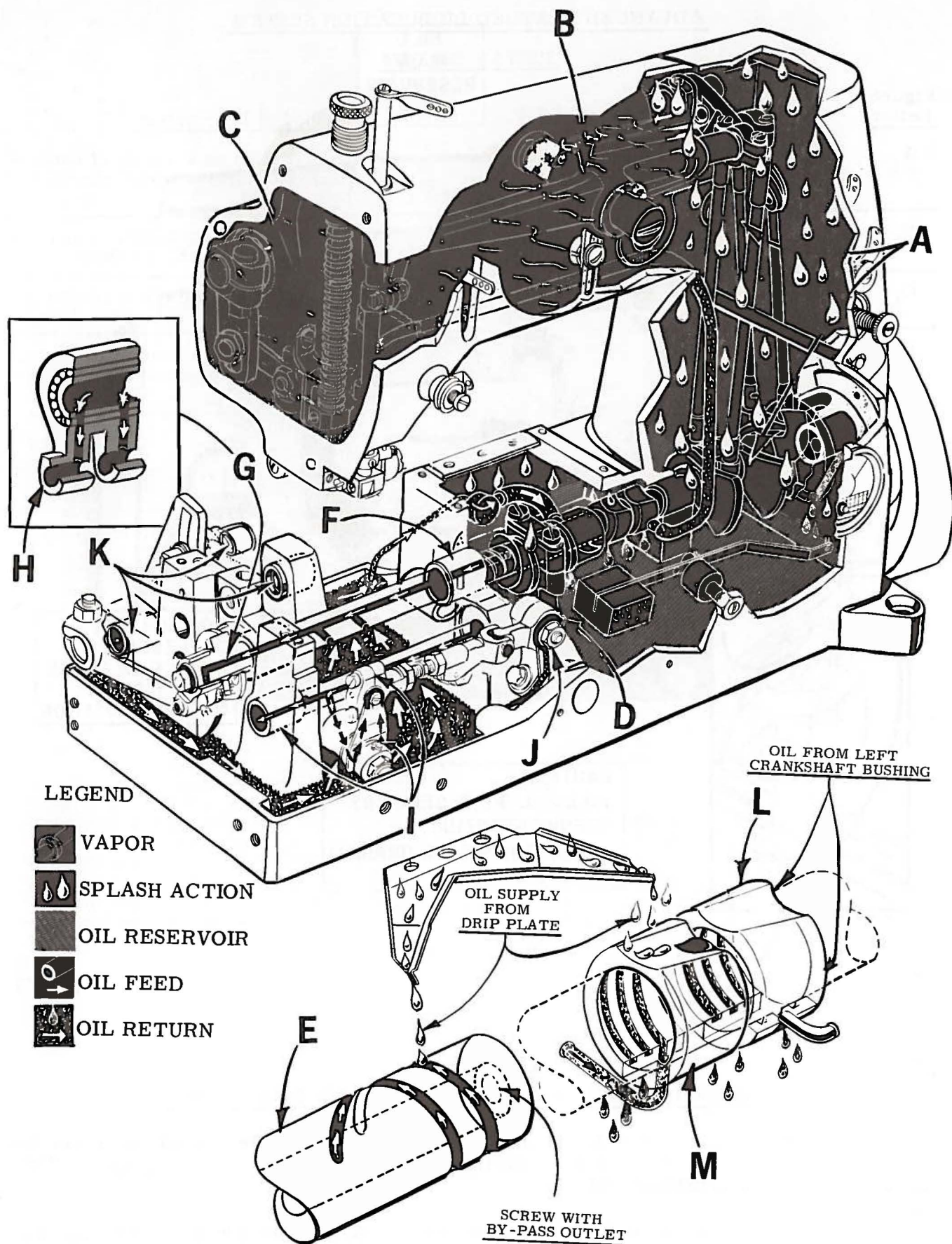


Fig. 1

THREADING AND OILING DIAGRAM FOR STYLES 59400 K AND R

While machine is in operation the needle of the oil gauge should be in the band marked "OPERATE". For further lubricating instructions refer to paragraph on "LUBRICATION" and "RECOMMENDED OIL".

Thread machine in accordance with the threading diagram above. Note that the needle is inserted in the needle bar with the eye in a plane at right angles to the direction of line-of-feed, the spot or scarf to the left, and is threaded from right to left. Also note that the looper is threaded from back to front.



ADVANCED FLATBED LUBRICATION SYSTEM

SUPPLY SYSTEM

| <u>Figure Letter</u> | <u>Bearing or Machine Area</u> | <u>Method of Lubrication</u> |
|----------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A. | Crankshaft drives, upper ball straps and crankshaft bearings. | Oil agitation as a result of extensions on needle lever connecting rods. |
| B. | Needle lever cross shaft bearing. | Oil trough (51282 AE) which is supplied by splash in column area. |
| C. | Head area (all mechanisms and bearings). | Mist as a result of splash in column. |
| D. | Looper drive crank, looper drive lever bearings. | Oil agitation as a result of splasher (56343 E) on bottom of looper drive connecting rod. |
| E. | Opposing Helical grooves in right end of mainshaft. Short groove prevents oil leakage from right mainshaft bearing. | Oil drip plate which accumulates splash in chamber. |
| F. | Right mainshaft bearing. | Supply grooves in right end of mainshaft. |
| G. | Left mainshaft bearing and all eccentric bearings located on mainshaft. | Oil supplied from hollow mainshaft and metered by felt plugs. Oil is introduced into center of shaft in the right mainshaft bearing area. Amount of lubricant in center of shaft controlled with by-pass hole in right end of mainshaft. |
| H. | Lower ends of connecting rods of mainshaft eccentrics. | Oil run-out from eccentric bearing supplies. |
| I. | Looper cone, right and left looper rocker shaft bearings, and left looper rod ball joint. | Supplied from hollow looper rocker shaft which contains 4 strands of yarn as a metering device. |
| J. | Right looper rod needle bearing joint. | Oil supplied from front base felt to lubricating plate (56393 K). |
| K. | Feed rocker shaft and upper feed rocker shaft bearings. | Self-lubricated bearings. |

RETURN SYSTEM

| <u>Figure Letter</u> | <u>Machine Area</u> | <u>Method of Return</u> |
|----------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| L. | Head | Felt pad in head collects oil. Return pump located on crankshaft and primed by oil from left crankshaft bearing. |
| M. | Base | Felt pad in base collects oil. Second return pump located on crankshaft and primed by oil drip plate which accumulates splash in looper drive chamber. |

INSTRUCTIONS FOR MECHANICS

LUBRICATION

CAUTION! Oil has been drained from the main reservoir before shipment, so the reservoir must be filled to the proper level as indicated on oil gauge (A, Fig. 2) before beginning to operate. Run machine slowly for several minutes to distribute the oil to the various parts. Full speed operation can then be expected without damage.

RECOMMENDED OIL

Use a straight mineral oil of a Saybolt viscosity of 90 to 125 seconds at 100° Fahrenheit in the main reservoir. This is equivalent to Union Special specification No. 175. Fill main reservoir at plug screw in upper crank chamber cover (B, Fig. 2) and check oil level at gauge (A). Oil is at maximum safe operating level when needle is to the black line, located to the right of "OPERATE" zone, marked "FULL". Oil should be added when needle is to the black line, located to the left of "OPERATE" zone, marked "LOW". The recommended oil is available in 16 fluid ounce cans No. 28604 R.

CAUTION! It is important that these machines not be over filled.

It is recommended that a new machine, or one that has been out of service for an extended period be lubricated as follows: Remove the head cover, clean out lint and directly oil the needle bar link and the needle bar. Replace head cover as no further hand oiling will be required. Run machine slowly for several minutes to distribute oil to the various parts.

For machines in operation check the oil for dirt and lint deposits at reasonable intervals. If dirty, change the oil. An oil change is recommended every 2000 operating hours. Oil may be drained from main reservoir by removing plug screw (C, Fig. 2) located below the cloth plate at front of the machine, or by removing the lower crank chamber cover, located at the back of machine.

NOTE: The take-up drive and feed lift eccentric receive oil thru the mainshaft, so when assembling be sure oil holes in the eccentric lines up with oil holes in mainshaft when spot screw is in time spot.

The machine is almost entirely automatically lubricated, and no oiling other than an occasional drop of oil between the loop retainer driving arm, upper and lower retainer arm supports, the looper throw-out pin, and looper holder frame locking pin, are required.

NOTE: All moving parts of the pinking attachment to be oiled twice daily. Oil knife lever shaft front and rear, also oil two oil holes for lubricating both sides of lever bearings and knife

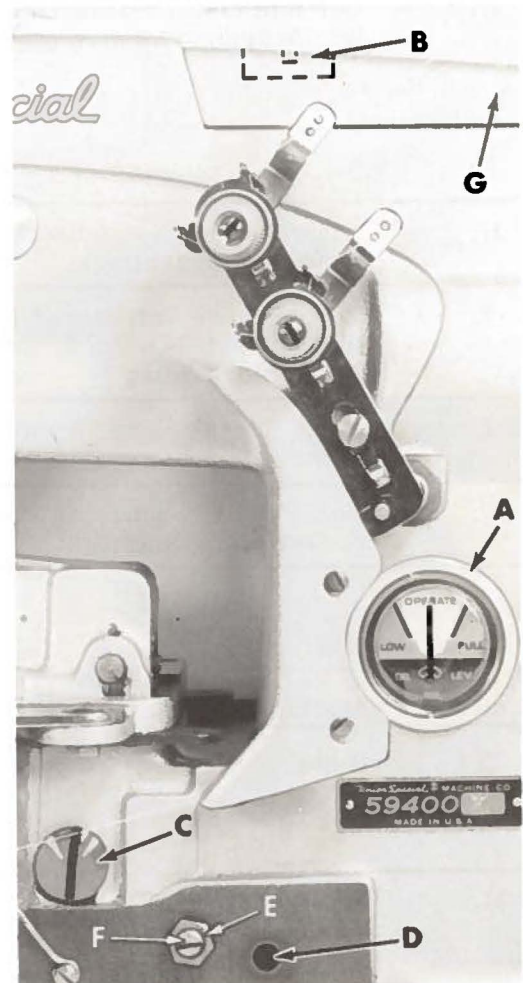


Fig. 2

RECOMMENDED OIL (Continued)

holer shaft. Major pinker oiling points are marked in RED on the attachment.

OIL GAUGE

The oil gauge is set at the factory to show the proper oil level in the reservoir. Should an adjustment become necessary, however, the following steps should be followed:

1. Place the machine upright on a level table or bench.
2. Remove the oil reservoir plug screw (C, Fig. 2) and tip machine forward to drain oil from the reservoir.
3. Make sure all oil is drained from the main reservoir.
4. Remove lower crank chamber cover, located at the back of the machine.
5. Fill main reservoir to a level even with the bottom contour of the knee press shaft bushing (D, Fig. 2).
6. Loosen lock nut (E) on calibrating screw (F), and turn the screw to the left or right until the gauge needle rests on the black line, located to the left of "OPERATE" zone, marked "LOW".
7. Tighten lock nut (E) and replace plug screw (C) and lower crank chamber cover.
8. Add oil so that gauge needle rests on the black line, located to the right of "OPERATE" zone, marked "FULL".

NEEDLE LEVER BEARING OILER

Remove the head cover and upper crank chamber cover (G, Fig. 2). Check position of needle lever bearing oiler (A, Fig. 3) located inside the arm casting, below the upper crank chamber cover, which lubricates the needle lever stud (B). Make sure it is tilted downwardly and that its delivery end (C) contacts the inside wall of the bed casting at the back, just above the notch of the needle lever shaft stop collar. (Do not allow the oiler to rest on the needle lever). Allow 1/64 inch (.40 mm) clearance as in Figure 3.

ADJUSTING THE FEED MECHANISM WITH A GAUGE (FOR STYLE 59400 K ONLY)

Put in a new needle of proper type and size.

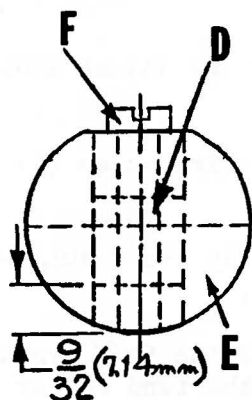


Fig. 4A

Place throat plate support and throat plate support shim on the bed to check that the needle enters the throat plate slot in the middle. Then, remove these parts for adjusting the looper and mounting of gauge for setting the feed mechanism.

The feed mechanism is set in the assembly department by using gauge No. G21227 L (A, Fig. 4). To adjust feed rocker segment (B), loosen nut (C). (CAUTION! NUT HAS A LEFT HAND THREAD). Adjust the feed crank stud (D) in the slot of main shaft (E) by the regulating screw (F) so that the pin (G) of the gauge fits into the hole of the feed rocker shaft, when the upper part of the segment of the rocker (B) is in its end

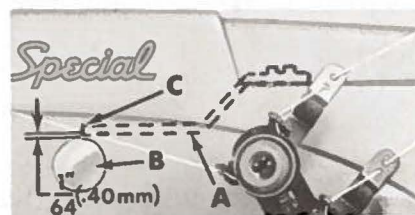


Fig. 3

ADJUSTING THE FEED MECHANISM WITH A GAUGE (Continued)
(FOR STYLE 59400 K ONLY)

position to the needle. Tighten nut (C). Loosen clamp screw (H) located to the right of casting wall, and place distance gauge (J), "marked V", in the segment of the feed rocker (B) and press the sliding block against the distance gauge (J). Move lever (K) until the head of screw (L) contacts stop (M) of the gauge. Tighten screw (H), then set stop ring (N) against lever (P).

For the adjustment of reverse feed, place distance gauge (Q) "marked R", in the segment of the rocker (B). Move the sliding block with the knee press against the distance gauge (Q) and set the stop ring (R) against lever (P).

After this adjustment the stitch length should be about 8 1/2 stitches per inch in both directions. For correction, reset stop ring (N).

ADJUSTING THE FEED MECHANISM WITHOUT GAUGE
(FOR STYLE 59400 K ONLY)

CAUTION! BE SURE THAT THERE IS 1/32 INCH (.79 mm) SPACE BETWEEN THE FEED ROCKER SEGMENT (B, Fig. 4) AND THE BED AT THE LARGEST STITCH LENGTH.

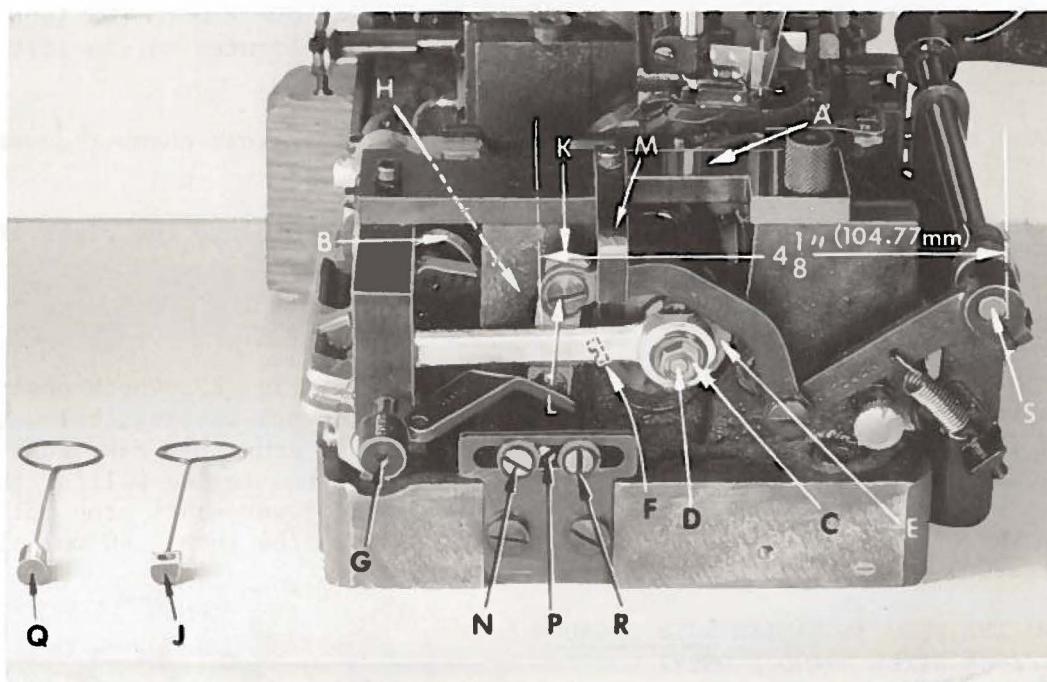


Fig. 4

If a larger stitch length than 8 1/2 stitches per inch is needed, re-adjust stop ring (N) to the rear.

All other stitch length changes must be made by the stitch regulating screw (F) after loosening nut (C) on feed crank stud (D).

First adjust the feed rocker segment (B) to the largest movement by the regulating screw (F) after loosening nut (C). (CAUTION! NUT HAS LEFT THREAD).

The distance from the main shaft head (E, Fig. 4A) to the head of the feed crank stud (D) should be 9/32 inch (7.14 mm) (Fig. 4A). As the movement of the feed rocker segment is limited by the bed, make sure that the free space between the segment (B) and the bed is not less than 1/32 inch (.79 mm).

ADJUSTING THE FEED MECHANISM WITHOUT GAUGE (Continued)
(FOR STYLE 59400 K ONLY)

For adjusting the sliding block turn handwheel until the top part of the segment (B) is in its end position to the needle. Loosen screw (H), place a pin of 1/4 inch (6.35 mm) diameter (e.g. a drill of 1/4 inch dia. or 6.35 mm dia.) between the sliding block and the upper end of the segment. When the sliding block is pressed against this pin, set the lever (K), so that the distance between outer edges of the head of screw (L) and the shaft (S) is 4 1/8 inches (104.77 mm). Tighten screw (H) and set the stop ring (N) against lever (P).

For adjusting the reverse feed place a pin of 5/16 inch (7.94 mm) diameter in the lower part of segment (B). Move the sliding block with the knee press against the pin of 5/16 inch (7.94 mm) diameter and set the stop ring (R) against the lever (P).

After this adjustment the stitch length should be about 8 1/2 stitches per inch in both directions. For correction, reset stop ring (N).

**SETTING THE LOOPER
AND NEEDLE GUARD**

With the needle guard (A, Fig. 5) attached to the looper holder (B), insert looper (C) in looper holder as far down as its shank will permit, with its point towards the operator. The right side of the looper blade should be at right angles to the centerline of the mainshaft and the needle guard should be as far to the right as possible. Tighten screw (D). Loosen screw (E) and position looper holder so that the point of the looper when moving forward, passes the left side of the needle as close as possible without picking at the needle (.003 inch or .076 mm). Retighten screw (E). Set the looper holder frame (A, Fig. 6)

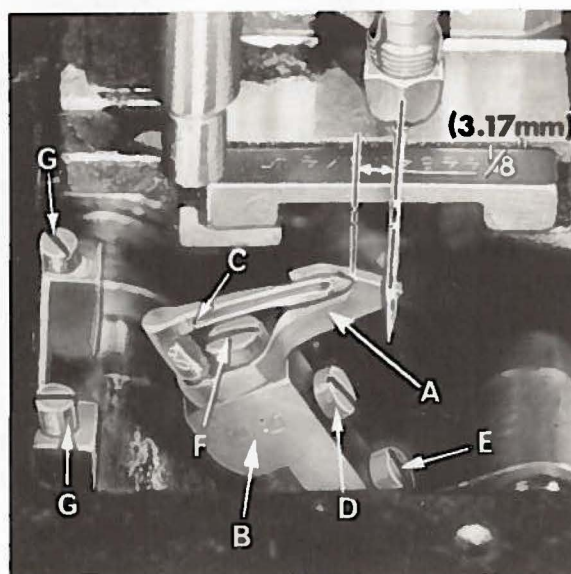


Fig. 5

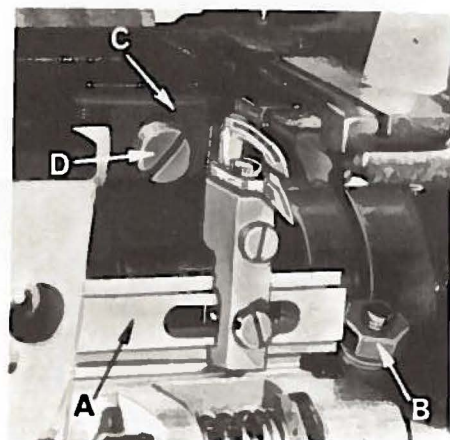


Fig. 6

so the distance between the centerline of the needle and the point of the looper is 1/8 inch (3.17 mm) when the looper is at its farthest point of travel to the rear (Fig. 5). This can be accomplished by loosening the hexagon nut (B, Fig. 6) in the looper holder frame driving arm. Move the looper holder frame (A) towards the front or rear as required and retighten nut (B). Looper gauge No. 21225-1/8 can be used advantageously in making this adjustment. Set the needle guard (A, Fig. 5) so that it barely contacts the needle and tighten screw (F).

SETTING HEIGHT OF NEEDLE BAR

Insert a new needle, type and size as specified, with the spot or scarf to the left. A preliminary setting of 1/4 inch (6.35 mm) from the point of the needle to the top surface of the throat plate, when the needle bar is at its highest position is sufficient. This can be accomplished by removing the head cover from the left end of the machine, loosen screw (A, Fig. 7), move needle bar (B) up or down as required and retighten screw.

NOTE: After the looper, retainer and needle guard have been set, the needle bar height must be rechecked to assure that the point of the looper comes in at 1/32 inch (.79 mm) above the top of the needle's eye. Should adjustment be required, reset needle bar height as described above.

SETTING THE FEED DOG (FOR STYLE 59400 K)

Set the feed dog (A, Fig. 8) so that there is equal clearance on all sides in the throat plate. The tips of the teeth should extend the depth of a tooth above and be parallel in both planes with the top of the throat plate at high point of travel. This can be accomplished by loosening the feed dog mounting screw (B), raise or lower screws (C) as required to correct the height and parallelism across-the-line-of-feed. Retighten screw (B). Loosen screw (A, Fig. 9) and move the feed bar tilt extension (B) up or down as required to correct the parallelism of the feed dog to the throat plate in-the-line-of-feed. Retighten screw (A).

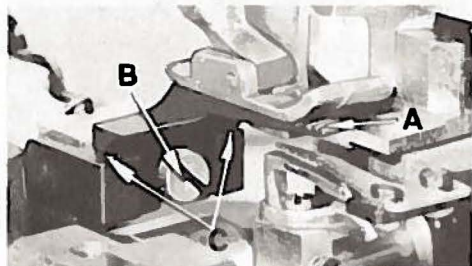


Fig. 8

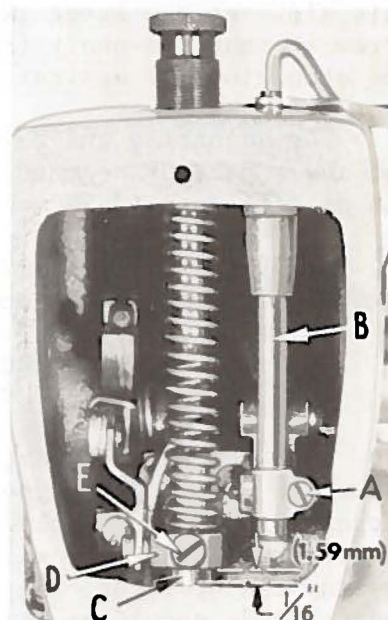


Fig. 7

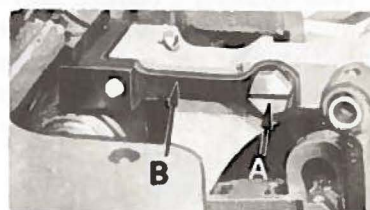


Fig 9

SETTING THE FEED DOG (FOR STYLE 59400 R)

Set the feed dog (C, Fig. 6) so there is equal clearance on all sides in the throat plate. See that the tips of the teeth extend the depth of a tooth and parallel in both planes with the top of the throat plate at highest point of travel. Loosen screw (D) which secures the feed dog in position, adjust screws (G, Fig. 5) as required to attain correct height and parallelism across-the-line-of-feed, retighten screw (D, Fig. 6). Loosen screw (A, Fig. 10) and adjust screw (B) as required to attain parallelism of feed dog to throat plate in-line-of-feed, retighten screw (A).

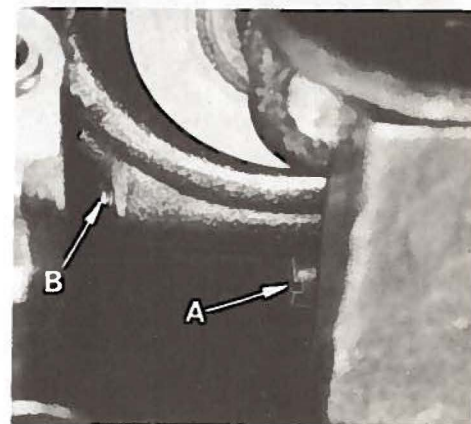


Fig. 10

TIMING THE RETAINER

With the pinker and its base removed and the needle bar at the bottom of its stroke, the timing mark on the face of the vertical drive crank (A, Fig. 11) must line up with the timing mark on the oil reservoir top cover (B). This can be accomplished by removing the access plug screw (C), inserting screwdriver and loosening screws in driven gear on the vertical shaft, rotate vertical drive crank by hand to align the timing marks and retighten screws in driven gear securely.

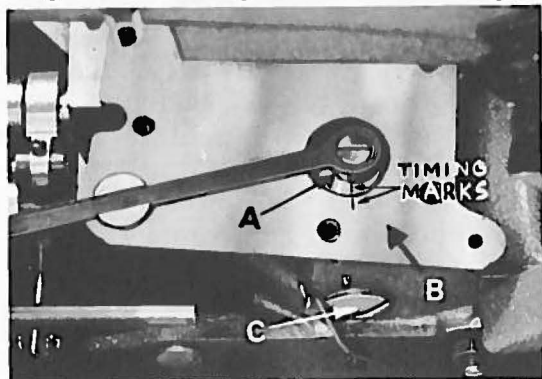


Fig. 11

SETTING THE RETAINER

With the needle bar at the bottom of its stroke the retainer point (A, Fig. 12) should be set so that it is even with the front of the needle and 1/32 inch (.79 mm) to the right of the needle (Fig. 12). This can be accomplished by loosening screws (B), reposition retainer as required and retighten screws (B). Rotate hand-wheel in operating direction to be sure that the underside of the retainer clears the highest point of the looper by .010 to .015 inch (.254 to .381 mm). Adjustment can be made by raising

or lowering the retainer arm support (C). This can be accomplished by first loosening screws (D and E), then raising or lowering retainer arm support to obtain the .010 to .015 inch (.254 to .381 mm) clearance between the underside of the retainer and the highest point of the looper. Hold retainer arm support in this position and tighten screw (D). Now lower the upper retainer arm support (F) down on top of retainer arm (G) and tighten screw (E). DO NOT clamp retainer arm, it should move freely.

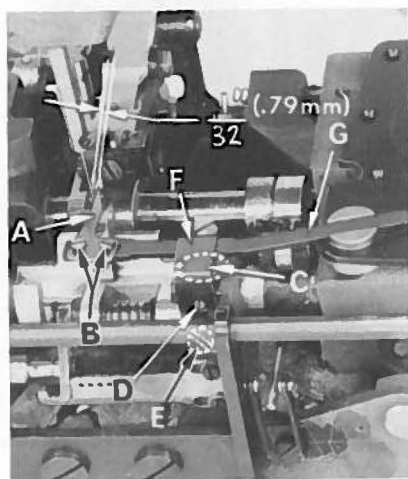


Fig. 12

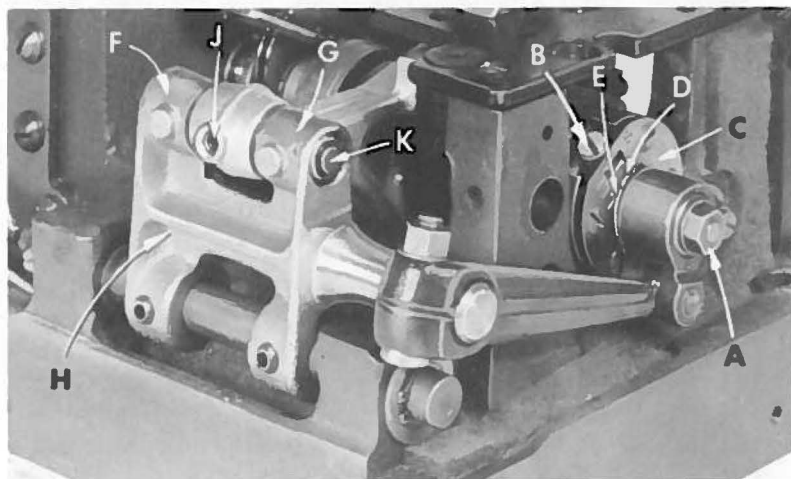


Fig. 13

CHANGING STITCH LENGTH (FOR STYLE 59400 R)

Set the stitch to required length. This is accomplished by loosening the locknut (A, Fig. 13) 1/2 turn (it has a left hand thread) on the end of the stitch regulating stud and turning the stitch adjusting screw (B) located under the left end of the cloth plate, in the head of the main shaft (C), which is marked with "L" and "S". Turning the screw clockwise shortens the stitch (moves stitch regulating stud toward the "S") and turning it in a counterclockwise direction lengthens the stitch (moves stitch regulating stud toward the "L"). Retighten the locknut securely. To

CHANGING STITCH LENGTH (Continued)
(FOR STYLE 59400 R)

prevent destructive damage to the feed drive bearing, the Key screw (D) must engage the "U" shaped key slot in the ferrule (E).

The needle bearings (F & G, Fig. 13) in the feed rocker (H) should be checked and lubricated once a year. This can be accomplished as follows. Loosen allen screw (J, Fig. 13) and remove shaft (K) Now, repack bearings.

When packing bearings, the parts must be clean and grease should be applied directly from the tube to avoid contamination. Tube of grease can be supplied under the part number 28604 P. Greased bearings are located at (F & G, Fig. 13). If grease sealed bearings are replaced they should be pressed in flush with the casting. To assemble, start tapered end of shafts first, twisting slightly when entering the grease seals to prevent damage.

THREAD TENSIONS

The tension on the needle thread should only be as tight as necessary to pull up a good stitch and to avoid puckering the fabric. The tension on the looper thread should be barely sufficient to steady the thread.

THREAD TENSION RELEASE

The thread tension release is set correctly when it begins to function as the presser foot is raised to within 1/8 inch (3.17 mm) of the end of its travel and is entirely released when the presser foot has reached its highest position. If adjustment is required, loosen the tension release lever screw (A, Fig. 14) located at the rear of the machine next to the presser foot lifter lever (B) and reposition the tension disc separator as required. Retighten screw (A) assuring that there is no bind at any point.

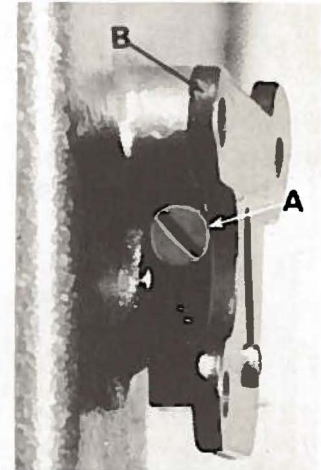


Fig. 14

SETTING HEIGHT OF PRESSER BAR

The height of the presser bar (C, Fig. 7) is set correctly if it is possible to remove the presser foot when the foot lifter lever (B, Fig. 14) is fully depressed. Also there should be approximately 1/16 inch (1.59 mm) clearance between lower surface of the presser bar connection and guide (D, Fig. 7) and the bottom surface of head opening in the bed, when the foot lifter lever is released and the presser foot resting on the throat plate, with the feed dog down below the throat plate.

If adjustment is needed, turn handwheel in operating direction until the needle bar is in the low position. Loosen screw (E). Then, while holding presser foot down on the throat plate surface, pry up presser bar connection and guide with a screwdriver to obtain the 1/16 inch (1.59 mm) setting and tighten screw (E). Check setting by turning handwheel so that needle bar is in its high position and see if presser foot can be removed as mentioned in previous paragraph.

PRESSER FOOT PRESSURE

Regulate the presser spring regulating screw (A, Fig. 15) so that it exerts only enough pressure on the presser foot to feed the work uniformly when a slight tension is placed on the fabric. This is the knurled screw, located directly behind the needle bar in the head of the machine. Turning it clockwise increases the pressure, counterclockwise acts the reverse.

ADJUSTING NEEDLE THREAD TAKE-UP WIRE AND THREAD EYELETS

Set the needle thread take-up wire (B, Fig. 15) located adjacent to the needle bar thread eyelet (C) so that its upper surface is even with the top of the hole in the needle bar thread eyelet when the needle bar has completed its downward stroke. Lower this setting for a smaller needle thread loop, or raise it for a larger loop. Set the needle thread frame eyelet (D) as high as possible without pulling thread through the tensions on the down stroke of the needle bar, yet so all thread is pulled through the tension post eyelet when the needle bar has completed its upward stroke.

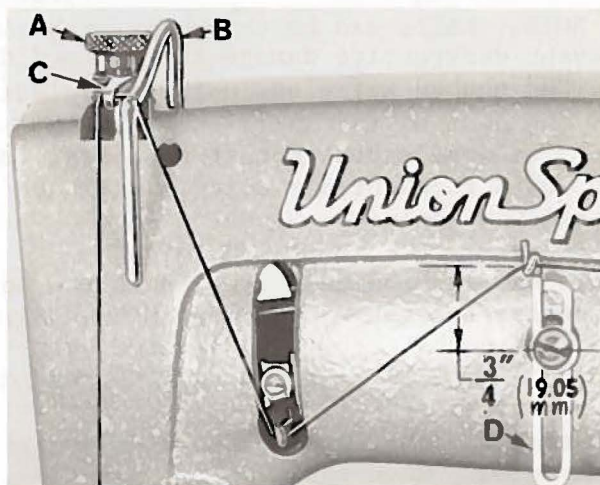


Fig. 15

The looper thread take-up eyelet should be set so that the take-up begins to function when the looper starts its travel to the rear. Raising the eyelet increases the amount of thread in each stitch and also increases the ballooned appearance of the stitch, which increases its elasticity and reduces its tendency to cause puckering in the seam.

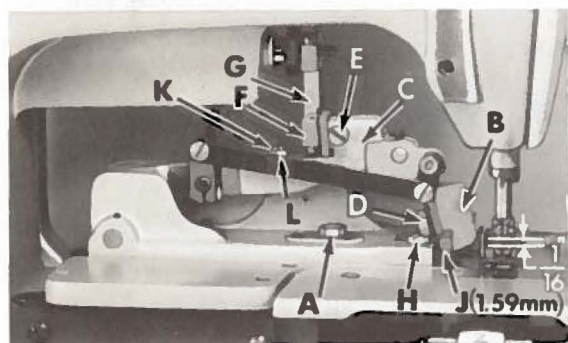


Fig. 16

PINKER ADJUSTMENTS

SETTING WIDTH OF PINKER

Loosen screw (A, Fig. 16) which secures the base of the pinker attachment to the machine and move pinker as required. Moving it to the left decreases the width of pink and moving to the right increases the width of the pink. For extreme variations it may be necessary to remove the pinker from the machine and select from a combination of throat plates, feed dogs, knives and spacer which

are available to compensate for spacing acquired between the throat plate and lower knife when changing the width of pink.

NOTE: The width of pink is measured from the centerline of the needle to the point of the pinking knife.

SETTING THE UPPER KNIFE

Set the upper pinking knife (B, Fig. 16) so its point is 1/16 inch (1.59 mm) below top edge of lower knife when pinker arm (C) is at its lowest point of travel. For this adjustment, make a pencil line on upper knife, 1/16 inch (1.59 mm) from lower front point (Fig. 16), loosen screw (D) and turn handwheel in operating direction until the pinker arm is at its lowest point of travel. Now, set the 1/16 inch (1.59 mm) pencil line on upper knife so it coincides with top edge of lower knife. Tighten screw (D).

SETTING THE UPPER KNIFE (Continued)

NOTE: Knife can be sharpened on both ends and can be reversed.

When resharpening the upper knife, do not destroy the "V" shape of the knife. Grind the ends of the knife only. DO NOT GRIND THE SIDES. After grinding, the edges should be stoned keen and smooth, free from all burrs. This is important inasmuch as a rough or burred edge will not last long and may damage the cutting edge of the lower knife.

It should be noted, also, that the ends of the knife are on an angle with the back of the knife. Do not change this angle.

SETTING THE LOWER KNIFE

Generally the lower knife does not require sharpening every time the upper knife is sharpened. When resharpening is necessary, loosen screw (E, Fig. 16) and back out ball stud (F) to disconnect the ball joint connection rod assembly (G). Remove screw (A, Fig. 16) allowing removal of the pinker attachment. Remove screws (H) which hold the lower knife (J). The knife may be sharpened on the side of a wheel. Touch it very lightly so only a slight amount of metal is removed. DO NOT grind the inside of the "V". Grind top surface only. When replacing the lower knife be sure that the upper knife is positioned so that its holding screw is at the top of its slot. Do not tighten the lower knife holding screws (J) securely. Bring the cutting edges into contact so the point of the upper knife is just below the top surface of the lower knife. Now gently press the lower knife moving it to right or left as required to obtain equal spacing between the cutting edges of the upper knife and the inside edges of the opening of the lower knife. Now tighten the lower knife holding screws (J) securely. Replace pinker on the machine after assuring that all foreign matter has been removed from the pinker base and its support. Recheck "Setting The Upper Knife".

SPRING PRESSURE ON UPPER KNIFE

The pressure applied on the cutting edges is controlled by the Allen Socket screw (K, Fig. 16) which is locked in position by nut (L). If the knives are not cutting clean, a slight increase of pressure will generally remedy the fault. It is to be noted that to insure long knife life, only the minimum amount of pressure necessary to obtain a clean cut should be used.

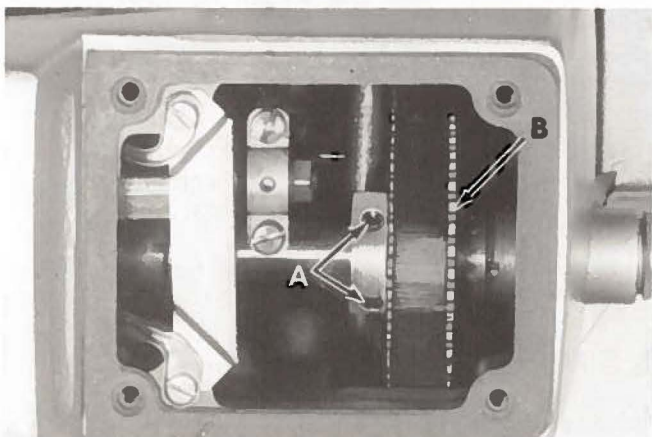


Fig. 17

driven gear (B). While holding the handwheel, advance or retard the pinker drive shaft to obtain desired timing of the upper knife. Be careful that the lateral position of this shaft is not changed while making this adjustment. Be certain that both

TIMING THE PINKER

The machine should start to feed when the point of the upper knife (in its upward travel) is approximately 1/16 inch (1.59 mm) above the top surface of the lower knife. Slight variations of this timing may improve the operation on various types of work. To obtain this timing, remove the upper crank chamber cover located on the top right end of the machine. Rotate handwheel slightly facilitate loosening of screws

(A, Fig. 17) in the hub of the pinker

TIMING THE PINKER (Continued)

screws (A) are securely tightened before running the machine. NOTE: No cutting action should take place while machine is feeding.

ADJUSTING PULLER MECHANISM (FOR STYLE 59400 R)

The puller mechanism must be timed to start its feeding cycle at the same time the main feed dog starts to feed. This can be accomplished by advancing or retarding the puller drive eccentric located on the mainshaft. The puller mechanism should be adjusted to do most of the feeding so when sewing at slow speed the material does not build up between the presser foot and the puller rollers. There should be just enough upper feed roller travel to keep the material taut when sewing at slow speed. This can be accomplished by loosening screw (A, Fig. 18) and/or shoulder screw (B) to reposition the connecting link (C) in the clutch driving segment lever (D) or puller driving segment lever (E) as required to obtain desired amount of feed, retighten screws (A and B).

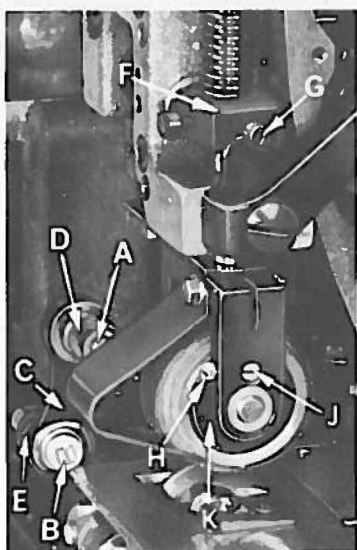


Fig. 18

With puller mechanism in its down position, the feed roller presser bar collar (F, Fig. 18) should be approximately 3/16 inch (4.76 mm) above the feed roller mounting bracket casting. Adjustment can be made by loosening screw (G) reposition collar as required, retighten screw (G) securely.

The "Clutch Brake" is set properly when the tension spring (A, Fig. 19) has just enough pressure on it to prevent the roller from overthrowing or backfeeding. The tension on the spring is regulated with nut and locknut (B). The more the nut is tightened to compress the spring the more pressure is exerted on the roller to prevent overthrow. The spring pressure can become too excessive and cause the roller to back-feed by overcoming the spring pressure of the inside clutch mechanism. The proper spring pressure can be checked and

adjusted by the following method:

Raise the clutch off the lower roller and loosen screw (H, Fig. 18). Remove stop screw (J) from support plate (K). Now run the machine full speed; while the machine is running, pick out a point on the roller such as the screw hole or a pencil line. This point should rotate 90° in direction of feed in approximately 3 to 4 seconds with the roller in the up position. If the roller does not have any movement under full speed, then the nuts (B, Fig. 19) should be loosened and reset with less tension on the spring until the proper setting is obtained. If the roller moves too fast, then follow the same procedure except the nuts should be tightened to compress the spring until the proper setting is obtained.

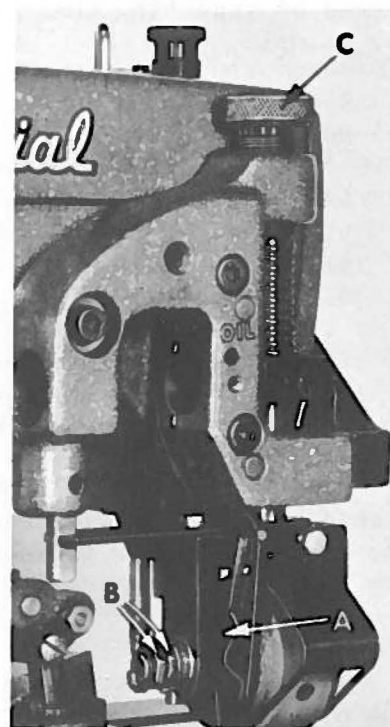


Fig. 19

ADJUSTING PULLER MECHANISM (FOR STYLE 59400 R Continued)

CAUTION! The machine and/or clutch should never be run unless both nuts (B, Fig. 19) are locked together even during the adjusting of the machine.

Should more or less pressure on the upper puller roller mechanism be required to pull the material through uniformly, turn the feed roller presser spring regulator, (C, Fig. 19) clockwise to increase pressure or counterclockwise to decrease.

LOOPER FRAME THROW-OUT

The looper frame throw-out (Fig. 20) is a convenience used to make threading of the loopers easier. It can be used only when the needles are at the top of their stroke. By pulling looper throw-out actuating pin (A), the looper holder frame is released tilting the loopers forward.

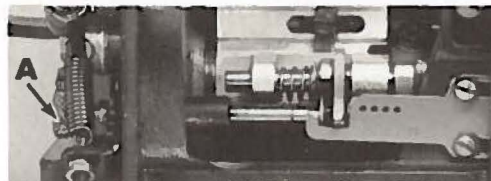


Fig. 20

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 number, 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 numbers should never be used in ordering parts. Always use the part number listed in the second column.

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

| <u>Ref.</u> <u>No.</u> | <u>Part</u> <u>No.</u> | <u>Description</u> | <u>Amt.</u> <u>Req.</u> |
|---------------------------|---------------------------|-----------------------------------------------------------------|----------------------------|
| 41 | 29476 MK-080 | Feed Lift Eccentric Assembly, for Styles 59400 K and R ----- | 1 |
| 42 | 22894 AA | Spot Screw | |
| 43 | 77 | Screw ----- | 1 |

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

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 the construction does not permit, and identification letter is stamped in to distinguish the part from similar ones.

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

IDENTIFYING PARTS (Continued)

IMPORTANT! ON ALL ORDERS, PLEASE INCLUDE PART NAME AND STYLE OF MACHINE FOR WHICH PART IS ORDERED.

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 a reproduction of the familiar Union Special trademark. Each trademark is your guarantee of the highest quality in materials and workmanship.

TERMS

Prices are net cash and are 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.

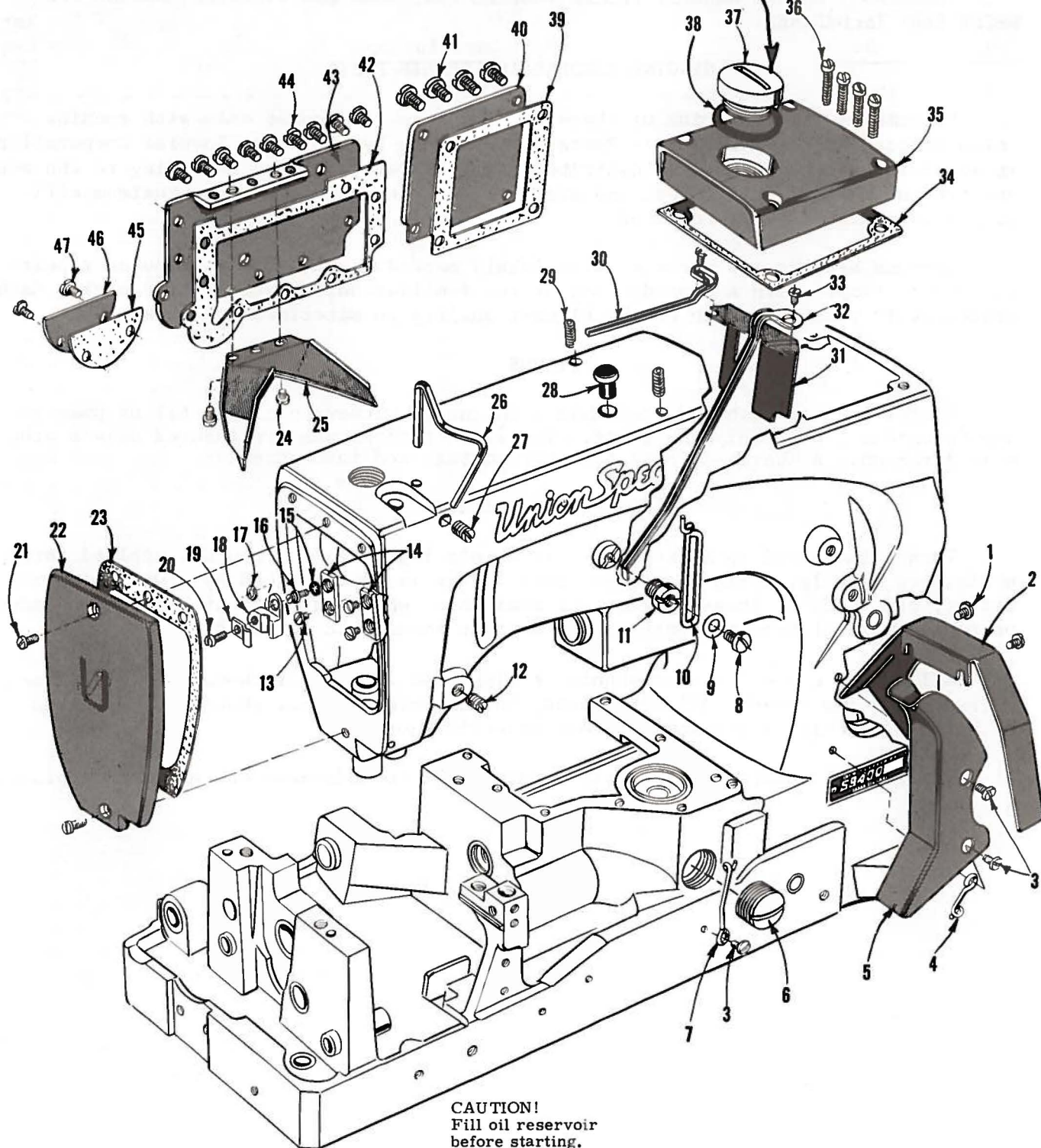
TORQUE REQUIREMENTS

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.

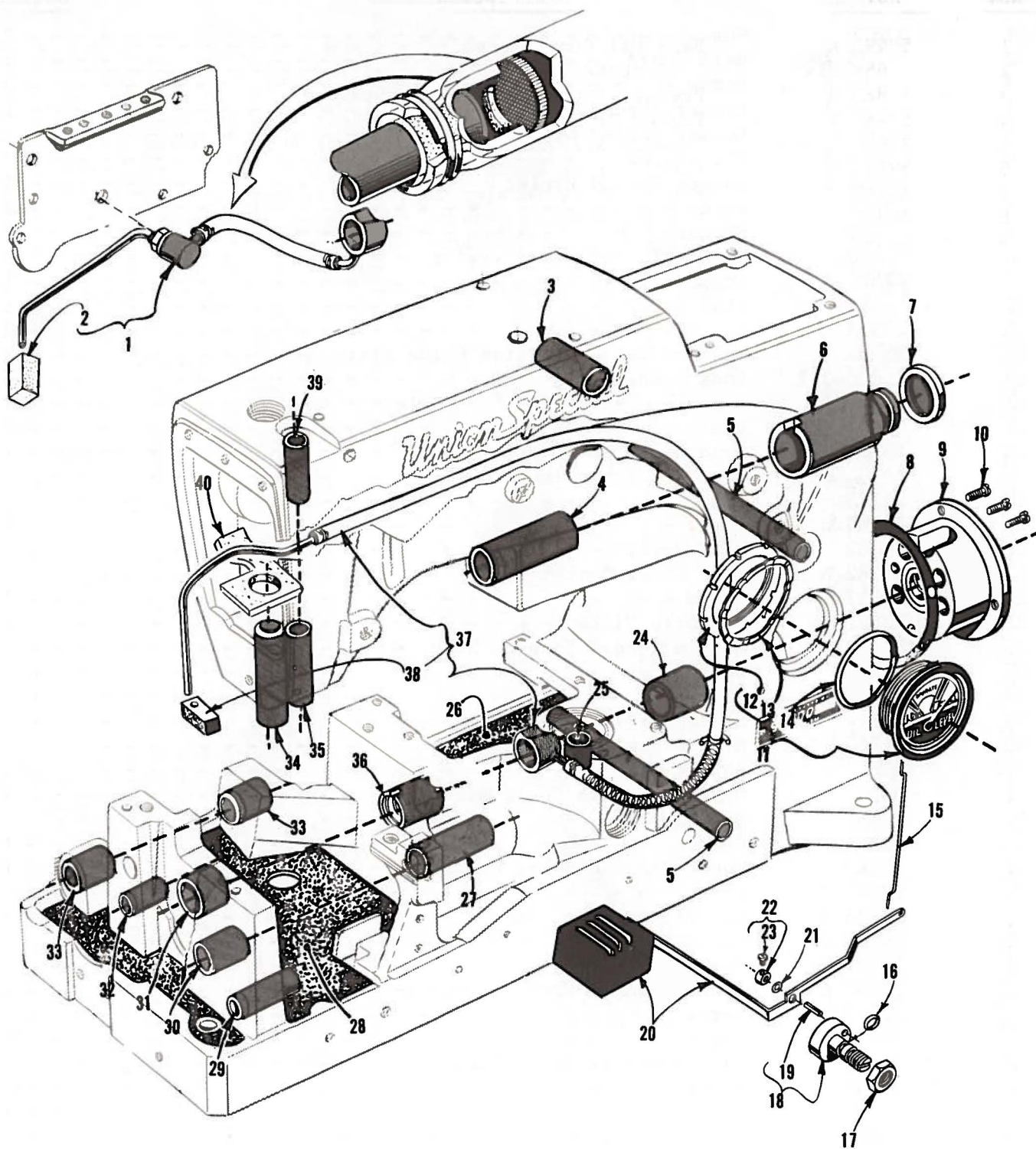
FILL MAIN
RESERVOIR
HERE



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

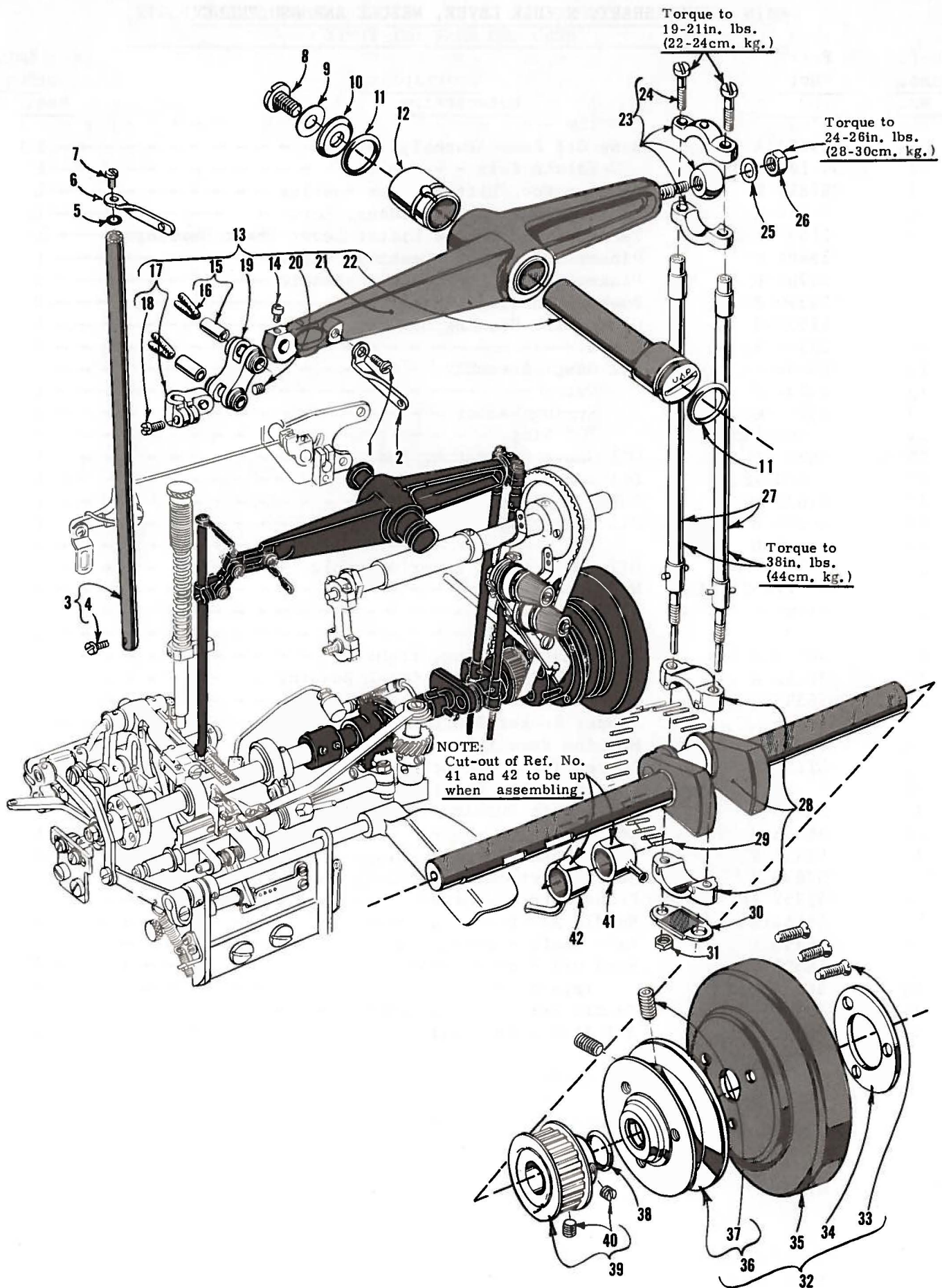
MAIN FRAME, NEEDLE THREAD TAKE-UP WIRE
AND MISCELLANEOUS COVERS

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Amt. Req.</u> |
|---------------------|---------------------|----------------------------------------------|----------------------|
| 1 | 22829 | Screw - - - - - | 2 |
| 2 | 21375 AV | Belt Guard - - - - - | 1 |
| 3 | 98 A | Screw - - - - - | 3 |
| 4 | 52 A | Looper Thread Eyelet - - - - - | 1 |
| 5 | 56391 | Looper Thread Guard - - - - - | 1 |
| 6 | 22539 R | Plug Screw - - - - - | 1 |
| 7 | 52958 B | Looper Thread Eyelet - - - - - | 1 |
| 8 | 22848 | Screw - - - - - | 1 |
| 9 | 20 | Washer- - - - - | 1 |
| 10 | 539 | Needle Thread Frame Eyelet - - - - - | 1 |
| 11 | 22889 A | Adapter Screw - - - - - | 1 |
| 12 | 95 | Plug Screw - - - - - | 1 |
| 13 | 22513 | Screw - - - - - | 3 |
| 14 | 35731 A | Presser Bar Connection Guide Plate - - - - - | 2 |
| 15 | 660-342 | Lock Washer - - - - - | 1 |
| 16 | 51294 R | Screw - - - - - | 1 |
| 17 | 7947 | Nut - - - - - | 1 |
| 18 | 56393 C | Head Oil Tube Mounting Block - - - - - | 1 |
| 19 | 56393 D | Head Oil Tube Clamp - - - - - | 1 |
| 20 | 22585 | Screw - - - - - | 1 |
| 21 | 22569 C | Screw - - - - - | 2 |
| 22 | 56382 | Head Cover - - - - - | 1 |
| 23 | 56382 N | Head Cover Gasket - - - - - | 1 |
| 24 | 357 | Screw - - - - - | 2 |
| 25 | 57882 E | Oil Drip Plate - - - - - | 1 |
| 26 | 51270 B | Needle Thread Take-up Wire - - - - - | 1 |
| 27 | 95 | Screw - - - - - | 1 |
| 28 | 63494 B | Plug - - - - - | 1 |
| 29 | 22894 E | Screw - - - - - | 2 |
| 30 | 51282 AE | Needle Lever Bearing Oiler - - - - - | 1 |
| 31 | 52882 Y | Baffle Plate - - - - - | 1 |
| 32 | 56382 W | Underarm Drive Shaft Oiler - - - - - | 1 |
| 33 | 90 | Screw - - - - - | 2 |
| 34 | 56382 C | Gasket - - - - - | 1 |
| 35 | 56382 B | Upper Crank Chamber Cover - - - - - | 1 |
| 36 | 22541 C | Screw - - - - - | 4 |
| 37 | 22733 E | Oil Filler Plug Screw - - - - - | 1 |
| 38 | 56382 M | Gasket - - - - - | 1 |
| 39 | 56382 E | Gasket - - - - - | 1 |
| 40 | 56382 D | Crank Chamber Cover, lower - - - - - | 1 |
| 41 | 22548 | Screw - - - - - | 4 |
| 42 | 56382 L | Gasket - - - - - | 1 |
| 43 | 56382 F | Oil Reservoir Back Cover - - - - - | 1 |
| 44 | 22848 | Screw - - - - - | 9 |
| 45 | 56382 K | Gasket - - - - - | 1 |
| 46 | 56382 J | Looper Drive Shaft Reservoir Cover - - - - - | 1 |
| 47 | 22829 | Screw - - - - - | 2 |



MAIN FRAME, BUSHINGS, OIL GAUGE, MISCELLANEOUS OILING PARTS,
HEAD AND BASE OIL PUMPS

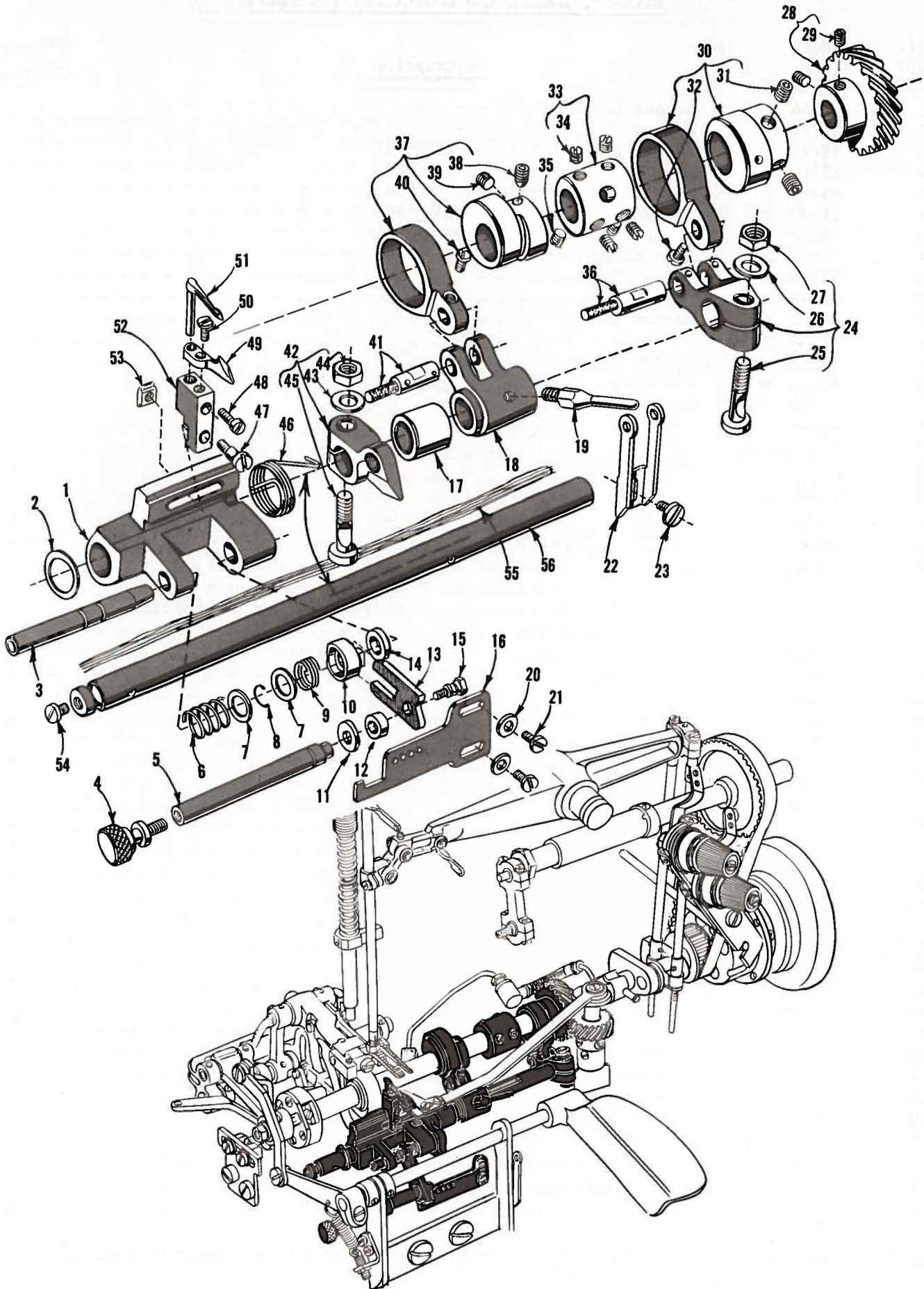
| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Amt. Req.</u> |
|---------------------|---------------------|----------------------------------------------------------|----------------------|
| 1 | 59493 A | Base Oil Pump Assembly - - - - - | 1 |
| 2 | 666-214 | Intake Felt - - - - - | 1 |
| 3 | 52883 R | Presser Foot Lifter Lever Bushing - - - - - | 1 |
| 4 | 59484 K | Pinker Drive Shaft Bushing, left - - - - - | 1 |
| 5 | 21657 X | Tension Release and Lifter Lever Shaft Bushing - - - - - | 2 |
| 6 | 59484 H | Pinker Drive Shaft Bushing, right - - - - - | 1 |
| 7 | 35761 D | Pinker Shaft Bushing Cap, plastic - - - - - | 1 |
| 8 | 56390 E | Bushing Housing Gasket - - - - - | 1 |
| 9 | 56390 B | Crankshaft Bushing Housing - - - - - | 1 |
| 10 | 22569 B | Screw - - - - - | 3 |
| 11 | 63494 K | Oil Gauge Assembly - - - - - | 1 |
| 12 | 63494 F | Nut - - - - - | 1 |
| 13 | 63494 G | Spring Washer - - - - - | 1 |
| 14 | 660-455 | "O" Ring - - - - - | 1 |
| 15 | 56394 B | Oil Gauge Connecting Rod - - - - - | 1 |
| 16 | 660-221 | Oil Retaining Ring - - - - - | 1 |
| 17 | 11635 B | Nut - - - - - | 1 |
| 18 | 56394 A | Oil Gauge Adjusting Shaft - - - - - | 1 |
| 19 | 426 B | Pin - - - - - | 1 |
| 20 | 59494 | Oil Gauge Float Lever Assembly - - - - - | 1 |
| 21 | 27-527 Blk. | Washer - - - - - | 1 |
| 22 | 61494 G | Collar - - - - - | 1 |
| 23 | 604 | Screw - - - - - | 1 |
| 24 | 56390 A | Main Shaft Bushing, right - - - - - | 1 |
| 25 | 59451 A | Loop Retainer Drive Crank Bushing - - - - - | 1 |
| 26 | 56393 Q | Machine Base Felt, rear - - - - - | 1 |
| 27 | 59436 | Looper Rocker Shaft Bushing, right - - - - - | 1 |
| 28 | 56393 X | Machine Base Felt, front - - - - - | 1 |
| 29 | 51254 A | Looper Throw-out Actuating Pin Bushing - - - - - | 1 |
| 30 | 50-895 Blk. | Looper Rocker Shaft Bushing, left - - - - - | 1 |
| 31 | 56390 | Main Shaft Bushing, left - - - - - | 1 |
| 32 | 56336 H | Lever Bushing - - - - - | 1 |
| 33 | 59435 B | Feed Rocker Shaft Bushing, for Style 59400 K - - - - - | 2 |
| | 57836 B | Feed Rocker Shaft Bushing, for Style 59400 R - - - - - | 2 |
| 34 | 51257 AA | Presser Bar Bushing, lower - - - - - | 1 |
| 35 | 56354 B | Needle Bar Bushing, lower - - - - - | 1 |
| 36 | 56190 | Main Shaft Bushing, middle - - - - - | 1 |
| 37 | 56393 T | Head Oil Pump Assembly - - - - - | 1 |
| 38 | 56393 L | Intake Felt - - - - - | 1 |
| 39 | 51154 E | Needle Bar Bushing, upper - - - - - | 1 |
| 40 | 56393 R | Oil Attraction Felt - - - - - | 1 |



CRANKSHAFT, NEEDLE LEVER, NEEDLE BAR AND PULLEY

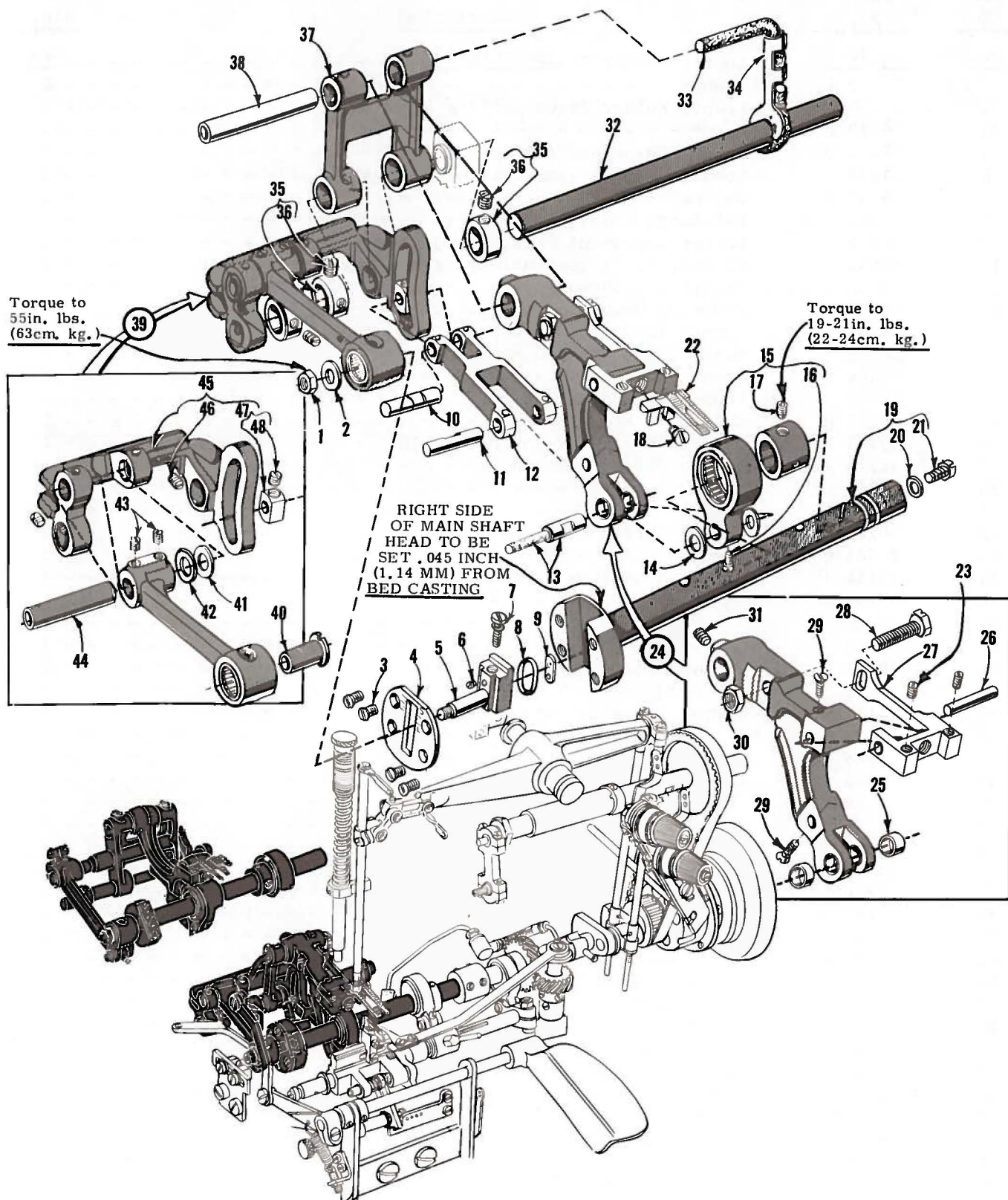
| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Amt. Req.</u> |
|---------------------|---------------------|--------------------------------------------------------------------|----------------------|
| 1 | 22768 | Screw - - - - - | 1 |
| 2 | 56358 A | Needle Lever Thread Eyelet - - - - - | 1 |
| 3 | 54417 A | Needle Bar - - - - - | 1 |
| 4 | 22819 | Screw - - - - - | 1 |
| 5 | 27-435 Blk. | Needle Bar Eyelet Washer - - - - - | 1 |
| 6 | 56358 | Needle Bar Thread Eyelet - - - - - | 1 |
| 7 | 22768 | Screw - - - - - | 1 |
| 8 | 22586 R | Screw - - - - - | 1 |
| 9 | 51250 F | Gasket - - - - - | 1 |
| 10 | 51250 D | Washer - - - - - | 1 |
| 11 | 660-212 | Oil Seal Ring - - - - - | 2 |
| 12 | 51150 | Needle Lever Thrust Collar - - - - - | 1 |
| 13 | 29348 Y | Needle Lever Assembly - - - - - | 1 |
| 14 | 77 | Screw - - - - - | 1 |
| 15 | 51054 | Link Pin - - - - - | 2 |
| 16 | 666-149 | Felt Wick - - - - - | 1 |
| 17 | 51254 J | Needle Bar Connection - - - - - | 1 |
| 18 | 22562 A | Screw - - - - - | 1 |
| 19 | 56354 A | Needle Bar Link - - - - - | 1 |
| 20 | 22564 | Screw - - - - - | 1 |
| 21 | 56315 | Needle Lever - - - - - | 1 |
| 22 | 56350 A | Needle Lever Stud - - - - - | 1 |
| 23 | 29066 R | Needle Lever Connecting Rod Upper Ball Joint Assembly - - - - - | 1 |
| 24 | 22559 G | Screw - - - - - | 2 |
| 25 | 51216 N | Washer - - - - - | 1 |
| 26 | 51216 P | Nut - - - - - | 1 |
| 27 | 56316 | Needle Lever Connecting Rod - - - - - | 2 |
| 28 | 29476 MD | Crankshaft Assembly, .910 inch throw - - - - - | 1 |
| 29 | 51216 M | Needle bearing - - - - - | 28 |
| 30 | 56316 C | Connecting Rod Guide - - - - - | 1 |
| 31 | 12934 A | Nut - - - - - | 1 |
| 32 | 57821 A | Handwheel Assembly - - - - - | 1 |
| 33 | 22574 | Screw - - - - - | 3 |
| 34 | 61321 L | Retaining Plate - - - - - | 1 |
| 35 | 57821 | Handwheel - - - - - | 1 |
| 36 | 56321 H | Pulley - - - - - | 1 |
| 37 | 22894 AB | Screw - - - - - | 2 |
| 38 | 660-202 | "O" Ring - - - - - | 1 |
| 39 | 59484 D | Pinker Feed Drive Sprocket - - - - - | 1 |
| 40 | 98 | Screw - - - - - | 2 |
| 41 | | Head Oil Pump Assembly, (See Ref. No. 37 - Page 23) - | 1 |
| 42 | | Base Oil Pump Assembly, (See Ref. No. 1 - Page 23)- | 1 |
| 43 | 59451 R | Loop Retainer Drive Gear - - - - - | 1 |
| 44 | 98 | Screw - - - - - | 2 |
| 45 | 29133 M | Looper Drive Eccentric Assembly - - - - - | 1 |
| 46 | 22768 | Screw - - - - - | 1 |
| 47 | 22894 C | Screw - - - - - | 2 |
| 48 | 54195 | Mainshaft and Crankshaft Coupling - - - - - | 1 |
| 49 | 98 | Screw - - - - - | 6 |

NOTE: Reference numbers 43 thru 49 not shown on picture plate, refer to page 27
Reference Numbers 24 thru 30 inclusive.



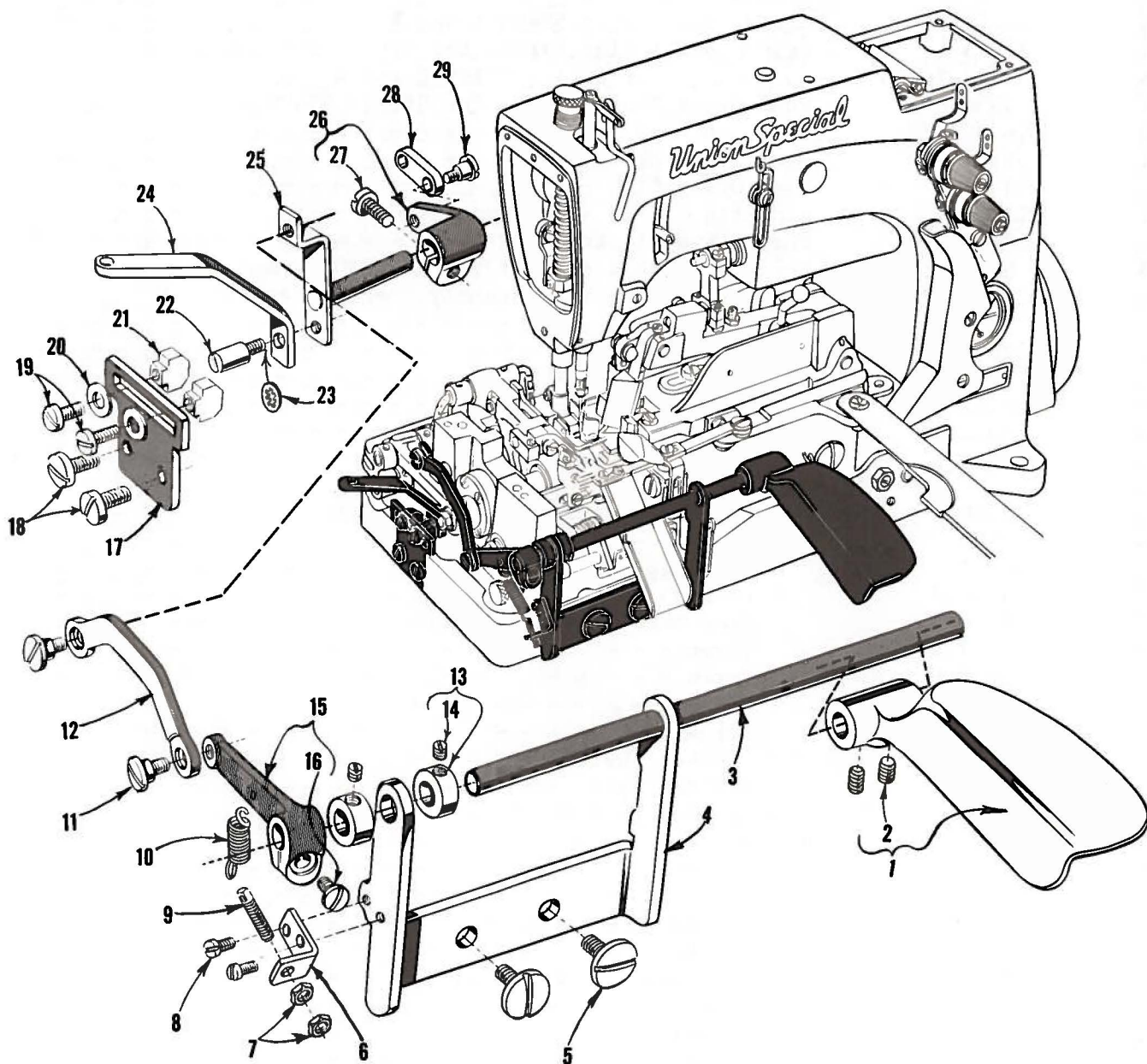
TAKE-UP, LOOPER AND LOOPER DRIVING PARTS

| Ref. No. | Part No. | Description | Amt. Req. |
|-------------|-------------|----------------------------------------------------|--------------|
| 1 | 59444 B | Looper Holder Frame - - - - - | 1 |
| 2 | 51242 L | Washer - - - - - | 1 |
| 3 | 59444 J | Looper Holder Frame Locking Pin - - - - - | 1 |
| 4 | 15489 B | Screw - - - - - | 1 |
| 5 | 59444 D | Looper Throw-out Actuating Pin - - - - - | 1 |
| 6 | 11638 L | Looper Holder Frame Locking Pin Spring - - - - - | 1 |
| 7 | 6042 A | Washer - - - - - | 2 |
| 8 | 660-215 | Retaining Ring - - - - - | 2 |
| 9 | 54244 H | Looper Throw-out Fork Pressure Spring - - - - - | 1 |
| 10 | 59444 L | Collar, for looper holder frame lock pin - - - - - | 1 |
| 11 | 51225 W | Washer for 59444 D - - - - - | 1 |
| 12 | 59444 P | Neoprene Washer, for 59444 D - - - - - | 1 |
| 13 | 54244 G | Looper Throw-out Fork - - - - - | 1 |
| 14 | 39543 R | Washer, for 59444 J - - - - - | 1 |
| 15 | 59444 M | Locking Screw - - - - - | 1 |
| 16 | 59459 | Looper Thread Eyelet - - - - - | 1 |
| 17 | 59444 H | Collar - - - - - | 1 |
| 18 | 59445 A | Looper Thread Take-up Drive Link - - - - - | 1 |
| 19 | 54223 A | Looper Thread Take-up - - - - - | 1 |
| 20 | 41358 | Washer - - - - - | 2 |
| 21 | J87 J | Screw - - - - - | 2 |
| 22 | 39267 | Looper Thread Pull-off Eyelet - - - - - | 1 |
| 23 | 22585 C | Screw - - - - - | 1 |
| 24 | 59444 A | Looper Travel Drive Link - - - - - | 1 |
| 25 | 55244 G | Locking Stud - - - - - | 1 |
| 26 | 20 | Washer - - - - - | 1 |
| 27 | 18 | Nut - - - - - | 1 |
| 28 | 59451 R | Looper Retainer Drive Gear - - - - - | 1 |
| 29 | 98 | Screw - - - - - | 2 |
| 30 | 29133 M | Looper Drive Eccentric Assembly - - - - - | 1 |
| 31 | 22894 C | Set Screw - - - - - | 2 |
| 32 | 22768 | Screw - - - - - | 1 |
| 33 | 54195 | Coupling - - - - - | 1 |
| 34 | 98 | Screw - - - - - | 4 |
| 35 | 98 | Screw - - - - - | 2 |
| 36 | 51236 A | Link Pin - - - - - | 1 |
| 37 | 29133 P | Take-up Drive Eccentric Assembly - - - - - | 1 |
| 38 | 22894 L | Spot Screw - - - - - | 1 |
| 39 | 22894 C | Set Screw - - - - - | 1 |
| 40 | 77 | Screw - - - - - | 1 |
| 41 | 51236 A | Link Pin - - - - - | 1 |
| 42 | 59444 G | Looper Holder Frame Driving Arm - - - - - | 1 |
| 43 | 20 | Washer - - - - - | 1 |
| 44 | 18 | Nut - - - - - | 1 |
| 45 | 55244 G | Locking Stud - - - - - | 1 |
| 46 | 54244 C | Looper Holder Frame Throw-out Spring - - - - - | 1 |
| 47 | 97 A | Screw - - - - - | 1 |
| 48 | 77B | Screw - - - - - | 1 |
| 49 | 54225 | Needle Guard - - - - - | 1 |
| 50 | 22768 | Screw - - - - - | 1 |
| 51 | 54208 A | Looper, marked "CB" - - - - - | 1 |
| 52 | 59485 | Looper Holder, marked "U" - - - - - | 1 |
| 53 | 54285 C | Nut - - - - - | 1 |
| 54 | 22513 | Screw - - - - - | 1 |
| 55 | W03 | Wool Yarn - - - - - | - |
| 56 | 59444 | Looper Rocker Shaft - - - - - | 1 |



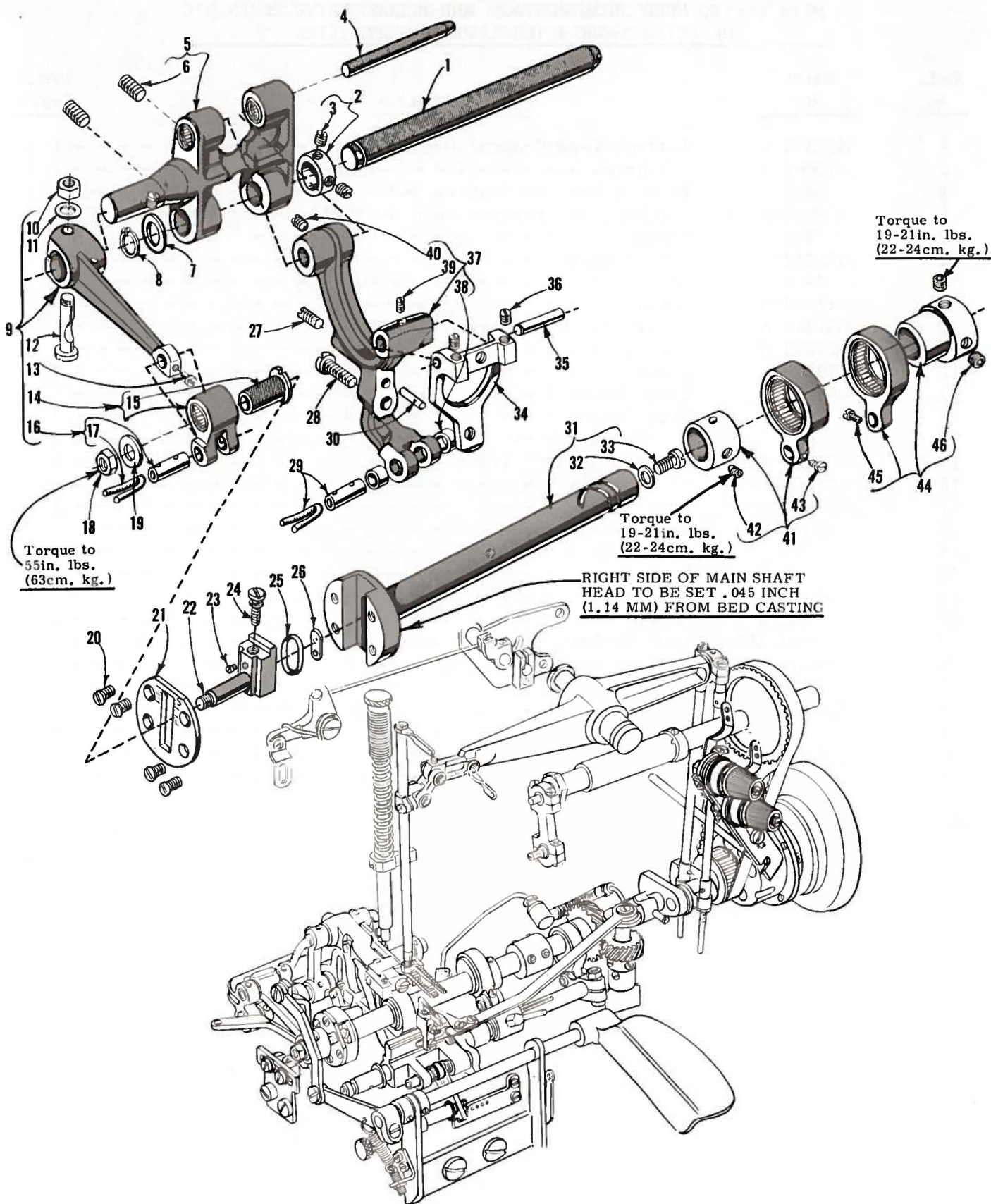
FEED DOG, MAIN SHAFT AND FEED DRIVING PARTS
FOR STYLE 59400 K ONLY, UNLESS SPECIFIED

| <u>Ref.</u> <u>No.</u> | <u>Part</u> <u>No.</u> | <u>Description</u> | <u>Amt.</u> <u>Req.</u> |
|---------------------------|---------------------------|---------------------------------------------------------------------|----------------------------|
| 1 | 269 | Nut, for Styles 59400 K and R - - - - - | 1 |
| 2 | 21657 E | Washer, for Styles 59400 K and R - - - - - | 1 |
| 3 | 22525 A | Screw, for Styles 59400 K and R - - - - - | 4 |
| 4 | 56322 C | Main Shaft Head Plate, for Styles 59400 K and R - - - - - | 1 |
| 5 | 56336 | Feed Crank Stud, marked "A", for Styles 59400 K and R - - - - - | 1 |
| 6 | 22798 C | Screw, for Styles 59400 K and R - - - - - | 1 |
| 7 | 22543 A | Stitch Regulating Screw, for Styles 59400 K and R - - - - - | 1 |
| 8 | 660-269 B | Quad Ring, for Styles 59400 K and R - - - - - | 1 |
| 9 | 56336 D | Feed Crank Stud Insert, for Styles 59400 K and R - - - - - | 1 |
| 10 | 96505 | Stud, for cam follower - - - - - | 1 |
| 11 | 59434 B | Feed Bar Rock Shaft - - - - - | 1 |
| 12 | 59436 A | Feed Drive Link - - - - - | 1 |
| 13 | 51236 A | Link Pin - - - - - | 1 |
| 14 | 39543 N | Thrust Washer, for feed bar - - - - - | 2 |
| 15 | HA61 D | Screw, for feed dog for Styles 59400 K and R - - - - - | 1 |
| 16 | 29476 MK-080 | Feed Lift Eccentric Assembly, for Styles 59400 K and R - - - - - | 1 |
| 17 | 22894 AA | Screw - - - - - | 1 |
| 18 | 77 | Screw - - - - - | 1 |
| 19 | 59422 C | Main Shaft - - - - - | 1 |
| 20 | 56322 B | Gasket - - - - - | 1 |
| 21 | 22891 B | Screw - - - - - | 1 |
| 22 | | Feed Dog (See Page 43) - - - - - | 1 |
| 23 | 22560 B | Screw, for adjusting feed dog height - - - - - | 2 |
| 24 | 59434 | Feed Bar - - - - - | 1 |
| 25 | 57834 G | Bushing - - - - - | 2 |
| 26 | 54134 N | Feed Bar Shaft - - - - - | 1 |
| 27 | 59434 A | Feed Bar Tilting Extension - - - - - | 1 |
| 28 | 627 A | Screw - - - - - | 1 |
| 29 | 22637 P-24 | Screw - - - - - | 2 |
| 30 | 12538 | Nut - - - - - | 1 |
| 31 | 22651 CB-4 | Screw - - - - - | 1 |
| 32 | 8 A | Feed Rocker Shaft - - - - - | 1 |
| 33 | 51134 P | Lubricating Felt - - - - - | 1 |
| 34 | 51134 R | Lubricating Felt Guard - - - - - | 1 |
| 35 | 482 | Collar - - - - - | 3 |
| 36 | 98 | Screw - - - - - | 1 |
| 37 | G51335 | Feed Rocker - - - - - | 1 |
| 38 | 51134 C | Feed Rocker Shaft, upper - - - - - | 1 |
| 39 | 59435 A | Feed Rocker Arm Sub-assembly - - - - - | 1 |
| 40 | 56336 C | Feed Crank Link Ferrule - - - - - | 1 |
| 41 | 41332 J | Washer - - - - - | 1 |
| 42 | 61351 C | Washer - - - - - | 1 |
| 43 | 22565 C | Screw - - - - - | 2 |
| 44 | G51334 B | Shaft - - - - - | 1 |
| 45 | G51333 | Feed Drive Lever - - - - - | 1 |
| 46 | 98 | Screw - - - - - | 2 |
| 47 | G61436 C | Cam Follower - - - - - | 1 |
| 48 | 88 B | Screw - - - - - | 1 |



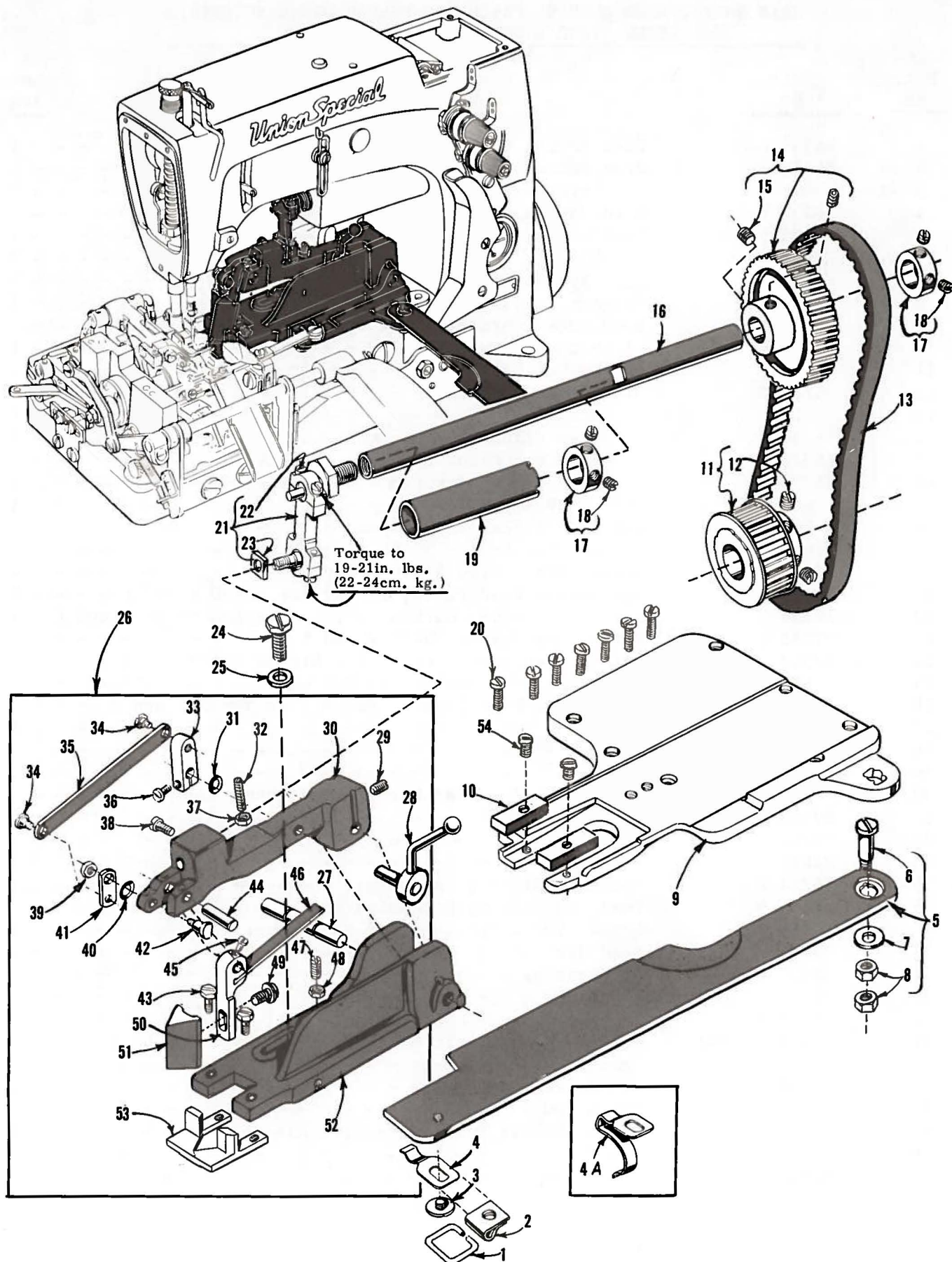
REVERSE FEED CONTROL AND OPERATING PARTS
FOR STYLE 59400 K ONLY

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Amt. Req.</u> |
|---------------------|---------------------|----------------------------------------------------|----------------------|
| 1 | G51345 C | Reverse Feed Control Hand Lever - - - - - | 1 |
| 2 | 22894 J | Screw - - - - - | 2 |
| 3 | 59438 | Reverse Feed Activating Rod - - - - - | 1 |
| 4 | 59438 A | Bracket, for reverse feed activating rod - - - - - | 1 |
| 5 | 141 | Screw - - - - - | 2 |
| 6 | G51347 | Spring Holder - - - - - | 1 |
| 7 | 7947 | Nut - - - - - | 2 |
| 8 | 22562 A | Screw - - - - - | 2 |
| 9 | G51347 A | Screw Pin, for spring - - - - - | 1 |
| 10 | 15872 F | Spring - - - - - | 1 |
| 11 | 99276 | Screw - - - - - | 2 |
| 12 | G51345 B | Guide Lever - - - - - | 1 |
| 13 | 460 | Stop Collar - - - - - | 2 |
| 14 | 88 | Screw - - - - - | 1 |
| 15 | G51345 A | Outside Control Lever - - - - - | 1 |
| 16 | 22528 | Screw - - - - - | 1 |
| 17 | 59448 | Stop Plate - - - - - | 1 |
| 18 | 22548 | Screw - - - - - | 2 |
| 19 | 93 | Screw - - - - - | 2 |
| 20 | 69 H | Washer - - - - - | 2 |
| 21 | 59448 A | Stop Block - - - - - | 2 |
| 22 | 42 A | Screw - - - - - | 1 |
| 23 | 660-342 | Lock Washer, for 42 A - - - - - | 1 |
| 24 | 59446 | Reverse Feed Actuating Lever - - - - - | 1 |
| 25 | G51346 A | Lever - - - - - | 1 |
| 26 | G51346 | Control Lever - - - - - | 1 |
| 27 | 93 | Screw - - - - - | 1 |
| 28 | G51433 A | Link - - - - - | 1 |
| 29 | 99284 | Screw - - - - - | 1 |



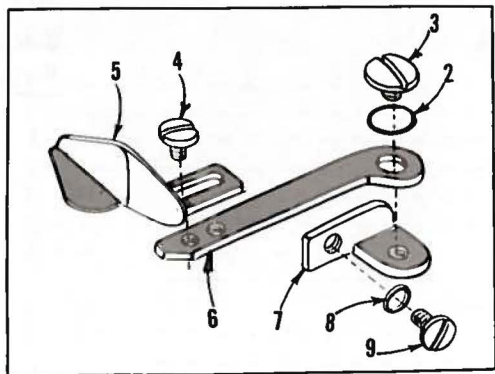
MAIN SHAFT, FEED DRIVING PARTS AND PULLER DRIVE ECCENTRIC
FOR STYLE 59400 R ONLY, UNLESS SPECIFIED

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Amt. Req.</u> |
|---------------------|---------------------|---------------------------------------------------------------------|----------------------|
| 1 | 56335 L | Feed Rocker Shaft - - - - - | 1 |
| 2 | 56335 D | Feed Rocker Shaft Collar - - - - - | 1 |
| 3 | 98 | Screw - - - - - | 1 |
| 4 | 56334 B | Feed Bar Shaft - - - - - | 1 |
| 5 | 59435 E | Feed Rocker - - - - - | 1 |
| 6 | 22651 CD-4 | Screw - - - - - | 2 |
| 7 | 41391 | Feed Rocker Shaft Thrust Washer - - - - - | 1 |
| 8 | 660-438 | Tru-Arc Retaining Ring - - - - - | 1 |
| 9 | 29476 MJ | Feed Rocker Arm and Feed Crank Link Sub-assembly - - - | 1 |
| 10 | 55235 E | Nut - - - - - | 1 |
| 11 | 6042 A | Washer - - - - - | 1 |
| 12 | 55235 D | Locking Stud - - - - - | 1 |
| 13 | 77 | Screw - - - - - | 1 |
| 14 | 56336 B | Feed Crank Link Assembly - - - - - | 1 |
| 15 | 56336 C | Feed Crank Link Ferrule - - - - - | 1 |
| 16 | 51054 | Feed Crank Link Pin - - - - - | 1 |
| 17 | 666-149 | Oil Wick - - - - - | 1 |
| 18 | 269 | Nut, for Styles 59400 K and R - - - - - | 1 |
| 19 | 21657 E | Washer, for Styles 59400 K and R - - - - - | 1 |
| 20 | 22525 A | Screw, for Styles 59400 K and R - - - - - | 4 |
| 21 | 56322 C | Main Shaft Head Plate, for Styles 59400 K and R - - - | 1 |
| 22 | 56336 | Feed Crank Stud, marked "A", for Styles 59400 K and R - | 1 |
| 23 | 22798 C | Screw, for Styles 59400 K and R - - - - - | 1 |
| 24 | 22543 A | Stitch Regulating Screw, for Styles 59400 K and R - - - | 1 |
| 25 | 660-269 B | Quad Ring, for Styles 59400 K and R - - - - - | 1 |
| 26 | 56336 D | Feed Crank Stud Insert, for Styles 59400 K and R - - - | 1 |
| 27 | 531 | Screw - - - - - | 1 |
| 28 | 88 F | Screw - - - - - | 1 |
| 29 | 51236 A | Link Pin - - - - - | 1 |
| 30 | 667 B-20 | Dowel Pin, for feed bar tilting extension - - - - - | 1 |
| 31 | 59422 D | Main Shaft - - - - - | 1 |
| 32 | 56322 B | Gasket - - - - - | 1 |
| 33 | 22891 B | Screw - - - - - | 1 |
| 34 | 54234 C | Feed Bar Tilting Extension - - - - - | 1 |
| 35 | 54134 N | Feed Bar Tilting Extension Pin - - - - - | 2 |
| 36 | 22560 B | Screw, for adjusting feed dog height - - - - - | 2 |
| 37 | 59434 C | Feed Bar - - - - - | 1 |
| 38 | 56334 A | Bushing - - - - - | 2 |
| 39 | 22733 | Screw - - - - - | 1 |
| 40 | 22560 B | Screw - - - - - | 1 |
| 41 | 29476 MK-080 | Feed Lift Eccentric Assembly, for Styles 59400 K and R - - - - - | 1 |
| 42 | 22894 AA | Screw - - - - - | 1 |
| 43 | 77 | Screw - - - - - | 1 |
| 44 | 29126 ED | Puller Roller Drive Eccentric Assembly - - - - - | 1 |
| 45 | 77 | Screw - - - - - | 1 |
| 46 | 22894 C | Screw - - - - - | 2 |

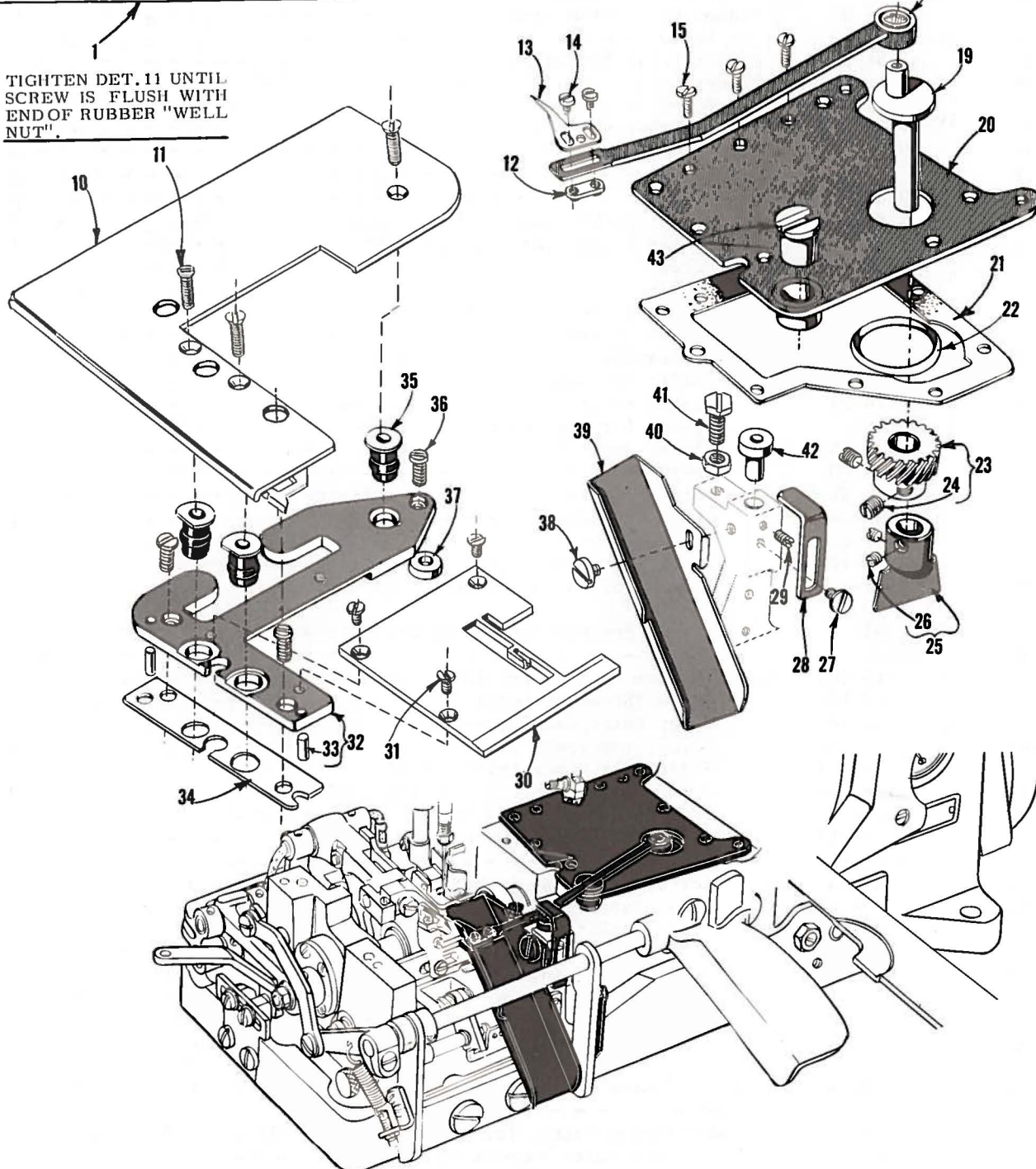


SWINGING BRACKET, PINKER ASSEMBLY AND PINKER DRIVING PARTS

| <u>Ref.</u> <u>No.</u> | <u>Part</u> <u>No.</u> | <u>Description</u> | <u>Amt.</u> <u>Req.</u> |
|---------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 1 | 59464 | Pull-Tab Handle - - - - - | 1 |
| 2 | 59464 A | Pull-Tab Plate - - - - - | 1 |
| 3 | 12986 B | Screw, for latch spring - - - - - | 1 |
| 4 | 54264 B | Latch Spring, for Style 59400 K - - - - - | 1 |
| 4A | 54264 C | Latch Spring, for Style 59400 R - - - - - | 1 |
| 5 | 54484 J | Swinging Bracket - - - - - | 1 |
| 6 | 22504 A | Screw - - - - - | 1 |
| 7 | 28577 | Washer - - - - - | 1 |
| 8 | 9937 | Nut - - - - - | 2 |
| 9 | 59484 J | Pinker Base Plate - - - - - | 1 |
| 10 | 54484 P | Knife Support Block - - - - - | 2 |
| 11 | 59484 D | Pinker Feed Drive Sprocket - - - - - | 1 |
| 12 | 98 | Screw - - - - - | 2 |
| 13 | 59484 F | Pinker Drive Timing Belt - - - - - | 1 |
| 14 | 59484 E | Pinker Feed Driven Sprocket - - - - - | 1 |
| 15 | 22651 CB-4 | Screw - - - - - | 2 |
| 16 | 59484 G | Pinker Drive Shaft - - - - - | 1 |
| 17 | 39644 P | Thrust Collar - - - - - | 2 |
| 18 | 98 | Screw - - - - - | 2 |
| 19 | 59484 C | Spacer - - - - - | 1 |
| 20 | 22585 R | Screw, for pinker base plate - - - - - | 7 |
| 21 | 59484 | Ball Joint Connecting Rod Assembly - - - - - | 1 |
| 22 | 18-391 | Screw - - - - - | 4 |
| 23 | 59484 L | Washer - - - - - | 1 |
| 24 | 627 A | Screw, for pinker - - - - - | 1 |
| 25 | 21657 E | Washer, for pinker - - - - - | 1 |
| 26 | 29482 C | Pinker Assembly - - - - - | 1 |
| 27 | 14-171 | Shaft, for base - - - - - | 1 |
| 28 | 76-19 | Pinker Handle, for knife throw-out - - - - - | 1 |
| 29 | 1003 L | Screw, for base shaft - - - - - | 1 |
| 30 | 45-489 | Pinker Arm - - - - - | 1 |
| 31 | 39536 AD | Spring Washer - - - - - | 1 |
| 32 | 22651 CB-12 | Screw, for knife tension adjustment - - - - - | 1 |
| 33 | 45-248 | Throw-out Lever - - - - - | 1 |
| 34 | 1776 L | Screw - - - - - | 2 |
| 35 | 46-108 | Knife Throw-out Link - - - - - | 1 |
| 36 | 18-71 | Screw, for throw-out lever - - - - - | 1 |
| 37 | 1160 L | Nut - - - - - | 1 |
| 38 | SC331 | Screw, for connecting rod assembly - - - - - | 1 |
| 39 | SC231 | Nut - - - - - | 1 |
| 40 | 40-101 | Tension Washer, for knife cam throw-out - - - - - | 1 |
| 41 | 45-249 | Knife Throw-out Lever - - - - - | 1 |
| 42 | 34-26 | Upper Knife Cam Throw-out - - - - - | 1 |
| 43 | 18-558 | Screw, for lower knife - - - - - | 2 |
| 44 | 14-172 | Shaft, for upper knife holder - - - - - | 1 |
| 45 | 18-178 | Screw, for upper knife holder shaft - - - - - | 1 |
| 46 | 21-309 | Knife Tension Spring, flat - - - - - | 2 |
| 47 | 18-547 | Screw, for leveling base - - - - - | 1 |
| 48 | 1012 L | Nut - - - - - | 1 |
| 49 | 18-544 | Screw, for upper pinker knife - - - - - | 1 |
| 50 | 99-134 | Upper Knife Holder - - - - - | 1 |
| 51 | 119-25 | Upper Pinker Knife - - - - - | 1 |
| 52 | 3-46 | Pinker Base - - - - - | 1 |
| 53 | 119-34 | Lower Pinker Knife, for Styles 59400 K-1/4 and R-1/4 (for 5/16 inch (7.94 mm) width of pink, for Styles 59400 K-3/8 and R-3/8 (for 1/2 inch (12.70 mm) width of pink) and for Styles 59400 K-5/8 and R-5/8 (for both 5/8 and 3/4 inch (15.87 and 19.05 mm) width of pink) - - - - - | 1 |
| - | 119-24 | Lower Pinker Knife, for Styles 59400 K-1/4, K-3/8, R-1/4 and R-3/8 - - - - - | 1 |
| - | 119-24 L | Lower Pinker Knife, for Styles 59400 K-3/16 and R-3/16 - - - - - | 1 |
| 54 | 605 | Screw, for knife support block - - - - - | 2 |

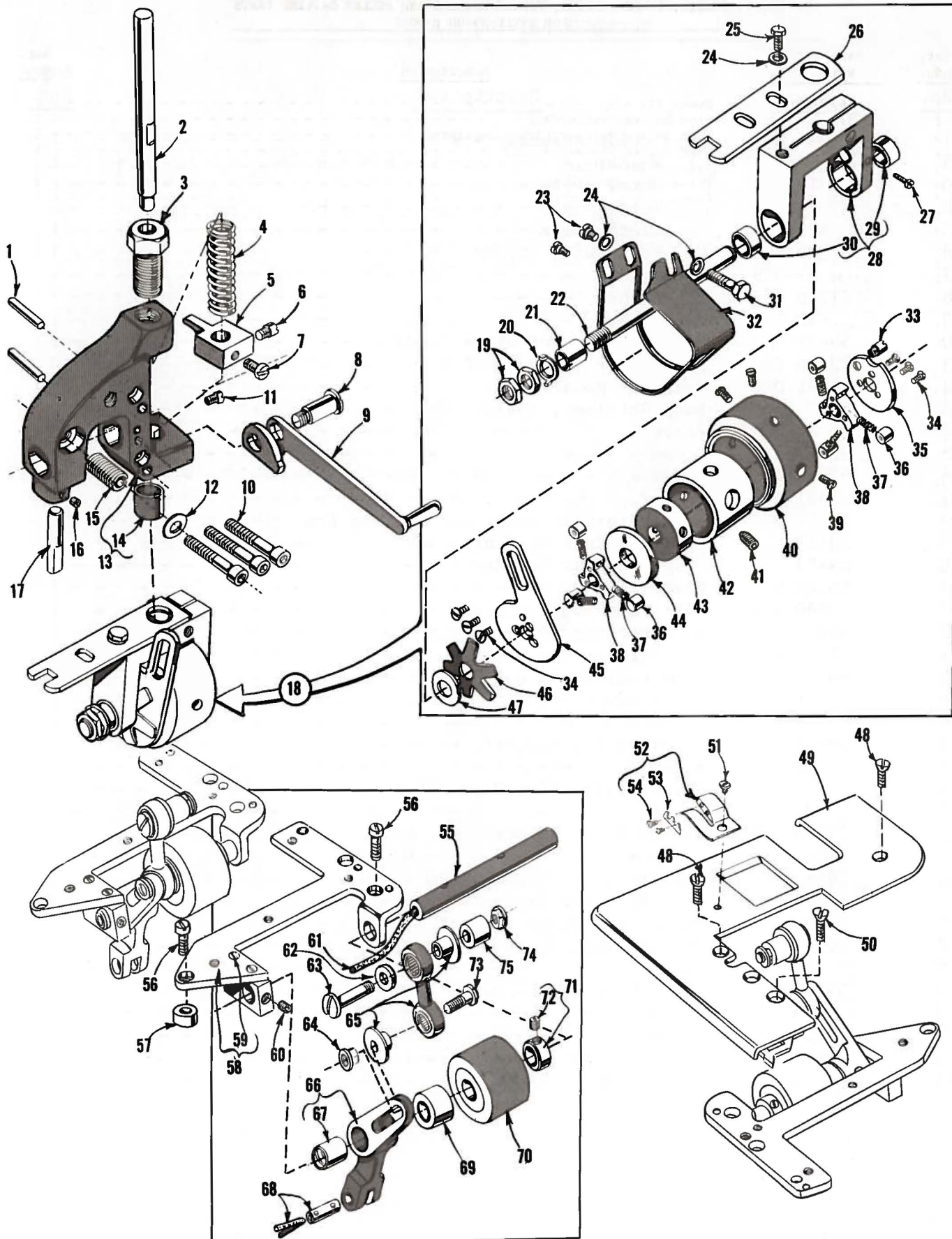


TIGHTEN DET. 11 UNTIL
SCREW IS FLUSH WITH
END OF RUBBER "WELL
NUT".



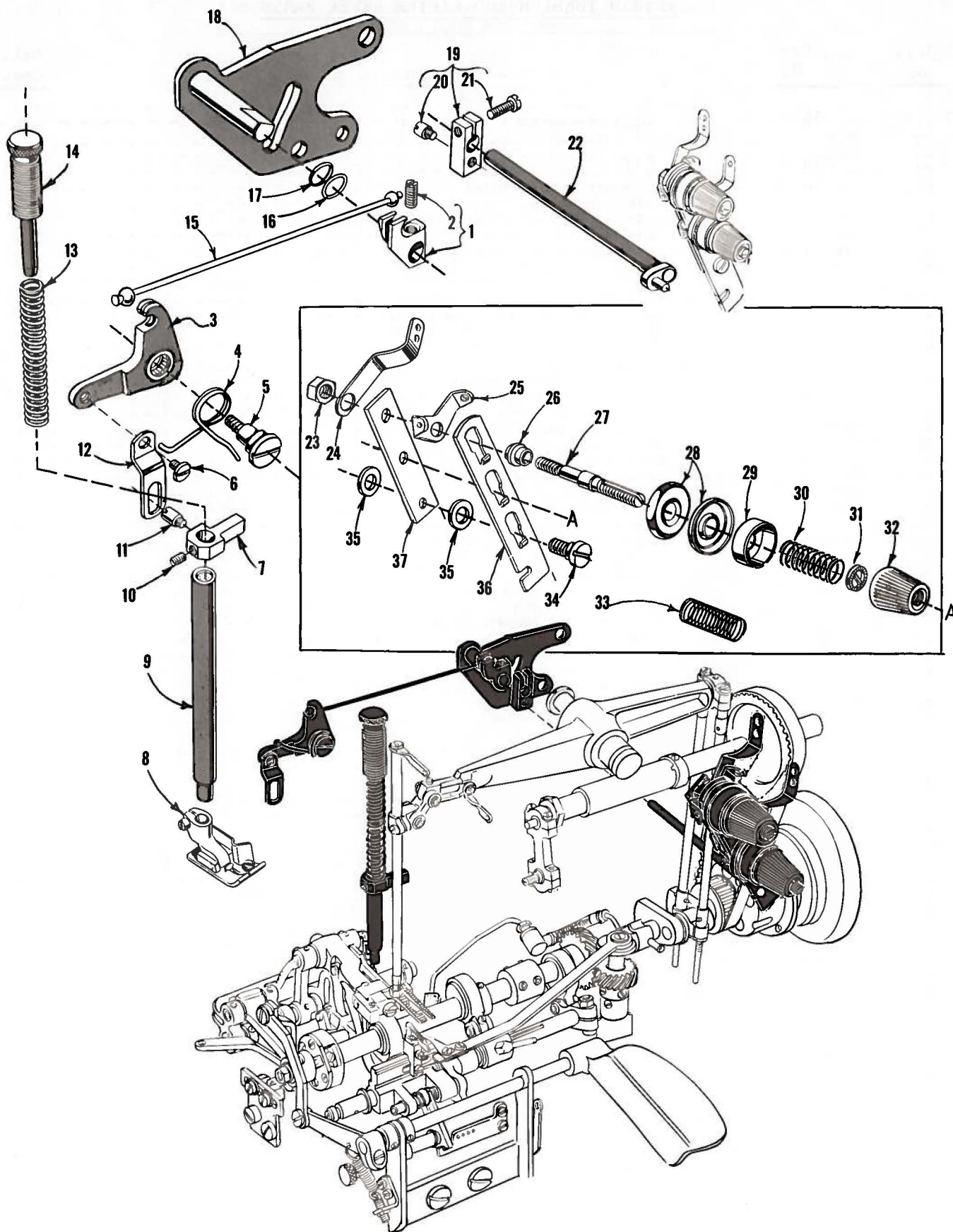
CLOTH PLATE, EDGE GUIDE ASSEMBLY, CHIP CHUTE AND LOOP
RETAINER DRIVING PARTS

| <u>Ref.</u> <u>No.</u> | <u>Part</u> <u>No.</u> | <u>Description</u> | <u>Amt.</u> <u>Req.</u> |
|---------------------------|---------------------------|---------------------------------------------------|----------------------------|
| 1 | 23441 M | Edge Guide Assembly - - - - - | 1 |
| 2 | 40-86 | Washer - - - - - | 1 |
| 3 | 18-353 | Screw - - - - - | 1 |
| 4 | 18-422 | Screw - - - - - | 1 |
| 5 | 475-68 | Cloth Guide - - - - - | 1 |
| 6 | 99-143 | Edge Guide Holder - - - - - | 1 |
| 7 | 99-329 | Holder - - - - - | 1 |
| 8 | 21210 A | Washer - - - - - | 1 |
| 9 | 810 L | Screw - - - - - | 1 |
| 10 | 59401 | Cloth Plate, for Style 59400 K - - - - - | 1 |
| 11 | 22526 C | Screw, for Style 59400 K - - - - - | 3 |
| 12 | 59451 D | Retainer Holder Plate - - - - - | 1 |
| 13 | 59411 | Loop Retainer, marked "BW" - - - - - | 1 |
| 14 | 87 U | Screw - - - - - | 2 |
| 15 | 22585 A | Screw - - - - - | 3 |
| 16 | 22574 D | Screw - - - - - | 1 |
| 17 | 59451 F | Washer - - - - - | 1 |
| 18 | 59451 B | Loop Retainer Holder and Driving Arm - - - - - | 1 |
| 19 | 59451 | Loop Retainer Driving Crank - - - - - | 1 |
| 20 | 59482 | Oil Reservoir Top Cover - - - - - | 1 |
| 21 | 56382 H | Gasket - - - - - | 1 |
| 22 | 660-337 | Oil Seal Ring - - - - - | 1 |
| 23 | 59451 P | Loop Retainer Driven Gear - - - - - | 1 |
| 24 | 22580 E | Screw - - - - - | 2 |
| 25 | 59493 | Stop Collar and Oil Slinger - - - - - | 1 |
| 26 | 88 | Screw - - - - - | 2 |
| 27 | 94 | Screw - - - - - | 1 |
| 28 | 59451 G | Retainer Arm Support, upper - - - - - | 1 |
| 29 | 531 | Screw - - - - - | 1 |
| 30 | | Throat Plate (See Page 43) - - - - - | 1 |
| 31 | 87 | Screw - - - - - | 3 |
| 32 | 59480 | Throat Plate Support, for Style 59400 K - - - - - | 1 |
| 33 | 51280 J | Dowel Pin - - - - - | 2 |
| 34 | 59480 C | Throat Plate Support Shim - - - - - | 1 |
| 35 | 660-322 | Well Nut, for Style 59400 K - - - - - | 3 |
| 36 | 22839 | Screw, for Style 59400 K - - - - - | 3 |
| 37 | 59480 A | Throat Plate Support Shim Washer - - - - - | 1 |
| 38 | 255 | Screw - - - - - | 1 |
| 39 | 59478 | Chip Chute - - - - - | 1 |
| 40 | 18 | Nut - - - - - | 1 |
| 41 | 627 A | Screw - - - - - | 1 |
| 42 | 59451 H | Retainer Arm Support, lower - - - - - | 1 |
| 43 | 59451 C | Fulcrum and Slide Block - - - - - | 1 |



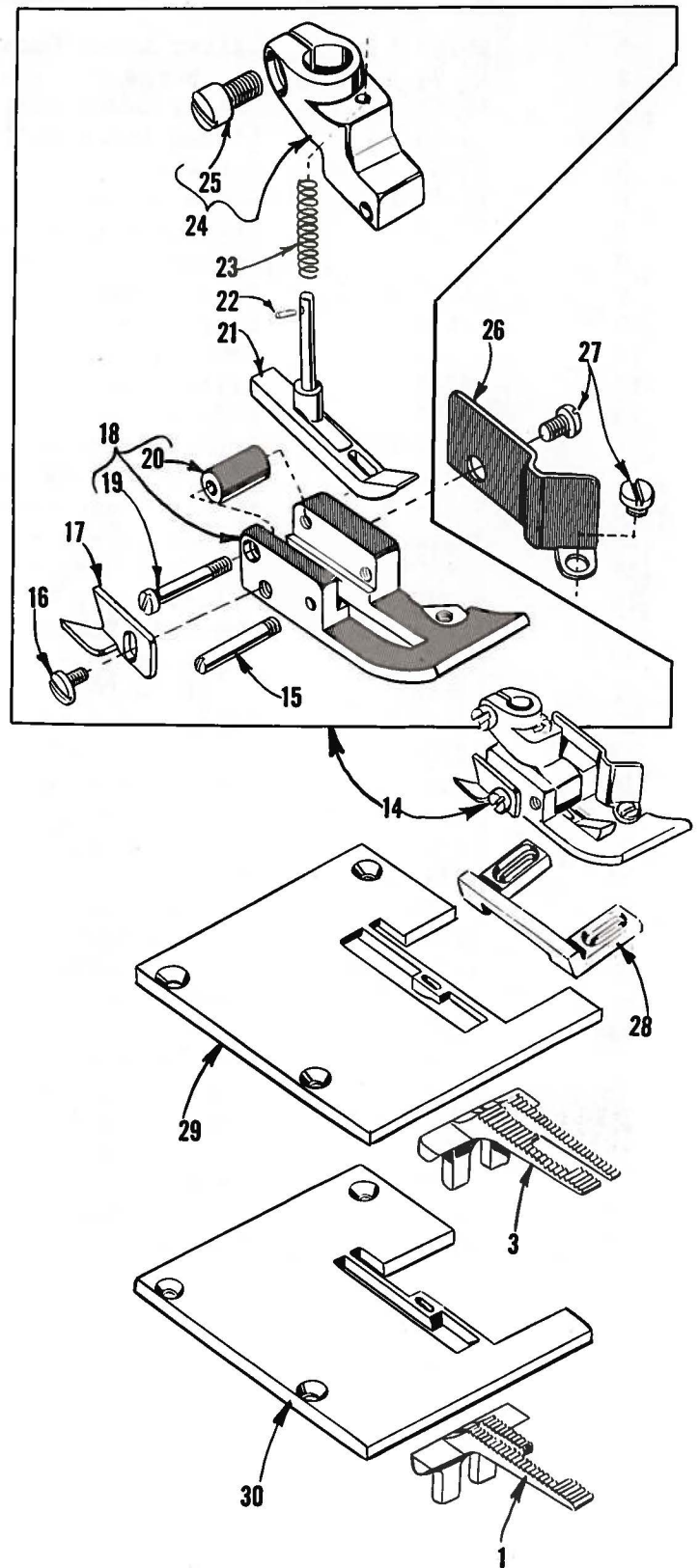
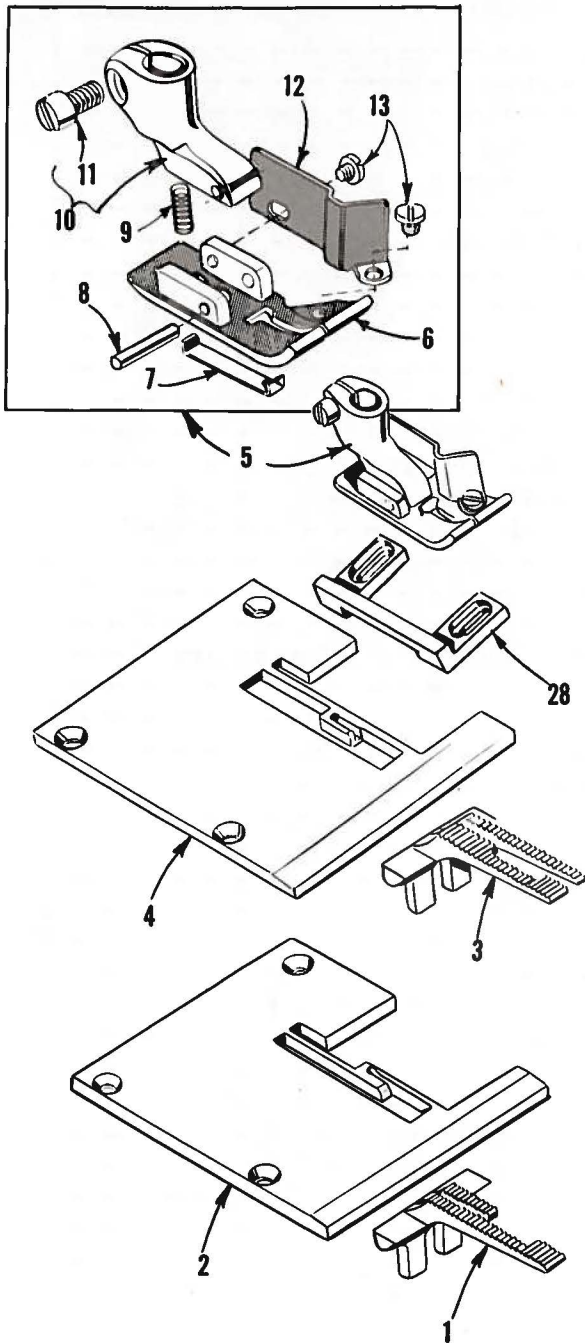
PULLER, PULLER CLUTCH, PULLER ROLLERS AND PULLER DRIVING PARTS
FOR STYLE 59400 R ONLY

| Ref. No. | Part No. | Description | Amt. Req. |
|-------------|-------------|----------------------------------------------------|--------------|
| 1 | 667 D-24 | Dowel Pin - - - - - | 2 |
| 2 | 54277 J | Feed Roller Presser Bar - - - - - | 1 |
| 3 | 59477 | Feed Roller Presser Spring Regulator - - - - - | 1 |
| 4 | 28633 L | Feed Roller Presser Spring - - - - - | 1 |
| 5 | 54277 G | Presser Bar Collar - - - - - | 1 |
| 6 | 22845 C | Screw, for presser bar collar - - - - - | 1 |
| 7 | 22517 | Screw, for presser bar collar - - - - - | 1 |
| 8 | 22854 D | Screw, for feed roller lifter lever - - - - - | 1 |
| 9 | 54277 L | Feed Roller Lifter Lever - - - - - | 1 |
| 10 | 22653 D-24 | Screw, for feed roller mounting bracket - - - - - | 3 |
| 11 | 33174 B | Stop Screw, for feed roller lifter lever - - - - - | 1 |
| 12 | 43137 E | Washer - - - - - | 1 |
| 13 | 59477 A | Feed Roller Mounting Bracket - - - - - | 1 |
| 14 | 43245 N | Bushing, for feed roller presser bar - - - - - | 1 |
| 15 | 22899 | Screw, for feed roller mounting bracket - - - - - | 1 |
| 16 | 89 | Screw, for guide stud - - - - - | 1 |
| 17 | 54278 B | Guide Stud - - - - - | 1 |
| 18 | 29476 MP | Feed Roller and Clutch Assembly - - - - - | 1 |
| 19 | 11638 M | Nut, for clutch shaft - - - - - | 2 |
| 20 | 54278 Y | Driving Washer - - - - - | 1 |
| 21 | 54278 W | Feed Roller Yoke Bearing Sleeve - - - - - | 1 |
| 22 | 54274 U | Clutch Shaft - - - - - | 1 |
| 23 | 88 A | Screw, for feed roller guard - - - - - | 2 |
| 24 | 51235 G | Washer - - - - - | 3 |
| 25 | 22792 A | Screw - - - - - | 1 |
| 26 | 54278 T | Feed Roller Yoke Guide - - - - - | 1 |
| 27 | 77 B | Screw - - - - - | 1 |
| 28 | 54278 AC | Feed Roller Yoke Guide - - - - - | 1 |
| 29 | 54278 V | Bushing, left - - - - - | 1 |
| 30 | 54278 U | Bushing, right - - - - - | 1 |
| 31 | T38 | Screw, for feed roller guard - - - - - | 1 |
| 32 | 54278 AD | Feed Roller Guard - - - - - | 1 |
| 33 | 22892 C | Stop Screw, for support plate - - - - - | 1 |
| 34 | 605 | Screw - - - - - | 6 |
| 35 | 54274 J | Support Plate - - - - - | 1 |
| 36 | 54274 W | Clutch Roller - - - - - | 6 |
| 37 | 29480 KP | Clutch Roller Spring and Cap Assembly - - - - - | 6 |
| 38 | 54274 T | Clutch Disc - - - - - | 2 |
| 39 | 538 | Screw, for feed roller - - - - - | 3 |
| 40 | 54275 M | Upper Feed Roller - - - - - | 1 |
| 41 | 22894 H | Spot Screw, for upper feed roller - - - - - | 1 |
| 42 | 51-297 Blk. | Clutch Barrel - - - - - | 1 |
| 43 | 51-298 Blk. | Clutch Barrel Core - - - - - | 1 |
| 44 | 54274 X | Clutch Brake Disc - - - - - | 1 |
| 45 | 59474 | Clutch Lever - - - - - | 1 |
| 46 | 54274 N | Tension Spring - - - - - | 1 |
| 47 | 61351 C | Washer - - - - - | 1 |
| 48 | 80 | Screw, for cloth plate - - - - - | 2 |
| 49 | 59401 A | Cloth Plate - - - - - | 1 |
| 50 | 22574 | Screw, for cloth plate - - - - - | 1 |
| 51 | 22561 | Screw, for chain cutter assembly - - - - - | 1 |
| 52 | 21239 P | Chain Cutter Assembly - - - - - | 1 |
| 53 | 21239 N | Chain Cutting Knife - - - - - | 1 |
| 54 | 22738 B | Screw - - - - - | 2 |
| 55 | 59476 | Puller Roller Shaft, lower - - - - - | 1 |
| 56 | 22839 | Screw, for throat plate support - - - - - | 2 |
| 57 | 59480 A | Throat Plate Support Shim Washer - - - - - | 1 |
| 58 | 59480 B | Throat Plate Support - - - - - | 1 |
| 59 | 22562 A | Screw - - - - - | 2 |
| 60 | 22894 C | Screw, for lower puller roller shaft - - - - - | 1 |
| 61 | 59435 C | Felt Oil Wick - - - - - | 1 |
| 62 | HA-20-A | Washer - - - - - | 1 |
| 63 | 22861 | Screw - - - - - | 1 |
| 64 | 35766 B | Nut - - - - - | 1 |
| 65 | 59474 A | Clutch Drive Link - - - - - | 1 |
| 66 | 59476 B | Puller Drive Lever - - - - - | 1 |
| 67 | 80292 A | Bushing - - - - - | 1 |
| 68 | 51236 A | Link Pin - - - - - | 1 |
| 69 | 59476 A | Spacer - - - - - | 1 |
| 70 | 54276 X | Puller Roller, lower - - - - - | 1 |
| 71 | 482 | Collar - - - - - | 1 |
| 72 | 98 | Screw - - - - - | 1 |
| 73 | 35851 K | Square Head Bolt - - - - - | 1 |
| 74 | 35766 BA | Nut - - - - - | 1 |
| 75 | 59474 B | Collar - - - - - | 1 |



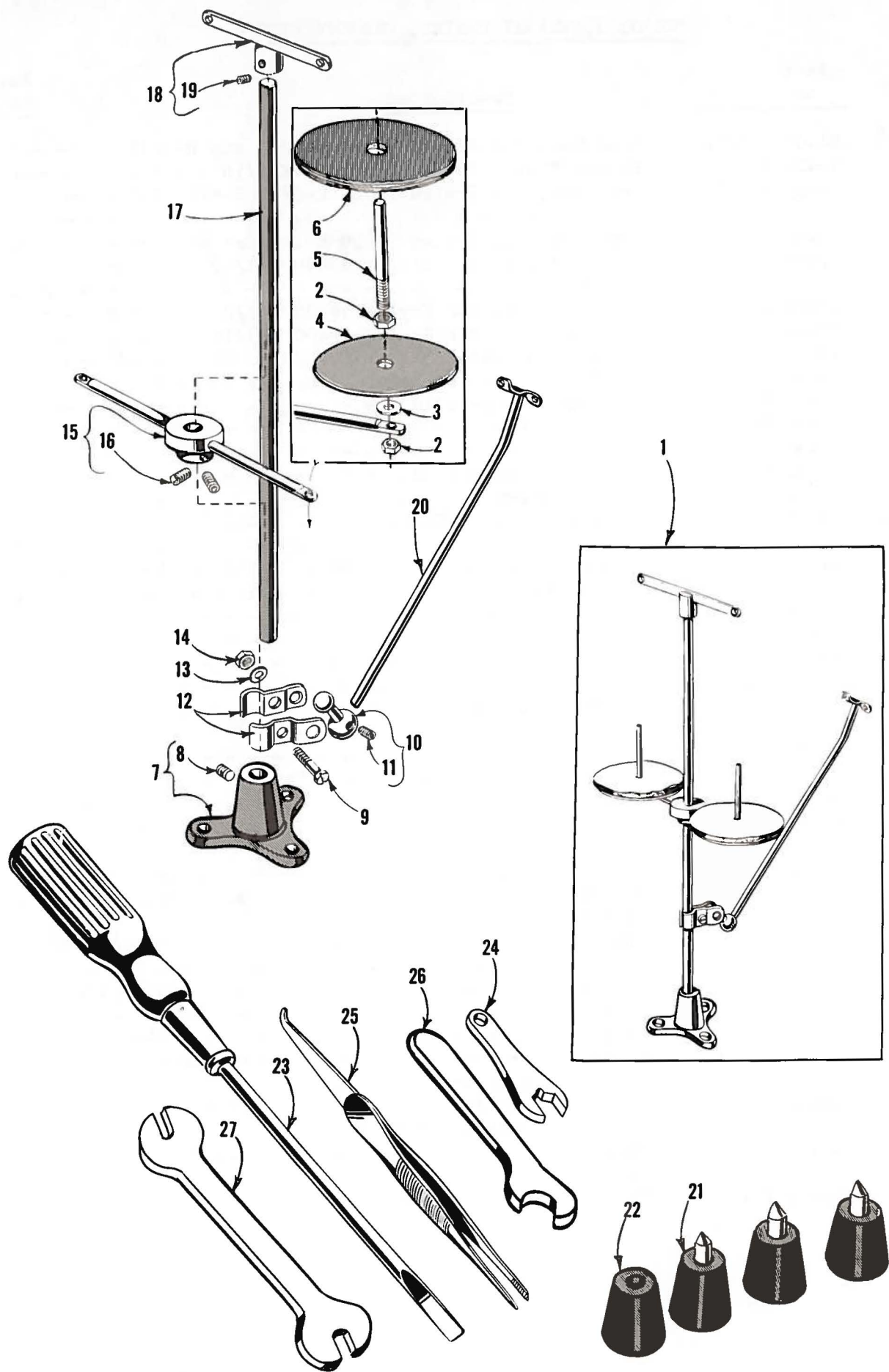
THREAD TENSION AND LIFTER LEVER PARTS

| <u>Ref.</u> <u>No.</u> | <u>Part</u> <u>No.</u> | <u>Description</u> | <u>Amt.</u> <u>Req.</u> |
|---------------------------|---------------------------|---------------------------------------------------------|----------------------------|
| 1 | 56383 X | Lifter Lever Connection - - - - - | 1 |
| 2 | 74 E | Screw - - - - - | 1 |
| 3 | 56383 Y | Lifter Lever Bell Crank - - - - - | 1 |
| 4 | 56383 D | Lifter Lever Bell Crank Spring - - - - - | 1 |
| 5 | 22557 G | Screw - - - - - | 1 |
| 6 | 22758 C | Screw - - - - - | 1 |
| 7 | 51257 M | Presser Bar Connection and Guide - - - - - | 1 |
| 8 | | Presser Foot (See Page 43) - - - - - | 1 |
| 9 | 51257 K | Presser Bar - - - - - | 1 |
| 10 | 531 | Screw - - - - - | 1 |
| 11 | 402 | Screw - - - - - | 1 |
| 12 | 56383 A | Lifter Lever Link - - - - - | 1 |
| 13 | 53787 | Presser Bar Spring, for Style 59400 K - - - - - | 1 |
| | 51256 C | Presser Bar Spring, for Style 59400 R - - - - - | 1 |
| 14 | 56356 | Presser Bar Spring Regulator - - - - - | 1 |
| 15 | 56383 W | Lifter Lever Connecting Cable - - - - - | 1 |
| 16 | 39552 C | Washer - - - - - | 1 |
| 17 | 660-207 | Oil Seal Ring - - - - - | 1 |
| 18 | 51283 H | Lifter Lever - - - - - | 1 |
| 19 | 21657 Y | Tension Release and Lifter Lever Shaft Connection - - - | 1 |
| 20 | 402 | Screw - - - - - | 1 |
| 21 | 22596 | Screw - - - - - | 1 |
| 22 | 21657 W | Tension Release and Lifter Lever Shaft - - - - - | 1 |
| 23 | 43266 | Nut, for No. 56392 E - - - - - | 1 |
| 24 | 51491 C | Thread Lead-in Guide - - - - - | 2 |
| 25 | 51292 D | Tension Thread Eyelet - - - - - | 2 |
| 26 | 51292 A | Tension Post Ferrule - - - - - | 2 |
| 27 | 56392 E | Tension Post - - - - - | 2 |
| 28 | 109 | Tension Disc - - - - - | 4 |
| 29 | 56392 F | Tension Spring Shield - - - - - | 2 |
| 30 | 51292 F-8 | Tension Spring, for needle on Style 59400 K - - - - - | 1 |
| - | 51292 F-5 | Tension Spring, for needle on Style 59400 R - - - - - | 1 |
| 31 | 39592 AK | Tension Spring Ferrule - - - - - | 2 |
| 32 | 39592 Z | Tension Nut - - - - - | 2 |
| 33 | 51292 F-2 | Tension Spring, for looper on Style 59400 K - - - - - | 1 |
| - | 51292 F-1 | Tension Spring, for looper on Style 59400 R - - - - - | 1 |
| 34 | 22598 C | Screw, for No. 21657-3 - - - - - | 1 |
| 35 | 80557 | Washer, for No. 21657-3 - - - - - | 2 |
| 36 | 21657-3 | Tension Disc Separator - - - - - | 1 |
| 37 | 52892 | Tension Post Support - - - - - | 1 |



FEED DOGS, THROAT PLATES, PRESSER FEET

| Ref. No. | Part No. | Description | Amt. Req. |
|-------------|--------------|-------------------------------------------------------------------------------------------------------|--------------|
| 1 | 54405 K-3/16 | Feed Dog, for Styles 59400 K-3/16 and R-3/16 - - - - | 1 |
| 2 | 59424 K-3/16 | Throat Plate, for Style 59400 K-3/16 - - - - - | 1 |
| 3 | 54405 K-3/14 | Feed Dog, for Styles 59400 K-3/8, K-5/8, R-3/8 and R-5/8 - - - - - | 1 |
| | 54405 K-5/16 | Feed Dog, for Styles 59400 K-1/4 and R-1/4 - - - - | 1 |
| 4 | 59424 K-3/4 | Throat Plate, for Styles 59400 K-1/4, K-3/8 and K-5/8 - - - - - | 1 |
| 5 | 59420 K-3/4 | Presser Foot, for Styles 59400 K-3/8 and K-5/8 - - - | 1 |
| | 59420 K-5/16 | Presser Foot, for Styles 59400 K-3/16 and K-1/4 - - | 1 |
| 6 | 63430-2 | Bottom, marked "AE-2", for No. 59420 K-3/4 - - - | 1 |
| | 63430-3 | Bottom, marked "AE-3", for No. 59420 K-5/16 - - | 1 |
| 7 | 63430 B | Yielding Section - - - - - | 1 |
| 8 | 61330 B-39 | Hinge Pin - - - - - | 1 |
| 9 | 63430 E | Spring - - - - - | 1 |
| 10 | 59430 A | Shank, marked "H" - - - - - | 1 |
| 11 | 91 | Screw - - - - - | 1 |
| 12 | 8-66 | Presser Foot Guard - - - - - | 1 |
| 13 | 22798 | Screw - - - - - | 2 |
| 14 | 54420 K-3/4 | Presser Foot, for Styles 59400 R-3/8 and R-5/8 - - - | 1 |
| | 54420 K-5/16 | Presser Foot, for Styles 59400 R-3/16 and R-1/4 - - | 1 |
| 15 | 22799 A | Hinge Screw - - - - - | 1 |
| 16 | 604 | Screw - - - - - | 1 |
| 17 | 52930 AC | Chain Cutter, marked "D" - - - - - | 1 |
| 18 | 54430 K-5/16 | Bottom, for No. 54420 K-5/16 - - - - - | 1 |
| | 54430 K-3/4 | Bottom, for No. 54420 K-3/4 - - - - - | 1 |
| 19 | 22734 | Screw - - - - - | 1 |
| 20 | 54430 C | Spacer - - - - - | 1 |
| 21 | 54430 B | Yielding Section, marked "AL" - - - - - | 1 |
| 22 | 54430 E | Pin - - - - - | 1 |
| 23 | 35730 Y | Spring - - - - - | 1 |
| 24 | 54430 A | Shank - - - - - | 1 |
| 25 | 91 | Screw - - - - - | 1 |
| 26 | 8-66 | Presser Foot Guard, for Styles 59400 K-3/16, K-3/8, R-3/16, R-1/4 and R-3/8 - - - - - | 1 |
| | 408-75 | Presser Foot Guard, for Styles 59400 K-5/8 and R-5/8 (for 3/4 inch width of pink) - - - - - | 1 |
| | 408-79 | Presser Foot Guard, for Styles 59400 K-1/4, K-5/8 and R-5/8 (for 5/8 inch width of pink) - - - - - | 1 |
| 27 | 22798 | Screw, for presser foot guard, for Style 59400 R - - | 2 |
| 28 | 54484 N-5/8 | Knife Spacer, for Styles 59400 K-5/8 and R-5/8, (for 5/8 inch width of pink) - - - - - | 1 |
| | 54484 N-3/4 | Knife Spacer, for Styles 59400 K-5/8 and R-5/8, (for 3/4 inch width of pink) - - - - - | 1 |
| 29 | 54424 K-3/4 | Throat Plate, for Styles 59400 R-1/4, R-3/8 and R-5/8 - - - - - | 1 |
| 30 | 54424 K-3/16 | Throat Plate, for Style 59400 R-3/16 - - - - - | 1 |

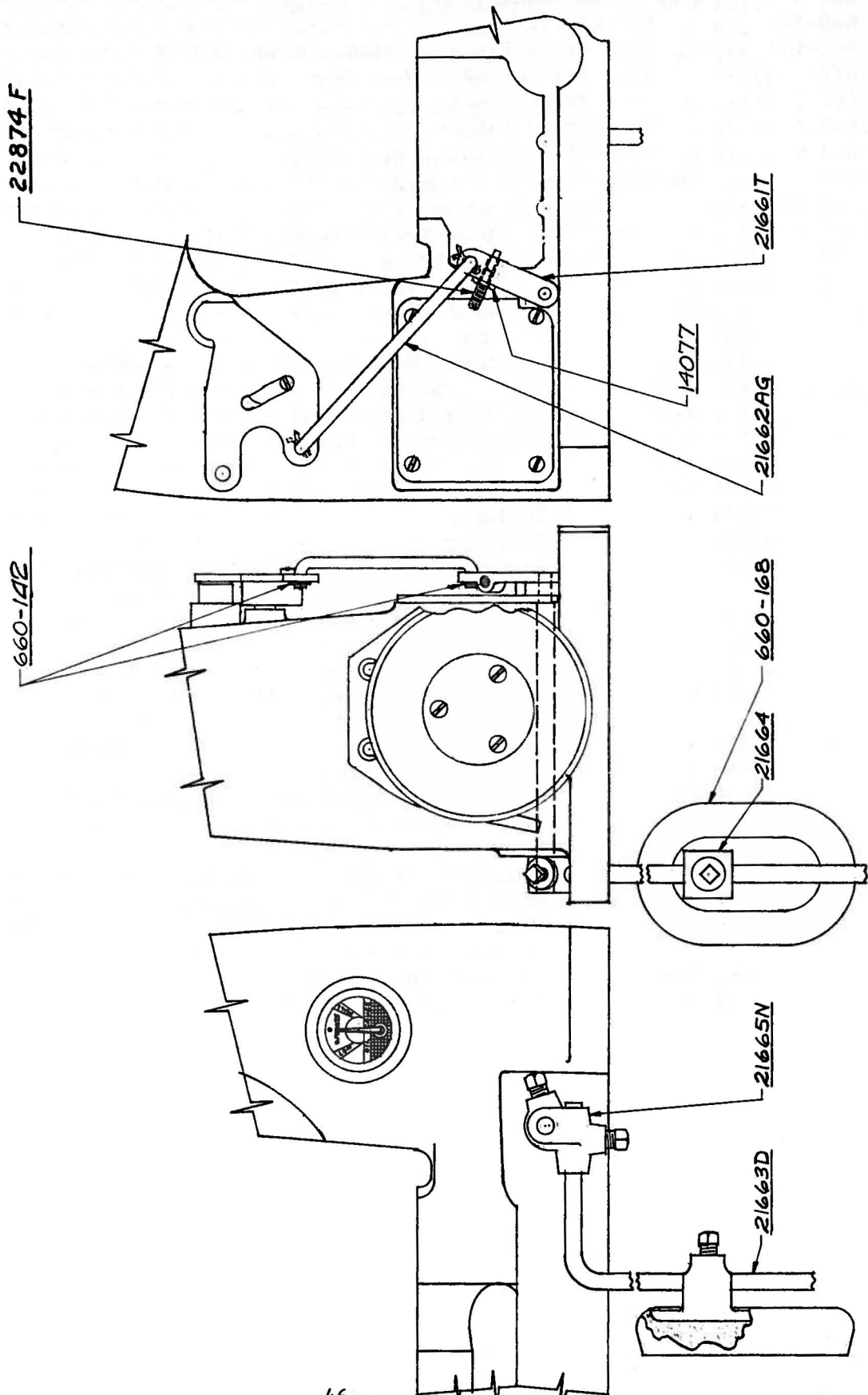


THREAD STAND, KNEE PRESS ASSEMBLY AND ACCESSORIES

| <u>Ref. No.</u> | <u>Part No.</u> | <u>Description</u> | <u>Amt. Req.</u> |
|---------------------|---------------------|-------------------------------------------------------------------------------------------------------|----------------------|
| 1 | 21101 H-2 | Thread Stand, complete - - - - - | 1 |
| 2 | 258 A | Nut - - - - - | 4 |
| 3 | 652-16 | Washer - - - - - | 2 |
| 4 | 21114 | Spool Seat Disc - - - - - | 2 |
| 5 | 21114 W | Spool Pin - - - - - | 2 |
| 6 | 21104 V | Pad - - - - - | 2 |
| 7 | 21114 A | Thread Stand Base - - - - - | 1 |
| 8 | 22651 CD-4 | Screw - - - - - | 1 |
| 9 | 22810 | Screw - - - - - | 1 |
| 10 | 21114 T | Lead Eyelet Socket Ball - - - - - | 1 |
| 11 | 22651 CD-4 | Screw - - - - - | 1 |
| 12 | 21114 U | Lead Eyelet Ball Split Socket - - - - - | 2 |
| 13 | 652-16 | Washer - - - - - | 1 |
| 14 | 21104 H | Nut - - - - - | 1 |
| 15 | 21114 D-2 | Spool Seat Support - - - - - | 1 |
| 16 | 22651 CD-5 | Screw - - - - - | 2 |
| 17 | 21104 B-24 | Thread Stand Rod - - - - - | 1 |
| 18 | 21114 H-2 | Eyelet Support - - - - - | 1 |
| 19 | 22651 CD-4 | Screw - - - - - | 1 |
| 20 | 21114 S-2 | Lead Eyelet - - - - - | 1 |
| 21 | 51295 B | Isolator - - - - - | 3 |
| 22 | 51295 A | Isolator - - - - - | 1 |
| 23 | 21202 | Screw Driver, 3/16 inch (4.76 mm) round blade, length over-all 10 3/4 inches (273.05 mm) - - - - - | 1 |
| 24 | 116 | Wrench, single end, 9/32 inch (7.14 mm) opening - - - | 1 |
| 25 | 660-240 | Thread Tweezer - - - - - | 1 |
| 26 | 21388 | Wrench, single end, 3/8 inch (9.52 mm) opening - - - | 1 |
| 27 | 21388 N | Wrench, double end, 3/16 and 5/16 inch (4.76 and 7.94 mm) opening - - - - - | 1 |
| - | 54478 A | Chip Chute, for table board (not shown) - - - - - | 1 |
| - | 21660 N | Knee Press Assembly (see Page 47) - - - - - | 1 |
| - | WR-64 | Allen Wrench, 3/32 inch hexagon, for Style 59400 K (not shown) - - - - - | 1 |
| - | 660-457 | Dust Cover (not shown) - - - - - | 1 |
| - | 28604 R | Container of Oil, 16 ounces, Spec. 175 (not shown) - - | 1 |
| - | SC-303 | Wood Screw, #12 x 1 inch (not shown) - - - - - | 1 |
| - | SC-333 A | Wood Screw, # 9 x 5/8 inch, for No. 54478 A (not shown) - - - - - | 2 |
| - | 660-264 | "S" Hook (not shown) - - - - - | 2 |
| - | 421 D-34 | Treadle Chain (not shown) - - - - - | 1 |

PL-522

THIS PLANOGRAPH SHOWS
THE ASSEMBLY OF 21660N
KNEE PRESS PARTS



KNEE PRESS ASSEMBLY

| <u>Part No.</u> | <u>Description</u> | <u>Amt. Req.</u> |
|---------------------|---------------------------------------------------|----------------------|
| 21660 N | Knee Press Assembly - - - - - | 1 |
| 660-142 | Cotter Pin - - - - - | 2 |
| 660-168 | Knee Press Plate Cushion, sponge rubber - - - - - | 1 |
| 14077 | Nut, for No. 22791 K - - - - - | 1 |
| 21661 T | Knee Press Shaft - - - - - | 1 |
| 21662 AG | Knee Press Lifter Rod - - - - - | 1 |
| 21663 D | Knee Lifter Plate Rod - - - - - | 1 |
| 21664 | Knee Press Plate - - - - - | 1 |
| 69 FD | Screw - - - - - | 1 |
| 21665 N | Knee Press Rod Connection - - - - - | 1 |
| 69 FD | Screw - - - - - | 2 |
| 22874 F | Screw - - - - - | 1 |

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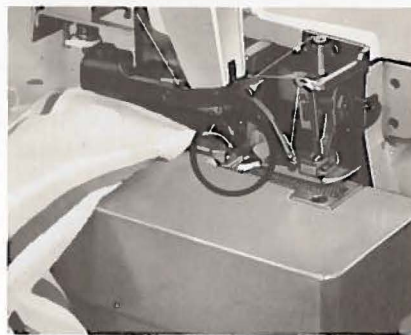
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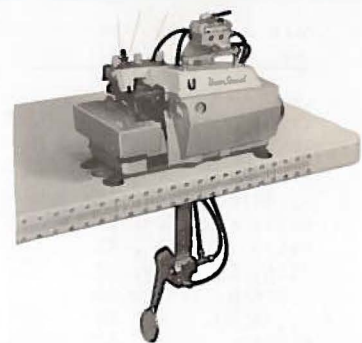
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NOTE: Only the basic part numbers are shown in the index. For various gauges, capacities, etc. available, refer to the listings on pages indicated.

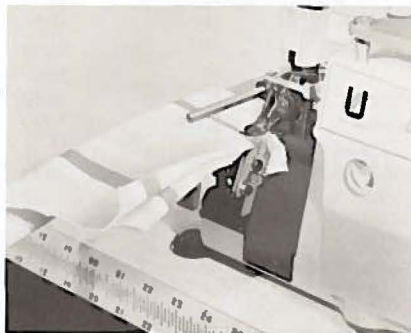
BOOST PRODUCTION WITH THESE WORK AIDS FROM UNION SPECIAL



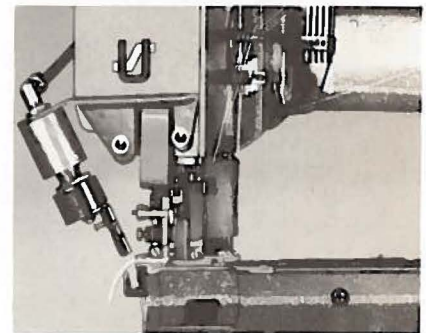
PNEUMATIC CHAIN-CUTTER—for use on conventional Class 39500 and 39600 is a durable scissor-action mechanism that makes a clean positive cut. Style 2899 A-1



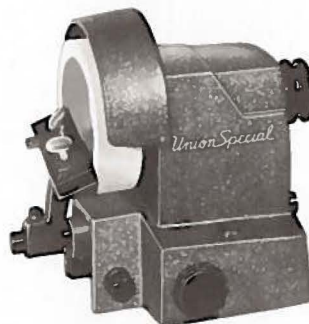
PNEUMATIC FOOT LIFTER—The air-operated foot lifter for use on Class 39500 machines allows the operator to raise the foot simply by knee-touching an actuating switch.



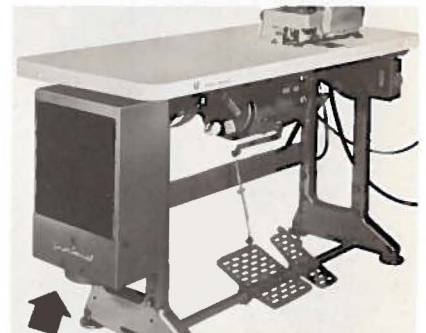
AIR FABRIC UNCURLER—This unit, designed for Class 39500 machines, uses air jets to remove curls from top and bottom plies of flat knit materials as fabric passes through sewing area. Style 2899 B-1



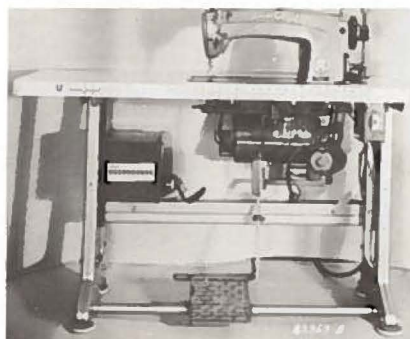
CHAIN CUTTER—The above photo shows the small pneumatic chain cutter that is available for installation as an accessory unit on Class 36200 Flatseamers. Style 2899 A-6



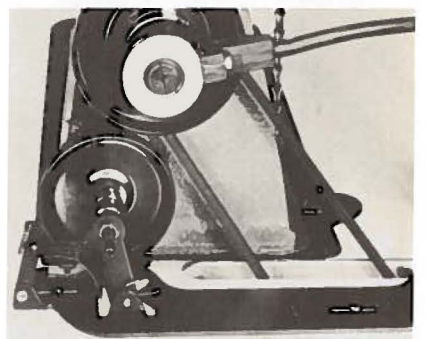
KNIFE GRINDER sharpens straight or angle type knives, is simple and easy to operate, eliminates defective garments caused by dull knives.



HEAT DISPELLER—Union Special's auxiliary unit (arrow) is an effective means for reducing oil temperature where heavy duty service requires it. Style 2899 E-1



AMCO ELECTRONIC NEEDLE POSITIONERS eliminate the necessity of reaching for the hand-wheel to move the needle up or down . . . this allows the operator to keep both hands on the work, insuring better control, uniform quality and increased production.



**UNION SPECIAL
CORPORATION**