FINEST QUALITY

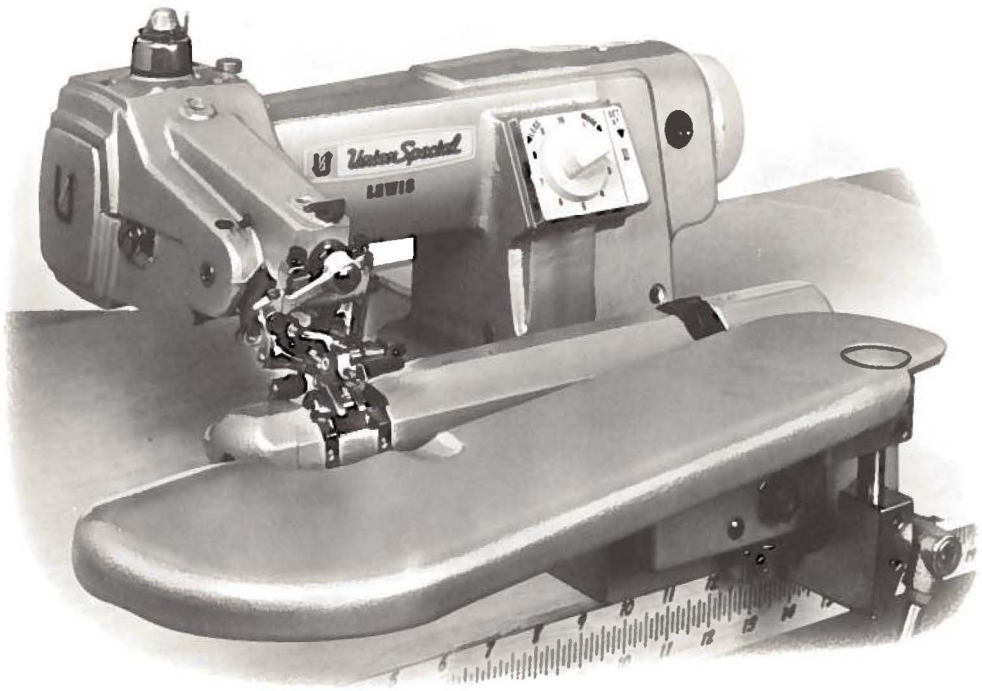
Union Special®

LEWIS® • COLUMBIA®

INDUSTRIAL SEWING MACHINES

STYLES

37500-1
37500-5
37500-6
37500-8
37500-9




CLASS 37500

# SINGLE THREAD CHAINSTITCH BLINDSTITCH MACHINES NON-SKIP STITCH

CATALOG No. 194-19

Second Edition

*UNION SPECIAL CORPORATION*

CHICAGO

Catalog No. 194-19

# INSTRUCTIONS

# FOR

# ADJUSTING AND OPERATING

# AND

# LIST OF PARTS

# FOR

# CLASS 37500

# STYLES

37500-1
37500-5
37500-6
37500-8
37500-9

Second Edition



*UNION SPECIAL CORPORATION*
INDUSTRIAL SEWING MACHINES
**CHICAGO**

Printed in U.S.A.

January, 1979

## IDENTIFICATION OF MACHINES

Each UNION SPECIAL LEWIS machine carries a style number which is stamped into the style plate located on the right end of the machine base. The serial number of each machine is stamped in the base at the back.

## 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 machines in Class 37500. All references to direction, such as right and left, front and back, etc., are taken from the operator's position while seated at the machine, unless otherwise noted.

## DESCRIPTION OF MACHINES

Single Thread, Curved Needle, 103 Chain Stitch, Non-Skip Stitch, Needle Travels from Left to Right and Penetrates at an Angle 90° to Line-of-Feed. Calibrated Penetration Adjustment, Push Button for Quick Easy Adjustment of Stitch Length and a Large, Easy-to-Read Indicator Dial Marked with Stitch Lengths, Knee Actuated Drop Arm for Inserting and Removing Work. Maximum Work Space to Right of Needle for Flat Work 7 Inches (177.8 mm), Tubular Work 5 Inches (127.0 mm) for applicable machines.

37500-1 Equipped with oscillating ridge former with Quick Change from soft to knit finish material for hemming on dresses of light, medium and heavy weight materials, and also felling edge tape, and knit materials. Seam specification 103-EF1-1 or 103-EFm-1 (modified).

37500-5 For hemming cuffs and cuffless medium weight trousers, slacks and similar garments. Seam specification 103-EF1-1.

37500-6 For blindstitch roll padding of lapels and collars on men's light, medium and heavy weight suit coats. Seam specification 103-SSm-1.

37500-8 Equipped to produce a narrow seam when felling waistbands and linings to trousers. Seam specification 103-EFm-1 (modified).

37500-9 Fitted with a folder for book seaming suit coats, top coats and similar garments where it is desirable to eliminate piping of inside seams. Seam specification 103-EF1-1.

## OILING

The machine should be oiled twice daily, before the morning and afternoon starts. Use a good grade of straight mineral oil with a Saybolt viscosity of 90 to 125 seconds at 100° Fahrenheit. Oiling places on the machine are red. However, reference to the oiling diagram (Fig. 1) will be beneficial.

## SPEED

Maximum recommended speed for these machines is 3500 R.P.M. The operating direction of the handwheel is away from the operator.

## NEEDLES

Use only genuine UNION SPECIAL LEWIS needles. The needles are packaged under our brand name *Union Special®*. The recommended needle for Styles 37500-1, -5 and -9 is Type 29 BL-090/036. It has a blade diameter of .036 inch (.90 mm). The recommended needle for Styles 37500-6 and -8 is Type 29 BL-100/040. It has a blade diameter of .040 inch (1.00 mm). The following types and sizes are available.

| NEEDLE TYPE | SIZE | |
|---|---|---|
| | INCHES | MILLIMETERS |
| 29 BL-065/025 | .025 | .65 |
| 29 BL-075/029 | .029 | .75 |
| 29 BL-090/036 | .036 | .90 |
| 29 BL-100/040 | .040 | 1.00 |
| 29 BL-110/044 | .044 | 1.10 |
| 29 BM-075/029 (ball point) | .029 | .75 |
| 29 BM-090/036 (ball point) | .036 | .90 |

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

To have needle orders promptly and accurately filled, an empty package, a sample needle, or the Type number should be forwarded. Use the description on the label. A complete order would read: "100 Needles, Type 29 BL-090/036".

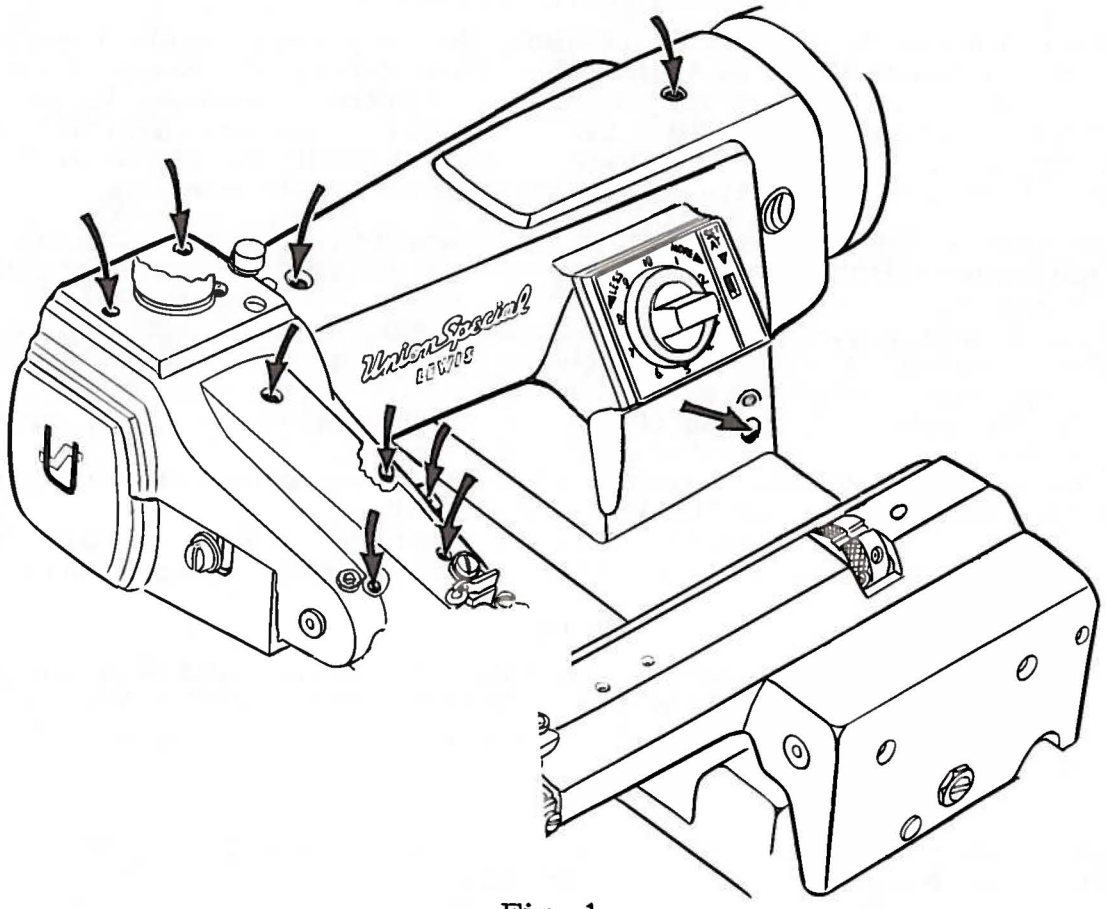



Fig. 1

## CHANGING NEEDLES

When changing the needle, make sure that it is inserted in the needle carrier as far as it will go and tighten clamp screw securely.

Immediately discard any needle which may have a hooked or blunt point, as improper needle penetration will result.

## THREADING

To thread the machine, turn handwheel in operating direction until the needle carrier is in its highest position.

Refer to the threading diagram (Fig. 2).

## THREADING DIAGRAM

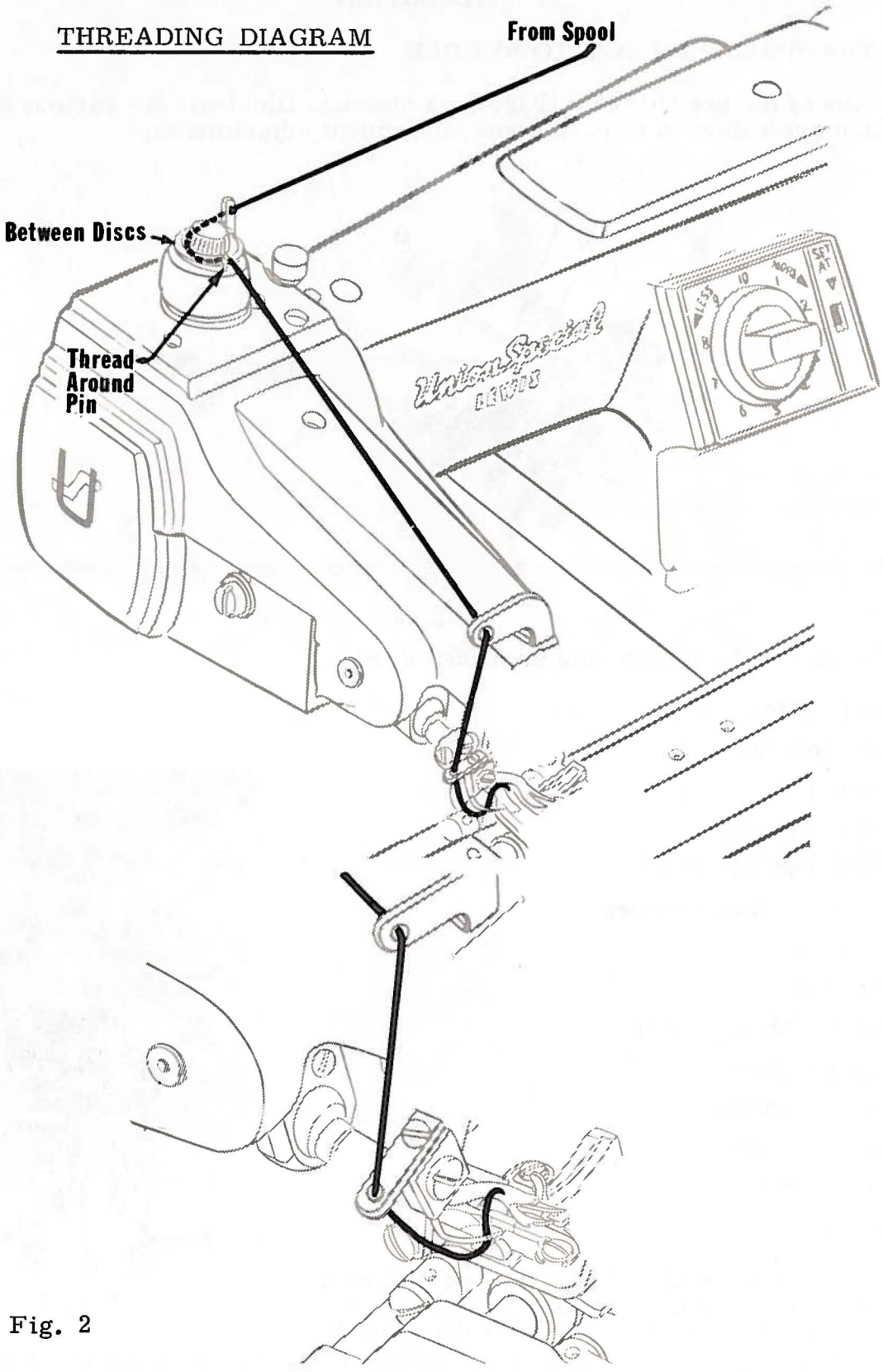



Fig. 2

## ADJUSTING PRESSER FOOT TO NEEDLE

A view of the presser foot (Fig. 3) is shown to illustrate the various parts of the foot which are referred to in this and subsequent adjustments.

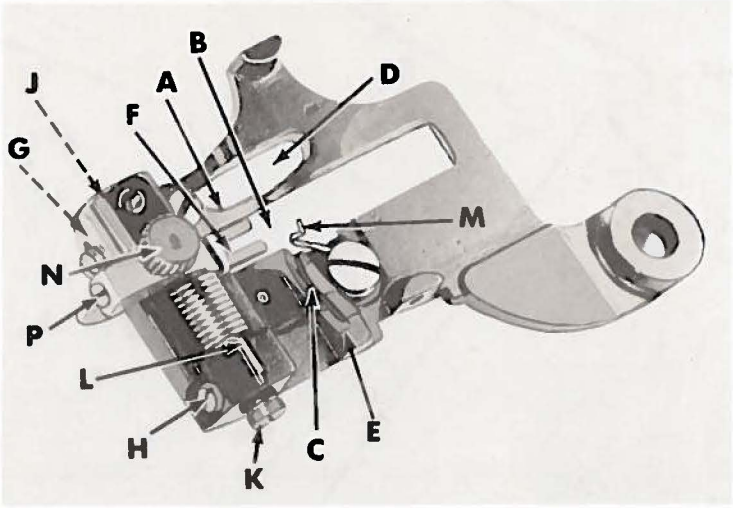



Fig. 3

Below is the key to the labeling as shown in Fig. 3.

A - Needle guide
B - Cloth opening
C - Needle track
D - Looper opening
E - Radius run-out edge
F - Crown or cloth retainer
G - Set screw
H - Set screw
J - Retainer shaft bushing
K - Retainer shaft
L - Retainer spring
M - Chaining finger
N - Thumbscrew
P - Set screw

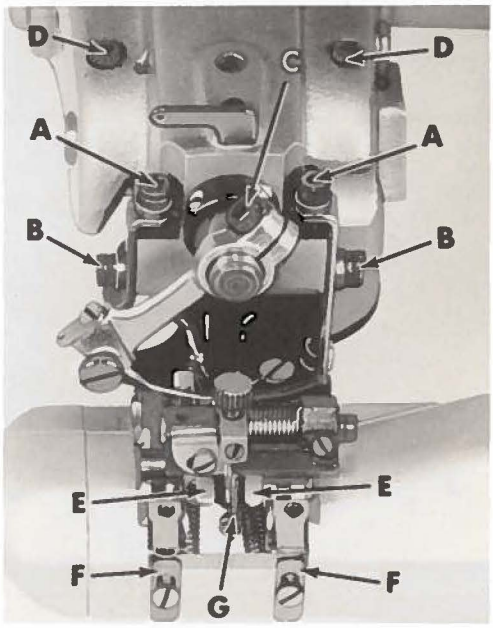



Fig. 4

Insert a new needle of proper type and size as far as it will go into the needle carrier and securely tighten the clamp screw. Set the presser foot to the needle so the needle point contacts the needle guide (A, Fig. 3) when traveling from left to right, and so that the needle remains in contact with the needle guide until the point of the needle lies in the span between the center of the cloth opening (B) and the right side of the cloth opening. As the needle continues to move to the right, play should develop between the needle and needle guide until the needle reaches the needle track (C) making sure that the heel of the needle does not strike

the needle guide (A, Fig. 3) and lift off the needle track (C) while advancing the needle farther to the right. To accomplish these adjustments, loosen screws (A, Fig. 4) on top of the presser foot brackets, so that the heads do not contact the washers. Loosen the upper screws (B) on the side of each bracket, move presser foot up, retighten these screws (B) just enough to hold the presser foot up. Adjust the top screws (A) equally, a little at a time, to obtain the aforementioned settings. After screws (B) on the sides have been tightened, no further adjustment of the top screws (A) should be attempted.

## SETTING NEEDLE STROKE

Turn the handwheel in operating direction until the needle point is at the left of stroke. It should be flush with the left side of looper opening (D, Fig. 3). The needle point, at right of stroke, should be to the top of radius run-out edge (E). If this is not the case, the travel of the needle will have to be adjusted in the following manner.

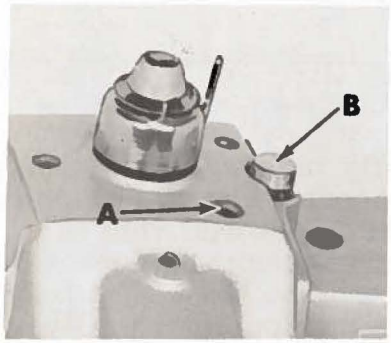


Fig. 5

Turn the handwheel in operating direction until the needle eye is flush with the right side of the cloth opening (B, Fig. 3) in the presser foot. Loosen the clamp screw in the needle crank (accessible through the hole located at point (A, Fig. 5) in top of the head). Turn the handwheel in operating direction until the needle carrier is at its extreme right end of travel. Remove head cover and turn the needle eccentric ball stud (A, Fig. 6) so that its slot is vertical and the punch marks in the ball stud are down, as viewed in Fig. 6. The needle eccentric ball stud is located in the head, at the back near the top. Retighten the clamp screw and recheck the position of the needle point in relation to the left side of the looper opening. Loosen needle carrier clamp screw (C, Fig. 4) and rotate carrier as required for above setting. Also the needle carrier should be set front to back so the side of the needle is flush to .003 inch (.076 mm) away from vertical wall at the right side of presser foot. It may be necessary to slightly retard or advance the above adjustments to obtain desired results. CAUTION: When adjusting the needle eccentric ball stud, make sure that it is seated against the needle shaft crank.

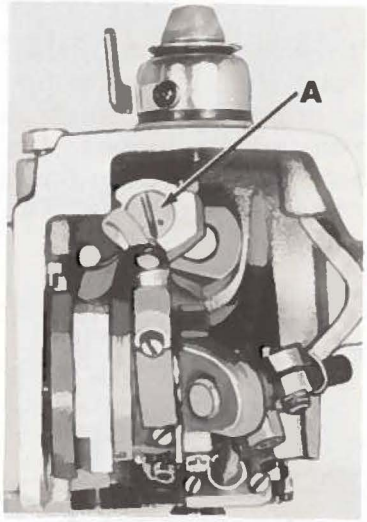


Fig. 6

## LOOPER TIMING ADJUSTMENT

Insert the looper in its holder so that the flat on its shank corresponds with flat on holder and is seated in the holder. In the left end of the mainshaft (A, Fig. 7) is a "V" groove and on the looper crank (B), there is a trade mark.

Turn the handwheel in operating direction until the "V" groove in the mainshaft is at bottom. Loosen two screws (A, Fig. 8) in the looper crank (B) and position the crank so that the center of the trade mark coincides with the right edge of the "V" groove in the mainshaft (See Fig. 7). This is merely an approximate setting. Again

turn the handwheel in operating direction until the point of the long prong of the looper is over the spot in the needle. At this time, the long prong of the looper should be from 3/64 to 5/64 inch (1.19 to 1.98 mm) away from the left end of the needle eye.

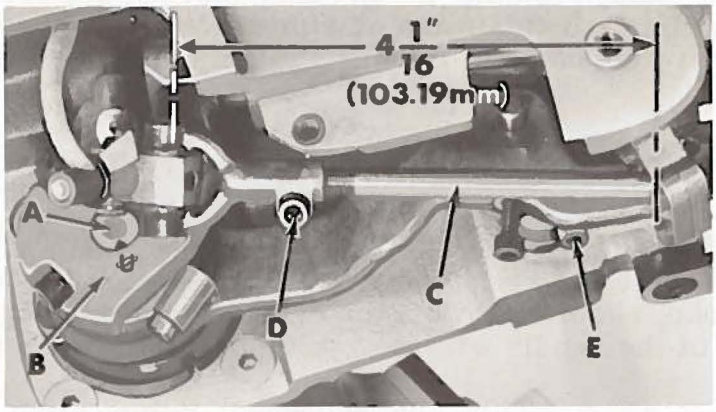



Fig. 7

The short prong of the looper should cross the needle slightly higher than the long prong. The long prong looper point should be close to the needle spot, but should not come in contact with it. On continuing the rotation of the handwheel, the short prong of the looper should clear the right side of the looper opening in the presser foot and the needle on its return stroke should enter the crotch of the looper, midway between the prongs. The adjustment of the looper is secured by manipulation of looper ball adjusting shaft (A, Fig. 9) and the looper holder connecting rod (C, Fig. 7). The looper ball adjusting shaft positions the looper laterally and also provides a limited amount of vertical or height adjustment. Lateral adjustment is secured by loosening screws (D, Fig. 4) and moving shaft (A, Fig. 9) right or left. Vertical or height adjustment can be secured by turning the shaft (as viewed in Fig. 9) counterclockwise to lower the looper, turning the shaft clockwise acts the reverse. When desired positioning has been acquired, hold in on both ends of shaft while retightening screws (D, Fig. 4). The looper holder connecting rod (C, Fig. 7) also adjusts the looper vertically, but to a greater extent than the adjusting shaft. If the looper is radically out of adjustment, to the spot of the needle, adjustment can be made by loosening the clamp screw (D) and by turning the connecting rod, rolling the looper to the desired height. The approximate distance from the back side of the front ball to the near edge of the inside of the link pin should be 4 1/16 inches (103.19 mm) (See Fig. 7). Retighten clamp screw on connecting rod yoke to maintain this setting. If only a slight amount of height adjustment is required, it can be secured by turning the looper ball adjusting shaft (A, Fig. 9) as described earlier. Final setting involves coordinated adjustment of both the connecting rod and the adjusting shaft.

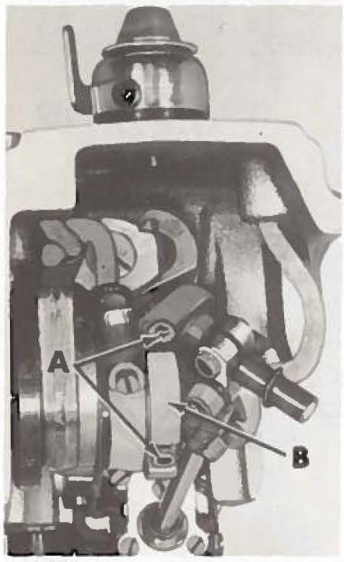



Fig. 8

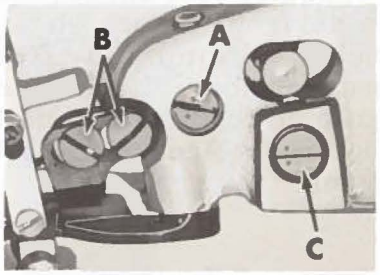



Fig. 9

## SETTING THE FEED DOG

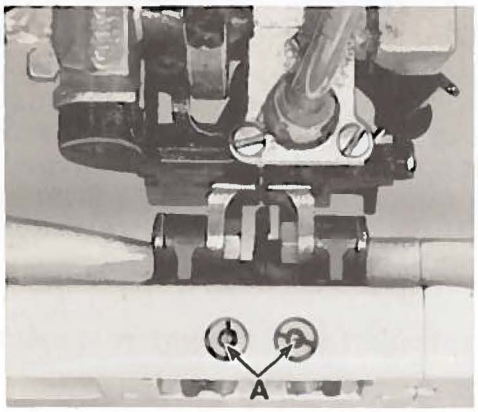



Fig. 10

As the needle travels from right to left, the feed dog should contact the feed plates when point of needle is flush with right side of cloth opening and feed dog is 3/32 ± 1/32 inch (2.38 ± .79 mm) behind needle. Feed dog should depress feed plates approximately the depth of a full tooth. Slot in eccentric stud should be horizontal when feed bar is all the way toward operator. Dots should be toward operator. The feed dog is adjusted by means of two screws (B, Fig. 9) on the right side of the head. The slot in eccentric stud (C) should be horizontal when the feed bar is all the way towards the operator and the punch marks at the end of the slot in the stud should be towards the operator. To position stud, loosen clamp screw (E, Fig. 7) and position stud as required, retighten clamp screw. It may be necessary to rotate the punch marks down in stud to obtain a full tooth depth for shorter number of stitches.

CAUTION: Feed dog must NOT graze looper at 3 S.P.I. or contact the back end of the presser foot feed dog slot.

## SETTING FEED PLATES

Pressure on the feed plates is controlled by two nuts (A, Fig. 10) located in the back of the cylinder. Turning them counterclockwise increases the tension and turning the nuts clockwise acts the reverse. Set feed plate pressure to obtain a uniform stitch length and not to mark material. The feed plates should drop uniformly when the cylinder is depressed. To adjust feed plates (E, Fig. 4) to drop uniformly, set stop plates (F) at front of cylinder. The usual setting is to have a 1/32 inch (.79 mm) gap between feed plate stops and feed plate holders, with feed dog off of feed plates. Set spring pressure so screws are approximately 1/16 inch (1.59 mm) inside edge of nuts. Feed plates should be centered around presser foot cloth opening. To make this setting, loosen the two Allen set screws (A, Fig. 11) and move cylinder to the right or left as required. Retighten set screws.

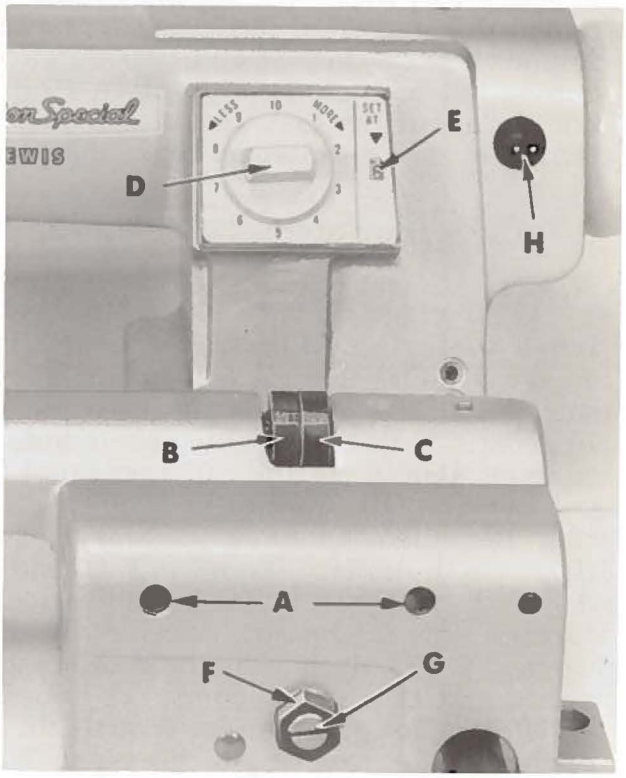



Fig. 11

## SETTING RIDGE FORMER

The ridge former must be set so that it is in the center of the cloth opening in presser foot, left to right. To make this adjustment, loosen the two set screws in the hub of ridge former (G, Fig. 4), center ridge former in cloth opening and retighten set screws, tightening the set screw on the flat, first.

The needle moving from left to right should be timed with the ridge former so that when the ridge former has reached its farthest travel to the rear, the point of the needle is over the center of the width of the ridge former. To make this adjustment, swing open arm back cover and loosen screws in sprocket (A, Fig. 12). Turn handwheel until the point of the needle is over the center of the width of ridge former. Now, while holding handwheel to keep the point of the needle over the ridge former, rotate sprocket (A) forward or backward slightly, until the ridge former has reached its farthest travel to the rear.

NOTE: Remove all end play between handwheel and sprocket (A), retighten screws.

On Style 37500-8, an additional compensating device is provided for the yielding ridge former. Mounted in the presser foot located over the ridge former is a spring actuated crown (F, Fig. 3), which can be adjusted to regulate the depth of needle penetration from the top side of the presser foot. Setting of same can insure continual contact with material during full travel of the ridge former. As the ridge former travels to the point of penetration, the crown can be set to become a positive stop in its upward travel; assuring that the needle will always penetrate the same distance from the top of the work.

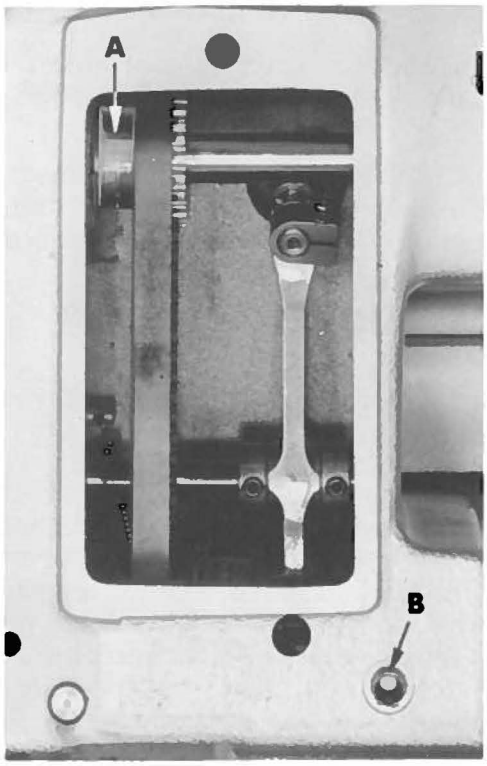


Fig. 12

(For Styles 37500-1, -5, -6 Only)

The ridge former should be set for soft finished materials. For soft finished materials, the wedge side of the ridge former should be up and the word "SOFT" showing on disc (B, Fig. 11). For knit materials, the round side of the ridge former should be up and the word "KNIT" showing on disc (B). If this is not the case and resetting becomes necessary, loosen screws in disc (C), tip cylinder down and rotate disc (B) 180 degrees to position the wedge side of the ridge former up. Retighten screws in disc (C). If the word "SOFT" does not show on disc (B), loosen screws in same and rotate as necessary to align the word "SOFT" with the word "FINISH". Retighten screws while thrusting disc (B) against disc (C). When the point of the needle traveling to the right is over the ridge former, at this time, the needle should be 1/16 inch (1.59 mm) from the front of the ridge former. To make this adjustment, loosen screws in discs (B and C), locate ridge former with respect to the needle, retighten screws while thrusting disc (B) to the right against disc (C). When sewing knit finished material, use the round side of the ridge former. To change from "SOFT" to "KNIT" merely loosen screws in disc (C), tip cylinder down and rotate disc (B) 180 degrees and retighten set screws. End play of the ridge former drive shaft should be taken up between disc (C) and thrust collar, located under right end of cylinder on all machine Styles.

For average sewing, the cylinder main spring pressure is set correctly when the end of spring adjusting screw is inside end of hexagonal head nut (B, Fig. 12) 5/16 of an inch (7.94 mm) (as viewed from rear of machine). More cylinder pressure is obtained by adjusting the nut clockwise and less pressure is obtained by turning counterclockwise.

## SETTING NEEDLE GRAZE

On Styles 37500-1, -5, -6 rotate disc to soft finish, then proceed as follows for all machine Styles. At maximum penetration the needle should graze the ridge former enough to note the needle lifting off of the needle guide. At this time the penetration dial (D, Fig. 11) should be set at "10", with "6" showing in the window (E). The needle graze setting is made by loosening hexagonal nut (F) at the front of cylinder and turning screw (G) as required to get the proper needle graze. Retighten hexagonal nut. Remove all free play in knee press with stop screw located on right end of machine below the handwheel, after loosening the nut, then back off the screw 1/2 turn. Retighten nut. NOTE: Recheck "NEEDLE GRAZE SETTING".

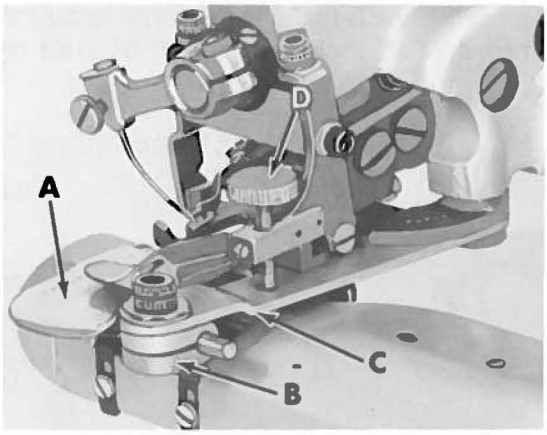



Fig. 13

## CHANGING THE STITCH LENGTH

Press plunger (B, Fig. 5) in firmly. While holding plunger in, turn handwheel in operating direction until stitch regulating finger is felt to drop into the slot of feed regulator. Continuing to hold the plunger in, turn handwheel in operating direction to increase the stitch length and in opposite direction to decrease the stitch length.

Stitch lengths are indicated by graduations on the indicator dial and are viewed through the window (H, Fig. 11), in the belt guard.

## FURTHER ADJUSTMENTS
(For Styles 37500-1, -5, -6, -8)

The crown or cloth retainer (F, Fig. 3) should be centered over ridge former and be as close to the needle as possible. To adjust crown or retainer, loosen set screw (G and H, Fig. 3) and adjust the shaft bushing (J) and shaft (K) to the left or right as required. Tighten screw (G) against bushing (J). Turn shaft (K) which is an eccentric, to position the crown or retainer as close as possible to the needle. Press the shaft to the left against the bushing and tighten set screw (H).

Normal crown or cloth retainer spring pressure is when the right leg of the spring (L, Fig. 3) rests in the "Vee" on top of the right presser foot boss. The leg can be taken from this position and moved to the "Vee", located to the rear near the top of the right presser foot boss, for additional tension, if required. The chaining finger (M, Fig. 3) should be set as close as possible to the needle.

On Style 37500-8, the penetration dial should be set so as to obtain a blind stitch. A finer adjustment can be made by adjusting the thumbscrew (N, Fig. 3) on top of the crown of the presser foot. There is also a set screw (P) at the front of the crown with a nylon plug behind it. Tightening this set screw applies pressure to the adjusting thumbscrew through the nylon plug which prevents same from vibrating loose.

On Style 37500-9, the folder (A, Fig. 13) should be set as close to the needle as possible, with the ridge former positioned to present raw edge of hem to needle. Folder must also be positioned to clear path of looper. Four settings for the height of folder are available to suit the convenience of the operator. Folder clamp (B) can be assembled on the top of bottom of bracket (C) or the bracket can be turned over, using clamp on top or bottom of same. Moving the folder laterally or tipping its nose can be accomplished by loosening the screw in clamp (B), position as required to obtain desired results and retighten screw. To raise or lower the entire folder slightly, adjust thumbscrew (D).

## 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.

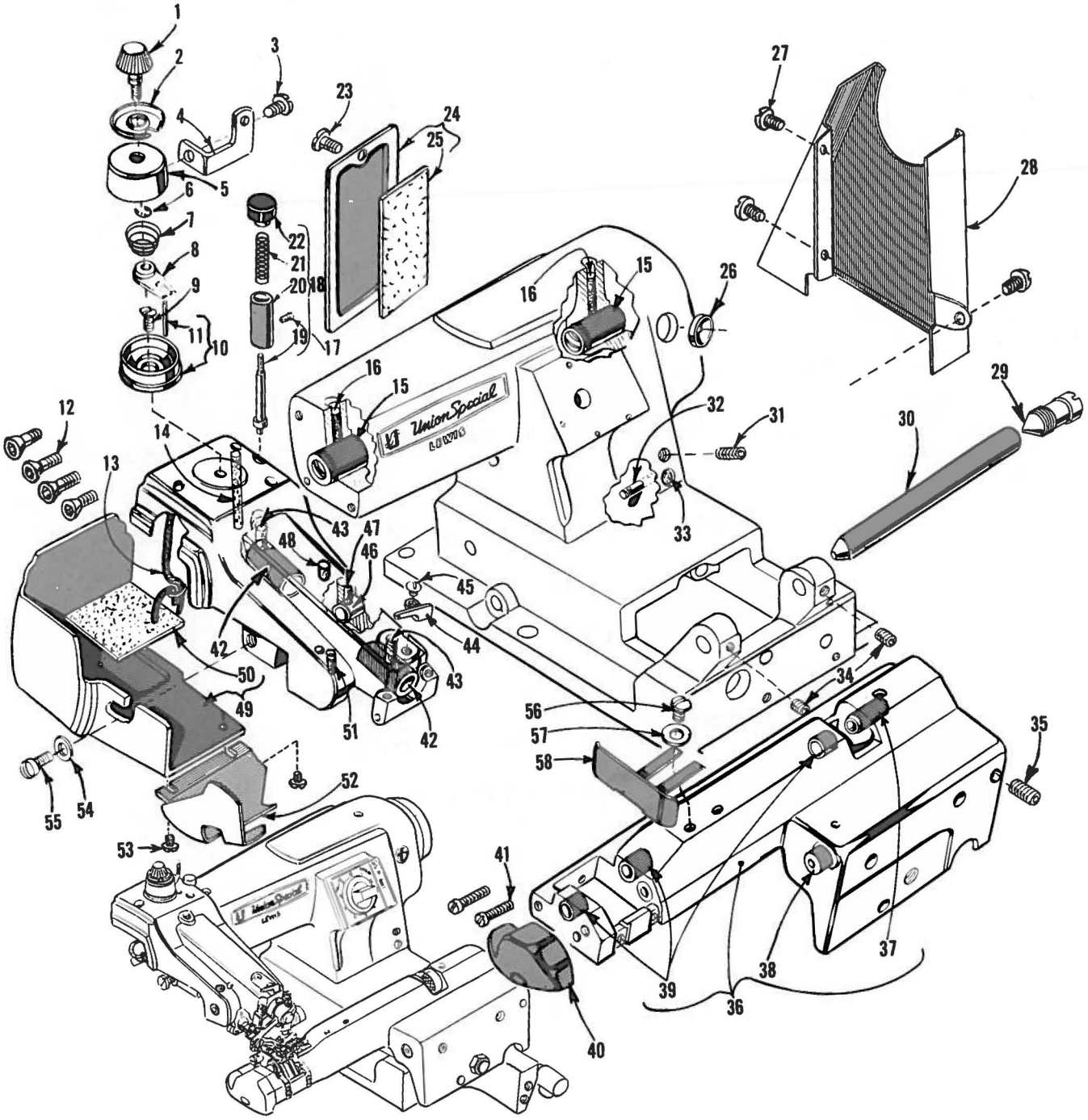
## TORQUE REQUIREMENTS

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.

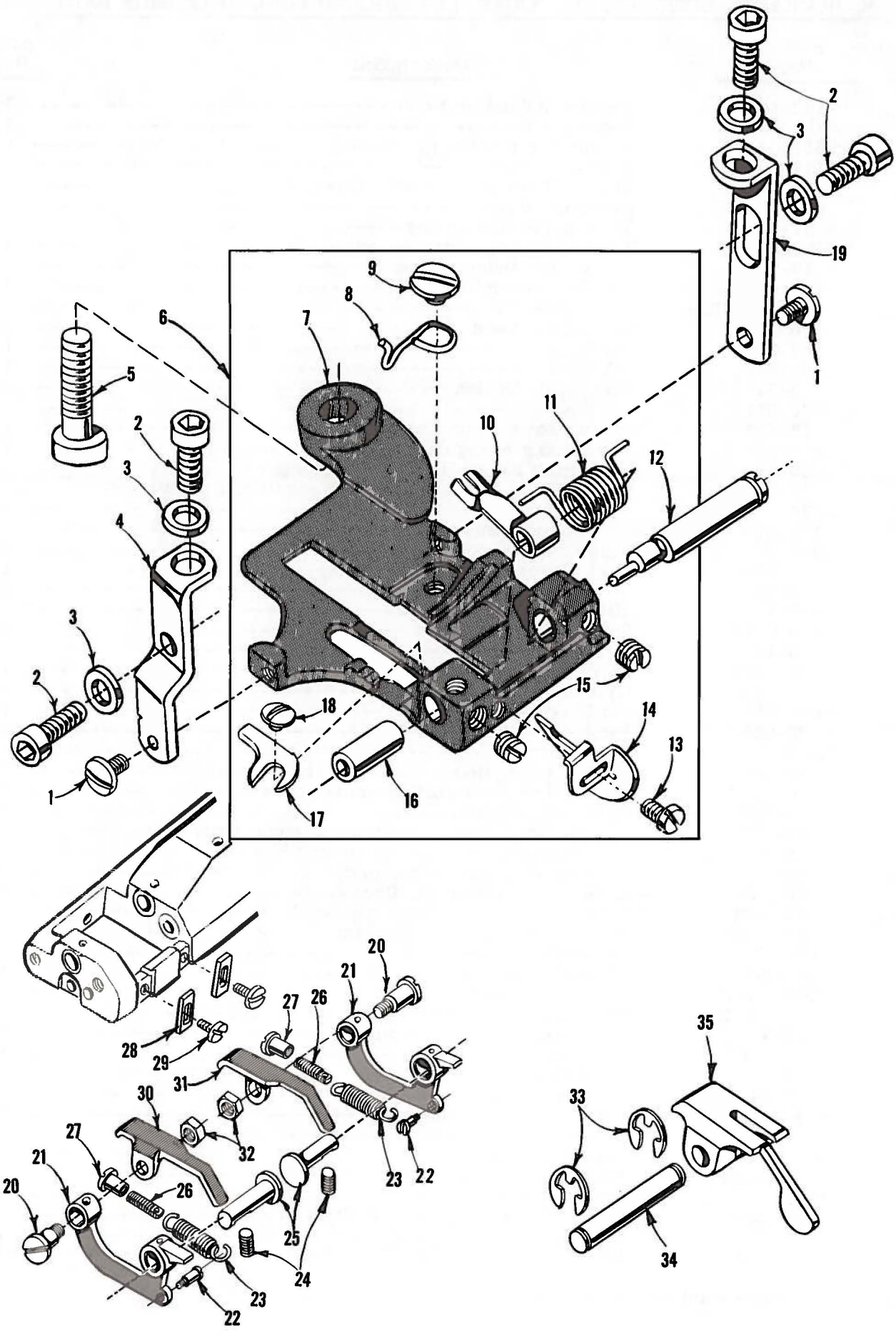
# EXPLODED VIEWS
# AND
# DESCRIPTION OF PARTS
# FOR
# CLASS 37500
# SINGLE THREAD CHAINSTITCH
# BLINDSTITCH MACHINES
# NON-SKIP STITCH



## MAIN FRAME, BUSHINGS, OIL WICKS, COVERS AND THREAD TENSION PARTS

| Ref. No. | Part No. | Description | Amt. Req. |
|---|---|---|---|
| 1 | 142-15 | Tension Adjusting Knob | 1 |
| 2 | 54492 | Tension Disc | 1 |
| 3 | 22635 CA-12 | Screw, for tension eyelet | 1 |
| 4 | 147-20 | Thread Eyelet | 1 |
| 5 | 32-299 | Thread Tension Assembly Cover | 1 |
| 6 | 660-416 | Retaining Ring | 1 |
| 7 | 21-429 | Thread Tension Spring | 1 |
| 8 | 39592 X | Tension Spring Plate | 1 |
| 9 | 18-920 | Screw, for tension plate | 1 |
| 10 | 110-422 | Tension Assembly Plate | 1 |
| 11 | 51-197 Blk. | Guide Pin | 1 |
| 12 | 22656 D-12 | Screw, for head | 4 |
| 13 | 666-239 | Oil Wick | 1 |
| 14 | 666-279 | Oil Wick | 1 |
| 15 | 16-389 | Main Shaft Bushing | 2 |
| 16 | 666-277 | Oil Wick | 2 |
| 17 | 18-634 | Screw, for bushing | 1 |
| 18 | 426-185 | Stitch Length Regulating Plunger Assembly | 1 |
| 19 | 26-185 | Stitch Length Regulating Plunger | 1 |
| 20 | 16-194 | Bushing, for stitch length regulating plunger | 1 |
| 21 | LS75 | Spring | 1 |
| 22 | 191-3 | Plunger Button | 1 |
| 23 | 22847 B | Screw, for back cover | 1 |
| 24 | 32-308 | Back Cover | 1 |
| 25 | 63-38 | Felt Lining | 1 |
| 26 | 61449 T | Stitch Indicator Window | 1 |
| *27 | 22649 F-16 | Screw, for belt guard | 3 |
| *28 | 8-143 | Belt Guard | 1 |
| 29 | 18-1099 | Pivot Shaft Bearing Screw | 1 |
| 30 | 14-512 | Cylinder Pivot Shaft | 1 |
| 31 | 22894 AD | Set Screw | 1 |
| 32 | 22-256 | Pin | 1 |
| 33 | WO-3 | Wool Yarn | as required |
| 34 | 22894 AD | Screw, for cylinder shaft and ridge former drive shaft | 2 |
| 35 | 22650 AE-10 | Screw, for pivot shaft bearing screw | 1 |
| 36 | 3-103 | Cylinder Assembly | 1 |
| 37 | 16-403 | Bushing, right, for ridge former shaft | 1 |
| 38 | 16-377 | Bushing, left, for cylinder pivot shaft | 1 |
| 39 | 16-375 | Bushing, for ridge former shaft | 3 |
| 40 | 115-167 | Cylinder End Support Block | 1 |
| 41 | 22615 A-48 | Screw, for cylinder end support block | 2 |
| 42 | 16-393 | Needle Carrier Shaft Bushing | 2 |
| 43 | 666-278 | Oil Wick | 2 |
| 44 | 147-20 | Thread Eyelet | 1 |
| 45 | 22635 CA-12 | Screw, for head eyelet | 1 |
| 46 | 51-333 Blk. | Bushing, for eccentric stud No. 17-114 | 1 |
| 47 | 63-41 | Oil Wick, for feed bar pivot | 1 |
| 48 | 666-276 | Oil Wick | 1 |
| 49 | 32-307 | Head Cover | 1 |
| 50 | 63-34 | Felt Lining | 1 |
| 51 | 63-43 | Oil Wick, for looper pivot | 1 |
| *52 | 8-144 | Looper Ball Strap Guard | 1 |
| *53 | 22635 CA-12 | Screw, for looper ball strap guard | 2 |
| 54 | 40-C213 S-3 | Washer, for head cover | 1 |
| 55 | FP342 | Screw, for head cover | 1 |
| 56 | 18-330 | Screw, for edge guide, on Style 37500-5 | 1 |
| 57 | 40-38 | Washer, for edge guide screw | 1 |
| 58 | 75-212 | Edge Guide, for Style 37500-5 | 1 |

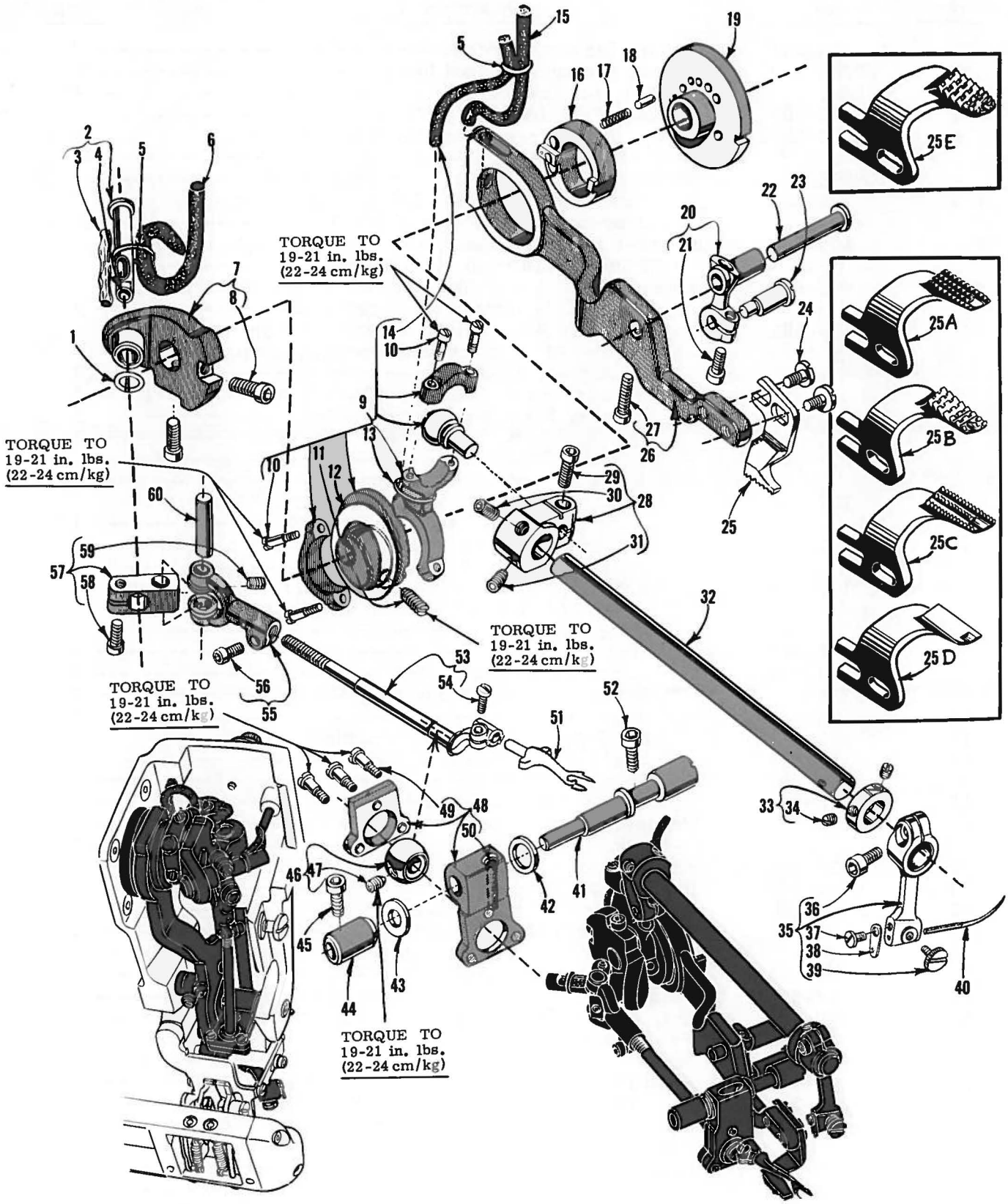
* Available as extra send and charge item.



## PRESSER FEET, FEED PLATES AND FEED PLATE HOLDER PARTS

| Ref. No. | Part No. | Description | Amt. Req. |
|---|---|---|---|
| 1 | 18-307 | Screw, for presser foot | 2 |
| 2 | 22652 A-8 | Screw, for presser foot bracket | 4 |
| 3 | 80266 | Washer, for presser foot bracket screw | 4 |
| 4 | 50-300 | Presser Foot Bracket, left | 1 |
| 5 | 18-1094 | Screw, for presser foot, for Styles 37500-1, -5, -6, -8 | 1 |
| - | FP342 | Screw, for presser foot, for Style 37500-9 | 1 |
| † 6 | 405-590 | Presser Foot Assembly, 1/4 inch (6.35 mm) cloth opening, for Styles 37500-1, -5 | 1 |
| * | 405-589 | Presser Foot Assembly, for medium weight material, 9/32 inch (1.14 mm) cloth opening | 1 |
| * | 405-590-1 | Presser Foot Assembly, for fine weight material, 1/32 inch (.79 mm) notched retainer | 1 |
| * | 405-591 | Presser Foot Assembly, for heavy weight material, 11/32 inch (8.73 mm) cloth opening, Requires use of Feed Dog No. 23-346 | 1 |
| 7 | 5-590 | Presser Foot, for Nos. 405-590 and 405-590-1 | 1 |
| - | 5-589 | Presser Foot, for No. 405-589 | 1 |
| - | 5-591 | Presser Foot, for No. 405-591 | 1 |
| 8 | 122-47 | Chaining Finger | 1 |
| 9 | 18-1107 | Screw, for chaining finger | 1 |
| 10 | 137-154 | Retainer, marked "C", 5/64 inch (1.98 mm) wide notch, for Nos. 405-589 and 405-590 | 1 |
| - | 137-155 | Retainer, marked "D", 1/32 inch (.79 mm) wide notch, for No. 405-590-1 | 1 |
| - | 137-156 | Retainer, marked "E", .312 inch (7.94 mm) wide, with 5/64 inch (1.98 mm) wide notch, for No. 405-591 | 1 |
| 11 | 21-446 | Spring | 1 |
| 12 | 14-532 | Eccentric Retainer Shaft | 1 |
| 13 | 1351 L | Screw, for edge guide | 1 |
| 14 | 75-255 | Edge Guide | 1 |
| 15 | 88 | Set Screw, for bushing and shaft | 2 |
| 16 | 16-399 | Bushing, for retainer shaft | 1 |
| 17 | 6-56 | Needle Guide | 1 |
| 18 | 18-643 | Screw, for needle guide | 1 |
| 19 | 50-160 | Presser Foot Bracket, right, for Styles 37500-1, -5, -6, -8 | 1 |
| 20 | 18-908 | Screw, for feed plate, for all Styles except 37500-9 | 2 |
| 21 | 99-346 | Feed Plate Holder | 2 |
| 22 | 18-269 | Screw, for feed plate holder spring | 2 |
| 23 | 21-75 | Spring, for feed plate holder | 2 |
| 24 | 22560 A | Screw, for feed plate holder hinge pin | 2 |
| 25 | 22-324 | Feed Plate Holder Hinge Pin | 2 |
| 26 | 18-628 | Adjusting Screw, for feed plate holder spring | 2 |
| 27 | 20-129 | Nut, for feed plate spring adjusting screw | 2 |
| 28 | 42-30 | Feed Plate Holder Stop | 2 |
| 29 | 18-644 | Screw, for feed plate holder stop | 2 |
| 30 | 24-333 | Feed Plate, left, for all Styles except 37500-9 | 1 |
| 31 | 24-334 | Feed Plate, right, for all Styles except 37500-9 | 1 |
| 32 | 1160 L | Nut, for feed plate screw, for all Styles except 37500-9 | 2 |
| 33 | 660-466 | Retaining Ring, for Style 37500-9 | 2 |
| 34 | 14-534 | Feed Plate Shaft, for Style 37500-9 | 1 |
| 35 | 24-335 | Feed Plate, for Style 37500-9 | 1 |

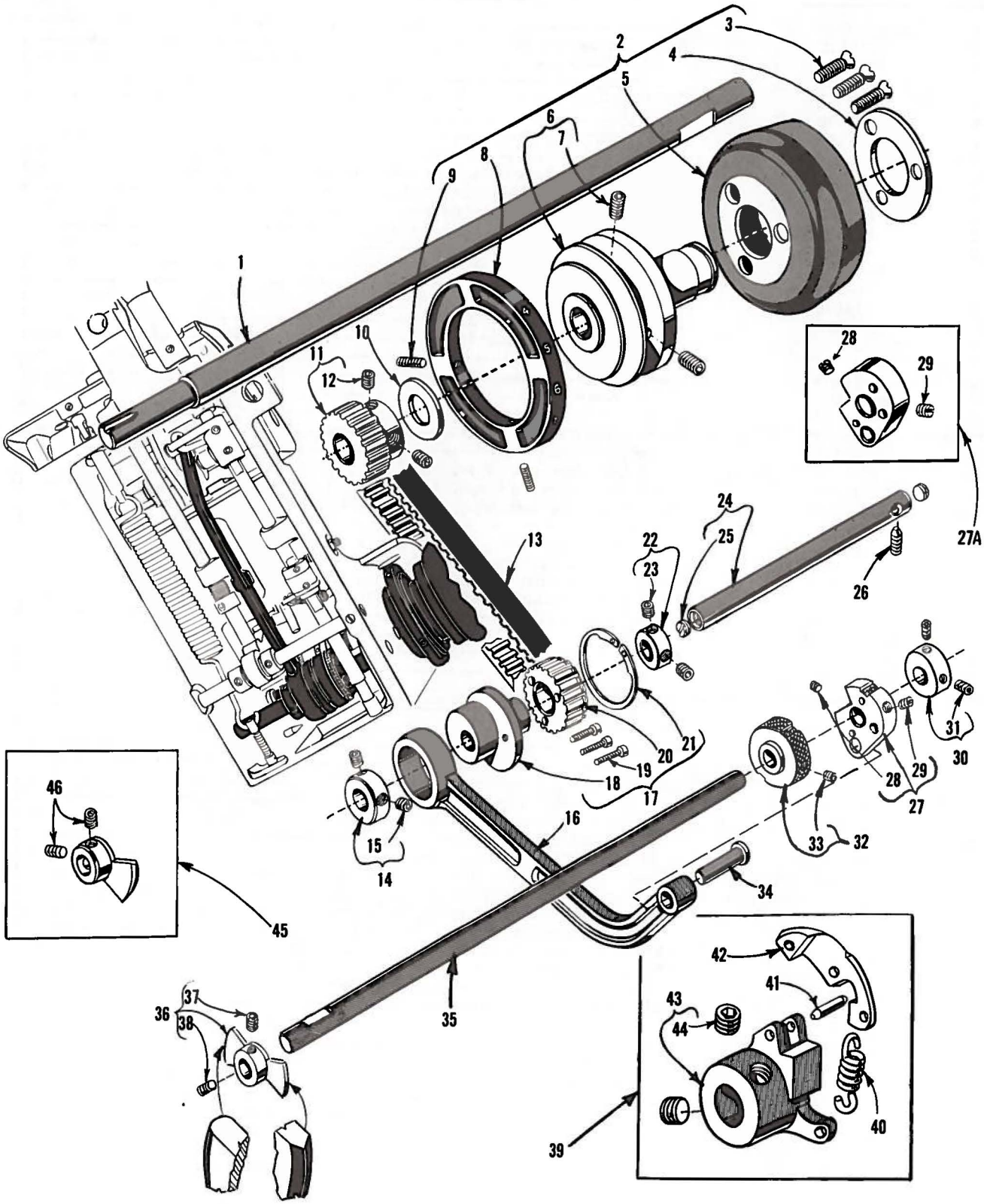
† See Page 25 for presser foot for other Styles of machines.
* Available as extra send and charge item, can be used on Styles 37500-1 and -5 only.



## FEED, LOOPER AND NEEDLE DRIVING PARTS

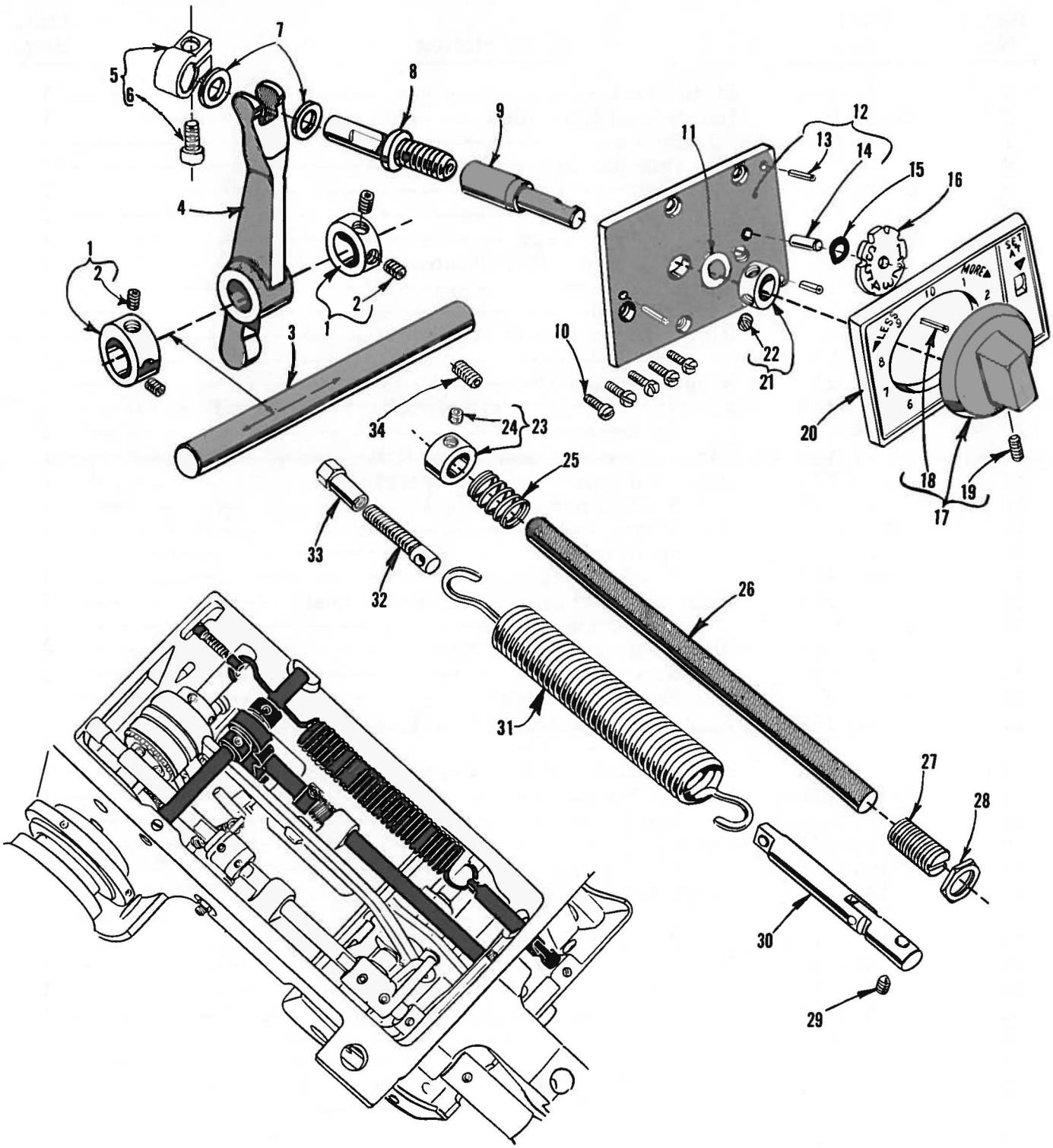
| Ref. No. | Part No. | Description | Amt. Req. |
|---|---|---|---|
| 1 | 61256 G | Washer | 1 |
| 2 | 17-177 | Stud, for looper driving crank | 1 |
| 3 | 666-170 | Oil Wick | 1 |
| 4 | 137-19 | Retainer | 1 |
| 5 | 660-220 | "O" Ring | 2 |
| 6 | 666-239 | Oil Wick | 1 |
| 7 | 48-186 | Looper Driving Crank | 1 |
| 8 | 22652 A-8 | Screw | 2 |
| 9 | 447-140 | Needle Drive Eccentric Ball Joint Assembly | 1 |
| 10 | 22559 D | Screw, for connecting rod | 4 |
| 11 | 18-492 | Spot Screw, for eccentric | 1 |
| 12 | 40-199 | Fiber Washer | 1 |
| 13 | 660-204 | "O" Ring | 1 |
| 14 | 666-239 | Oil Wick | 1 |
| 15 | 666-279 | Oil Wick | 1 |
| 16 | 33-149 | Feed Driving Lever Eccentric | 1 |
| 17 | 21-439 | Spring, for stitch regulator | 1 |
| 18 | 22-53 | Pin, for stitch regulator | 1 |
| 19 | 149-33 | Stitch Regulator | 1 |
| 20 | 46-202 | Feed Driving Lever Link | 1 |
| 21 | 22652 A-8 | Screw | 1 |
| 22 | 17-150 | Stud, for feed driving lever link | 1 |
| 23 | 17-114 | Eccentric Stud | 1 |
| 24 | 18-732 | Screw, for feed dog | 2 |
| 25 | | Feed Dog, See Ref. Nos. 25A, 25B, 25C, 25D and 25E | 1 |
| *25A | 23-343 | Feed Dog, knurled teeth, 16 t.p.i., (1.59 mm per tooth) | 1 |
| 25B | 23-342 | Feed Dog, coarse teeth, 10 t.p.i., (2.54 mm per tooth) for all Styles | 1 |
| *25C | 23-340 | Feed Dog, fine teeth, 21 t.p.i., (1.21 mm per tooth) | 1 |
| *25D | 23-341 | Feed Dog, rubber padded | 1 |
| *25E | 23-346 | Feed Dog, coarse teeth, 10 t.p.i., (2.54 mm per tooth), wide, for use with presser foot No. 405-591 only | 1 |
| 26 | 45-478 | Feed Driving Lever | 1 |
| 27 | 22652 A-16 | Screw | 1 |
| 28 | 48-188 | Crank, for needle carrier shaft | 1 |
| 29 | 22652 A-8 | Screw | 1 |
| 30 | 22894 C | Set Screw | 1 |
| 31 | 22894 D | Spot Screw | 1 |
| 32 | 14-524 | Needle Carrier Shaft | 1 |
| 33 | 439-7 | Collar | 1 |
| 34 | SB15 | Screw | 2 |
| 35 | 118-37 | Needle Carrier | 1 |
| 36 | 22652 A-6 | Clamp Screw | 1 |
| 37 | 87 U | Screw | 1 |
| 38 | 147-21 | Thread Eyelet | 1 |
| 39 | 18-1101 | Thumb Screw | 1 |
| 40 | 29 BL-090/036 | Needle, for Styles 37500-1, -5, -9 | 1 |
| - | 29 BL-100/040 | Needle, for Styles 37500-6, -8 | 1 |
| 41 | 17-179 | Looper Ball Joint Adjusting Shaft | 1 |
| 42 | 41332 J | Thrust Washer, right, for looper ball joint | 1 |
| 43 | 61434 G | Thrust Washer, left, for looper ball joint | 1 |
| 44 | 16-392 | Thrust Bushing | 1 |
| 45 | 22652 A-8 | Screw | 1 |
| 46 | 79-41 | Ball, for looper connection | 1 |
| 47 | 22894 U | Screw | 1 |
| 48 | 4124-60 | Looper Ball Connection | 1 |
| 49 | 18-1100 | Screw | 3 |
| 50 | 63-39 | Oil Wick | 1 |
| 51 | 36-16 | Looper | 1 |
| 52 | 22652 A-8 | Screw | 1 |
| 53 | 4118-36 | Looper Carrier Shaft | 1 |
| 54 | 1170 L | Screw | 1 |
| 55 | 449-35 | Looper Carrier Yoke | 1 |
| 56 | 22652 A-6 | Screw | 1 |
| 57 | 115-166 | Looper Carrier Yoke Block | 1 |
| 58 | 22652 A-8 | Clamp Screw | 1 |
| 59 | 22651 AB-3 | Set Screw | 1 |
| 60 | 22-8 | Pin, for looper carrier yoke | 1 |

* Available as extra send and charge item.



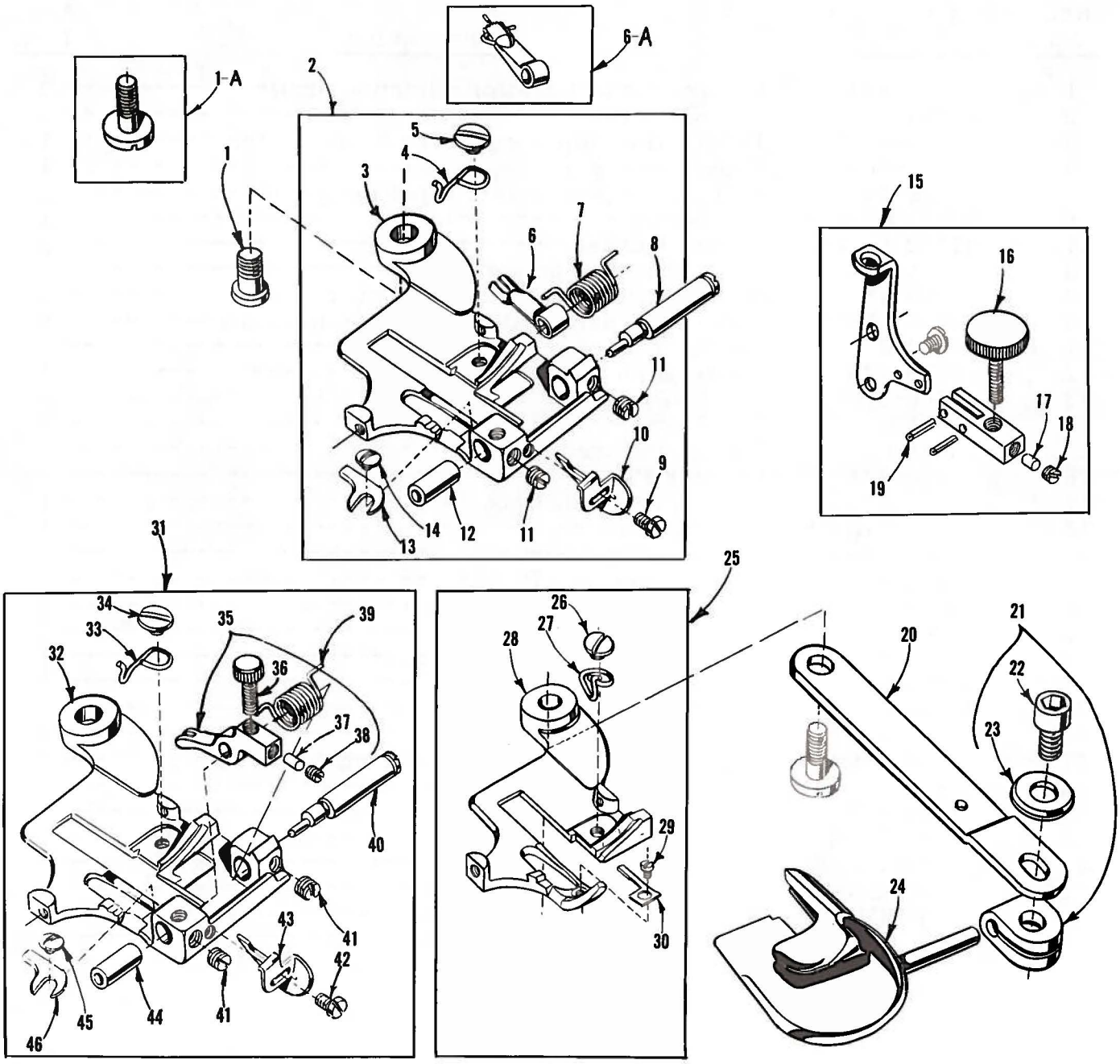
## MAIN SHAFT, HANDWHEEL, RIDGE FORMERS AND RIDGE FORMER DRIVING PARTS

| Ref. No. | Part No. | Description | Amt. Req. |
|---|---|---|---|
| 1 | 14-515 | Main Shaft | 1 |
| 2 | 37521 B | Handwheel Assembly | 1 |
| 3 | 22574 C | Screw | 3 |
| 4 | 61321 L | Hub Washer | 1 |
| 5 | 63921 BA | Handwheel | 1 |
| 6 | 37521 C | Pulley | 1 |
| 7 | 22894 V | Set Screw | 2 |
| 8 | 155-21 | Stitch Length Indicator | 1 |
| 9 | 22650 AA-7 | Set Screw | 2 |
| 10 | 40-197 | Thrust Washer | 1 |
| 11 | 161-6 | Ridge Former Drive Sprocket | 1 |
| 12 | 22894 AD | Screw | 2 |
| 13 | 171-11 | Ridge Former Drive Belt | 1 |
| 14 | 39-146 | Thrust Collar, for ridge former drive shaft | 1 |
| 15 | 22894 C | Set Screw | 2 |
| 16 | 47-138 | Ridge Former Connecting Rod | 1 |
| 17 | 433-163 | Ridge Former Drive Eccentric Assembly | 1 |
| 18 | 33-163 | Ridge Former Eccentric | 1 |
| 19 | 22653 L-8 | Screw | 3 |
| 20 | 161-5 | Sprocket | 1 |
| 21 | 660-414 | Retaining Ring | 1 |
| 22 | 39-144 | Collar, for ridge former drive shaft | 1 |
| 23 | 22894 C | Set Screw | 2 |
| 24 | 14-528 | Ridge Former Drive Shaft | 1 |
| 25 | 18-800 | Screw | 2 |
| 26 | 22894 H | Spot Screw | 1 |
| 27 | 48-189 | Ridge Former Drive Crank, for Styles 37500-1, -5, -6 | 1 |
| 27A | 48-190 | Ridge Former Drive Crank, for Styles 37500-8, -9 | 1 |
| 28 | 22894 AD | Set Screw | 1 |
| 29 | 22597 A | Set Screw | 1 |
| 30 | 39-145 | Thrust Collar | 1 |
| 31 | 22894 T | Set Screw | 2 |
| 32 | 142-16 | Ridge Former Regulating Knob, for Styles 37500-1, -5, -6 | 1 |
| 33 | 22651 AB-4 | Set Screw | 1 |
| 34 | 22-333 | Ridge Former Drive Pin | 1 |
| 35 | 14-533 | Ridge Former Shaft | 1 |
| 36 | 44-326 | Ridge Former, for Styles 37500-1, -5, -6 | 1 |
| 37 | 22894 T | Set Screw | 1 |
| 38 | 22894 C | Set Screw | 1 |
| 39 | 444-327-1 | Yielding Ridge Former Assembly, for Style 37500-8 | 1 |
| 40 | 21-442 | Spring | 1 |
| 41 | 22-337 | Pin | 1 |
| 42 | 44-327 | Ridge Forming Disc | 1 |
| 43 | 99-357 | Ridge Forming Disc Holder | 1 |
| 44 | 22894 T | Set Screw | 2 |
| 45 | 44-333 | Ridge Former, for Style 37500-9 | 1 |
| 46 | 22894 T | Set Screw | 2 |



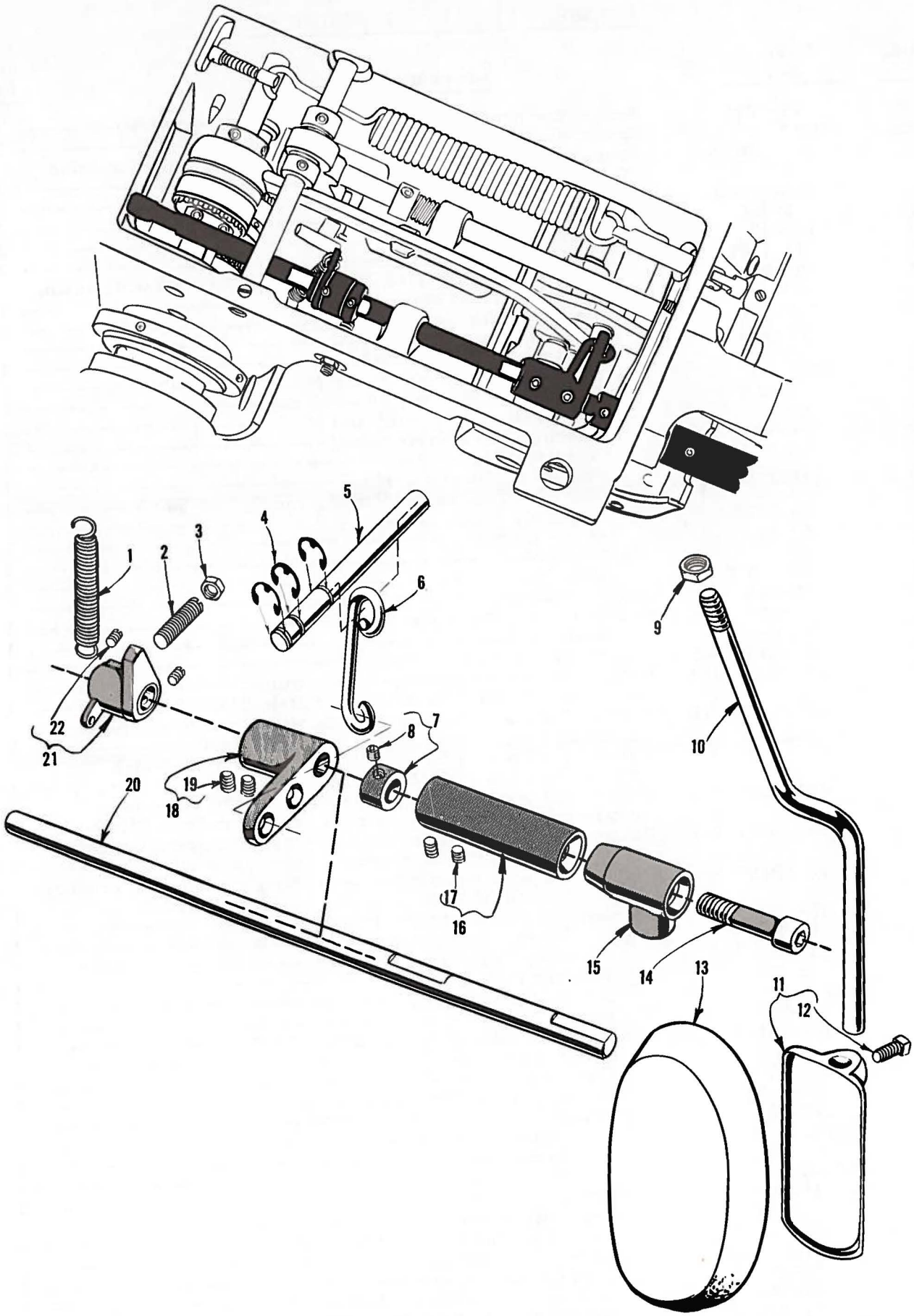
## CYLINDER ADJUSTING PARTS AND STITCH DEPTH REGULATING PARTS

| Ref. No. | Part No. | Description | Amt. Req. |
|---|---|---|---|
| 1 | 39-144 | Collar, for penetration adjusting shaft | 2 |
| 2 | 22894 C | Set Screw | 2 |
| 3 | 14-531 | Penetration Adjusting Lever Shaft | 1 |
| 4 | 45-483 | Penetration Adjusting Lever | 1 |
| 5 | 39-148 | Collar, for penetration adjusting screw | 1 |
| 6 | 22653 B-8 | Screw | 1 |
| 7 | 41332 J | Thrust Washer | 2 |
| 8 | 18-1104 | Penetration Adjusting Screw | 1 |
| 9 | 70-75 | Stitch Depth Regulator Adjusting Sleeve | 1 |
| 10 | 22617 JA-24 | Screw, for penetration dial mounting plate | 5 |
| 11 | 43232 R | Spring Washer | 1 |
| 12 | 110-433 | Penetration Dial Mounting Plate | 1 |
| 13 | 660-219 V | Roll Pin | 3 |
| 14 | 51241 C | Pin | 1 |
| 15 | 39668 H | Spring Washer | 1 |
| 16 | 110-431 | Counter Plate | 1 |
| 17 | 142-18 | Penetration Dial Knob | 1 |
| 18 | 660-219 W | Roll Pin | 1 |
| 19 | 22651 CB-4 | Screw | 1 |
| 20 | 110-434 | Penetration Dial Plate | 1 |
| 21 | 12865 | Collar, for adjusting sleeve | 1 |
| 22 | 88 | Screw | 2 |
| 23 | 39-147 | Collar, for cylinder push rod | 1 |
| 24 | 22894 T | Set Screw | 1 |
| 25 | 41375 G | Spring, for cylinder push rod | 1 |
| 26 | 71-118 | Cylinder Push Rod | 1 |
| 27 | 18-1098 | Adjusting Screw, for cylinder push rod | 1 |
| 28 | 12990 | Nut, for adjusting screw | 1 |
| 29 | 18-633 | Screw, for knuckle assembly | 1 |
| 30 | 471-C544 | Knuckle Assembly | 1 |
| 31 | 21-C54 B | Main Spring | 1 |
| 32 | 18-C884 | Screw, for main spring | 1 |
| 33 | 20-C117 | Nut, for main spring screw | 1 |
| 34 | 22894 AD | Set Screw | 1 |



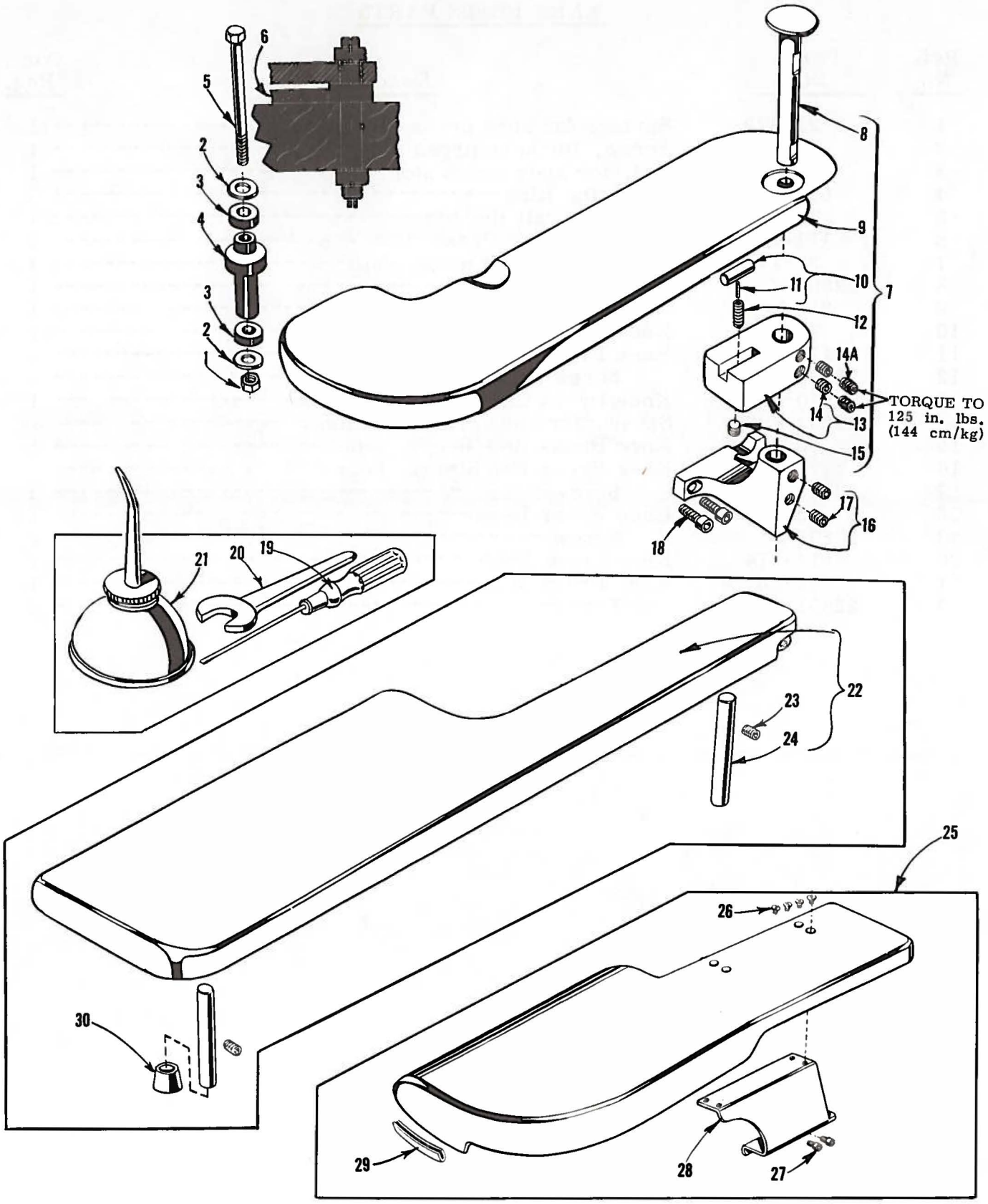
## PRESSER FEET AND ATTACHMENTS

| Ref. No. | Part No. | Description | Amt. Req. |
|---|---|---|---|
| 1 | 18-1094 | Screw, for presser foot, for all Styles except 37500-9 | 1 |
| 1A | FP342 | Screw, for presser foot, for Style 37500-9 | 1 |
| 2 | 405-590 | Presser Foot Assembly, 1/4 inch (6.35 mm) cloth opening, for Style 37500-1, -5 | 1 |
| - | 405-590-3 | Presser Foot Assembly, for Style 37500-6 | 1 |
| 3 | 5-590 | Presser Foot | 1 |
| 4 | 122-47 | Chaining Finger | 1 |
| 5 | 18-1107 | Screw, for chaining finger | 1 |
| 6 | 137-154 | Retainer, marked "C", 5/64 inch (1.98 mm) wide notch, for No. 405-590 | 1 |
| 6A | 137-157 | Retainer, for No. 405-590-3 | 1 |
| 7 | 21-446 | Spring | 1 |
| 8 | 14-532 | Eccentric Retainer Shaft | 1 |
| 9 | 1351 L | Screw, for edge guide, for No. 405-590 only | 1 |
| 10 | 75-255 | Edge Guide, for No. 405-590 only | 1 |
| 11 | 88 | Set Screw, for bushing and shaft | 2 |
| 12 | 16-399 | Bushing, for retainer shaft | 1 |
| 13 | 6-56 | Needle Guide | 1 |
| 14 | 18-643 | Screw, for needle guide | 1 |
| 15 | 450-306 | Presser Foot Bracket Assembly, for Style 37500-9 | 1 |
| 16 | 18-1111 | Adjusting Screw | 1 |
| 17 | 89-64 | Nylon Plug | 1 |
| 18 | 22743 | Set Screw | 1 |
| 19 | 660-219 V | Roll Pin | 2 |
| 20 | 50-305 | Folder Bracket, for Style 37500-9 | 1 |
| 21 | 30-93 | Folder Clamp, for Style 37500-9 | 1 |
| 22 | 22652 D-8 | Screw | 1 |
| 23 | 40-C213 S-3 | Washer | 1 |
| 24 | 431-L187-1/4 | Folder, for book seaming on light weight material, producing a 1/4 inch (6.35 mm) seam, for Style 37500-9 | 1 |
| - | 431-L187-3/8 | Folder, for book seaming on light weight material, producing a 3/8 inch (9.52 mm) seam, for Style 37500-9 | 1 |
| - | 431-M187-1/4 | Folder, for book seaming on medium weight material, producing a 1/4 inch (6.35 mm) seam, for Style 37500-9 | 1 |
| - | 431-M187-3/8 | Folder, for book seaming on medium weight material, producing a 3/8 inch (9.52 mm) seam, for Style 37500-9 | 1 |
| - | 431-H187-1/4 | Folder, for book seaming on heavy weight material, producing a 1/4 inch (6.35 mm) seam, for Style 37500-9 | 1 |
| - | 431-H187-3/8 | Folder, for book seaming on heavy weight material, producing a 3/8 inch (9.52 mm) seam, for Style 37500-9 | 1 |
| 25 | 405-592 | Presser Foot Assembly, for Style 37500-9 | 1 |
| 26 | 18-1107 | Screw, for chaining finger | 1 |
| 27 | 122-48 | Chaining Finger | 1 |
| 28 | 5-592 | Presser Foot | 1 |
| 29 | 22738 F | Screw, for needle guide | 1 |
| 30 | 6-74 | Needle Guide | 1 |
| 31 | 405-590-2 | Presser Foot Assembly, for Style 37500-8 | 1 |
| 32 | 5-590 | Presser Foot | 1 |
| 33 | 122-47 | Chaining Finger | 1 |
| 34 | 18-1107 | Screw, for chaining finger | 1 |
| 35 | 126-60 | Presser Foot Crown | 1 |
| 36 | 1732 L | Adjusting Screw | 1 |
| 37 | 89-64 | Nylon Plug | 1 |
| 38 | 22743 | Set Screw | 1 |
| 39 | 21-446 | Spring | 1 |
| 40 | 14-532 | Eccentric Retainer Shaft | 1 |
| 41 | 88 | Set Screw, for bushing and shaft | 2 |
| 42 | 1351 L | Screw, for edge guide | 1 |
| 43 | 75-255 | Edge Guide | 1 |
| 44 | 16-399 | Bushing, for retainer shaft | 1 |
| 45 | 18-643 | Screw, for needle guide | 1 |
| 46 | 6-56 | Needle Guide | 1 |



## KNEE PRESS PARTS

| Ref. No. | Part No. | Description | Amt. Req. |
|---|---|---|---|
| 1 | 21-372 | Spring, for knee press stop | 1 |
| 2 | 18-564 | Screw, for knee press stop | 1 |
| 3 | 20-34 | Nut, for knee press stop | 1 |
| 4 | 660-454 | Retaining Ring | 3 |
| 5 | 71-120 | Cylinder Pull Rod | 1 |
| 6 | 131-29 | Cylinder Knee Press Hook | 1 |
| 7 | 39-147 | Collar, for knee press shaft | 1 |
| 8 | 22894 T | Screw | 1 |
| 9 | 814 L | Nut | 1 |
| 10 | 71-111 | Knee Press Rod | 1 |
| 11 | 4129-18 | Knee Press Pad | 1 |
| 12 | 22508 | Screw | 1 |
| 13 | 660-168 | Knee Press Cushion | 1 |
| 14 | 22652 F-32 | Screw, for knee press rod sleeve | 1 |
| 15 | 70-76 | Knee Press Rod Sleeve, front | 1 |
| 16 | 70-74 | Knee Press Rod Sleeve, rear | 1 |
| 17 | 22651 CD-4 | Screw | 2 |
| 18 | 45-476 | Knee Press Lever | 1 |
| 19 | 22894 J | Screw | 2 |
| 20 | 14-514 | Knee Press Shaft | 1 |
| 21 | 42-28 | Knee Press Stop | 1 |
| 22 | 22651 CB-4 | Screw | 2 |



## ACCESSORIES, WORK SUPPORT PLATE, BRACKET AND MOUNTING PARTS

| Ref. No. | Part No. | Description | Amt. Req. |
|---|---|---|---|
| 1 | 660-415 | Nut | 3 |
| 2 | 652-16 | Washer | 6 |
| 3 | 40-198 | Isolator Washer | 6 |
| 4 | 144-33 | Isolator | 3 |
| 5 | 22640 H-224 | Cap Screw, hexagon head | 3 |
| 6 | 144-29 | Felt Pad | 1 |
| 7 | 404-145 | Work Support Plate, complete, furnished with Styles 37500-1, -6 | 1 |
| 8 | 38-16 | Pivot Post | 1 |
| 9 | 4-145 | Work Support Plate | 1 |
| 10 | 22-330 | Position Pin | 1 |
| 11 | 660-219 A | Roll Pin | 1 |
| 12 | 21-438 | Spring | 1 |
| 13 | 115-165 | Work Plate Support Block | 1 |
| 14 | 18-1110 | Screw | 2 |
| 14A | 18-1110 | Screw | 2 |
| 15 | 22706 A | Screw | 1 |
| 16 | 50-297 | Pivot Post Bracket, furnished with Styles 37500-1, -6, -9 | 1 |
| 17 | 22650 AE-6 | Screw | 2 |
| 18 | 22652 D-12 | Screw, for No. 50-297, on Styles 37500-1, -6, -9- | 2 |
| 19 | 21201 | Screwdriver, 9/64 inch round blade, length overall 7 11/16 inches | 1 |
| 20 | 21388 U | Open End Wrench, 3/4 inch opening | 1 |
| 21 | 413 | Oil Can | 1 |
| 22 | 404-148 | Work Plate, furnished with Style 37500-9 | 1 |
| 23 | 22650 AE-6 | Set Screw | 2 |
| 24 | 22-338 | Pin | 2 |
| *25 | 404-146 | Work Support Plate, complete | 1 |
| 26 | 18-1108 | Screw | 4 |
| 27 | 22652 D-8 | Screw | 2 |
| 28 | 50-301 | Mounting Bracket | 1 |
| 29 | 144-28 | Isolator | 1 |
| 30 | 660-488 | Rubber Bumper, for No. 404-148, on Style 37500-9 | 1 |
| - | WR69 | "L" Shaped Allen Wrench, 9/64 inch hexagon (not shown on picture plate) | 1 |
| - | 660-458 | Dust Cover (not shown on picture plate) | 1 |
| - | 29480 DP | Thread Stand, complete (not shown on picture plate) | 1 |

* Available as extra send and charge item.

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