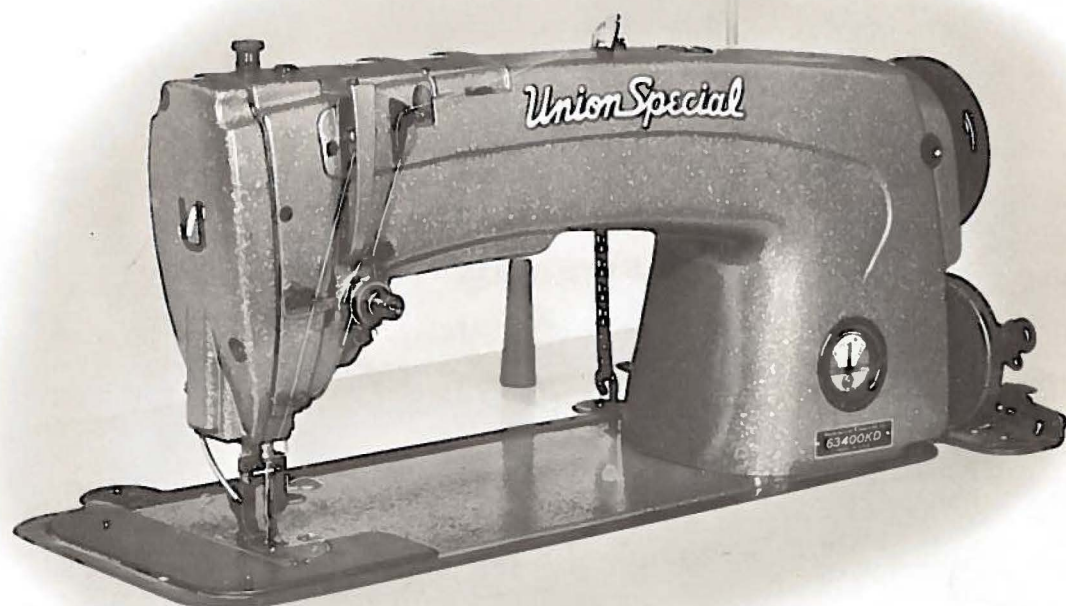




FINEST QUALITY

Union Special[®]
LEWIS • COLUMBIA

**INDUSTRIAL
SEWING
MACHINES**



**UNITY SEWING SUPPLY CO.
824 E. 8th St.**

Los Angeles, CA 90021

CLASS 63400

STREAMLINED

HIGH SPEED LOCKSTITCH MACHINES

WITH

THROW-OUT TRIMMING MECHANISM

Union Special CORPORATION

CHICAGO

From the library of: Superior Sewing Machine & Supply LLC

STYLES

63400D

63400KD

CATALOG

No.

121KD

**Second
Edition**

Catalog No. 121 KD
(Supplement to Catalog No. 121 M)

INSTRUCTIONS
FOR
ADJUSTING AND OPERATING

LIST OF PARTS

CLASS 63400

Streamlined Lockstitch

Styles
63400 D 63400 KD

Second Edition

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Union Special
CORPORATION
INDUSTRIAL SEWING MACHINES
CHICAGO

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May, 1975

IDENTIFICATION OF MACHINES

Each Union Special machine is identified by a style number which is stamped into the 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 63400 D". 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 63400 DZ".

Styles of machines similar in construction are grouped under a class number which differs from the style number, in that it contains no letters. Example: "Class 63400".

APPLICATION OF CATALOG

This catalog is a supplement to Catalog No. 121 M and should be used in conjunction therewith. Only those parts which are used on Styles 63400 D and KD, but not on Style 63400 B are illustrated and listed at the back of this book. For clarity, certain 63400 B parts are shown in phantom to help locate the 63400 D and KD parts.

Opposite the illustration pages, parts are identified by detail number, part number, description and amount required.

NOTE: When ordering repair parts always use the part number listed in the second column.

Adjusting and operating instructions for Styles 63400 D and KD are similar to those in Catalog No. 121 M for Style 63400 B. The only instructions included in this catalog are the ones that are different from Style 63400 B, or are additional instructions that pertain specifically to Styles 63400 D or KD.

The catalog applies specifically to the Standard Styles of machine 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 hand-wheel is toward the operator.

STYLE OF MACHINES

High Speed Streamlined Long Arm Lockstitch Machines, with Vertical Throw-out Trimming Mechanism, One Needle, Light, Medium and Heavy Duty, Drop Feed, Rotary Hook, Horizontal Hook Shaft, Push Button Stitch Regulator, Stitch Length Indicator, One Reservoir Enclosed Automatic Lubricating System, Head Oil Siphon, Adjustable Hook Oil Control, Automatic Head Oiling, Needle Bearing Adjustable Feed Eccentric, Needle Bearings for Take-up Lever and Needle Bar Driving Link, Timing on Lower Main Shaft, Maximum Work Space to Right of Needle Bar 11 1/8 Inches.

63400 D For simultaneously seaming and trimming on light to medium weight materials. 1 13/64 inch needle bar travel. Type 180 GYS needle. Available in 1/16, 1/8, 3/16 and 1/4 inch width of trim from the center line of needle. Specify width of trim margin desired. Seam Spec. 301-SSa-1. Maximum recommended speed 5500 R. P. M.

63400 KD Same as Style 63400 D, except equipped with "Klipp-It" (thread under-trimmer) and Thread Wiper, prepared for use with Needle Positioner.

NEEDLES

Each Union Special needle has both a type and a size number. The type number denotes the kind of shank, point, length, groove, finish and other details. The size number, stamped on the needle shank, denotes largest diameter of the blade, mea-

NEEDLES (Continued)

sured in thousandths of an inch across the eye. Collectively, the type number and the size number represent the complete symbol, which is given on the label of all needles packaged and sold by Union Special.

Needle Type 180 GYS is recommended for Styles 63400 D and KD. The description and sizes available are listed below.

<u>Type No.</u>	<u>Description</u>
180 GYS	Round shank, round point, lockstitch, short length, ball eye, single groove, wide angle groove, struck groove, deep spot, chromium plated - sizes 028, 032, 036, 040, 044, 048, 054, 060.

To have needle orders promptly and accurately filled, an empty package, a sample needle, or the type and size number should be forwarded. Use description on label. A complete order would read: "1000 Needles, Type 180 GYS, size 040"

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.

SELECTING THE SIZE OF THE NEEDLE

The strength requirement of the seam produced is largely dependent upon the size of the thread employed. The quality of the work desired is largely dependent upon the size of the needle employed.

The following table shows the preferred size of needle for a given size and kind of thread. The choice, however, should give consideration to factors referred to above, which may dictate the selection of a needle size slightly larger or smaller than the size specified.

<u>Cotton Thread Size</u>	<u>Mercerized Thread Size</u>	<u>Needle Size</u>
0	-	060
30	B	054 to 060
36	A	048 to 054
40	A	044 to 048
50	0	044 to 048
60	00	040 to 044
70	000	036 to 040
80	0000	032 to 036
90	0000	032 to 036
100	-	028 to 032

IDENTIFYING PARTS

Where the construction permits, each part is stamped with its part number. Parts too small for a complete catalog stamping are identified by letter symbols which distinguish one part from another that is similar in appearance.

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

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

ORDERING OF REPAIR PARTS

The arrangement of this catalog is to facilitate easy and accurate ordering of replacement parts for Styles 63400 D and KD.

Four exploded view plates cover the differences between the Standard Styles listed in this catalog and Style 63400 B covered in Catalog No. 121 M. Each plate presents a sector of the machine, parts being aligned as in their assembled position. On the page opposite the illustration will be found a listing of the parts with their part numbers, descriptions and the number of pieces required in the particular view being shown.

Numbers in the first column are reference numbers only, and merely indicate the position of the part in the illustration. Reference numbers should never be used in ordering parts. Always use the part number listed in the second column. Each exploded view plate carries a reference number for each part available for sale.

Sub-assemblies, which are sold complete, or by separate part, are in a bracket or a solid line box on the picture plate. 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:

18	29126 DZ	Knife Drive Eccentric Assembly, .144 inch throw -----	1
19	63487 C	Knife Drive Eccentric Connecting Rod-----	1
20	22894 J	Set Screw -----	2

It will be noted in the above example that the eccentric and the needle bearing are not listed. The reason is that replacement of these parts individually is not recommended, so the complete sub-assembly should be 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 the Union Special trade mark. Each trade mark is your guarantee of the highest quality in materials and workmanship.

TERMS

Prices are strictly 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 the postage and insurance.

INSTALLING

CAUTION! When unpacking, DO NOT lift machine out of box by placing one hand on handwheel. Using both hands on bed casting, lift gently.

Before leaving factory, each Union Special machine is sewed off, inspected and carefully packed. After the machine and accessories have been removed from the packing box, the following steps should be followed:

PREPARATION OF MACHINE FOR INSTALLATION

A bag of assembly parts, consisting of one frame thread eyelet, one eyelet attaching screw, one extra bobbin, two hinge studs, and two screws for holding miscellaneous attachment to the bed plate, are packed with each machine.

The bag of assembly parts for Style 63400 KD also include one synchronizer bracket, one synchronizer lead wire clamp, one screw for synchronizer lead wire clamp and three clamps for tension release solenoid lead wire.

Insert hinge studs in holes provided for them in rear of cloth plate. Assemble the upper frame eyelet to top of arm (A, Fig. 2A).

For Style 63400 KD, use Fig. 1A as a guide to complete the following (4) steps:

1. Attach the synchronizer bracket (63495 D) to the back of machine, using two (376 A) screws. The upper screw also to hold clamp (660-352) in position.
2. Attach synchronizer to adaptor of handwheel assembly using the two set screws.
3. Slide clamp (660-356) over synchronizer lead wire.
4. Attach clamp to synchronizer bracket using (J87 J) screw.

STANDARD ACCESSORIES

Included also with each machine is a box of STANDARD ACCESSORIES- containing one bobbin winder assembly, the machine mounting frame, one oil drain jar and its clamp spring, one knee lifter assembly and its rubber pad, bed positioning spring and screw, four isolator pads and clips, and one machine rest pin. These parts are essential when setting up the machine.

TABLE TOPS

Lockstitch machines are installed in table tops, prepared with cut-out, so that the bed plate is FLUSH with the top of the machine mounting frame.

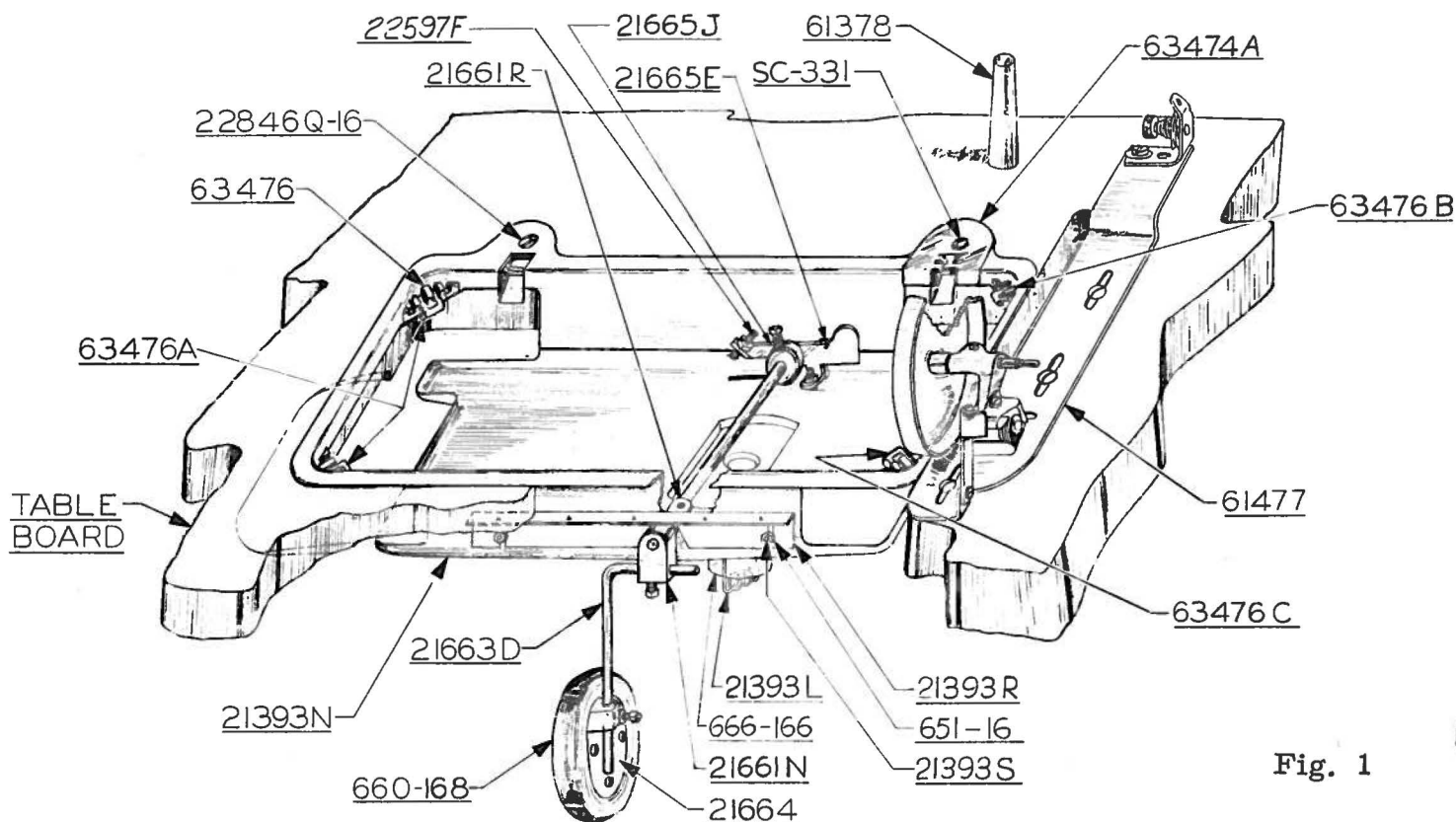
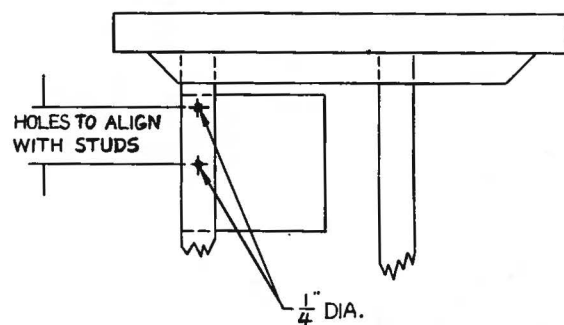
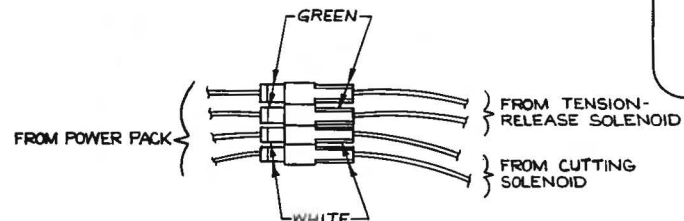
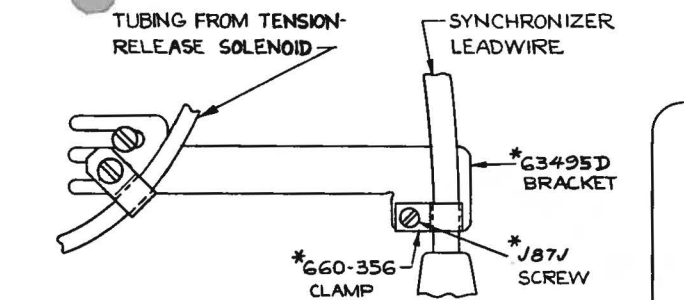


Fig. 1



UNDERTRIMMER ELECTRONIC EQUIPMENT PART NO 800XT-362
FOR 63400 & 63900 SERIES MACHINE

* INDICATES PART INCLUDED IN PACKING BOX

DIMENSIONS SHOWN FOR DRILLED HOLES ARE FOR INSTALLATIONS
NOT EQUIPPED WITH STANDARD HOLES.

** INDICATES PART INCLUDED IN 29480 HP
THE 29480TV KNEE SWITCH; WHICH IS NOT PART OF
800XT-362 BUT IS AVAILABLE (EXTRA SEND & CHARGE).

KNEE SWITCH ELIMINATES TREADLINE SWITCH

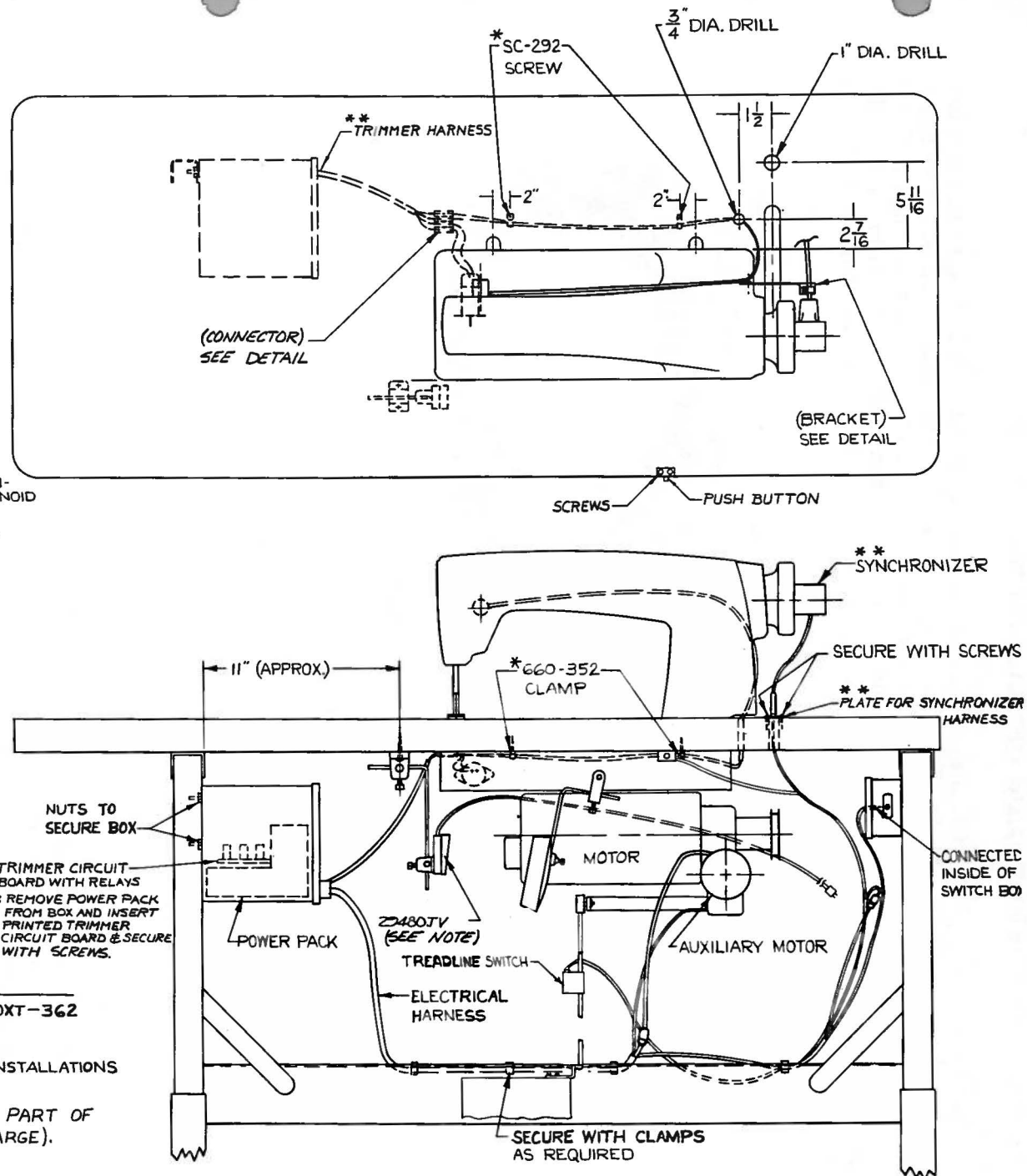
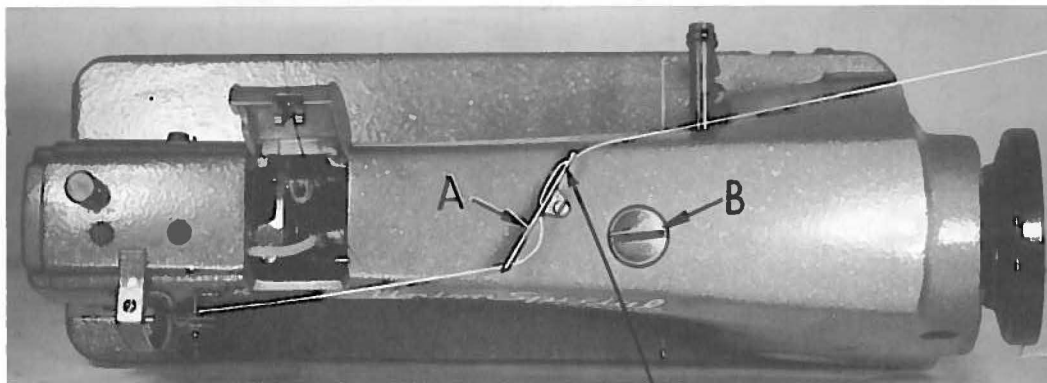


Fig. 1A

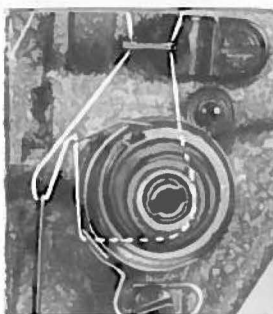
MACHINE MOUNTING FRAME INSTALLATION

On a suitable tableboard, place machine mounting frame (21393 N) in the machine cut-out with the hinge lugs to the rear (Fig. 1). Insert the countersunk wood screw through left hinge pad and tighten securely. Assemble bed positioning spring (63474 A) over right hinge pad; insert round head wood screw and tighten securely. Assemble the retaining plate (21393 R) to outside front of pan section, as shown, and snug up nuts lightly.



FOR STYLE 63400 KD

THREAD THRU THE UPPER
HOLE ONLY - FROM RIGHT
TO LEFT.



FOR STYLE 63400 KD

THREAD THRU THE REAR
EYELET FROM LEFT TO
RIGHT AND THEN THRU
THE FRONT HOLE FROM
RIGHT TO LEFT, OMIT
THE CENTER HOLE.



Fig. 2A

MACHINE MOUNTING FRAME INSTALLATION (Continued)

Place sewing head in the frame mounting, and after being sure there is about 1/16 inch clearance between the cloth plate edge and the frame sides, rap the retaining plate smartly upward with a hammer to insure a good grip on the underside of the board and tighten locking nuts securely.

Tip the machine back against the rest pin, and assemble the kneepress assembly as shown. All end play of the cross shaft should be taken up by the cone bearings, but must not bind.

Before the machine is put into production, the bell crank (21665 J) of the knee lifter rod should be adjusted. The left stop screw (22597 F) should be set so that the maximum lift of the presser bar and its parts do not interfere with moving parts within the head. This may be done by setting the stop screw so that the presser bar raises approximately 5/16 inch.

BOBBIN WINDER

The bobbin winder should be secured to the table top so that its pulley will be located directly in front of the sewing machine belt and will bear against the belt when in operation. The base of the winder has two elongated attaching holes, which allow the mechanism to be moved closer to or farther away from belt as needed. The pulley of the winder, when in operation, should exert only enough pressure against the belt to wind the bobbin. Regulation and operation of the bobbin winder is described under "Winding the Bobbin", under OPERATOR'S INSTRUCTIONS in Catalog No. 121 M.

BELTS

These machines are equipped to use either #1 "Vee" or round belts.

PREPARATION OF TABLE FRAME FOR INSTALLATION OF STYLE 63400 KD

Once again using Fig. 1A as a guide, proceed as follows:

1. Wire leads with striped ends to switch box and attach switch box to right front leg of table frame.
2. Attach power pack to left rear leg of table frame using nuts and bolts provided. Drill holes in table leg if required.
3. Attach electro drive to underside of table board.
4. Secure electrical cable and leads to underside of tableboard and to table frame using clamps and screws provided. Connect cable to power pack, auxiliary drive, clutch arm switch and treadline or knee switch.
5. Connect leads from power pack to cutting solenoid (white leads) and tension release solenoid (green leads). Be sure to connect white to white and green to green.
6. Assemble relays as shown in Fig. 39, Page 17.

THREADING

Thread machines as indicated in Fig. 2A, noting that the needle thread passes through all three holes of the upper frame eyelet (A, Fig. 2A) for Style 63400 D, but only through the rear hole of the upper frame eyelet (A, Fig. 2A) from left to right, then through the front hole of same from right to left and only through the top hole of the lower frame eyelet from right to left, for Style 63400 KD. Threading at check spring has been enlarged for clarity. Needle is threaded from left to right.

OILING

CAUTION! Oil has been drained from the main reservoir before shipment and the reservoir must be filled before starting to operate.

Fill main reservoir at plug screw (B, Fig. 2A) and check oil level at gauge (C). Oil is at maximum safe operating level when the 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". Use a stainless water-white 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.

Oil may be drained from main reservoir by removing plug screw (D, Fig. 2A).

The quantity of oil supplied to the hook is controlled by dial (E). Turning the dial in the direction of the arrow (counterclockwise) increases the oil flow and in a clockwise direction decreases the oil flow.

It is recommended that a new machine, or one that has been out of service for a long period, be lubricated by removing the head cover and oiling all the moving parts. After oiling, replace head cover as no further hand oiling will be required. Run machine slowly for several minutes to distribute oil to the various parts. Full speed operation can then be expected without damage.

INSTRUCTIONS FOR MECHANICS

The adjusting instructions for Styles 63400 D and KD are the same as for Style 63400 B covered in Catalog No. 121 M, with following exceptions and additions. The instructions that are different from the ones covered in Catalog No. 121 M, the headings will indicate the page it can be found in that catalog.

PRESSER BAR CONNECTION (Page 15)

The presser bar connection (A, Fig. 16A) should be set so that it is $\frac{1}{16}$ inch above the knife guard frame (B) on Style 63400 D.

The presser bar connection (A, Fig. 16B) should be set so that it is $\frac{1}{2}$ inch above the knife guard frame (B) on Style 63400 KD.

This is accomplished by tipping the machine back against the rest pin, loosening the lock nut (A, Fig. 15) shown in Catalog No. 121 M and relocating the stop screw (B) on the lifter lever bell crank (C). By turning the stop screw to the right or left, the proper setting of the presser bar connection is accomplished. Tighten the lock nut (A) to lock stop screw in place.

PRESSER BAR GUIDE (Page 16)

When locating the presser bar guide (C, Fig. 16A), the presser foot must rest directly against the throat plate with the feed dog in its lowest position. The presser bar guide is set properly when there is a $\frac{1}{16}$ inch space between the guide and the presser bar connection. To obtain this setting, remove pressure from presser spring (D), by turning spring regulator (E) counterclockwise. Now, loosen set screw (F) and tap on presser foot to insure its

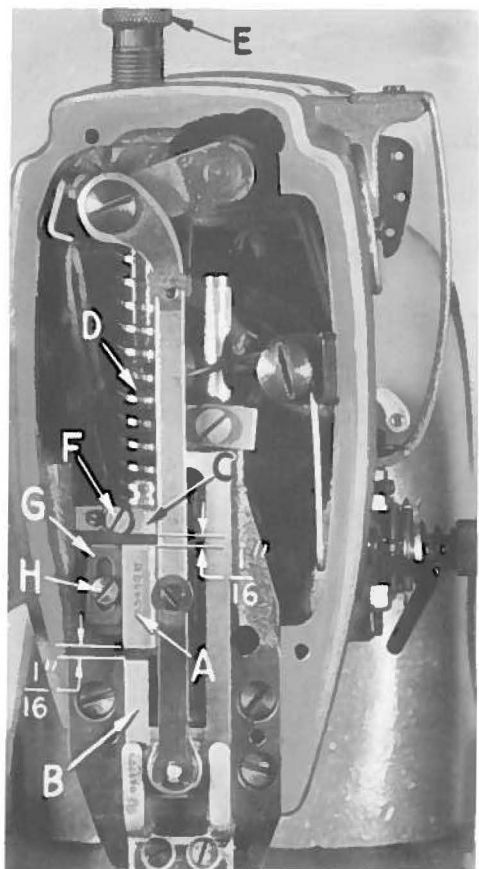


Fig. 16A

PRESSER BAR GUIDE (Page 16, Continued)

being down on the throat plate. Set the guide to the 1/16 inch dimension, center the presser foot by turning it so that the needle enters the middle of its slot and retighten set screw in guide. Now apply pressure to the presser foot by turning the presser spring regulator clockwise.

Set the needle thread take-up wire (C, Fig. 16B) so that the under side of the wire is 4 3/4 inches above the throat plate. To make adjustment merely loosen screw (D), move take-up wire as required and retighten screw.

TENSION RELEASE (Page 17) FOR STYLE 63400 D

1. The tension release arm (G, Fig. 16A) should be set so that it will not release the thread tension when sewing over seams or when the presser foot is raised for back tacking. The adjustment of the tension release arm and the in-out position of the tension assembly are required for proper operation.
2. The in-out position of the tension assembly is correct when the tension discs are in line with the tension post eyelet. To move tension assembly loosen set screw located under arm of machine and adjust stop screw so that when the flange of the tension assembly rests against it, the tension assembly is properly set. Tighten set screw under arm of machine.
3. The tension release arm (G, Fig. 16A) should now be positioned by loosening the holding screw (H) and then raising or lowering the arm to suit the sewing conditions. The average release point being 5/16 inch of presser foot lift above the throat plate. Tighten screw (H) securely.

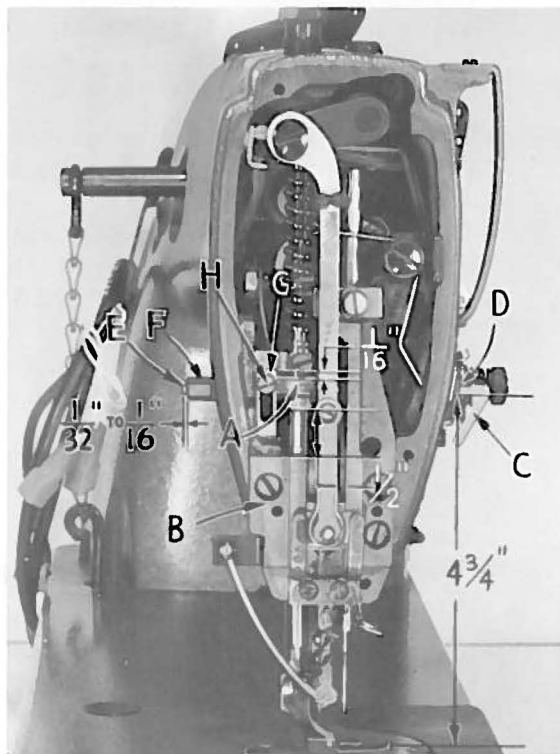


Fig. 16B

TENSION RELEASE (Page 17) FOR STYLE 63400 KD

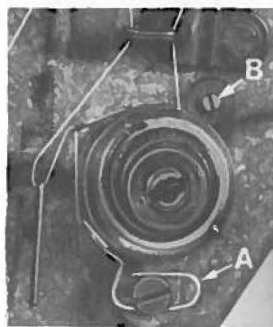


Fig. 18A

1. Set the tension assembly so that the tension discs are centered on the check spring eyelet (A, Fig. 18A).
2. Solenoid plunger pin (E, Fig. 16B) must touch tension release pin and the end of solenoid plunger pin must protrude a minimum of 1/32 inch to a maximum of 1/16 inch. If adjustment is required move tension post assembly in or out by loosening set screw located under machine arm and moving stop screw (B, Fig. 18A) as required.
3. Tension release solenoid is secured to flat of bushing (F, Fig. 16B) with a set screw in bracket. Solenoid plunger pin (E) is to have approximately .005 inch clearance between it and the tension release pin without thread between the tension discs.

TENSION RELEASE (Page 17) FOR STYLE 63400 KD (Continued)

This can be accomplished by placing a .005 inch spacer between the head of solenoid plunger pin and the end of tension release pin. The tension release solenoid should then be slipped onto bushing and moved in until it contacts the solenoid plunger pin. Care should be taken not to exert too much pressure thereby opening the tension disc. After tightening set screw remove spacer.

4. The manual tension release cam (G, Fig. 16B) should be set so that it will not release thread tension when the presser foot is raised for back tacking.

The tension release cam can be positioned by loosening screw (H) and then raising or lowering to suit the sewing conditions. The average tension release point is between 1/4 to 5/16 inch of presser foot lift above the throat plate. Tighten screw securely.

NOTE: Head oiler bracket must locate the needle bar link oil wick in the center of the slot in the connecting rod. The wick must contact the needle bearings. Check the oil gauge to be sure it reads full and operates freely.

ADDITIONAL INSTRUCTIONS FOR STYLES 63400 D AND KD

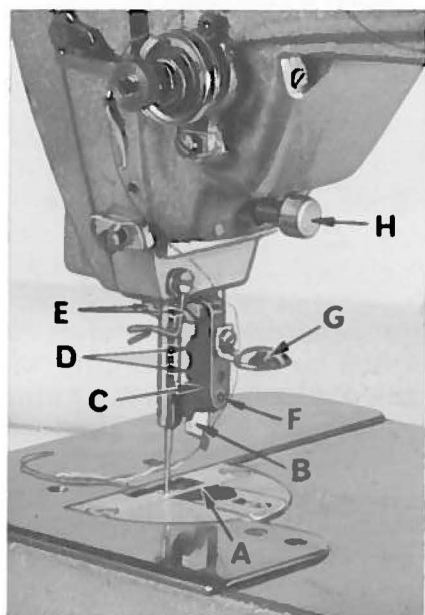


Fig. 28

The upper knife can be moved horizontally by loosening screws (E) that hold the upper knife holder to the upper knife bar and then moving the holder to the left or right as required. With the upper knife in its lowest position, it should be set so it is snug against the lower knife, but not to have enough pressure to allow the pilot of the upper knife to strike on top of the lower knife when the top knife is engaged to the cutting position.

If additional pressure on the upper knife is required to get a clean cut, a pressure adjusting screw (F) may be turned in slightly against the upper knife to get the desired cutting.

To engage the upper knife merely press downwardly on the upper knife engaging lever (G). Just above the upper knife engaging lever is the release button (H), that will release or disengage the upper knife by pushing in this button. The upper knife must release freely with a snappy movement; no bind is permitted.

NOTE: THE REMAINDER OF THE ADJUSTING INSTRUCTIONS IN THIS CATALOG APPLY ONLY TO STYLE 63400 KD.

TRIMMER ADJUSTMENTS

Remove the positioning finger and knife assembly from machine and proceed as follows:

1. There should be no bind or shake in lower knife pivot carrier (A, Fig. 29). This adjustment can be made by loosening screw (B) on the pivot release lever (C) and taking up the excessive end play or relieving the bind as the case may be.
2. Position upper knife (D) parallel with the left side of the arm of the positioning finger. Check to see that the lower knife is parallel with the upper knife. If this is not so, loosen the finger set screw (E) and turn the eccentric bushing (F) until the knives are parallel. A good starting point would be to have the pinhole in the eccentric bushing (F) located approx. 90° to the right side of the arm of the positioning finger (Fig. 31).

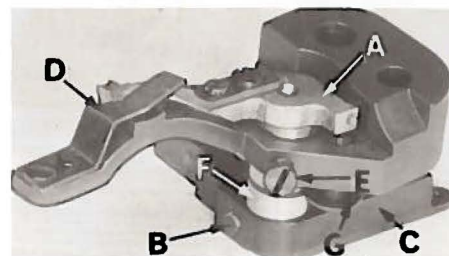


Fig. 29

Adjust lower knife until it just contacts the upper knife. To adjust the lower knife turn flange screw (G, Fig. 29) clockwise to lower knife and counterclockwise to raise it.

CAUTION: Be sure bushing is not turned while making this adjustment or parallel adjustment will have to be checked.

The lower knife (A, Fig. 30) in its extreme left position should not extend beyond the left side of the arm of the positioning finger (B). As the lower knife moves to the right, the run out of the cutting edge (C) must coincide at a point of the positioning finger as indicated at point (D). To make these adjustments loosen screws (A, Fig. 31) and position knife.

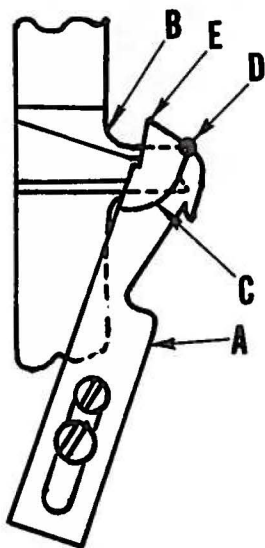


Fig. 30

3. Assemble positioning finger and knife assembly into machine. Adjust the bobbin case holder positioning finger and knife assembly by turning the bobbin case holder until the finger recess is at the top. Place the projection (A, Fig. 12A) on the positioning finger into the bobbin case holder recess (B) and tighten the finger and knife assembly attaching screws securely, allowing $1/32$ inch clearance between the outside edge of projection and the inside edge of bobbin case recess (Fig. 12A).
4. Locate the cutting solenoid bracket (A, Fig. 32) as far forward as possible and parallel with the line of feed. With the cutting solenoid lever (B) contacting the cutting solenoid plunger (C), adjust the pivot release lever (D), so that there is a $1/32$ inch clearance to be maintained when knife return spring (A, Fig. 33) is in position.

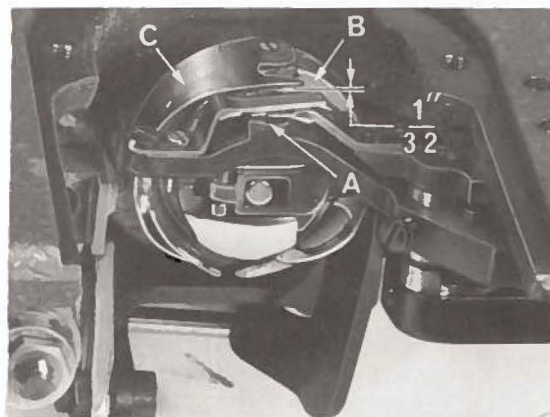


Fig. 12A

TRIMMER ADJUSTMENTS (Continued)

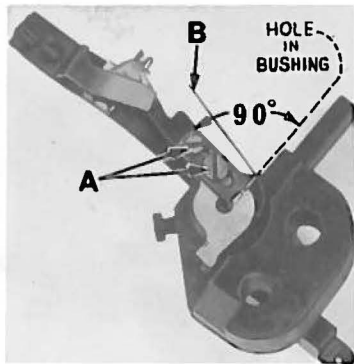


Fig. 31

5. Adjust the lower knife stop screw (B, Fig. 33) so when the lower knife is in its extreme right hand position, the left corner (E, Fig. 30) is in line with the left side of the needle slot in the bobbin case holder.

CAUTION: Be sure cutting solenoid lever contacts the lower knife stop when making this adjustment. Also be sure knife does not hit the hook point.

6. Be sure the spring retainer wire (B, Fig. 31) contacts the bobbin case holder when the lower knife is in its extreme right hand position. If the spring wire does not make contact, bend retainer wire to suit.

NOTE: If positioning finger assembly or cutting solenoid bracket are removed from machine or position changed, check step 5.

7. Knife return spring (A, Fig. 33) to have proper tension to cut threads. To adjust tension of knife return spring loosen screw (C) and move tension spring bracket (D) to the right to increase tension or to the left to decrease the tension.

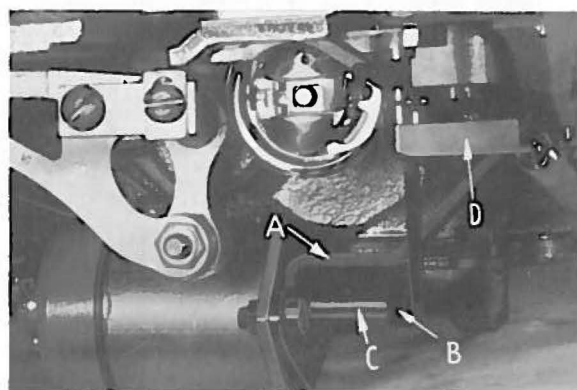


Fig. 32

SYNCHRONIZER ADJUSTMENT

- (a) Rotate handwheel in operating direction until the needle clearance cut in the deflector plate (C, Fig. 12A) on the rotating hook assembly is in line with the needle on the up stroke of the needle bar.

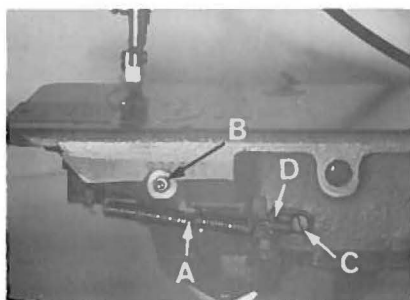


Fig. 33

- (b) At this time the brass contact of the left band (A, Fig. 34) should be flush with the front edge of the brush holder (B). To make this adjustment position needle bar and deflector plate as described in step (a), then loosen

set screws (C) in synchronizer and move as required.

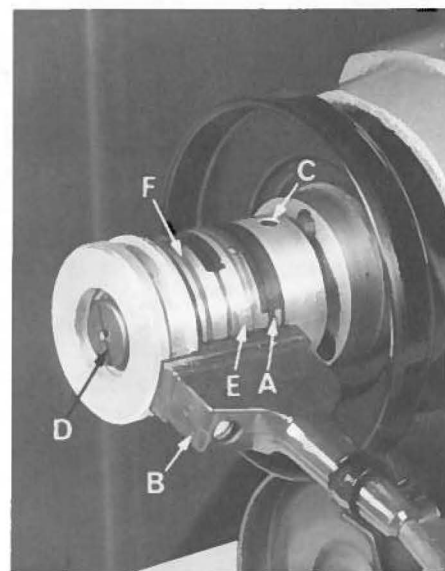


Fig. 34

- (c) The needle positioner should position needle at bottom of stroke. If not, with power off rotate handwheel until it is at bottom. Then loosen screw (D) at end of synchronizer and rotate third band from left (E) in operating direction until its brush is in the middle of the black plastic band.

SYNCHRONIZER ADJUSTMENT (Continued)

- (d) The needle positioner should position needle thread take-up at top of its stroke or 1/8 inch from the top of its up stroke. If not, with power off rotate handwheel in operating direction until it is at the top of its stroke. Then loosen screw at end of synchronizer and rotate fourth band from left (F) until its brush is in the middle of the black plastic band. Turn on power and check the up and down positions of the needle bar.

CLUTCH ARM SWITCH ADJUSTMENT

- (a) Set needle in work.
- (b) Adjust clutch arm spring (A, Fig. 35) so that treadle will return to stop (wing nut washer (B) is to be approximately 1/2 inch from end of stud).
- (c) Close treadline switch and loosen clutch lever switch adjusting screw (C), until there is no contact between it and the microswitch. Then tighten screw until needle positions up. Tighten nut (D) to maintain setting.

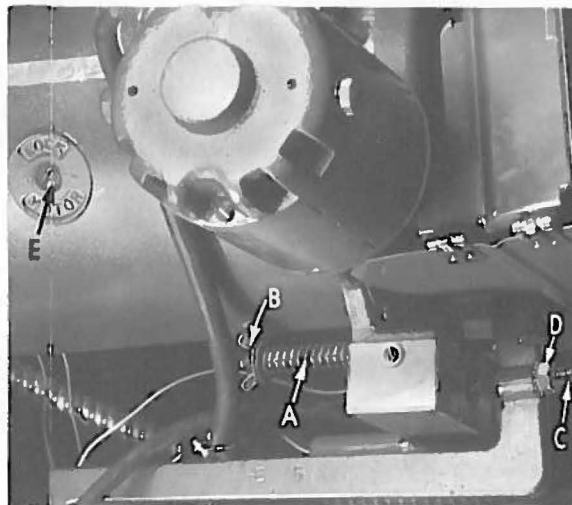


Fig. 35

ADJUSTING CLUTCH

- (a) Depress treadle unit until one click is heard, which indicates switch is open.
- (b) Adjust clutch so that clutch arm has approximately 1/16 to 1/8 inch travel before clutch is engaged. Loosen lock screw (E, Fig. 35) (where it says "Lock Motor") just enough to unlock it, which is approximately one full turn. Adjust screw located near the top on right end of motor, until clutch is engaged as described above. Tighten lock screw (E).

CAUTION! Clutch must not engage when clutch lever switch is closed or auxiliary motor running; one click must be heard before clutch is engaged.

THREAD WIPER ADJUSTMENTS

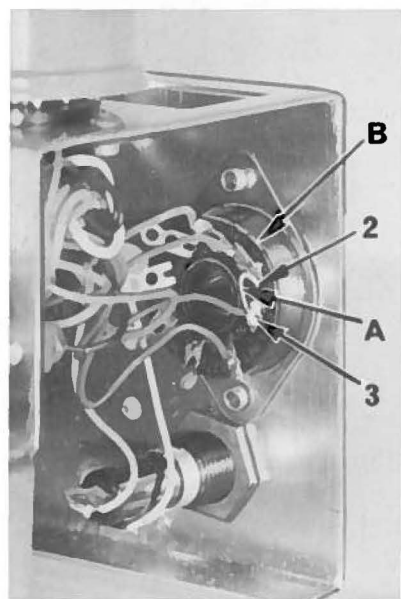


Fig. 36

1. Position thread wiper bracket (63470 L) and adjust thread wiper guide (63470 M), so that the hook of the thread wiper wire catches the needle thread when the take-up is at the top of its stroke.
2. Thread wiper lever (63470 E) must return with a snap when released.
3. Form thread wiper wire (63470 V) for free movement in thread wiper guide (63470 M).

CAUTION! Thread wiper hook must not prevent solenoid from returning to its stop. Move thread wiper guide (63470 M) so that hook does not stop against end of tube. Be sure to loosen set screws when adjusting thread wiper lever. Premature failure of solenoid will result if it is not allowed to return completely.

INSTALLATION OF INCHING SWITCH

When installing inching switch, (Amco No. M6665) be sure to remove jumper wire (A, Fig. 36) located between pin #2 and pin #3 on socket (B) before connecting the inching switch plug or it will not function properly.

Should the inching switch be removed at a later date, the jumper wire (A, Fig. 36) must be replaced or the needle positioning unit will not position up.

PUSHBUTTON FUNCTION

If the pushbutton, which is mounted on the front edge of the table board, is depressed, the cutter band of the synchronizer is interrupted.

Therefore, when the treadle is heeled while the pushbutton is depressed, the needle will position up without trimming. This enables the operator to readjust or realign the garment with the needle out of the work, but without having trimmed the threads.

TREADLINE SWITCH ADJUSTMENT

To adjust the length of the pitman rod (A, Fig. 37) loosen the two Allen set screws in the back panel. If more adjustment is necessary the cover must be removed and the three bushings inside the switch relocated to obtain the desired length.

If more or less pressure is required when heeling the treadle the spring (B) can be compressed more or less accordingly by moving the pitman rod spring tension bushing (C) up or down.

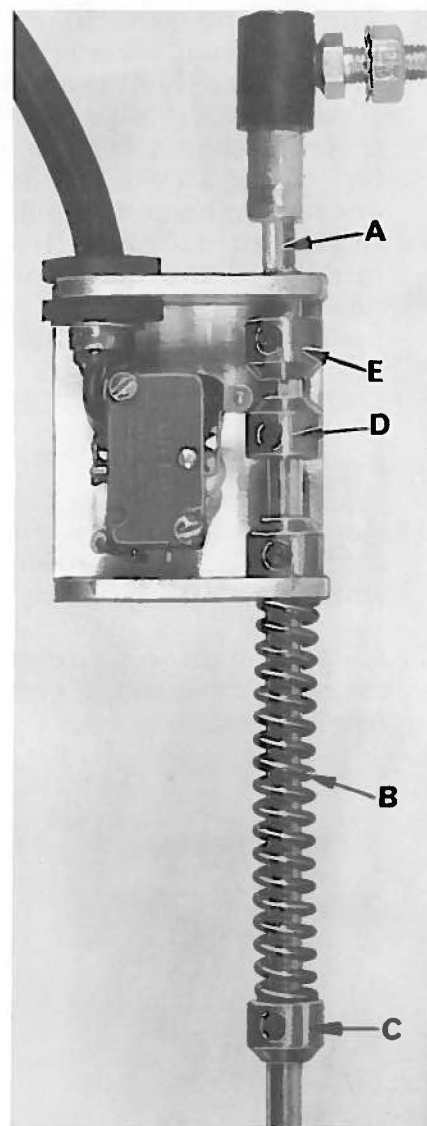


Fig. 37

TREADLINE SWITCH ADJUSTMENT (Continued)

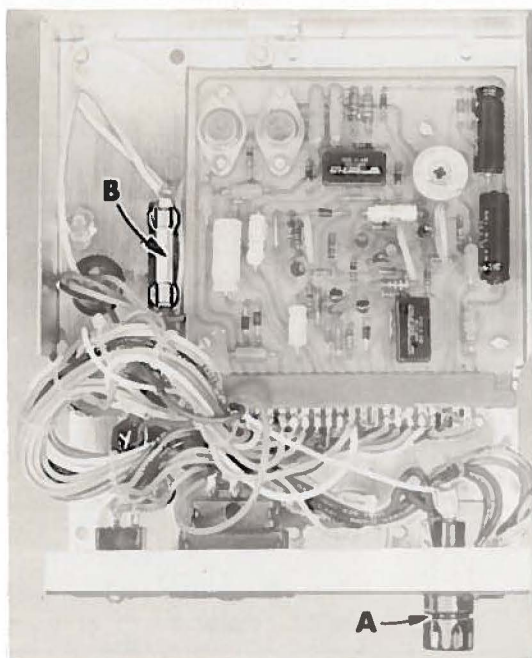


Fig. 38

If more travel is required in the treadle for actuating the trim cycle the two bushings, micro-switch actuator (D) and stop bushing (E), must be lowered. Care should be taken so that only enough travel is provided to actuate the micro-switch. The roller on the switch should not be allowed to ride over the bevel on the micro-switch actuator bushing (D). This is accomplished by adjustment of the stop bushing (E).

FUSING THE POWER PACK

The power pack incorporates a safety feature consisting of three (3) fuses of which two are of the slow blowing type and are rated 1 1/4 AMP at 250 V and the third a straight blow fuse rated 5 AMP at 250 V. The 1 1/4 AMP fuse (A, Fig. 38) located in the front panel fuses the auxiliary motor as well as the positioner circuit components. The 1 1/4 AMP fuse (A, Fig. 39) located on top of the chassis fuses the AC input for the primary winding of the transformer. The 5 AMP fuse (B, Fig. 38) located under the chassis, fuses the output side of the rectifier for the thread wiper solenoid (30 VDC) cutter solenoid and the relay coil control circuit (24 VDC).

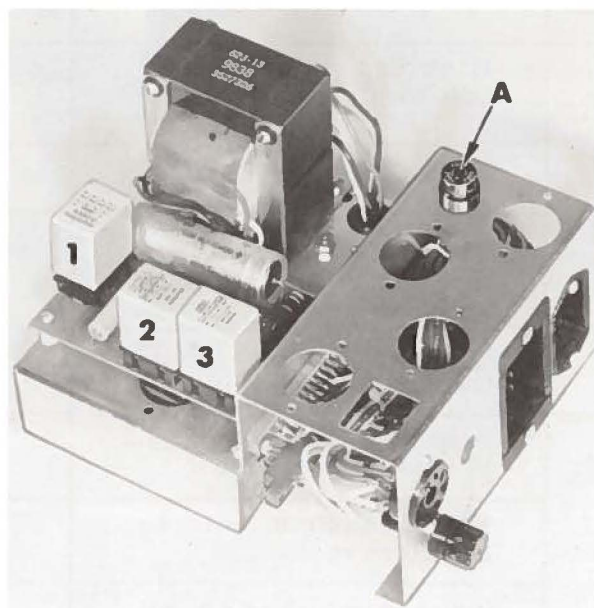


Fig. 39

Before this machine left the factory it was adjusted and inspected so as to give you the utmost satisfaction and durability at all times. If, however, the needle positioner has been readjusted and is not positioning properly see the chart below for suggestions which may prove beneficial to you. NOTE: A.C. voltage 200-250 volts.

TYPICAL NEEDLE POSITIONER PROBLEMS

Condition	Causes	Cures
Unit does not position	Bad fuse	Replace fuse (A, Fig. 38)
	Synchronizer jack not plugged in properly or broken	Check connection of synchronizer jack or replace if necessary
	Dirty brushes	Clean or replace brushes
	Treadle jack not plugged in properly	Clean connection of treadle jack
	No input power (220 V)	Check input power
	Burnt or dirty brushes and armature	Clean armature or brushes or replace
	Tight fiber gear or broken teeth on fiber gear	Take fiber gear out of bell housing and remove excessive stock from hub, or replace
Unit positions up in second position, but does not position down	The treadle switch is not opening	The unit will position down the first time after the power is turned off and then back on again
Unit blows the fuse every few hours or every few days	Grounded armature, tie bolt touching field	Insulate tie bolt and remove short
	Oil saturated armature	Clean armature
	Tight fiber gear	Take fiber gear out of bell housing and remove excessive stock from hub
	Operator fluttering treadle excessively	Caution operator
Unit keeps on stitching at an inching speed	Synchronizer jack not plugged in properly	Check connection of synchronizer jack
	Damaged field coil in auxiliary motor	Replace auxiliary motor
	Synchronizer loose on handwheel	Tighten synchronizer on handwheel
	Very loose "V" belt	Reposition motor to suit
Auxiliary motor runs while clutch is engaged with main motor	Clutch arm switch is not opening	Adjust clutch arm switch properly
	Clutch arm switch broken	Replace switch

TYPICAL NEEDLE POSITIONER PROBLEMS (Continued)

Condition	Causes	Cures
Unit positions slowly	Armature has poor commutation or is partly shorted and dirty	Dress armature with dressing stone
	Tight fiber gear	Take fiber gear out of bell housing and remove excessive stock from hub
Auxiliary motor runs very hot	Improper setting of clutch arm switch	Adjust clutch arm switch properly
	Operator fluttering clutch arm switch	Caution operator
	Grounded field coil	Check with tester and insulate tie bolt
Unit blows fuse after positioning one time, not when fuse is first put in	Lead rubbing in armature	Isolate from armature
	Brush holders brush against armature	Remove end cap of auxiliary motor and relocate brush holders
Auxiliary motor will not turn over although you know power is feeding it	Bad armature brushes	Replace brushes on auxiliary motor
	Tight fiber gear	Take fiber gear out of bell housing and remove excessive stock from hub
Unit does not provide power to solenoids	Solenoids are not connected to power pack	Check connections on leads
	Bad relays	Check relays (Nos. 1, 2, 3, Fig. 39) with tester
	Diodes shorted out	Replace diode on trimmer circuit board
	No voltage from trimmer secondary on transformer blue, gray and white leads	Check output of transformer, if defective - replace transformer

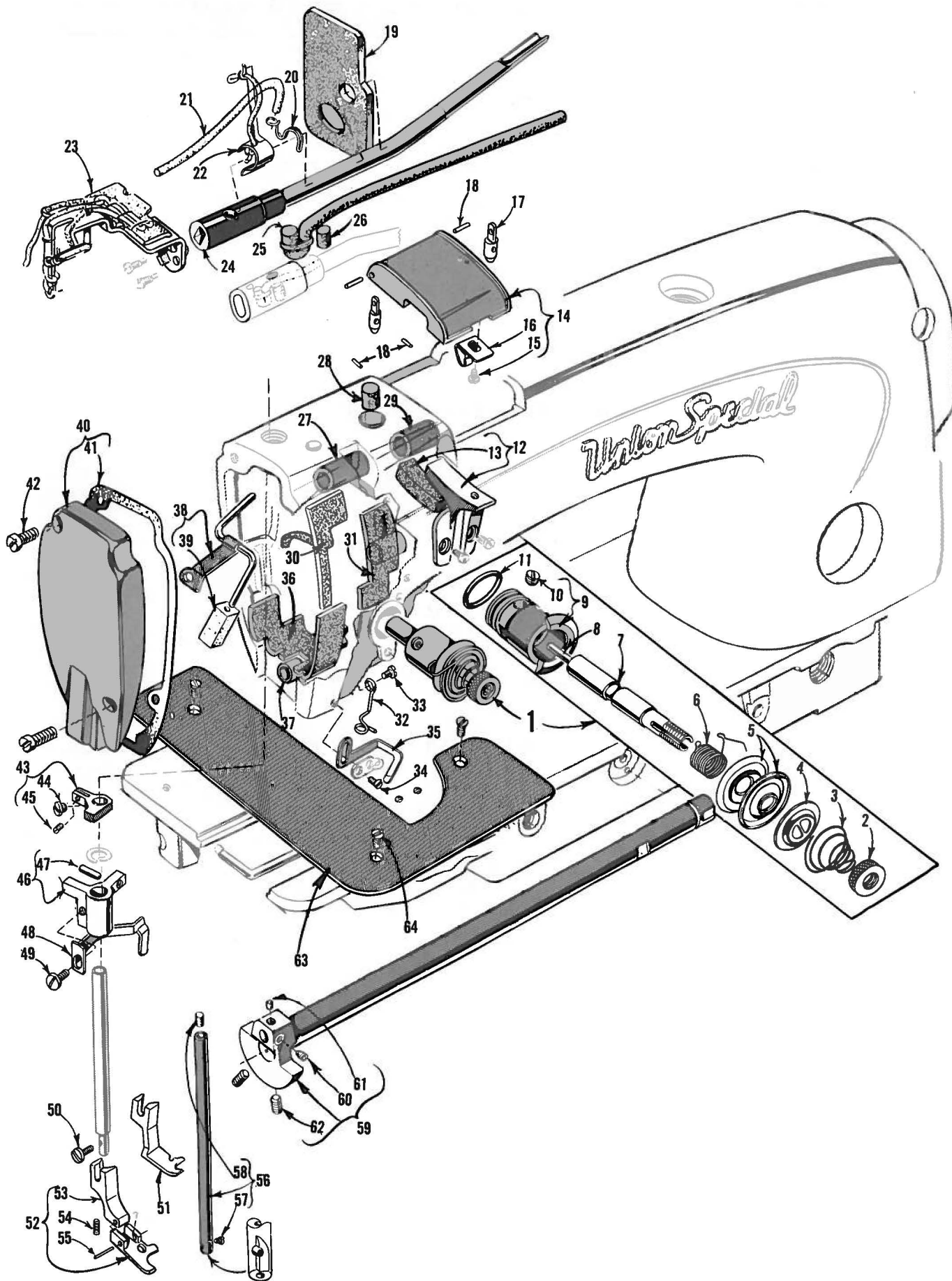
Before this machine left the factory, it was adjusted and inspected so as to give the utmost satisfaction and durability at all times. If, however, the trimmer has been readjusted and is not trimming properly, see the chart below for suggestions which may prove beneficial to you.

TRIMMER TROUBLESHOOTING

Condition	Causes	Cures
Both threads not cut	Solenoid not working	Check lead connections Make continuity check
	Lower knife not moving far enough to the right	Reset stop screw
	Lower knife too far forward, wipes threads behind knife	Relocate knife. Check for nicks on radius
	Lower knife too far back, threads slip off when knife returns	Relocate knife
Needle thread not cut, but bobbin thread cut	Spring retainer wire not contacting bobbin case holder when in catching position	Bend spring retainer wire to suit.
	Lower knife does not move far enough to right	Adjust stop screw to standard setting. Check position of solenoid. Operate machine with belt off, to determine if solenoid pivot lever is contacting stop screw and then reposition solenoid if necessary
	Hook No. 29474 R or S used	Use only No. 29474 T hook
Bobbin thread not cut, but needle thread cut	Bobbin thread not threaded thru in bobbin case	Thread properly
	Needle hole in throat plate is too big or has been altered	Use throat plate with smaller needle hole, if available
Lower knife does not return all the way	Not enough tension on lower knife return spring. Dense material and rough thread will require more tension on knife return spring	Increase tension on lower knife return spring by moving bracket to the right
	Lower knife rubbing hook point	Raise lower knife
Needle thread tears and leaves random lengths of starting tail	Too much knife return spring tension and excessive friction in needle thread eyelets and in thread pull-off at cone	Unthread some of the eyelets to the right of the tension post. Decrease tension on knife return spring slightly. Check thread pull-off at cones
	Tension disc not open	Check setting of tension release solenoid and electrical operation of this solenoid
Needle unthreads when starting	Needle thread take-up not positioned properly at top of stroke	Check position of needle thread take-up. Must be within 1/8 inch of the top of its upstroke
	Needle hole in throat plate is too big	Use throat plate with smaller needle hole, if available
	Bobbin thread too short	See bobbin thread breaks
Bobbin thread breaks	Overspin on bobbin thread	Check wind of bobbin and fit of bobbin in bobbin case holder
	Too much knife return spring tension	Decrease tension on knife return spring slightly, by moving bracket to the left
	Sharp edges on T.C.S. of lower knife. (Front, point and back edges are the T.C.S. of lower knife)	Stone sharp edges of T.C.S. of lower knife. (Front, point and back edges are the T.C.S. of lower knife)

NOTE: Refer to Amco or Quick Catalogs furnished with each needle positioner for guardian maintenance and other information regarding the needle positioner and electrical circuitry.

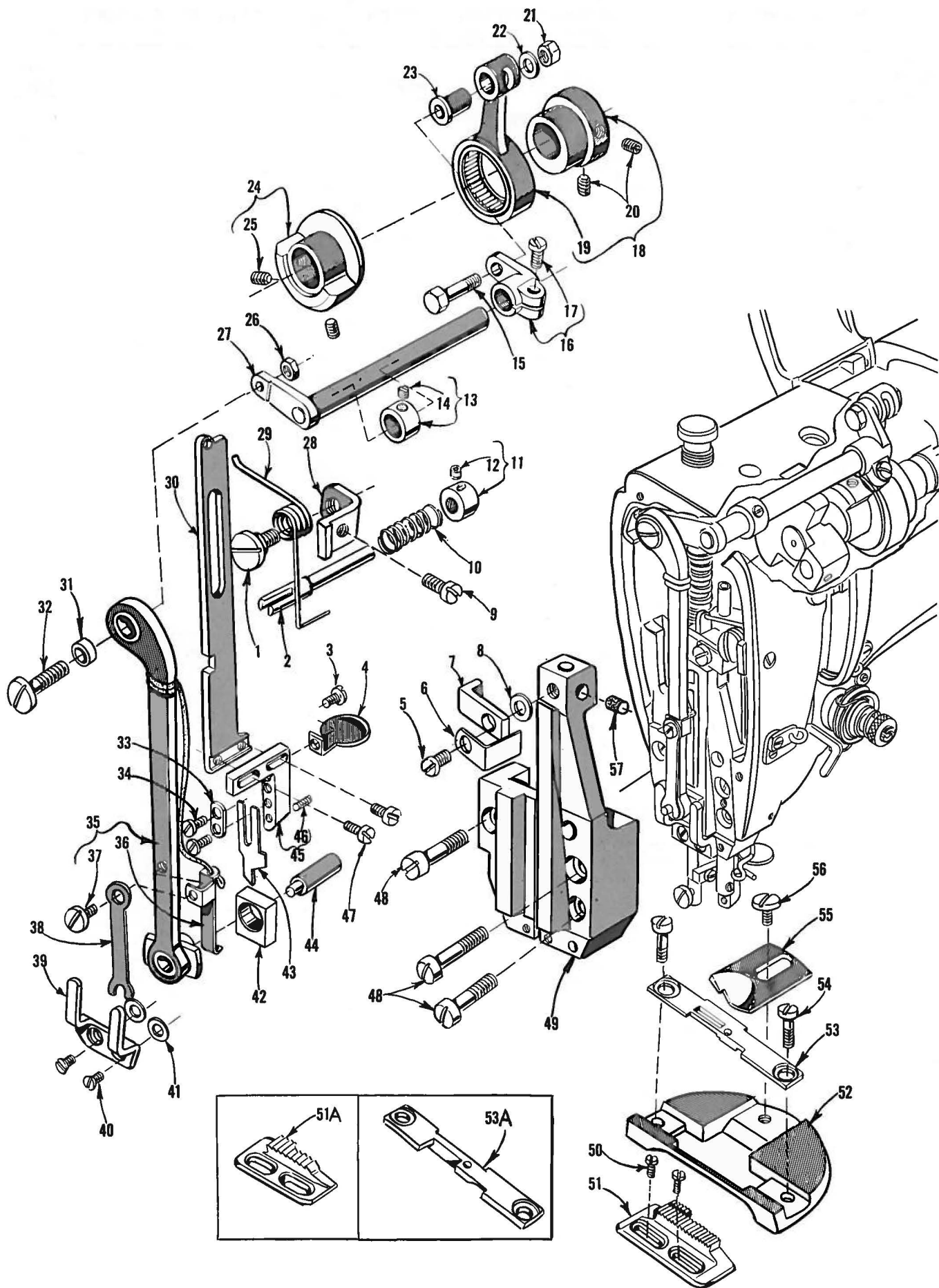
EXPLODED VIEWS
AND
DESCRIPTION OF PARTS
PECULIAR TO
STYLES 63400 D and KD
HIGH SPEED LOCKSTITCH MACHINES



**PRESSER FEET, THREAD TENSION ASSEMBLY, OILING AND MISCELLANEOUS PARTS
FOR STYLES 63400 D and KD UNLESS OTHERWISE SPECIFIED**

Ref. No.	Part No.	Description	Amt. Req.
*1	29475 AS	Thread Tension Assembly-----	1
2	61292 C	Tension Nut -----	1
3	61392 F-9	Tension Spring -----	1
4	61492 II	Tension Release Washer -----	1
5	109	Tension Disc -----	2
6	63453	Take-up Spring -----	1
7	61492 F	Tension Post -----	1
8	61492 G	Tension Release Pin -----	1
9	61492 E	Tension Post Socket -----	1
10	22560 G	Screw -----	1
11	660-269 A	"Quad" Ring -----	1
12	63971 A	Take-up Lever Hood -----	1
13	666-222	Felt Pad -----	1
14	63982 A	Top Cover -----	1
15	90	Screw -----	1
16	63982 F	Spring Clip -----	1
17	61982 C	Top Cover Hinge -----	2
18	61982 D	Top Cover Hinge Pin -----	4
19	666-254	Felt Baffle, for mainshaft assembly -----	1
20	63984 C	Wire Spring Clip, for felt -----	1
21	666-223	Hood Contacting Felt -----	1
22	63493 G	Knife Driving Eccentric Connecting Rod Oiler -----	1
23	63493 C	Head Oiler Assembly -----	1
24	63493 B	Oil Supply Line -----	1
25	666-225	Roll Felt, for oil supply line -----	1
26	666-224	Roll Felt, for upper mainshaft bearing, left -----	1
27	61985 G	Bushing, left, for knife drive rocker shaft -----	1
28	666-228	Roll Felt, for knife drive rocker shaft -----	1
29	61985 H	Bushing, right, for knife drive rocker shaft -----	1
30	666-246	Felt, for needle bar oiling -----	1
31	666-245	Felt Pad, for diverting oil from take-up -----	1
32	63470 C	Lower Needle Thread Eyelet -----	1
33	22513	Screw, for lower needle thread eyelet -----	1
34	22766	Screw, for needle thread pull-up bracket -----	1
35	63970 A	Needle Thread Pull-up Bracket -----	1
36	666-241	Felt Pad, for bottom of head -----	1
37	63487 AD	Knife Release Pin Bushing -----	1
38	63493 E	Oil Siphon Head Tube -----	1
39	666-214	Oil Felt -----	1
40	63482 C	Head Cover -----	1
41	63482 D	Gasket -----	1
42	22516 A	Screw, for head cover -----	2
43	63459 B	Presser Bar Guide, Style 63400 D -----	1
44	22570	Screw -----	1
45	73 C	Screw -----	1
46	63458	Presser Bar Lifter Connection, for Style 63400 D -----	1
47	660-219 S	Roll Pin -----	1
48	63458 A	Tension Release Arm, for Style 63400 D -----	1
49	22585	Screw, for tension release arm, for Style 63400 D -----	1
50	22775	Screw, for presser foot -----	1
51	63420-1/16	Presser Foot, for Styles 63400 D-1/16, KD-1/16 -----	1
52	63420 A-1/8	Presser Foot, for Styles 63400 D-1/8, KD-1/8 -----	1
-	63420 A-3/16	Presser Foot, for Styles 63400 D-3/16, KD-3/16 -----	1
-	63420 A-1/4	Presser Foot, for Styles 63400 D-1/4, KD-1/4 -----	1
53	63430	Presser Foot Shank -----	1
54	51930	Spring -----	1
55	61330 B-31	Hinge Pin -----	1
56	63417	Needle Bar -----	1
57	28 C	Screw -----	1
58	CO67 D	Cork -----	1
59	29475 BB	Mainshaft and Counterweight Assembly -----	1
60	22894 U	Spot Screw -----	1
61	22894 W	Set Screw -----	1
62	22894 V	Set Screw -----	2
63	63401	Auxiliary Cloth Plate -----	1
64	87 A	Screw, for auxiliary cloth plate -----	3

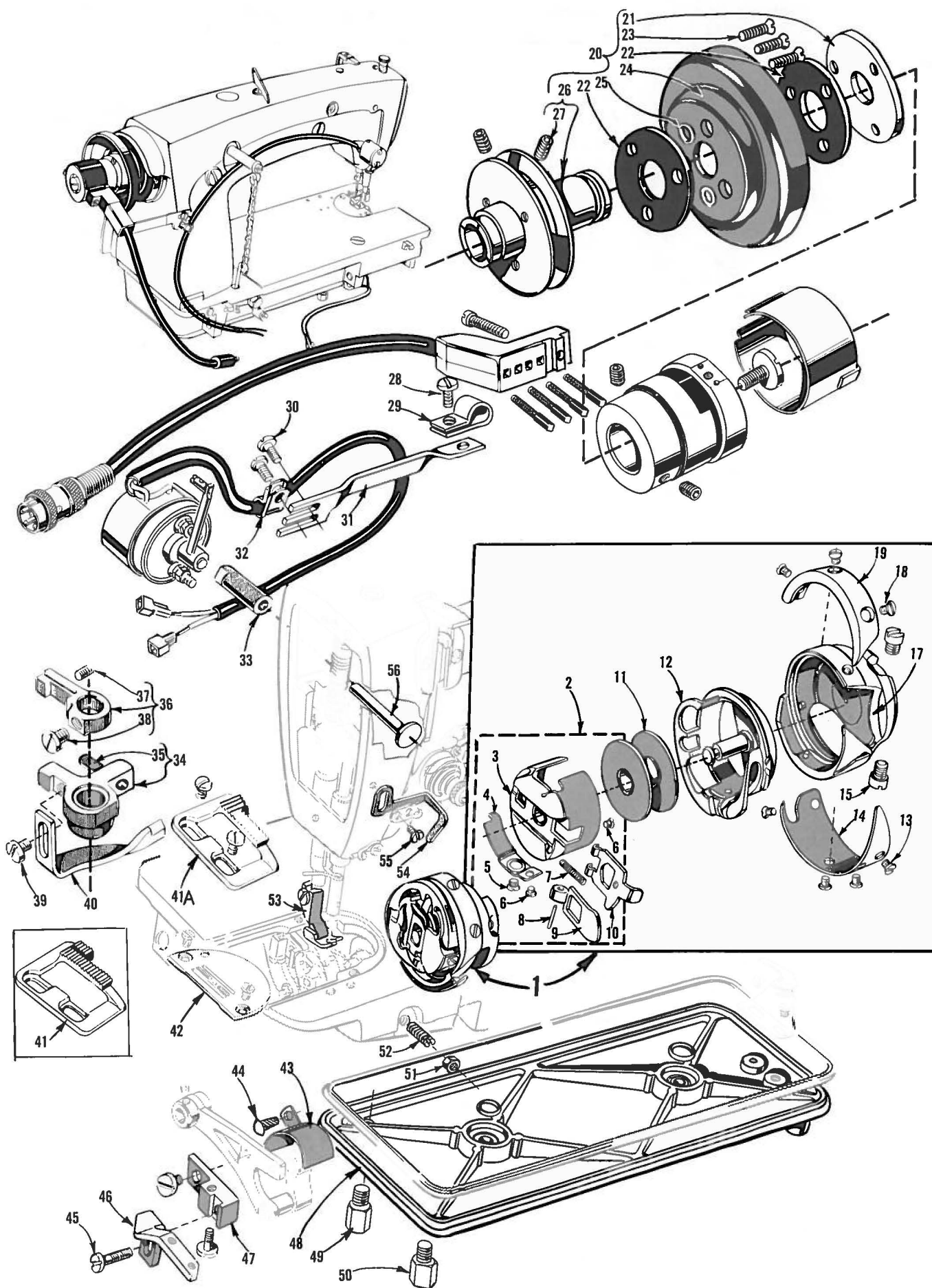
* Same as used on Style 63400 B.



**THROAT PLATE, FEED DOGS, TRIMMER AND TRIMMER DRIVING PARTS
FOR STYLES 63400 D, KD UNLESS OTHERWISE SPECIFIED**

Ref. No.	Part No.	Description	Amt. Req.
1	22557 D	Screw, for knife return spring -----	1
2	63487 V	Knife Release Pin-----	1
3	87 U	Screw, for upper knife engaging lever -----	1
4	63487 S	Upper Knife Engaging Lever -----	1
5	22576	Screw, for knife bar retainer -----	1
6	63496 A	Needle Bar Oiling Bracket-----	1
7	63487 E	Knife Bar Retainer -----	1
8	164-22	Shim, for knife bar retainer ----- as required	
9	22790 A	Screw, for knife return spring bracket-----	1
10	39550 J	Spring, for knife release pin-----	1
11	63487 U	Knife Release Button-----	1
12	22894 Y	Set Screw-----	1
13	51773	Collar, for knife drive rocker shaft -----	1
14	88 B	Set Screw-----	1
15	22881	Stud, for bearing sleeve-----	1
16	63487 D	Knife Rocker Shaft Driving Arm-----	1
17	22839	Screw -----	1
18	29126 DZ	Knife Drive Eccentric Assembly, .144 inch throw-----	1
19	63487 C	Knife Drive Eccentric Connecting Rod -----	1
20	22894 J	Set Screw-----	2
21	18	Nut, for bearing sleeve stud -----	1
22	20	Washer, for bearing sleeve stud-----	1
23	60038 G	Bearing Sleeve -----	1
24	63491 B	Counterweight, for knife drive eccentric -----	1
25	22894 J	Set Screw-----	2
26	14077	Nut, for knife drive rocker shaft -----	1
27	63487 A	Knife Drive Rocker Shaft -----	1
28	63487 AA	Knife Return Spring Bracket -----	1
29	63487 W	Knife Return Spring-----	1
30	63487 X	Upper Knife Bar-----	1
31	63487 K	Knife Drive Ferrule -----	1
32	22581 B	Screw, for knife drive ferrule -----	1
33	63487 R	Upper Knife Clamp Plate -----	1
34	87 U	Screw, for upper knife -----	2
35	63487 L	Upper Knife Drive Connecting Rod Assembly -----	1
36	63487 Q	Knife Drive Connecting Rod Oiler Bracket-----	1
37	25 B	Screw -----	1
38	63487 H	Knife Drive Pin Spring -----	1
39	63487 G	Knife Bar Retaining Fork-----	1
40	87	Screw, for knife bar retaining fork -----	2
41	63487 AE-2	Shim, .002 inch thick, for retaining fork----- as required	
	63487 AE-3	Shim, .003 inch thick, for retaining fork----- as required	
42	63487 F	Knife Driving Arm Guide -----	1
43	63487 AF	Upper Knife-----	1
44	63487 J	Knife Driving Pin-----	1
45	63487 T	Upper Knife Holder -----	1
46	73 C	Set Screw -----	1
47	J87 J	Screw, for upper knife bar -----	2
48	22874 E	Screw, for knife guide frame -----	3
49	63487	Knife Guide Frame -----	1
50	22768	Screw, for feed dog-----	2
51	63405 S	Feed Dog, marked "DE", 16 teeth per inch, for Styles 63400 D-1/8, D-3/16, D-1/4-----	1
*-	63405 T	Feed Dog, marked "DF", 22 teeth per inch, for Styles 63400 D-1/8, D-3/16, D-1/4-----	1
51A	63405	Feed Dog, marked "BM", 12 teeth per inch, for Style 63400 D-1/16 -----	1
52	63428	Throat Plate -----	1
53	63428 C-3/16	Throat Plate Insert, marked "C-3/16", for Styles 63400 D-3/16, KD-3/16 (.073 inch dia. needle hole) -----	1
-	63428 C-1/4	Throat Plate Insert, marked "C-1/4", for Styles 63400 D-1/4, KD-1/4 (.073 inch dia. needle hole) -----	1
-	63428 C-1/8	Throat Plate Insert, marked "C-1/8", for Styles 63400 D-1/8, KD-1/8 (.073 inch dia. needle hole) -----	1
53A	63428 A-1/16	Throat Plate Insert, marked "A-1/16", for Styles 63400 D-1/16, KD-1/16 (.073 inch dia. needle hole) -----	1
54	376	Screw, for throat plate and throat plate insert -----	2
55	63487 AC	Chip Guard-----	1
56	22564 G	Screw, for chip guard-----	1
57	666-186	Oil Felt Plug, for oiling needle bar-----	1

* Available as extra send and charge item.

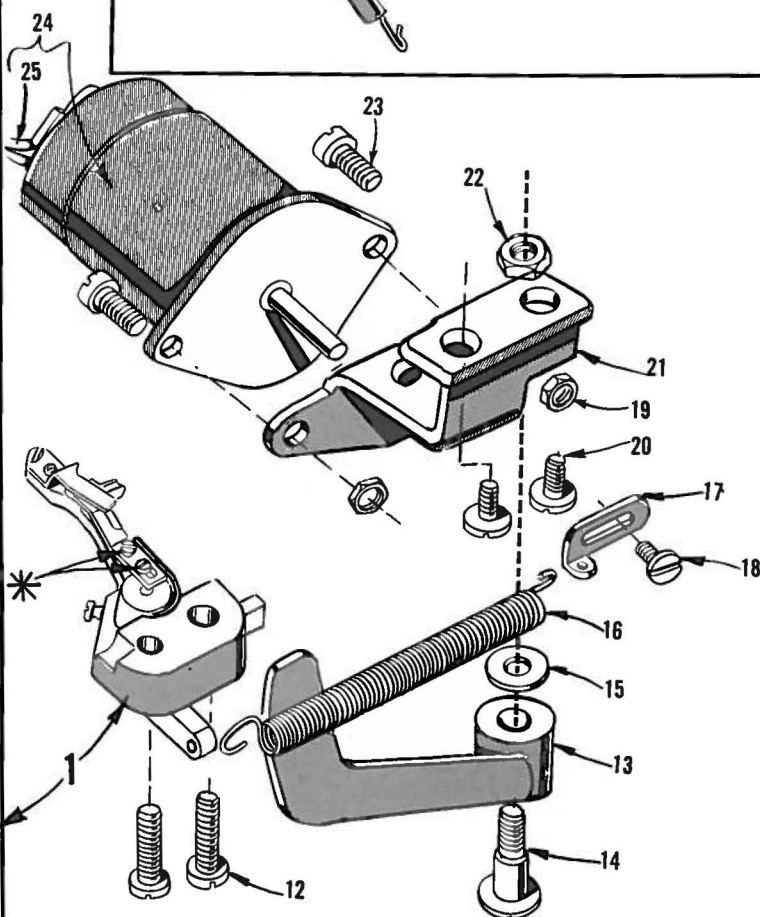
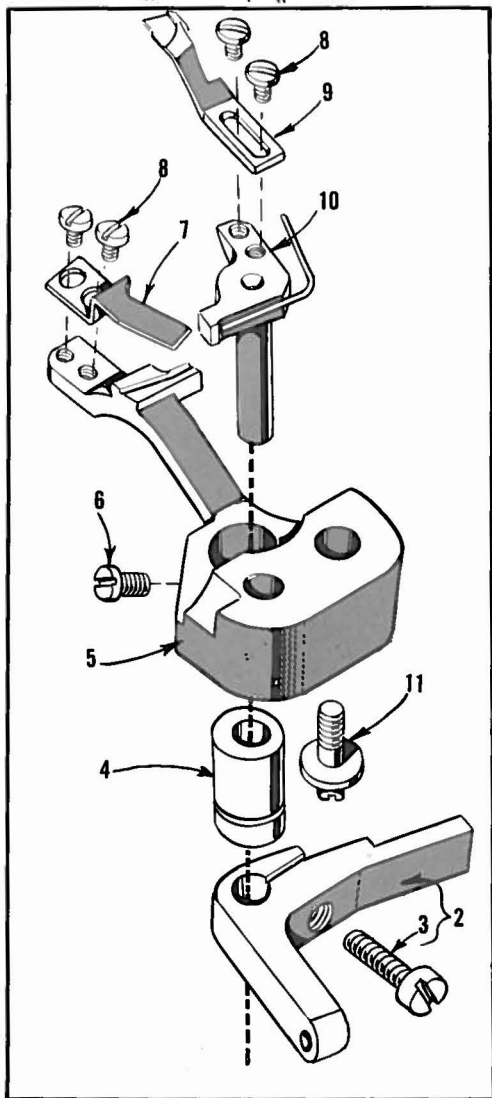
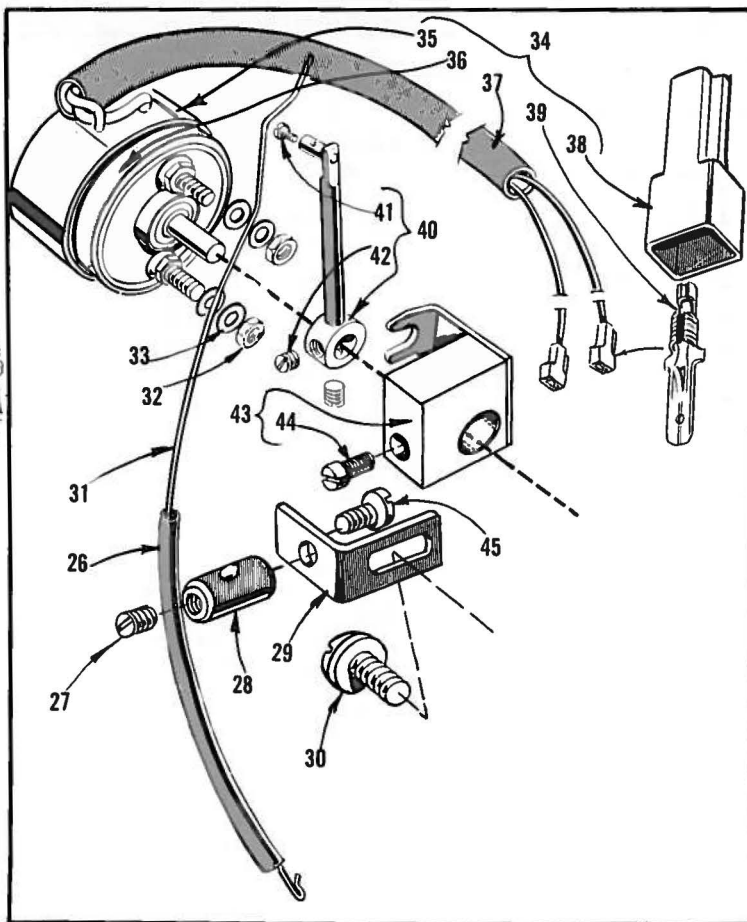
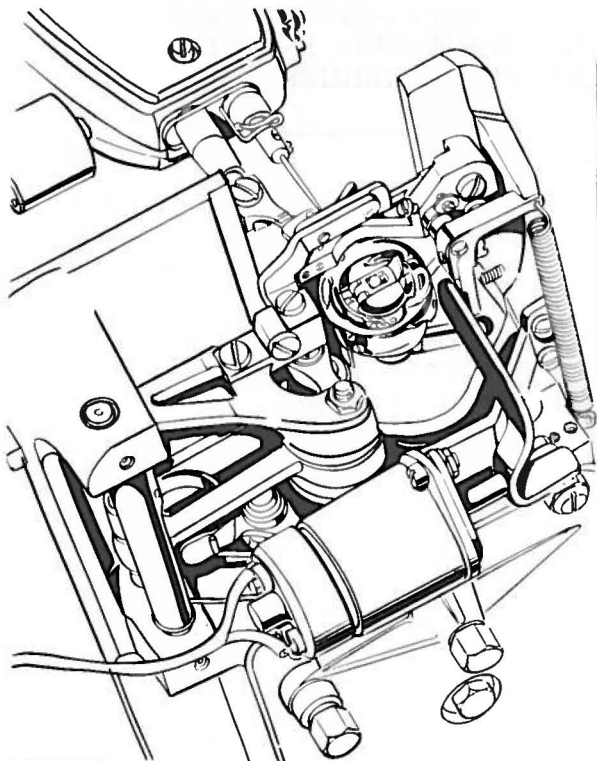


ROTATING HOOK ASSEMBLY, NEEDLE POSITIONER ASSEMBLY,
HANDWHEEL ASSEMBLY AND MISCELLANEOUS PARTS
FOR STYLE 63400 KD ONLY, UNLESS OTHERWISE SPECIFIED

Ref. No.	Part No.	Description	Amt. Req.
1	29474 T	Rotating Hook Assembly-----	1
2	63913 A	Bobbin Case Assembly-----	1
3	63913	Bobbin Case-----	1
4	61414 C	Bobbin Case Tension Spring-----	1
5	22716 B	Tension Regulating Screw-----	1
6	22564 E	Screw-----	2
7	61216 N	Bobbin Case Latch Spring-----	1
8	61216	Bobbin Case Latch Hinge Pin-----	1
9	61415 A	Bobbin Case Latch Lever-----	1
10	61415	Bobbin Case Latch-----	1
11	61212	Bobbin-----	1
12	63414	Bobbin Case Holder-----	1
13	22716 A	Screw-----	4
14	63410	Hook Thread Deflector-----	1
15	22569 H	Screw-----	2
17	63408	Hook-----	1
18	22716 H	Screw-----	3
19	61411 A	Hook Thread Retainer-----	1
20	63421 A	Handwheel Assembly-----	1
21	61321 L	Retainer Plate-----	1
22	61421 E	Handwheel Isolator-----	2
23	22574 C	Screw-----	3
24	61421 BC	Handwheel-----	1
25	660-254 D	Isolator Washer-----	3
26	63421 C	Pulley-----	1
27	22894 V	Set Screw-----	2
28	J87 J	Screw, for synchronizer lead wire clamp-----	1
29	660-356	Synchronizer Lead Wire Clamp-----	1
30	376 A	Screw, for synchronizer bracket-----	2
31	63495 D	Synchronizer Bracket-----	1
32	660-352	Tension Release Solenoid Lead Clamp-----	3
33	63492 E	Bushing, for tension release plunger pin-----	1
34	63458 G	Tension Release Bushing and Guide-----	1
35	660-219 S	Roll Pin-----	1
36	63459 A	Presser Bar Guide-----	1
37	73 C	Set Screw-----	1
38	22570	Screw-----	1
39	22513	Screw-----	1
40	63458 D	Tension Release Cam-----	1
41	63405 Y	Feed Dog marked "EK", 16 teeth per inch, for Styles 63400 KD-1/8, KD-3/16, KD-1/4 (See Page 25 for feed dog for Style 63400 D)-----	1
†	63405 Z	Feed Dog, marked "EL", 22 teeth per inch, for Styles 63400 KD-1/8, KD-3/16, KD-1/4-----	1
41A	63405 X	Feed Dog, marked "EJ", 12 teeth per inch, for Style 63400 KD-1/16-----	1
42		Throat Plate (See Page 27)-----	1
43	63432 E	Hook Oil Shield, for Styles 63400 D, KD-----	1
44	18-768	Drive Screw, for Styles 63400 D, KD-----	1
45	22874 J	Screw, for feed dog holder and feed dog holder support-----	2
46	63439 AH	Feed Dog Holder-----	1
47	63439 B	Feed Dog Holder Support-----	1
48	63982 C	Oil Reservoir Cover-----	1
49	22571 G	Plug Screw-----	1
50	22841 K	Stud Screw-----	1
51	41071 G	Nut-----	1
52	HS82	Screw-----	1
53		Presser Foot (See Page 23)-----	1
54	63970 A	Needle Thread Pull-up Bracket, for Styles 63400 D, KD-----	1
55	22766	Screw, for Styles 63400 D, KD-----	1
56	63492 D	Tension Release Plunger Pin-----	1
*	800 XT-362	Needle Positioner Assembly, complete, although only the synchronizer is shown-----	1

* Refer to insert sheet with needle positioner for repair parts and order under the Union Special number, if available.

† Available as extra send and charge item.



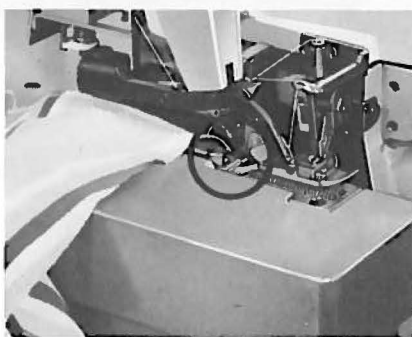
THREAD WIPER, CUTTING SOLENOID, TENSION RELEASE
SOLENOID, MOUNTING BRACKET, BOBBIN CASE HOLDER
POSITIONING FINGER AND KNIFE ASSEMBLY
FOR STYLE 63400 KD ONLY

Ref. No.	Part No.	Description	Amt. Req.
1	29475 BG	Bobbin Case Holder Positioning Finger and Knife Assembly -----	1
2	63495 C	Pivot Release Lever -----	1
3	22585 R	Screw -----	1
4	G61441 KX	Eccentric Bushing -----	1
5	G61414 KX	Positioning Finger, marked "A" -----	1
6	77	Screw -----	1
7	G61470 KX	Upper Knife, marked "GB" -----	1
8	73 A	Screw, for knives -----	4
9	G61449 KX	Lower Knife and Thread Holder, marked "GA" ----	1
10	G61471 KX	Lower Knife Carrier, marked "ME" -----	1
11	22863 B	Screw, for adjusting eccentric bushing -----	1
12	22874	Screw, for positioning finger and knife assembly -----	2
13	63495 G	Cutting Solenoid Lever -----	1
14	22777 C	Screw, for cutting solenoid lever -----	1
15	61434 G	Washer -----	1
16	63495 B	Knife Return Spring -----	1
17	63495 E	Return Spring Positioner -----	1
18	22585 A	Screw, for return spring positioner -----	1
19	12982	Nut -----	2
20	22585 B	Screw, for cutting solenoid mounting bracket -----	2
21	63495 H	Mounting Bracket, for cutting solenoid -----	1
22	18	Nut, for cutting solenoid lever screw -----	1
23	22517	Screw, for cutting solenoid -----	2
24	660-354	Cutting Solenoid -----	1
25	670 E-8	Hook-up Wire -----	2
26	63470 M	Needle Thread Wiper Guide -----	1
27	22743	Set Screw, for needle thread wiper guide -----	1
28	63470 N	Needle Thread Wiper Guide Holder -----	1
29	63470 L	Needle Thread Wiper Bracket -----	1
30	22848	Screw, for needle thread wiper bracket -----	1
31	63470 V	Thread Wiper Wire -----	1
32	651 J-12	Nut -----	4
33	660-113	Washer, brass -----	4
34	29480 FM	Rotary Tension Release Solenoid Assembly -----	1
35	63458 H	Rotary Solenoid Cover -----	1
36	660-360	Rotary Solenoid -----	1
37	660-347	Solenoid Lead Cover -----	1
38	670 G-18	Female Connector Sleeve, green -----	2
39	670 G-23	Male Wire Terminal -----	2
40	63470 E	Thread Wiper Lever -----	1
41	22738	Screw -----	1
42	22894 Y	Set Screw -----	2
43	63470 T	Thread Wiper Solenoid Mounting Bracket -----	1
44	22596 D	Set Screw -----	1
45	22513	Screw, for needle thread wiper guide holder -----	1

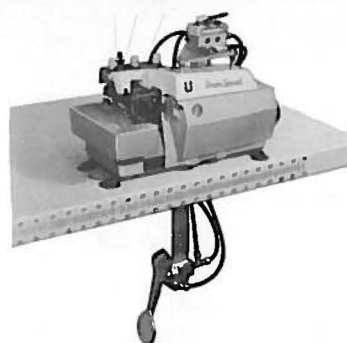
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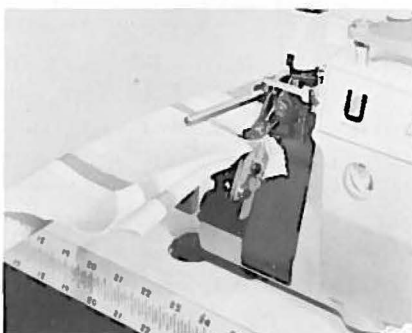
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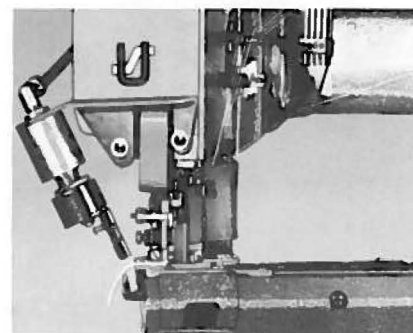
PNEUMATIC CHAIN-CUTTER—for use on conventional Class 39500 and 39600 is a durable scissor-action mechanism that makes a clean positive cut. Style 2899 A-1



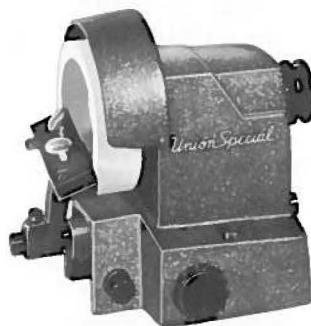
PNEUMATIC FOOT LIFTER—The air-operated foot lifter for use on Class 39500 machines allows the operator to raise the foot simply by knee-touching an actuating switch.



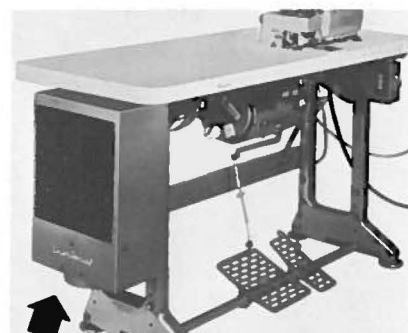
AIR FABRIC UNCURLER—This unit, designed for Class 39500 machines, uses air jets to remove curls from top and bottom plies of flat knit materials as fabric passes through sewing area. Style 2899 B-1



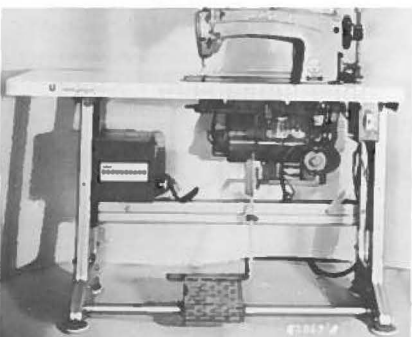
CHAIN CUTTER—The above photo shows the small pneumatic chain cutter that is available for installation as an accessory unit on Class 36200 Flatseamers. Style 2899A-6



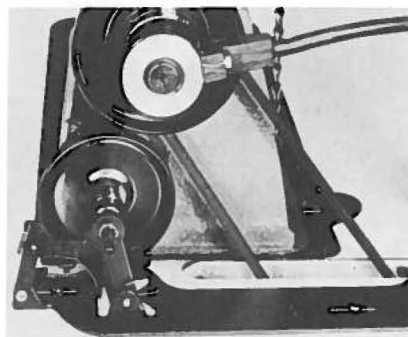
KNIFE GRINDER sharpens straight or angle type knives, is simple and easy to operate, eliminates defective garments caused by dull knives.



HEAT DISAPPER—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.



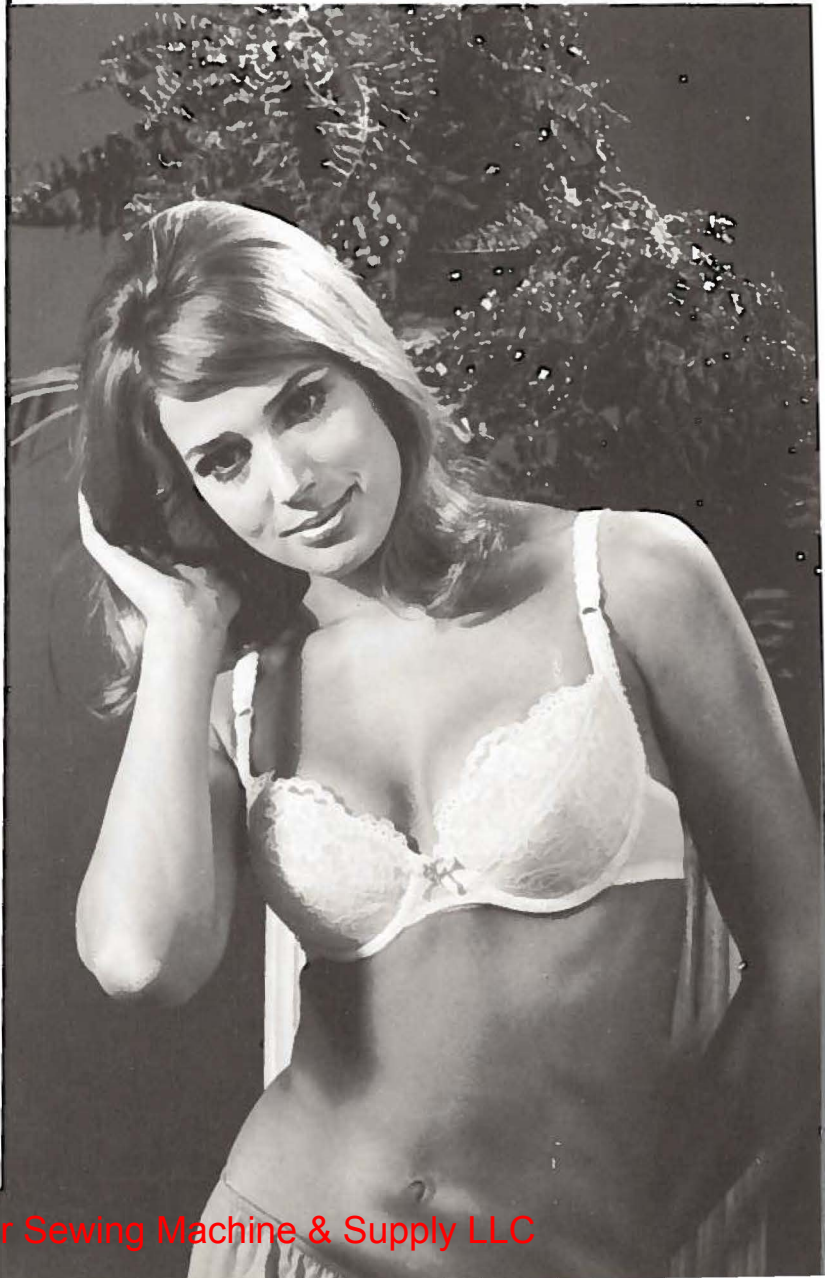
Helpful, authoritative information on the most efficient types of equipment for making virtually any machine sewed article is available from Union Special's Sales Promotion Department. Among the many interesting, illustrated bulletins that are available without obligation are the following:



- No. 240, "Men's, Women's, Children's Footwear"
- No. 249, "Rainwear"
- No. 250, "Men's Dress Shirts"
- No. 251, "Service Shirts and Pants"
- No. 252, "Men's Shorts and Pajamas"
- No. 253, "Overalls, Coveralls, and Dungarees"
- No. 254, "Men's Knit Underwear"
- No. 256, "Knit Outerwear"
- No. 259, "Men's Sports Shirts"
- No. 260, "Work Gloves"
- No. 262, "Cotton, Burlap, Jute, and Multiwall Paper Bags"
- No. 263, "Men's Clothing"
- No. 264, "Men's Women's, Children's Jackets"
- No. 265, "Women's Wear"
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- No. 267, "Corsets, Girdles, Brassieres"
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- No. 273, "Curtains & Drapes"
- No. 610, "Klipp-it"
- No. 710, "MCS ForMation Unit"
- No. 730, "MCS Automatic Dual Underfront Shirt Hemmer"
- No. 740, "MCS Automatic Rib-Knit Cuff Machine"
- No. 750, "Fusing Presses"
- No. 1100, "Lewis Blindstitch, Chainstitch, Lockstitch, Machines"
- No. 1105, "Button Sewers—Ticket Tackers"
- "Columbia Blindstitch, Saddle Stitch, and Tie Closing Machines"
- No. 1500, "Alteration Department Machines"

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