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.

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 knee press 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.

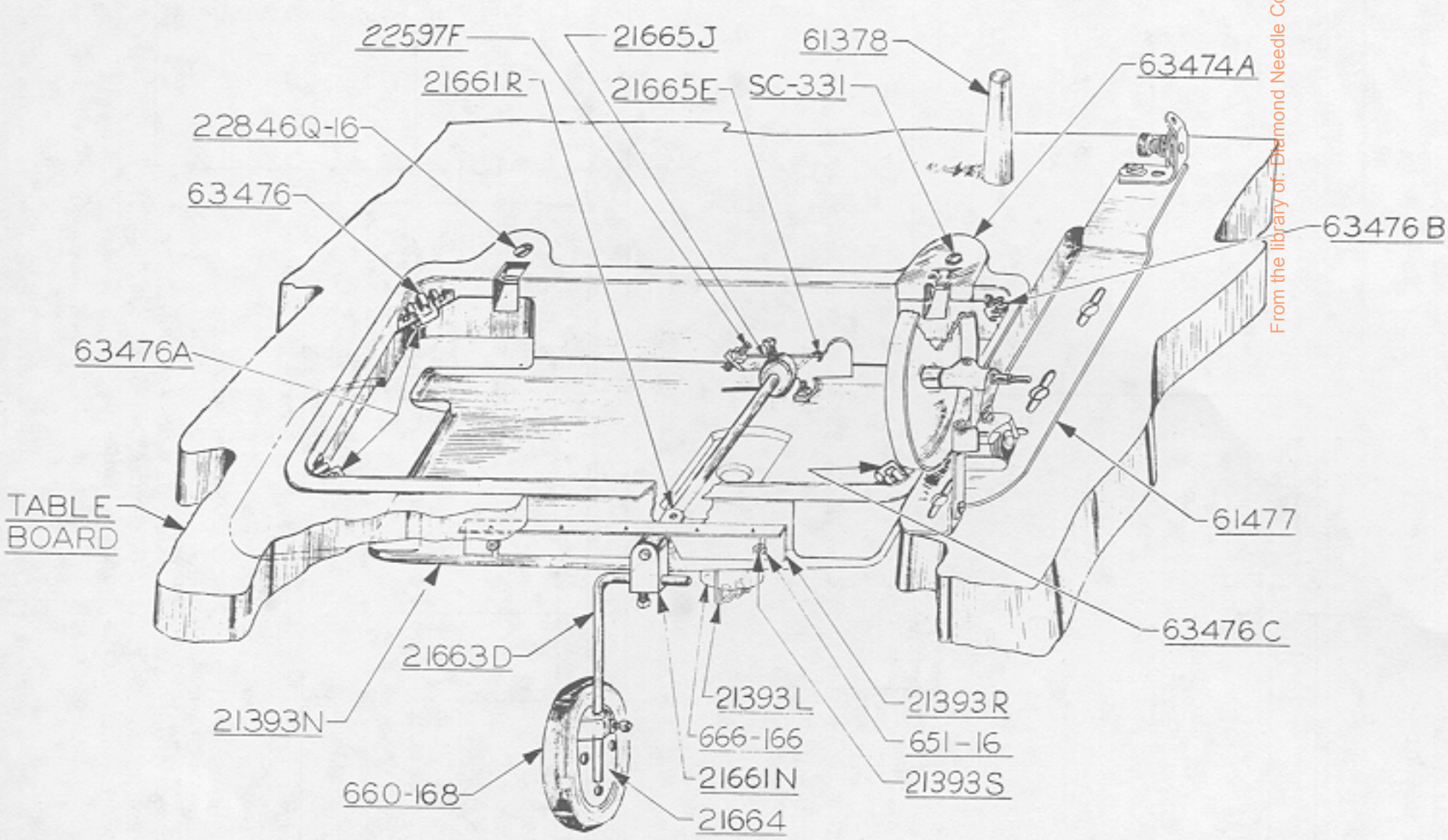


Fig. 1

Additional instructions for preparation of table frame for installation of Styles 63400 KX and KY will be found on the next page.

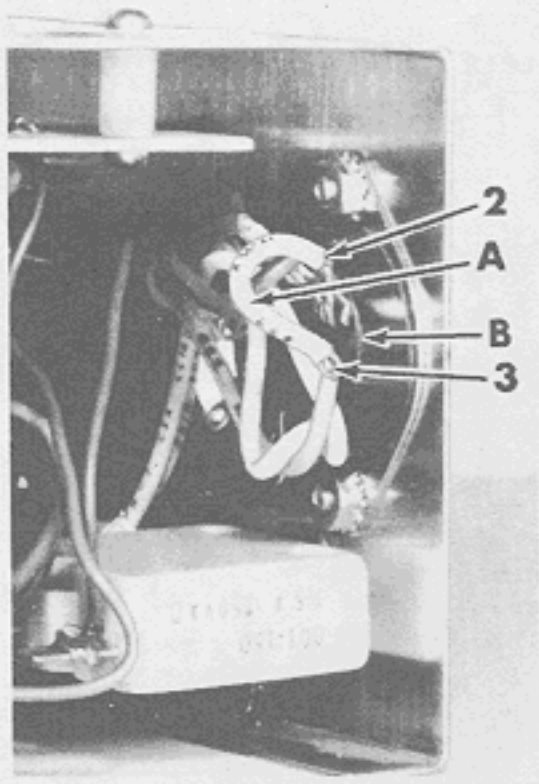


Fig. 39

3. Close treadline switch and loosen clutch lever switch screw (C), until there is no contact between it and the micro switch. Then tighten screw until needle positions up. Tighten nut (D) to maintain this setting.

ADJUSTING CLUTCH

1. Depress treadle unit until one click is heard, which indicates switch is open.

2. Adjust clutch so that clutch arm has approximately 1/16 to 1/8 inch travel before clutch is engaged. Loosen lock screw (E, Fig. 38) (where it says Lock Motor) just enough to unlock it, which is approximately one turn. Adjust screw located near the top on the right end of the motor until clutch engages as described above. Tighten lock screw (E).

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

THREAD WIPER ADJUSTMENTS

1. Rotate thread wiper mounting collar (63470 H) and adjust thread wiper guide (63470 P), so that the hook 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 F) for free movement in thread wiper guide (63470 P).

CAUTION! Thread wiper hook must not prevent solenoid from returning to its stop. Move thread wiper guide (63470 P) so that hook does not stop against plastic 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, (No. 670 B-21) be sure to remove jumper wire (A, Fig. 39) 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. 39) must be replaced or the needle positioning unit will not position up.

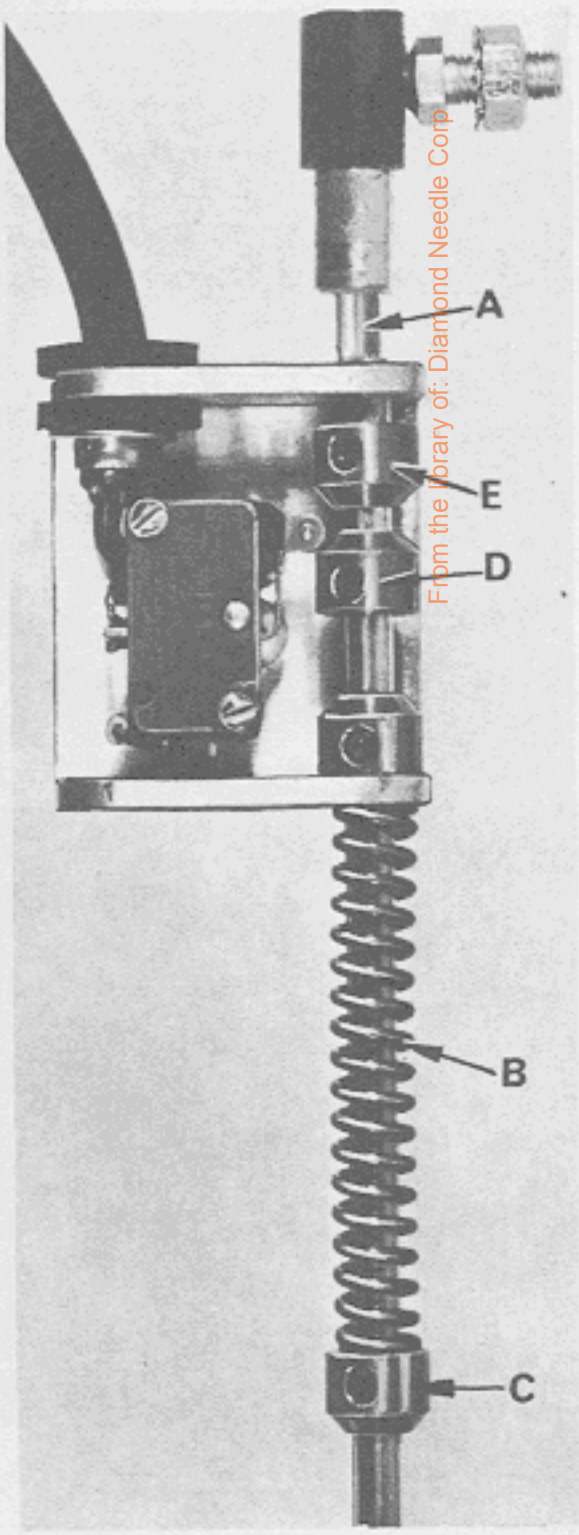


Fig. 40

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 ADJUSTING

To adjust the length of the pitman rod (A, Fig. 40) 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.

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).

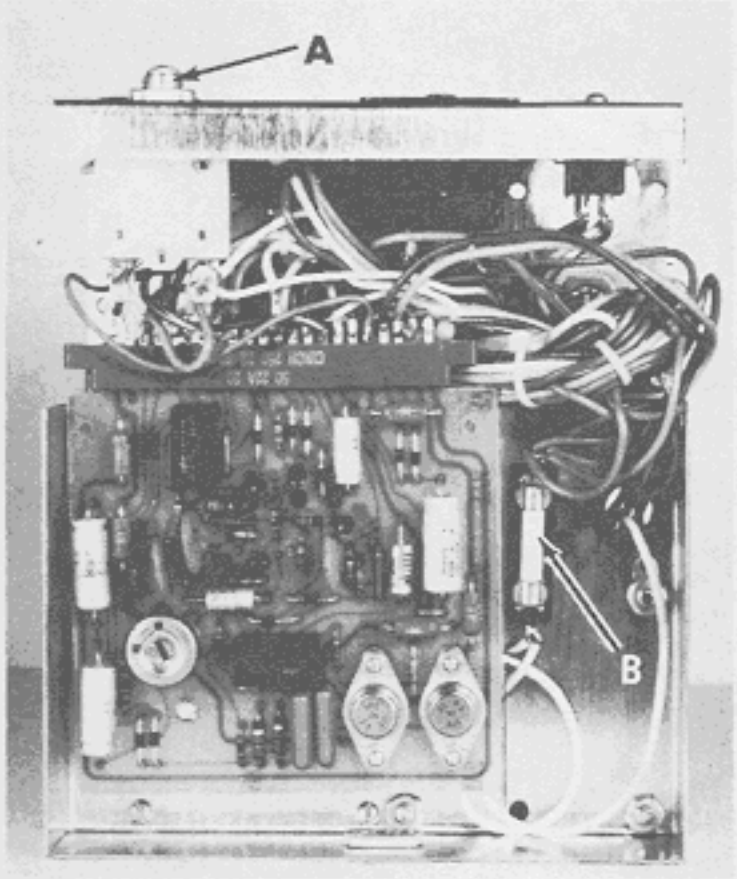


Fig. 41

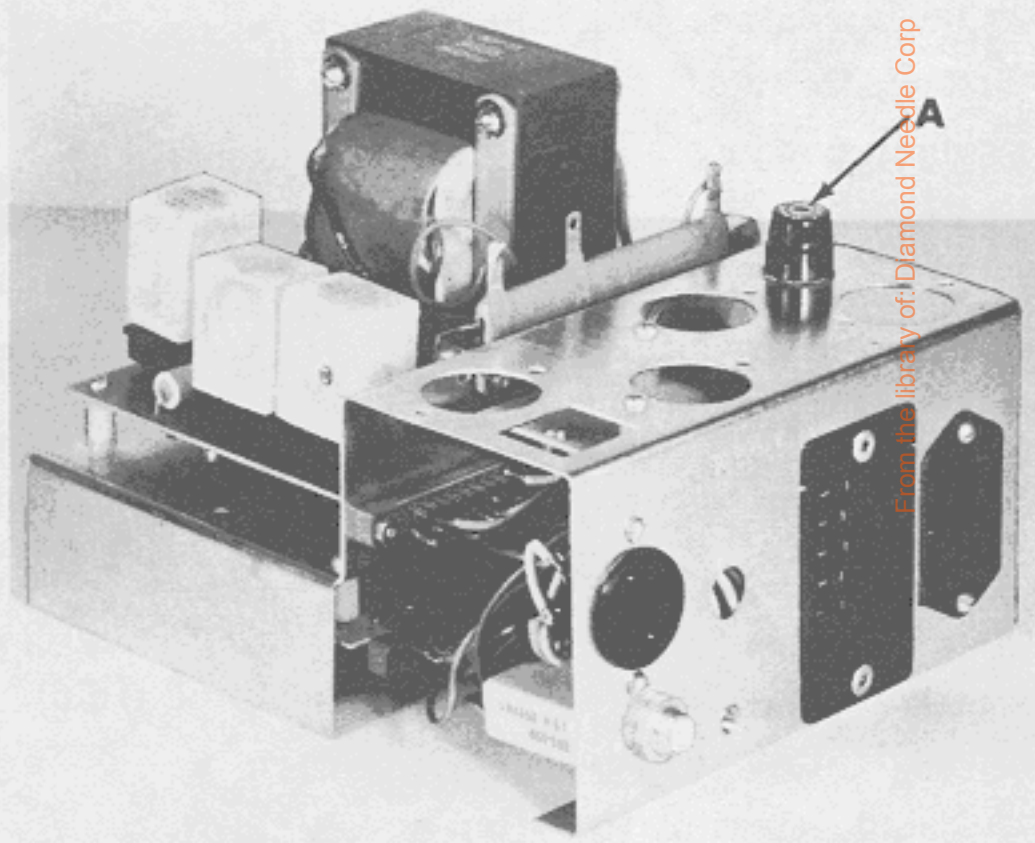


Fig. 42

FUSING THE POWER PACK

The power pack incorporates a safety feature consisting of two (2) fuses and a circuit breaker. The 1 1/2 AMP circuit breaker (A, Fig. 41) located in the front panel fuses the auxiliary motor as well as the positioner circuit components. The 1 1/4 AMP slow blow fuse (A, Fig. 42) located on top of the chassis fuses the AC input for the primary winding of the transformer. The 5 AMP straight blow fuse (B, Fig. 41) located under the chassis, for the thread wiper solenoid (30 VDC), cutter solenoid and relay coil control circuit (24 VDC).

TYPICAL NEEDLE POSITIONER PROBLEMS
FOR UNITS WITH PRINTED CIRCUIT BOARD CONSTRUCTION

1. Unit does not position.
2. Unit positions up in second position, but does not position down.
3. Unit trips circuit breaker.
4. Unit trips the circuit breaker every few hours or every few days.
5. Unit keeps on stitching at an inching speed.
6. Auxiliary motor runs while clutch is engaged with main motor.
7. Unit positions slowly.
8. Auxiliary motor runs very hot.
9. Unit trips circuit breaker after positioning one time.
10. Auxiliary motor will not turn over although you know power is feeding it.

TYPICAL NEEDLE POSITIONER SOLUTIONS
FOR UNITS WITH PRINTED CIRCUIT BOARD CONSTRUCTION

1. Check the following:

   Circuit breaker

   Synchronizer jack and brushes

   Treadle jack

   Input power

   Auxiliary motor brushes and armature

   Loose connection (check soldered connections)

   Printed Circuit Board (Check for loose connection or oxidation on Plug in Terminal End).

2. 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.
3. SCR is shorted. Replace board.
4. Check the following:

   Grounded armature (tie bolt touching field).

   Oil saturated armature.

   Field deteriorated. Replace.

   Operator fluttering treadle excessively.

5. Check the following:

   Synchronizer male and female jacks. Clean synchronizer.

   Brush location on synchronizer.

   Damaged field coil in auxiliary motor.

   Synchronizer loose on handwheel.

   Very loose V-belt.

   Defective brake SCR circuit. Replace printed circuit board.

6. Treadle switch is not opening, or is defective.
7. Armature has poor commutation or is partially shorted and dirty. (Use armature dressing stone).
8. Check the following:
   Setting of treadle switch.
   Operator fluttering the treadle.
   Grounded field coil (tie bolt), or defective field coil. Replace field.
   Brake gear seized on hub. Replace with new gear and brake assembly, Part No. 9855.

Check operation. Sometimes it is possible to remove the down position brush on two position units, thereby using the positioner to only raise the Needle at the end of the operation. This will greatly prolong life and minimize maintenance.

9. Check the following:
   Lead rubbing in armature.
   Brush holder jammed against armature.
10. Check the following:
    Armature brushes and brush holder.

Voltage Adjustment

The Chassis is Equipped With A Dual Value Power Resistor (See Figure 43).

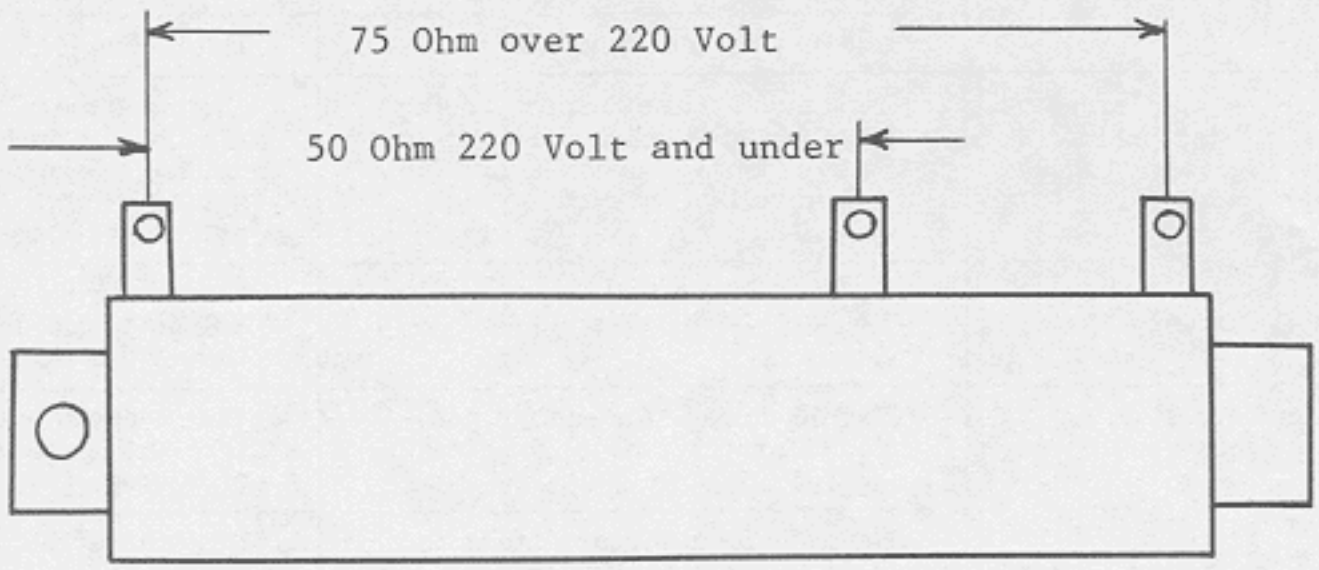


Fig. 43

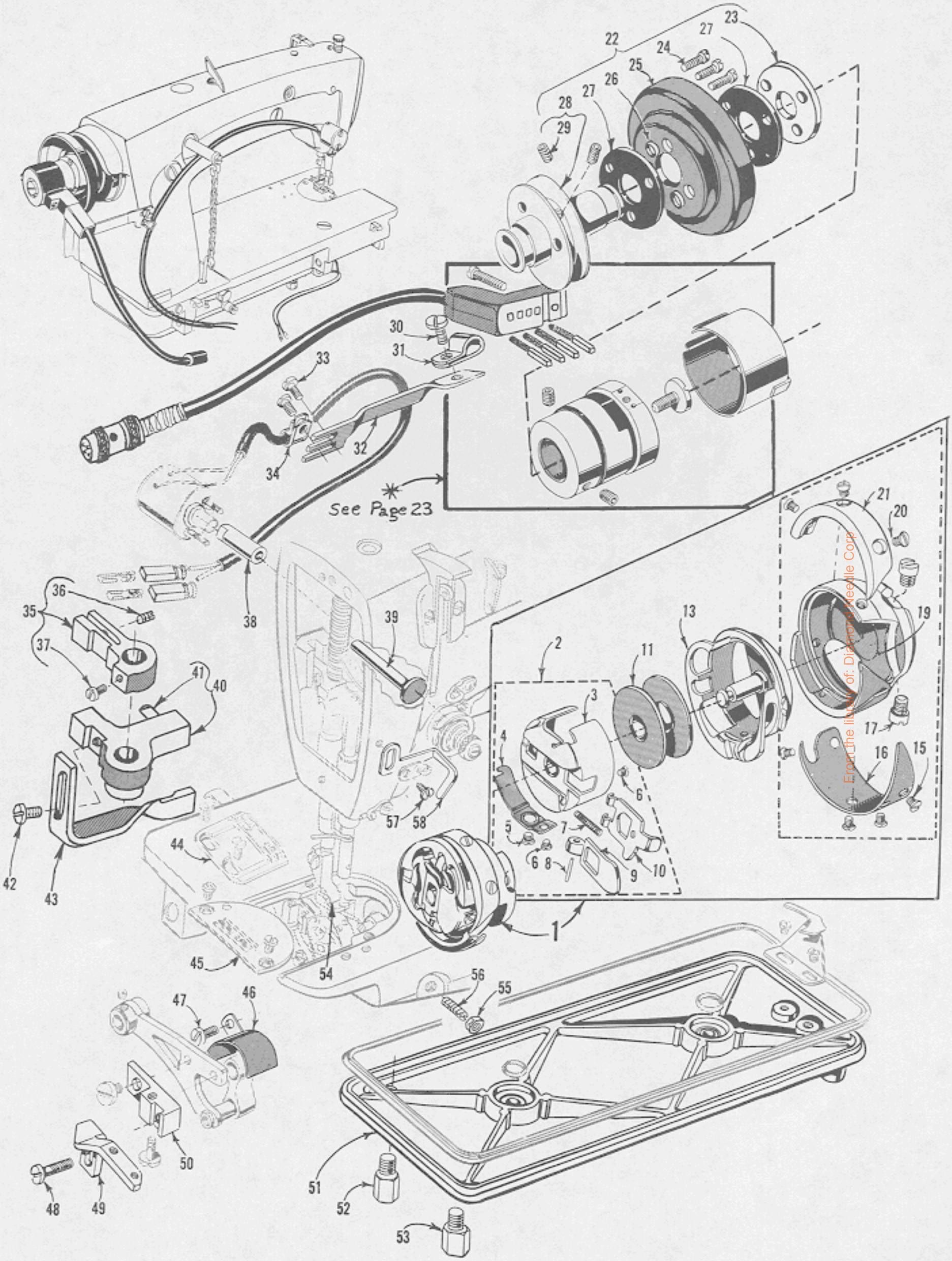
As Figure 43 shows the resistor has a value of 50 ohm and 75 ohm. The 50 ohm portion is to be used when the line voltage is 220 volts or lower, second the 75 ohm portion is used when the supply voltage is above 220 volts.

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.

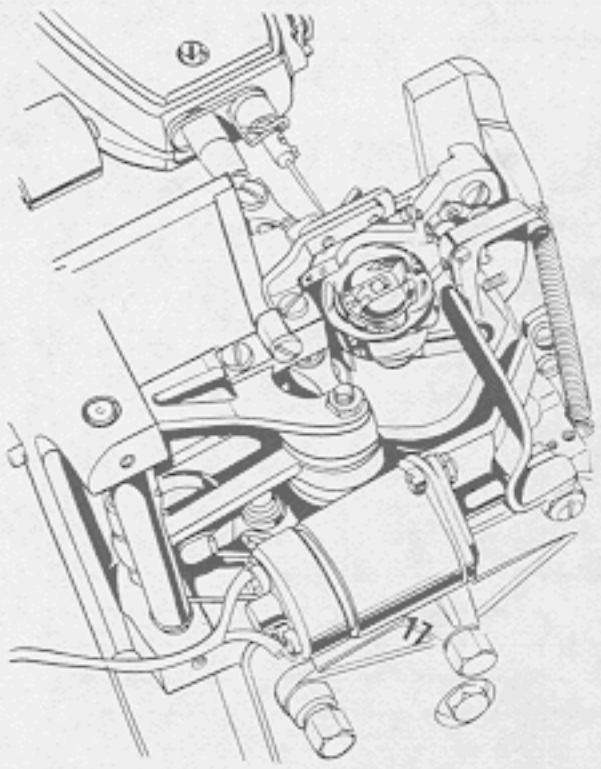


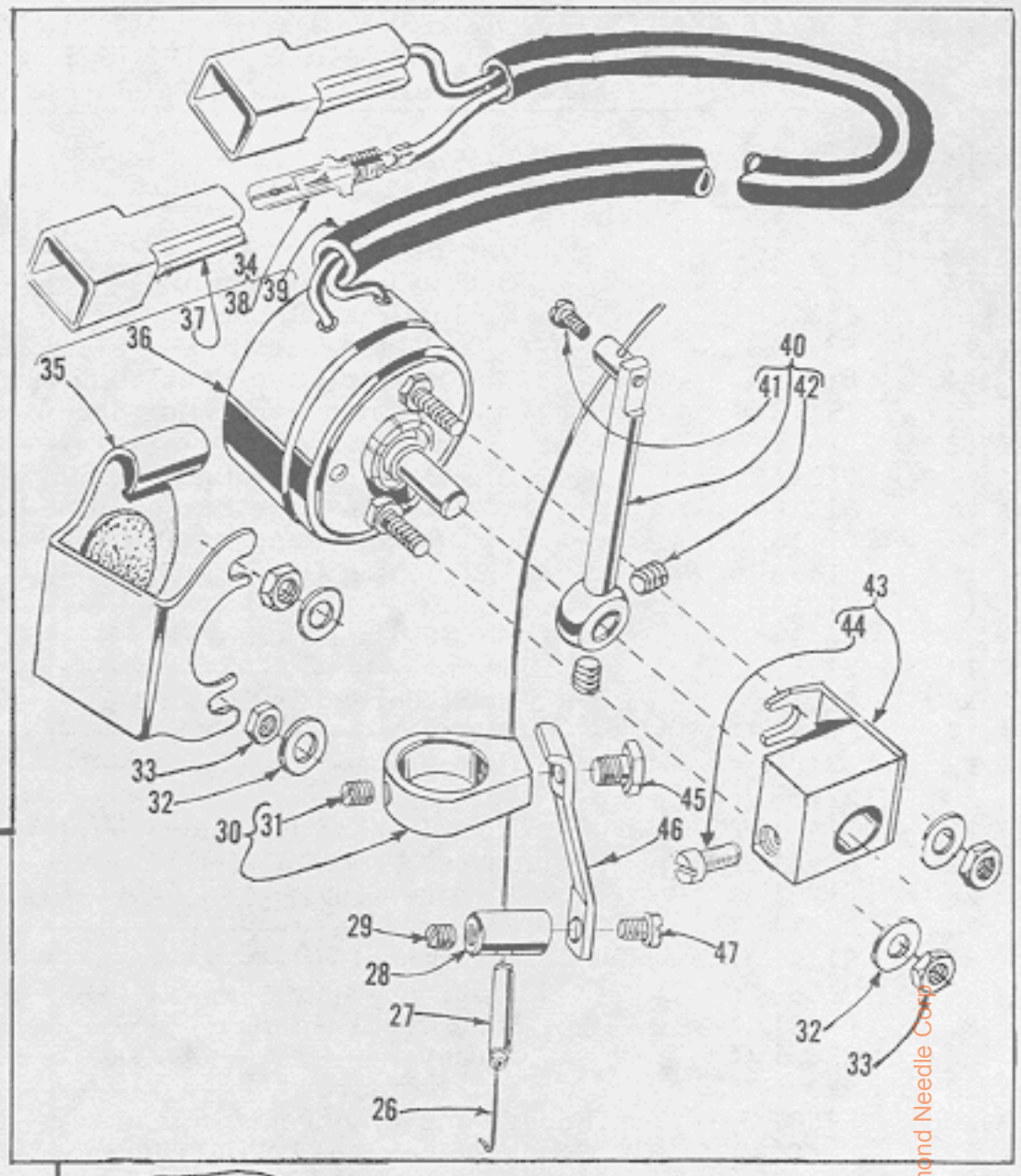
ROTATING HOOK ASSEMBLY, NEEDLE POSITIONER ASSEMBLY, HANDWHEEL ASSEMBLY AND MISCELLANEOUS PARTS FOR MACHINE STYLES 63400 KX AND KY ONLY

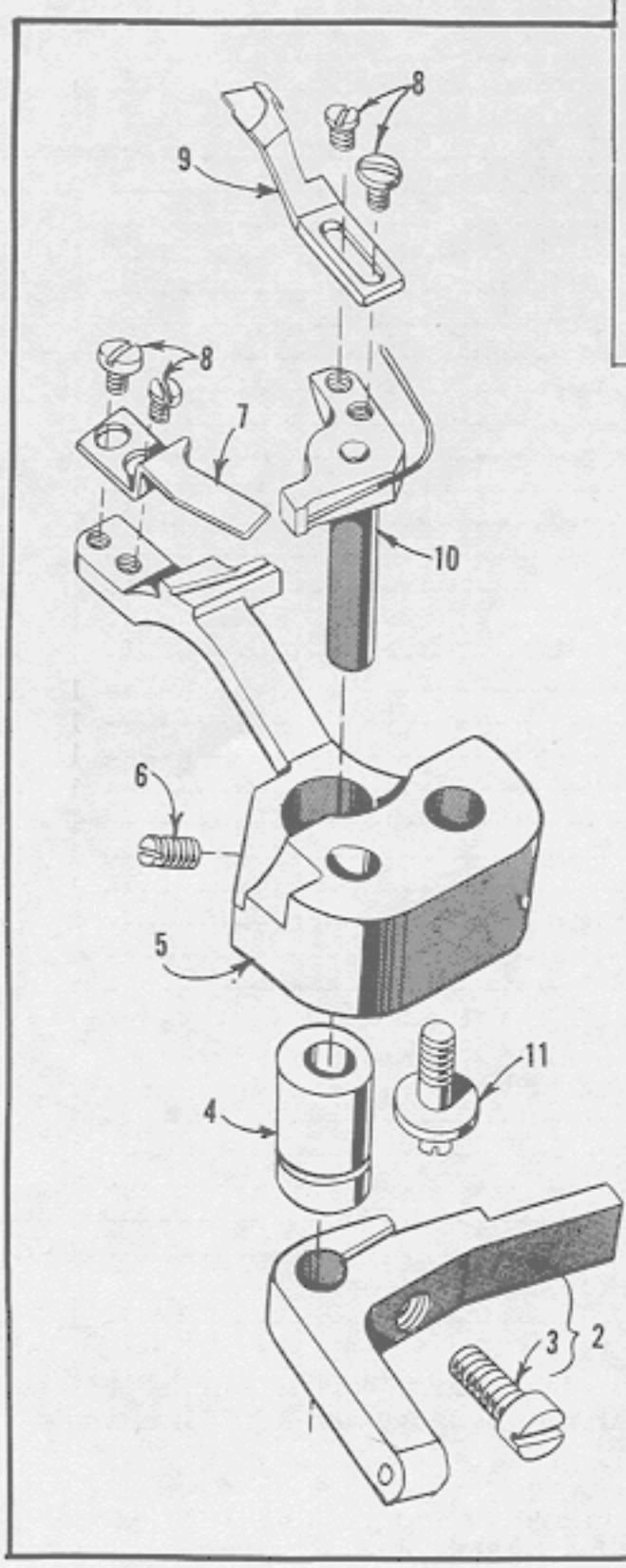
Ref. No.	Part No.	Description	Amt. Req.
1	29474 T	Rotating Hook Assembly	1
2	63913 A	Bobbin Case Assembly	1
† -	63913 B	Bobbin Case Assembly	1
3	63913	Bobbin Case	1
4	61414 C	Bobbin Case Tension Spring	1
5	22716 B	Tension Regulating Screw	1
6	22564 E	Screw	2
7	61216 N	Bobbin Case Latch Spring	1
8	61216	Bobbin Case Latch Hinge Pin	1
9	61415 A	Bobbin Case Latch Lever	1
10	61415	Bobbin Case Latch	1
11	61212	Bobbin	1
13	63414	Bobbin Case Holder	1
15	22716 A	Screw	4
16	63410	Hook Thread Deflector	1
17	22569 H	Screw	2
19	63408	Hook	1
20	22716 H	Screw	3
21	61411 A	Hook Thread Retainer	1
22	63421 A	Handwheel Assembly	1
23	61321 L	Retainer Plate	1
24	22574 C	Screw	3
25	61421 BC	Handwheel	1
26	660-254 D	Isolator Washer	3
27	61421 E	Handwheel Isolator	2
28	63421 C	Pulley	1
29	22894 V	Set Screw	2
30	J87 J	Screw, for synchronizer lead wire clamp	1
31	660-356	Synchronizer Lead Wire Clamp	1
32	63495 D	Synchronizer Bracket	1
33	376 A	Screw, for synchronizer bracket	2
34	660-352	Tension Release Solenoid Lead Clamp	3
35	63459 A	Presser Bar Guide	1
36	73 C	Set Screw	1
37	22570	Screw	1
38	63492 E	Bushing, for tension release plunger pin	1
39	63492 D	Tension Release Plunger Pin	1
40	63458 B	Tension Release Bushing and Guide	1
41	660-219 B	Roll Pin	1
42	22513	Screw	1
43	63458 D	Tension Release Cam	1
44		Feed Dog (See Page 29)	1
45		Throat Plate (See Page 29)	1
46	63432 E	Oil Shield	1
47	18-768	Drive Screw	1
48	22894 J	Screw, for feed dog holder and feed dog holder support	2
49	63439 A	Feed Dog Holder	1
50	63439 B	Feed Dog Holder Support	1
51	63982 C	Oil Reservoir Cover, for Styles 63400 X, Y, KX and KY	1
52	22571 G	Plug Screw, for Styles 63400 X, Y, KX and KY	1
53	22841 K	Stud Screw, for Styles 63400 X, Y, KX and KY	1
54		Presser Foot (See Page 31)	1
55	41071 G	Nut	1
56	HS82	Screw	1
57	22766	Screw	1
58	63970 A	Needle Thread Pull-up Bracket	1
*	800 XT-362	Needle Positioner Assembly, complete, although only the synchronizer is shown	1

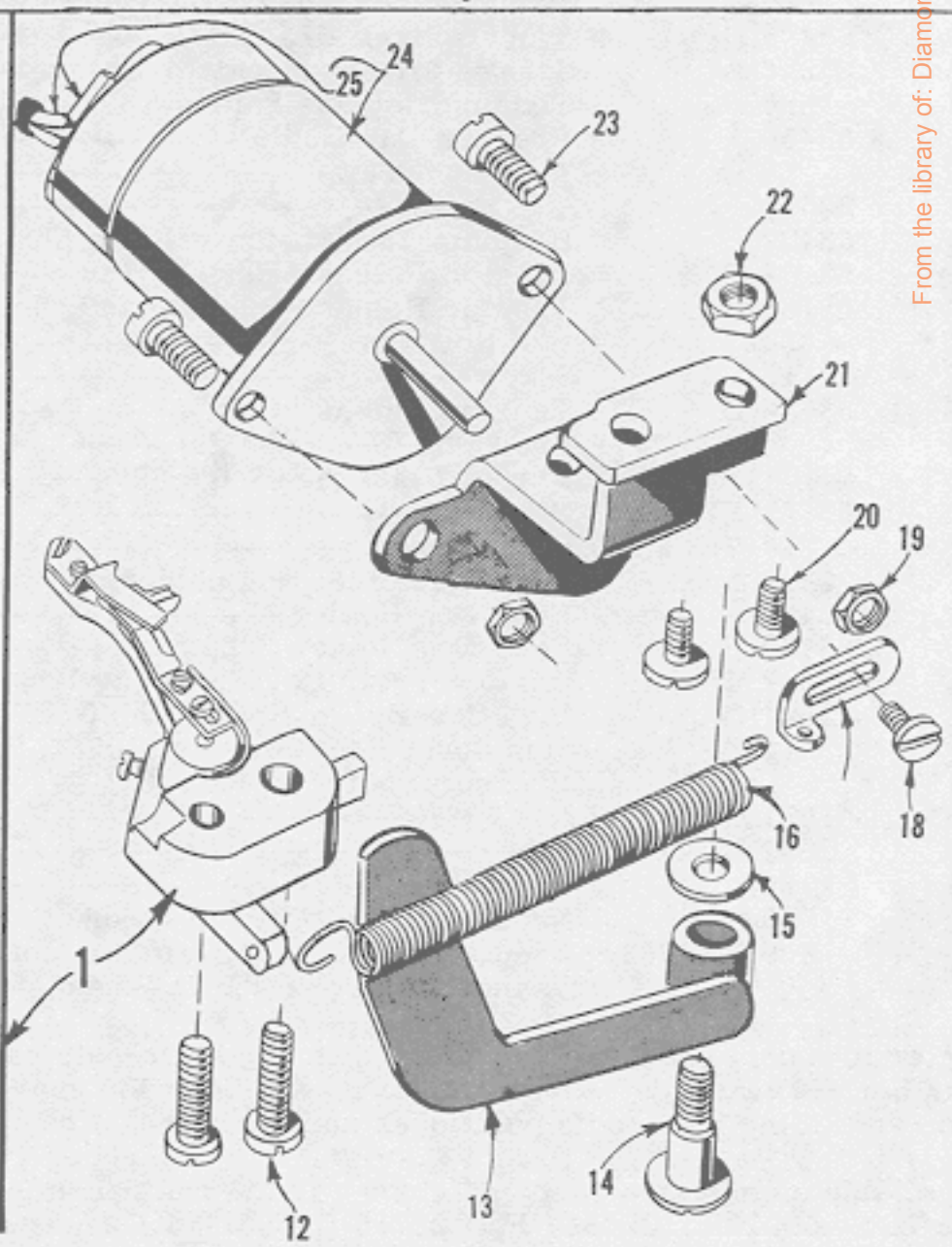
*Refer to insert sheet with needle positioner for repair parts and order under the Union Special number, if available. Also refer to insert sheet for guardian maintenance and other information regarding the needle positioner and electrical circuitry.

†Available as an extra send and charge item, component parts are the same as 63913 A except for one each Nos. G22564 F, G22716 B, G61414 C and two No. G22564 E.



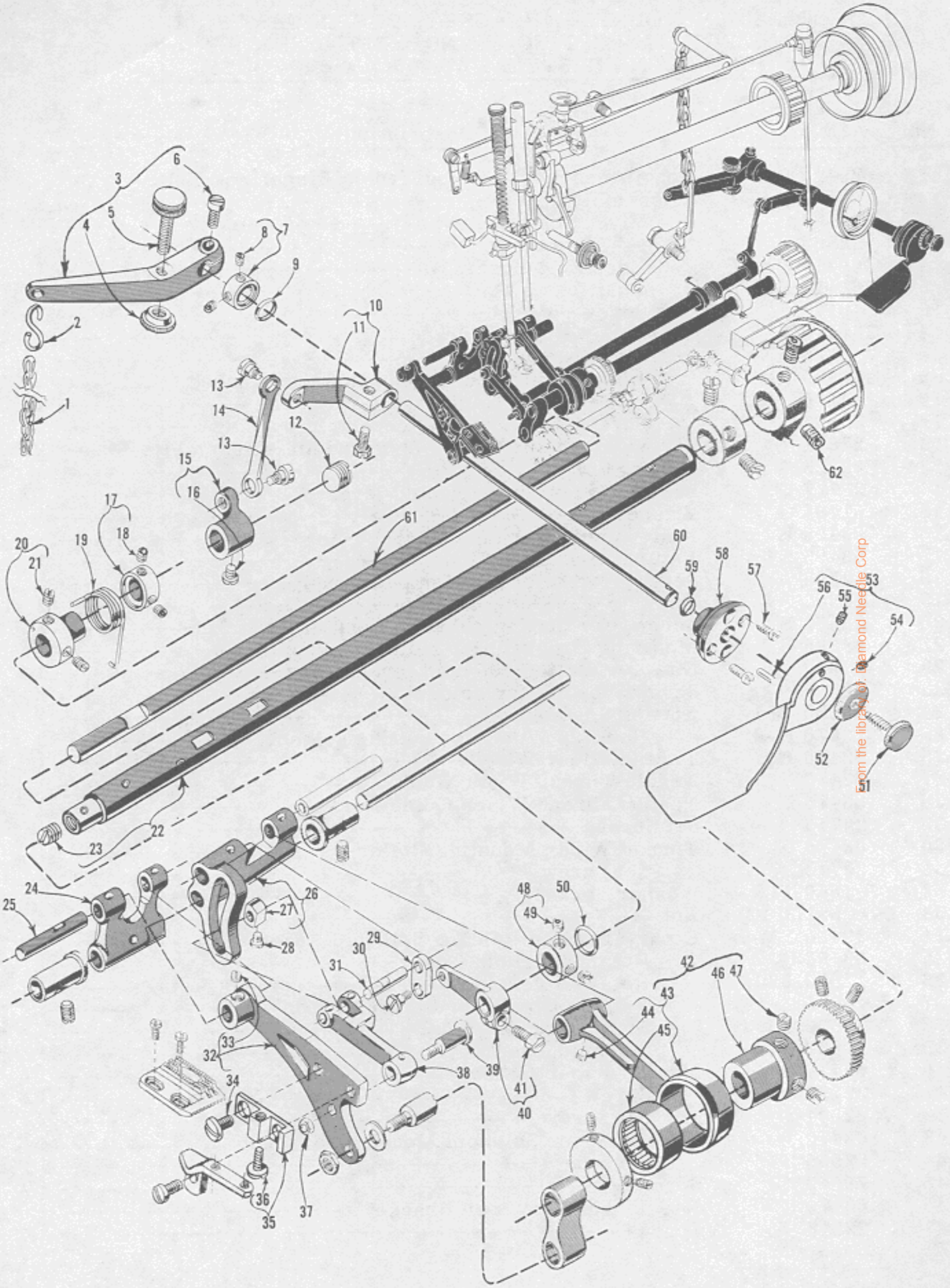


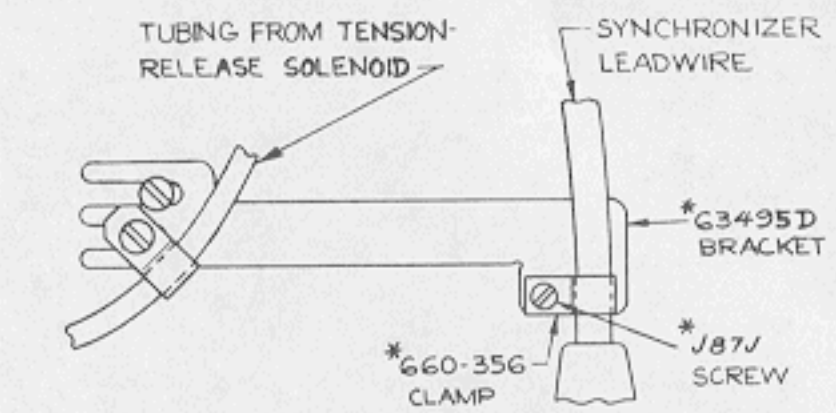


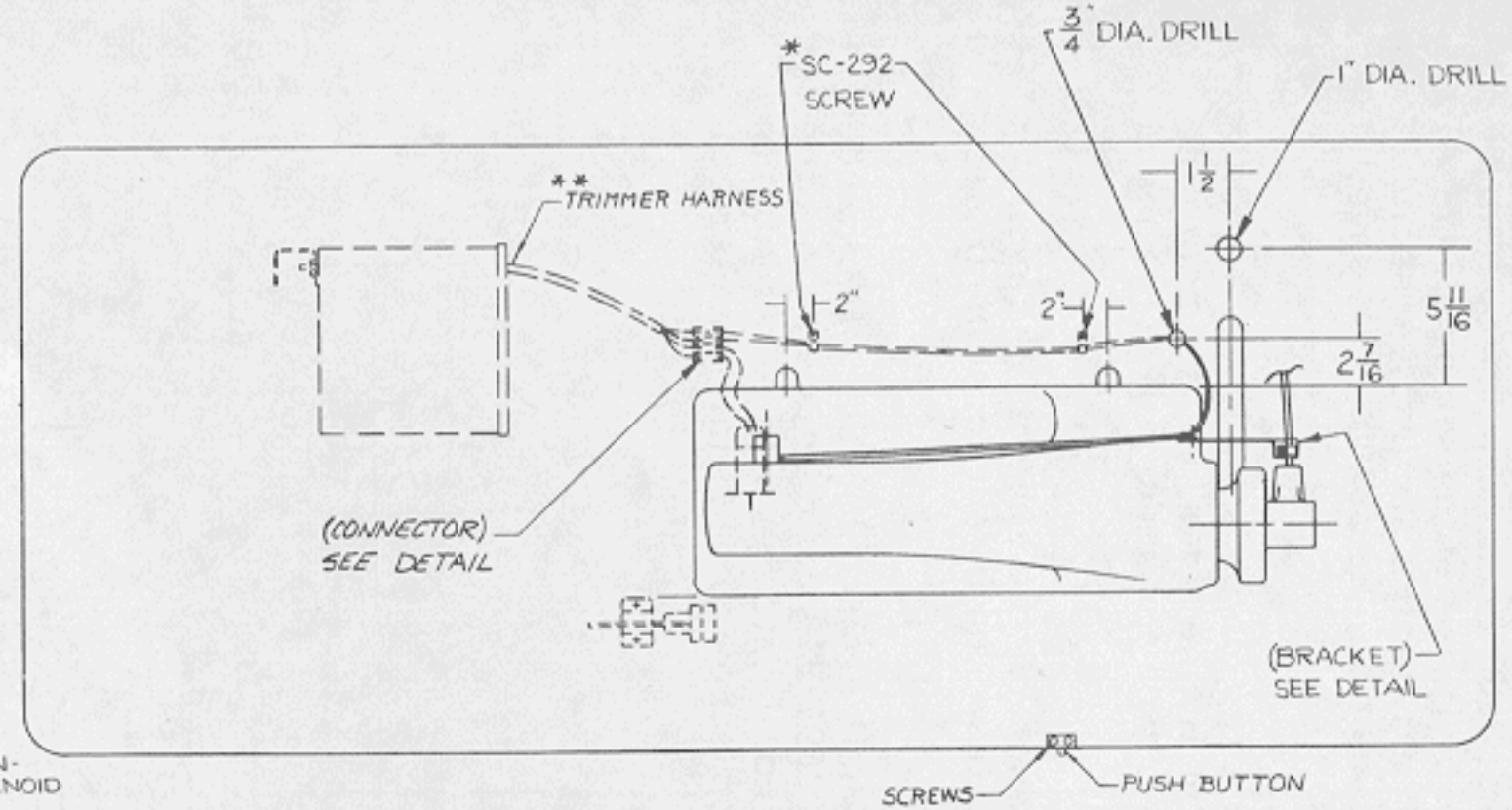


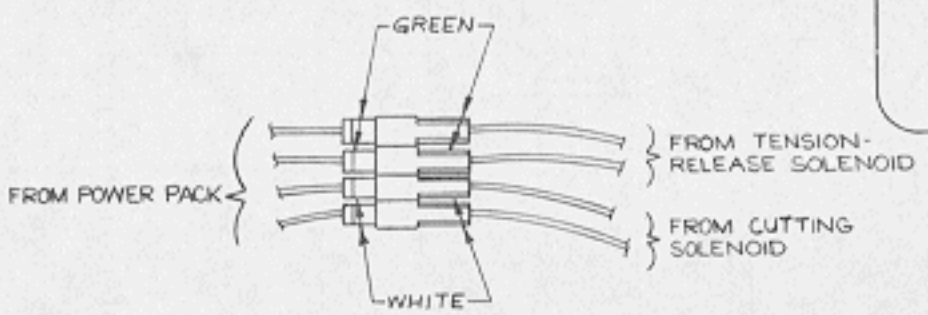
THREAD WIPER, CUTTING SOLENOID, TENSION RELEASE SOLENOID, MOUNTING BRACKET, BOBBIN CASE HOLDER POSITIONING FINGER AND KNIFE ASSEMBLY FOR MACHINE STYLES 63400 KX and KY ONLY

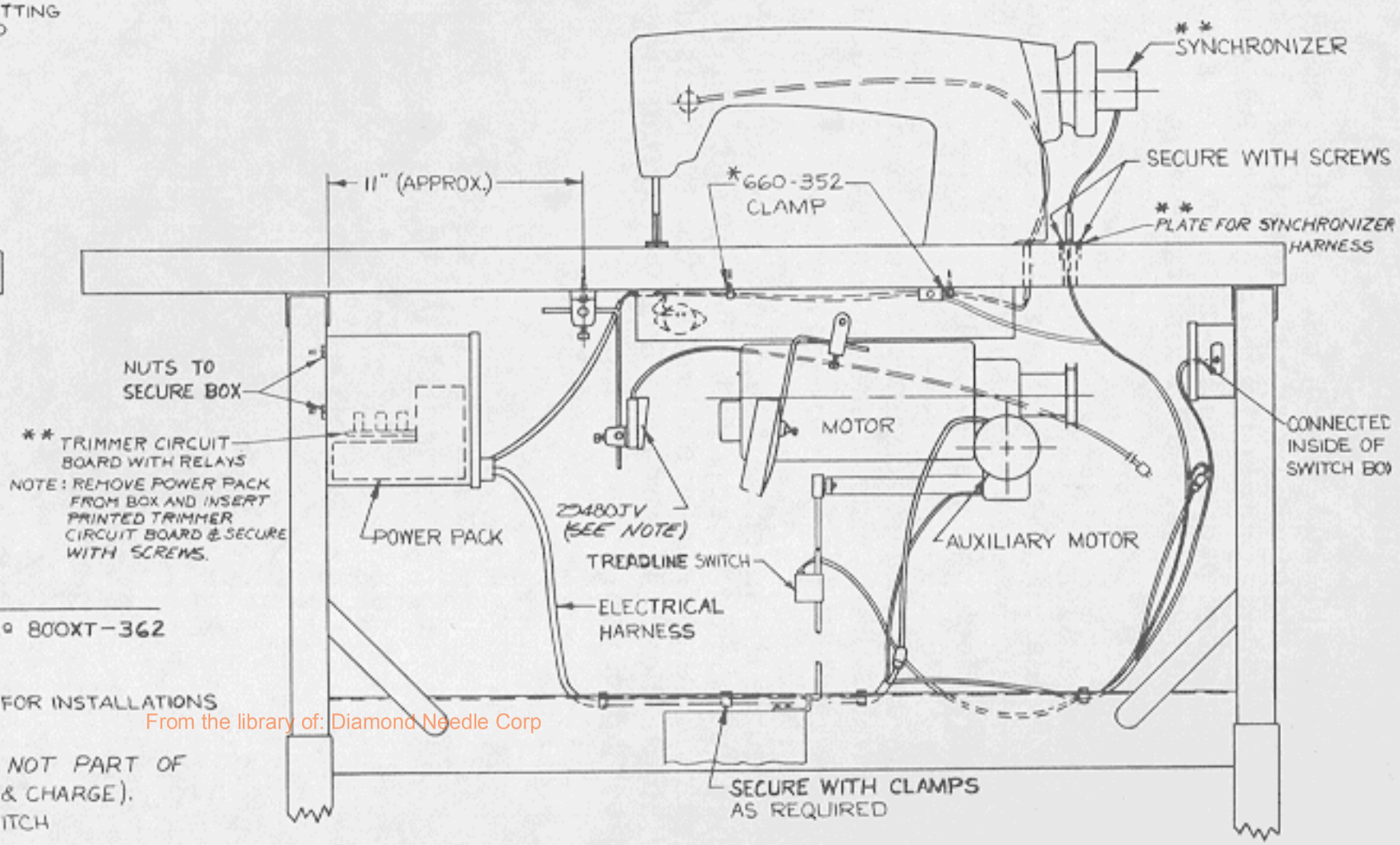
Ref. No.	Part No.	Description	Amt. Req.
1	29475 BG	Bobbin Case Holder Positioning Finger and Knife Assembly	1
2	63495 C	Pivot Release Lever	1
3	22585 R	Screw	1
4	G61441 KX	Eccentric Bushing	1
5	G61414 KX	Positioning Finger, marked "A"	1
6	77	Screw	1
7	G61470 KX	Upper Knife, marked "GB"	1
8	73 A	Screw, for knives	4
9	G61449 KX	Lower Knife and Thread Holder, marked "GA"	1
10	63450	Lower Knife Carrier, marked "D"	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, for cutting solenoid	2
26	63470 F	Thread Wiper Wire	1
27	63470 P	Needle Thread Wiper Guide	1
28	63470 N	Needle Thread Wiper Guide Holder	1
29	22743	Set Screw	1
30	63470 H	Thread Wiper Mounting Collar	1
31	22743	Set Screw	1
32	660-113	Washer, brass	4
33	651 J-12	Nut	4
34	29480 FM	Rotary Tension Release Solenoid Assembly	1
35	63458 H	Rotary Solenoid Cover	1
36	660-360	Rotary Solenoid	1
37	670 G-18	Female Connector Sleeve, green	2
38	670 G-23	Male Wire Terminal	2
39	660-347	Solenoid Lead Cover	1
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	79048	Screw	1
46	63470 G	Needle Thread Wiper Bracket	1
47	22513	Screw	1











UNDERTRIMMER ELECTRONIC EQUIPMENT PART Nº 800XT-362
FOR 63400 & 63900 SERIES MACHINE
* INDICATES PART INCLUDED IN PACKING BOX

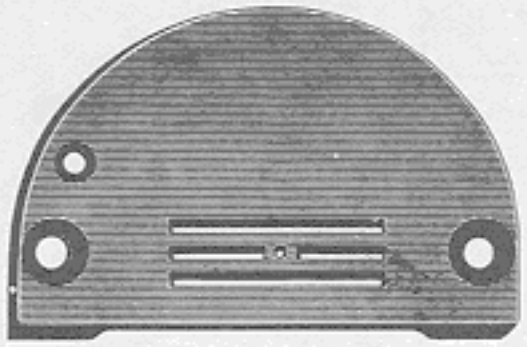
DIMENSIONS SHOWN FOR DRILLED HOLES ARE FOR INSTALLATIONS NOT EQUIPPED WITH STANDARD HOLES.
** INDICATES PART INCLUDED IN 29480 HP
THE 29480JV KNEE SWITCH; WHICH IS NOT PART OF 800XT-362 BUT IS AVAILABLE (EXTRA SEND & CHARGE).
KNEE SWITCH ELIMINATES TREADLINE SWITCH

Fig. 1A

REVERSE FEED MECHANISM PARTS
FOR MACHINE STYLES 63400 X, Y, KX AND KY

Ref. No.	Part No.	Description	Amt. Req.
* 1	421 D-28	Treadle Chain, 28 inches long	1
* 2	660-264	"S" Hook, for treadle chain	2
* 3	63444 A	Reverse Feed Foot Control Operating Lever	1
4	64 B	Lock Nut, for stop screw	1
5	64 A	Stop Screw, foot control operating lever	1
6	22517	Clamp Screw	1
7	63444 C	Collar, for reverse feed control shaft	1
8	22894 W	Set Screw	2
9	660-206	"O" Ring, for reverse feed control shaft	1
10	63444 D	Reverse Feed Control Shaft Rocker Lever	1
11	22519 H	Screw	1
12	22539 M	Plug Screw, for reverse feed shaft	1
13	86	Screw, for reverse feed control connecting link	2
14	63444 E	Reverse Feed Control Connecting Link	1
15	63444 F	Reverse Feed Shaft Lever, right	1
16	22570 A	Screw	1
17	63432 H	Collar, right, for reverse feed shaft return spring	1
18	22894 W	Set Screw	2
19	G61447	Reverse Feed Shaft Return Spring	1
20	G61448	Collar, left, for reverse feed shaft return spring	1
21	531	Screw	2
22	63432 F	Feed Driving Shaft	1
23	22586	Plug Screw	1
24	G61436	Feed Rocker	1
25	63435	Feed Rocker Shaft	1
26	G61436 A	Reverse Feed Rocker, with drive crank	1
27	G61436 C	Sliding Block	1
28	22830	Screw, for sliding block (used in place of screw No. 88 B)	1
29	63433 B	Reverse Feed Lever Link	1
30	99284	Screw, for left reverse feed shaft lever	1
31	96505	Link Pin, for reverse feed rocker link	1
32	63434 B	Feed Bar	1
33	88	Set Screw	1
34	88 D	Screw, feed dog holder support	1
35	63439 AL	Feed Dog Holder Support, for Styles 63400 X, Y	1
-	63439 B	Feed Dog Holder Support, for Styles 63400 KX, KY	1
36	22775 A	Screw, for feed dog holder support	1
37	12934 A	Nut, for reverse feed rocker link stud	1
38	G61436 B	Reverse Feed Rocker Link	1
39	99285	Reverse Feed Rocker Link Stud	1
40	63436 U	Reverse Feed Shaft Lever, left	1
41	22519 H	Clamp Screw	1
42	29126 EF	Feed Driving Eccentric Assembly	1
43	61438 A	Connecting Rod	1
44	88	Set Screw	1
45	660-225	Needle Bearing	1
46	63437 C	Feed Driving Eccentric	1
47	95	Set Screw	2
48	63432 H	Thrust Collar, left, for reverse feed shaft	1
49	22894 W	Set Screw	2
50	660-207	"O" Ring, for reverse feed shaft	1
51	99282	Adjusting Screw, for adjusting stitch length	1
52	99283	Lock Nut, for adjusting screw	1
53	63444 G	Reverse Feed Hand Control Operating Lever	1
54	22894 P	Set Screw	1
55	22894 U	Spot Screw	1
56	1246 L-1/2	Drive Pin	1
57	97	Screw, for reverse feed stitch control flange	2
58	63449	Reverse Feed Stitch Control Flange	1
59	660-206	"O" Ring, for reverse feed stitch control flange	1
60	63444 B	Reverse Feed Control Shaft	1
61	63432 G	Reverse Feed Shaft	1
62	22651 CD-5	Screw, for feed driving shaft sprocket (used in place of screw No. 22653 D-6)	2

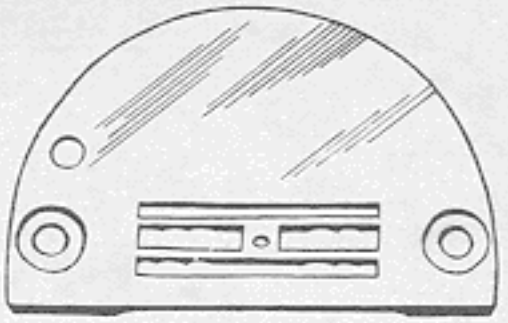
*Not furnished with machine, available as an extra send and charge item, where a foot treadle is desirable for operating the reverse feed mechanism.



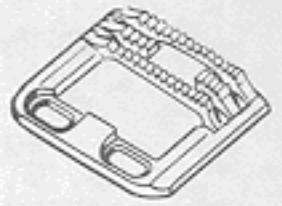
61224 C
Specify Diameter
of Needle Hole

63405 K

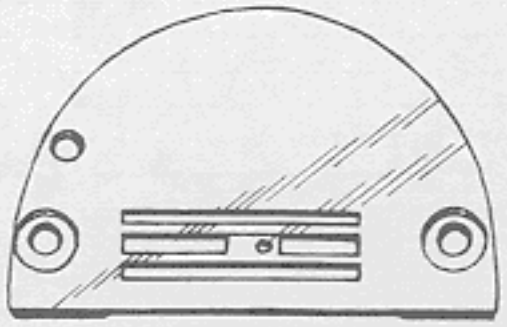
63405 G



61224 F
Specify Diameter
of Needle Hole

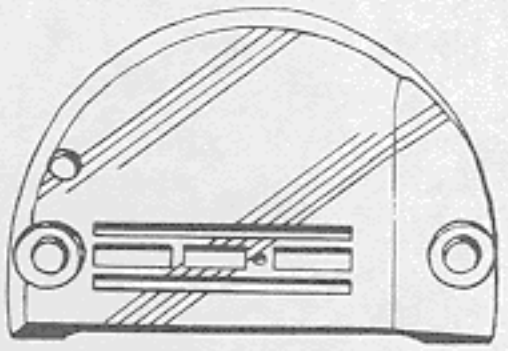


63405 E



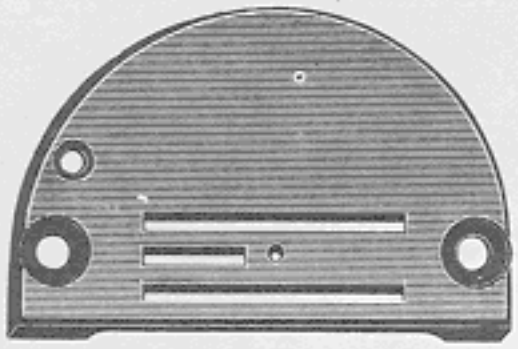
61424 Y
Specify Diameter
of Needle Hole

63405 D

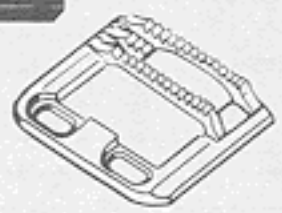


61424 AB
Specify Diameter
of Needle Hole

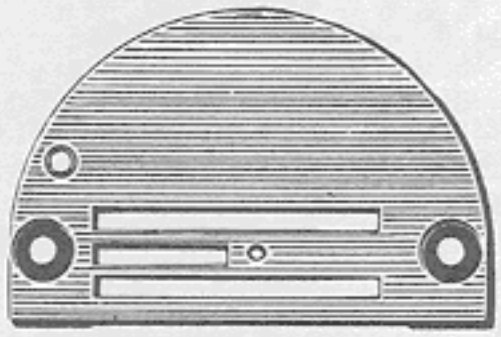
63405 F



61324 A
Specify Diameter
of Needle Hole

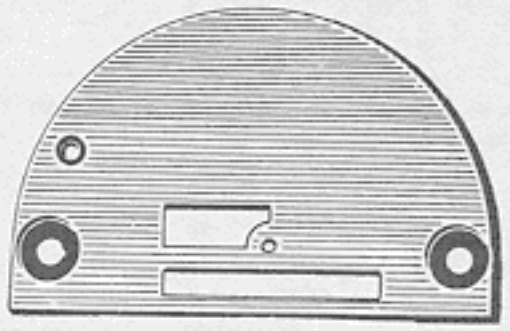


63405 M

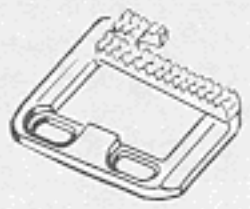


61324 C
Specify Diameter
of Needle Hole

63405 N



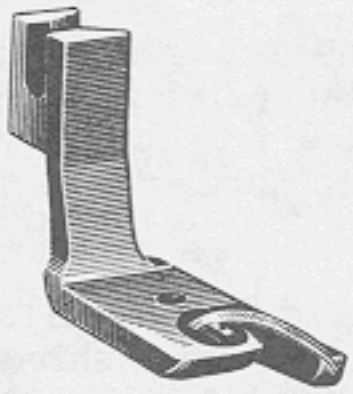
61324 B
Specify Diameter
of Needle Hole



63405 J

THROAT PLATE AND FEED DOG COMBINATIONS FOR STYLES 63400 KX AND KY ONLY

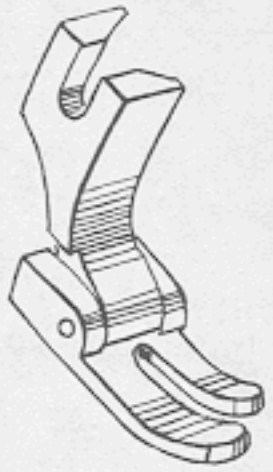
Part No.	Descriptions
61224 C-043	With .043 inch needle hole, for seaming and hemming silk and rayon; .063 inch needle hole for seaming dresses; also in sizes .073 and .083 inch needle hole for seaming work shirts and dress pants; feed dog No. 63405 G, presser foot Nos. 61220 C, 61220 J, 61320 AB (.085 inch thick).
61224 F-063	With .063 inch needle hole, for setting pockets of dress shirts, also in sizes .083 and .093 inch needle holes, for work shirts; feed dog No. 63405 E, presser foot Nos. 61320 AH, 61320 AJ (.085 inch thick).
61324 B-063	With .063 inch needle hole, for edge stitching on suit coats and vests; also in sizes .073, .083 and .093 inch needle holes; feed dog No. 63405 J, presser foot No. 61320 (.085 inch thick).
61424 Y-053	With .053 inch needle hole, for seaming and hemming shirts; also in sizes .063 and .073 inch needle holes; feed dog No. 63405 D, presser foot No. 61220 J (.085 inch thick).
61424 AB-053	With .053 inch needle hole, for miscellaneous seaming operations on medium weight wash and wear materials; also in size .063 inch needle hole; feed dog No. 63405 F, presser foot No. 61420 BV (.125 inch thick).
63405 D	Marked "JB", teeth cut 22 per inch, for seaming and hemming shirts; throat plate No. 61424 Y-053, presser foot No. 61220 J
63405 E	Marked "HX", teeth cut 16 per inch, for setting pockets on shirts; throat plate No. 61224 F-063, presser foot Nos. 61320 AH, 61320 AJ.
63405 F	Marked "CU", teeth cut 22 per inch, for miscellaneous seaming operations on medium weight wash and wear materials; throat plate No. 61424 AB-053, presser foot No. 61420 BV.
63405 G	Marked "HW", teeth cut 22 per inch, for plain seaming and hemming on dress shirts, blouses, dresses and other light material; throat plate No. 61224 C-043, presser foot Nos. 61220 C, 61220 J 61320 AB.
63405 J	Marked "CW", teeth cut 16 per inch for edge stitching on suit coats and vests; throat plate No. 61324 B-063, presser foot No. 61320.



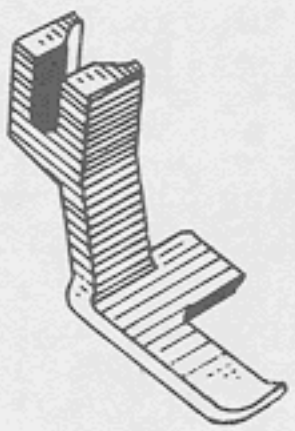
61220 C

Specify Width

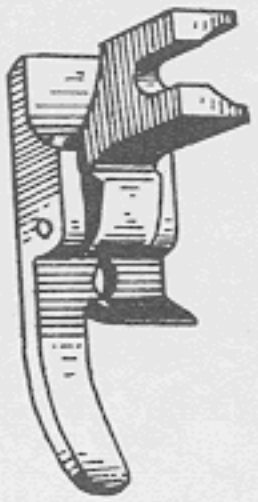
61220 J



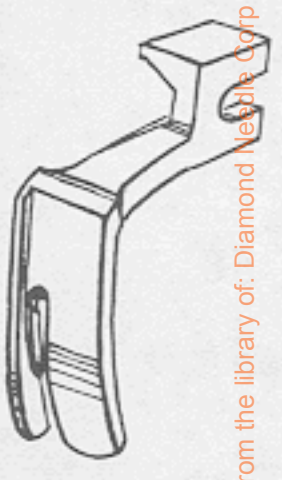
61220 P



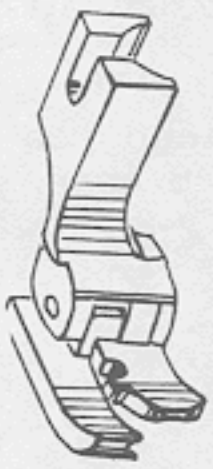
61320



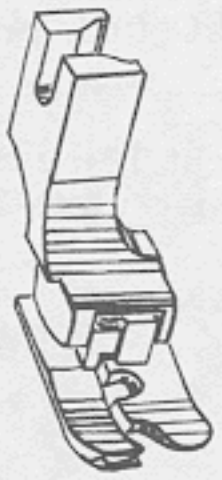
61320 C



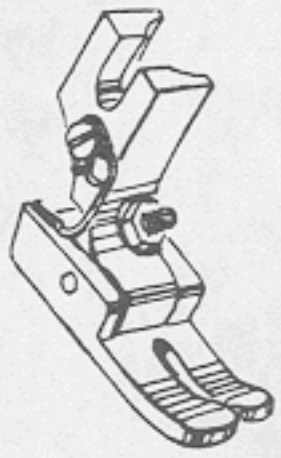
61320 AB



61320 AH



61320 AJ



61420 BV

PRESSER FEET

Part No.	Description
61220 C-1/8	For hemming shirts, 1/8 inch hem; feed dog Nos. 63405 G, 63405 K; throat plate No. 61224 C-043 (scroll No. 61230-5/32).
61220 C-5/32	For hemming shirts, 5/32 inch hem; feed dog Nos. 63405 G, 63405 K; throat plate No. 61224 C-043 (scroll No. 61230-5/32).
61220 C-3/16	For hemming shirts, 3/16 inch hem; feed dog Nos. 63405 G, 63405 K; throat plate No. 61224 C-043 (scroll No. 61230-5/32).
61220 C-1/4	For hemming shirts, 1/4 inch hem; feed dog Nos. 63405 G, 63405 K; throat plate No. 61224 C-043 (scroll No. 61230-5/32).
61220 J	For seaming light and medium weight woven materials; has spring for raising toe; feed dog Nos. 63405 D, 63405 G, 63405 K; throat plate Nos. 61224 C-043, 61424 Y-053 (spring No. 61230 AK, shank No. 61330, hinge pin No. 61330 B-31, bottom No. 61330 Z).
61220 P	For miscellaneous operations on medium weight materials; has spring raising toe, feed dog No. 63405 M; throat plate No. 61324 A-063 (spring No. 51930, shank No. 61330, hinge pin No. 61330 B-35, bottom No. 61330 AG).
61320	For edge stitching on suit coats and vests; feed dog No. 63405 J; throat plate No. 61324 B-063.
61320 C	For hemming high back overall suspenders; feed dog No. 63405 N; throat plate No. 61324 C-083 (shank No. 61330, bottom No. 61330 C, hinge pin No. 61330 B-39)
61320 AB	For edge stitching on pants flies, guide 1/16 inch to right of needle; feed dog Nos. 63405 G, 63405 K; throat plate No. 61224 C-073.
61320 AH	For edge stitching shirt pockets, left side yielding; feed dog No. 63405 E; throat plate No. 61224 F-063 (spring No. 51930, hinge pin No. 61330 B-31, bottom No. 61330 AM, yielding section, left No. 61330 AN, shank No. 61330 AP).
61320 AJ	For edge stitching shirt pockets, left side yielding; feed dog No. 63405 E, throat plate No. 61224 F-063 (spring No. 51930, shank No. 61230 X, hinge pin No. 61330 B-35, bottom No. 61330 AR, yielding section, right No. 61330 AS).
61420 BV	For miscellaneous seaming operations on wash and wear shirts and pants; feed dog No. 63405 F; throat plate No. 61424 AB-053 (screw No. 226, hinge adjusting screw No. 22565 E, nut No. 51430 F, shank No. 61430 AA, bottom No. 61430 AC, spring No. 61430 BB).

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. 42, page 17.

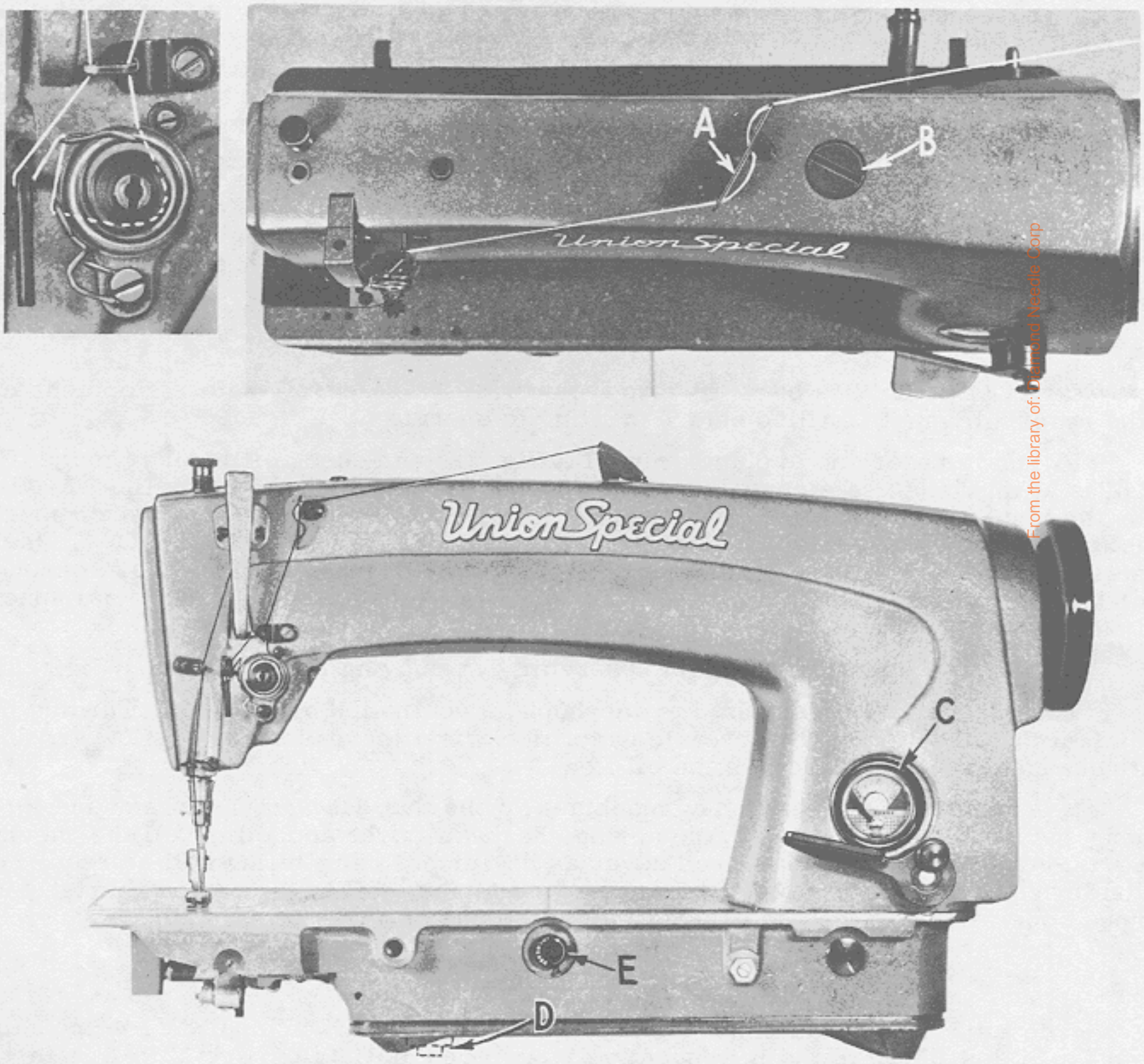


Fig. 2A

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.

THREADING

Thread machine Styles 63400 X and Y as indicated in Fig. 2A, noting that the thread passes thru the frame thread eyelet (A) thru the rear hole from right to left, thru the middle hole from left to right and then thru the front hole from right to left. Then it passes thru the next frame thread eyelet from right to left thru the upper hole, thru the middle hole from left to right and finally thru the lower hole from right to left. Machine Styles 63400 KX and KY are threaded thru the rear hole of frame thread eyelet (A) from left to right and thru the front hole from right to left, no threading thru the middle hole. On Styles 63400 KX and KY the thread then passes thru the next frame thread eyelet only thru the upper hole from right to left. 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 X and KX, Y and KY are the same as for Styles 63400 A and B respectively, covered in Catalog No. 121 M, with the 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.

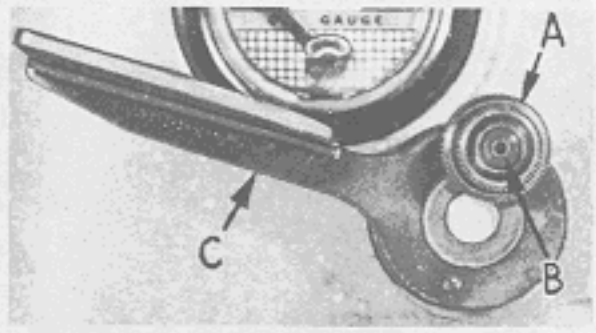


Fig. 28

To change the length of stitch, loosen knurled locknut (A, Fig. 28) and turn the feed adjusting screw (B). Turning the screw to the right decreases the stitch length resulting in more stitches per inch and turning the screw to the left acts the reverse. Tighten locknut (A) after obtaining the desired stitch length.

NOTE: After setting the stitch length make sure the feed dog has equal clearance at the front and back in both the forward and reverse feed direction.

SETTING THE REVERSE FEED MECHANISM

NOTE: The reverse feed is actuated by pushing down on the reverse feed control lever (C, Fig. 28) and the reverse feed will continue to operate as long as the control lever is held down.

Set the stitch length at 12 stitches per inch, on both the forward and reverse feed. This can be checked using heavy paper or very light cardboard. To attain 12 stitches per inch on the forward and reverse feed, it may require adjustments of both mechanisms. After making an adjustment to one feed, check the stitches per inch in both directions, because an adjustment to one feed will affect the travel of the other. To change the stitch length of the forward feed refer to paragraph on "Changing The Stitch Length".

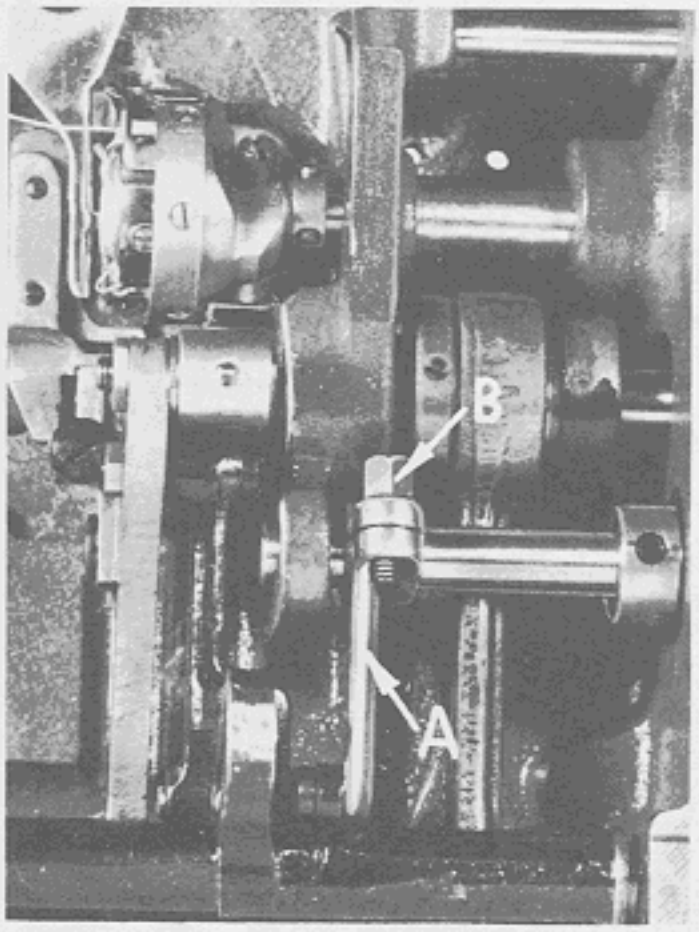


Fig. 29

The reverse feed travel can be changed by adjusting the stitch control lever (A, Fig. 29). This can be accomplished by tipping the machine back against the rest pin and loosening clamp screw (B). When the machine is in this position move the control lever (A) toward you to increase the reverse feed travel or away from you to decrease the travel. Retighten clamp screw (B) after making an adjustment and check the stitch length in both directions.

NOTE: Once the forward and reverse feed has been set at 12 stitches per inch, a change in stitch length can be made as described under "Changing The Stitch Length", the reverse feed will not have to be adjusted, you should get approximately the same number of stitches in both directions.

CAUTION: On machines equipped with a treadle control reverse feed lever (A, Fig. 30) remove this lever before tipping machine back against the rest pin.

If equal stitch length, forward and reverse can not be obtained by adjusting the stitch length control lever, adjustment should be made to the feed linkage located inside the machine. The feed linkage is pre-set at the factory and may be checked as outlined on the next page.

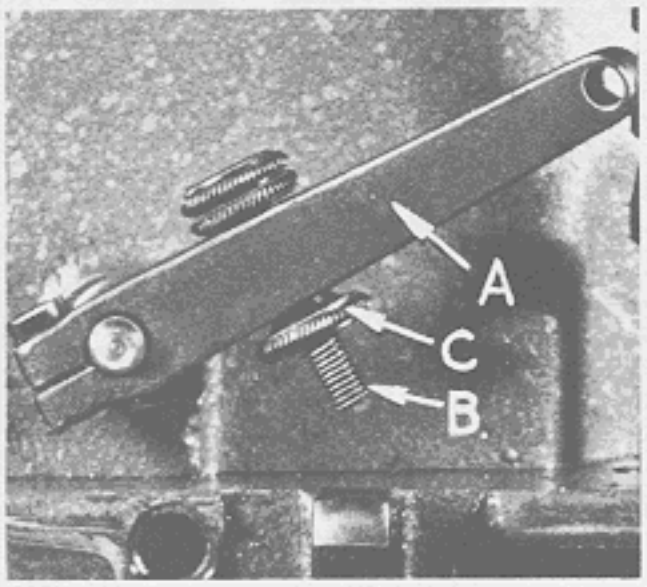


Fig. 30

Drain machine of oil and remove the bottom reservoir cover. Set the machine at zero stitches per inch. Loosen holding screw (A, Fig. 31) and move the stitch regulator plunger lever (B), so the center of screw (C) is 23/32 inch above the bottom of the base. Retighten holding screw (A) and replace the bottom reservoir cover. Now adjustment can be made to the reverse feed control lever as described earlier.

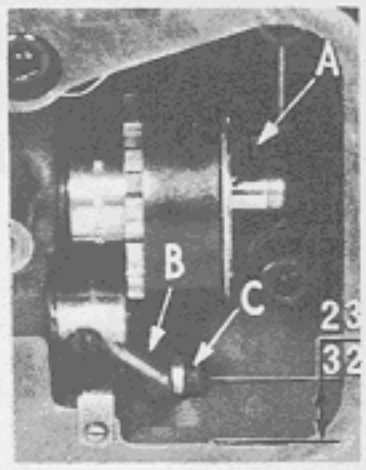


Fig. 31

On machines equipped with a treadle control reverse feed lever (A, Fig. 30), hold down the reverse feed control lever (C, Fig. 28) and adjust the stop screw (B, Fig. 30) to stop against the bed casting. Lock stop screw (B) in this position with locknut (C). This is to prevent damage to the feed adjusting screw, when reverse feed is actuated by stepping on the treadle.

NOTE: THE REMAINDER OF THE ADJUSTING INSTRUCTIONS IN THIS CATALOG APPLY TO MACHINE STYLES 63400 KX AND KY ONLY.

PRESSER BAR CONNECTION (Page 15)

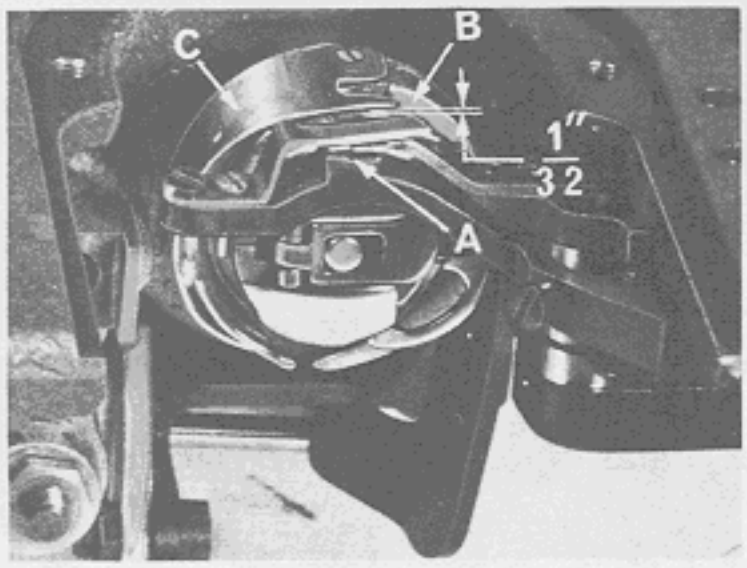


Fig. 12A

The presser bar connection (A, Fig. 16A) should be set so that it is about 7/16 inch above the lower presser bar bushing (Fig. 16A). This is accomplished by tipping the machine back against the rest pin, loosening the lock nut (A, Fig. 15) 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 the stop screw in place.

PRESSER BAR GUIDE (Page 16)

When locating the presser bar guide (B, Fig. 16A), the presser foot must rest directly against the throat plate with the feed dog in its lowest position. The guide is set properly when there is a 1/16 inch space between guide (B) and presser bar connection (A, Fig. 16A).

To obtain this setting, remove the pressure from the presser spring (C) and loosen set screw (D). Tap on presser foot to insure its being down on the throat plate. Set the guide to the 1/16 inch dimension, center the foot by turning it so that the needle enters the middle of its slot and retighten screw (D) in guide. Now, apply pressure to the presser foot by turning the presser spring regulator in a clockwise direction.

Set the needle thread take-up wire (A, Fig. 16B) so that the underside of the wire is 4 3/4 inches above the throat plate.

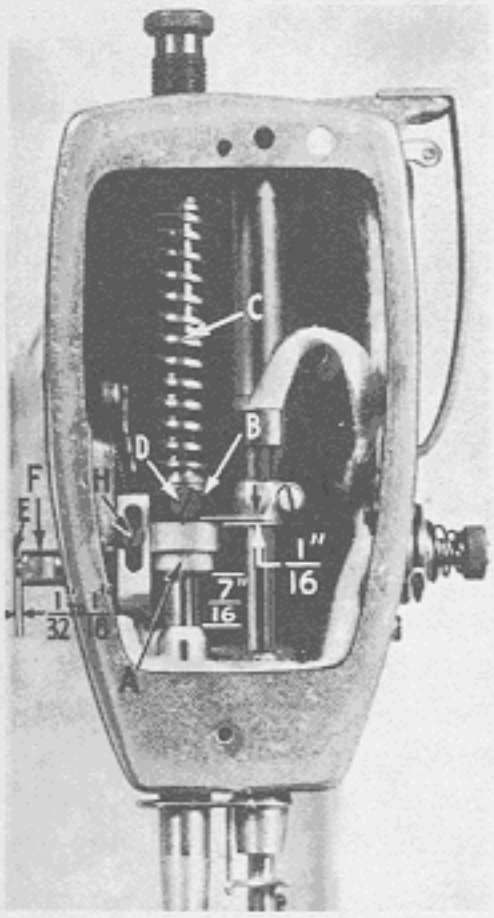


Fig. 16A

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. 16A) 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.

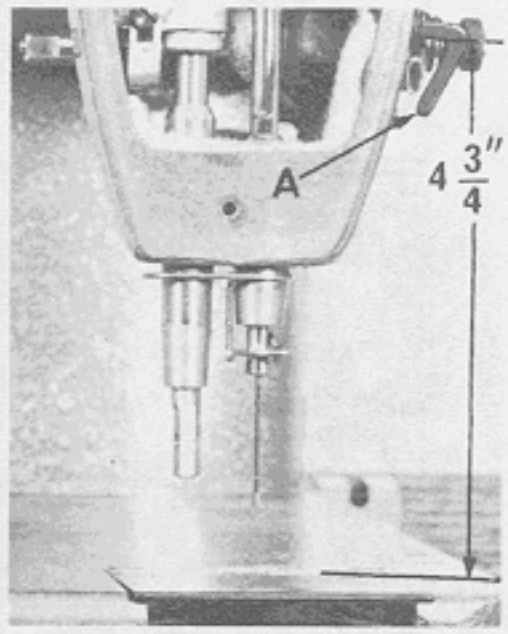


Fig. 16B

3. Tension release solenoid is secured to flat of bushing (F, Fig. 16A) 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 in the tension disc.

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. 16A) 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.

Fig. 18A

TRIMMER ADJUSTMENTS

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

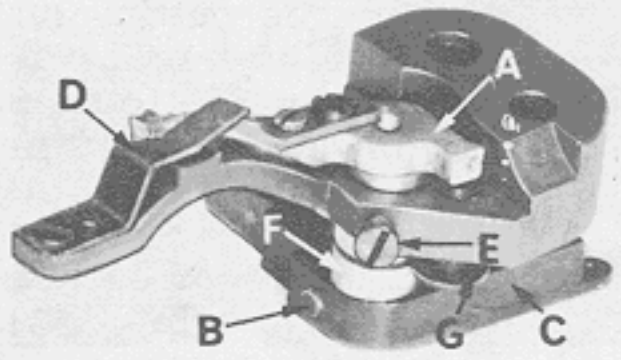


Fig. 32

1. There should be no bind or shake in lower knife pivot carrier (A, Fig. 32). 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.

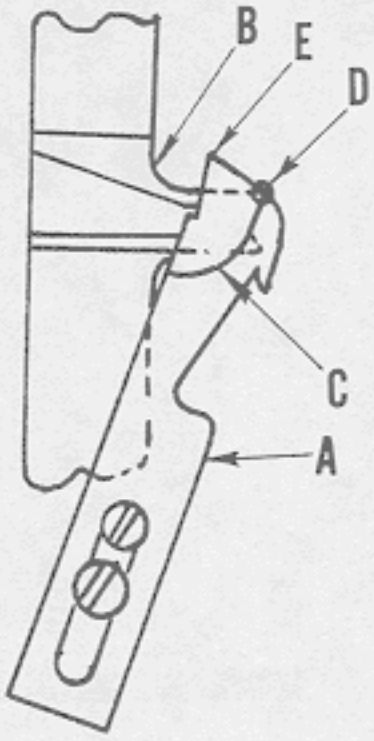


Fig. 33

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 pin hole in the eccentric bushing (F) located approximately 90° to the right side of the arm of the positioning finger (Fig. 34).

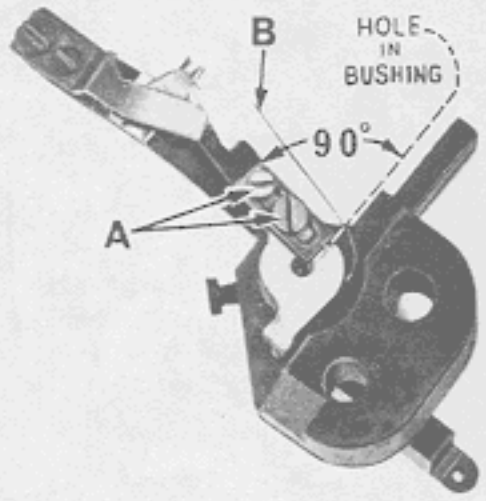


Fig. 34

Adjust lower knife until it just contacts the upper knife. To adjust the lower knife turn flange screw (G, Fig. 32) 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. 33) 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. 34) and position knife.

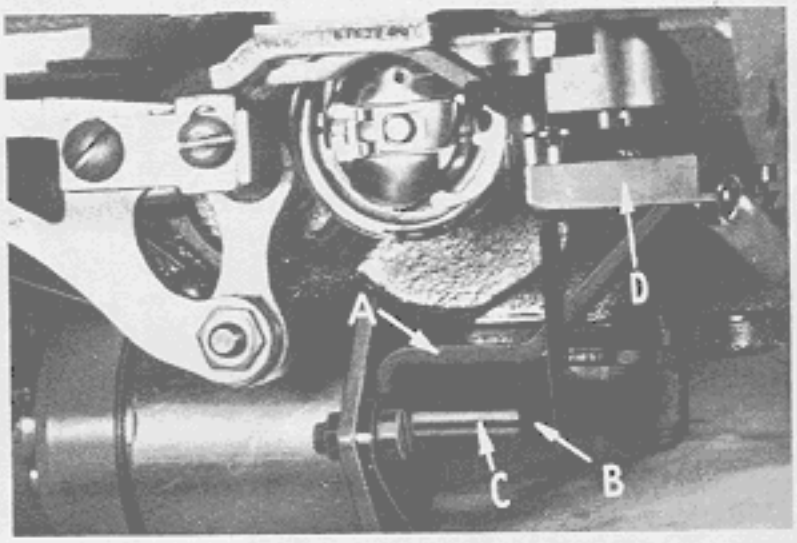


Fig. 35

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. 35) 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. 36) is in position.

5. Adjust the lower knife stop screw (B, Fig. 36) so when the lower knife is in its extreme right hand position, the left corner (E, Fig. 33) is in line with the left side of the needle slot in the bobbin case holder.

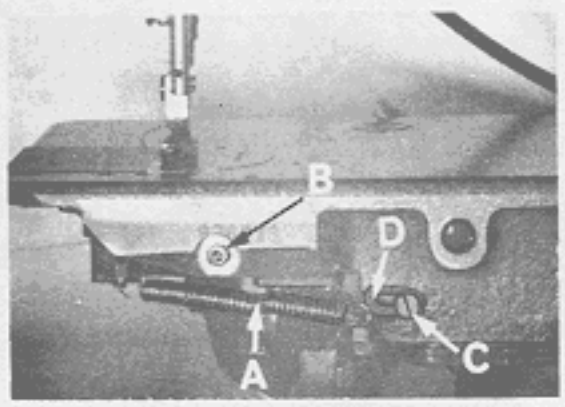


Fig. 36

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. 34) 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. 36) 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.

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.

(b) At this time the brass contact of the left band (A, Fig. 37) should be flush with the front edge of the brush holder (B). To make this adjustment position needle bar and deflector plate as described above, then loosen set screws (C) in synchronizer and move as required.

(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.

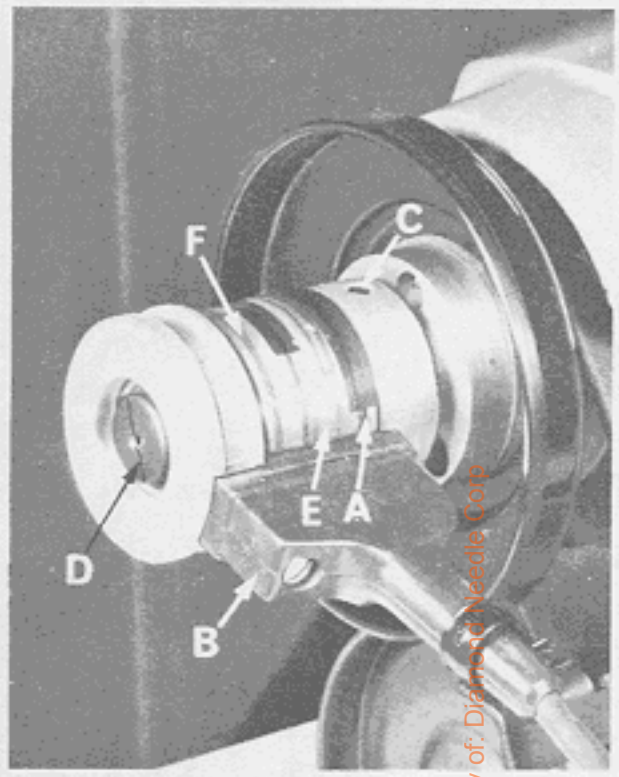


Fig. 37

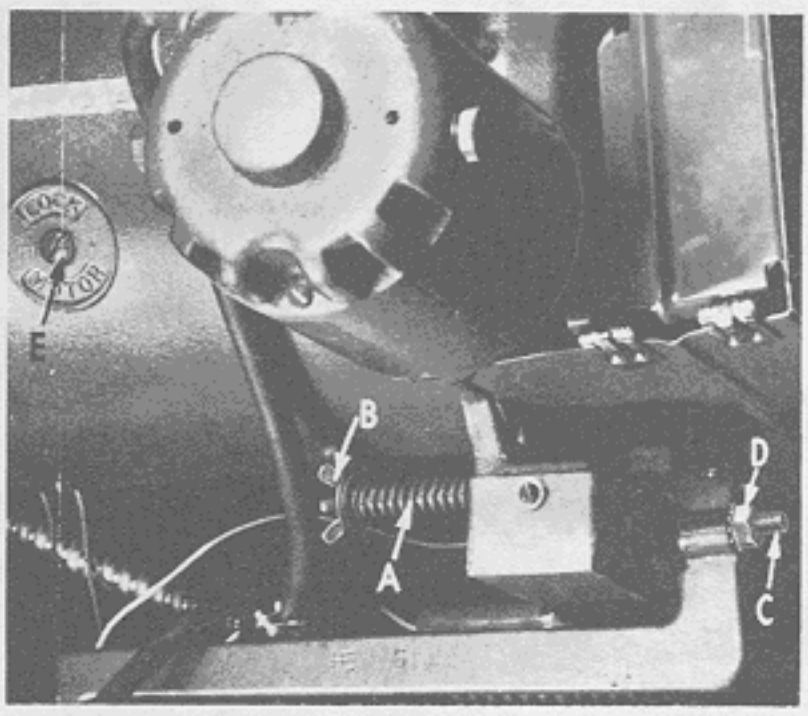


Fig. 38

(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

1. Set needle in work.

2. Adjust clutch arm spring (A, Fig. 38) so that treadle will return to stop (wing nut washer (B) is to be approximately 1/2 inch from end of stud).