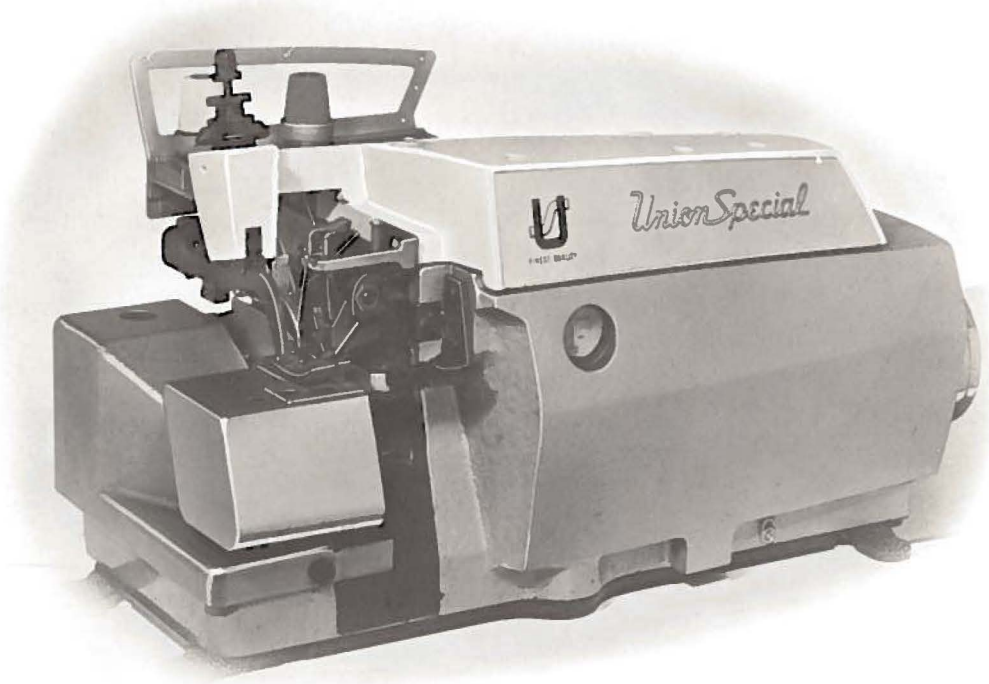
FINEST QUALITY

Union Special®

LEWIS • COLUMBIA

INDUSTRIAL SEWING MACHINES

STYLE 39500MG



CLASS 39500

CATALOG No. 103MG

HI-STYLED HIGH SPEED SINGLE NEEDLE TWO THREAD PLAIN FEED SERGING MACHINES FOR PRECLOSED TROUSER CUFFS

Union Special MACHINE COMPANY

CHICAGO

Catalog No. 103 MG
(Supplement to Catalog No. 103 FJ)

INSTRUCTIONS

FOR

ADJUSTING AND OPERATING

LIST OF PARTS

CLASS 39500

Style 39500 MG

First Edition

Union Special
MACHINE COMPANY
INDUSTRIAL SEWING MACHINES
CHICAGO

Printed in U.S.A.

February, 1972

IDENTIFICATION OF MACHINES

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

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

APPLICATION OF CATALOG

This catalog is a supplement to Catalog No. 103 FJ and should be used in conjunction therewith. Only those parts used on Style 39500 MG, but not on Style 39500 FJ are illustrated and listed at the back of this catalog. On the page opposite the illustration will be found a listing of the parts, with their part numbers, description and the number of pieces required. Numbers in the first column are reference numbers only, and merely indicate the position of that part in the illustration. Reference numbers should never be used in ordering parts. Always use the part number listed in the second column.

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

STYLE OF MACHINE

Hi-Styled High Speed Single Curved Blade Needle, One Looper, One Spreader, Two Thread Serging Machine. Plain Feed, Trimming Mechanism with Spring Pressed Lower Knife, Automatic Lubricating System.

39500 MG Light to medium duty machine for serging around pants cuff before cuffs are folded and similar operations on light, medium and heavy weight trouser material. Seam specification 503-EFd-1; standard seam width 3/16 inch; stitch range 4-8 per inch; cam adjusted feed. Maximum recommended speed 7000 R. P. M.

OILING

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

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

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

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

NEEDLES

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

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

Type No.	Description and Sizes
154 GAS	Round shank, round point, curved blade, standard length, single groove, struck groove, spotted, chromium plated and is available in sizes 022, 025, 027, 029, 032, 036, 040, 044, 049, 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 154 GAS, Size 044".

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

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

CHANGING NEEDLES

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

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

THREAD STAND

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

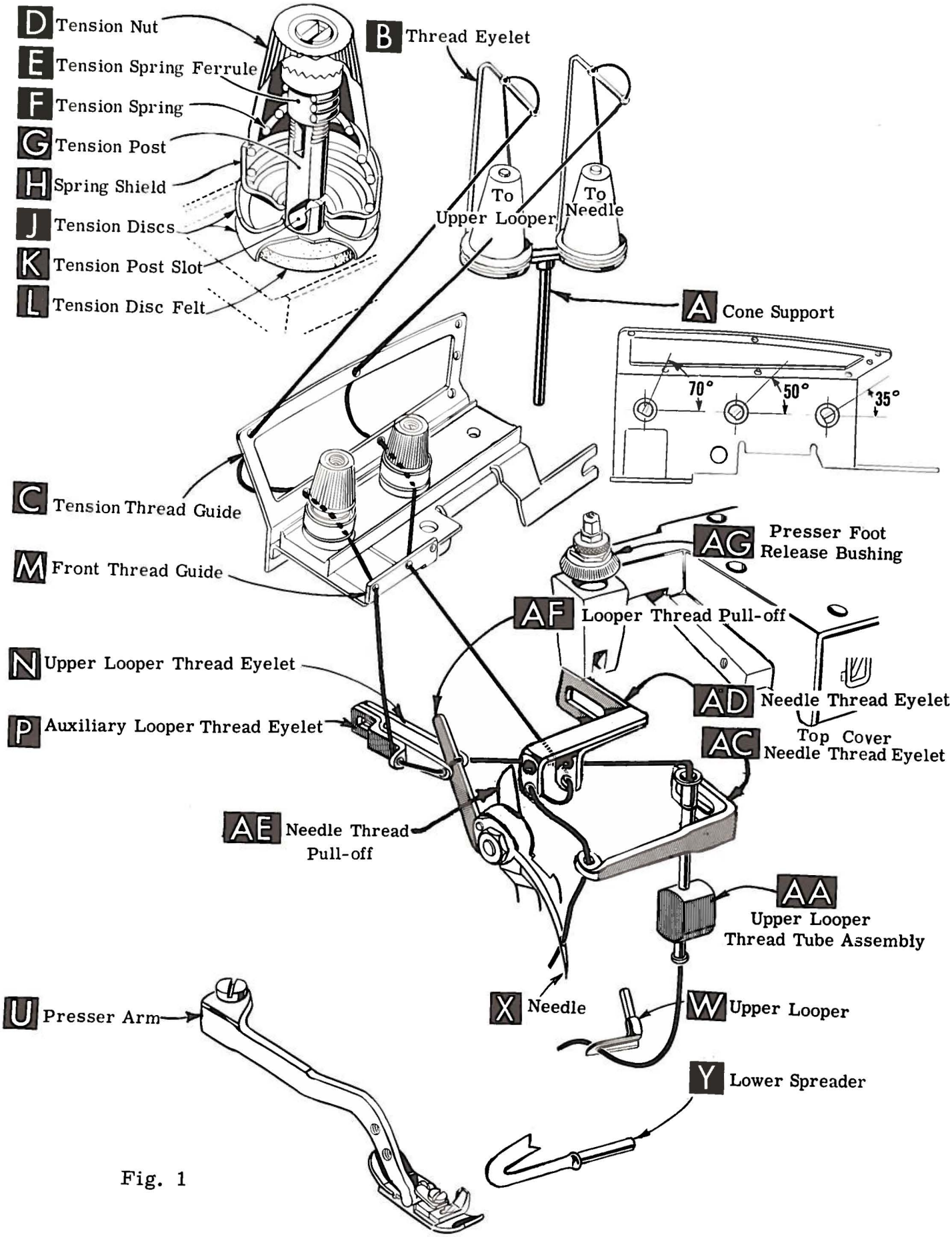


Fig. 1

THREADING

Only parts involved in threading are shown in threading diagram (Fig. 1). Parts are placed in their relative positions for clarity.

It will simplify threading this machine to follow recommended sequence of threading the upper looper first and the needle second.

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

Be sure the threads, as they come from the tension thread guide (C), are between tension discs (J) and in tension post slots (K) in tension posts (G). The tension posts should be positioned so the tension post slot will be at the approximate angle for the different threads as indicated in Fig. 1.

TO THREAD UPPER LOOPER

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

TO THREAD THE NEEDLE

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

THREAD TENSION

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

PRESSER FOOT PRESSURE

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

Fig. 2

FEED ECCENTRICS

The feed eccentric used in this machine has been selected to produce approximately 6 stitches per inch. It will be noted that the part number of the feed eccentric is No. 39540 B-6. Minor number of the part symbol indicates approximately the number of stitches produced when using that eccentric. Unless otherwise specified, machine will be shipped with the eccentric to produce the number of stitches as outlined above.

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

ASSEMBLING AND ADJUSTING SEWING PARTS

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

SETTING THE NEEDLE

With the throat plate assembled in position, needle should center in the front end of needle slot. When needle is at high position, needle point should be set 15/32 inch above the throat plate (A, Fig. 3). To align the needle or set the height above the throat plate, move needle driving arm (B) by loosening clamp screw (C). After needle has been properly set, tighten clamp screw and remove throat plate.

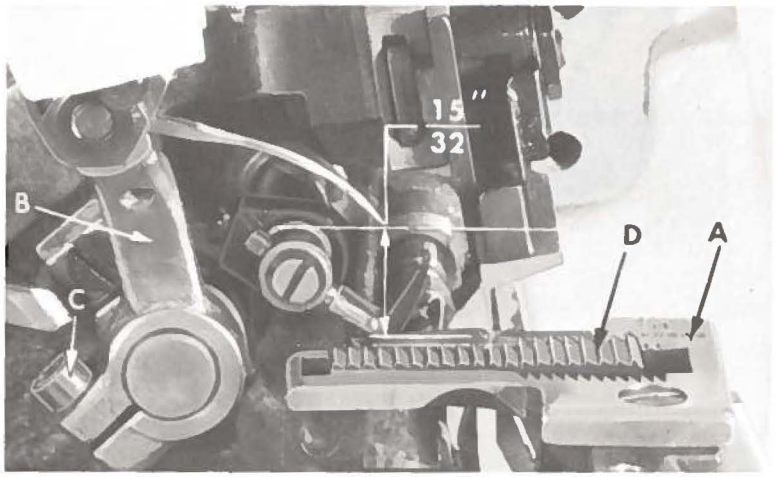


Fig. 3

At this point, insert spreader (A, Fig. 4) into bar (B). With spreader at the left end of its stroke, set spreader point 3/32 inch from center line of needle (C). Looper gauge No. 21225-3/32 can be used advantageously in making this adjustment. Do not have spreader deflecting needle. Tighten nut (D).

Now assemble the feed dog (D, Fig. 3)

SETTING THE REAR NEEDLE GUARD

Set rear needle guard (A, Fig. 5) as high as possible, without interfering with either the spreader or movement of lower knife holder, but still in position to deflect needle forward .002 - .004 inch. Screw (B) is used to set rear needle guard. Make sure there is no interference between rear needle guard and spreader.

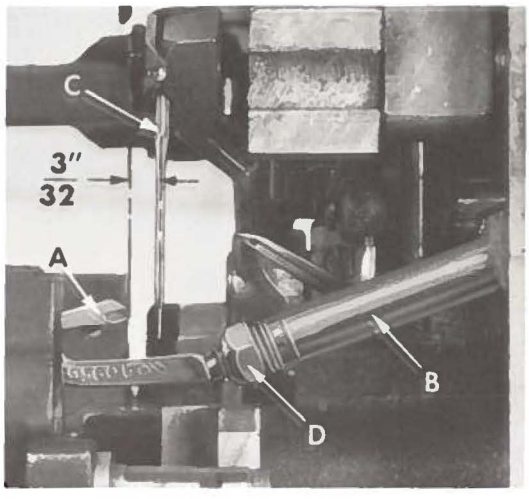


Fig. 4

SETTING THE SPREADER

Now complete the spreader adjustment. As spreader moves to the right, its point should be set into the needle scarf (A, Fig. 6) until the needle springs forward from rear needle guard surface another .002 - .004 inch.

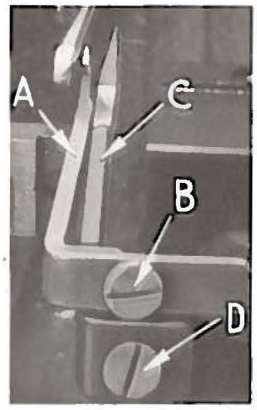


Fig. 5

SETTING THE FRONT NEEDLE GUARD

Assemble front needle guard (C, Fig. 5). When spreader is springing needle off back guard, set front needle guard as close as possible to needle without touching. Screw (D) is used to adjust and set front needle guard. After this setting make sure there is no interference between needle guards and feed dog.

SETTING THE UPPER LOOPER

Insert upper looper (A, Fig. 7) in its holder. Screw (B) holds looper in its holder, and permits it to be pushed in or out or turned around its shank. Insert looper holder into looper shaft, if it is not already in place. Screw (C) on clamp collar holds looper holder in the shaft, and allows holder to be rotated or adjusted laterally.

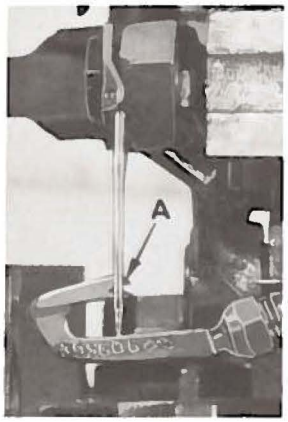


Fig. 6

Preliminary Setting: When looper is at the right end of its stroke, looper holder should be set to position upper looper shank slightly back of vertical (Fig. 7). Top end of looper shank should extend 1/32 to 1/16 inch above the looper holder (Fig. 7).

Fig. 7

As upper looper moves from right to left the looper should pass behind the lower spreader, with approximately .002 inch clearance between spreader and upper looper (Fig. 8). When the looper is at its extreme left end of travel, its point should extend 5/32 inch to the left of the centerline of the needle and should be 15/32 inch above the top of the throat plate (Fig. 9). If resetting is necessary, reposition the upper looper holder (A, Fig. 8).

Fig. 8

The 5/32 inch dimension can be increased by pulling the upper looper holder to the left, out of the looper shaft. The 15/32 inch dimension can be increased by turning the looper holder in a counterclockwise direction, looking from the left end of the machine. After these changes are made, it may be necessary to turn the looper around its shank slightly to maintain the condition shown in (Fig. 8).

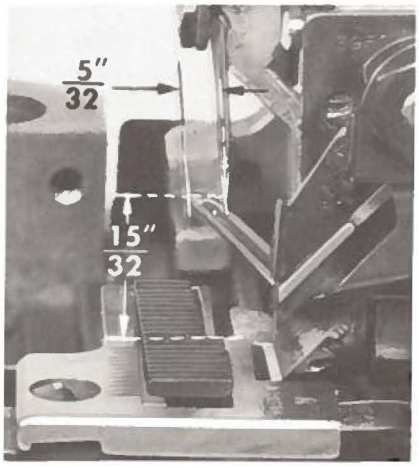


Fig. 9

Now check setting between looper and needle. If needle rubs the back of looper, pull looper out of its holder slightly and rotate looper a short distance counterclockwise looking from left end of machine. Reset to maintain dimensions of (Figs. 8 and 9).

SETTING THE FEED DOG

The feed dog (A, Fig. 10) should be leveled with respect to the throat plate by rotating the feed tilting adjusting pin (B). This pin raises or lowers the back end of the feed bar (C). The feed dog should be set level at the time its teeth first appear above the throat plate. Screw (D) locks the feed tilting adjusting pin in place.

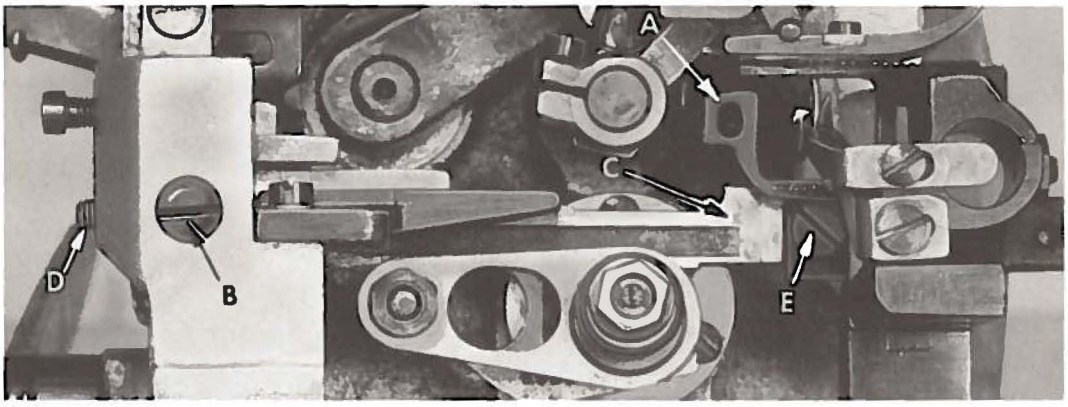


Fig. 10

The tips of the feed dog teeth should extend the depth of a tooth or approximately 3/64 inch above the throat plate at high point of travel. The elongated slot in the feed dog for its attaching screw (E) has been provided for this purpose.

SETTING THE LOWER KNIFE

Replace lower knife holder assembly. Lower knife (A, Fig. 11) should be set with cutting edge flush with throat plate surface. Adjustments are made with hexagonal head screw which holds lower knife. Lower knife is spring pressed against upper knife, so no lateral adjustment is necessary when width of trim is changed.

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

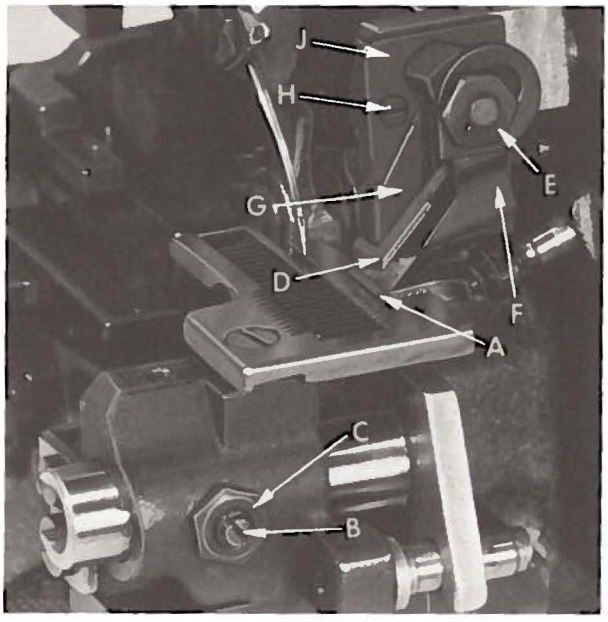


Fig. 11

SETTING THE UPPER KNIFE

Replace upper knife assembly. Clamp upper knife (D, Fig. 11) in position, setting nut (E) to hold clamp (F) in its most clockwise position against upper knife. At bottom of its stroke, front cutting edge of upper knife should extend not less than 1/64 inch below cutting edge of lower knife. The chain guard (G) should be set down against the upper knife and slightly back from the cutting edge.

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

SETTING THE STITCH LENGTH

Length of stitch is determined by the feed eccentric used in machine. Note that the part number of the feed eccentric for Style 39500 MG is No. 39540 B-6.

In assembling the feed eccentric (A, Fig. 12), be sure the hub and oil groove is to the left. Beveled edge of feed eccentric spacer (B) should also be to the left side, so the undercut on the spacer will be over the hub on the feed eccentric. Be careful not to damage shaft or key.

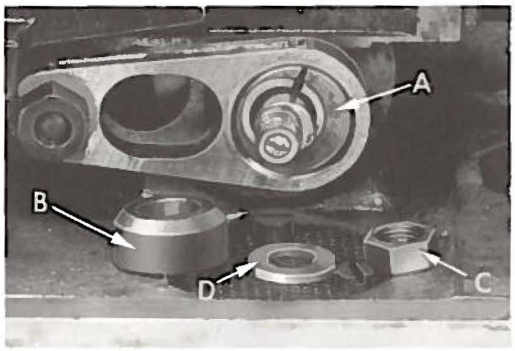


Fig. 12

Tighten nut (C) securely.

To change feed eccentric, remove nut (C), washer (D) and feed eccentric spacer (B). Turn handwheel in operating direction until key slot in eccentric is toward the front. Using hooked eccentric extractor No. 21227 BF, supplied with machine, reach behind eccentric and withdraw eccentric. It may be necessary to move handwheel back and forth slightly during extraction.

SETTING THE PRESSER FOOT

Assemble the presser foot to presser arm. With needle in high position, swing presser arm into sewing position and set the presser foot to align needle holes (front and back) and flat on throat plate. The front edge of needle hole in presser foot must be aligned with front edge of needle hole in throat plate. It is also important that the bottom of the presser foot be flat on the throat plate. If necessary, presser foot can be realigned with throat plate slots by shifting the foot lifter lever shaft (H, Fig. 13). To move the shaft, loosen collar screws (B) and clamp screw (G) and then shift the foot lifter lever shaft to the left or right as required. Retighten collar screws and clamp screw.

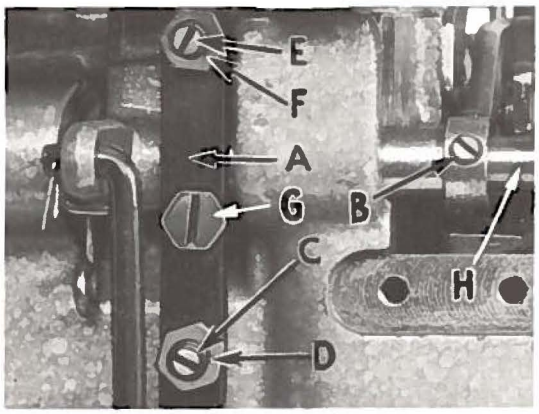


Fig. 13

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

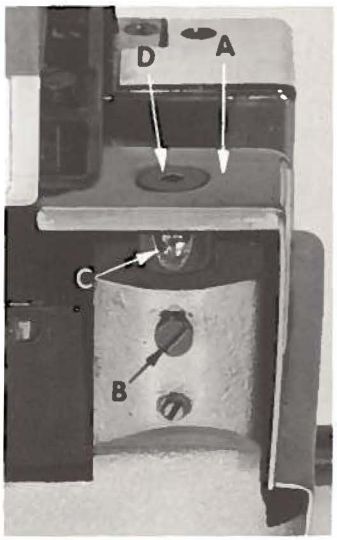


Fig. 14

Adjust lifter lever stop screw (C) so that presser foot can be raised no higher than upper looper will permit; then lock the nut (D). There should be from 1/16 to 1/8 inch free motion of foot lifter lever before the presser foot begins to rise. This adjustment should be made with screw (E) and locked with nut (F). Re-assemble the chip guard, fabric guard and cloth plate. To assemble chip guard, turn handwheel until upper knife assembly reaches its highest position.

CLOTH PLATE REMOVAL AND ASSEMBLY

CAUTION: When removing the cloth plate (A, Fig. 14) loosen the cloth plate stud locking screw (B) and lift up cloth plate with the cloth plate stud (C) and cloth plate screw (D), assembled.

CLOTH PLATE REMOVAL AND ASSEMBLY (Continued)

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

STARTING TO OPERATE

Be sure machine is threaded according to threading diagram (Fig. 1). With thread tensions light, set looper thread eyelet (N) about horizontal and in the middle of its front to back location. Operate machine slowly, without presser foot in place, to make sure that chain forms and moves off the tongue freely. Swing presser foot into position, insert material, and sew slowly.

NEEDLE THREAD CONTROL

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

UPPER LOOPER THREAD CONTROL

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

POSITIONING THE PURL

To move the purl more under the edge, looper thread eyelet (N, Fig. 1) should be raised.

If it becomes necessary to move looper thread pull-off (AF), be sure to take up all end play in needle drive shaft before tightening. If looper is located so that it is higher over throat plate than recommended in (Fig. 9), the purl will tend to form near top edge. If looper is too low, the purl will form nearer bottom edge.

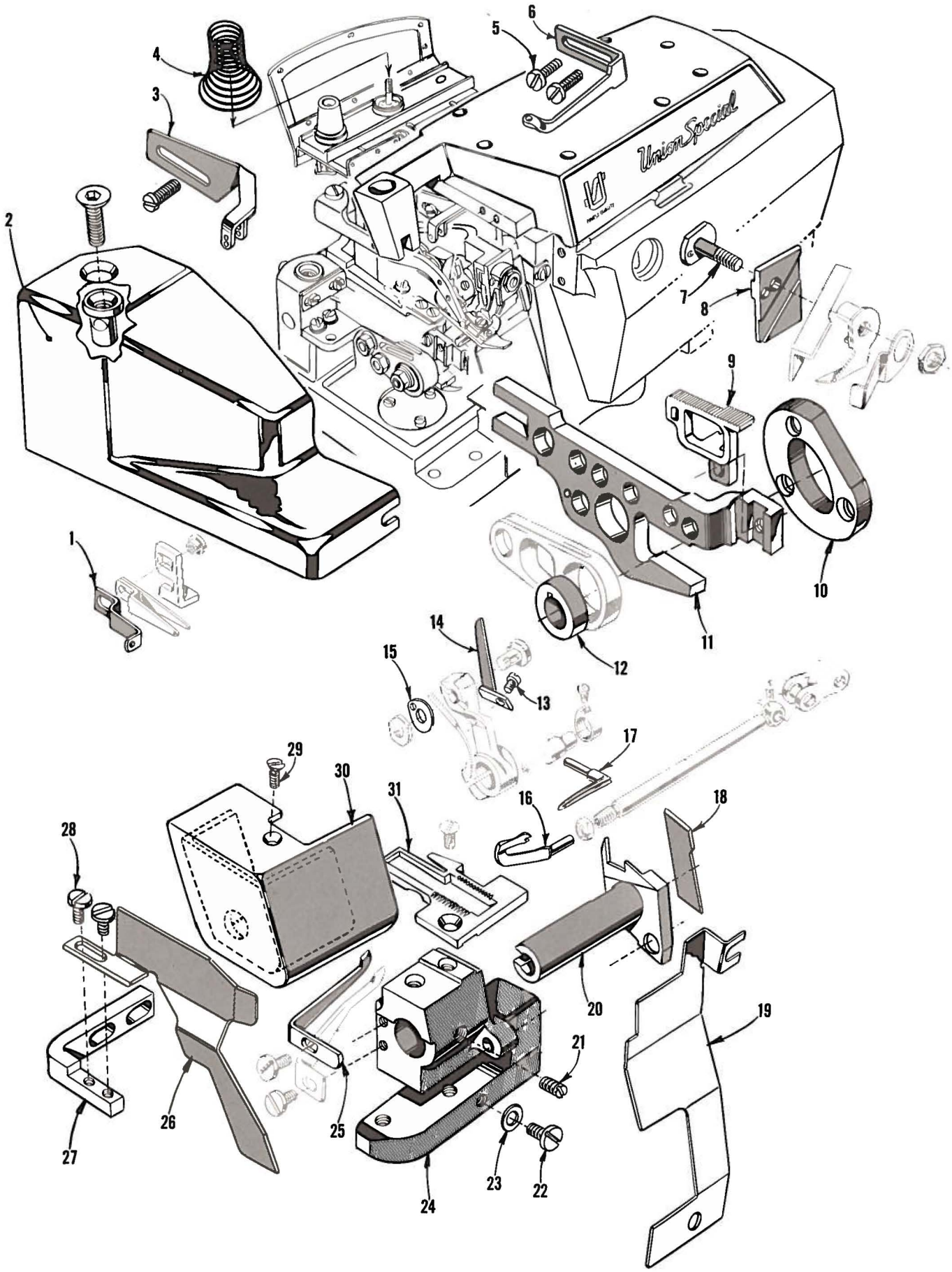
TERMS

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

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 Machine Company, its subsidiaries and authorized distributors. They are designed according to the most 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.



The parts illustrated on the preceding page and described below represent the parts that are used on Style 39500 MG, but not used on Style 39500 FJ.

Those parts shown in phantom views and bearing no reference numbers are common to Styles 39500 FJ and 39500 MG.

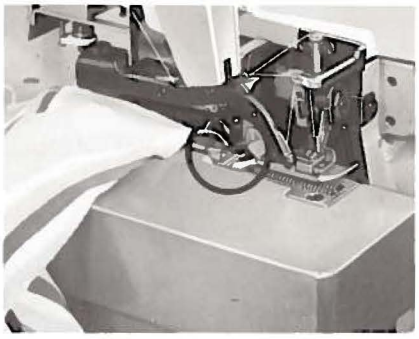
Use Catalog No. 103 FJ (Style 39500 FJ) for all parts not illustrated or described in this catalog.

Reference numbers that are inside a bracket on the picture plate and have indented descriptions indicate they are component parts of a complete part or assembly.

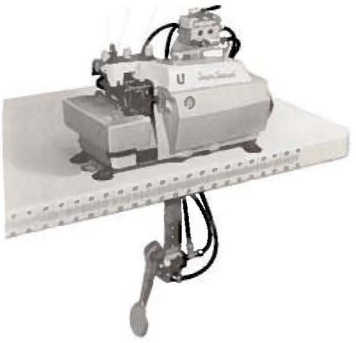
Ref. No.	Part No.	Description	Amt. Req.
1	39568 E	Auxiliary Upper Looper Thread Eyelet	1
2	39501 N	Cloth Cover	1
3	39563 N	Needle Thread Frame Eyelet	1
*4	39592 AR-4	Needle Thread Tension Spring	1
5	22569 B	Screw, for top cover needle thread eyelet	2
6	39563 F	Top Cover Needle Thread Eyelet	1
7	39571 D	Upper Knife Clamp Stud	1
8	39572	Upper Knife Holder Block	1
9	39505 MG	Feed Dog, 22 teeth per inch	1
10	39534 K	Feed Bar Thrust Washer	1
11	39534 J	Feed Bar	1
12	39540 B-6	Feed Eccentric	1
13	87 U	Screw, for needle thread pull-off	1
14	39563 P	Needle Thread Pull-off	1
15	39551 A	Needle Clamp Washer	1
16	39560 B	Lower Spreader	1
17	39508 A	Upper Looper, marked "CC"	1
18	39549 R	Lower Knife	1
19	39578 X	Chip Guard	1
20	39550 Y	Lower Knife Holder	1
21	22560 B	Locking Screw, for lower knife holder	1
22	22528	Screw, for cloth cover	1
23	8372 A	Washer, for cloth cover	1
24	39580 G	Throat Plate and Lower Knife Support Bracket	1
25	39525 J	Needle Guard, rear	1
26	39578 Y	Fabric Guard Shield	1
27	39578 Z	Fabric Guard Mounting Bracket	1
28	22585 A	Screw, for fabric guard shield	2
29	22524	Screw, for work support	1
30	39582 AU	Work Support	1
31	39524 MG	Throat Plate	1

* Use No. 39592 AR-2 for looper thread tension spring in left tension post hole.

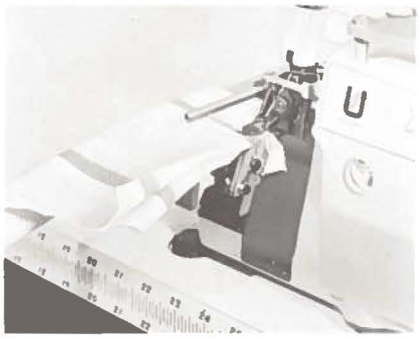
BOOST PRODUCTION WITH THESE WORK AIDS FROM UNION SPECIAL



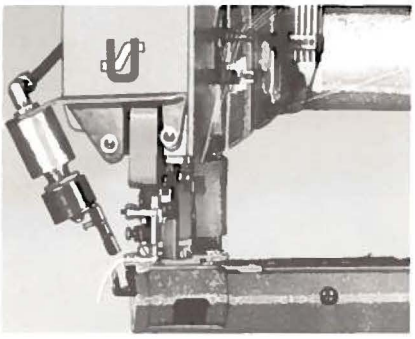
PNEUMATIC CHAIN-CUTTER—for use on conventional Class 39500 and 39600 is a durable scissor-action mechanism that makes a clean positive cut. Style 2899 A-1



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

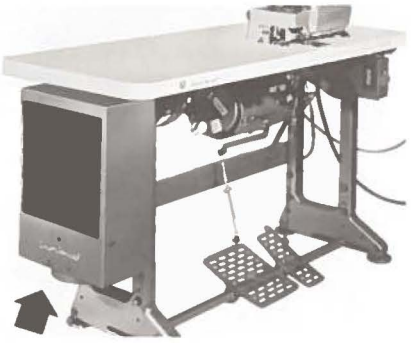


AIR FABRIC UNCURLER—This unit, designed for Class 39500 machines, uses air jets to remove curls from top and bottom plies of flat knit materials as fabric passes through sewing area. Style 2899 B-1

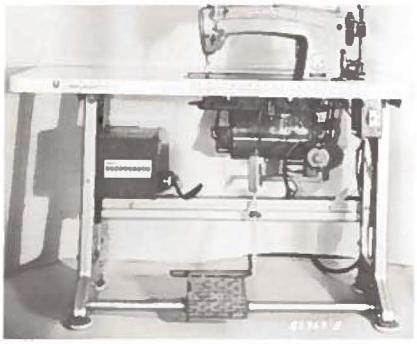


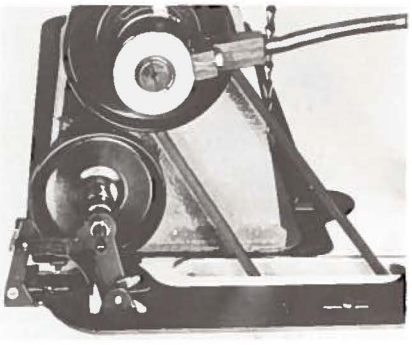
CHAIN CUTTER—The above photo shows the small pneumatic chain cutter that is available for installation as an accessory unit on Class 36200 Flatseamers. Style 2899A-6

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



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





AMCO ELECTRONIC NEEDLE POSITIONERS eliminate the necessity of reaching for the handwheel 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.

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No. 1105, "Button Sewers—Ticket Tackers"
"Columbia Blindstitch, Saddle Stitch, and Tie Closing Machines"
No. 1500, "Alteration Department Machines"

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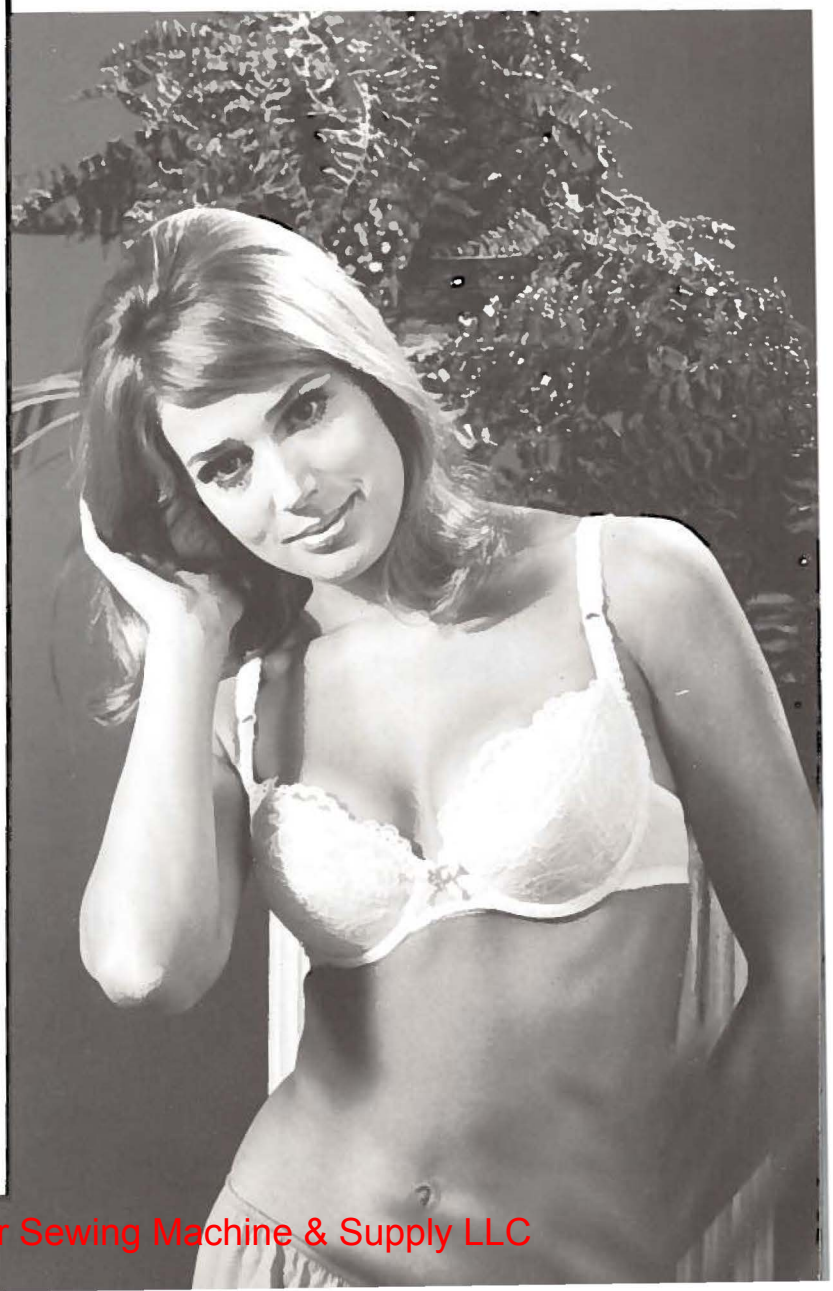

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