

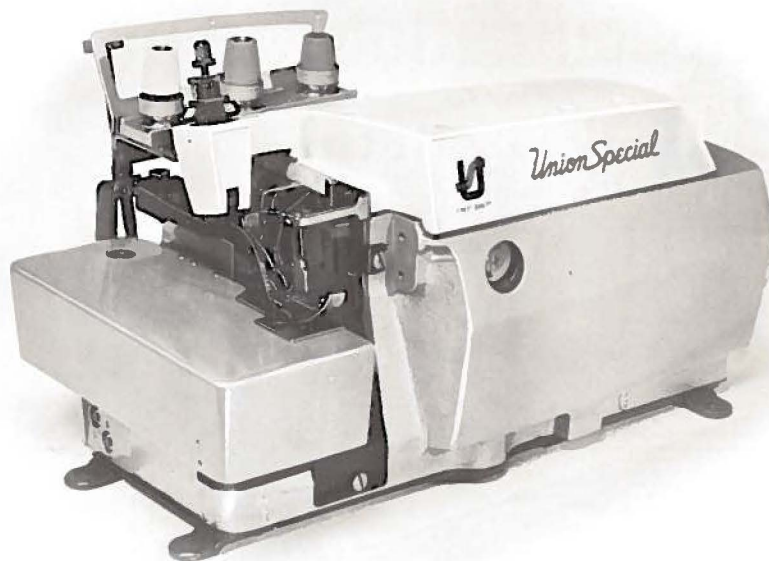
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Union Special[®]
LEWIS • COLUMBIA

**INDUSTRIAL
SEWING
MACHINES**

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

Los Angeles, CA 90021



UNITY SEWING SUPPLY CO.
824 E. 8th St.
Los Angeles, CA 90021

CLASS 39500

**HI-STYLED HIGH SPEED
SINGLE NEEDLE THREE THREAD
THUMBSCREW ADJUSTED
DIFFERENTIAL FEED MACHINES**

Union Special **MACHINE COMPANY**

CHICAGO

From the library of: Superior Sewing Machine & Supply LLC

**STYLE
39500MJ**

**CATALOG
No.
103MJ**

Here are Oil Specifications for Union Special Sewing Machines

Specification 174 specifies a high quality petroleum oil, viscosity 100 seconds at 100°F. Recommended for all oiling applications on high speed machines.

Specification 175 specifies a high quality petroleum oil, viscosity 100 seconds at 100°F., water white or with a maximum A.S.T.M. color number of 1. *For use where freedom from oil staining is paramount.*

Specification 87 specifies a high quality petroleum oil, viscosity 300 seconds at 100°F.

Specification 100 specifies a general purpose high quality grease for use in ball bearings and transmitters. It is similar to commercial N.L.G.I., grease No. 3. Where No. 3 grease is not obtainable, No. 2 may be used.

UNION SPECIAL

SPECIFICATION NO.	174	175	87
Viscosity S.S.U. at 100°F	90-125	90-125	300-350
Flash (Min.)	350	350	350
Pour (Max.)	20	20	20
Color A.S.T.M. (Max.)	3	1	3
Neutralization No. (Max.)	0.10	0.10	0.10
Viscosity Index			
(D & D Min.)	85	85	85
Compounding	None	None	None
Copper Corrosion (Max.)	1A	1A	1A

*Aniline No.

175-225 175-225 175-225

*Used with Buna N Rubber "O" Retainers



NOTE 1: The use of non-corrosive additives in oils meeting above classification is desirable but not essential. These may include:

1. Oxidation inhibitors
2. Rust inhibitors
3. Lubricity additives
4. Anti-oxidants
5. Film strength additives

These additives must be completely soluble in the oil and not removable by wick feeding nor shall they separate.

NOTE 2: Oils containing the following type additives shall not be used at any time:

1. Extreme pressure additives—corrosive
2. Tackiness or adhesive additives
3. Lead soap additives
4. Detergents

 **Union Special**[®]
FINEST QUALITY **MACHINE COMPANY**

Catalog No. 103 MJ
(Supplement to Catalog No. 103 FS)

INSTRUCTIONS
FOR
ADJUSTING AND OPERATING
LIST OF PARTS

CLASS 39500

Style
39500 MJ

First Edition

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Union Special
MACHINE COMPANY
INDUSTRIAL SEWING MACHINES
CHICAGO

Printed in U. S. A.

March, 1972

IDENTIFICATION OF MACHINE

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 MJ". 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 MJZ".

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 FS and should be used in conjunction therewith. Only those parts used on Style 39500 MJ, but not on Style 39500 FS 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. References 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, Two Loopers, Three Thread Overseaming Machine. Differential Feed, Trimming Mechanism with Spring Pressed Lower Knife, Automatic Lubricating System.

39500 MJ Medium to heavy duty machine with straight knife parts, for seaming bulky knit sweaters, heavy knit outerwear and similar garments. Can be used for attaching a reinforcing tape used on shoulder seams of sweaters and similar garments; tape automatically guided by slot in presser foot. Thumbscrew adjustable differential feed. Seam specification 504-SSa-1. Stitch range 8-20 per inch. Cam adjusted main and differential feeds. Maximum recommended speed 6000 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 a 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 MJ is Type 154 GAS. Below is the description and sizes available of the recommended needle.

<u>Type No.</u>	<u>Description and Sizes</u>
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 040".

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. It should be noted that the lower looper thread is threaded through the tension thread guide (C), first through the upper hole back to front, second through the middle hole front to back and third through the lower hole back to front. All threads then continue between the tension discs (J), through tension post slot (K) in tension post (G) and on through front thread guide (M).

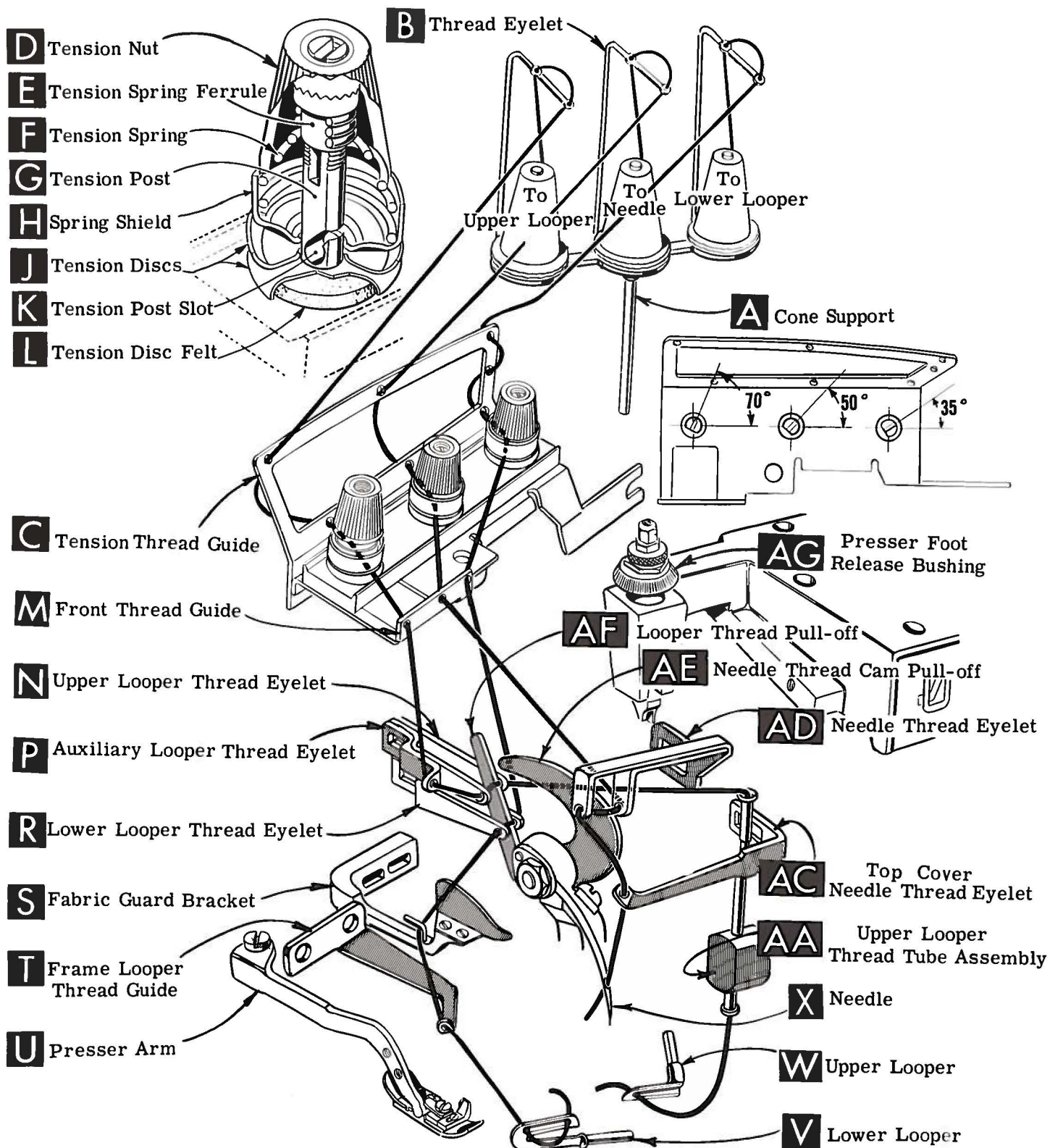


Fig. 1

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 the threading of this machine to follow recommended sequence of threading lower looper first, upper looper second and needle third.

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

Be sure threads, as they come from the tension thread guide (C), are between tension discs (J) and in diagonal 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 LOWER LOOPER

Thread lower looper thread through right eyelet of front thread guide (M). Then double end of thread and lead it through both eyes of lower looper thread eyelet (R, Fig. 1) from right to left. Note: thread must pass in front of looper thread pull-off (AF). Lead thread behind fabric guard (S) and through eyelet hole of frame looper thread guide (T). Turn handwheel in operating direction until heel of lower looper (V) is all the way to the left; then thread through both eyes from left to right. Left eye of lower looper can be threaded easily if tweezers are in left hand.

TO THREAD UPPER LOOPER

Thread upper looper thread through left eyelet of front thread guide (M). Then 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; push tube down, then insert thread through upper looper eye from front to back.

CAUTION! Be sure upper looper thread is under lower looper thread when passing from tube assembly to upper looper eye.

TO THREAD THE NEEDLE

Thread needle thread through middle eyelet of front thread guide (M). Then 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 threads is regulated by tension nuts (D, Fig. 1). Tension on threads should be only enough to secure proper stitch formation.

FEED ECCENTRICS

Feed eccentrics used in Style 39500 MJ machines have been selected to produce approximately 10 stitches per inch. It will be noted that the part number of main feed eccentric is No. 39540 B-10 while that of differential feed eccentric is No. 39540 B-4. Minor numbers of the part symbol indicate approximately the number of stitches obtainable when using that eccentric. Unless otherwise specified, machine will be shipped with above combination of eccentrics.

Generally speaking, the main (right hand) feed eccentric determines the number of stitches produced; the differential (left hand) feed eccentric is selected so as to give the proper differential.

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 two eccentrics are 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-10".

ASSEMBLING AND ADJUSTING SEWING PARTS

All instructions pertaining to the adjustment of Style 39500 MJ are the same as those for Style 39500 FS covered in Catalog No. 103 FS with the following exceptions. The differences, applicable only to Style 39500 MJ are underlined below and with the page number where it can be found in Catalog No. 103 FS.

"SETTING THE NEEDLE" (Page 9, first paragraph)

With throat plate in assembled 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 throat plate (A, Fig. 3).

"SETTING THE UPPER LOOPER" (Page 11, third paragraph)

Next, turn handwheel until looper is at the left end of its travel; check dimensions of upper looper point with respect to needle and throat plate (Fig. 10). If resetting is necessary, do it by moving the upper looper holder (A, Fig. 10). The dimensions for Style 39500 MJ are 9/64 and 15/32 inch.

"SETTING THE UPPER KNIFE" (Page 12, all paragraphs)

Replace upper knife assembly. Clamp upper knife in position, setting the Allen screw located on the right side to hold the clamp against the upper knife. At the bottom of its stroke, the front cutting edge of the upper knife should extend not less than 1/64 inch below the cutting edge of the lower knife.

After the upper knife has been set for the proper width of trim, the upper knife holding block should be locked in place using the screw at the front of the holding block.

"SETTING THE DIFFERENTIAL RATIO" (Page 13, all paragraphs)

Differential feed action is obtainable thru the use of a micrometer adjusting screw (A, Fig. 15A).

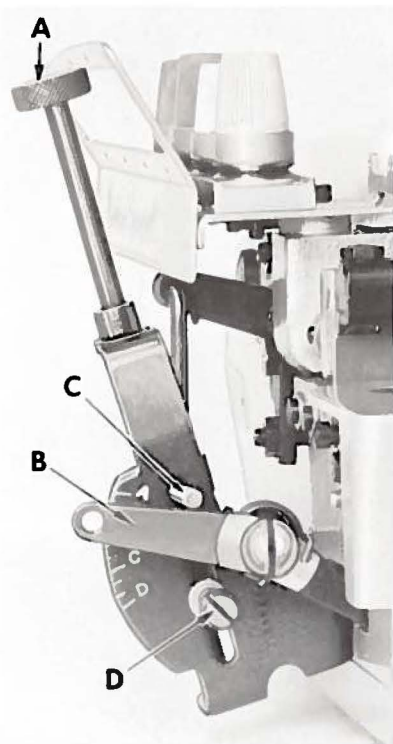
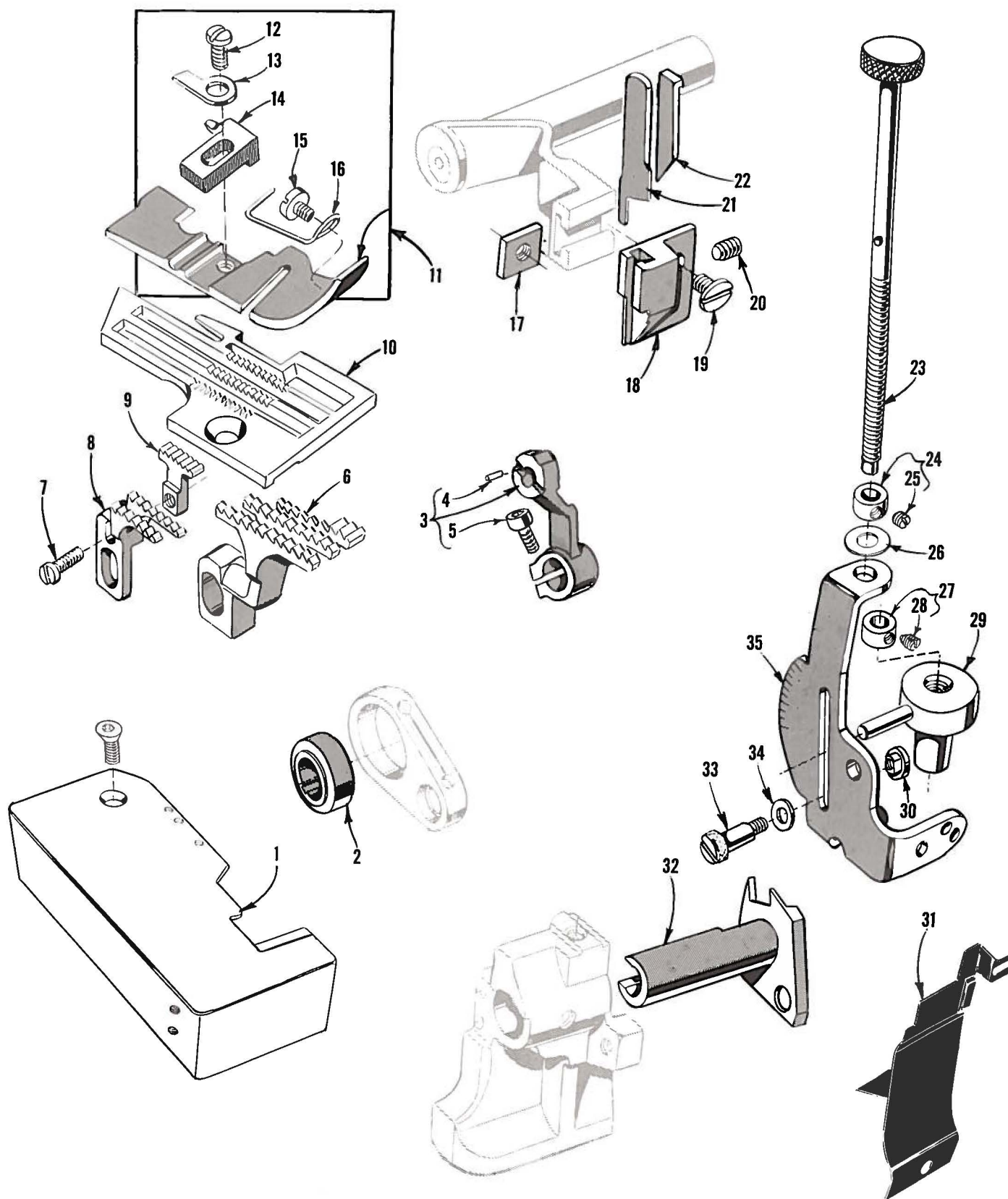


Fig. 15A

The position of the differential control lever (B, Fig. 15A) is governed by an upper stop (C) and a lower stop (D). The amount of lever movement between these two stops determines the feed action.

Rotating the adjusting thumbscrew in a clockwise direction increases the differential action by moving the upper stop (C) down, a counterclockwise turn acts in a reverse manner. Now set the lower stop screw (D) so as to obtain the required differential feed. The two stops may be reversed to meet a specific sewing requirement.

NOTE: After lower stop screw has been set, push differential control lever down, hold in this position and turn handwheel in operating direction to be sure the differential feed dog does not strike the throat plate.



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

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

Use Catalog No. 103 FS (Style 39500 FS) 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.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	39501 DB	Cloth Plate -----	1
2	39540 B-10	Main Feed Eccentric -----	1
3	39552 J	Needle Driving Arm, marked "F" -----	1
4	50-774 Blk.	Stop Pin, for needle -----	1
5	22596 E	Screw, for needle driving arm -----	1
6	39526 BF	Differential Feed Dog, marked "BZ", 12 teeth per inch -----	1
7	22747	Screw, for chaining feed dog -----	1
8	39505 AS	Main Feed Dog, marked "FA", 12 teeth per inch -----	1
9	39505 AV	Chaining Feed Dog, marked "FB", 16 teeth per inch --	1
10	39524 BF	Throat Plate, marked "BK" -----	1
11	39520 BF	Presser Foot -----	1
12	22768 B	Screw, for stitch tongue and hinge spring -----	1
13	39530	Presser Foot Hinge Spring -----	1
14	39597 P	Presser Foot Stitch Tongue, marked "EA" -----	1
15	22798 B	Screw, for presser foot tape guide -----	1
16	39530 BF	Presser Foot Tape Guide -----	1
17	39571 A	Upper Knife Clamp Nut -----	1
18	39572 B	Upper Knife Holder -----	1
19	22829	Screw, for upper knife holder -----	1
20	22650 CB-4	Set Screw, for upper knife -----	1
21	39270 E	Upper Knife, wide -----	1
22	39571 E	Upper Knife Clamp -----	1
23	39536 AB	Differential Feed Control Adjusting Rod -----	1
24	161	Adjusting Rod Stop Collar, upper -----	1
25	88	Screw -----	1
26	39536 AD	Spring Washer -----	1
27	161 A	Adjusting Rod Stop Collar, lower -----	1
28	22764	Screw -----	1
29	39536 AC	Differential Feed Control Adjustable Stop -----	1
30	43139 A	Nut, for stop screw -----	1
31	39578 T	Chip Guard -----	1
32	39550 S	Lower Knife Holder -----	1
33	22728 A	Differential Feed Stop Screw -----	1
34	8372 A	Washer, for stop screw -----	1
35	39536 AJ	Differential Feed Control Mounting Bracket -----	1



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