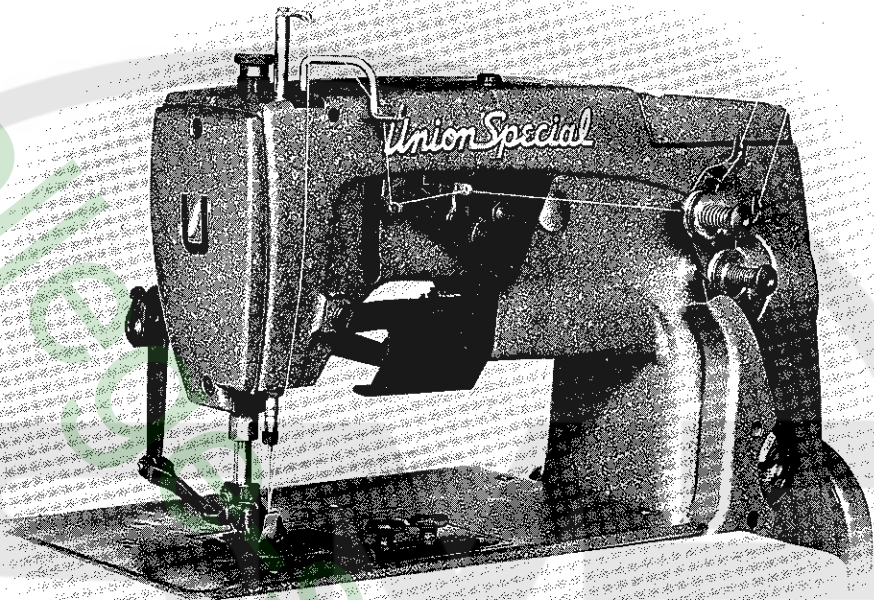


FINEST QUALITY

Union Special[®]
LEWIS • COLUMBIA

**INDUSTRIAL
SEWING
MACHINES**

**STYLES
56300AJ
56300AK**



STYLE 56300AK

**CATALOG
No.
T129AJ**

**ADVANCED HIGH SPEED
FIFTY THOUSAND SERIES
FLAT BED MACHINES
WITH TOP DRIVEN GRIP-FEED**

Union Special **MACHINE COMPANY**
CHICAGO

Catalog No. T129 AJ
(Supplement to Catalog No. 129 M)

INSTRUCTIONS

FOR

ADJUSTING AND OPERATING

LIST OF PARTS

CLASS 56300

Styles

56300 AJ

56300 AK

First Edition

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MACHINE COMPANY
INDUSTRIAL SEWING MACHINES
CHICAGO

Printed in U.S.A.

January, 1971

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 56300 AJ". 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 56300 AJZ".

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 56300".

APPLICATION OF CATALOG

This catalog is a supplement to Catalog No. 129 M, Third Edition, and should be used in conjunction therewith. Only those parts which are used on Styles 56300 AJ and AK, but not used on Styles 56300 U or X are illustrated and listed at the back of this book. For clarity, certain 56300 U or X parts are shown in phantom to assist in locating the 56300 AJ and AK parts. Opposite the illustration pages, parts are identified by a reference number, part number, description and amount required. Any part that is a component of another part is indicated by indenting its description under the description of the assembly or base part. Always use the part number in the second column, never use the reference number in the first column when ordering repair parts.

Adjusting and operating instructions for Styles 56300 AJ and AK are similar to those in Catalog No. 129 M for Styles 56300 U and X respectively. The only instructions included in this catalog are the ones that are different from Styles 56300 U and X, or are additional instructions that pertain specifically to Styles 56300 AJ and AK.

This catalog applies specifically to the Standard Styles of machines as listed herein. It can also be applied with discretion to some Special machines in this class. References to direction, such as right, left, front, back, etc., are given from the operator's position while seated at the machine. Operating direction of handwheel is toward the operator.

STYLES OF MACHINES

Advanced High Speed Single Needle Flat Bed Machines, with Top-Driven-Grip-Feed, Medium Throw Machine, Needle Bearing Needle Bar Drive, Light Weight Presser Bar and Needle Bar Driving Mechanism, Single Reservoir Enclosed Positive Automatic Lubricating System, Filtered Oil Return Pumps for Head and Base, Needle Bearings and Bronze Bearings for Feed Bar and Feed Rocker Shafts Greased and Sealed, Lateral Looper Travel, Large Handwheel and Improved Belt Guard, Prepared for Use with Knee Press for Presser Foot Lifter, Maximum Work Space to Right of Needle Bar 8 1/4 Inches.

56300 AJ Medium throw machine, equipped with top-driven-grip-feed mechanism allowing full under arm working clearance, for edge seaming operations on trousers, slacks, dress pants, jackets and similar garments made of light to medium weight material. Seam Spec. 401-SSa-1. Type 128 GBS needle. Maximum recommended speed 6500 R. P. M.

56300 AK Medium throw machine, equipped with top-driven-grip-feed mechanism allowing full under arm working clearance and presser foot with yielding section to the left of needle, for trouser side seaming and similar operations on garments made of light to medium weight material. Seam Spec. 401-SSa-1. Type 128 GBS needle. Maximum recommended speed 6500 R. P. M.

NEEDLES

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

Standard recommended needle for Styles 56300 AJ and AK is Type 128 GBS. It has a round shank, round point, short, double groove, struck groove, ball eye, spotted, ball point, chromium plated and is available in sizes 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 128 GBS, Size 032".

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

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 approved scientific principles, and are made with utmost precision. Maximum efficiency and durability are assured.

Genuine needles are packaged with labels marked *Union Special*. Genuine repair parts are stamped with the Union Special trade mark. Each trade mark is your guarantee of the highest quality in materials and workmanship.

IDENTIFYING PARTS

Where construction permits, each part is stamped with its part number. On some of the smaller parts and on those where construction does not permit, an identification letter is stamped in to distinguish the part from similar ones.

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

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

TERMS

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

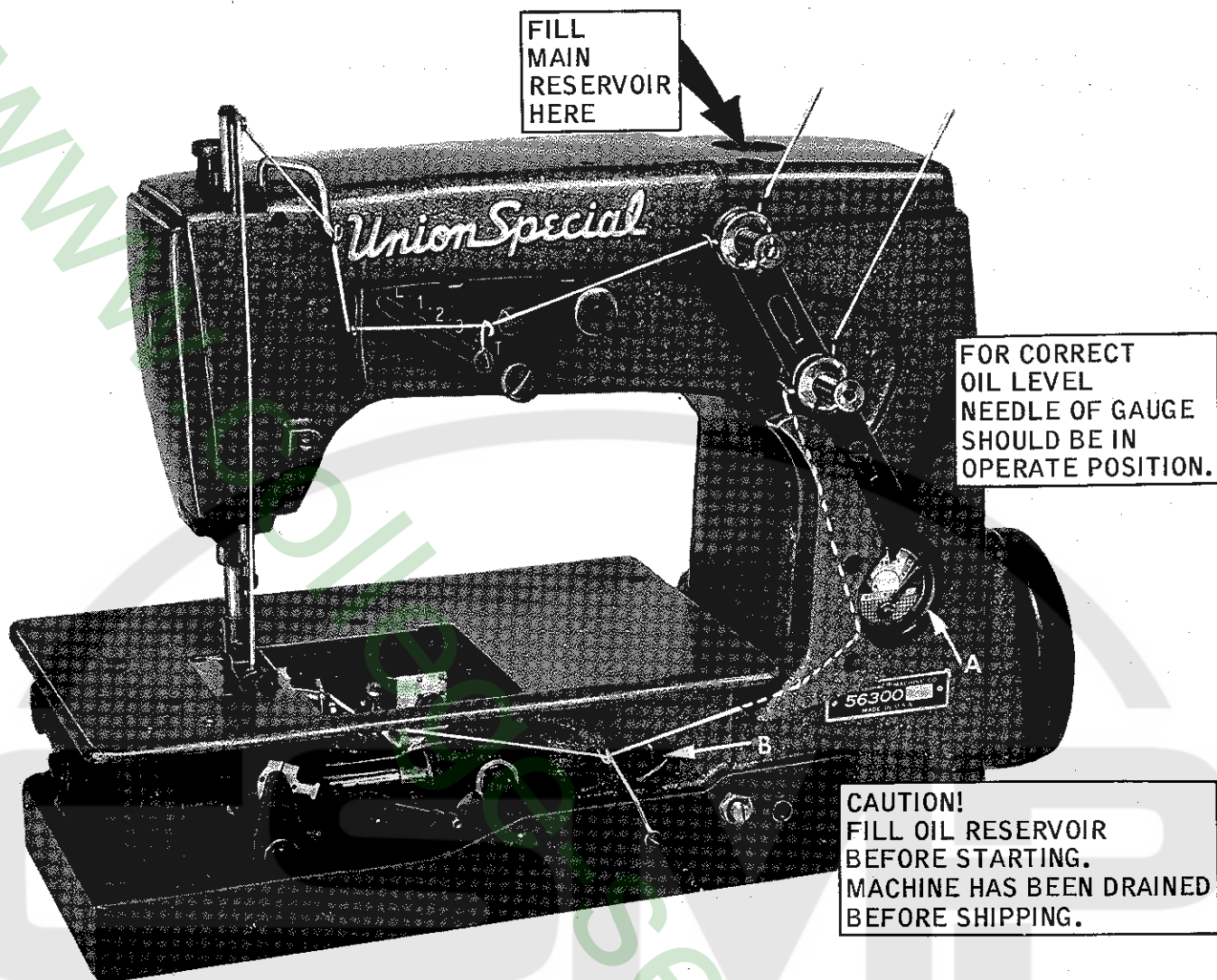
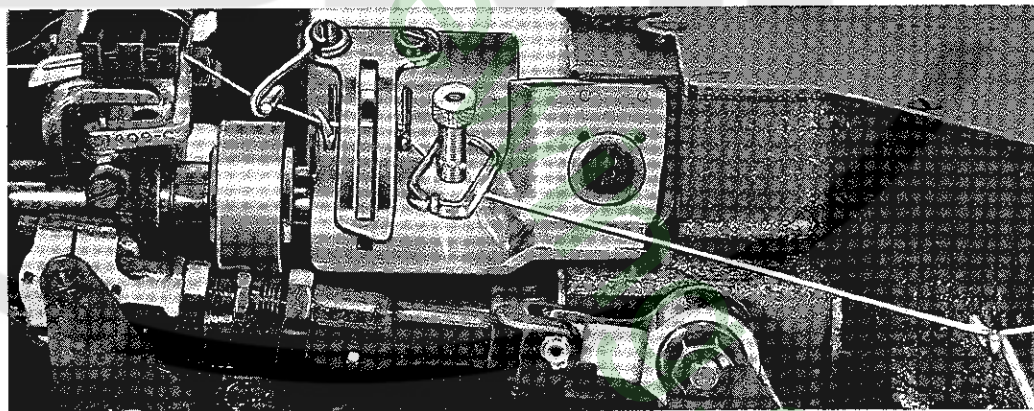


Fig. 1A



THREADING AND OILING DIAGRAM FOR STYLES 56300 AJ AND AK MACHINES

Thread machine as indicated above. The looper threading has been enlarged for clarity.

The oil has been drained from the machine before shipping and so the reservoir must be filled before starting to operate. To fill machine with oil, remove plug screw in top cover and add oil until needle of oil gauge (A, Fig. 1A) is in yellow band marked "FULL". Use a straight mineral oil of a Saybolt viscosity of 90 to 125 seconds at 100° Fahrenheit. Maintain oil level in "OPERATE" position and add oil when needle is in yellow band marked "LOW". The machine is automatically lubricated and no oiling other than keeping the main reservoir filled is necessary.

Excessive oil in the main reservoir may be drained at the plug screw (B, Fig. 1A).

THREADING

Refer to threading diagram (Fig. 1A) for the manner in which these machines are threaded.

THREAD TENSIONS

SETTING NEEDLE THREAD TAKE-UP WIRE AND FRAME EYELET

This machine style is equipped with disc thread tensions, additional thread handling and control parts, so the adjusting sequence should be made in the following manner:

With the needle bar at the top of its stroke, set the needle thread take-up wire (A, Fig. 12A) so its lower extended surface is $1 \frac{7}{16}$ inch above the centerline of the needle lever thread eyelet hole and $\frac{3}{4}$ inch across the centerlines of its vertical surfaces (See Fig. 12A).

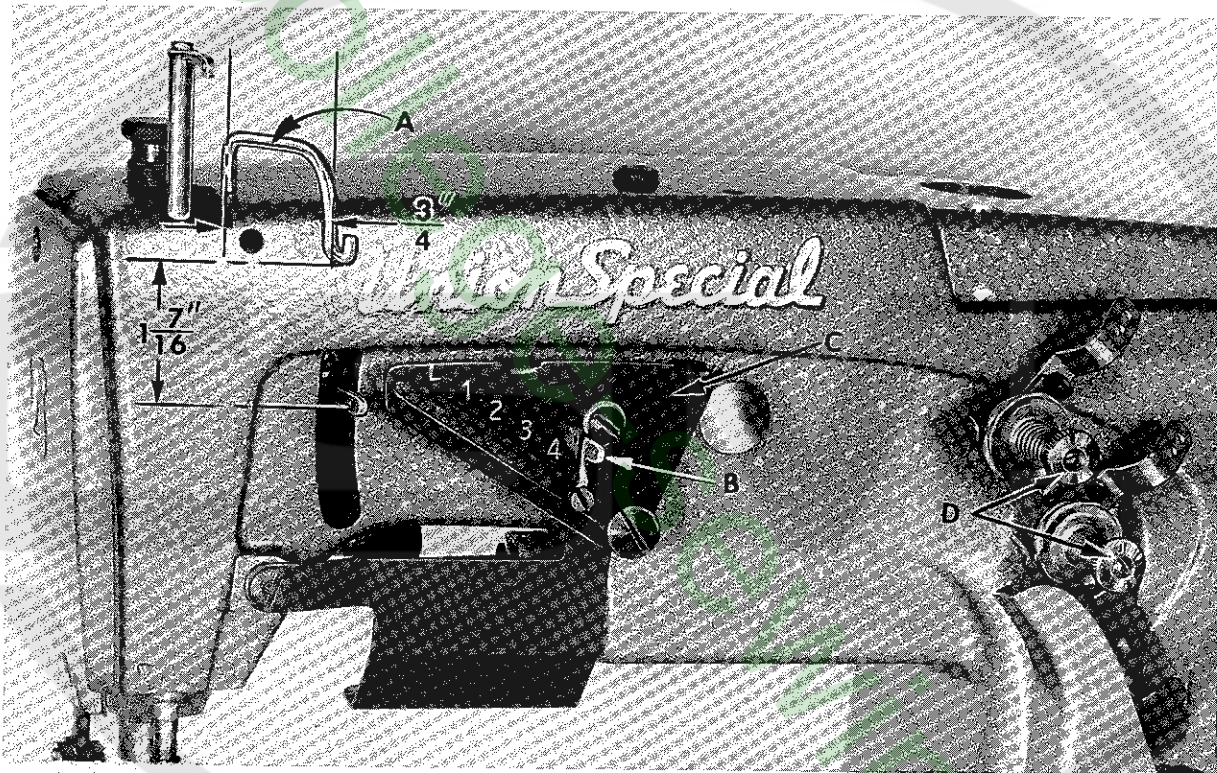


Fig. 12A

Set the looper thread guide eyelet (A, Fig. 13) so its left outer surface is $\frac{3}{4}$ inch from the left side of the looper thread take-up (B), (See Fig. 13).

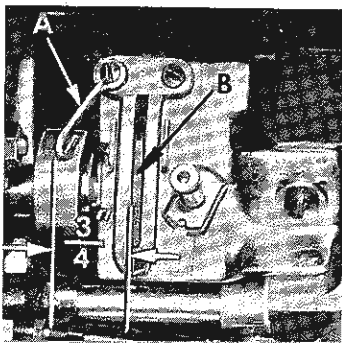


Fig. 13

Thread machine and move the adjustable eyelet (B, Fig. 12A) on the indicator plate (C) to the letter "T". Apply necessary tension to both needle and looper thread at disc tension nuts (D) and start to sew. Looper thread tension should be light. Adjust tightness of needle thread tension to pull up the smallest needle loop required. This setting should produce a tight stitch. Without changing tension, move the adjustable eyelet (B) to the uppermost position "L", and sew another seam. This seam should be loose, producing long needle loops.

ADDITIONAL ADJUSTING INSTRUCTIONS FOR CHANGING THE STITCH LENGTH AND SETTING OF TOP-GRIP-FEED

NOTE: All of the adjusting instructions for Styles 56300 U and X are applicable to Styles 56300 AJ and AK respectively with exception of and in addition to the following:

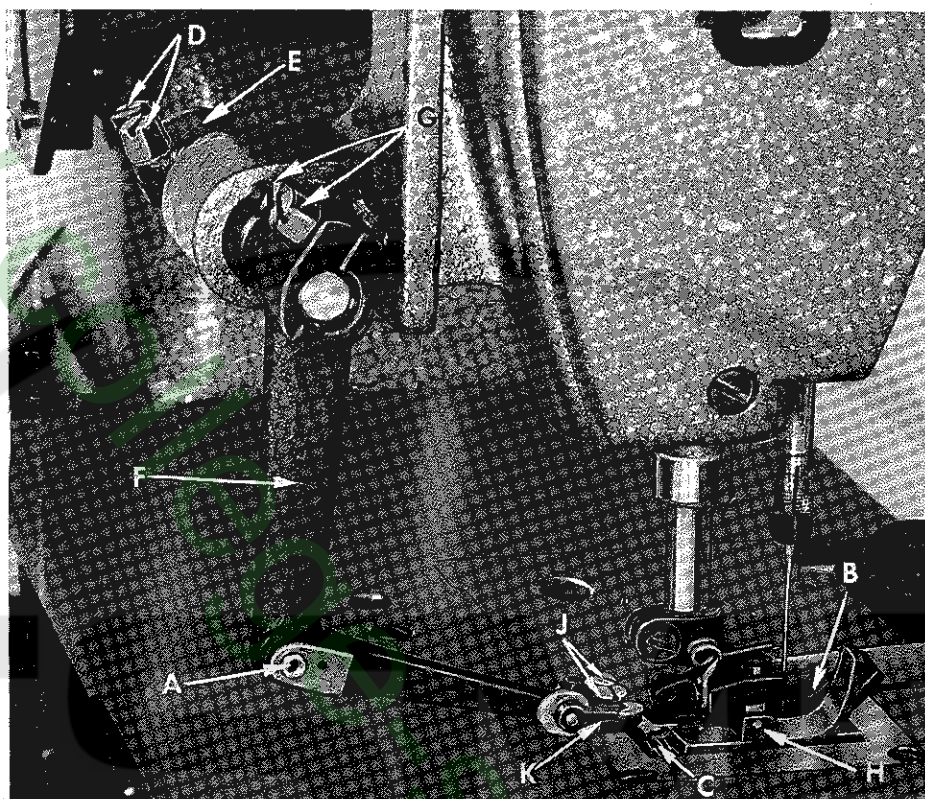


Fig. 14

After the adjustments described under "Setting Height of Presser Bar" have been completed and if a change of stitch length is desired, (See paragraph under "Changing Stitch Length") remove the snap ring from one end of the top-grip-feed drive connecting hinge pin (A, Fig. 14) and withdraw pin. This is to avoid chipping teeth of the presser foot feed dog (B) or main feed dog (C) while setting the stitch to the required length. Once the stitch length has been set, the following adjustments may be required to synchronize the top-grip-feed mechanism with the main feed dog.

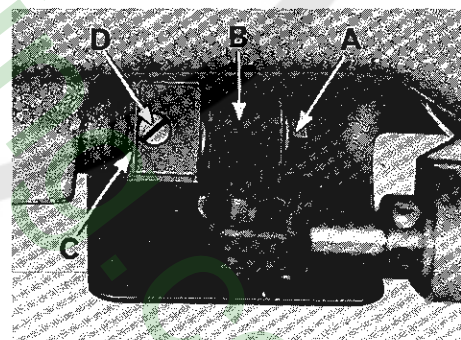


Fig. 15

Loosen nut (A, Fig. 15) (it has a left hand thread) which secures the top feed crank link assembly (B) to the top feed drive eccentric head (C). Turn screw (D) counterclockwise to its extreme position and retighten nut (A). Check to be sure that the top feed crank link assembly (B) has equal lateral clearance on both sides, so there is no bind. Should adjustment be necessary, loosen screws (D, Fig. 14) and move top-grip-feed rocker arm (E) as required. Retighten screws (D). Turn handwheel to position the top feed drive arm (F) at its extreme forward end of travel. Replace the top-grip-feed drive connecting hinge pin (A) and secure with snap ring. It may be necessary to loosen screws (G) and slightly rotate the top feed drive arm (F) for

ADDITIONAL ADJUSTING INSTRUCTIONS FOR CHANGING THE
STITCH LENGTH AND SETTING OF TOP-GRIP-FEED (Continued)

alignment to insert the hinge pin. Hold top feed drive arm so presser foot feed dog is at its extreme forward position, tighten screws (G). At this point the presser foot feed dog is set for its maximum length of travel.

With presser foot (H, Fig. 14) raised slightly, rotate handwheel in operating direction. The presser foot feed dog should be synchronized to move forward or rearward simultaneously with the main feed dog. Should timing be necessary, remove the upper crank chamber cover located on the top right end of machine. Rotate handwheel slightly to facilitate loosening of screws (A, Fig. 16) in the hub of upper feed driven sprocket (B). While holding the handwheel, advance or retard top-grip-feed drive shaft by rotating top feed drive eccentric head (C, Fig. 15) as required. Snug-up screws (A, Fig. 16). Rotate handwheel in operating direction and observe relationship between upper and lower feed dogs. Repeat timing adjustment as necessary to obtain desired conditions, retighten screws (A) securely. Replace upper crank chamber cover.

NOTE: Before tightening screws (A) be sure the upper and lower sprockets are aligned to avoid binding and excessive wear on the timing belt.

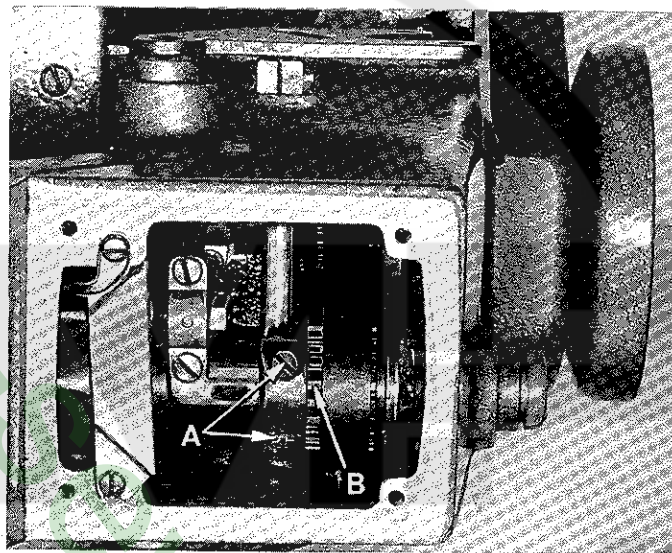
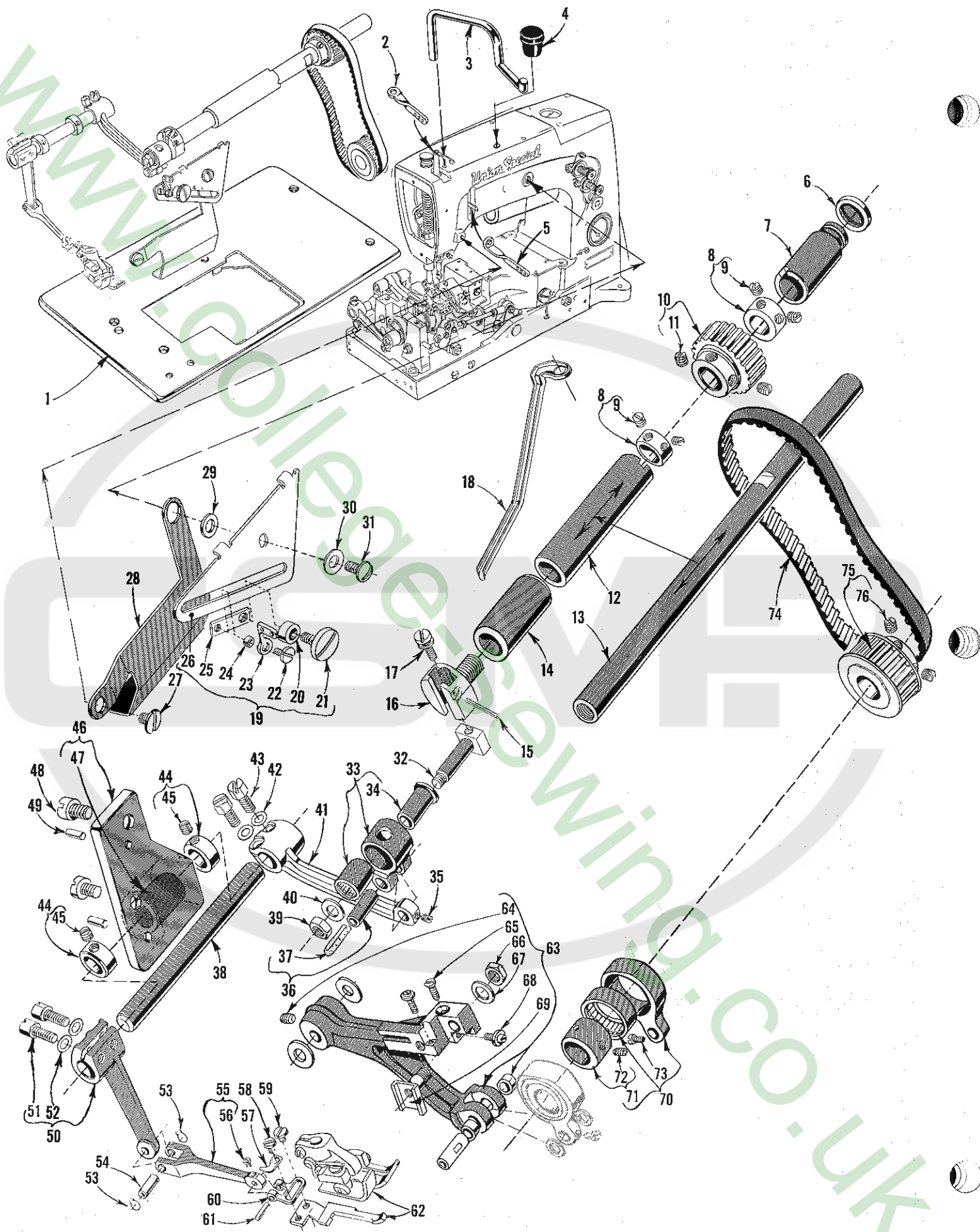


Fig. 16

Loosen nut (A, Fig. 15) and turn screw (D) clockwise as necessary to set the stitch length of the top-grip-feed comparable to the main feed stitch length. Retighten nut (A). Recheck for equal lateral clearance on both sides of top feed crank link assembly as described before.

Presser foot feed dog (B, Fig. 14) must line up with the main feed dog (C) left to right, and in-line-of-feed the last teeth of the top and bottom feeds should match tooth point to point. This can be accomplished by loosening screws (G) which will allow forward, rearward or lateral positioning of presser foot as required, retighten screws. A minute adjustment of the presser foot feed dog itself, from left to right, can be obtained by loosening screws (J) which secures the presser foot feed dog to the connecting rod grip feed hinge (K), position as required, retighten screws (J).

NOTE: Care must be taken to assure that no binding condition exists in the moving parts of the presser foot and needle is in the center of needle hole of presser foot.

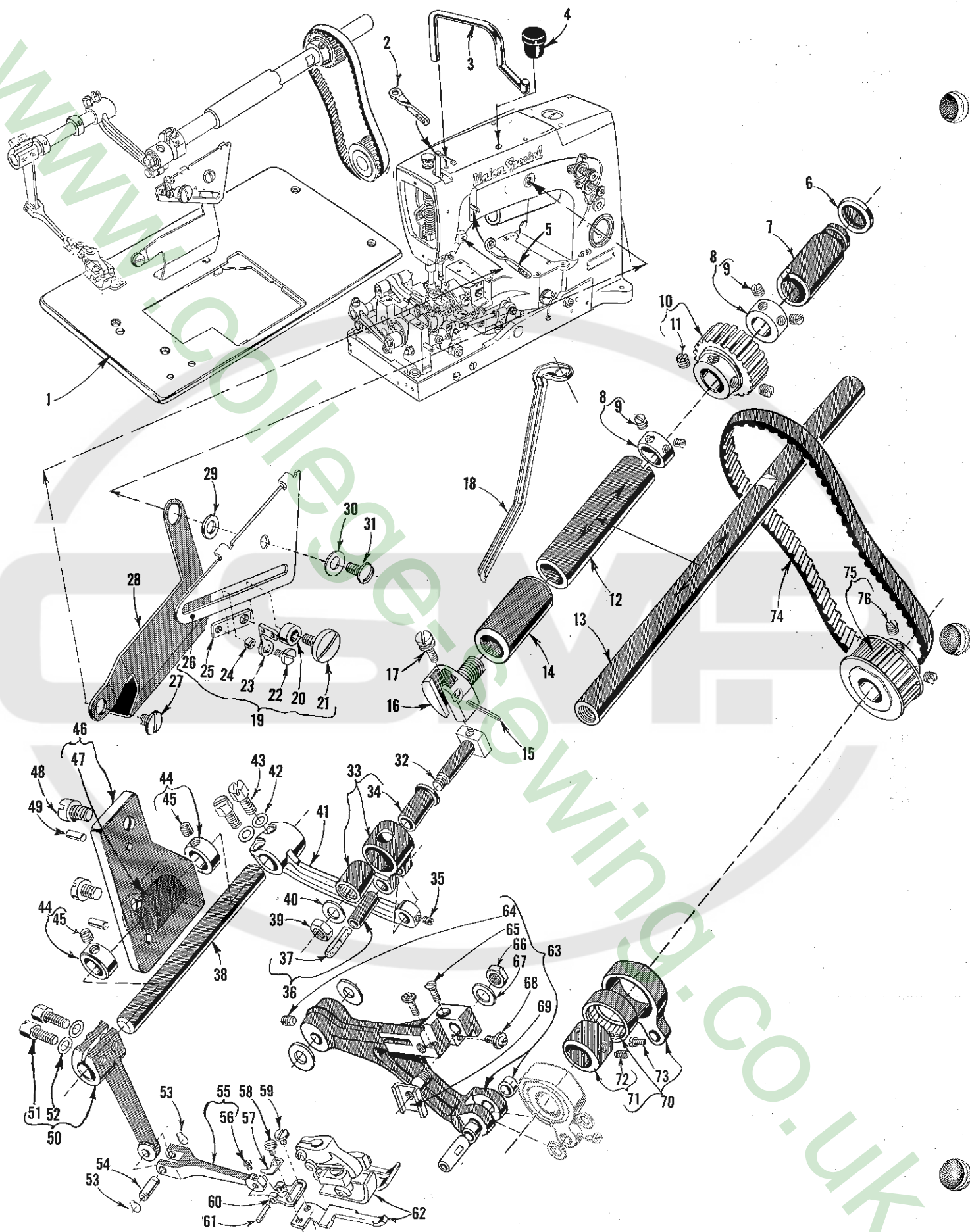


The parts illustrated on pages 10, 12 and 14, described below and on pages 13 and 15 respectively represent the parts that are used on Styles 56300 AJ and AK, unless otherwise specified, but not used on Styles 56300 U and X respectively.

Use Catalog No. 129 M (Third Edition) for all parts not illustrated or described in this catalog.

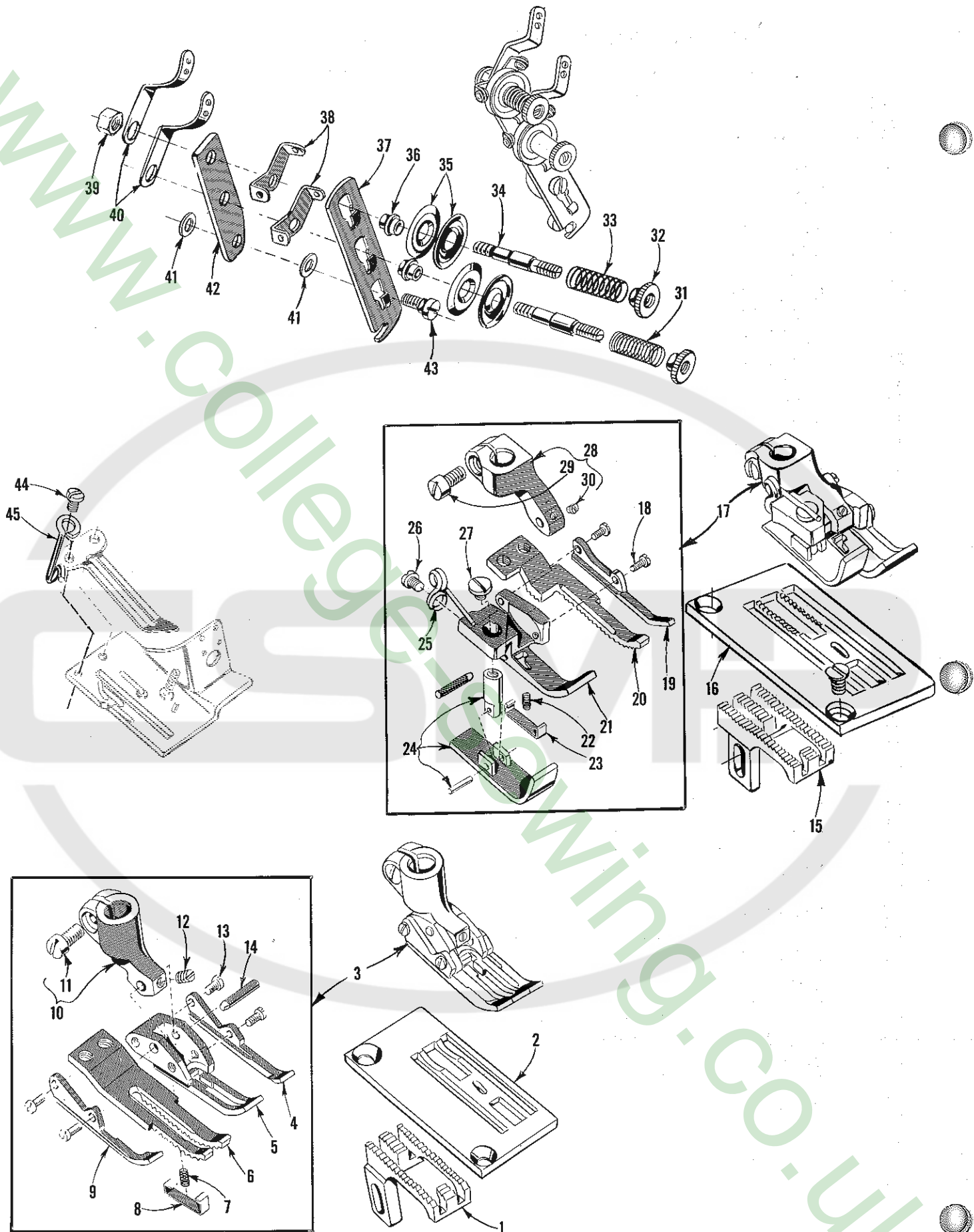
Reference numbers that are inside a bracket or box on the illustration and have indented descriptions, indicate they are component parts of a complete part or assembly.

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	56301	Cloth Plate -----	1
2	56958 A	Needle Bar Thread Eyelet -----	1
3	56370	Needle Thread Take-up Wire -----	1
4	63494 B	Plug, for bed arm -----	1
5	56958	Needle Lever Thread Eyelet -----	1
6	35761 D	Bushing Cap -----	1
7	59484 H	Grip-Feed Drive Shaft Bushing, right -----	1
8	39644 P	Thrust Collar -----	2
9	98	Screw -----	2
10	56334 G	Sprocket, upper -----	1
11	98	Screw -----	2
12	59484 C	Grip-Feed Drive Shaft Spacer -----	1
13	59484 G	Grip-Feed Drive Shaft -----	1
14	59484 K	Grip-Feed Drive Shaft Bushing, left -----	1
15	660-219 P	Roll Pin, for feed drive eccentric head -----	1
16	56336 G	Grip-Feed Drive Eccentric Head -----	1
17	22795	Screw, feed crank stud adjusting -----	1
18	56382 W	Underarm Drive Shaft Oiler -----	1
19	29476 MY	Thumbscrew Adjustable Needle Thread Frame Eyelet Assembly -----	1
20	56358 D	Washer -----	1
21	22837	Screw -----	1
22	98 A	Screw -----	1
23	158 B	Eyelet -----	1
24	56358 C	Guide Washer -----	1
25	56358 B	Guide Block -----	1
26	56304	Adjusting Plate -----	1
27	25 S	Screw, for top feed drive guard -----	1
28	56334 J	Grip Feed Drive Shaft Guard -----	1
29	9255	Washer, spacer -----	1
30	20	Washer -----	1
31	22848	Screw -----	1
32	51236 G	Feed Crank Stud -----	1
33	63439 AE	Feed Crank Link Assembly -----	1
34	63439 AD	Ferrule -----	1
35	28 C	Screw -----	1
36	51054	Link Pin -----	1
37	666-149	Oil Wick -----	1
38	63439 E	Oscillating Shaft -----	1
39	269	Nut, left thread -----	1
40	20	Washer -----	1
41	52836 C	Grip Feed Rocker Arm -----	1
42	51235 G	Washer -----	2
43	22519 C	Screw -----	2
44 to 76		See following page	



GRIP-FEED DRIVE PARTS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1 to 43		See preceding page	
44	482	Collar -----	2
45	98	Screw -----	1
46	56335 K	Main Support Bracket -----	1
47	56336 F	Top Feed Drive Bushing -----	1
48	22653 D-8	Screw -----	2
49	667 C-10	Dowel Pin -----	2
50	56335 H	Grip-Feed Drive Arm -----	1
51	22519 C	Screw -----	2
52	51235 G	Washer -----	2
53	660-310	Retaining Ring -----	2
54	56341 E	Hinge Pin -----	1
55	56335 J	Grip-Feed Drive Connection -----	1
56	22738	Screw -----	1
57	51330 S	Chain Cutting Knife -----	1
58	28	Screw -----	1
59	87 U	Screw -----	1
60	56334 F	Grip-Feed Connecting Rod Hinge -----	1
61	36263-936	Hinge Pin -----	1
62		Presser Foot, Refer to page 15 -----	1
63	56334	Feed Bar -----	1
64	22651 CB-4	Screw -----	1
65	22637 P-24	Feed Dog Height Adjusting Screw -----	1
66	258 A	Nut -----	1
67	6042 A	Feed Dog Holder Washer -----	1
68	22863 C	Feed Dog Holder Adjusting Screw -----	1
69	56334 E	Feed Dog Holder -----	1
70	29476 LK-062	Looper Avoid Eccentric Assembly -----	1
71	56306-062	Looper Avoid Eccentric, .062 inch throw -----	1
72	22894 AA	Screw -----	1
73	77	Screw, for link pin -----	1
74	56334 H	Timing Belt -----	1
75	56334 K	Feed Drive Sprocket Assembly -----	1
76	98	Screw -----	2



PRESSER FEET, THROAT PLATES, FEED DOGS AND
THREAD TENSION PARTS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	9205 E	Feed Dog, 16 teeth per inch, for Style 56300 AJ -----	1
2	51324 F	Throat Plate, for Style 56300 AJ -----	1
3	56320 U	Presser Foot, for Style 56300 AJ -----	1
4	51330 R	Feed Section Guide, right -----	1
5	56330 E	Presser Foot Bottom -----	1
6	51330 N	Presser Foot Feeding Section, 16 teeth per inch ---	1
7	61430 BT	Spring -----	1
8	56330 F	Yielding Section -----	1
9	51330 P	Feed Section Guide, left -----	1
10	51330 M	Presser Foot Shank -----	1
11	91	Screw -----	1
12	1096	Screw -----	1
13	22738	Screw -----	4
14	1594 A	Hinge Pin -----	1
15	56305	Feed Dog, 16 teeth per inch, for Style 56300 AK -----	1
16	51324 K	Throat Plate, for Style 56300 AK -----	1
17	56320	Presser Foot, for Style 56300 AK -----	1
18	22738	Screw -----	2
19	51330 AE	Feed Section Guide -----	1
20	51330 AD	Presser Foot Feeding Section, 16 teeth per inch ---	1
21	56330	Presser Foot Bottom, marked "AG" -----	1
22	56330 G	Spring -----	1
23	56330 F	Yielding Section -----	1
24	51330 AB	Presser Foot Yielding Section -----	1
25	19146 A	Spring -----	1
26	604	Screw -----	1
27	22561	Screw -----	1
28	51330 Z	Presser Foot Shank -----	1
29	91	Screw -----	1
30	1096	Screw -----	1
31	51292 F-2	Tension Spring, loopier -----	1
32	51292 C	Tension Nut -----	2
33	51292 F-8	Tension Spring, needle -----	1
34	51292 G	Tension Post -----	2
35	109	Tension Disc -----	4
36	51292 A	Tension Post Ferrule -----	2
37	21657-4	Tension Disc Separator -----	1
38	51292 D	Tension Thread Eyelet -----	2
39	43266	Nut, for tension post -----	1
40	51491 C	Thread Lead-in Guide -----	2
41	80557	Washer, for tension post support -----	2
42	53592	Tension Post Support -----	1
43	22598 C	Screw, for tension post support -----	1
44	22768	Screw, for loopier thread cast-off support eyelet -----	1
45	56358 E	Looper Thread Cast-off Support Eyelet -----	1



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