

Union Special LEWIS[®] COLUMBIA®

INDUSTRIAL SEWING MACHINES



STYLES 63900N 63900P



No.

CLASS 63900 STREAMLINED HIGH SPEED NEEDLE FEED LOCKSTITCH MACHINES WITH PINKING ATTACHMENT

UNION SPECIAL CORPORATION

Catalog No. 126 MP (Supplement to Catalog No. 126 M)

INSTRUCTIONS

FOR

ADJUSTING AND OPERATING

LIST OF PARTS

C LASS 63900

Streamlined Lockstitch

Styles

63900 N 63900 P

First Edition

Copyright 1964 by Union Special Corporation Rights Reserved in All Countries

UNION SPECIAL CORPORATION

INDUSTRIAL SEWING MACHINES CHICAGO

Printed in U.S.A.

October, 1977

IDENTIFICATION OF MACHINES

Each UNION SPECIAL machine is identified by a Style number which is stamped into the name plate on the machine. Style numbers are classified as standard and special. Standard Style numbers have one or more letters suffixed, but never contain the letter "Z". Example: "Style 63900 N". 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 63900 NZ".

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: "63900".

APPLICATION OF CATALOG

This catalog is a supplement to Catalog No. 126 M and should be used in conjunction therewith. Only those parts which are used on Styles 63900 N and P and not on Style 63900 A are illustrated and listed at the back of this book. For clarity, certain 63900 A parts are shown in phantom to help locate the 63900 N and P parts.

Opposite the illustration page, parts are identified by detail number, part number, description, and amount required. When ordering repair parts always use the part number listed in the second column.

Adjusting and operating instructions included represent only areas concerned with Styles 63900 N and P.

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

STYLES OF MACHINES

High Speed Streamlined Long Arm Needle Feed Lockstitch Machines, One Needle, Light, Medium and Heavy Duty, with Pinking Attachment, Drop Feed, Rotary Hook, Horizontal Hook Shaft, Push Button Stitch Regulator, Slotted Segment for Adjusting Needle Feed, Stitch Length Indicator, One Reservoir Enclosed Automatic Lubricating System, Head Oil Siphon, Adjustable Hook Oil Control, Needle Bearing Adjustable Feed Eccentric, Needle Bearings for Take-up Lever and Needle Bar Driving Link, Feed Timing on Lower Main Shaft, Needle Feed Timing on Upper Shaft.

- 63900 N For simultaneously seaming and pinking on house dresses, slips and similar garments made of light to medium weight materials. Three rows of feed, the width of pink ranging from 3/8 to 7/8 of an inch and manually operated throw-out for pinking knife.
- 63900 P Same as Style 63900 N, except two rows of feed and the width of pink ranging from 1/4 to 7/8 of an inch.
- NOTE: The width of pink is measured from the centerline of needle to the point of pinking knife.

NEEDLES

Each UNION SPECIAL needle has both a type number 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 the largest diameter of the blade measured in thousandths of an inch across the eye. Collectively, the type number and the size number represent the complete symbol.

Needle Type 180 GYS is recommended for Styles 63900 N and P. Description and sizes available are listed below:

Type No.

Description

180 GYS Round shank, round point, lockstitch, short length, ball eye, single groove, wide angle groove, struck groove, deep spot, chromium plated - sizes 075/029 080/032, 090/036, 100/040, 110/044, 125/049, 140/054, 150/060

To have needle orders promptly and accurately filled, an empty package, a sample needle, or the type and size number should be forwarded. Use description on label. A complete order would read: "1000 needles, Type 180 GYS, Sizes 090/036".

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

SELECTING THE SIZE OF NEEDLE

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

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

Cotton Thread Size	Mercerized Thread Size	Needle Size
0		150/060
30	В	140/054 to $150/060$
36	А	125/049 to $140/054$
40	А	110/044 to $125/049$
50	0	110/044 to 125/049
6 0	00	100/040 to $110/044$
70	000	090/036 to 100/040
80	0000	080/032 to 090/036
90	0000	080/032 to 090/036
100		075/029 to 080/032

IDENTIFYING PARTS

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

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

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

4

ORDERING OF REPAIR PARTS

The arrangement of this catalog is to facilitate easy and accurate ordering of replacement parts for Styles 63900 N and 63900 P.

Two exploded view plates cover the differences between the Standard Styles listed in this catalog and Style 63900 A covered in Catalog No. 126 M. Each plate presents a sector of the machine, parts being aligned as in their assembled position. On the page opposite the illustration will be found a listing of the parts with their part numbers, descriptions and the number of pieces required in the particular view being shown.

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

Sub-assemblies, which are sold complete, or by separate part, are in a bracket or a solid line box on the picture plate. Component parts of sub-assemblies, which can be furnished for repairs, are indicated by indenting their descriptions under the description of the main sub-assembly. Example:

1	29482 B	Pinking Attachment	1
2	447-137	Ball Joint Connecting Rod Assembly	1
3	22729 C	Screw	2
4	1012 L	Nut, right hand thread	
5	71-29	Connecting Rod	1
6	869 L	Nut, left hand thread	1
7	4124-33	Ball Joint, lower	1

In those cases where a part is common to all of the machines covered by this catalog, no specific usage will be mentioned in the description. However, when the parts for the various machines are not the same, the specific usage will be mentioned in the description, and, if necessary, the difference will be shown in the illustration.

USE GENUINE NEEDLES AND REPAIR PARTS

Success in the operation of these machines can be secured only with genuine UNION SPECIAL Needles and Repair Parts as furnished by the Union Special Corporation, its subsidiaries and authorized distributors. They are designed according to the most approved scientific principles, and are made with utmost precision. Maximum efficiency and durability are assured.

Genuine needles are packaged with labels marked Union Special. Genuine repair parts are stamped with the Union Special trademark, US Emblem. Each trademark is your guarantee of the highest quality in materials and workmanship.

TERMS

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

INSTALLING

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

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

PREPARATION OF MACHINE FOR INSTALLATION

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

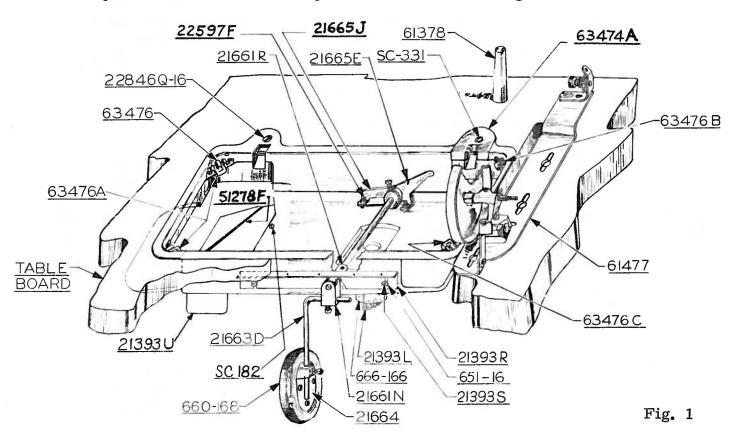
Insert hinge studs in holes provided for them in rear of cloth plate. Assemble the upper frame eyelet (A, Fig. 2).

STANDARD ACCESSORIES

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

TABLE TOPS

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



6

INSTALLING (Continued)

MACHINE MOUNTING FRAME INSTALLATION

On a suitable tableboard, place machine mounting frame (21393 U) 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. Assembly 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 chip chute (51278 F) to machine mounting frame with the attaching holes to the right, so that the chips will fall away from the operator. 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.

BOBBIN WINDER

The bobbin winder should be secured to the table top so that its puller 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. 126 M.

BELTS

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

THREADING

Thread machine as indicated in Fig. 2. 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. 2) and check oil level at gauge (C); oil is at maximum level when needle is in yellow band marked "FULL". Oil should be added when needle is in yellow band marked "LOW". Use a stainless water-white straight mineral oil of a Saybolt viscosity of 90 to 125 seconds at 100^o Fahrenheit in the main reservoir. This is equivalent to Union Special specification No. 175.

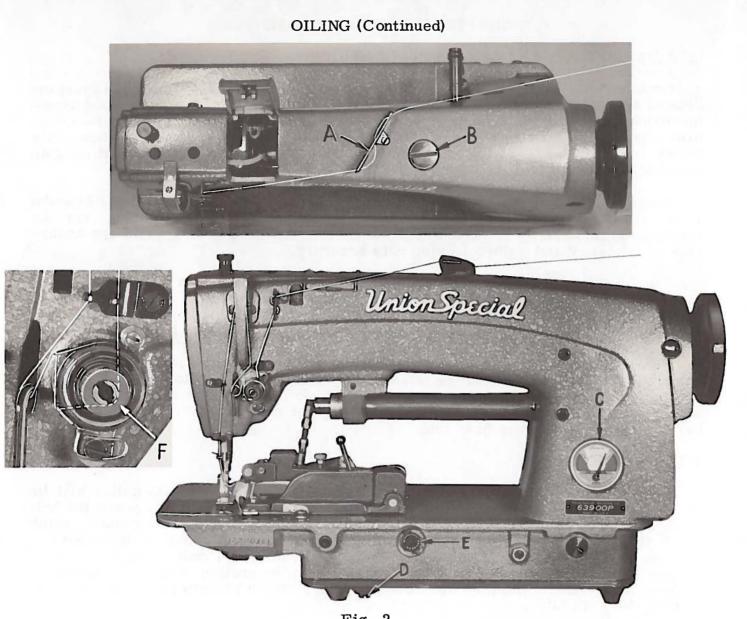


Fig. 2

It is recommended that a new machine, or one that has been out of service for an extended period, be lubricated by removing the head cover and oiling the bearings of the needle bar link, take-up and its lever and needle bar. 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.

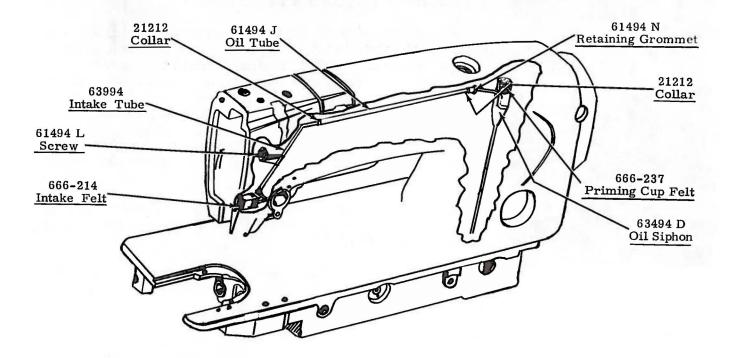
Oil may be drained from main reservoir by removing plug screw (D, Fig. 2).

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 flow of oil.

NOTE: All moving parts of pinking attachment to be oiled once daily. Oil knife lever shaft front and rear, also oil two oil holes for lubricating both sides of lever bearings and knife holder shaft. Major oiling points are marked in red on attachment.

SELF-PRIMING HEAD OIL SIPHON

Class 63900 machines are equipped with a self-priming head oil siphon. When the machine is started, oil splashes on the priming cup felt, filters through the felt and trickles down the vertical oil tube, thus priming the siphon. Once the prime is established, it is maintained unless the felt is removed. The siphon operates twenty-four hours a day, removing oil at the rate of six to twelve drops per minute, which, of course, far exceeds the rate at which oil collects in the head.



INSTALLING AND MAINTENANCE OF OIL SIPHON

A newly installed siphon starts its action within three to five minutes after the machine is operating. However, it may be twenty minutes or so before all the air is removed from the line and the siphon is in full operation. Within an hour, there should be a distinct reduction of the oil in the head sump. If the siphon does not function, determine if the siphon intake tube, located in the head, is inserted in the felt block and that the plastic tube is connected at both ends. If the above two items do not correct the siphon, replace the siphon felts as described below.

The felt in the priming cup is designed for a specific purpose. This felt, 666-237, is to meter the flow of priming oil and to prevent the entrance of air. The felt also acts as a filter and keeps the siphon clear of lint.

If the priming cup felt and the intake felt (666-214) becomes contaminated with an excessive amount of lint, it may be necessary to replace the felts. The priming cup felt is replaced by removing access plug at back of machine and replacing felt 666-237. For the best initial self-priming condition, the felt of the siphon should be installed dry. The intake felt is replaced by removing the end cover.

However, if for some reason the priming cup felt has been oiled before installing, the siphon may fail because air is trapped in the felt. As a precaution, remove the felt from the cup. Then, while squeezing the felt between the fingers, saturate it well with oil. In other words, squeeze out the air and replace it with oil. This prevents the trapping of air, and no trouble should be experienced when starting the siphon.

INSTRUCTIONS FOR ATTACHING AND ADJUSTING PINKING ATTACHMENT

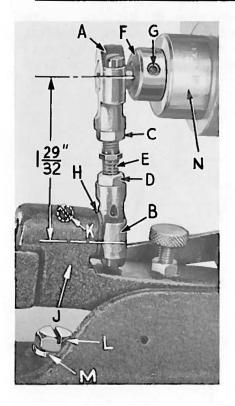


Fig. 2A

NOTE: All instructions pertaining to the adjustment of Styles 63900 N and P are the same as those for Style 63900 B covered in Catalog No. 126 M. The following additional instructions pertain only to the pinking attachment.

ATTACHING PINKING ATTACHMENT

Check the center distance between the upper and lower ball joints (A, B, Fig. 2A) of the pinker connecting rod assembly. The distance should be 1 29/32 inch (Fig. 2A). To make any adjustment, loosen nuts (C, D) and turn the connecting rod (E) in the direction required to obtain 1 29/32 inch dimension. Tighten nuts securely.

Insert the upper ball joint (A) into the eccentric hole in end of pinker driving shaft (F) and tighten set screw (G) against the flat on ball stud.

Place washer (H) over ball stud of the lower ball joint (B) and then screw into the pinker arm (J) and tighten screw (K).

Insert the large hexagonal head screw (L) and its washer (M) in base of pinking attachment and tighten screw into the base of machine.

SETTING THE WIDTH OF PINK

To set the width of pink, loosen screw (L, Fig. 2A) and move base of pinking attachment to the left or right as required. Moving base to the left decreases width of pink and to the right increases the width of pink. Tighten screw securely.

NOTE: The width of pink is measured from the center line of the needle to the point of pinking knife. In setting pinking attachment for a wide pink the ball joint may bind and it may be necessary to move the pinker driving shaft: refer to paragraph "Setting Pinker Driving Shaft".

SETTING THE UPPER KNIFE

Set the upper pinking knife (A, Fig. 2B) so its point is 1/32 inch below top edge of lower knife when pinker arm (B) is at its lowest point of travel. For this adjustment, make a pencil line on upper knife, 1/32 inch from lower front point (Fig. 2B), loosen screw (C) and turn handwheel in operating direction until the pinker arm is at its lowest point of travel. Now, set the 1/32 inch pencil line on upper knife so it coincides with top edge of lower knife. Tighten screw (C).

NOTE: Knife can be sharpened on both ends.

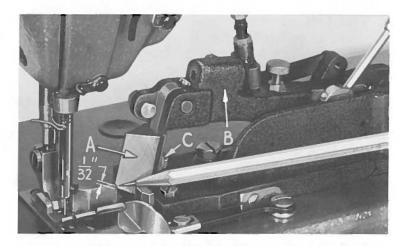


Fig. 2 B

TIMING THE PINKER

The pinker is timed correctly when the point of the upper knife (in its upward travel) is 1/16 inch above the top edge of lower knife when the feed dog begins to advance the material. This timing can be changed by repositioning the pinker driving gear on the main shaft. Access to this gear is obtained by removing plug (A, Fig. 2C). Using a 1/8 inch hexagonal socket key wrench loosen the two screws in the hub of driving gear, leaving wrench in the last screw loosened to prevent gear from moving. Turn the handwheel forward to advance the feed dog, or backward to retard the feed dog, until the relationship mentioned above is attained. Tighten both screws securely and replace plug.

SETTING PINKER DRIVING SHAFT

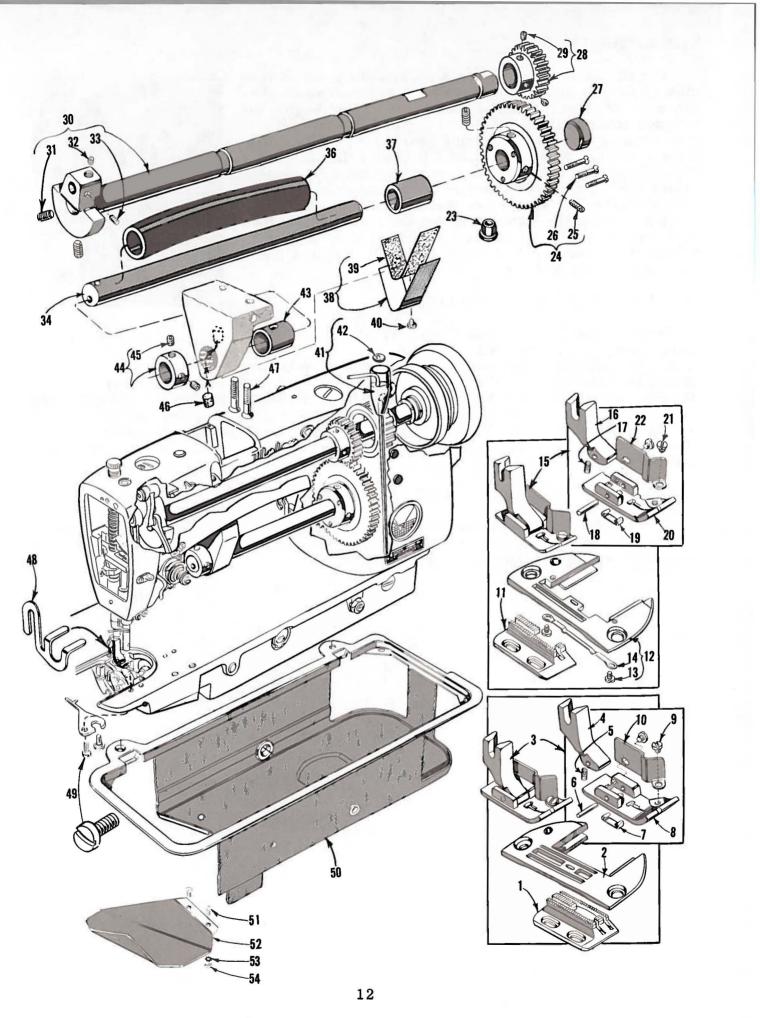
Moving the pinking attachment to a wide pinking margin may cause the ball joints (A, B, Fig. 2A) to bind. To eliminate this bind the pinker driving shaft

should be relocated. Loosen screws in thrust collar (N, Fig. 2A), remove plug (B, Fig. 2C) and loosen screws in the hub of driven gear. Move pinker driving shaft as required and while holding shaft in position move gear against bed casting and tighten screws. Push thrust collar (N, Fig. 2A) against lug and tighten screws. There should be no end play in the pinker driving shaft. Check to be sure the pinker timing has not been changed.

FEED DOG HEIGHT

NOTE: The feed dogs on these machines should be set to show at least the depth of a full tooth above the throat plate at highest point of travel. Adjustment is made as described on page 27, Catalog 126 M.



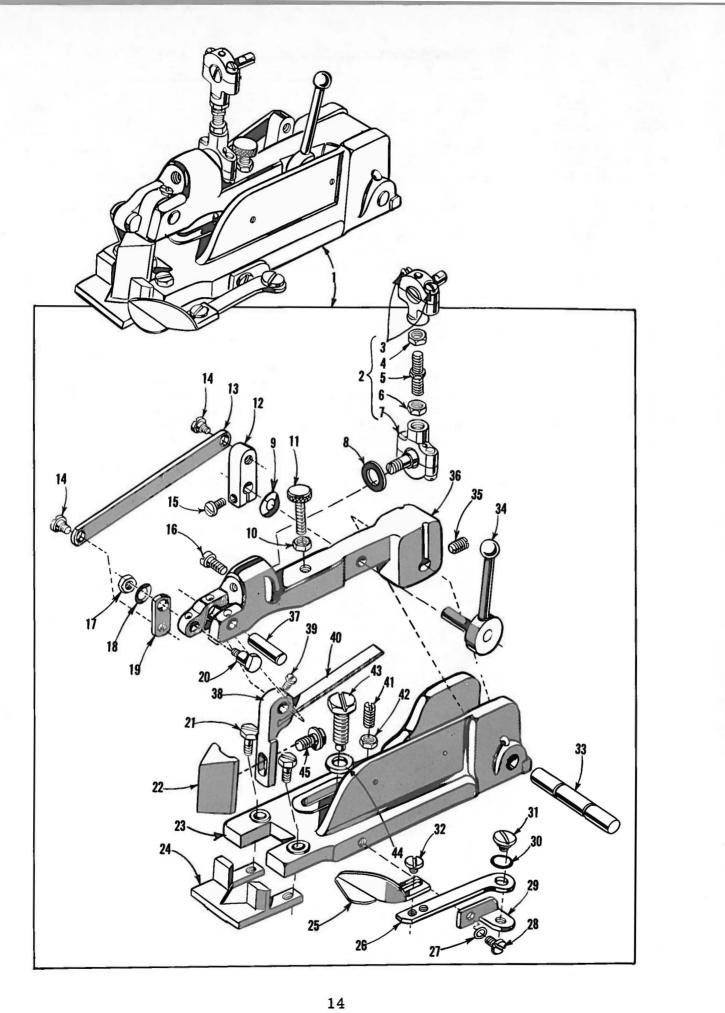


From the library of: Superior Sewing Machine & Supply LLC

PINKER DRIVE MECHANISM, PRESSER FEET, THROAT PLATES AND FEED DOGS

Ref. No.		Description	Amt. Req.
1	61926 N	Feed Dog, 22 teeth per inch, for Style 63900 N	1
2 3	61928 N 63427-3	Feed Dog, 22 teeth per inch, for Style 63900 N Throat Plate, for Style 63900 N Presser Foot, with bottom marked "AE-3", for Style	
4	63430 A	63900 NPresser Foot Shank	· 1 · 1
5	63430 E	Spring	· 1
6	61330 B-39	Hinge Pin	1
7	63430 B	Yielding Section	. 1
8	63430-3	Presser Foot Bottom, marked "AE-3"	- 1
9	22798	Screw	2
10	8-66	Presser Foot Guard	
11	61926 P	Feed Dog, 22 teeth per inch, for Style 63900 P	• 1
12	61928 P	Throat Plate, for Style 63900 P	1
13	73 A	Screw	2
14	8-86	Chip Guard	1
15	63427-2	Presser Foot, with bottom marked "AE-2", for Style 63900 P	1
16	63430 A	Presser Foot Shank	- Î
17	63430 E	Spring	1
18	61330 B-35	Hinge Pin	1
19	63430 B	Vielding Section	1
20	63430-2	Presser Foot Bottom, marked "AE-2"	1
21	22798	Screw	2
22	8-66	Presser Foot Guard	
23	63494 B	Plug, for pinker driving gear access hole	1
24	63479 F	Pinker Shaft Driven Gear	
25	22894 J	Screw	
26 27	22525 C 63493 A	Screw,Bed Arm Plug	3 1
28	63479 E	Pinker Shaft Driving Gear	1
29	22651 CD-3	Screw	2
30	29475 AZ	Main Shaft Assembly	1
31	22894 V	Screw	2
32	22894 W	Screw	
33	22894 U	Spot Screw	ī
34	63479 G	Pinker Driving Shaft	1
36	63479 A	Pinker Driving Shaft Sleeve	1
37	63479 C	Bushing, right	
38	63979 A	Oil Shield, for pinker driving shaft bracket	1
39	666-244	Felt Liner	1
40	22730	Screw	
41	63494 D	Head Oil Siphon Assembly	1
42	666-237	Siphon Cup Felt Bushing, left	1 1
43 44	63479 D 21705	Thrust Collar	1
44	22894 C	Screw	2
46	666-164	Felt Oil Wick, for pinker driving shaft	1
47	22657 E-16	Screw, for pinker driving shaft bracket	2
*48	61931	Finger Guard	ĩ
49	93	Finger Guard Screw, for 61414 A	î
50	21393 U	Oil Drip Pan	ĩ
51	SC182	Screw	$\overline{2}$
52	51278 F	Chip Disposal Chute	1
53	652 B-12	Lock Washer	2
54	651 H	Nut	2

*Finger guard not furnished with machine, available as extra send and charge item.



From the library of: Superior Sewing Machine & Supply LLC

PINKING ATTACHMENT

Ref. No.	Part No.	Description	Amt. Req.
1	29482 B	Pinking Attachment, complete	1
2	447-137	Ball Joint Connecting Rod Assembly	
3	22729 C	Screw	
4	1012 L	Nut, right hand thread	
5	71-29	Connecting Rod	
6	869 L	Nut, left hand thread	
7	4124-33	Ball Joint, lower	
8	40-57	Washer	
9	39536 AD	Washer	
10	1160 L	Nut	0.0
11	18-844	Screw	
$12^{$	45-248	Lever, for throw-out	
13	46-108	Link, for knife throw-out	1
14	1776 L	Screw	
15	18-71	Screw	
16	CS331	Screw, for 4124-33	
17	CS231	Nut, for No. 34-26	
18	40-101	Washer	
19	45-249	Lever, for knife throw-out cam	
20	34-26	Cam Throw-out, for upper knife	
$\overline{21}$	18-558	Screw, for lower knife	2
22	119-25	Upper Knife	1
$23^{}$	3-46	Base	
24	119-34	Lower Knife	
25	475-68	Edge Guide	
26	99-143	Edge Guide Holder	1
27	21210 A	Washer	1
28	810 L	Screw	
29	99-329	Holder	
30	40-86	Washer	
31	18-353	Screw	
32	18-422	Screw	
33	14-171	Shaft, for base	
34	76-18	Pinker Handle	1
35	1203 L	Screw, for No. 14-171	ī
36	45-247	Pinker Arm	ī
37	14-172	Shaft, for lever	
38	99-134	Holder, for upper knife	1
39	18-178	Screw, for No. 14-172	1
40	21-309	Flat Spring	2
41	18-547	Screw	1
$\tilde{42}$	1012 L	Nut 1	
43	18-501	Attaching Screw, for No. 29482 B	
44	40-46	Washer	1
45	18-544	Screw, for upper knife	· 1



SINCE 188

INDUSTRIAL SEWING MACHINES

UNION SPECIAL maintains sales and service facilities throughout the world. These offices will aid you in the selection of the right sewing equipment for your particular operation. Union Special representatives and service men are factory trained and are able to serve your needs promptly and efficiently. Whatever your location, there is a Union Special Representative to serve you. Check with him today.

ATLANTA, GA.	MONTREAL, CANADA
BOSTON, MASS.	TORONTO, CANADA
CHICAGO, ILL.	BRUSSELS, BELGIUM
DALLAS, TEXAS	LEICESTER, ENGLAND
LOS ANGELES, CAL.	LONDON, ENGLAND
NEW YORK, N. Y.	PARIS, FRANCE
PHILADELPHIA, PA.	STUTTGART, GERMANY

Representatives and distributors in all important industrial cities throughout the world.

UNION SPECIAL CORPORATION 400 N. FRANKLIN ST., CHICAGO, ILL. 60610