

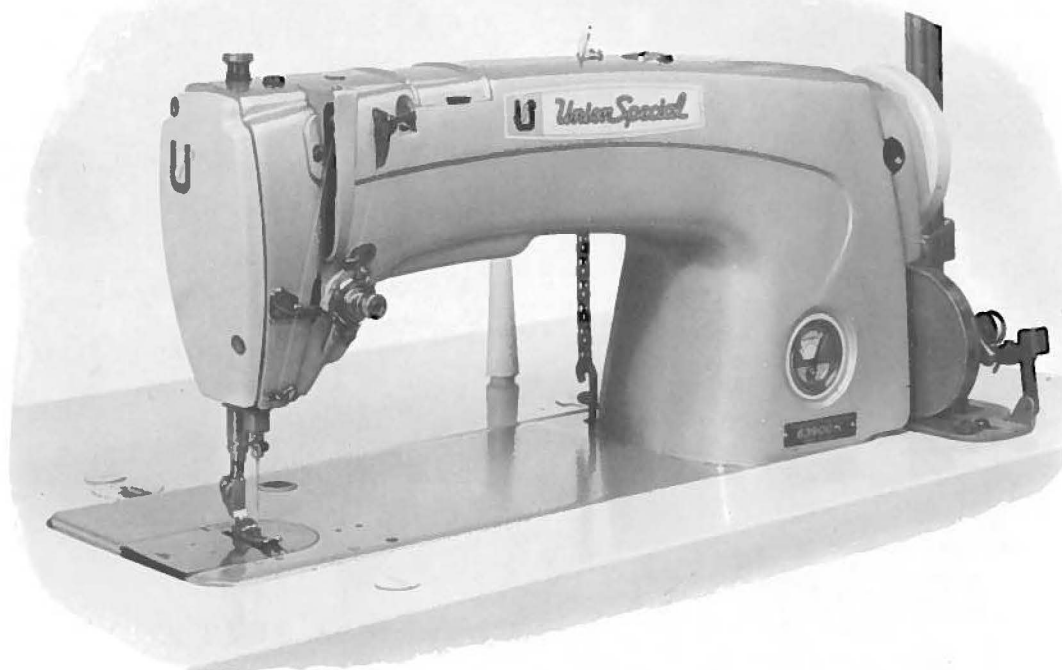


*Union Special*<sup>®</sup>  
LEWIS<sup>®</sup> • COLUMBIA<sup>®</sup>

INDUSTRIAL  
SEWING  
MACHINES



STYLE  
63900K



CLASS 63900  
STREAMLINED  
HIGH SPEED NEEDLE FEED  
LOCKSTITCH MACHINES  
WITH  
LONG STITCH SEWING PARTS  
***UNION SPECIAL CORPORATION***

CHICAGO

From the library of: Superior Sewing Machine & Supply LLC

CATALOG  
No.  
126K

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

INSTRUCTIONS  
FOR  
ADJUSTING AND OPERATING  
LIST OF PARTS

CLASS 63900

Needle Feed  
Streamlined Lockstitch

Style  
63900 K

First Edition

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**UNION SPECIAL CORPORATION**  
INDUSTRIAL SEWING MACHINES  
**CHICAGO**

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## 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 63900 K". 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 KZ".

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 63900".

## APPLICATION OF CATALOG

This catalog is a supplement to Catalog No. 126 M (Second Edition) and should be used in conjunction therewith. Only those parts which are used on Style 63900 K, but not used on Style 63900 D are illustrated and listed at the back of this book. For clarity, certain 63900 D parts are shown in phantom to help locate the 63900 K parts.

Adjusting and operating instructions for Style 63900 K are identical to those in Catalog No. 126 M (Second Edition) for Style 63900 D. The only instructions included in this catalog are the ones that are different from Style 63900 D or are additional instructions that pertain specifically to Style 63900 K.

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 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.

## STYLE OF MACHINE

High Speed Streamlined Long Arm Needle Feed Lockstitch Machine, One Needle, Medium to Heavy Duty, Drop Feed, Rotary Hook, Horizontal Hook Shaft, Push Button Stitch Regulator, Slotted Segment for Adjusting Needle Feed, Stitch Length Indicator, Single 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, Maximum Work Space to Right of Needle Bar 11 1/8 Inches.

63900 K Equipped with disc tension for needle thread. For miscellaneous sewing on paper and plastic garments using a long stitch. 1 13/64 inch needle bar travel. Type 180 GXS or 180 GYS needle. Seam Specification 301-SSa-1. Specify presser foot, stitches per inch, thread size, needle type and size. Maximum recommended speed 5000 R. P. M. Stitch Range - 4 to 22 S. P. I.



## 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 the blade measured in thousandths of an inch across the eye. Collectively, the type and size number represent the complete symbol, which is given on the label of all needles packaged and sold by Union Special.

Needle Type 180 GXS or 180 GYS is recommended for Style 63900 K. Their description and the sizes available are listed below.

<u>Type No.</u>	<u>Description and Sizes</u>
180 GXS	Round shank, round point, lockstitch, short length, ball eye, single groove, wide angle groove, struck groove, deep spot, ball point, chromium plated - sizes 075/029, 080/032, 090/036, 100/040, 110/044, 125/049, 140/054, 150/060.
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. Used description on label. A complete order would read: "1000 Needles, Type 180 GXS, Size 110/044".

Selection of 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 THE 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.

<u>Cotton Thread Size</u>	<u>Mercerized Thread Size</u>	<u>Needle Size</u>
0	-	150/060
30	B	140/054 to 150/060
36	A	125/049 to 140/054
40	A	110/044 to 125/049
50	0	110/044 to 125/049
60	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 the catalog in which they appear.

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

## ORDERING OF REPAIR PARTS

The arrangement of this catalog is to facilitate easy and accurate ordering of replacement parts for Style 63900 K.

Exploded view plates at the back, cover the differences between the Standard Style listed in this catalog and Style 63900 D covered in Catalog No. 126 M (Second Edition). 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.

## 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, U S 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. 2A).

### STANDARD ACCESSORIES

Included also with each machine is 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 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.

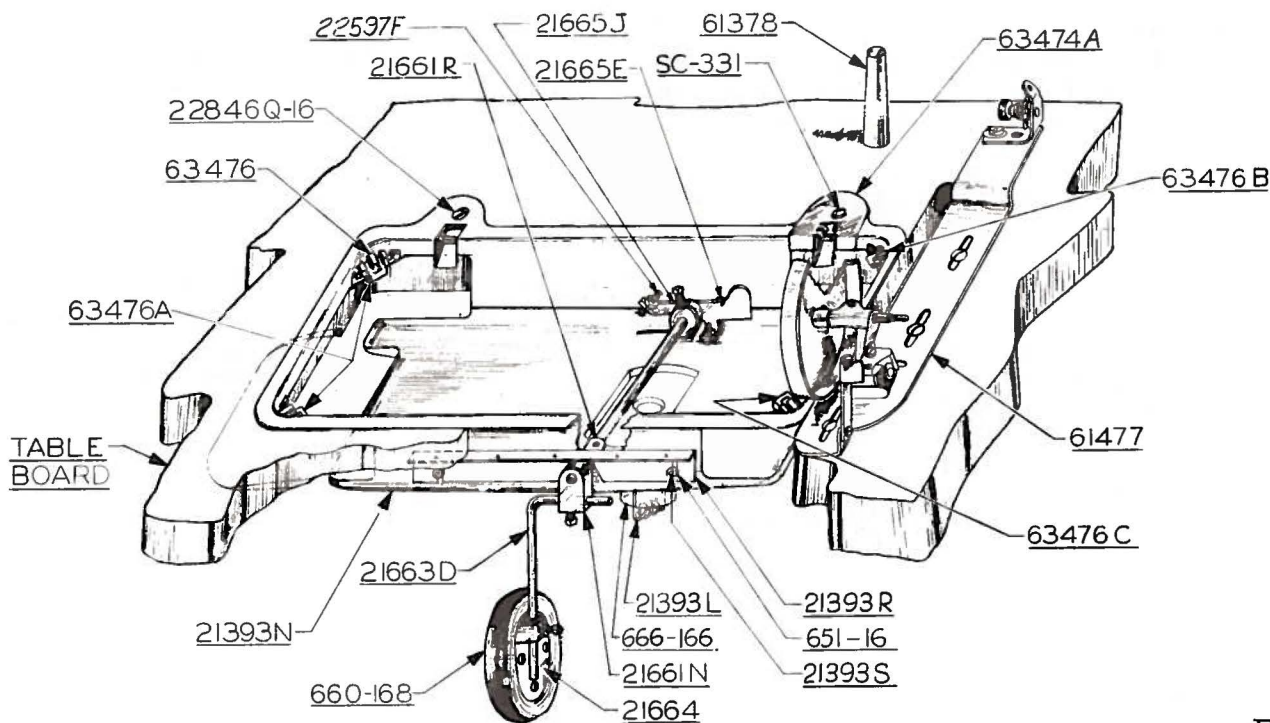


Fig. 1



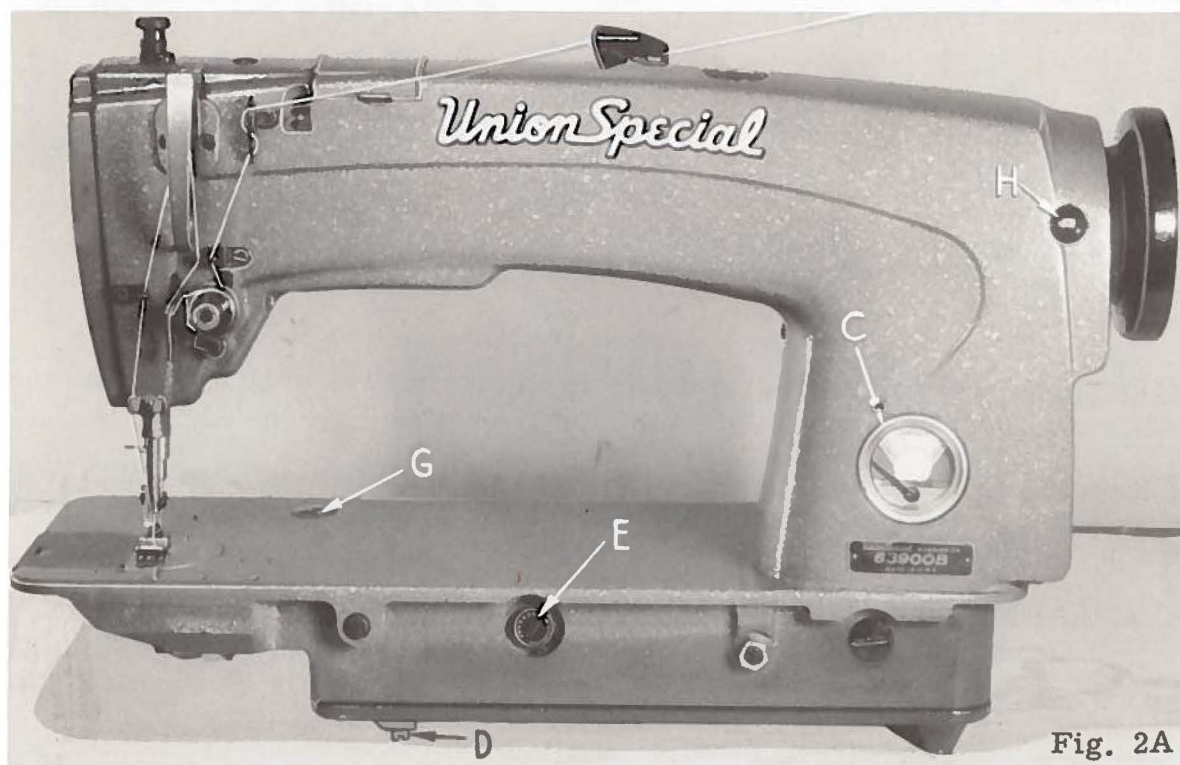
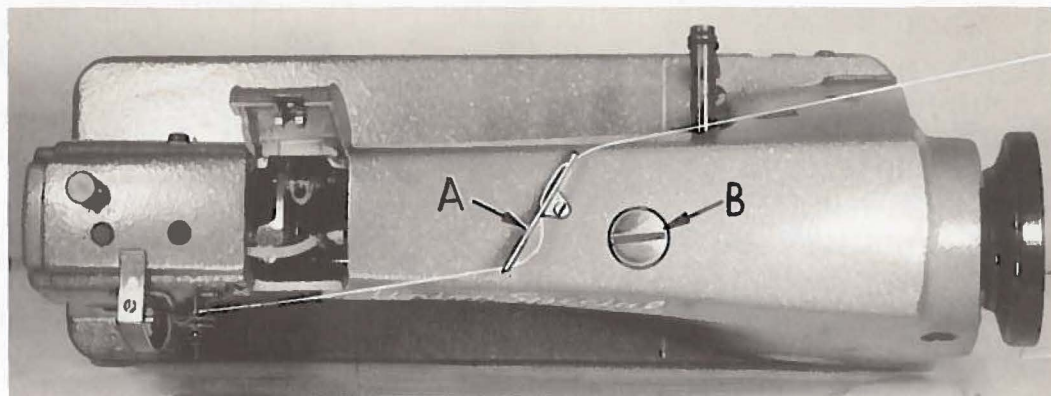
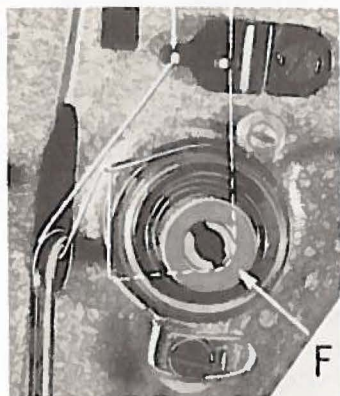


Fig. 2A

## MACHINE MOUNTING FRAME INSTALLATION

On a suitable tableboard, place machine mounting frame (21393 N) in the machine cut-out with the hinge lugs to the rear (Fig. 1). Insert the countersunk wood screw through left hinge pad and tighten securely. Assemble bed positioning spring (63474 A) over right hinge pad; insert round head wood screw and tighten securely. Assemble the retaining plate (21393 R) to outside front of pan section, as shown, and snug up nuts lightly.

Place sewing head in the frame mounting and after being sure there is about 1/16 inch clearance between the cloth plate edge and the frame sides, rap the retaining plate smartly upward with a hammer to insure a good grip on the underside of the board and tighten locking nuts securely.

Tip machine back against rest pin and assemble the knee press assembly as shown. All end play of the cross shaft should be taken up by the cone bearings, but must not bind.



## MACHINE MOUNTING FRAME INSTALLATION (Continued)

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 pulley will be located directly in front of the sewing machine belt and will bear against the belt when in operation. The base of the winder has two elongated attaching holes, which allow the mechanism to be moved closer to or farther away from the 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.

### BELTS

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

### THREADING

Thread machine as indicated in Fig. 2A. Threading at check spring has been enlarged for clarity. Needle is threaded from left to right.

### LUBRICATION

CAUTION! Oil has been drained from the main reservoir before shipment, so the reservoir must be filled before starting to operate.

Lubricate machine thoroughly, in accordance with instructions which follow and run slowly for several minutes to distribute the oil to the various parts. Full speed operation can then be expected without damage.

### RECOMMENDED OIL

Use a stainless water-white straight mineral oil of a Saybolt viscosity of 90 to 125 seconds at 100° Fahrenheit in the main reservoir. This is equivalent to Union Special Specification No. 175. Fill main reservoir at plug screw (B, Fig. 2A) 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".

It is recommended that a new machine, or one that has been out of service for an extended period, be lubricated as follows: Remove the head cover and directly oil the bearings of the needle bar link, take-up and its lever and needle bar. Replace end cover as no further hand oiling will be required.

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

The quantity of oil supplied to the hook is controlled by dial (E). Turning the dial in the direction of the arrow (counterclockwise) increases the oil flow and in a clockwise direction decreases the flow of oil.

### NEEDLE THREAD TENSION

The needle thread tension is varied by turning the tension regulating nut (F, Fig. 2A). Turning the nut in a clockwise direction increases the tension, while counterclockwise decreases it. This should not be done when the presser foot is in its raised position, but is generally done while the machine is sewing on a piece of scrap material.

## TO CHANGE THE STITCH LENGTH

Press plunger (G, Fig. 2A) in firmly. While holding plunger in, turn handwheel in operating direction until stitch regulating finger is felt to drop into the slot of feed eccentric. Continuing to hold the plunger in, turn handwheel in operating direction to increase the stitch length and in opposite direction to decrease the stitch length.

Stitch lengths are indicated by graduations on the indicator dial and are viewed through the window in the belt guard (H, Fig. 2A).

## INSTRUCTIONS FOR MECHANICS

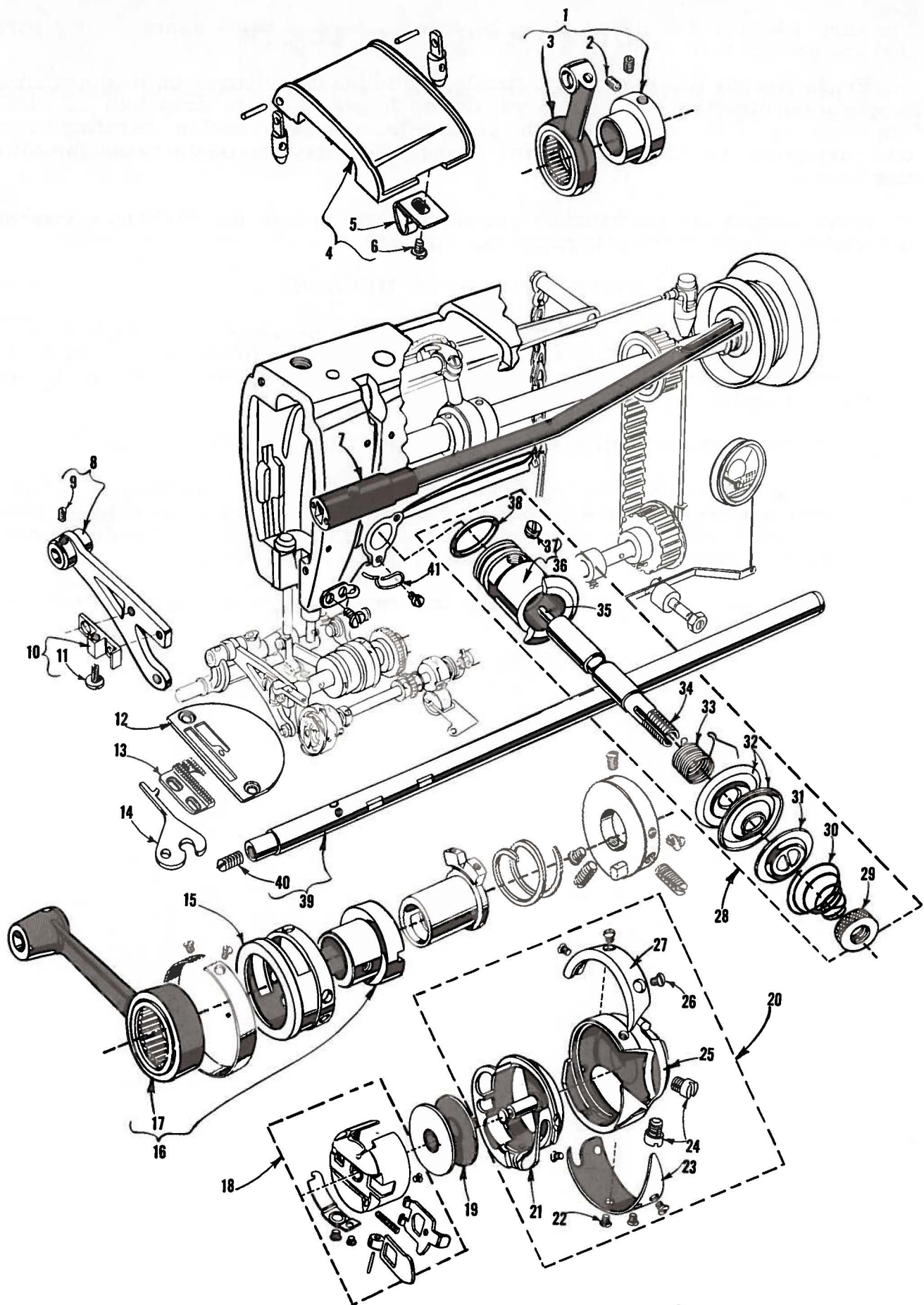
The adjusting instructions for Style 63900 K are the same as for Style 63900 D, covered in Catalog No. 126 M (Second Edition) with the following exception. The instructions that are different are described under the heading and page number which can be found in that catalog.

### TIMING THE NEEDLE FEED WITH THE DROP FEED (Page 38)

1. Open the top cover at the top of the arm of the machine and loosen the needle frame drive segment locking nut. Set the connecting stud to the point of maximum number of stitches per inch of the needle feed. This will locate the connecting stud to the rear of the machine. Tighten locking nut.

NOTE: Keep connecting stud set at this rear position throughout needle feed timing.







The parts illustrated on the preceding page and described below represent the parts that are used on Style 63900 K, but not used on Style 63900 D.

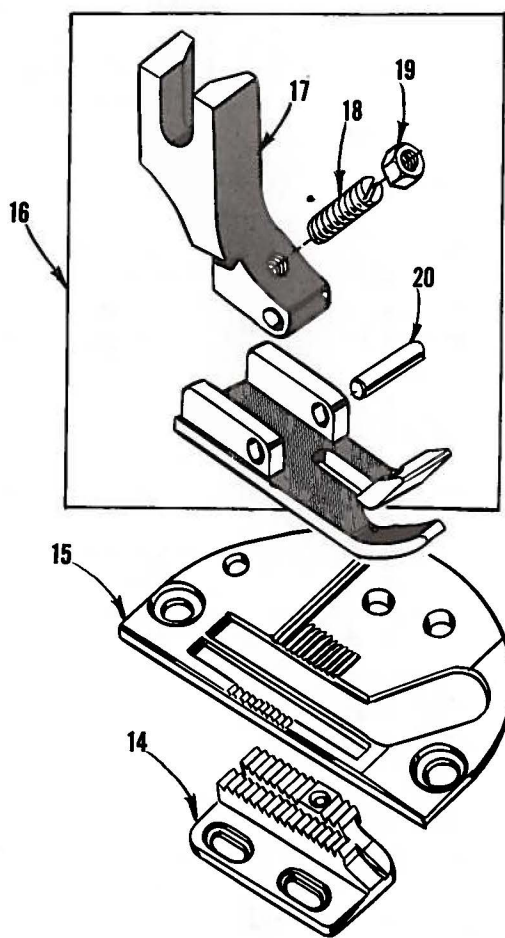
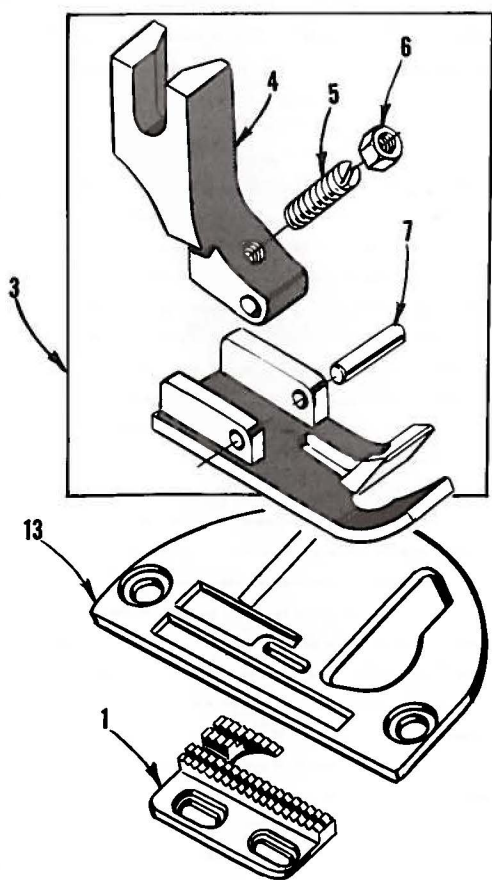
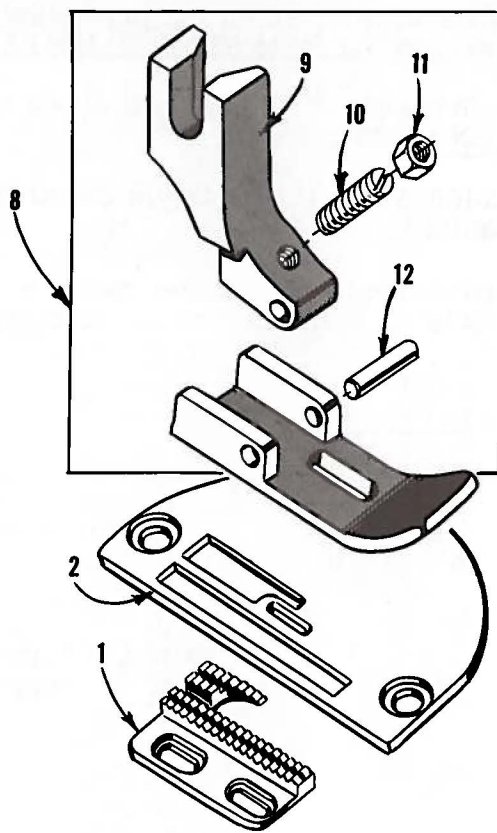
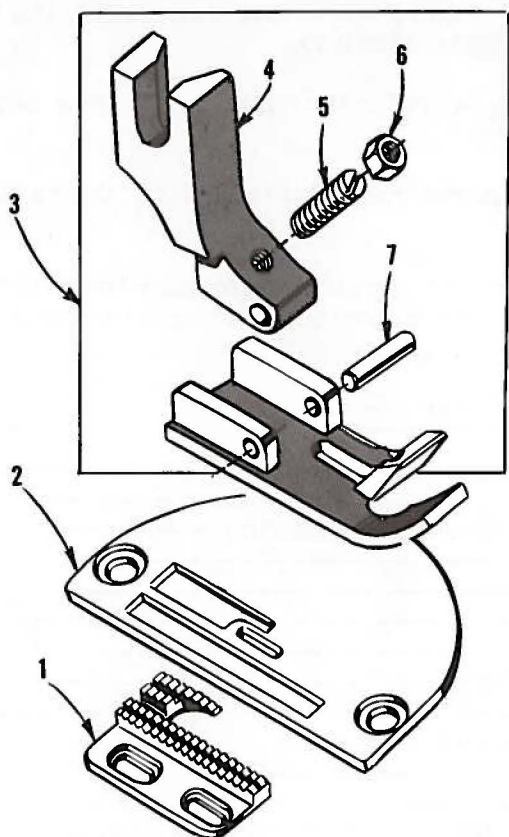
Those parts shown in phantom views and bearing no reference numbers, are common to Styles 63900 D and K.

Use Catalog No. 126 M (Style 63900 D) 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	29126 EH	Needle Feed Drive Eccentric Assembly -----	1
2	22894 J	Screw -----	2
3	63984 B	Needle Feed Driving Eccentric Bearing -----	1
4	63982 AA	Top Cover -----	1
5	63982 F	Spring Latch -----	1
6	90	Screw -----	1
7	63493 B	Head Oil Supply Line -----	1
*-	63993 E	Head Oil Supply Line (not shown) -----	1
8	61434 D	Feed Bar -----	1
9	89	Set Screw -----	1
10	63439 AL	Feed Dog Holder Support -----	1
11	22775 A	Screw -----	1
12	63928 E	Throat Plate, .085 inch thick, .073 inch wide needle slot -----	1
13	63405 AB	Feed Dog, 16 teeth per inch -----	1
14	63414 A	Bobbin Case Holder Positioning Finger -----	1
15	63437 D	Feed Drive Eccentric Retainer Housing -----	1
16	29126 EG	Feed Driving Eccentric and Connecting Rod Assembly ---	1
17	61438 B	Feed Driving Eccentric Connecting Rod -----	1
18	63913 B	Bobbin Case Assembly -----	1
19	61212	Bobbin -----	1
20	63907	Hook, Thread Retainer, Thread Deflector and Bobbin Case Holder Assembly -----	1
21	63914	Bobbin Case Holder -----	1
22	22716 A	Screw -----	4
23	63410	Hook Thread Deflector, marked "A" -----	1
24	22569 H	Set Screw -----	2
25	63908	Hook -----	1
26	22716 H	Screw -----	3
27	61411 A	Hook Thread Retainer -----	1
28	29475 AS	Tension Assembly -----	1
29	61292 C	Tension Nut -----	1
30	61392 F-9	Tension Spring -----	1
31	61492 H	Tension Release Washer -----	1
32	109	Tension Disc -----	2
33	63453	Take-up Spring -----	1
34	61492 F	Tension Post -----	1
35	61492 G	Tension Release Pin -----	1
36	61492 E	Tension Post Socket -----	1
37	22560 G	Set Screw -----	1
38	660-269 A	Quad Ring -----	1
39	63432 J	Feed Driving Shaft -----	1
40	22586	Plug Screw -----	1
41	63492	Tension Post Socket Eyelet -----	1

\* Used on new machines.



FEED DOGS, THROAT PLATES, PRESSER FEET

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	63405 AB	Feed Dog, 16 teeth per inch -----	1
2	63928 E	Throat Plate, .085 inch thick, .073 inch wide needle slot -----	1
3	61920 T	Presser Foot -----	1
4	61930 U	Presser Foot Shank -----	1
5	22840 A	Tilt Adjusting Screw -----	1
6	51430 F	Adjusting Screw Lock Nut -----	1
7	61330 B-35	Hinge Pin -----	1
8	L391 A	Presser Foot -----	1
9	61330 AH	Presser Foot Shank -----	1
10	22565 D	Tilt Adjusting Screw -----	1
11	51430 F	Adjusting Screw Lock Nut -----	1
12	61330 B-29	Hinge Pin -----	1
13	61928 M-053	Throat Plate, .085 inch thick, .053 inch wide needle slot -----	1
	61928 M-073	Throat Plate, .085 inch thick, .073 inch wide needle slot -----	1
14	L620 A	Feed Dog, 16 teeth per inch, .083 inch diameter needle hole -----	1
15	L621 A	Throat Plate, .125 inch thick -----	1
16	L619 A	Presser Foot -----	1
17	61930 U	Presser Foot Shank -----	1
18	22840 A	Tilt Adjusting Screw -----	1
19	51430 F	Adjusting Screw Lock Nut -----	1
20	61330 B-35	Hinge Pin -----	1



# 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

\*Anline 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  
CORPORATION**

From the library of: Superior Sewing Machine & Supply LLC

# Union Special Wants to Help You Cut Sewing Machine Maintenance Costs

Union Special is offering two practical systems to help pinpoint and reduce your sewing machine maintenance costs: a record keeping system to help spot machines requiring abnormally high maintenance, and a parts inventory system to speed routine repairs.

### Machine Maintenance Records

Repair-prone machines or inexperienced operators can eat up your maintenance dollars in short order. To help spot these problems, Union Special suggests two variations of a simple maintenance record keeping system using cards provided by Union Special.

The first system utilizes a "Machine Maintenance Record" card (Form 237) for each sewing machine in a plant. When a repair is required, the card is pulled from the file and the repair date, parts used, and their cost are entered in the spaces provided and the card is refiled.

[illegible]

The second system is normally used when more detailed information on repair costs is desired. Two record cards are used: a "Repair Request Card" (Form 234), and a "Machine Repair Record" (Form 233). When a machine requires service, the

[illegible]

forelady or foreman fills out the top of a "Repair Request Card" and gives it to a mechanic. He fills in the time the repair work is started, the parts used and their cost, and the completion time. This data is then transferred to the permanent "Machine Repair Record" kept in the office.

Whichever system is used, management now has an invaluable tool to reduce needless maintenance costs.

## Repair Part Inventories

While record keeping tells management which machines require abnormally high maintenance, it does little to help reduce the downtime caused by routine repairs. To alleviate this situation, Union Special recommends that manufacturers establish a formal parts inventory system for each type of sewing machine they operate.

Excessive machine downtime and wasted hours by mechanics can be eliminated with an orderly in-plant inventory of the most commonly needed parts. There is no longer a need to cannibalize other machines for spare parts. Long waits for deliveries are avoided and machine downtime is kept to a minimum. The cost of a parts inventory is small when the overall savings are considered.

**Style 39500 QB**

Part Number	Description	Minimum Spare Parts Per Machine
39520 A	Presser foot	1
39530	Presser foot hinge spring	2
39597 A	Presser foot stitch tongue marked "DS"	1
39524 B 3/32	Throat plate marked "V-3/32"	1
or	or	
39524 B 1/8	Throat plate marked "V-1/8"	1
22524	Throat plate screw	2
39526 B	Differential feed dog, 16 teeth per inch	1
39505 B	Main feed dog marked B, 16 teeth per inch	1
39505	Chaining feed dog	1
22528	Screw	2
93 A		2
22797 A		2
39570		4
14077	Upper knife clamp stud	1
39549	Lower knife	4
22588 A	Screw for lower knife clamp	1
39508 B	Lower loop	1
39508 A	Upper loop	1
225646	Screw for upper loop	2
39551 F	Needle clamp stud	1
14077	Nut for needle clamp stud	1
22596 E	Screw for needle driving arm	2
21225 1/8	Looper gauge	1
154 GAS	Needles (specify size)	100

For free sample copies of the machine record cards and spare part inventory lists for a variety of the most popular machines, contact your local Union Special Representative or write direct to Union Special.





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