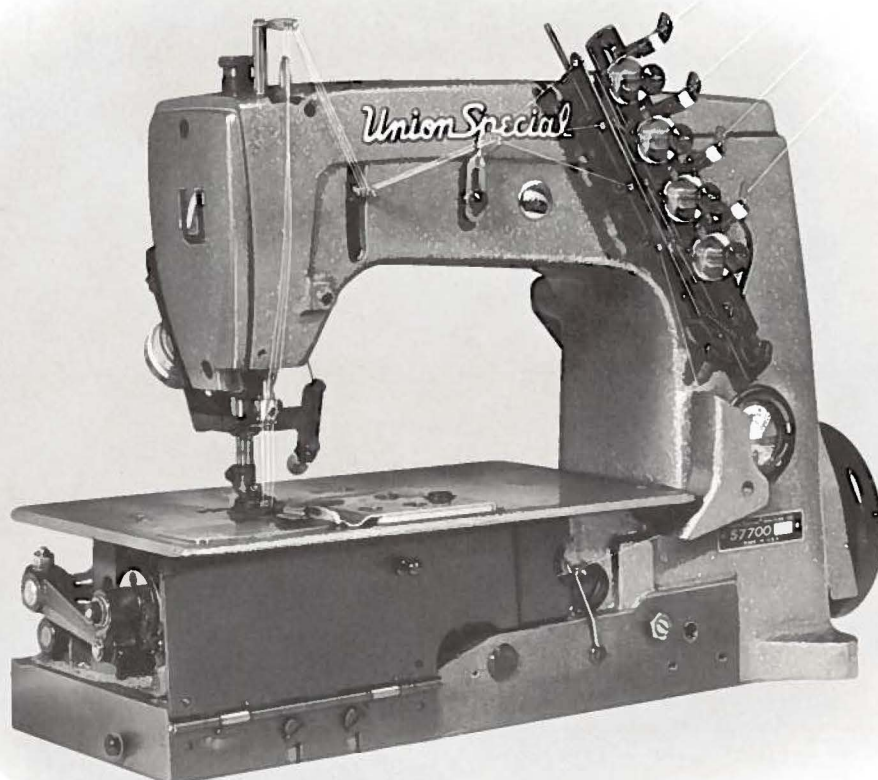


FINEST QUALITY

Union Special[®]
LEWIS • COLUMBIA

**INDUSTRIAL
SEWING
MACHINES**

**STYLES
57700KL
57700KM**



CLASS 57700

**ADVANCED HIGH SPEED
FIFTY THOUSAND SERIES
FLAT BED MACHINES
WITH
"KLIPP-IT"**

**CATALOG
No.
T131KL**

Union Special **MACHINE COMPANY**
CHICAGO

From the library of: Superior Sewing Machine & Supply LLC

Catalog No. T131 KL
(Supplement to Catalog No. 131 M)

INSTRUCTIONS
FOR
ADJUSTING AND OPERATING
LIST OF PARTS

CLASS 57700

Styles

57700 KL 57700 KM

First Edition

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INDUSTRIAL SEWING MACHINES
CHICAGO

Printed in U. S. A.

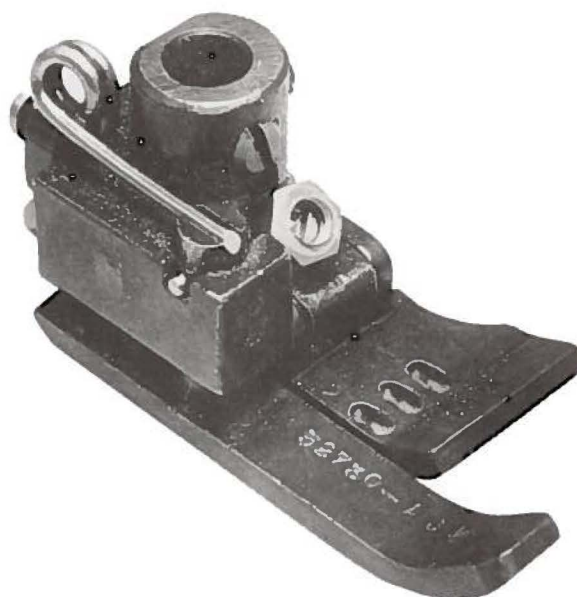
May, 1973

Union Special
INDUSTRIAL SEWING EQUIPMENT

TECHNICAL INFORMATION

No. 11
March 15, 1978

TILTING TOE PRESSER FOOT FOR STYLES 57700 M, KM, MZ AND KMZ



A new presser foot, part number K 73417, is now available which incorporates a jack screw adjustment which permits tilting the toe of the foot for better feeding when crossing seams. This special foot is intended for use on our elastic attaching machine Styles 57700 M, KM, MZ and KMZ fitted with Cremer undertrimmer.

With the exception of the tilting adjustment, this new foot is similar to presser foot 52720 N-16.

Presser foot K 73417 can be ordered as a special part priced at \$95.50.

If desired on "Z" machine this special foot must be specified on machine definition sheet when ordering.

Union Special Corporation, 400 North Franklin Street, Chicago, Illinois 60610, U.S.A.

Union Special, GmbH, Schwabstrasse 33, D-7000 Stuttgart 1, West Germany.

US-133/1077

From the library of: Superior Sewing Machine & Supply LLC

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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 57700 KL". 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 57700 KLZ".

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 57700".

APPLICATION OF CATALOG

This catalog is a supplement to Catalog No. 131 M and should be used in conjunction therewith. Only the parts found on Styles 57700 KL and KM, but not on Style 57700 L are illustrated. At the back are illustrations identifying the parts by reference number and on the opposite page the part number and description identifies the part. 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.

STYLES OF MACHINES

Advanced High Speed, Two and Three Needle, One Looper, Medium Throw, 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, Double Disc Take-up, Large Handwheel and Improved Belt Guard. Prepared for use with Knee Press for Presser Foot Lifter, Equipped with Disc Thread Tensions, Maximum Work Space to Right of Needle Bar 8 1/4 Inches.

57700 KL Two needle machine, equipped with "KLIPP-IT" mechanism that cuts both top and bottom threads, for hemming sides and bottoms of bathrobes, and for similar operations on medium to medium heavy weight woven fabrics. Standard gauge Nos. 12 and 16. Seam specification 406-EFa-1 inverted. Type 128 GAS needle. Maximum recommended speed 6000 R. P. M.

57700 KM Three needle machine, equipped with "KLIPP-IT" mechanism that cuts both top and bottom threads, for attaching elastic bands in garment lengths or with ends joined, to rayon, silk, cotton, nylon and wool, flat, warped or ribbed knit garments and similar operations on light to medium weight material. Standard gauge No. 16 only. Seam specification 407-LSb-1 inverted. Type 121 GBS needle. Maximum recommended speed 6000 R. P. M.

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, the type and the size number represent the complete symbol, which is given on the label of all needles packaged and sold by Union Special.

NEEDLES (Continued)

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 121 GBS, Size 032".

The type numbers of the needles recommended for each style of machine are given in the machine style description. Other needles are available, but the ones indicated are those recommended to produce the most satisfactory results. The type numbers of the recommended needles together with their descriptions and the sizes available are listed below:

<u>Type No.</u>	<u>Description and Sizes</u>
121 GBS	Round shank, round point, short, single groove, struck groove, spotted, ball point, chromium plated - sizes 025, 027, 029, 032, 036, 040.
128 GAS	Round shank, round point, short, double groove, struck groove, ball eye, spotted, chromium plated - sizes 032, 036, 040, 044, 049, 054, 060, 067.

Selection of the proper needle size is determined by the size of thread used. Thread should pass freely through the 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.

IDENTIFYING PARTS

Where construction permits, each Union Special part is stamped with its catalog part number. A part too small for its complete catalog stamping is identified by a letter symbol which distinguishes it from another part similar in appearance.

Each part number represents the same part, regardless of the catalog in which it appears.

IMPORTANT! ON ALL ORDERS, PLEASE INCLUDE PART NUMBER 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.

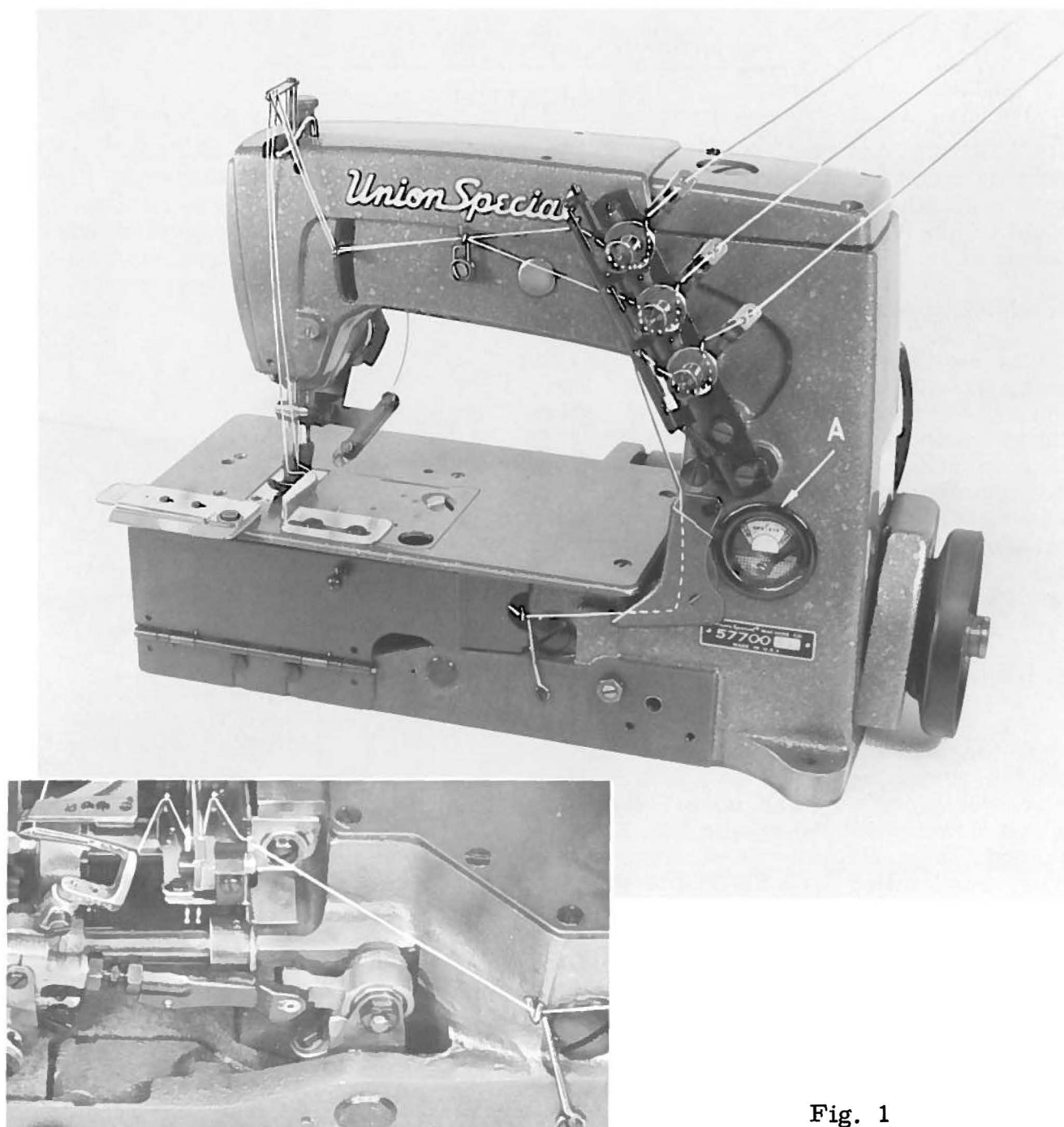


Fig. 1

THREADING AND OILING DIAGRAM FOR STYLES 57700 KL and KM MACHINES

Thread machine as indicated. The looper threading has been enlarged for clarity. The above picture shows the manner in which a two needle machine is threaded. Three needle machines are threaded in substantially the same manner.

NOTE: The needle thread nearest the machine bed casting, which contacts the needle thread take-up wire on the needle bar downstroke, should always be threaded through the right needle.

The oil has been drained from the machine before shipping and 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 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 in the main frame to the left of the oil gauge.

INSTRUCTIONS FOR MECHANICS

LUBRICATION

CAUTION! Oil has been drained from the main reservoir before shipment, so the reservoir must be filled to the proper level as indicated on oil gauge (A, Fig. 1) before beginning to operate. Run machine 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 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. 174. Fill main reservoir at plug screw in upper crank chamber cover (A, Fig. 2) and check oil level at gauge (B). 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".

CAUTION! It is important that these machines not be over filled.

It is recommended that a new machine, or one that has been out of service for an extended period of time, be lubricated as follows: Remove the head cover, clean out lint and directly oil the needle bar link and the needle bar. Replace head cover as no further hand oiling will be required. Run machine slowly for several minutes to distribute oil to the various parts.

Oil may be drained from main reservoir by removing plug screw (C, Fig. 2) located below the cloth plate at front of the machine.

NOTE: Looper avoid and feed lift eccentrics receive oil thru the mainshaft, so when assembling be sure oil holes in the eccentric line up with oil holes in mainshaft when spot screw is in timespot. See paragraph on "Changing Stitch Length" for repacking feed rocker sealed greased bearings.

OIL GAUGE

The oil gauge is set at the factory to show the proper oil level in the reservoir. Should an adjustment become necessary, however, the following steps should be followed:

1. Place the machine upright on a level table or bench.
2. Remove the oil reservoir plug screw (C, Fig. 2) and tip machine forward to drain oil from the reservoir.

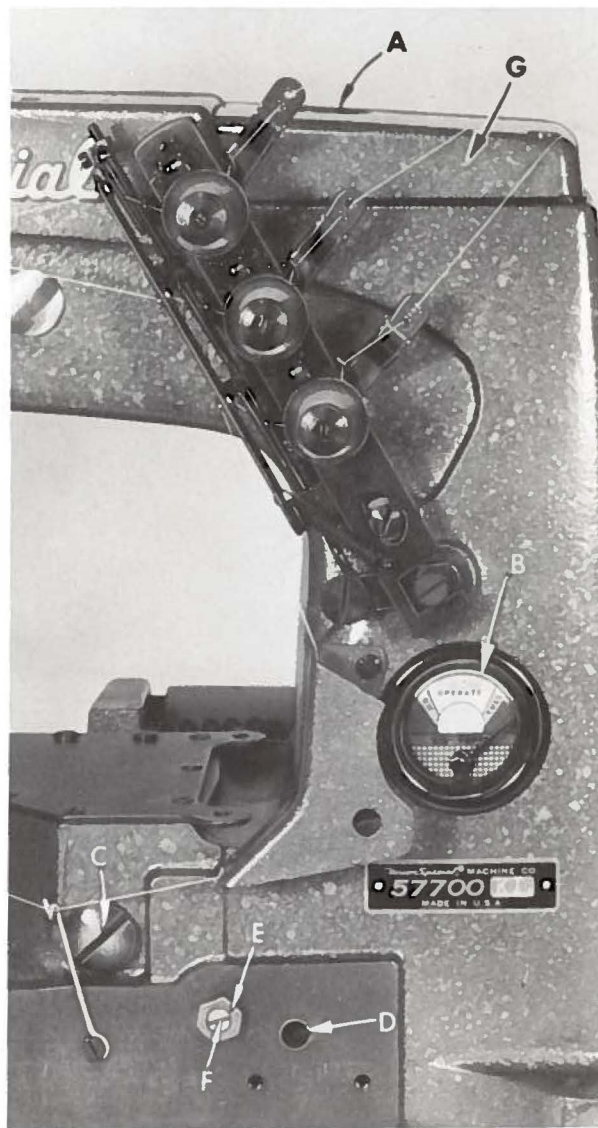
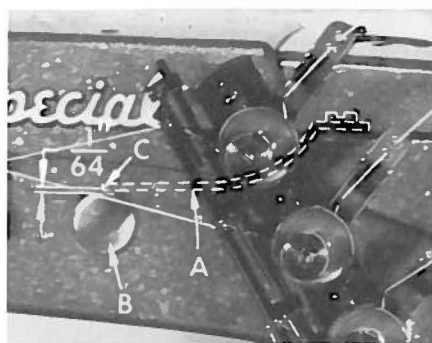


Fig. 2

OIL GAUGE (Continued)

3. Make sure all oil is drained from main reservoir.
4. Remove lower crank chamber cover, located at the back of the machine.
5. Fill main reservoir to a level even with the bottom contour of the knee press shaft bushing (D, Fig. 2).
6. Loosen lock nut (E) on calibrating screw (F), and turn the screw to the left or right until the gauge needle rests in the middle of the yellow band marked "LOW".
7. Tighten lock nut (E) and replace plug screw (C).
8. Add oil so that gauge needle rests in the middle of the yellow band marked "FULL".

NEEDLE LEVER BEARING OILER



Remove the head cover and upper crank chamber cover (G, Fig. 2). Check position of needle lever bearing oiler (A, Fig. 3) located inside the arm casting, below the upper crank chamber cover, which lubricates the needle lever stud (B). Make sure it is tilted downwardly and that its delivery end (C) contacts the inside wall of the bed casting at the back, just above the notch of the needle lever shaft stop collar. (Do not allow the oiler to rest on the needle lever). Allow $\frac{1}{64}$ inch clearance as in Figure 3.

Fig. 3

ALIGNING THE NEEDLE BAR

Align the needle bar (A, Fig. 4) and set to height, using the proper test pins and test plate of the right gauge. See chart below:

<u>Machine Style</u>	<u>Test Plate No.</u>	<u>Right Test Pin No.</u>	<u>Left Test Pin No.</u>
57700 KL-12	698 BB-12	699 R-12	699 L
57700 KL-16	698 BB-16	699 D	699 L
57700 KM-16	698 BB-16	699 D	699 L

Insert test pin No. 699 L in the left seat of the needle holder and the proper right hand test pin (see chart) should be inserted in the right needle seat. Now assemble test plate to machine using the throat plate attaching screws. The needle bar is located properly if the test pins align with the holes in the test plate and the height of the needle bar is correct when the shoulder of the test pins rest on the test plate, when the needle bar is at its lowest position.

If test plate and test pins are not available, insert a new set of needles (Type and Size as required) and align the needle bar so that the needles correspond with the vertical face of the needle guard. To turn needle bar, loosen needle bar clamp screw (B, Fig. 4) and turn bar as required. Tighten clamp screw.

SYNCHRONIZING LOOPER AND NEEDLE MOTIONS

Insert the looper in the looper rocker and turn hand-wheel in operating direction until the point of the looper (A, Fig. 5), moving to the left is even with the left side of right needle (B). Note the height of the eye of the needle with respect to the looper point, then turn handwheel in the reverse direction until the looper point again moves to the left and is even with the left side of the right needle. If motions synchronize, the height of the eye of the needle with respect to the looper point will be the same. A variation of .005 inch is allowable. If the distance from the eye of the needle to the point of the looper is greatest when the pulley is turned in the operating direction, move the looper drive shaft synchronizing stud (C) to the rear. Moving it in the opposite direction acts the reverse.

Moving of the looper drive lever shaft synchronizing stud is accomplished as follows: Loosen the clamp screw (D, Fig. 5) of the looper drive lever. To move stud to rear (away from operator), a light tap with a small hammer, directly on the stud, is all that is required. To move stud forward (toward operator), remove the cloth plate, throat plate support, oil reservoir top cover and oil reservoir back cover, then, a light tap on the looper drive lever rocker shaft, toward the operator, is all that is required. Then, using the looper drive lever to take up the end play between the looper drive lever rocker shaft and its synchronizing stud, tighten the looper drive lever on the shaft, using screw (D, Fig. 5).

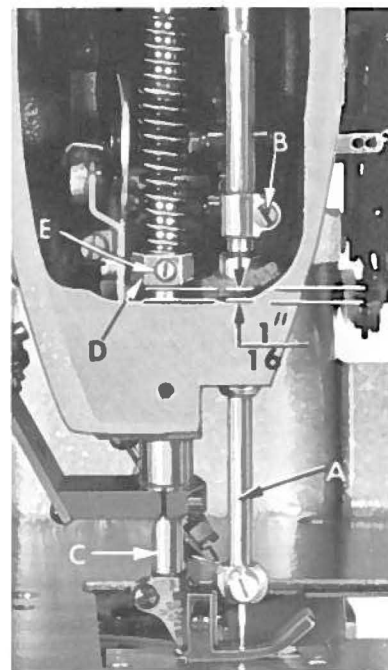


Fig. 4

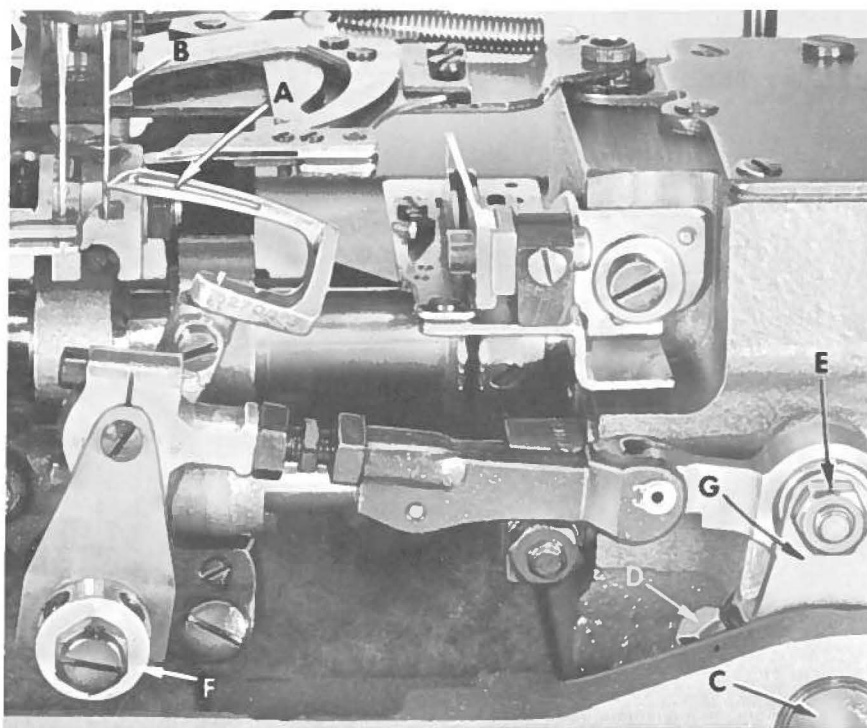


Fig. 5

With the looper at the extreme right end of its travel, check the location of the centerline of the right looper connecting rod bearing, using gauge No. 21227 CX. Remove nut (E, Fig. 5) and place hole in gauge over threaded stud. The left end of the gauge should locate against the right side of the looper rocker cone (F). If adjustment is necessary, loosen the clamp screw (D) and reposition the looper drive lever (G) as required. Tighten clamp screw. If gauge is not available, setting can be checked with a scale. The distance between the centerline of the looper rocker cone and the centerline of the looper lever stud should be $4 \frac{1}{16}$ inches (Fig. 6).

SETTING THE LOOPER

Insert a new needle in the right needle seat, type and size as specified. If the looper gauge is $\frac{3}{16}$ inch, for example, set the looper (A, Fig. 6) so the distance from the center of the right needle (B) to the point of the looper is $\frac{3}{16}$ inch, when the looper is at its farthest position to the right. Looper gauge No. 21225- $\frac{3}{16}$ can be used advantageously in making this adjustment. Refer to chart below for needle type, looper gauge setting and looper gauge number for the various styles of machines. If adjustment is required, loosen nut (C) (it has a left hand thread) and nut (D) on connecting rod (E), turn the connecting rod forward or backward to obtain the $\frac{3}{16}$ inch dimension. Retighten both nuts, first nut (D), then nut (C). Make sure the left ball joint is in vertical position and does not bind after adjustment.

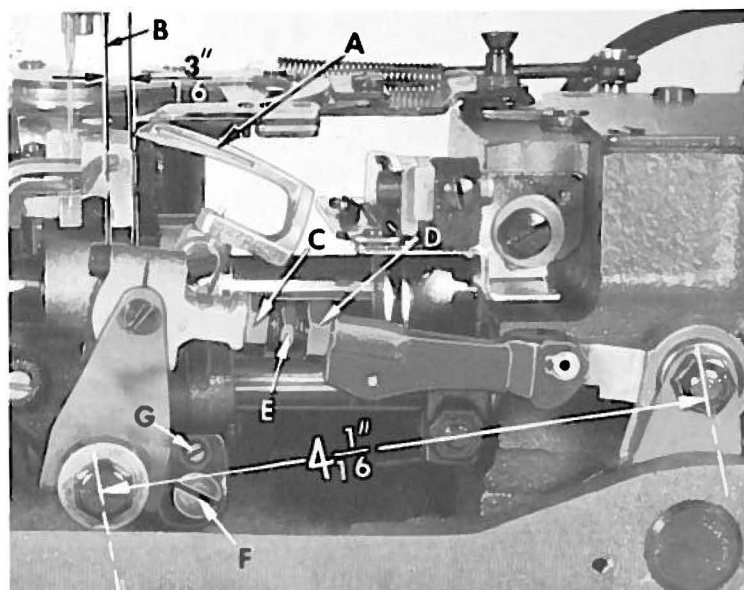


Fig. 6

Machine Styles	Needle Type	Looper Gauge Setting	Looper Gauge Number
57700 KL-12	128 GAS	$\frac{7}{32}$ "	21225-7/32
57700 KL-16	128 GAS	$\frac{3}{16}$ "	21225-3/16
57700 KM-16	121 GBS	$\frac{3}{16}$ "	21225-3/16

The looper is set correctly in line-of-feed, if, as it moves to the left, behind the needle, its point (A, Fig. 7) brushes, but does not pick at the rear of the needle (B).

If adjustment is necessary, loosen lock screw (F, Fig. 6) and turn stop screw (G) as required. Turning stop screw clockwise sets the looper to the rear and turning it counterclockwise acts the reverse. Holding looper to the front while making this adjustment may prove helpful. Tighten lock screw when setting is obtained and recheck the adjustment. Now insert another needle in the left needle seat.

SETTING HEIGHT OF NEEDLE BAR

On Style 57700 KL, the height of the needle (A, Fig. 8) is correct when the top of its eye is $\frac{3}{64}$ inch below the underside of the looper (B), with the looper point flush with the left side of the left needle. On Style 57700 KM, this dimension should be $\frac{1}{64}$ inch. If adjustment is necessary, loosen screw (B, Fig. 4) and move needle bar (A) up or down as required and retighten screw. Care should be taken not to disturb the alignment of the needle bar when moving the needle bar either up or down.

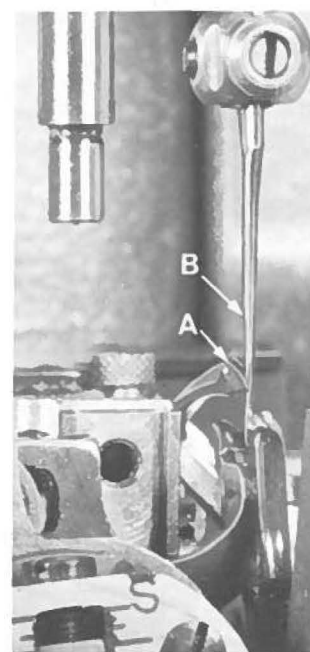


Fig. 7

SETTING HEIGHT OF NEEDLE BAR (Continued)

NOTE: The height should be right if test plate and test pins were used to align needle bar.

All needles are to have equal clearance on the right and left sides of needle slots in throat plate. The descending needles must be deflected alike on the back of the looper.

SETTING THE FEED DOG

Set the feed dog (A, Fig. 9) in the throat plate (B) so there is equal clearance on all sides. See that the tips of the teeth extend the depth of a tooth or approximately $\frac{3}{64}$ inch above the throat plate and are parallel with the throat plate at high point of travel. Adjust the supporting screw (C), under the feed dog, to maintain this setting. Screw (D) is used to hold feed dog in position.

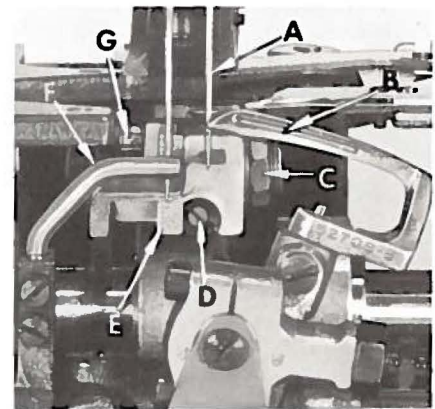


Fig. 8

If feed dog teeth are not parallel with the throat plate, loosen nut (C, Fig. 8) and turn screw (D) clockwise to lower the front teeth and counterclockwise to raise the front teeth. Retighten nut when feed dog is set properly.

CAUTION: See that there is sufficient space between underside of feed dog and top of looper.

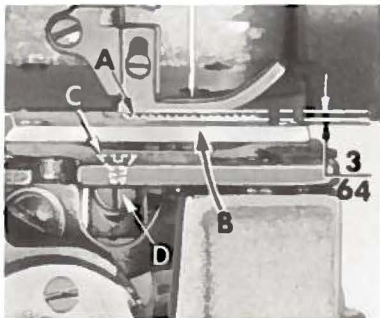


Fig. 9

Should it be necessary to move the feed dog to the left or right, loosen screws (A, Fig. 10) which hold the feed rocker (B) onto the feed rocker shaft (C) and move feed rocker to desired position and retighten screws. Make sure the feed rocker arm (D) does not bind after making this adjustment.

When the handwheel is turned in the operating direction the feed dog should have equal clearance on both ends of the throat plate slots with feed travel set to desired stitch length.

Should it be necessary to move the feed dog forward or backward, loosen nut (E) which clamps the feed rocker arm to the feed rocker and move the feed rocker forward or backward as needed and retighten nut.

CHANGING STITCH LENGTH

Set the stitch to required length. This is accomplished by loosening the locknut (F, Fig. 10) (it has a left hand thread) on the end of the stitch regulating stud and turning the stitch adjusting screw (G) lo-

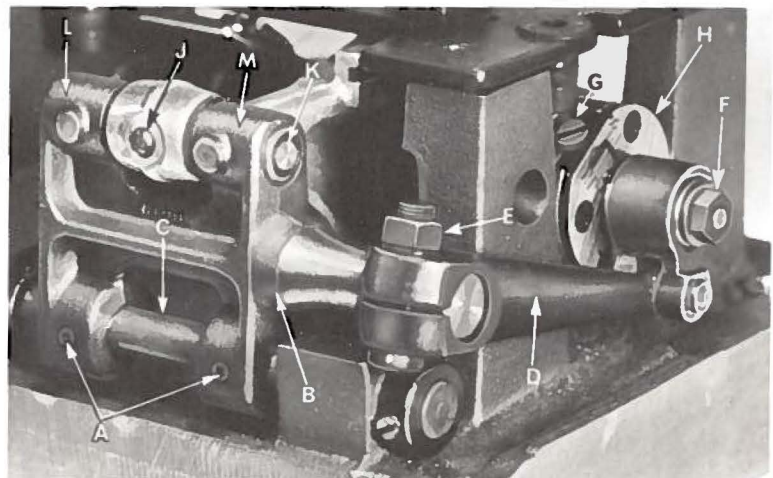


Fig. 10

CHANGING STITCH LENGTH (Continued)

cated under the left end of the cloth plate in the head of the main shaft (H), which is marked with "L" and "S". Turning the screw clockwise shortens the stitch (moves stitch regulating stud toward the "S") and turning it in a counterclockwise direction lengthens the stitch (moves stitch regulating stud toward the "L"). Retighten the locknut securely.

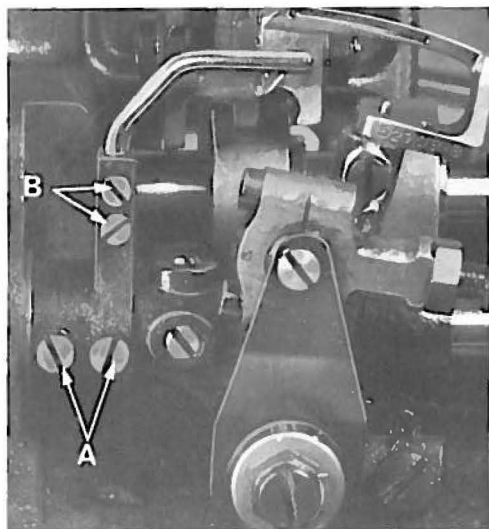


Fig. 11

Any change in stitch length will necessitate a corresponding change in the rear needle guard setting.

The feed rocker assembly may require lubrication or repair after years of operation. This can be accomplished as follows: Loosen nut (E, Fig. 10) and remove nut (F). Remove feed rocker arm (D) from machine by rocking slightly. Loosen screws (A) and remove stop collar on right end of shaft (C). The shaft can now be withdrawn. Loosen Allen screw (J) and remove shaft (K). Now, repack bearings.

When packing the bearings, the parts must be clean and grease should be applied directly from the tube to avoid contamination. Tube of grease can be supplied under the part number 28604 P. Greased bearings are located at (L, M, Fig. 10).

If grease sealed bearings are replaced they should be pressed in flush with the casting. To assemble, reverse the above procedure. Start tapered end of shaft first, twisting slightly when entering the grease sealed bearings to prevent damage. Check for proper adjustment of feed dog as described under "Setting the Feed Dog". Also check to see that there is no binding at any point.

SETTING THE REAR NEEDLE GUARD

Set the rear needle guard (E, Fig. 8) horizontally so that it does not quite contact the rear of the right needle (A) when at its most forward point of travel. A clearance of .005 inch is permissible. It should be set as low as possible, yet have its vertical face approach within about 3/64 inch of the needle, until the point of the looper (B), moving to the left, is even with the needle. To move needle guard forward or backward, merely loosen screw (F), move needle guard as required and retighten screw. To raise or lower needle guard, loosen screw (F) and turn screw (G) clockwise to lower needle guard or counterclockwise to raise it. Retighten screw (F) after guard is properly set.

NOTE: A change in stitch length will require a change in rear needle guard setting.

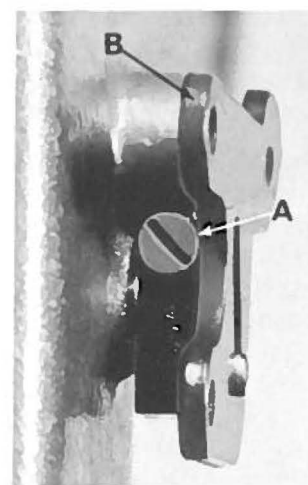


Fig. 12

SETTING FRONT NEEDLE GUARD

On Style 57700 KL, set the front needle guard so that it pushes the left needle back toward the path of the looper as it moves behind the needle. On Style 57700 KM, set the front needle guard so that it pushes the left and "center needles", back toward the path of the looper as it moves behind the needles. The looper may brush

SETTING FRONT NEEDLE GUARD (Continued)

but not pick at the left needle. It should be set as low as possible, yet have its vertical face push the left needle until the point of the looper is just past the left side of the left needle. The front needle guard should not contact the rear needle guard or right needle at any time. To move guard forward or backward, merely loosen screws (A, Fig. 11), move needle guard as required and retighten screws. To raise, lower or rotate needle guard, loosen screws (B), move guard and retighten screws after guard is properly set.

NOTE: A change in stitch length will NOT require a change in front needle guard setting.

THREAD TENSION RELEASE

The thread tension release is set correctly when it begins to function as the presser foot is raised to within $1/8$ inch of the end of its travel and is entirely released when the presser foot has reached its highest position.

If adjustment is needed, loosen tension release lever screw (A, Fig. 12), located at the back of the machine and move tension disc separator as required. Retighten screw. After adjustment there should be no binding at any point.



Fig. 13

SETTING HEIGHT OF PRESSER BAR

The height of the presser bar (C, Fig. 4) is set correctly if it is possible to remove the presser foot when the foot lifter lever (B, Fig. 12) is fully depressed. Also there should be approximately $1/16$ inch clearance between lower surface of the presser bar connection and guide (D, Fig. 4) and the bottom surface of head opening in the bed when the foot lifter lever is released and the presser foot resting on the throat plate, with the feed dog down below the throat plate.

If adjustment is needed, turn handwheel in operating direction until the needle bar is in the low position. Loosen screw (E). Then, while holding presser foot down on the throat plate surface, pry up presser bar connection and guide with a screwdriver to obtain the $1/16$ inch setting and tighten screw (E). Check setting by turning handwheel so that needle bar is in its high position and see if presser foot can be removed as mentioned in previous paragraph.

SETTING NEEDLE THREAD TAKE-UP WIRE AND FRAME EYELET

Set the needle thread take-up wire (A, Fig. 13), located adjacent to the needle bar thread eyelet (B), so that its upper surface is even with the top of the holes in the needle bar thread eyelet when the needle bar has completed its downward stroke. Lower this setting for a smaller needle thread loop and raise it for a larger loop. Set the needle thread frame eyelet (C) so that the eyelet hole is $3/4$ inch above the attaching screw (Fig. 13), on Style 57700 KL; $7/8$ inch on Style 57700 KM.

THREADING

Draw the looper and needle threads into the machine and start operating on a piece of fabric. Refer to threading diagram (Fig. 1) for manner of threading these machines.

SETTING LOOPER THREAD TAKE-UP

The looper thread take-up is not spotted on the main shaft and consequently can be set to compensate for varying conditions. It is set correctly when the looper thread is just cast off the highest lobe of take-up when the points of the needles are clearly visible below the underside of the looper. This should be centered in slot of cast-off plate and cast-off plate support.

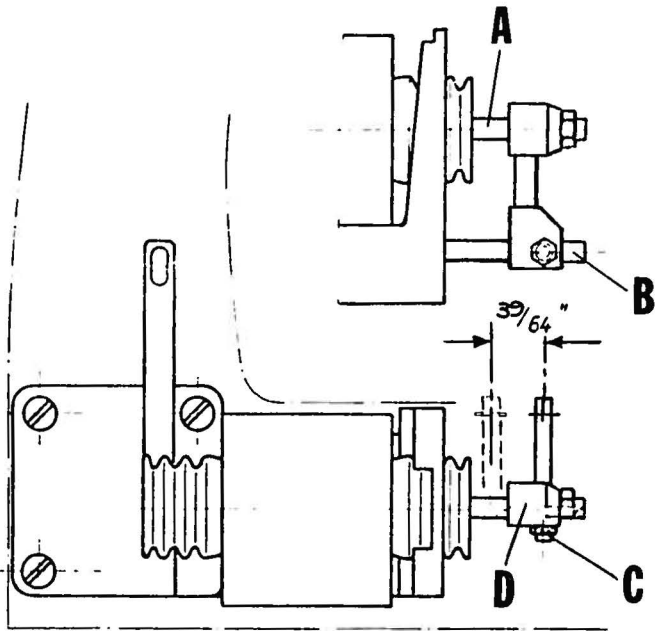


Fig. 14

PRESSER FOOT PRESSURE

Regulate the presser spring regulating screw (D, Fig. 13) so that it exerts only enough pressure on the presser foot to feed the work uniformly when a slight tension is placed on the fabric. This is the knurled screw, located directly behind the needle bar in the head of the machine. Turning it clockwise increases the pressure, counterclockwise acts the reverse.

ADJUSTING "KLIPP-IT" MECHANISM

With all of the electrical plug-connections disconnected, adjustments

should be made in the following sequence:

ADJUSTMENT OF CUTTING SOLENOID STROKE

The length of stroke of the armature shaft (A, Fig. 14) should be approximately 39/64 inch (See Fig. 14). Loosen screw (A, Fig. 23) when making this adjustment

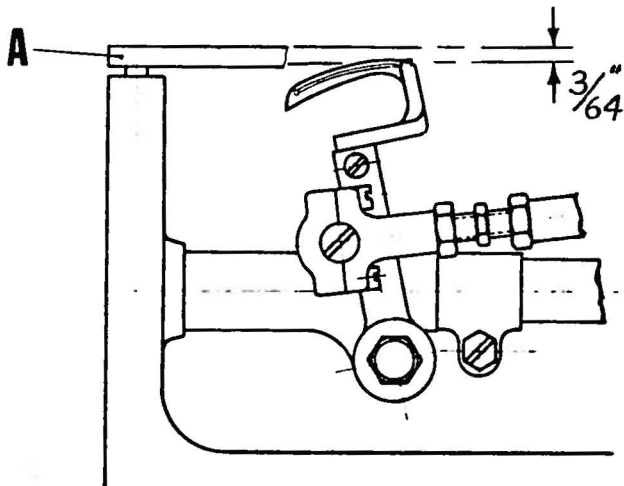


Fig. 15

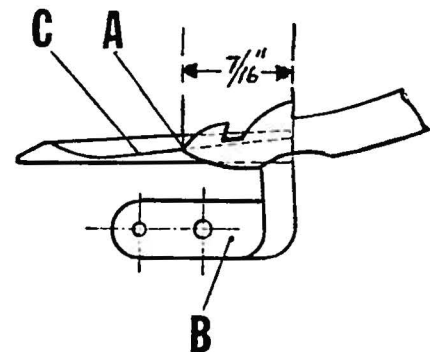


Fig. 16

to be sure that solenoid is bottoming. Since the armature of the solenoid is designed to operate in one direction only, when actuated, its only means of returning to its rest position is by the spring loaded shaft (B, Fig. 14). Loosen nut (C) and move head (D) to the right or left on shaft (B) to obtain desired dimension. Retighten nut (C).

ADJUSTING LOOPER HEIGHT

The looper height should be set $\frac{3}{64}$ inch below the surface of the throat plate support (A, Fig. 15) when at its extreme left position.

ADJUSTING SEVERING DEVICE

With the needles in up-position, slowly depress the cutting solenoid armature shaft (A, Fig. 14). On the forward motion, the tip of the lower knife (A, Fig. 16) must pass the looper (B) along edge (C) for approximately $\frac{7}{16}$ inch. Should adjustment be required, loosen screws (A, Fig. 17) reposition lower knife (B) as necessary and retighten screws. With the lower knife at its extreme left position, cutting edge (C)

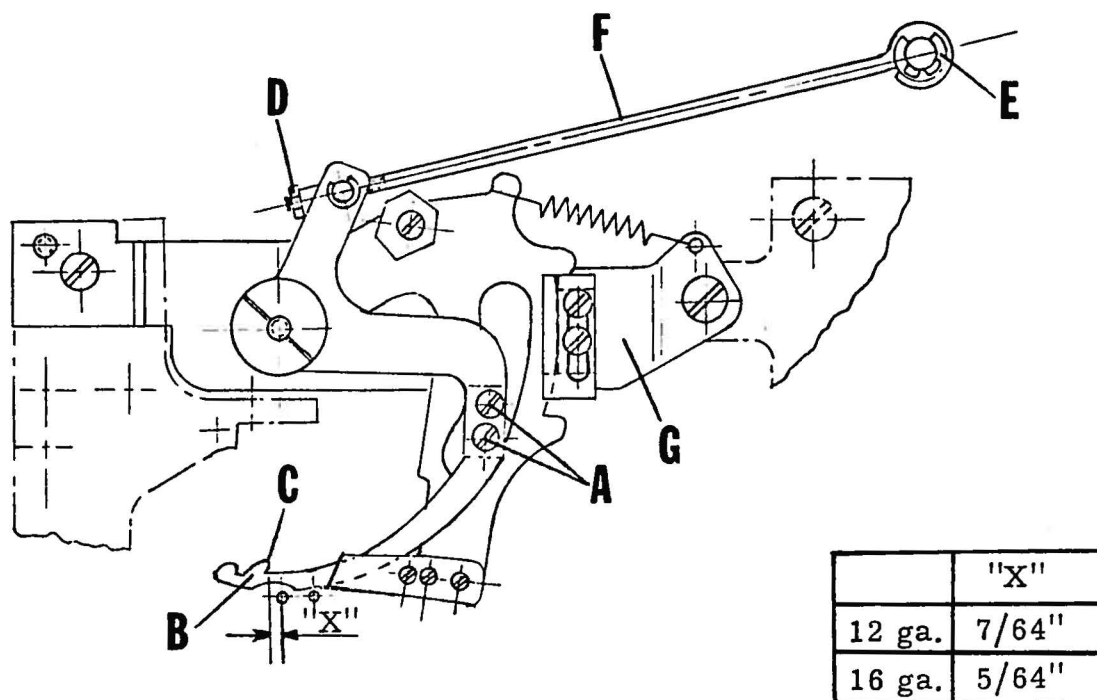


Fig. 17

for the needle's threads must be "X" inch (See Fig. 17) to the left of the centerline of the needles. Should adjustment be required, loosen locknut (D), remove snap ring (E) and rotate connecting rod (F) as necessary to obtain the "X" dimension. Replace snap ring and tighten lock nut.

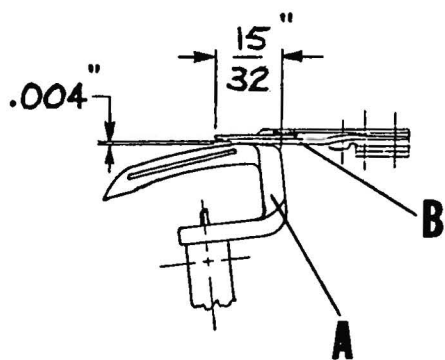


Fig. 18

With the looper at extreme left position, swing the lower knife in approximately $\frac{15}{32}$ inch. There should be approximately .004 inch clearance between the looper (A, Fig. 18) and plate spring (B). If adjustment is necessary, CAREFULLY BEND the knife carrier bracket at point (G, Fig. 17) to suit.

ADJUSTING KNIVES

The basic adjustment outlined in Fig. 16 must be rechecked to assure that the lower knife passes through the needle thread loops (A & B, Fig. 19) and deflect the looper thread (C) by edge (D) while swinging in. As the lower knife swings out, the looper thread must be caught by cutting edge (E),

ADJUSTING KNIVES (Continued)

the needle threads caught by cutting edge (F) and drawn back to the upper knife. Should correction be required to meet this condition, increase dimension "X" slightly as described for Fig. 17.

NOTE: The figures shown are for a two needle machine, however, the same would apply to a three needle machine.

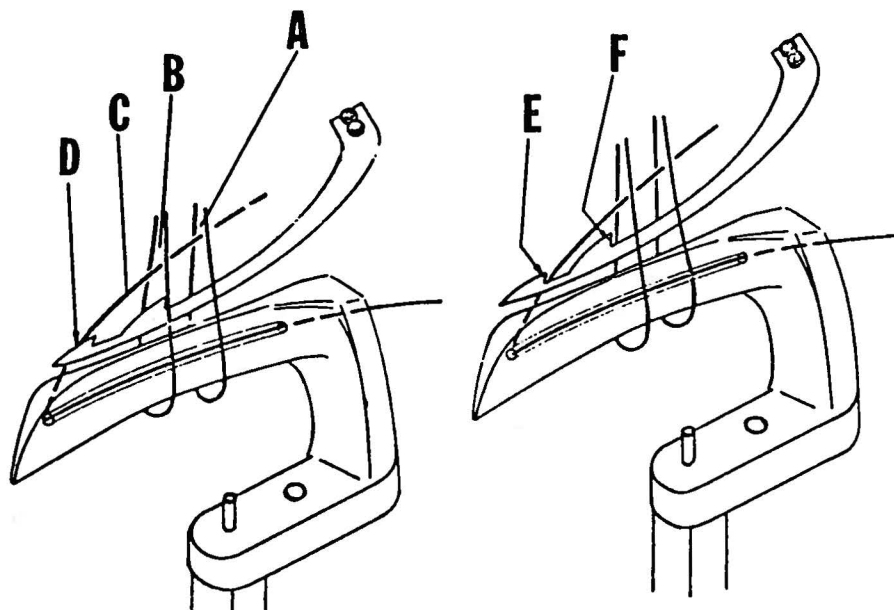


Fig. 19

To avoid pinching the needle threads as the lower knife (A, Fig. 20) swings out, the edge of the lower knife and the plate spring (B) must be in alignment as shown at point (C). Tip (D) of the cutting edge of the lower knife must be overlapped by the corner of the upper knife (E) at point (F). Adjustment can be made by loosening screws (G), reposition upper knife and plate spring as required. Retighten screws.

With both knives in their resting position, the upper knife (A, Fig. 21) must overlap the lower knife (B) approximately .020 inch. Adjustment can be made by loosening screw (C) and repositioning the hexagonal stop plate (D). Retighten screw.

With reference to Fig. 18, the looper is overlapped by the plate spring at its extreme left end position to prevent the looper from interfering with the front face of the plate spring. With any adjustment requiring movement of the plate spring (E, Fig. 21), care must be taken to assure that it does not interfere with the feed dog (F) by maintaining a minimum of .020 inch clearance, with the severing device in rest position (See Fig. 21). While in this position, a clearance of

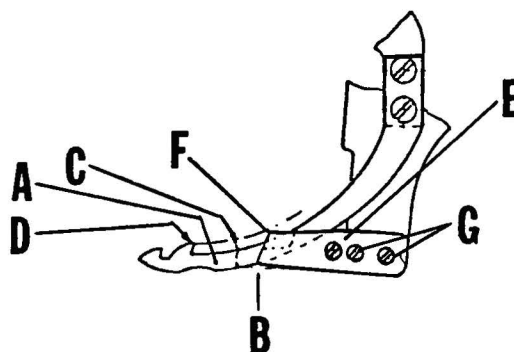


Fig. 20

ADJUSTING KNIVES (Continued)

.020-.040 inch must be maintained between the lower stop (G) and the corresponding edge of the upper knife carrier (H). Forward or rearward repositioning of the upper

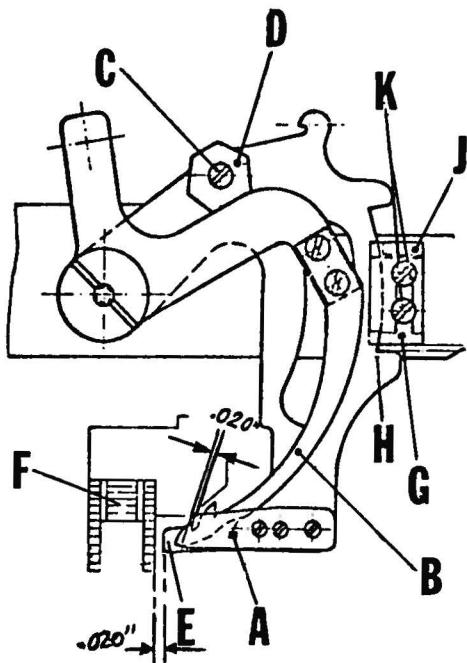


Fig. 21

The looper thread (A, Fig. 22) must be clamped between the plate spring (B) and lower knife (C) after being severed by the upper knife (D). Tension on the looper thread retaining plate spring can be adjusted by turning the tension regulating screw (E).

THREAD PULL-OFF HOOKS AND TENSION RELEASE ADJUSTMENTS

Loosen clamp screw (A, Fig. 23) in clamp (B) located at the rear of the machine and set lever (C) in a horizontal position, retighten clamp screw. Adjust the tension disc separator (D) by turning eccentric (E) so that the tension is released as soon as the cutting process begins and that tension discs are open before thread pullers begin pulling thread. Adjust thread pull-off hook (F) so that the needle threads are long enough to start sewing immediately on the next stitch. Adjust thread pull-off

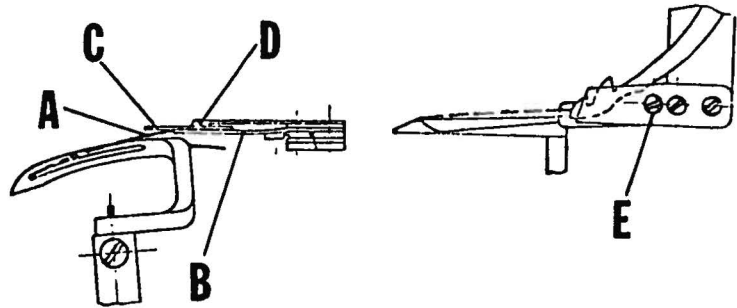


Fig. 22

stop (J) will lengthen or shorten the thread tails extending from the cloth after severing. Adjustment can be made by loosening screws (K), reposition stops as required and retighten screws.

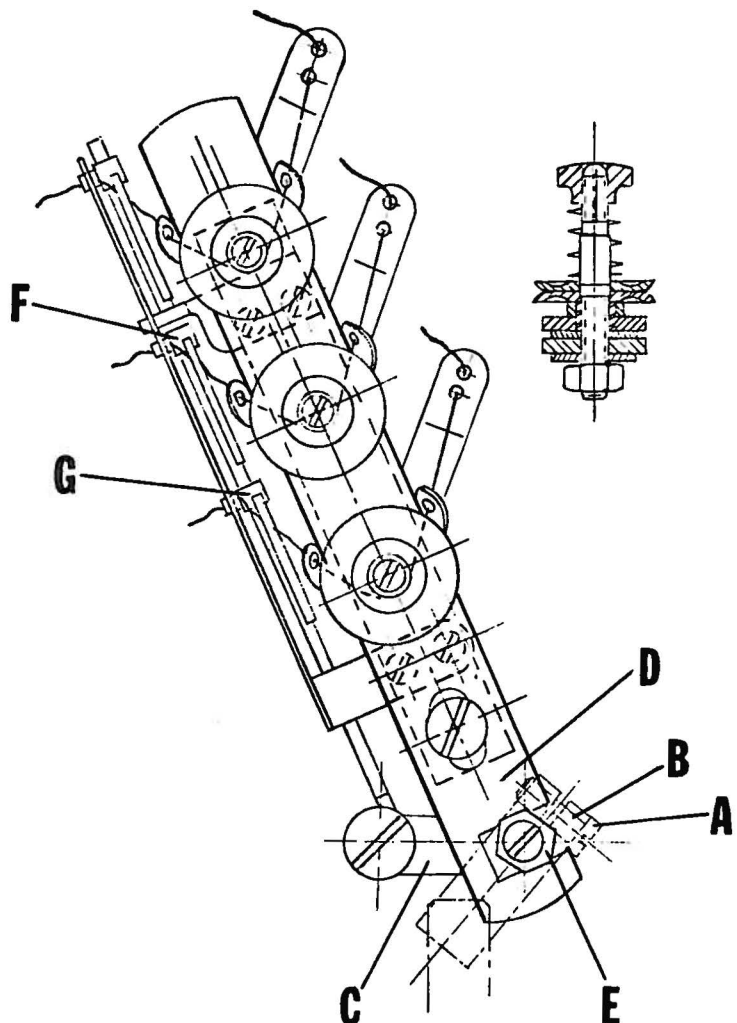


Fig. 23

THREAD PULL-OFF HOOKS AND TENSION RELEASE ADJUSTMENTS (Continued)

hook (G) so that the looper thread is clamped securely after it has been severed.

- CAUTION:
- (a) Observe to insure ample clearance of the pull-off hooks during the cutting operation.
 - (b) Tension disc separator should move freely between tension discs with no bind.
 - (c) Take care that pull-off hooks do not bottom on thread guide or guide support.

ADJUSTING THREAD WIPER

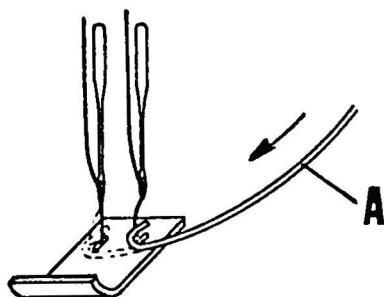


Fig. 24

With the power lead removed from the thread wiper solenoid, sew on a piece of fabric and sever threads. Actuate the thread wiper (A, Fig. 24) by hand, observing that the needle threads must be deflected by the hook of the wiper swinging in and caught by the hook of the wiper when returning (See Fig. 25). The wiper must not contact the needles or the presser foot during its arc of travel.

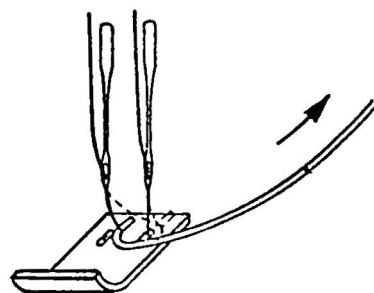


Fig. 25

This condition can be accomplished by loosening screws (A & B, Fig. 26) and position guard plate (C) so the wiper will not hook into the fabric. Retighten screws. Screws (D) should be set so as to offer the least possible resistance to the wiper wire as it passes through its arc of travel.

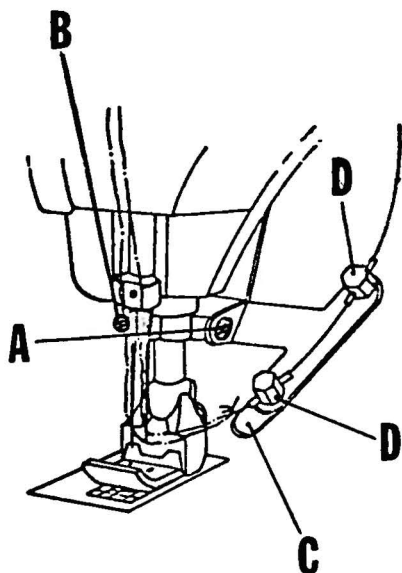


Fig. 26

When returning to rest position, the thread wiper lever (A, Fig. 27) must be stopped by stop (B) slightly before the armature of the solenoid stops. This can be accomplished by loosening screw (C), reposition lever as required, retighten screw. Reconnect power lead for thread wiper assembly.

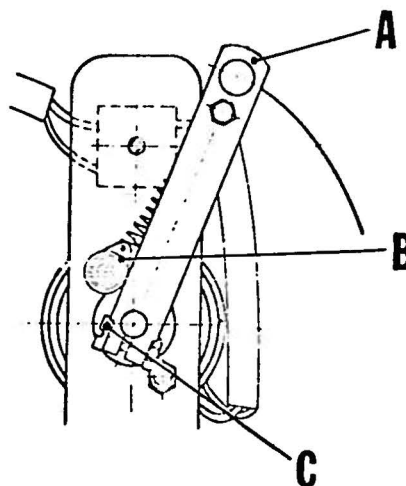
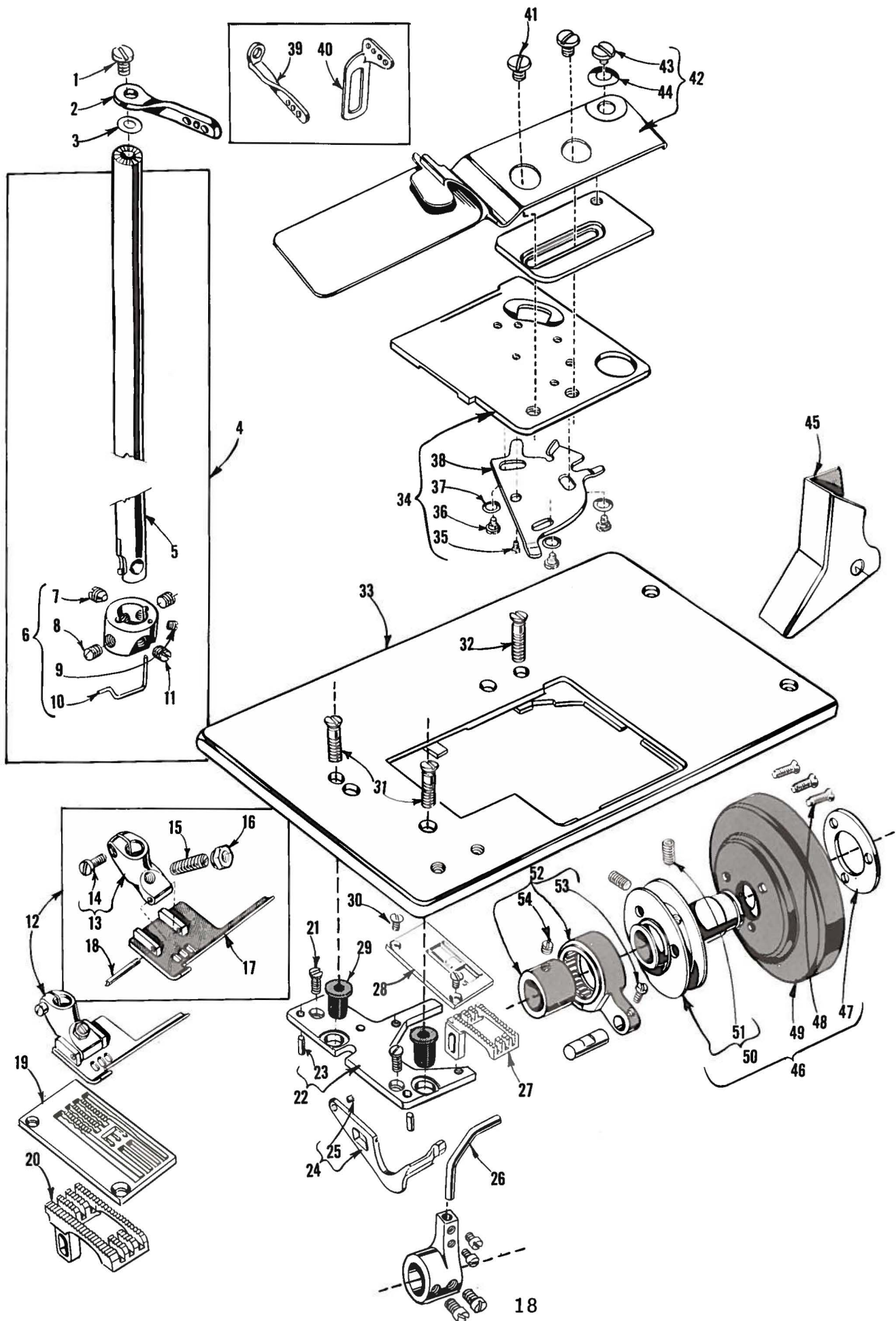
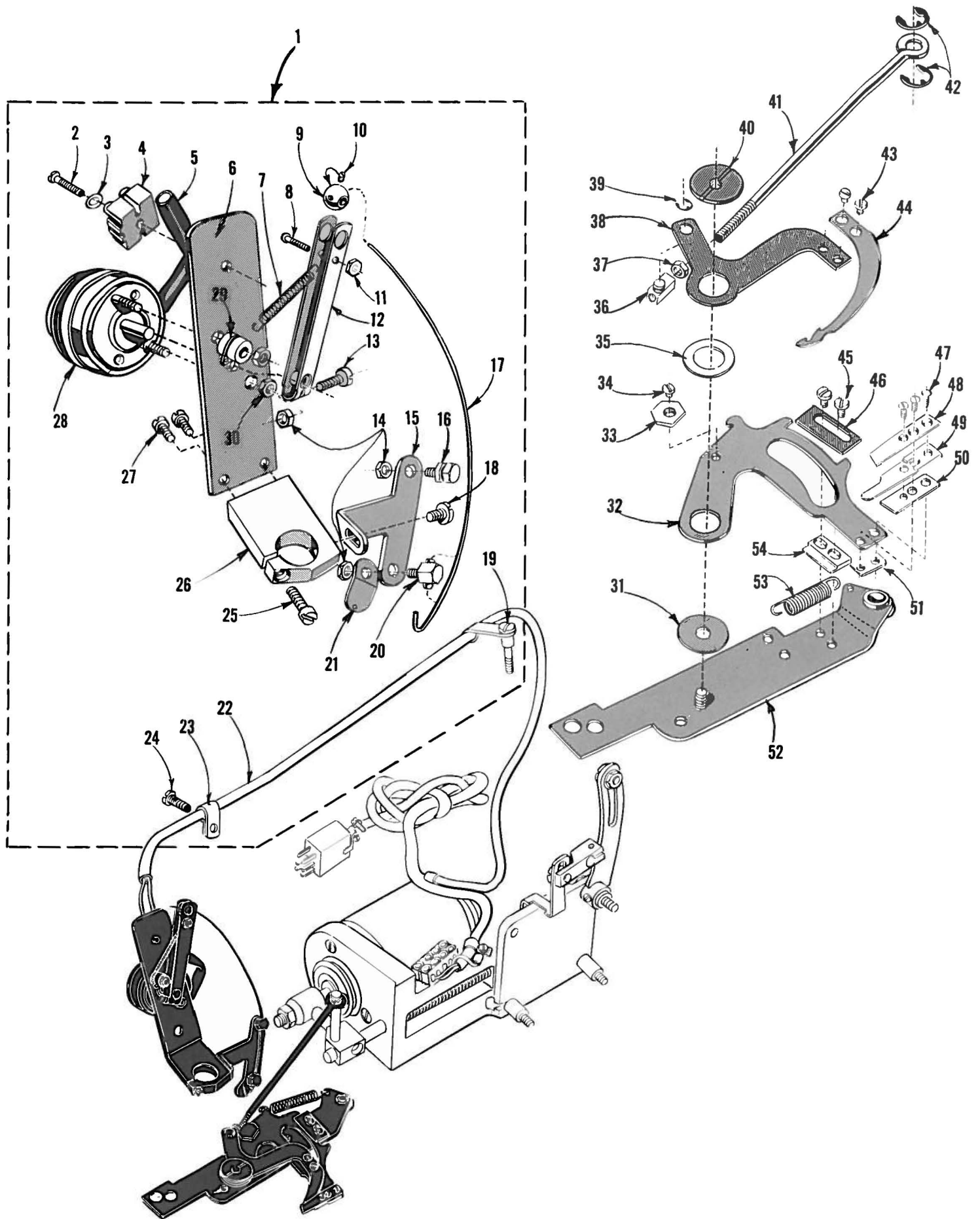


Fig. 27



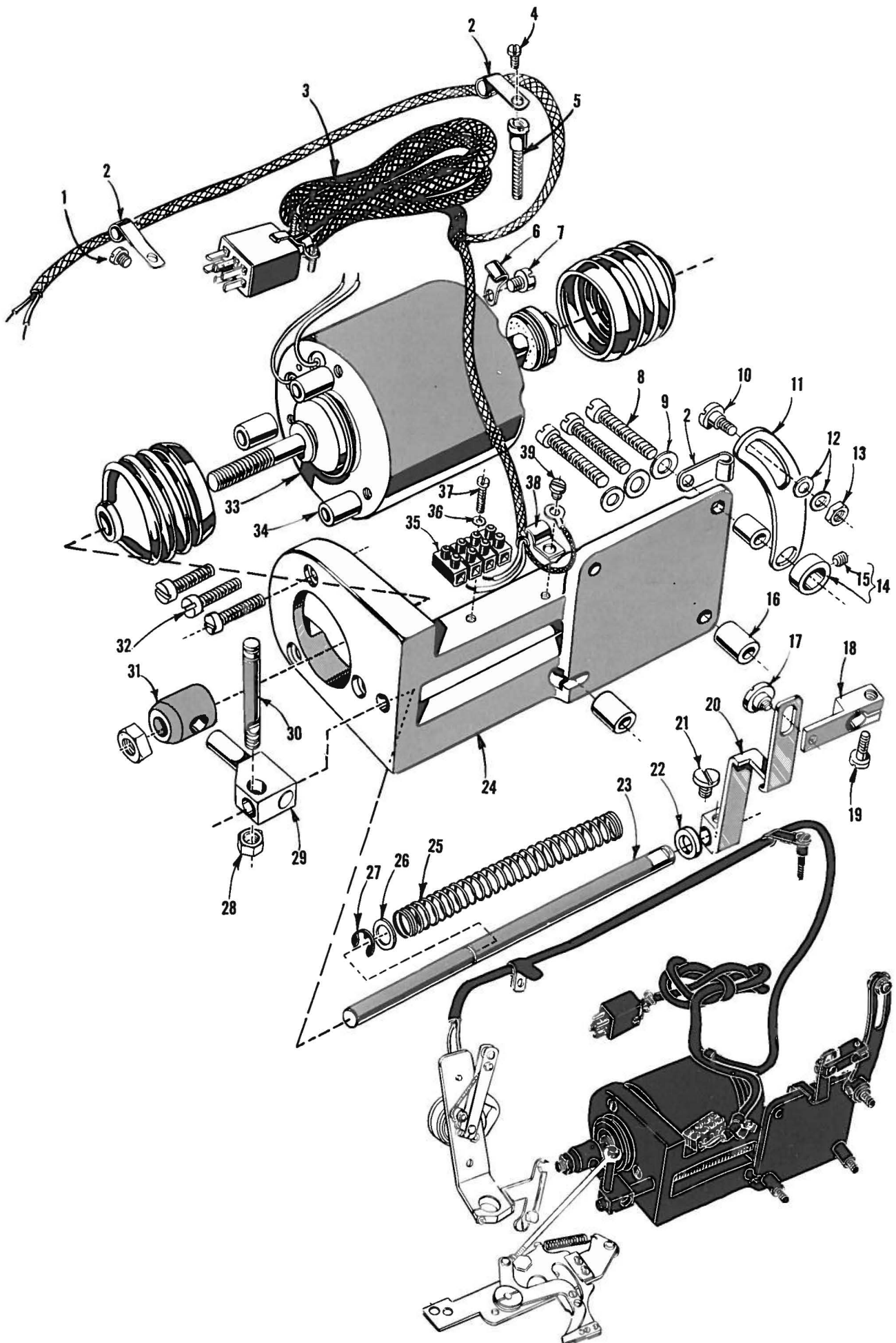
**NEEDLE BAR, NEEDLE BAR HEAD, PRESSER FOOT, THROAT PLATES,
FEED DOGS, CLOTH PLATE, HANDWHEEL ASSEMBLY AND MISCELLANEOUS PARTS**

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	22768	Screw, for needle bar eyelet -----	1
2	56958 A	Needle Bar Thread Eyelet, for Style 57700 KM -----	1
3	27-435 Blk.	Needle Bar Thread Eyelet Lock Washer -----	1
4	29264 S-16	Needle Bar Assembly, for Style 57700 KM -----	1
5	52817-16	Needle Bar, marked "BD-16" -----	1
6	52818-8	Needle Bar Head -----	1
7	89	Spot Screw -----	1
8	88 B	Set Screw, for outside needles -----	2
9	28 B	Set Screw, for No. 52842 G -----	1
10	52842 G	Needle Thread Guide -----	1
11	28 C	Set Screw, for middle needle -----	1
12	57720 M-16	Presser Foot, for Style 57700 KM -----	1
13	51430 D	Presser Foot Shank -----	1
14	91	Clamp Screw -----	1
15	22840 A	Tilt Adjusting Screw -----	1
16	51430 F	Lock Nut -----	1
17	57730 M-16	Presser Foot Bottom -----	1
18	22799 B	Hinge Screw -----	1
19	57724 M-16	Throat Plate, for Style 57700 KM -----	1
20	57705 M	Feed Dog, for Style 57700 KM, 16 teeth per inch-----	1
21	80	Screw -----	2
22	57780 A	Throat Plate Support-----	1
23	51280 J	Dowel Pin -----	2
24	57725 A	Needle Guard, for Style 57700 KM-----	1
-	57725	Needle Guard, for Style 57700 KL -----	1
25	22801	Pivot Screw -----	1
26	57725 B	Looper Needle Guard -----	1
27	7205 A	Feed Dog, for No. 12 gauge, Style 57700 KL, 16 teeth per inch-----	1
-	22 JW	Feed Dog, for No. 16 gauge, Style 57700 KL, 16 teeth per inch-----	1
28	52724 P-12	Throat Plate, for No. 12 gauge, Style 57700 KL -----	1
-	52724 P-16	Throat Plate, for No. 16 gauge, Style 57700 KL -----	1
29	660-313	Well Nut -----	2
30	87	Screw, for throat plate -----	2
31	22526 C	Screw, for cloth plate -----	2
32	22574 C	Screw, for cloth plate -----	1
33	57701	Cloth Plate -----	1
34	56381 D-219	Cloth Plate Cover Assembly -----	1
35	22845 B	Pivot Screw -----	1
36	22760 A	Screw -----	3
37	35772 H	Spring Washer -----	3
38	51281 AC	Cloth Plate Cover Spring -----	1
39	56958	Needle Lever Thread Eyelet, for Style 57700 KM -----	1
40	51858	Needle Thread Frame Eyelet, for Style 57700 KM-----	1
-	51758	Needle Thread Frame Eyelet, for Style 57700 KL -----	1
41	25 C	Screw, for No. 23405 T -----	2
42	23405 T	Folder, for Style 57700 KM-----	1
43	22726	Screw -----	1
44	12957 E	Spring Washer -----	1
45	57791	Looper Thread Guard -----	1
46	56321 L	Handwheel Assembly -----	1
47	61321 L	Retaining Plate -----	1
48	22574	Screw -----	3
49	56321 F	Handwheel -----	1
50	56321 K	Pulley-----	1
51	22894 AB	Set Screw -----	2
52	29476 LK-062	Looper Avoid Eccentric Assembly, for Style 57700 KM -----	1
-	29476 LK-072	Looper Avoid Eccentric Assembly, for Style 57700 KL -----	1
53	77	Screw, for link pin -----	1
54	22894 AA	Set Screw -----	1



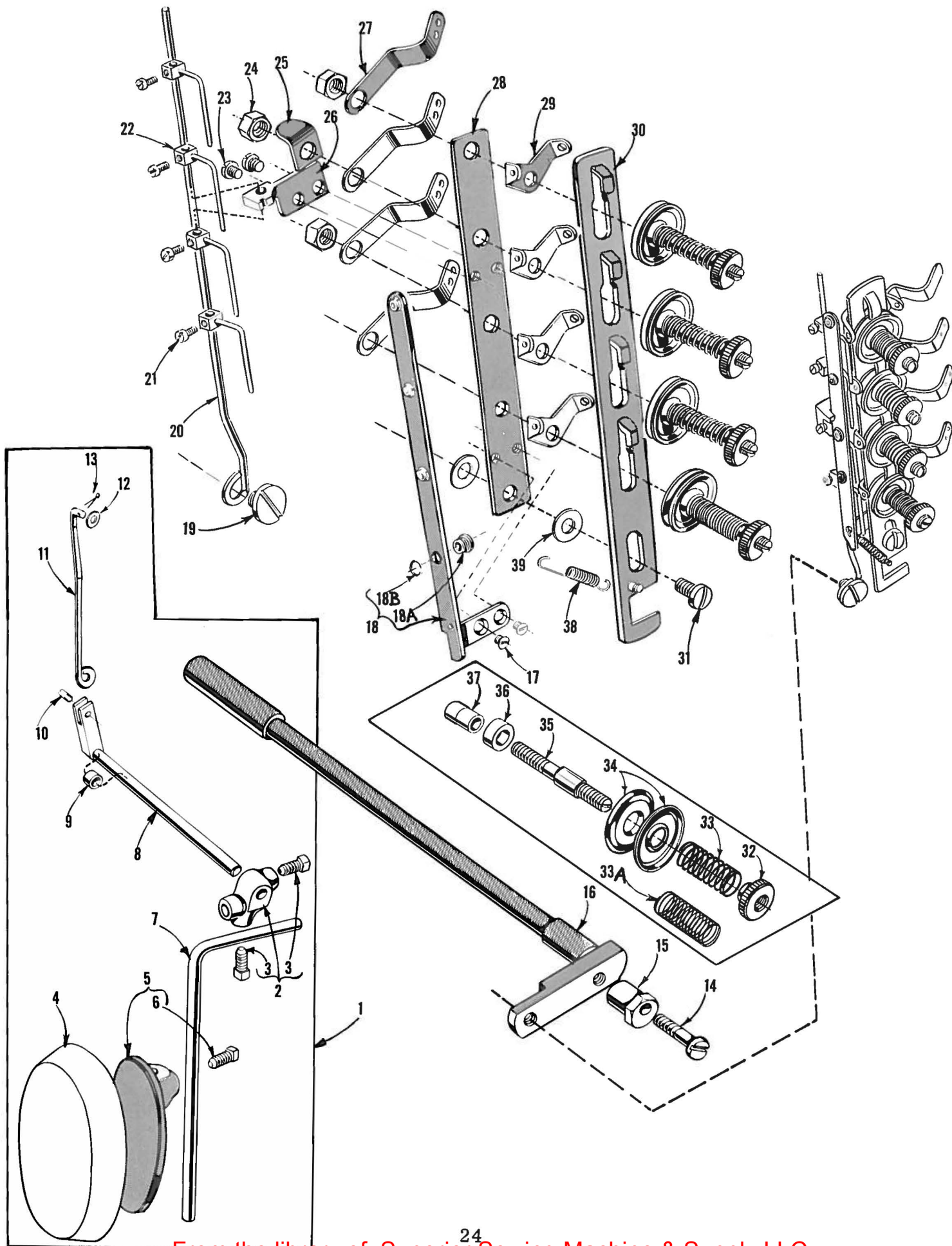
THREAD WIPER AND KNIFE ASSEMBLY PARTS

Ref. No.	Part No.	Description	Amt. Req.
1	G29906 E	Thread Wiper Assembly -----	1
2	22767 A	Screw, for No. 998-59-----	1
3	96150	Washer, for No. 998-59 -----	1
4	998-59	Terminal -----	1
5	1310109	Insulating Tube -----	1
6	99650	Mounting Bracket -----	1
7	96707	Spring -----	1
8	22738 D	Screw, for No. 99646 A -----	1
9	99646 B	Ball -----	1
10	28 B	Screw, for No. 99646 B -----	1
11	60078 Z	Nut, for No. 22738 D -----	1
12	99646 A	Lever -----	1
13	99318	Screw, for No. 99646 A -----	1
14	43443 Q	Nut, for Nos. 99318, 99648, 99648 C -----	3
15	99651	Bracket, for thread wiper guide -----	1
16	99648 C	Thread Wiper Guide, upper -----	1
17	99653	Thread Wiper Wire -----	1
18	22585 C	Screw, for No. 99651-----	1
19	94	Screw, for No. 99654-----	1
20	99648	Thread Wiper Guide, lower -----	1
21	99652	Washer -----	1
22	G21233 HE	Cable -----	1
23	99654	Cable Holder -----	3
24	92 A	Screw, for No. 99654 -----	1
25	22729	Screw, for No. 99649 -----	1
26	99649	Holder -----	1
27	22849 A	Screw, for No. 99650 -----	2
28	998-243	Rotating Solenoid -----	1
29	99647	Thrust Collar -----	1
30		Nut, for No. 998-243 (5-40 NC-2A) -----	2
31	G52768 KW	Washer -----	1
32	G52771 KW	Upper Knife Carrier -----	1
33	G52773 KW	Hexagonal Stop Plate -----	1
34	22561 A	Screw, for No. G52773 KW -----	1
35	G51367 KE-020	Washer, .008 inch thick -----	1
36	G51352 KE	Connector -----	1
37	43443 Q	Nut, for No. G52737 KW -----	1
38	G51350 KE	Lower Knife Carrier -----	1
39	G660-210	Retaining Ring, for No. G51352 KE -----	1
40	99314	Nut -----	1
41	G52737 KW	Connecting Rod -----	1
42	96275	Retaining Ring, for No. 99619 -----	2
43	G22561 A	Screw, for No. G52749 KW -----	2
44	G52749 KW	Lower Knife -----	1
45	87 U	Screw, for No. G52774 KW-----	2
46	G52774 KW	Upper Stop Plate -----	1
47	99316	Screw, for No. G52770 KW -----	3
48	G52770 KW	Upper Knife -----	1
49	G52763 KW	Clamp Spring -----	1
50	G52751 KW	Counter Part -----	1
51	G52769 KW	Clamp Plate -----	1
52	G52772 KW	Carrier Plate -----	1
53	96705	Spring -----	1
54	G52776 KW	Lower Stop Plate -----	1



CUTTER SOLENOID, CUTTER SOLENOID MOUNTING BRACKET
AND DRIVE PARTS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	92 A	Screw, for No. 99654 -----	1
2	99654	Cable Clamp -----	3
3	660-436	Solenoid Harness -----	1
4	94	Screw, for No. 99654 -----	1
5	52882 V	Screw, for upper chamber cover -----	1
6	G21233 BG	Cable Clamp -----	1
7	95169	Screw, for No. G21233 BG -----	1
8	22517 A	Screw, for No. G52882 KE -----	3
9	80557	Washer, for No. 22517 A -----	3
10	78056	Screw, for No. 99624 -----	1
11	99624	Guide Bracket -----	1
12	53634 C	Washer, for No. 99624 -----	2
13	9937	Nut, for No. 78056 -----	1
14	482	Collar -----	1
15	98	Screw -----	1
16	21657 AJ	Spacer, for No. G52882 KE -----	3
17	99296	Screw, for No. 21657 AK -----	1
18	99620	Tension Release and Lifter Lever Shaft Connection -----	1
19	22596	Screw, for No. 99620 -----	1
20	21657 AK	Lever -----	1
21	25 S	Screw, for No. 21657 AK -----	1
22	99615	Washer, for No. 99613 -----	1
23	99613	Shaft -----	1
24	G52882 KE	Mounting Bracket -----	1
25	97005	Presser Spring -----	1
26	41332 J	Washer, for No. 99613 -----	1
27	96276	Retaining Ring -----	1
28	55235 E	Nut, for No. 99619 -----	1
29	99614	Rocker Shaft Connection -----	1
30	99619	Locking Screw -----	1
31	99616	Connection -----	1
32	95168	Screw, for No. 998-306 -----	3
33	998-306	Cutter Solenoid -----	1
34	99617	Bushing Spacer, for No. 998-306 -----	3
35	998-304	Terminal Block -----	1
36	96150	Washer, for No. 22734 A -----	1
37	22734 A	Screw, for No. 998-304 -----	1
38	G21233 D-4	Cable Clamp -----	1
39	90	Screw, for No. G21233 D-4 -----	1



KNEE PRESS ASSEMBLY AND THREAD TENSION PARTS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
*1	21660 S	Knee Press Assembly-----	1
2	21665 N	Knee Press Rod Connection-----	1
3	69 FD	Screw-----	2
4	660-168	Knee Press Plate Cushion, sponge rubber-----	1
5	21664	Knee Press Plate-----	1
6	69 FD	Screw-----	1
7	21663 D	Knee Press Plate Lifter Rod-----	1
8	21661 U	Knee Press Shaft and Connecting Link-----	1
9	21661 V	Spacer-----	1
10	22799 AA	Screw-----	1
11	21662 AJ	Knee Press Lifter Rod-----	1
12	8372 A	Washer-----	1
13	660-142	Cotter Pin-----	1
14	22757	Screw, for No. G51346 KE-----	1
15	G51346 KE	Tension Release Eccentric-----	1
16	21657 AG	Tension Release Lever Shaft-----	1
17	222 D	Screw, for thread guide-----	2
18	33758 KC	Thread Guide, for Style 57700 KM-----	1
-	G52758 KW	Thread Guide, for Style 57700 KL-----	1
18A	668-25	Thread Eyelet-----	3 or 4
18B	668-28	Eyelet Locking Ring-----	3 or 4
19	99296	Screw, for thread puller rod-----	1
20	33692 KC	Thread Puller Rod, for Style 57700 KM-----	1
-	G52792 KW	Thread Puller Rod, for Style 57700 KL-----	1
21	77 A	Screw, for No. G51358 KE-----	3 or 4
22	G51358 KE	Thread Puller-----	3 or 4
23	22513	Screw, for No. G51335 KE-----	2
24	43266	Nut, for tension post-----	2 or 3
25	33651 KC	Vibration Stop, for Style 57700 KM-----	1
26	G51335 KE	Thread Puller Rod Guide Bracket-----	1
27	51491 C	Thread Lead-in Guide-----	3 or 4
28	33692	Tension Assembly Carrier, for Style 57700 KM-----	1
-	G53592 KW	Tension Assembly Carrier, for Style 57700 KL-----	1
29	51292 D	Tension Thread Eyelet-----	3 or 4
30	33657 K-4	Tension Release Bar, for Style 57700 KM-----	1
-	G21657 KL-3	Tension Release Bar, for Style 57700 KL-----	1
31	22598 C	Screw, for tension release bar-----	1
32	51292 C	Tension Nut-----	3 or 4
33	51292 F-5	Needle Tension Spring-----	2 or 3
33A	51292 F-1	Looper Tension Spring-----	1
34	109	Tension Disc-----	6 or 8
35	51292 G	Tension Post-----	3 or 4
36	99622 A	Spacer Sleeve Washer-----	3 or 4
37	G51292 KW	Spacer Sleeve-----	3 or 4
38	96711	Spring-----	1
39	61434 G	Washer, for No. 22598 C-----	2

* Available as an extra send and charge item.

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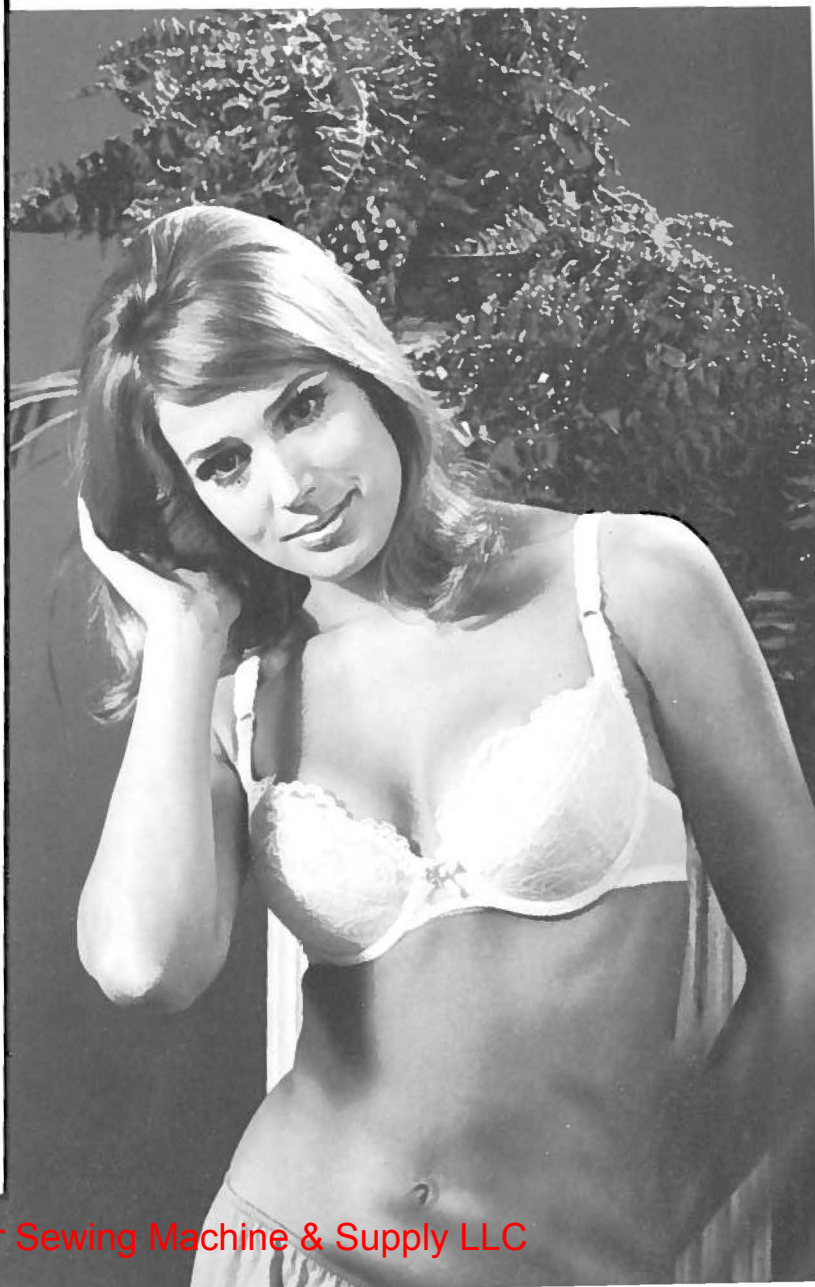
Helpful, authoritative information on the most efficient types of equipment for making virtually any machine sewed article is available from Union Special's Sales Promotion Department. Among the many interesting, illustrated bulletins that are available without obligation are the following:



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- No. 249, "Rainwear"
- No. 250, "Men's Dress Shirts"
- No. 251, "Service Shirts and Pants"
- No. 252, "Men's Shorts and Pajamas"
- No. 253, "Overalls, Coveralls, and Dungarees"
- No. 254, "Men's Knit Underwear"
- No. 256, "Knit Outerwear"
- No. 259, "Men's Sports Shirts"
- No. 260, "Work Gloves"
- No. 262, "Cotton, Burlap, Jute, and Multiwall Paper Bags"
- No. 263, "Men's Clothing"
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