Finest Quality

Union Special®
INDUSTRIAL SEWING EQUIPMENT

STYLES

53100A
53100B
53100C
53100D
53100E

ADJUSTING INSTRUCTIONS AND ILLUSTRATED PARTS LIST

CLASS 53100
STREAMLINED HIGH SPEED ZIG-ZAG MACHINES

CATALOG NO.
112R-GR

FIRST EDITION

RoHS
2002/95/EC

06/10/08

FOREWORD

The 5000 series streamlined zig - zag machines covered by this catalog represent the latest design of the UNION SPECIAL flat bed line. Class 53100 machines offer many advantages on various operations on a variety of garments such as nightgowns, slips, panties, foundations, children's knit undergarmrnts, men's trousers, women's dresses, blouses, bed jakets and pajamas.

Light weight presser bar and needle bar driving mechanism make it possible to attain the utmost in speed and production. The new light weight parts and needle bearings make them lighter running and smoother operating. The light weight presser bar mechanism reduces pressure required to lift the presser foot.

Automatic lubrication and a new filter type oil return pump, used in conjunction with isolated mounting oil pan base plate, for returning filtered oil to the main reservoir, has made maintenance simple.

It is our constant aim to furnish carefully prepared information which will enable our customers to secure all possible advantages from the use of UNION SPECIAL machines. The following pages illustrate and describe the parts used in all of the machines covered in this catalog.

Union Special representatives will be found in all manufacturing centers, ready to cooperate with you to plan and estimate requirements.

CONTENTS

IDENTIFICATION OF MACHINE

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 53100 A”. 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 53100 AZ”.

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: “53100”.

APPLICATION OF CATALOG

This 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 MACHINE

High Speed Streamlined Flat Bed, Single Needle, Medium Throw, Zig-Zag Machine. Lightweight Presser Bar and Needle Bar Driving Mechanism, Single Reservoir EnclosedAutomatic Lubricating System, Filter Type Oil Return Pump and Oil Siphon Assembly. Lateral Looper Travel, WorkSpace to Right of Needle Bar 7 3/4 Inches.

53100A For attaching and mitering lace to nightgowns, slips, and panties made from light to medium weight knit and woven fabrics of cotton, rayon, nylon, dacron and similar materials; also for hemming panels on two-way stretch foundations. Can be used for purl edge stitching on children’s knit undergarments. Knee press for raising presser foot. Seam specification 404-LSa-1.

53100B Power driven upper roller feed. For attaching pre-made waistband linings to tops or to waistband of men’s trousers, giving hand felled effect. Folder No. 23450L prepared to take waistbands ranging from 1 1/4 to 4 inches wide, in long lengths, entering from the right, and produces headings of from 1/8 to 3/4 inches. Seam specification 404-LSb-1.

53100C Same as 53100B, except without folder.

53100D Same as 53100 A. except fitted with open toe “V” type presser foot and swing-up edge guide attached to the lower presser bar bushing, to be used for abutted edge seaming on slips and gowns. Seam specification 404-FSa-1.

53100E Differential feed machine. For attaching lace to neck, armholes and bottom of nightgowns, slips, panties, gathering either the garment, lace or both together. Attaching tiers of lace to slips, dresses and nightgowns. Setting puff sleeves in blouses, bed jackets and pajamas. For operations on light to medium weight knit and woven fabrics of cotton, rayon, nylon, dacron and similar materials where a large percent of the work calls for intermittently or continuously gathered seams. Knee press for raising presser foot. Seam specification 404-LSa-1, FSA-I or SSa-1.

NEEDLES

Each UNION SPECIAL needle has both a type number and a size number. The type number denotes the kind of shank, point, length, groove, finish and other details. The size number, stamped on the needle shank, denotes the largest diameter of blade measured in thousandths of an inch midway between the shank and the eye. Collectively, type number and the size number is the complete symbol.

Standard needle for Styles 53100 A, D and E is Type 163 GAS and the standard needle for Styles 53100 B and C is Type 110 GAS.

Type No.	Description and Sizes
110 GAS	Round shank, round point, extra short double groove, struck groove, ball eye long spot government, chromium plated - sizes 090/036, 100/040, 110/044: 125/049.
163 GAS	Round shank, round point, Picoetta, single groove, struck groove, flat blade, long spot, chromium plated - sizes 070/027, 075/029, 080/032, 090/036, 100/040, 110/044, 125/049.

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: "11000 Needles,Type 110 GAS, Size 110/044".

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

ORDERING REPAIR PARTS

ILLUSTRATIONS

This catalog has been arranged to simplify ordering repair parts. Exploded views of various sections of the mechanism are shown so that the parts may be seen in their actual position in the machine. 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 partcular view being shown.

Numbers in the first column are reference numbers only and merely indicate the position. of that part in the illustration. Reference numbers should never be used in ordering parts. Always use the part number listed in the second column.

Component parts of sub-assemblies which can be furnished for repairs are indicated by indenting their descriptions under the description of the main subassembly. Example:

9.	29476LE	Looper Driving Lever Crank Assembly	1
10.	22559A	Screw, lower	2
11.	51243C	Ball Stud Guide	1
12.	22729	Screw	1
13.	22587	Screw, upper	2

It will be noted in the above example that the eccentric and bearing are not listed. The reason is that replacement of these parts individually is not recommended, so the complete sub-assembly should be ordered.

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 thevarious 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.

ORDERING REPAIR PARTS (CONTINUED)

At the back of the book will be found a numerical index of all the parts shown in this book. This will facilitate locating the illustration and description when only the part number is known.

IDENTIFYING PARTS

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

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

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

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 the 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 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.

OILING AND THREADING

The oil has been drained from the machine before shipping, and the reservoir must be filled before beginning to operate. Use a straight mineral oil with a Saybolt viscosity of 90 to 125 seconds at 1000 Fahrenheit.

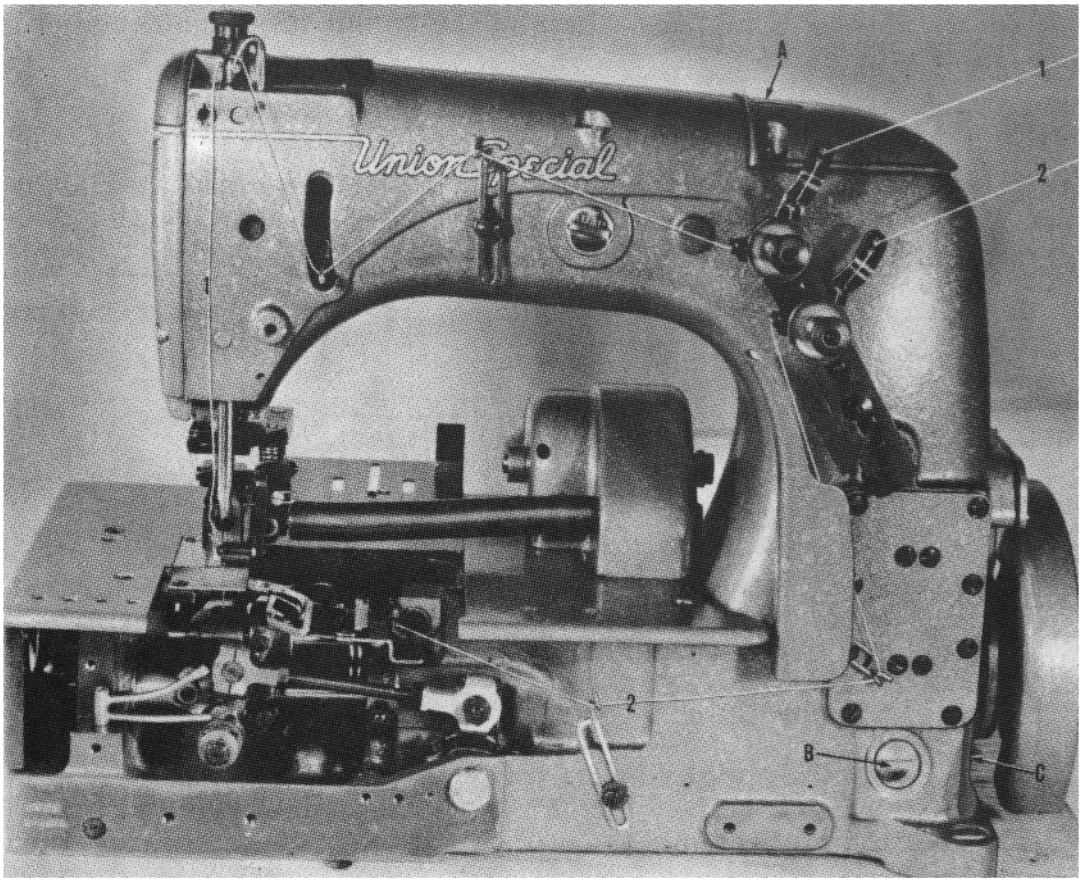
Oil is filled at the spring cap in the top cover, and the oil level is checked at the sight gauge on the front of the machine. The oil level should be maintained between the red lines on the gauge. The capacity of the oil reservoir is 12 ounces.

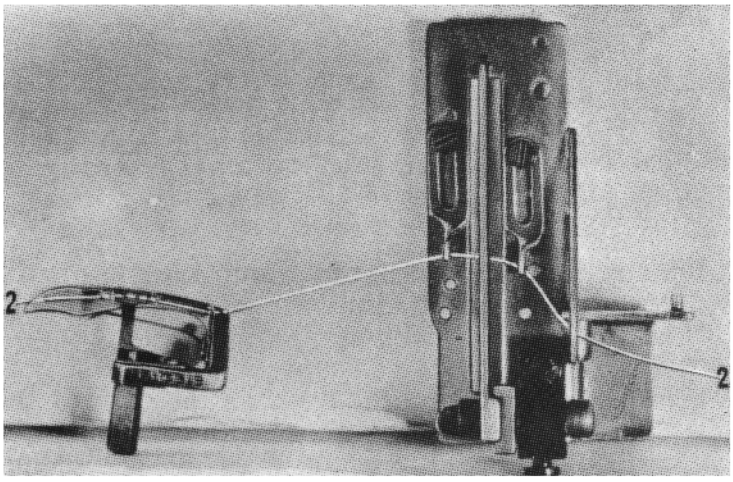
The machine is automatically lubricated, and no oiling, other than keeping the main reservoir filled is necessary.

A daily check before the morning start should be made and oil added if required. Oil which has gone through the machine is filtered and pumped back into the main reservoir, making too frequent oilings unnecessary. Excessive oil in the main reservoir may be drained at the plug screw in the main frame directly under the handwheel.

On the next page is a picture showing the manner in which the 5310O Styles covered in this catalog are threaded. The looper threading has been enlarged for clarity.

0ILING AND THREADING DIAGRAM





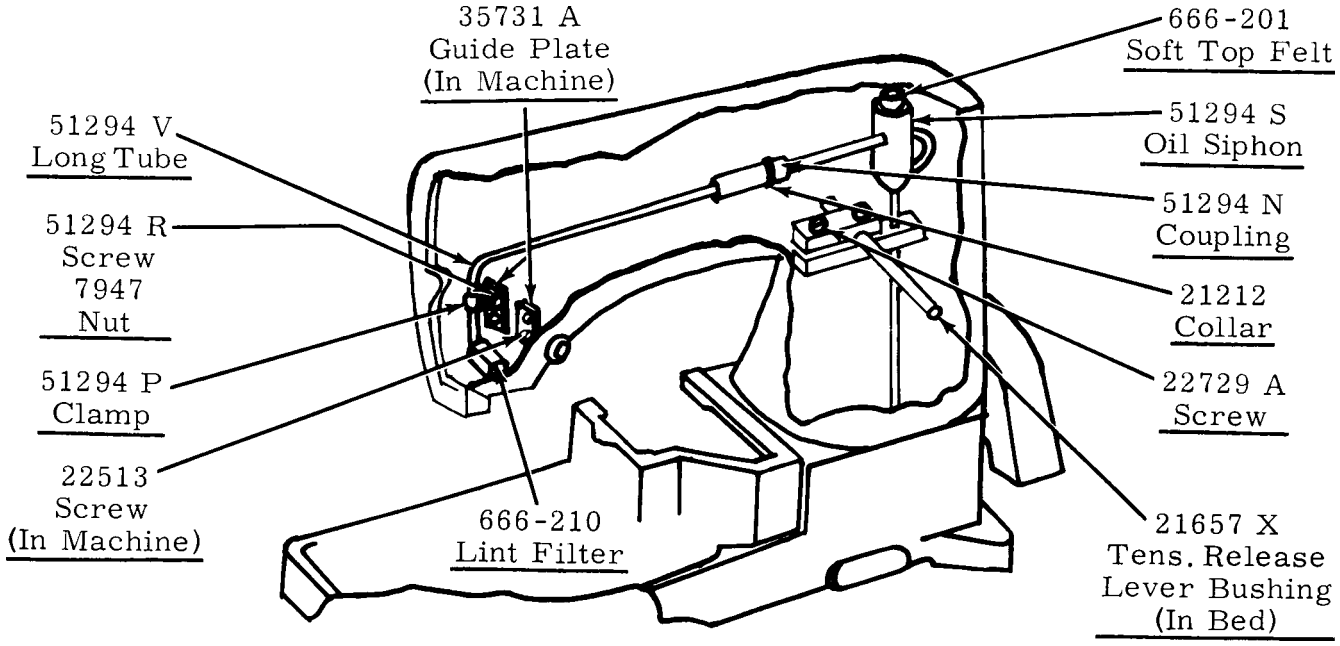
STYLE 53100 C

Oil has been drained from the machine before shipping, and the reservoir must be filled before beginning to operate. Oil is filled at spring cap (A). Oil level is checked at sight gauge (B). Use a straight mineral oil with a Saybolt viscosity of 90 to 125 seconds at 10 Fahrenheit. Excessive oil in the main reservoir may be drained at plug screw (C).

Thread machine as indicated, thread 1 is the needle thread, and thread 2 is the looperthread. The looper threading at the cast-off plate and looper has been enlarged for clarity.

SELF-PRIMING HEAD OIL SIPHON

Class 53100 machines are equipped with a self-priming head oil siphon. When the machine is started, oil splashes on the priming cupfelts, filters through the felts, and trickles down the vertical oil tube, thus, priming the siphon. Once the prime is established, it is maintained, unless the felts are 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 maybe twenty minutes or so before all the air is removed from the line and the siphon is in full operation. In Class 53100 machines without a head sump, the head will be free of excess oil by that time.

The felts in the priming cup are designed for a specific purpose. The bottom felt, 666-209, is thin and relatively dense, to meter the flow of priming oil and to prevent the entrance of air. The softer top felt, 666-201, is a filter to prevent the clogging of the metering felt. This felt, at the intake of the siphon, keeps the siphon clear of lint, and prevents the entrance of air at that point. For the best initial self -priming condition, the felts of the siphon should be dry. In this condition, it is difficult for air to be trapped between the felts or in the top soft felt itself.

However, if for some reason the priming cup felts had been oiled before installing, the siphon may fail because air is trapped between the felts or in the soft top felt. As a precaution, remove the soft 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. Then, completely fill the cup with oil and push or twist the soft felt down into cup so that it definitely contacts the harder thin felt. This precaution prevents the trapping of air, and no trouble should be experienced when starting the siphon.

If you want to be doubly sure that the siphon is functioning correctly, on a machine in operation, apply a certain amount of oil in the sump around the felt in the head. Before doing this, be certain that this felt has been saturated in the same manner as explained for the soft felt in the top of the siphon cup. When this is done., the siphoning action will begin, and the oil will be removed as explained.

INSTRUCTIONS FOR MECHANICS

NEEDLE LEVER STUD SETTING

Observe the location of the needle lever stud (A, Fig. 1). The head of the needle lever stud is marked with an arrow and the word “UP”. These studs are set correctly when the arrow points vertically up. Also check the position of the needle lever bearing oiler (B) inside the arm casting, which lubricates the needle lever, stud. 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 oil tube to rest on the needle lever.

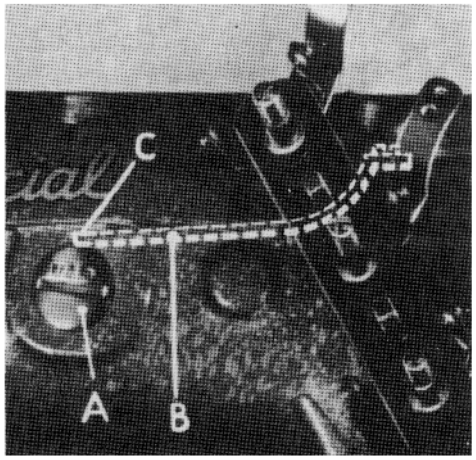


Fig. 1

OILING SYSTEM

Clean machine thoroughly. Fill oiling system to the first red line of oil gauge on the front of the machine, and oil all bearings. Run machine slowly for a minute to allow oil wicks to carry oil to the bearings. Then, recheck oil in oiling system and run machine for five minutes. Run Styles 53100A, D, and E at 4500 R. P.M. and Styles 53100B and C at 4000 R.P.M. Inspect siphon and head felt for proper function, and all plug screws for leakage.

SETTING THE ZIG-ZAG MOTION

Set the zig-zag motion to the maximum travel that the needle hole in the throat plate will permit.This can be accomplished by moving the ball joint (A, Fig. 2) in the segment lever (B) located under the cover directly above the handwheel on the right side of machine. Moving it away from the operator increases the zig-zag motion and toward the operator acts the reverse.

The cam gear pinion, located on the crank shaft adjacent to the handwheel housing, should be set so that the lateral zig-zag motion of the needle bar occurs when the needle is completely out of the work. This is accomplished by loosening the set screws in the pinion; then, while holding the gear train in a fixed position, turning the handwheel either forward or backward until the desired timing is obtained.

SPACING NEEDLE IN THROAT PLATE

Equalize the clearance between the needle (A, Fig. 3) and the right and left sides of the needle hole (B) in throat plate (C). This is accomplished by loosening set screw (D) and turning the eccentric stud (E) clockwise or counterclockwise until the described clearance has been obtained. Retighten set screw.

If additional adjustment is required, it can be obtained by loosening set screw (A, Fig. 4) and turning the eccentric ball joint stud (B), located at the right end of the needle bar frame under the top cover, either clockwise or counterclockwise.

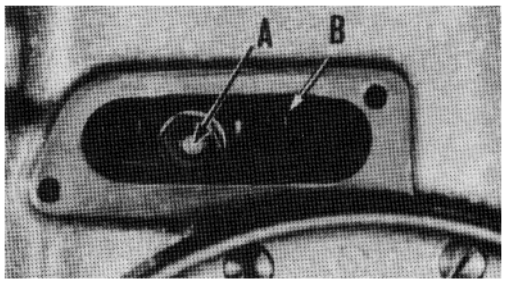


Fig. 2

SETTING THE LOOPER

Insert a new needle, size as specified, Type 163GA for Styles 53100A, D, E and Type 110 GA for Styles 53100B and C.

With the zig-zag motion at the end of its stroke to the right, set the looper (A, Fig. 5) so the distance from the center of the needle (B) to the point of the looper is 5/32 inch, when the looper is at its farthest position to the right. Looper gauge No. 21225-5/32 (C) can be used advantageously in making this adjustment. If adjustment is needed, loosen nut (D) (it has a left hand thread) and also loosen nut on right end of connecting rod (E), turn connecting rod forward or backward to obtain 5/32 inch and retighten both nuts.

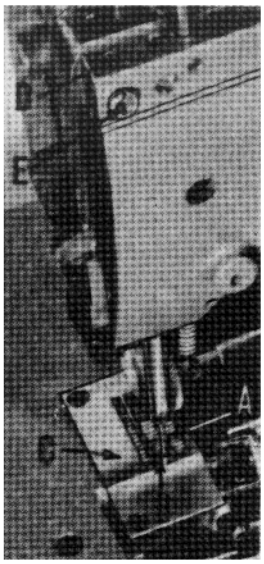


Fig. 3

The looper is set correctly in line with the feed when there is .003 inch space between its point (A, Fig. 6) and the rear of the needle (B) as the former is ascending on the right side. If adjustment is needed, loosen screw (F, Fig. 5) and move looper toward or away from needle as required and retighten screw when .003 inch space is obtained.

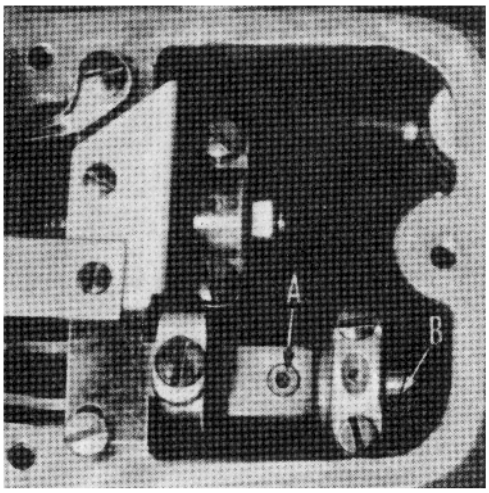


Fig. 4

SETTING HEIGHT OF NEEDLE BAR

The height of the needle (A, Fig. 7) is correct when the top of its eye is 1/64 inch below the underside, of the looper, with the looper point flush with the left side of the needle and the needle is ascending on the left side. If adjustment is necessary, loosen screws (B) and move needle bar (C) up or down as required and retighten screws.

SYNCHRONIZING LOOPER AND NEEDLE MOTIONS

Turn the handwheel in the operating direction until the looper point (A, Fig. 8) moves to the left and is even with the left side of the needle (B). Note the height of the eye of the needle with respect to the looper point, then, turn the handwheel in the reverse direction until the looper point again moves to the left, and is even with the left side of the needle. If the 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 longest when the pulley is turned in the operating direction, move the looper drive lever 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 clamp screw (D) of 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.

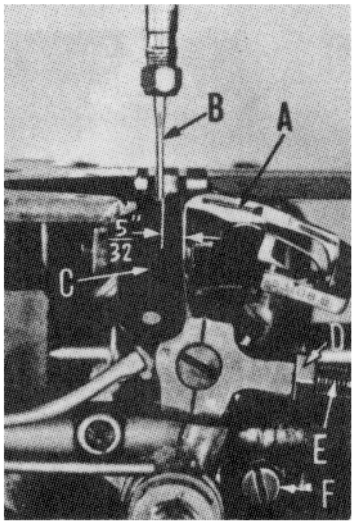


Fig. 5

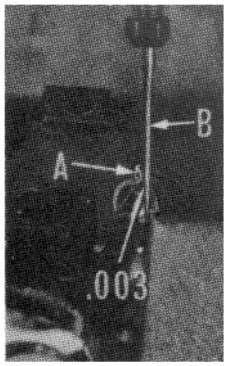


Fig. 6

To move stud forward (toward operator), remove the cloth plate, oil reservoir top cover, oil reservoir back cover, and on Styles 53100B and C, remove the clutch drive housing; 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. 8).

Reset the zig-zag motion to maximum that the needle hole in throat plate will permit (allow . 0 10 to . 0 1 5 inch clearance between the side of needle and needle hole).

SETTING THE FEED DOG

For Styles 53100 A, B, C and D, 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 are parallel with and 3/64 inch above 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.

If feed dog teeth are not parallel with the throat plate, loosen nut (A. Fig. 10) and turn screw (B) clockwise to lower the front teeth, and counterclockwise to raise the front teeth. Retighten nut when feed dog is set properly.

Should it be necessary to move the feed dog to the left or right, loosen screws (A, Fig. 1 1) which hold the feed rocker (B) onto the feed rocker shaft (C), and move feed rocker to desired position and retighten screws. Make sure that the feed rocker arm (D) does not bind after making this adjustment.

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

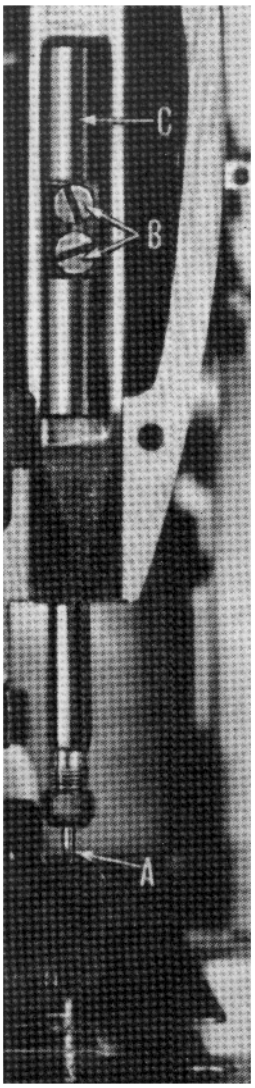


Fig. 7

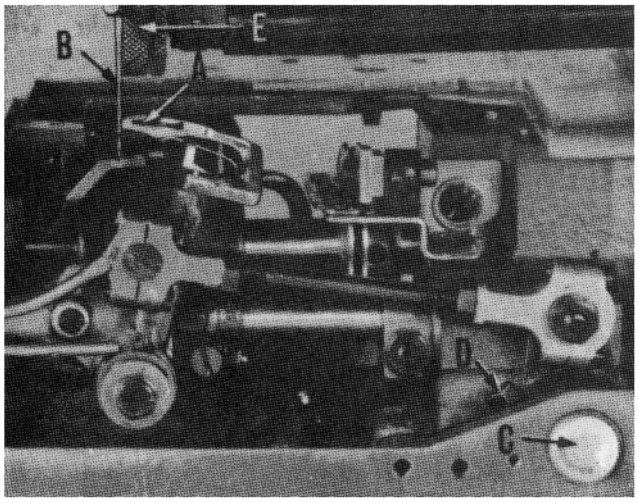


Fig. 8

For Style 53100E, set the main feed dog so that it is level with the throat plate, and that at its high position, it extends the depth of a tooth above the throat plate. Maintain this adjustment by means of the stop screw under the feed dog holder.

Space the feed dog laterally, so that there is equal clearance between the feed prongs and the throat plate slots. Loosen feed dog holding screws and move feed dog from side to side for this adjustment. If more adjustment is needed, the feed dog may be moved laterally the same as described in paragraph 3.

SETTING THE FEED DOG (CONTINUED)

With an average stitch length setting, equalize the travel of the feed dog so that, at both ends of its travel, it is equidistant from the ends of the throat plate slot. Make this adjustment the same as described in paragraph 4.

Set the height of the differential feed dog to correspond with that of the main feed dog by moving it up or down in its holder.

Turn handwheel in operating direction until the feed dog is at its farthest point of travel to the rear, and set the differential feed so that there is l/ 64 inch clearance between the center row of teeth and the end of the throat plate slot. This is done by loosening the two headless screws which clamp the shank of the differential feed bar. The throat plate support will have to be removed for access. Also level the feed during this adjustment.

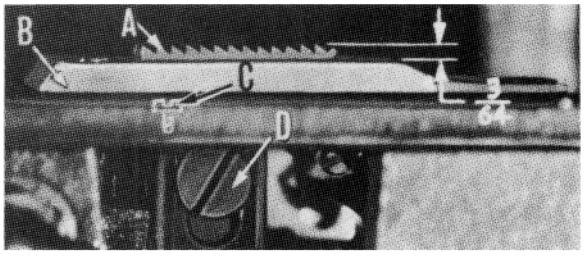


Fig. 9

Set the front stop for the intermittent differential feed lever as far forward in its slot as it will go. Turn the handwheel in operating direction until the feed dogs are descending. When the tips of their teeth are flush with the top of the throat plate, manipulate the differential feed control lever up and down. At this point, there should be no more than 1/ 64 inch motion in the differential feed dog. If more motion exists, loosen the three screws which hold the segment slot plate to the feed rocker, and manipulate the position of the slot plate until excess motion of the differential feed dog is eliminated. An offset screw driver will be required for this adjustment.

Continue to turn the handwheel in operating direction until the feed dog reaches its most forward point of travel. Depress the differential feed control lever until the front of the differential feed dog just clears the throat plate slot by l/ 64 inch and set the rear stop for the differential feed control lever against the lever pointer at this position.

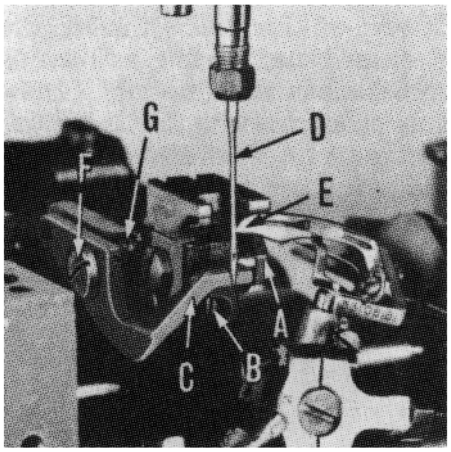


Fig. 10

CHANGING STITCH LENGTH

Set the stitch to required length. This is accomplished by loosening the lock nut (F, Fig. 11) (it has a left hand thread) on the end of the stitch regulating stud and turning the stitch adjusting screw (G) located under the left end of the cloth plate, in the head of the main shaft (H). Turning screw in a clockwise direction shortens the stitch, and turning screw in a counterclockwise direction lengthens the stitch.

SETTING THE NEEDLE GUARD

Set the needle guard (C, Fig. 10) horizontally so that it barely contacts the needle (D). It should be set as low as possible, yet have its vertical face remain in contact with the needle until the point of the looper (E), moving to the left, is even with the needle and the latter is ascending on the left side. 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, and counterclockwise to raise needle guard. Retighten screw (F) after guard is set properly.

NOTE: Any change in stitch length will require a change in the needle guard setting.

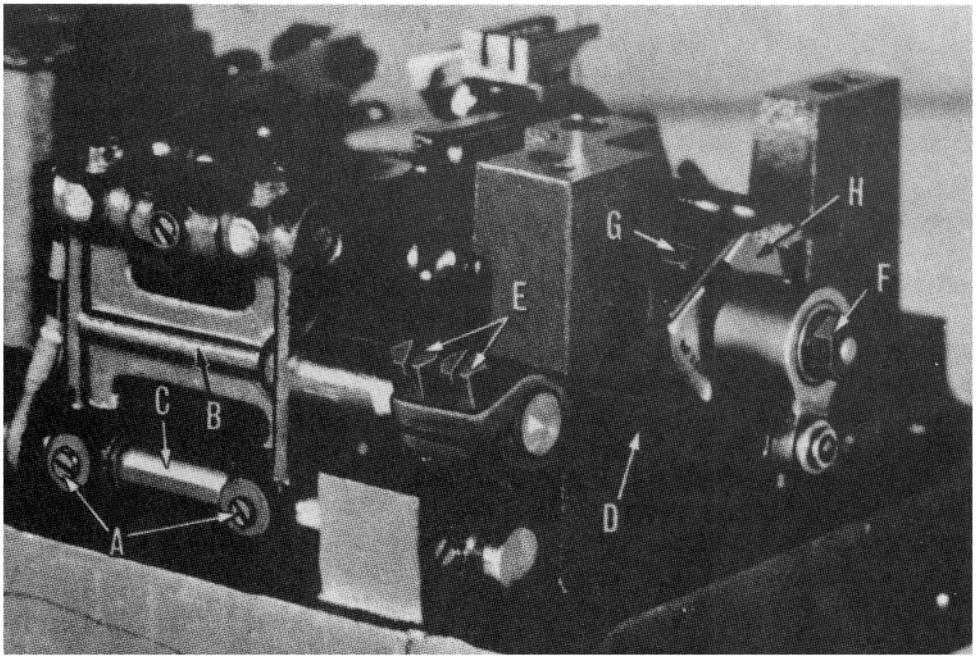


Fig. 11

SYNCHRONIZATION OF THE UPPER ROLLER FEED

On Styles 53100B and C, synchronize the upper roller feed (E, Fig. 8) with the lower feed dog. This is accomplished by removing the plug screw (A, Fig. 12) from the top of the housing (B) located at the rear right side of the machine. Then, after noting the direction the shaft journaled in the housing rotates, loosen the clamp screws in the gear hub, made accessible by removal of the plug screw. Turning this back shaft in its operating direction causes the top roller feed to start turning sooner, and turning the shaft backward causes the puller roll to start turning later.

The travel of the top roller feed is adjusted at the left end of this back shaft. Its adjustment is identical to the stitch length adjustment mentioned in the adjusting instructionsunder ”CHANGING STITCH LENGTH”. It has the same adjusting screw and left hand thread lock nut arrangement. When loosening or tightening the lock nut, do not hold the handwheel to maintain shaft position, as the gear on the crankshaft might shift, which would make it necessary to re-time the machine. Instead, insert a screw driver through the access hole (C) in the top of the gear housing at the left end and engage the adjusting screw. By holding the screw driver in this manner, the lock nut may be loosened or tightened without disturbing the gear setting.

NOTE: The adjustment just mentioned and the regulation of the pressure on the presser foot are very important to the appearance of the finished seam.

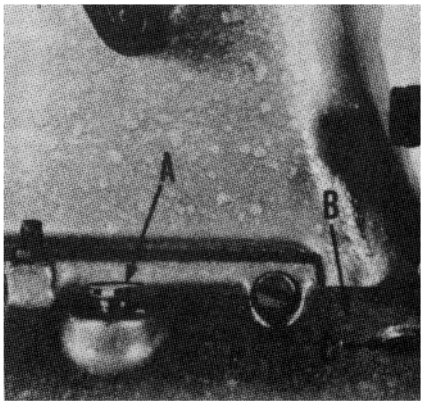


Fig. 12

THREADING

Draw looper and needle threads into the machine and start operating on a piece of fabric. Refer to threading diagram on Page 8, for manner of threading these machines.

SETTING THE LOOPER THREAD TAKE-UP

The cast-off plate (A, Fig. 13) should be set over the take-up so that there is equal clearance on each side. The looper thread take-up (B) 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 the take-up when the point of the needle (C) is clearly visible below the underside of the looper (D). The looper thread eyelets (E), located on the cast-off plate, are adjustable, and their setting determines the amount of thread pulled off by the take-up. Moving the eyelets to the rear causes more thread to be pulled from the cones, and moving them forward causes less thread to be pulled off. Set the eyelets so that, when the looper reaches its extreme position to the left, all the slack has been removed from the looper thread, but it has not become taut. The retaining finger (F) controls the amount of slack thread in the system, and it is set correctly when it prevents the looper thread triangle from being wiped under the blade of the looper when the looper moves from right to left.

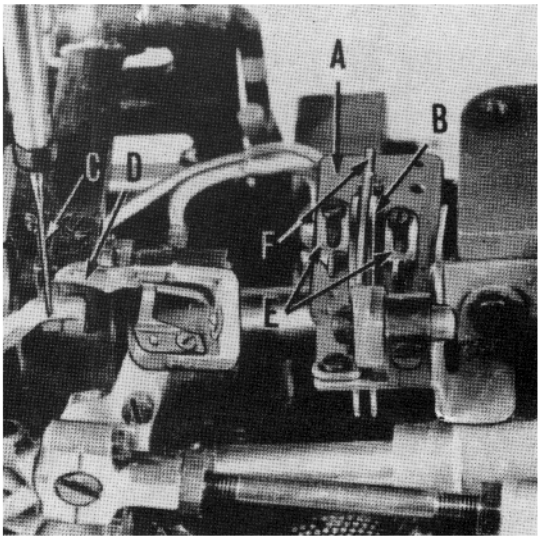


Fig. 13

THREAD TENSIONS

The tension on the needle thread should be only sufficient to produce uniform stitches on the under surface of the fabric. The tension on the looper thread should be just sufficient to steady the thread.

PRESSER FOOT PRESSURE

Regulate the presser spring regulating screw (A, Fig. 14) so that it exerts only enough pressure on the presser foot to feed the work uniformly. This is located directly behind the needle bar in the head of the machine. Also, regulate the pressure on the upper roller feed, using only enough pressure to insure the uniform feeding of the material being sewn.

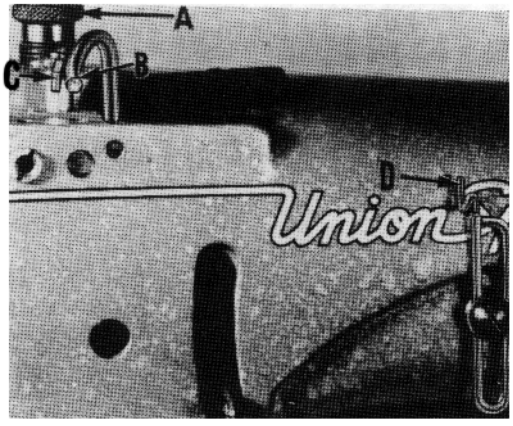


Fig. 14

SETTING NEEDLE THREAD TAKE-UP

Set the needle thread take-up (B, Fig. 14), located adjacent to the needle bar thread eyelet (C), so that its upper surface projects 3/32 inch above the line of thread when the needle bar has completed its downward stroke. Set the needle thread frame eyelet (D) so the smallest noticeable mount of thread is drawn through the needle thread tension while the needle is descending. (Setting this eyelet too high can cause the needle thread around the looper to be pulled from under the front retainer prematurely).

SETTING SPRING RETAINERS ON LOOPER

The spring retainers (A, Fig. 15) on the looper (B) are set correctly when they exert only enough pressure on the needle thread, around the looper, to retard this thread long enough for the descending needle to reach a point where the thread released by these retainers cannot fly or be pulled to the left of the needle.

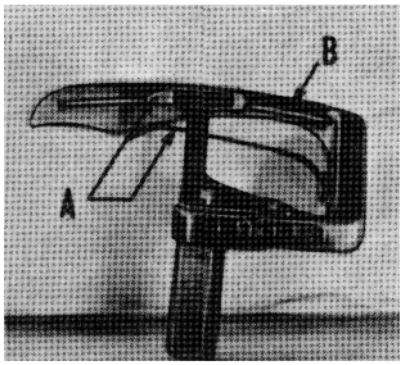


Fig. 15

THREAD TENSION RELEASE

The thread tension release is set correctly when it begins to function as the presser foot is raised to within I/ 8 inch of the end of its travel and is entirely released when the presser foot reaches its highest position. On Styles 53100B and C, adjust feed roller lifter connection so that, when the presser foot and the feed roller are raised, the feed roller does not contact the presser foot.

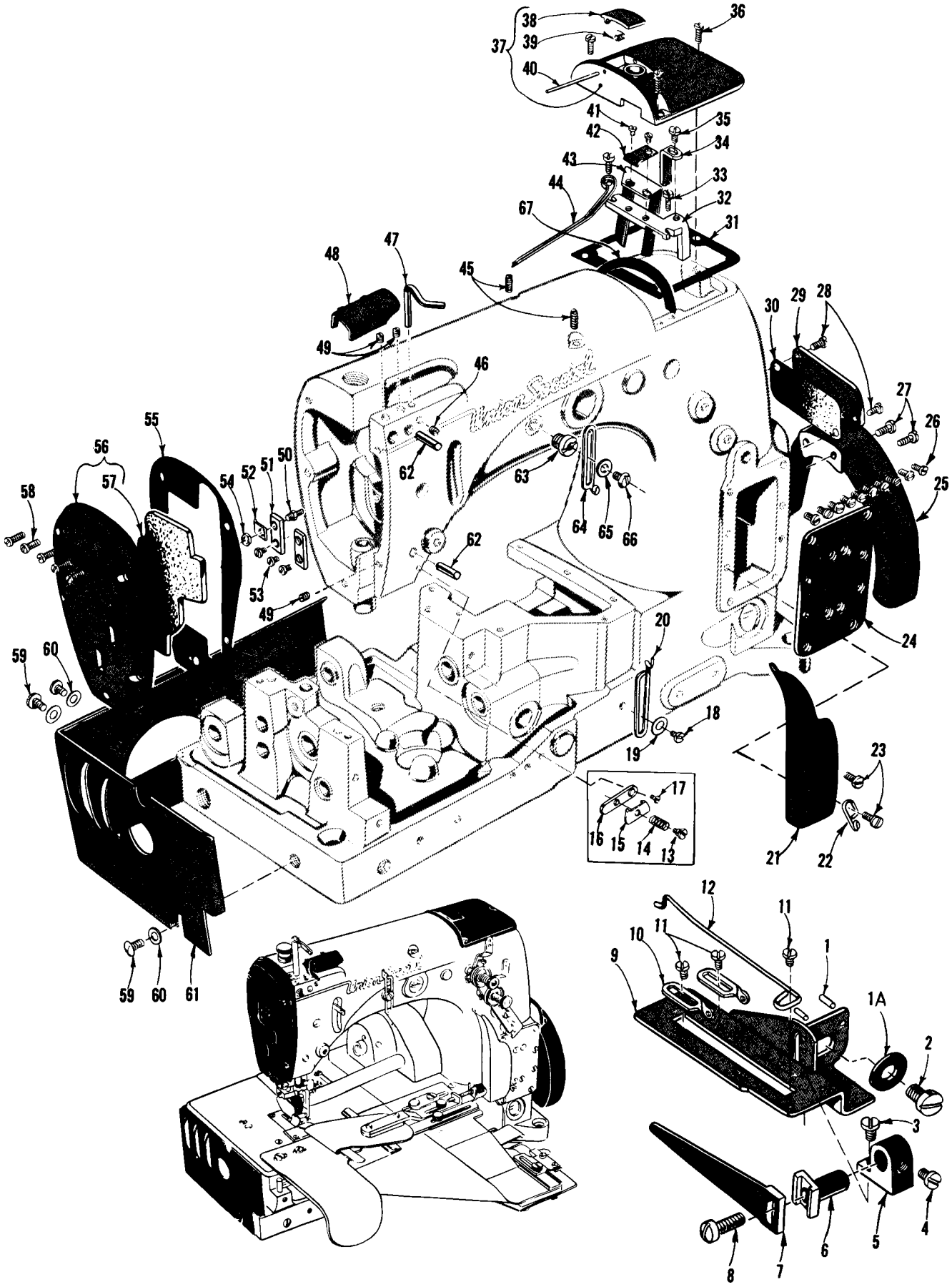
SETTING THE ATTACHMENTS

0n Styles 53100B and C, set the folder as close to the presser foot as possible and still allow free passage of the body and waistband material. Adjust it laterally so that there is 3/16 inch margin on the under ply of the canvas to the left of needle. Set the upper folder so that the needle penetration is 1/32 inch from the top edge of the canvas. Set the body guide so that there is a margin of 1/4 inch to the right of needle. Adjust the canvas guide to conforrn to the width of the canvas. The folder is adjustable to take waistbands from 1 3/4 to 4 inches wide. To adapt folder for the extreme narrow width, remove the right hand attaching screw for the canvas guide and for the extreme wide width, remove the left attaching screw.

Styles 53100D and E are equipped with a swing-out edge guide for abutted edge seaming. The edge guide should be set down snugly against the stitch tongue in the throat plate. There is an in and out adjustment screw and lock nut for increasing or decreasing the space between the two abutted edges.

Style 53100E is equipped with an auxiliary pressure plate to produce gathering or ruffling. If set on the right side of and against the swing-out edge guide, the right ply will be ruffled. If set on the left side of and against the swing-out edge guide, the left ply will be ruffled. The pressure plate should be set so that the distance from its edge to the front edge of the throat plate is 19/32 inch.

EXPLODED VIEWS
AND
DESCRIPTION OF PARTS
FOR
CLASS 53100 ZIG - ZAG MACHINES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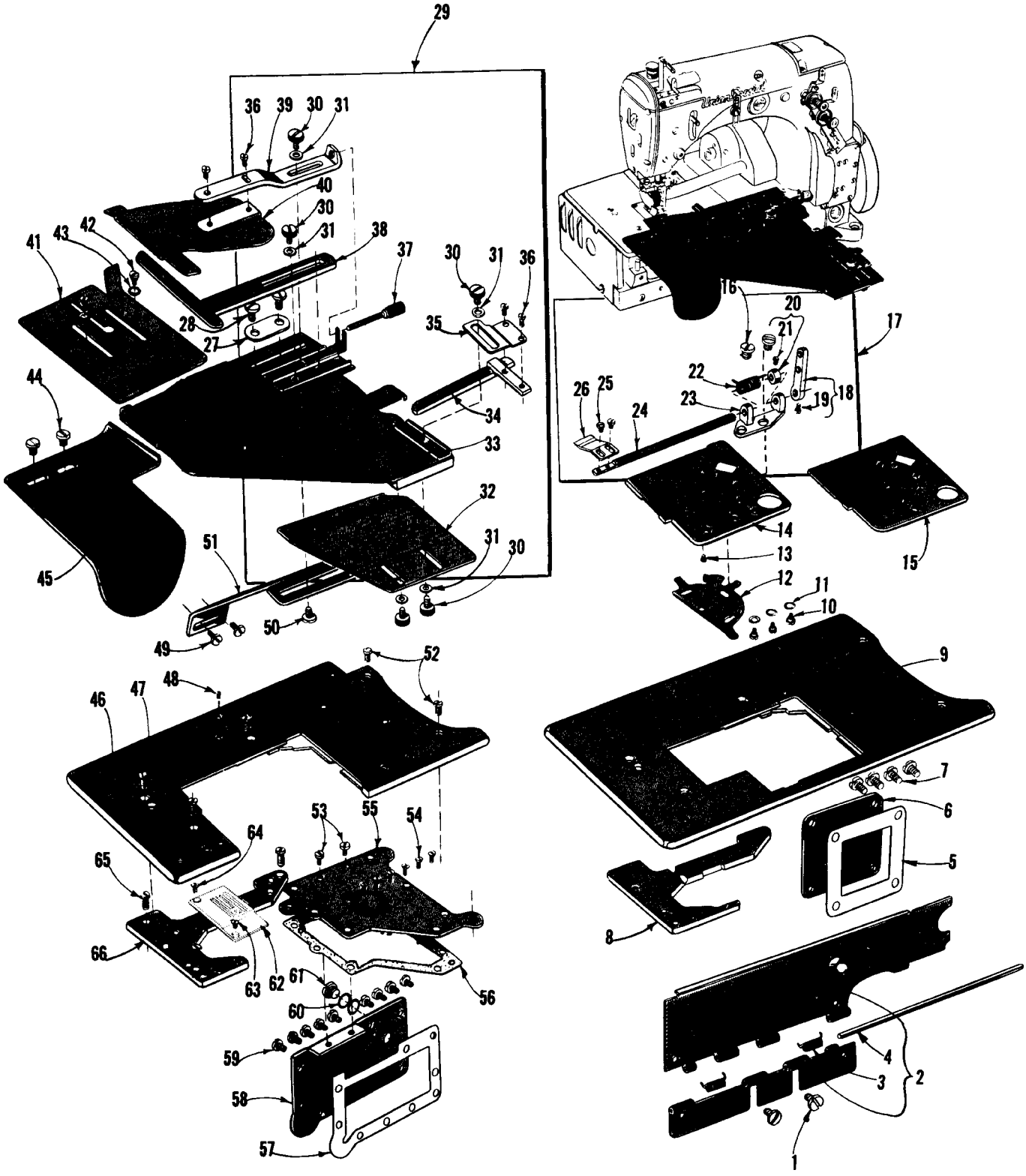
MAIN FRAME, CAST-OFF PLATE, MISCELLANEOUS COVERS AND PLATES

Ref. No.	Part No.	Description	Amt. Req.
1.	50-216BLK	Dowel Pin	2
1A.	21657E	Washer	1
2.	22528	Screw	1
3.	22768	Screw	1
4.	87U	Screw	1
5.	52904E	Retaining Finger Support Bracket	1
6.	52804E	Retaining Finger Support	1
7.	52904B	Retaining Finger	1
8.	22516	Screw	1
9.	52957C	Cast-Off Support Plate	1
10.	52958D	Eyelet	2
11.	73A	Screw	3
12.	52904G	Cast-Off Wire	1
13.	57WD	Nipper Spring Screw, for Styles 53100A, D, E	1
14.	15438C	Nipper Spring, for Styles 53100A, D, E	1
15.	57WB	Nipper Spring Plate, for Styles 53100A, D, E	1
16.	43296	Thread Nipper Base, for Styles 53100A, D, E	1
17.	605A	Screw, for Styles 53100A, D, E	1
18.	98A	Screw	1
19.	20	Washer	1
20.	539	Frame Thread Eyelet	1
21.	53191	Looper Thread Guard	1
22.	51758	Looper Thread Lead-In Eyelet	1
23.	93	Screw	2
24.	53182E	Cam Gear Fork Frame Support Plate	1
25.	21375BQ	Belt Guard	1
26.	22570A	Screw	10
27.	93	Screw	2
28.	22570A	Screw	2
29.	53182F	Cover Plate	1
30.	53182G	Gasket	1
31.	53182A	Crank Chamber Cover Gasket	1
32.	53137C	Needle Bar Frame Guide Plate, front	1
33.	22760B	Screw	2
34.	53137D	Needle Bar Frame Guide Plate, rear	1
35.	376	Screw	1
36.	22541B	Screw	3
37.	53182	Crank Chamber Cover	1
38.	39582L	Oil Cap	1
39.	52882AC	Oil Cap Torsion Spring	1
40.	50-789BLK	Oil Cap Hinge Pin	1
41.	22564B	Screw	2
42.	53182N	Oil Shield	1
43.	53182B	Baffle Plate	1
44.	53182C	Needle Lever Bearing Oiler	1
45.	719	Screw	2
46.	22565	Screw	1
47.	53170	Take-Up Wire	1
48.	53182D	Needle Bar Frame Cover	1
49.	22565	Screw	3
50.	51294R	Screw	1
51.	35731A	Presser Bar Connection Guide Plate	2
52.	51294P	Oil Tube Clamp	1
53.	22513	Screw	3
54.	7947	Nut	1
55.	53182K	Gasket	1
56.	53182J	Head Cover	1
57.	53182L	Felt Liner	1
58.	22569B	Screw	5
59.	22848	Screw	3
60.	20	Washer	3
61.	51282AH	Oil Shield, end and back, for Styles 53100A, B, C, D	1
62.	53137A	Needle Bar Frame Guide Pin	2
63.	22889A	Plug Screw	1
64.	539	Needle Thread Eyelet	1
65.	20	Washer	1
66.	22848	Screw	1
67.	53182M	End Gasket	1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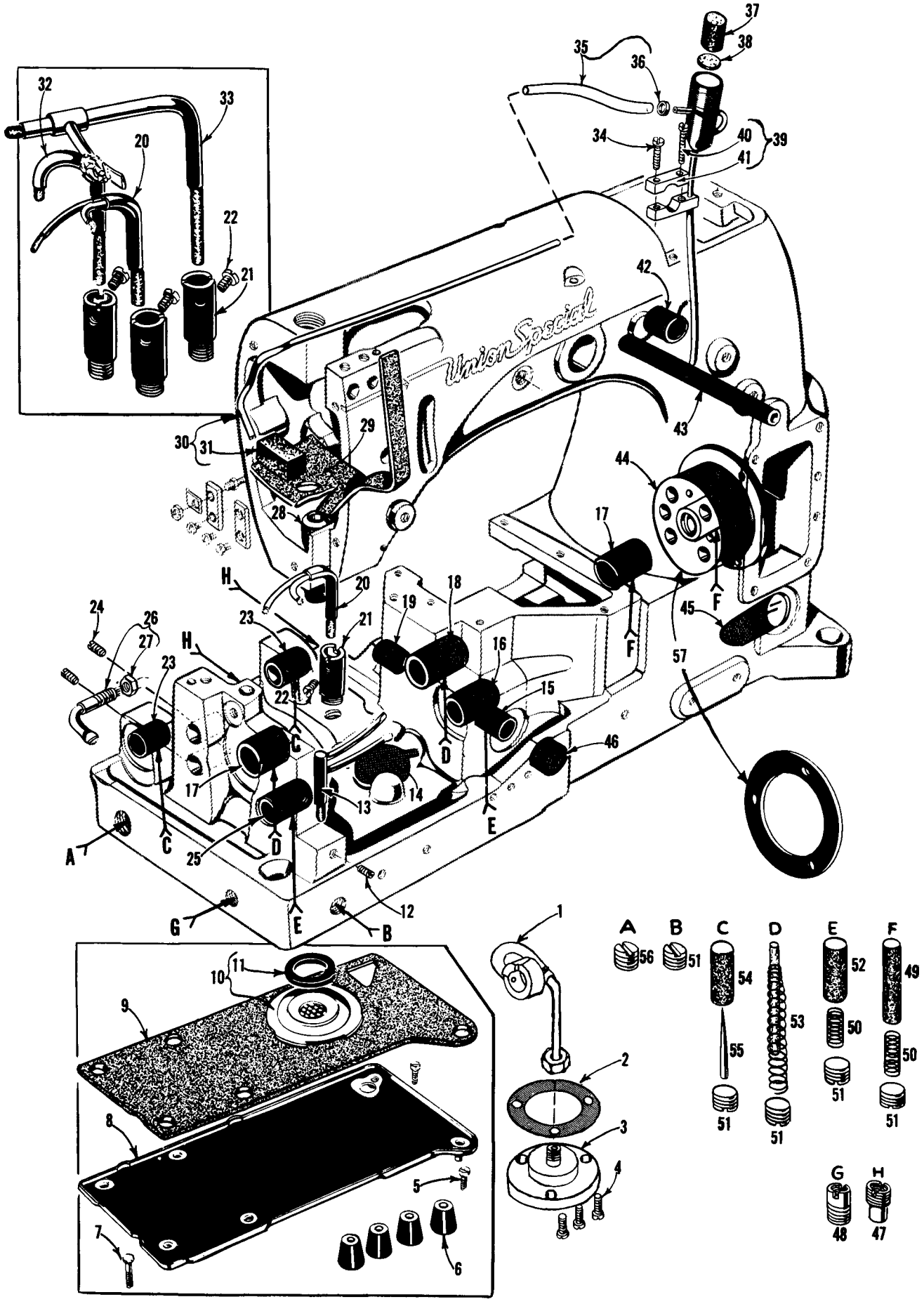
Ref. No.	Part No.	Description	Amt. Req.
1.	25S	Screw	2
2.	51282AJ	Oil Shield, front, for Styles 53100A, C, D, E	1
3.	51282AK	Spring	2
4.	52978G	Hinge Pin	1
5.	52882AS	Gasket, for Styles 53100A, D, E	1
6.	52882AE	Crank Chamber Cover, for Styles 53100A, D, E	1
7.	22548	Screw, for Styles 53100A, D, E	4
8.	51480C	Throat Plate Support, for Style 53100E	1
9.	51301D	Cloth Plate, for Styles 53100A, D, E	1
10.	22760A	Screw, for Styles 53100A, D, E	3
11.	35772H	Washer, for Styles 53100A, D, E	3
12.	51281AC	Cloth Plate Cover Spring, for Styles 53100A, D, E	1
13.	22845B	Pivot Screw, for Styles 53100A, D, E	1
14.	51281AJ-219	Cloth Plate Cover, for Style 53100E	1
15.	51281T-219	Cloth Plate Cover, for Styles 53100A, D	1
16.	25C	Screw, for Style 53100E	2
17.	29480BZ	Auxiliary Presser Plate Assembly, for Style 53100E	1
18.	39531AR	Operating Lever	1
19.	77A	Screw	1
20.	39531B	Shaft Collar	1
21.	604	Screw	1
22.	39531C	Spring	1
23.	53132B	Auxiliary Pressure plate Bracket	1
24.	53132A	Pressure Plate Shaft	1
25.	22561	Screw	2
26.	53132	Auxiliary Pressure Plate	1
27.	23425V	Washer Plate	1
28.	22514	Screw, for Style 53100B	2
29.	GR-23450L	Waistband Folder, complete, for Style 53100B	1
30.	188D	Screw	5
31.	8372A	Washer	5
32.	23450U	Lower Scroll, adjustable	1
33.	23450M	Folder Base	1
34.	23450P	Adjustable Waistband Guide, lower	1
35.	23450R	Adjustable Support, for waistband guide, lower	1
36.	90	Screw	4
37.	23450V	Adjusting Screw	1
38.	23450N	Adjustable Waistband Guide, upper	1
39.	23450T	Top Scroll Support, adjustable	1
40.	23450S	Top Scroll	1
41.	53102	Cloth Plate Cover, for Styles 53100B, C	1
42.	22760A	Screw	2
43.	50368E	Washer	2
44.	25C	Screw	2
45.	23450W	Edge Guide, for Style 53100B	1
46.	53101	Cloth Plate, for Styles 53100B, C	1
47.	80	Screw	3
48.	22845B	Screw	1
49.	88D	Screw	2
50.	25S	Screw	1
51.	23437G	Folder Support Bracket, for Style 53100B	1
52.	22839C	Screw	2
53.	22585A	Screw	2
54.	22524	Screw	7
55.	53782B	Oil Reservoir Top Cover	1
56.	51382B	Gasket	1
57.	52982E	Gasket	1
58.	52982D	Oil Reservoir Back Cover	1
59.	22848	Screw	9
60.	41394A	Gasket	2
61.	22733B	Screw	1
62.		Throat Plate (See Page 37)	1
63.	222D	Screw, for Styles 53100B, C	1
64.	87	Screw, for Styles 53100B, C	1
	87	Screw, for Styles 53100A, D, E	2
65.	22839	Screw	3
66.	51280AA	Throat Plate Support, for Styles 53100A, B, C, D	1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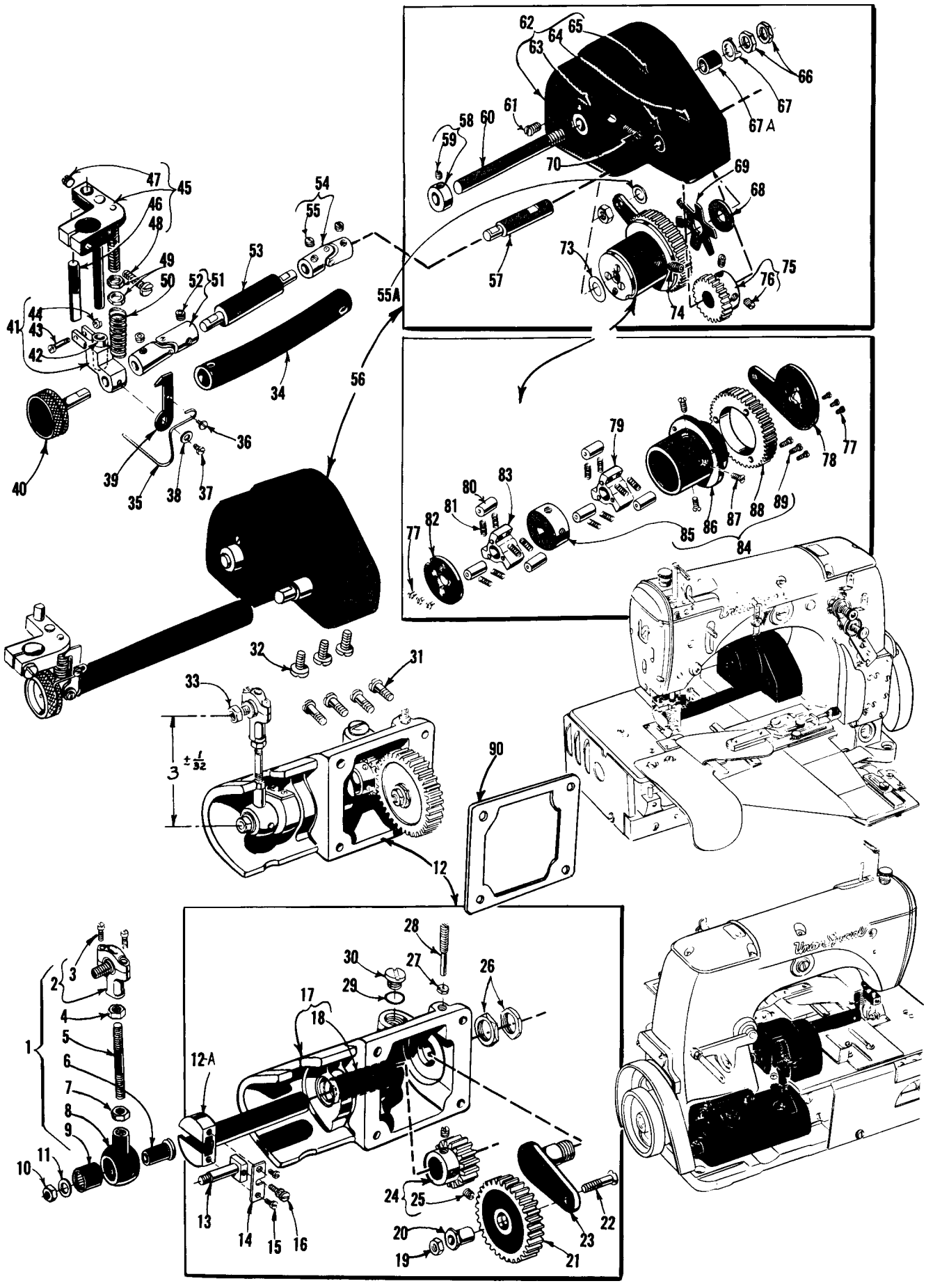
MAIN FRAME, BUSHINGS AND MISCELLANEOUS OILING PARTS

Ref. No.	Part No.	Description	Amt. Req.
1.	GR-53193	Oil Pump Assembly	1
2.	643-127BLK	Gasket	1
3.	52393H	Oil Pump Intake Housing	1
4.	22569B	Screw	3
5.	22823A	Screw	2
6.	51295A	Mounting Isolator	4
7.	22823B	Screw	1
8.	51493AY	Oil Pan Base Plate	1
9.	51493BG	Base Plate Felt Pad	1
10.	51493BH	Filter Cap Assembly	1
11.	51493BJ	Washer, sponge rubber	1
12.	22560B	Screw	1
13.	52894AK	Oil Tube, for looper rocker and left ball joint	1
14.	51493BK	Lint Filter Screen	1
15.	52942W	Looper Drive Lever Shaft Bushing, front	1
16.	52944U	Looper Rock Shaft Bushing, right	1
17.	52890C	Main Shaft Bushing, left and inner right	2
18.	51290T	Main Shaft Bushing, middle	1
19.	52942X	Looper Drive Lever Shaft Bushing, rear	1
20.	52794G	Oil Tube, for feed lift and looper avoid eccentric	1
21.	52894AB	Oil Tube Holder, for Styles 53100A, B, C, D	1
	52894AB	Oil Tube Holder, for Style 53100E	3
22.	90	Screw, for Styles 53100A, B, C, D	1
	90	Screw, for Style 53100E	3
23.	52936	Feed Rocker Shaft Bushing	2
24.	22597	Screw, for Style 53100E	2
25.	52944T	Looper Rocker Shaft Bushing, left	1
26.	660-136	Oil Tube, for feed crank link	1
27.	258A	Nut	1
28.	51257AA	Lower Presser Bar Bushing	1
29.	666-210	Oil Attraction Felt	1
30.	51294V	Oil Siphon Tube	1
31.	666-214	Felt Lint Filter	1
32.	52894AD	Oil Tube, for differential feed bar shaft, for Style 53100E	1
33.	52894AE	Oil Tube, for differential feed bar guide, for Style 53100E	1
34.	22729AB	Screw	1
35.	51294Z	Oil Tube Connection	1
36.	21212	Oil Siphon Connection Locking Ring	1
37.	666-201	Felt Plug	1
38.	666-209	Felt Plug	1
39.	GR-51294S	Oil Siphon Assembly	1
40.	22729B	Screw	1
41.	51294K	Upper Clamp	1
42.	52883R	Presser Foot Lifter Lever Bushing	1
43.	21657X	Tension Release Lever Shaft Bushing	1
44.	52891B	Main Shaft Housing, including bushing	1
45.	50-648BLK	Lucite Oil Gauge	1
46.	52942Y	Looper Rocker Shaft Synchronizing Stud	1
47.	22889C	Adapter Plug Screw	2
48.	22889D	Adapter Plug Screw	1
49.	666-114	Oil Wick	2
50.	35178D	Spring	4
51.	22571A	Plug Screw	15
52.	666-65	Oil Wick	2
53.	666-118	Oil Wick	2
54.	666-111	Oil Wick	2
55.	666-179	Wedge Pin	2
56.	22539H	Plug Screw	1
57.	56390E	Crankshaft Bearing Housing Gasket	1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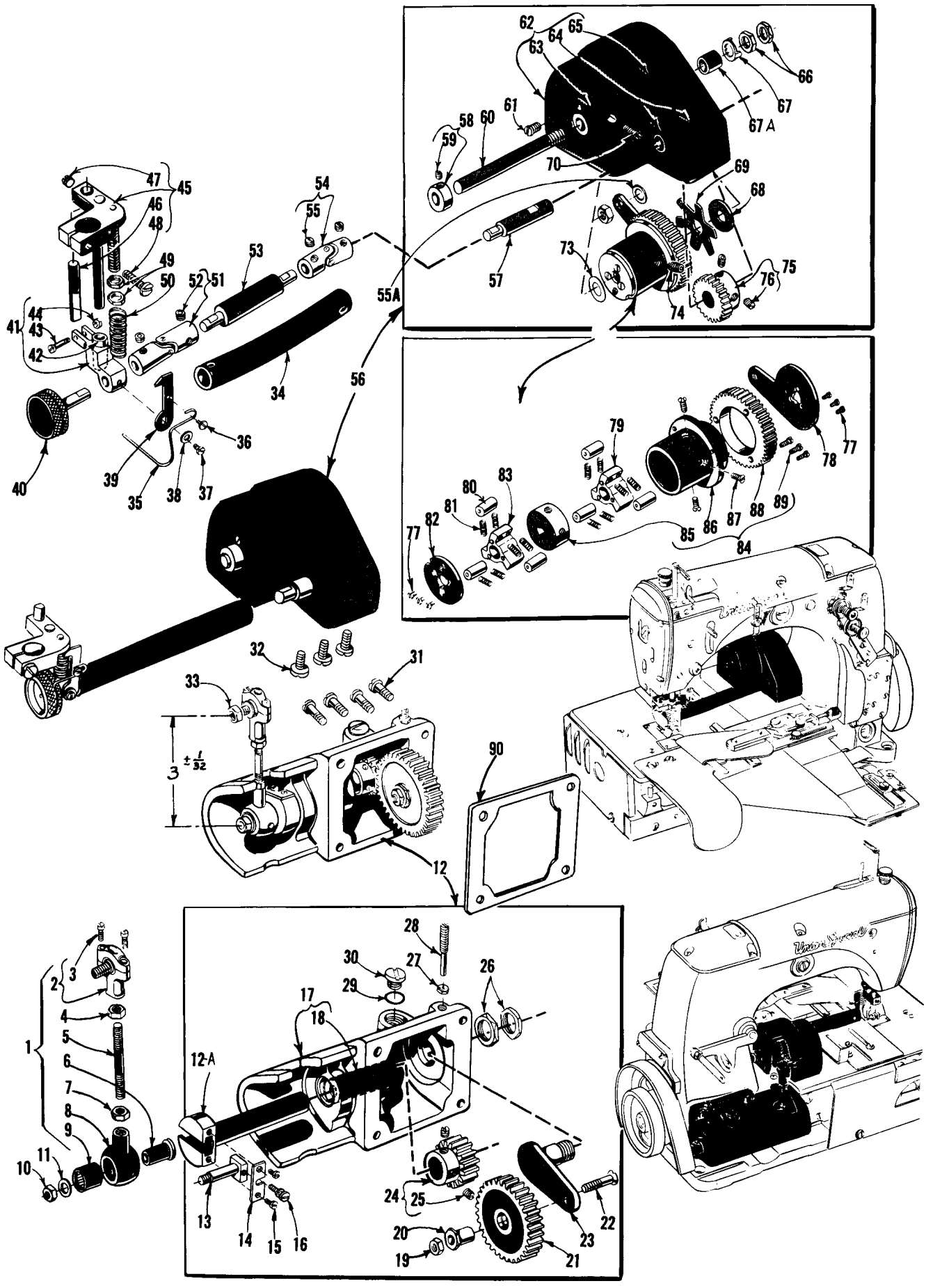
FOR STYLES 53100B AND C ONLY
CLUTCH ASSEMBLY, CLUTCH DRIVE SHAFT GEAR AND HOUSING ASSEMBLY

Ref. No.	Part No.	Description	Amt. Req.
1.	29476JD	Clutch Drive Connecting Rod Assembly	1
2.	53139H	Clutch Drive Ball Joint	1
3.	22729C	Screw	2
4.	18	Nut	1
5.	41331G	Connecting Rod	1
6.	51236F	Ferrule	1
7.	269	Nut	1
8.	53139K	Crank Strap	1
9.	660-169	Needle Bearing	1
10.	269	Nut	1
11.	20	Washer	1
12.	29476JF	Clutch Drive Shaft Gear and Housing Assembly	1
12A.	53139B	Clutch Drive Shaft	1
13.	51236G	Feed Crank Stud	1
14.	51236B	Feed Crank Stud Cap	1
15.	22768	Screw	2
16.	82	Screw	1
17.	53139	Clutch Drive Shaft Gear	1
18.	53139A	Bushing	1
19.	269	Nut	1
20.	53139E	Idler Gear Eccentric Bushing	1
21.	53139D	Idler Gear	1
22.	22888A	Screw	1
23.	53139F	Idler Gear Bracket	1
24.	53139C	Clutch Drive Shaft Gear	1
25.	98	Screw	2
26.	39153G	Nut	2
27.	12982	Nut	1
28.	22791D	Pin	1
29.	41394A	Gasket	1
30.	22733B	Screw	1
31.	22861B	Screw	4
32.	22548	Screw	3
33.	258	Nut	1
34.	53139Z	Roller Feed Shaft Guard	1
35.	53139AC	Feed Roller Stripper	1
36.	22561	Screw	1
37.	22768	Screw	1
38.	40-107	Washer	1
39.	53139AB	Feed Roller Lifter	1
40.	53139AD	Feed Roller, fine knurl	1
	53139AE	Feed Roller, fifty teeth	1
	53139AH	Feed Roller, coarse knurl	1
41.	51239AA	Feed Roller Block	1
42.	51239AB	Bushing	1
43.	22747B	Screw	1
44.	43443Q	Nut	1

45. thru 90. See Following page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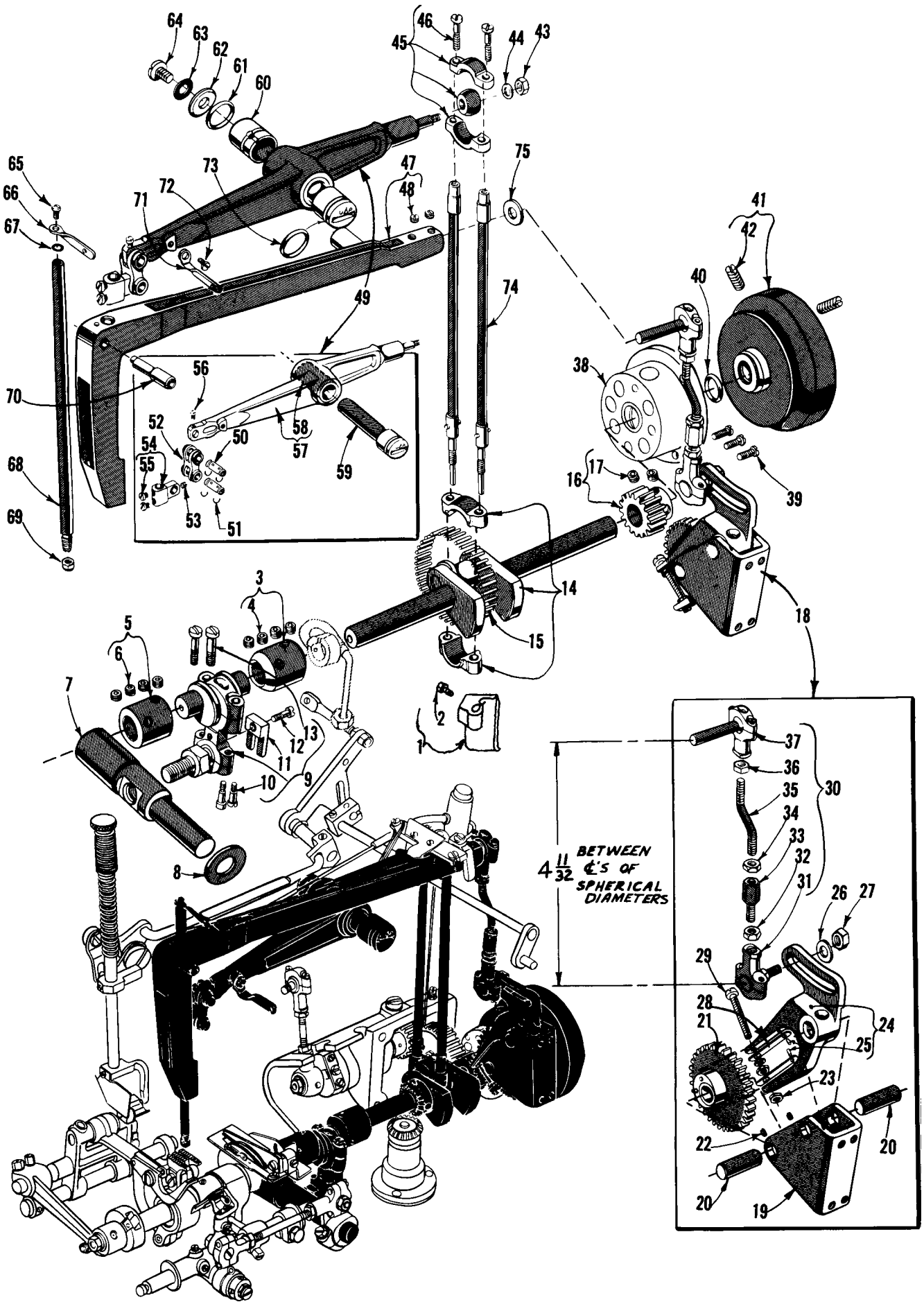
FOR STYLES 53100B AND C ONLY
CLUTCH ASSEMBLY, CLUTCH DRIVE SHAFT GEAR AND HOUSING ASSEMBLY

Ref. No.	Part No.	Description	Amt. Req.
1. thru 44. See Previous page			
45.	53139AA	Roller Feed Mounting Bracket	1
46.	50-799BLK	Guide	1
47.	88	Screw	1
48.	22874	Screw	1
49.	12987A	Nut	2
50.	53139AG	Plunger Spring	1
51.	51239G	Universal Joint	1
52.	22894T	Set Screw	2
53.	61339F	Roller Feed Shaft	1
54.	660-239	Universal Joint	1
55.	22580	Set Screw	2
55A.	6042A	Washer	1
56.	29476JE	Clutch Assembly	1
57.	53139Y	Roller Feed Driving Gear Shaft	1
58.	460	Collar	1
59.	88	Screw	1
60.	53139W	Clutch Shaft	1
61.	22892C	Stop Screw	1
62.	53139L	Clutch Housing	1
63.	53139N	Bushing	1
64.	53139P	Bushing	2
65.	53139M	Bushing	1
66.	11638M	Nut	2
67.	54278Y	Driving Washer	1
67A.	54278W	Sleeve	1
68.	54274P	Washer	1
69.	54274N	Tension Spring	1
70.	719	Set Screw	1
73.	61351C	Washer	1
74.	22894H	Spot Screw	1
75.	53139X	Roller Feed Gear	1
76.	22651CB4	Set Screw	2
77.	605	Screw	6
78.	53139R	Drive Lever	1
79.	54274H	Clutch Disc	1
80.	54274L	Clutch Roller	6
81.	29480KP	Clutch Spring and Pin	12
82.	54274J	Support Plate	1
83.	54274H	Clutch Disc	1
84.	53139S	Clutch Barrel Assembly	1
85.	53139V	Core	1
86.	53139U	Barrel	1
87.	538	Screw	3
88.	53139T	Clutch Barrel Gear	1
89.	22593	Screw	3
90.	52882AS	Gasket	1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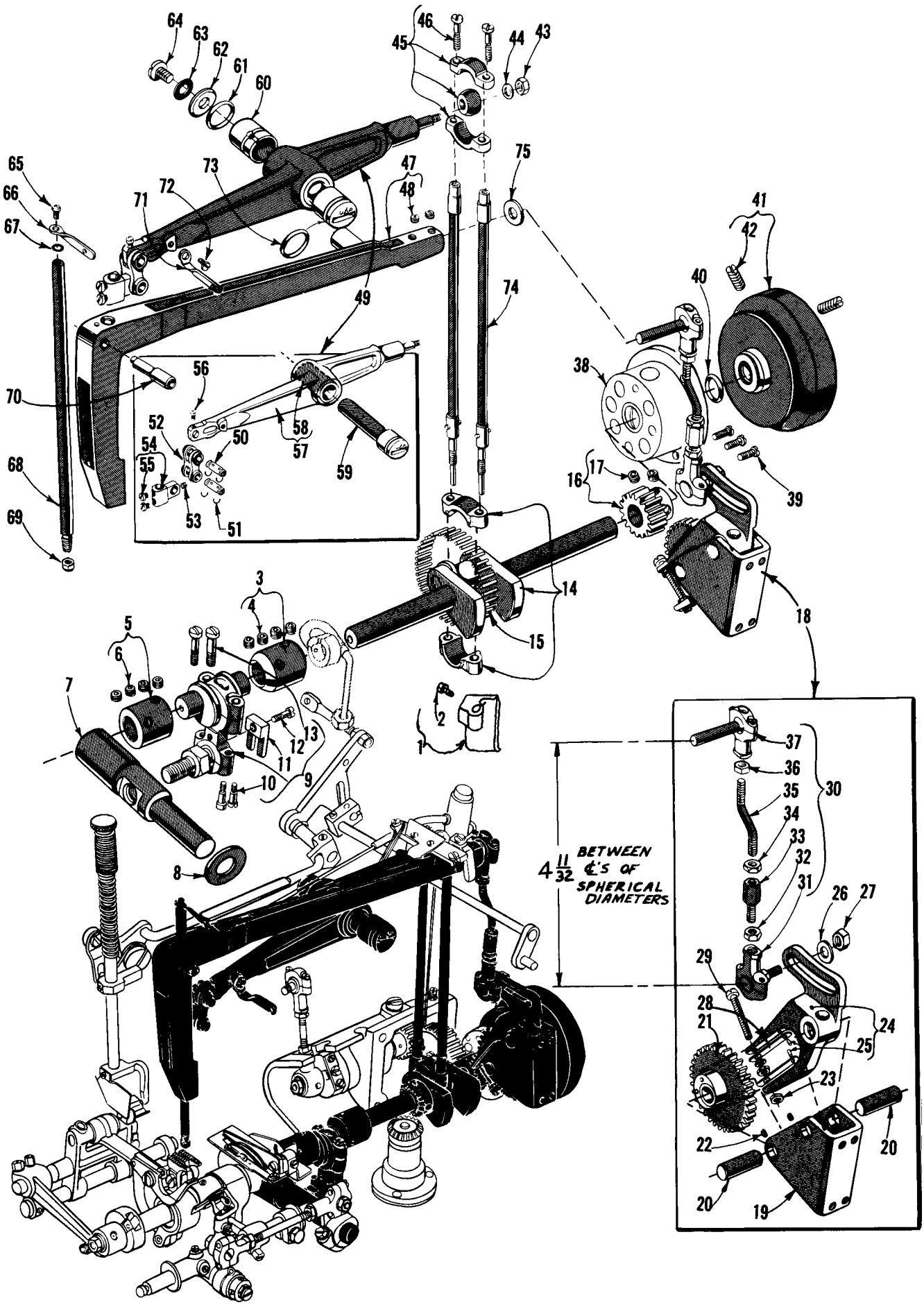
4 11/32 BETWEEN ℄'S OF SPHERICAL DIAMETERS

CRANKSHAFT, NEEDLE LEVER AND LOOPER DRIVING PARTS

Ref. No.	Part No.	Description	Amt. Req.
1.	54484U	Oil Distributor	1
2.	22564D	Screw	1
3.	52943L	Collar	1
4.	22894X	Screw	4
5.	56343D	Collar	1
6.	22894X	Screw	4
7.	52942AA	Looper Drive Lever Rocker Shaft	1
8.	52951C	Washer	1
9.	29476LE	Looper Driving Lever Crank Assembly	1
10.	22729D	Screw, lower	2
11.	51243C	Ball Stud Guide	1
12.	22729D	Screw	1
13.	22587	Screw, upper	2
14.	29476HL	Crankshaft Assembly, .910 inch throw	1
15.	51216M	Needle Bearing	28
16.	53138L	Cam Driving Gear	1
17.	22894X	Screw	2
18.	29476JZ	Cam Gear, Cam Gear Fork and Needle Bar Frame Connecting Rod Assembly	1
19.	53138E	Cam Gear Fork Frame	1
20.	53138F	Cam Gear Fork Shaft	2
21.	53138J	Cam Gear	1
22.	22733	Screw	2
23.	12934A	Nut	3
24.	53138C	Cam Gear Fork and Adjusting Segment	1
25.	50-744BLK	Pin	2
26.	21657E	Washer	1
27.	18	Nut	1
28.	53138D-0420	Cam Gear Fork Wear Plate, .042 inch thick	2
	53138D-0425	Cam Gear Fork Wear Plate, .0425 inch thick	2
	53138D-0430	Cam Gear Fork Wear Plate, .043 inch thick	2
29.	22874F	Screw	1
30.	53137E	Needle Bar Frame Connecting Rod Assembly	1
31.	53137J	Ball Joint, lower	1
32.	18	Nut	2
33.	22841H	Adjusting Screw	1
34.	269	Nut	1
35.	53137H	Connecting Rod	1
36.	18	Nut	1
37.	53137F	Ball Joint, upper	1
38.	52891B	Crankshaft Bushing Housing, including bushing	1
39.	22569B	Screw	3
40.	660-202	"O" Ring, for pulley	1

41. thru 77. See Following page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4 11/32 BETWEEN ℄'S OF SPHERICAL DIAMETERS
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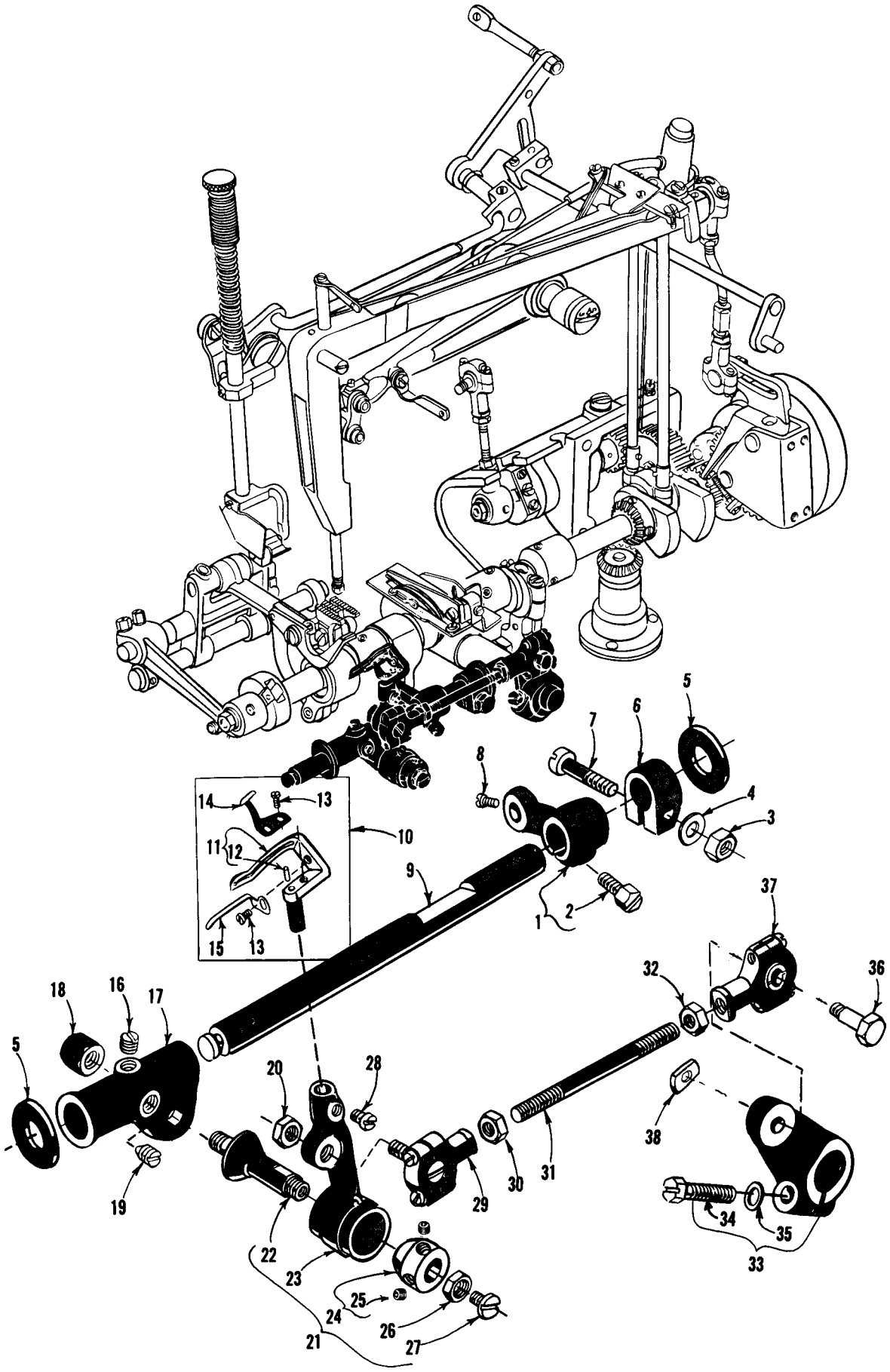
CRANKSHAFT, NEEDLE LEVER AND LOOPER DRIVING PARTS

Ref. No.	Part No.	Description	Amt. Req.
1. thru 40. See Previous page			
41.	52921B	Pulley	1
42.	22894G	Screw	2
43.	51216P	Nut	1
44.	51216N	Washer	1
45.	29066R	Needle Lever Connecting Rod and Upper Bearing Assembly	1
46.	22559G	Screw	2
47.	53137	Needle Bar Frame	1
48.	22894T	Screw	2
49.	29348AX	Needle Lever Assembly	1
50.	52336A	Feed Crank Pin	2
51.	660-215	Retaining Ring	1
52.	56354D	Needle Bar Link	1
53.	78	Screw	1
54.	53154	Needle Bar Connection	1
55.	88A	Screw	2
56.	77	Screw	1
57.	53115A	Needle Lever	1
58.	51250B	Bushing	1
59.	56350A	Needle Lever Stud	1
60.	51150	Needle Lever Shaft Stop Collar	1
61.	660-212	Oil Seal Ring	1
62.	51250D	Washer	1
63.	51250F	Gasket	1
64.	22586R	Screw	1
65.	22768	Screw	1
66.	56358	Needle Bar Thread Eyelet	1
67.	27-435BLK	Needle Bar Thread Washer	1
68.	53117A	Needle Bar	1
69.	56	Needle Clamp Nut	1
70.	53137M	Needle Bar Frame Pivot Pin	1
71.	56358A	Needle Lever Thread Eyelet	1
72.	22768	Screw	1
73.	660-212	Oil Seal Ring	2
74.	51216G	Needle Lever Connecting Rod	2
75.	15444F	Washer, redwood	1
76.	54484U	Oil Distributor	1
77.	22564D	Screw	1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LOOPER ROCKER AND CONNECTING ROD PARTS

Ref. No.	Part No.	Description	Amt. Req.
1.	51244B	Looper Rocker Shaft Arm	1
2.	22519H	Screw	1
3.	18	Nut	1
4.	51216N	Washer	1
5.	51244L	Thrust Washer	2
6.	51244N	Looper Rocker Frame Clamp Collar	1
7.	55244G	Looper Rocker Shaft Collar Stud	1
8.	22768	Screw	1
9.	51144	Looper Rocker Shaft	1
10.	53108C	Looper Assembly	1
11.	53108B	Looper	1
12.	1740	Pin	1
13.	22738B	Screw	2
14.	53111A	Looper Retainer, front	1
15.	53111	Looper Retainer, bottom	1
16.	98	Screw	1
17.	51244	Looper Rocker Frame	1
18.	51246	Looper Rocker Stud Nut	1
19.	96	Screw	1
20.	18	Nut	1
21.	29192	Looper Rocker Assembly	1
22.	51745	Looper Rocker Cone Stud	1
23.	51213	Looper Rocker	1
24.	15465F	Looper Rocker Cone	1
25.	22894W	Allen Screw	2
26.	258A	Nut	1
27.	22829	Screw	1
28.	73	Screw	1
29.	55241N	Looper Connecting Rod Ball Joint, left	1
30.	269	Nut	1
31.	39141	Looper Connecting Rod	1
32.	18	Nut	1
33.	52942P	Looper Drive Lever	1
34.	22882A	Screw	1
35.	20	Washer	1
36.	52942AE	Looper Lever Stud Bolt	1
37.	52941D	Looper Connecting Rod Ball Joint, right	1
38.	18B	Nut Plate	1

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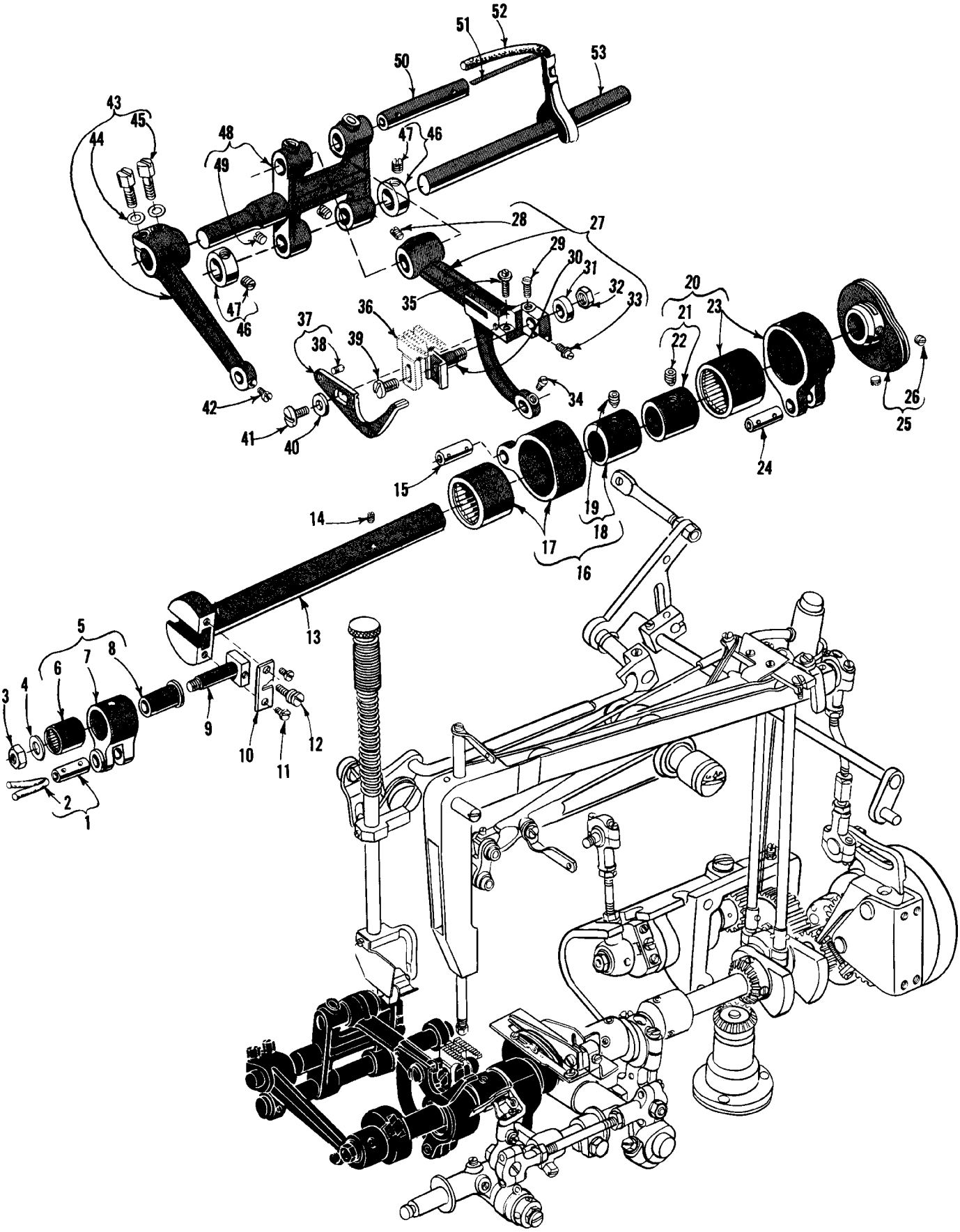
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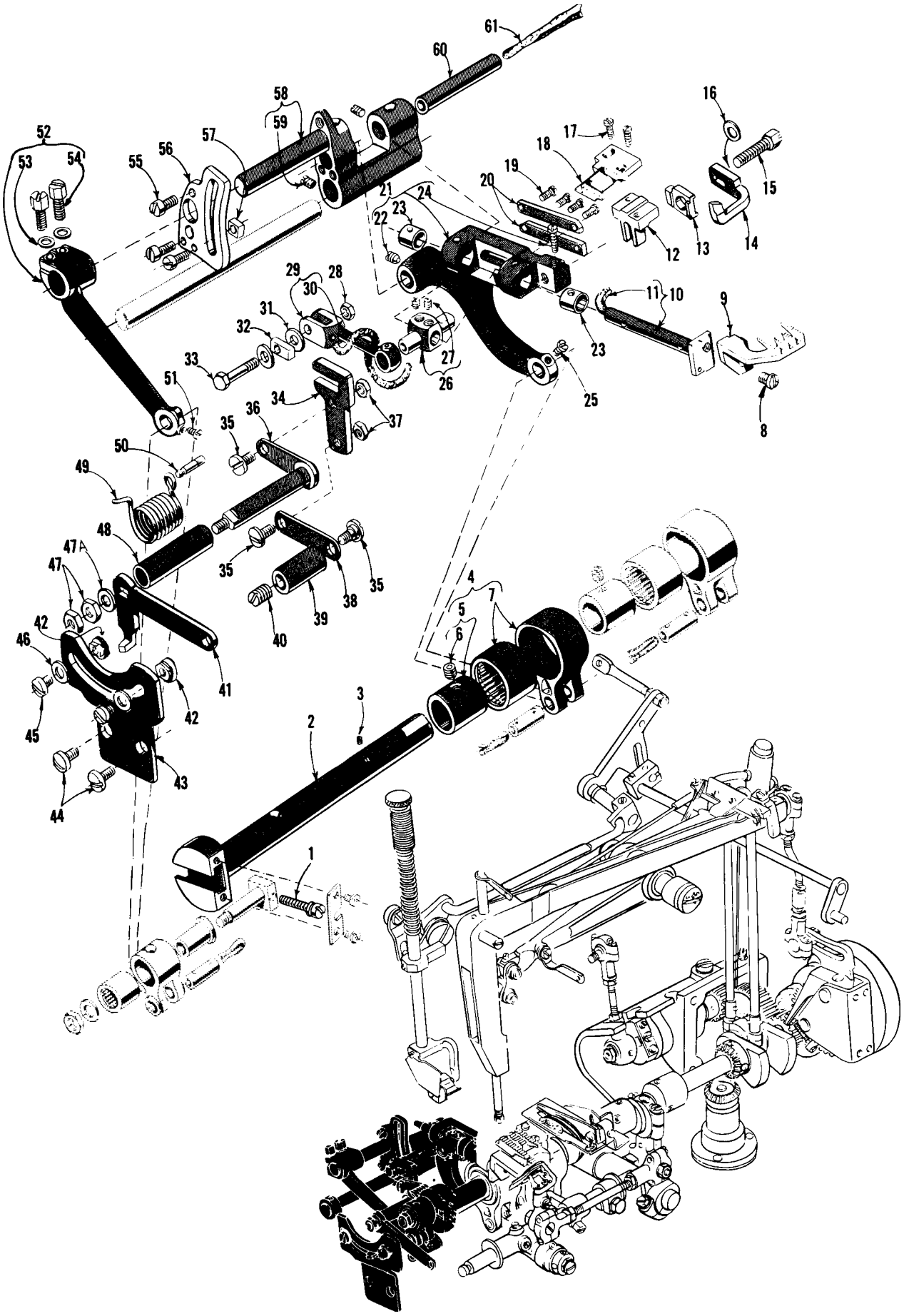
MAIN SHAFT AND FEED MECHANISM

Ref. No.	Part No.	Description	Amt. Req.
1.	51054	Link Pin	1
2.	666-149	Oil Wick	1
3.	269	Nut	1
4.	20	Washer	1
5.	51236E	Feed Crank Link Assembly	1
6.	660-169	Needle Bearing	1
7.	51236D	Feed Crank Link	1
8.	51236F	Feed Crank Link Ferrule	1
9.	51236G	Feed Crank Stud	1
10.	51236B	Feed Crank Stud Cap	1
11.	22768	Screw	2
12.	82	Screw	1
13.	52922C	Main Shaft, for Styles 53100A, B, C, D	1
14.	22801	Screw	1
15.	51236A	Link Pin	1
16.	29476DR	Feed Lift Eccentric Assembly, for Styles 53100A, B, C, D	1
17.	51145A	Eccentric Bearing	1
18.	51142C	Eccentric, .080 inch throw	1
19.	22894D	Screw	1
20.	29476DX	Looper Avoid Eccentric Assembly	1
21.	51306	Eccentric, .072 inch throw	1
22.	22894D	Screw	1
23.	51145A	Eccentric Bearing	1
24.	51236A	Link Pin	1
25.	52923D	Take-up	1
26.	22580D	Screw	2
27.	51134	Feed Bar, for Styles 53100A, B, C, D	1
28.	22560B	Screw	1
29.	538	Feed Dog Height Adjusting Screw	1
30.	56334E	Feed Dog Holder	1
31.	51134J	Feed Dog Holder Washer	1
32.	258A	Nut	1
33.	22863	Feed Dog Holder Adjusting Screw	1
34.	77	Screw	1
35.	22834	Needle Guard Adjusting Screw, for Styles 53100A, B, C, D	1
36.		Feed Dog (See Page 41)	1
37.	53125	Needle Guard, for Styles 53100A, B, C, D	1
38.	22801	Stud Screw	1
39.	22528	Screw, for feed dog on Styles 53100A, B, C, D	1
40.	51225W	Washer, for needle guard on Styles 53100A, B, C, D	1
41.	22585B	Screw, for needle guard on Styles 53100A, B, C, D	1
42.	77	Screw	1
43.	51235A	Feed Rocker Arm, for Styles 53100A, B, C, D	1
44.	51235G	Washer	2
45.	22519C	Screw	2
46.	482	Collar	2
47.	98	Screw	1
48.	51235	Feed Rocker, for Styles 53100A, B, C, D	1
49.	98	Screw	2
50.	51134C	Feed Bar Shaft	1
51.	51134R	Lubricating Felt Guard, for Styles 53100A, B, C, D	1
52.	51134P	Lubricating Felt, for Styles 53100A, B, C, D	1
53.	8	Feed Rocker Shaft	1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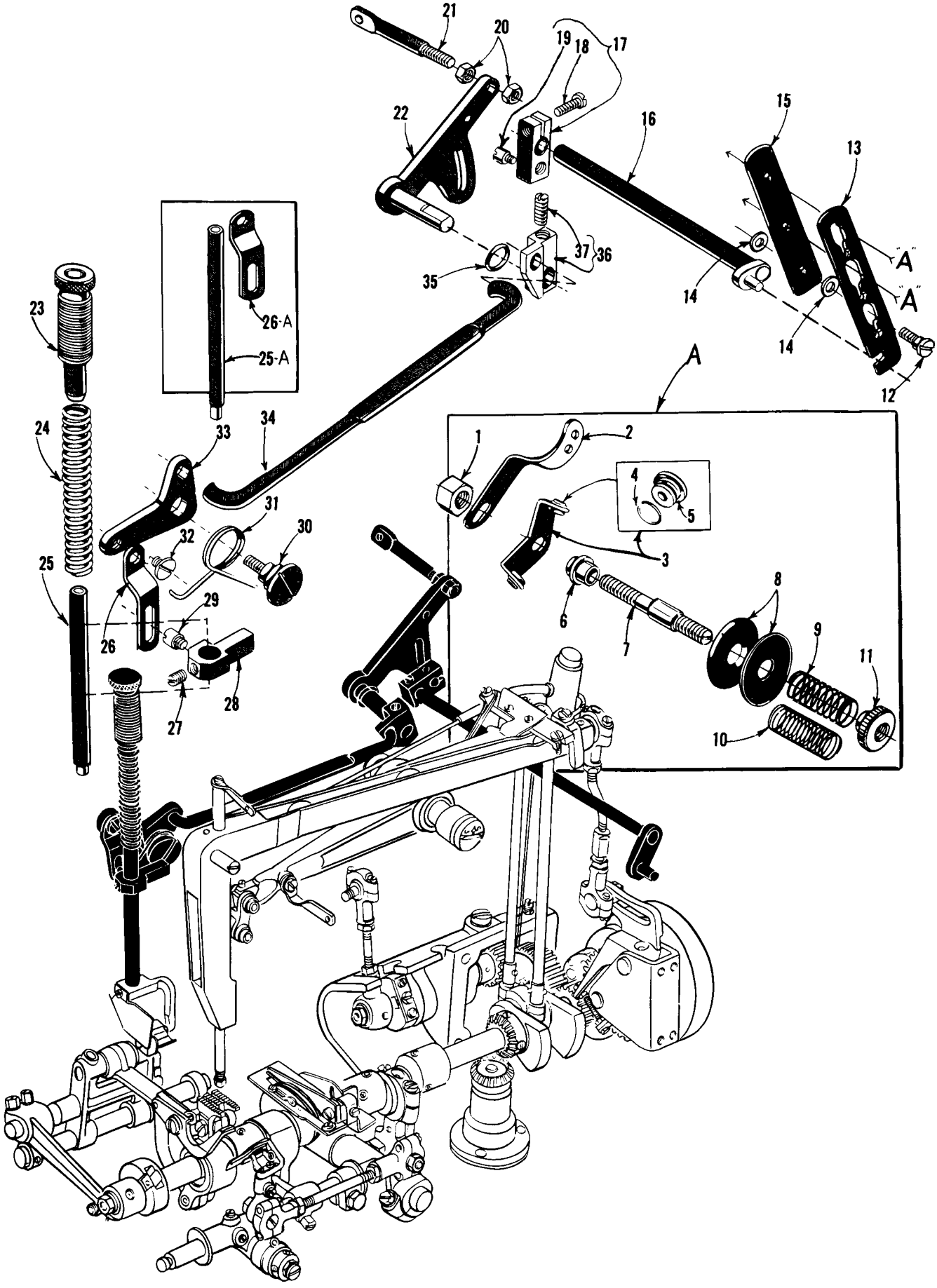
FOR STYLE 53100E ONLY
MAIN SHAFT AND FEED MECHANISM

Ref. No.	Part No.	Description	Amt. Req.
1.	82	Screw	1
2.	52822B	Main Shaft	1
3.	22801	Screw	1
4.	29476DV	Feed Lift Eccentric Assembly	1
5.	51406	Feed Lift Eccentric, .062 inch throw	1
6.	22894D	Screw	1
7.	51145A	Eccentric Bearing	1
8.	90	Screw	1
9.	3026A	Differential Feed Dog (Also See Page 41)	1
10.	52834H	Differential Feed Bar	1
11.	CL21	Oil Wick	1
12.	52853	Main Feed Dog Holder	1
13.	52925D	Needle Guard Holder	1
14.	53125A	Needle Guard	1
15.	22519J	Screw	1
16.	51235G	Washer	1
17.	22593	Screw	2
18.	52805D16	Main Feed Dog (Also See Page 41)	1
19.	22593	Screw	4
20.	39237D	Differential Feed Bar Guide Plate	2
21.	52834	Main Feed Bar	1
22.	22560B	Screw	1
23.	39237G	Bushing	2
24.	22747	Feed Dog Height Adjusting Screw	1
25.	77	Screw	1
26.	39237	Differential Feed Bar Guide	1
27.	22565C	Screw	2
28.	907	Nut	1
29.	52835V	Differential Feed Bar Driving Link	1
30.	CL21	Oil Wick	1
31.	51225W	Washer	2
32.	52835S	Differential Feed Fork Block	1
33.	22868A	Screw	1
34.	52835Q	Differential Feed Fork	1
35.	22758B	Screw	3
36.	51435	Differential Feed Control Lever, rear	1
37.	12934A	Nut	2
38.	52835G	Control Lever Link	1
39.	52835U	Pivot Stud Insert	1
40.	719	Screw	1
41.	52835	Differential Feed Control Lever	1
42.	43139A	Indicator Stop	2
43.	52835N	Control Lever Stop Plate	1
44.	22848	Screw	2
45.	25CC	Screw	2
46.	8372A	Indicator Stop Washer	2
47.	9937	Nut	2
47A.	20	Washer	1
48.	51435B	Differential Feed Control Lever Bushing	1
49.	52835K	Control Lever Spring	1
50.	61267G	Lifter Lever Spring Pin	1
51.	77	Screw	1
52.	52836C	Feed Rocker Arm	1
53.	51235G	Washer	2
54.	22519C	Screw	2
55.	22516	Screw	3
56.	52836H	Feed Rocker Segment Plate	1
57.	57836F	Differential Feed Bar Driving Link Slide Block	1
58.	52836	Feed Rocker	1
59.	89	Screw	2
60.	51134C	Feed Bar Shaft	1
61.		Wool Yarn	1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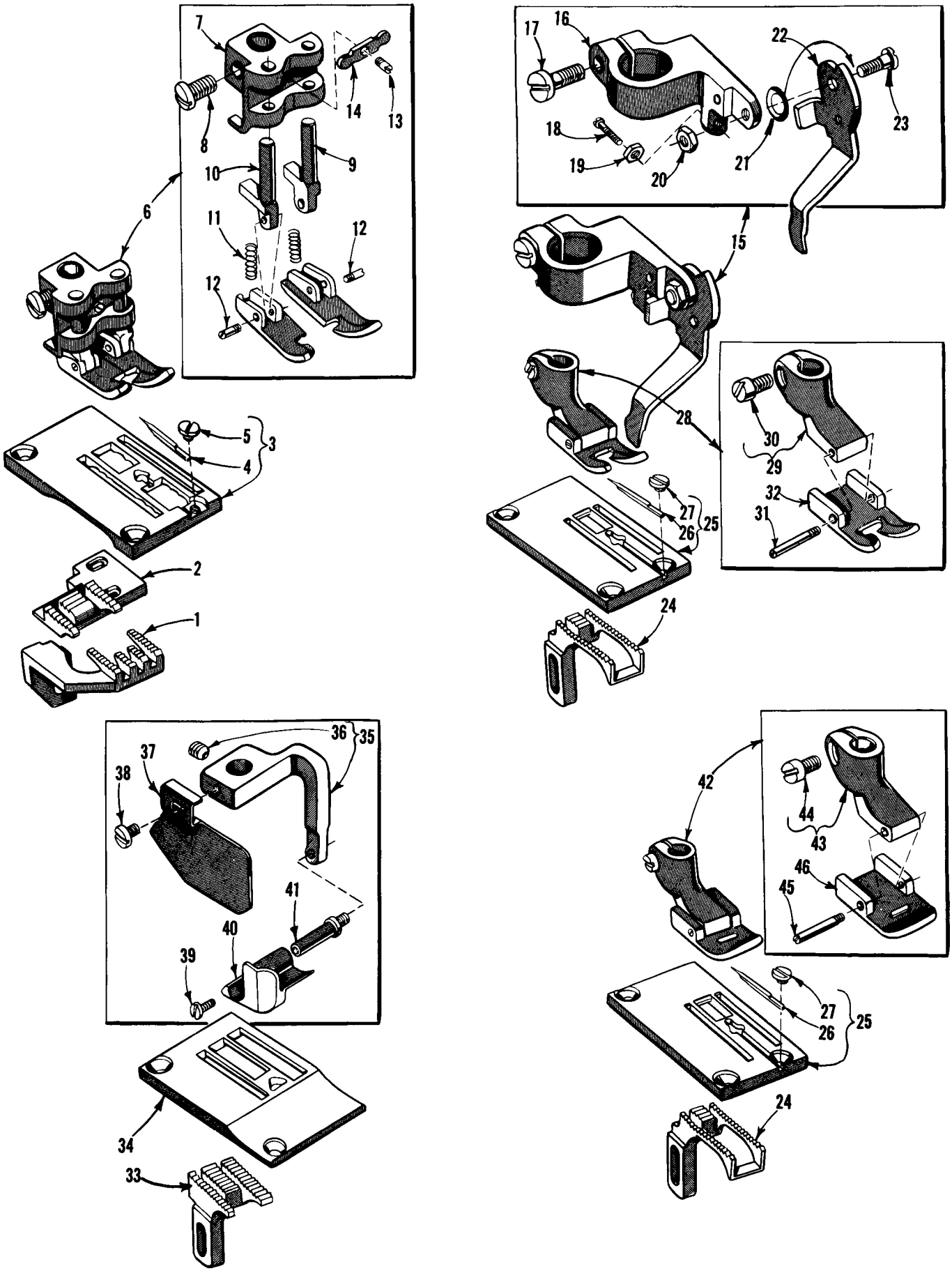
THREAD TENSION AND FOOT LIFTER LEVER PARTS

Ref. No.	Part No.	Description	Amt. Req.
1.	43266	Nut	1
2.	51491C	Lead-in Thread Eyelet	2
3.	51292D	Tension Thread Eyelet	2
4.	668-25	Eyelet	2
5.	668-28	Eyelet Locking Ring	2
6.	51292A	Tension Post Ferrule	2
7.	51292G	Tension Post	2
8.	109	Tension Disc	4
9.	51292F8	Tension Spring (needle)	1
10.	51292F2	Tension Spring (looper)	1
11.	51292C	Tension Nut	2
12.	22598C	Tension Release Stud	1
13.	21657-3	Tension Disc Separator	1
14.	80557	Washer	2
15.	52892	Tension Post Support	1
16.	21657W	Tension Release Lever Shaft	1
17.	21657Y	Tension Release Lever Connection	1
18.	22596	Screw	1
19.	402	Screw	1
20.	258	Nut, for Styles 53100B, C	2
21.	35780B	Lifter Lever Extension, for Styles 53100B, C	1
22.	51283H	Presser Foot Lifter Lever	1
23.	56356	Presser Spring Regulator	1
24.	51256C	Presser Bar Spring	1
25.	53157	Presser Bar, for Styles 53100B, C	1
25A.	51257K	Presser Bar, for Styles 53100A, D, E	1
26.	53183A	Presser Foot Lifter Lever Link, for Styles 53100B, C	1
26A.	53783A	Presser Foot Lifter Lever Link, for Styles 53100A, D, E	1
27.	22596F	Screw	1
28.	51257M	Presser Bar Connection and Guide	1
29.	402	Screw	1
30.	22557B	Screw	1
31.	52883S	Presser Foot Lifter Lever Bell Crank Spring	1
32.	22758C	Screw	1
33.	53783L	Presser Foot Lifter Lever Bell Crank	1
34.	53783M	Presser Foot Lifter Lever Connecting Rod	1
35.	660-207	Oil Seal Ring	1
36.	53783N	Presser Foot Lifter Lever, internal	1
37.	22537	Screw	1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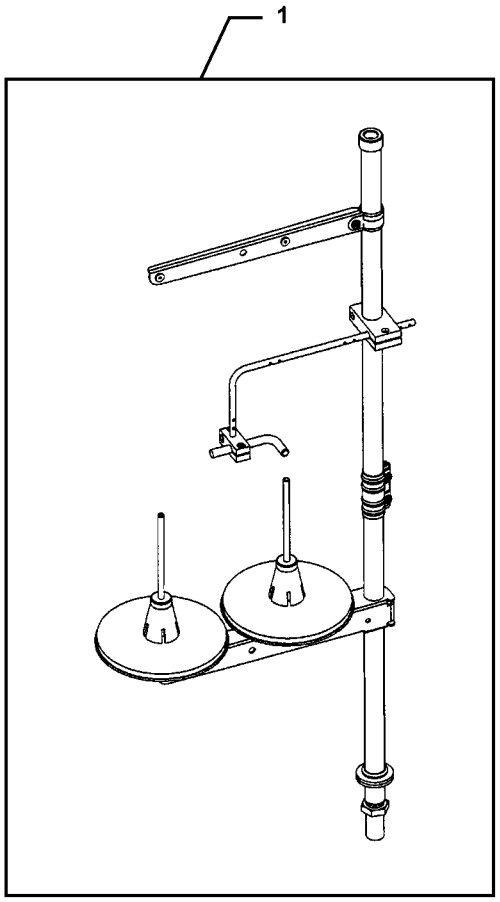
Ref. No.	Part No.	Description	Amt. Req.
1.	3026A	Differential Feed Dog, for Style 53100E	1
2.	52805D16	Main Feed Dog, for Style 53100E	1
3.	53124C	Throat Plate, for Style 53100E	1
4.	53131C	Stitch Tongue	1
5.	187B	Screw	1
6.	53120D	Presser Foot, for Style 53100E	1
7.	51230U	Presser Foot Shank	1
8.	22570A	Screw	1
9.	61130D	Presser Foot Plunger, right	1
10.	61130E	Presser Foot Plunger, left	1
11.	6990	Spring	2
12.	22799U	Hinge Screw	2
13.	22799N	Screw	1
14.	61130F	Equalizer	1
15.	23441F	Edge Guide Assembly, for Styles 53100D, E	1
16.	23441H	Edge Guide Bracket	1
17.	22596	Screw	1
18.	22738D	Screw	1
19.	60078Z	Nut	1
20.	41071G	Nut	1
21.	35772H	Spring Washer	1
22.	23441G	Edge Guide	1
23.	22585	Screw	1
24.	53105A	Feed Dog, for Styles 53100A, D	1
25.	53124A	Throat Plate, for Styles 53100A, D	1
26.	53131C	Stitch Tongue	1
27.	187B	Screw	1
28.	53120B	Presser Foot, for Style 53100D	1
29.	53130A	Presser Foot Shank	1
30.	91	Screw	1
31.	22799B	Hinge Screw	1
32.	53130E	Presser Foot Bottom	1
33.	53105B	Feed Dog, for Styles 53100B, C	1
34.	53124B	Throat Plate, for Styles 53100B, C	1
35.	53130C	Presser Foot Shank, for Styles 53100B, C	1
36.	22894W	Screw	1
37.	53139AF	Cloth Guard, for Styles 53100B, C	1
38.	28	Screw	1
39.	22798A	Screw	1
40.	53130B	Presser Foot Bottom, for Styles 53100B, C	1
41.	53130D	Presser Foot Hinge Pin Stud, for Styles 53100B, C	1
42.	53120C	Presser Foot, for Style 53100A	1
43.	53130A	Presser Foot Shank	1
44.	91	Screw	1
45.	22799B	Hinge Screw	1
46.	53130F	Presser Foot Bottom	1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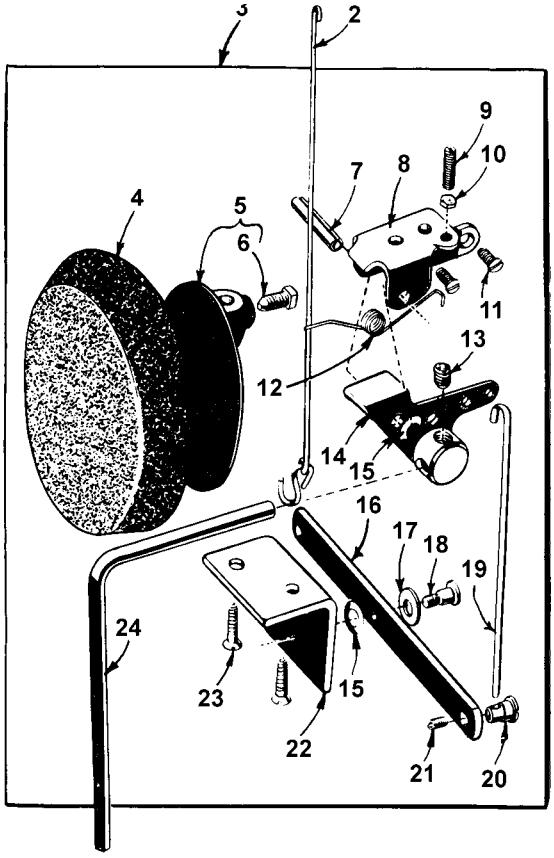
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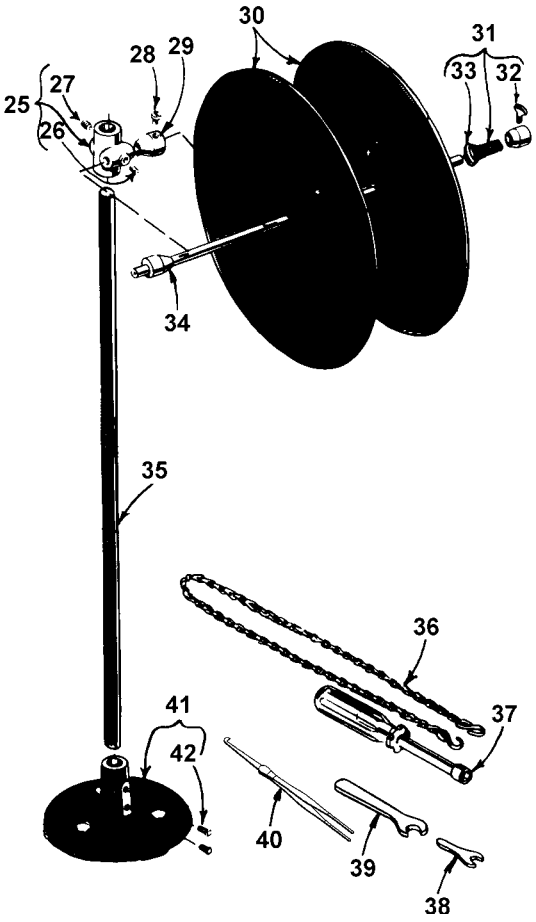
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Union Special

THREAD STAND, KNEE PRESS AND TAPE REEL PARTS

Ref. No.	Part No.	Description	Amt. Req.
1.	21101W	Thread Stand, complete	1
2.	51493BC	Lifter Link	1
3.	21660H	Knee Press Assembly, for Styles 53100A, D, E	1
4.	660-168	Knee Press Plate Cushion	1
5.	21664	Knee Press Plate	1
6.	69FD	Screw	1
7.	660-219G	Roll Pin	1
8.	21664F	Mounting Bracket	1
9.	92201	Screw	1
10.	12982	Nut	1
11.	80	Screw	2
12.	21662V	Torsion Spring	1
13.	22650CE6	Screw	1
14.	21662R	Knee Press Lifter Arm	1
15.	39536AD	Spring Washer	2
16.	21662U	Knee Press Lever	1
17.	43137E	Washer	1
18.	22557A	Screw	1
19.	21662T	Knee Press Link	1
20.	21662S	Knee Press Link Connection	1
21.	531	Screw	1
22.	21664C	Bracket	1
23.	SC303	Wood Screw (#12 x 1 inch)	2
24.	21663A	Knee Press Plate Lever	1
25.	21217A	Tape Reel Axle Support, for Styles 53100B, C	1
26.	22650CB4	Screw	1
27.	22651CD4	Screw	1
28.	93A	Screw, for Styles 53100B, C	1
29.	753	Tape Reel Disc Collar, for Styles 53100B, C	1
30.	21178A	Tape Reel Disc, for Styles 53100B, C	2
31.	21177A	Tape Reel Spring Collar, for Styles 53100B, C	1
32.	22647K24	Thumb Screw	1
33.	1349A5	Tension Spring	1
34.	752	Tape Reel Axle, for Styles 53100B, C	1
35.	21104B20	Tape Reel Rod, 20 inches long, for Styles 53100B, C	1
36.	421D28	Treadle Chain, 28 inches long, for presser foot on Styles 53100B, C	1
	421D38	Treadle Chain, 38 inches long, for differential feed on Style 53100E	1
37.	21388AU	Wrench, for 3/8 inch hexagonal nut	1
38.	116	Wrench, for 9/32 inch nut	1
39.	21388	Wrench, single end, for 3/8 inch nut	1
40.	12288403	Thread Tweezer	1
41.	21114AV	Tape Reel Base, for Styles 53100B, C	1
42.	22651CD4	Screw	2
43.	28604	Oil (1 Pint)	1

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Union Special®

INDUSTRIAL SEWING EQUIPMENT