CATALOG NO.

PT0501-GR

First Edition

STYLES

56100MZ27B 56100MZ34B 56100MZ35B

INSTRUCTIONS AND ILLUSTRATED PARTS LIST



CLASS 56100 - ADVANCED SERIES, BAG SEAMING MACHINES







CATALOG NO. PT0501-GR
ADJUSTNG INSTRUCTIONS AND
ILLUSTRATED PARTS LIST FOR
CLASS 56100
ADVANCED SERIES
BAG SEAMING MACHINE

STYLE 56100MZ27B 56100MZ34B 56100MZ35B

First Edition © 2006

PRINTED 2006 IN USA

INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

© Union Special Corporation ALL Rights Reserved in All Countries

IDENTIFICATION OF MACHINES

Each UNION SPECIAL machine carries a Style number, which on this Class machine is stamped into the style plate affixed to the right front of machine.

The serial number is stamped in the casting at the right rear base of machine.

Reference to directions, such as right, left, front or rear, are given relative to the operator's position while seated at the machine. Operating direction of the handwheel is counterclockwise, as viewed from the right end of machine.

CLASS DESCRIPTION

Advanced high speed, single needle, flat bed machine with needle bearing assembly for left mainshaft bushing. High throw, needle bearing needle bar drive, light weight presser bar and needle bar driving mechanism, enclosed automatic lubricating system, filtered oil return pumps for head and base, lateral looper travel. Maximum work space to right of needle bar, 8 1/4 inches (209.6mm).

MACHINE STYLE

*56100MB	Typical application - For seaming medium and large size cotton, light and medium weight
	burlap bags. Stitch range 3 1/2 to 7. Seam specification 401-SSa-1. Maxmum recomended
	speed 6000 R.P.M. sewing at 3 1/2 to 5 S.P.I. and 6500 R.P.M. sewing at more than 5 S.P.I.
	Recommended speed for machines operating on a duty cycle of 50% or more is 10% less
	than maximum.

*56100PB Typical application - For seaming medium to large bags. Ultra High Throw, Stitch range 3 1/2 to 7. Seam specification 401-SSa-1. Maxmum recommended speed 6000 R.P.M.

*56100TB Typical application - For hemming bag openings and for producing side and bottom double turned-in seams on woven polypropylene bags. Stitch range 3 1/2 to 7. Seam specification 401-EFb-1 or 401-SSp-1. Maxmum recommended speed 6000 R.P.M.

56100MZ27B Similar to 56100TB, without hemmer.

56100MZ34B Similar to 56100MZ27B, except for use on automated equipment.

56100MZ35B Similar to 56100MB, except with synchronizer handwheel pulley.

*Complete catalog for these styles is CATPT0303.

NEEDLES

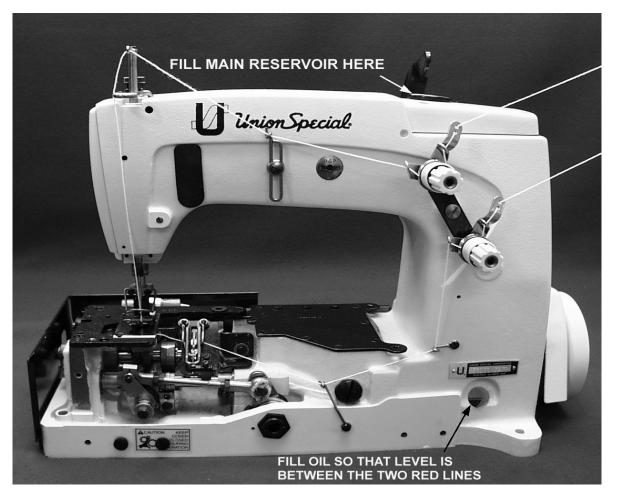
Each needle has both a type and size number. The type number denotes the kind of shank, point, length, groove, finish and other details. The size number, stamped on the needle shank, denotes largest diameter of blade, measured midway between shank and eye. Collectively, type and size number represent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

Recommended needle for Styles 56100MZ27B, MZ34B, MZ35B is Type 144GS. It has a round shank, round point, No. 2 bag length, double groove, spotted, short point, chromium plated, and is available in sizes - 054, 200/080, 230/090, 250/100.

An optional needle for Styles 56100MZ27B, MZ34B, MZ35B is Type 143GS. It has a round shank, round point, No. 2 bag length, double groove, spotted, struck groove, cromium plated, and is available in sizes 140/054, 150/060, 170/067, 200/080, 230/090, 250/100.

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

To have needle orders promptly arid 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 144GS, Size 200/080".



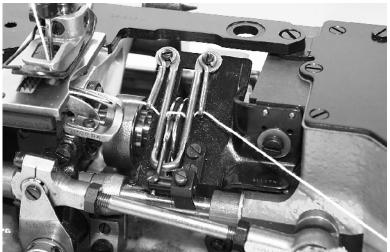


Fig 1

THREADING AND OILING DIAGRAM

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

The oil has been drained from the machine before shipping and the reservoir must be filled before starting to operate. Maintain oil level between the two red lines and add oil when oil level drops below the bottom red line. The machine is automatically lubricated and no oiling other than keeping the main reservoir filled is necessary. For further lubricating instructions refer to paragraph on "LUBRICATION".

SAFETY RULES



THIS SAFETY SYMBOL INDICATES YOUR PERSONAL SAFETY IS INVOLVED.

TO PREVENT PERSONAL INJURY:

- All power sources to the machine MUST be TURNED OFF before threading, oiling, adjusting or replacing parts.
- Wear safety glasses.
- All shields and guards MUST be in position before operating machine.
- DO NOT tamper with safety shields, guards, etc., while machine is in operation.

LUBRICATION

Use a straight mineral oil with a Saybolt viscosity of 90 to 125 seconds at 100 degrees F. This is equivalent to UNION SPECIAL Specification No. 175.

Before operating, fill machine with oil at plug screw (A, Fig. 2). While filling machine with oil, check gauge (B). When proper oil level is reached, the oil level should appear in the center between the two red lines on gauge (B). It is recommended to always check oil level before operating to be sure machine is filled between the lines. CAUTION: DO NOT over fill machine.

To drain oil, remove plug screw, at right, in front, below handwheel or lower crank chamber cover on back of machine. Oil must be changed every 2000 operating hours to minimize wear.

On new machines, or a machine out of service for an extended period of time; lubricate machine as follows:

Remove head cover, clean out lint, then directly oil needle bar link and needle bar. Replace head cover and fill machine with oil to proper level. Run machine at low RPM to ensure proper lubrication of components preventing any damage which may occur from lack of oil distribution.



Fig 2

SYNCHRONIZING LOOPER AND NEEDLE MOTIONS



Fig 3

Synchronization is the most important adjustment involving the needle and looper motion relation, because it maintains the needle-looper relation at both the needle loop taking time, as well as when the needle enters the looper triangle. This adjustment is best made using synchronization gauge set TT34.

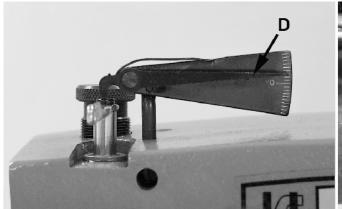
Remove the throat plate, feed dog, looper and needle thread take-up wire, (also called strike-off wire). Fig 3 Using gauge set TT34, attach the synchronizing plate (A) to the throat plate support with the throat plate screws. Insert the pin (B) into the hole for the looper and tighten with its screw. Turn the handwheel in operating direction, (towards the operator), until the pin lightly touches the right edge of the synchronizing plate. Insert the indicator (C) into the hole for the needle thread take-up wire, and move it up or down until the pointer (D) on the indicator reads at "0", and then tighten the screw. Now turn the handwheel in opposite of operating direction (away from the operator), until the pin again lightly touches the right edge of the plate. If the machine is synchronized the pointer on the indicator should again read "0". If the pointer is above or below the "0", the machine is out of synchronization. A variation of one line is allowable.

To synchronize the machine the following procedure should be followed. Thread screw (F) (99271), from gauge kit TT34, into the looper drive lever rocker shaft through the center of the thrust adjusting screw.

If the pointer (D) on the indicator reads above the "0" (Fig. 3A). Loosen screw (E) in the looper drive lever and pull screw (F), (99271), slightly toward the operator. Retighten screw (E) in the looper drive lever and recheck the synchronization as outlined above. Repeat as necessary to obtain proper synchronization.

If pointer on the indicator reads below the "0", (Fig. 3B). Loosen screw (E) in the looper drive lever and tap screw (F), (99271), slightly away from the operator. Retighten screw (E) in the looper drive lever and recheck the synchronization as outlined above. Repeat as necessary to obtain proper synchronization.

If synchronization gauge set TT34 is not available, the following procedure can be used.



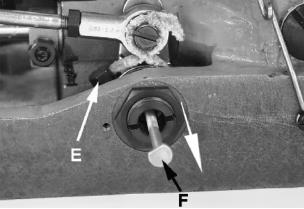
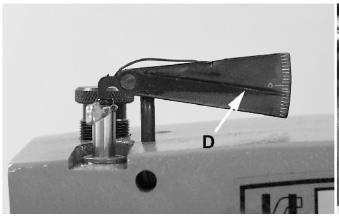


Fig 3A

SYNCHRONIZING LOOPER AND NEEDLE MOTIONS (CONTINUED)



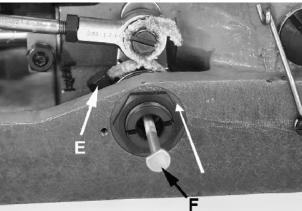


Fig 3B

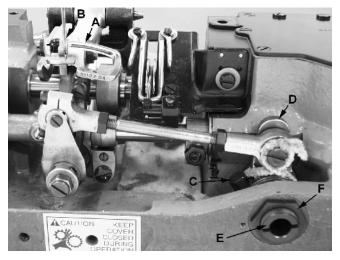


Fig 4

Turn handwheel in the operating direction until the point of the looper (A, Fig. 4) moving to the left, is even with the left side of needle (B). Note the height of the eye of the needle with respect to the looper point (See Fig. 4A). Turn the handwheel in the reverse direction until the point of the looper again moving to the left, is even with the left side of needle (See Fig. 4A). If the height of the eye of the needle with respect to the looper point are the same, looper and needle motions are synchronized - a variation of .005 inch (.127mm) is allowable. If the distance from the eye of the needle to the point of the looper is greater when the handwheel is turned in the operating direction, the looper drive lever rocker shaft will have to be moved slightly towards the rear. Moving the shaft towards the front acts the reverse.

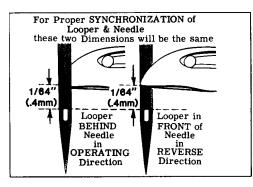


Fig 4A

NOTE: The 1/64 inch (.4mm) dimension shown in Fig. 4A is for final setting of needle bar height.

Adjust looper drive rocker lever shaft as follows:

Loosen screw (C, Fig. 4) in looper drive lever (D). A rod of .146-40 thd. or Union Special Screw No. 22870 A can be threaded into the looper drive lever rocker shaft through the center of thrust adjusting screw (E). Tap or pull slightly as required to position shaft for proper synchronization. Tighten screw (C) securely and remove rod or screw used to position shaft.

SYNCHRONIZING LOOPER AND NEEDLE MOTIONS (CONTINUED)

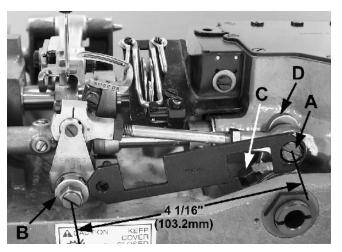


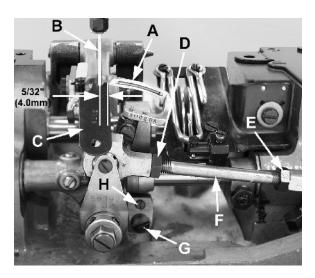
Fig 5

Loosen lock nut (F) and TORQUE thrust adjjusting screw (E) to 6 in. lbs. (7cm/kg); re-tighten lock nut (F) securely.

With the looper at extreme right end of travel, check location of the right looper connecting rod bearing using gauge No. TT35. Place large hole of gauge over threaded stud (A, Fig. 5). The left end of gauge should locate against the RIGHT side of looper rocker cone (B). If adjustment is necessary, loosen clamp screw (C) and reposition looper drive lever (D) as required, then tighten screw (C).

If gauge is not available, check setting with a scale. Distance between the centerline of rocker cone and centerline of looper drive lever stud should be 4 1/16 inch (103.2mm) as shown in Fig. 5 when looper is at its extreme right end of travel.

LOOPER AND LOOPER NEEDLE GUARD SETTINGS



Insert a new needle, type and size specified. Looper gauge is 5/32 inch (4.0mm) which is the distance from point of looper (A, Fig. 6) to centerline of needle (B) when looper is at extreme right end of its travel. Looper gauge No. 21225-5/32 (C) is available for this setting. Adjustment can be made by loosening nut (D), (it has a left hand thread) and nut (E); turn connecting rod (F) as required to attain specified dimension. Hold connecting rod in position and tighten nut (E), then nut (D). NOTE: Be sure that the left ball joint is in a vertical position and does not bind after adjustment.

Fig 6



Fig 7

While turning handwheel in operating direction and the looper (A, Fig. 7) moves to the left, its point should be set to brush but not pick at rear of needle (B). Adjustment can be made by loosening screw (G, Fig. 6), turn stop screw (H) clockwise to move looper towards the rear, counterclockwise acts the reverse. It is suggested to hold looper towards the front while making this adjustment. Tighten screw (G) after adjustment has been made and recheck movement of looper.

Looper needle guard (attached to looper) should be set with the looper point set to the centerline of the needle, set front guard 0.005" to 0.010" (0.13 to 0.25 mm) away from looper.

NOTE: Set the 51108B so as it moves to the right, the tip of the retainer is in the center of the looper.

NEEDLE BAR HEIGHT

Turn handwheel to position point of looper (A, Fig. 8) 1/64" (0.4mm) past the left side of needle (B). At this time the top of the eye of the needle (B) should be even with the under side of the looper (A). To make adjustment, loosen screw (C Fig. 14) and move needle bar (A) up or down as required.

FEED DOG SETTINGS

Feed dog (A, Fig. 9) should be centered in throat plate (B) with equal clearance on all sides and ends with feed travel set to desired stitch length. At highest point of travel, tips of feed dog teeth should extend the depth of 1 full tooth above throat plate. Screw (C) should be set to support feed dog after screw (D) has been loosened which secures feed dog in position.

When the feed dog is coming out of the throat plate, the top of the feed dog should be level with the top of the throat plate. Adjustment can be made by loosening nut (A, Fig. 10) and turn screw (B) clockwise to lower front of feed dog, counterclockwise acts the reverse. When properly set, retighten nut (A).

Right to left adjustment can be made by loosening screws (A, Fig. 11) and slightly move feed rocker (B) on feed rocker shaft (C) as required, then retighten screws. Check to ensure that feed rocker arm (D) does not bind after adjustment.

Forward or rearward centering of feed dog can be accomplished by loosening nut (E, Fig. 11), move feed rocker (B) as required and retighten nut.

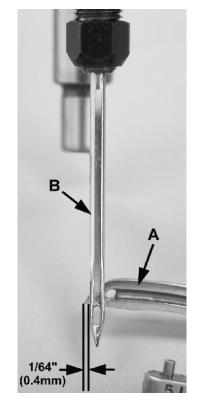


Fig 8

CHANGING STITCH LENGTH

Set the stitch to required length. This is accomplished by

loosening lock nut (F, Fig.11) 1/2 turn, (it has a left hand thread) on the end of the stitch regulating stud and turning stitch adjusting screw (G) located under the left end of the cloth plate in the head of the mainshaft (H), which is marked with "L" and "S". Turning the screw in a clockwise direction shortens the stitch (moves stitch regulating stud toward the "S") and turning it in a counterclockwise direction lengthens the stitch (moves stitch regulator stud toward the "L"). Retighten the lock nut securely. To prevent destructive damage to the feed drive bearing, key screw (J) must engage the "U" shaped key slot in ferrule (K).

The feed rocker assembly may require lubrication and repair after years of operation. This can be accomplished as follows: Loosen nut (E, Fig. 11) and remove nut (F). Remove feed rocker arm (D) from machine by rocking s'lightly. Loosen screws (A) and remove stop collar on right end of shaft (C). Shaft can now be withdrawn. Loosen Allen screw (L) and remove shaft (P), Now repack bearings.

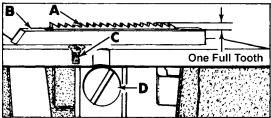


Fig 9

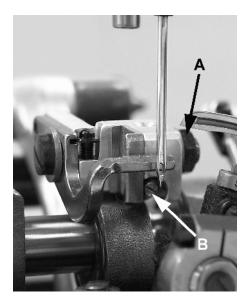


Fig 10

CHANGING STITCH LENGTH (CONTINUED)

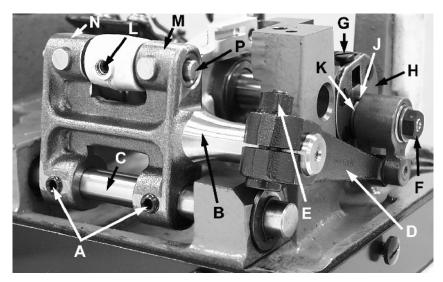


Fig 11

When packing bearings, parts must be clean and grease should be applied directly from the tube to avoid contamination. Tube of grease can be ordered under part No. 28604 P. Greased bearings are located at (N, M, Fig. 11). If grease sealed bearings are replaced, they should be pressed in flush with the casting. To assemble, start tapered end of shafts first, twisting slightly when entering the grease seals to prevent damage. Check for proper adjustment of feed dog as described under the "Feed Dog Settings". Also check to see that there is no binding at any point.

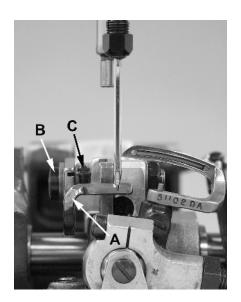


Fig 12

REAR NEEDLE GUARD

Rotate handwheel in operating direction to position looper point at the right hand side of needle. At this time the needle guard (A, Fig 12) should be at its extreme end of forward travel. Set the guard front to back to just touch the needle. Guard should be set as low as possible, yet have its vertical face approach above the needle point. To move the needle guard forward or backward, loosen the screw (B), move needle guard as required, and retighten screw. To raise or lower needle guard, loosen screw (B), and turn screw (C) clockwise to lower needle guard or counterclockwise to raise it. Retighten screw (B) after guard is properly set.

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

THREADING

Draw 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 this machine.

LOOPER THREAD CAST-OFF WIRE

Looper thread cast-off wire (A, Fig. 13) located on the take-up shield (B) controls the amount of slack thread in the system and can be moved to any position. It should be set laterally so that it is midway between the two discs of take-up (C) and the tip parallel with the discs.

It is usually set toward the take-up to almost the limit of its slot so that it barely clears the highest point of the take-up. The height and lateral adjustment of the retainer affects the control of looper thread as looper moves to the left. Ordinarily it will be set in approximately a horizontal position. More looper thread is given to the stitch when the retainer is raised and set towards the take-up. However, if the retainer is raised too high, the looper thread triangle may be wiped under the blade of the looper, causing traingle skips or pulled down stitches. This can be checked by observing the action of the looper thread as the looper moves to the left.

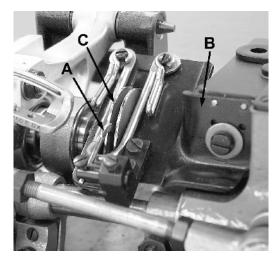


Fig 13

THREAD TENSIONS

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

PRESSER BAR HEIGHT

Height of presser bar (D, Fig. 14) is set correctly if it is possible to remove the presser foot when the foot lifter lever, located at the back of the machine and extending above the upper crank chamber cover is fully actuated (pulled to the right). There should be approximately 1/16 inch (1.6mm) clearance between lower surface of the presser bar connection and guide (E) and bottom surface of head opening in the bed when foot lifter lever is released and presser foot lying flat on the throat plate with feed dog below throat plate.

Adjustment can be made by turning handwheel to position needle bar at bottom of stroke. Loosen screw (F) and while holding presser foot down on throat plate, position presser bar connection and guide as required to attain specified clearance and retighten screw.

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 when a slight tension is placed on the fabric. Turning it clockwise increases the pressure, counterclockwise acts the reverse.

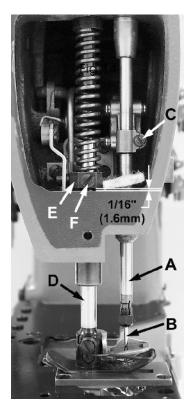


Fig 14

SETTING NEEDLE THREAD GUIDE AND FRAME EYELET



Fig 15

Turn handwheel in operating direction until the needle bar reaches its lowest position. Set needle thread take-up wire (B, Fig. 15) so that its thread contact surface is even with the center of the needle bar thread eyelet (C). Lower this setting for a smaller needle thread loop, raise for a larger loop. Set needle thread frame eyelet (D) so that it is approximately 3/4 inch (19.1mm) above centerline of its attaching screw (Fig. 15).

TORQUE REQUIREMENTS

Torque specifications given in this catalog are measured in inch-pounds or centimeter/kilograms. All straps and eccentrics must be tightened to 19-21 in. lbs. (22-24cm/kg) unless otherwise noted.

All nuts, bolts, screws, etc., without torque specifications must be secured as tightly as possible, unless otherwise noted. Special torque specifications of connecting rods, links, screws, etc., are shown on part illustrations.

SPECIAL INSTRUCTIONS

NEEDLE LEVER

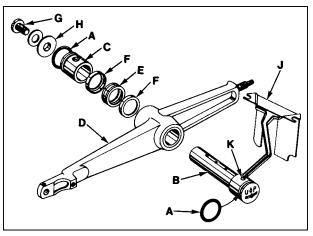


Fig 16

- When adjusting needle lever or replacing related parts, follow instructions in sequence as listed:
- Install "O" rings (A, Fig. 16) onto needle lever stud
 (B) and thrust collar (C).
- 2. With needle lever (D) in machine and positioned properly; insert stud (B) through hole in needle lever until its shoulder contacts the needle lever and the word "UP" on stud is in the upright position. While making sure no binding exists in the needle bar link, secure stud (B) with the front set screw in top of machine bed.
- 3. Install temper load ring (E) and compression cups (F) onto stud (B), then push ring and cups through opening in machine bed.
- 4. Install thrust collar (C) onto stud (B) being careful not to damage "O" ring. Compress components together by tighening screw (G) until washer (H) bottoms against stud (B). Secure stud (B) in position using the rear set screw in top of bed.

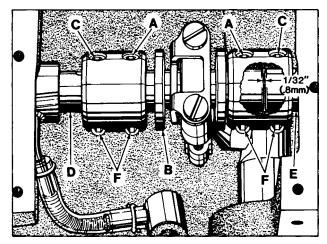


Fig 17

- 5. To check temper load ring for proper compression, remove screw (G) from stud (B) and loosen rear set screw in top of bed. Thrust collar (C) should spring out .003 .007 inch (.08 .18mm).

 Compress load ring in reverse order, then tighten rear set screw.
- 6. With indented "UP" on stud (B) in upright position, install bearing oiler (J) so its hook sets in oil supply hole (K) of stud. When hook and stud are secured in their proper positions, the proper amount of oil will be channeled to stud for lubricating needle lever (D).

ALIGNING MAINSHAFT TO CRANKSHAFT

As viewed looking down from rear of machine, spot screws (A. Fig. 17) in the couplings must align with the spots in the looper drive crank (B) and set screws (C) must align with the flats on crankshaft (D) and mainshaft (E).

Mainshaft must be positioned laterally with .045 inch (1.14mm) clearance between the right side of its head and the bed .045" (1.14mm) casting as shown in Fig. 18.

Looper drive crank (B, Fig. 17) must be positioned laterally with 1/32 inch (.8mm) clearance between it and mainshaft (E) as shown in Fig. 17. Once these settings are made, it is very important that the coplings are tightened in the following sequence for best performance.

Tighten spot screws (A) temporarily, to the looper drive crank. Tighten set screws (C) temporarily, to the crankshaft and mainshaft. Torque screws (F) to 19 - 21 in. lbs. (22 - 24 cm/kg). Loosen spot screws (A) and set screws (C). Re-torque screws (F) to 19 - 21 in. lbs. (22 - 24 cm/kg), then torque screws (A and C) to 19 - 21 in. lbs. (22 - 24cm/kg).

The oil drip plate (A, Fig. 19) located in the oil reservoir should be positioned with its tip in the recessed cut out in the bed casting, as far to the left as possible without touching. It has elongated mounting holes and can be adjusted by loosening (2) screws (B) in top of the oil reservoir back cover to position as required, retighten screws.

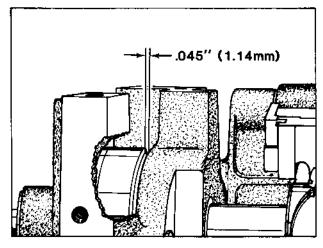


Fig 18

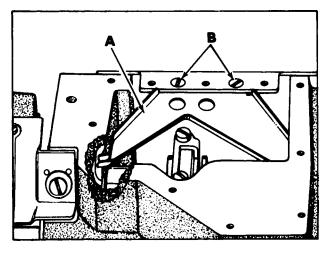


Fig 19

Before this machine left the factory it was adjusted and inspected to give you the utmost satisfaction and durability at all times. If, however, the machine has been readjusted and is not sewing properly, see the chart below for suggestions which may prove beneficial to you.

SKIPPED STITCHES

Condition	Causes	Cures
Needle loop too small	Frame needle thread guide set too low	Raise frame needle thread guide slightly.
	Needle thread stretched at bottom of stroke, loop not formed till stretch relieved	Lower frame thread eyelet and/or reduce needle tension
	Needle thread creased because it is too tight and needle is hot	Use oversize ball eye needle, lower frame needle eyelet, reduce tension
	Needle thread pinched by needle guard, collapsing needle loop	Drop needle guard slightly
	Thread twisting around needle	Keep needle loop as small as possible, keep needle thread tension to a minimum. Use a left twist thread
	Needle thread sticking in needle grooves, due to heat	Use lubricant on thread
	Needle does not rise enough to form needle loop properly	Increase looper gauge 1/64 to 1/32 inch
Looper misses needle loop as presser foot is coming off	Material is not held down in front of seam and is flagging	See if presser bar is sticking
a seam	Needle deflecting towards operator	Use sharp point needle
Needle loop formed properly but brushed out of the way .by looper	Needle bar set too high	Lower needle bar slightly
Looper misses needle loop when operator is trying to match seams or ends	Needle deflecting toward operator who may be holding back on material while matching seams or ends of garment	Do not hold back excessively on material. Properly adjust feed and maintain a proper feeding pressure on foot so operator does not hold back
Needle misses triangle on looper thread side	Looper thread too loose, not making a good triangle	Increase looper thread tension
	Needle being deflected to the rear by burr on needle point or due to operator pulling on material, or needle glancing off when coming on a seam	Do not pull material at the back. Use a sharp needle to stop needle from glancing off seam. Check needle for burr

NOTE: More detailed information concerning the double locked stitch (stitch type 401) is available under "Stitch Formation, Type 401".

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 particular 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 sub-assembly. Example:

48	29105AK	Crank Assembly, looper driving lever	1
49	22587K	Screw, bearing cap, (upper)	2
50	56343C	Guide, ball joint	1
51	56343E	Splasher, oil	1
52	22559A	Screw, bearingcap (lower)	

It will be noted in the above example that the eccentric, ball stud, 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.

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

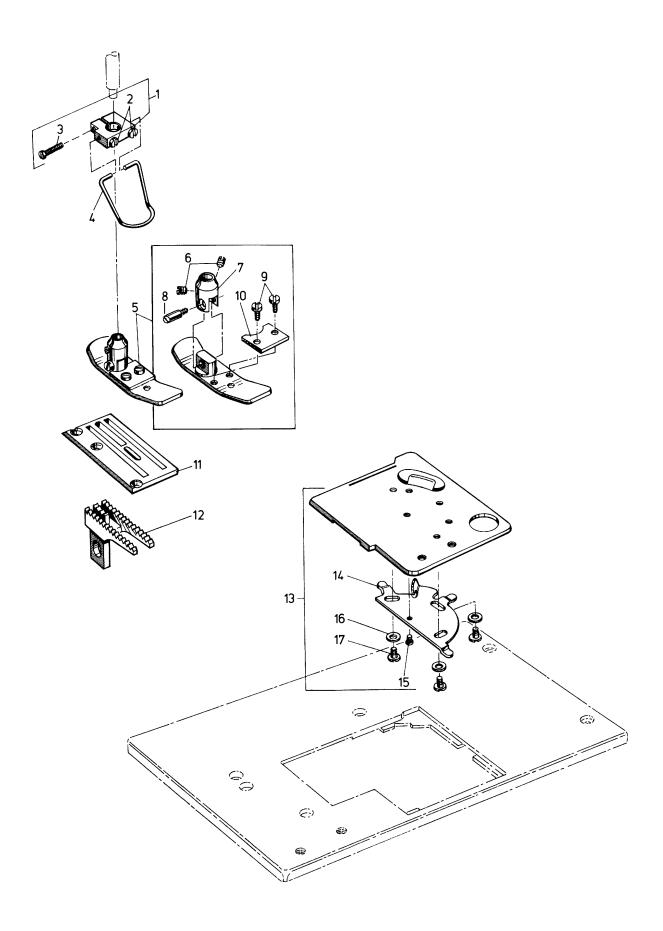
Where the construction permits, each part is stamped with its part number. On some of the smaller parts, and on those where construction does not permit, an identification letter is stamped in to distinguish the part from simil'ar ones.

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.

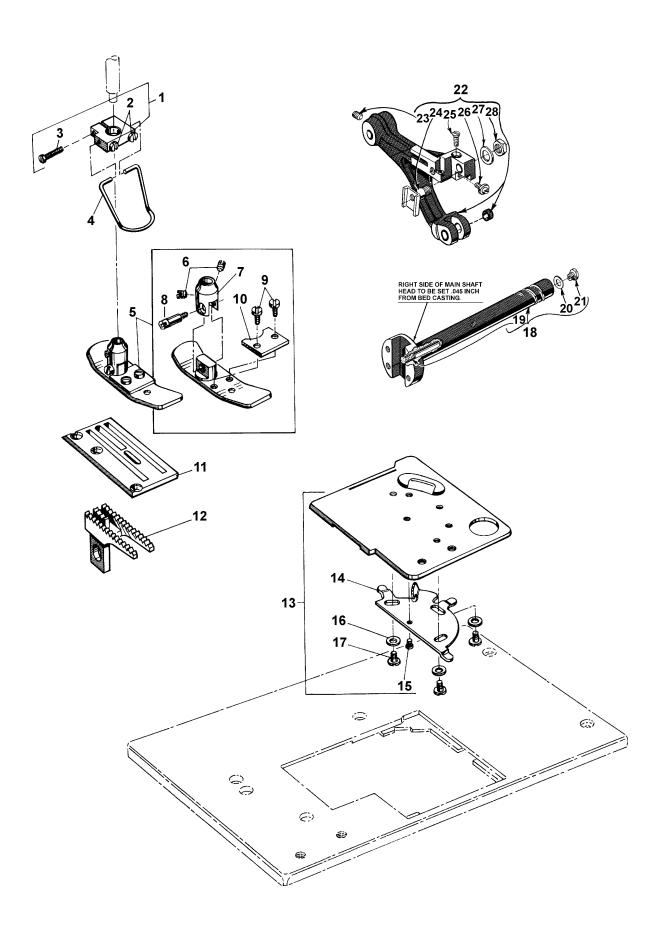
USE GENUINE REPAIR PARTS

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



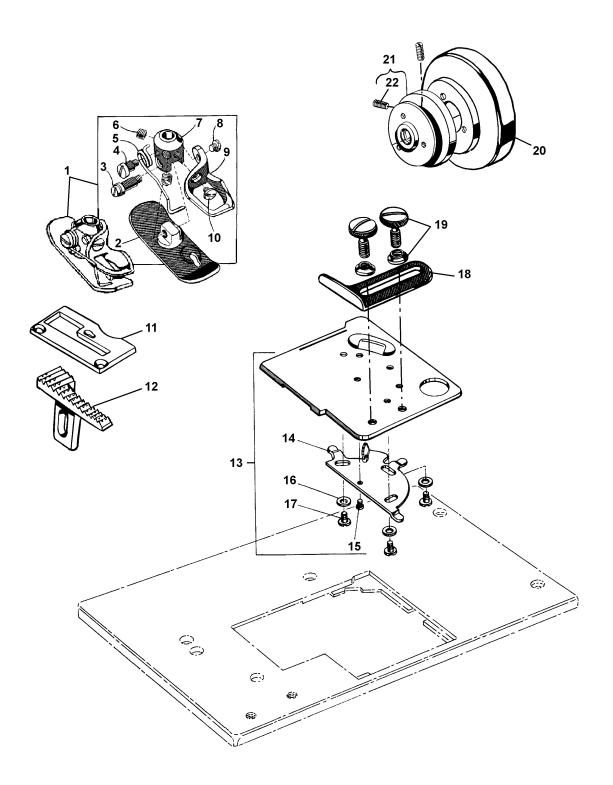
UNIQUE PARTS FOR 56100MZ27B

Ref.			Amt.
No.	Part No.	Description	Req.
_			_
١.	G52888B	Bracket, for Finger Protector	.]
2.	77L	Screw	. 2
3.	22747A	Screw	. 1
4.	99682C	Finger Protector	. 1
5.	G198X	Presser Foot	. 1
6.	88	Screw	
7.	65XD	Presser Foot Shank	. 1
8.	22845J	Shoulder Screw	
9.	25B	Screw	. 2
10.	199	Needle Guard	. 1
11.	195X	Throat Plate, for style 56100MZ27B, MZ34B	. 1
12.	6605L	Feed Dog	. 1
13.	56381WZ	Cloth Plate Cover	. 1
14.	51281AC	Cloth Plate Cover Spring	
15.	22760A	Screw	. 1
16.	35772H	Spring Washer	. 3
17	228/15B	Screw	3



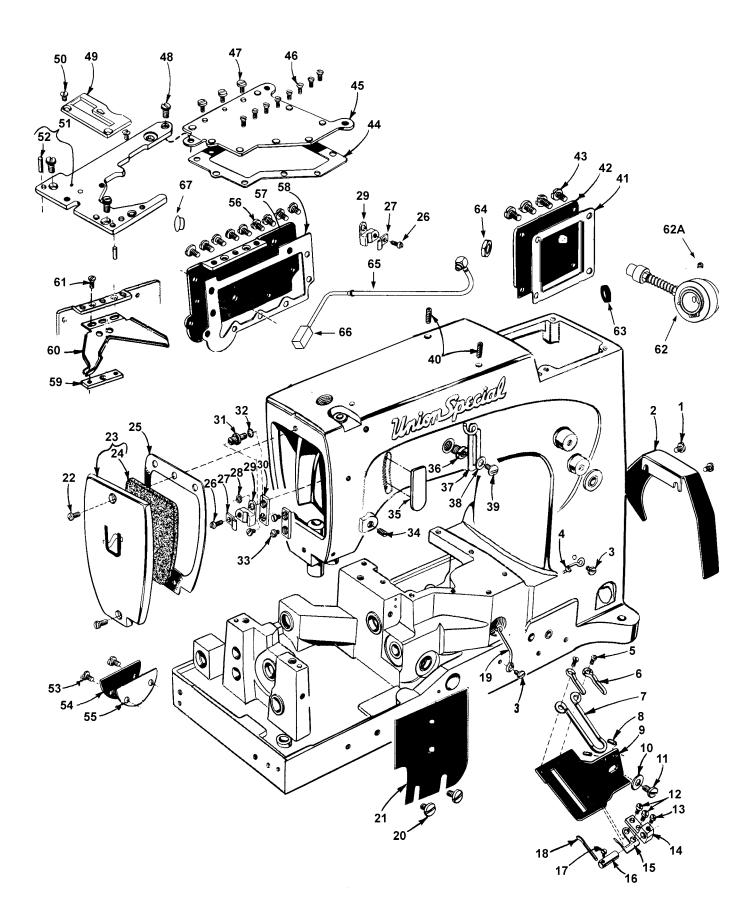
UNIQUE PARTS FOR 56100MZ34B

Ref. No.	Part No.	Description	Amt. Req.
1.	G52888B	Bracket, for Finger Protector	
2.	77L	Screw	
3.	22747A	Screw	
4.	99682C	Finger Protector	
5.	G198X	Presser Foot	
6.	88	Screw	
7.	65XD	Presser Foot Shank	
8.	22845J	Shoulder Screw	
9.	25B	Screw	
10.	199	Needle Guard	
11.	195X	Throat Plate, for style 56100MZ27B, MZ34B	. 1
12.	6605L	Feed Dog	. 1
13.	56381WZ	Cloth Plate Cover	
14.	51281AC	Cloth Plate Cover Spring	. 1
15.	22760A	Screw	
16.	35772H	Spring Washer	. 3
17.	22845B	Screw	. 3
18.	K74873	Mainshaft	. 1
19.	K74804	Felt Wick	. 1
20.	56322B	Gasket	. 1
21.	22891B	Screw	. 1
22.	56334N	Feed Bar	. 1
23.	22651CB4	Screw	. 1
24.	56334L	Holderfeed dog	. 1
25.	22637P24	Screw, height adjusting	
26.	22863C	Screw, holder adjusting	
27.	6042A	Washer	
28	258A	Nut	1

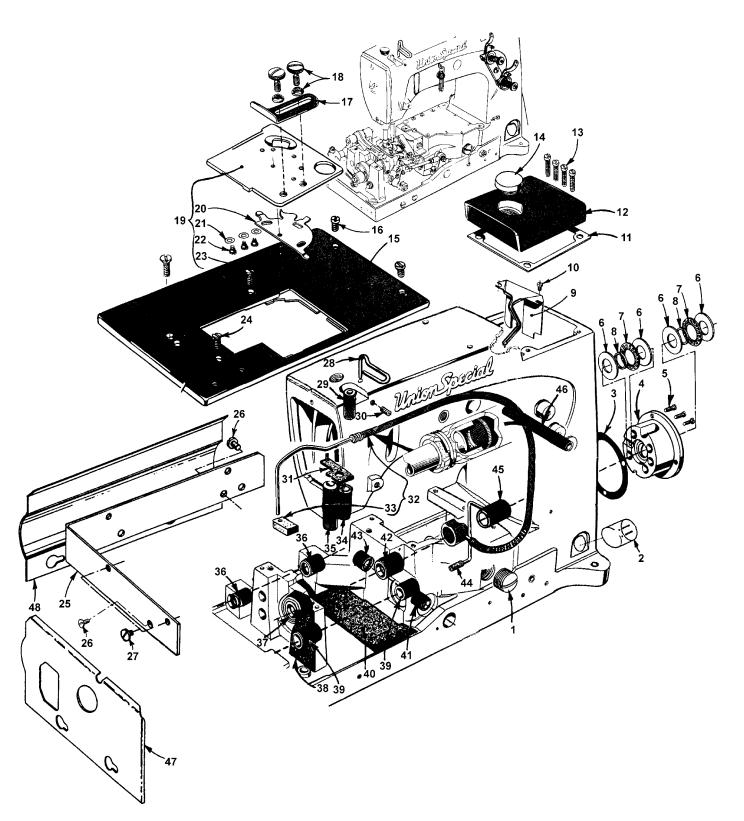


UNIQUE PARTS FOR 56100MZ35B

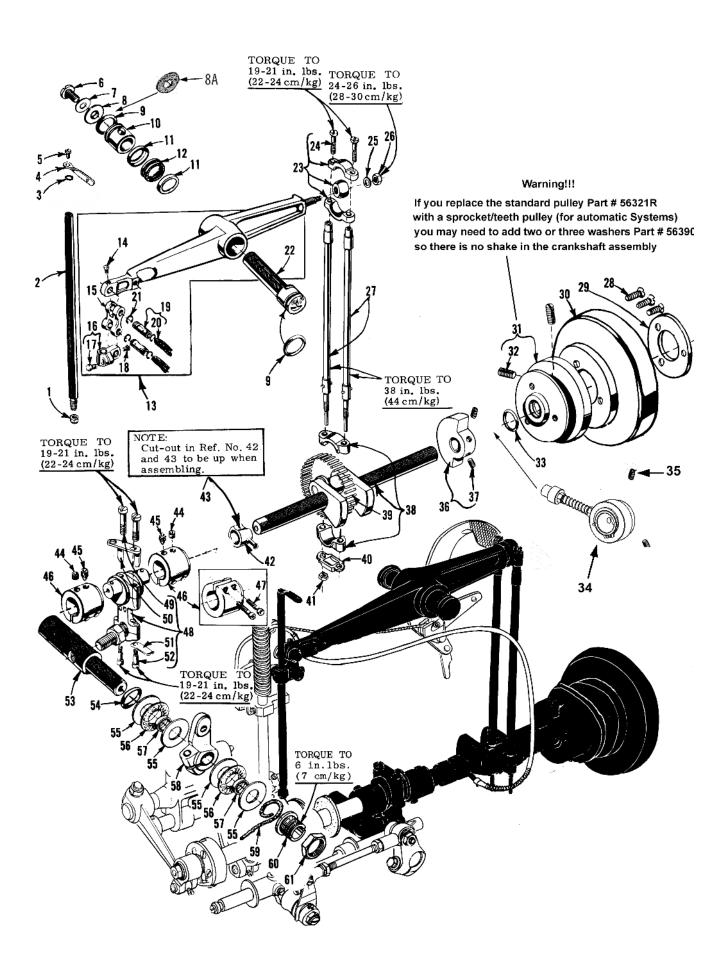
Ref.			Amt.
No.	Part No.	Description	Req.
1.	43120	Presser Foot	. 1
2.	43130	Bottom, presser foot	
3.	22897	Screw	
4.	57WD	Screw	
5.	15480C	Spring	
6.	88	Screw	
7.	43130A	Shank	
8.	22561	Screw	
9.	43130B	Guard, finger	
10.	187A	Screw	
11.	C51124D	Throat Plate	
12.	51105G	Feed Dog	
13.	56381W	Cloth Plate Cover	
14.	51281AC	Cloth Plate Cover Spring	
15.	22845B	Screw	
16.	35772H	Spring Washer	
17.	22760A	Screw	
18.	24X	Guide, edge	
19.	25	Screw, for 24X	
20.	56321M	Handwheel	
21.	563218	Pulley	
22	22894AB	Screw	2



Ref.			Amt
No.	Part No.	Description	Req
1.	22829	Screw	. 2
2.	21375CJ	Guard, belt	
3.	98A	Screw	2
4. 5.	52A 22593	Eyelet, frame looper thread	
6.	51158D	Eyelet, take-up	2
7.	51104F	Wire, cast-off	. 1
8.	50-216BLK	Pin, dowel	. 2
9.	51157H	Support, cast-off wire	. 1
10.	21657E	Washer	
11.	22528	Screw	_
12.	J87J	Screw	
13. 14.	77 51204C	ScrewSupport, auxiliary cast-off	ו ז
15.	51104H	Cast-off, auxiliary	,
16.	51204A	Support, cast-off wire	. i
17.	22798A	Screw	. 1
18.	51204	Wire, cast-off	. 1
19.	52958B	Eyelet, frame looper thread]
20.	25S	Screw	
21. 22.	51482A 22569C	Guard	
23.	56382Z	ScrewCover, head	
24.	56382A	Felt	
25.	56382AT	Gasket	
26.	22585	Screw	. 1
27.	56393D	Clamp, head oil tube]
28.	7947	Nut	ļ
29.	56393C 35731A	Block, head oil tube mounying Plate, presser bar connection guide	ا
30. 31.	51294R	Screw	2
32.	660-342	Lockwasher	i
33.	22513	Screw	
34.	95	Screw, plug	. 1
35.	660-694	Gasket, needle lever eyelet	. 1
36.	22889A	Screw, adapter]
37.	539	Eyelet, frame needle thread	. I
38. 39.	20 22848	Washer	
39. 40.	22894E	ScrewScrew, needle lever thrust collar and stud	Š
41.	56382AX	Gasket	
42.	56382DB	Cover, lower crank chamber	. 1
43.	22548	Screw	
44.	56382AW	Gasket]
45.	56382G	Cover, top oil reservoir	
46. 47.	22524 22585A	Screw	
48.	22839	Screw throat plate support	
49.		Screw, throat plate support	. Ì
50.	87	Screw	. 2
51.	56180B	Support, throat plate]
52.	51280J	Pin, dowel	
53.	22570A 56382J	ScrewCover, looper drive shaft	1
54. 55.	56382AV	Gasket	! !
56.	22848	Screw	ç
57.	56382AA	Cover, back oil reservoir	j
58.	56382AU	Gasket	. 1
59.	56382Y	Block, clamping]
60.	56382AB	Plate, oil drip	j
61.	22524	Screw	1
62. 62A	56193D 22894W	Oil Return Pump Assembly] 1
63.	22094VV RM2747-9	Screw	1
64.	11638M	Lock washerNut	i
65.	56193U	Oil return tube assembly	į
66.	666-214	Felt	1
67.	TA0750404R0	Plua	1

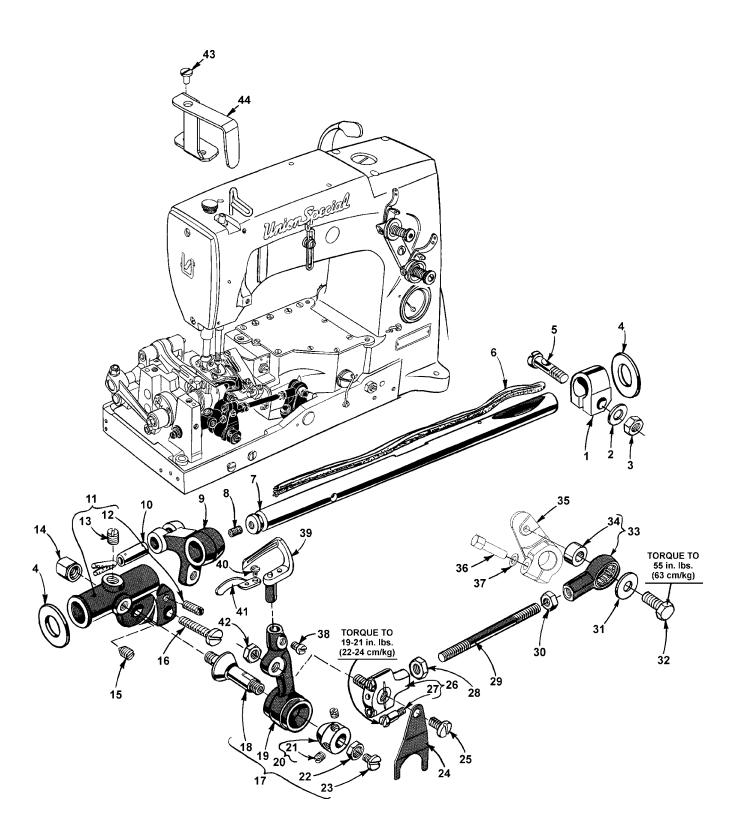


Ref.			Amt.
No.	Part No.	Description	Req.
1.	22539R	Screw, plug	1
2.	51-902BLK	Gauge, oil sight	
3.	56390E	Gasket	
4.	57890B	Housing, crankshaft bushing, includes bushing	
5.	22569B		
6.		Screw	
	56390H	Washer, thrust	
7.	660-665	Bearing, needle, thrust	
8.	56390J	Ring, pilot	
9.	56382AC	Plate, oil and baffle	
10.	90	Screw	
11.	56382DC	Gasket	
12.	56382B	Cover, upper crank chamber	
13.	22541C	Screw	
14.	660-1002	Plug, oil filter	
15.	56301W	Cloth Plate	1
16.	22839C	Screw	
17.		Guide, edge, for part number see pages 20-21	1
18.		Screw, for part number see pages 20-21	2
19.		Cover, cloth plate, for part number see pages 20-21	
20.	51281AC	Spring	
21.	35772H	Washer, spring	
22.	22760A	Screw	
23.	22845B	Screw	
24.	80	Screw	
25.	G51382BA	Bracket, for shields	
26.	22848	Screw	
27.	99295	Screw	
28.	56170	Wire, needle thread take-up	
29.	51154E	Bushing, needle bar (upper)	
30.	95	Screw	
31.	56393W	Pad, felt	
32.	GR-56393T	Pump Assembly, oil, head	
33.	56393L	Felt	
34.	56154	Bushing, needle bar (lower)	
35.	51257AA	Bushing, presser bar (lower)	
36.	57836B	Bushing, feed rocker shaft	
37.	56344G	Bearing Assembly	
38.	666-259	Felt	1
39.	50-895BLK	Bushing, looper rocker shaft	
40.	56193A	Felt, machine base (front)	
41.	52942W	Bushing, looper drive lever shaft (front)	
42.	56190	Bushing, mainshaft (intermediate)	
43.	57842B	Bushing, looper drive lever shaft (rear)	
44.	35897BV	Filter, oil intake	
45.	56390G	Bushing, mainshaft (inner right)	
46.	21657X	Bushing, tension release lever shaft	
47.	G51381BA	Oil Shield, left	
48.	G51381BD	Oil Shield, rear	
-	21227HR	Aligning Tool, for replacing 56344G bearing assembly (not shown)	1



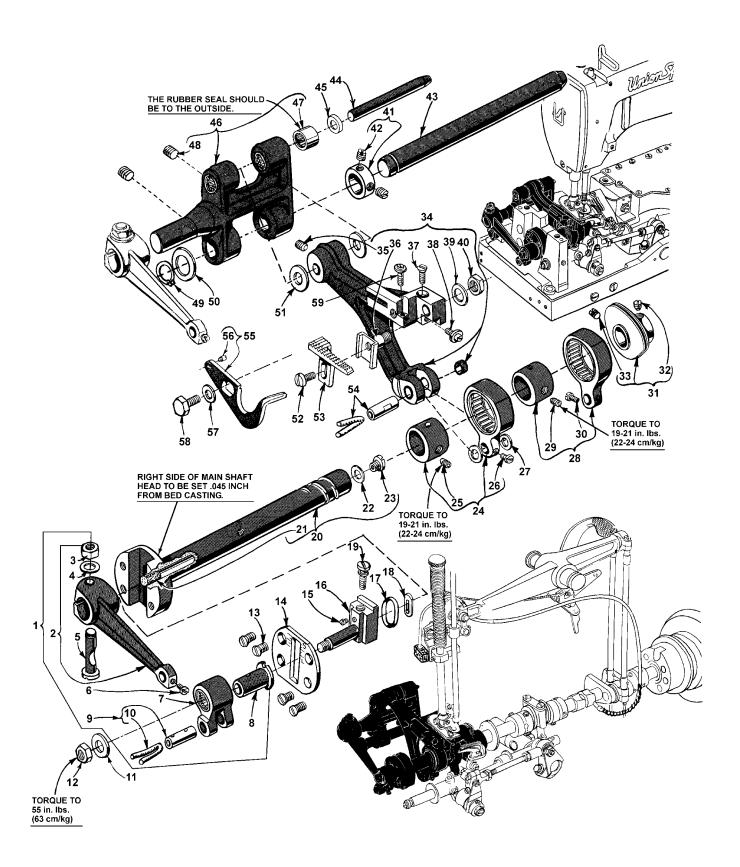
CRANKSHAFT, NEEDLE LEVER AND LOOPER DRIVING PARTS

Ref. No.	Part No.	Description	Amt. Req.
1.	56	Nut	1
2.	51217C	Needle Bar	
3.	27-435BLK	Washer, needle bar eyelet	i
4.	56358	Eyelet, needle bar thread	i
5.	22768	Screw	
6.	22586R	Screw	
7.	51250F	Gasket]
8.	51250D 56382AK	Washer	
8 A 9.	660-625	Gasket" "O" Ring	2
10.	56350E	Colar, needle lever thrust	1
11.	56350F	Cup, compression	2
12.	660-614	Ring, temperload	ī
13.	29348AF	Lever Assembly, needle	1
14.	77	Screw	1
15.	56354D	Link, connecting]
16.	51254K	Connection, needle bar	ļ
17. 18.	22562A 22564	Screw	1
10. 19.	52336A	Screw Pin, link	7
20.	WO3	Yarn	2
21.	660-215	Ring, retaining	4
22.	56350D	Stud, needle lever	1
23.	29066R	Ball Joint, needle lever (upper)	1
24.	22559G	Screw	2
25.	51216N	Washer	ļ
26.	51216P 56316	Nut	ı
27. 28.	22574	Connecting Rod, needle leverScrew	2
29.	61321L	Plate, retaining	1
30.	57821E	Handwheel, for styles 56100MZ27B, MZ34B	i
-		Handwheel, for style 56100MZ35B	1
31.	56321R	Pulley, for styles 56100MZ27B, MZ34B	1
	0000445	Pulley, for style 56100MZ35B]
32.	22894AB	Screw	2
33. 34.	660-202 56193D	"O" Ring	1
35.	22894W	Oil Return Pump Screw	2
36.	51247	Counterweight	1
37.	22894J	Screw	2
38.	29476LN	Crankshaft Sub-Assembly	1
39.	51216M625	Bearing, needle, .0625 inch (1.588mm) diameter	28
-	51216M626	Bearing, needle, .0626 inch (1.590mm) diameter	28
40	51216M627 56316C	Bearing, needle, .0627 inch (1.593mm) diameter	28
40. 41.	12934A	Nut	1
42.	1270471	Pump, oil, head (See Ref. No. 32 Page 25)	i
43.		Pump, oil, base (See Ref. No. 56 Page 23)	i
44.	22894C	Screw, set	2
45.	22894D	Screw, spot	2
46.	56343F	Coupling	2
47.	22653L8	Ścrew	2
48. 49.	29105AK 22587K	Crank Assembly, looper driving lever	2
49. 50.	56343C	Guide, ball joint	1
51.	56343E	Splasher, oil	i
52.	22559A	Screw, bearing cap (lower)	2
53.	52942AA	Shaft, looper drive rocker	1
54.	660-202	"O" Ring	1
55.	56390H	Washer, thrust	4
56.	660-665	Bearing, needle thrust	2
57.	56390J 56342E	Ring, pilot Lever, looper drive, marked "D"	2
58. 59.	CL21	Wick, oil	1
60.	52942AC	Screw, thrust synchronizing adjusting	i
61	56342D	Nut	i



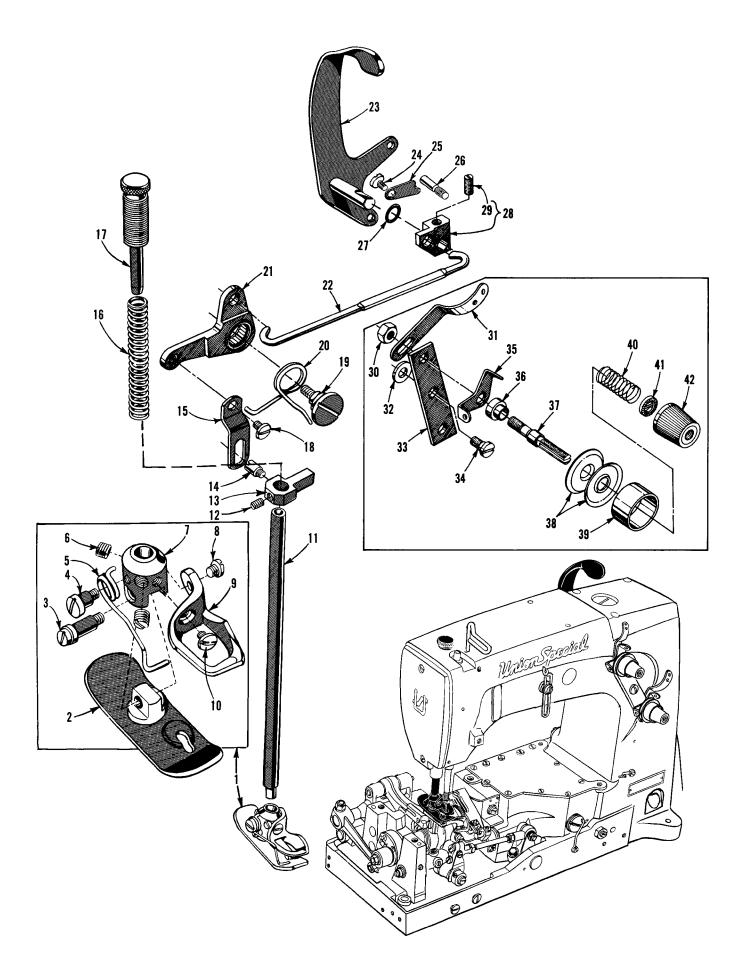
LOOPER ROCKER AND CONNECTING ROD PARTS

Ref.			Amt.
No.	Part No.	Description	Req.
1.	51244N	Collar, looper rocker shaft	1
2.	51216N	Washer	
3.	18	Nut	
4.	51244L	Washer, thrust	
5.	55244G	Stud	
6.	WO3	Yarn as required	
7.	57744	Shaft, looper rocker	
8.	CO67E	Cork	_
9.	56344B	Arm, looper rocker shaft	
10.	51236J	Pin, link	
11.	56344C	Frame, looper rocker	
12.	719	Screw, stop	
13.	98	Screw, set	
14.	51246	Nut	
15.	96	Screw, spot	
16.	22874	Screw, lock	
17.	29192V	Rocker Assembly, looper	
18.	51745	Stud, rocker cone	
19.	56313	Rocker, looper, marked "S"	
20.	15465F	Cone, looper rocker	
21.	22894W	Screw	
22.	258A	Nut, check	
23.	22829	Screw	
24.	56393J	Oiler, looper connecting rod ball joint (left)	
25.	87U	Screw	
26.	57841	Ball Joint, looper connecting rod (left)	
27.	22729C	Screw	
28.	269	Nut, left hand thread	
20. 29.	35741A	Connecting Rod, looper	
30.	18	Nut, right hand thread	
31.	20	Washer	
32.	627	Screw	
33.	29476LV	Bearing Assembly, looper connecting rod (right)	
34.	56341F	Ferrule	
35.	56341F	Lever, looper drive	
36.	22882C	·	
		ScrewWasher	! 1
37.	51242M		
38.	73	Screw, looper	
39.	51108DA	Looper	
40.	73A	Screw	
41.	51110D	Guard, looper needle	
42.	18	Nut	
43.	22585A	Screw	I



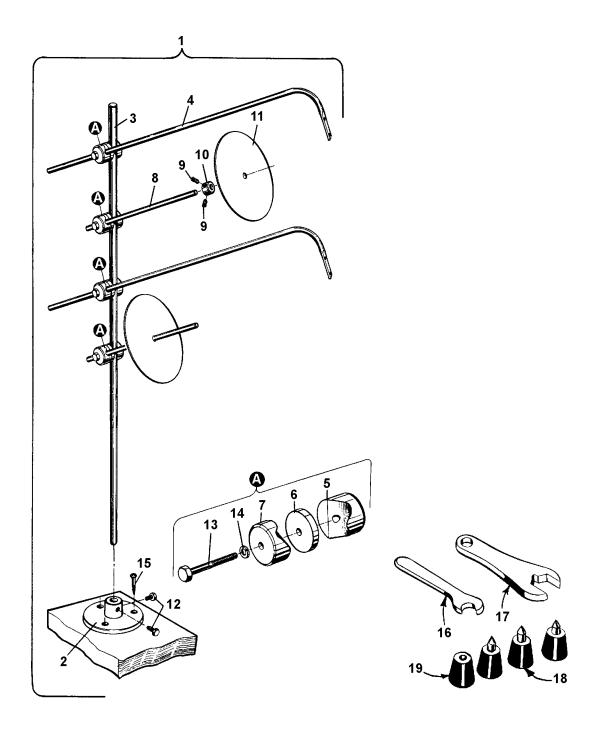
MAINSHAFT AND FEED DRIVING PARTS

Ref.			Amt.
No.	Part No.	Description	Req.
1.	29476ZJ	Feed Rocker Arm and Feed Crank Link Assembly	
2.	563358	Feed Rocker Arm Assembly	
3.	55235E	Nut	
4.	6042A	Washer	
5.	55235D	Stud, locking	_
6.	77 5 (0 0 (N)	Screw	
7.	56336N	Link, feed crank	
8.	56336C	Ferrule	
9.	51236J	Pin, link	
10.	WO3	Yarn	
11.	21657E	Washer	
12.	269	Nut, left thread	
13.	22525A	Screw	
14.	56322C	Plate, mainshaft head	
15.	22798C	ScrewStud, feed crank, marked "A"	
16. 17.	56336 660-269B	Ding guad]]
18.	56336D	Ring, quadInsert, feed crank stud	i
19.	22543C	Screw, stitch regulating	
20.	56122B	Mainshaft, for Styles MZ27B, MZ35B	
20. -	K74873	Mainshaft, for Style MZ34B	i
21.	51-173BLK	Plug, oil	i
22.	56322B	Gasket	
23.	22891B	Screw	
24.	29476NM140	Eccentric Assembly, feed lift	
25.	22894AA	Screw	
26.	77	Screw	
27.	39543N	Washer, feed bar thrust	
28.	29476NM096	Eccentric Assembly, looper avoid	
29.	22894AA	Screw	
30.	77	Screw	
31.	56123	Take-up, looper thread	
32.	22764C	Screw, spot	
33.	22580D	Screw, set	
34.	56334N	Feed Bar	1
35.	22651CB4	Screw	1
36.	56334L	Holder, feed dog	1
37.	22637P24	Screw, height adjusting	
38.	22863C	Screw, holder adjusting	1
39.	6042A	Washer	1
40.	258A	Nut	1
41.	56335D	Collar, feed rocker shaft	1
42.	98	Screw	
43.	56335L	Shaft, feed rocker	
44.	56334B	Shaft, feed bar	
45.	56384	Seal	
46.	56335G	Rocker, feed	I
47.	660-359	Bearing, needle, with seal	_
48.	22651CD4	Screw	
49. 50	660-438	Ring, retaining	
50.	41391	Washer	
51.	61341J	Washer, feed bar	
52.	22528	Screw, feed dog	
53.	51105G	Feed Dog, for part numbers see pages 16-21	
54.	51236J	Pin, link	_
55.	56125	Guard, rear	
56.	22801	Screw	_
57. 58.	61434G 18-715	Washer	
50. 50	18-/15 22834V	Scrow	1



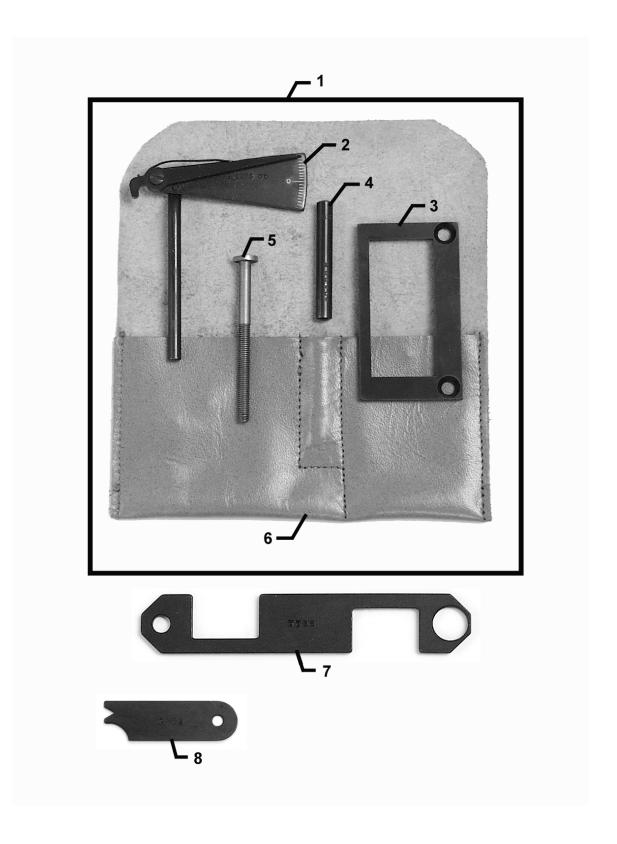
PRESSER FOOT, LIFTER LEVER AND THREAD TENSION PARTS

Ref.			Amt.
No.	Part No.	Description	Req.
,			,
1.		Presser Foot, for part numbers see pages 16-21	
2. 3.		Bottom, presser foot, for part numbers see pages 16-21	
		Screw, for part numbers see pages 16-21	
4.		Screw, for part numbers see pages 16-21	.]
5.		Spring, for part numbers see pages 16-21	. 1
6.		Screw, for part numbers see pages 16-21	
7.		Shank, for part numbers see pages 16-21	
8.		Screw, for part numbers see pages 16-21	
9.		Guard, finger, for part numbers see pages 16-21	
10.		Screw, for part numbers see pages 16-21	
11.	51257K	Bar, presser	
12.	22596F	Screw	
13.	51257M	Connection and Guide, presser bar	
14.	402	Screw	
15.	56383A	Link, lifter lever	
16.	53787	Spring, presser	. 1
17.	56356	Regulator, presser spring	
18.	22758C	Screw	. 1
19.	22557G	Screw	. 1
20.	56383D	Spring	. 1
21.	56383AA	Bell Crank, presser foot lifter lever	
22.	56383AB	Connecting Rod, presser foot lifter lever	. 1
23.	51183B	Lever, presser foot lifter	. 1
24.	22758C	Screw	. 1
25.	51183C	Latch, lever	. 1
26.	50-703BLK	Pin, stop	. 1
27.	660-207	"O" Ring	. 1
28.	53783N	Lever, internal, presser foot lifter	
29.	22537	Screw	. 1
30.	43266	Nut	. 1
31.	51491C	Guide, lead-in	. 2
32.	80557	Washer, spacer	. 1
33.	52892	Support, tension post	
34.	22872	Screw	
35.	51192G	Eyelet, tension post	
36.	51192B	Ferrule, tension post	
37.	56392E	Post, tension	
38.	109	Disc, tension	
39.	W56392F	Shield, thread tension spring	_
40.	51292F14	Spring, needle thread tension	
-	51292F2	Spring, looper thread tension	i
41.	39592AK	Ferrule, tension spring	
42	C500928	Nut tension	2



THREAD STAND AND ACCESSORIES

Ref.			Amt.
No.	Part No.	Description	Req.
1.	93065B2	Thread Stand, (2 cones) for styles 56100MZ27B, MZ35B	. 1
2.	93065BA	Base	. 1
3.	93065BC	Thread Stand Rod	. 1
4.	93065BE	Thread Guide	. 2
5.	93065BG	Clamp Washer, for 16mm	
6.	93065BJ	Clamp Washer, for 12mm	
7.	93065BL	Washer	
8.	93065BD	Spool Pin	. 2
9.	531	Set Screw	
10.	G41041B	Collar	
11.	90805K	Spool Seat Disc	
12.	95003	Hex. Head Cap Screw	
13.	95068A	Hex. Head Cap Screw	
14.	96201	Locking Ring	
15.	90561Q	Wood Screw	
16.	21388	Wrench, 3/8 inch (9.5mm) open end	
17.	116	Wrench, 9/32 inch (7.1mm) open end	
18.	51295B	Isolator	
19.	51295A	Isolator	
-	28604R	Oil, 16 fl. oz. Spec. 175, (not shown)	



GAUGES (EXTRA SEND AND CHARGE)

Ref. No.	Part No.	Description	Amt. Req.
1.	TT34	Syncronization Gauge Set	. 1
2.	21227S	Indicator	
3.	21227T	Plate	. 1
4.	21227U	Pin	. 1
5.	99271	Screw	. 1
6.	21227AB	Leather Case	. 1
7.	TT35	Gauge	. 1
*8.	21225-5/32	Looper Gauge	. 1

^{*}May also be purchased as TT33 Which is a full set of looper gauges.

NUMERICAL INDEX OF PARTS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page No.</u>
109		22651CD4		29476ZJ		51254K	
	35	22653L8		33795D		51257AA .	
11638M			29	35731A		51257K	
12934A		22747A		35741A		51257M	
15465F		22758C		35772H		51280J	
15480C		22760A		35772H		51281AC .	
18		22760A		35897BV .		51281AC .	
18-715 187A		22764C		39543N		51292F14 51292F2.	
195X		22768 22798A		39592AK . 402		51292F2	
199		22798C		41391		51294R	
	23, 29	22801		43120		51295B	
21225-5/32		22829		43130		51482A	
21227AB.		22834A		43130A		51491C	
21227HR .		22839		43130B		51745	
212278		22839C		43266		52336A	
21227T		22845B		50-216BLK		52892	33
21227U	37	22845B		50-703BLK	33	52942AA .	
21375CJ.	23	22845J	17, 19	50-895BLK	25	52942AC .	27
21388		22848	23, 25	51-173BLK	31	52942W	25
21657E		22863C		51-902BLK		52958B	
21657X		22872		51104F		52A	
	23	22874		51104H		531	
22524		22882C		51105G		53783N	
22525A		22889A		51108DA .		53787	
	23, 31	22891B		51110D		539	
22537 22539R		22894AA . 22894AB		51154E 51157H		55235D 55235E	
	25		21 <i>,</i> 27		23	55244G	
22541C			27	51183B		56	
22548			23	51183C		56122B	
	33		27	51192B		56123	
22559A		22894W 2		51192G		56125	
22559G		22897		51204		56154	
22561	21	24X	21	51204A	23	56170	25
22562A	27	25	2 1	51204C	23	56180B	23
22564	27	258A 1 9	9, 29, 31	51216M62	5 27	56190	
22569B		25B		51216M62		56193A	
22569C		25S		51216M62		56193D	
22570A		269		51216N		56193U	
22574		27-435BLK		51216P		56301W	
22580D		28604R		51217C		56313	
22585		29066R		51236J 51242M		56316	
22585A 22586R		29105AK . 29192V		51242W		56316C 56321M	
22587K		29192V 29348AF		51244L		56321R	
22593		29476LN		512441		563218	
22596F		29476LV		51247		56322B	
22637P24		29476NM0		51250D		56322C	
22651CB4		29476NM1		51250F		56334B	

NUMERICAL INDEX OF PARTS

<u>Part No.</u>	<u>Page No.</u>	<u>Part No.</u>	<u>Page N</u>	<u>o.</u>	<u>Part No.</u>	<u>Page No.</u>
56334L 56334D 56335G 56335G 56335G 56335G 56335G 56336D 56382A 56382A 56382A 56382A 56382D 56382D 56382D 56382D 56382D 56382D 56382D 56383D 56383D 56383D 56383D 56383D 56383D 56383D 56383D 56383D	31 31 31 31 31 31 31 31 31 31 31 31 31 3	56390E 56390H 56390J 56392E 56393D 56393J 56393W 57393W 57821E 57836B 57841 57842B 57842B 57841 61321L 61321L 61341J 61321L 61341J 61434G 627 660-202 660-207 660-215 660-215 660-342 660-625 660-65 660-65 660-65 660-65 660-69 660-69 660-69 660-69 660-69 660-69 660-69 660-69 660-69 660-69 660-69 660-69 660-69 660-69 660-69 660-70	25, 2	2577333395559759551117111995733713111777393359991935339	90561Q 90805K 93065B2 93065BA 93065BD 93065BD 93065BJ 93065BJ 93065BJ 93065BJ 95003 95068A 96201 98 96201 98 99271 99295 99682C C50092S C51124D CL21 CO67E G198X G41041B G51382B G74873 K74	35 35 35 35 35 35 35 35 35 37 37 38 38 39 31 39 31 31 31 31 31 31 31 31 31 31 31 31 31

Union Special Corporation Corporate Office One Union Special Plaza Huntley, IL 60142 Phone: 847 • 669 • 5101

Fax: 847 • 669 • 4454

Union Special GmbH European Distribution Center Raiffeisenstrasse 3 D-71696 Möglingen, Germany

Tel: 49•07141•247•0 Fax: 49•07141•247•100



