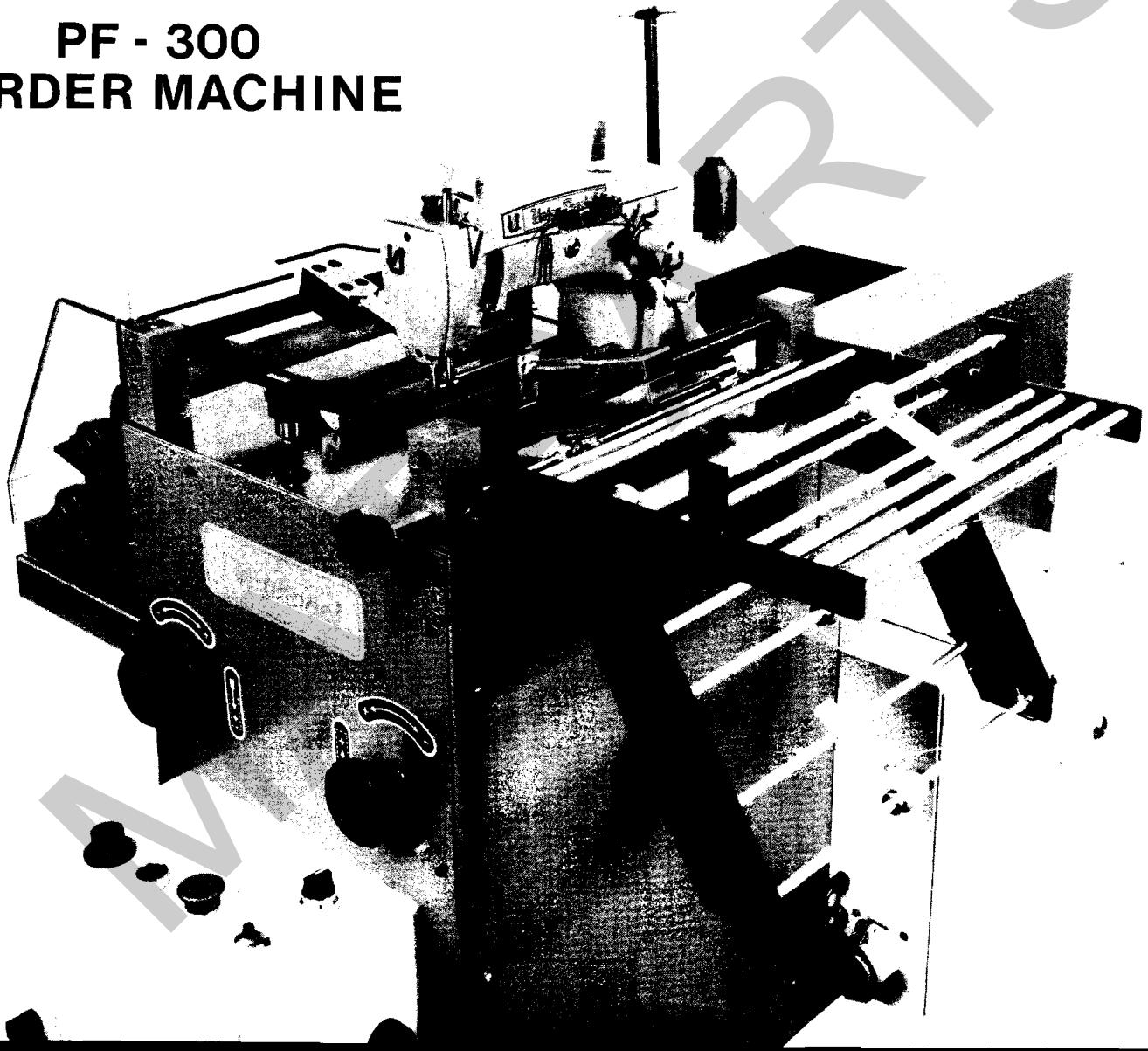
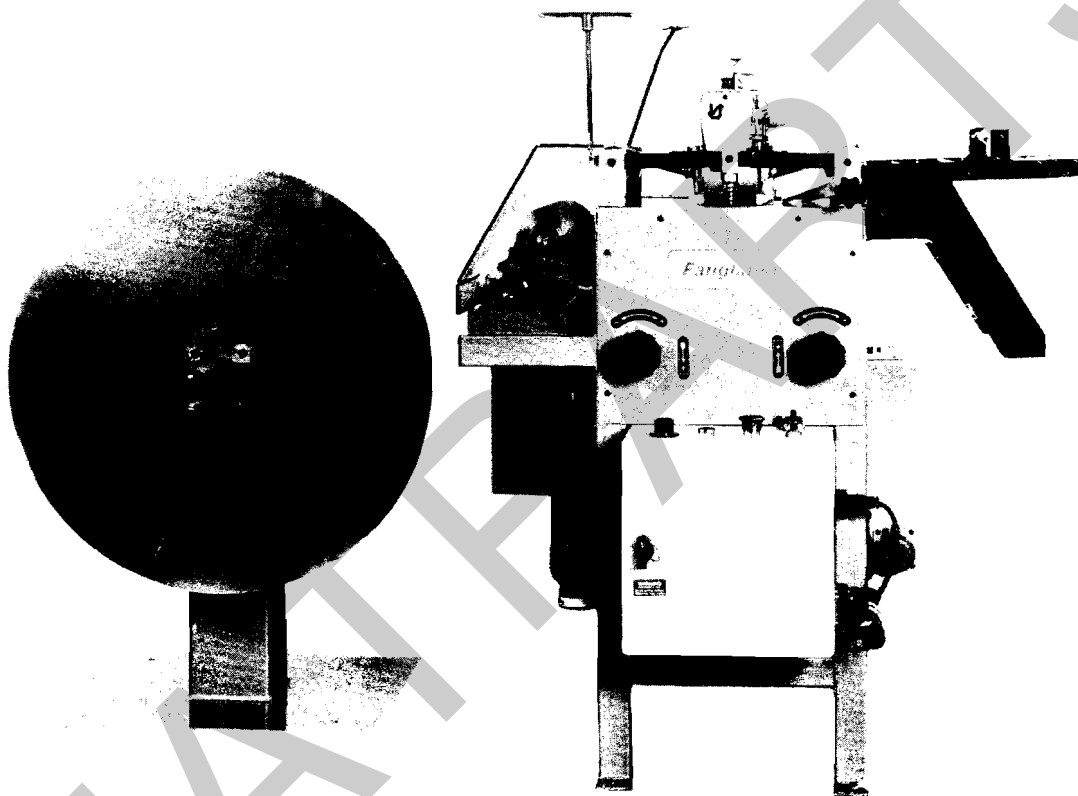


PF - 300 BORDER MACHINE



Fargherson

Fargherson & Co. Ltd. 100, North Street, London, E.C. 4, England. Telephone (0462) 892441. Telex 250300 FARGH



Technical specifications:

Maximum border width: 215mm
(8½ ins)

Possible production rate:



2.75 m/min. (9ft)



4.5 m/min. (15ft)

Sewing head: Union Special - chain
stitch (no bobbins)

Sewing head speed: 2500 rpm

Power: 0.75KW motors and compressed
air at 5-6 atmospheres

Airconsumption: 60 L/min (2cu.ft/min)

Thread break detectors for top and
bottom threads

Material detectors

Material stand

Wind-up reel (optional extra)

Floor space: 1.3 x 2.4 m.

PF 300

VERTICAL

BORDER

MACHINE

WHEN ORDERING SPARE PARTS ALWAYS GIVE
THE MACHINE TYPE & SERIAL NUMBER.

P. FANGHANEL & CO. LTD.
HOLFORD HOUSE
HIGH STREET
BALDOCK HERTS. SG7 6BT.
ENGLAND.

TELEX 825749

PHONE 0462 892441

PF.300 VERTICAL BORDER MACHINE

INDEX

- 1.0 Installation.
- 2.0 Levelling
- 3.0 Material Stand
- 4.0 Material Wind-Up
- 5.0 Service Connections
- 6.0 Threading the Sewing Machine
- 7.0 Setting Up
- 8.0 Checks before starting
- 9.0 Setting Width of Pattern
- 10.0 Setting Pattern Spacing
- 11.0 Setting Stitch length on the cross traverse
- 12.0 Patterns Available
- 13.0 Castle Pattern
- 14.0 Trapezoidal Pattern
- 15.0 Vee Pattern
- 16.0 Maintenance
- 16.2 Lubrication
- 17.0 Sewing Head
- 17.1 Needle
- 18.0 Material Clamp
- 19.0 Union Special Catalogue T.129.Y

LIST OF DRAWINGS

- Fig. 1. Sewing Head Slide
- Fig. 2. Material Stand
- Fig. 3. Material Wind-Up
- Fig. 4. Controls
- Fig. 5. Special Parts for Sewing Head.
- WD.76/5 Wiring Diagram
- A500-1/76 Pneumatic Circuit.

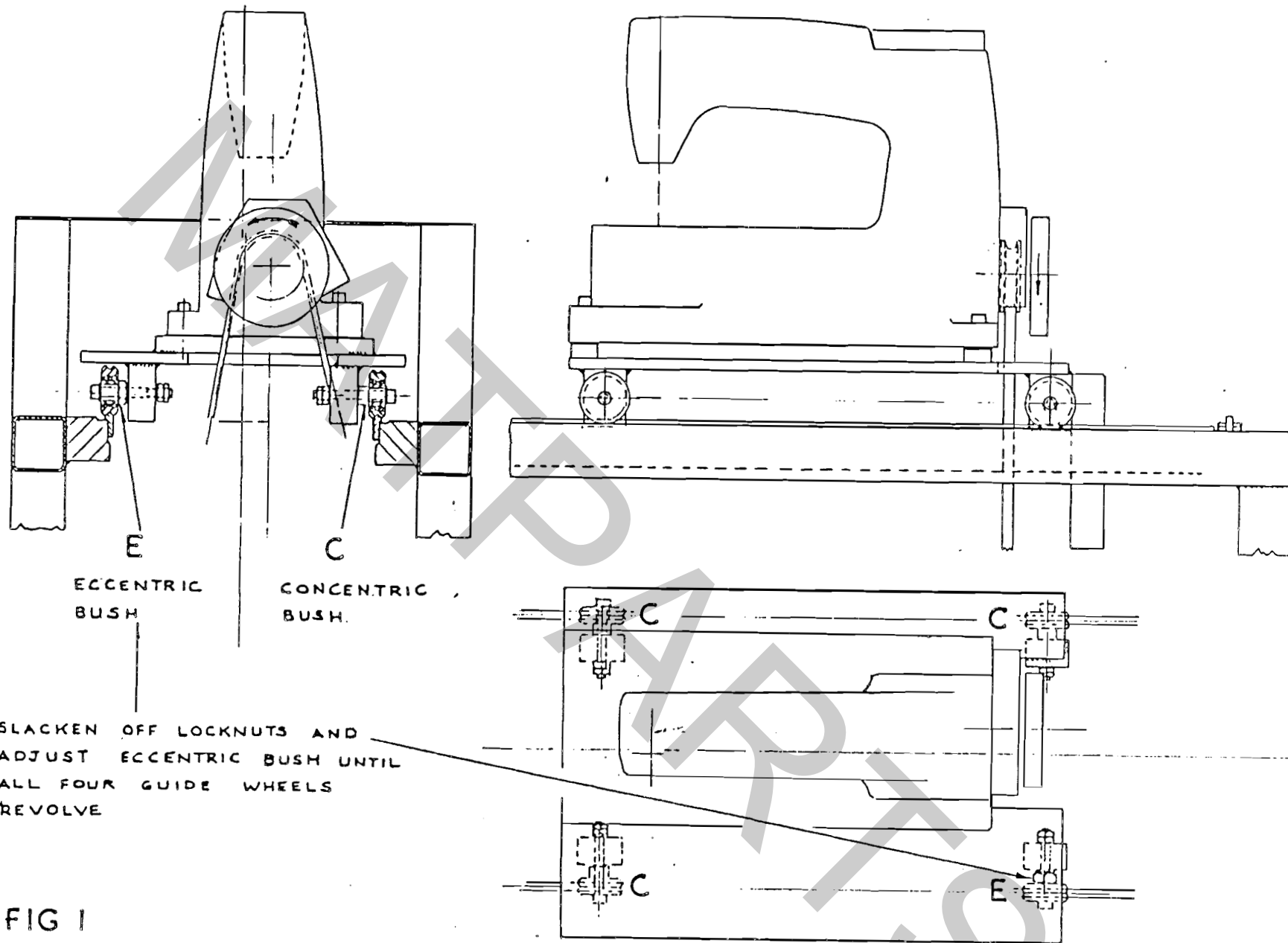


FIG 1

SEWING HEAD SLIDE

1.0 INSTALLATION

The Vertical Border Machine PF300 is normally packed for export as three separate units in one case.

Remove the machine from the case, leaving any protective wrapping and strapping in place.

Select a site where there is sufficient space to walk around the machine.

It may be moved to this site using a fork lift truck if the forks are positioned under the lower cross members of the machine frame.

If a crane is used, the slings should pass under the lower cross members.

Care must be taken not to trap electric cable or pneumatic tubes when moving the machine.

2.0 LEVELLING

The machine must be levelled by inserting suitable packing under the feet.

Remove any protective wrapping and securing straps.

Check that the head moves freely backwards and forwards, and that all four guide wheels revolve.

If one of the wheels does not revolve, it can be adjusted as shown in FIG. No 1.

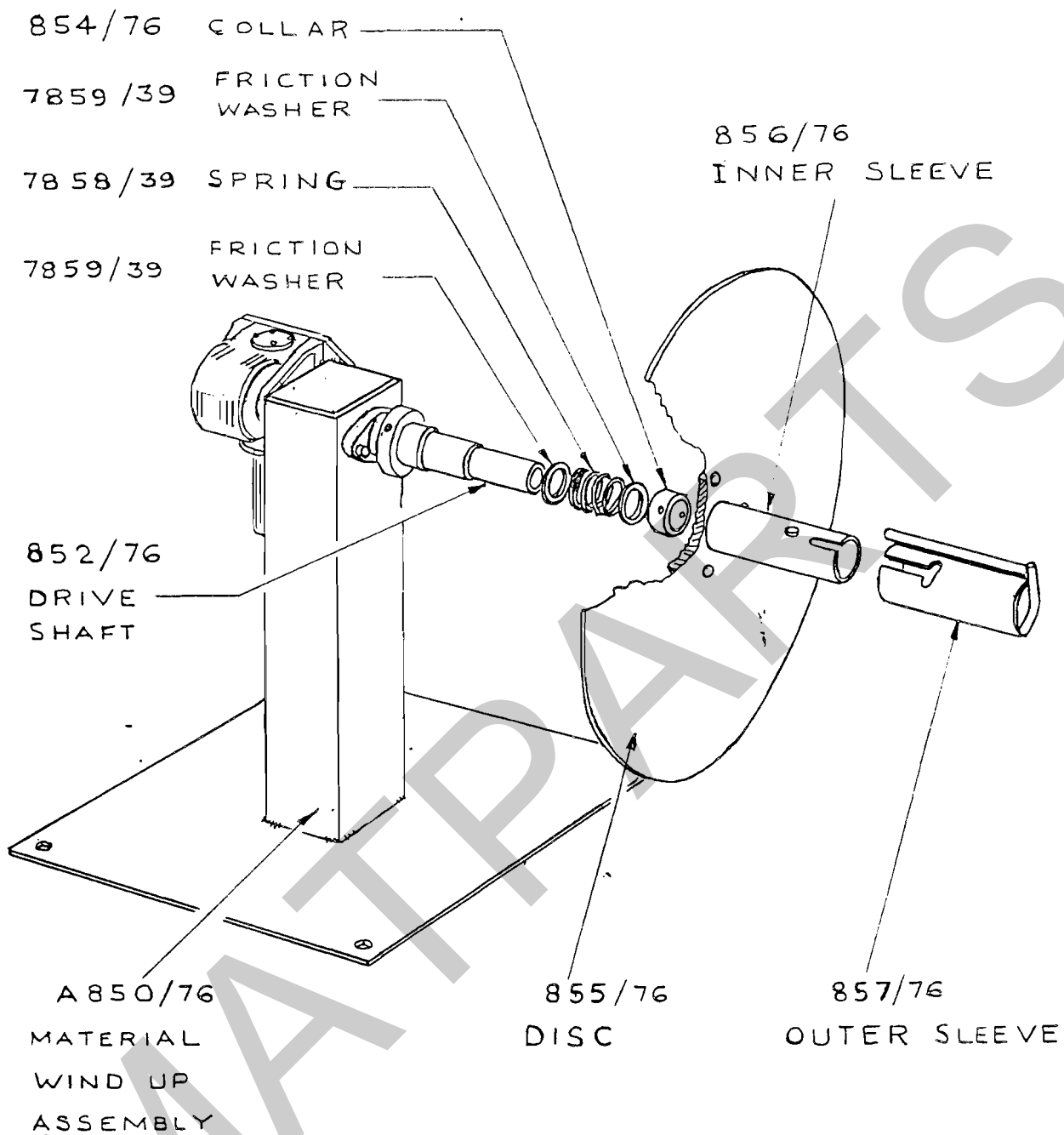
Bolt the machine to the floor, and again check that the head moves freely and that all four wheels revolve.

If one of the wheels does not revolve after bolting down, it indicates that the frame is being twisted, the machine must be unbolted relevelled and the packing adjusted, before bolting down again. Again check that the head moves correctly.

3.0 MATERIAL STAND

Position the Material Stand on the right hand side of the Border Machine.

If the Material Guide 705 has not been fitted, it must be bolted to the right hand side of the machine frame. See FIG. No 2.



MATERIAL
WIND UP

FIG 3

4.0 MATERIAL WIND-UP

Position the Material Wind-up Assembly A850 on the left hand side of the Border Machine.

If the Disc 855 has been removed for packing, reassemble as follows:-

Slide the Disc 855 on to the shaft, followed by the Friction Washer 7859, the Spring 7858, the second Friction Washer 7859 and finally the Collar 854. Clamp the collar on to the shaft. See FIG. No 3.

Plug the Material Wind-up into the socket on the Main Electrical Box on the machine. See DRG. No.WD76/5.

5.0 SERVICE CONNECTIONS

Check that the electrical supply is correct for the machine supplied, and that the connections are correct to produce the direction of rotation shown in FIG.1.

The electricity supply label is on the outside of the Main Electrical Box. See FIG.No.4.

Connect the air supply to the Filter/Lubricator adaptor block. The thread is $R\frac{1}{4}$ ($\frac{1}{4}$ " B.S.P.T.)

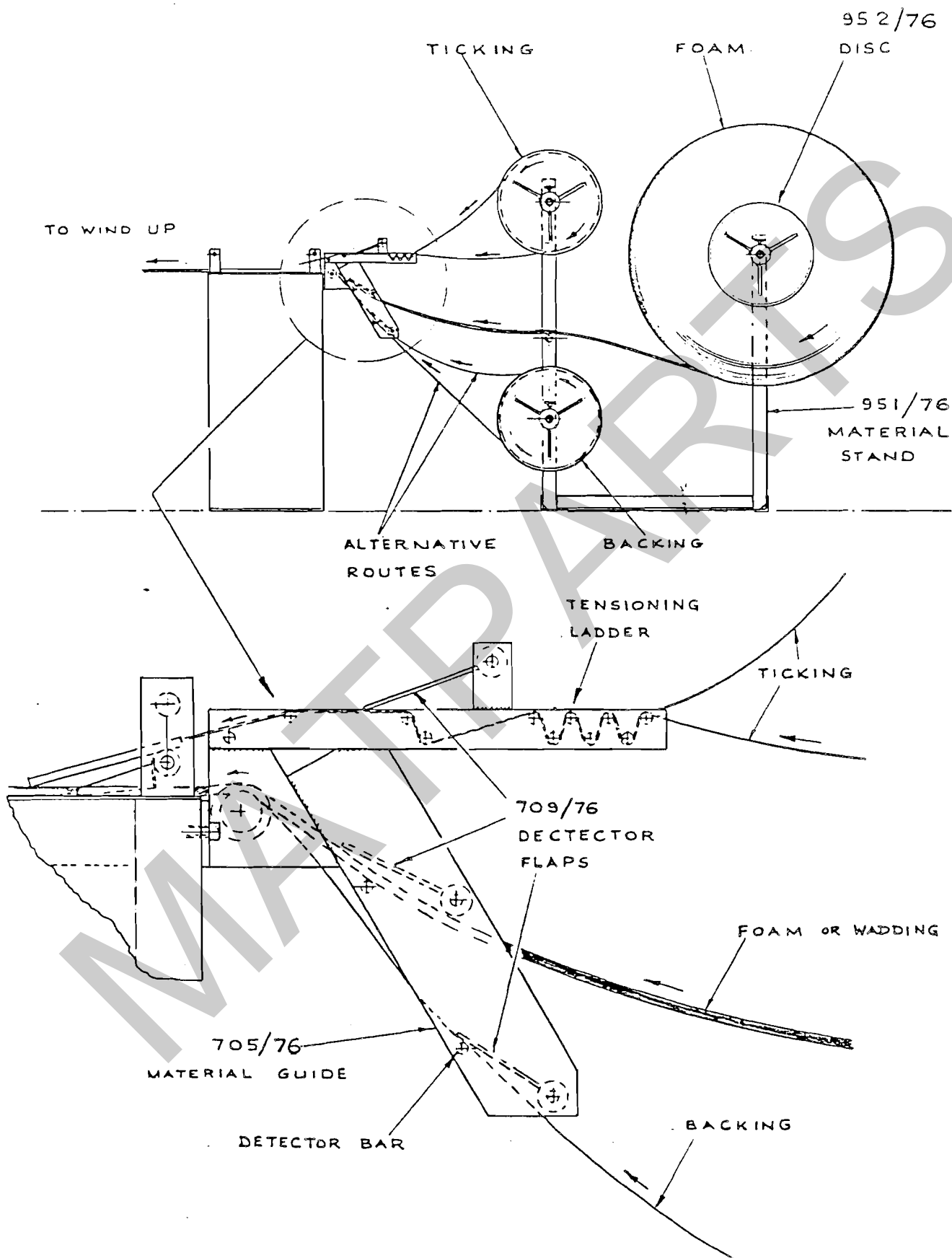
The air should be supplied to the machine at a constant pressure of between 5 & 6 Bar (80 p.s.i.)

Do not make the connection to the machine by a pipe that descends immediately from the factory air line.

The connection to the air line must first go vertically upwards before turning over to descent to the Border Machine in order to limit the amount of water in the air.

Do not connect the Border Machine to the end of the factory air line, unless provision is made for some form of water trap or automatic drain to the air line.

For trouble free running, it is important that the air supply is as dry and clean as possible.



MATERIAL STAND

FIG 2

6.0 THREADING THE SEWING MACHINE

The Sewing Head on the Border machine is normally shipped threaded up, with a sample length of Border material left in position.

To rethread, follow the thread paths already on the Sewing Head.

If the Sewing Head is not threaded on its arrival, refer to page 5 of the UNION SPECIAL section of this manual.

Turn the Sewing Head by hand, until the needle clears the material being sewn.

Slacken off all threads.

To release the Sewing Head, select "HEAD RELEASE" on switch fitted to the Main Electrical Box (FIG.4), wait for 3 seconds and the Sewing Head will be free to move.

After threading, push the Sewing Head back to the centre of the pattern and select "RUN".

Before starting, check that the Red Stop Button is unlatched.

7.0 SETTING UP MATERIAL

Check that the machine is switched off either at the Mains Circuit or at the latching stop button. See Fig.4.

Remove the Discs 952 from the Material Stand and place the border material on their respective shafts.

Refer FIG. No.2.

The ticking goes through the Tensioning Ladder, under the Detector Flap into the Folder.

Make two angled cuts to the end of the ticking to produce a point, and feed it through the Folder.

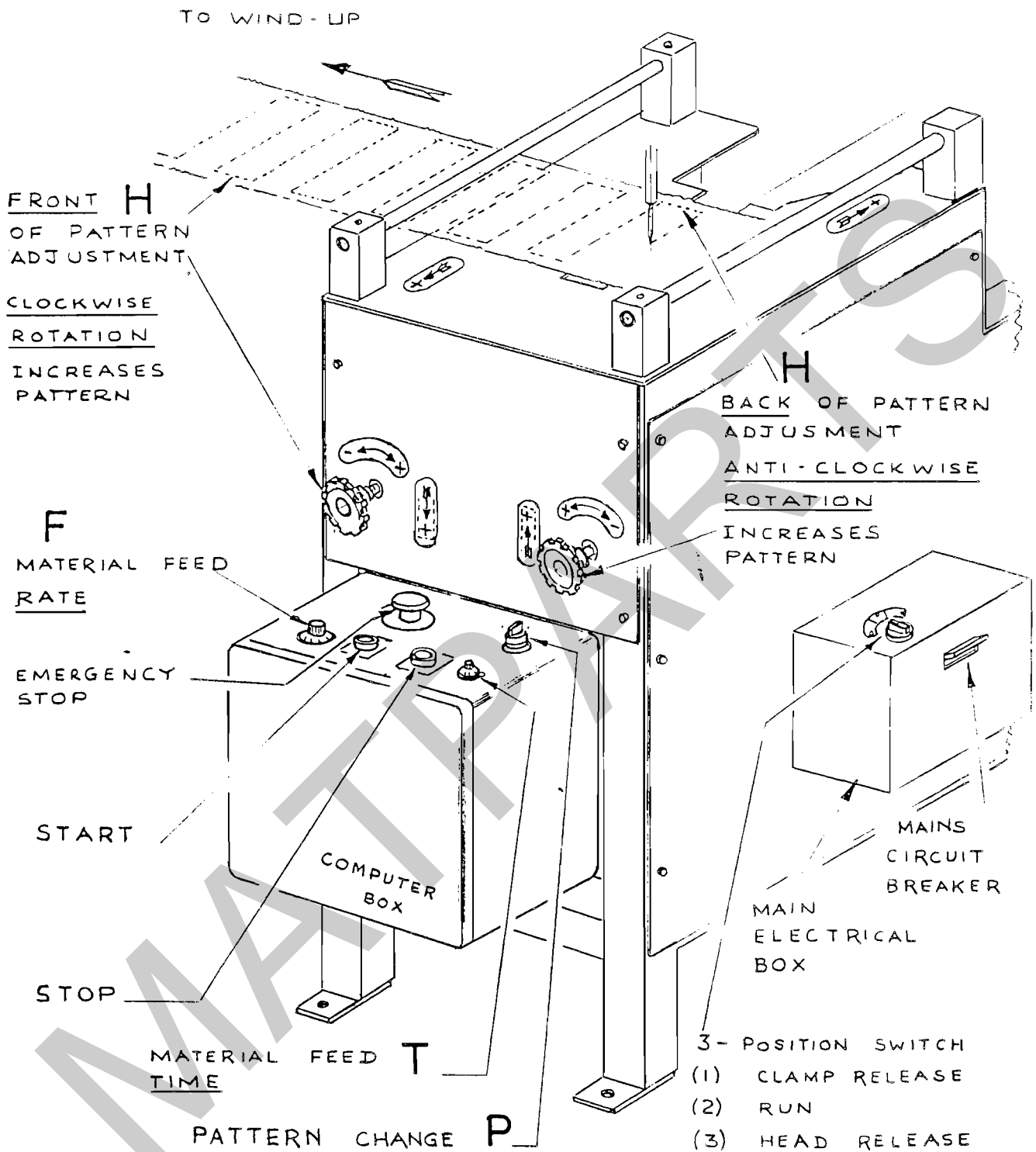
The backing material and foam or wadding should pass under their separate Detector Flaps and over their Detector Bars.

The Feed Rollers on the left hand side of the Border Machine can be opened by raising the Lower Lever.

Pull all the material through the machine under the first Presser Clamp, under the Foot of the Sewing Head, under the second Presser Clamp and then between the Feed Rollers. The clamps can be released by the clamp release switch (Fig.4).

Close the Feed Rollers.

At this point, you should be ready to sew, but before doing so, carry out the "Checks Before Starting".



CONTROLS

FIG 4

8.0 CHECKS BEFORE STARTING.

Ensure that:-

- 8.1. All the Guards are in position, otherwise the machine will not start.
- 8.2. The threads are tight and the Thread Break Micro-switch is open. The switch lever can be lifted with the finger.
- 8.3. The three material Detector Flaps are not touching the Detector Bars - they should be held clear by the material.
- 8.4. The air is connected and the Shut-off Valve is turned 'ON'.
- 8.5. The Material FeedTime Dial 'T' is set to 1 as shown in it's window.

Refer FIG. No.4.

- 8.6. The Material Feed Rate Dial 'F' is set to about 8 - 9
- 8.7. The electricity is connected and the Mains Circuit Breaker is switched 'ON'.
- 8.8. The Emergency Stop Button has been unlatched - $1/8$ th of a turn and it will jump upwards -
- 8.9. The lead/clamp release switch is set to 'RUN'. The machine can now be started by pressing the Black Start Button. There is a delay of 5 seconds before the machine starts.

When the Stop Button is pressed, the machine goes into a controlled stop allowing the machine to continue the set pattern on restart.

When the Emergency Stop Button is pressed, the power to all electric motors and the computer is broken. On restart from Emergency Stop, the continuity of the pattern may be interrupted.

9.0 SETTING WIDTH OF PATTERN

Refer. FIG. No. 4.

The width of the pattern can be adjusted by the two Handwheels "H" on the front of the machine.

The right hand Wheel adjusts how far the Sewing Head will travel away from the operator.

The left hand Wheel adjusts how far the Sewing Head will travel towards the operator.

The Handwheels may be adjusted while the machine is running.

Ensure that the stitching does not get closer than 5mm. from the edge of the border material.

Do not work closer than 25mm. from each end of the Sewing Head traverse, which will give a maximum pattern width of 200mm.

The full Sewing Head traverse can be found by stopping the machine and selecting "HEAD RELEASE" on the switch fitted to the Main Electrical Box (FIG. 4), and waiting for 3 seconds. The Sewing Head can then be moved backwards and forwards by hand.

MATPARTS

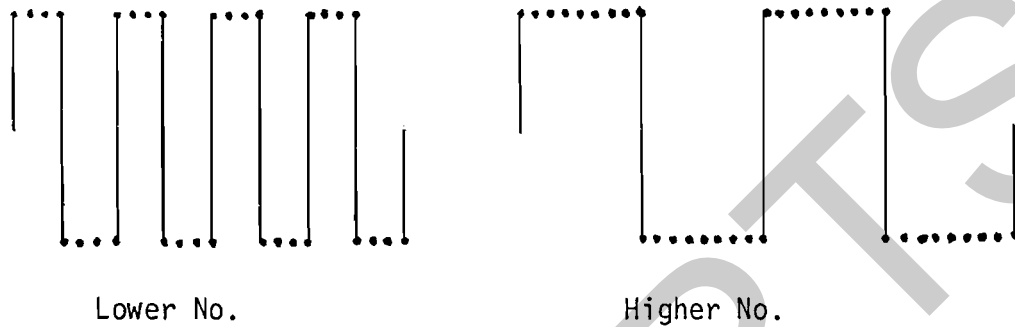
10.0 SETTING PATTERN SPACING

The Spacing can be varied by two methods.

10.1 Method 1 By the Material Feed Time Dial "T".

This is graduated 0 to 10, and the higher the number the greater the number of stitches.

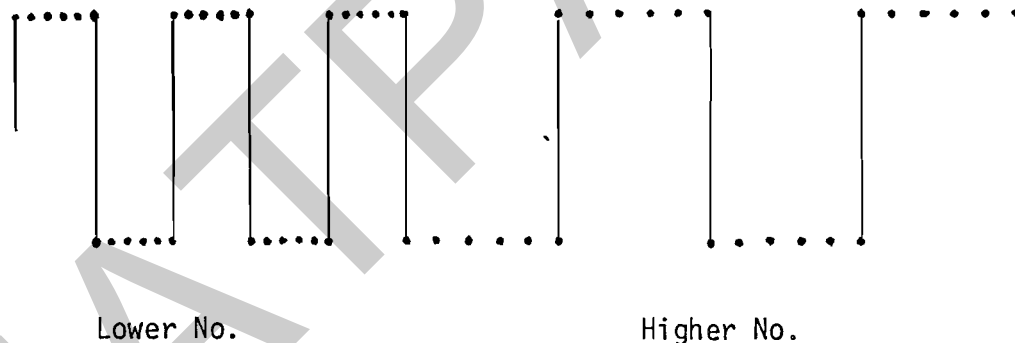
By altering this dial, the pattern spacing will change, for example:-



10.2 Method 2 By the Material Feed Rate Dial "F"

This is graduated 0 to 10, and the higher the number the greater the stitch length.

By altering this dial, the pattern spacing will change, for example:-



NOTE. MATERIAL FEED MOTOR CONTROL.

The material feed motor is controlled by the thyristor control board which is factory set and should not normally need to be adjusted. There are two types of control board fitted, depending upon the motor used, and the settings for the potentiometers should be as follows:-

(1) Motors 200/220 V.D.C. - Control Panel TSC 025

Potentiometer marked 'L' turned fully anticlockwise

Potentiometer marked 'H' turned fully clockwise and then back by 45 degrees.

(2) Motors 50A/210F V.D.C. - Control Panel 725/2.

Potentiometer marked 'L' turned fully anticlockwise.

Potentiometer marked 'H' turned fully clockwise and then back by 45 degrees.

Potentiometer marked 'OL' turned fully clockwise.

Potentiometer marked 'IR' turned fully anticlockwise and back by 10 degrees.

11.0 STITCH LENGTH

11.1 SETTING STITCH LENGTH ON THE CROSS TRAVERSE

This can be adjusted by altering the air pressure by means of the Regulating Control Knob on the Filter-Lubricator Unit.

Also by adjusting the 2 Flow Regulators 9832 in the pneumatic circuit - Refer Drg. No. A500/76.

Normally these are both factory set and should not need adjustment.

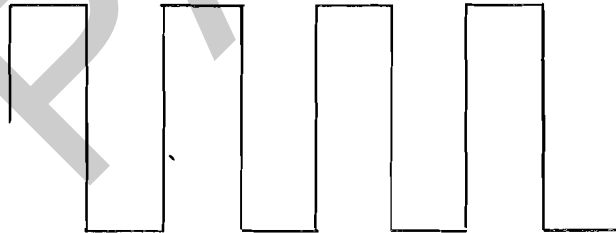
11.2 SETTING STITCH LENGTH ON LONGITUDINAL MOVEMENT

This is done in conjunction with "Setting Pattern Spacing" see 10.0.

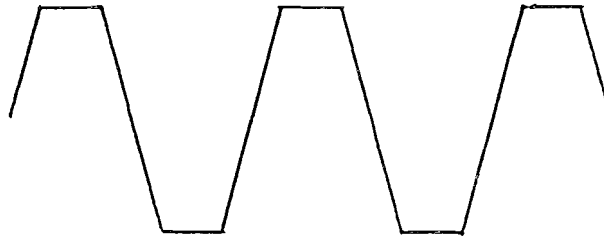
12.0 PATTERNS AVAILABLE

There is a choice of three patterns:-

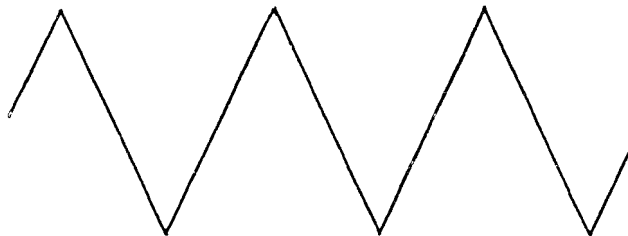
(A) "CASTLE"

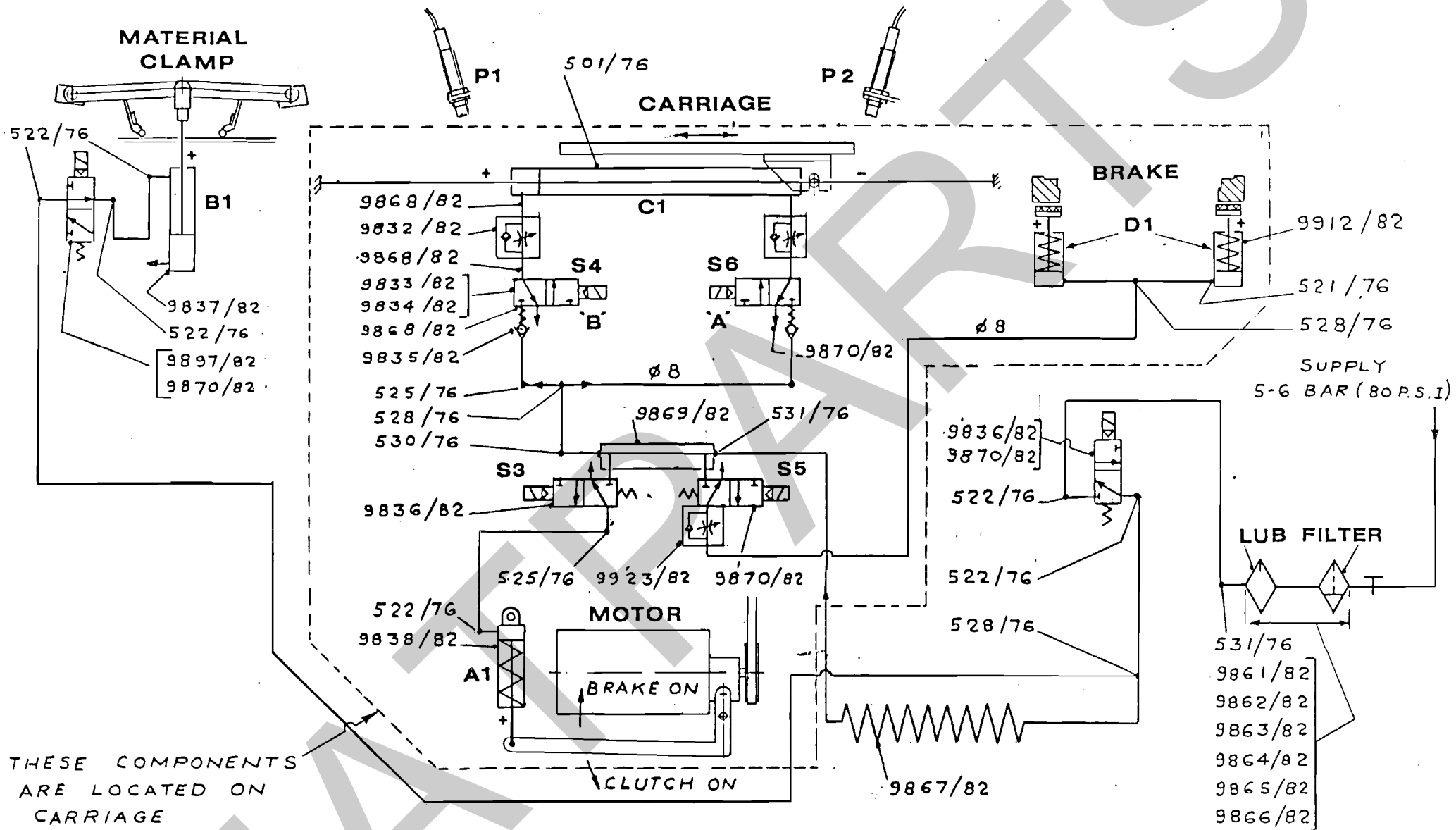


(B) "TRAPEZOIDAL"



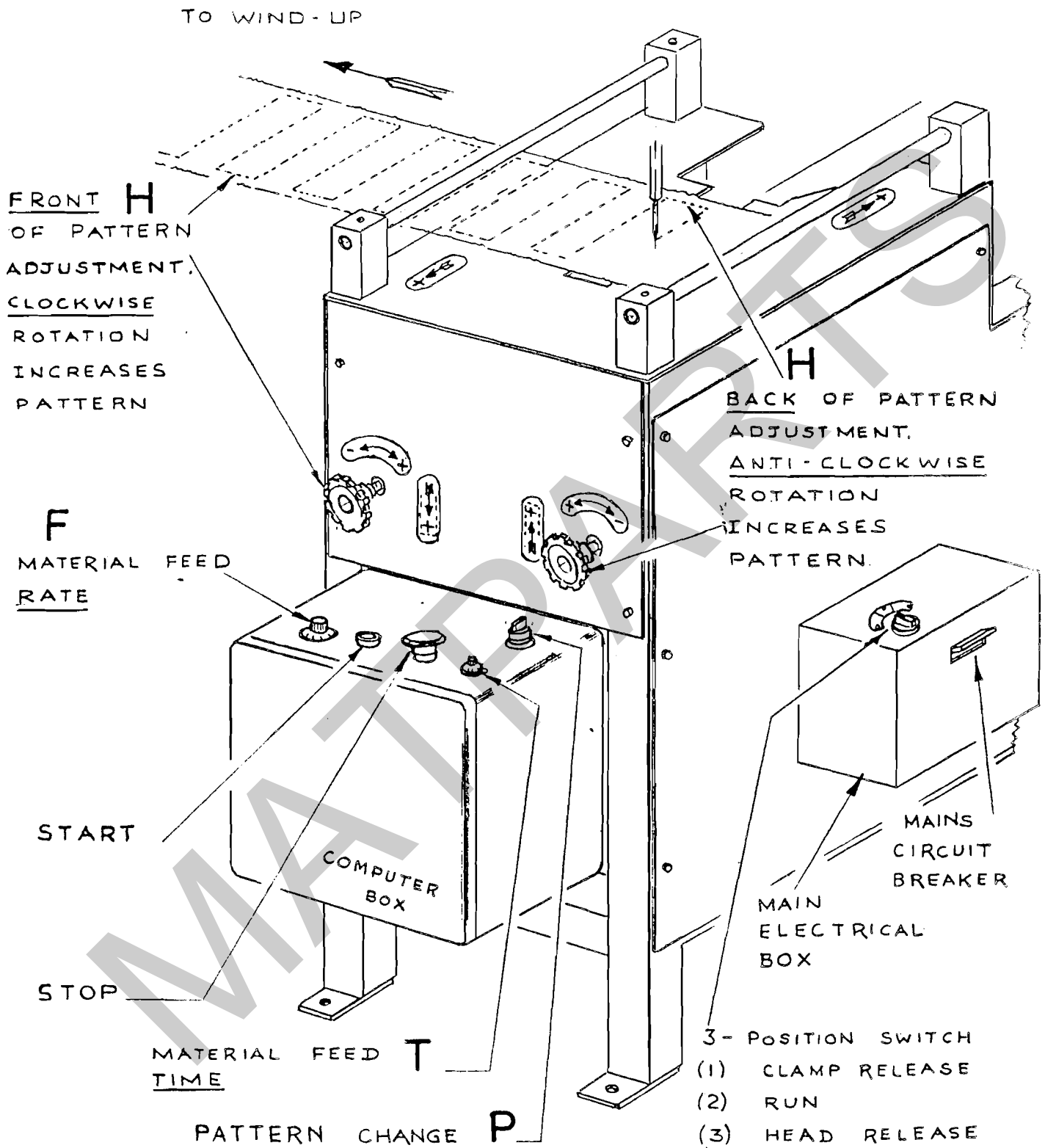
(C) "VEE"





PNEUMATIC CIRCUIT

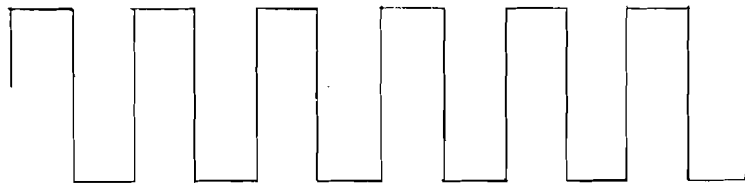
DRG No A500-1/76





CONTROLS

FIG 4

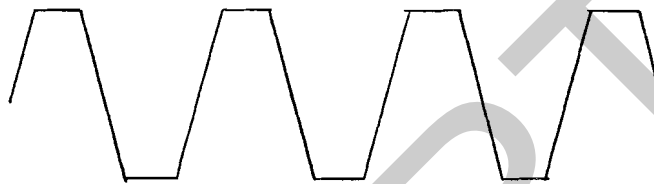
13.0 CASTLE




Rotary Switch "P" is set centrally  or to the right 

The Material Feed Rate Dial "F" is set between 8 & 9
The Material Feed Time Dial "T" is adjusted to match.

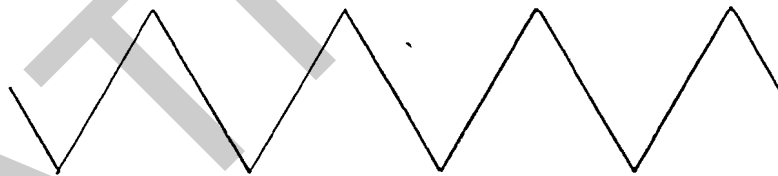
14.0 TRAPEZOIDAL




To change to trapezoidal pattern, turn Rotary Switch "P" 45° to the left 

It is advisable to set the Material Feed Rate Dial "F" to 4.
The Material Feed Time Dial "T" is adjusted to match.

15.0 VEE



To change to VEE pattern, turn Rotary Switch "P" 45° to the left 

The Material Feed Rate Dial "F" is set to 4.
The Material Feed Time Dial "T" is set to 0.

NOTE Changing the pattern from Trapezoidal to Vee, may alter the width. Adjust the width of the pattern by turning the Handwheels "H". (Fig.4)

CAUTION

When changing back to Trapezoidal or Castle, the stroke of the Sewing Head traverse must be adjusted by means of the Handwheels "H", to prevent the extra travel damaging the machine.

16.0 MAINTENANCE

16.1. AIR SYSTEM

See that the Filter is emptied regularly.

To empty the Filter loosen the nut at the base of the Filter Bowl.

16.2. LUBRICATION

The Automatic Lubricator should be checked every day to ensure that it is providing a regular oil feed to the air supply.

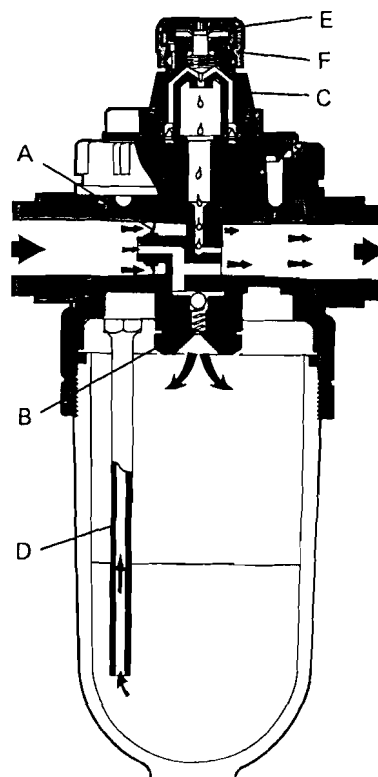
To fill the lubricator, first shut off the air supply, then unscrew the plug marked "FILL".

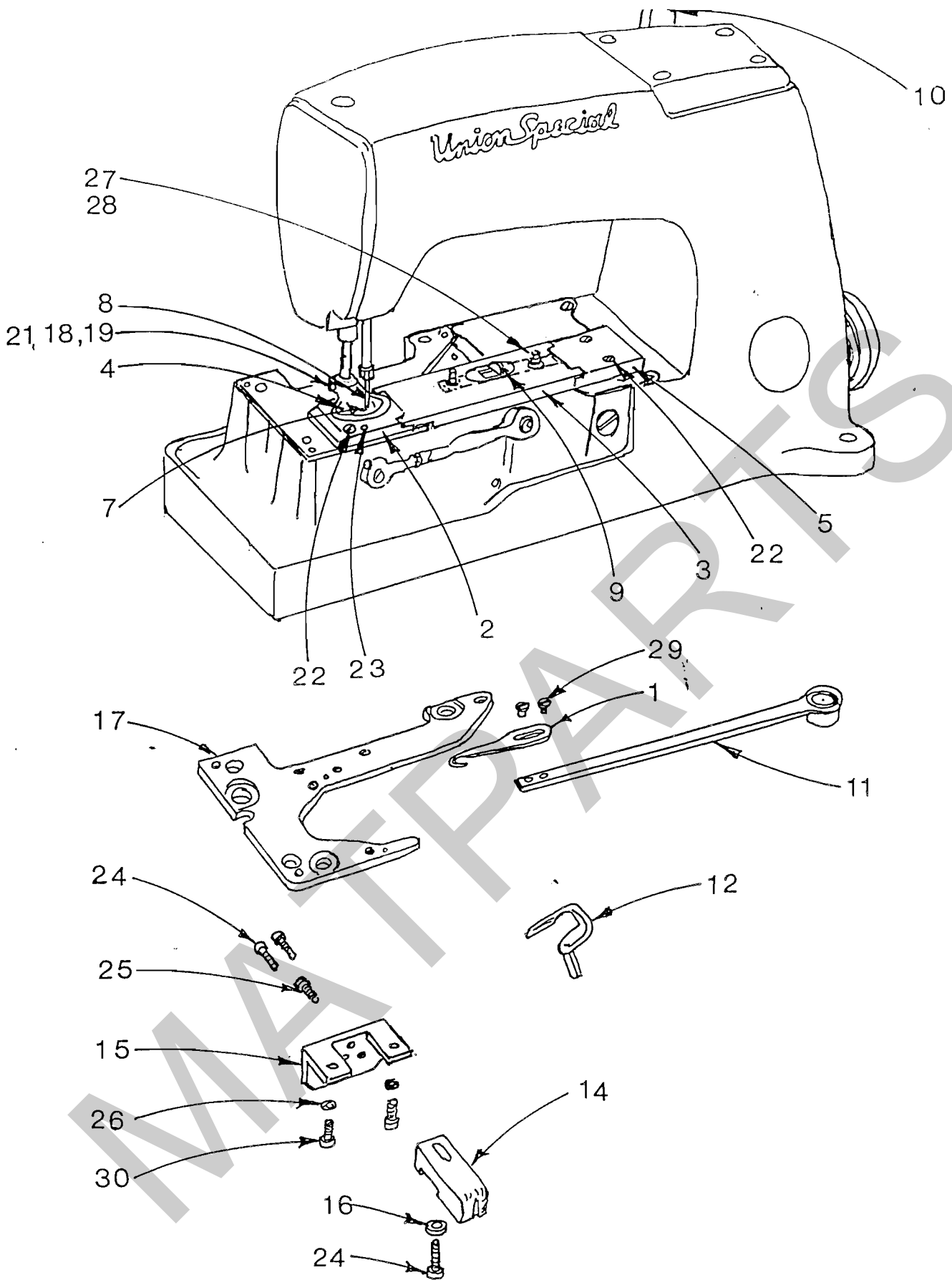
Only use a paraffinic based oil similar to one of the following:-

Oil Company	ISO Grade	Grade
Century Oils	P.W.L.A.	32
Alexander Duckham	Zircon 4	32
Gulf Oil (GB) Ltd	Harmony 43AW	32
Shell (UK) Oil	Tellus 37	37
Burmah Castrol	Hyspin AWS32	32
Edgar Vaughan	Y Hydrodrive HP100	32
Esso Petroleum	NUTO H32	32
B.P.	HLP32	32
Mobile Oil Co.	DTE Oil - Light	32
Motul	VP1-A	32
Silkolene	Derwent 32	32

OPERATION OF TYPICAL OIL-FOG LUBRICATOR

Air enters the lubricator and flows past the automatic flow sensor (A) and on through the venturi section to the outlet port. A portion of the air flows through the check valve (B) to pressurise the bowl. Differential pressure between the bowl and sight feed dome (C) causes oil to flow up the syphon tube (D) through the dome screen into passages in the sight feed dome. The oil-drip rate is controlled by the adjusting knob (E). The oil drips into the venturi section where it atomised and becomes airborne oil-fog which is carried to the pneumatic device. The automatic flow sensor (elastomer) flexes as necessary to accommodate changes in air flow. The oil drip rate setting can be tamper-proofed by pressing down the green snap-action lock (F).





SPECIAL PARTS FOR
SEWING HEAD

FIG 5

SPECIAL PARTS FOR SEWING HEAD - UNION SPECIAL 56.300V.

<u>Ref No:</u>	<u>Part No:</u>	<u>Description:</u>
1	901-1/76	Loop retainer hook
2	902-3/76	Throat plate
3	903-1/76	Cloth Plate cover
4	904-2/76	Presser foot
5	905/76	Cloth plate
6		
7	907/76	Needle bush
8	176/29	Needle
9	909/76	Latch
10	910/76	Handle
11	911/76	Hook drive arm
12	912/76	Looper
13		
14	914/76	Needle fender block
15	915/76	Adjustment bracket
16	916/76	Heavy washer
17	917/76	Throat plate support
18	SS0420	Cap screw
19	N4	Hex nut
20		
21	GC0408	Grub screw
22	22585/49	Screw - Pan head (4)
23	DO.0208	Dowel (2)
24	SS0520	Cap screw (3)
25	SS0516	Cap screw
26	W5	Spring washer (2)
27	22760A/49	Shouldered screw (2)
28	35772H/49	Wavy washer (2)
29	28/49	Screw - Pan head (2)
30	SS0512	Cap screw (2)

NOTE: When ordering spare parts, the following can only be supplied together:-

Ref. Nos. 11 & 29.

Ref. Nos. 14 & 15 & 17.

16.3 ELECTRICAL SYSTEM

All the components within the electrical panels require no maintenance.

The brushes in the Material Feed Motor must be checked periodically for wear. They can be inspected from the base of the motor by removing the two vented covers at the bottom of the motor.

On no account should the brushes be allowed to wear excessively, as this will cause damage to the rotor.

17.0 SEWING HEAD

The Sewing Head fitted is a modified UNION SPECIAL Style 56300V.

For further information see the Union Special pages in this manual.

NOTE.

Certain special parts have been fitted in place of the standard Union Special parts - these are shown in FIG. No.5.

17.1 NEEDLE

The machine is set up to sew with Metwar or Groz-Beckert needles size 170/067, UY 143 LS. Fanghanel part No. 176/29

17.2 THREAD

COTTON.

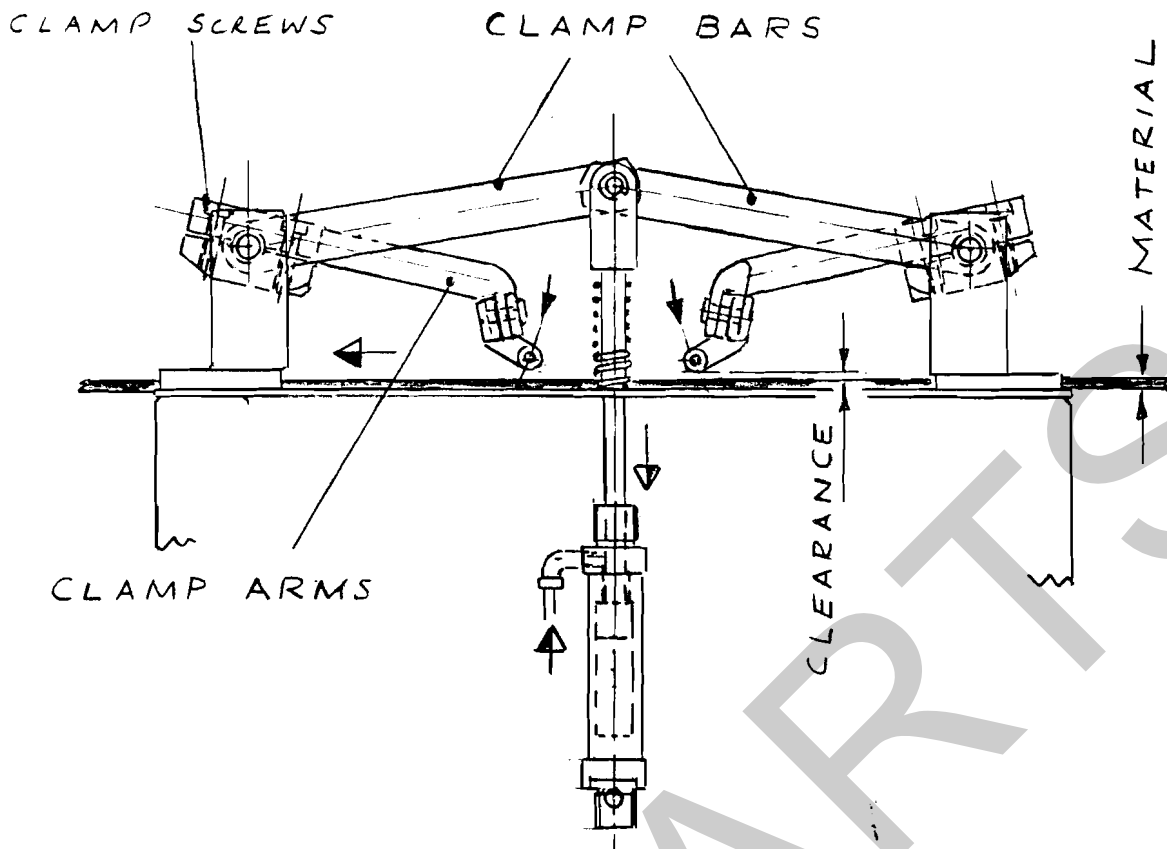
A soft 30/3 cord thread is recommended for the looper, and a 24/3 cord thread is recommended for the needle, either left or right hand twist thread can be used.

NYLON.

"NYMOLEX F" is recommended for the needle, and "NYMOLON D" is recommended for the looper.

18.2 POWER CUT

If the machine is switched off at the mains, WAIT One minute before switching on again.



MATERIAL CLAMP

FIG 6

18.0 MATERIAL CLAMP

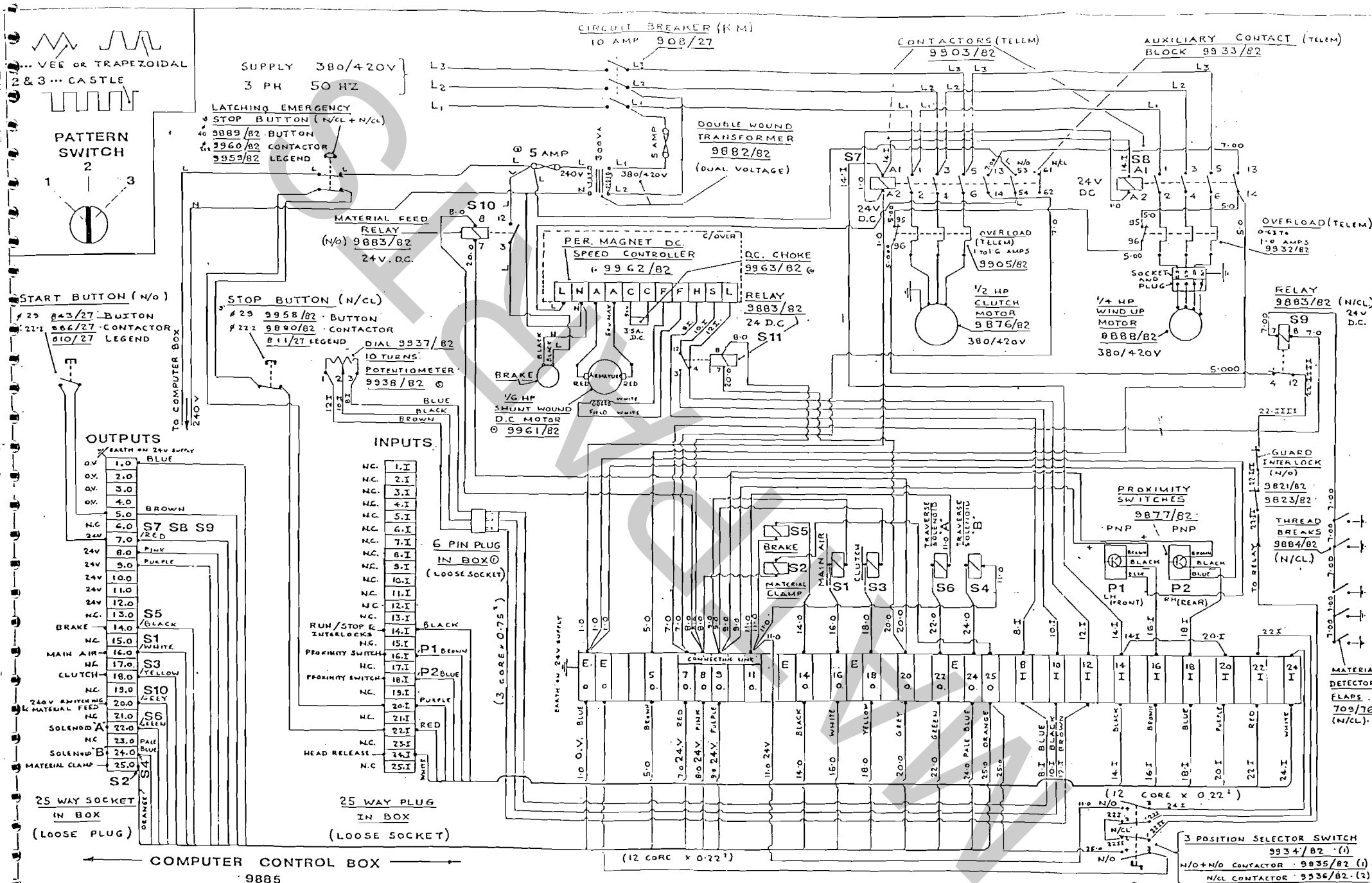
Normally the Material Clamps are factory set, however, on some materials it is advantageous to re-set the clamps as follows:-

Refer FIG. No. 6.

- 18.1 Lift the Clamp Bars to the top position.
- 18.2 Release Material Clamp Arms.
- 18.3 Set Material Clamp Arms to just clear material.

This setting will give a faster clamping response during the stitching cycle.

- 18.4 The material clamps are normally held on by air pressure, they may be released by the release switch on the main electrical box. THE MACHINE WILL NOT START WITH THE CLAMPS RELEASED.



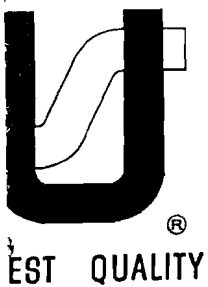
COMPUTER CONTROL BOX
9885

OV ... NO VOLTS
 NC ... NOT COMMISSIONED
 N/O ... NORMALLY OPEN
 N/CL ... NORMALLY CLOSED
 C/OVER...CHANGE OVER

NOTE:
 FOR PNEUMATIC SOLENOID VALVES
 S1 TO S6 SEE PNEUMATIC CIRCUIT
 A 500/76

DESCRIPTION WIRING DIAGRAM		No REQUIRED	SCALE	No OF SHEETS
MATERIAL				
M/C 76 VBM PF300			DATE	SIG. SHEET No
P. FANGHANEL & CO. LTD.			02-04-86	
REDFORD HOUSE BALDOCK HERTS SG7 8BT ENGLAND			DRAWING No	PART No
			WD 76/77	

A600/76



Union Special[®]
LEWIS[®] • COLUMBIA[®]

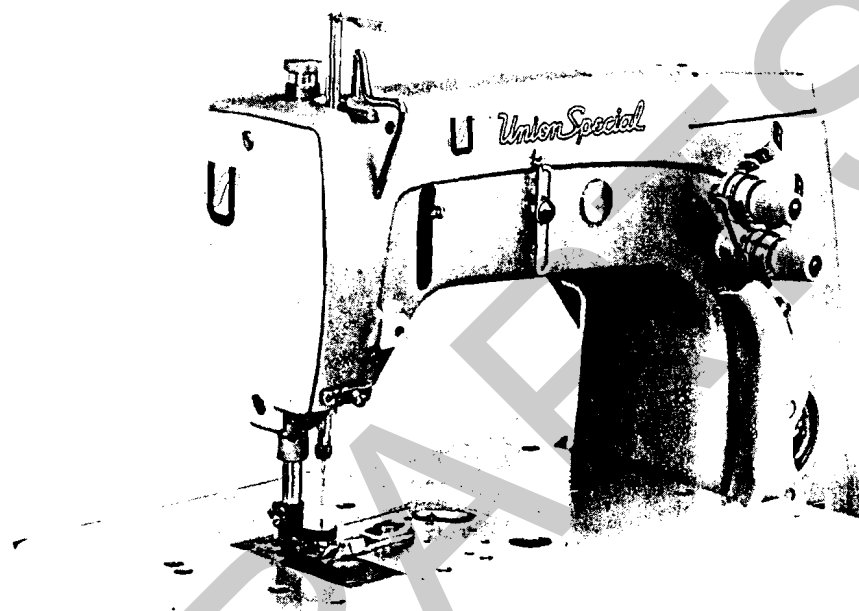
INDUSTRIAL
SEWING
MACHINES

STYLES

~~6300V~~

~~6300Y~~

~~6300AV~~



STYLE 56300AV

ADVANCED HIGH SPEED
FIFTY THOUSAND SERIES MACHINES
WITH
BACK TACKING MECHANISM

CATALOG

No.

T129Y

Second
Edition

UNION SPECIAL CORPORATION

CHICAGO

C a t a l o g N o . T 1 2 9 Y
(S u p p l e m e n t t o C a t a l o g N o . 1 2 9 M)

I N S T R U C T I O N S
F O R
A D J U S T I N G A N D O P E R A T I N G

L I S T O F P A R T S

F o r S t y l e s

5 6 3 0 0 V 5 6 3 0 0 Y 5 6 3 0 0 A V

S e c o n d E d i t i o n

© 1 9 6 9

By

U n i o n S p e c i a l C o r p o r a t i o n
R i g h t s R e s e r v e d i n A l l C o u n t r i e s

UNION SPECIAL CORPORATION

INDUSTRIAL SEWING MACHINES

CHICAGO

P r i n t e d i n U . S . A .

December, 1979

IDENTIFICATION OF MACHINES

Each UNION SPECIAL machine is identified by a Style number on a name plate on the machine. Style numbers are classified as standard and special. Standard Style numbers have one or more letters suffixed, but never contain the letter "Z". Example: "Style 56300 V". 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 56300 VZ".

Styles of machines similar in construction are grouped under a class number which differs from the style number, in that it contains no letters. Example: "Class 56300".

APPLICATION OF CATALOG

This catalog is a supplement to Catalog No. 129 M, Fourth Edition and should be used in conjunction therewith. Only the parts found on Styles 56300 V, Y and AV, but not on Style 56300 W are illustrated. At the back is an illustration identifying the parts by reference number and on the following page, the part numbers and description identifies the part. Any part that is a component of another part is indicated by indenting its description under the description of the assembly or base part. Always use the part number in the second column, never use the reference number in the first column when ordering repair parts.

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

STYLES OF MACHINES IN CLASS 56300

Advanced High Speed Single Needle Flat Bed Machines, Medium and High Throw, Needle Bearing Needle Bar Drive, Light Weight Presser Bar and Needle Bar Driving Mechanism, Single Reservoir Enclosed Positive Automatic Lubricating System, Filtered Oil Return Pumps for Head and Base, Lateral Loper Travel, Large Handwheel and Improved Belt Guard, Prepared for Use with Knee Press for Presser Foot Lifter, Equipped with Disc Thread Tensions, Maximum Work Space to Right of Needle Bar 8 1/4 Inches (209.6 mm).

56300 V Medium throw machine with back-tacking mechanism, for seaming and/or hemming dresses, skirts, shirts, towels, sheets, curtains and for similar operations on light to medium weight woven materials where back tacking is required. Seam Spec. 401-SSa-1. Type 130 GHS needle. Maximum recommended speed 6500 R.P.M.

56300 Y Medium throw machine with back-tacking mechanism, for seaming pants, dresses, skirts, hemming shirts, towels, sheets, curtains and for similar operations on medium weight woven materials where back tacking is required. Seam Spec. 401-SSa-1. Type 130 GHS needle. Maximum recommended speed 6500 R.P.M.

56300 AV Medium throw machine with four motion retainer to prevent skipping at sharp turns of glove fingers. For closing cotton flannel gloves. Seam Spec. 401-SSa-1. Type 130 GHS needle. Maximum recommended speed 6500 R.P.M.

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

Standard recommended needle for the machines covered in this catalog is Type 130 GHS. It has a round shank, round point, short, double groove, struck groove, ball eye, spotted, government, short blade 1/8 inch (3.18 mm) less than standard, width of eye and groove undersize - one step reduction, ball point, chromium plated - sizes 080/032, 090/036, 100/040, 110/044, 125/049, 140/054.

To have needle orders promptly and accurately filled, and 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 130 GHS, Size 090/036".

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

USE GENUINE NEEDLES AND REPAIR PARTS

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

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

IDENTIFYING PARTS

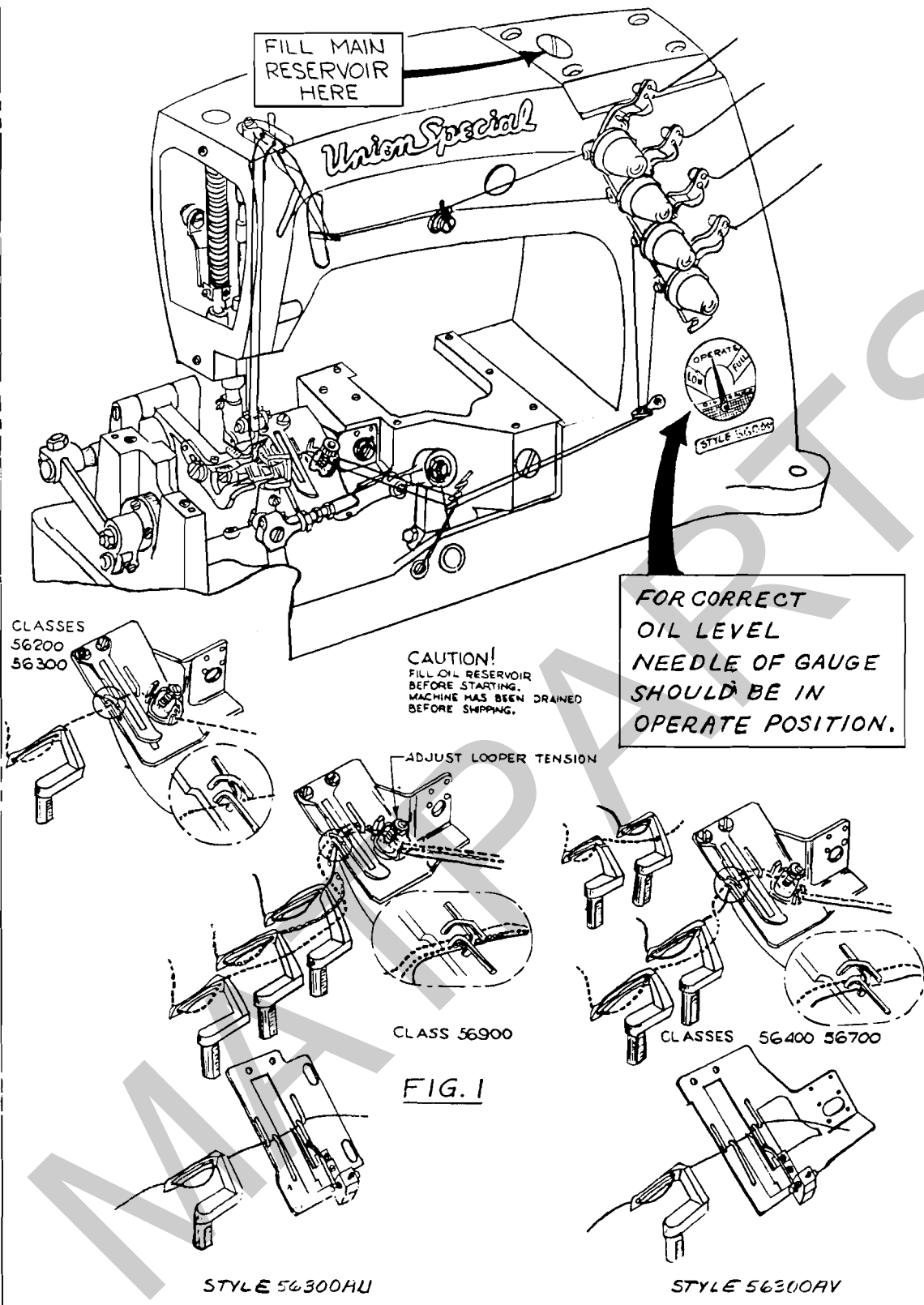
Where the construction permits, each part is stamped with its part number. Parts too small for a complete catalog stamping are identified by letter symbols which distinguish one part from another that is similar in appearance.

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

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

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 postage and insurance.



THREADING AND OILING DIAGRAM

While machine is in operation the needle of the oil gauge should be in the band marked "OPERATE". For further lubricating instructions refer to paragraph on "Lubrication", on page 6. Thread machine in accordance with the threading diagram above.

INSTRUCTIONS FOR MECHANICS

All of the adjusting instructions for Style 56300 W are applicable for Styles 56300 V, Y, and AV, except use Type 130 GHS needle in place of Type 128 GAS needle. The instructions that follow are required for Styles 56300 V, Y and AV.

LUBRICATION

CAUTION! Oil has been drained from the main reservoir before shipment, so the reservoir must be filled to the proper level as indicated on oil gauge (A, Fig. 1 or B, Fig. 2) before beginning to operate. Run machine slowly for several minutes to distribute the oil to the various parts. Full speed operation can then be expected without damage.

RECOMMENDED OIL

Use a straight mineral oil of a Saybolt viscosity of 90 to 125 seconds at 100^o Fahrenheit in the main reservoir. This is equivalent to Union Special specification No. 175. Fill main reservoir at plug screw in upper crank chamber cover (A, Fig. 2) and check oil level at gauge (B). Oil is at maximum safe operating level when needle is to the black line, located to the right of "OPERATE" zone, marked "FULL". Oil should be added when needle is to the black line, located to the left of "OPERATE" zone, marked "LOW". See paragraph under "Changing Stitch Length" in Catalog No. 129 M, Fourth Edition, for repacking feed rocker bearings.

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

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

For machines in operation check the oil for lint deposits at reasonable intervals. If dirty, change the oil. An oil change is recommended every 2000 operating hours. Oil may be drained from main reservoir by removing plug screw (C, Fig. 2) located below the cloth plate at front of the machine, or by removing the lower crank chamber cover, located at the back of machine.

NOTE: Looper avoid and feed lift eccentrics receive oil thru the mainshaft, so when assembling be sure oil holes in the eccentric line up with oil holes in mainshaft when spot screw is in time spot.

OIL GAUGE

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

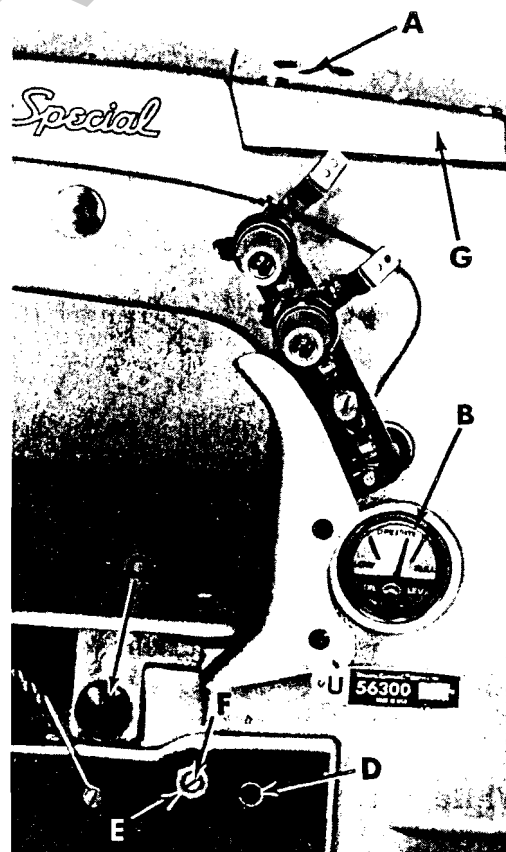


Fig. 2

OIL GAUGE (Continued)

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

SETTING THE FRONT NEEDLE GUARD

Set the front needle guard (A, Fig. 16) so that its guarding surface barely contacts the needle (B) as the point of the looper (C) comes up to the needle. It should be set as high as possible without any interference from the looper. The top of the guard should be set no higher than even with the underside of the looper, yet not interfere with the needle thread. This can be accomplished by loosening screws (D) which will permit raising, lowering or rotating the guard around its shank as required, retighten screws. Should forward or rearward repositioning of the needle guard become necessary, loosen screws (E) which will permit rotation of the needle guard holder (F) around its shaft as required, retighten screws.

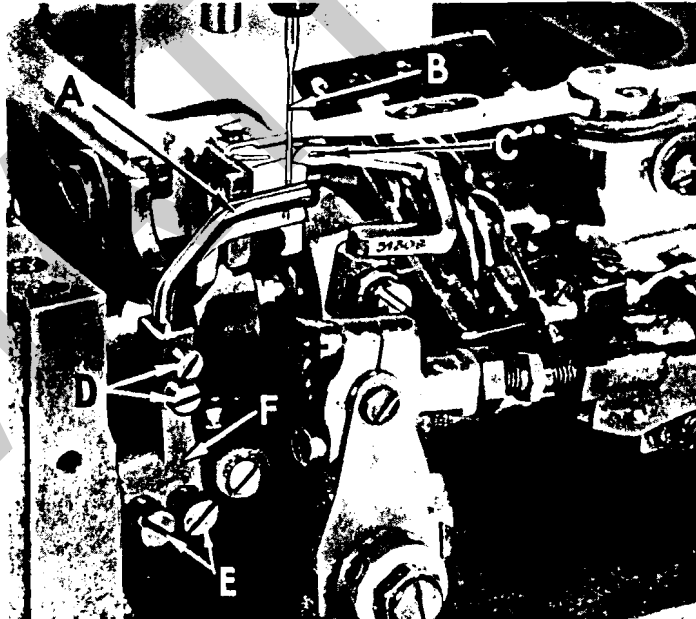


Fig. 16

TIMING THE RETAINER

With the cloth plate removed and the needle bar at the bottom of its stroke, the timing mark on the face of the vertical drive crank (A, Fig. 17) must line up with the timing mark on the oil reservoir top cover (B). This can be accomplished by removing the access plug screw (C), insert screwdriver and loosen screws in the driven gear on the vertical drive crank, rotate vertical drive crank by hand to align the timing marks. Retighten screws in driven gear securely and replace plug screw (C).

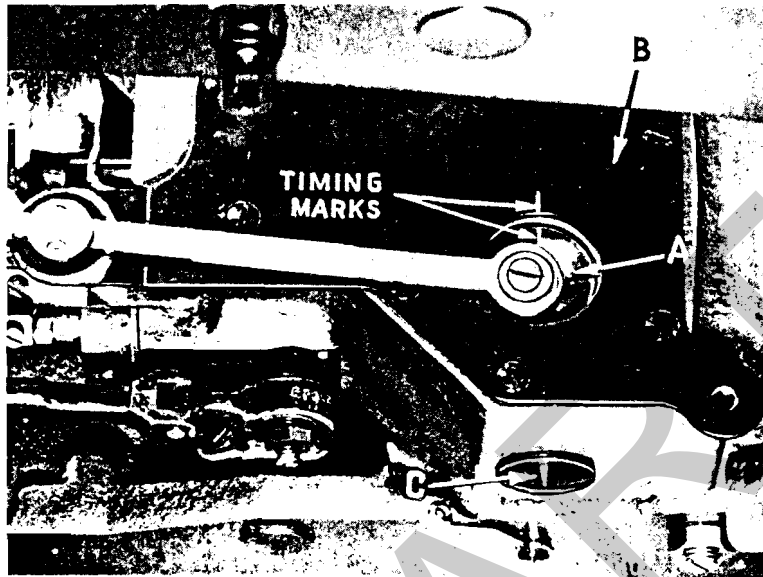


Fig. 17

SETTING THE RETAINER

As the retainer (A, Fig. 18) passes behind the needle (B), going from right to left, and the point of the retainer hook reaches the right side of the needle, the distance between the back of the needle and point of the retainer should be $1/32$ inch (.79 mm) (See Fig. 18). When the retainer reaches the extreme left end of its travel, the point of the loop retainer hook (A) should be $5/32$ inch (3.97 mm) from the centerline of the needle (See Fig. 19). These dimensional settings can be made by loosening screws (B, Fig. 19), reposition loop retainer hook (A) as required and retighten screws (B).

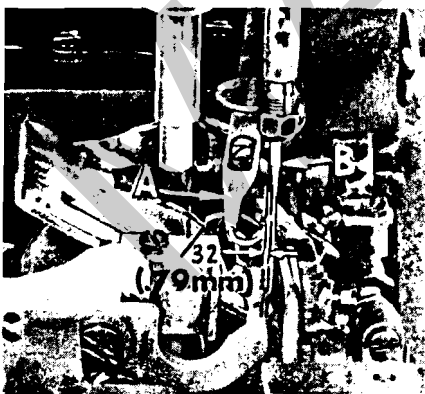


Fig. 18

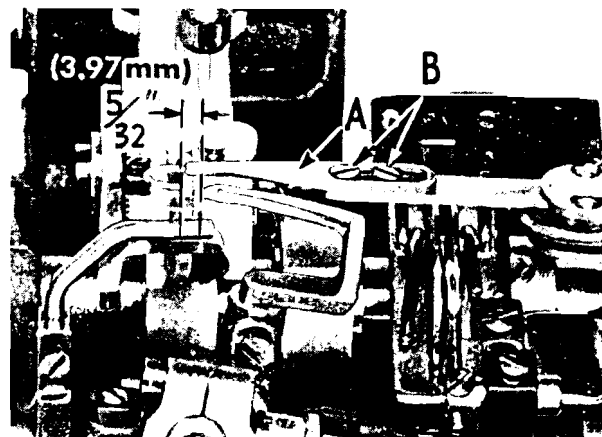


Fig. 19

SYNCHRONIZING LOOPER AND NEEDLE MOTIONS

Insert looper into the looper rocker, pushing it all the way down and tighten screw against flat on shank of looper. Turn handwheel in operating direction until the point of the looper (A, Fig. 4) moving to the left, is even with the left side of the right needle (B). Note the height of the eye of the needle with respect to the looper point (See Fig. 5). Turn the handwheel in the reverse direction until the point of looper again moving to the left, is even with the left side of right needle (See Fig. 5). 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.

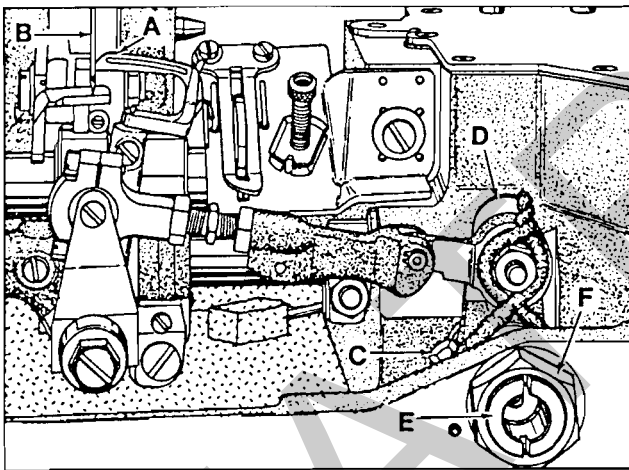


Fig. 4

SYNCHRONIZING LOOPER AND NEEDLE MOTIONS (Continued)

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.

NOTE: The 1/64 inch (.4mm) dimension shown in Fig. 5 is for final setting of needle bar height.

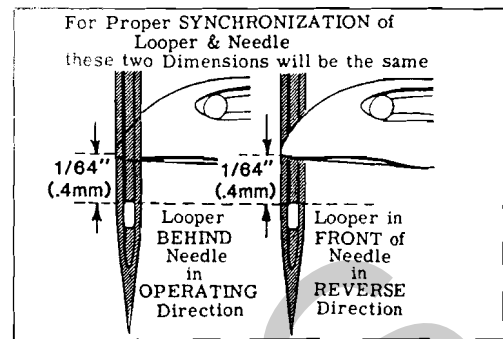


Fig. 5

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

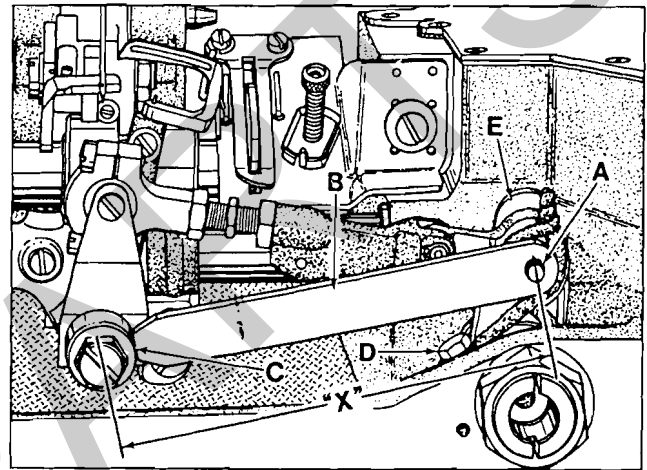


Fig. 6

With looper at extreme right end of its travel, check location of the centerline of right looper connecting rod bearing using gauge No. 21227 CX for all Classes except 56700 which uses gauge No. 21227 CX-56 for Style 56700 J-56 and No. 21227 CX-64 for Style 56700 J-64. Remove nut from looper lever stud (A, Fig. 6) and place hole in gauge (B) over threaded stud. The left end of gauge should locate against the RIGHT side of looper rocker cone (C). If adjustment is necessary, loosen clamp screw (D), reposition looper drive lever (E) as required and retighten screw (D). If gauge is not available, setting can be checked with a scale. "X" dimension is from centerline of stud (A) to centerline of cone (C) which should be 4 1/16 inch (103.2mm) for all Classes except 56700. Style 56700 J-56 should be a 3 5/8 inch (92.1mm) and Style 56700 J-64 should be 3 9/16 inch (90.6mm) with looper at extreme right end of travel.

LOOPER SETTINGS

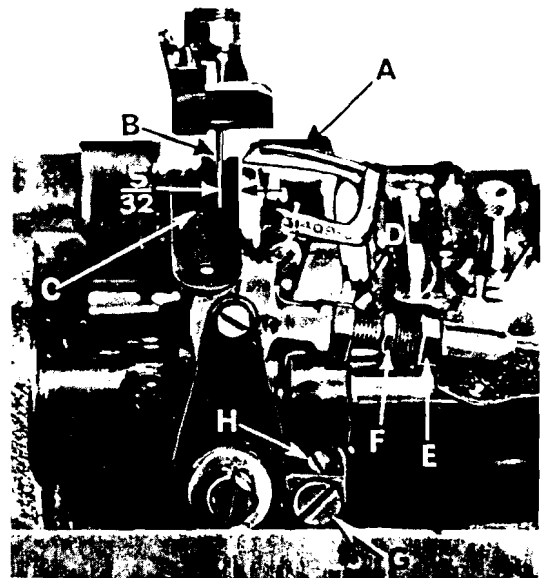


Fig. 7

Insert a new needle, type and size as specified. If the looper gauge is 5/32 inch (4.0mm), for example, set the looper (A, Fig. 7) so the distance from the center of the needle (B) to the point of the looper is 5/32 inch (4.0mm), when the looper is at its farthest position to the right.

LOOPER SETTINGS (Continued)

Looper gauge No. 21225-5/32 (C) can be used advantageously in making this adjustment. On two needle machines set the back looper to the right needle and on three needle machines set the middle looper to the middle needle, when setting the looper gauge. Refer to chart for needle Type, looper gauge setting and looper gauge number. If adjustment is required, loosen nut (D) (it has a left hand thread) and nut (E) on connecting rod (F), turn the connecting rod forward or backward to obtain the 5/32 inch (4.0mm) dimension. Retighten both nuts, first nut (E), then nut (D). Make sure the left ball joint is in vertical position and does not bind after adjustment.

Machine Styles	Needle Type	Looper Gauge Setting	Looper Gauge Number
56200 H	101 GS	1/8 Inch (3.2mm)	21225-1/8
56200 K,R	106 GLS	1/8 Inch (3.2mm)	21225-1/8
56200 L	126 GS	5/32 Inch (4.0mm)	21225-5/32
56200 S	108 GHS	1/8 Inch (3.2mm)	21225-1/8
56200 W, 56300 W,AL	128 GAS	5/32 Inch (4.0mm)	21225-5/32
56300 E,F,G,N,R, U,X,AH	128 GBS	5/32 Inch (4.0mm)	21225-5/32
56300 H	143 GS - 170/067	5/32 Inch (4.0mm)	21225-5/32
56300 M	126 GS	5/32 Inch (4.0mm)	21225-5/32
56400 D	106 GHS	1/8 Inch (3.2mm)	21225-1/8
56400 P,R,S,T,W,X	106 GHS	1/8 Inch (3.2mm)	21225-1/8
56500 A,B,C,U	130 GS	5/32 Inch (4.0mm)	21225-5/32
56500 J,R	128 GS	5/32 Inch (4.0mm)	21225-5/32
56700 J	108 GKS	1/8 Inch (3.2mm)	21225-1/8
56900 H	128 GAS	5/32 Inch (4.0mm)	21225-5/32
56900 J	147 GKS	7/32 Inch (5.6mm)	21225-7/32
56900 P	147 GKS	5/32 Inch (4.0mm)	21225-5/32
56900 R	147 GS	7/32 Inch (5.6mm)	21225-7/32

The looper is set correctly if, as it moves to the left behind the needle, its point (A, Fig. 8) clears the rear of needle (B) by .002 inch (.051mm).

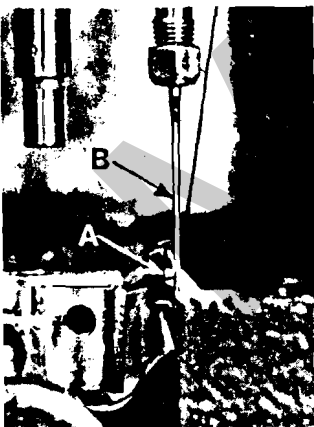


Fig. 8

If adjustment is necessary, loosen lock screw (G, Fig. 7) and turn stop screw (H) as required. Turning stop screw clockwise sets the looper to the rear and turning it counterclockwise acts the reverse. Holding looper to the front while making this adjustment may prove helpful. Tighten lock screw when setting is obtained and recheck the adjustment.

On Style 56200 W, looper needle guard (attached to looper) should be set to barely contact the front of needle without deflecting as looper moves to left.

On the two and three needle machines, insert the other needles and loopers. The same looper - needle relationship should exist without any adjustment, other than applying pressure on the looper at front or back of blade, while clamping looper in looper rocker, so as to get the proper in-line-of-feed setting.

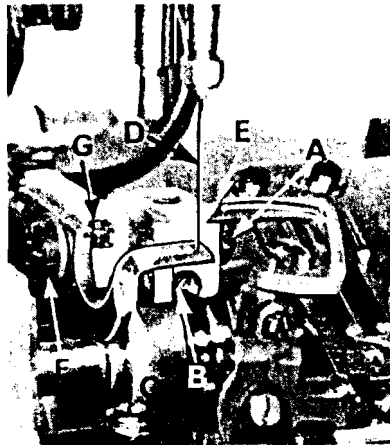


Fig. 10

REAR NEEDLE GUARD

At extreme forward end of travel, rear needle guard (C, Fig. 10) must be set horizontally not to contact rear of needle (D) with a maximum clearance of .005 inch (.127mm). Guard should be set as low as possible, yet have its vertical face approach approximately 3/64 inch (1.2mm) of needle point until point of looper (E), moving to the left, is even with the needle. To move needle guard forward or backward, loosen screw (F), move needle guard as required, and retighten screw. To raise or lower needle guard, loosen screw (F), and turn screw (G) clockwise to lower needle guard or counterclockwise to raise it. Retighten screw (F) after guard is properly set.

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

THREADING (FOR ALL STYLES EXCEPT 56300 E,F,G,N,R,U,X,AH and AL)

Draw the looper and needle threads into the machine and start operating on a piece of fabric. Refer to threading diagram (Fig. 2) for the threading of these machines.

THREAD TENSIONS

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

The looper thread tension is applied at the cast-off support tension disc assembly, and the adjusting nut should be set so that the tension on the looper thread is just sufficient to steady the thread.

THREAD TENSION RELEASE

The thread tension release is set correctly when it begins to function as the presser foot is raised to within 1/8 inch (3.2mm) of the end of its travel and is entirely released when the presser foot has reached its highest position.

THREAD TENSION RELEASE (Continued)

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

PRESSER BAR HEIGHT

Height of presser bar (A, Fig. 13) is correct when presser foot can be removed by depressing foot lifter lever (B, Fig. 12). There should be approximately 1/16 inch (1.6mm) clearance between lower surface of presser bar connection and guide (B, Fig. 13) and bottom surface of head opening in bed casting when foot lifter lever is released and presser foot lying flat on 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 (C, Fig. 13) 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 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.

NEEDLE THREAD TAKE-UP WIRE AND FRAME EYELET (FOR ALL STYLES EXCEPT 56300 E, F, G, N, R, U, X, AH and AL)

Set needle thread take-up wire (B, Fig. 14), so that its upper surface is even with the top of the holes in needle bar thread eyelet (C) when needle bar has completed its downward stroke. Lower this setting for a smaller needle thread loop, or raise it for a larger loop. Set needle thread frame eyelet (D) so that the eyelet hole is 3/4 inch (19.0mm) above the attaching screw on all Styles except on Styles 56500 J, 56900 H, J, P and R the eyelet is to be set 5/8 inch (15.9mm) above the attaching screw and on Style 56200 H the eyelet is to be set 1 inch (25.4mm) above the attaching screw.

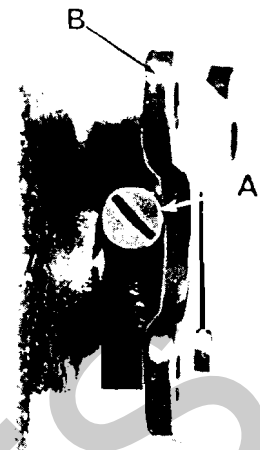


Fig. 12

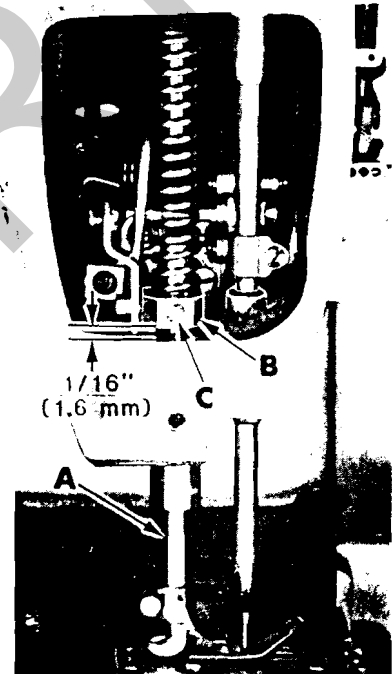


Fig. 13

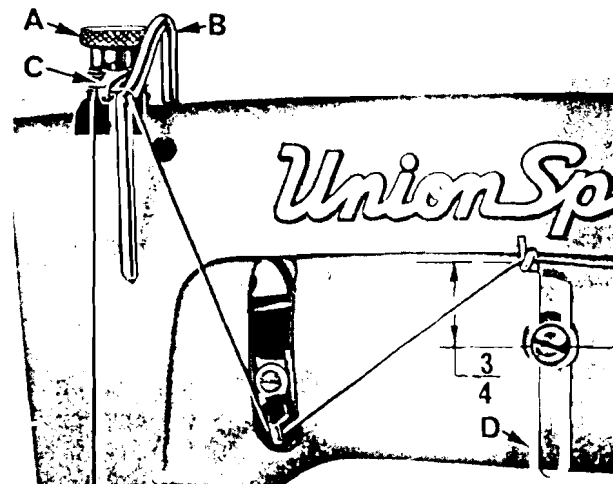


Fig. 14

SPECIAL INSTRUCTIONS

NEEDLE LEVER

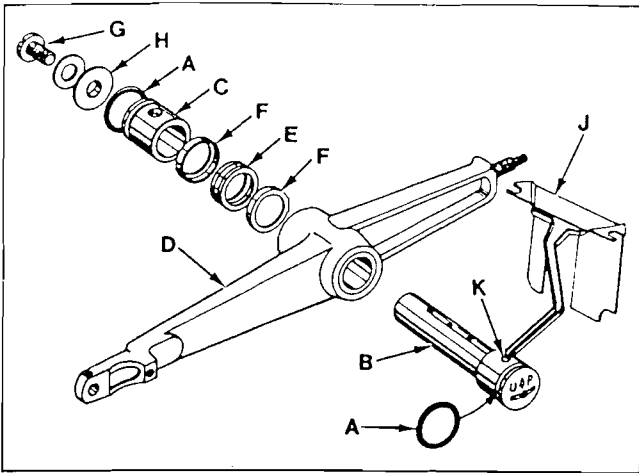


Fig. 18

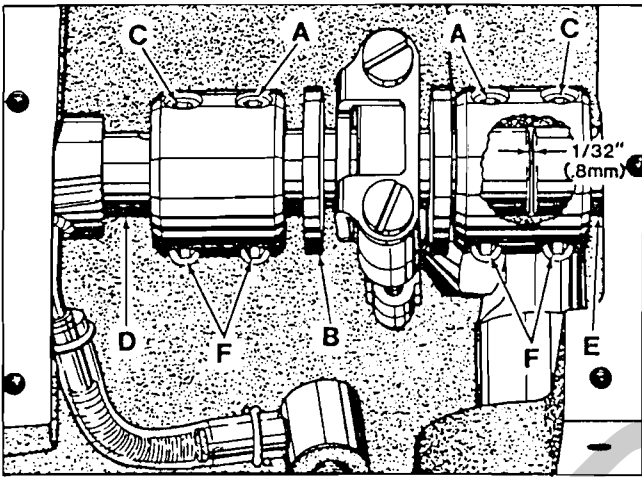


Fig. 19

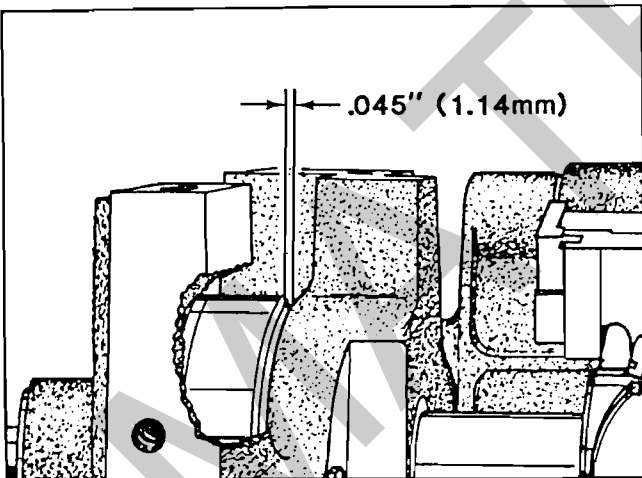


Fig. 20

When adjusting needle lever or replacing related parts, follow instructions in sequence as listed:

1. Install "O" rings (A, Fig. 18) 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 tightening screw (G) until washer (H) bottoms against stud (B). Secure stud (B) in position using the rear set screw in top of bed.
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. 19) 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 casting as shown in Fig. 20.

ALIGNING MAINSHAFT TO CRANKSHAFT (Continued)

Looper drive Crank (B, Fig. 19) must be positioned laterally with 1/32 inch (.8mm) clearance between it and mainshaft (E) as shown in Fig. 19. Once these settings are made, it is very important that the couplings 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. (22-24cm/kg). Loosen spot screws (A) and set screws (C). Re-torque screws (F) to 19-21 in. lbs. (22 - 24cm/kg), then, torque screws (A and C) to 19-21 in. lbs. (22 - 24cm/kg).

The oil drip plate (A, Fig. 21) 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.

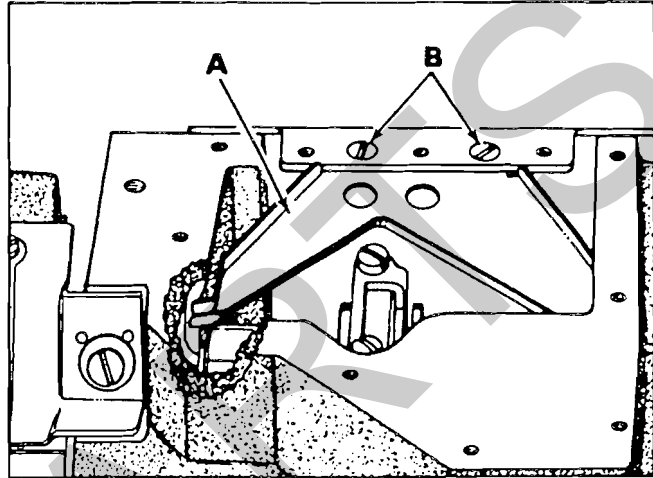


Fig. 21

NEEDLE BAR HEIGHT

The height of the needle is correct when the top of its eye is 1/64 inch (.4mm) below the underside of the looper, with the looper point flush with the left side of the needle as shown in Fig. 5. On Styles 56500 A, B and C the top of the needle eyes should be even with the underside of the looper when the looper point is flush with the left side of the needle. If adjustment is necessary, loosen screw (B, Fig. 3) and move needle bar (A) up or down as required and retighten screw. On two and three needle machines, care should be taken not to disturb alignment of needle bar when moving the needle bar either up or down. The descending needles must be deflected alike on the back of the loopers.

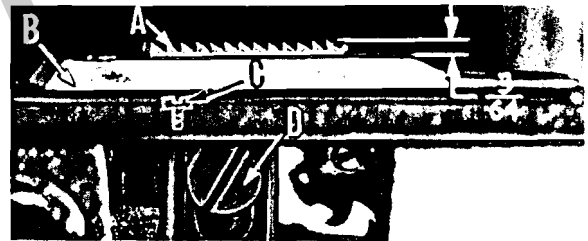


Fig. 9

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 for connecting rods, links, screws, etc., are shown on parts illustrations.

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 numbers 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:

9	29105 AK	Looper Drive Lever Crank Assembly, for Styles 56200 L, W, Classes 56300, 56500 and 56900 -----	1
10	22559 A	Bearing Cap Screw, lower -----	2
11	56343 E	Oil Splasher -----	1
12	56343 C	Ball Joint Guide Fork -----	1
13	22587 K	Bearing Cap Screw, upper -----	1

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 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.

TERMS

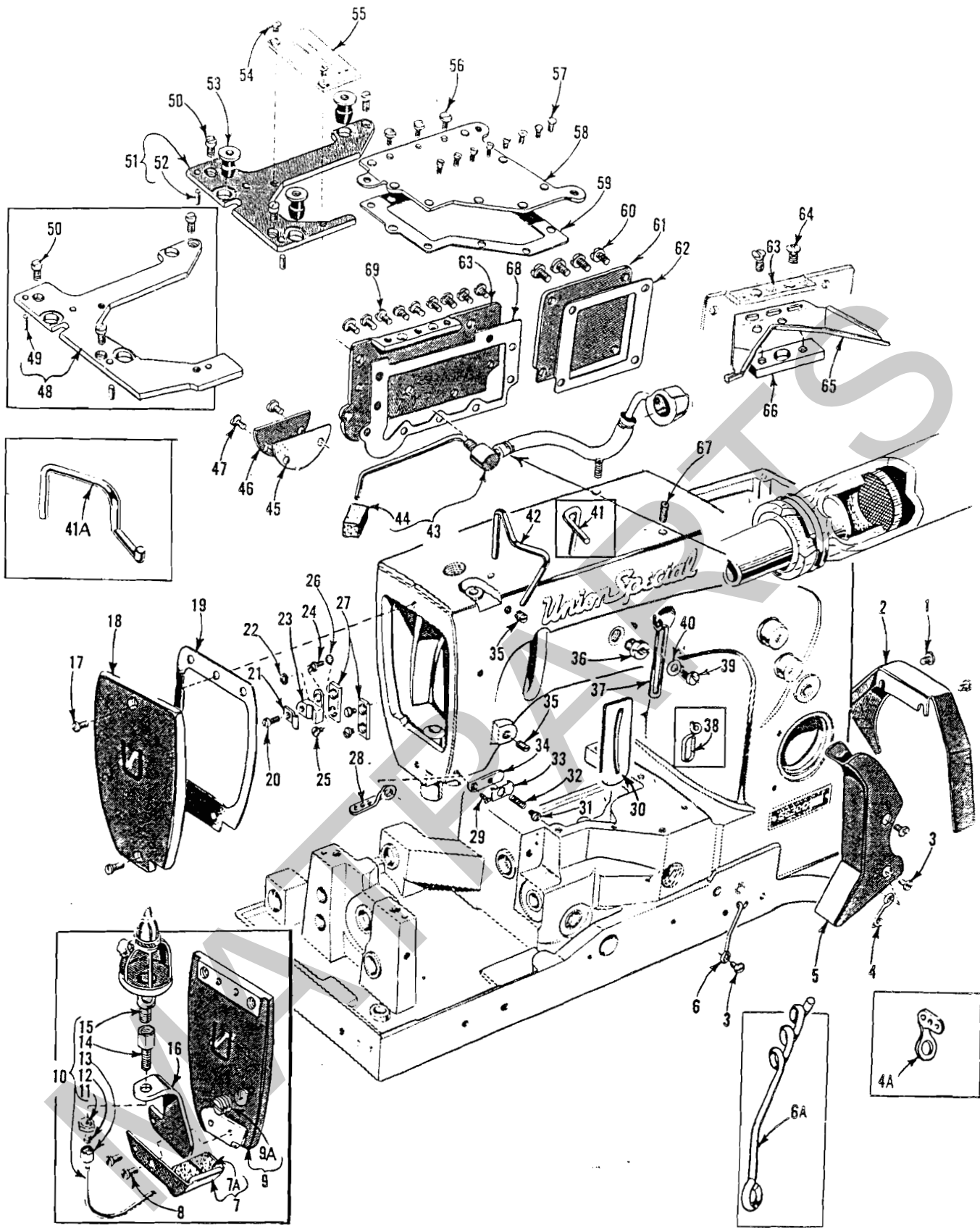
Prices are net cash and subject to change without notice. All shipments are forwarded f.o.b. shipping point. Parcel Post shipments are insured unless otherwise directed. A charge is made to cover postage and insurance.

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 chart below for suggestions which may prove beneficial to you.

SKIPPED STITCHES

Condition	Causes	Cures
Needle loop too small	Take-up wire set too low	Raise take-up wire 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 oversize ball eye needle, to reduce friction
	Length of needle eye too long, causing delay in needle loop formation	Use needle with shorter eye, drop needle bar slightly or increase looper gauge 1/64 to 1/32 inch
	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 a seam	Material is not held down in front of seam and is flagging	Use tractor type presser foot, if available, or see if presser bar is sticking
	Needle deflecting toward 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 of garments	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 light presser foot pressure so operator does not hold back
Machine misses needle loop when stitch length is increased	Needle deflecting toward the operator because the needle guard is set too far forward	Move needle guard to the rear
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

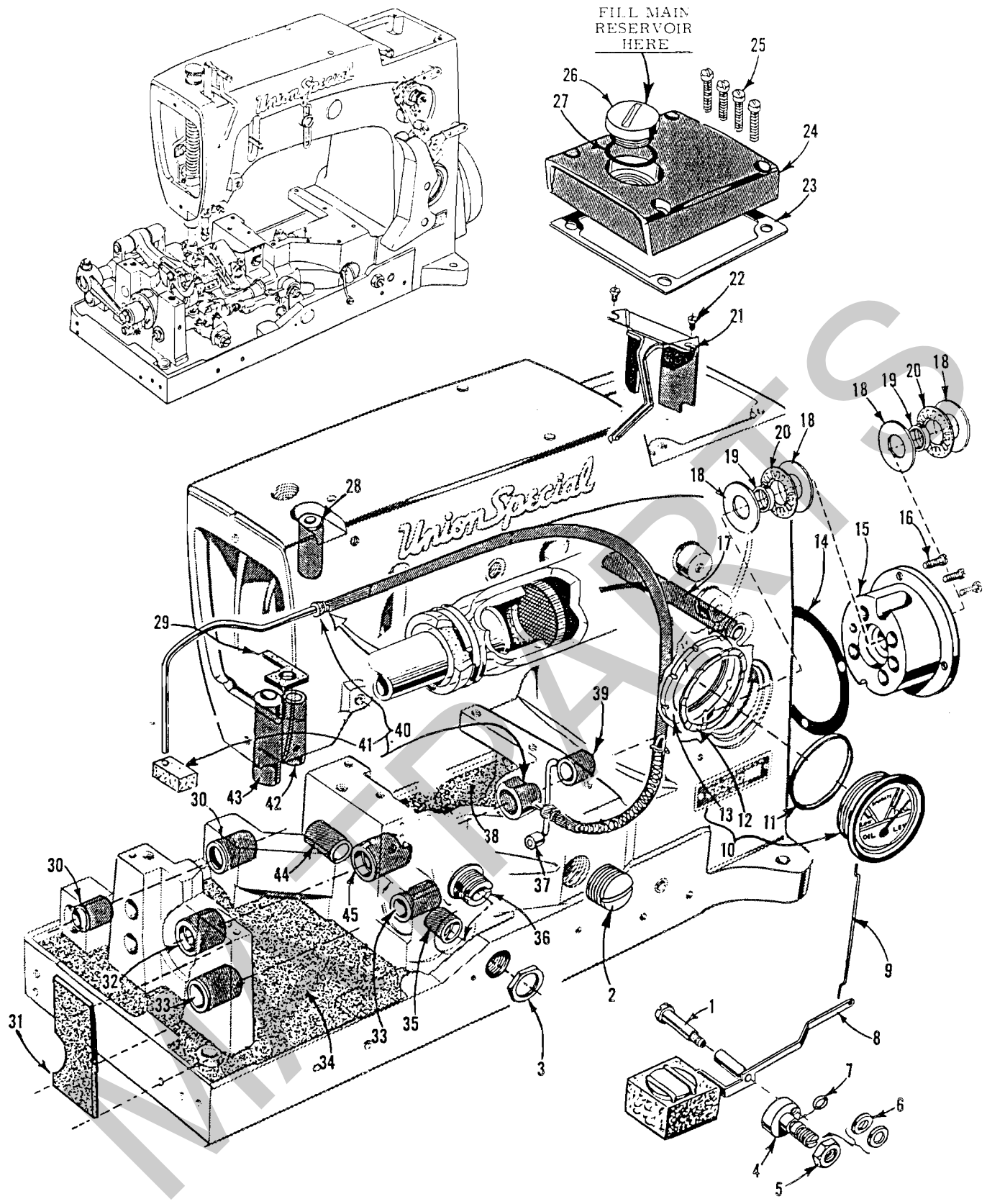
NOTE: More detailed information concerning the double locked stitch (stitch type 401) is available under "Stitch Formation, Type 401".



MAIN FRAME, THROAT PLATE SUPPORTS, MISCELLANEOUS COVERS AND OILING PARTS

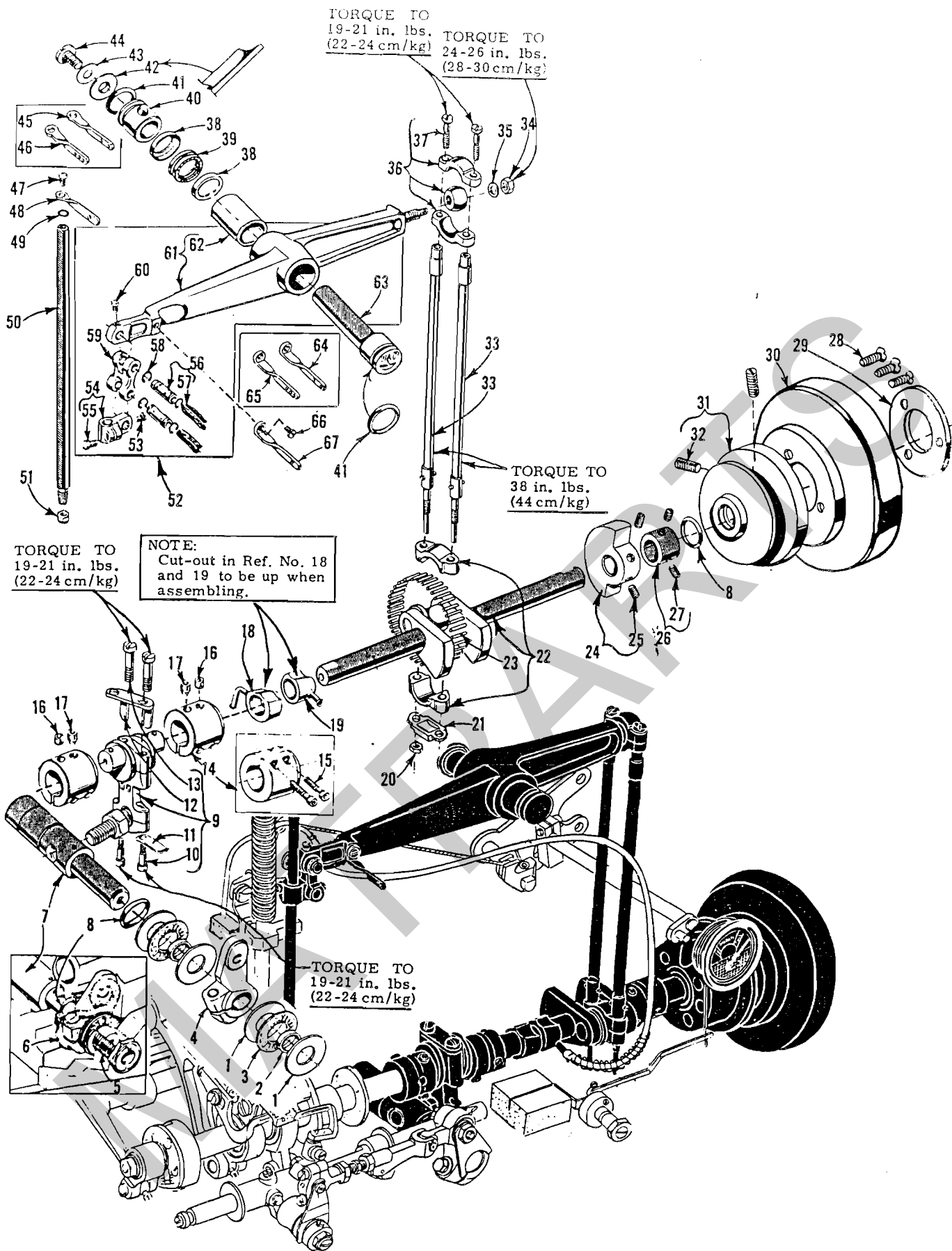
Ref. No.	Part No.	Description	Amt. Req.
1	22829	Screw	2
2	21375 AV	Belt Guard	1
3	98 A	Screw	3
4	52 A	Looper Thread Eyelet, for all Classes except 56900	1
4A	158 A	Looper Thread Eyelet, for Class 56900	1
5	56391	Looper Thread Guard	1
6	52958 B	Looper Thread Eyelet, for single needle machines	1
6A	52958 G	Looper Thread Eyelet, for two and three needle machines	1
7	21396 BP	Needle Thread Lubricator, for Class 56900	1
7A	21396 AG	Felt Pad	2
8	22569 B	Screw, for Class 56900	2
9	56782	Head Cover, for Styles 56400 R, 56700 J, 56900 H, J, P, R	1
9A	22733 C	Plug Screw	1
10	21396 BR	Needle Thread Lubricator Oil Reservoir, for Class 56900	1
11	11638 M	Nut	1
12	660-74	Connection Sleeve	1
13	660-75	Coupling	1
14	21396 AL	Adapter	1
15	660-73	Oil Cup	1
16	21396 BK	Needle Thread Lubricator Oil Reservoir Bracket, for Class 56900	1
17	22569 C	Screw, for head cover	2,3
18	56382	Head Cover, for all Styles except 56400 R, 56700 J, 56900 H, J, P, R	1
19	56382 N	Gasket	1
20	22585	Screw	1
21	56393 D	Head Oil Tube Clamp	1
22	7947	Nut	1
23	56393 C	Head Oil Tube Mounting Block	1
24	51294 R	Screw	1
25	22513	Screw	3
26	660-342	Lockwasher	1
27	35731 A	Presser Bar Connection Guide Plate	2
28	56958 B	Frame Needle Thread Eyelet, for Style 56900 J	1
29	605 A	Screw, for Styles 56200 S, W; 56300 W, AL	1
-	22836	Screw for 56958 B, for Style 56900 J	1
30	660-617	Needle Lever Eyelet Gasket	1
31	57 WD	Nipper Spring Screw, for Styles 56200 S, W; 56300 W, AL	1
32	15438 C	Nipper Spring, for Styles 56200 S, W; 56300 W, AL	1
33	57 WB	Nipper Spring Plate, for Styles 56200 S, W; 56300 W, AL	1
34	43296	Nipper Spring Base, for Styles 56200 S, W; 56300 W, AL	1
35	95	Plug Screw and Screw for take-up wire	2
36	22889 A	Adapter Plug Screw	1
*37	539	Frame Needle Thread Eyelet, for all Styles except 56300 E, F, G, N, R, U, X, AH, AL and 56700 J	1
*38	51758	Frame Needle Thread Eyelet, for Style 56700 J	1
39	22848	Screw	1
40	20	Washer	1
41	56470	Needle Thread Take-up Wire, for Style 56300 M, Classes 56400, 56500, 56700, 56900 and 56200 except Style 56200 W	1
41A	56370	Needle Thread Take-up Wire, for Styles 56300 E, F, G, N, R, U, X, AH, AL	1
42	51270 B	Needle Thread Take-up Wire, for Styles 56200 W; 56300 H, W	1
43	59493 A	Base Oil Pump Assembly	1
44	666-214	Intake Felt	1
45	56382 K	Gasket	1
46	56382 J	Looper Drive Shaft Reservoir Cover	1
47	22829	Screw	2
48	56480	Throat Plate Support, for Styles 56200 H, K, L, W, 56300 H, M, AL and Classes 56400 56500, 56700, 56900	1
49	51280 J	Dowel Pin	2
50	22839	Screw, for throat plate support	3
51	56380	Throat Plate Support, for Styles 56200 R, S and Class 56300 except Styles 56300 H, M, AL	1
52	51280 J	Dowel Pin	2
53	660-313	Well Nut	3
54	87	Screw, for throat plate, countersunk head, for Styles 56200 R, S and Class 56300 except Styles 56300 H, M, AL	2
55		Throat Plate (See Pages 47, 49, 51, 55, 57, 59, 61, 63, 65)	1
56	22585 A	Screw	3
57	22524	Screw	8
58	56382 G	Oil Reservoir Top Cover	1
59	56382 H	Gasket	1
60	22548	Screw	4
61	56382 D	Crank Chamber Cover, lower	1
62	56382 E	Gasket	1
63	56382 AA	Oil Reservoir Back Cover	1
64	87	Screw	2
65	56382 AB	Oil Drip Plate	1
66	56382 Y	Oil Drip Plate Clamping Block	1
67	22894 E	Screw	2
68	56382 L	Gasket	1
69	22848	Screw	9

*See Page 35 for thumbscrew adjustable frame needle thread eyelet assembly No. 29476 MY for Styles 56300 E, F, G, N, R, U, X, AH and AL.



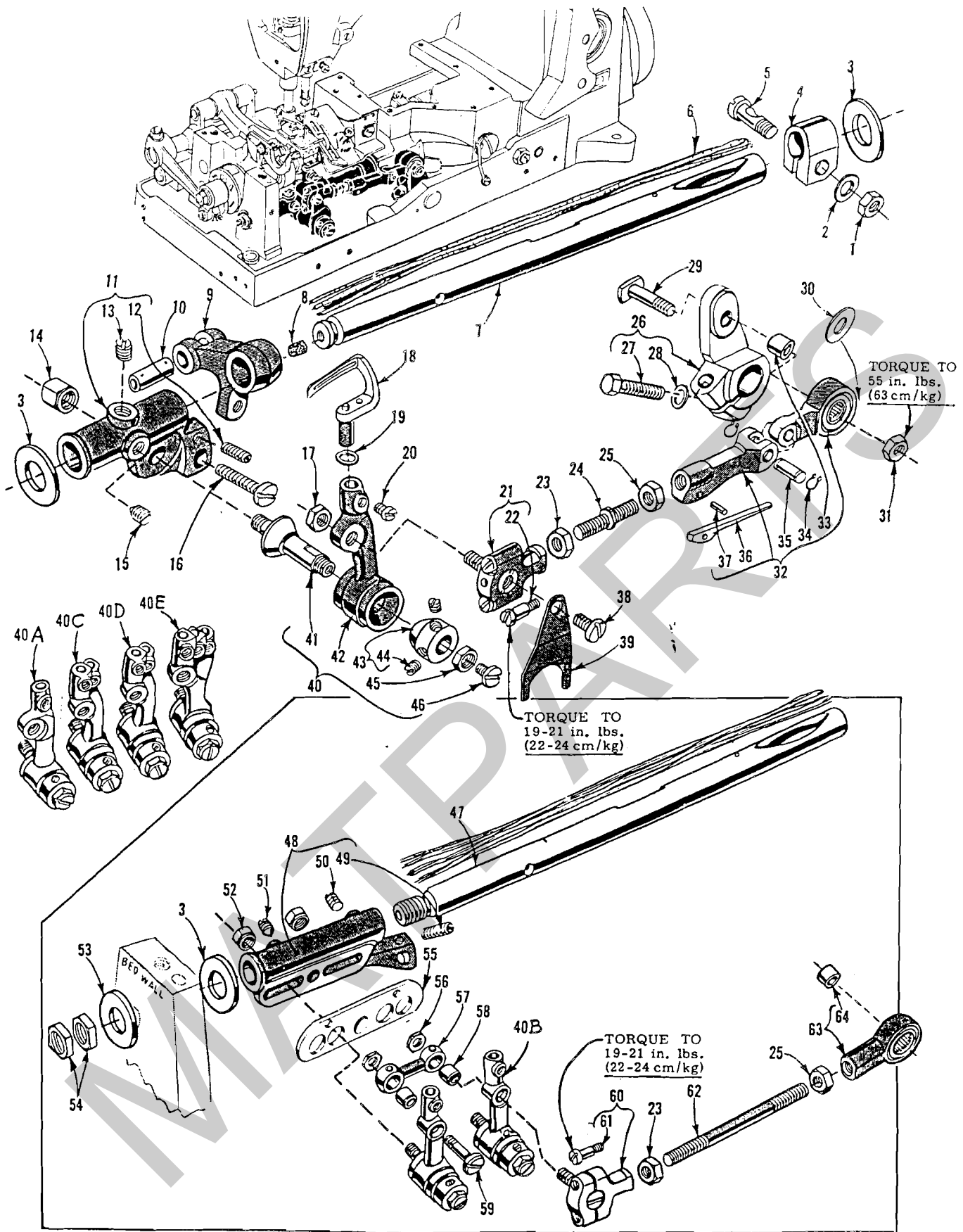
MAIN FRAME, BUSHINGS, OIL GAUGE AND MISCELLANEOUS OILING PARTS

<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Amt. Req.</u>
1	22793	Screw - - - - -	1
2	22539 R	Plug Screw- - - - -	1
3	56342 D	Nut - - - - -	1
4	56394 A	Oil Gauge Adjusting Shaft - - - - -	1
5	11635 B	Nut - - - - -	1
6	61256 G	Washer- - - - -	2
7	660-221	Oil Retaining Ring- - - - -	1
8	56394 C	Oil Gauge Float Lever Assembly- - - - -	1
9	56394 B	Oil Gauge Connecting Rod- - - - -	1
10	63494 K	Oil Gauge - - - - -	1
11	660-455	"O" Ring - - - - -	1
12	63494 G	Spring Washer- - - - -	1
13	63494 F	Nut- - - - -	1
14	56390 E	Bushing Housing Gasket- - - - -	1
15	57890 B	Crankshaft Bushing Housing- - - - -	1
16	22569 B	Screw - - - - -	3
17	21657 X	Tension Release Lever Shaft Bushing - - - - -	1
18	56390 H	Thrust Washer - - - - -	4
19	56390 J	Pilot Ring- - - - -	2
20	660-665	Needle Thrust Bearing - - - - -	2
21	56382 AC	Needle Lever Bearing Oiler and Baffle Plate Assembly- - - - -	1
22	90	Screw - - - - -	2
23	56382 C	Gasket- - - - -	1
24	56382 B	Upper Crank Chamber Cover - - - - -	1
25	22541 C	Screw - - - - -	4
26	22733 E	Oil Filler Plug Screw - - - - -	1
27	56382 M	Gasket- - - - -	1
28	51154 E	Needle Bar Bushing, upper - - - - -	1
29	56393 W	Oil Attraction Felt - - - - -	1
30	57836 B	Feed Rocker Shaft Bushing - - - - -	2
31	666-259	Felt- - - - -	1
32	56390	Main Shaft Bushing, left- - - - -	1
33	50-895 B1k.	Looper Rocker Shaft Bushing - - - - -	2
34	56393 P	Base Felt, front- - - - -	1
35	52942 W	Looper Drive Lever Shaft Bushing, front - - - - -	1
36	52942 AC	Thrust Adjusting Screw- - - - -	1
37	35897 BV	Oil Intake Filter - - - - -	1
38	56393 Q	Base Felt, rear - - - - -	1
39	56390 G	Main Shaft Bushing, right - - - - -	1
40	56393 T	Head Oil Pump Assembly- - - - -	1
41	56393 L	Intake Felt- - - - -	1
42	56354 C	Needle Bar Bushing, lower, for all Styles except 56900 J, P, R- - - - -	1
-	57954	Needle Bar Bushing, lower, for Styles 56900 J, P, R - - - - -	1
43	51257 AA	Presser Bar Bushing, lower- - - - -	1
44	57842 B	Looper Drive Lever Shaft Bushing, rear- - - - -	1
45	56190	Main Shaft Bushing, intermediate- - - - -	1



CRANKSHAFT, NEEDLE LEVER AND LOOPER DRIVING PARTS

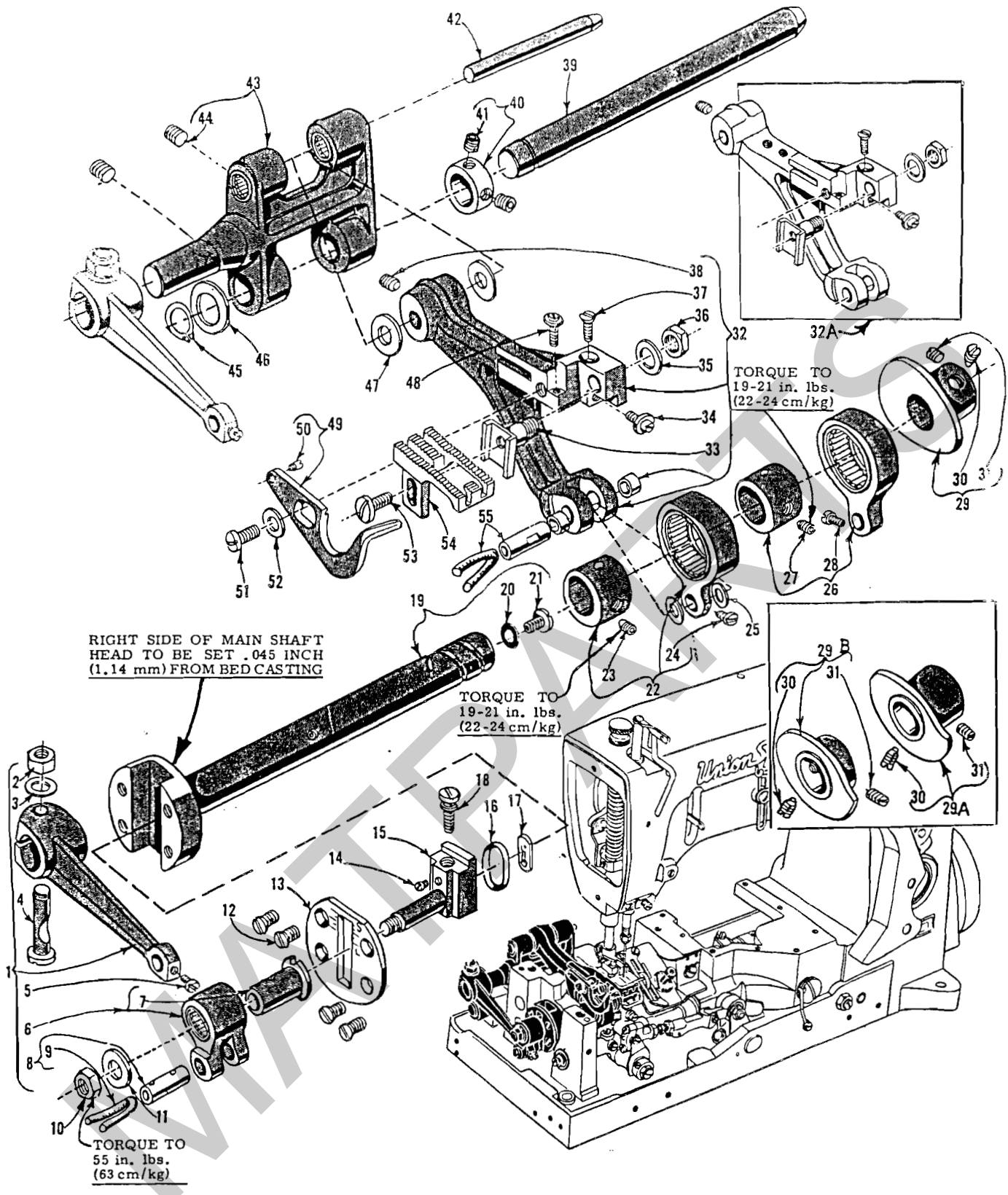
Ref. No.	Part No.	Description	Amt. Req.
1	56390 H	Thrust Washer	4
2	56390 J	Pilot Ring	2
3	660-665	Needle Thrust Bearing	2
4	56342 E	Looper Drive Lever, marked "D"	1
5	52942 AC	Thrust Adjusting Screw	1
6	CL21	Wick Oil	1
7	52942 AA	Looper Drive Lever Rocker Shaft	1
8	660-202	"O" Ring, for pulley and looper drive lever rocker shaft	2
9	29105 AK	Looper Drive Lever Crank Assembly, for Styles 56200 L, W and Classes 56300, 56500, 56900-	1
-	29105 AL	Looper Drive Lever Crank Assembly, for Styles 56200 H, K, R, S and Classes 56400, 56700-	1
10	22559 A	Bearing Cap Screw, lower	2
11	56343 E	Oil Splasher	1
12	56343 C	Ball Joint Guide Fork	1
13	22587 K	Bearing Cap Screw, upper	2
14	56343 F	Looper Drive Lever Coupling	2
15	22653 L-8	Screw	2
16	22894 C	Set Screw	2
17	22894 D	Spot Screw	2
18		Base Oil Pump, (See Ref. No. 43 - Page 25)	1
19		Head Oil Pump, (See Ref. No. 40 - Page 27)	1
20	12934 A	Nut	1
21	56316 C	Connecting Rod Guide	1
22	29476 LL	Crankshaft Assembly, .910 inch throw, for Styles 56200 L, W and Class 56300 except Styles 56300 H, M-	1
-	29476 LM	Crankshaft Assembly, .770 inch throw, for Styles 56200 H, K, R, S and Classes 56400, 56700-	1
-	29476 LN	Crankshaft Assembly, .990 inch throw, for Styles 56300 H, M and Classes 56500, 56900-	1
23	51216 M	Needle Bearing	28
24	51247	Counterweight	1
25	22894 J	Screw	2
26	57847	Thrust Collar	1
27	95	Screw	2
28	22574	Screw	3
29	61321 L	Retaining Plate	1
30	56321 D	Handwheel	1
31	56321 N	Pulley	1
32	22894 AB	Screw	2
33	56316	Needle Lever Connecting Rod	2
34	51216 P	Nut	1
35	51216 N	Washer	1
36	29066 R	Needle Lever Connecting Rod Upper Ball Joint Assembly	1
37	22559 G	Screw	2
38	56350 F	Compression Cup	2
39	660-614	Temper Load Ring	1
40	56350 E	Needle Lever Thrust Collar	1
41	660-625	Oil Seal Ring	2
42	51250 D	Washer	1
43	51250 F	Gasket	1
44	22586 R	Screw	1
45	56458 A	Needle Bar Thread Eyelet, for two needle machines	1
46	56958 A	Needle Bar Thread Eyelet, for three needle machines and Class 56300 except Styles 56300 H, M, W-	1
47	22768	Screw	1
48	56358	Needle Bar Thread Eyelet, for Class 56200 and Styles 56300 H, M, W	1
49	27-435 Blk.	Needle Bar Eyelet Washer	1
50		Needle Bar (See Page 43)	1
51	56	Needle Clamp Nut, for Classes 56200, 56300	1
52	29348 AF	Needle Lever Assembly	1
53	22564	Screw	1
54	51254 K	Needle Bar Connection	1
55	22562 A	Screw	1
56	52336	Link Pin	2
57	W0-3	Columbia Yarn (6 strands)	-
58	660-215	Retaining Ring	4
59	56354 D	Needle Bar Link	1
60	77	Screw	1
61	56315 A	Needle Lever	1
62	56350 G	Bushing	1
63	56350 D	Needle Lever Stud	1
64	56458	Needle Lever Thread Eyelet, for two needle machines	1
65	56958	Needle Lever Thread Eyelet, for three needle machines and Class 56300 except Styles 56300 H, M, W-	1
66	22768	Screw	1
67	56358 A	Needle Lever Thread Eyelet, for Class 56200 and Styles 56300 H, M, W	1



LOOPER ROCKER AND CONNECTING ROD PARTS

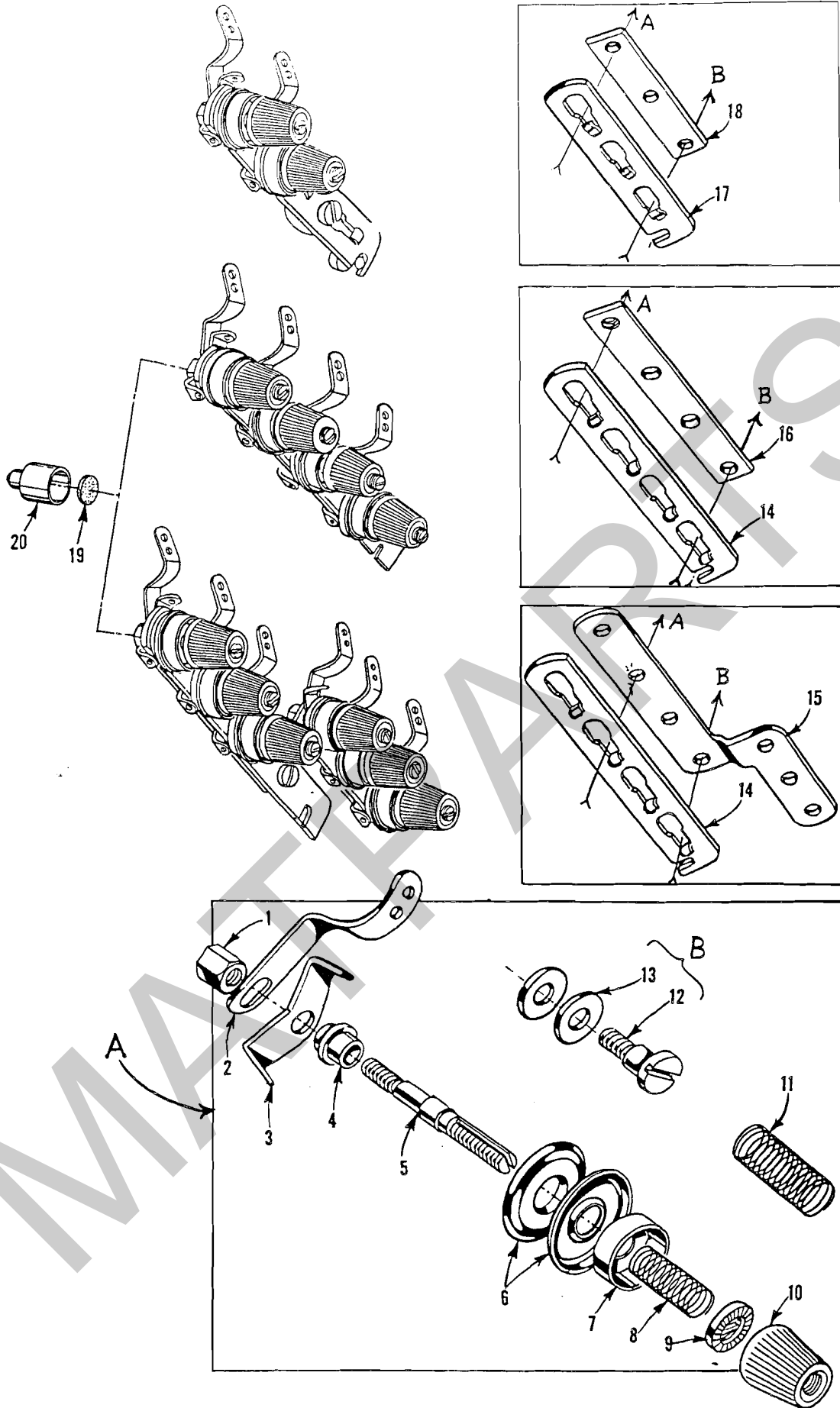
Ref. No.	Part No.	Description	Ant. Req.
1	18	Nut, for all Styles except 56700 J	1
2	51216 N	Washer, for all Styles except 56700 J	1
3	51244 L	Thrust Washer	2
4	51244 N	Looper Rocker Shaft Clamp, for all Styles except 56700 J	1
5	55244 G	Looper Rocker Shaft Collar Stud, for all Styles except 56700 J	1
6	W03	Columbia Wool Yarn (4 strands - 8 inches long)	1
7	56344	Looper Rocker Shaft, for all Styles except 56700 J	1
8	C067 E	Cork Plug	1
9	56344 B	Looper Rocker Shaft Arm	1
10	51236 A	Looper Avoid Link Pin	1
11	56344 C	Looper Rocker Frame, for all Styles except 56700 J	1
12	719	Stop Screw	1
13	98	Screw	1
14	51246	Looper Rocker Stud Nut, for all Styles except 56700 J	1
15	96	Screw	1
16	22874	Looper Rocker Frame Lock Screw	1
17	18	Nut, for all Styles except 56700 J	1
18		Looper (See Page 45)	1
19		Looper Collar (See Page 45)	1
20	73	Screw	1,2,3
21	57841	Looper Connecting Rod Ball Joint, left, for all Styles except 56700 J	1
22	22729 C	Screw	2
23	269	Nut, left hand thread	1
24	51240 D	Looper Connecting Rod, for all Styles except 56700 J and Class 56400	1
-	57840	Looper Connecting Rod, for Class 56400	1
25	18	Nut, right hand thread	1
26	56342 E	Looper Drive Lever, marked "D"	1
27	22882 C	Screw	1
28	51242 M	Washer	1
29	52942 R	Looper Lever Stud	1
30	20	Washer	1
31	18	Nut	1
32	56341 M	Looper Connecting Rod Jointed Section Assembly, right, for all Styles except 56700 J	1
33	56341 F	Ferrule	1
34	660-310	Truarc Ring	2
35	56341 E	Hinge Pin	1
36	56341 G	Spring	1
37	50-458 Blk.	Spring Pin	1
38	87 U	Screw	1
39	56393 J	Looper Connecting Rod Ball Joint Oiler, left	1
40		Looper Rocker Assembly (See Chart Below)	1
41	51745	Looper Rocker Cone Stud	1
42		Looper Rocker (See Chart Below)	1
43	15465 F	Looper Rocker Cone	1
44	88	Screw	2
45	258 A	Lock Nut	1
46	22829	Lock Nut Screw	1
47	56744 A	Looper Rocker Shaft, for Style 56700 J	1
48	56744	Looper Rocker Frame, for Style 56700 J	1
49	719	Stop Screw	1
50	98	Set Screw	1
51	96	Spot Screw	1
52	1280	Looper Rocker Stud Nut, for Style 56700 J	2
53	56751	Looper Rocker Shaft Thrust Washer, left, for Style 56700 J	1
54	51170 D	Nut, for Style 56700 J	2
55	56772-56	Looper Rocker Spacing Plate, for No. 56 gauge, Style 56700 J	1
-	56772-64	Looper Rocker Spacing Plate, for No. 64 gauge, Style 56700 J	1
56	14077	Nut, for Style 56700 J	2
57	51770-56	Looper Rocker Link, for No. 56 gauge, Style 56700 J	1
-	51770-64	Looper Rocker Link, for No. 64 gauge, Style 56700 J	1
58	51771	Looper Rocker Link Ferrule, for Style 56700 J	2
59	22835	Screw, for Style 56700 J	1
60	57841 A	Looper Connecting Rod Ball Joint, left, for Style 56700 J	1
61	22729 C	Screw	2
62	41047	Looper Connecting Rod, for Style 56700 J	1
63	29476 LV	Looper Connecting Rod Assembly, right, for Style 56700 J	1
64	56341 F	Ferrule	1

Ref. No.	Ref. No. 40 Assembly	Ref. No. 42 Rocker	I. D. Mark	For Machines	Ant. Req.
40A	29192 V	56313	S	Classes 56200, 56300	1
40B	29192 X	56713	V	Class 56700	2
40C	29192 W	56413	U	Class 56400	1
40D	29192 AA	56513	X	Class 56500	1
40E	29192 Y	56913	Z	Styles 56900 H, P	1
-	-	56913 A	AB	Styles 56900 J, R	1



MAIN SHAFT, TAKE-UPS AND FEED DRIVING PARTS

Ref. No.	Part No.	Description	Amt. Req.
1	29476 MJ	Feed Rocker Arm and Feed Crank Link Sub-Assembly	1
2	55235 E	Nut	1
3	6042 A	Washer	1
4	55235 D	Locking Stud	1
5	77	Screw, for link pin	1
6	56336 B	Feed Crank Link	1
7	56336 C	Feed Crank Link Ferrule	1
8	51054	Feed Crank Link Pin	1
9	666-149	Oil Wick	1
10	269	Nut, left thread	1
11	21657 E	Washer	1
12	22525 A	Screw	4
13	56322 C	Main Shaft Head Plate	1
14	22798 C	Screw	1
15	56336	Feed Crank Stud, marked "A"	1
16	660-269 B	Quad Ring	1
17	56336 D	Feed Crank Stud Insert	1
18	22543 A	Stitch Regulating Screw	1
19	56122 A	Main Shaft, for all Styles except 56700 J	1
-	56722 E	Main Shaft, for Style 56700 J	1
20	56322 B	Gasket	1
21	22891 B	Oil Flow Regulating Screw	1
22	29476 NM-860	Feed Lift Eccentric Assembly, for Styles 56200 H,K,R,S; 56300 U,X; 56700 J and Class 56400	1
-	29476 NM-080	Feed Lift Eccentric Assembly, for Styles 56200 L,W; 56500 A,B,C,J, U, 56900 H,J,P and 56300 except Styles 56300 H,M,U,X	1
-	29476 NM-096	Feed Lift Eccentric Assembly, for Styles 56300 H,M; 56500 R; 56900 R	1
23	22894 AA	Spot Screw	1
24	77	Screw, for link pin	1
25	39543 N	Thrust Washer, for feed bar	2
26	29476 NM-054	Looper Avoid Eccentric Assembly, for Class 56400	1
-	29476 NM-070	Looper Avoid Eccentric Assembly, for Styles 56200 L, 56300 W, Classes 56500 and 56900	1
-	29476 NM-060	Looper Avoid Eccentric Assembly, for Styles 56200 H,K,R,S; 56300 E,F,G,N,R,U,X,AH,AL; 56700 J	1
-	29476 NM-080	Looper Avoid Eccentric Assembly, for BORDER M/C PF-300	1
27	22894 AA	Spot Screw	1
28	77	Screw, for link pin	1
29	56323	Looper Thread Take-up, for Styles 56200 L,W and Classes 56300, 56500 and 56900	1
29 A	56423	Looper Thread Take-up, for Styles 56200 H,K,R,S and Class 56400	1
29 B	56723	Looper Thread Take-up, for Style 56700 J	1
30	22764 C	Spot Screw	1
31	22580 D	Set Screw	1
32	56334 N	Feed Bar, for all Styles except 56300 N,U,X,AH	1
32 A	56334 P	Feed Bar, for Styles 56300 N,U,X,AH	1
33	56334 L	Feed Dog Holder	1
34	22863 C	Feed Dog Holder Adjusting Screw	1
35	6042 A	Feed Dog Holder Washer	1
36	258 A	Nut	1
37	22637 P-24	Feed Dog Height Adjusting Screw	1
38	22651 CB-4	Screw	1
39	56335 L	Feed Rocker Shaft	1
40	56335 D	Feed Rocker Shaft Collar	1
41	98	Screw	2
42	56334 B	Feed Bar Shaft	1
43	56335 G	Feed Rocker	1
44	22651 CD-4	Screw	2
45	660-438	Retaining Ring	1
46	41391	Washer	1
47	61341 J	Feed Bar Washer	2
48	22834 A	Needle Guard Adjusting Screw	1
49		Needle Guard (See Page 43)	1
50	22801	Screw	1
51	22875 H	Screw, for needle guard	1
52	61434 G	Washer	1
53	22528	Screw, for feed dog	1
54		Feed Dog (See Pages 47,49,51,55,57,59,61,63,65)	1
55	51236 A	Link Pin	1



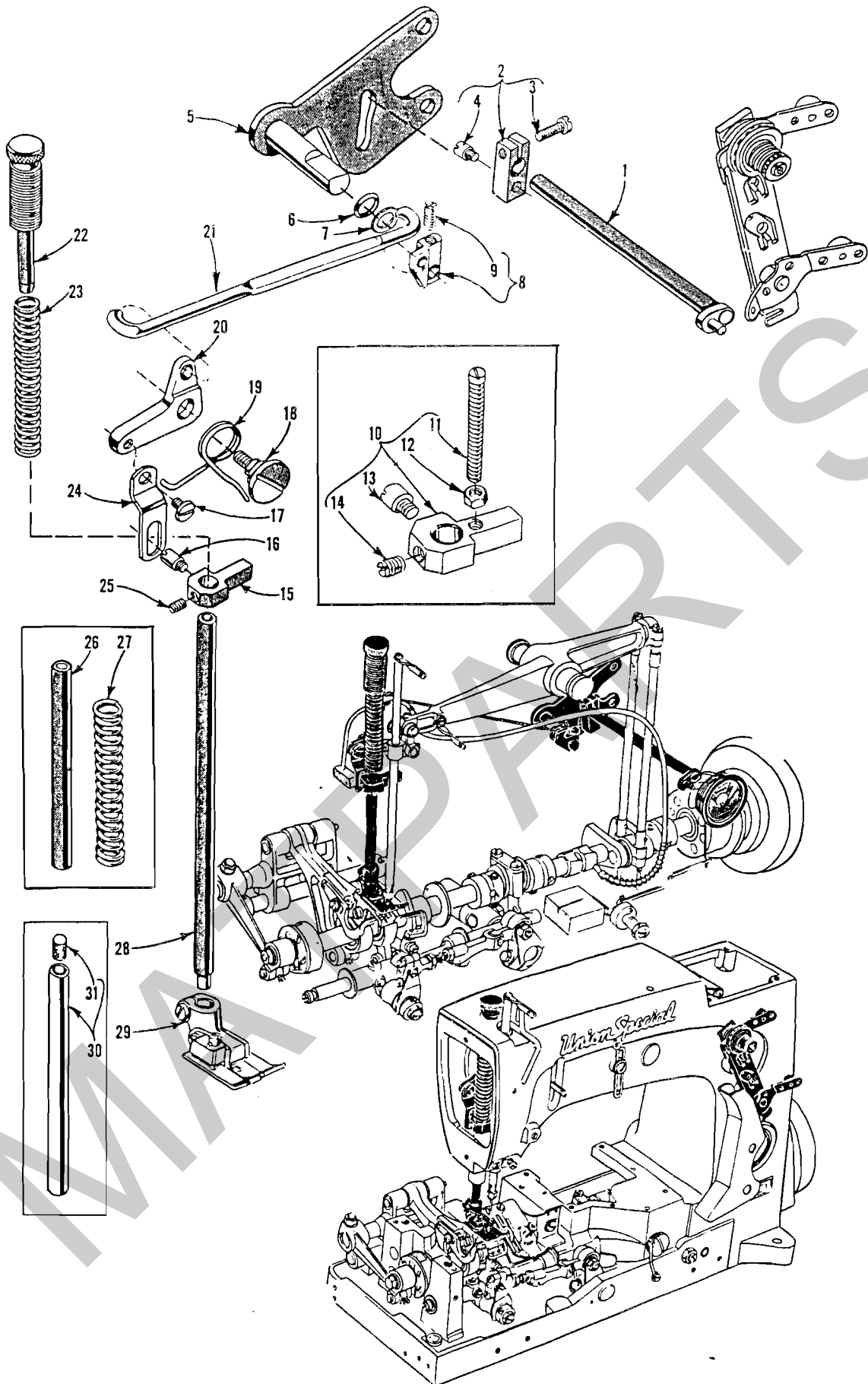
DISC THREAD TENSION PARTS

Ref. No.	Part No.	Description	AMOUNT REQUIRED		
			One Needle Machine	Two Needle Machine	Three Needle Machine
1	43266	Nut	1	2	5
2	51491 C	Lead-in Guide	2	4	6
3	51292 D	Tension Thread Eyelet	2	4	6
4	51292 A	Ferrule	2	4	6
5	56392 E	Tension Post	2	4	6
6	109	Tension Disc	4	8	12
7	56392 F	Tension Spring Shield	2	4	6
8	-	Needle Thread Tension Spring	(See Chart Below)		
9	39592 AK	Tension Spring Ferrule	2	4	6
10	39592 Z	Tension Nut	2	4	6
11	-	Looper Thread Tension Spring	(See Chart Below)		
12	22598 C	Screw	1	-	1
13	80557	Washer	2	-	2

Ref. No.	Part No.	Description	Amt. Req.
14	21657-4	Tension Disc Separator, for Single needle machine Styles 56300 E, F, G, N, R, U, X, AH; Two and Three needle machines - - - - -	1
15	51992 A	Tension Post Support, for Three needle machines - - - - -	1
16	56382 X	Tension Post Support, for Single needle machine Styles 56300 E, F, G, N, R, U, X, AH and Two needle machines - - - - -	1
17	21657-3	Tension Disc Separator, for Single needle machine Styles 56200 H, K, L, R, S, W, 56300 H, M, W, AL - - - - -	1
18	52892	Tension Post Support, for Single needle machine Styles 56200 H, K, L, R, S, W, 56300 H, M, W, AL - - - - -	1
19	59292 A	Felt Washer, for auxiliary tension post support- - - - - as required	
20	59292	Auxiliary Tension Post Support, for Single needle machine Styles 56300 E, F, G, N, R, U, X, AH; Two and Three needle machines- - -	1

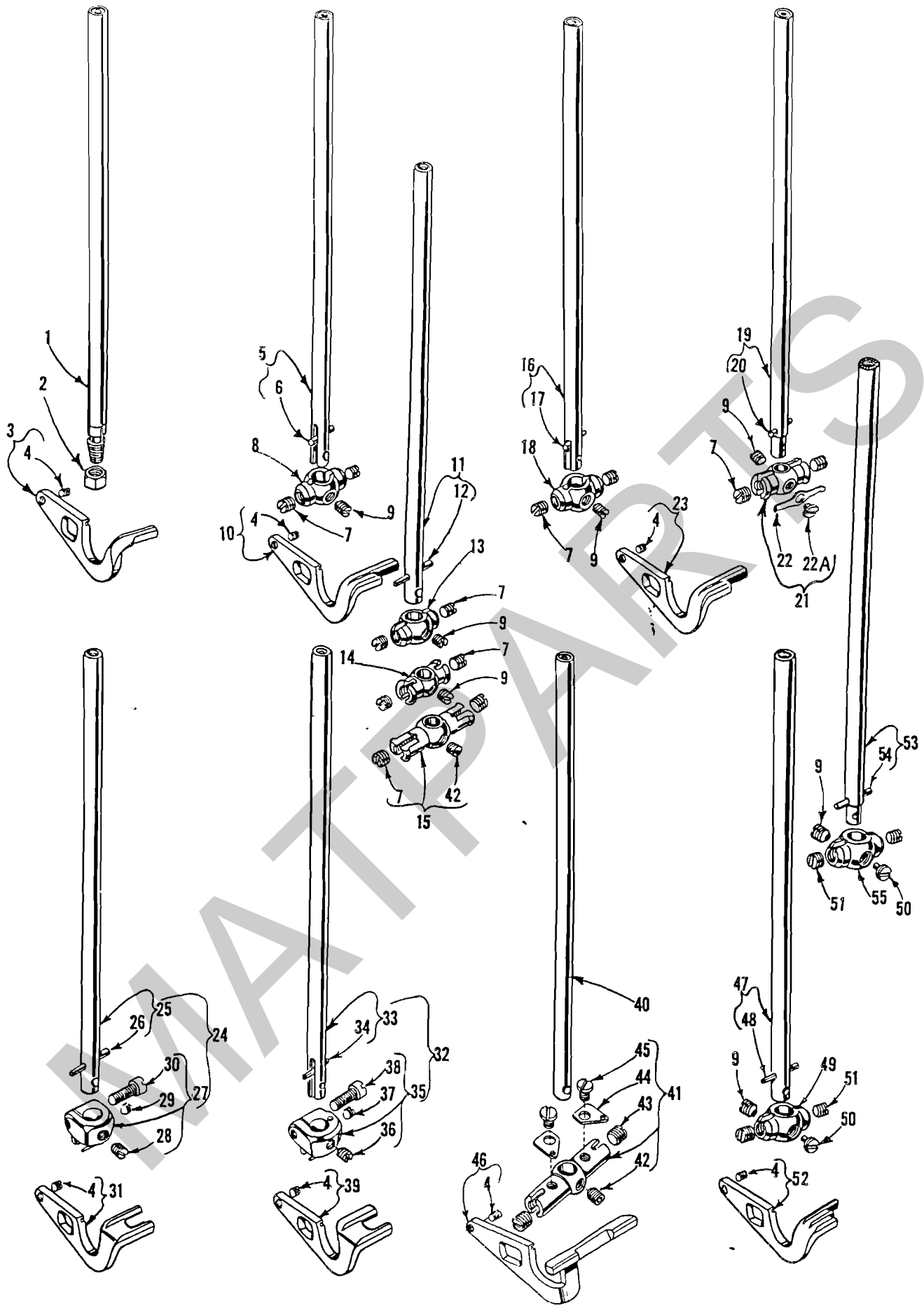
TENSION SPRING CHART

Ref. No.	Part No.	Description	Machine Style	Amt. Req.
8	51292 F-5	Needle Thread Tension Spring	56200 H, K, R, S 56400 D,P,R,S,T,W,X; 56700 J	1 2
8	51292 F-8	Needle Thread Tension Spring	56200 L; 56300 E, F, G, M, N, R, U, W, X, AH, AL 56500 A, B, C, J, R, U, 56900 H, J, P, R	1 2 3
8	51292 F-14	Needle Thread Tension Spring	56200 W, 56300 H	1
11	51292 F-1	Looper Thread Tension Spring	56200 H, K, R, S 56400 D, P, R, S, T, W, X; 56700 J	1 2
11	51292 F-2	Looper Thread Tension Spring	56200 L, W, 56300 E, F, G, H, M, N, R, U, W, X, AH, AL 56500 A, B, C, J, R, U 56900 H, J, P, R	1 2 3



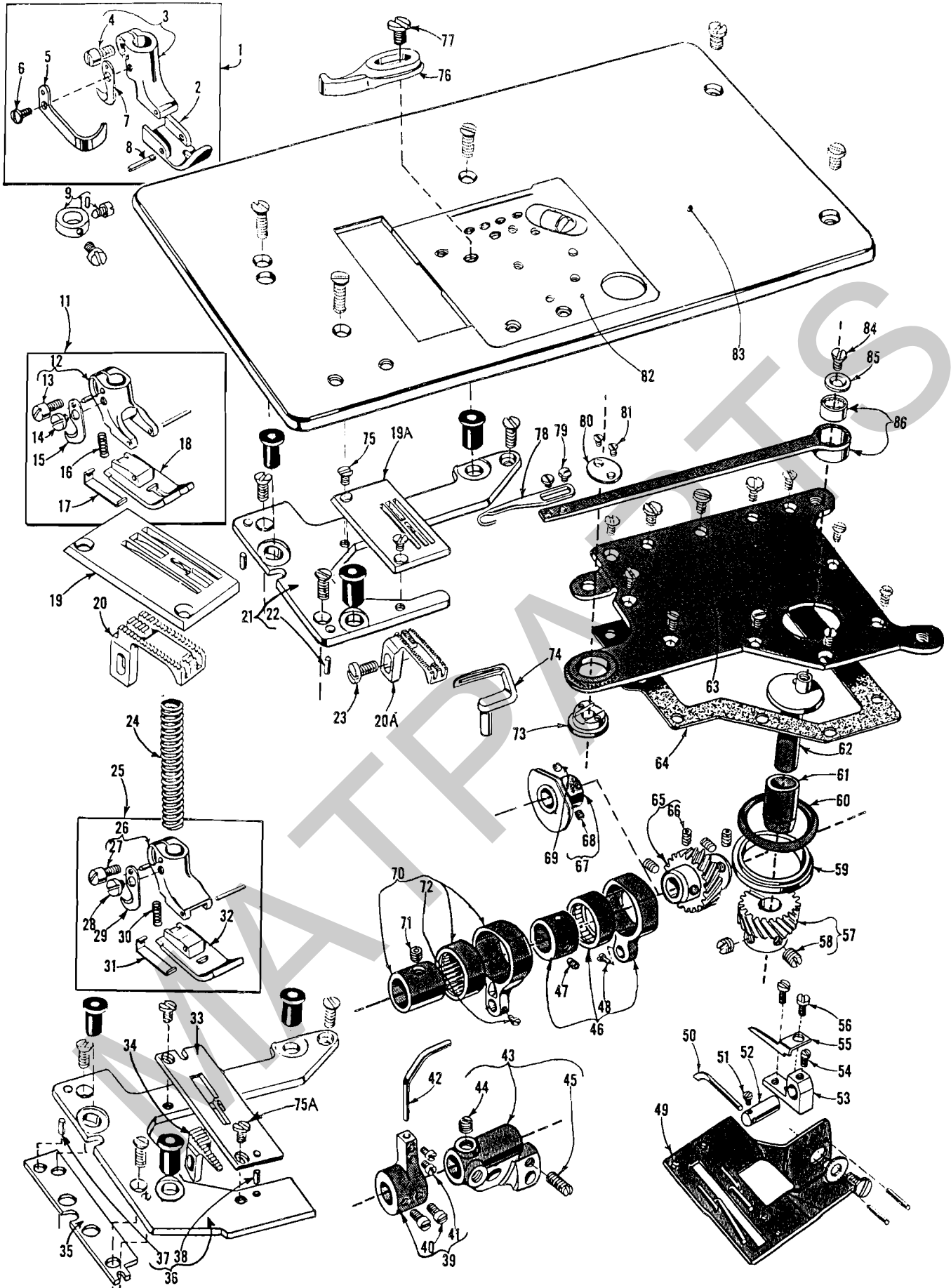
TENSION AND LIFTER LEVER PARTS

<u>Ref.</u> <u>No.</u>	<u>Part</u> <u>No.</u>	<u>Description</u>	<u>Amt.</u> <u>Req.</u>
1	21657 W	Tension Release and Lifter Lever Shaft - - - - -	1
2	21657 Y	Tension Release and Lifter Lever Shaft Connection - - - -	1
3	22596	Screw - - - - -	1
4	402	Screw - - - - -	1
5	51283 H	Lifter Lever - - - - -	1
6	660-207	Oil Seal Ring - - - - -	1
7	39552 C	Washer - - - - -	1
8	53783 N	Lifter Lever Connection - - - - -	1
9	22537	Screw - - - - -	1
10	56357 A	Presser Bar Connection and Guide, for Styles 56300 F, R- -	1
11	22840 C	Screw - - - - -	1
12	51430 F	Nut - - - - -	1
13	402	Screw - - - - -	1
14	531	Screw - - - - -	1
15	51257 M	Presser Bar Connection and Guide, for all Styles except 56300 F, R- - - - -	1
16	402	Screw- - - - -	1
17	22758 C	Screw- - - - -	1
18	22557 G	Screw- - - - -	1
19	56383 D	Lifter Lever Bell Crank Spring - - - - -	1
20	56383 AA	Lifter Lever Bell Crank - - - - -	1
21	56383 AB	Lifter Lever Connecting Rod- - - - -	1
22	56356	Presser Spring Regulator, for all styles except 56900 R- -	1
-	52889 A	Presser Spring Regulator, for Style 56900 R- - - - -	1
23	51256 C	Presser Spring, for Styles 56200 H, K, R, S, 56300 U, X- -	1
24	56383 A	Lifter Lever Link- - - - -	1
25	531	Screw- - - - -	1
26	51957 E	Presser Bar, for Styles 56900 J, P - - - - -	1
27	53787	Presser Spring, for Styles 56200 L, W, 56300 E, F, G, H, M, N, R, W, AH, AL and Classes 56400, 56500, 56700, 56900 - - - - -	1
28	51257 K	Presser Bar, marked "A", for all Styles except 56900 J, P, R - - - - -	1
29		Presser Foot (See Pages 47, 49, 51, 53, 55, 57, 59, 61, 63, 65) - - - - -	1
30	51957 D	Presser Bar, for Style 56900 R - - - - -	1
31	C067 D	Cork- - - - -	1



NEEDLE BARS, NEEDLE HOLDERS AND NEEDLE GUARDS

Ref. No.	Part No.	Description	Amt. Req.
1	51217 C	Needle Bar, marked "CU", for Classes 56200, 56300	1
2	56	Needle Clamp Nut, for Classes 56200, 56300	1
3	56325	Needle Guard, for Classes 56200, 56300	1
4	22801	Screw	1
5	51417 C-6	Needle Bar, marked "CV-6", for No. 6 gauge, Style 56400 P	1
-	51417 C-8	Needle Bar, marked "CV-8", for No. 8 gauge, Styles 56400 P, T, W	1
-	51417 C-10	Needle Bar, marked "CV-10", for No. 10 gauge, Styles 56400 P, T, W	1
-	51417 C-12	Needle Bar, marked "CV-12", for No. 12 gauge, Styles 56400 D, P, T, W	1
-	51417 C-16	Needle Bar, marked "CV-16", for No. 16 gauge, Styles 56400 D, P, T, W	1
-	51417 C-18	Needle Bar, marked "CV-18", for No. 18 gauge, Style 56400 P	1
6	50 J-16	Stop Pin	1
7	98	Screw, for needle	2
8	51418-16	Needle Holder, marked "D-16", for all gauges Styles 56400 D, P, T, W and No. 16 gauge, Style 56500 J	1
9	89	Spot Screw	1
10	56425	Needle Guard, for Class 56400, all gauges	1
11	51417 D	Needle Bar, marked "DE", for Nos. 24, 26, 32, 48 gauges, Styles 56400 R, S, X	1
12	50 J-40	Stop Pin	1
13	51418 K-24	Needle Holder, marked "L-24", for No. 24 gauge, Style 56400 X	1
-	51418 K-26	Needle Holder, marked "L-26", for No. 26 gauge, Style 56400 X	1
14	51418 B-32	Needle Holder, marked "D-32", for No. 32 gauge, Style 56400 S	1
15	51418 D-48	Needle Holder, marked "AC-48", for No. 48 gauge, Styles 56400 R, S	1
16	56517 B-16	Needle Bar, marked "ET", for No. 16 gauge, Style 56500 J	1
17	50 J-16	Stop Pin	1
18	51418-16	Needle Holder, marked "D-16", for No. 16 gauge, Style 56500 J and all gauges Style 56400 D, P, T, W	1
19	56517 B-18	Needle Bar, marked "EU", for No. 18 gauge, Style 56500 J, R	1
20	50 J-16	Stop Pin	1
21	7018 E-5	Needle Holder, marked "G-5", for No. 18 gauge, Styles 56500 J, R	1
22	7040-6	Thread Guide	1
22A	187 B	Screw	1
23	56525	Needle Guard, for Styles 56500 J, R all gauges	1
24	29202 M-1	Needle Bar Assembly, for 7 S.P.I., Styles 56500 B, U	1
-	29202 N-1	Needle Bar Assembly, for 10 S.P.I., Style 56500 C	1
25	56517 D-1	Needle Bar, marked "EK", for 7 S.P.I., Styles 56500 B, U	1
-	56517 E-1	Needle Bar, marked "EL", for 10 S.P.I., Style 56500 C	1
26	50 J-16	Stop Pin	1
27	51518 G-1	Needle Holder, marked "P-1", for 7 S.P.I., Styles 56500 B, U	1
-	51518 C-1	Needle Holder, marked "Q-1", for 10 S.P.I., Style 56500 C	1
28	89	Spot Screw	1
29	88 B	Screw, for needle	1
30	22729	Screw, for needle	1
31	56525 B	Needle Guard, for 7 S.P.I., Styles 56500 B, U	1
-	56525 C	Needle Guard, for 10 S.P.I., Style 56500 C	1
32	29202 L-1	Needle Bar Assembly, for 5 S.P.I., Style 56500 A	1
33	56517 C-1	Needle Bar, marked "ES", for 5 S.P.I., Style 56500 A	1
34	50 J-16	Stop Pin	1
35	56518 C-1	Needle Holder, marked "AS", for 5 S.P.I., Style 56500 A	1
36	89	Spot Screw	1
37	22743	Screw, for needle	1
38	22729	Screw, for needle	1
39	56525 A	Needle Guard, for 5 S.P.I., Style 56500 A	1
40	51717	Needle Bar, marked "AU", for Style 56700 J all gauges	1
41	51718 A-56	Needle Holder, marked "AB-56", for No. 56 gauge, Style 56700 J	1
-	51718 A-64	Needle Holder, marked "AB-64", for 64 gauge, Style 56700 J	1
42	22894 P	Spot Screw	1
43	98	Screw, for needle	2
44	51718 B-64	Needle Stop and Thread Eyelet, for No. 64 gauge	2
-	51718 B-56	Needle Stop and Thread Eyelet, for No. 56 gauge	1
45	22513 B	Screw, for No. 64 gauge	2
-	605 A	Screw, for No. 56 gauge	2
46	56725	Needle Guard, for Style 56700 J all gauges	1
47	56917	Needle Bar, marked "EP-9", for Nos. 8, 9 gauges, Styles 56900 H, J, P, R	1
48	50 J-26	Stop Pin	1
49	35818 N-8	Needle Holder, marked "C-8", for No. 8 gauge, Style 56900 H	1
-	35818 N-9	Needle Holder, marked "C-9", for No. 9 gauge, Styles 56900 H, J, P, R	1
50	22752	Screw, for center needle	1
51	22580	Screw, for needle	2
52	56925	Needle Guard, for Class 56900 all gauges	1
53	51917 A	Needle Bar, marked "DC", for No. 7 gauge, Style 56900 H	1
54	50 J-26	Stop Pin	1
55	51918-7	Needle Holder, marked "E-7", for No. 7 gauge, Style 56900 H	1



The parts illustrated on pages 10 and 12, and described on this page and page 13, represent the parts that are used on Styles 56300 V, Y and AV, but not used on Style 56300 W.

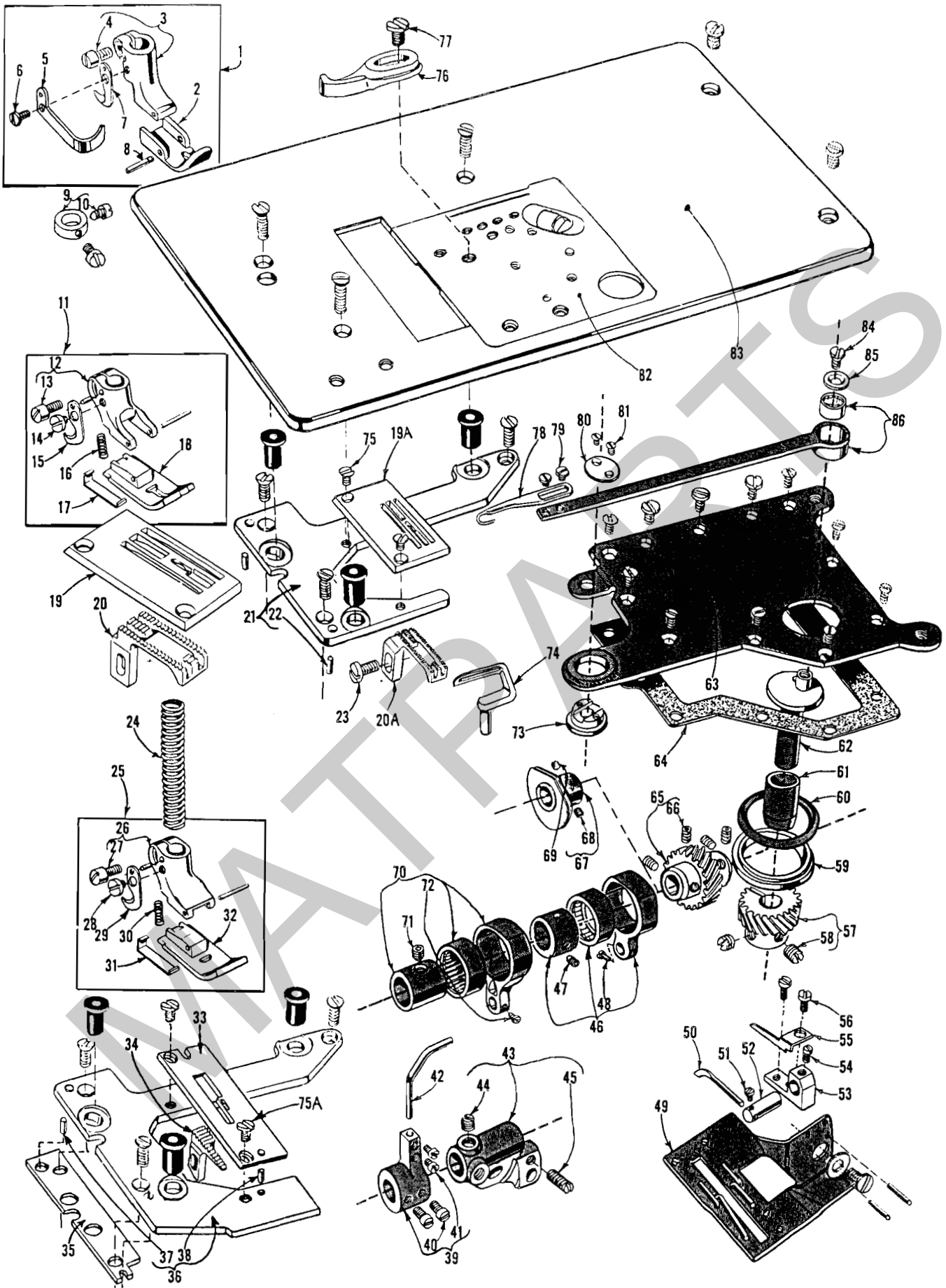
Unless otherwise specified in the description, the parts are used on all the machine styles covered in this catalog. The parts shown in phantom views and bearing no reference numbers are common to Styles 56300 V, W, Y and AV.

Use Catalog No. 129 M, Fourth Edition (Style 56300 W) for all parts not illustrated or described in this catalog.

Reference numbers that are inside a bracket or box on the picture plate and have indented descriptions, indicate they are component parts of a complete part or assembly.

SEWING PART COMBINATIONS, TAKE-UP, CAST-OFF PLATE AND
BACK TACKING MECHANISM

Ref. No.	Part No.	Description	Amt. Req.
1	43220 D	Presser Foot, for Style 56300 AV	1
2	43230 D	Presser Foot Bottom	1
3	43230	Presser Foot Shank	1
4	91	Screw	1
5	43230 B	Finger Guard	1
6	605	Screw	1
7	1741 B	Chain Cutting Knife	1
8	22799 G	Screw	1
9	52888 B	Presser Bar Stop Collar, for Style 56300 AV	1
10	22562	Screw	2
11	51320 M	Presser Foot, for Style 56300 Y	1
12	51330 AJ	Presser Foot Shank	1
13	91	Screw	1
14	187 B	Screw	1
15	1741 B	Chain Cutting Knife	1
16	51330 W	Spring	1
17	51330 AH	Yielding Section	1
18	51330 AG	Presser Foot Bottom	1
19	56324 B	Throat Plate, for Style 56300 Y	1
19A	56324 A	Throat Plate, for Style 56300 V	1
20	56305 B	Feed Dog, 16 teeth per inch, for Style 56300 Y	1
20A	56305 A	Feed Dog, 22 teeth per inch, for Style 56300 V	1
21	56380	Throat Plate Support, for Styles 56300 V and Y	1
22	51280 J	Dowel Pin	2
23	22528	Screw, for feed dog	1
24	51256 C	Presser Spring	1
25	51320 N	Presser Foot, for Style 56300 V	1
26	51330 AK	Presser Foot Shank	1
27	91	Screw	1
28	187 B	Screw	1
29	1741 B	Chain Cutting Knife	1
30	51330 W	Spring	1
31	51330 AM	Yielding Section	1
32	51330 AL	Presser Foot Bottom	1
33	51224 W	Throat Plate, for Style 56300 AV	1
34 to 86		See following page	



SEWING PART COMBINATIONS, TAKE-UP, CAST-OFF PLATE AND
BACK TACKING MECHANISM

Ref. No.	Part No.	Description	Amt. Req.
1 to 33		See preceding page	
34	51205 W	Feed Dog, 12 teeth per inch, for Style 56300 AV - - - - -	1
35	59480 C	Throat Plate Support Shim, for Style 56300 AV - - - - -	1
36	56480	Throat Plate Support, for Style 56300 AV - - - - -	1
37	51280 J	Dowel Pin- - - - -	2
38	51280 K	Dowel Pin- - - - -	2
39	52825 D	Looper Needle Guard Holder - - - - -	1
40	33174 B	Screw- - - - -	2
41	22563	Screw- - - - -	2
42	51325	Looper Needle Guard- - - - -	1
43	57744 A	Looper Rocker Frame- - - - -	1
44	98	Set Screw- - - - -	1
45	719	Stop Screw - - - - -	1
46	29476 NM-080	Looper Avoid Eccentric Assembly, .080 inch (2.03 mm) throw, for Style 56300 V - PF 300 BORDER MACHINE - - - - -	1
-	29476 NM-072	Looper Avoid Eccentric Assembly, .072 inch (1.83 mm) throw, for Styles 56300 Y and AV - - - - -	1
47	22894 AA	Screw- - - - -	1
48	77	Screw, for link pin- - - - -	1
49	51357 A	Cast-off Support Plate - - - - -	1
50	51204	Retainer - - - - -	1
51	22798 A	Screw, for retainer- - - - -	1
52	51204 A	Retainer Finger Holder - - - - -	1
53	51204 C	Cast-off Support - - - - -	1
54	77	Screw, for retainer finger holder- - - - -	1
55	51204 B	Cast-off - - - - -	1
56	J87 J	Screw, for cast-off and cast-off support - - - - -	2
57	56351 C	Loop Retainer Driven Gear- - - - -	1
58	22580 E	Screw- - - - -	2
59	643-341 Blk.	"O" Ring Holder- - - - -	1
60	660-337	"O" Ring - - - - -	1
61	56351 G	Drive Crank Bushing- - - - -	1
62	56351 D	Loop Retainer Driving Crank- - - - -	1
63	56382 R	Oil Reservoir Top Cover, for Styles 56300 V and Y- - - - -	1
-	56382 RA	Oil Reservoir Top Cover, for Style 56300 AV- - - - -	1
64	56382 H	Oil Reservoir Top Cover Gasket - - - - -	1
65	53151	Loop Retainer Drive Gear and Main Shaft Coupling - - - - -	1
66	22894 X	Set Screw- - - - -	4
67	51423 C	Take-up- - - - -	1
68	22580 D	Set Screw- - - - -	1
69	22764 C	Spot Screw, for take-up- - - - -	1
70	29476 NM-072	Feed Lift Eccentric Assembly, .072 inch (1.83 mm) throw - - - - -	1
71	22894 AA	Screw- - - - -	1
72	77	Screw, for link pin- - - - -	1
73	56351 F	Fulcrum Bearing- - - - -	1
74	51308	Looper - - - - -	1
75	87	Screw, for throat plate, for Styles 56300 V and Y- - - - -	2
75 A	22570	Screw, for throat plate, for Style 56300 AV - - - - -	2
76	43203 D	Edge Guide, for Style 56300 AV - - - - -	1
77	25 S	Screw, for edge guide - - - - -	1
78	56351 B	Loop Retainer Hook - - - - -	1
79	22798	Screw, for loop retainer hook- - - - -	2
80	56351 E	Fulcrum Bearing Cover- - - - -	1
81	22716 D	Screw, for fulcrum bearing cover - - - - -	2
82	56381 B-222	Cloth Plate Cover, for Styles 56300 V and Y- - - - -	1
-	56381 E-207	Cloth Plate Cover, for Style 56300 AV- - - - -	1
83	56301 B	Cloth Plate, for Styles 56300 V and Y- - - - -	1
-	56401	Cloth Plate, for Style 56300 AV- - - - -	1
84	22574 D	Retainer Drive Washer Screw- - - - -	1
85	59451 F	Retainer Drive Washer- - - - -	1
86	56351 A	Hook Drive Arm - - - - -	1



Tools & Gauges

Description	Order Number	Description	Order Number
KITS:		SCALE:	
Floor Mechanics Tool Kit includes TTC Nos. 4, 5, 10-13, 15-20, 22, 23, 27, 28, 30, 33, 35, 36, 37-42, 48, 57, 58, 72, 73	TTC-1	Metal scale 1/2" x 6"	TTC-15
Traveling Mechanics Tool Kit same as TTC-1 plus Nos. 7, 43, 44, 49-56	TTC-2	Metal scale 1/2" x 6", inches and metric	TTC-86
		Metal scale 1/4" x 6"	TTC-66
ALLEN WRENCHES:		SCISSORS:	
Screwdriver handle and 4 Allen Bits	TTC-4	8"	TTC-32
Sizes 3/32", 1/8", 5/32", 3/16"	TTC-57	SCREWDRIVERS:	
Set Standard 'L' shape Allen Wrenches	TTC-8	Set various size wood handled screwdrivers: 4", 10", 2-8", 6", 14", 12"	TTC-5
Set Metric 'L' shape Allen Wrenches	TTC-62	10" x 3/16" blade	TTC-24
Allen Cluster		8" x 3/16" blade, plastic handle Stanley	TTC-73
		6" x 3/16" blade	TTC-25
BAGS:		3" x 3/16" blade	TTC-26
Union Special Tool Pouch	TTC-30	2" x 1/8" blade	TTC-27
		8" x 1/8" blade	TTC-28
BRASS ROD:		Quickwedge screw starter 5"	TTC-11
4 x 3/16"	TTC-19	Quickwedge screw starter 3"	TTC-65
BRUSH:		SOCKETS:	
Cleaning brush 6"	TTC-23	T-Handle, 6" extension 3/32", 1/16", 3/8" and 1/2" sockets	
		all 1/4" drive	TTC-37
BUCKLE:		1/2" socket, 1/4" drive	TTC-46
Union Special metal belt buckle	TTC-31	3/8" socket, 1/4" drive	TTC-47
CLAMP:		Screwdriver handle for sockets 1/4" drive	TTC-48
C-Clamp 6"	TTC-53	T-Handle 1/4" drive	TTC-63
CUTTER:		STONES:	
Side cutters 5"	TTC-50	Triangle India Stone 4"	TTC-20
		Round India Stone 4"	TTC-21
EMBLEMS:		TACHOMETER:	
TTC emblem for coat	TTC-64	Handheld digital tach 1-20,000 RPM	TTC-67
FILES:		TEST LEADS:	
Round 8"	TTC-55	Red Pomona type clip	TTC-70
Flat 8"	TTC-56	Black Pomona type clip	TTC-71
Handles for files (not shown)	TTC-77	TIMING LIGHT:	
Diamond file for lockstitch needle guards	TTC-60	Strobe light	TTC-75
FLASHLIGHT:		TWEEZERS:	
Pocket flashlight with clip	TTC-76	Sharp point	TTC-16
GAUGES:		WISE GRIPS:	
Feeler or thickness gauge, .001 thru .015	TTC-22	Small 7"	TTC-51
Looper Gauges set of 10 sizes: 1/16", 3/32", 3/64", 1/8", 5/64", 3/32", 3/16", 1/4", 5/16"	TTC-33	Large 10"	TTC-52
Synchronizing gauge for flatbed machines (not shown)	TTC-34	VOLT-OHM METERS:	
4 1/8" gauge for flatbed machines (not shown)	TTC-35	Pocket VOM Multitester	TTC-6
Needle height gauge for 39800 machines	TTC-61	Large VOM Multitester	TTC-7
Spreader height gauge for 52800, 52900, 57800 and 57900 machines (not shown)	TTC-68	Case—small (not shown)	TTC-8
		Case—large (not shown)	TTC-9
GRINDER:		WRENCHES:	
Handee grinder kit	TTC-74	Needle wrench 3/32" open end, curved for needle and looper nuts	TTC-17
HAMMER:		Looper avoid wrench for classes 35800 and 36200. (not shown)	TTC-85
4 oz. ball peen hammer	TTC-38	3/32" x 1/4" curved box end	TTC-18
MAGNET:		1/2" open and box end	TTC-39
Pocket magnet 8"	TTC-10	3/8" open and box end	TTC-40
PLIERS:		5/16" open and box end	TTC-41
Slip joint pliers 6"	TTC-12	1/4" open and box end	TTC-81
Needle nose pliers 6" (serrated jaws)	TTC-13	7/16" open and box end	TTC-42
Needle nose pliers 6" (smooth jaw)	TTC-49	5/8" x 9/16" open end	TTC-43
Plastic grips for pliers	TTC-14	1 1/16" x 3/4" open end	TTC-44
Snap ring pliers	TTC-69	3/16" x 1/32" open end	TTC-45
Grooved pliers HL-14P	TTC-84	1/4" x 1/32" open end	TTC-72
PUNCH:		6" adjustable	TTC-36
Center punch 4"	TTC-54	8" adjustable	TTC-59
Drift punch	TTC-82	Adjustable torque wrench 0-75 in. lb. dial indicator with screwdriver bit & 1/4" drive adapter	TTC-3
SANDING CLOTH:		Rod wrench for use with above torque wrench on flatbed machines	TTC-29
Emery cloth (not shown)	TTC-78	Adjustable torque wrench 0-36 in. lb. with bits	TTC-83
Crocus cloth (not shown)	TTC-79		
Roll emery cord (not shown)	TTC-80		