

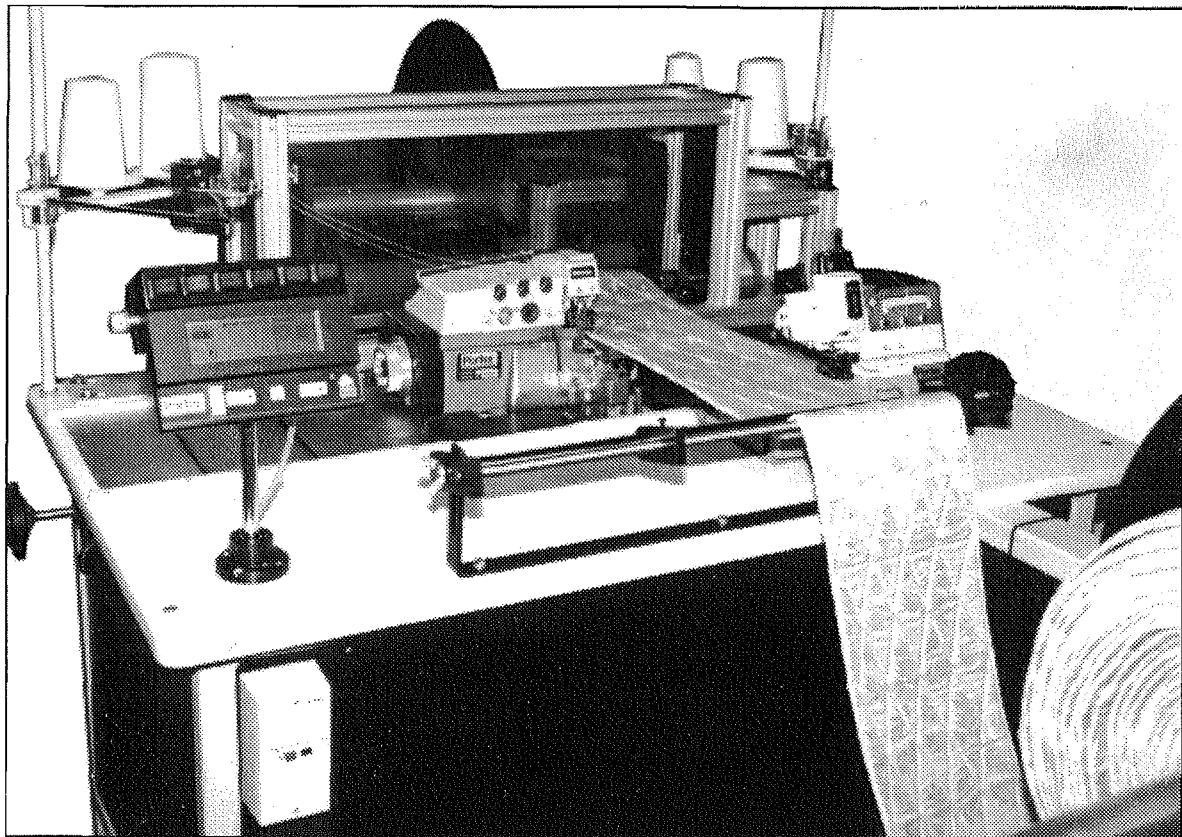
**Porter**®  
**INTERNATIONAL**

*A Leggett & Platt Company*

Catalog # PE504 10/98



# PE504-DO DOUBLE BORDER SERGER



**INSTRUCTIONS & PARTS MANUAL**

# ORDERING INFORMATION

## **TO ORDER BY PHONE:**

**From Massachusetts 978-922-2611**

**From out of state 800-343-8138**

**(Extensions 622 & 633)**

**TO ORDER BY FAX: 978-922-5839**

(Fax & Message Service available 24 hours per day.)

## **TO ORDER BY MAIL:**

**Porter International  
97 Rantoul Street  
Beverly, MA 01915 USA**

## **HAVE THIS INFORMATION READY:**

1. Machine Model Number
2. Part Number or complete part description
3. Customer Number
4. Person placing order
5. Bill To and Ship To addresses
6. Fax/Phone

## **PRICES AND TERMS:**

All prices are F.O.B. Beverly, MA, and are valid at the time of shipment.

All prices are list, unless otherwise noted.

Open account terms extended to firms with established credit.

Overseas orders must be paid before shipment unless otherwise noted.

## **SHIPPING:**

When ordering parts please state how the shipment is to be made: (UPS Red, Blue, Orange or Ground; Federal Express; air mail).

Freight charges are included on invoice.

If a customer is on C.O.D. status, shipping costs are included in the C.O.D. amount.

## **TAXES:**

Where the law requires, state sales and/or use taxes must be charged.

## **MINIMUM ORDERS:**

Due to the rising costs of handling orders, we have established a minimum order of \$25.00.

## **RETURNED GOODS:**

Porter International has a policy on returned parts which must be strictly adhered to.

1. All customers must call Porter to obtain a RMA (Returned Material Authorization) number. Parts returned without a RMA number will be returned to customer. We will not accept parts returned 60 days after authorization.
2. All parts to be returned must be shipped to Porter prepaid unless otherwise instructed by our Customer Service Department.
3. Credit for parts will be issued upon inspection by Porter and credited against your account.
4. A restocking charge of 15% will be issued on parts ordered incorrectly by the customer, unless otherwise noted.

## **CLAIMS:**

If a parcel post shipment reaches you in damaged condition, advise us *immediately* so that a claim can be filed. All parcel post packages are insured by Porter. If a truck, UPS or express shipment arrives damaged, request the driver to make a notation on the freight bill. If the damage was concealed at the time of delivery, call the carrier for an inspection and obtain a **DAMAGE REPORT**. This is necessary in order to file a claim. In the case of truck lines, customer must file the claim. We will give any needed assistance, but the carrier is responsible for the safe arrival of goods.

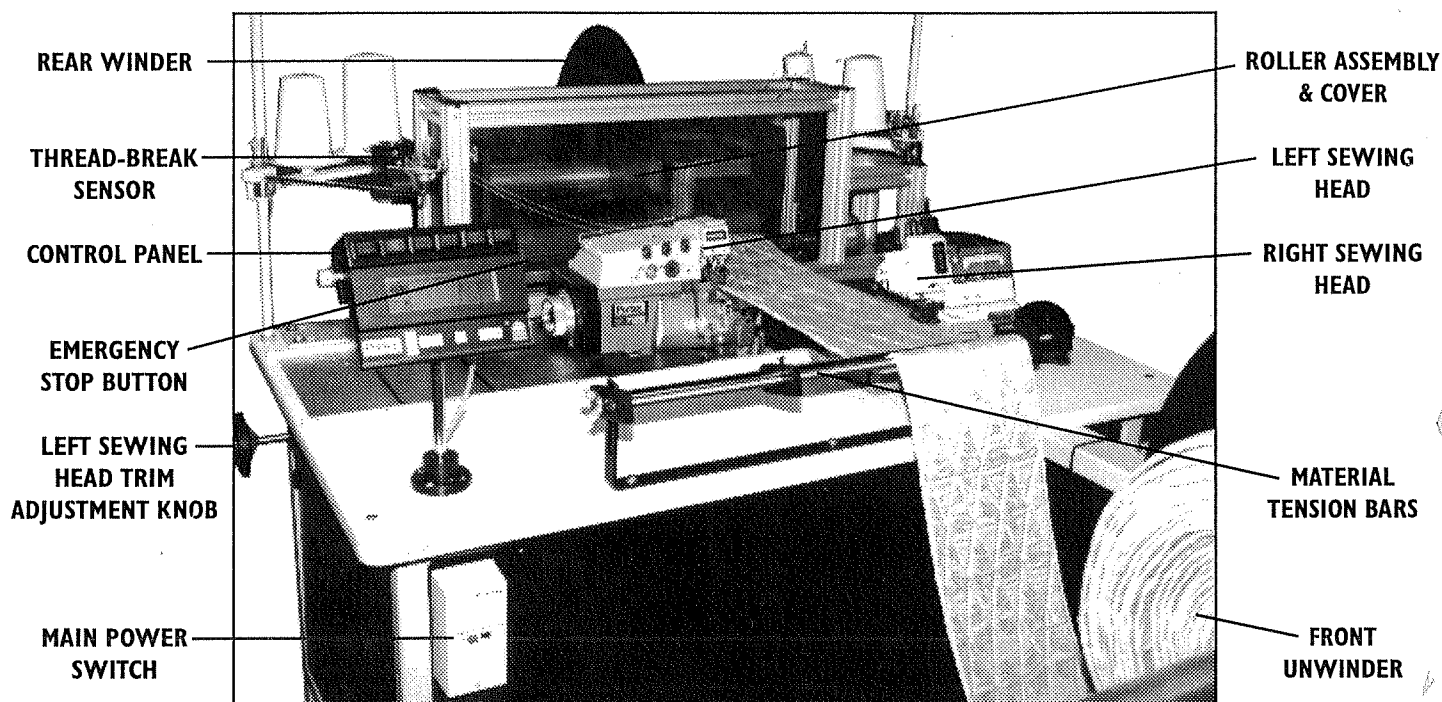
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# SYSTEM INSTRUCTIONS

## INTRODUCTION

Porter International, Inc. has produced this *Instructions & Parts Manual* and the accompanying *Customer Service Video* to help operators achieve maximum performance by the automated PE-504 system. We recommend that the operator view the video and read this manual during installation and prior to operating the system. The combination of the visual demonstrations in the video and the written procedures in the manual provides an effective training and reference platform for operating the PE-504 system.



## INSTALLATION

Upon uncrating, check to make sure there are no visible signs of freight damage and compare your bill of lading against all of the parts included in the shipment. If there are visible signs of damage or parts missing, be sure to notify the freight company and submit a claim immediately.

- Plug in the motor to the rear take-up spool
- Plug the sensor into the front winder while unit is in OFF position.
- Connect the air supply (minimum 80 PSI, maximum 100 PSI) to the air supply hook-up on the rear of the unit.
- Run the main power cord under the frame rail and plug in to power supply.

| UNIT VOLTAGE | CIRCUIT BREAKER SETTING |
|--------------|-------------------------|
| 240V         | 5.5 AMPS                |
| 440V         | 2.5 AMPS                |

## SAFETY & SHUTDOWN FEATURES

Porter International, Inc. is concerned about the safety of anyone who uses or services the PE-504 unit. Some of the parts inside the PE-504 can be dangerous if an untrained person tries to service the unit. Please read through the following safety notes before operating or servicing the PE-504.

### **DANGER!**

#### ***ELECTRICAL***

The PE-504 is usually wired for up to 220V AC. The unit can produce enough voltage and current to kill you, or cause severe burns. Always turn off and lock out the power before you work inside the unit. Do not work with the electrical parts unless you are a trained electrician.

#### ***KNIVES***

The trimming knives of the PE-504 are extremely sharp. Care should be given when working near these surfaces to avoid serious accidents.

#### ***EMERGENCY STOP BUTTON***

This safety device is mounted on the right side of the control panel. When this button is pushed the unit immediately suspends all operations by exhausting air from the system and by cutting the electrical power to the components. In order to reactivate the system, turn the button clock-wise as indicated by the arrows.

#### ***ROLLER COVER GUARD***

The rear lid of the clear case that covers the rollers must be firmly closed for the unit to operate. If this lid is opened during operation, the unit will immediately exhaust all air to the components and suspend all operations.

#### ***THREAD BREAK SENSOR***

The thread stand is equipped with thread break sensors that will automatically stop the unit whenever a thread spool runs out or a thread breaks.

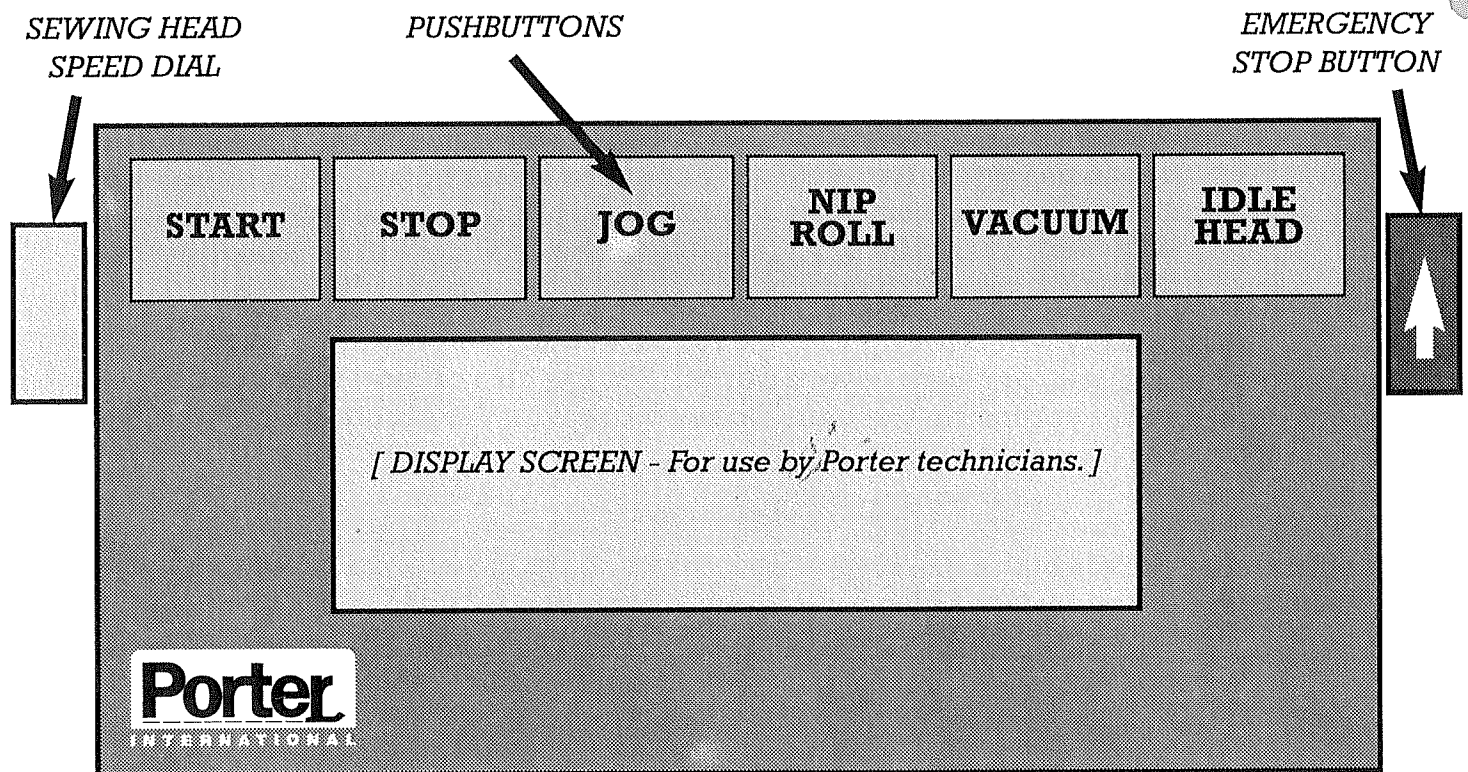
#### ***END OF MATERIAL SENSOR***

The front unwinder is equipped with a sensor that detects when the roll of material has run out and automatically stops the unit whenever material is not present on the spool.

### **EMERGENCY STOP BUTTON RESET**

In order to reset the unit after any of these safety and shutdown features have been engaged, the *EMERGENCY STOP BUTTON* must be turned in the direction of the arrows (clockwise). The guards must be in closed positions and thread and material supplies replenished.

# CONTROL PANEL FUNCTIONS



## SEWING HEAD SPEED DIAL

Controls speed of sewing heads and the rate material is processed. **The machine must be in the STOP position to change speed.** After making speed adjustment, the unit should be restarted and the new speed setting will be engaged.

## PUSHBUTTONS

**START:** Starts unit sewing at set speed.

**STOP:** Suspends sewing operation.

**JOG:** Advances material through unit at low speed.

**NIP ROLL:** Raises and lowers the roller bars.

**VACUUM:** Toggles vacuum system on/off.

**IDLE HEAD:** Turns left-sewing head on/off.

## EMERGENCY STOP BUTTON

Stops all functions instantly. **In order to restart the unit after any emergency or automatic shutdown the EMERGENCY STOP BUTTON must be reset by turning it clock-wise as indicated by the arrows.**

## DISPLAY SCREEN

For programming and diagnostic use by Porter technicians only. (Operator interface with the PE504 is done only with the six buttons described above.)

## OPERATION & ADJUSTMENTS

### **LOADING**

Install the roll of border material on the spool of the front unwinder. Ensure that the roll covers the sensor on the spool. Feed the material over the first tension bar and under the second bar. Lift the foot of the first sewing head (right hand) to place the border material underneath. Lift the foot of the second sewing head (left hand) to feed the material underneath. Hit the JOG button on the control panel once and release. Hit the JOG button again and hold it down. Keep the JOG button depressed until the leading edge of the border material comes through the back door of the unit and there is enough material to wind it on the spool of the rear winder.

### **STARTING OPERATION**

Once the border material has been loaded correctly and the leading edge of the material is wound on the spool of the rear winder, the unit can be started. Hit the START button to begin operation.

### **ADJUSTING THE SEWING HEADS AND TRIM KNIVES**

The right-hand sewing head and knife is used as a guide and is set to a fixed position. The left-hand sewing head and knife can be adjusted during sewing in order to increase or decrease the amount of material to be trimmed from the roll.

The maximum amount of material to be trimmed is 1½". Any more than 1½" will clog the discharge tubes.

Adjust the left-hand head by turning the knob located on the left side of the unit. This adjustment may be done while the unit is running. Once the adjustment is completed, lock the head in place by locking the thumb screw on the adjustment knob.

### **ADJUSTING THE PRESSURE OF THE FOOT MECHANISM**

The rollers on the unit are actually pulling the material through the sewing heads. The pressure on the foot mechanism of each sewing head should be kept light as they are not used to feed the material through the unit. The foot on each sewing head is there primarily to prevent the material from flagging as it feeds through.

### **ADJUSTING THE THREAD STANDS**

The thread stands should be set as low as possible to avoid wobbling of the spools. The thread coming off wobbling spools can catch each other and cause a failure.

### **ADJUSTING THE TENSION BARS**

Check for proper tension of the border material roll. The material should be flat and straight as it leaves the tension bars, feeds under the sewing heads and through the rollers.

If the material is not tight enough, it will not feed correctly and will not sew straight.

Adjust the tension on the tension bars by lifting the front bar up, causing an S-shape curve of travel for the material through the bars. This will increase the tension between the bars and the rollers and should straighten out the roll.

## MAINTENANCE

Maintenance on the PE-504 is minimal but, as with any precision mechanical system, proper maintenance is important to assure top performance and to prolong the life of the unit.

**NOTE: REFER TO *LEFT & RIGHT SEWING HEAD INSTRUCTIONS* FOR SPECIFIC INFORMATION ABOUT EACH SEWING HEAD.**

### **DAILY MAINTENANCE**

- Clear the rollers of any thread or foreign material.
- Gently wipe rollers with a clean, soft cloth every day or more often if needed.

### **WEEKLY MAINTENANCE**

- Lubricate the bushings on the rollers with a light sewing machine oil.
- Lubricate the cylinders on the shaft of the shear that travel up and down.
- Check for signs of wear and for alignment of the belt on the sewing head assemblies.

## TROUBLESHOOTING

### **MATERIAL NOT TRACKING PROPERLY**

Turn the left sewing head trim adjustment knob to adjust the left-hand head, bringing it in toward the material in small increments.  
Adjust the tension bars to add tension to the material.

### **MATERIAL IS STRETCHY**

Bring tension bars up higher to increase the S-shape curve in the path of the material. This will increase the tension on the material.

### **UNIT SHUTS DOWN DURING OPERATION**

When using excessively large rolls of border material, it is possible that the angle of the material leaving the rollers and spooling on the rear winder becomes so steep as to actually force open the rear door of the lexan box. When this door is open, all operations are suspended. It is advised that the roll be removed, the door firmly shut and the *EMERGENCY STOP BUTTON* reset to resume operation.

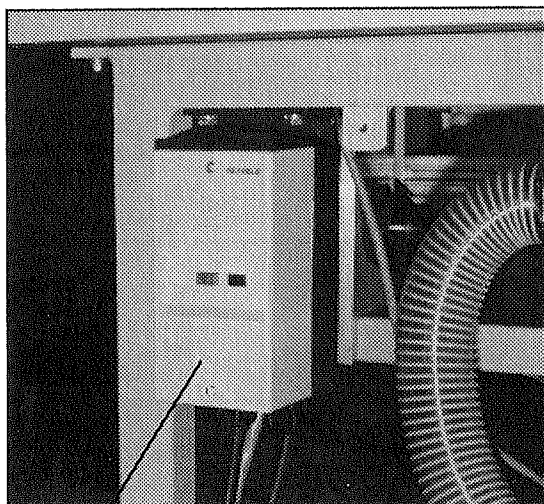
# MEASUREMENT CONVERSION CHART

## MILLIMETER / INCH / FRACTION & DECIMAL CONVERSIONS

| MM   | APPROXIMATE INCH |         | MM   | APPROXIMATE INCH |         | MM    | APPROXIMATE INCH |         |
|------|------------------|---------|------|------------------|---------|-------|------------------|---------|
|      | FRACTION         | DECIMAL |      | FRACTION         | DECIMAL |       | FRACTION         | DECIMAL |
| 0.1  |                  | .004    | 3.4  |                  | .134    | 6.7   | 17/64            | .264    |
| 0.2  |                  | .008    | 3.5  |                  | .138    | 6.8   |                  | .268    |
| 0.3  | 1/64             | .012    | 3.6  | 9/64             | .142    | 6.9   |                  | .272    |
| 0.4  | 1/64             | .016    | 3.7  |                  | .146    | 7.0   |                  | .276    |
| 0.5  |                  | .020    | 3.8  |                  | .150    | 7.1   | 9/32             | .280    |
| 0.6  |                  | .024    | 3.9  |                  | .154    | 7.2   |                  | .283    |
| 0.7  |                  | .028    | 4.0  | 5/32             | .157    | 7.3   |                  | .287    |
| 0.8  | 1/32             | .032    | 4.1  |                  | .161    | 7.4   |                  | .291    |
| 0.9  |                  | .035    | 4.2  |                  | .165    | 7.5   | 19/64            | .295    |
| 1.0  |                  | .039    | 4.3  |                  | .169    | 7.6   |                  | .299    |
| 1.1  |                  | .043    | 4.4  | 11/64            | .173    | 7.7   |                  | .303    |
| 1.2  | 3/64             | .047    | 4.5  |                  | .177    | 7.8   |                  | .307    |
| 1.3  | 3/64             | .051    | 4.6  |                  | .181    | 7.9   | 5/16             | .311    |
| 1.4  |                  | .055    | 4.7  |                  | .185    | 8.0   |                  | .315    |
| 1.5  |                  | .059    | 4.8  | 3/16             | .189    | 8.1   |                  | .319    |
| 1.6  | 1/16             | .063    | 4.9  |                  | .193    | 8.2   |                  | .323    |
| 1.7  |                  | .067    | 5.0  |                  | .197    | 8.3   | 21/64            | .327    |
| 1.8  |                  | .071    | 5.1  |                  | .201    | 8.4   |                  | .330    |
| 1.9  |                  | .075    | 5.2  | 13/64            | .205    | 8.5   |                  | .335    |
| 2.0  | 5/64             | .079    | 5.3  |                  | .209    | 8.6   |                  | .339    |
| 2.1  |                  | .083    | 5.4  |                  | .213    | 8.7   | 11/32            | .343    |
| 2.2  |                  | .087    | 5.5  |                  | .217    | 8.8   |                  | .346    |
| 2.3  |                  | .091    | 5.6  | 7/32             | .220    | 8.9   |                  | .350    |
| 2.4  | 3/32             | .094    | 5.7  |                  | .224    | 9.0   |                  | .354    |
| 2.5  |                  | .098    | 5.8  |                  | .228    | 9.1   | 23/64            | .358    |
| 2.6  |                  | .102    | 5.9  |                  | .232    | 9.2   |                  | .362    |
| 2.7  |                  | .106    | 6.0  | 15/64            | .236    | 9.3   |                  | .366    |
| 2.8  | 7/64             | .110    | 6.1  |                  | .240    | 9.4   |                  | .370    |
| 2.9  |                  | .114    | 6.2  |                  | .244    | 9.5   | 3/8              | .374    |
| 3.0  |                  | .118    | 6.3  |                  | .248    | 9.6   |                  | .378    |
| 3.1  |                  | .122    | 6.4  | 1/4              | .252    | 9.7   |                  | .382    |
| 3.2  | 1/8              | .125    | 6.5  |                  | .256    | 9.8   |                  | .386    |
| 3.3  |                  | .130    | 6.6  |                  | .260    | 9.9   | 25/64            | .390    |
|      |                  |         |      |                  |         | 10.0  |                  | .394    |
| 20.0 | 25/32            | .787    | 50.0 | 1-31/32          | 1.968   | 80.0  | 3-5/32           | 3.150   |
| 30.0 | 1-3/16           | 1.181   | 60.0 | 2-23/64          | 2.362   | 90.0  | 3-35/64          | 3.543   |
| 40.0 | 1-37/64          | 1.575   | 70.0 | 2-3/4            | 2.756   | 100.0 | 3-15/16          | 3.937   |

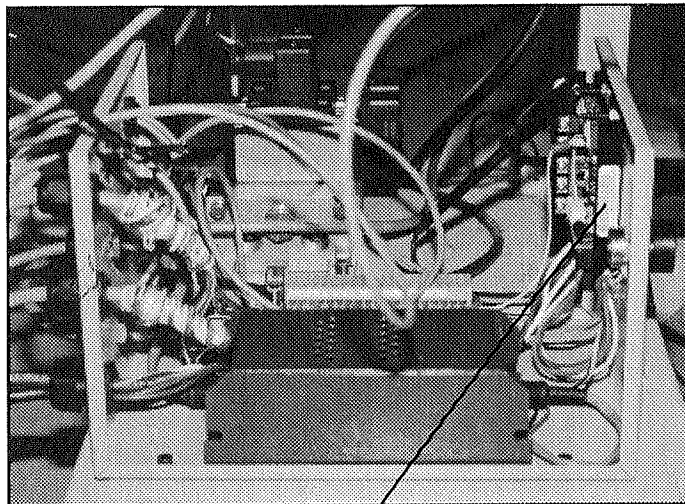
# SYSTEM PARTS

## ELECTRICAL COMPONENTS



①

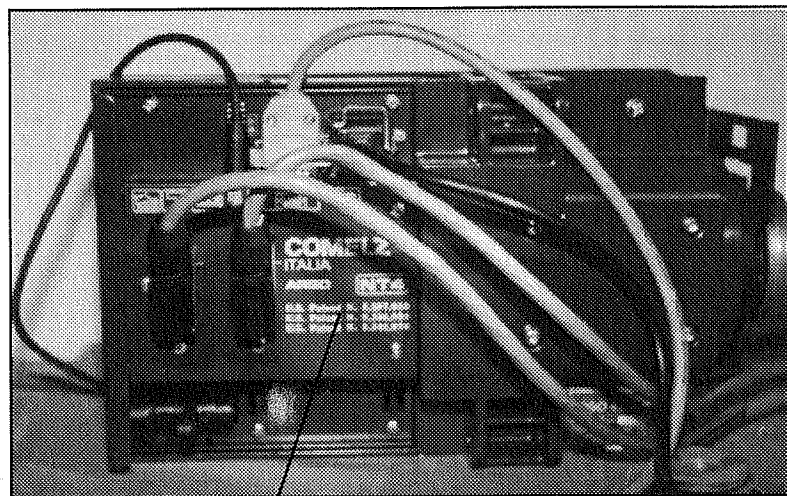
| Ref.# | Part No.     | Description       | Qty |
|-------|--------------|-------------------|-----|
| 1     | 3.364.058.01 | MAIN POWER SWITCH | 1   |



①

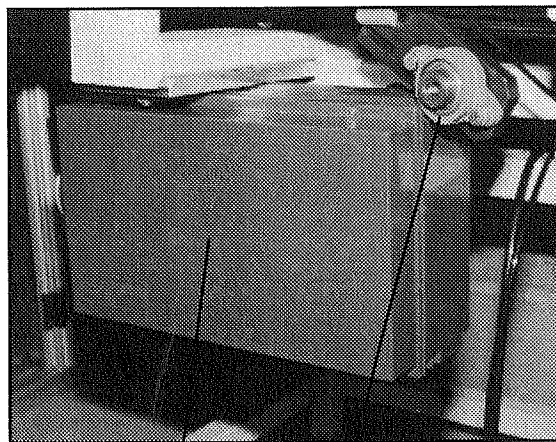
| Ref.# | Part No. | Description | Qty |
|-------|----------|-------------|-----|
| 1     | 125-DV-C | DC-CONTROL  | 1   |

## MOTOR COMPONENTS



①

| Ref.# | Part No. | Description            | Qty |
|-------|----------|------------------------|-----|
| 1     | COMELZ   | SOCKET PANEL, ARGO NT4 | 1   |

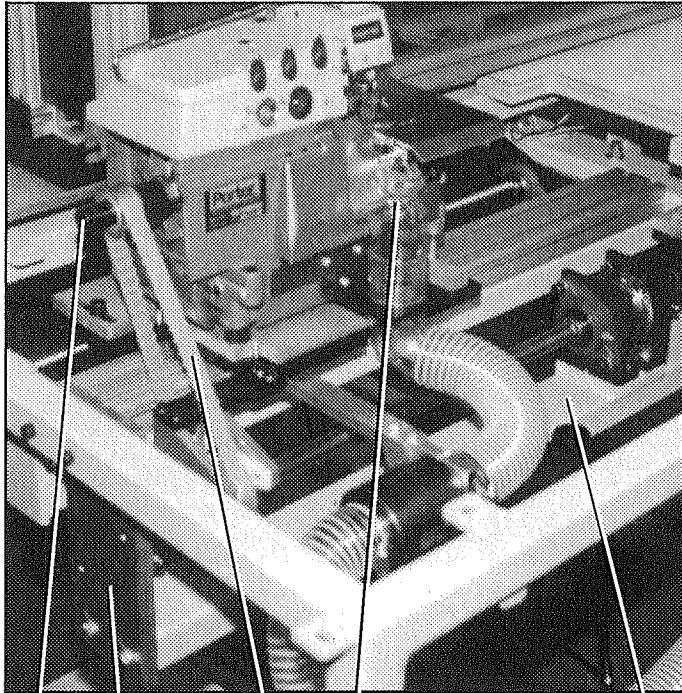


②

①

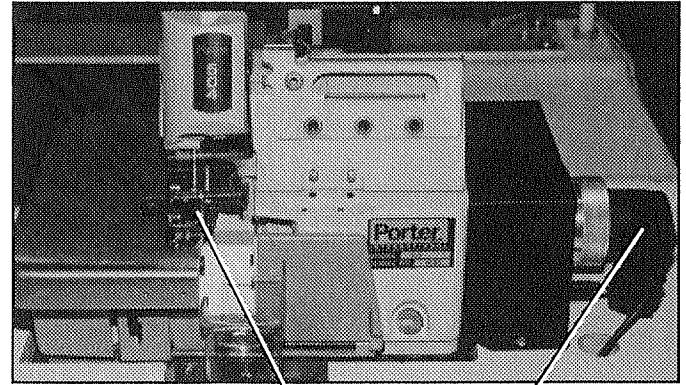
| Ref.# | Part No.  | Description              | Qty |
|-------|-----------|--------------------------|-----|
| 1     | XL2-1/2   | BEARING                  | 2   |
| 2     | ARGO 42/A | MOTOR, SEWING HEAD DRIVE | 1   |

MISCELLANEOUS COMPONENTS



③ ④ ① ② ⑤

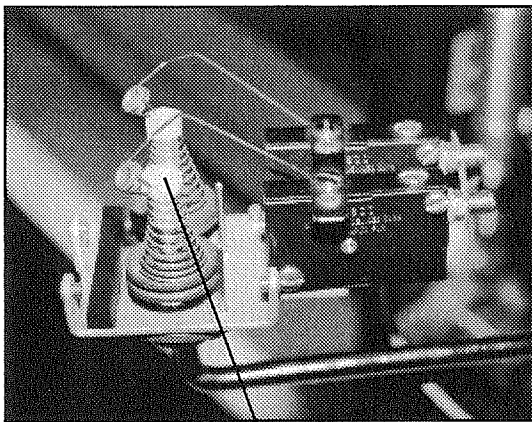
| Ref.# | Part No.    | Description                  | Qty |
|-------|-------------|------------------------------|-----|
| 1     | A6T39M70160 | TIMING BELT                  | 2   |
| 2     | 387         | COLLECTOR, LEFT HAND         | 1   |
| 3     | RWE-116     | SHAFT ADAPTER LEFT HEAD      | 1   |
| 4     | 801570      | SUPPORT PLATE, CLUTCH SHAFTS | 2   |
| 5     | 801369      | SUPPORT BAR, CLUTCH          | 1   |



① ②

NEEDLE & NEEDLE POSITIONER

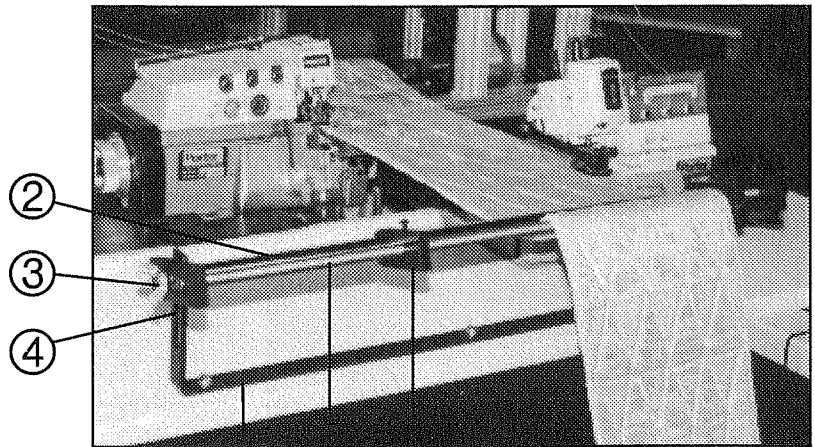
| Ref.# | Part No. | Description       | Qty |
|-------|----------|-------------------|-----|
| 1     | PSM-130  | NEEDLE            | 1   |
| 2     | ME100    | NEEDLE POSITIONER | 1   |



①

THREAD BREAK DETECTOR

| Ref.# | Part No. | Description         | Qty |
|-------|----------|---------------------|-----|
| 1     | YB5-18-2 | THREAD BREAK SWITCH | 1   |

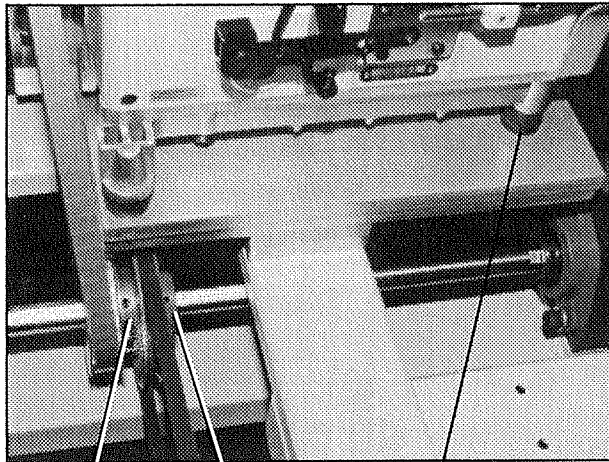


② ③ ④ ① ⑤ ⑥

MATERIAL TENSION FRAME

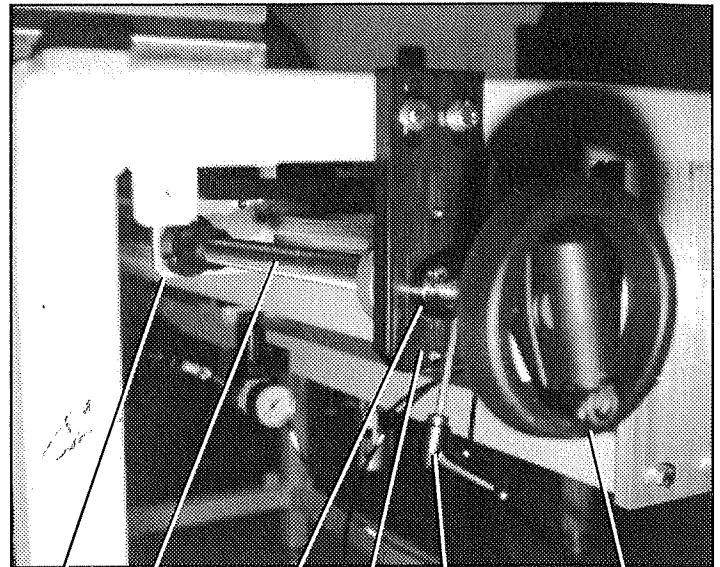
| Ref.# | Part No. | Description     | Qty |
|-------|----------|-----------------|-----|
| 1     | BM-305   | SUPPORT         | 1   |
| 2     | BM-307   | BOTTOM SHAFT    | 1   |
| 3     | BM-162   | WING STUD       | 2   |
| 4     | BM-102   | SHAFT SUPPORT   | 2   |
| 5     | BM-306   | TOP SHAFT       | 1   |
| 6     | BM-103   | ADJUSTING BLOCK | 2   |

HEAD DRIVE CLUTCH ASSEMBLY



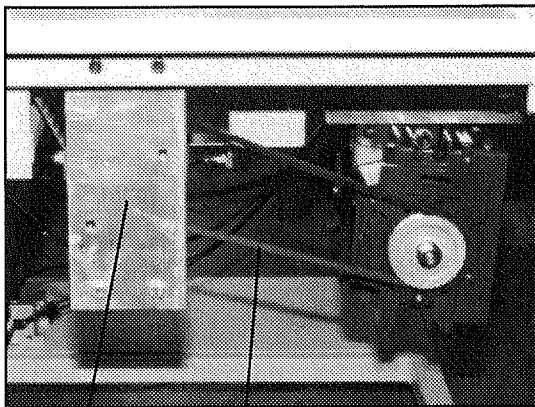
- ②
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- ③

| Ref.# | Part No. | Description              | Qty |
|-------|----------|--------------------------|-----|
| 1     | BMHS-330 | "V" BELT PULLEY MODIFIED | 1   |
| 2     | BMHS-125 | PULLEY, HEAD DRIVE       | 1   |
| 3     | 202691   | RUBBER CUSHIONS          | 8   |



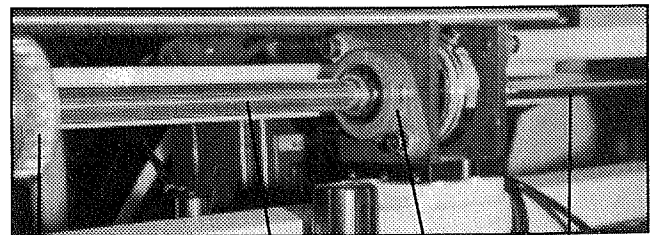
- ④
- ⑥
- ③
- ②
- ①
- ⑤

| Ref.# | Part No. | Description               | Qty |
|-------|----------|---------------------------|-----|
| 1     | 118      | LEAD SCREW LOCKING HANDLE | 1   |
| 2     | 110      | LEAD SCREW BEARING PLATE  | 2   |
| 3     | 114      | LEAD SCREW COLLAR         | 1   |
| 4     | 109      | LEAD SCREW PLATE          | 1   |
| 5     | 117      | HAND WHEEL (ADJ.)         | 1   |
| 6     | 121      | LEAD SCREW                | 1   |



- ②
- ①

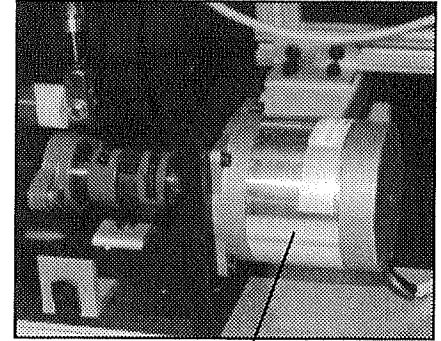
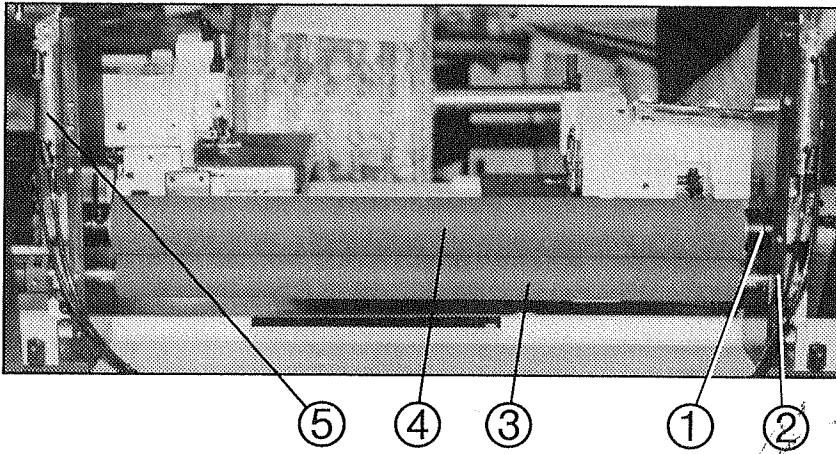
| Ref.# | Part No. | Description                  | Qty |
|-------|----------|------------------------------|-----|
| 1     | 34V      | BELT                         | 1   |
| 2     | 801570   | SUPPORT PLATE, CLUTCH SHAFTS | 1   |



- ④
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- ③

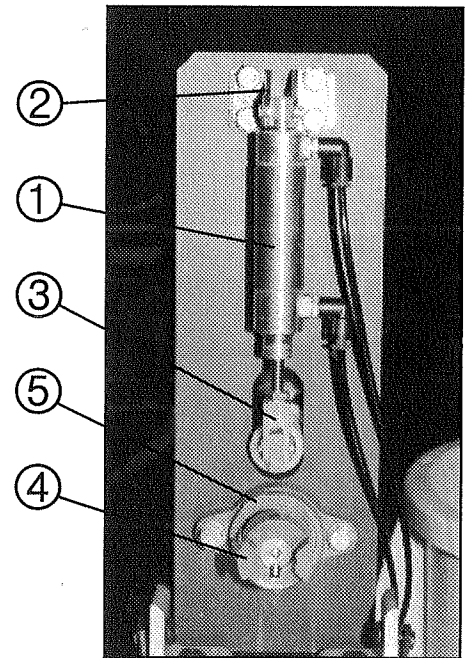
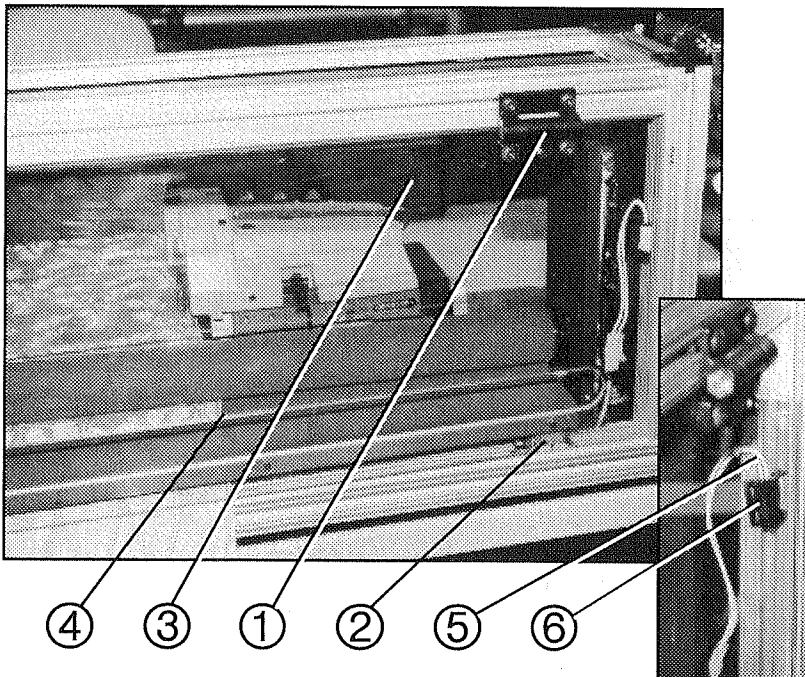
| Ref.# | Part No. | Description  | Qty |
|-------|----------|--------------|-----|
| 1     | ST-3/4   | BEARING      | 4   |
| 2     | BMHS-311 | SPLINE SHAFT | 1   |
| 3     | BMHS-313 | DRIVE SHAFT  | 1   |
| 4     | BMHS-116 | SLIDE PULLEY | 1   |

PINCH ROLLER ASSEMBLY



| Ref.# | Part No. | Description    | Qty |
|-------|----------|----------------|-----|
| 1     | FB1214-6 | BRONZE BUSHING | 2   |
| 2     | XL2-5/8  | BEARING        | 2   |
| 3     | BMHS-146 | PINCH ROLLER   | 1   |
| 4     | BMHS-147 | UPPER ROLLER   | 1   |
| 5     | .061-DXP | BIMBA CYLINDER | 2   |

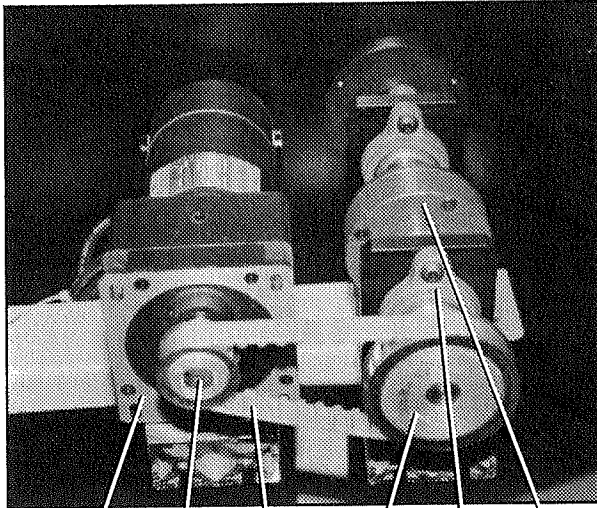
| Ref.# | Part No. | Description    | Qty |
|-------|----------|----------------|-----|
| 1     | 4509003  | STEPPING MOTOR | 1   |



| Ref.# | Part No. | Description          | Qty |
|-------|----------|----------------------|-----|
| 1     | 2080P    | HINGE                | 2   |
| 2     | 2090P    | MAGNETIC DOOR CATCH  | 2   |
| 3     | BMHS-368 | GUARD EXIT LEXAN     | 1   |
| 4     | BMHS-351 | GUIDE, MATERIAL-REAR | 1   |
| 5     | 8200-2   | SWITCH               | 1   |
| 6     | 8100-3   | ACTUATOR             | 1   |

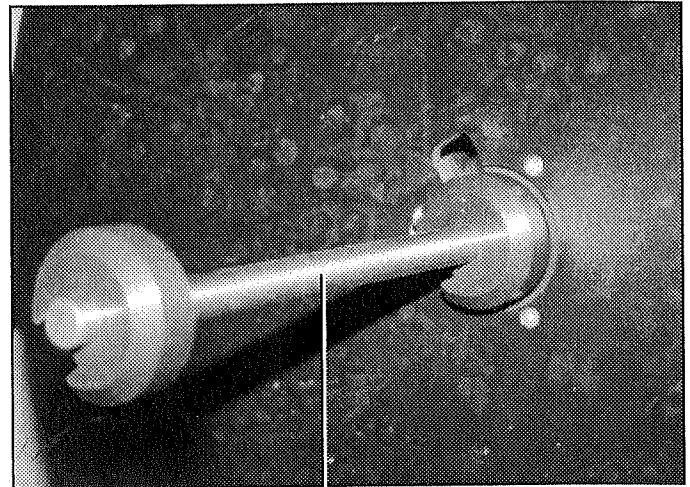
| Ref.# | Part No.     | Description                 | Qty    |
|-------|--------------|-----------------------------|--------|
| 1     | .061-DXP     | AIR CYLINDER                | 2      |
| 2     | D-167        | BRACKETS/PINS AND 'E' RINGS | 2 SETS |
| 3     | D-166-2      | CLEVIS BLOCK                | 2      |
| 4     | .6408K12-5/8 | COUPLING                    | 1      |
| 5     | XL2-5/8      | BEARING                     | 2      |

**WINDER ASSEMBLY**



- ①
- ④
- ②
- ③
- ⑤
- ⑥

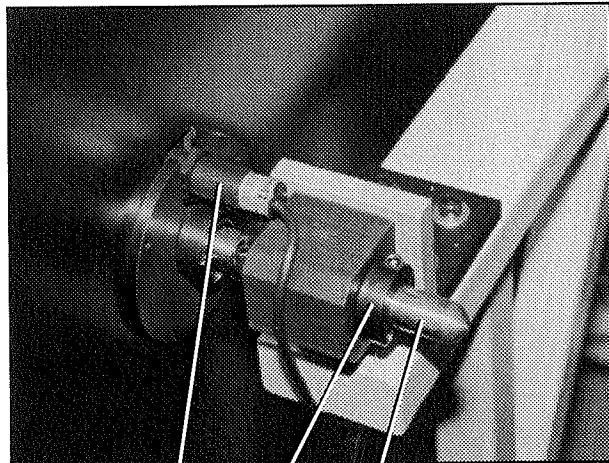
| Ref.# | Part No.     | Description        | Qty |
|-------|--------------|--------------------|-----|
| 1     | GPP12560     | MOTOR              | 1   |
| 2     | A6T39M044160 | TIMING BELT        | 1   |
| 3     | BMHS-128     | WINDER PULLEY      | 1   |
| 4     | BMHS-152     | MOTOR PULLEY       | 1   |
| 5     | XL2-3/4      | BEARING            | 3   |
| 6     | ROSDC 225    | 3/4 TORQUE LIMITER | 1   |



- ①

| Ref.# | Part No. | Description | Qty |
|-------|----------|-------------|-----|
| 1     | BMHS-158 | SUPPORT HUB | 2   |

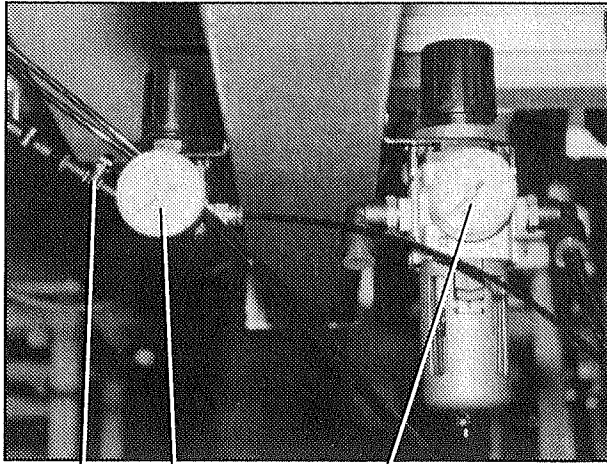
**UNWINDER ASSEMBLY**



- ③
- ②
- ①

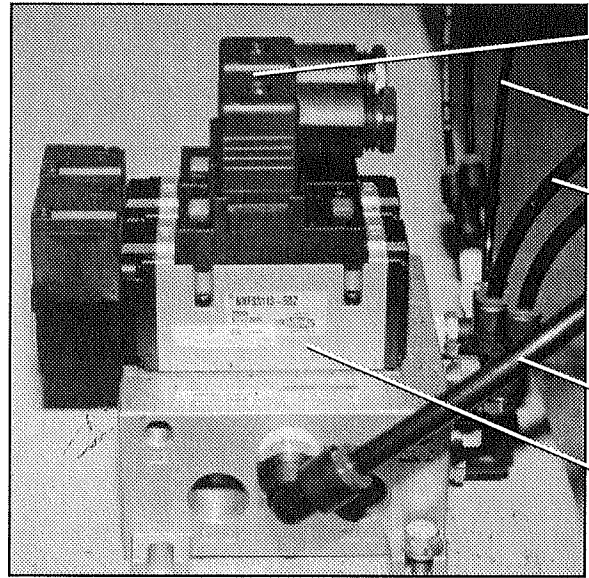
| Ref.# | Part No.         | Description            | Qty |
|-------|------------------|------------------------|-----|
| 1     | BMHS-167         | SHAFT, OFF WIND.       | 1   |
| 2     | BMHS-160         | CLAMP COLLAR           | 4   |
| 3     | XLB083235/065254 | END OF MATERIAL SENSOR | 1   |

AIR COMPONENTS



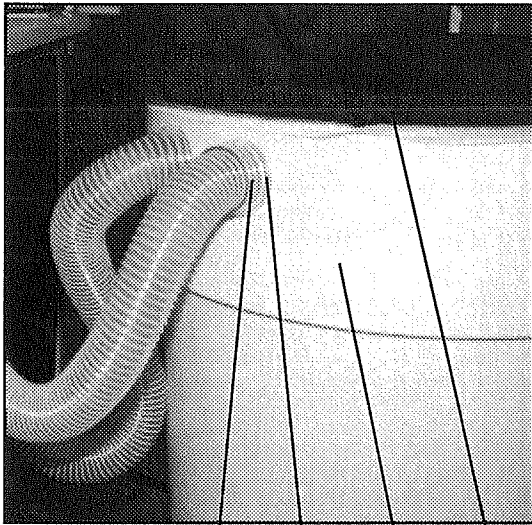
② ① ③

| Ref.# | Part No.       | Description                    | Qty |
|-------|----------------|--------------------------------|-----|
| 1     | NAR-2000-NO1BG | AIR REGULATOR, PINCH ROLLS     | 1   |
| 2     | NAS1001F-03    | SPEED CONTROLLER (AIR)         | 2   |
| 3     | 409902         | FILTERREGULATOR (MAIN AIRFEED) | 1   |



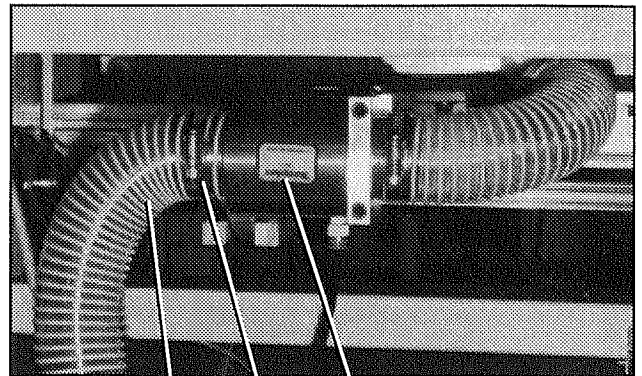
⑤  
④  
③  
②  
①

| Ref.# | Part No.    | Description | Qty |
|-------|-------------|-------------|-----|
| 1     | 409903      | MANIFOLD    | 1   |
| 2     | TIUB11B-20  | 3/8 TUBING  | 1   |
| 3     | TIUB07-B-20 | 1/4 TUBING  | 1   |
| 4     | TU0425B-20  | 1/8 TUBING  | 1   |
| 5     | 409901      | SWITCH      | 2   |



① ② ③ ④

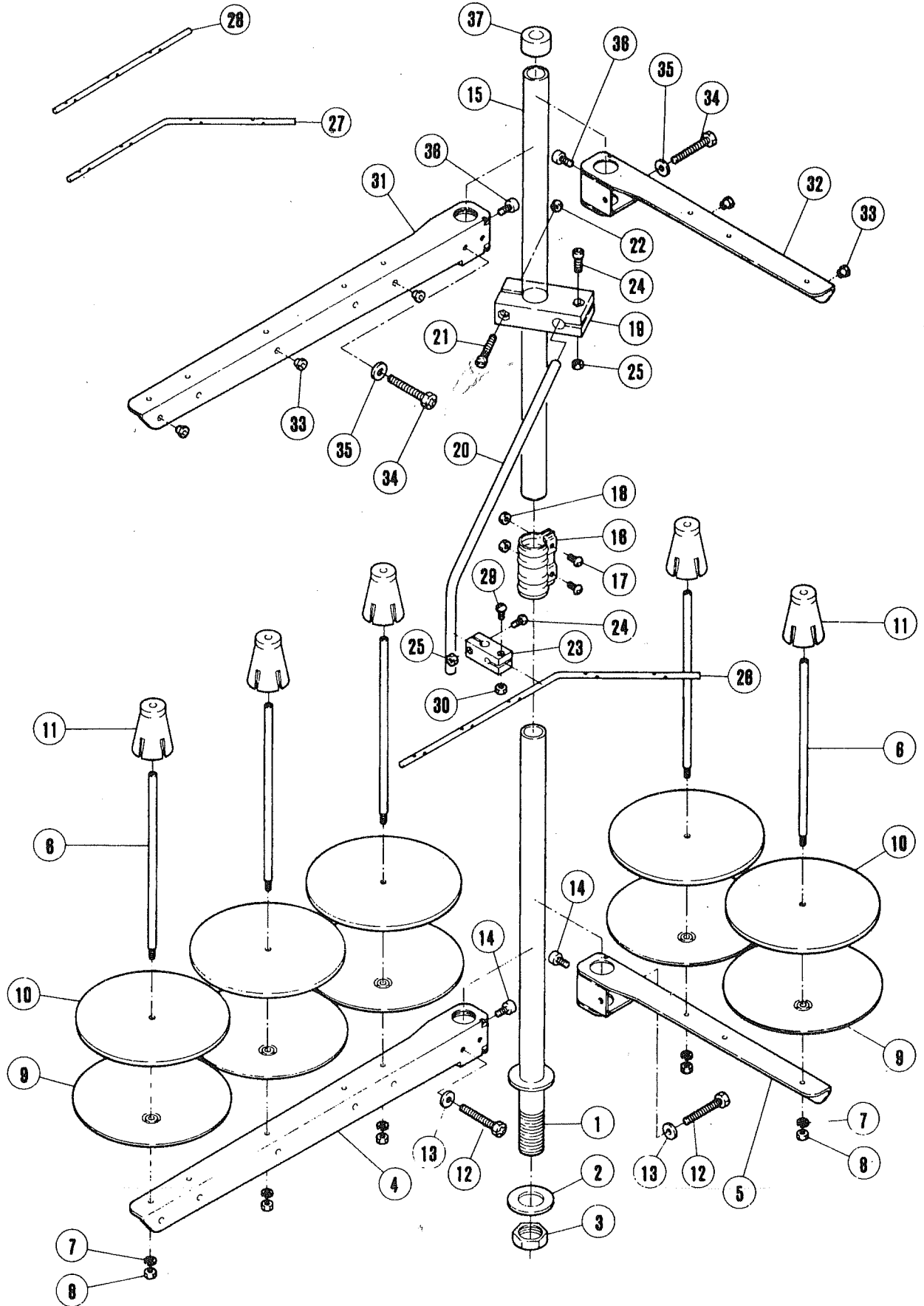
| Ref.# | Part No. | Description             | Qty |
|-------|----------|-------------------------|-----|
| 1     | BMHS-360 | BARREL UNION            | 2   |
| 2     | BMHS-359 | RETAINER RINGS          | 4   |
| 3     | BMHS-358 | BARREL, MODIFIED        | 1   |
| 4     | 17078    | CLOTH FILTER (CANISTER) | 1   |



③ ② ①

| Ref.# | Part No. | Description        | Qty |
|-------|----------|--------------------|-----|
| 1     | 00199    | WASTE REMOVER BODY | 2   |
| 2     | 00249-13 | HOSE CLAMP         | 6   |
| 3     | 00308    | FH200X72" HOSE     | 1   |

**THREAD STAND (One for each sewing head)**



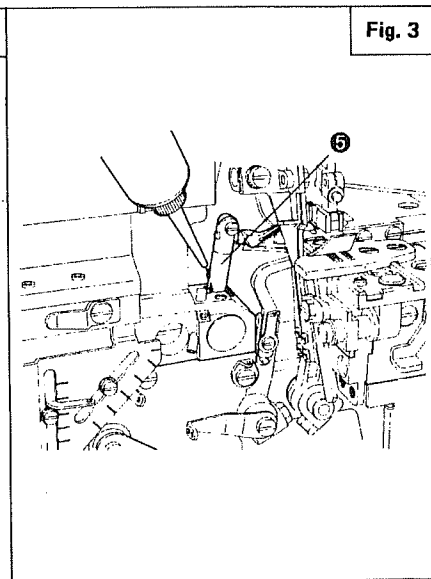
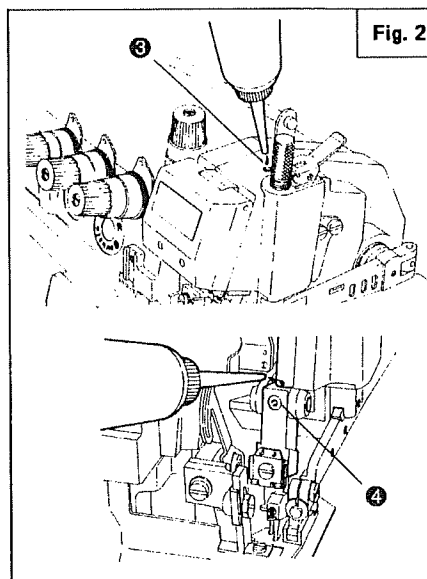
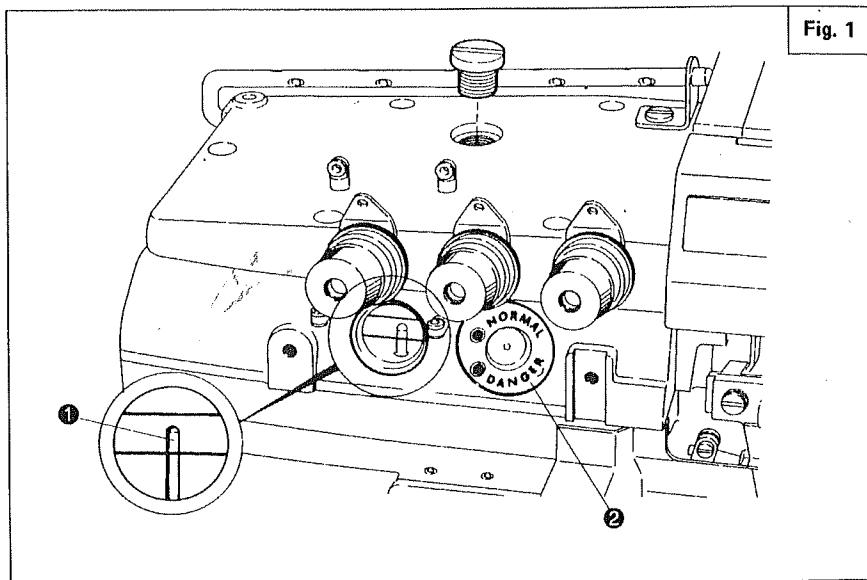
**THREAD STAND (One for each sewing head)**

| Ref# | Part#  | Description                            | 3 Spool Qty | 4 Spool Qty | 5 Spool Qty |
|------|--------|--|-------------|-------------|-------------|
|      | 640068 | .....THREAD STAND ASS.(5-SPOOLS).....  |             |             | 1           |
|      | 640069 | .....THREAD STAND ASS. (4-SPOOLS)..... |             | 1           |             |
|      | 640070 | .....THREAD STAND ASS. (3-SPOOLS)..... | 1           |             |             |
| 1    | 640043 | .....THREAD STAND ROD .....            | 1           | 1           | 1           |
| 2    | 640044 | .....WASHER.....                       | 1           | 1           | 1           |
| 3    | 640042 | .....NUT.....                          | 1           | 1           | 1           |
| 4    | 640058 | .....BRACKET.....                      | 1           |             | 1           |
| 5    | 640059 | .....BRACKET.....                      |             | 2           | 1           |
| 6    | 640060 | .....SPOOL PIN.....                    | 3           | 4           | 5           |
| 7    | 640005 | .....SPRING WASHER.....                | 3           | 4           | 5           |
| 8    | 640053 | .....NUT.....                          | 3           | 4           | 5           |
| 9    | 640062 | .....SPOOL TRAY .....                  | 3           | 4           | 5           |
| 10   | 640063 | .....CUSHION .....                     | 3           | 4           | 5           |
| 11   | 640064 | .....SPOOL RETAINING FIN.....          | 3           | 4           | 5           |
| 12   | 640065 | .....SCREW.....                        | 1           | 2           | 2           |
| 13   | 640066 | .....WASHER.....                       | 1           | 2           | 2           |
| 14   | 640067 | .....SCREW.....                        | 1           | 2           | 2           |
| 15   | 640040 | .....THREAD STAND ROD (UPPER.....      | 1           | 1           | 1           |
| 16   | 640056 | .....JOINT.....                        | 1           | 1           | 1           |
| 17   | 640057 | .....SCREW.....                        | 2           | 2           | 2           |
| 18   | 640049 | .....NUT.....                          | 2           | 2           | 2           |
| 19   | 640050 | .....BRACKET.....                      | 1           | 1           | 1           |
| 20   | 640052 | .....SCREW.....                        | 1           | 1           | 1           |
| 21   | 640053 | .....NUT.....                          | 1           | 1           | 1           |
| 22   | 640051 | .....THREAD GUIDE BAR ROD.....         | 1           | 1           | 1           |
| 23   | 640055 | .....SCREW.....                        | 2           | 2           | 2           |
| 24   | 640053 | .....NUT.....                          | 2           | 2           | 2           |
| 25   | 640054 | .....HOLDER.....                       | 1           | 1           | 1           |
| 26   | 640055 | .....SCREW.....                        | 1           | 1           | 1           |
| 27   | 640053 | .....NUT.....                          | 1           | 1           | 1           |
| 29   | 618240 | .....THREAD GUIDE BAR (5-SPOOLS).....  |             |             | 1           |
| 30   | 618241 | .....THREAD GUIDE BAR (4-SPOOLS).....  |             | 1           |             |
| 31   | 618242 | .....THREAD GUIDE BAR (3-SPOOLS).....  | 1           |             |             |
| 32   | 640055 | .....SCREW.....                        | 1           | 1           | 1           |
| 33   | 640053 | .....NUT.....                          | 1           | 1           | 1           |
| 34   | 640045 | .....BRACKET.....                      | 1           |             | 1           |
| 35   | 640046 | .....BRACKET.....                      |             | 2           | 1           |
| 36   | 640047 | .....THREAD GUIDE .....                | 3           | 4           | 5           |
| 37   | 640048 | .....SCREW.....                        | 1           | 2           | 2           |
| 38   | 640049 | .....NUT.....                          | 1           | 2           | 2           |
| 39   | 640041 | .....ROD CAP .....                     | 1           | 1           | 1           |

# INSTRUCTIONS - Left Sewing Head

## RUN MACHINE AT RECOMMENDED SPEED

1. Run new machine at a 20% less speed than maximum for the first 4 weeks. At the end of 4 weeks, original oil should be drained out and replaced. Thereafter the machine may be operated at normal speed.
2. Keep enough amount of oil in the machine; the top of Oil Level Indicator ① should be always between the two lines of Oil Level Sight Window.
3. While machine running, Oil Monitor ② is green, which shows the normal oil circulation inside the machine. If Oil Monitor ② is red, something extraordinary may be caused in the oil circulation; check the oil amount or Oil Filter.
4. Before starting machine for the first time, or if machine is idle for more than two weeks, manually lubricate Needle Holder Guide ④, Upper Looper Holder ⑤ and the Oil Hole ③. The Oil Hole ③ requires daily lubrication before morning start.



## LUBRICATION

The oil was drained out from the machine when shipped. Fill Oil Reservoir with factory supplied oil or equivalent before operating. Use recommended type oil only. Keep the enough amount of oil in the machine; the head of Oil Level Indicator should be always between the two lines 'h' and 'l' on Oil Level Sight Window ②.

Change oil entirely at the end of 4 weeks from starting. After that, change oil every half a year.

**To fill oil:**

1. Take out Screw ① and pour fresh oil into Oil Reservoir (900c.c. capacity) until the head of Oil Level Indicator reaches the upper line 'h' of Oil Level Sight Window ②.
2. Re-place Screw ①.

Fig. 6

**To drain oil:**

1. Remove the machine from its stand and set it on a table.
2. Screw out Drain Plug ③ and drain oil.
3. Re-place Plug ③.

Fig. 7

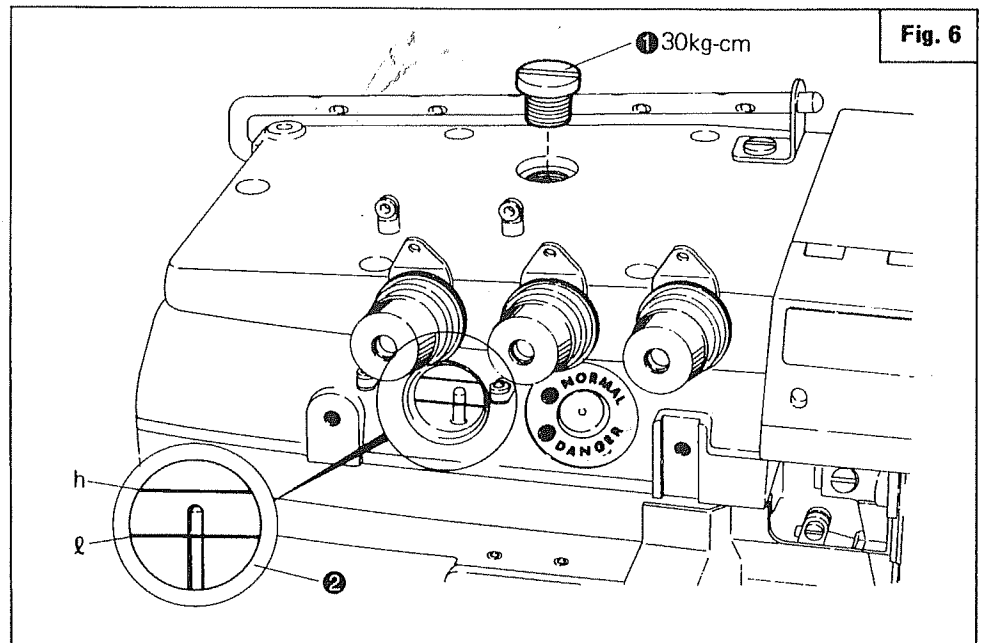


Fig. 6

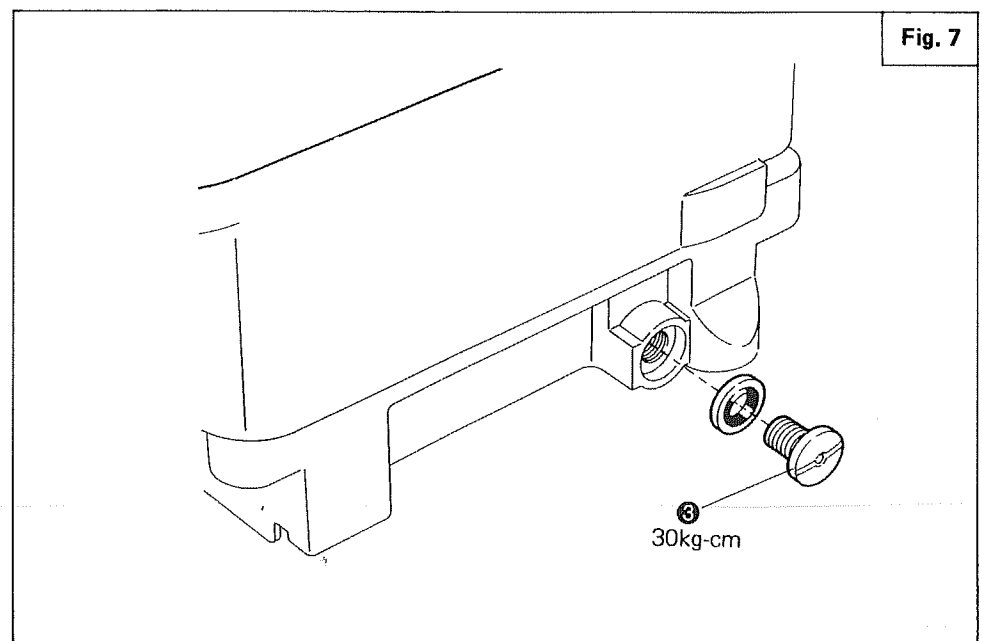


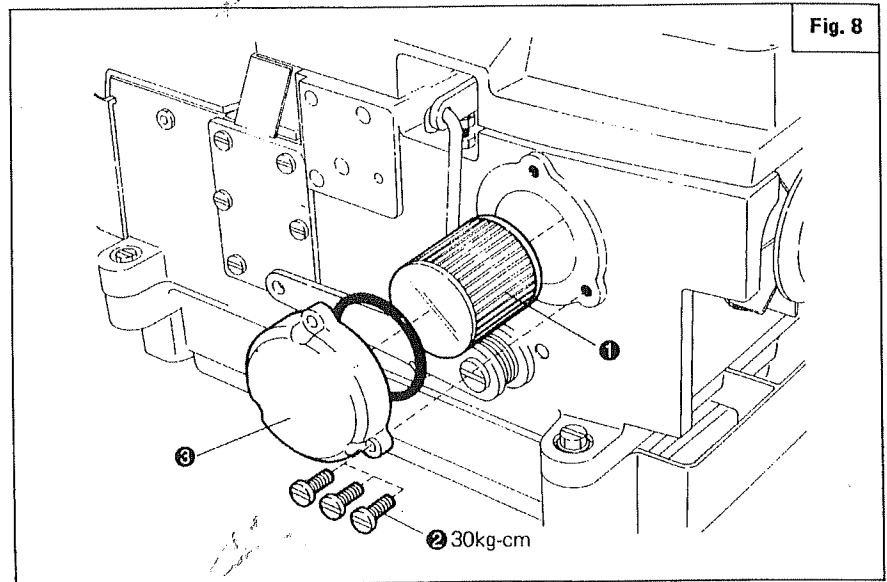
Fig. 7

## OIL FILTER

Filter ❶ should be kept clean. Lubrication oil is filtered and delivered to all frictional surfaces. Clogging of this filter may cause lack of lubrication and accidental seizure of parts.

Check and clean Filter ❶ when: the oil amount is proper but Oil Monitor does not change into green when starting the machine, the oil is dirty or contains foam, or the oil jet is weak.

1. Remove Screws ❷ and Cap ❸.
2. Take out Filter ❶. Check and clean it, or replace it with a new one.
3. Re-place Cap ❸ and Screws ❷.



### Specification of the recommended type oil

|                                   |                 | Brand "A" | Brand "B" |
|-----------------------------------|-----------------|-----------|-----------|
| Kinematic Viscosity (centistokes) | 100°F<br>37.8°C | 19.0      | 14.6      |
|                                   | 210°F<br>98.9°C | 4.0       | 3.6       |
| Viscosity Index                   |                 | 124       | 143       |

## NEEDLES

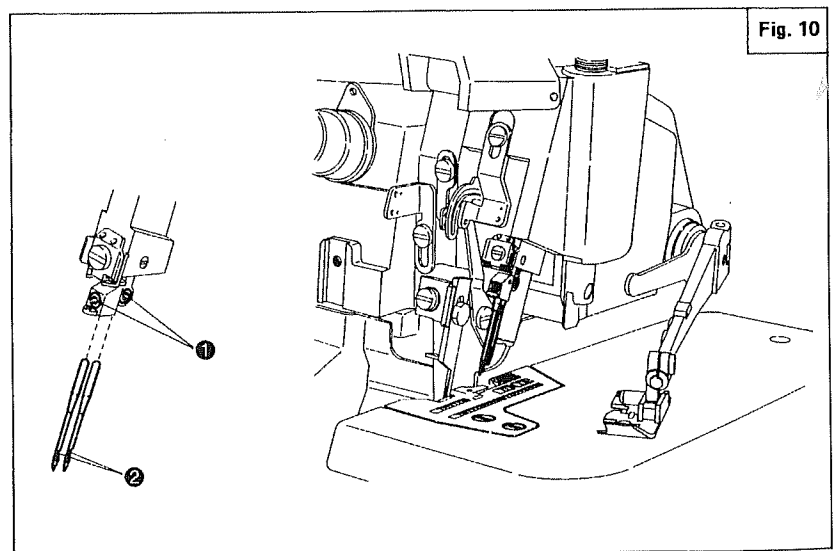
The type of the factory-set needle is Organ DC x 27 for both overlock and chainstitch needles. Machines can also use other similar needles to DC x 27, e.g., DC x 1 for overlock needle and DM x 13 for chainstitch needle. This, however, may require re-adjustments of Loopers and Needle Guards.

## REPLACING NEEDLES

1. Loosen Screw ❶ and remove old needle.
2. Insert a new needle into the needle hole as far as it will go.
3. Tighten Screw ❶ after making sure the long groove on the needle is facing you.

### Note:

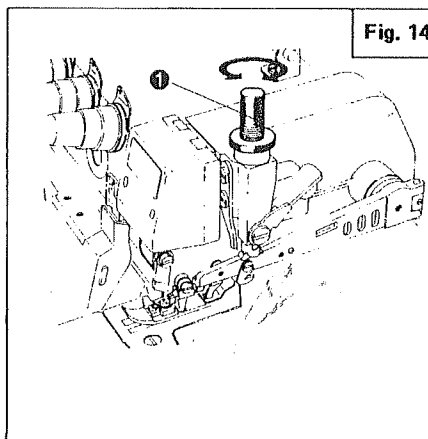
When loosening or tightening Screw ❶, be careful to use Allen Wrench properly. This is to avoid the screw hole of Screw ❶ from damaged.



## PRESSER FOOT PRESSURE

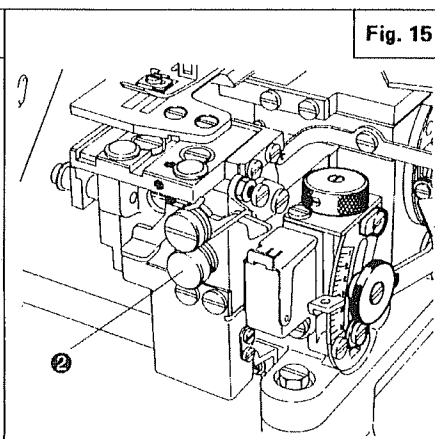
Presser foot pressure should be as light as possible, while still sufficient to feed fabric and obtain proper stitch formation. Thumb Screw ① regulates the pressure of Presser Foot.

Turn nut ① clockwise for more pressure, and turn it counter-clockwise for less pressure.



## STITCH LENGTH ADJUSTMENT

- While pressing Push Button ②, turn Handwheel until Button ② drops in.
- Turn Handwheel further for a desired stitch length. Release Button ②.



## ADJUSTING DIFFERENTIAL SPEED RATIO

The differential feed ratio means the ratio of the amount of Main Feed Dog's movement to the amount of Differential Feed Dog's movement. When the amount of Main Feed Dog's movement is bigger than that of Differential Feed Dog's movement, the fabric is stretched in stitching. In reverse, the fabric is shrunk.

Adjust the differential feed ratio according to the fabrics and the operation.

1. Open Cloth Plate. Loosen Nut ①.
2. Turn Screw ② clockwise if necessary to stretch more.

Turn Screw ② counter-clockwise if necessary to shrink more.

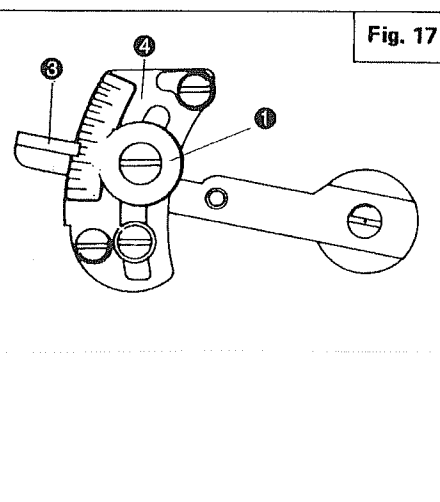
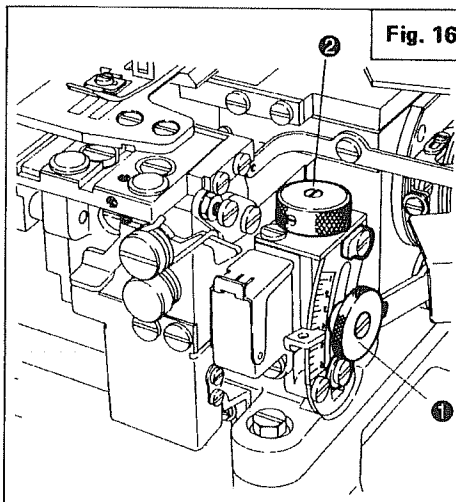
3. Tighten Nut ① after adjustment. Shut Cloth Plate.

**Note:** 1. Generally, the maximum differential feed ratio is used for convenient to represent the adjustable range of the ratio in the machine.

2. In the 1 : 2 ratio machine, the ratio is approximately 1 : 1 when the top surface of Lever ③ is set on the scale 2 of Plate ④.

Setting Lever ③ upper than the scale 2 makes the fabric stretched; adjustable up to 1 : 0.7.

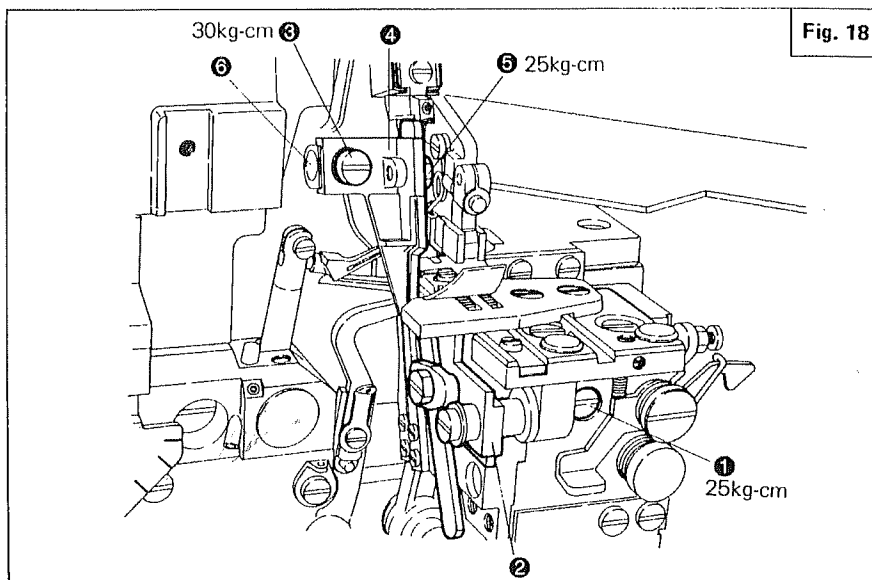
3. Table 3 shows the relationship of the differential feed ratio and the set position of Lever ③.



## REGULATING SEAM WIDTH

Fig. 18, 19

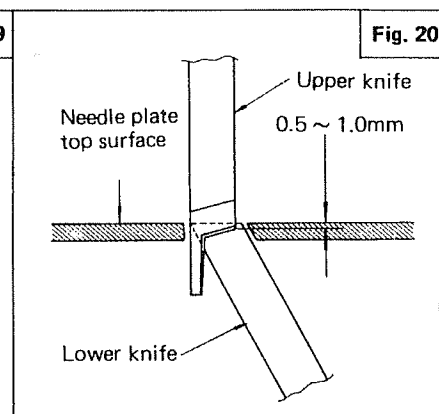
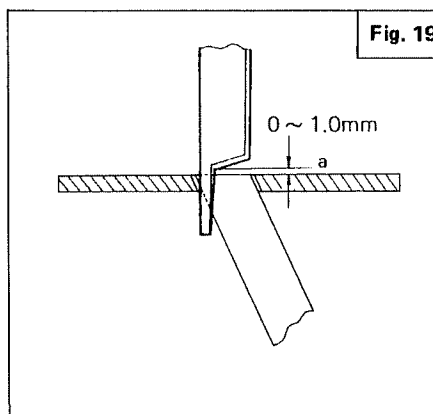
1. Turn Handwheel until Upper Knife is lowest.
2. Loosen Screw ①, push Lower Knife Holder ② to the right and lightly tighten Screw ①.
3. Loosen Screw ③ and move Upper Knife Clamp ④ to the right or left until a desired seam width is obtained. Tighten Screw ③.
4. Turn Handwheel so that the point 'a' of Knife is 0-1.0mm above from Needle Plate top. Loosen Screw ①, then Holder ② will return to position.
5. Make sure Knives are in a perfect alignment. Tighten Screw ①.
6. Check Knives cut sharply; insert a piece of thread between Knives, turn Handwheel and check the cutting of Knives.



## CHANGING UPPER KNIFE

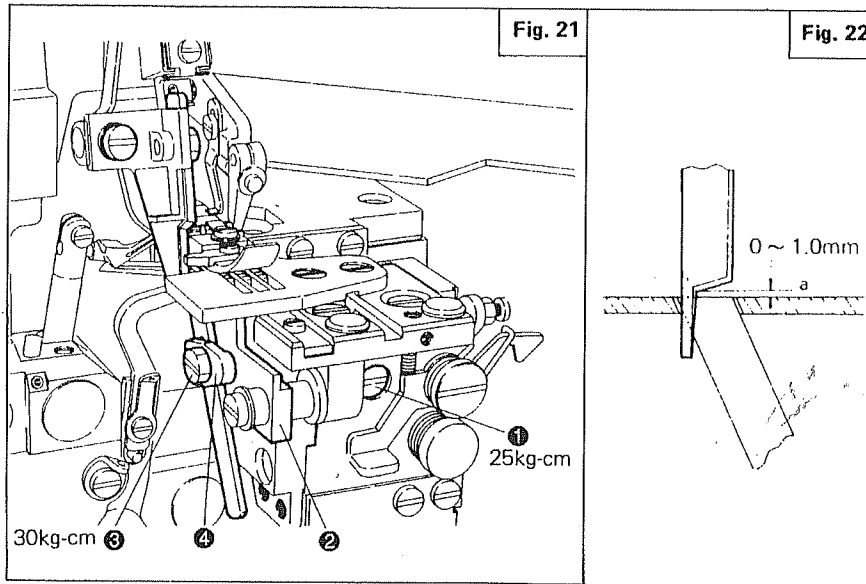
Fig. 18, 19, 20

1. Loosen Screw ①, push Lower Knife Holder ② to the right and lightly tighten Screw ①.
2. Remove Screw ⑤ and Upper Knife.
3. Tentatively set new Upper Knife with Screw ⑤.
4. Turn Handwheel until Upper Knife Lever ⑥ is lowest. Move Upper Knife up or down and adjust the overlap to 0.5-1.0mm. Tighten Screw ⑤.
5. Turn Handwheel so that the point 'a' of Knife is 0-1.0mm above from Needle Plate top. Loosen Screw ①, then Holder ② will return to position.
6. Make sure Knives are in a perfect alignment. Tighten Screw ①.
7. Check Knives cut sharp; insert a piece of thread between Knives, turn Handwheel and check the cutting of Knives.



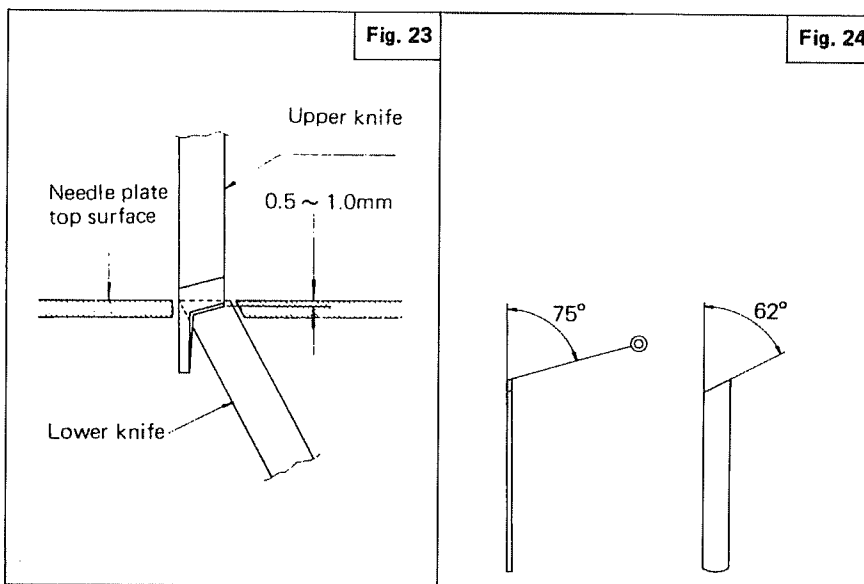
## CHANGING LOWER KNIFE

Fig. 21, 22, 23



1. Loosen Screw ①, push Lower Knife Holder ② to the right and lightly tighten Screw ①.
2. Loosen Screw ⑤ for Lower Knife Clamp ④ and remove old Knife.
3. Insert new knife under Clamp ④. Move Knife up or down until its cutting edge is level with Needle Plate top. See Fig. 24. Tighten Screw ⑤.
4. Turn Handwheel so that the point 'a' of Upper Knife is 0-1.0mm above from Needle Plate top. Loosen Screw ①, then Holder ② will return to position.
5. Make sure Knives are in a perfect alignment. Tighten Screw ①.
6. Check Knives cut sharp; insert a piece of thread between Knives, turn Handwheel and check the cutting of Knives.

## KNIVES (FIG. 24)



Knives must be kept sharp. Lower Knife may be sharpened by use of a grinder while making sure that the correct angle is maintained as shown in Fig. 25. Upper Knife may be sent to our distributors or returned to us for resharpening since it requires special grinding.

### CHAINING THREAD

It is necessary to have a chaining thread approximately 10mm long behind the presser foot when starting to sew. This will avoid "skip-stitches".

After replacing needles or thread, check that a continuous, smooth neat chaining thread comes out from under the presser foot.

### HOW TO CLEAN YOUR MACHINE

Cleaning the machine is important. It is not necessary to remove any parts. Merely release the foot and swing it out to the left. Swing out the covers and remove all the collected lint from around the loopers, feed slots, and under the needle plate. Blow out any loose lint or use a lint brush. Re-place covers and return foot to the sewing position.

### DAILY MAINTENANCE

#### Before morning start

- \* Check oil level is correctly maintained in Oil Level Sight Window.
- \* Check needle is correctly set and not damaged.
- \* Check threading is correct.
- \* Check chaining thread of approximately 10mm long remains behind presser foot.
- \* Manually drop oil to the oil hole for Needle Holder Guide Stud before morning start.

#### After close of work

- \* Remove dust and lint deposited in the machine specially around needle plate and looper.
- \* If any trouble or irregularity is found, report it to the plant mechanic for adjustment or repair.
- \* Keep record showing number of needle and thread breakage a day.
- \* Dust cover, furnished with machine, should be placed on the machine.

## THREADING

Thread your machine correctly as shown in Fig. 13. Incorrect threading may cause thread breakage, skip stitches, or uneven stitch formation.

## REGULATING THREAD TENSION

Changes of threads, seam width, stitch length, etc, require re-adjustment of thread tension.

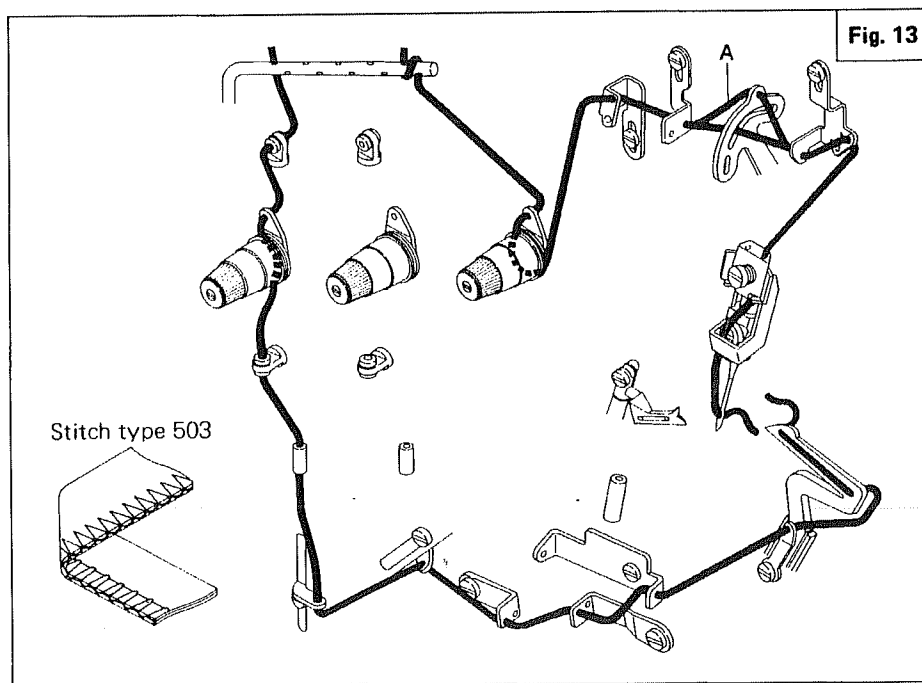
Adjust individual thread tension as follows:

To increase tension:

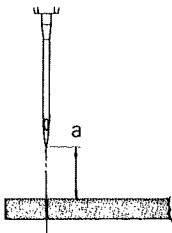
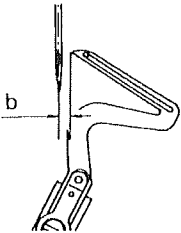
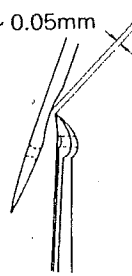
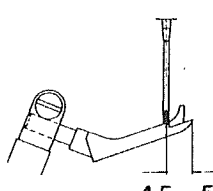
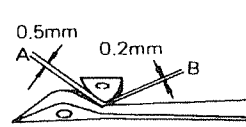
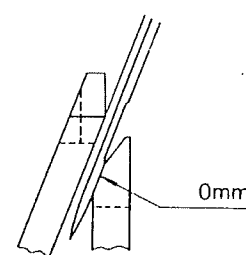
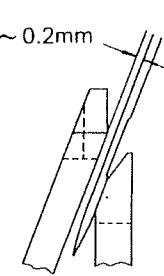
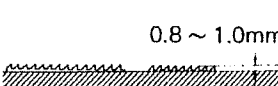
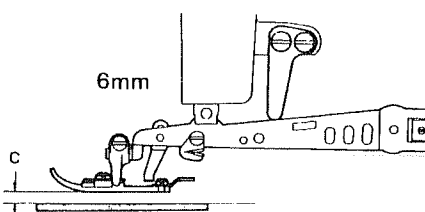
Turn Nut clockwise.

To decrease tension:

Turn Nut counter-clockwise.



STANDARD DIMENSIONS ON ADJUSTMENTS

|   |   |   |
|---|---|---|
|  <p><b>Needle height</b><br/>From the point of Needle (Note 1) to the top surface of Needle Plate, when Needle is highest.</p>   |  <p><math>b = 3.8 \sim 4\text{mm}</math></p> <p><b>Lower looper setting No. 1</b><br/>From the Looper point to the centerline of Needle (Note 1), when Looper is extremely left.</p>                            |   |
|  <p><math>0 \sim 0.05\text{mm}</math></p> <p><b>Lower looper setting No. 2</b><br/>Clearance between Looper and Needle, when Looper is opposite the centerline of Needle.</p>              |  <p><math>4.5 \sim 5.0\text{mm}</math></p> <p><b>Upper looper (spreader) setting</b><br/>From the point of Looper (Spreader) to the centerline of Needle (Note 1), when Looper (Spreader) is extremely left.</p> |   |
|  <p><math>0.5\text{mm}</math> <math>0.2\text{mm}</math></p> <p><b>Loopers' clearances</b><br/>Clearances between Upper and Lower Loopers, when they cross.</p>                           |  <p><math>0\text{mm}</math></p> <p><b>Needle guard (rear) setting</b><br/>From Needle Guard to Needle, when the point of Lower Looper is opposite the centerline of Needle</p>                                 |  <p><math>0.1 \sim 0.2\text{mm}</math></p> <p><b>Needle guard (front) setting</b><br/>No clearance between Needle Guard and Needle, when Needle is lowest.</p> |
|  <p><math>0.8 \sim 1.0\text{mm}</math></p> <p><b>Feed dog height</b><br/>From the top of the back tooth of Main Feed Dog to the top surface of Needle Plate, when Feeds are highest.</p> |  <p><math>6\text{mm}</math></p> <p><b>Presser foot lift</b><br/>From the bottom surface of Presser Foot to the top surface of Needle Plate, when Foot is lifted up.</p>                                       |   |

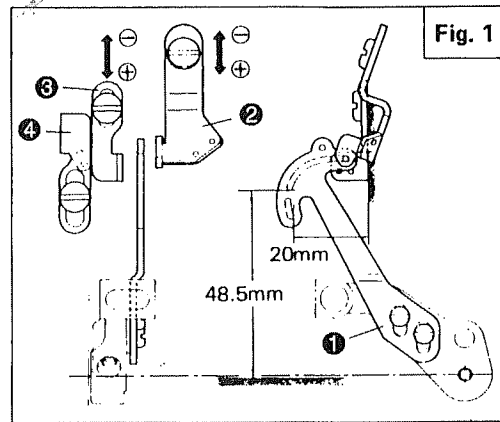
**NEEDLE THREAD CONTROL**

Fig. 1. Tab. 2

Standard setting of the needle thread control parts is as shown in Table 2. Set each part correctly depending on the stitch types.

**Needle thread takeup ①**

Check dimensions 'a' and 'b' when Upper Knife is lowest.



Tab. 2

| Needle thread control parts  | Symbol in Fig. 1 | Stitch type                       |             |        |  |             |        |
|------------------------------|------------------|-----------------------------------|-------------|--------|--|-------------|--------|
|                              |                  | 503                               | 504         |        |  | 514         |        |
| Needle thread takeup         | ①                | a                                 | 20mm        | 20mm   |  |             | 20mm   |
|                              |                  | b                                 | 48.5mm      | 48.5mm |  |             | 48.5mm |
| Needle thread guide (left)   | ②                | highest<br>⊖                      | lowest<br>⊕ |        |  | lowest<br>⊕ |        |
| Needle thread guide (center) | ③                | highest<br>⊖                      | lowest<br>⊕ |        |  | lowest<br>⊕ |        |
| Needle thread guide (right)  | ④                | At the center of the long groove. |             |        |  |             |        |

**Needle thread guide (left) ② and (center) ③**

Only when the polyester threads are used for both needle and looper threads and the stitch type is 504, 512 or 514 for sewing light fabrics, set Guide ② ③ highest (on the ⊖ side). If Guides ② ③ are set lowest (on the ⊕ side) in this case, uneven stitches occur as the machine speed varies.

Move Guide ② ③ in the ⊕ direction for a tight needle thread in the seam, and in the ⊖ direction for a loose needle thread.

**LOOPER THREAD CONTROL**

**Fig. 2 Tab. 3**

Standard setting of the looper thread control parts is as shown in Table 3. Set each part correctly depending on the stitch types.

**Upper looper thread takeup ⑤**

Check distance 'c' when Lower looper is on the right dead point.

**Upper looper thread guide ⑧**

- When required stitch length on the serging operation with the stitch type 503 is shorter than 2.8mm, set Guide ⑧ to C.
- Also, set Guide ⑧ to C for the blind hemming operation with the stitch type 503.
- In the case of stretch threads like wooly threads, set Guide ⑧ to A for any stitch type.

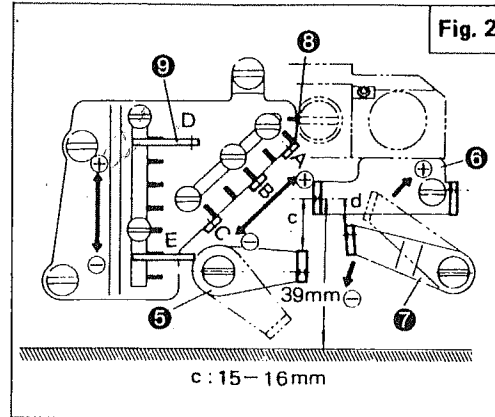
**Lower looper thread guide ⑨**

In the case of stretch threads like wooly threads, set Guide ⑨ to D for any stitch type.

**Lower looper thread takeup ⑦**

- Check distance 'd' when Lower Looper is on the right dead point.
- Only when the wooly threads (type G) are used as the lower looper thread and the seam requires more lower looper thread in it, set Takeup ⑦ in the ⊕ direction by approximately 2mm than standard.

Move Takeup ⑦ and Guides ⑧ ⑨ in the ⊕ direction for more threads in the seam, and in the ⊖ direction for less threads in the seam.



**Fig. 2**

**Tab. 3**

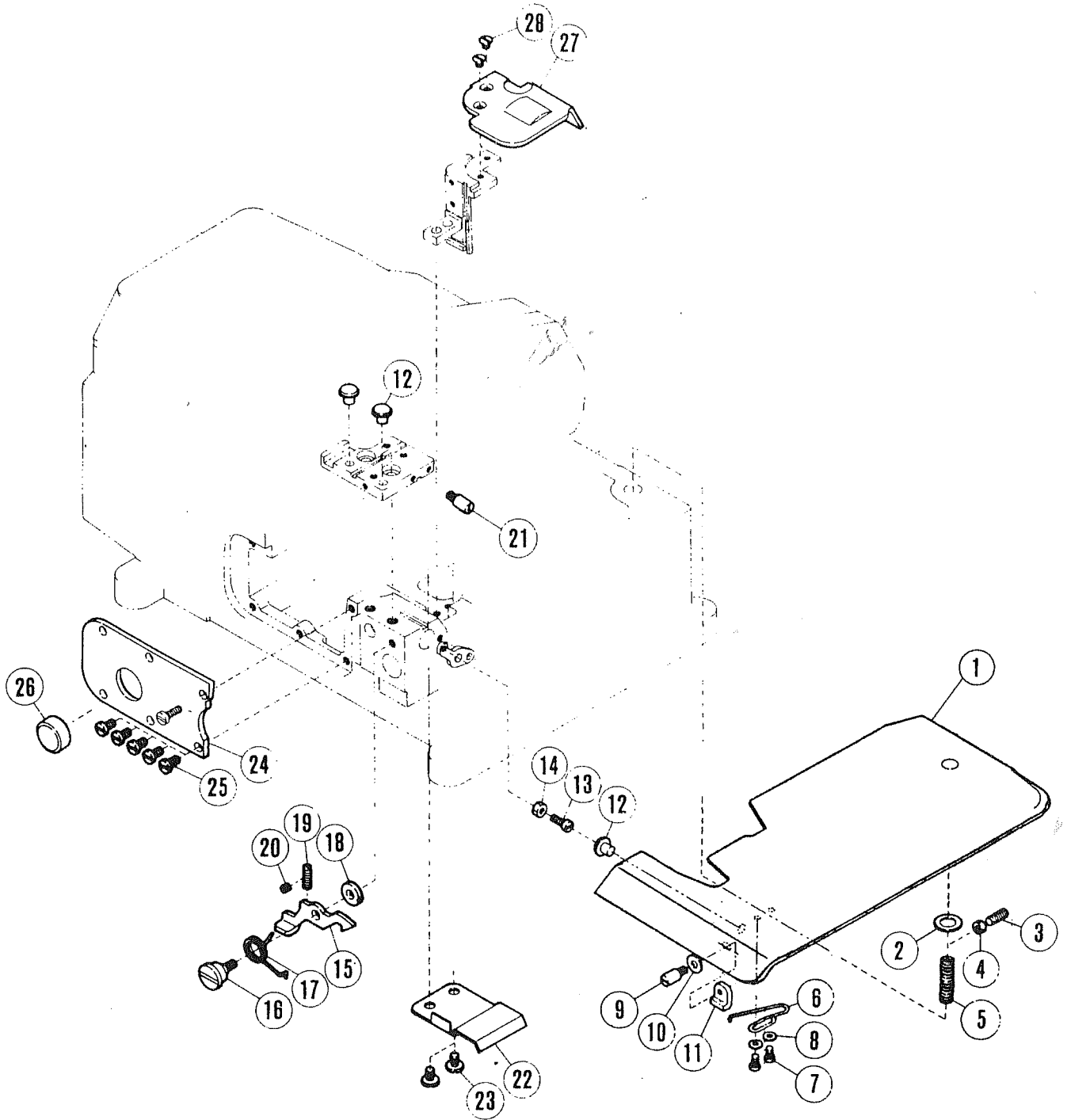
| Looper thread control parts | Symbol in Fig. 2 | Stitch type |           |  |  |           |
|-----------------------------|------------------|-------------|-----------|--|--|-----------|
|                             |                  | 503         | 504       |  |  | 514       |
| Upper looper thread takeup  | ⑤ c              | 15 - 16mm   | 15 - 16mm |  |  | 15 - 16mm |
| Lower looper thread takeup  | ⑦ d              | 6 - 7mm     | 6 - 7mm   |  |  | 6 - 7mm   |
| Upper looper thread guide   | ⑧                | B           | B         |  |  | B         |
| Lower looper thread guide   | ⑨                | D           | E         |  |  | E         |



## MACHINE BED FRAME

| Ref#    | Part#  | Description         | Ref#    | Part#  | Description          |
|---------|--------|---------------------|---------|--------|----------------------|
| 1.....  | 660584 | Machine Bed         | 18..... | 618340 | Screw                |
| 2.....  | 660614 | Screw               | 19..... | 640002 | Screw                |
| 3.....  | 660590 | Screw               | 20..... | 612020 | bed Pin              |
| 4.....  | 660578 | Machine Arm (Right) | 21..... | 615220 | Cap                  |
| 5.....  | 619000 | Screw               | 22..... | 617360 | Plug                 |
| 6.....  | 660382 | Gasket              | 23..... | 614360 | Plug                 |
| 7.....  | 660274 | Pin                 | 24..... | 619540 | Screw                |
| 8.....  | 660577 | Machine Arm (Left)  | 25..... | 617380 | Cover Plate          |
| 9.....  | 618500 | Screw               | 26..... | 619840 | Screw                |
| 10..... | 660309 | Gasket              | 27..... | 660311 | Oil Shield           |
| 11..... | 660274 | Pin                 | 28..... | 660509 | Pin                  |
| 12..... | 660640 | Oil Pipe            | 29..... | 660506 | Plug                 |
| 13..... | 610680 | Cushion Rubber      | 30..... | 660558 | Type Plate           |
| 14..... | 660413 | Oil Return Pipe     | 31..... | 730052 | Pin                  |
| 15..... | 660289 | Oil Wick            | 34..... | 660576 | Machine Bed Complete |
| 16..... | 660426 | Cover Plate         | 35..... | 660583 | Machine Bed Complete |
| 17..... | 660310 | Gasket              |         |        |                      |

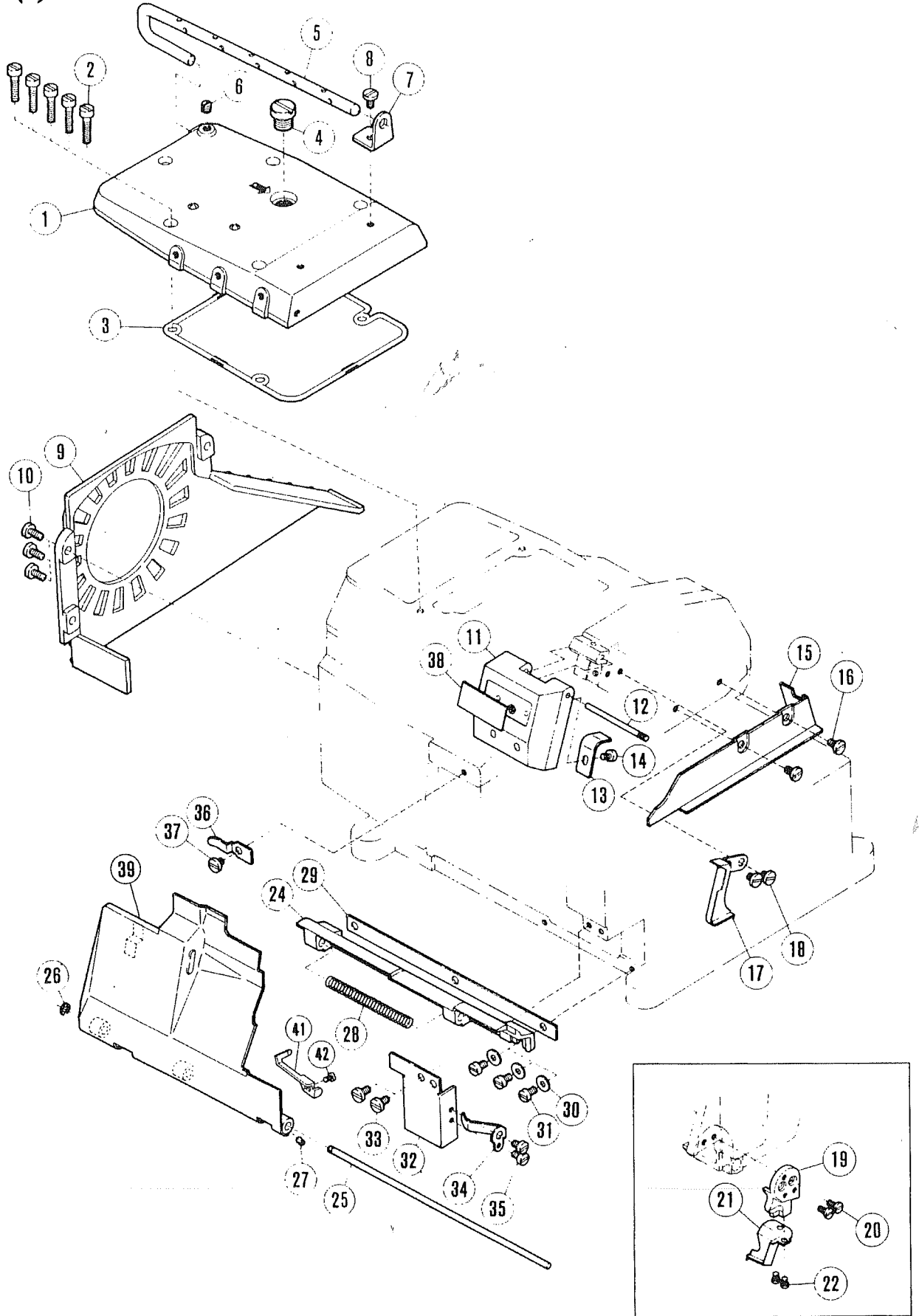
COVER (1)



## COVER (1)

| Ref#    | Part#       | Description           | Ref#    | Part#       | Description               |
|---------|-------------|-----------------------|---------|-------------|---------------------------|
| 1.....  | 660432..... | Cloth Plate           | 16..... | 660624..... | Screw                     |
| 2.....  | 660312..... | Washer                | 17..... | 660434..... | Spring                    |
| 3.....  | 660619..... | Screw                 | 18..... | 612705..... | Washer                    |
| 4.....  | 618280..... | Nut                   | 19..... | 660564..... | Screw                     |
| 5.....  | 660281..... | Spring                | 20..... | 660566..... | Screw                     |
| 6.....  | 660314..... | Spring                | 21..... | 660313..... | Cloth Latch Plate         |
| 7.....  | 618380..... | Screw                 | 22..... | 660438..... | Feed Bar Cover            |
| 8.....  | 611960..... | Washer                | 23..... | 618140..... | Screw                     |
| 9.....  | 660313..... | Cloth Plate Latch Pin | 24..... | 660439..... | Upper Looper Holder Cover |
| 10..... | 610400..... | Washer                | 25..... | 618340..... | Screw                     |
| 11..... | 660499..... | Nut                   | 26..... | 660496..... | Plug                      |
| 12..... | 660315..... | Cushion Rubber        | 27..... | 660437..... | Feed Eccentric Cover      |
| 13..... | 610080..... | Screw                 | 28..... | 660617..... | Screw                     |
| 14..... | 618320..... | Nut                   | 29..... | 660495..... | Cloth Plate               |
| 15..... | 660433..... | Latch                 |         |             |                           |

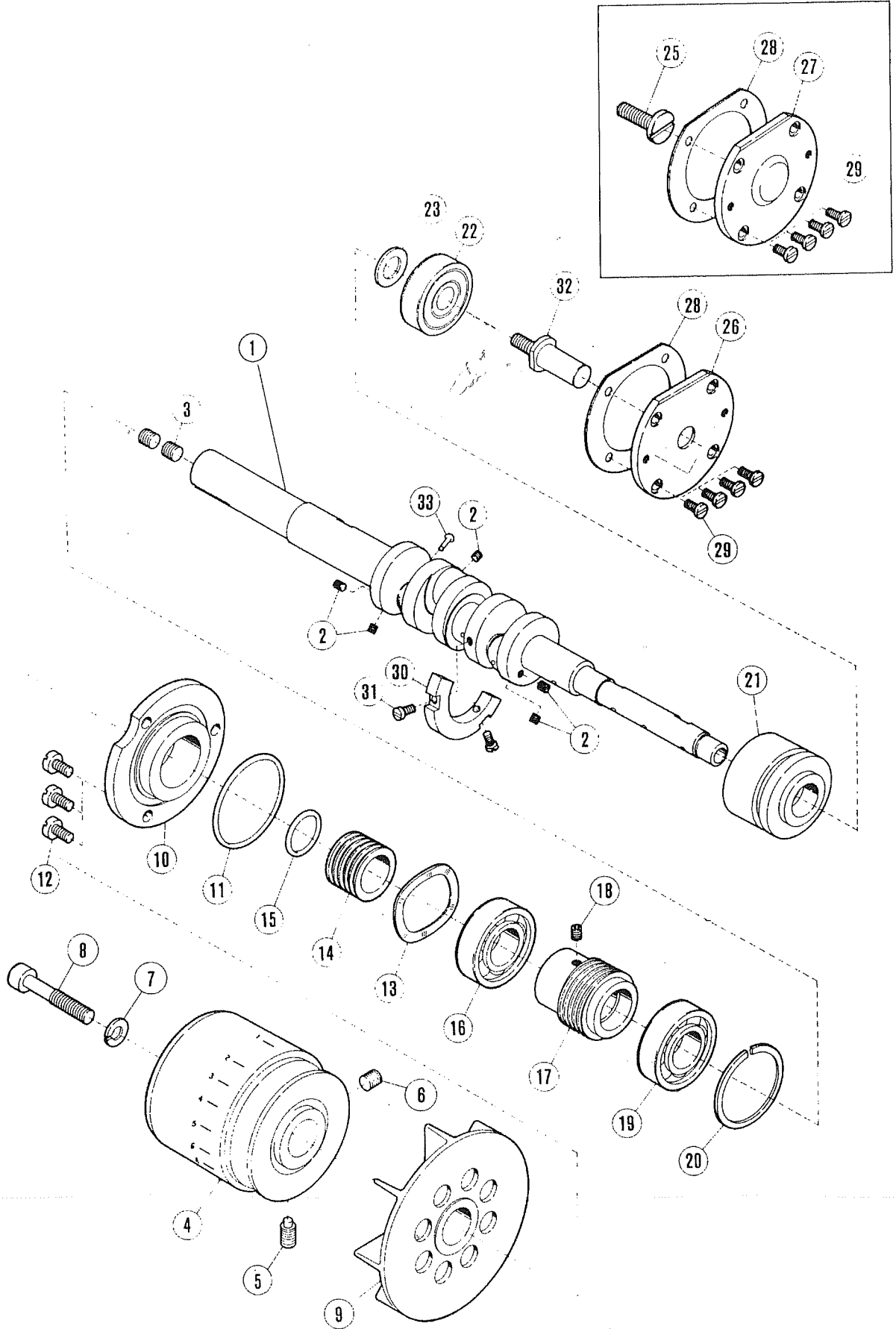
COVER (2)



## COVER (2)

| Ref#    | Part#  | Description              | Ref#    | Part#  | Description                |
|---------|--------|--------------------------|---------|--------|----------------------------|
| 1.....  | 660431 | .....Top Cover           | 21..... | 660516 | .....Cover                 |
| 2.....  | 660606 | .....Screw               | 22..... | 618440 | .....Screw                 |
| 3.....  | 660317 | .....O-Ring              | 24..... | 660320 | .....Hinge                 |
| 4.....  | 660609 | .....Screw               | 25..... | 614900 | .....Pin                   |
| 5.....  | 660318 | .....Thread Guide Bar    | 26..... | 610920 | .....Retaining Ring        |
| 6.....  | 618460 | .....Screw               | 27..... | 619400 | .....Screw                 |
| 7.....  | 660319 | .....Bracket             | 28..... | 660321 | .....Hinge Spring          |
| 8.....  | 618340 | .....Screw               | 29..... | 660322 | .....Gasket                |
| 9.....  | 660427 | .....Belt Cover          | 30..... | 610400 | .....Washer                |
| 10..... | 618740 | .....Screw               | 31..... | 610180 | .....Screw                 |
| 11..... | 660428 | .....Needle Thread Cover | 32..... | 660436 | .....Guide / Front Cover   |
| 12..... | 660316 | .....Hinge Pin           | 33..... | 619820 | .....Screw                 |
| 13..... | 660383 | .....Spring              | 34..... | 660435 | .....Flat Spring           |
| 14..... | 610200 | .....Screw               | 35..... | 610200 | .....Screw                 |
| 15..... | 660429 | .....Fabric Guard        | 36..... | 730050 | .....Hook Spring           |
| 16..... | 619820 | .....Screw               | 37..... | 618140 | .....Screw                 |
| 17..... | 660430 | .....Cover               | 38..... | 660299 | .....Name Plate            |
| 18..... | 618140 | .....Screw               | 39..... | 660532 | .....Front Cover           |
| 19..... | 660515 | .....Cover               | 41..... | 660552 | .....Stopper / Front Cover |
| 20..... | 619520 | .....Screw               | 42..... | 660607 | .....Screw                 |

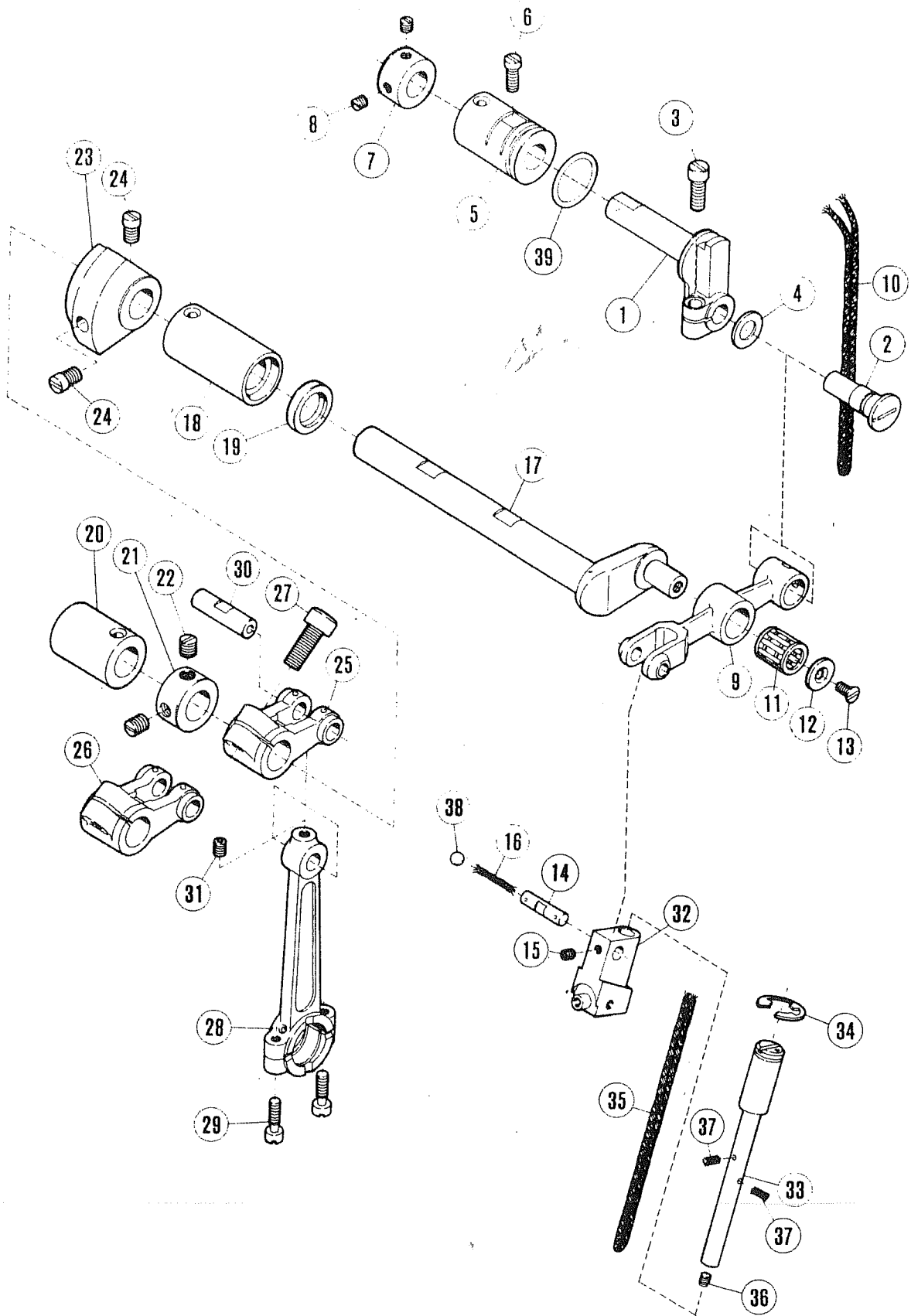
CRANKSHAFT DRIVE MECHANISM



## CRANKSHAFT DRIVE MECHANISM

| Ref#    | Part#       | Description           | Ref#    | Part#       | Description          |
|---------|-------------|-----------------------|---------|-------------|----------------------|
| 1.....  | 660440..... | Crankshaft            | 17..... | 660138..... | Worm                 |
| 2.....  | 660566..... | Screw                 | 18..... | 620033..... | Screw                |
| 3.....  | 660565..... | Screw                 | 19..... | 660511..... | Ball Bearing         |
| 4.....  | 660581..... | Pulley                | 20..... | 730053..... | Retaining Ring       |
| 5.....  | 660085..... | Pin-Screw             | 21..... | 660518..... | Bushing              |
| 6.....  | 660600..... | Screw                 | 22..... | 612040..... | Ball Bearing         |
| 7.....  | 613640..... | Washer                | 23..... | 614260..... | Thrust Washer        |
| 8.....  | 619860..... | Screw                 | 25..... | 660627..... | Screw                |
| 9.....  | 660324..... | Cooling Fan           | 26..... | 614580..... | Housing              |
| 10..... | 660512..... | Ball Bearing Retainer | 27..... | 614055..... | Housing              |
| 11..... | 660323..... | O-Ring                | 28..... | 613680..... | Gasket               |
| 12..... | 618740..... | Screw                 | 29..... | 619520..... | Screw                |
| 13..... | 660513..... | Flat Ring             | 30..... | 660325..... | Balance Weight       |
| 14..... | 660441..... | Oil Seal              | 31..... | 618420..... | Screw                |
| 15..... | 730048..... | O-Ring                | 32..... | 614520..... | Crankshaft Extension |
| 16..... | 730047..... | Ball Bearing          | 33..... | 660305..... | Plug                 |

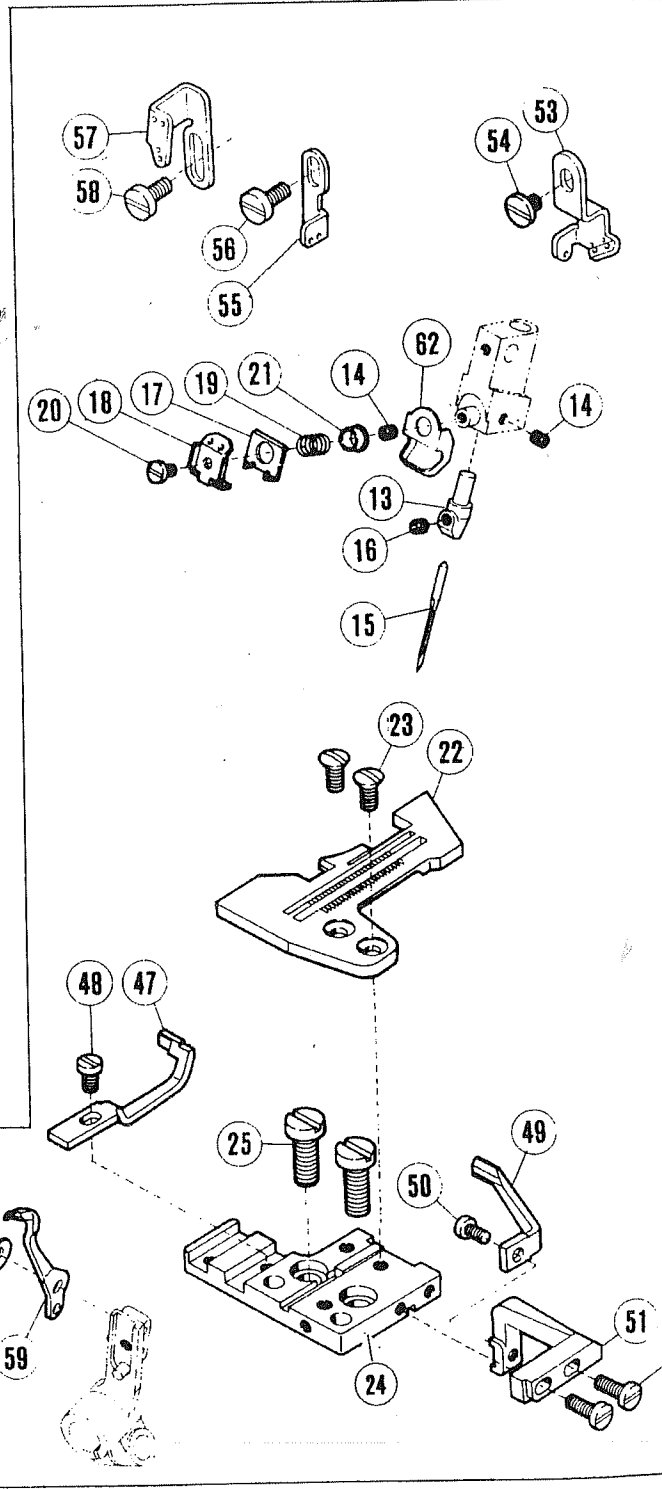
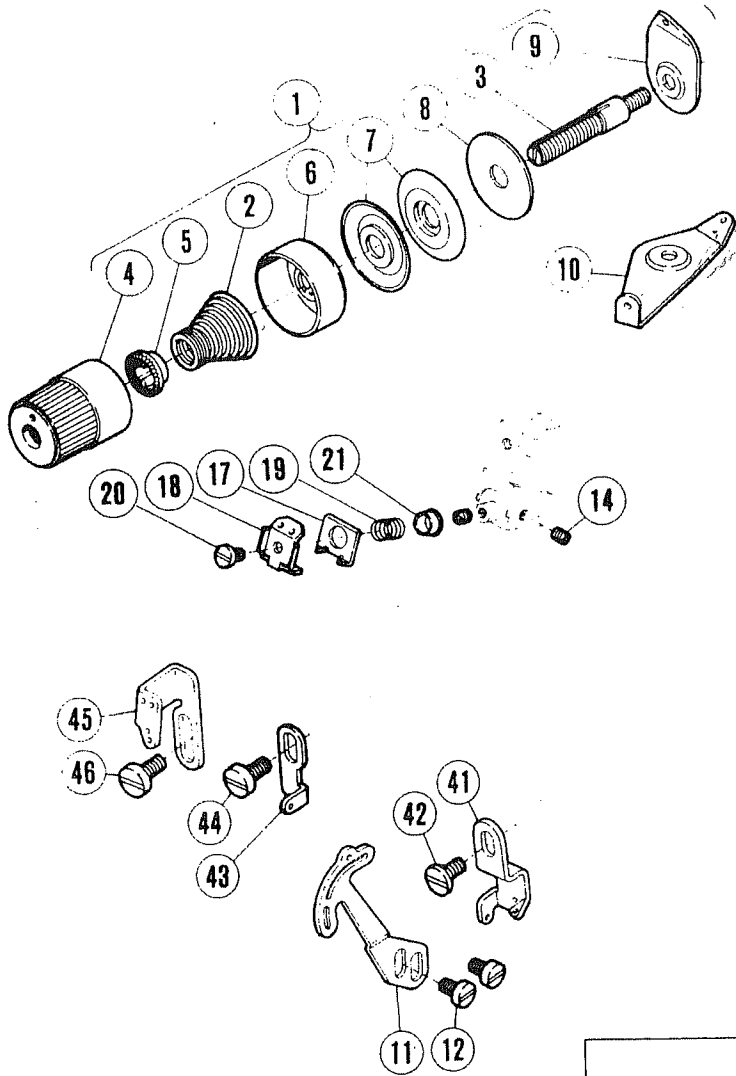
NEEDLE DRIVE MECHANISM (1)



## NEEDLE DRIVE MECHANISM (1)

| Ref#    | Part#  | Description          | Ref#    | Part#  | Description                   |
|---------|--------|----------------------|---------|--------|-------------------------------|
| 1.....  | 660444 | Holder               | 21..... | 660287 | Collar                        |
| 2.....  | 660392 | Pin                  | 22..... | 618460 | Screw                         |
| 3.....  | 660621 | Screw                | 23..... | 660443 | Balance Weight                |
| 4.....  | 660393 | Washer               | 24..... | 660601 | Screw                         |
| 5.....  | 730111 | Bushing              | 25..... | 660385 | Crank / Ndle.Drive / Std.Lift |
| 6.....  | 617440 | Screw                | 26..... | 660386 | Crank / Ndle.Drive / Hi Lift  |
| 7.....  | 611100 | Thrust Collar        | 27..... | 620026 | Screw                         |
| 8.....  | 610420 | Screw                | 28..... | 660384 | Connection / Needle Drive     |
| 9.....  | 660389 | Lever / Needle Drive | 29..... | 640013 | Screw                         |
| 10..... | 617420 | Oil Wick             | 30..... | 612900 | Pin                           |
| 11..... | 660391 | Needle Bearing       | 31..... | 620033 | Screw                         |
| 12..... | 660390 | Washer               | 32..... | 660445 | Needle Holder Guide           |
| 13..... | 618400 | Screw                | 33..... | 660394 | Stud                          |
| 14..... | 660575 | Pin                  | 34..... | 730094 | Stop Ring                     |
| 15..... | 619400 | Screw                | 35..... | 611600 | Oil Wick                      |
| 16..... | 660126 | Oil Wick             | 36..... | 619400 | Screw                         |
| 17..... | 660442 | Shaft / Needle Drive | 37..... | 660289 | Oil Wick                      |
| 18..... | 660388 | Bushing              | 38..... | 660560 | Plug                          |
| 19..... | 660328 | Oil Seal             | 39..... | 730048 | O-Ring                        |
| 20..... | 660383 | Bushing              |         |        |                               |

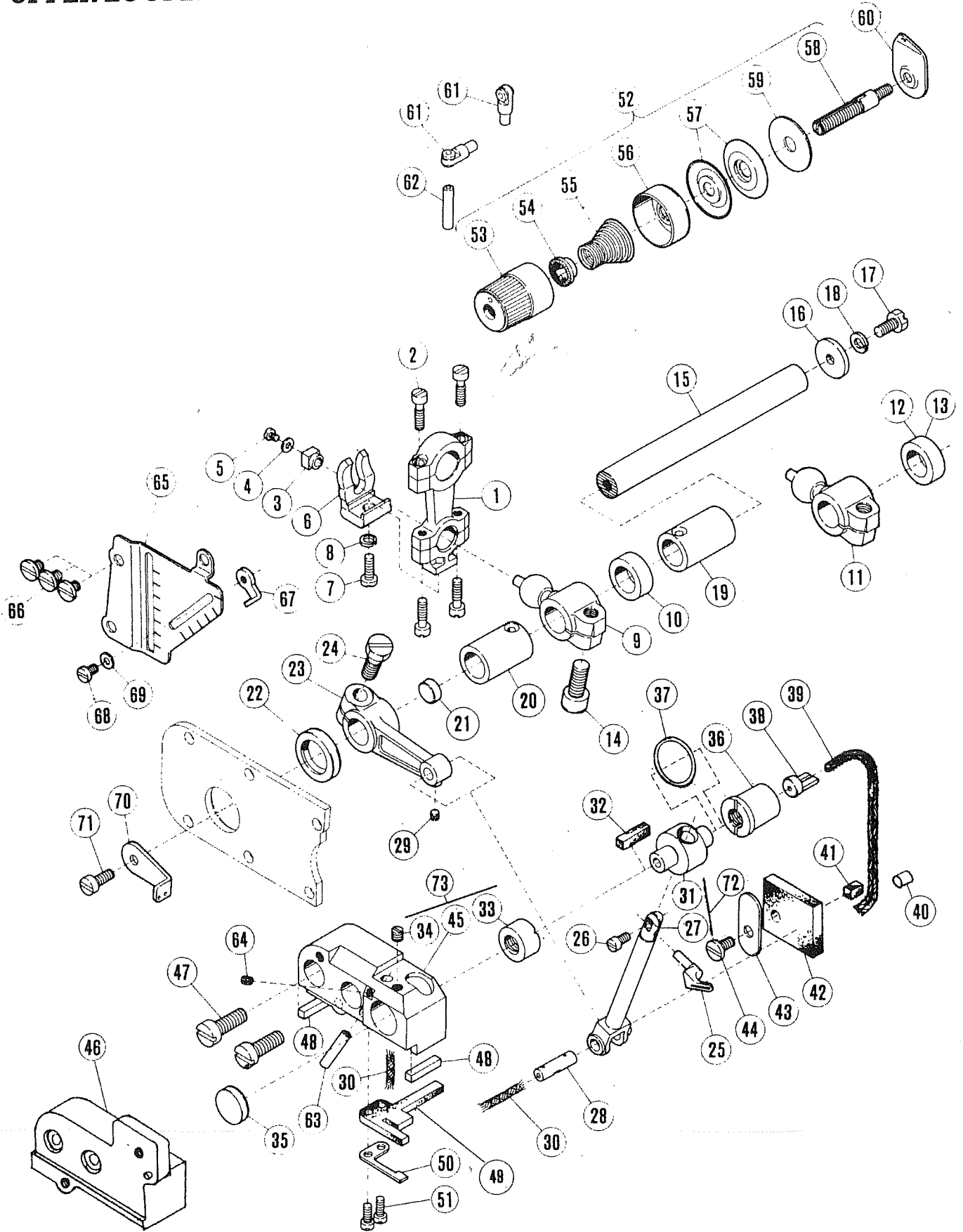
NEEDLE DRIVE MECHANISM (2)



## NEEDLE DRIVE MECHANISM (2)

| Ref# | Part#   | Description                                      | Ref# | Part#  | Description                  |
|------|---------|--|------|--------|------------------------------|
| 1    | 660641  | Thread Tension Complete                          | 33   | 660449 | Needle Guard (Rear)          |
| 2    | 611040  | Tension Spring (Heavy)                           | 34   | 660626 | Screw                        |
| 3    | 618560  | Screw Stud                                       | 35   | 660450 | Needle Guard (Front)         |
| 4    | 616680  | Post Nut   | 36   | 618780 | Screw                        |
| 5    | 616700  | Spring Bushing                                   | 37   | 660451 | Needle Guard (Rear)          |
| 6    | 616740  | Cap  | 38   | 660626 | Screw                        |
| 7    | 730061  | Disc   | 39   | 660452 | Needle Guard Bracket         |
| 8    | 616720  | Felt   | 40   | 618354 | Screw                        |
| 9    | 611920  | Tension Guide                                    | 41   | 660453 | Needle Thread Guide          |
| 10   | 660329  | Tension / Guide 2 Needle                         | 42   | 618740 | Screw                        |
| 11   | 660519  | Needle Thread Take-Up                            | 43   | 660454 | Needle Thread Guide          |
| 12   | 610120  | Screw  | 44   | 618740 | Screw                        |
| 13   | 730114  | Needle Holder                                    | 45   | 660455 | Needle Thread Guide          |
| 14   | 619400  | Screw  | 46   | 618740 | Screw                        |
| 15   | PSM-130 | Needle   | 47   | 660534 | Needle Guard (Front)         |
| 17   | 660420  | Needle Thread Retainer                           | 48   | 618780 | Screw                        |
| 18   | 660395  | Bracket  | 49   | 660520 | Needle Guard (Rear)          |
| 19   | 660422  | Spring   | 50   | 660561 | Screw                        |
| 20   | 660562  | Screw  | 51   | 660535 | Bracket / Ndle. Guard (Rear) |
| 21   | 660421  | Guide  | 52   | 610120 | Screw                        |
| 22   | 660533  | Needle Plate <sup>211782</sup> <sup>211706</sup> | 53   | 660546 | Needle Thread Guide          |
| 23   | 660620  | Screw <sup>623133</sup>                          | 54   | 618740 | Screw                        |
| 24   | 660446  | Ndle. Plate Bracket Assy.                        | 55   | 660547 | Needle Thread Guide          |
| 25   | 619625  | Screw  | 56   | 618740 | Screw                        |
| 26   | 660447  | Ndle. Plate Support Complete                     | 57   | 660455 | Needle Thread Guide          |
| 27   | 660629  | Screw  | 58   | 618740 | Screw                        |
| 28   | 660423  | Washer   | 59   | 660520 | Movable Needle Guard         |
| 29   | 660424  | Guide  | 60   | 660629 | Screw                        |
| 30   | 660566  | Screw  | 61   | 660425 | Washer                       |
| 31   | 660448  | Needle Guard (Front)                             | 62   | 660548 | Needle Guide / Ndle. Holder  |
| 32   | 619400  | Screw  | 64   | 660559 | Needle Plate Support         |

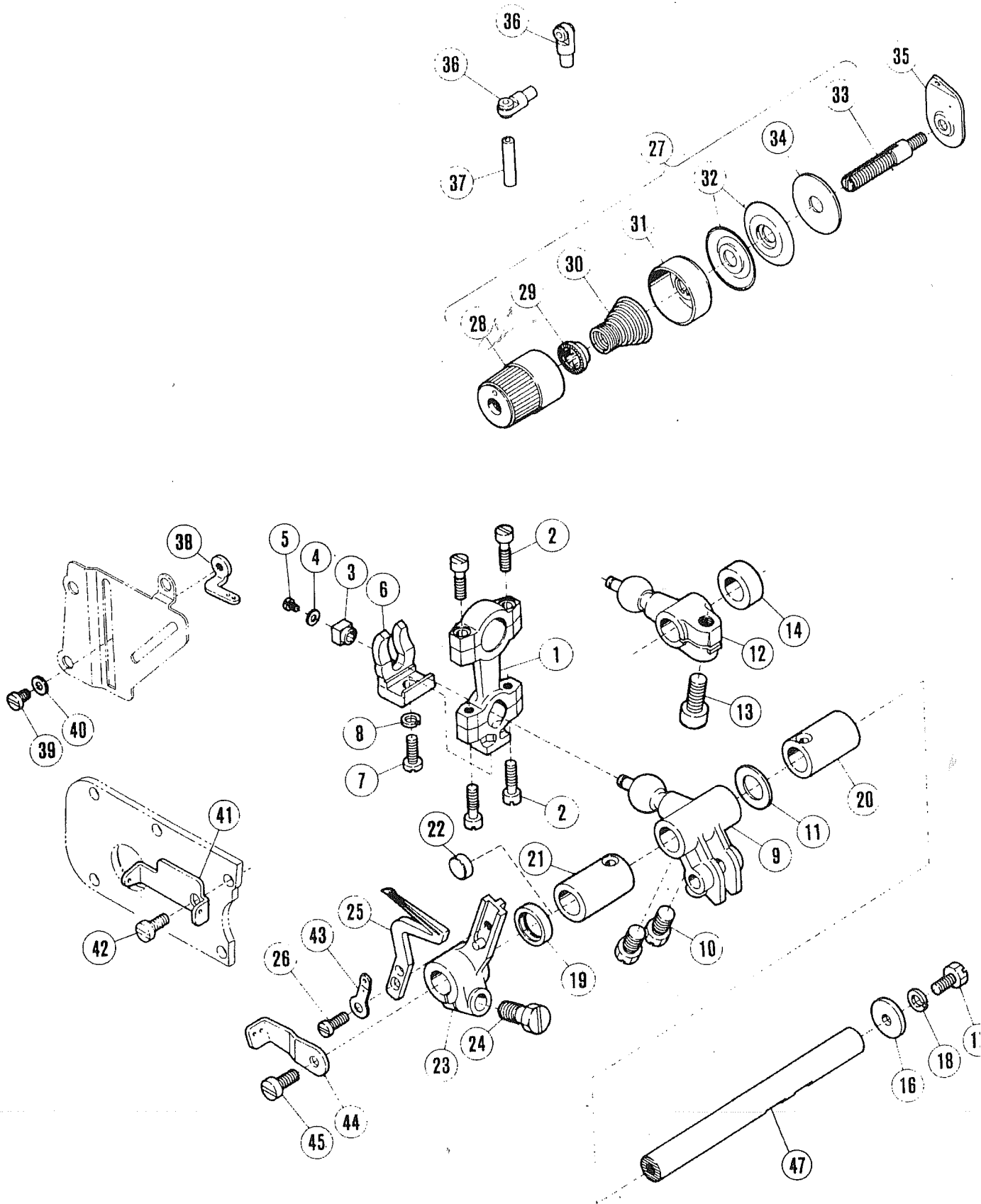
UPPER LOOPER DRIVE MECHANISM



## UPPER LOOPER DRIVE MECHANISM

| Ref#    | Part#  | Description                          | Ref#    | Part#  | Description                         |
|---------|--------|--------------------------------------|---------|--------|-------------------------------------|
| 1.....  | 660330 | .....Connection / Upper Looper Drive | 38..... | 660343 | .....Oil Release Plug               |
| 2.....  | 640013 | .....Screw                           | 39..... | 660289 | .....Oil Wick                       |
| 3.....  | 660332 | .....Block / Connection              | 40..... | 660288 | .....Oil Felt                       |
| 4.....  | 660414 | .....Washer                          | 41..... | 660415 | .....Oil Felt                       |
| 5.....  | 660563 | .....screw                           | 42..... | 660344 | .....Oil Felt                       |
| 6.....  | 660331 | .....Guide / Connection              | 43..... | 660345 | .....Set Plate                      |
| 7.....  | 640021 | .....Screw                           | 44..... | 618340 | .....Screw                          |
| 8.....  | 611640 | .....Washer                          | 45..... | 660458 | .....Base/Upper Looper Holder Guide |
| 9.....  | 660497 | .....Upper Looper Crank / Std. Lift  | 46..... | 660503 | .....Bracket                        |
| 10..... | 660333 | .....Washer                          | 47..... | 660611 | .....Screw                          |
| 11..... | 660456 | .....Upper Looper Crank / Hi Lift    | 48..... | 660348 | .....Gasket                         |
| 12..... | 660396 | .....Washer                          | 49..... | 660556 | .....Oil Felt                       |
| 13..... | 660303 | .....Thrust Washer                   | 50..... | 660347 | .....Set Plate                      |
| 14..... | 620026 | .....Screw                           | 51..... | 618380 | .....Screw                          |
| 15..... | 660334 | .....Shaft / Upper Looper Drive      | 52..... | 660643 | .....Thread Tension Complete        |
| 16..... | 660335 | .....Washer                          | 53..... | 616680 | .....Post Nut                       |
| 17..... | 617540 | .....Screw                           | 54..... | 616700 | .....Spring Bushing                 |
| 18..... | 611640 | .....Washer                          | 55..... | 611120 | .....Tension Spring (Light)         |
| 19..... | 660337 | .....Bushing                         | 56..... | 616740 | .....Cap                            |
| 20..... | 660336 | .....Bushing                         | 57..... | 730061 | .....Disc                           |
| 21..... | 660292 | .....Oil Felt                        | 58..... | 618560 | .....Screw Stud                     |
| 22..... | 660338 | .....Oil Felt                        | 59..... | 616720 | .....Felt                           |
| 23..... | 660339 | .....Lever / Upper Looper Holder     | 60..... | 611920 | .....Tension Guide                  |
| 24..... | 619360 | .....Screw                           | 61..... | 660568 | .....Eyelet                         |
| 25..... | 660491 | .....Upper Looper 2.11154            | 62..... | 613980 | .....Thread Tube                    |
| 26..... | 610700 | .....Screw                           | 63..... | 613980 | .....Thread Tube                    |
| 27..... | 660341 | .....Upper Looper Holder             | 64..... | 619400 | .....Screw                          |
| 28..... | 660340 | .....Pin                             | 65..... | 660459 | .....Looper Thread Guide Plate      |
| 29..... | 619400 | .....Screw                           | 66..... | 618140 | .....Screw                          |
| 30..... | 660126 | .....Oil Wick                        | 67..... | 660635 | .....Upper Looper Thread Guide      |
| 31..... | 615100 | .....Guide / Upper Looper Holder     | 68..... | 660630 | .....Screw                          |
| 32..... | 613600 | .....Oil Felt                        | 69..... | 611960 | .....Washer                         |
| 33..... | 660457 | .....Bushing                         | 70..... | 660460 | .....Upper Looper Thread Take-Up    |
| 34..... | 640018 | .....Screw                           | 71..... | 618120 | .....Screw                          |
| 35..... | 615220 | .....Cap                             | 72..... | 660419 | .....Upper Looper Holder Assy.      |
| 36..... | 660342 | .....Bushing                         | 73..... | 660555 | .....Upper Looper Holder Base       |
| 37..... | 660300 | .....O-Ring                          |         |        |                                     |

LOWER LOOPER DRIVE MECHANISM

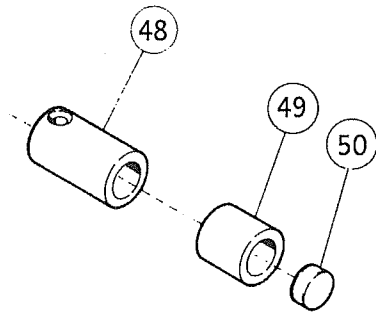


**LOWER LOOPER DRIVE MECHANISM**

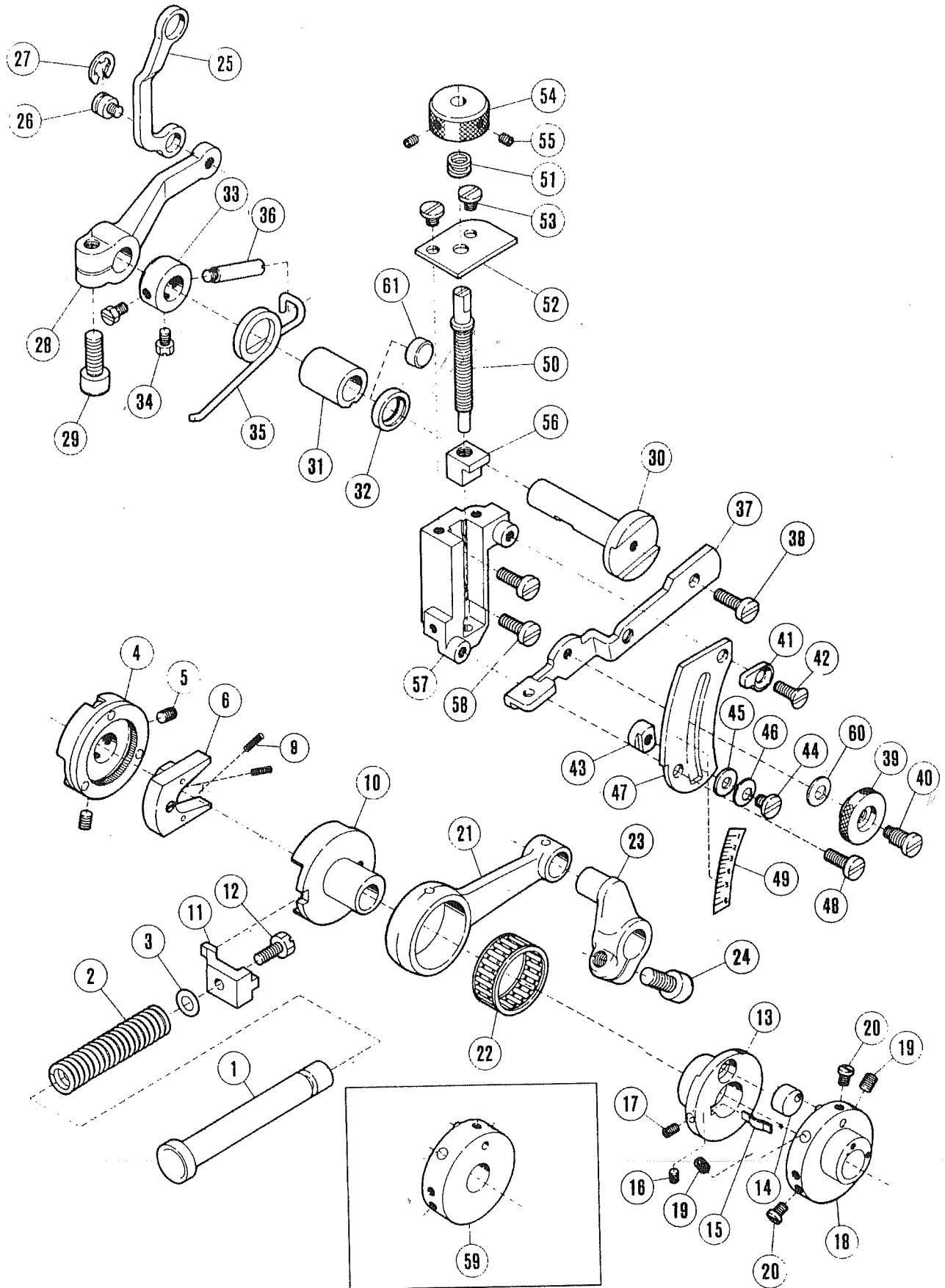
| Ref#    | Part#  | Description                         | Ref#    | Part#  | Description                      |
|---------|--------|-------------------------------------|---------|--------|----------------------------------|
| 1.....  | 660330 | .....Connection/Lower Looper Drive  | 25..... | 660462 | .....Lower Looper screw          |
| 2.....  | 640013 | .....Screw                          | 26..... | 610080 | .....Screw                       |
| 3.....  | 660332 | .....Block / Connection             | 27..... | 660642 | .....Thread Tension Complete     |
| 4.....  | 660414 | .....Washer                         | 28..... | 616680 | .....Post Nut                    |
| 5.....  | 660563 | .....Screw                          | 29..... | 616700 | .....Spring Bushing              |
| 6.....  | 660331 | .....Guide / Connection             | 30..... | 611120 | .....Tension Spring (Medium)     |
| 7.....  | 610020 | .....Screw                          | 31..... | 616740 | .....Cap                         |
| 8.....  | 611640 | .....Washer                         | 32..... | 730061 | .....Disc                        |
| 9.....  | 660461 | .....Lower Looper Crank / Hi Lift   | 33..... | 618560 | .....Screw Stud                  |
| 10..... | 611620 | .....Screw                          | 34..... | 616720 | .....Felt                        |
| 11..... | 614260 | .....Thrust Washer                  | 35..... | 611920 | .....Tension Guide               |
| 12..... | 660551 | .....Lower Looper Crank / Std. Lift | 36..... | 660568 | .....Eyelet                      |
| 13..... | 620026 | .....Screw                          | 37..... | 613980 | .....Thread Tube                 |
| 14..... | 730098 | .....Washer                         | 38..... | 660523 | .....Lower Looper Thread Guide   |
| 16..... | 612640 | .....Thrust Washer                  | 39..... | 610135 | .....Screw                       |
| 17..... | 617540 | .....Screw                          | 40..... | 611960 | .....Washer                      |
| 18..... | 611640 | .....Washer                         | 41..... | 660522 | .....Lower Looper Thread Guide   |
| 19..... | 640024 | .....Oil Seal                       | 42..... | 660615 | .....Screw                       |
| 20..... | 640022 | .....Bushing (Rear)                 | 43..... | 640025 | .....Thread Guide (Left)         |
| 21..... | 640023 | .....Bushing (Front)                | 44..... | 660524 | .....Lower Looper Thread Take-Up |
| 22..... | 660308 | .....Plug                           | 45..... | 618120 | .....Screw                       |
| 23..... | 660521 | .....Lower Looper Lever             | 47..... | 660349 | .....Shaft / Lower Looper Lever  |
| 24..... | 660623 | .....Screw                          |         |        |                                  |

**CHAINSTITCH LOOPER DRIVE MECHANISM**

| Ref#    | Part#  | Description  |
|---------|--------|--------------|
| 48..... | 730116 | .....Bushing |
| 49..... | 730204 | .....Bushing |
| 50..... | 730142 | .....Plug    |



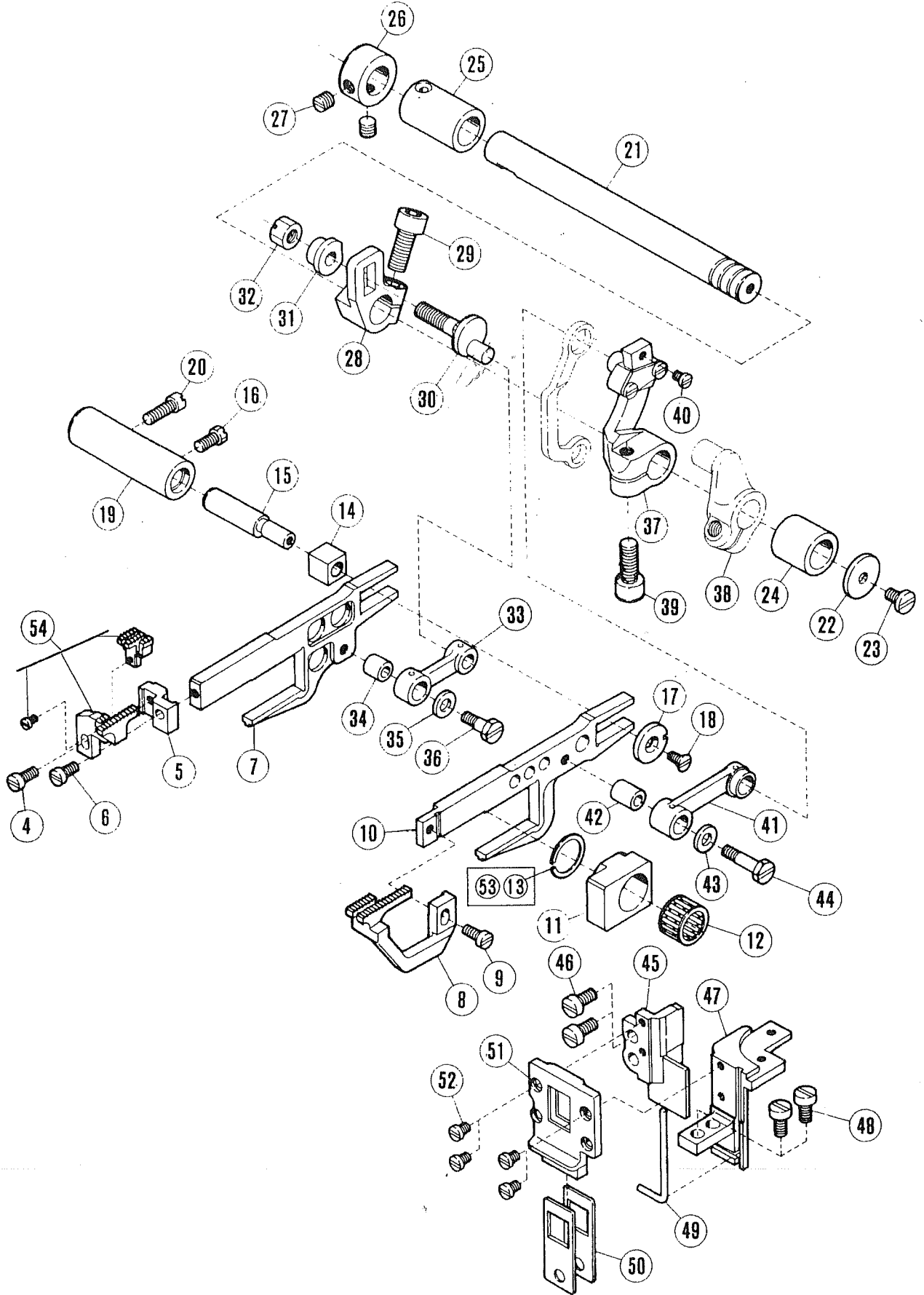
FEED MECHANISM (1)



## FEED MECHANISM (1)

| Ref#    | Part#  | Description                        | Ref#    | Part#  | Description                        |
|---------|--------|------------------------------------|---------|--------|------------------------------------|
| 1.....  | 660350 | .....Push Button                   | 32..... | 612300 | .....Oil Seal                      |
| 2.....  | 660352 | .....Spring                        | 33..... | 660572 | .....Collar                        |
| 3.....  | 613320 | .....O-Ring                        | 34..... | 618600 | .....Screw                         |
| 4.....  | 660553 | .....Ratchet Wheel Complete        | 35..... | 660473 | .....Spring                        |
| 5.....  | 620033 | .....Screw                         | 36..... | 614180 | .....Latch Screw                   |
| 6.....  | 616340 | .....Feed Regulating Ratchet       | 37..... | 660474 | .....Lever / Diff. Feed Regulating |
| 7.....  | 616400 | .....Spring                        | 38..... | 618740 | .....Screw                         |
| 8.....  | 611960 | .....Washer                        | 39..... | 660363 | .....Thumbnut                      |
| 9.....  | 660616 | .....Screw                         | 40..... | 660622 | .....Screw                         |
| 10..... | 620042 | .....Feed Regulating Eccentric     | 41..... | 660490 | .....Stopper                       |
| 11..... | 660351 | .....Stopper                       | 42..... | 610560 | .....Screw                         |
| 12..... | 617540 | .....Screw                         | 43..... | 660365 | .....Stopper                       |
| 13..... | 620034 | .....Feed Eccentric                | 44..... | 618140 | .....Screw                         |
| 14..... | 620037 | .....Guide / Feed Eccentric        | 45..... | 660284 | .....Washer                        |
| 15..... | 620038 | .....Spring                        | 46..... | 660285 | .....Washer                        |
| 16..... | 619400 | .....Screw                         | 47..... | 660364 | .....Diff. Feed Regulating Guide   |
| 17..... | 620039 | .....Screw                         | 48..... | 618740 | .....Screw                         |
| 18..... | 660580 | .....Looper Avoiding Eccentric     | 49..... | 660475 | .....Indication Plate              |
| 19..... | 620033 | .....Screw                         | 50..... | 660366 | .....Diff. Feed Regulating Bar     |
| 20..... | 660628 | .....Screw                         | 51..... | 660135 | .....Spring                        |
| 21..... | 660353 | .....connection / Feed Drive       | 52..... | 660646 | .....Guide / Diff. Feed Reg. Bar   |
| 22..... | 612480 | .....Needle Bearing                | 53..... | 618640 | .....Screw                         |
| 23..... | 660463 | .....Crank / Feed Drive            | 54..... | 660644 | .....Thumbnut                      |
| 24..... | 620026 | .....Screw                         | 55..... | 619400 | .....Screw                         |
| 25..... | 660470 | .....Link / Diff. Feed Regulating  | 56..... | 660412 | .....Block / Diff. Feed Regulating |
| 26..... | 619460 | .....Screw                         | 57..... | 660476 | .....Diff. Feed Regulating Base    |
| 27..... | 611740 | .....Snap Ring                     | 58..... | 618760 | .....Screw                         |
| 28..... | 660471 | .....Lever / Diff. Feed Regulating | 59..... | 660582 | .....Feed Eccentric Retainer       |
| 29..... | 620026 | .....Screw                         | 60..... | 660136 | .....Spring Washer                 |
| 30..... | 660472 | .....Shaft / Diff. Feed Regulating | 61..... | 615220 | .....Cap                           |
| 31..... | 660362 | .....Bushing                       |         |        |                                    |

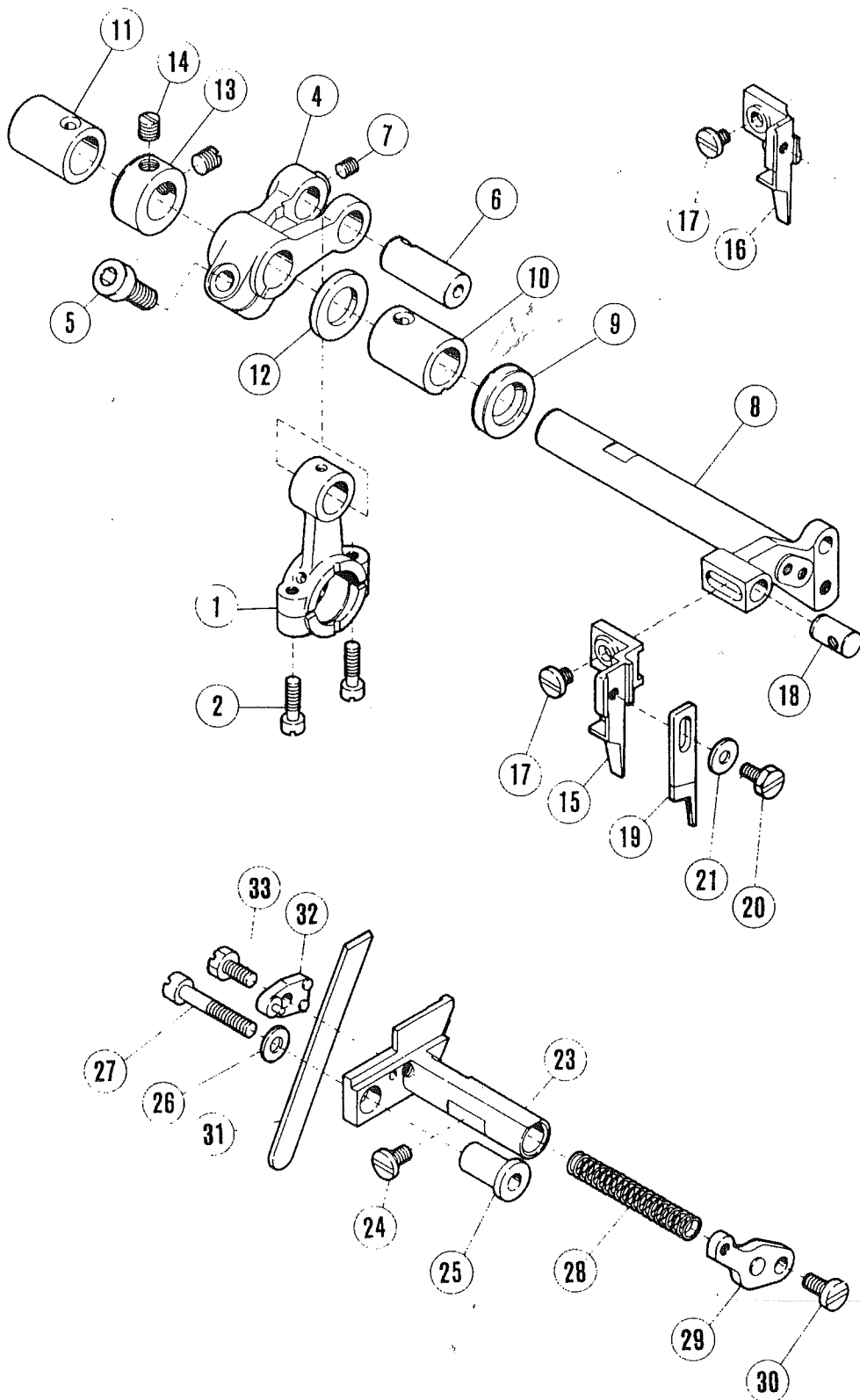
FEED MECHANISM (2)



## FEED MECHANISM (2)

| Ref# | Part#  | Description              | Ref# | Part#  | Description               |
|------|--------|--------------------------|------|--------|---------------------------|
| 4    | 610100 | Screw                    | 30   | 660356 | Pin                       |
| 5    | 660466 | Bracket / Main Feed Dog  | 31   | 660357 | Washer                    |
| 6    | 610100 | Screw                    | 32   | 619740 | Nut                       |
| 7    | 660465 | Main Feed Bar            | 33   | 660358 | Link / Main Feed          |
| 8    | 660537 | Diff. Feed Dog           | 34   | 660359 | Bushing                   |
| 9    | 610100 | Screw                    | 35   | 612700 | Thrust Washer             |
| 10   | 660469 | Diff. Feed Bar           | 36   | 660625 | Screw                     |
| 11   | 660360 | Block / Feed Bar Lift    | 37   | 660467 | Diff. Feed Crank Complete |
| 12   | 660301 | Needle Bearing           | 38   | 660307 | Diff. Feed Crank          |
| 13   | 660302 | Stop Ring                | 39   | 620026 | Screw                     |
| 14   | 660295 | Block / Feed Bar Guide   | 40   | 619600 | Screw                     |
| 15   | 612760 | Pin                      | 41   | 660468 | Link / Diff. Feed         |
| 16   | 618600 | Screw                    | 42   | 612680 | Bushing                   |
| 17   | 613780 | Washer                   | 43   | 612705 | Washer                    |
| 18   | 619480 | Screw                    | 44   | 619140 | Screw                     |
| 19   | 612780 | Bushing / Feed Bar Guide | 45   | 660477 | Feed Bar Guide            |
| 20   | 617600 | Screw                    | 46   | 619080 | Screw                     |
| 21   | 660354 | Feed Shaft               | 47   | 660478 | Feed Bar Guide            |
| 22   | 660335 | Washer                   | 48   | 618120 | Screw                     |
| 23   | 618340 | Screw                    | 49   | 615200 | O-Ring                    |
| 24   | 660355 | Bushing                  | 50   | 660361 | Feed Bar Oil Seal         |
| 25   | 660337 | Bushing                  | 51   | 660479 | Guide / Feed Bar Oil Seal |
| 26   | 611500 | Collar                   | 52   | 619600 | Stop Ring                 |
| 27   | 618460 | Screw                    | 53   | 615390 | Washer                    |
| 28   | 660464 | Crank / Main Feed        | 54   | 660536 | Main Feed Dog Complete    |
| 29   | 620026 | Screw                    |      |        |                           |

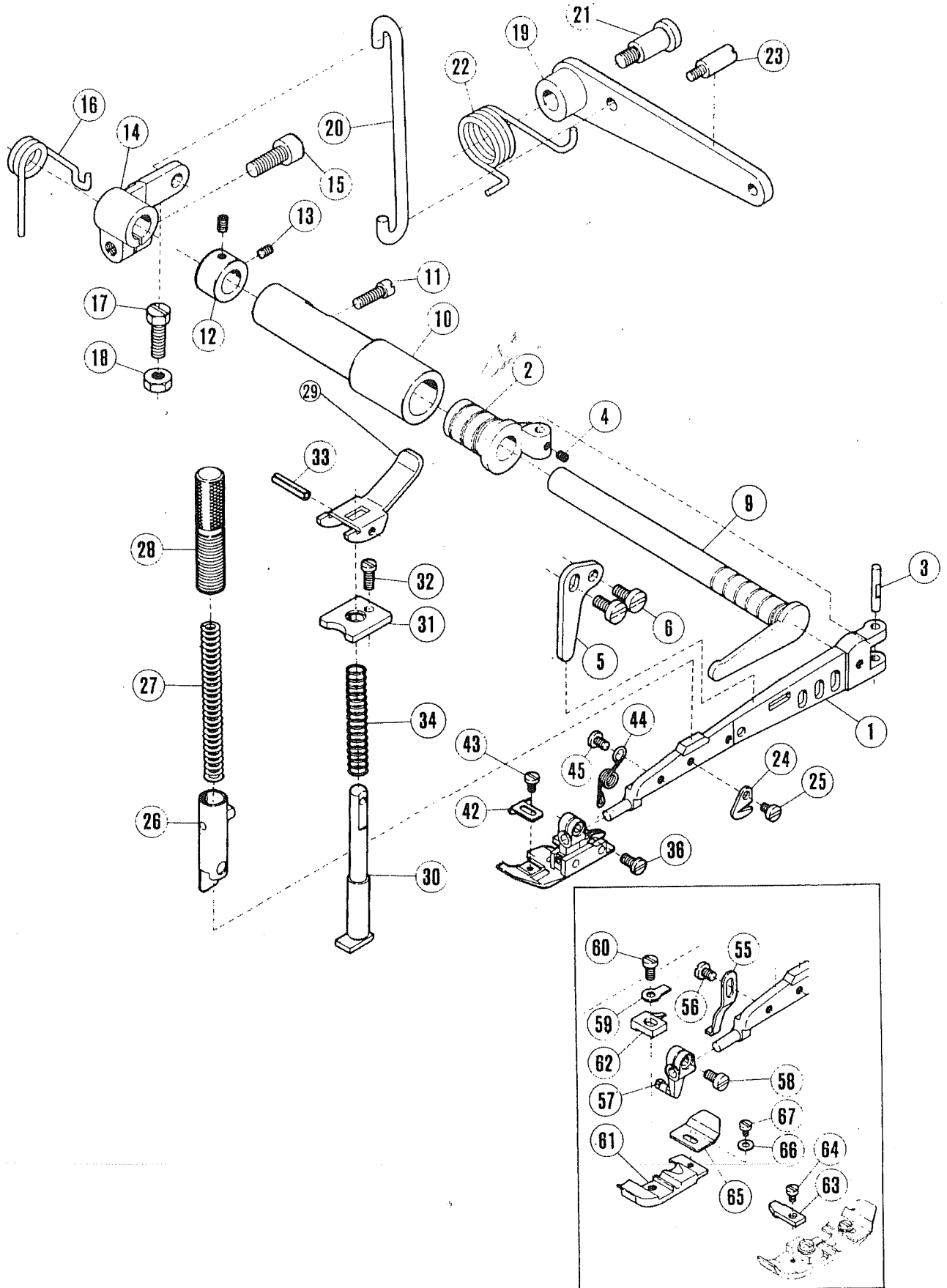
## KNIFE DRIVE MECHANISM



## KNIFE DRIVE MECHANISM

| Ref#    | Part#  | Description                         | Ref#    | Part#  | Description                        |
|---------|--------|-------------------------------------|---------|--------|------------------------------------|
| 1.....  | 660367 | .....Connection / Upper Knife Drive | 18..... | 620005 | .....Pin                           |
| 2.....  | 640013 | .....Screw                          | 19..... | 660296 | .....Upper Knife                   |
| 3.....  | 660480 | .....Crank / Upper Knife Drive      | 20..... | 618620 | .....Screw                         |
| 4.....  | 660538 | .....Crank / Upper Knife Drive      | 21..... | 660508 | .....Washer                        |
| 5.....  | 620026 | .....Screw                          | 22..... | 660482 | .....Lower Knife Holder            |
| 6.....  | 660368 | .....Pin                            | 23..... | 660540 | .....Lower Knife Holder            |
| 7.....  | 620033 | .....Screw                          | 24..... | 618340 | .....Screw                         |
| 8.....  | 730167 | .....Upper Knife Lever              | 25..... | 660369 | .....Guide / Lower Knife Holder    |
| 9.....  | 660328 | .....Oil Seal                       | 26..... | 660284 | .....Washer                        |
| 10..... | 660327 | .....Bushing                        | 27..... | 618660 | .....Screw                         |
| 11..... | 660326 | .....Bushing (Right)                | 28..... | 660290 | .....Spring                        |
| 12..... | 611500 | .....Thrust Washer                  | 29..... | 660483 | .....Spring Retainer / Lower Knife |
| 13..... | 660287 | .....Collar                         | 30..... | 618740 | .....Screw                         |
| 14..... | 618460 | .....Screw                          | 31..... | 660297 | .....Lower Knife                   |
| 15..... | 660481 | .....Upper Knife Clamp              | 32..... | 660370 | .....Clamp / Lower Knife           |
| 16..... | 660539 | .....Upper Knife Clamp              | 33..... | 617540 | .....Screw                         |
| 17..... | 618120 | .....Screw                          |         |        |                                    |

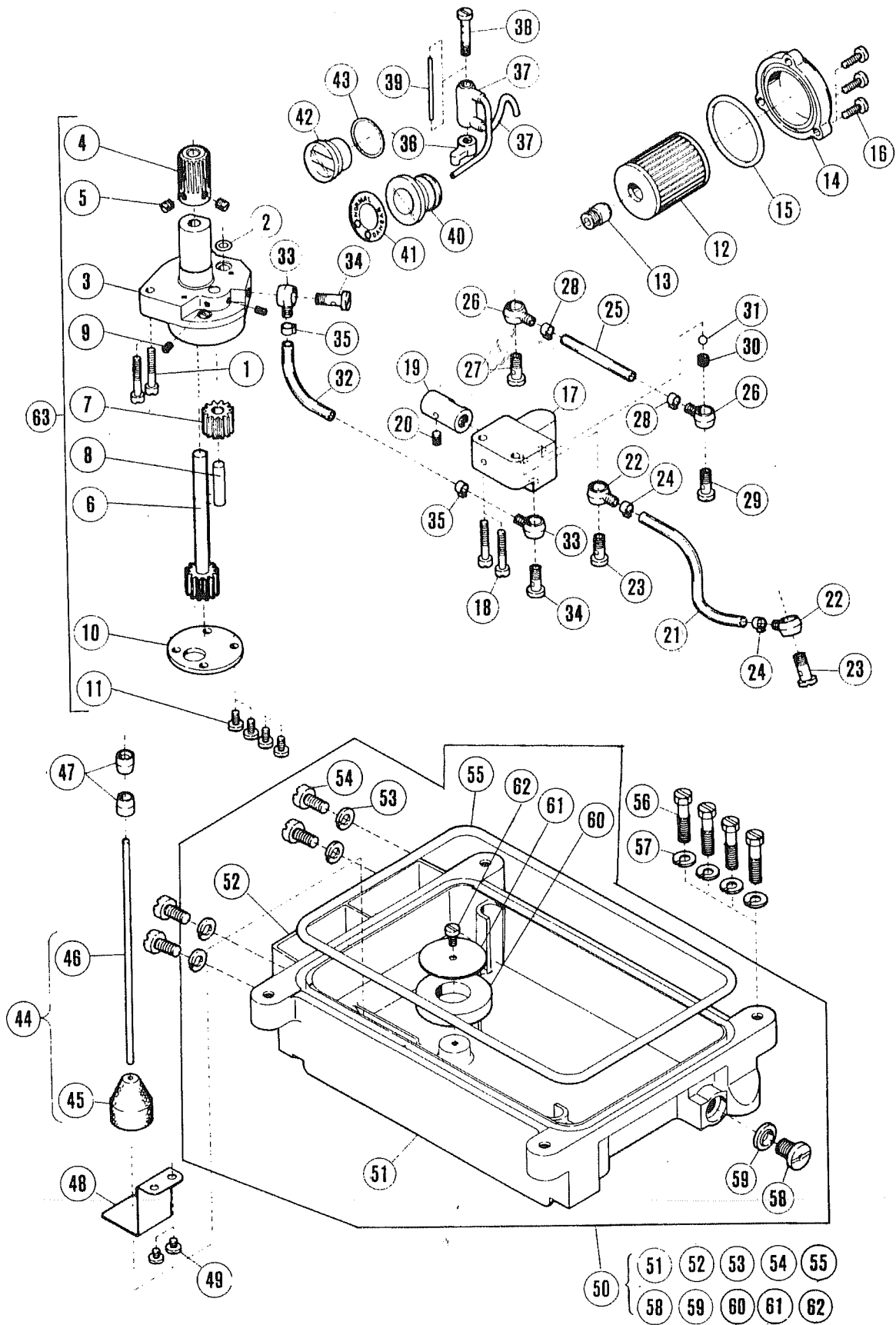
PRESSER FOOT MECHANISM



## PRESSER FOOT MECHANISM

| Ref#    | Part#       | Description            | Ref#    | Part#       | Description              |
|---------|-------------|------------------------|---------|-------------|--------------------------|
| 1.....  | 660484..... | Presser Arm            | 29..... | 617100..... | Hand Lift Lever          |
| 2.....  | 660631..... | Hinge / Presser Arm    | 30..... | 611780..... | Plunger                  |
| 3.....  | 611360..... | Pin                    | 31..... | 617120..... | Bushing                  |
| 4.....  | 619400..... | Screw                  | 32..... | 618420..... | Screw                    |
| 5.....  | 660637..... | Stopper / Presser Arm  | 33..... | 611800..... | Pin                      |
| 6.....  | 618740..... | Screw                  | 34..... | 611420..... | Spring                   |
| 9.....  | 660632..... | Shaft / Foot Lift      | 36..... | 619520..... | Screw                    |
| 10..... | 660416..... | Bushing                | 42..... | 660545..... | Fabric Guard             |
| 11..... | 617440..... | Screw                  | 43..... | 660597..... | Screw                    |
| 12..... | 660417..... | Thrust Collar          | 44..... | 660510..... | Presser Foot Spring      |
| 13..... | 619400..... | Screw                  | 45..... | 618200..... | Screw                    |
| 14..... | 660485..... | Intermediate Lever     | 53..... | 618200..... | Screw                    |
| 15..... | 620026..... | Screw                  | 55..... | 660541..... | Stopper / Presser Foot   |
| 16..... | 660486..... | Spring                 | 56..... | 618200..... | Screw                    |
| 17..... | 660610..... | Screw                  | 57..... | 660573..... | Presser Foot Holder      |
| 18..... | 660613..... | Nut                    | 58..... | 619520..... | Screw                    |
| 19..... | 660530..... | Foot Lift Lever        | 59..... | 660283..... | Set Plate / Presser Foot |
| 20..... | 660633..... | Link / Foot Lift Lever | 60..... | 660605..... | Screw 5089               |
| 21..... | 660586..... | Screw                  | 61..... | 660542..... | Screw                    |
| 22..... | 660531..... | Spring                 | 62..... | 660543..... | Finger                   |
| 23..... | 660618..... | Screw                  | 63..... | 660545..... | Fabric Guard             |
| 24..... | 730137..... | Chaincutter            | 64..... | 660563..... | Screw                    |
| 25..... | 618200..... | Screw                  | 65..... | 660544..... | Uncurler                 |
| 26..... | 660485..... | Presser Bar            | 66..... | 660414..... | Washer                   |
| 27..... | 660634..... | Spring                 | 67..... | 660597..... | Screw                    |
| 28..... | 660306..... | Thumb Screw            |         |             |                          |

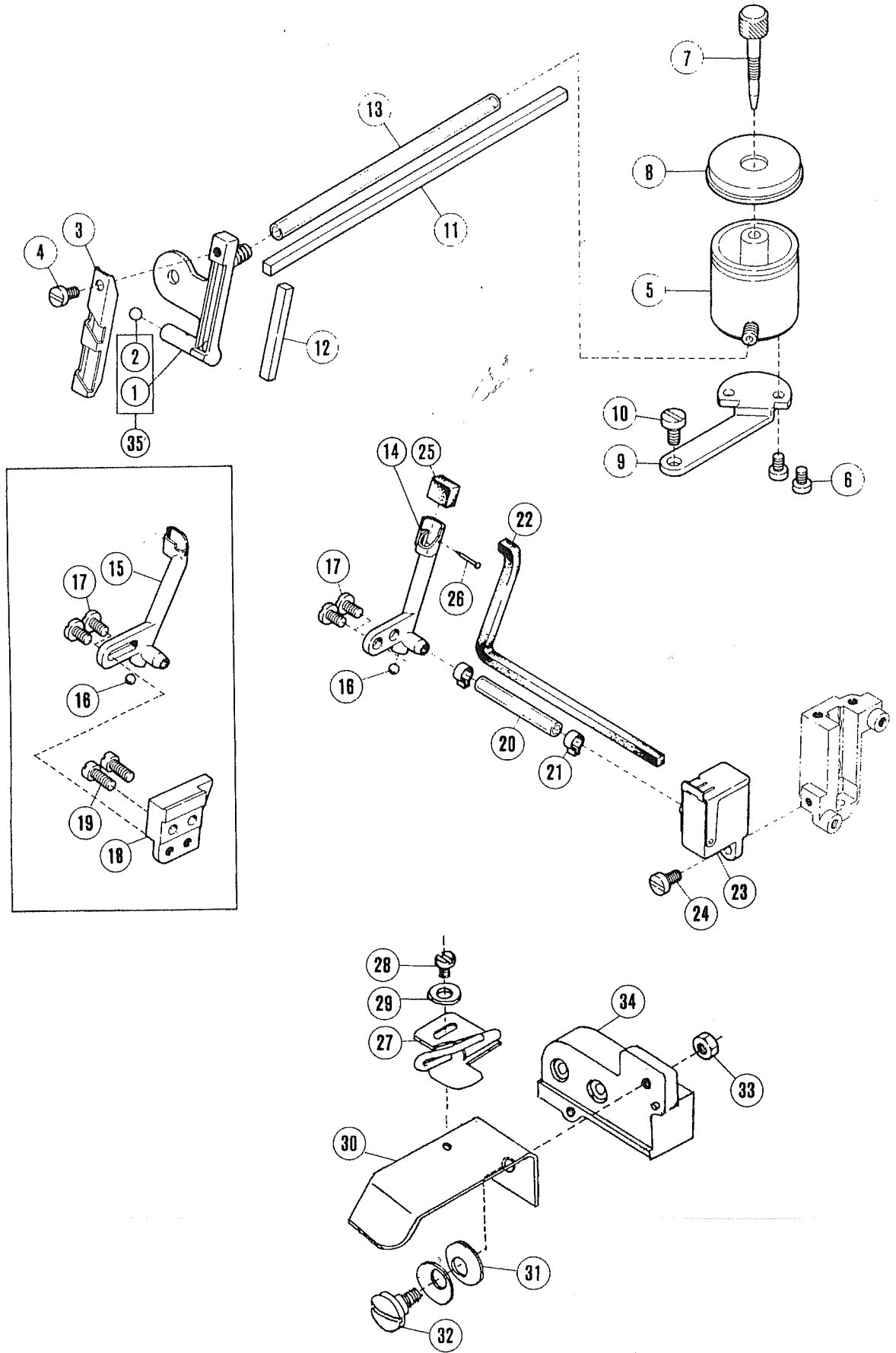
LUBRICATING MECHANISM



## LUBRICATING MECHANISM

| Ref#    | Part#       | Description              | Ref#    | Part#       | Description              |
|---------|-------------|--------------------------|---------|-------------|--------------------------|
| 1.....  | 660606..... | Screw                    | 33..... | 610800..... | Oil Splash Joint         |
| 2.....  | 613320..... | O-Ring                   | 34..... | 610860..... | Screw                    |
| 3.....  | 660487..... | Pump                     | 35..... | 611615..... | Tube Clamp               |
| 4.....  | 660517..... | Worm Wheel               | 36..... | 660376..... | Lubrication Block        |
| 5.....  | 618460..... | Screw                    | 37..... | 660557..... | Oil Distributor          |
| 6.....  | 617265..... | Gear                     | 38..... | 660377..... | Screw                    |
| 7.....  | 611320..... | Gear                     | 39..... | 660378..... | Oil Flow Adjust Pin      |
| 8.....  | 613300..... | Pump Gear Shaft          | 40..... | 660373..... | Oil Monitor Complete     |
| 9.....  | 610440..... | Screw                    | 41..... | 660374..... | Name Plate / Oil Monitor |
| 10..... | 611280..... | Plate                    | 42..... | 660371..... | Oil Level Gauge          |
| 11..... | 618740..... | Screw                    | 43..... | 660507..... | Washer / Oil Level Gauge |
| 12..... | 660130..... | Oil Filter               | 44..... | 660132..... | Indicator Complete       |
| 13..... | 660375..... | Bracket / Oil Filter     | 45..... | 660567..... | Float                    |
| 14..... | 660574..... | Oil Filter Cap           | 46..... | 660372..... | Indicator                |
| 15..... | 660304..... | O-Ring                   | 47..... | 660275..... | Indicator Guide          |
| 16..... | 618760..... | Screw                    | 48..... | 660134..... | Indicator Support        |
| 17..... | 660379..... | By-Pass Complete         | 49..... | 618140..... | Screw                    |
| 18..... | 618660..... | Screw                    | 50..... | 660493..... | Oil Reservoir Complete   |
| 19..... | 660298..... | By-Pass Valve            | 51..... | 660488..... | Oil Reserve              |
| 20..... | 610440..... | Screw                    | 52..... | 660494..... | Air Guide                |
| 21..... | 614810..... | Oil Tube                 | 53..... | 611640..... | Washer                   |
| 22..... | 610800..... | Oil Splash Joint         | 54..... | 618740..... | Screw                    |
| 23..... | 610860..... | Screw                    | 55..... | 660381..... | O-Ring                   |
| 24..... | 611615..... | Tube Clamp               | 56..... | 660608..... | Bolt                     |
| 25..... | 660380..... | By-Pass Pipe             | 57..... | 611560..... | Washer                   |
| 26..... | 610800..... | Oil Splash Joint         | 58..... | 618840..... | Screw                    |
| 27..... | 610860..... | Screw                    | 59..... | 611660..... | Washer                   |
| 28..... | 611615..... | Tube Clamp               | 60..... | 660638..... | Magnet                   |
| 29..... | 610860..... | Screw                    | 61..... | 660639..... | Magnet Bracket           |
| 30..... | 660418..... | Bracket / Oil Flow Valve | 62..... | 618740..... | Screw                    |
| 31..... | 660282..... | Ball                     | 63..... | 660525..... | Pump Complete            |
| 32..... | 660380..... | By-Pass Pipe             |         |             |                          |

H. R. DEVICE / BINDER



## H. R. DEVICE / BINDER

| Ref#    | Part#       | Description              |
|---------|-------------|--------------------------|
| 1.....  | 660526..... | Needle Thread Lubricator |
| 2.....  | 660133..... | Plug                     |
| 3.....  | 660527..... | Thread Guide             |
| 4.....  | 610180..... | Screw                    |
| 5.....  | 660569..... | Silicone Oil Reservoir   |
| 6.....  | 610180..... | Screw                    |
| 7.....  | 660570..... | Silicone Oil Regulator   |
| 8.....  | 660571..... | Cap                      |
| 9.....  | 660528..... | Bracket                  |
| 10..... | 618740..... | Screw                    |
| 11..... | 613590..... | Oil Felt                 |
| 12..... | 660504..... | Oil Felt                 |
| 13..... | 660505..... | Oil Tube                 |
| 14..... | 660489..... | Needle Collar            |
| 15..... | 660549..... | Needle Cooler            |
| 16..... | 660133..... | Plug                     |
| 17..... | 618640..... | Screw                    |
| 18..... | 660550..... | Bracket / Needle Cooler  |

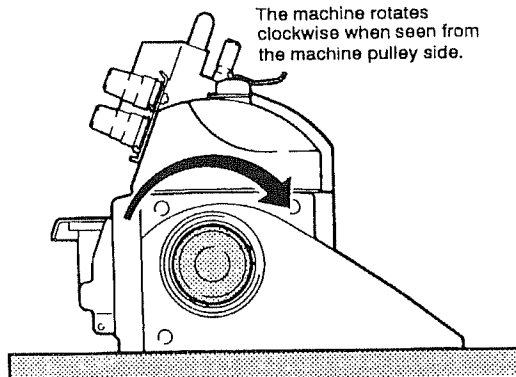
| Ref#    | Part#       | Description                     |
|---------|-------------|---------------------------------|
| 19..... | 618354..... | Screw                           |
| 20..... | 660529..... | Oil Tube                        |
| 21..... | 611615..... | Tube Clamp                      |
| 22..... | 611600..... | Oil Felt                        |
| 23..... | 660492..... | Silicone Oil Reservoir Complete |
| 24..... | 619840..... | Screw                           |
| 25..... | 660127..... | Oil Felt                        |
| 26..... | 660235..... | Pin                             |
| 27..... | 660501..... | Binder (Specify Size)           |
| 28..... | 610200..... | Screw                           |
| 29..... | 660280..... | Washer                          |
| 30..... | 660502..... | Binder Bracket                  |
| 31..... | 660294..... | Spring Washer                   |
| 32..... | 660612..... | Stud                            |
| 33..... | 618680..... | Nut                             |
| 34..... | 660503..... | Bracket                         |
| 35..... | 660585..... | Ndle.Thread Lubricator Complete |

# INSTRUCTIONS - Right Sewing Head

## CAUTION

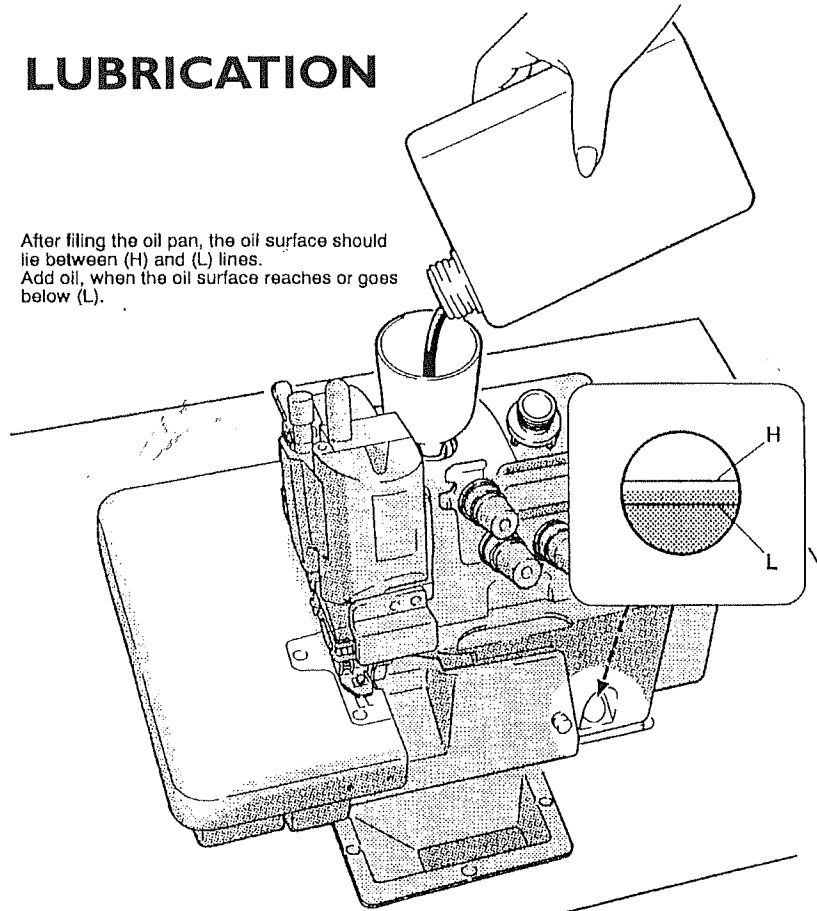
- To prevent accidents, do not remove safety devices or parts while operating the machine.
- Do not leave tools or other unnecessary objects on the machine table while operating the machine.
- Before maintenance, adjusting, cleaning, threading or replacing the needle, and to prevent accidents, be sure the power is turned off. Check that the machine will not operate when the pedal is pressed.
- Turn the power off before leaving the machine table.
- In the event of a power failure, be sure to turn the machine off.

## TURNING DIRECTION

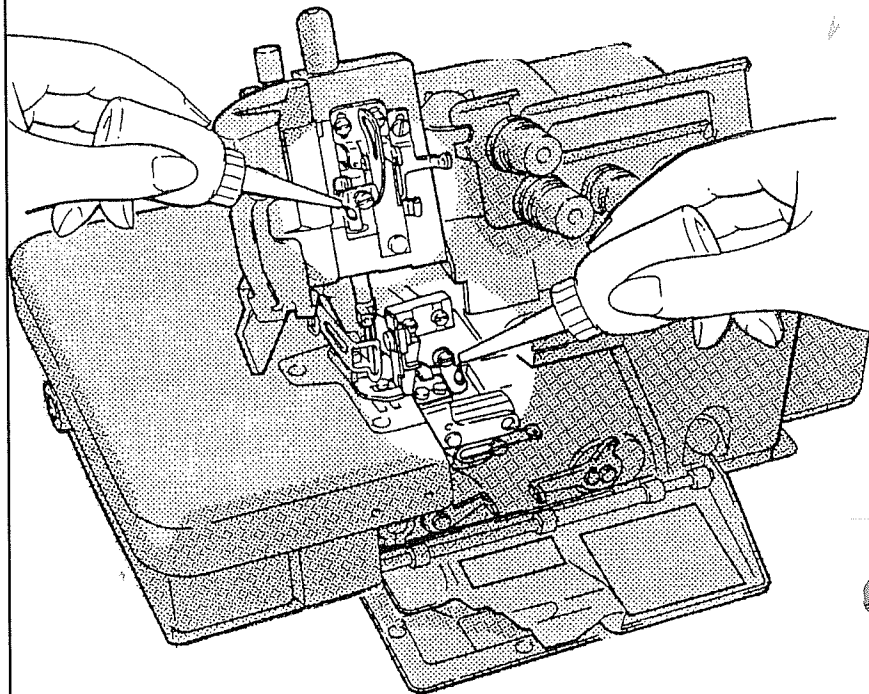


## LUBRICATION

After filling the oil pan, the oil surface should lie between (H) and (L) lines. Add oil, when the oil surface reaches or goes below (L).

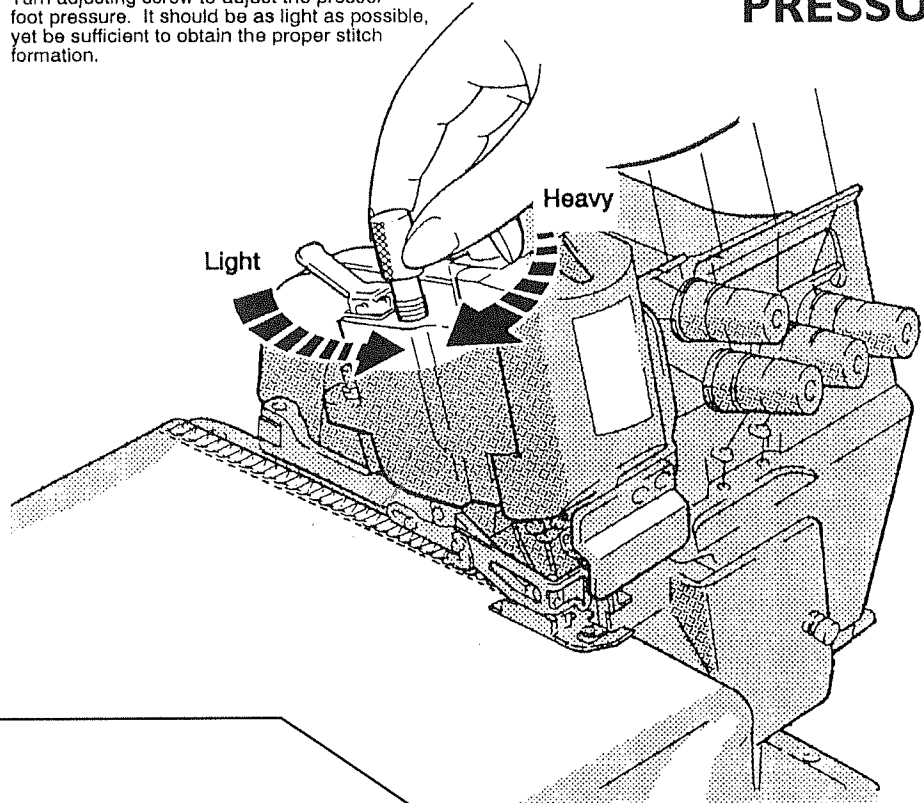


Apply 2 or 3 drops of oil by hand when the machine is used for the first time or has been left unused for some time.

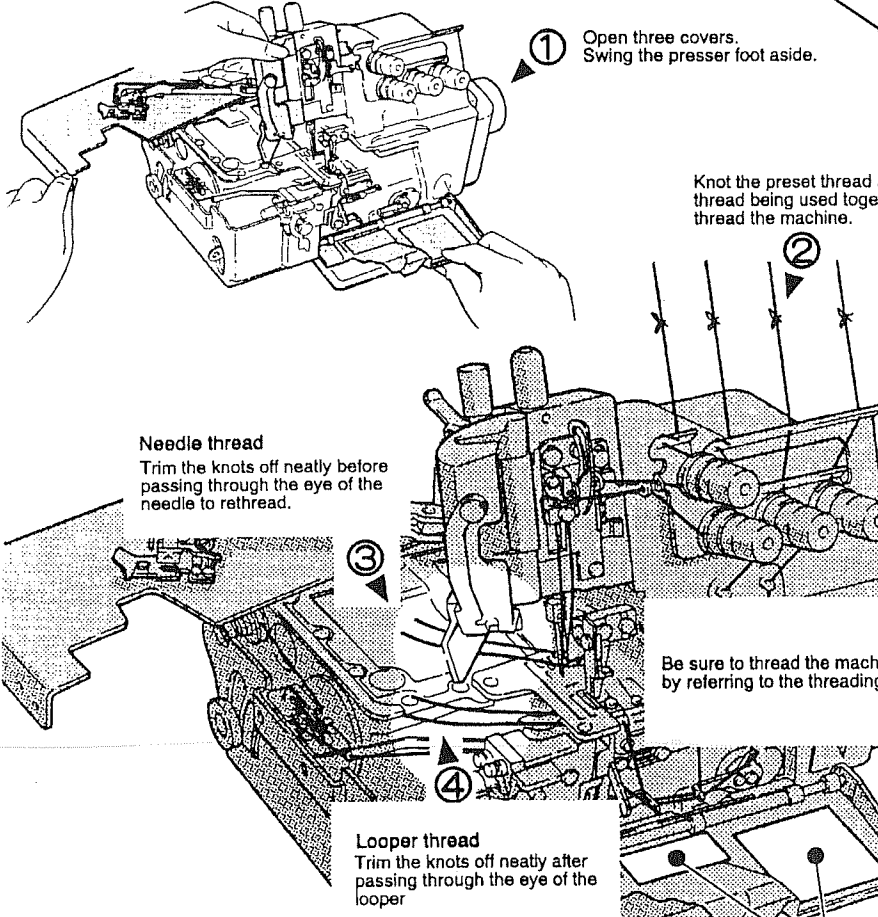


# PRESSER FOOT PRESSURE

Turn adjusting screw to adjust the presser foot pressure. It should be as light as possible, yet be sufficient to obtain the proper stitch formation.

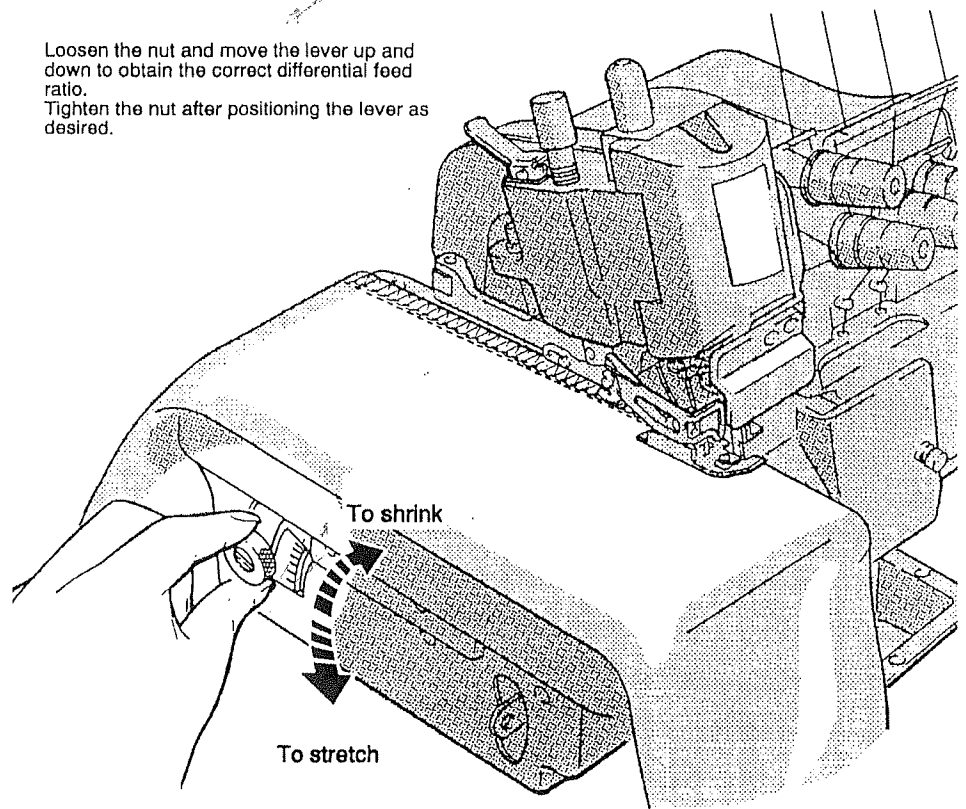


# THREADING



## DIFFERENTIAL FEED RATIO ADJUSTMENT

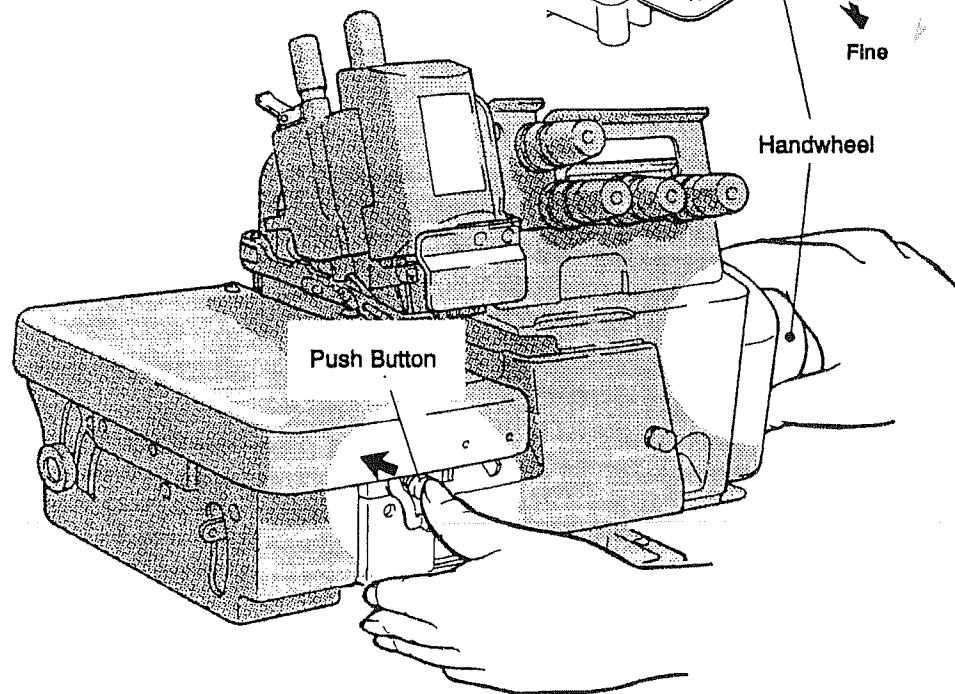
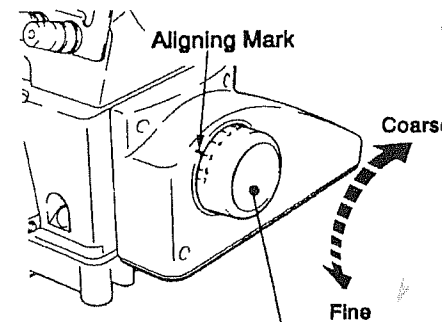
Loosen the nut and move the lever up and down to obtain the correct differential feed ratio. Tighten the nut after positioning the lever as desired.



## STITCH LENGTH ADJUSTMENT

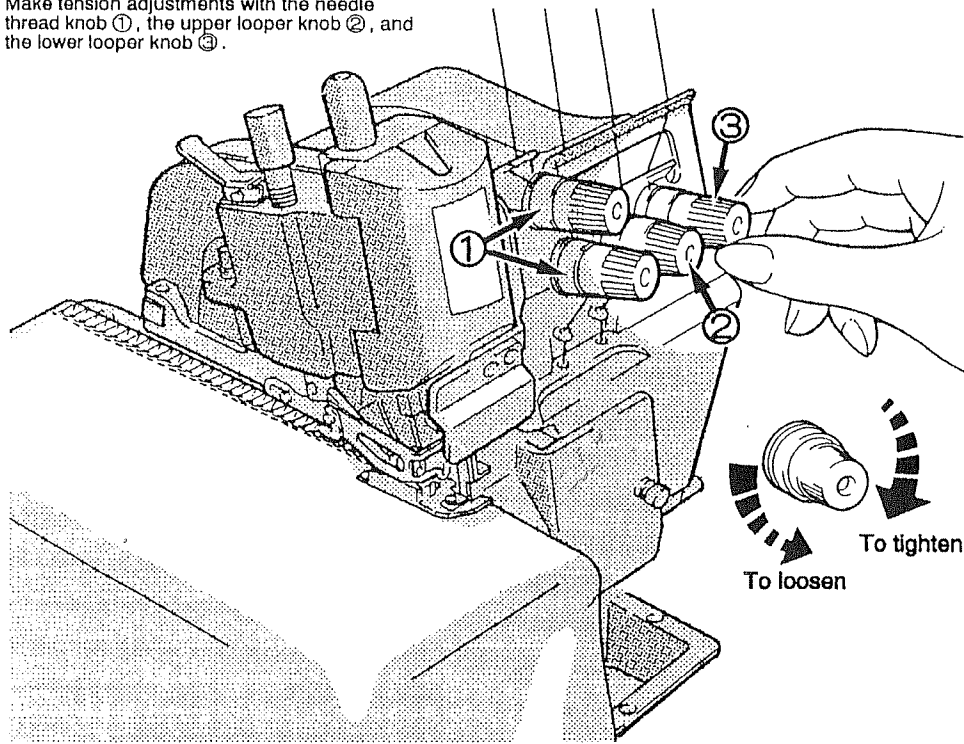
While pressing the push button, turn the handwheel to seek the position at which the push button goes further into the depth. Then, keeping the push button pressed, turn the handwheel and set the desired scale to the aligning mark.

Note: Stitch length adjustment must only be made after the differential feed ratio has been changed.



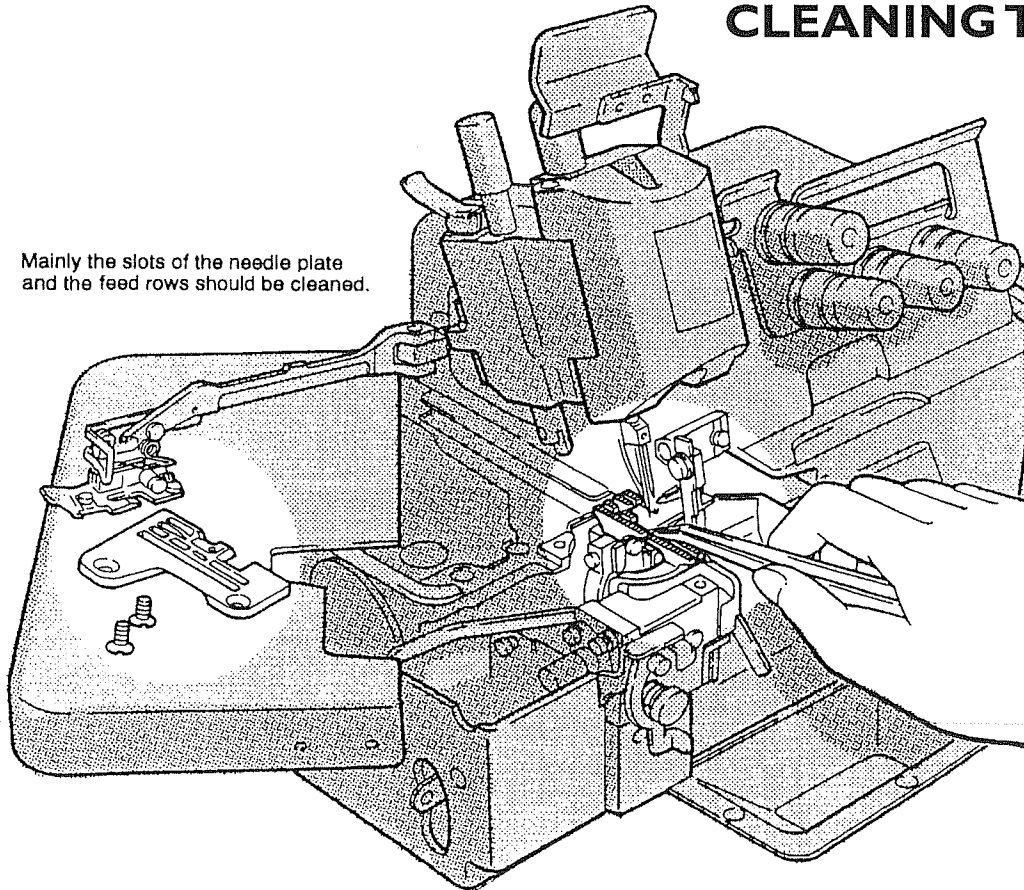
### THREAD TENSION

Make tension adjustments with the needle thread knob ①, the upper looper knob ②, and the lower looper knob ③.



### CLEANING THE MACHINE

Mainly the slots of the needle plate and the feed rows should be cleaned.

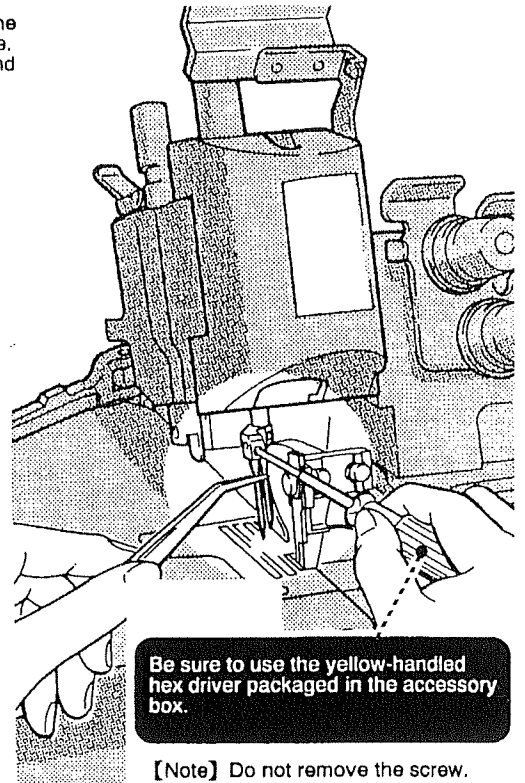
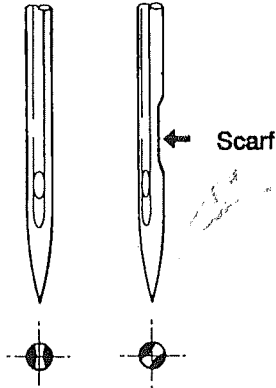


## REPLACING THE NEEDLE

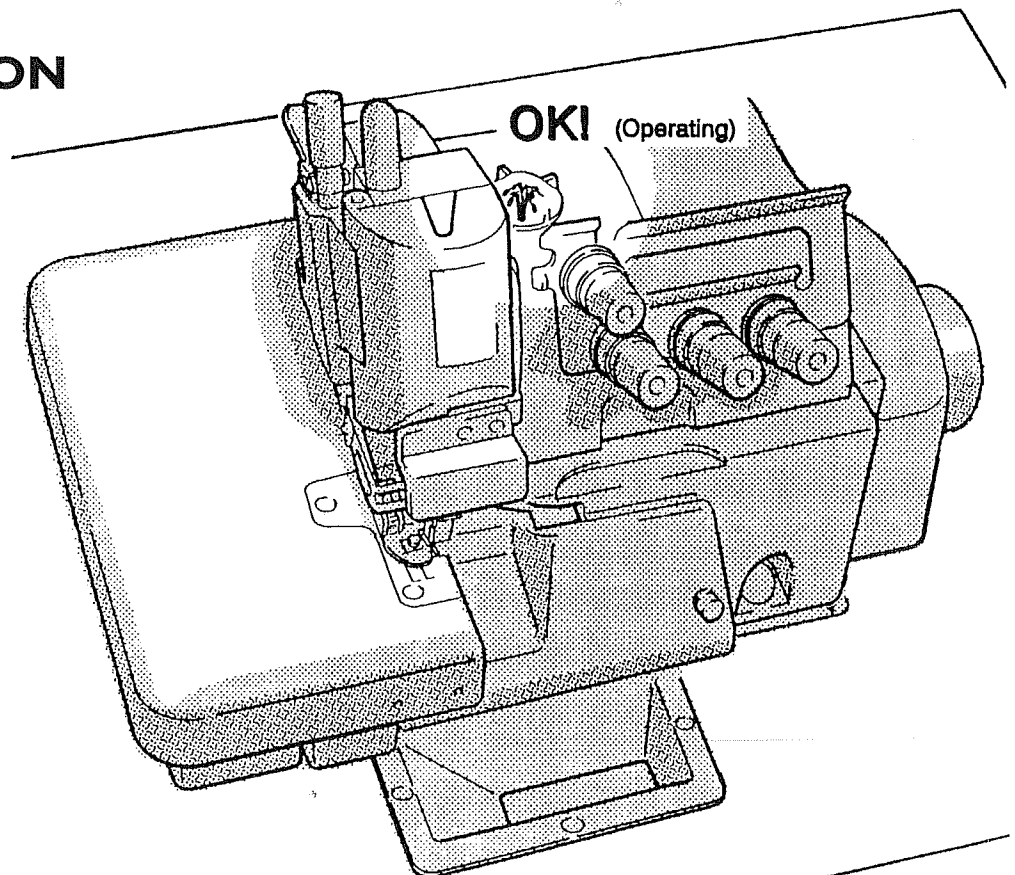
\*Check the needle carefully to see that the scarf is turned to the rear of the machine.  
\*Insert the needle to the proper depth, and fasten securely.

Standard needle: Organ DC X 27

OKI NOI

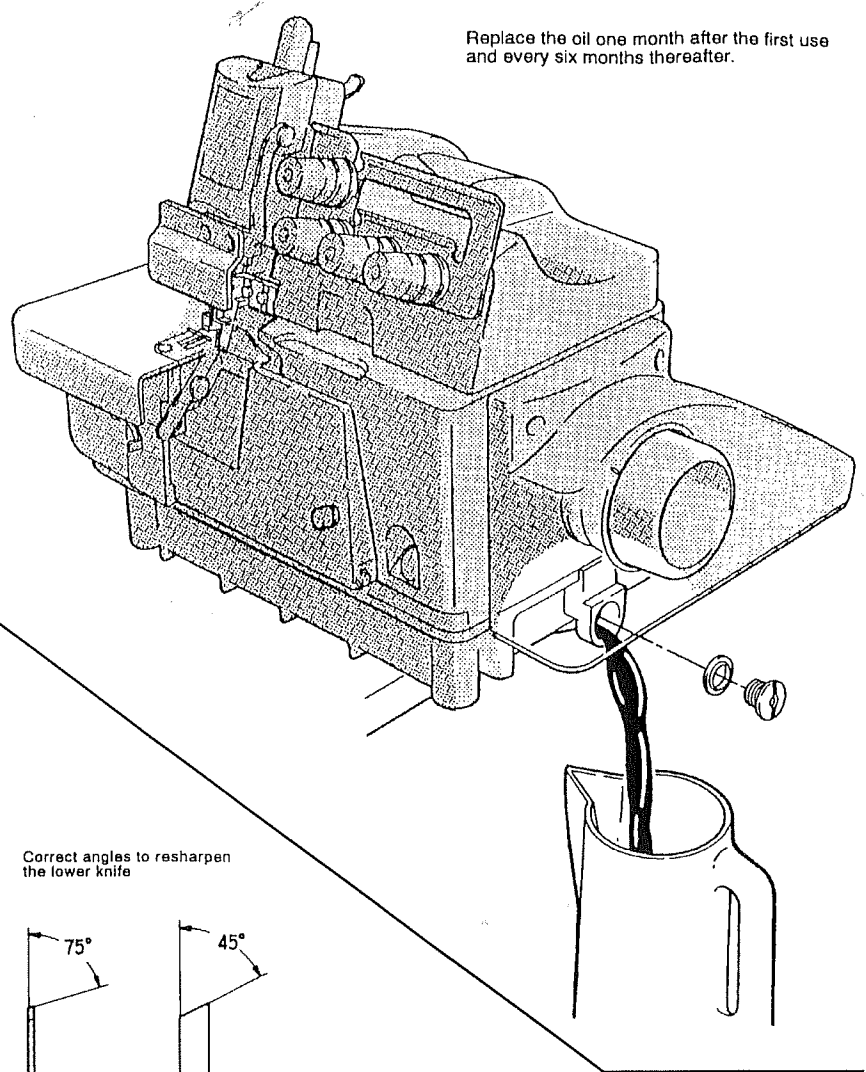


## CHECKING THE OIL CIRCULATION



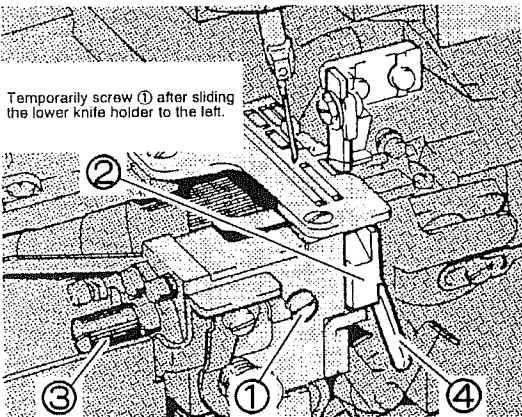
# REPLACING THE OIL

Replace the oil one month after the first use and every six months thereafter.



# REPLACING THE LOWER KNIFE

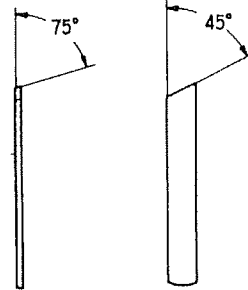
To remove the lower knife



Temporarily screw ① after sliding the lower knife holder to the left.

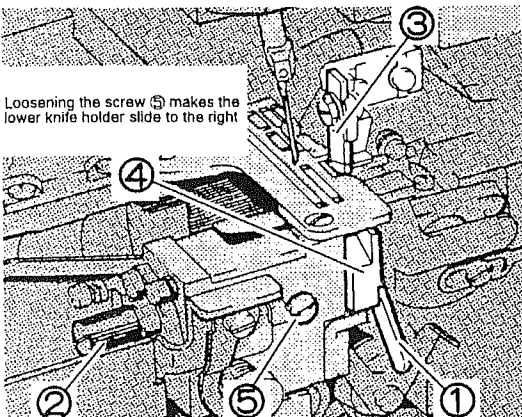
Loosen the screw. Loosen the screw. Remove the lower knife.

Correct angles to resharpen the lower knife



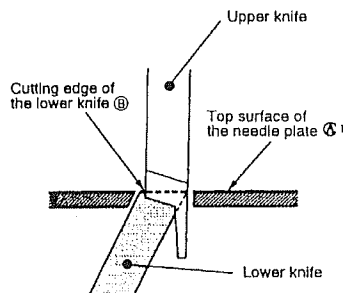
To replace the lower knife

Turn the handwheel until the upper knife is at the lowest point. (See the right figures.)



Loosening the screw ⑤ makes the lower knife holder slide to the right

Tighten the screw. Tighten the screw. Insert the lower knife. (See the right figure.)

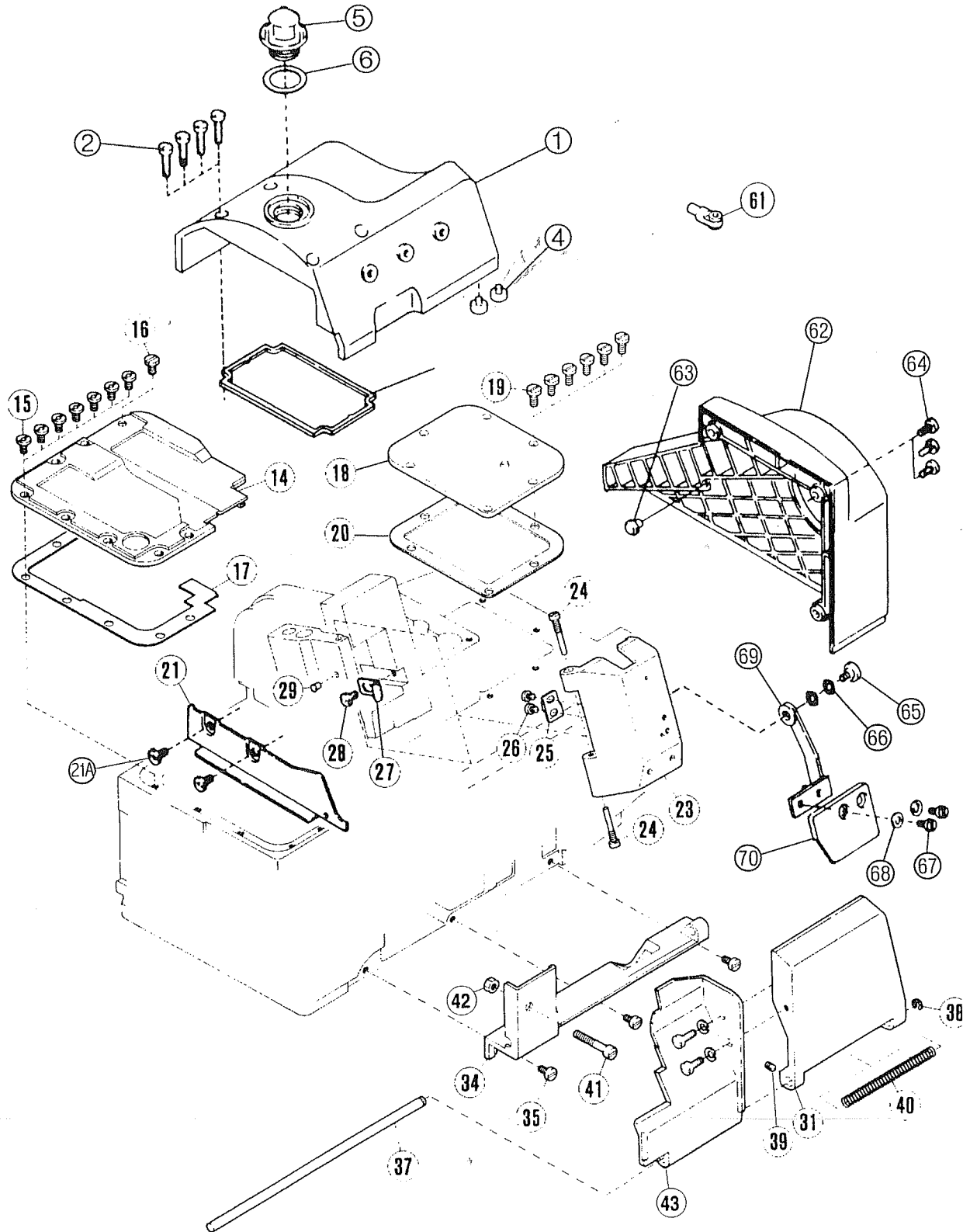


Level of (A) = Level of (B)

Check cutting action of knives.

# PARTS - Right Sewing Head

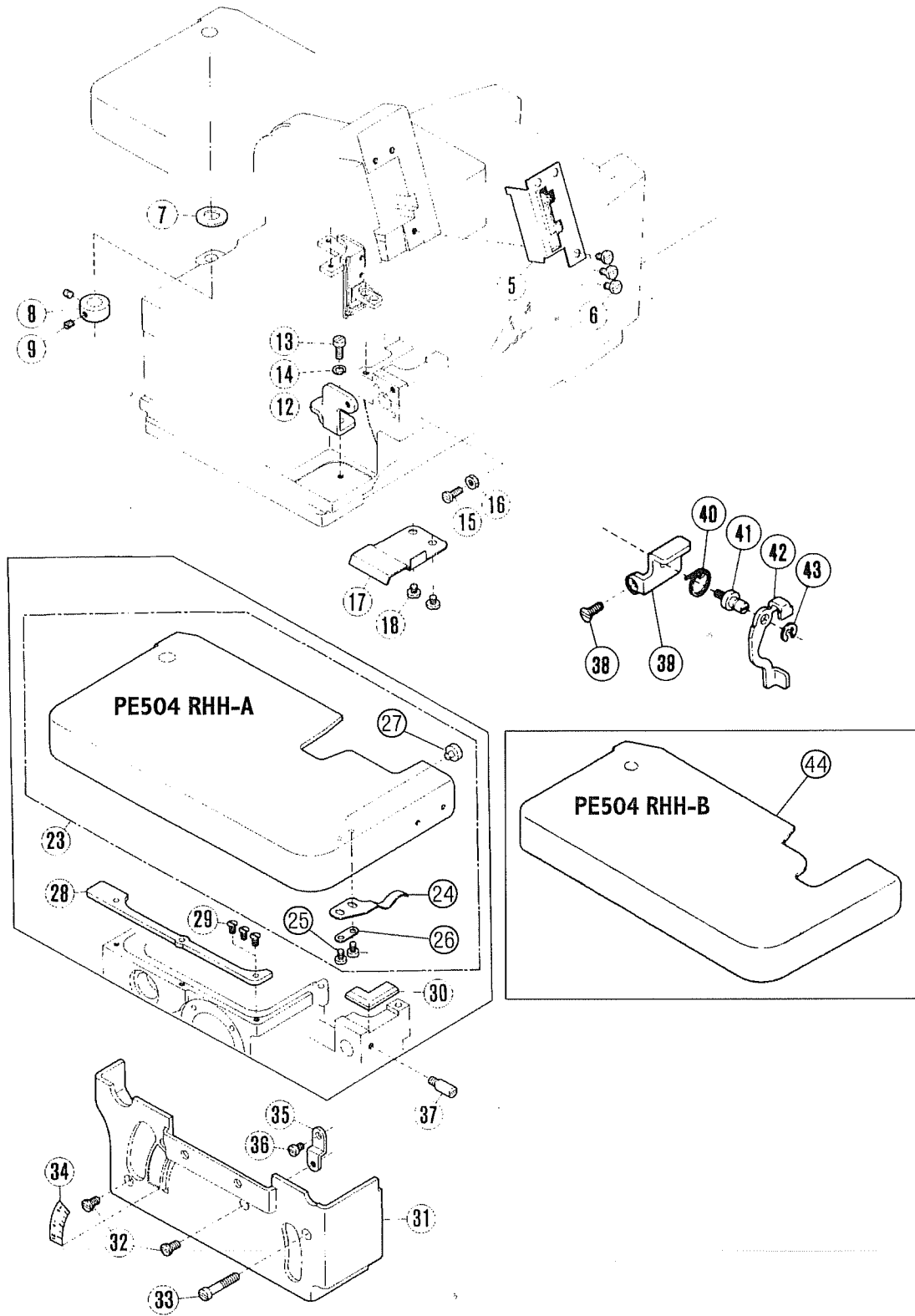
## MISCELLANEOUS COVERS (1)



## MISCELLANEOUS COVERS (1)

| Ref# | Part#  | Description             | Qty | Ref# | Part#         | Description         | Qty |
|------|--------|-------------------------|-----|------|---------------|---------------------|-----|
| 1    | 730252 | TOP COVER               | 1   | 29   | 610680        | CUSHION RUBBER      | 1   |
| 2    | 618760 | SCREW                   | 4   | 34   | 614880        | HINGE               | 1   |
| 3    | 616800 | GASKET                  | 1   | 35   | 610200        | HINGE SCREW SHORT   | 3   |
| 4    | 616820 | CUSHION                 | 2   | 37   | 614900        | HINGE PIN           | 1   |
| 5    | 614820 | OIL SPLASH SIGHT WINDOW | 1   | 38   | 610920        | HINGE PIN STOP RING | 1   |
| 6    | 730144 | O-RING                  | 1   | 39   | 618920        | STOP SCREW          | 1   |
| 14   | 730163 | BEDPLATE                | 1   | 40   | 614920        | HINGE SPRING        | 1   |
| 15   | 618340 | SCREW                   | 7   | 41   | 618660        | SCREW               | 1   |
| 16   | 640002 | SCREW                   | 1   | 42   | 618800        | POST LOCK NUT       | 1   |
| 17   | 730164 | GASKET                  | 1   | 43   | 616240        | FRONT COVER LEFT    | 1   |
| 18   | 616100 | BED COVER PLATE RIGHT   | 1   | 59   | BHCS 6-32X1/4 | SCREW (not shown)   | 1   |
| 19   | 618740 | SCREW                   | 6   | 61   | 611060        | EYELET              | 3   |
| 20   | 616120 | GASKET                  | 1   | 62   | 730256        | BELT GUARD          | 1   |
| 21   | 614365 | FABRIC GUARD            | 1   | 63   | 240305        | RUBBER BUMPER       | 1   |
| 21A  | 618340 | SCREW                   | 2   | 64   | 730266        | SCREWS              | 3   |
| 23   | 730254 | NEEDLE BAR COVER        | 1   | 65   | 730198        | SCREW               | 1   |
| 24   | 611820 | HINGE PIN               | 2   | 66   | 730051        | WASHER              | 2   |
| 25   | 730179 | LOCK SPRING             | 1   | 67   | 619640        | SCREW               | 2   |
| 26   | 610220 | LOCK SPRING SCREW       | 2   | 68   | 730138        | WASHERS             | 2   |
| 27   | 613530 | LOCK SPRING LATCH       | 1   | 69   | 730199        | BRACKET             | 1   |
| 28   | 618340 | SCREW                   | 1   | 70   | 730182        | EYE GUARD           | 1   |

MISCELLANEOUS COVERS (2)

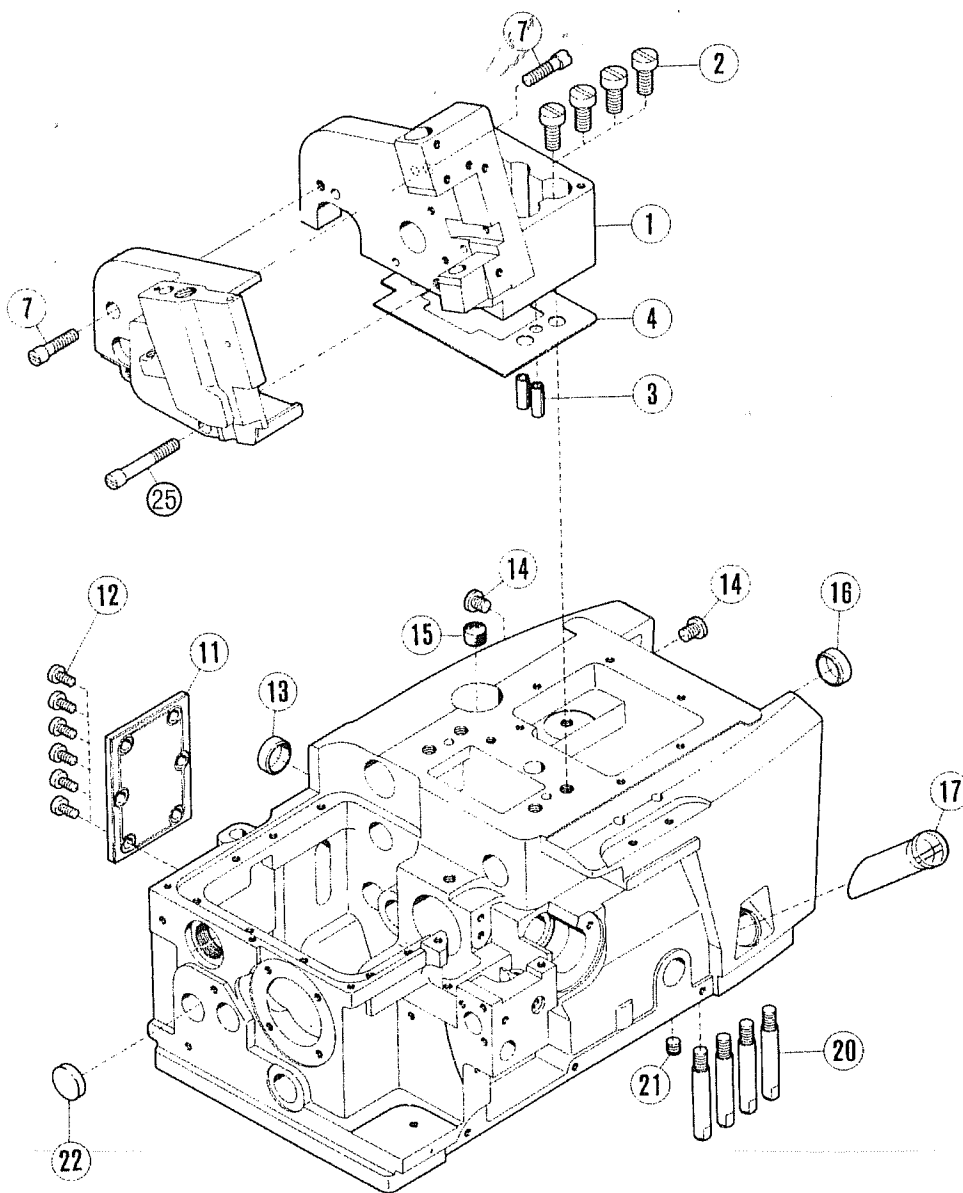


## MISCELLANEOUS COVERS (2)

| Ref# | Part#  | Description              | Qty | Ref# | Part#  | Description          | Qty |
|------|--------|--------------------------|-----|------|--------|----------------------|-----|
| 5    | 616640 | FACE PLATE               | 1   | 28   | 613540 | CUSHION RUBBER LEFT  | 1   |
| 6    | 618340 | SCREW                    | 3   | 29   | 618400 | SCREW                | 3   |
| 7    | 611760 | WASHER                   | 1   | 30   | 613560 | CUSHION RUBBER FRONT | 1   |
| 8    | 611260 | THRUST COLLAR            | 1   | 31   | 730259 | MACHINE COVER LEFT   | 1   |
| 9    | 610420 | SET SCREW                | 2   | 32   | 618640 | SCREW                | 2   |
| 12   | 614440 | SPACER                   | 1   | 33   | 619060 | LONG SCREW           | 1   |
| 13   | 618120 | SPACER SCREW             | 1   | 34   | 730174 | INDICATION PLATE     | 1   |
| 14   | 611640 | SPACER SCREW WASHER      | 1   | 35   | 614430 | SPACER               | 1   |
| 15   | 619800 | STOP SCREW               | 1   | 36   | 618720 | SCREW                | 1   |
| 16   | 618280 | STOP SCREW WASHER        | 1   | 37   | 619180 | STOP SCREW           | 1   |
| 17   | 730193 | FEED BAR COVER           | 1   | 38   | 610560 | SCREW                | 1   |
| 18   | 618140 | SCREW                    | 2   | 39   | 650049 | STOPPER              | 1   |
| 23   | 617160 | CLOTH COVER COMPLETE     | 1   | 40   | 650050 | SPRING               | 1   |
| 24   | 613520 | LOCK SPRING              | 1   | 41   | 650051 | PIN                  | 1   |
| 25   | 610200 | LOCK SPRING SCREW        | 2   | 42   | 650052 | LEVER                | 1   |
| 26   | 610900 | LOCK SPRING SCREW WASHER | 1   | 43   | 650053 | RING                 | 1   |
| 27   | 660315 | CUSHION                  | 1   | 44   | 617165 | CLOTH COVER COMPLETE | 1   |

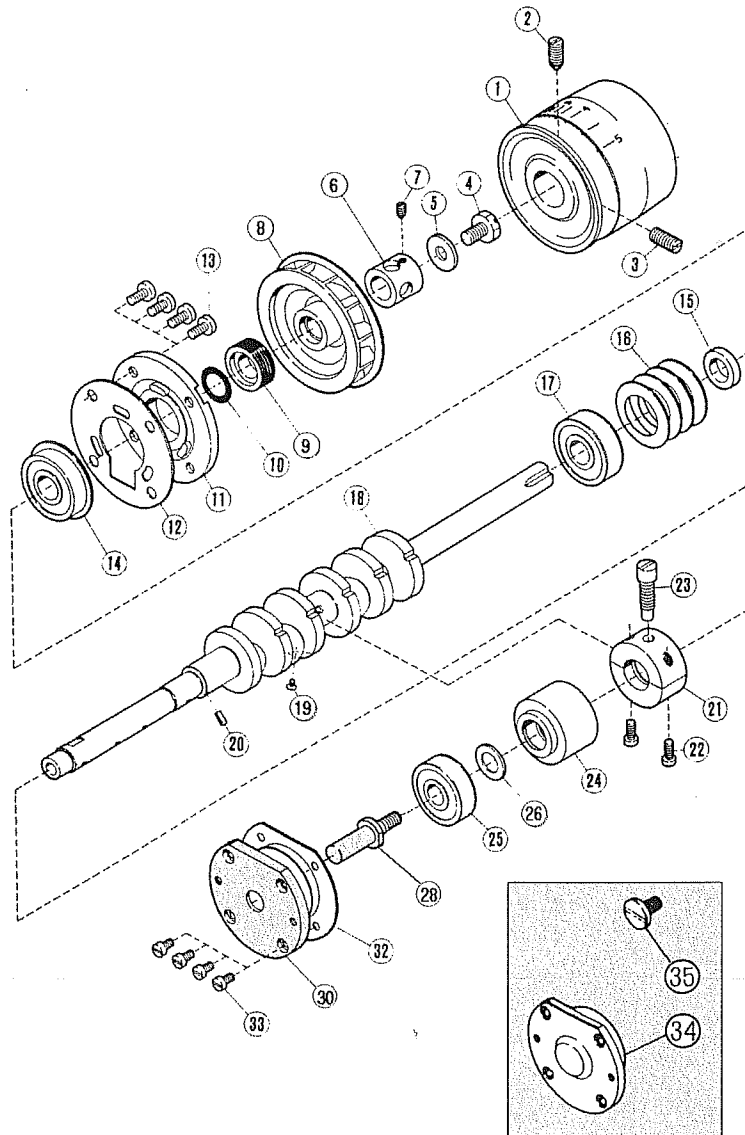
MACHINE BED FRAME

| Ref# | Part#   | Description         | Qty | Ref# | Part#  | Description     | Qty |
|------|---------|---------------------|-----|------|--------|-----------------|-----|
| 1    | 617140  | MACHINE ARM (RIGHT) | 1   | 14   | 730272 | SCREW           | 2   |
| 2    | 618500  | SCREW               | 4   | 15   | 614280 | OIL FILTER      | 1   |
| 3    | 610980  | PIN                 | 2   | 16   | 614360 | PLUG            | 1   |
| 4    | 613580  | GASKET              | 1   | 17   | 612000 | OIL SIGHT GAUGE | 1   |
| 7    | 619000  | SCREW               | 2   | 20   | 730197 | BED PIN         | 4   |
| 11   | 7301925 | COVER PLATE         | 1   | 21   | 730220 | SCREW           | 1   |
| 12   | 618740  | SCREW               | 6   | 22   | 617360 | PLUG            | 1   |
| 13   | 614360  | PLUG                | 1   | 25   | 619240 | SCREW           | 1   |



CRANKSHAFT MECHANISM

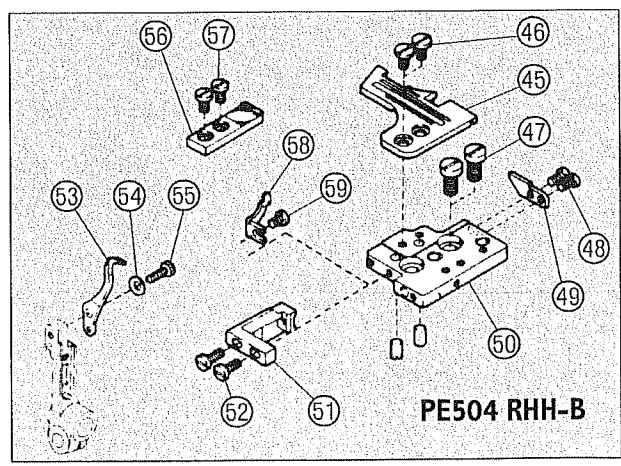
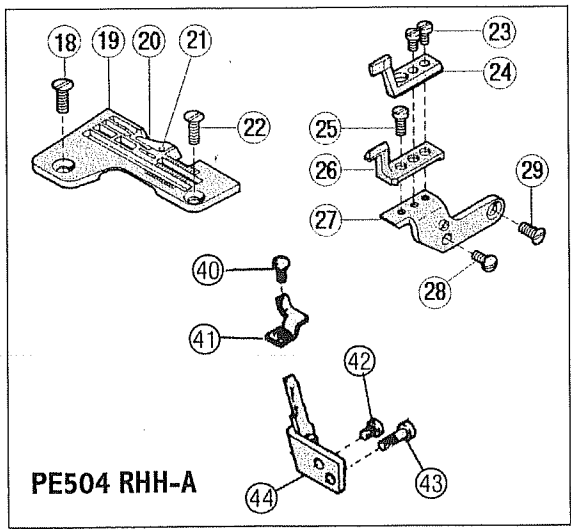
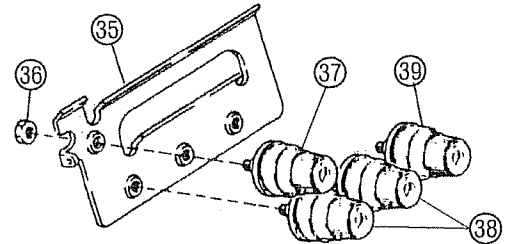
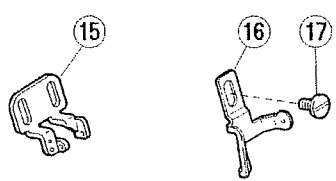
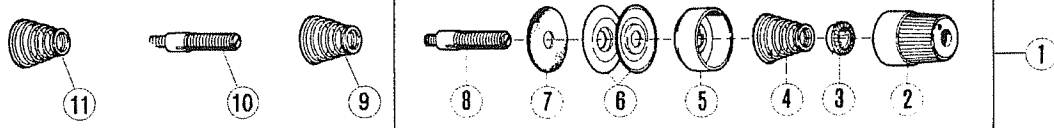
| Ref# | Part#  | Description     | Qty | Ref# | Part#  | Description          | Qty |
|------|--------|-----------------|-----|------|--------|----------------------|-----|
| 1    | 730247 | PULLEY          | 1   | 17   | 611480 | BEARING              | 1   |
| 2    | 618520 | SCREW           | 1   | 18   | 616140 | CRANKSHAFT           | 1   |
| 3    | 618540 | SCREW           | 1   | 19   | 620013 | SCREW                | 1   |
| 4    | 620012 | SCREW           | 1   | 20   | 730146 | OIL FELT             | 1   |
| 5    | 612200 | WASHER          | 1   | 21   | 612080 | BUSHING (CENTER)     | 1   |
| 6    | 730190 | COLLAR          | 1   | 22   | 610040 | SCREW                | 2   |
| 7    | 730269 | SCREW           | 1   | 23   | 619300 | SCREW                | 1   |
| 8    | 730189 | COOLING FAN     | 1   | 24   | 612060 | BUSHING (LARGE)      | 1   |
| 9    | 616770 | OIL SEAL COLLAR | 1   | 25   | 612040 | BALL BEARING         | 1   |
| 10   | 615540 | "O" RING        | 1   | 26   | 730212 | THRUST WASHER        | 1   |
| 11   | 616775 | PLATE           | 1   | 28   | 614520 | CRANKSHAFT EXTENSION | 1   |
| 12   | 612180 | GASKET          | 1   | 30   | 614580 | HOUSING              | 1   |
| 13   | 618740 | SCREW           | 4   | 32   | 613680 | GASKET               | 1   |
| 14   | 612140 | BALL BEARING    | 1   | 33   | 610100 | SCREW                | 4   |
| 15   | 612120 | SPACER          | 1   | 34   | 614055 | HOUSING              | 1   |
| 16   | 612100 | WASHER          | 4   | 35   | 619660 | SCREW                | 1   |



PE504 RHH-B

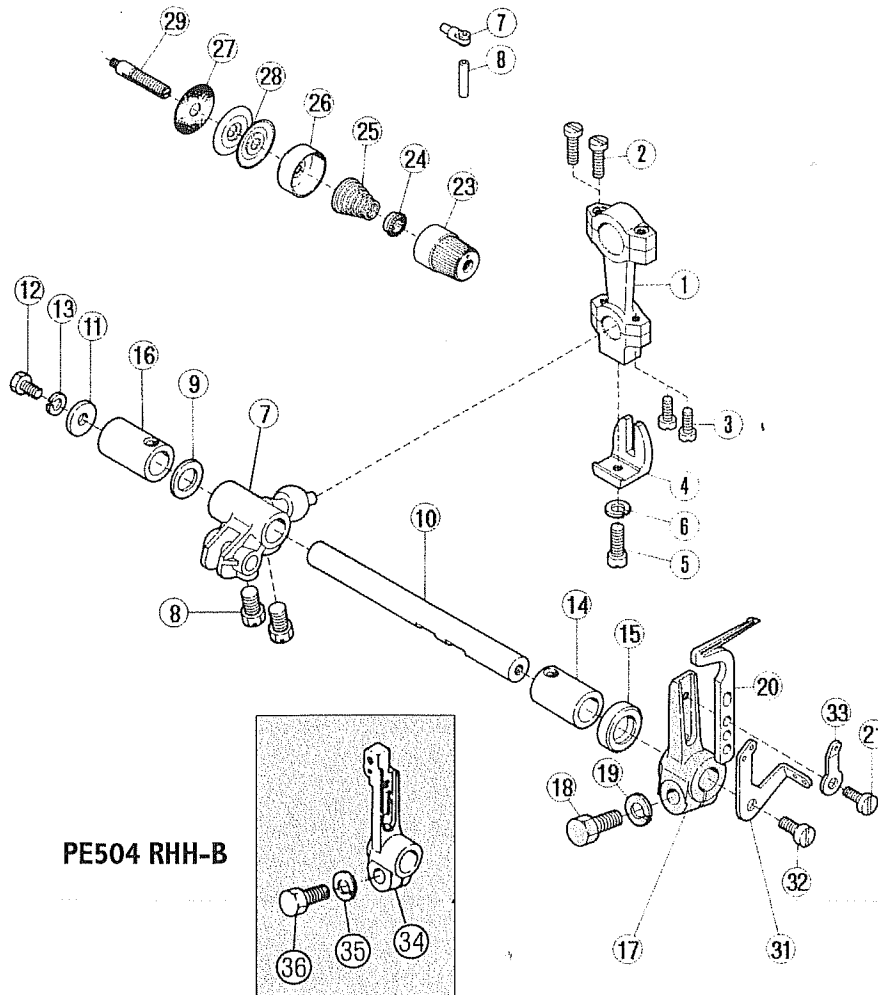
NEEDLE PLATE & TENSION ASSEMBLY

| Ref# | Part#  | Description                    | Qty | Ref# | Part#  | Description                 | Qty |
|------|--------|--------------------------------|-----|------|--------|-----------------------------|-----|
| 1    | 616840 | NEEDLE THREAD TENSION COMPLETE | 1   | 35   | 730368 | BRACKET                     | 1   |
| 2    | 616680 | NUT                            | 1   | 36   | 730369 | NUT                         | 1   |
| 3    | 616700 | SPRING BUSHING                 | 1   | 37   | 730370 | TENSIONS (COMPLETE)         | 1   |
| 4    | 611040 | SPRING (HEAVY)                 | 1   | 38   | 730371 | TENSIONS (COMPLETE)         | 2   |
| 5    | 616740 | SPRING CUP                     | 1   | 39   | 730372 | TENSIONS (COMPLETE)         | 1   |
| 6    | 611460 | DISC                           | 2   | 40   | 730373 | SCREW                       | 1   |
| 7    | 616720 | CUSHION FELT                   | 1   | 41   | 730374 | FRONT NEEDLE GUARD          | 1   |
| 8    | 618880 | POST, SHORT ENDED              | 1   | 42   | 730375 | SCREW                       | 1   |
| 9    | 611120 | SPRING (LIGHT)                 | 1   | 43   | 730376 | SCREW                       | 1   |
| 10   | 618560 | POST, LONG ENDED               | 1   | 44   | 730377 | REAR NEEDLE GUARD           | 1   |
| 11   | 611180 | SPRING (MEDIUM)                | 1   | 45   | 614045 | NEEDLE PLATE <i>202596E</i> | 1   |
| 15   | 640009 | THREAD GUIDE                   | 1   | 46   | 618340 | SCREWS                      | 2   |
| 16   | 640010 | THREAD GUIDE                   | 1   | 47   | 619625 | SCREWS                      | 2   |
| 17   | 618340 | SCREW                          | 1   | 48   | 619402 | SCREWS                      | 2   |
| 18   | 610560 | SCREW                          | 1   | 49   | 613922 | KEY                         | 1   |
| 19   | 730378 | THROAT PLATE <i>204945</i>     | 1   | 50   | 614081 | NEEDLE PLATE BRACKET        | 1   |
| 20   | 617400 | CHAIN FINGER                   | 1   | 51   | 613927 | BRACKET                     | 1   |
| 21   | 619440 | CHAIN FINGER SCREW             | 1   | 52   | 610120 | SCREWS                      | 2   |
| 22   | 610560 | SCREW                          | 1   | 53   | 660070 | REAR MOVEABLE NEEDLE GUARD  | 1   |
| 23   | 618420 | SCREW                          | 2   | 54   | 730183 | WASHER                      | 1   |
| 24   | 614220 | NEEDLE GUARD, FRONT            | 1   | 55   | 660115 | SCREW                       | 1   |
| 25   | 618380 | SCREW                          | 1   | 56   | 613923 | NEEDLE PLATE SUPPORT        | 1   |
| 26   | 614200 | NEEDLE GUARD, REAR             | 1   | 57   | 618640 | SCREWS                      | 2   |
| 27   | 614240 | NEEDLE GUARD BRACKET           | 1   | 58   | 613923 | FRONT NEEDLE GUARD          | 1   |
| 28   | 618700 | SCREW                          | 1   | 59   | 613925 | SCREW                       | 1   |
| 29   | 619120 | SCREW                          | 1   |      |        |                             |     |



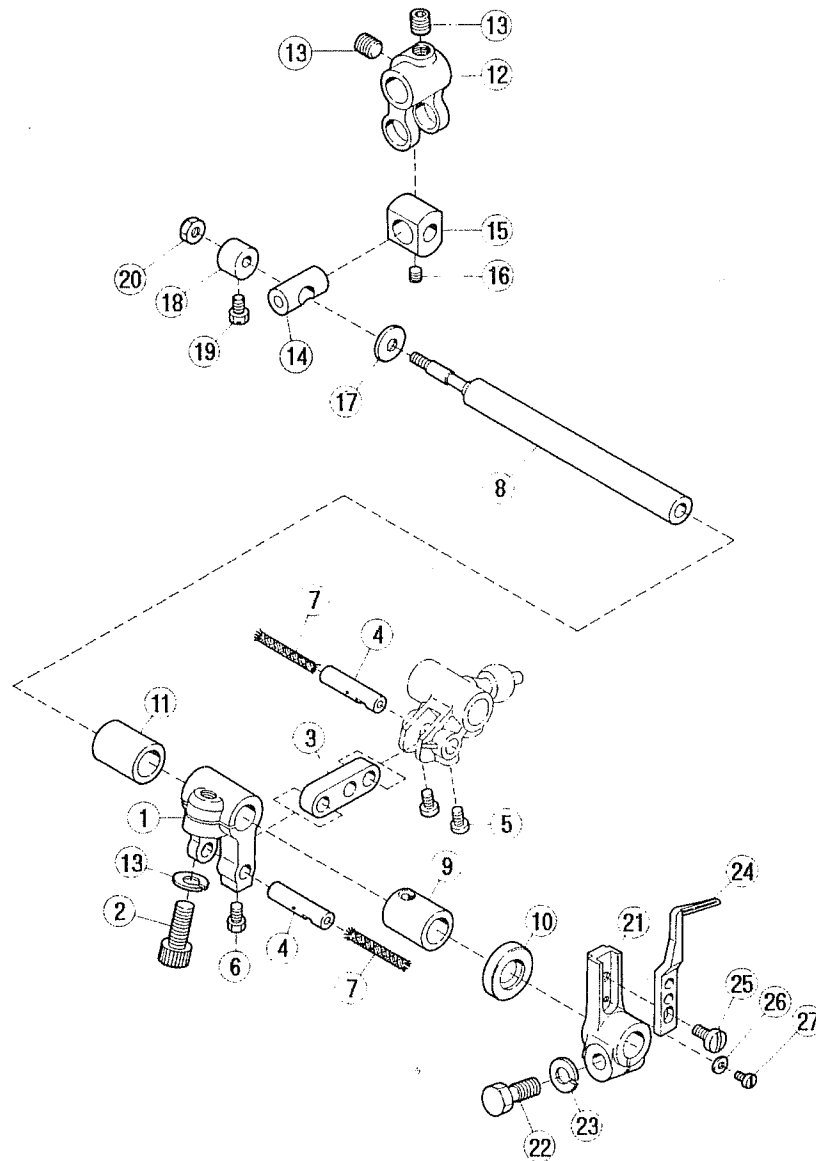
OVEREDGE (LEFT) LOOPER MECHANISM

| Ref# | Part#  | Description             | Qty | Ref# | Part#  | Description               | Qty |
|------|--------|-------------------------|-----|------|--------|---------------------------|-----|
| 1    | 616160 | LEFT LOOPER DRIVE CONN  | 1   | 19   | 613640 | CLAMP SCREW WASHER        | 1   |
| 2    | 640013 | CAP SCREW               | 4   | 20   | 620238 | RIGHT LOOPER              | 1   |
| 4    | 611160 | GUIDE                   | 1   | 21   | 610120 | SCREW                     | 1   |
| 5    | 640021 | GUIDE SCREW             | 1   | 22   | 616860 | THREAD TENSION COMPLETE   | 1   |
| 6    | 611640 | GUIDE SCREW WASHER      | 1   | 23   | 616680 | NUT                       | 1   |
| 7    | 615240 | LEFT LOOPER DRIVE CRANK | 1   | 24   | 616700 | SPRING BUSHING            | 1   |
| 8    | 611620 | SCREW                   | 2   | 25   | 611180 | SPRING (MODULE)           | 1   |
| 9    | 640006 | THRUST WASHER           | 1   | 26   | 616740 | SPRING CUP                | 1   |
| 10   | 640015 | LEFT LOOPER LEVER SHAFT | 1   | 27   | 616720 | CUSHION FELT              | 1   |
| 11   | 612640 | THRUST WASHER           | 1   | 28   | 611460 | DISC                      | 2   |
| 12   | 617540 | THRUST WASHER SCREW     | 1   | 29   | 618560 | POST                      | 1   |
| 13   | 611640 | WASHER                  | 1   | 31   | 614620 | LEFT LOOPER THREAD TAKEUP | 1   |
| 14   | 640023 | BUSHING (FRONT)         | 1   | 32   | 618120 | SCREW                     | 1   |
| 15   | 640024 | BUSHING FRONT OIL SEAL  | 1   | 33   | 640025 | THREAD GUIDE              | 1   |
| 16   | 640022 | BUSHING (REAR)          | 1   | 34   | 730347 | RIGHT LOOPER LEVER        | 1   |
| 17   | 614000 | RIGHT LOOPER LEVER      | 1   | 35   | 730348 | WASHER                    | 1   |
| 18   | 619360 | CLAMP SCREW             | 1   | 36   | 730349 | BOLT                      | 1   |



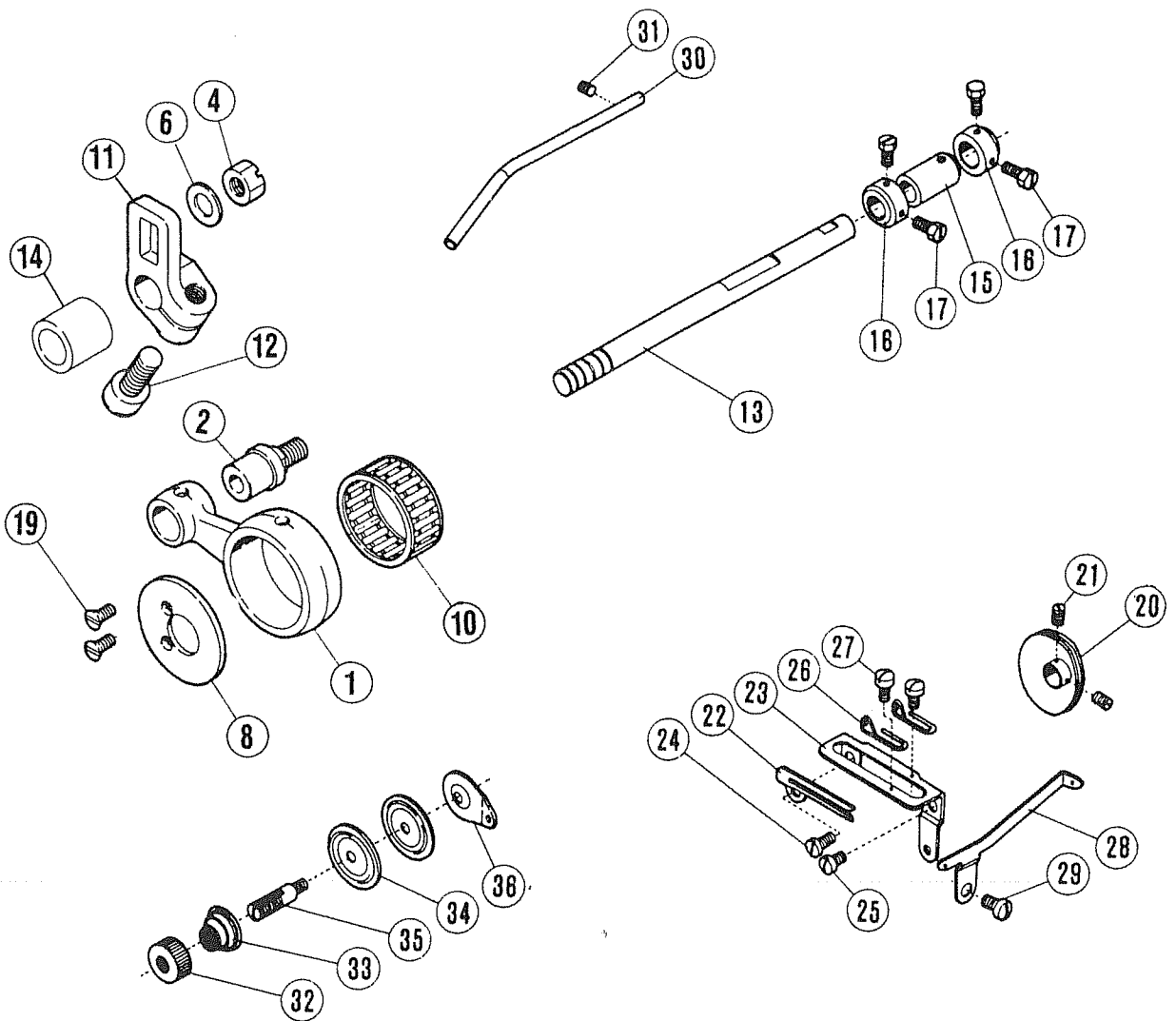
CHAINSTITCH LOOPER MECHANISM (1)

| Ref# | Part#  | Description            | Qty | Ref# | Part#  | Description        | Qty |
|------|--------|------------------------|-----|------|--------|--------------------|-----|
| 1    | 640020 | LOOPER DRIVE CRANK     | 1   | 15   | 615000 | BLOCK              | 1   |
| 2    | 619265 | CLAMP SCREW            | 1   | 16   | 619400 | BLOCK SCREW        | 1   |
| 3    | 615280 | LINK                   | 1   | 17   | 615020 | THRUST WASHER      | 1   |
| 4    | 615300 | LINK PIN               | 2   | 18   | 615040 | COLLAR             | 1   |
| 5    | 619520 | LINK PIN SCREW         | 2   | 19   | 618600 | COLLAR SCREW       | 1   |
| 6    | 618600 | LINK PIN SCREW         | 1   | 20   | 640026 | NUT                | 1   |
| 7    | 611600 | OIL WICK               | 2   | 21   | 612520 | LOOPER LEVER       | 1   |
| 8    | 615320 | LOOPER DRIVE SHAFT     | 1   | 22   | 619360 | CLAMP SCREW        | 1   |
| 9    | 615820 | BUSHING FRONT          | 1   | 23   | 613640 | CLAMP SCREW WASHER | 1   |
| 10   | 640024 | BUSHING FRONT OIL SEAL | 1   | 24   | 620270 | LOOPER             | 1   |
| 11   | 640014 | BUSHING REAR           | 1   | 25   | 610140 | SCREW              | 1   |
| 12   | 614960 | LOOPER AVOIDING LINK   | 1   | 26   | 613200 | REGULATOR          | 1   |
| 13   | 619720 | SCREW                  | 2   | 27   | 618220 | REGULATOR SCREW    | 2   |
| 14   | 614980 | PIN                    | 1   | 28   | 613640 | WASHER             | 1   |

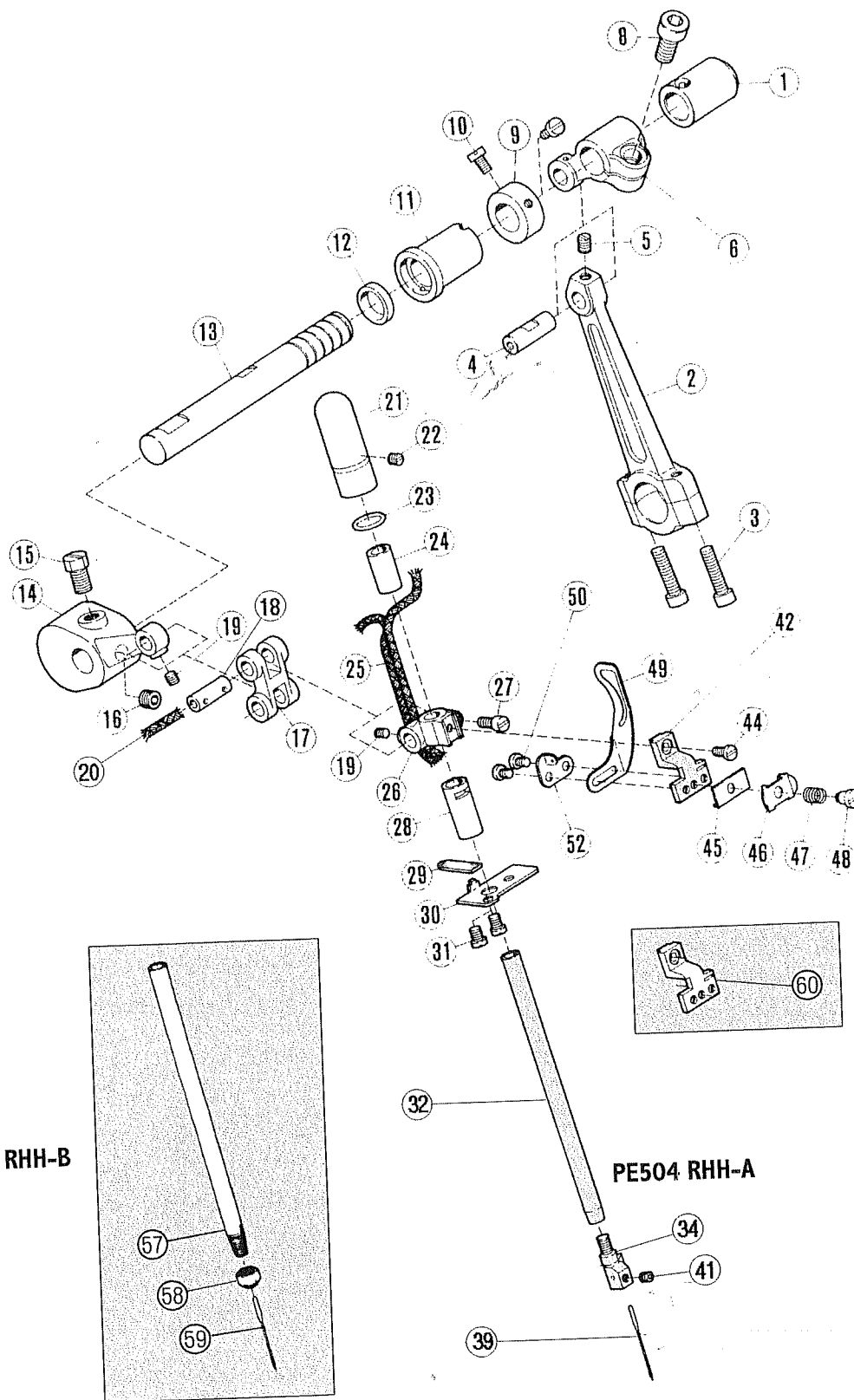


CHAINSTITCH LOOPER MECHANISM (2)

| Ref# | Part#  | Description                | Qty | Ref# | Part#  | Description                 | Qty |
|------|--------|----------------------------|-----|------|--------|-----------------------------|-----|
| 1    | 620030 | LOOPER AVOIDING CONNECTION | 1   | 22   | 612560 | GUIDE                       | 1   |
| 2    | 620031 | PIN                        | 1   | 23   | 612580 | LOOPER THREAD GUIDE BRACKET | 1   |
| 4    | 619740 | PIN NUT                    | 1   | 24   | 618340 | SCREW                       | 1   |
| 6    | 615740 | PIN NUT WASHER             | 1   | 25   | 618720 | SCREW                       | 1   |
| 8    | 620029 | COLLAR                     | 1   | 26   | 613700 | TAKEUP EYELET               | 2   |
| 10   | 620028 | NEEDLE BEARING             | 1   | 27   | 618480 | SCREW                       | 2   |
| 11   | 620032 | LOOPER AVOIDING CRANK      | 1   | 28   | 616220 | LOOPER THREAD GUIDE         | 1   |
| 12   | 620026 | CLAMP SCREW                | 1   | 29   | 618720 | SCREW                       | 1   |
| 13   | 614540 | LOOPER AVOIDING SHAFT      | 1   | 30   | 612600 | LOOPER THREAD TUBE          | 1   |
| 14   | 640027 | LEFT BUSHING               | 1   | 31   | 610420 | SCREW                       | 1   |
| 15   | 620032 | LOOPER AVOIDING            | 1   | 32   | 618300 | LOOPER THREAD TENSION NUT   | 1   |
| 16   | 611100 | THRUST COLLAR              | 2   | 33   | 610520 | SPRING                      | 1   |
| 17   | 618600 | COLLAR SCREW               | 4   | 34   | 611460 | DISC                        | 2   |
| 19   | 640028 | SCREW                      | 2   | 35   | 610500 | POST                        | 1   |
| 20   | 612540 | LOOPER THREAD TAKEUP       | 1   | 36   | 611920 | GUIDE                       | 1   |
| 21   | 619400 | GENUINE SCREW              | 2   |      |        |                             |     |



NEEDLE BAR MECHANISM



## NEEDLE BAR MECHANISM

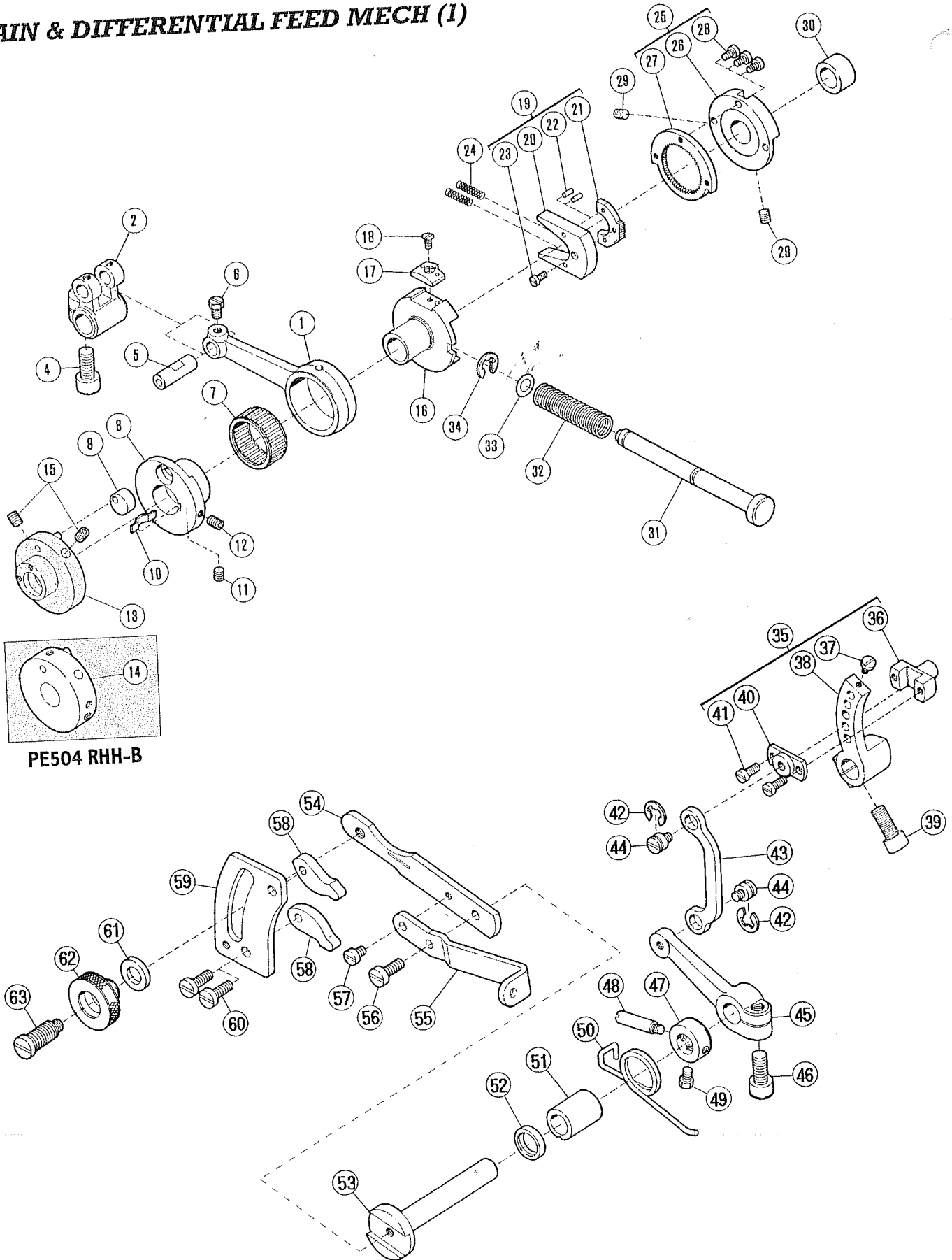
| Ref# | Part#  | Description     | Qty | Ref# | Part#   | Description      | Qty |
|------|--------|-----------------|-----|------|---------|------------------|-----|
| 1    | 615440 | BUSHING (RIGHT) | 1   | 28   | 613920  | BUSHING (LOWER)  | 1   |
| 2    | 612260 | CONNECTION      | 1   | 29   | 617220  | OIL FELT         | 1   |
| 3    | 619200 | SCREW           | 2   | 30   | 617200  | DUST SHIELD      | 1   |
| 4    | 614760 | PIN             | 1   | 31   | 618440  | SCREW            | 2   |
| 5    | 619220 | SCREW           | 1   | 32   | 617280  | NEEDLE BAR       | 1   |
| 6    | 611440 | CRANK (REAR)    | 1   | 34   | 630113  | NEEDLE HOLDER    | 1   |
| 8    | 619700 | SCREW           | 1   | 39   | PSM-130 | NEEDLE           | 2   |
| 9    | 611220 | THRUST WASHER   | 1   | 40   | 620227  | NEEDLE BAR CAP   | 1   |
| 10   | 619520 | SCREW           | 2   | 42   | 614040  | RETAINER BRACKET | 1   |
| 11   | 615420 | BUSHING (LEFT)  | 1   | 44   | 619640  | SCREW            | 1   |
| 12   | 615460 | OIL SEAL        | 1   | 45   | 611720  | GUIDE            | 1   |
| 13   | 615400 | SHAFT           | 1   | 46   | 610760  | GUIDE            | 1   |
| 14   | 616560 | CRANK (FRONT)   | 1   | 47   | 617340  | SPRING           | 1   |
| 15   | 611620 | SCREW           | 1   | 48   | 629860  | SCREW            | 1   |
| 16   | 619420 | SCREW           | 1   | 49   | 611880  | TAKEUP           | 1   |
| 17   | 630118 | LINK            | 2   | 50   | 610135  | SCREW            | 2   |
| 18   | 610960 | PIN             | 2   | 52   | 614060  | THREAD GUIDE     | 1   |
| 19   | 619400 | SCREW           | 3   | 57   | 613185  | NEEDLE BAR       | 1   |
| 20   | 611600 | OIL WICK        | 2   | 58   | 618325  | NUT              | 1   |
| 21   | 617240 | CAP             | 1   | 59   | PSM-130 | NEEDLE           | 1   |
| 27*  | 610060 | SCREW           | 1   | 60   | 611870  | RETAINER BRACKET | 1   |



## SPREADER DRIVE MECHANISM

| Ref# | Part#  | Description              | Qty | Ref# | Part#  | Description            | Qty |
|------|--------|--------------------------|-----|------|--------|------------------------|-----|
| 1    | 616160 | RIGHT LOOPER DRIVE CONN  | 1   | 22   | 618600 | PIN SCREW              | 1   |
| 2    | 617600 | SCREW                    | 2   | 25   | 616000 | RIGHT LOOPER LEVER     | 1   |
| 3    | 610040 | SCREW                    | 2   | 26   | 615100 | GUIDE                  | 1   |
| 4    | 612280 | CRANK                    | 1   | 27   | 613600 | OIL FELT               | 2   |
| 5    | 611620 | CRANK SCREW              | 2   | 28   | 612380 | BUSHING (FRONT)        | 1   |
| 6    | 611160 | GUIDE                    | 1   | 29   | 640017 | HOUSING                | 1   |
| 7    | 619600 | GUIDE SCREW              | 1   | 30   | 640018 | BUSHING FRONT SCREW    | 1   |
| 8    | 611640 | GUIDE SCREW WASHER       | 1   | 31   | 615220 | HOUSING CAP            | 1   |
| 9    | 640015 | RIGHT LOOPER DRIVE SHAFT | 1   | 32   | 610100 | HOUSING CAP SCREW      | 2   |
| 10   | 612640 | THRUST WASHER            | 1   | 33   | 640016 | BUSHING (REAR)         | 1   |
| 11   | 617540 | THRUST WASHER SCREW      | 1   | 34   | 617060 | CAP                    | 1   |
| 12   | 611640 | WASHER                   | 1   | 35   | 620244 | SPREADER               | 1   |
| 13   | 615760 | BUSHING (FRONT)          | 1   | 36   | 610700 | CLAMP SCREW            | 1   |
| 14   | 612300 | BUSHING (FRONT) OIL SEAL | 1   | 46   | 616660 | THREAD TAKEUP          | 1   |
| 15   | 640014 | BUSHING (CENTER)         | 1   | 47   | 618120 | SCREW                  | 1   |
| 16   | 616620 | BUSHING (REAR)           | 1   | 48   | 614640 | AUXILIARY EYELET       | 1   |
| 17   | 612340 | RIGHT LOOPER LEVER CRANK | 1   | 49   | 618200 | AUXILIARY SCREW        | 1   |
| 18   | 619280 | CLAMP SCREW              | 1   | 50   | 611960 | AUXILIARY SCREW WASHER | 1   |
| 19   | 619380 | CLAMP SCREW NUT          | 1   | 51   | 640019 | THREAD GUIDE WIRE      | 1   |
| 20   | 611560 | CLAMP SCREW NUT WASHER   | 1   | 52   | 618380 | SCREW                  | 1   |
| 21   | 615480 | PIN                      | 1   | 53   | 611580 | OIL WICK               | 1   |

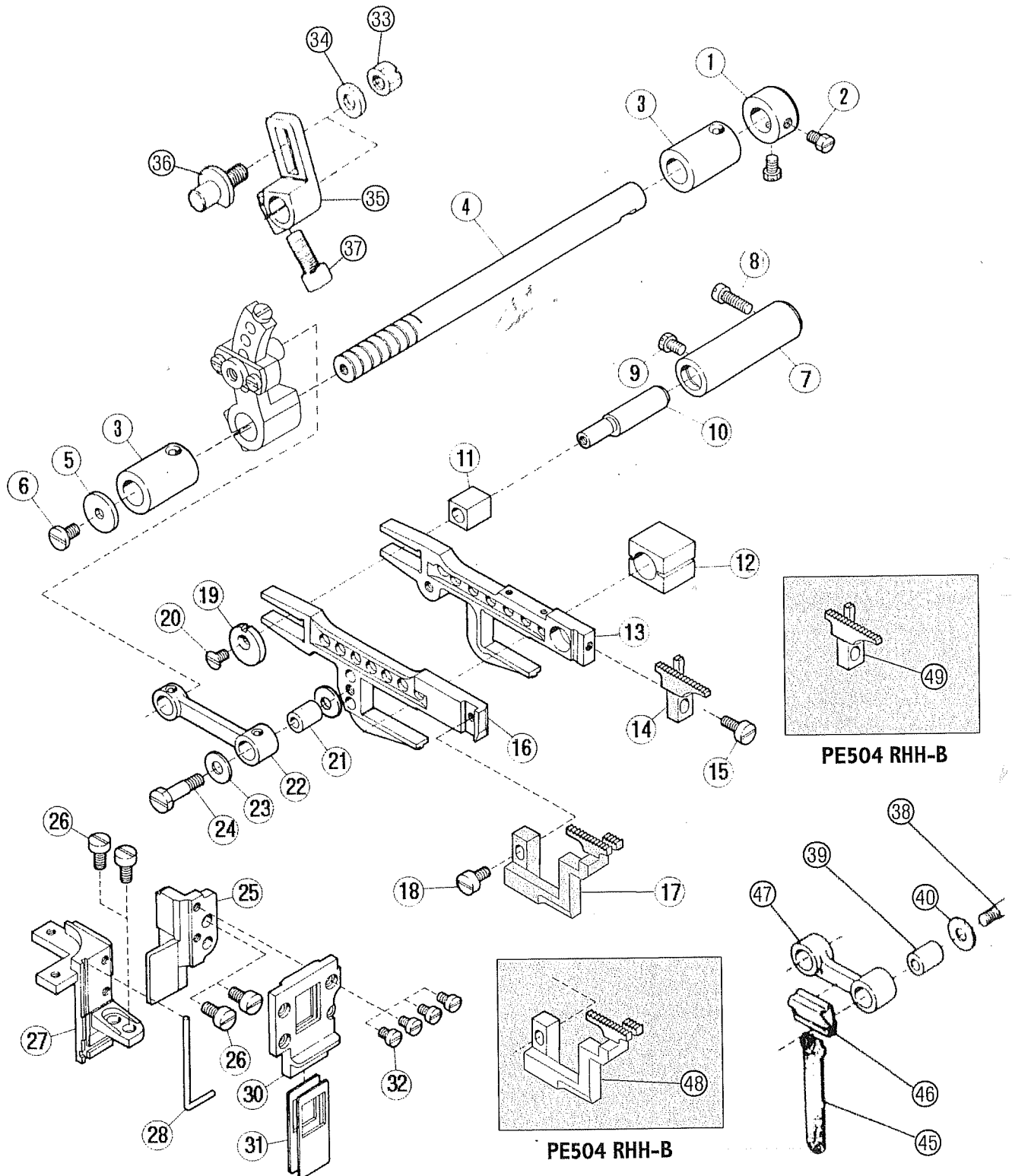
MAIN & DIFFERENTIAL FEED MECH (1)



**MAIN & DIFFERENTIAL FEED MECH (1)**

| Ref# | Part#  | Description                      | Qty | Ref# | Part#  | Description                     | Qty |
|------|--------|----------------------------------|-----|------|--------|---------------------------------|-----|
| 1    | 612620 | FEED DRIVE CONNECTION            | 1   | 34   | 611740 | RETAINING RING                  | 2   |
| 2    | 612490 | FEED DRIVE CRANK                 | 1   | 35   | 615560 | DIFF.FEED REG.ASSY.(REF.#36-41) | 1   |
| 4    | 619700 | CLAMP SCREW                      | 1   | 36   | 615600 | BLOCK                           | 1   |
| 5    | 614760 | PIN                              | 1   | 37   | 618660 | STOP SCREW                      | 1   |
| 6    | 618600 | PIN SCREW                        | 1   | 38   | 615580 | SEGMENT (CRANK)                 | 1   |
| 7    | 612480 | NEEDLE BEARING                   | 1   | 39   | 619700 | SCREW                           | 1   |
| 8    | 620034 | FEED DRIVE ECCENTRIC             | 1   | 40   | 615620 | BLOCK COVER                     | 1   |
| 9    | 620037 | FEED ECCENTRIC GUIDE             | 1   | 41   | 618420 | SCREW                           | 2   |
| 10   | 620038 | FLAT SPRING                      | 1   | 42   | 611740 | RETAINING RING                  | 2   |
| 11   | 619400 | SET SCREW                        | 1   | 43   | 612820 | DIFF. FEED REG. LINK            | 1   |
| 12   | 620039 | SET SCREW                        | 1   | 44   | 619460 | SCREW                           | 2   |
| 13   | 620040 | LOOPER AVOIDING ECCENTRIC        | 1   | 45   | 612800 | DIFF. FEED REG. LEVER           | 1   |
| 15   | 620033 | SET SCREW                        | 2   | 46   | 619700 | SCREW                           | 1   |
| 16   | 620042 | FEED REGULATING ECCENTRIC        | 1   | 47   | 614120 | COLLAR                          | 1   |
| 17   | 620052 | STOPPER                          | 1   | 48   | 614180 | SCREW PIN                       | 1   |
| 18   | 619780 | SCREW                            | 1   | 49   | 618600 | SCREW                           | 1   |
| 19   | 61634  | FD.REG.RATCHET ASSY.(REF.#20-24) | 1   | 50   | 614160 | REGULATING SPRING               | 1   |
| 20   | 616365 | POSITION GEAR BRACKET            | 1   | 51   | 640031 | BUSHING                         | 1   |
| 21   | 616360 | POSITION GEAR                    | 1   | 52   | 612300 | OIL SEAL                        | 1   |
| 22   | 640029 | PIN                              | 2   | 53   | 614100 | DIFF. FEED SHAFT                | 1   |
| 23   | 619580 | SCREW                            | 1   | 54   | 614140 | DIFF. FEED REG. LEVER           | 1   |
| 24   | 616400 | SPRING                           | 2   | 55   | 614600 | LEVER (FRONT)                   | 1   |
| 25   | 620035 | RATCHET WHEEL ASSY. (REF.#26-29) | 1   | 56   | 618760 | SCREW                           | 1   |
| 26   | 620043 | BRACKET                          | 1   | 57   | 610200 | SCREW                           | 1   |
| 27   | 620044 | WHEEL                            | 1   | 58   | 612860 | STOPPER                         | 2   |
| 28   | 620045 | SCREW                            | 3   | 59   | 612840 | REGULATING PLATE                | 1   |
| 29   | 620033 | SET SCREW                        | 2   | 60   | 618760 | SCREW                           | 2   |
| 30   | 620053 | SPACER                           | 1   | 61   | 611940 | WASHER                          | 1   |
| 31   | 620055 | PUSH BUTTON                      | 1   | 62   | 614480 | THUMB NUT                       | 1   |
| 32   | 616520 | SPRING                           | 1   | 63   | 619500 | SCREW                           | 1   |
| 33   | 620054 | O-RING                           | 1   |      |        |                                 |     |

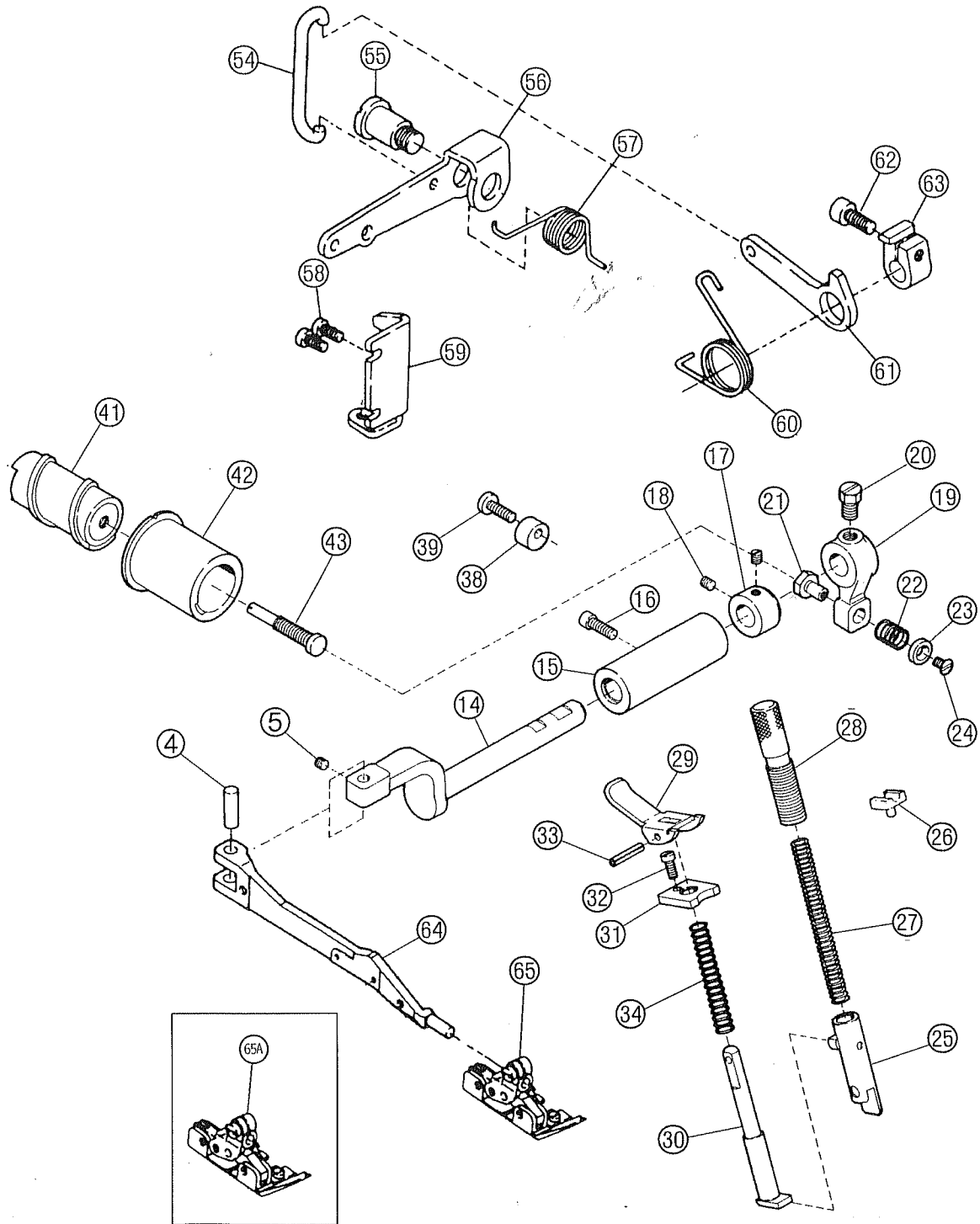
MAIN & DIFFERENTIAL FEED MECH (2)



## MAIN &amp; DIFFERENTIAL FEED MECH (2)

| Ref# | Part#  | Description            | Qty | Ref# | Part#  | Description               | Qty |
|------|--------|------------------------|-----|------|--------|---------------------------|-----|
| 1    | 611100 | THRUST COLLAR          | 1   | 22   | 612720 | CONNECTING LINK           | 1   |
| 2    | 618600 | THRUST COLLAR SCREW    | 2   | 23   | 612700 | BUSHING SCREW WASHER      | 2   |
| 3    | 640032 | BUSHING                | 2   | 24   | 619140 | BUSHING SCREW             | 1   |
| 4    | 614080 | FEED BAR SHAFT         | 1   | 25   | 615140 | FEED BAR GUIDE (RIGHT)    | 1   |
| 5    | 612640 | THRUST WASHER          | 1   | 26   | 619080 | SCREW                     | 4   |
| 6    | 618340 | THRUST WASHER SCREW    | 1   | 27   | 640034 | FEED BAR GUIDE            | 1   |
| 7    | 612780 | FEED BAR GUIDE BUSHING | 1   | 28   | 615200 | GASKET                    | 1   |
| 8    | 617440 | SCREW                  | 1   | 30   | 615180 | INSERT PLATE              | 1   |
| 9    | 618600 | SCREW                  | 1   | 31   | 615160 | FEED BAR OIL SPLASH GUARD | 1   |
| 10   | 612760 | FEED BAR HINGE PIN     | 1   | 32   | 619600 | SCREW                     | 4   |
| 11   | 640033 | FEED BAR GUIDE BLOCK   | 1   | 33   | 730279 | NUT                       | 1   |
| 12   | 614320 | LIFT BLOCK (SPLIT)     | 1   | 34   | 730148 | WASHER                    | 1   |
| 13   | 612730 | FEED BAR               | 1   | 35   | 730237 | CRANK MAIN FEED           | 1   |
| 14   | 630122 | MAIN FEED DOG          | 1   | 36   | 730352 | PIN                       | 1   |
| 15   | 610100 | SCREW                  | 1   | 37   | 730351 | SCREW                     | 1   |
| 16   | 612740 | DIFFERENTIAL FEED BAR  | 1   | 38   | 730353 | SCREW                     | 1   |
| 17   | 630125 | DIFFERENTIAL FEED DOG  | 1   | 39   | 730354 | BUSHING                   | 1   |
| 18   | 610120 | SCREW                  | 1   | 40   | 730355 | WASHER                    | 1   |
| 19   | 613780 | WASHER                 | 1   | 45   | 730139 | OIL FELT                  | 1   |
| 20   | 619480 | WASHER SCREW           | 1   | 46   | 730357 | RETAINER                  | 1   |
| 21   | 612680 | BUSHING                | 1   | 47   | 660358 | LINK/MAIN FEED            | 1   |

PRESSER FOOT & LIFT MECHANISM

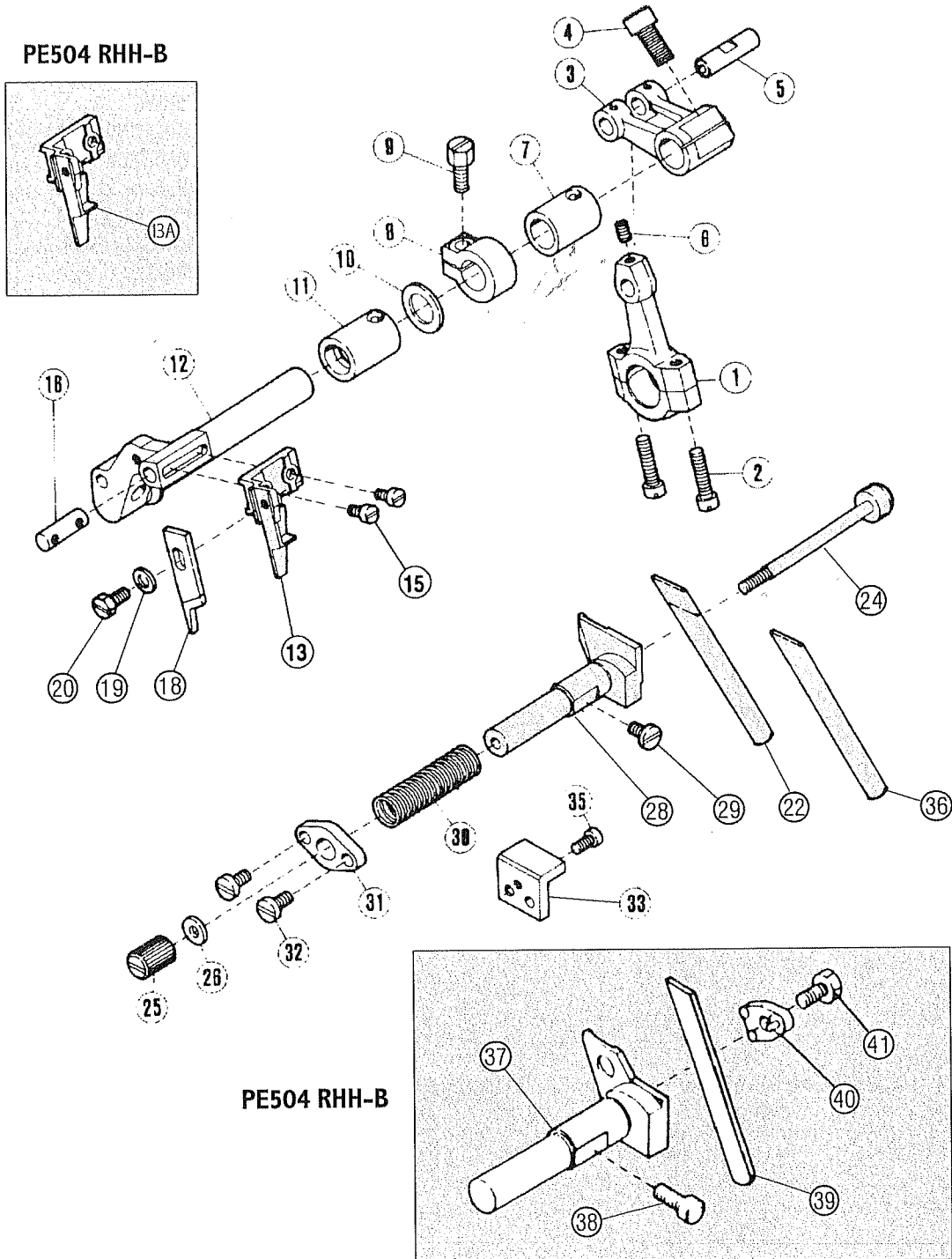


PE504 RHH-B

## PRESSER FOOT &amp; LIFT MECHANISM

| Ref# | Part#  | Description            | Qty | Ref# | Part#  | Description           | Qty |
|------|--------|------------------------|-----|------|--------|-----------------------|-----|
| 1    | 650038 | PRESSER FOOT ARM       | 1   | 35   | 613220 | FOOT LIFT LEVER       | 1   |
| 4    | 617040 | HINGE PIN              | 1   | 36   | 610180 | SCREW                 | 2   |
| 5    | 619020 | HINGE PIN SCREW        | 1   | 37   | 619180 | STOP SCREW            | 1   |
| 14   | 616960 | FOOT LIFT LEVER SHAFT  | 1   | 38   | 611840 | REGULATOR             | 1   |
| 15   | 616980 | BUSHING, COMPLETE      | 1   | 39   | 618760 | REGULATOR SCREW       | 1   |
| 16   | 617440 | BUSHING SCREW          | 1   | 40   | 613240 | SPRING                | 1   |
| 17   | 611100 | COLLAR                 | 1   | 41   | 614680 | FOOT LIFT CAM         | 1   |
| 18   | 610420 | COLLAR SCREW           | 2   | 42   | 614700 | BUSHING               | 1   |
| 19   | 615900 | LEVER                  | 1   | 43   | 615960 | REGULATING SCREW STUD | 1   |
| 20   | 611620 | SCREW                  | 1   | 44   | 618160 | STOP SCREW            | 2   |
| 21   | 615920 | PIN                    | 1   | 54   | 730216 | LINK                  | 1   |
| 22   | 615940 | PIN SPRING             | 1   | 55   | 730284 | SHOULDER SCREW        | 1   |
| 23   | 611900 | PIN WASHER             | 1   | 56   | 730183 | FOOT LIFT LEVER       | 1   |
| 24   | 619480 | PIN SCREW              | 1   | 57   | 730185 | SPRING                | 1   |
| 25   | 617000 | PRESSER BAR, COMPLETE  | 1   | 58   | 730360 | SCREW                 | 2   |
| 26   | 616780 | GUIDE                  | 1   | 59   | 730184 | BRACKET               | 1   |
| 27   | 617020 | PRESSER BAR GUIDE      | 1   | 60   | 730215 | SPRING                | 1   |
| 28   | 617180 | THUMB SCREW            | 1   | 61   | 730186 | CONNECTING LINK       | 1   |
| 29   | 617100 | HAND LIFT LEVER        | 1   | 62   | 620026 | SCREW                 | 1   |
| 30   | 611780 | SPRING PLUNGER         | 1   | 63   | 730257 | COLLAR                | 1   |
| 31   | 617120 | SPRING PLUNGER BUSHING | 1   | 64   | 730358 | PRESSER ARM           | 1   |
| 32   | 618420 | BUSHING SCREW          | 1   | 65   | 730359 | PRESSER FOOT          | 1   |
| 33   | 611800 | HINGE PIN              | 1   | 65A  | 730360 | PRESSER FOOT          | 1   |
| 34   | 611420 | SPRING                 | 1   |      |        |                       |     |

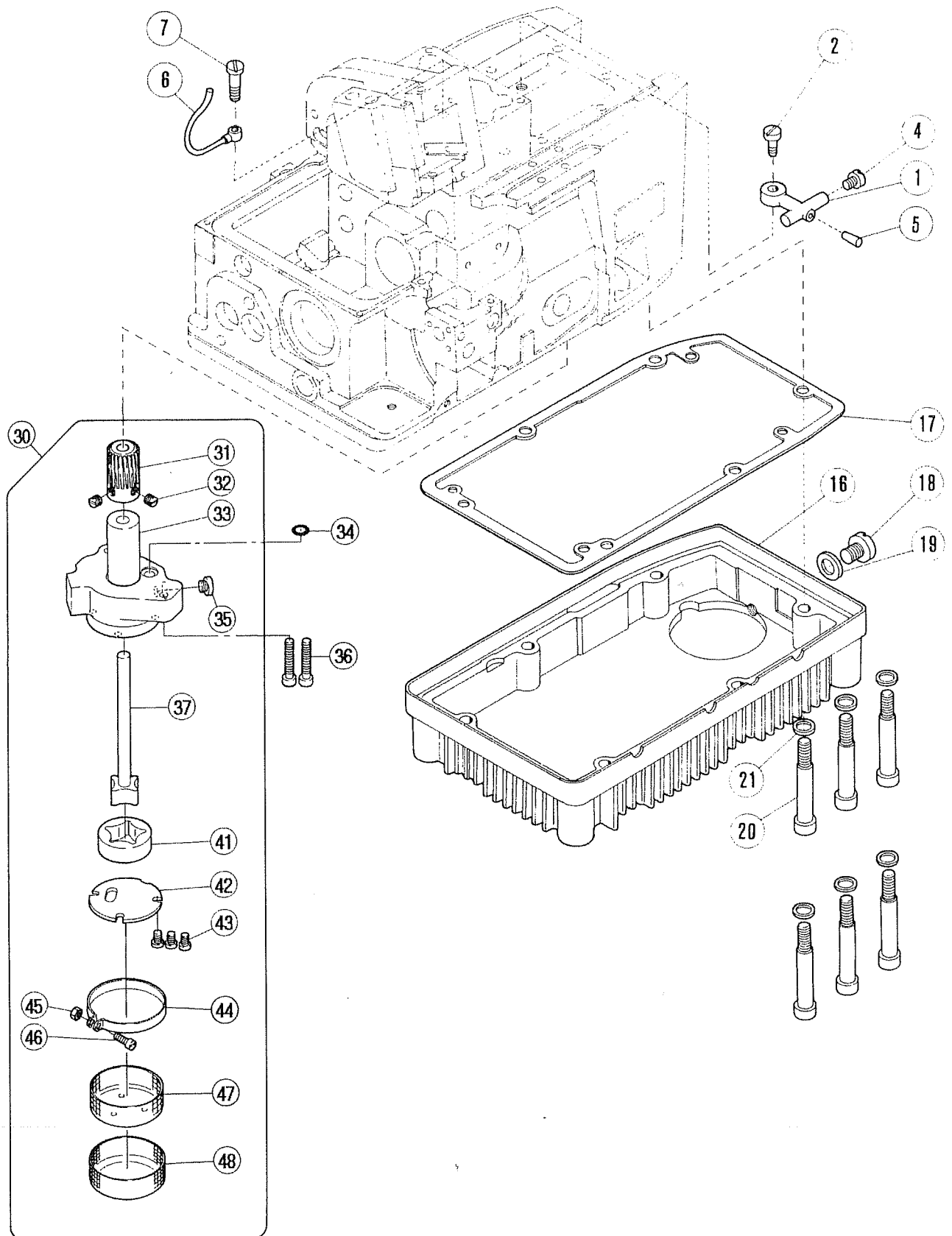
UPPER & LOWER KNIFE MECHANISM



## UPPER &amp; LOWER KNIFE MECHANISM

| Ref# | Part#  | Description              | Qty | Ref# | Part#  | Description           | Qty |
|------|--------|--------------------------|-----|------|--------|-----------------------|-----|
| 1    | 612880 | UPPER KNIFE DRIVE CONN   | 1   | 22   | 613720 | LOWER KNIFE-CARBIDE   | 1   |
| 2    | 619200 | CAP SCREW                | 2   | 24   | 613160 | CLAMP STUD            | 1   |
| 3    | 613000 | UPPER KNIFE DRIVE CRANK  | 1   | 25   | 619320 | CLAMP STUD NUT        | 1   |
| 4    | 619700 | CLAMP SCREW              | 1   | 26   | 610780 | CLAMP STUD NUT WASHER | 1   |
| 5    | 612900 | PIN                      | 1   | 28   | 616280 | LOWER KNIFE HOLDER    | 1   |
| 6    | 610440 | PIN SCREW                | 1   | 29   | 618340 | SCREW                 | 1   |
| 7    | 640035 | BUSHING (LEFT)           | 1   | 30   | 613080 | SPRING                | 1   |
| 8    | 614815 | THRUST COLLAR            | 1   | 31   | 613100 | SPRING SEAT           | 1   |
| 9    | 618350 | THRUST COLLAR SCREW      | 2   | 32   | 618740 | SPRING SEAT SCREW     | 2   |
| 10   | 615390 | WASHER                   | 1   | 33   | 613120 | GUIDE                 | 1   |
| 11   | 613020 | BUSHING (RIGHT)          | 1   | 35   | 610100 | GUIDE SCREW           | 1   |
| 12   | 617260 | UPPER KNIFE LEVER )      | 1   | 36   | 613140 | LOWER KNIFE-STEEL     | 1   |
| 13a  | 730361 | UPPER KNIFE CLAMP        | 1   | 37   | 730362 | LOWER KNIFE HOLDER    | 1   |
| 13   | 616260 | UPPER KNIFE CLAMP        | 1   | 38   | 730363 | SCREW                 | 1   |
| 15   | 610100 | SCREW                    | 2   | 39   | 730341 | LOWER KNIFE           | 1   |
| 16   | 613060 | PIN                      | 1   | 40   | 660370 | CLAMP                 | 1   |
| 18   | 611240 | UPPER KNIFE-CARB. TIPPED | 1   | 41   | 730364 | CLAMP SCREW           | 1   |
| 19   | 610480 | WASHER                   | 1   |      |        |                       |     |
| 20   | 618620 | SCREW                    | 1   |      |        |                       |     |

## LUBRICATING MECHANISM



## LUBRICATING MECHANISM

| Ref# | Part#  | Description              | Qty | Ref# | Part#  | Description        | Qty |
|------|--------|--------------------------|-----|------|--------|--------------------|-----|
| 1    | 613440 | OIL DISTRIBUTOR          | 1   | 33   | 620019 | CASING COMPLETE    | 1   |
| 2    | 610860 | OIL SPLASH SCREW         | 1   | 34   | 613320 | "O" RING           | 1   |
| 4    | 613360 | SCREW                    | 1   | 35   | 618900 | SCREW              | 1   |
| 6    | 613460 | OIL SPLASH PIPE COMPLETE | 1   | 36   | 618660 | SCREW              | 2   |
| 7    | 611520 | OIL SPLASH SCREW         | 1   | 37   | 620020 | INSIDE ROTOR SHAFT | 1   |
| 16   | 730365 | OIL RESERVOIR            | 1   | 41   | 620024 | OUTSIDE ROTOR      | 1   |
| 17   | 730366 | GASKET                   | 1   | 42   | 620025 | ROTOR PLATE        | 1   |
| 18   | 618840 | SCREW                    | 1   | 43   | 619520 | SCREW              | 3   |
| 19   | 611660 | WASHER                   | 1   | 44   | 730177 | FILTER CLAMP       | 1   |
| 20   | 618960 | BOLT                     | 6   | 45   | 618320 | NUT                | 1   |
| 21   | 614300 | WASHER                   | 6   | 46   | 610040 | SCREW              | 1   |
| 30   | 613880 | GEAR PUMP COMPLETE       | 1   | 47   | 730175 | INSIDE FILTER      | 1   |
| 31   | 613360 | WORM WHEEL               | 1   | 48   | 730176 | OUTSIDE FILTER     | 1   |
| 32   | 618460 | SCREW                    | 2   |      |        |                    |     |

## PARTS INDEX • System

| Part #       | Description                      | Ref # | Page | Part #            | Description                   | Ref # | Page |
|--------------|----------------------------------|-------|------|-------------------|-------------------------------|-------|------|
| 17078        | CLOTH FILTER (CANISTER)          | 4     | 15   | BM-307            | BOTTOM SHAFT                  | 2     | 11   |
| 202691       | RUBBER CUSHIONS                  | 3     | 12   | BMHS-116          | SLIDE PULLEY                  | 4     | 12   |
| 409901       | SWITCH                           | 5     | 15   | BMHS-125          | PULLEY, HEAD DRIVE            | 2     | 12   |
| 409902       | FILTER REGULATOR (MAIN AIR FEED) | 3     | 15   | BMHS-128          | WINDER PULLEY                 | 3     | 14   |
| 409902       | FILTER REGULATOR                 | 1     | 15   | BMHS-146          | PINCH ROLLER                  | 3     | 13   |
| 409903       | MANIFOLD                         | 1     | 15   | BMHS-147          | UPPER ROLLER                  | 4     | 13   |
| 640068       | THREAD STAND                     | 1     | 16   | BMHS-152          | MOTOR PULLEY                  | 4     | 14   |
| 4509003      | STEPPING MOTOR                   | 1     | 13   | BMHS-158          | SUPPORT HUB                   | 1     | 14   |
| 00199        | WASTE REMOVER BODY               | 1     | 15   | BMHS-160          | CLAMP COLLAR                  | 2     | 14   |
| 00249-13     | HOSE CLAMP                       | 2     | 15   | BMHS-167          | SHAFT, OFF WIND               | 1     | 14   |
| 00308        | FH200X72" HOSE                   | 3     | 15   | BMHS-311          | SPLINE SHAFT                  | 2     | 12   |
| 061-DXP      | BIMBA CYLINDER                   | 6     | 13   | BMHS-313          | DRIVE SHAFT                   | 3     | 12   |
| 061-DXP      | AIR CYLINDER                     | 1     | 13   | BMHS-330          | "V" BELT PULLEY MODIFIED      | 1     | 12   |
| 109          | LEAD SCREW PLATE                 | 4     | 12   | BMHS-351          | GUIDE, MATERIAL-REAR          | 4     | 13   |
| 110          | LEAD SCREW BEARING PLATE         | 2     | 12   | BMHS-358          | BARREL, MODIFIED              | 3     | 15   |
| 114          | LEAD SCREW COLLAR                | 3     | 12   | BMHS-359          | RETAINER RINGS                | 2     | 15   |
| 117          | HAND WHEEL (ADJ.)                | 5     | 12   | BMHS-360          | BARREL UNION                  | 1     | 15   |
| 118          | LEAD SCREW LOCKING HANDLE        | 1     | 12   | BMHS-368          | GUARD EXIT LEXAN              | 3     | 13   |
| 121          | LEAD SCREW                       | 6     | 12   | COMELZ            | SOCKET PANEL, ARGO NT4        | 1     | 10   |
| 125-DV-C     | DC-CONTROL                       | 1     | 10   | D-166-2           | CLEVIS BLOCK                  | 3     | 13   |
| 2080P        | HINGE                            | 1     | 13   | D-167             | BRACKETS W/PINS AND "E" RINGS | 2     | 13   |
| 2090P        | MAGNETIC DOOR CATCH              | 2     | 13   | FB1214-6          | BRONZE BUSHING                | 1     | 13   |
| 3.364.058.01 | MAIN POWER SWITCH                | 1     | 10   | GPP12560          | MOTOR                         | 1     | 14   |
| 34V          | BELT                             | 1     | 12   | ME100             | NEEDLE POSITIONER             | 2     | 11   |
| 387          | COLLECTOR, LEFT HAND             | 2     | 11   | NAR-2000-NO1BG    | AIR REGULATOR, PINCH ROLLS    | 1     | 15   |
| 409902       | FILTER REGULATOR                 | 4     | 15   | NAS1001F-03       | SPEED CONTROLLER (AIR)        | 2     | 15   |
| 6408K12-5/8  | COUPLING                         | 4     | 13   | PSM-130           | NEEDLE                        | 1     | 11   |
| 801369       | SUPPORT BAR, CLUTCH              | 5     | 11   | ROSDC 225         | 3/4 TORQUE LIMITER            | 6     | 14   |
| 801570       | SUPPORT PLATE, CLUTCH SHAFTS     | 2     | 12   | RWE-116           | SHAFT ADAPTOR LEFT HEAD       | 3     | 11   |
| 801570       | SUPPORT PLATE, CLUTCH SHAFTS     | 4     | 11   | ST-3/4            | BEARING                       | 1     | 12   |
| 8100-3       | ACTUATOR                         | 2     | 13   | TIUB07-B-20       | 1/4 TUBING                    | 3     | 15   |
| 8200-2       | SWITCH                           | 1     | 13   | TIUB11B-20        | 3/8 TUBING                    | 2     | 15   |
| A6T39M044160 | TIMING BELT                      | 2     | 14   | TU0425B-20        | 1/8 TUBING                    | 4     | 15   |
| A6T39M70160  | TIMING BELT                      | 1     | 11   | XL2-1/2           | BEARING                       | 1     | 10   |
| ARGO 42/A    | MOTOR, SEWING HEAD DRIVE         | 2     | 10   | XL2-3/4           | BEARING                       | 5     | 14   |
| BM-102       | SHAFT SUPPORT                    | 4     | 11   | XL2-5/8           | BEARING                       | 5     | 13   |
| BM-103       | ADJUSTING BLOCK                  | 6     | 11   | XL2-5/8           | BEARING                       | 2     | 13   |
| BM-162       | WING STUD                        | 3     | 11   | XUBJ083235/065254 | END OF MATERIAL SENSOR        | 3     | 14   |
| BM-305       | SUPPORT                          | 1     | 11   | YB5-18-2          | THREAD BREAK SWITCH           | 1     | 11   |
| BM-306       | TOP SHAFT                        | 5     | 11   | YBS-18-2          | THREAD BREAK SWITCH           | 5     | 11   |

PARTS INDEX • *Left Sewing Head*

| Part # | Description             | Ref # | Page | Description | Ref #                       | Page |
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| 610020 | Screw                   | 7     | 43   | 611740      | Snap Ring                   | 47   |
| 610080 | Screw                   | 13    | 31   | 611780      | Plunger                     | 48   |
| 610080 | Screw                   | 14    | 43   | 611800      | Pin                         | 49   |
| 610100 | Screw                   | 4     | 47   | 611920      | Tension Guide               | 50   |
| 610100 | Screw                   | 5     | 47   | 611920      | Tension Guide               | 51   |
| 610100 | Screw                   | 6     | 47   | 611920      | Tension Guide               | 52   |
| 610120 | Screw                   | 7     | 39   | 611960      | Washer                      | 8    |
| 610120 | Screw                   | 8     | 39   | 611960      | Washer                      | 9    |
| 610135 | Screw                   | 9     | 43   | 611960      | Washer                      | 10   |
| 610180 | Screw                   | 10    | 33   | 611960      | Washer                      | 11   |
| 610180 | Screw                   | 11    | 55   | 612020      | bed Pin                     | 20   |
| 610180 | Screw                   | 12    | 55   | 612040      | Ball Bearing                | 21   |
| 610200 | Screw                   | 13    | 33   | 612300      | Oil Seal                    | 22   |
| 610200 | Screw                   | 14    | 33   | 612480      | Needle Bearing              | 23   |
| 610200 | Screw                   | 15    | 55   | 612640      | Thrust Washer               | 16   |
| 610400 | Washer                  | 10    | 31   | 612680      | Bushing                     | 17   |
| 610400 | Washer                  | 11    | 33   | 612700      | Thrust Washer               | 18   |
| 610420 | Screw                   | 12    | 37   | 612705      | Washer                      | 18   |
| 610440 | Screw                   | 13    | 53   | 612705      | Washer                      | 19   |
| 610440 | Screw                   | 14    | 53   | 612760      | Pin                         | 20   |
| 610560 | Screw                   | 15    | 45   | 612780      | Bushing / Feed Bar Guide    | 21   |
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| 617000 | PRESSER BAR, COMPLET            | 81    | 25   | 618560 | POST                      | 69    | 29   |
| 617020 | PRESSER BAR GUIDE               | 81    | 27   | 618600 | COLLAR SCREW              | 71    | 17   |
| 617040 | HINGE PIN                       | 81    | 4    | 618600 | LINK PIN SCREW            | 70    | 6    |
| 617060 | CAP                             | 75    | 34   | 618600 | COLLAR SCREW              | 70    | 19   |
| 617100 | HAND LIFT LEVER                 | 81    | 29   | 618600 | PIN SCREW                 | 77    | 6    |
| 617120 | SPRING PLUNGER BUSHING          | 81    | 31   | 618600 | SCREW                     | 77    | 49   |
| 617140 | MACHINE ARM (RIGHT)             | 66    | 1    | 618600 | THRUST COLLAR SCREW       | 79    | 2    |
| 617160 | CLOTH COVER COMPLETE            | 65    | 23   | 618600 | SCREW                     | 79    | 9    |
| 617165 | CLOTH COVER COMPLETE            | 65    | 44   | 618600 | PIN SCREW                 | 75    | 22   |
| 617180 | THUMB SCREW                     | 81    | 28   | 618620 | SCREW                     | 83    | 20   |
| 617200 | DUST SHIELD                     | 73    | 30   | 618640 | SCREW                     | 65    | 32   |
| 617220 | OIL FELT                        | 73    | 29   | 618640 | SCREWS                    | 68    | 57   |
| 617240 | CAP                             | 73    | 21   | 618660 | SCREW                     | 85    | 36   |

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| 618660 | STOP SCREW         | 77    | 37   | 619640 | SCREW                           | 63    | 61   |
| 618660 | SCREW              | 63    | 41   | 619640 | SCREW                           | 73    | 41   |
| 618700 | SCREW              | 68    | 28   | 619660 | SCREW                           | 67    | 31   |
| 618720 | SCREW              | 71    | 25   | 619700 | CLAMP SCREW                     | 77    | 27   |
| 618720 | SCREW              | 71    | 29   | 619700 | SCREW                           | 77    | 31   |
| 618720 | SCREW              | 65    | 36   | 619700 | SCREW                           | 77    | 41   |
| 618740 | SCREW              | 67    | 13   | 619700 | SCREW                           | 73    | 31   |
| 618740 | SCREW              | 66    | 12   | 619700 | CLAMP SCREW                     | 83    | 27   |
| 618740 | SCREW              | 63    | 19   | 619720 | SCREW                           | 70    | 11   |
| 618740 | SPRING SEAT SCREW  | 83    | 32   | 619740 | PIN NUT                         | 71    | 27   |
| 618760 | SCREW              | 77    | 56   | 619780 | SCREW                           | 77    | 11   |
| 618760 | SCREW              | 77    | 60   | 619800 | STOP SCREW                      | 65    | 11   |
| 618760 | SCREW              | 63    | 2    | 620012 | SCREW                           | 67    | 27   |
| 618760 | REGULATOR SCREW    | 81    | 39   | 620013 | SCREW                           | 67    | 11   |
| 618800 | POST LOCK NUT      | 63    | 42   | 620019 | CASING COMPLETE                 | 85    | 31   |
| 618840 | SCREW              | 85    | 18   | 620020 | INSIDE ROTOR SHAFT              | 85    | 31   |
| 618880 | POST, SHORT ENDED  | 68    | 8    | 620024 | OUTSIDE ROTOR                   | 85    | 4    |
| 618900 | SCREW              | 85    | 35   | 620025 | ROTOR PLATE                     | 85    | 4    |
| 618920 | STOP SCREW         | 63    | 39   | 620026 | CLAMP SCREW                     | 71    | 11   |
| 618960 | BOLT               | 85    | 20   | 620026 | SCREW                           | 81    | 61   |
| 619020 | HINGE PIN SCREW    | 81    | 5    | 620028 | NEEDLE BEARING                  | 71    | 11   |
| 619060 | LONG SCREW         | 65    | 33   | 620029 | COLLAR                          | 71    | 11   |
| 619080 | SCREW              | 79    | 26   | 620030 | LOOPER AVOIDING CONNECTION      | 71    | 11   |
| 619120 | SCREW              | 68    | 29   | 620031 | PIN                             | 71    | 11   |
| 619140 | BUSHING SCREW      | 79    | 24   | 620032 | LOOPER AVOIDING CRANK           | 71    | 1    |
| 619180 | STOP SCREW         | 65    | 37   | 620032 | LOOPER AVOIDING                 | 71    | 1    |
| 619180 | STOP SCREW         | 81    | 37   | 620033 | SET SCREW                       | 77    | 1    |
| 619200 | SCREW              | 73    | 3    | 620033 | SET SCREW                       | 77    | 2    |
| 619200 | CAP SCREW          | 83    | 2    | 620034 | FEED DRIVE ECCENTRIC            | 77    | 2    |
| 619220 | SCREW              | 73    | 5    | 620035 | RACHET WHEEL ASSY. (REF:#26-29) | 77    | 2    |
| 619240 | SCREW              | 66    | 25   | 620037 | FEED ECCENTRIC GUIDE            | 77    | 11   |
| 619265 | CLAMP SCREW        | 70    | 2    | 620038 | FLAT SPRING                     | 77    | 11   |
| 619280 | CLAMP SCREW        | 75    | 18   | 620039 | SET SCREW                       | 77    | 1    |
| 619300 | SCREW              | 67    | 23   | 620040 | LOOPER AVOIDING ECCENTRIC       | 77    | 1    |
| 619320 | CLAMP STUD NUT     | 83    | 25   | 620042 | FEED REGULATING ECCENTRIC       | 77    | 1    |
| 619360 | CLAMP SCREW        | 70    | 22   | 620043 | BRACKET                         | 77    | 2    |
| 619360 | CLAMP SCREW        | 69    | 18   | 620044 | WHEEL                           | 77    | 2    |
| 619380 | CLAMP SCREW NUT    | 75    | 19   | 620045 | SCREW                           | 77    | 2    |
| 619400 | GENUINE SCREW      | 71    | 21   | 620052 | STOPPER                         | 77    | 1    |
| 619400 | BLOCK SCREW        | 70    | 16   | 620053 | SPACER                          | 77    | 3    |
| 619400 | SET SCREW          | 77    | 11   | 620054 | O-RING                          | 77    | 3    |
| 619400 | SCREW              | 73    | 19   | 620055 | PUSH BUTTON                     | 77    | 3    |
| 619402 | SCREWS             | 68    | 48   | 620227 | NEEDLE BAR CAP                  | 73    | 4    |
| 619420 | SCREW              | 73    | 16   | 620238 | RIGHT LOOPER                    | 69    | 2    |
| 619440 | CHAIN FINGER SCREW | 68    | 21   | 620244 | SPREADER                        | 75    | 3    |
| 619460 | SCREW              | 77    | 44   | 620270 | LOOPER                          | 70    | 2    |
| 619480 | WASHER SCREW       | 79    | 20   | 629860 | SCREW                           | 73    | 4    |
| 619480 | PIN SCREW          | 81    | 24   | 630113 | NEEDLE HOLDER                   | 73    | 3    |
| 619500 | SCREW              | 77    | 63   | 630118 | LINK                            | 73    | 1    |
| 619520 | LINK PIN SCREW     | 70    | 5    | 630122 | MAIN FEED DOG                   | 79    | 1    |
| 619520 | SCREW              | 85    | 43   | 630125 | DIFFERENTIAL FEED DOG           | 79    | 1    |
| 619520 | SCREW              | 73    | 10   | 640002 | SCREW                           | 63    | 1    |
| 619580 | SCREW              | 77    | 23   | 640006 | THRUST WASHER                   | 69    | 1    |
| 619600 | SCREW              | 66    | 7    | 640009 | THREAD GUIDE                    | 68    | 1    |
| 619600 | SCREW              | 79    | 32   | 640010 | THREAD GUIDE                    | 68    | 1    |
| 619600 | GUIDE SCREW        | 75    | 7    | 640013 | CAP SCREW                       | 69    | 1    |
| 619625 | SCREWS             | 68    | 47   | 640014 | BUSHING REAR                    | 70    | 1    |

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| 640014 | BUSHING (CENTER)           | 75    | 15   | 730193                          | FEED BAR COVER      | 65    | 17   |
| 640015 | LEFT LOOPER LEVER SHAFT    | 69    | 10   | 730197                          | BED PIN             | 66    | 20   |
| 640015 | RIGHT LOOPER DRIVE SHAFT   | 75    | 9    | 730198                          | SCREW               | 63    | 65   |
| 640016 | BUSHING (REAR)             | 75    | 33   | 730199                          | BRACKET             | 63    | 69   |
| 640017 | HOUSING                    | 75    | 29   | 730212                          | THRUST WASHER       | 67    | 26   |
| 640018 | BUSHING FRONT SCREW        | 75    | 30   | 730215                          | SPRING              | 81    | 60   |
| 640019 | THREAD GUIDE WIRE          | 75    | 51   | 730216                          | LINK                | 81    | 54   |
| 640020 | LOOPER DRIVE CRANK         | 70    | 1    | 730220                          | SCREW               | 66    | 21   |
| 640021 | GUIDE SCREW                | 69    | 5    | 730237                          | CRANK MAIN FEED     | 79    | 35   |
| 640022 | BUSHING (REAR)             | 69    | 16   | 730247                          | PULLEY              | 67    | 1    |
| 640023 | BUSHING(FRONT)             | 69    | 14   | 730252                          | TOP COVER           | 63    | 1    |
| 640024 | BUSHING FRONT OIL SEAL     | 70    | 10   | 730254                          | NEEDLE BAR COVER    | 63    | 23   |
| 640024 | BUSHING FRONT OIL SEAL     | 69    | 15   | 730256                          | BELT GUARD          | 63    | 62   |
| 640025 | THREAD GUIDE               | 69    | 33   | 730257                          | COLLAR              | 81    | 63   |
| 640026 | NUT                        | 70    | 20   | 730259                          | MACHINE COVER LEFT  | 65    | 31   |
| 640027 | LEFT BUSHING               | 71    | 14   | 730266                          | SCREWS              | 63    | 64   |
| 640028 | SCREW                      | 71    | 19   | 730269                          | SCREW               | 67    | 7    |
| 640029 | PIN                        | 77    | 22   | 730272                          | SCREW               | 66    | 14   |
| 640031 | BUSHING                    | 77    | 51   | 730279                          | NUT                 | 79    | 33   |
| 640032 | BUSHING                    | 79    | 3    | 730284                          | SHOULDER SCREW      | 81    | 55   |
| 640033 | FEED BAR GUIDE BLOCK       | 79    | 11   | 730341                          | LOWER KNIFE         | 83    | 39   |
| 640034 | FEED BAR GUIDE             | 79    | 27   | 730347                          | RIGHT LOOPER LEVER  | 69    | 34   |
| 640035 | BUSHING (LEFT)             | 83    | 7    | 730348                          | WASHER              | 69    | 35   |
| 650038 | PRESSER FOOT ARM           | 81    | 1    | 730349                          | BOLT                | 69    | 36   |
| 650049 | STOPPER                    | 65    | 39   | 730351                          | SCREW               | 79    | 37   |
| 650050 | SPRING                     | 65    | 40   | 730352                          | PIN                 | 79    | 36   |
| 650051 | PIN                        | 65    | 41   | 730353                          | SCREW               | 79    | 38   |
| 650052 | LEVER                      | 65    | 42   | 730354                          | BUSHING             | 79    | 39   |
| 650053 | RING                       | 65    | 43   | 730355                          | WASHER              | 79    | 40   |
| 660070 | REAR MOVEABLE NEEDLE GUARD | 68    | 53   | 730357                          | RETAINER            | 79    | 46   |
| 660115 | SCREW                      | 68    | 55   | 730359                          | PRESSER FOOT        | 81    | 65   |
| 660315 | CUSHION                    | 65    | 27   | 730360                          | PRESSER FOOT        | 81    | 65A  |
| 660358 | LINK/MAIN FEED             | 79    | 47   | 730361                          | UPPER KNIFE CLAMP   | 83    | 13A  |
| 660370 | CLAMP                      | 83    | 40   | 730362                          | LOWER KNIFE HOLDER  | 83    | 37   |
| 730051 | WASHER                     | 63    | 66   | 730363                          | SCREW               | 83    | 38   |
| 730138 | WASHERS                    | 63    | 68   | 730364                          | CLAMP SCREW         | 83    | 41   |
| 730139 | OIL FELT                   | 79    | 45   | 730365                          | OIL RESERVOIR       | 85    | 16   |
| 730144 | O-RING                     | 63    | 6    | 730366                          | GASKET              | 85    | 17   |
| 730146 | OIL FELT                   | 67    | 20   | 730367                          | SCREW               | 81    | 58   |
| 730148 | WASHER                     | 79    | 34   | 730368                          | BRACKET             | 68    | 35   |
| 730163 | BEDPLATE                   | 63    | 14   | 730369                          | NUT                 | 68    | 36   |
| 730164 | GASKET                     | 63    | 17   | 730370                          | TENSIONS (COMPLETE) | 68    | 37   |
| 730174 | INDICATION PLATE           | 65    | 34   | 730371                          | TENSIONS (COMPLETE) | 68    | 38   |
| 730175 | INSIDE FILTER              | 85    | 47   | 730372                          | TENSIONS (COMPLETE) | 68    | 39   |
| 730176 | OUTSIDE FILTER             | 85    | 48   | 730373                          | SCREW               | 68    | 40   |
| 730177 | FILTER CLAMP               | 85    | 44   | 730374                          | FRONT NEEDLE GUARD  | 68    | 41   |
| 730179 | LOCK SPRING                | 63    | 25   | 730375                          | SCREW               | 68    | 42   |
| 730182 | EYE GUARD                  | 63    | 70   | 730376                          | SCREW               | 68    | 43   |
| 730183 | WASHER                     | 68    | 54   | 730377                          | REAR NEEDLE GUARD   | 68    | 44   |
| 730183 | FOOT LIFT LEVER            | 81    | 56   | 730378                          | THROAT PLATE        | 68    | 19   |
| 730184 | BRACKET                    | 81    | 59   | 7301925                         | COVER PLATE         | 66    | 11   |
| 730185 | SPRING                     | 81    | 57   | BHCS 6-32X1/4 SCREW (not shown) |                     | 63    | 59   |
| 730186 | CONNECTING LINK            | 81    | 61   | PSM-130                         | NEEDLE              | 73    | 39   |
| 730189 | COOLING FAN                | 67    | 8    | PSM-130                         | NEEDLE              | 73    | 59   |
| 730190 | COLLAR                     | 67    | 6    |                                 |                     |       |      |

Right Head

504

Upper knife 611240  
 Lower knife - 613720 (cubicle)  
 Spreader - 613140 (steel)  
 Looper - 620244  
 Looper - 620238

Left Head

Upper knife 660296  
 Lower knife 660297  
 Spreader 660491  
 Looper 660462  
 Upper Head  
 Lower Head 660341  
 660521

672869 = 620244

