

Porter[®]
INTERNATIONAL

A *Leggett & Platt* Company

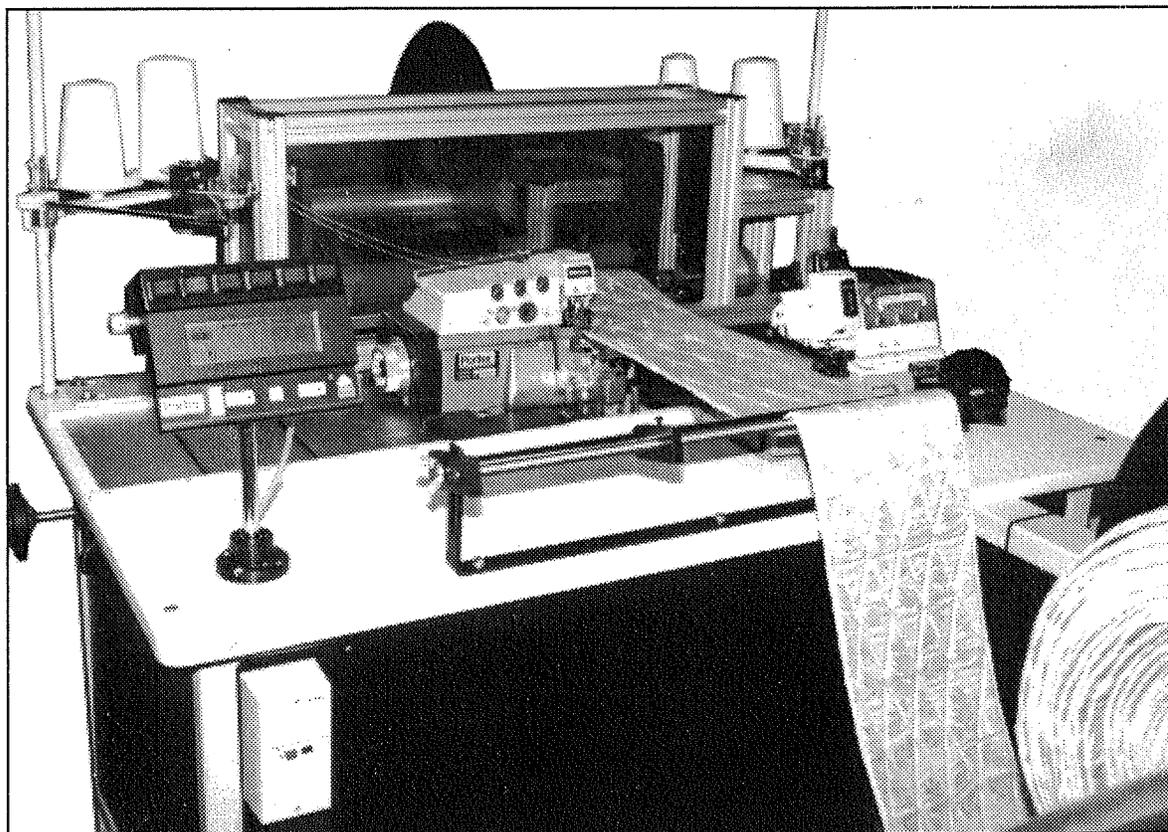
Lower knife (left) 613

Both
Left
&
Right
Two Sections

Catalog # PE504 10/98



PE504-DO DOUBLE BORDER SERGER



INSTRUCTIONS & PARTS MANUAL

From the library of: Diamond Needle Corp

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.

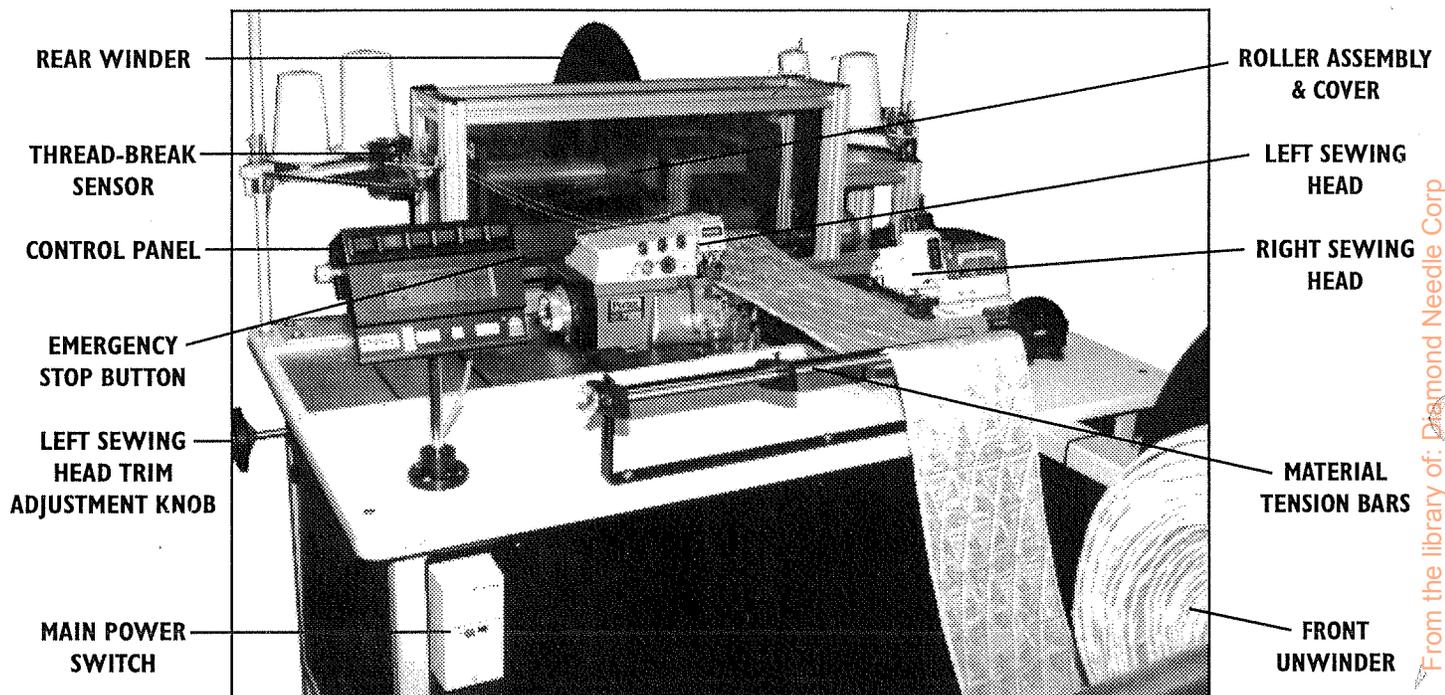
CONTENTS

System Instructions.....	4-8	<i>Needle Drive 1 & 2.....</i>	<i>36 & 38</i>
<i>Installation</i>	<i>4</i>	<i>Upper Looper Drive.....</i>	<i>40</i>
<i>Safety & Shutdown Features</i>	<i>5</i>	<i>Lower Looper Drive</i>	<i>42</i>
<i>Control Panel Functions.....</i>	<i>6</i>	<i>Chainstitch Looper Drive</i>	<i>43</i>
<i>Operation & Adjustments.....</i>	<i>7</i>	<i>Feed Mechanism 1 & 2</i>	<i>44 & 46</i>
<i>Maintenance.....</i>	<i>8</i>	<i>Knife Drive Mechanism.....</i>	<i>48</i>
<i>Troubleshooting</i>	<i>8</i>	<i>Presser Foot Mechanism</i>	<i>50</i>
<i>Measurement Conversion Chart.....</i>	<i>9</i>	<i>Lubricating Mechanism</i>	<i>52</i>
System Parts	10-15	<i>H.R. Device/Binder.....</i>	<i>54</i>
<i>Electrical Components</i>	<i>10</i>	Right Sewing Head Instructions	56-61
<i>Motor Components.....</i>	<i>10</i>	<i>Caution.....</i>	<i>56</i>
<i>Miscellaneous Components.....</i>	<i>11</i>	<i>Lubrication</i>	<i>56</i>
<i>Head Drive Clutch Assembly</i>	<i>12</i>	<i>Turning Direction</i>	<i>56</i>
<i>Pinch Roller Assembly</i>	<i>13</i>	<i>Presser Foot</i>	<i>57</i>
<i>Winder & Unwinder Assemblies</i>	<i>14</i>	<i>Threading.....</i>	<i>57</i>
<i>Air Components.....</i>	<i>15</i>	<i>Differential Feed Ratio</i>	<i>58</i>
<i>Thread Stands.....</i>	<i>16</i>	<i>Stitch Length.....</i>	<i>58</i>
Left Sewing Head Instructions	18-27	<i>Thread Tension.....</i>	<i>59</i>
<i>Speed</i>	<i>18</i>	<i>Cleaning.....</i>	<i>59</i>
<i>Lubrication</i>	<i>19</i>	<i>Replacing Needles.....</i>	<i>60</i>
<i>Oil Filter</i>	<i>20</i>	<i>Checking Oil Circulation</i>	<i>60</i>
<i>Needles</i>	<i>20</i>	<i>Replacing Oil.....</i>	<i>61</i>
<i>Presser Foot</i>	<i>21</i>	<i>Replacing Lower Knife</i>	<i>61</i>
<i>Stitch Length.....</i>	<i>21</i>	Right Sewing Head Parts.....	62-85
<i>Differential Feed Ratio</i>	<i>21</i>	<i>Covers 1 & 2.....</i>	<i>62 & 64</i>
<i>Seam Width.....</i>	<i>22</i>	<i>Machine Bed Frame</i>	<i>66</i>
<i>Change Upper Knife</i>	<i>22</i>	<i>Crankshaft Mechanism</i>	<i>67</i>
<i>Change Lower Knife</i>	<i>23</i>	<i>Needle Plate & Tension Assembly</i>	<i>68</i>
<i>Knives</i>	<i>23</i>	<i>Overedge (left) Looper</i>	<i>69</i>
<i>Chaining Thread.....</i>	<i>24</i>	<i>Chainstitch Looper 1 & 2</i>	<i>70 & 71</i>
<i>Cleaning & Maintenance</i>	<i>24</i>	<i>Needle Bar Mechanism.....</i>	<i>72</i>
<i>Threading.....</i>	<i>24</i>	<i>Spreader Drive Mechanism</i>	<i>74</i>
<i>Thread Tension.....</i>	<i>24</i>	<i>Main & Differential Feed 1 & 2..</i>	<i>76 & 78</i>
<i>Standard Adjustments.....</i>	<i>25</i>	<i>Presser Foot Lift Mechanism</i>	<i>80</i>
<i>Needle Thread Control.....</i>	<i>26</i>	<i>Upper and Lower Knife</i>	<i>82</i>
<i>Looper Thread Control.....</i>	<i>27</i>	<i>Lubricating Mechanism</i>	<i>84</i>
Left Sewing Head Parts	28-55	Parts Index	86-97
<i>Machine Bed Frame</i>	<i>28</i>	<i>System</i>	<i>86</i>
<i>Covers 1 & 2.....</i>	<i>30 & 32</i>	<i>Left Sewing Head.....</i>	<i>88</i>
<i>Crankshaft Drive</i>	<i>34</i>	<i>Right Sewing Head</i>	<i>93</i>

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.

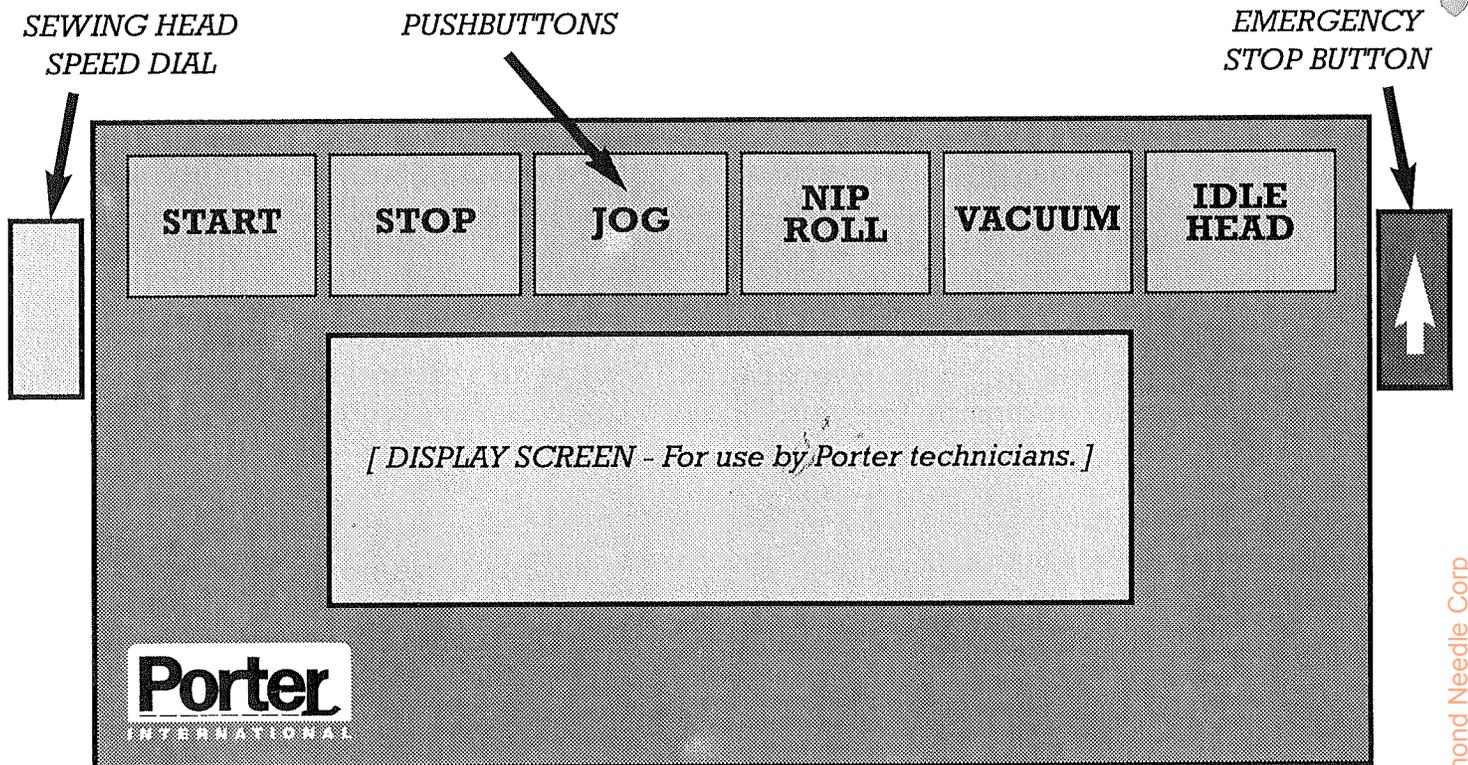
END OF MATERIAL SENSOR

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.)

From the library of: Diamond Needle Corp

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.

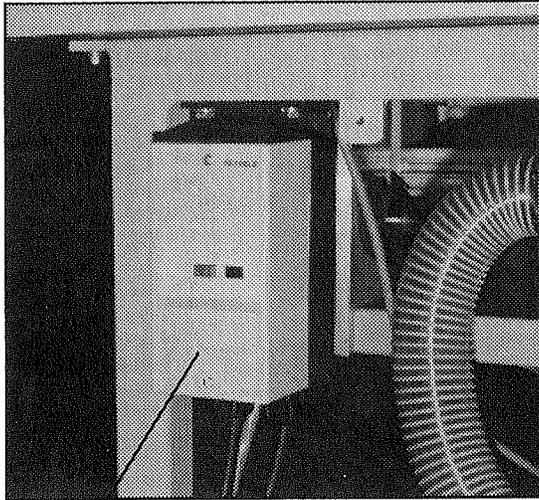
MEASUREMENT CONVERSION CHART

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

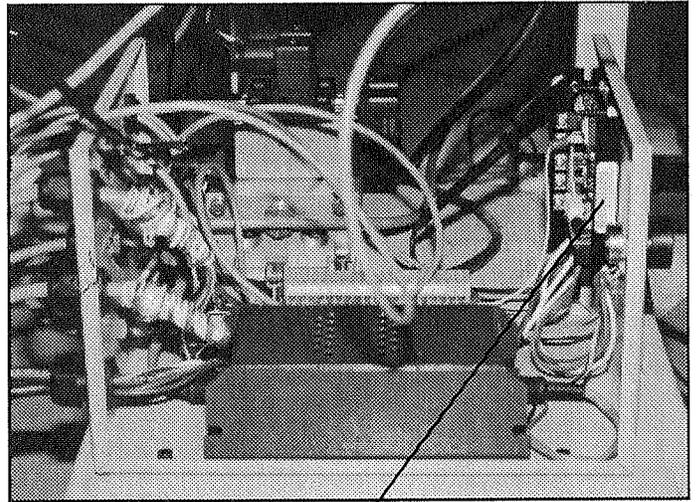
SYSTEM PARTS

ELECTRICAL COMPONENTS



①

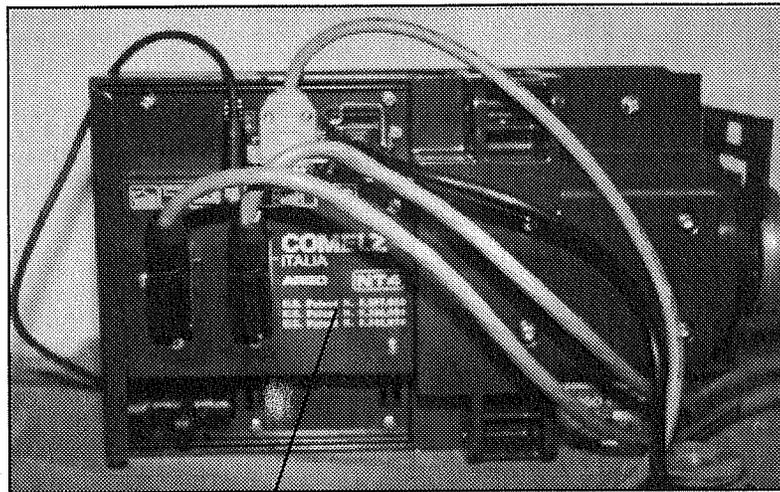
Ref.#	Part No.	Description	Qty
1	3.364.058.01	MAIN POWER SWITCH	1



①

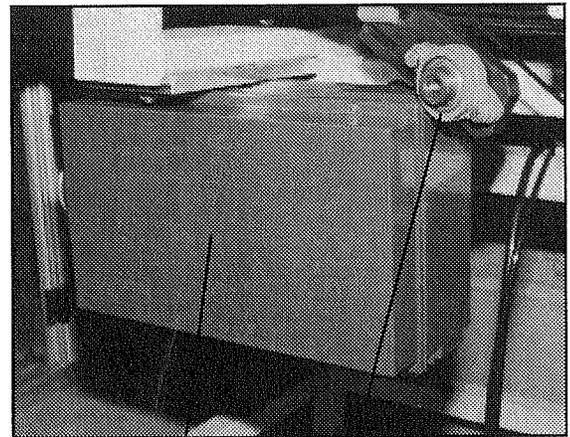
Ref.#	Part No.	Description	Qty
1	125-DV-C	DC-CONTROL	1

MOTOR COMPONENTS



①

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

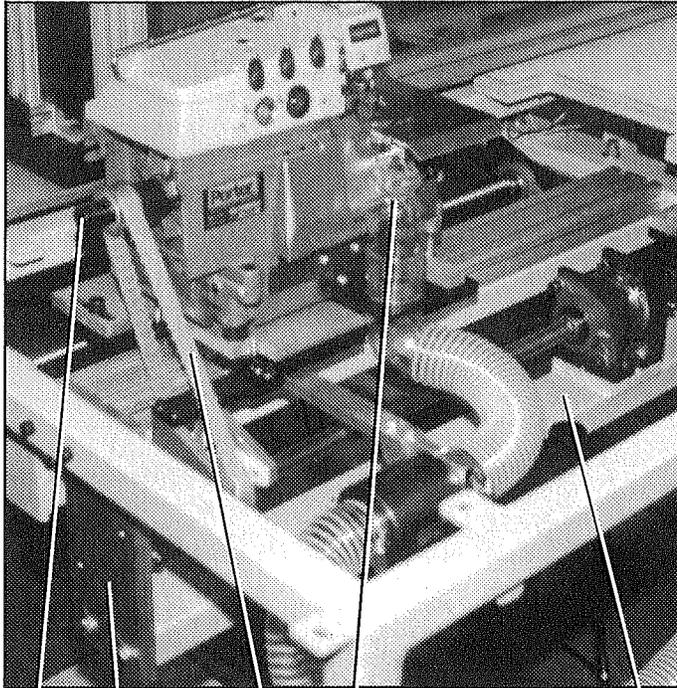


②

①

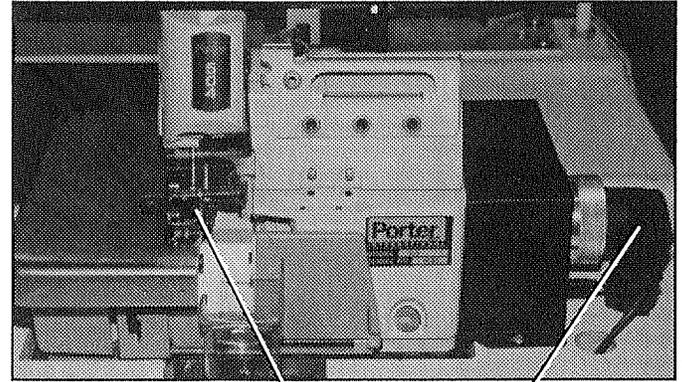
Ref.#	Part No.	Description	Qty
1	XL2-1/2	BEARING	2
2	ARGO 42/A	MOTOR, SEWING HEAD DRIVE	1

MISCELLANEOUS COMPONENTS



③ ④ ① ② ⑤

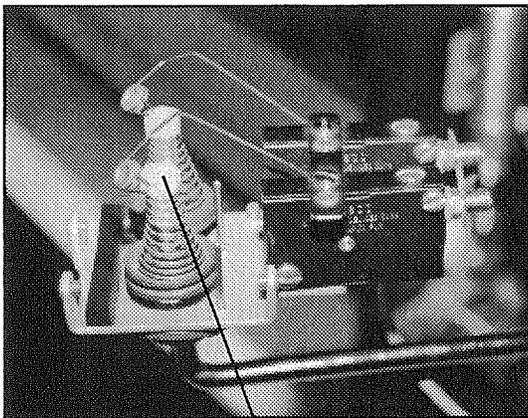
Ref.#	Part No.	Description	Qty
1	A6T39M70160	TIMING BELT	2
2	387	COLLECTOR, LEFT HAND	1
3	RWE-116	SHAFT ADAPTER LEFT HEAD	1
4	801570	SUPPORT PLATE, CLUTCH SHAFTS	2
5	801369	SUPPORT BAR, CLUTCH	1



① ②

NEEDLE & NEEDLE POSITIONER

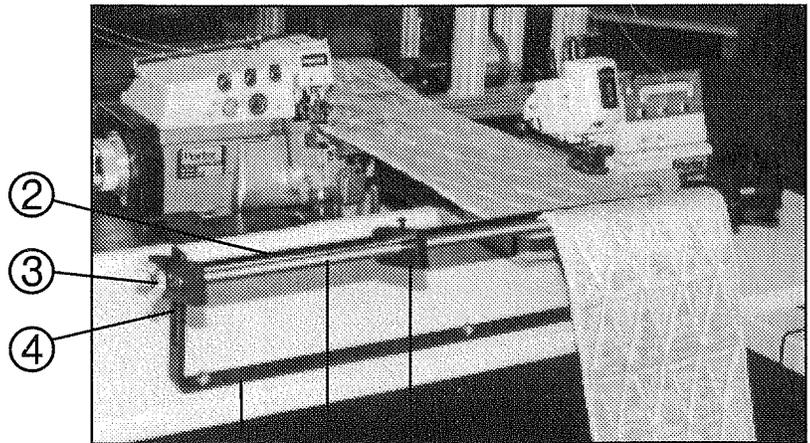
Ref.#	Part No.	Description	Qty
1	PSM-130	NEEDLE	1
2	ME100	NEEDLE POSITIONER	1



①

THREAD BREAK DETECTOR

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



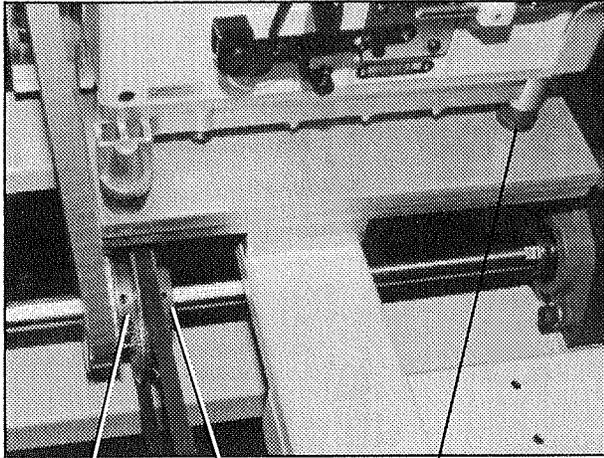
② ③ ④ ① ⑤ ⑥

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

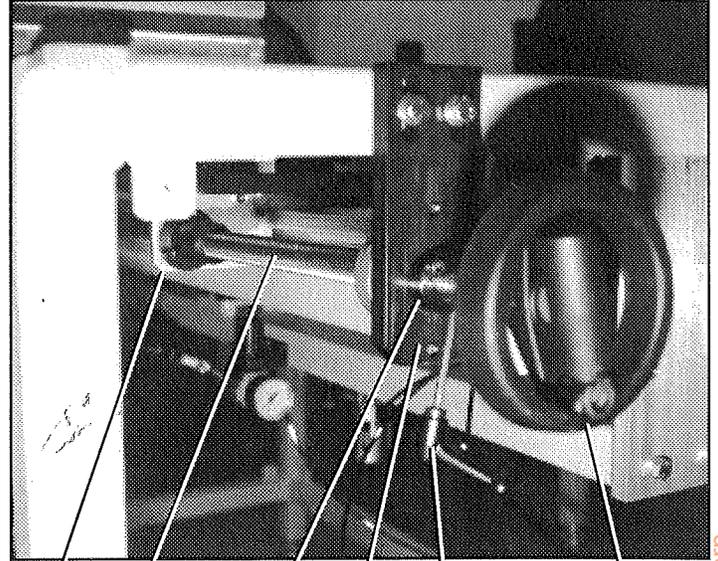
From the library of: Diamond Needle Corp

HEAD DRIVE CLUTCH ASSEMBLY



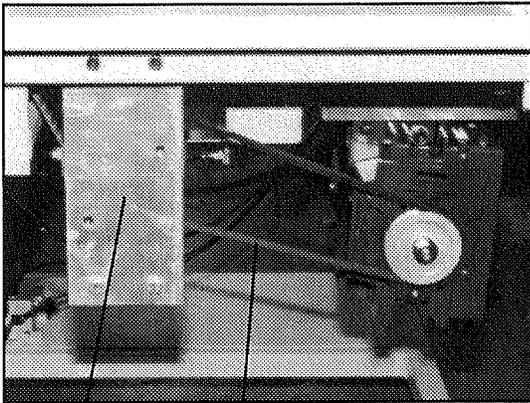
② ① ③

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



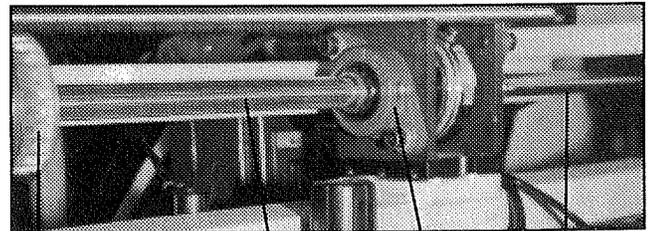
④ ⑥ ③ ② ① ⑤

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

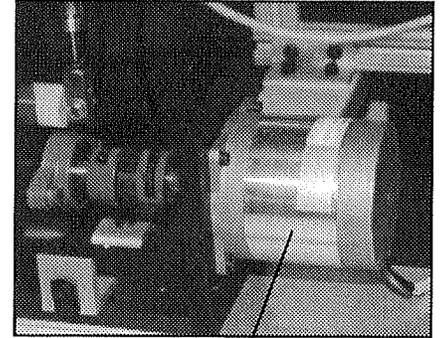
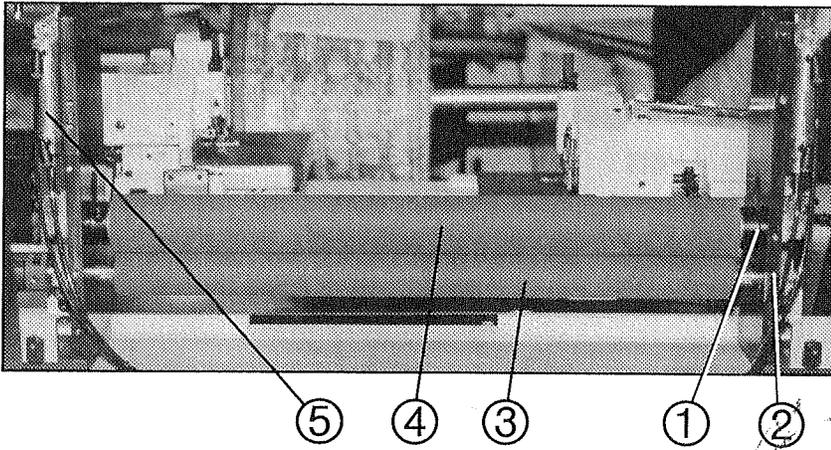


④ ② ① ③

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

From the library of: Diamond Needle Corp

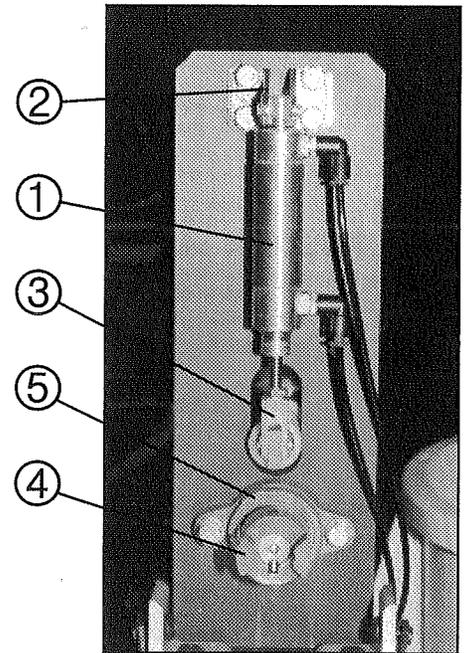
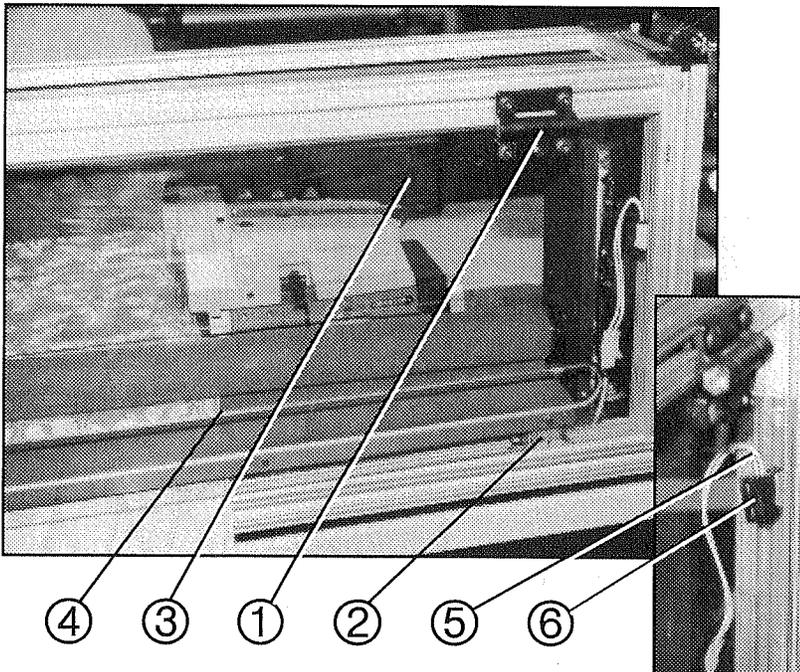
PINCH ROLLER ASSEMBLY



①

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

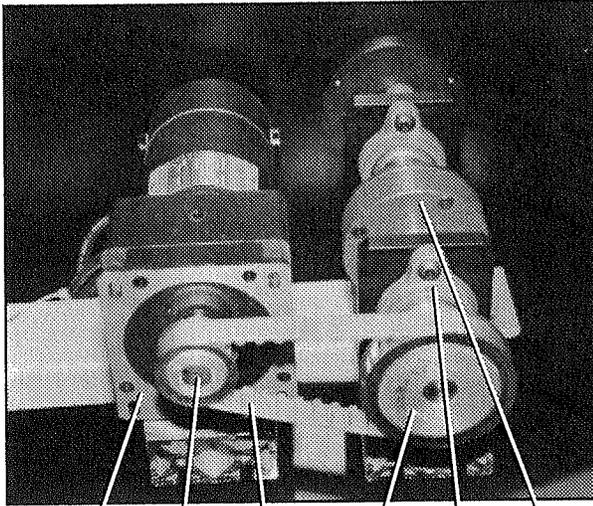


Ref.#	Part No.	Description	Qty
1	2080P	HINGE	2
2	2090P	MAGNETIC DOOR CATCH	2
3	BMHS-368	GUARD EXIT LEXAN	1
4	BMHS-351	GUIDE, MATERIAL-REAR	1
5	8200-2	SWITCH	1
6	8100-3	ACTUATOR	1

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

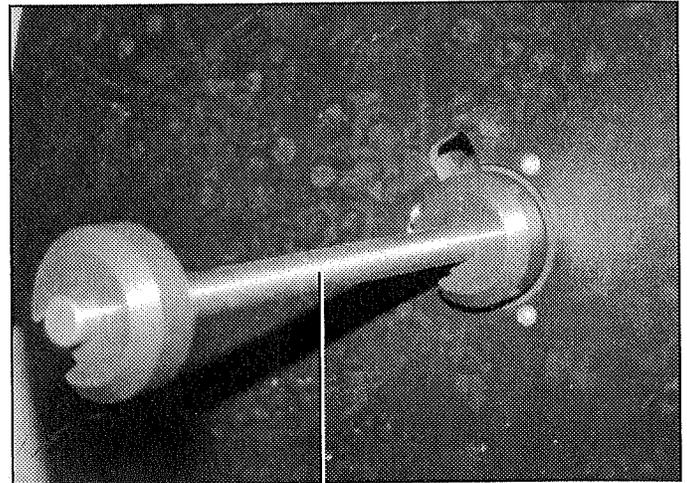
From the library of: Diamond Needle Corp

WINDER ASSEMBLY



- ①
- ④
- ②
- ③
- ⑤
- ⑥

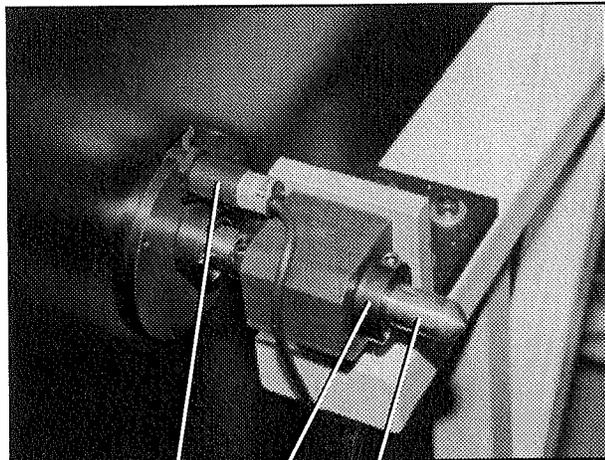
Ref.#	Part No.	Description	Qty
1	GPP12560	MOTOR	1
2	A6T39M044160	TIMING BELT	1
3	BMHS-128	WINDER PULLEY	1
4	BMHS-152	MOTOR PULLEY	1
5	XL2-3/4	BEARING	3
6	ROSDC 225	3/4 TORQUE LIMITER	1



- ①

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

UNWINDER ASSEMBLY

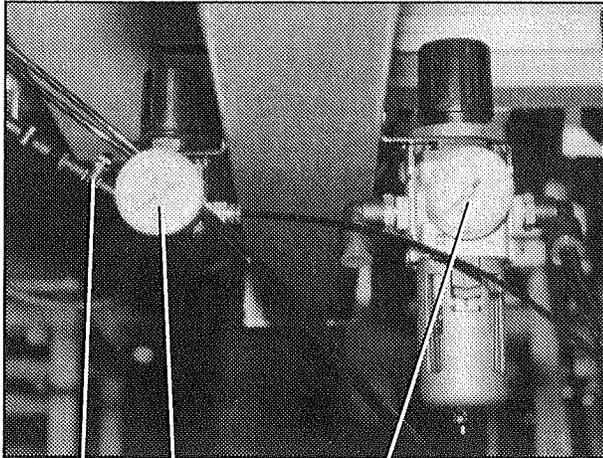


- ③
- ②
- ①

Ref.#	Part No.	Description	Qty
1	BMHS-167	SHAFT, OFF WIND.	1
2	BMHS-160	CLAMP COLLAR	4
3	XUB083235/065254	END OF MATERIAL SENSOR	1

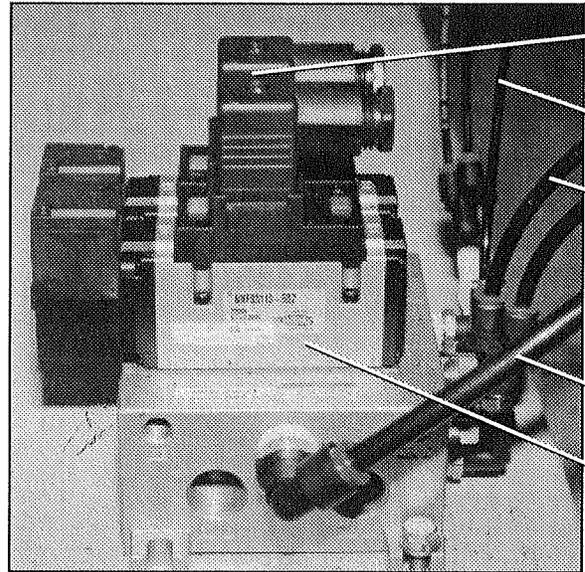
From the library of: Diamond Needle Corp

AIR COMPONENTS



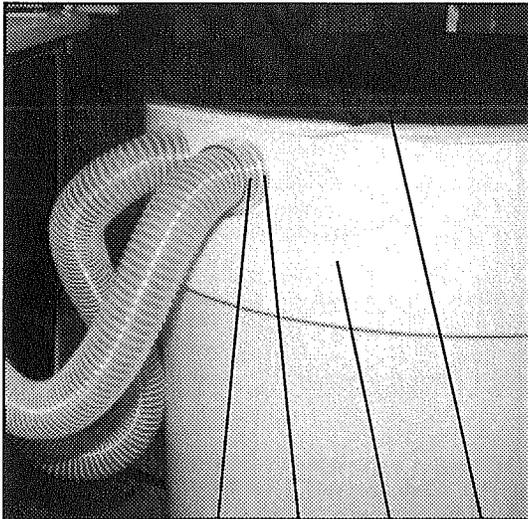
② ① ③

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



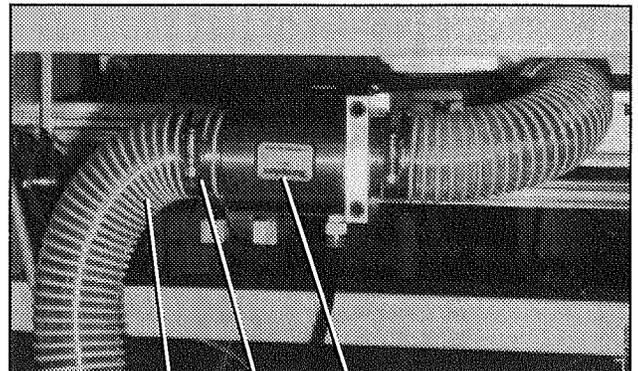
⑤ ④ ③ ② ①

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

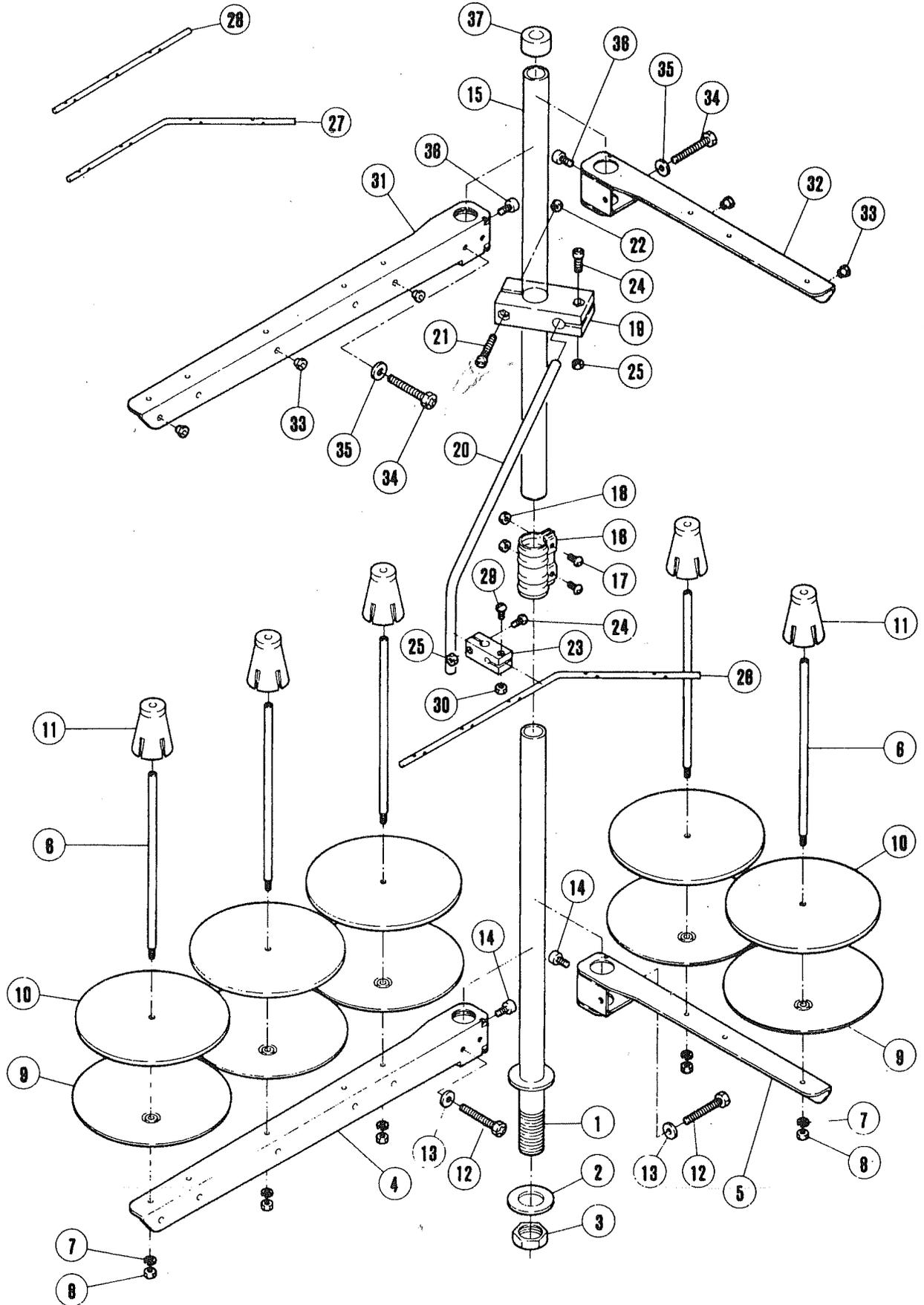


③ ② ①

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

From the library of: Diamond Needle Corp

THREAD STAND (One for each sewing head)



From the library of: Diamond Needle Corp

THREAD STAND (One for each sewing head)

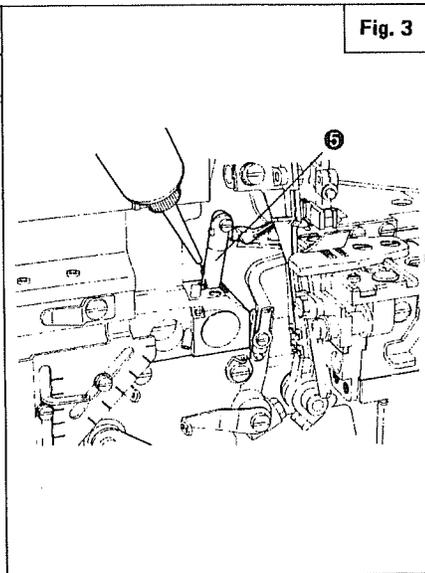
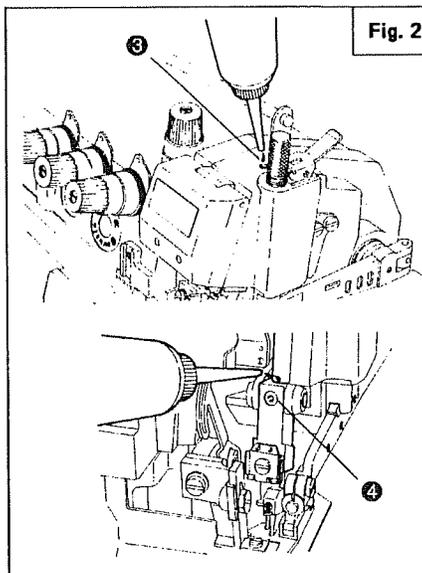
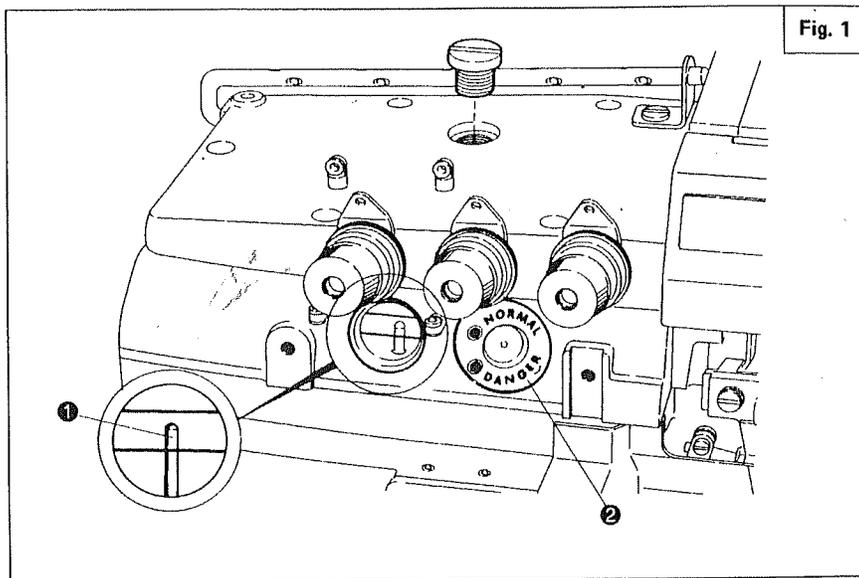
Ref#	Part#	Description	3 Spool Qty	4 Spool Qty	5 Spool Qty
	640068	.....THREAD STAND ASS.(5-SPOOLS).....			1
	640069	.....THREAD STAND ASS. (4-SPOOLS).....		1	
	640070	.....THREAD STAND ASS. (3-SPOOLS).....	1		
1	640043	.....THREAD STAND ROD	1	1	1
2	640044	.....WASHER.....	1	1	1
3	640042	.....NUT.....	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

From the library of: Diamond Needle Corp

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

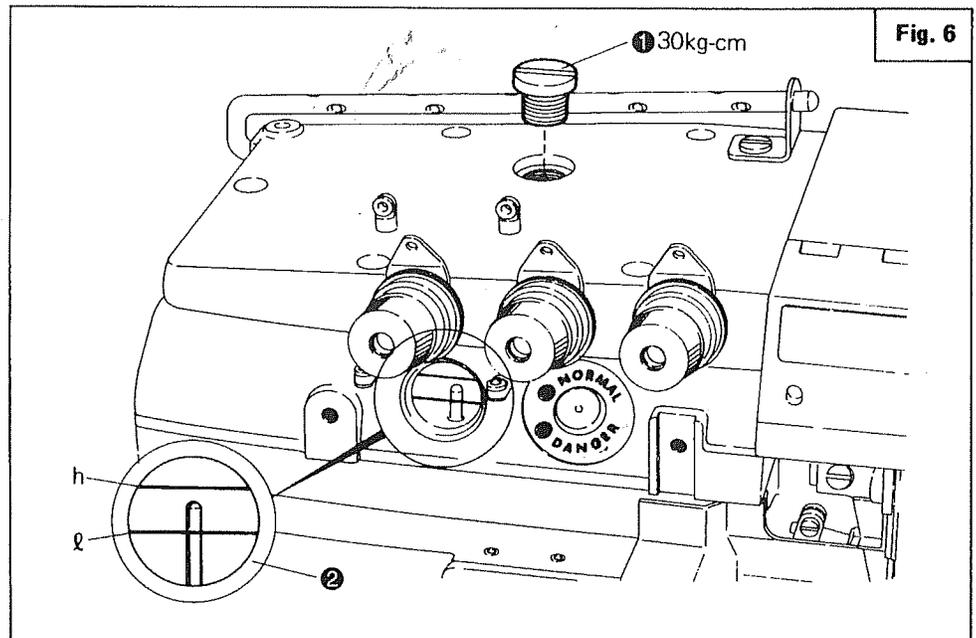


Fig. 6

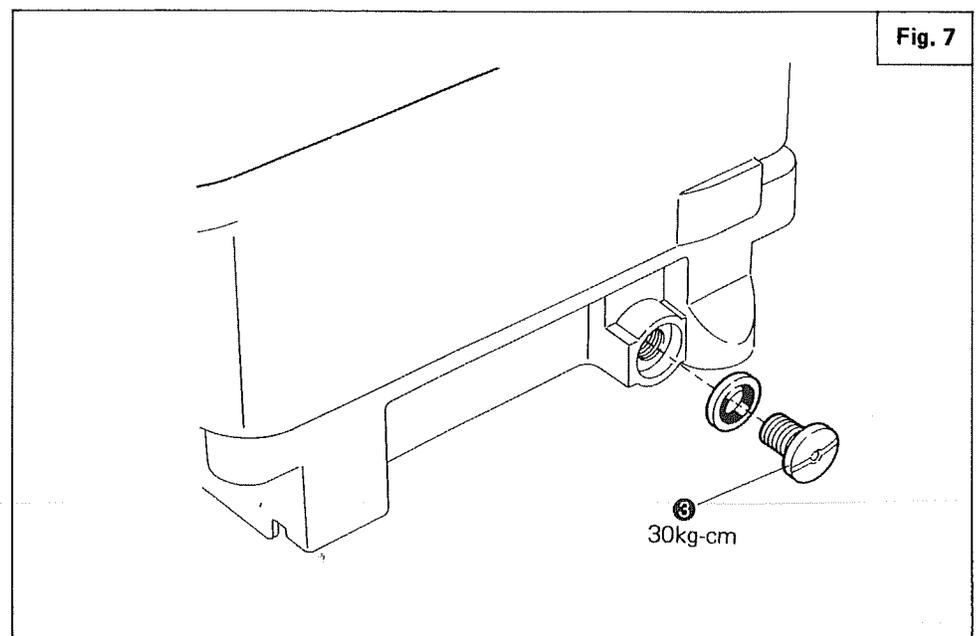


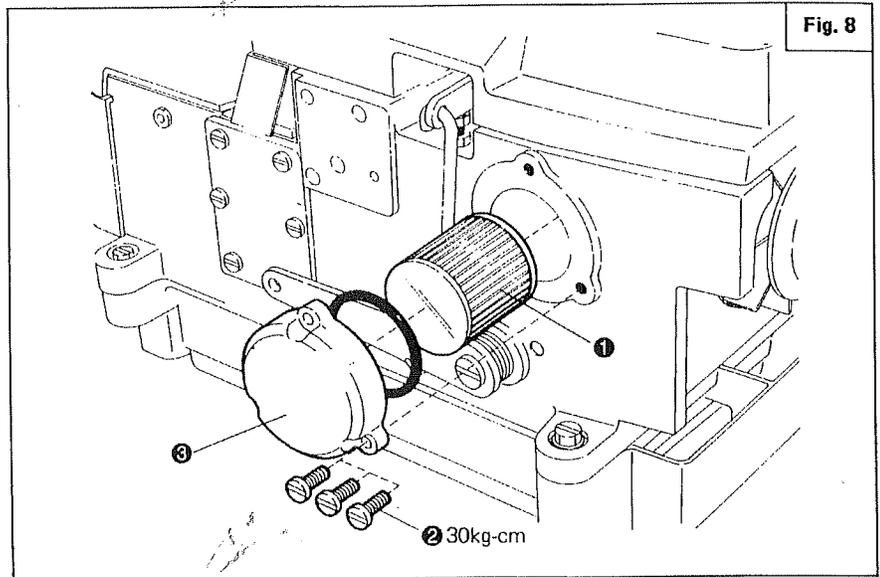
Fig. 7

OIL FILTER

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



Specification of the recommended type oil

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

NEEDLES

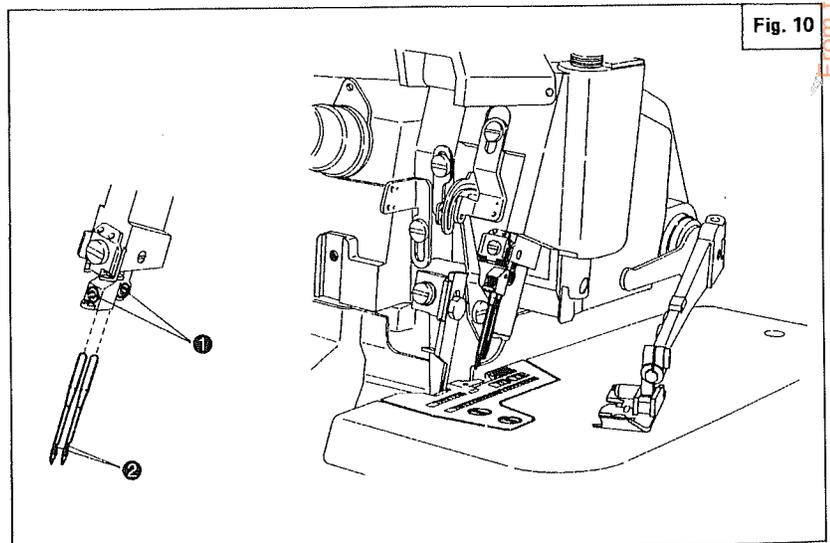
The type of the factory-set needle is Organ DC x 27 for both overlock and chainstitch needles. Machines can also use other similar needles to DC x 27, e.g., DC x 1 for overlock needle and DM x 13 for chainstitch needle. This, however, may require re-adjustments of Loopers and Needle Guards.

REPLACING NEEDLES

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

Note:

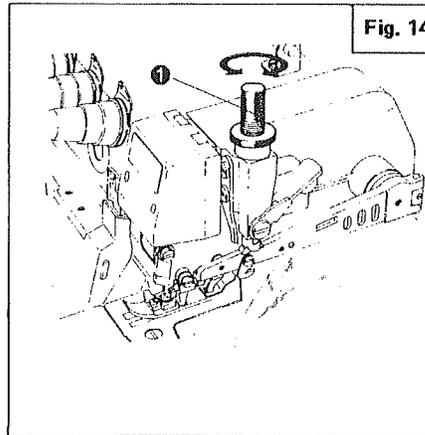
When loosening or tightening Screw ①, be careful to use Allen Wrench properly. This is to avoid the screw hole of Screw ① from damaged.



PRESSER FOOT PRESSURE

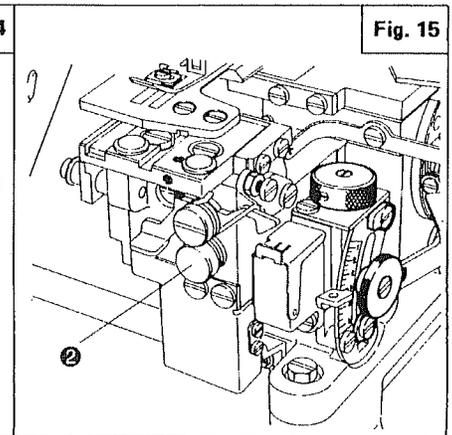
Presser foot pressure should be as light as possible, while still sufficient to feed fabric and obtain proper stitch formation. Thumb Screw ① regulates the pressure of Presser Foot.

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.

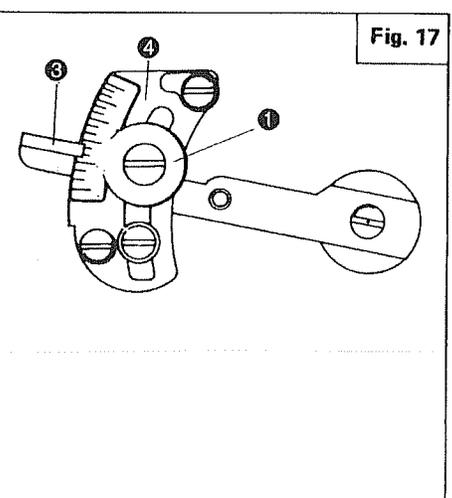
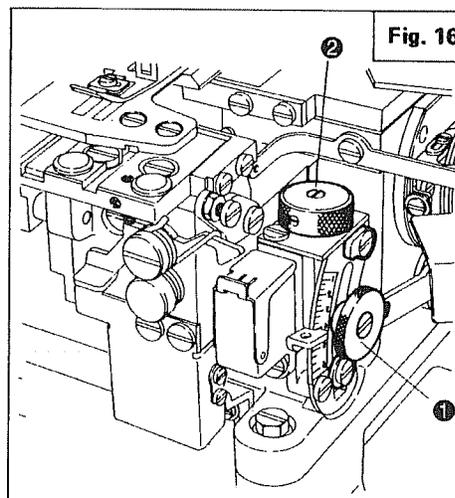


ADJUSTING DIFFERENTIAL SPEED RATIO

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.

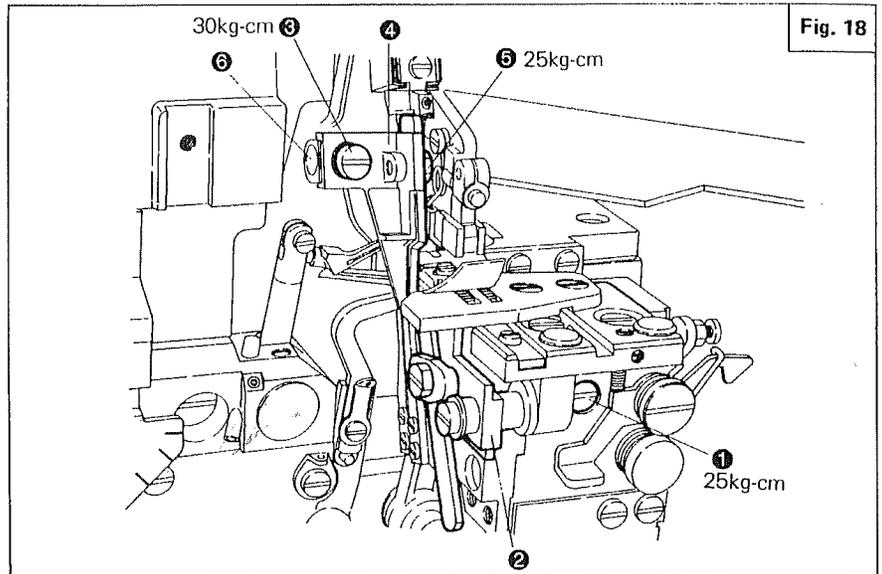
- Note:**
1. Generally, the maximum differential feed ratio is used for convenient to represent the adjustable range of the ratio in the machine.
 2. In the 1 : 2 ratio machine, the ratio is approximately 1 : 1 when the top surface of Lever ③ is set on the scale 2 of Plate ④.
Setting Lever ③ upper than 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 ⑤.
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.

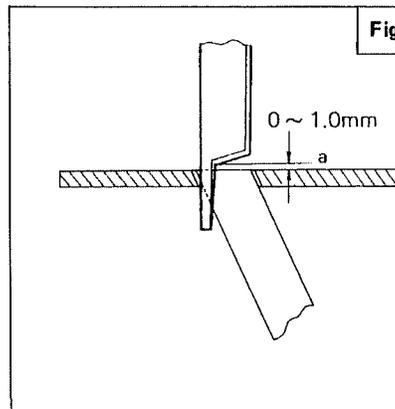


Fig. 19

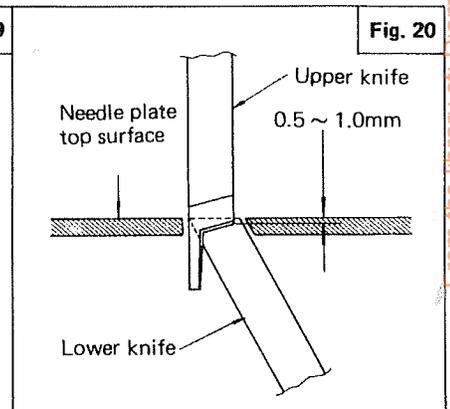
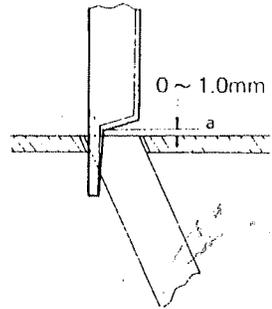
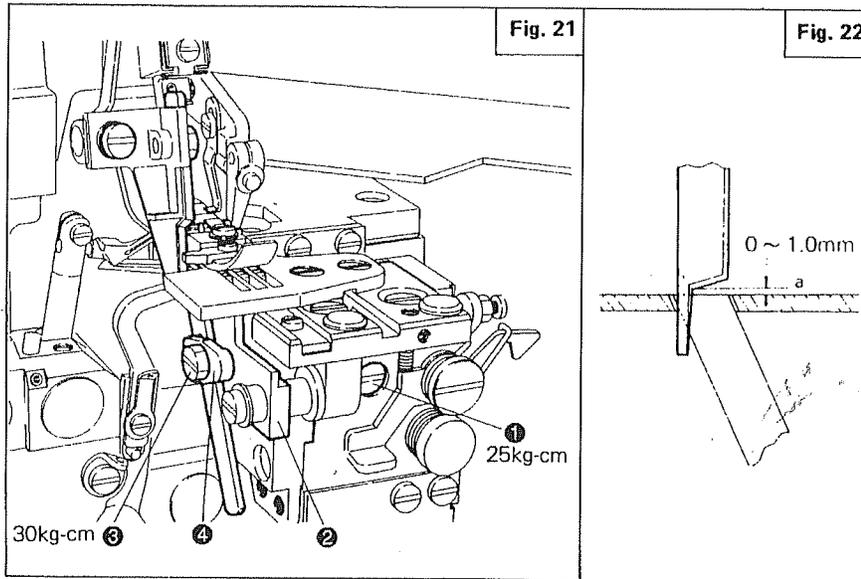


Fig. 20

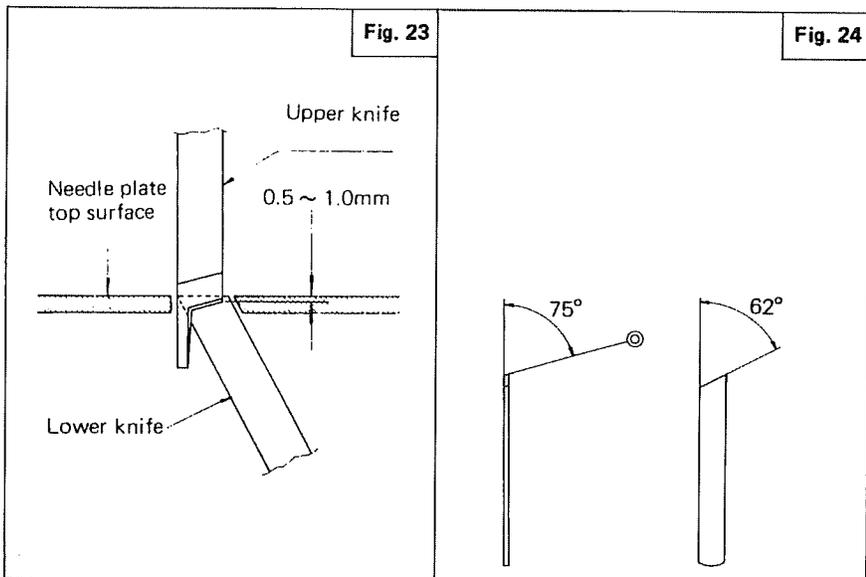
CHANGING LOWER KNIFE

Fig. 21, 22, 23



1. Loosen Screw ①, push Lower Knife Holder ② to the right and lightly tighten Screw ①.
2. Loosen Screw ③ 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 ③.
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.

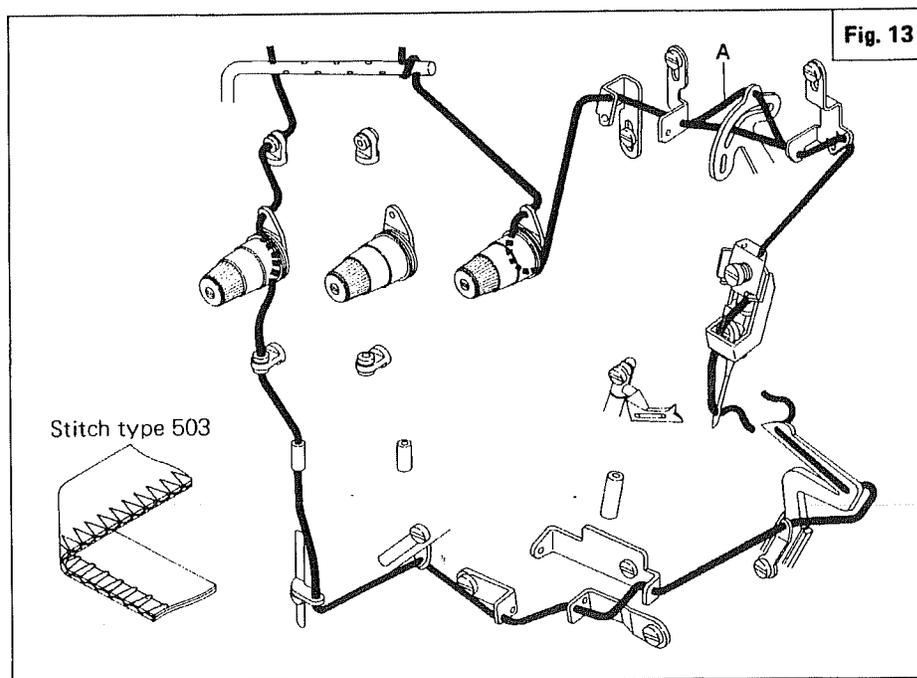
Adjust individual thread tension as follows:

To increase tension:

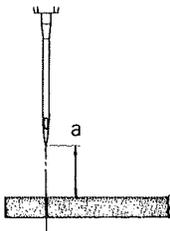
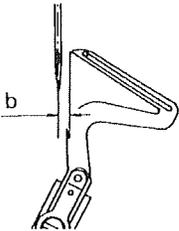
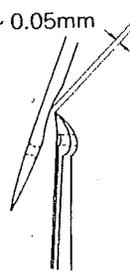
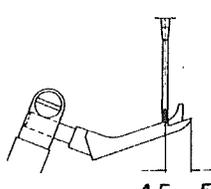
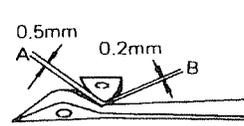
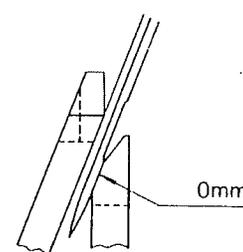
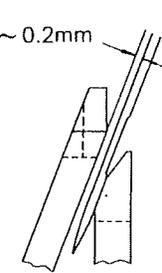
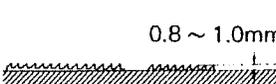
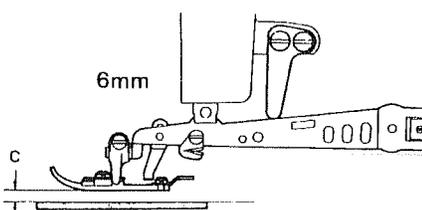
Turn Nut clockwise.

To decrease tension:

Turn Nut counter-clockwise.



STANDARD DIMENSIONS ON ADJUSTMENTS

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

From the library of: Diamond Needle Corp

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.

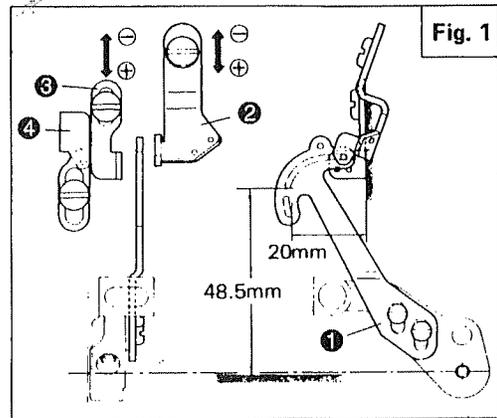


Fig. 1

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 ⊖	lowest ⊕			lowest ⊕	
Needle thread guide (center)	③	highest ⊖	lowest ⊕			lowest ⊕	
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.

From the library of: Diamond Needle Corp

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.

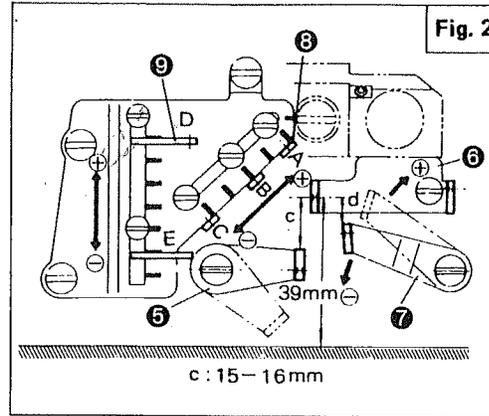


Fig. 2

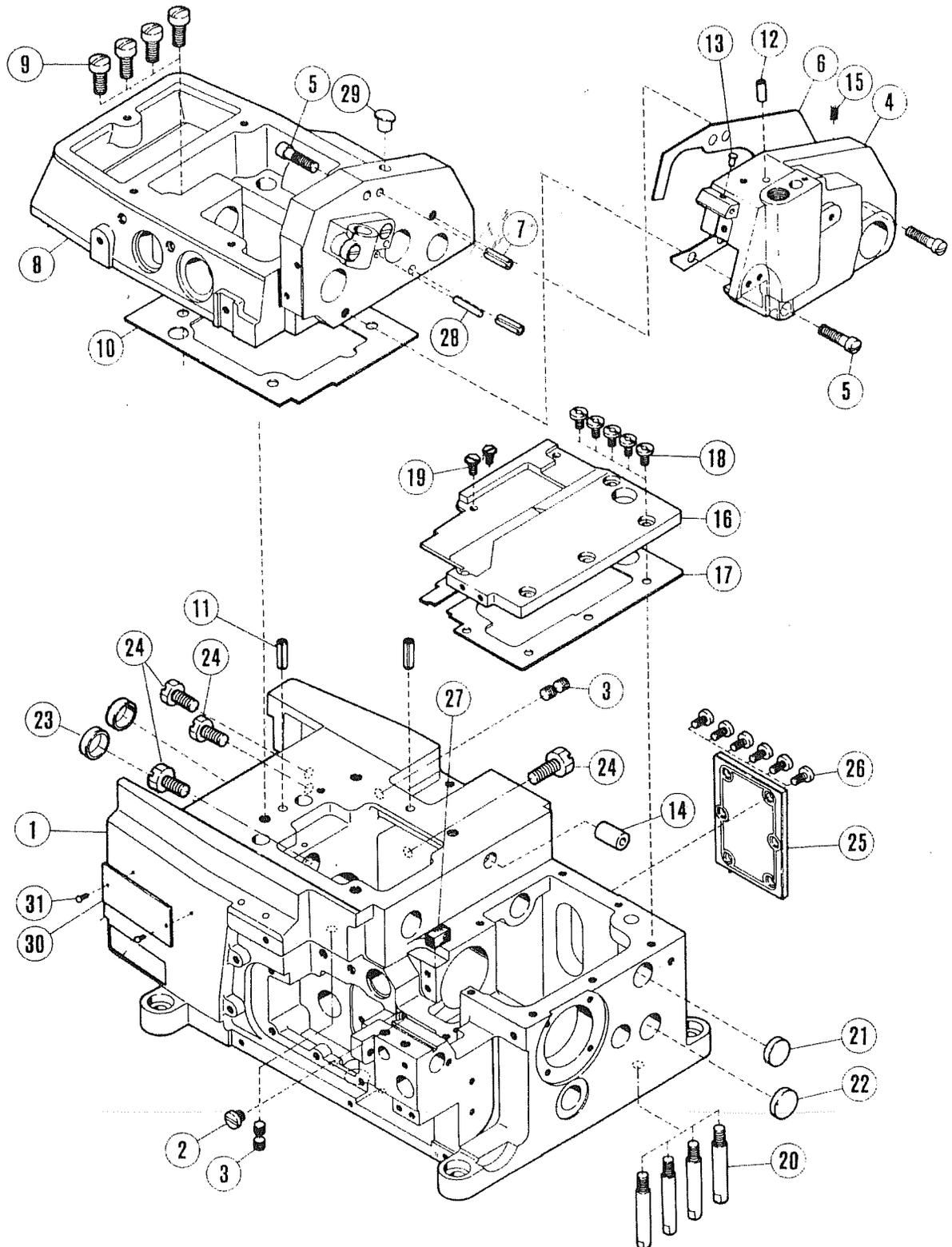
Tab. 3

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

From the library of: Diamond Needle Corp

PARTS - Left Sewing Head

MACHINE BED FRAME



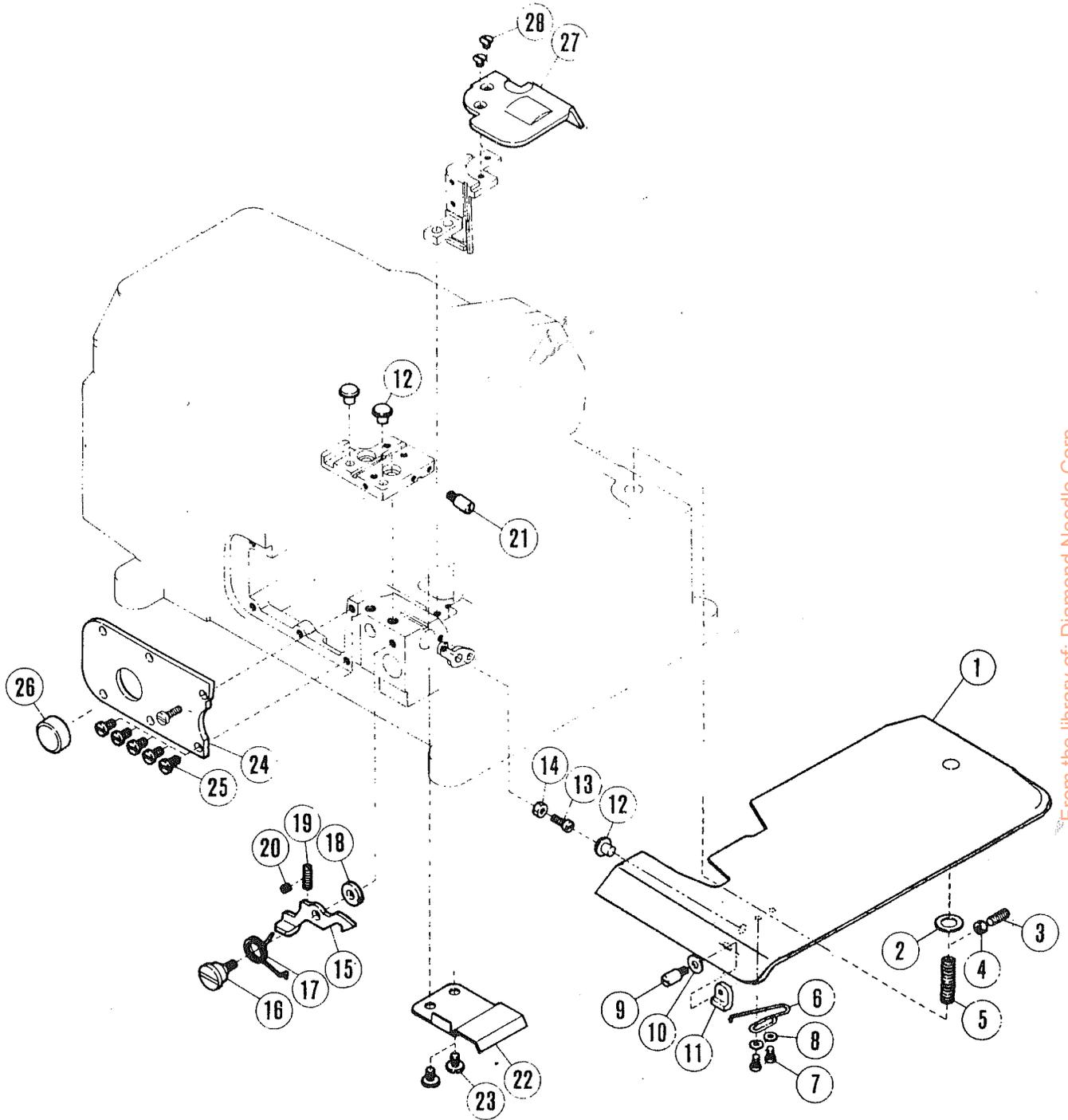
From the library of: Diamond Needle Corp

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			

From the library of: Diamond Needle Corp

COVER (1)

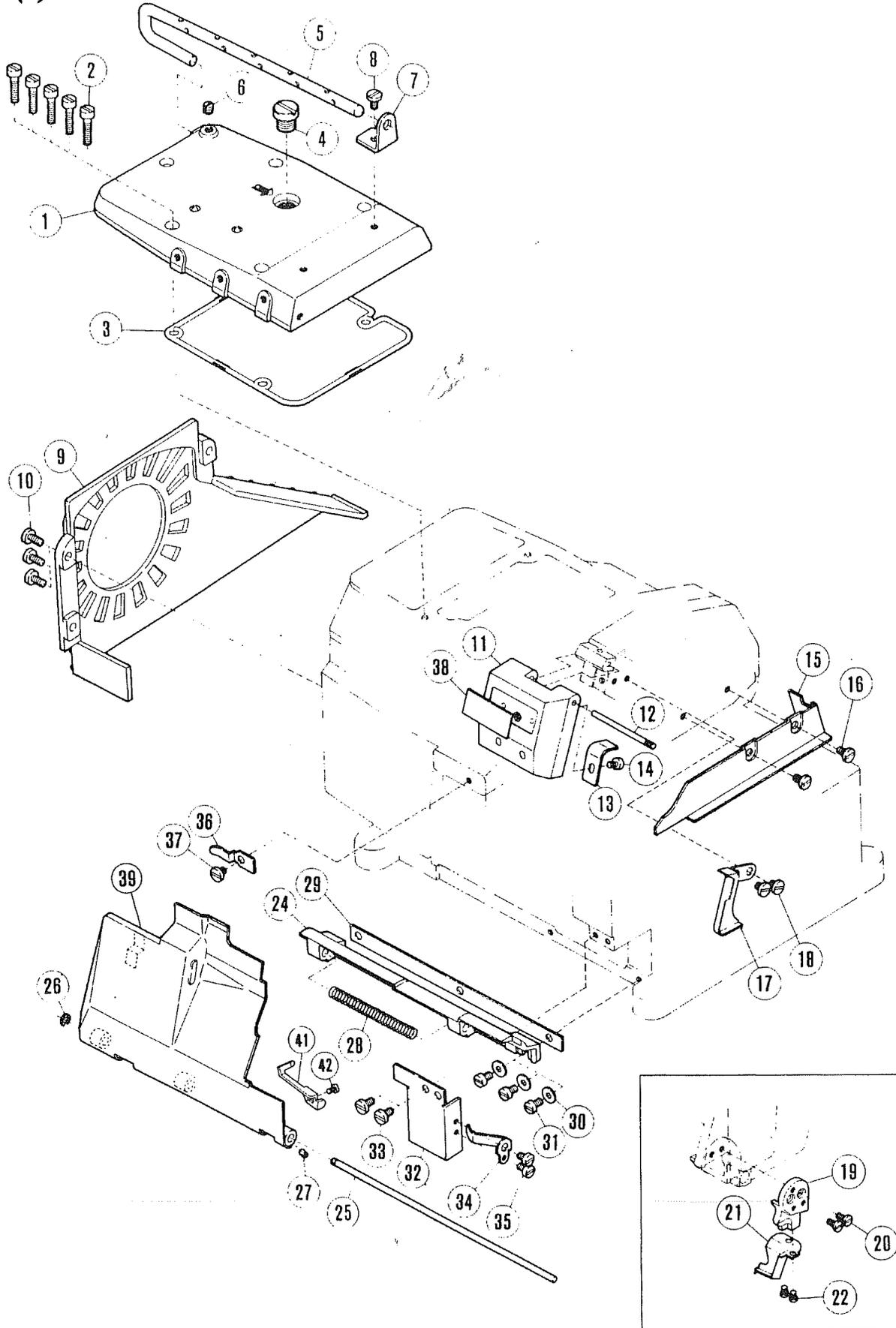


From the library of: Diamond Needle Corp

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			

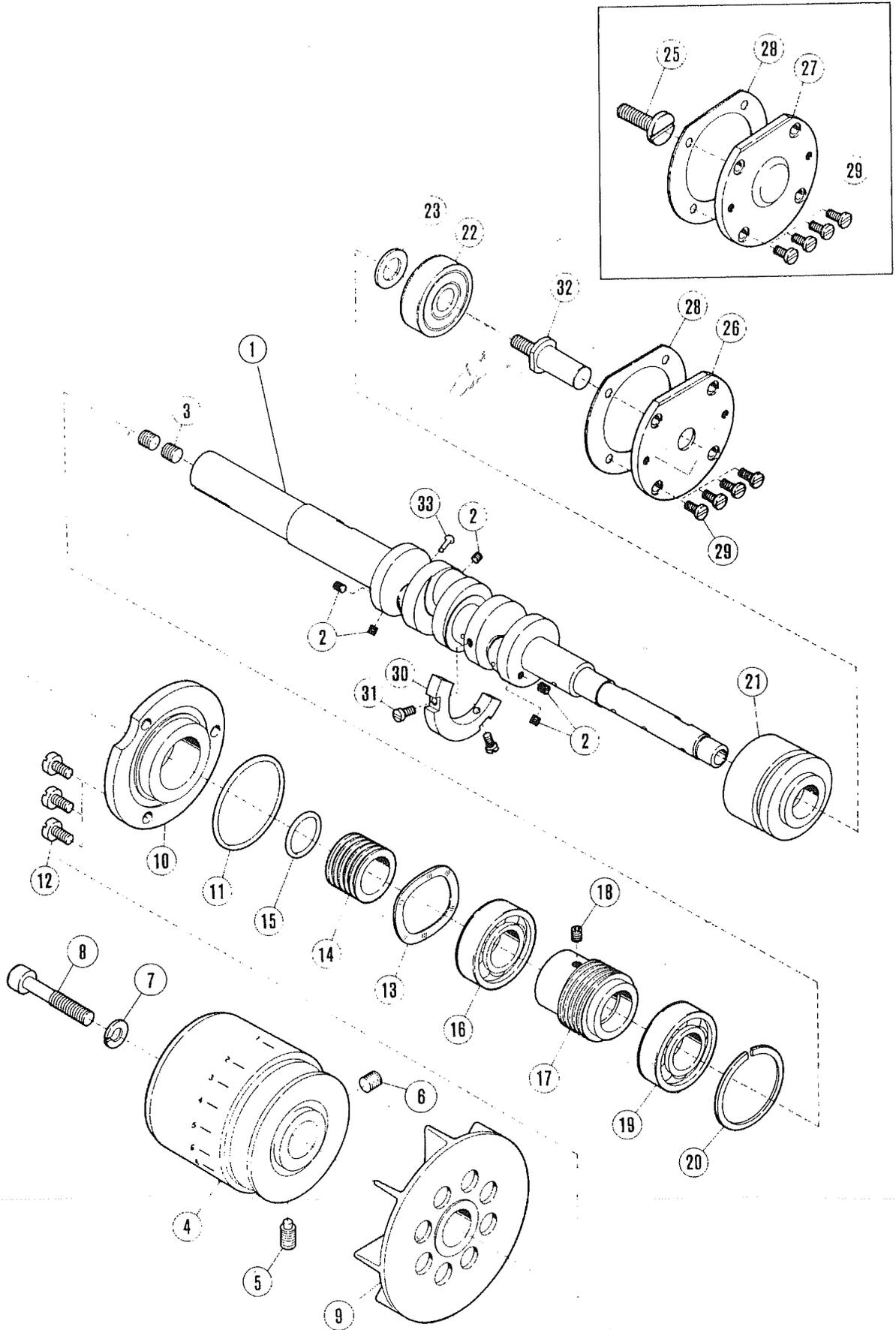
COVER (2)



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

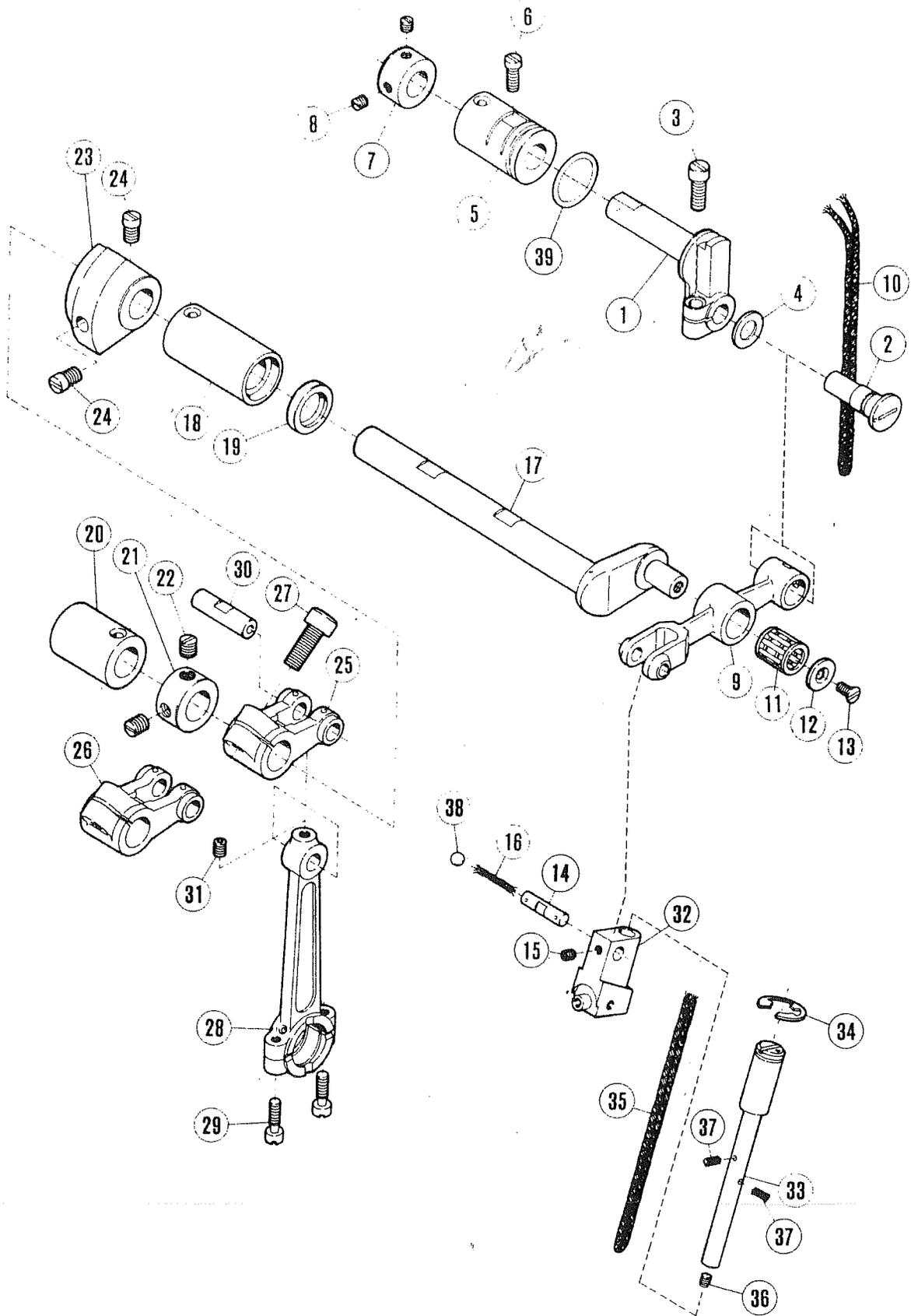
CRANKSHAFT DRIVE MECHANISM



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

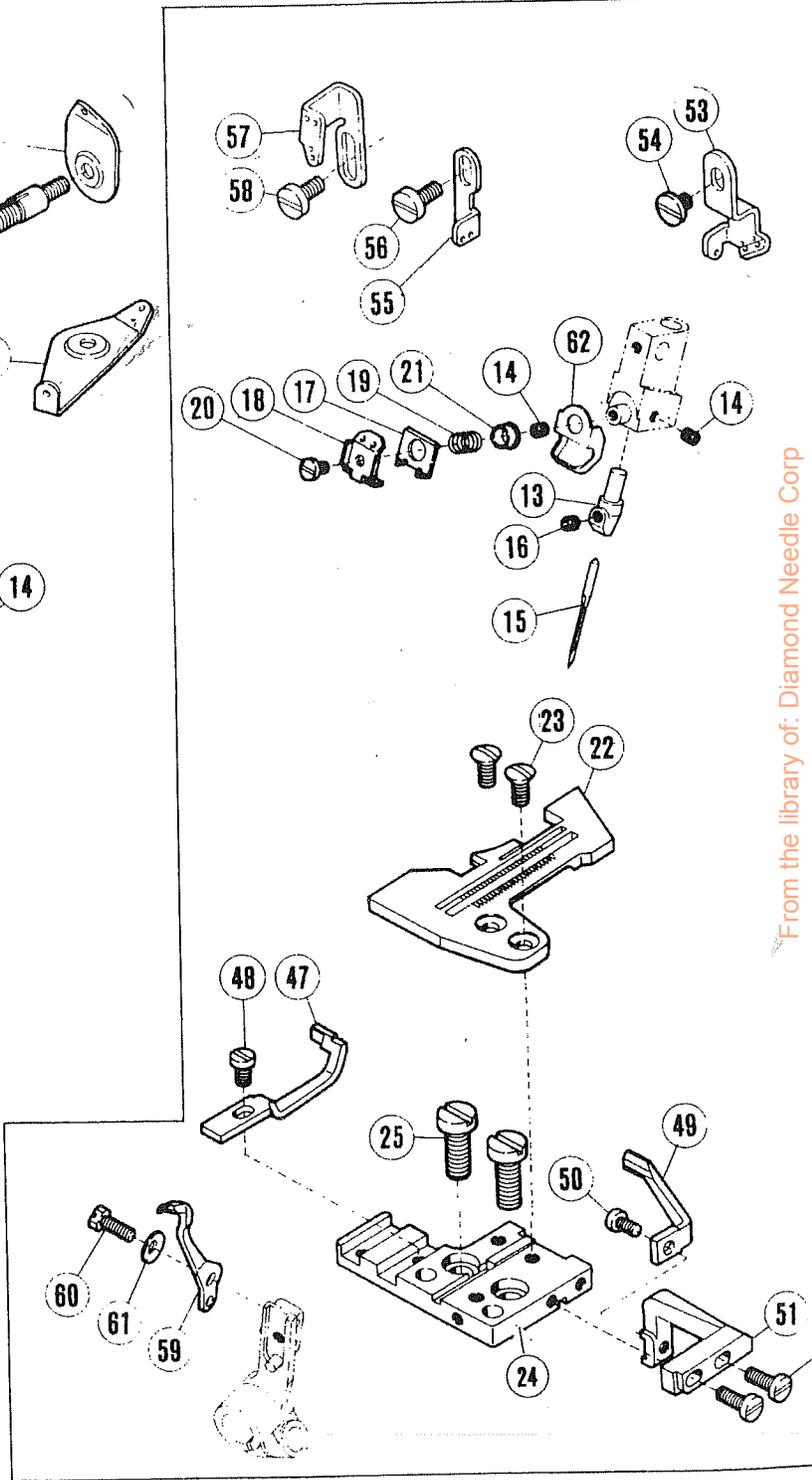
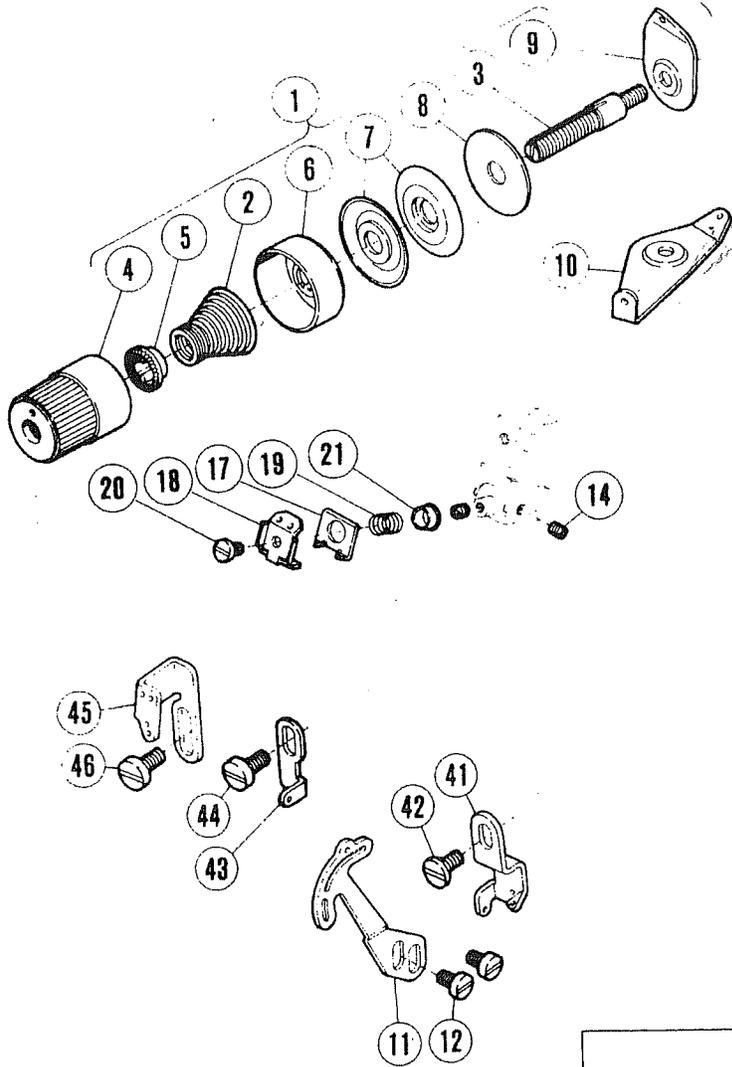
NEEDLE DRIVE MECHANISM (1)



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)

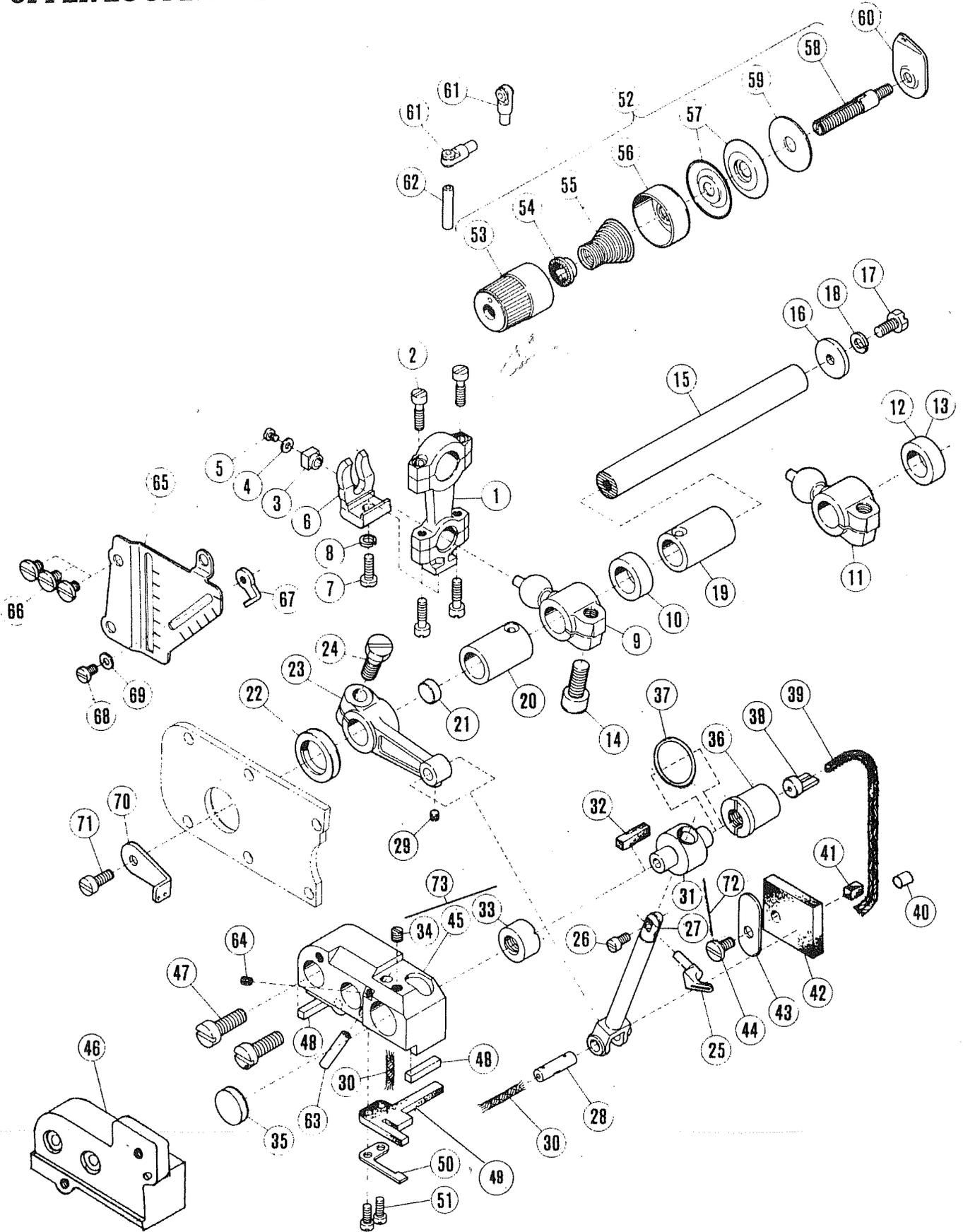


From the library of: Diamond Needle Corp

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 ²¹¹⁷⁸² ²¹¹⁷⁰⁶	53	660546	Needle Thread Guide
23	660620	Screw ⁶²³¹³³	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

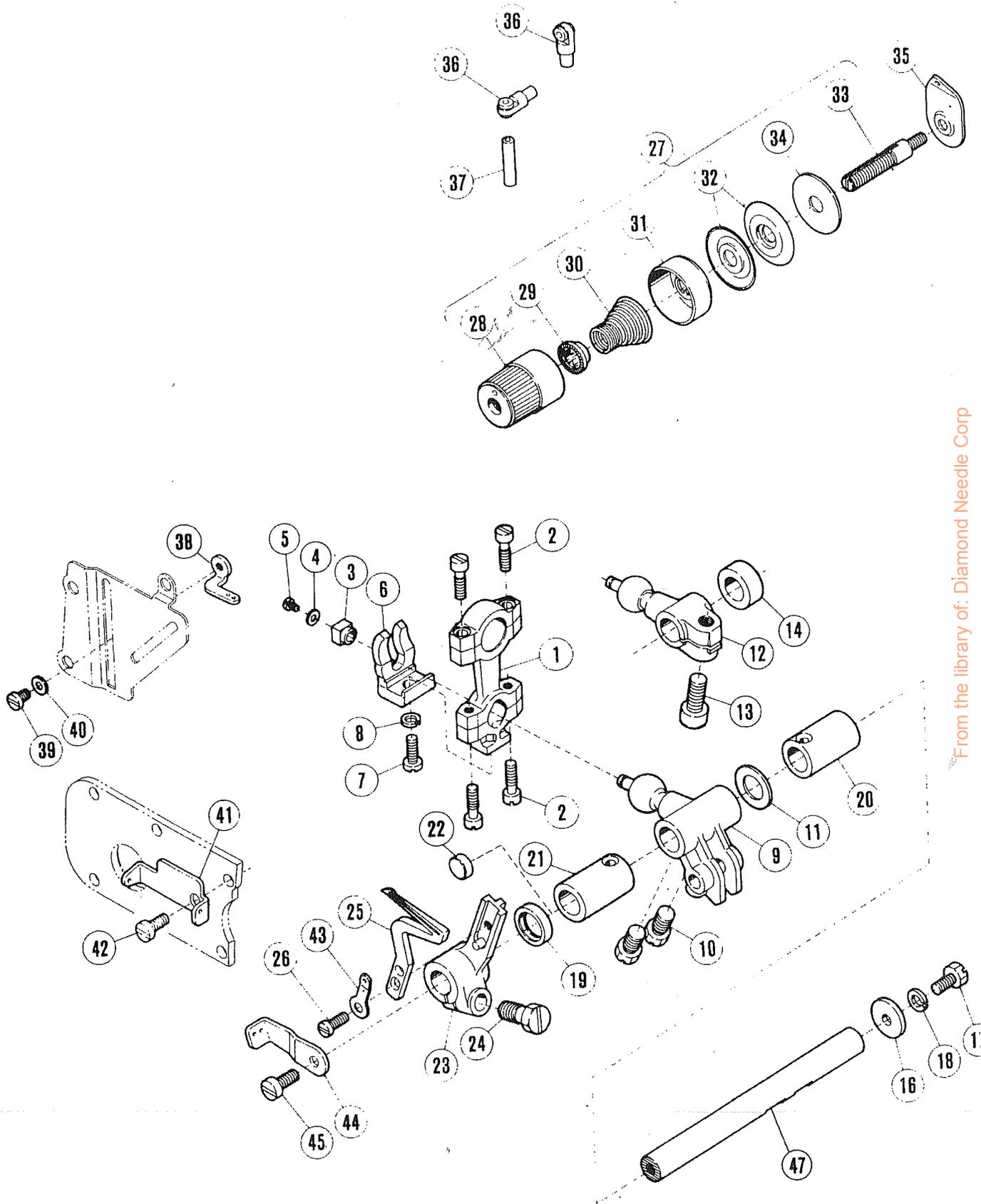


From the library of: Diamond Needle Corp

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



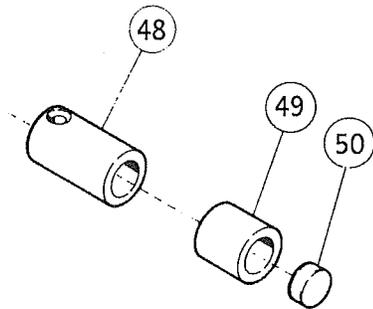
From the library of: Diamond Needle Corp

LOWER LOOPER DRIVE MECHANISM

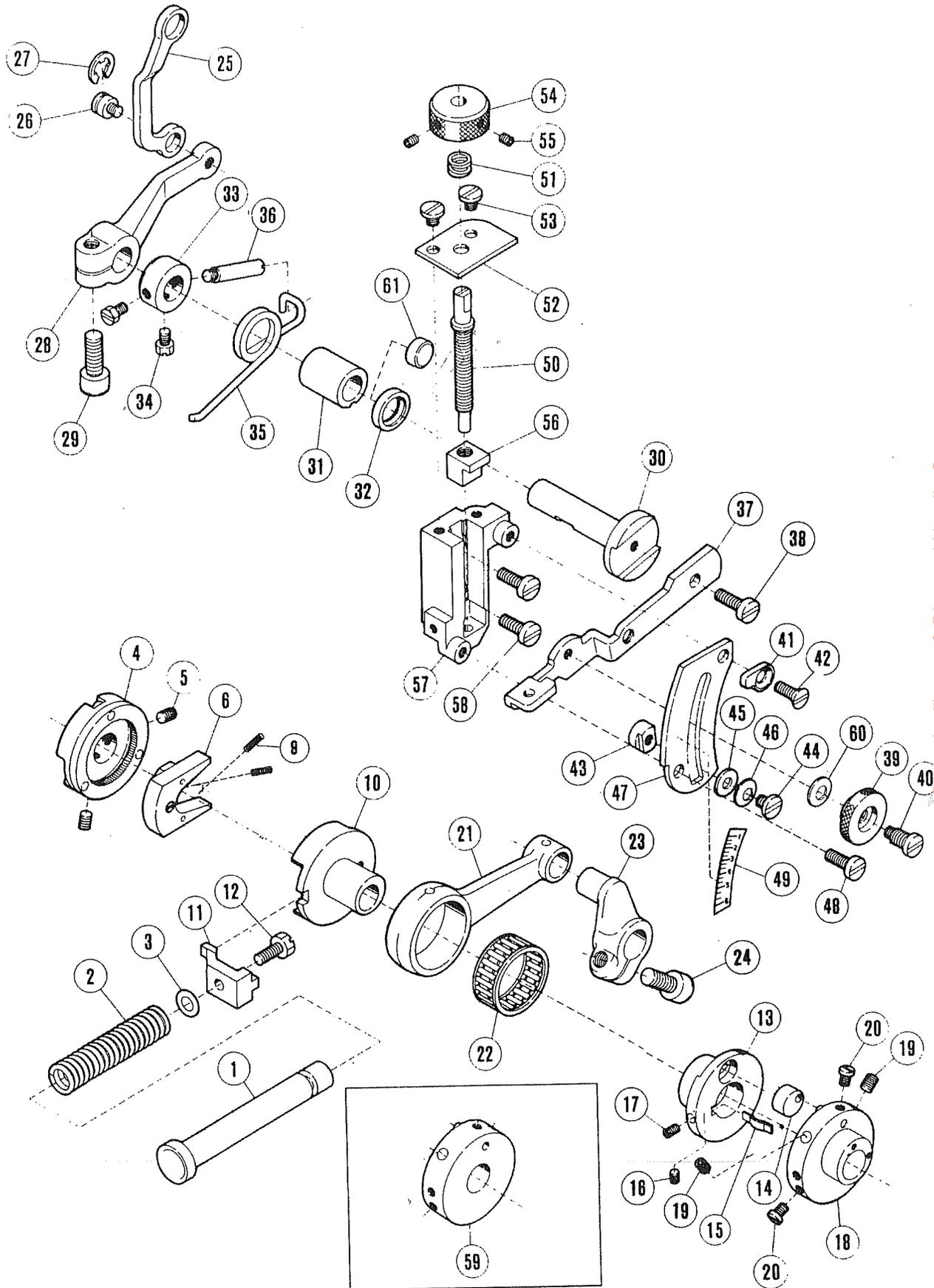
Ref#	Part#	Description	Ref#	Part#	Description
1.....	660330	.....Connection/Lower Looper Drive	25.....	660462	.....Lower Looper screw
2.....	640013	.....Screw	26.....	610080	.....Screw
3.....	660332	.....Block / Connection	27.....	660642	.....Thread Tension Complete
4.....	660414	.....Washer	28.....	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)

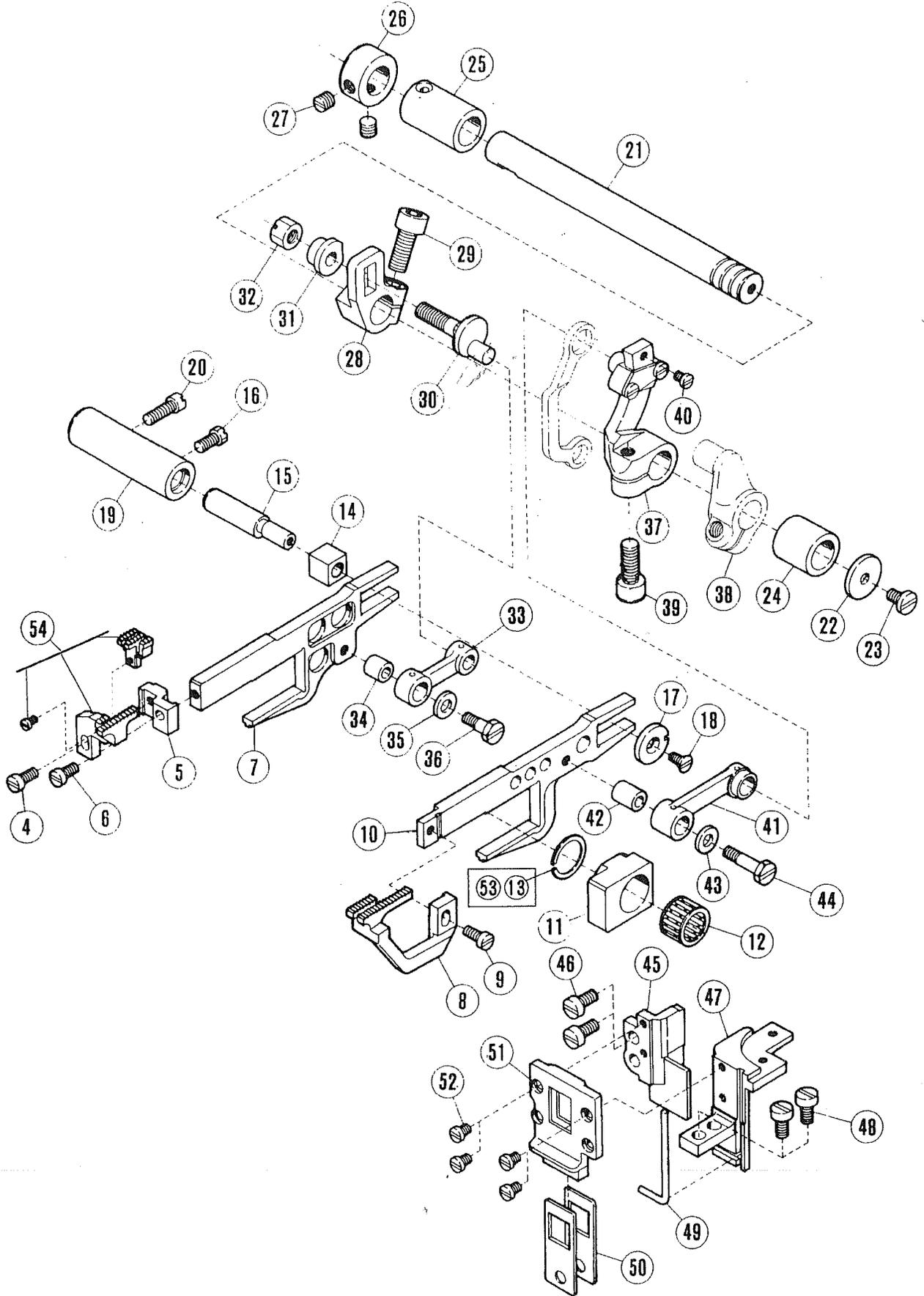


From the library of: Diamond Needle Corp

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)

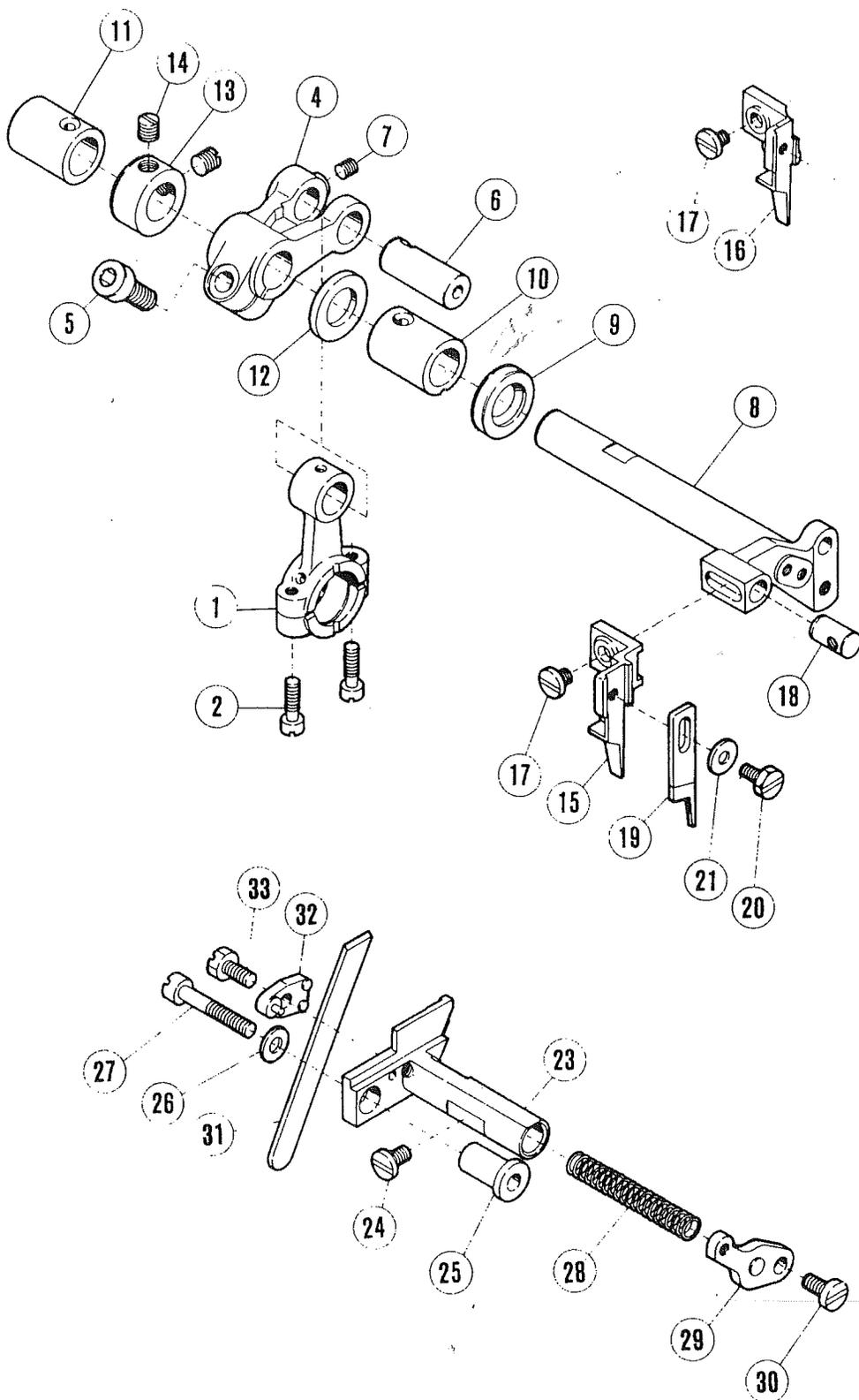


From the library of: Diamond Needle Corp

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

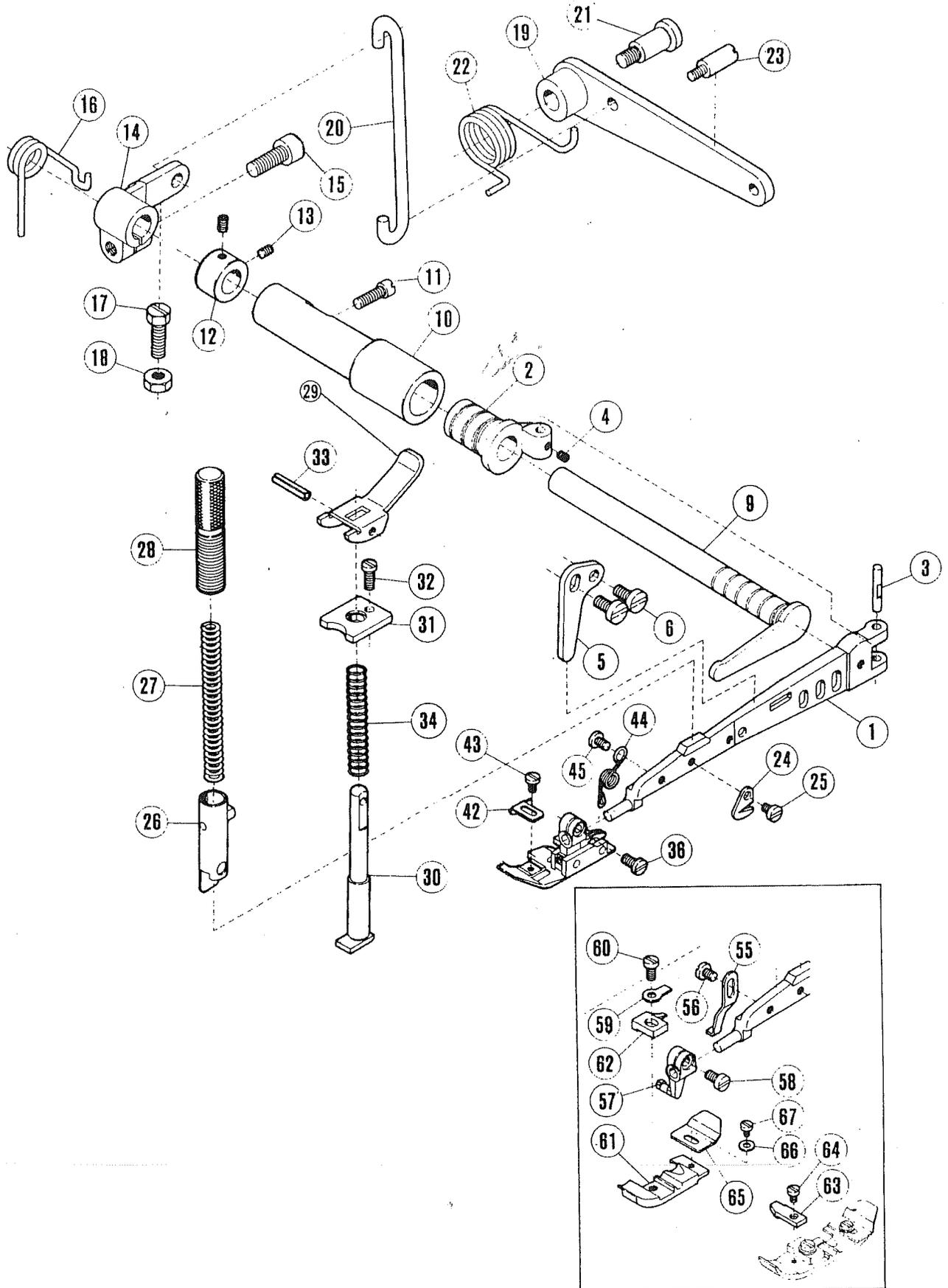


From the library of: Diamond Needle Corp

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



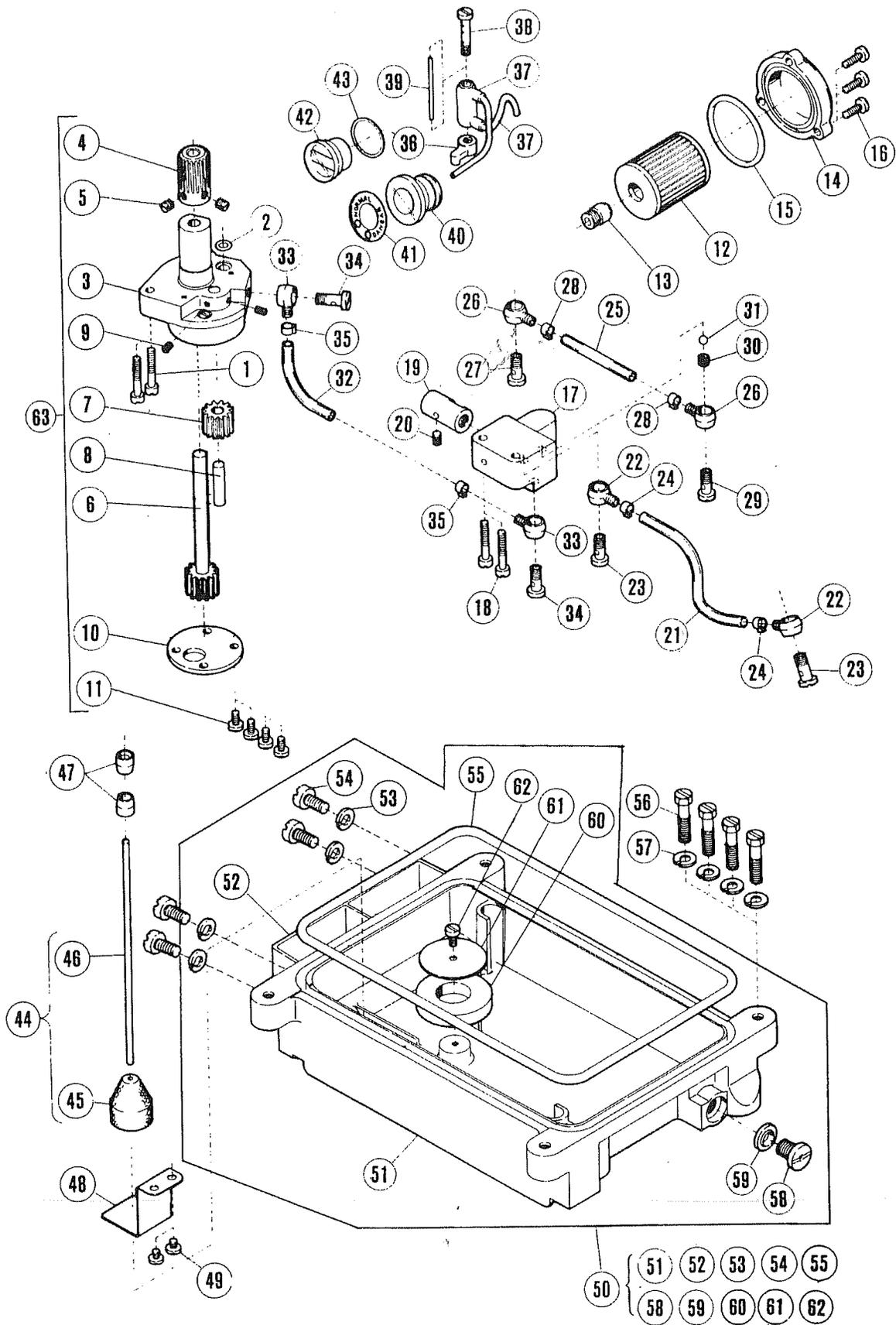
From the library of: Diamond Needle Corp

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			

From the library of: Diamond Needle Corp

LUBRICATING MECHANISM

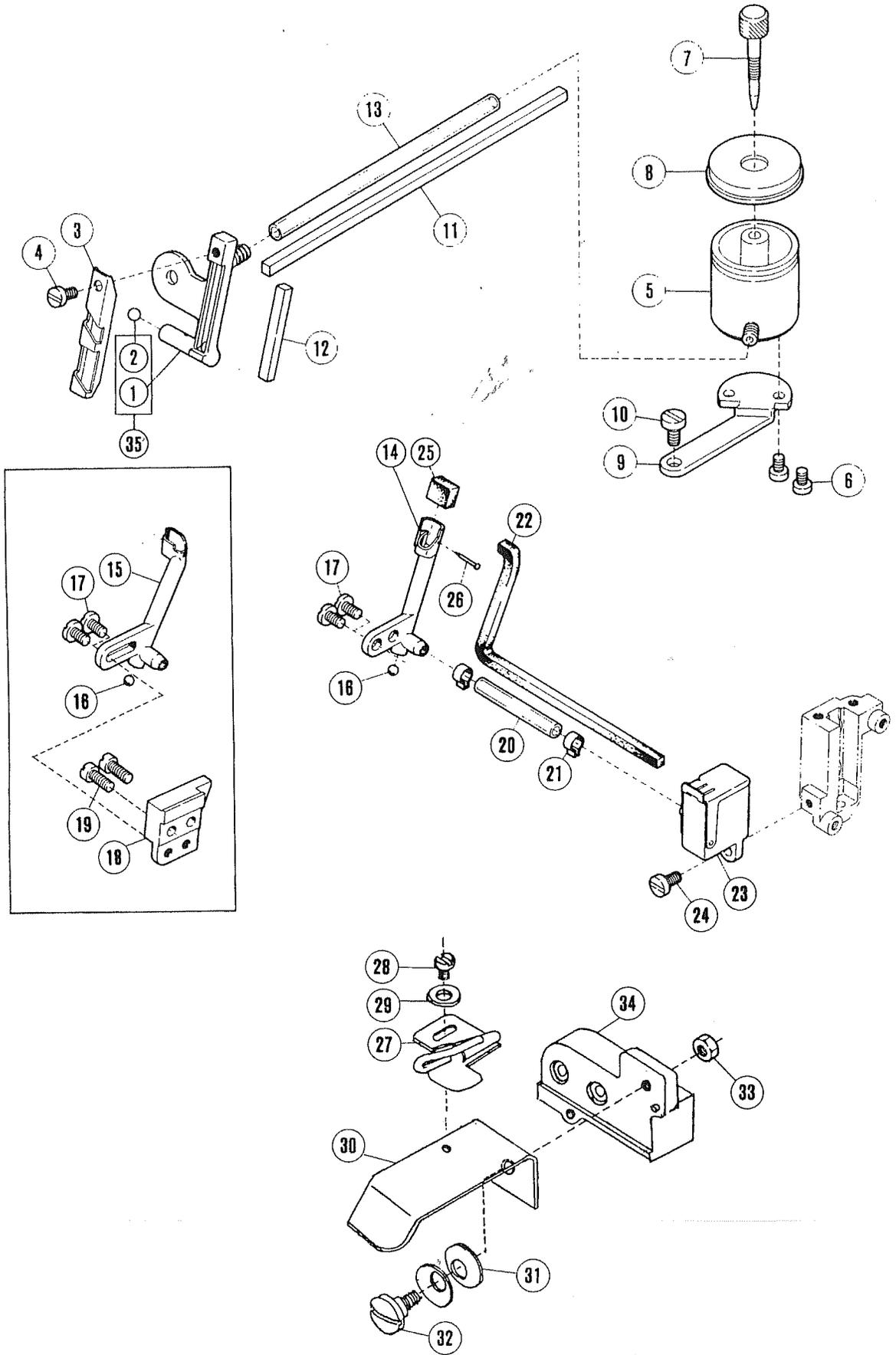


From the library of: Diamond Needle Corp

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



From the library of: Diamond Needle Corp

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

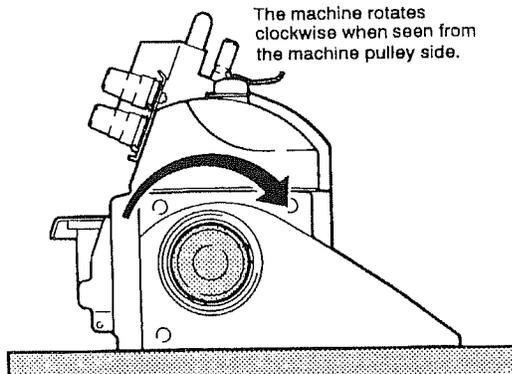
Ref#	Part#	Description
19.....	618354.....	Screw
20.....	660529.....	Oil Tube
21.....	611615.....	Tube Clamp
22.....	611600.....	Oil Felt
23.....	660492.....	Silicone Oil Reservoir Complete
24.....	619840.....	Screw
25.....	660127.....	Oil Felt
26.....	660235.....	Pin
27.....	660501.....	Binder (Specify 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

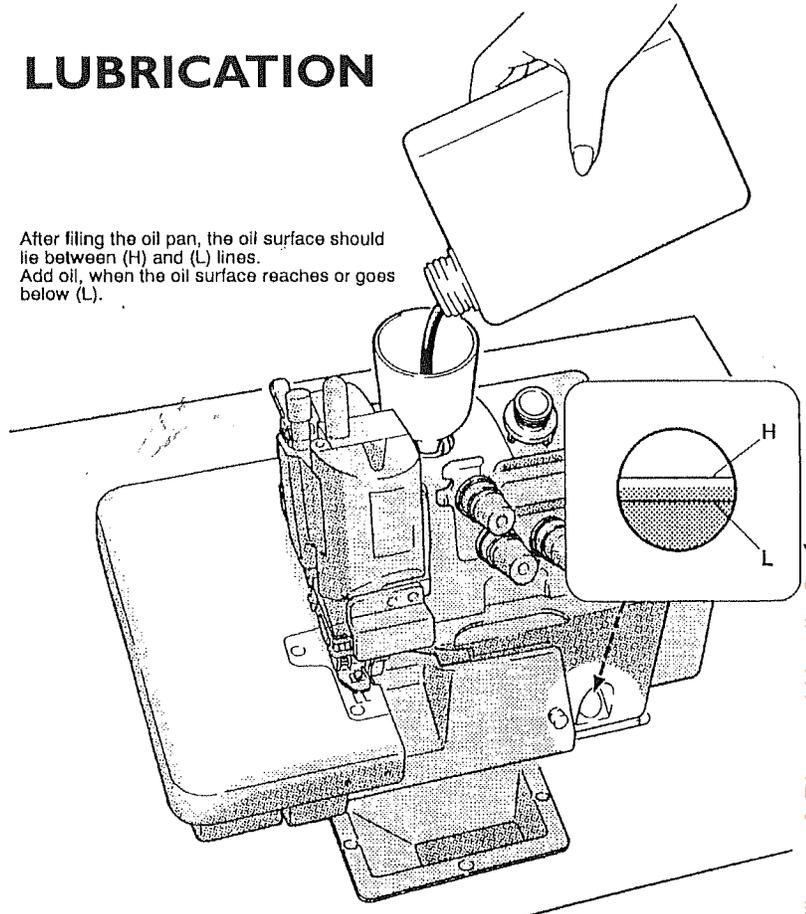
- To prevent accidents, do not remove safety devices or parts while operating the machine.
- Do not leave tools or other unnecessary objects on the machine table while operating the machine.
- Before maintenance, adjusting, cleaning, threading or replacing the needle, and to prevent accidents, be sure 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

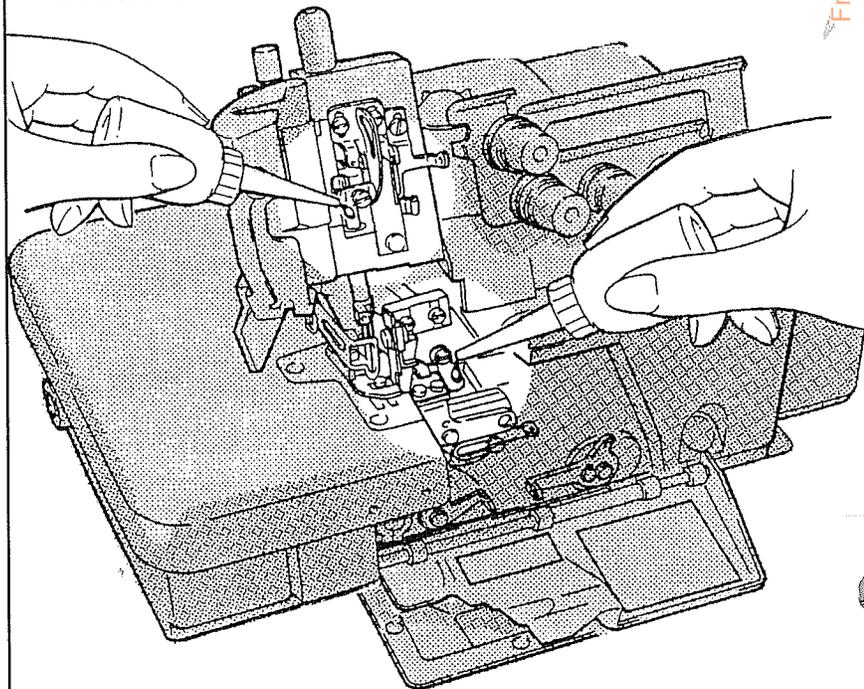


LUBRICATION

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).



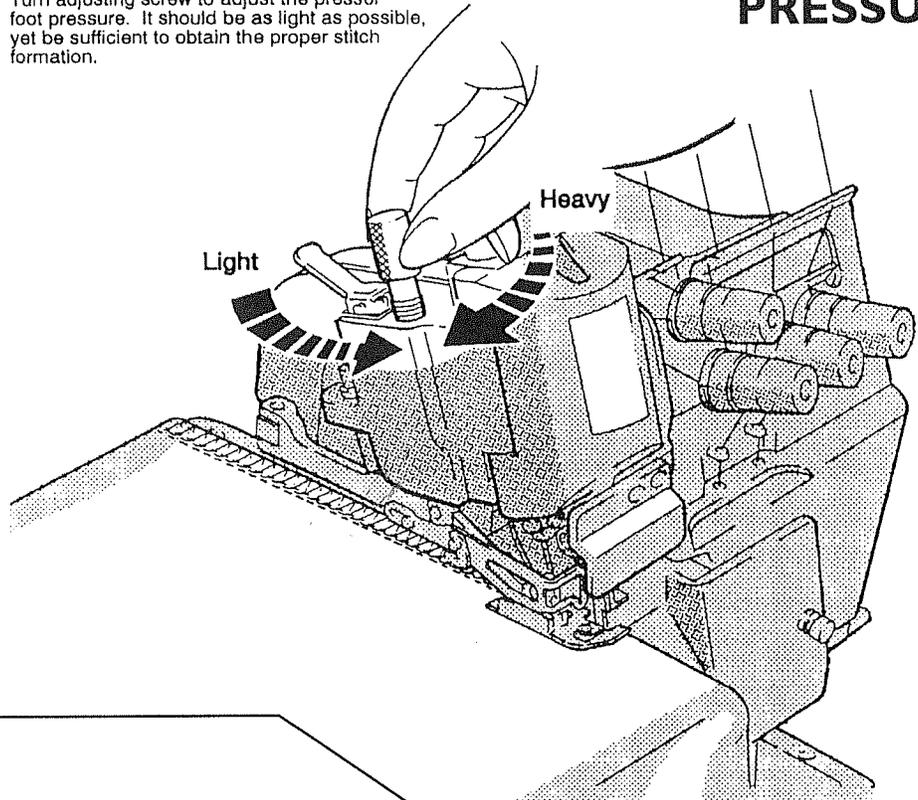
Apply 2 or 3 drops of oil by hand when the machine is used for the first time or has been left unused for some time.



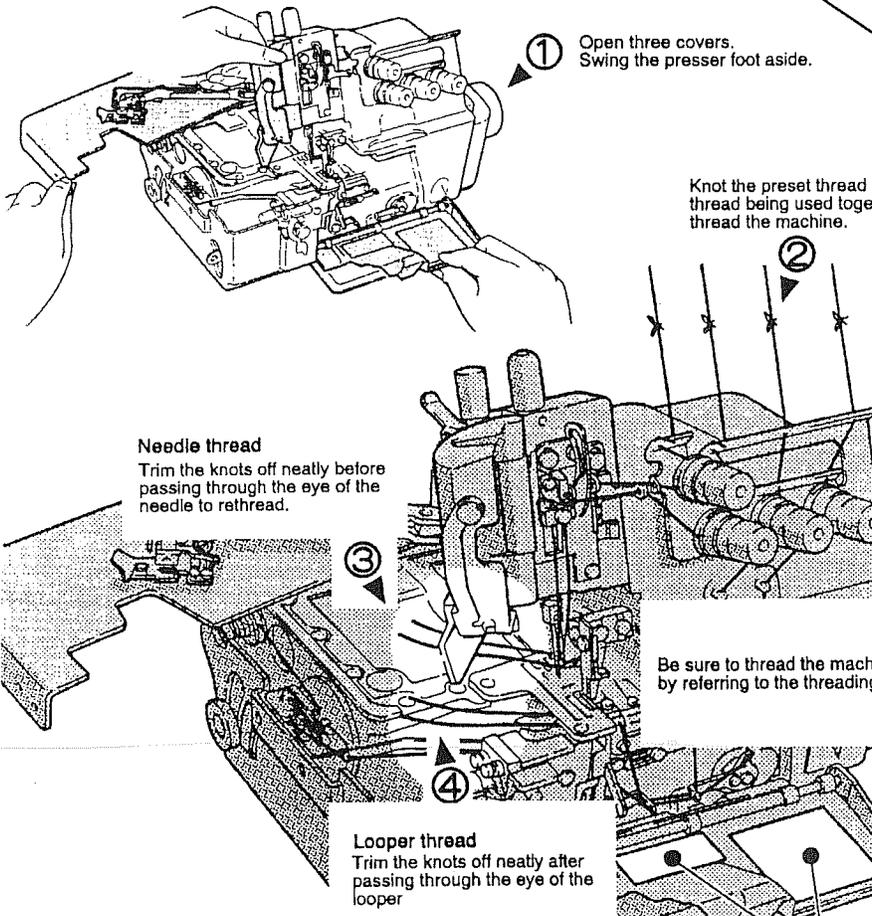
From the library of: Diamond Needle Corp

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



① Open three covers. Swing the presser foot aside.

Knot the preset thread : thread being used toge thread the machine.

②

Needle thread
Trim the knots off neatly before passing through the eye of the needle to rethread.

③

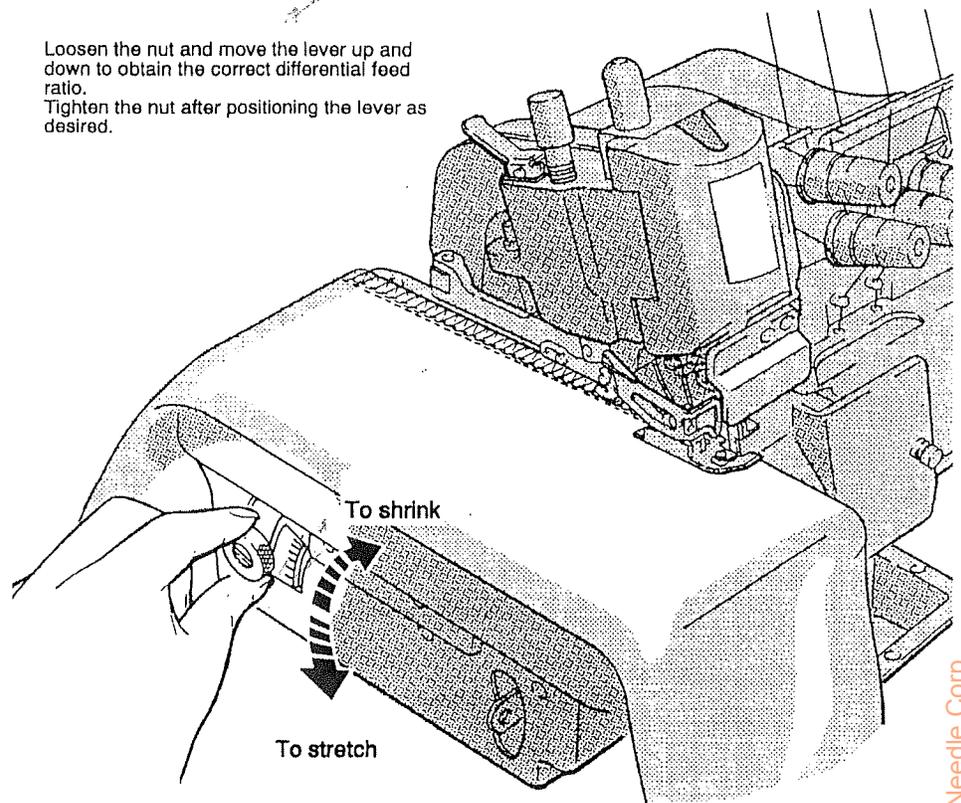
Be sure to thread the machi by referring to the threading

④

Looper thread
Trim the knots off neatly after passing through the eye of the looper

DIFFERENTIAL FEED RATIO ADJUSTMENT

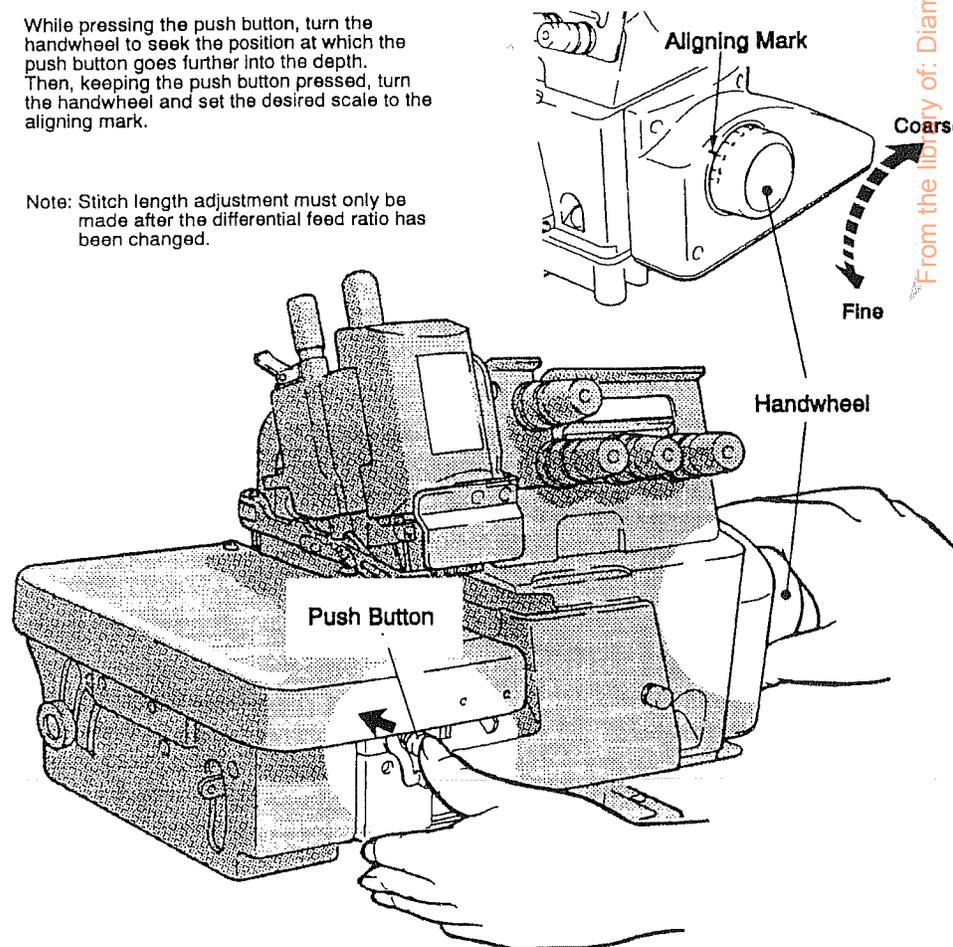
Loosen the nut and move the lever up and down to obtain the correct differential feed ratio. Tighten the nut after positioning the lever as desired.



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.

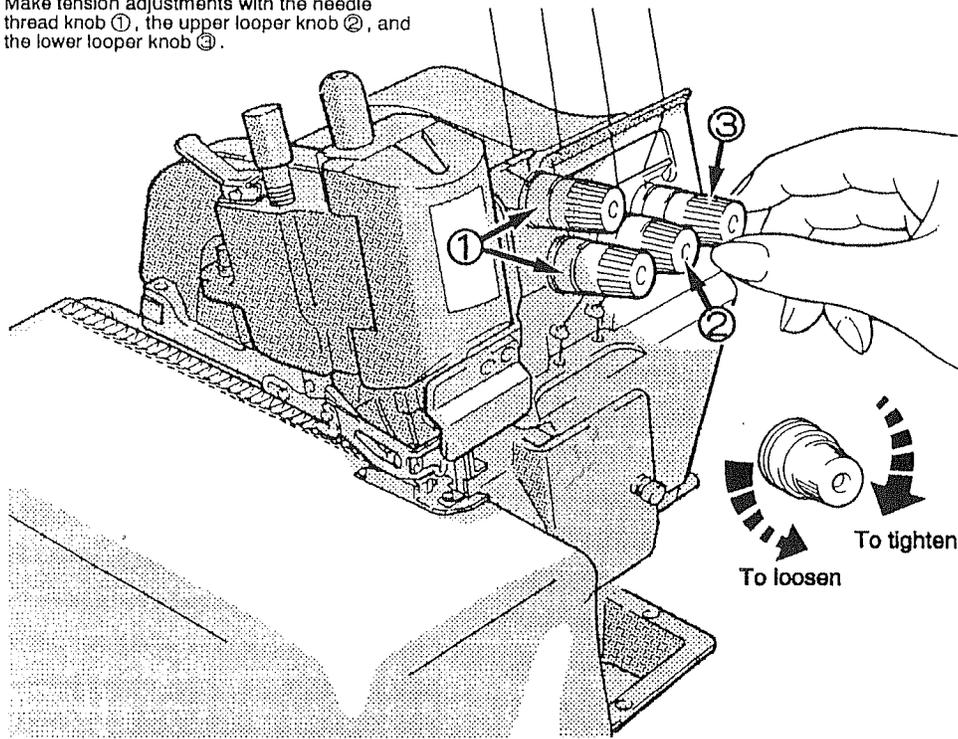
Note: Stitch length adjustment must only be made after the differential feed ratio has been changed.



From the library of: Diamond Needle Corp

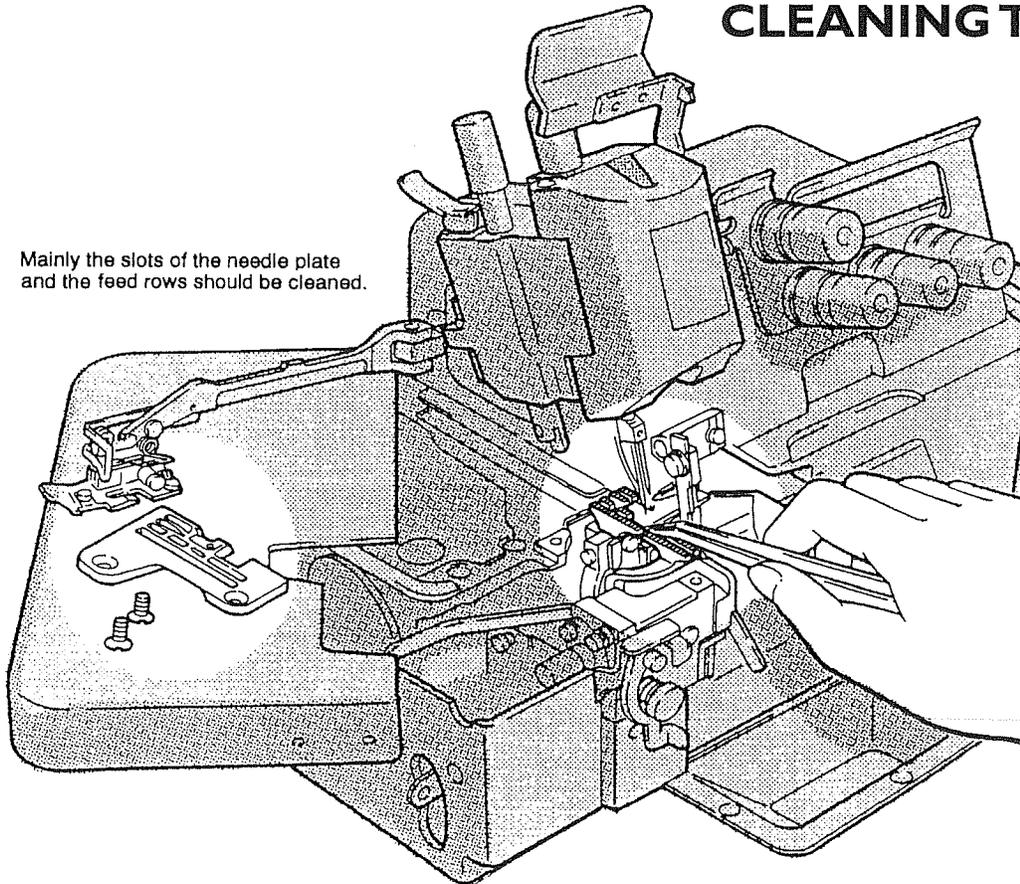
THREAD TENSION

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.

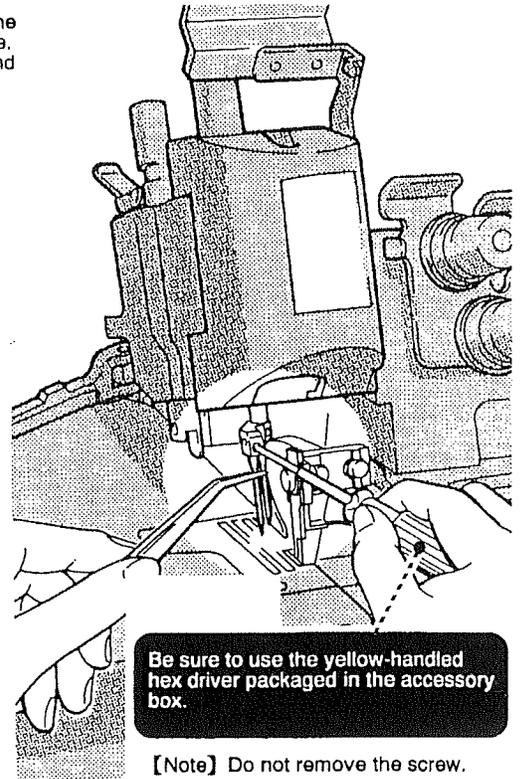
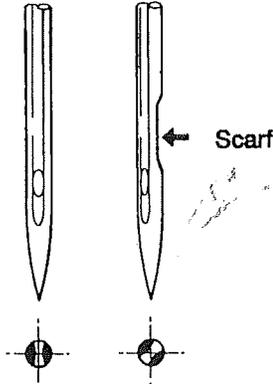


REPLACING THE NEEDLE

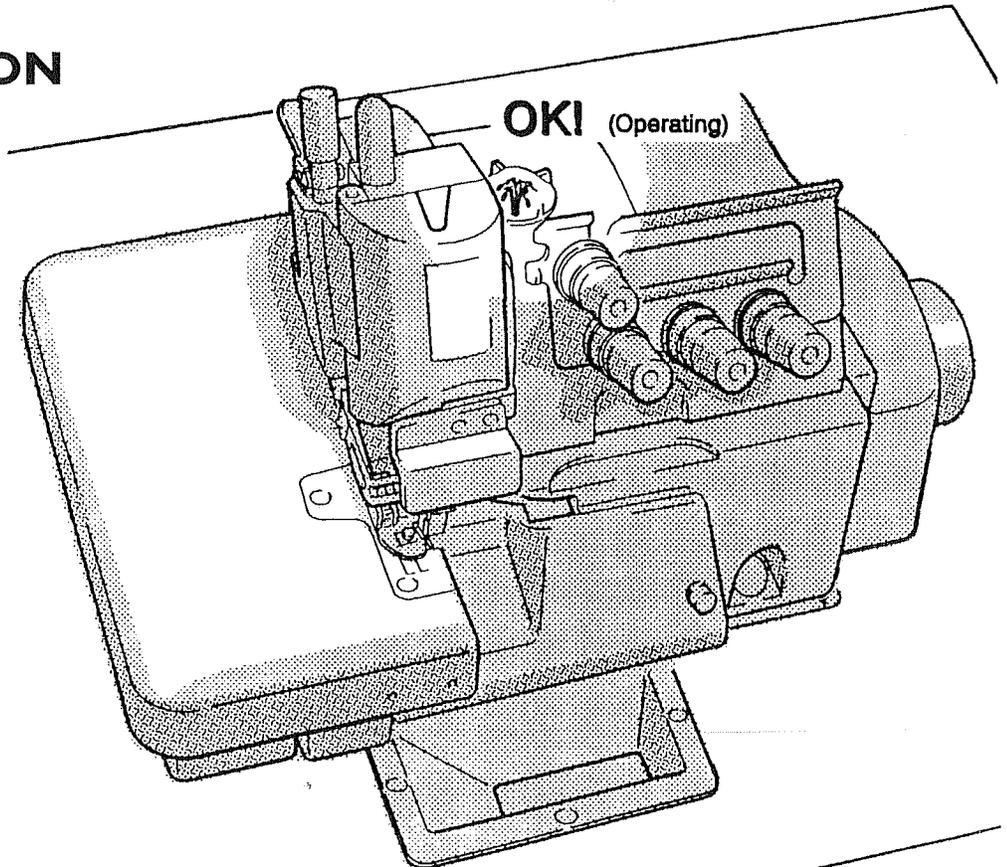
- *Check the needle carefully to see that the scarf is turned to the rear of the machine.
- *Insert the needle to the proper depth, and fasten securely.

Standard needle: Organ DC X 27

OKI NOI



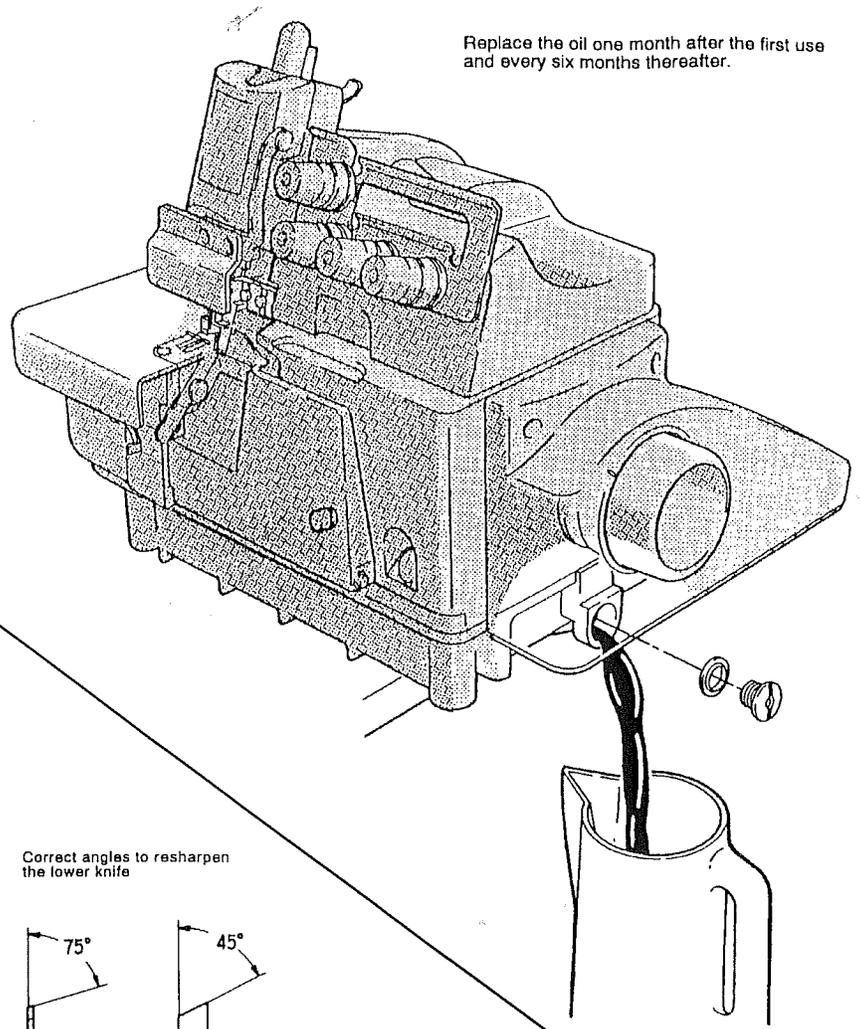
CHECKING THE OIL CIRCULATION



From the library of: Diamond Needle Corp

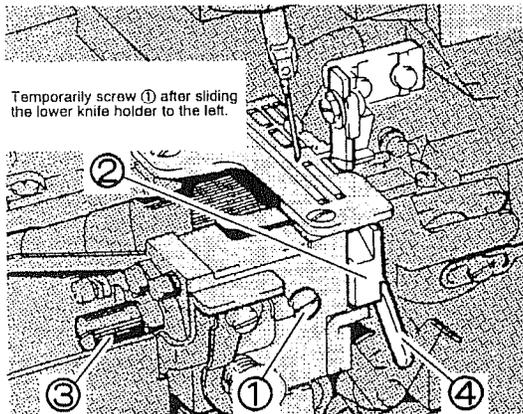
REPLACING THE OIL

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



REPLACING THE LOWER KNIFE

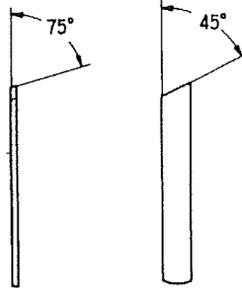
To remove the lower knife



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

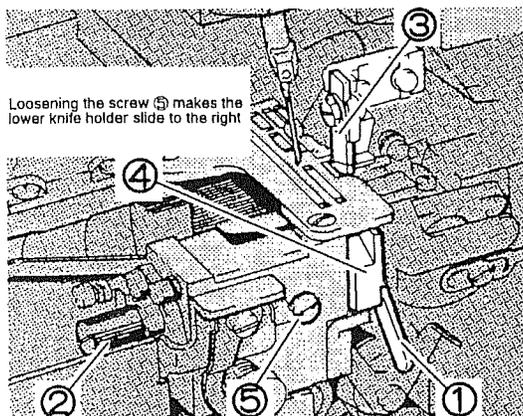
Loosen the screw. Loosen the screw. Remove the lower knife.

Correct angles to resharpen the lower knife



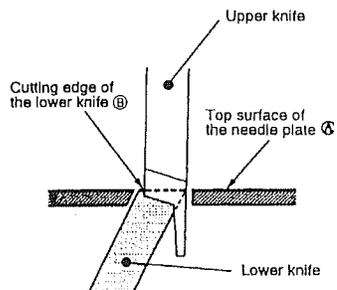
To replace the lower knife

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



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.)



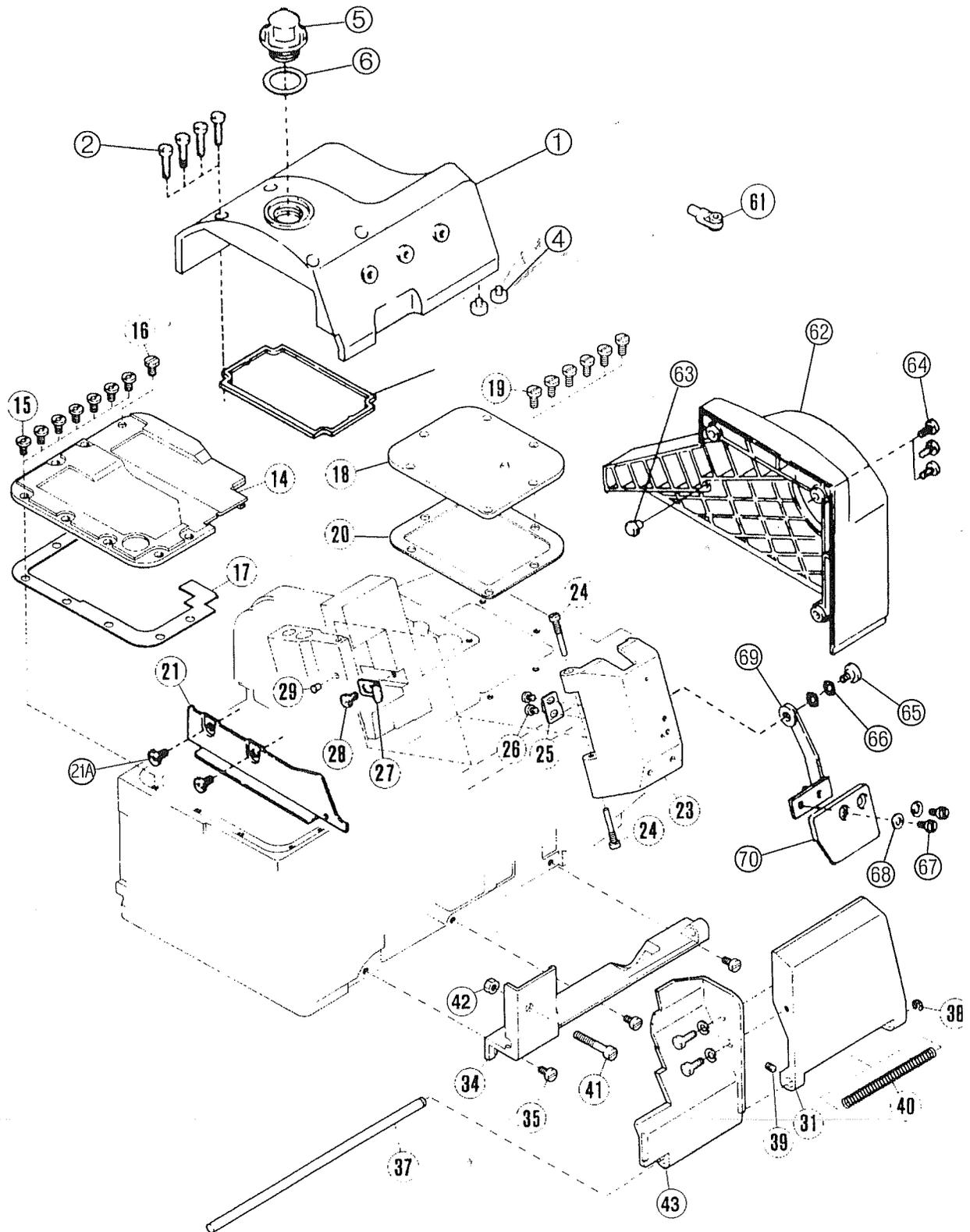
Level of (A) = Level of (B)

Check cutting action of knives.

From the library of: Diamond Needle Corp

PARTS - Right Sewing Head

MISCELLANEOUS COVERS (1)

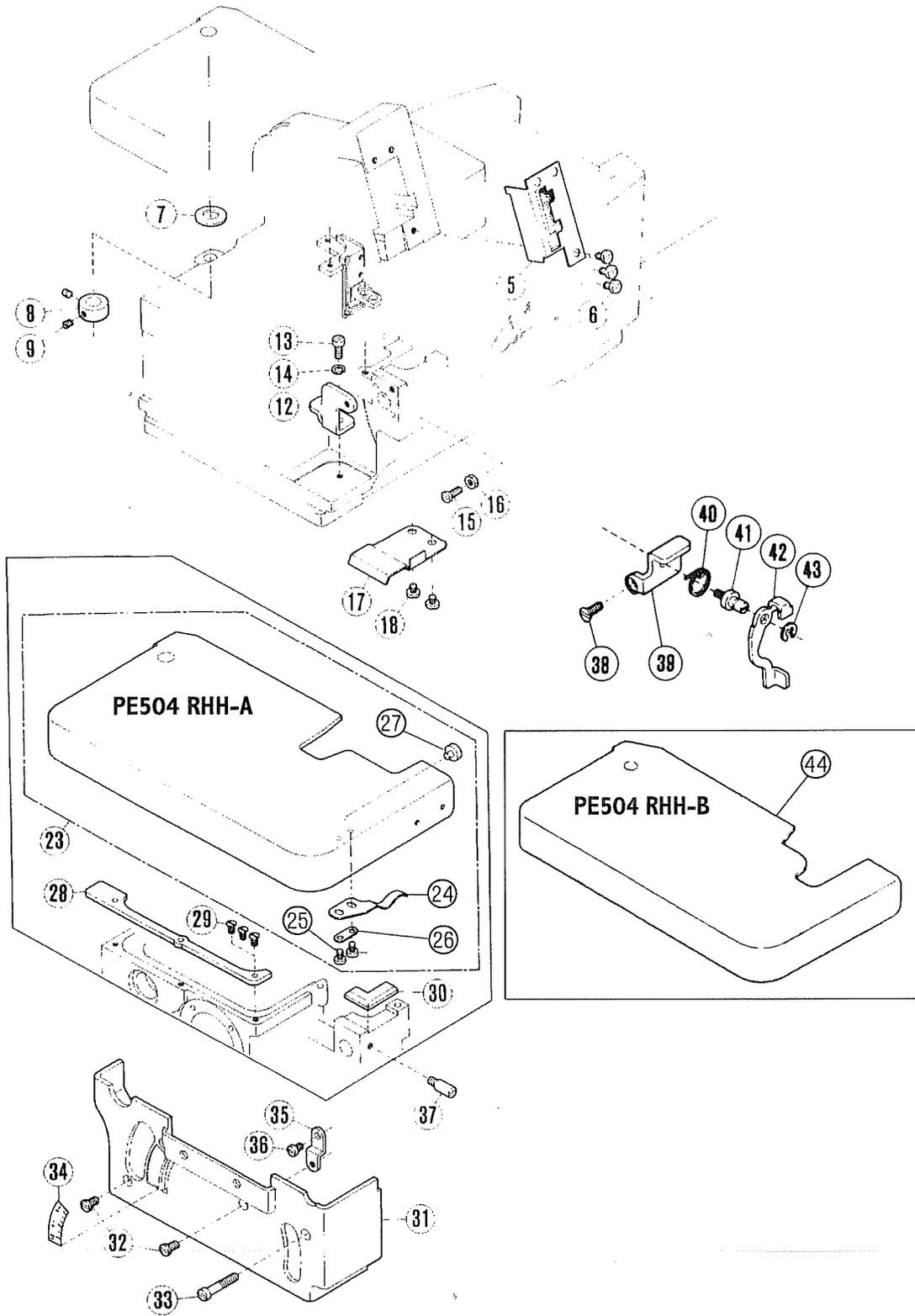


From the library of: Diamond Needle Corp

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)



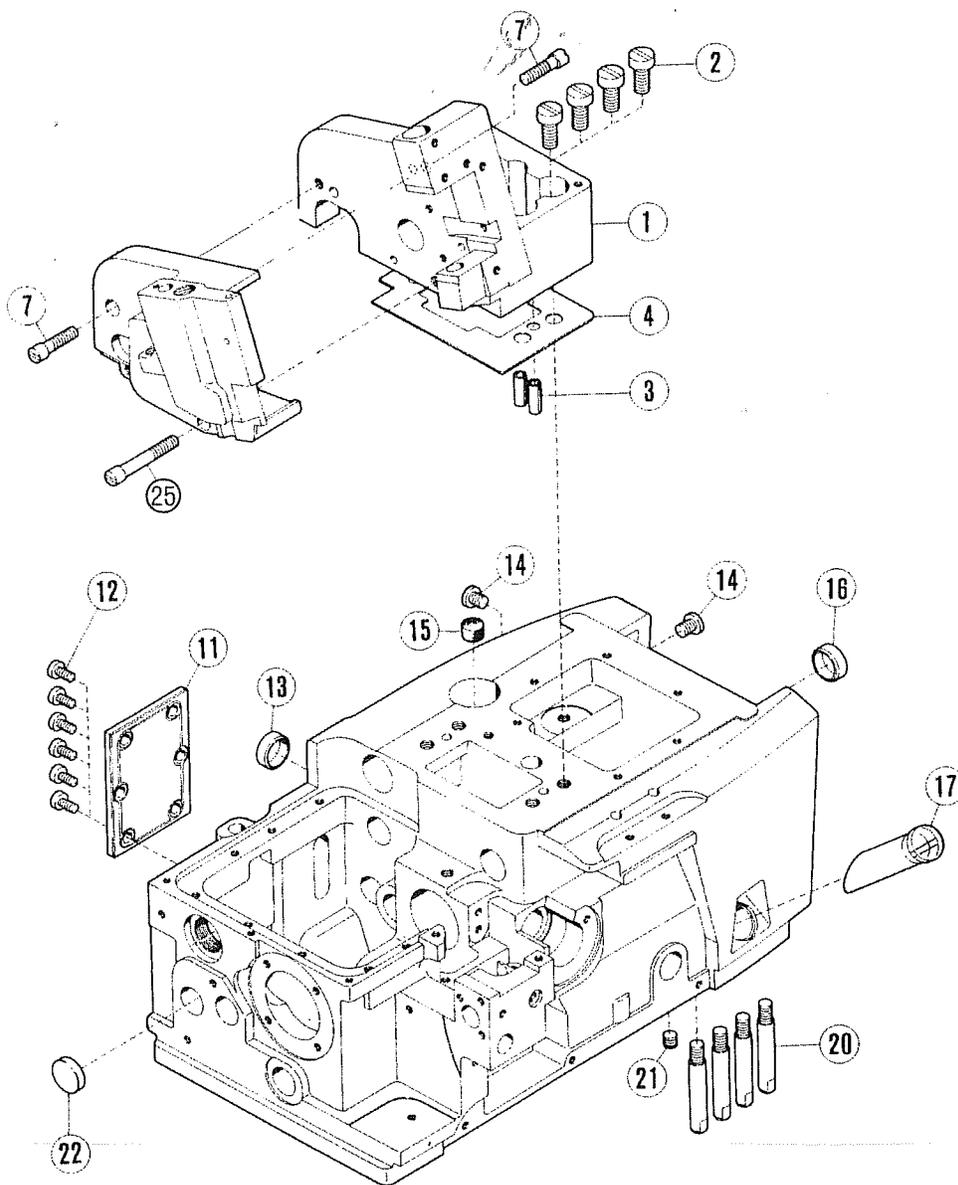
From the library of: Diamond Needle Corp

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

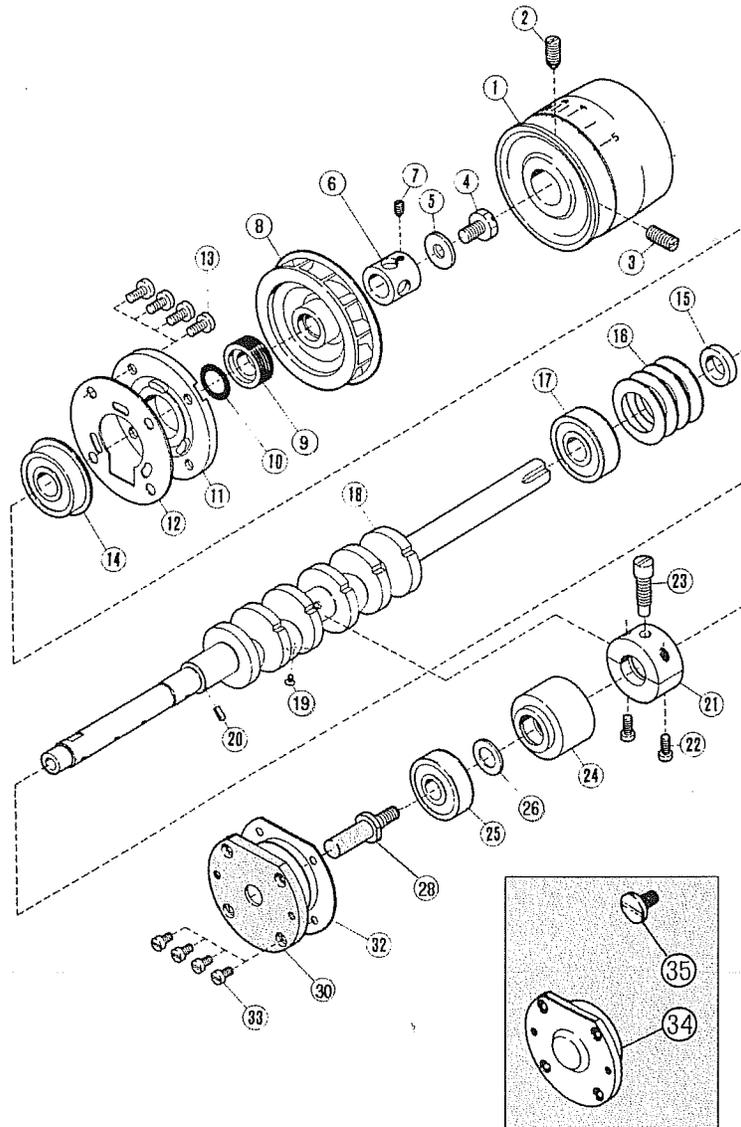
Ref#	Part#	Description	Qty	Ref#	Part#	Description	Qty
1	617140	MACHINE ARM (RIGHT)	1	14	730272	SCREW	2
2	618500	SCREW	4	15	614280	OIL FILTER	1
3	610980	PIN	2	16	614360	PLUG	1
4	613580	GASKET	1	17	612000	OIL SIGHT GAUGE	1
7	619000	SCREW	2	20	730197	BED PIN	4
11	7301925	COVER PLATE	1	21	730220	SCREW	1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



From the library of: Diamond Needle Corp

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

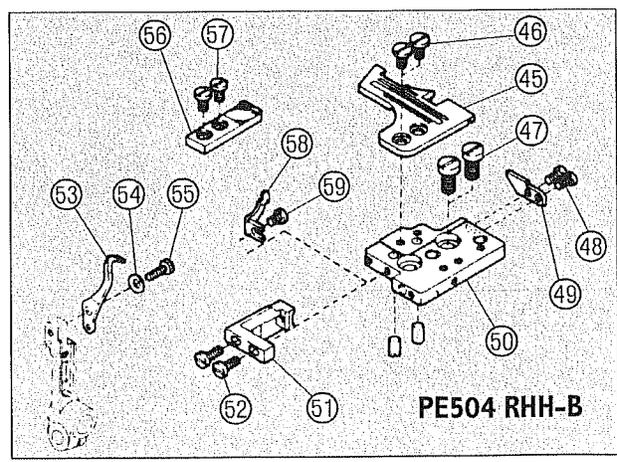
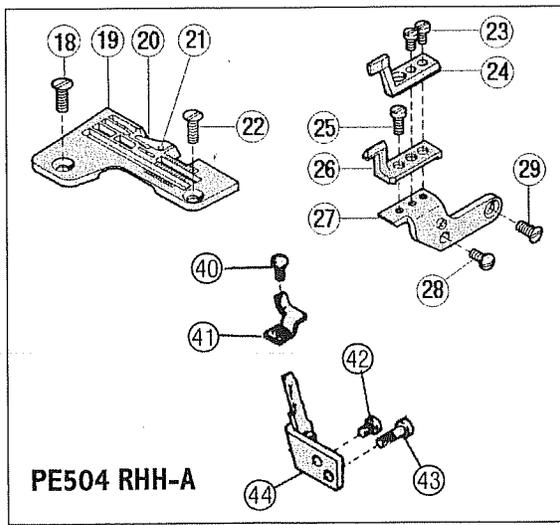
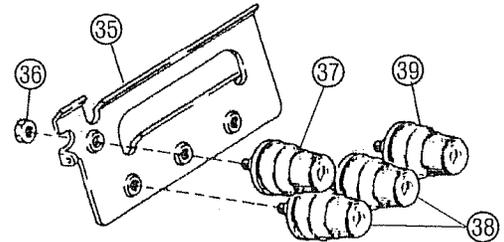
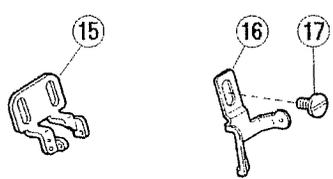
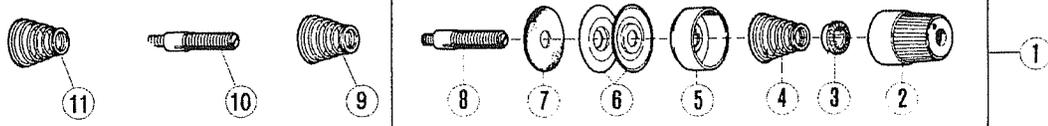


PE504 RHH-B

From the library of: Diamond Needle Corp

NEEDLE PLATE & TENSION ASSEMBLY

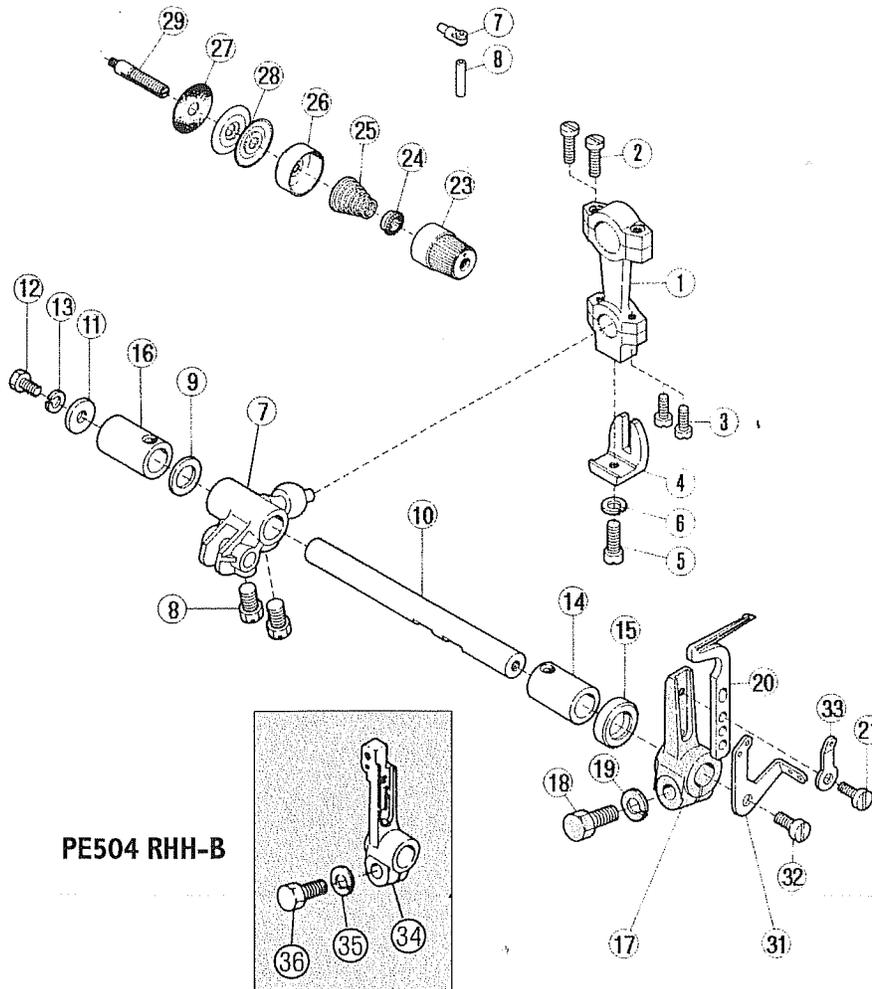
Ref#	Part#	Description	Qty	Ref#	Part#	Description	Qty
1	616840	NEEDLE THREAD TENSION COMPLETE	1	35	730368	BRACKET	1
2	616680	NUT	1	36	730369	NUT	1
3	616700	SPRING BUSHING	1	37	730370	TENSIONS (COMPLETE)	1
4	611040	SPRING (HEAVY)	1	38	730371	TENSIONS (COMPLETE)	2
5	616740	SPRING CUP	1	39	730372	TENSIONS (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				



From the library of: Diamond Needle Corp

OVEREDGE (LEFT) LOOPER MECHANISM

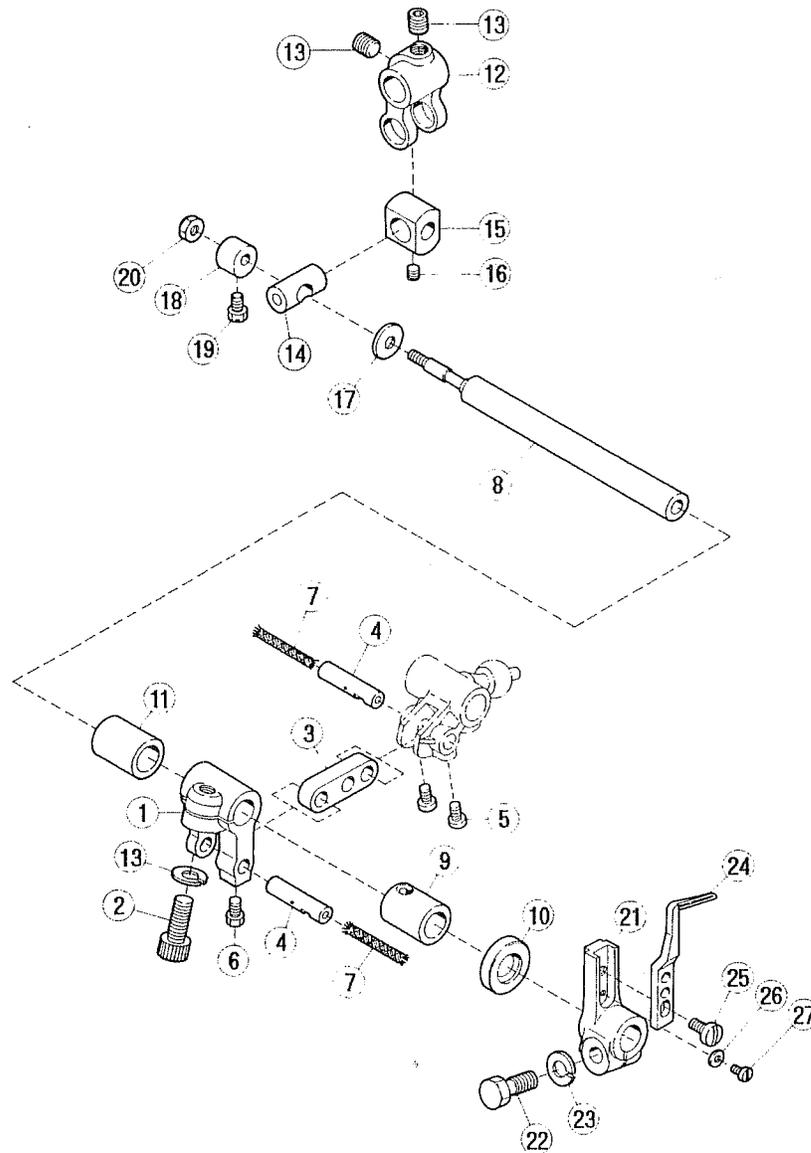
Ref#	Part#	Description	Qty	Ref#	Part#	Description	Qty
1	616160	LEFT LOOPER DRIVE CONN	1	19	613640	CLAMP SCREW WASHER	1
2	640013	CAP SCREW	4	20	620238	RIGHT LOOPER	1
4	611160	GUIDE	1	21	610120	SCREW	1
5	640021	GUIDE SCREW	1	22	616860	THREAD TENSION COMPLETE	1
6	611640	GUIDE SCREW WASHER	1	23	616680	NUT	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



From the library of: Diamond Needle Corp

CHAINSTITCH LOOPER MECHANISM (1)

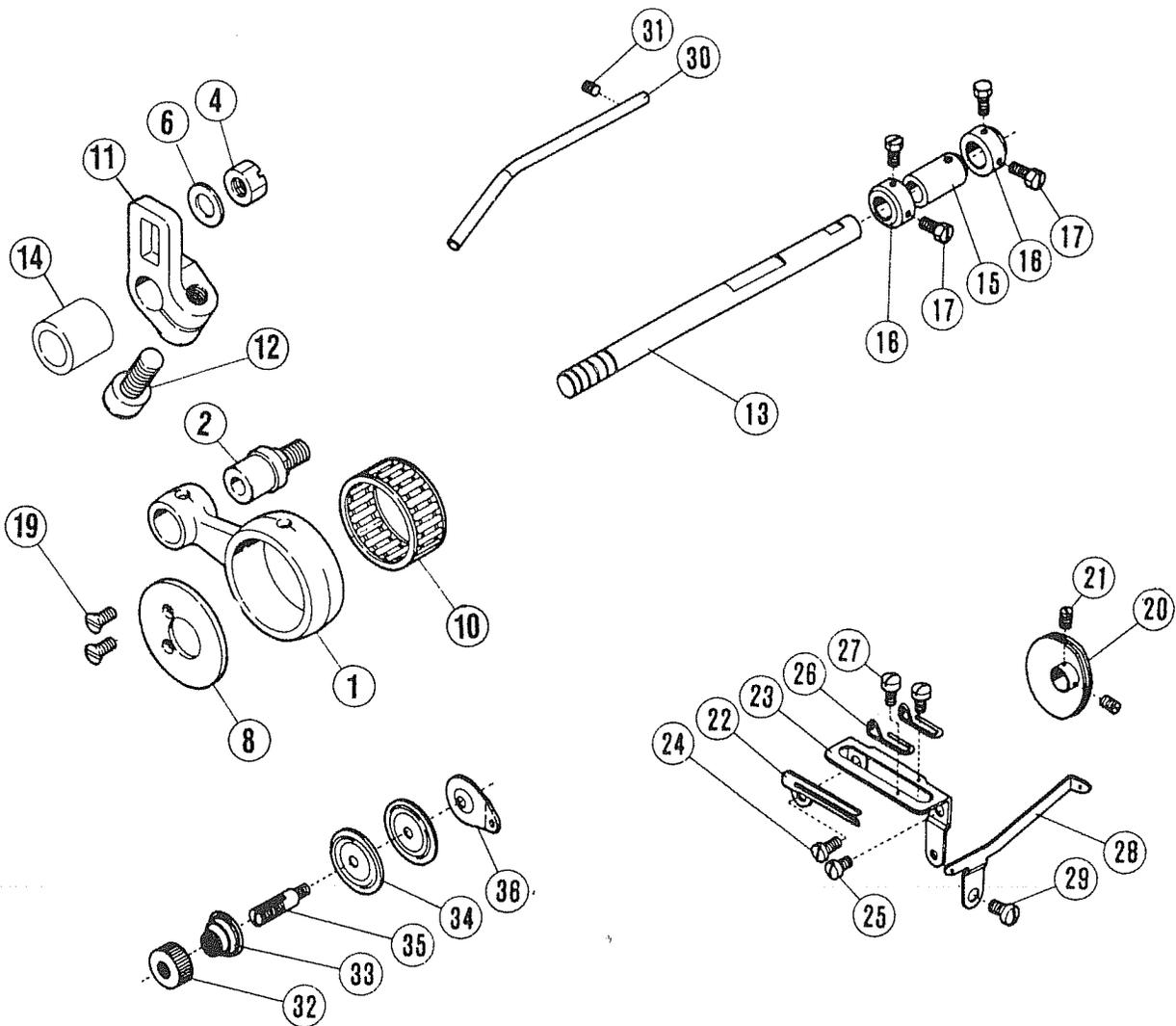
Ref#	Part#	Description	Qty	Ref#	Part#	Description	Qty
1	640020	LOOPER DRIVE CRANK	1	15	615000	BLOCK	1
2	619265	CLAMP SCREW	1	16	619400	BLOCK SCREW	1
3	615280	LINK	1	17	615020	THRUST WASHER	1
4	615300	LINK PIN	2	18	615040	COLLAR	1
5	619520	LINK PIN SCREW	2	19	618600	COLLAR SCREW	1
6	618600	LINK PIN SCREW	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



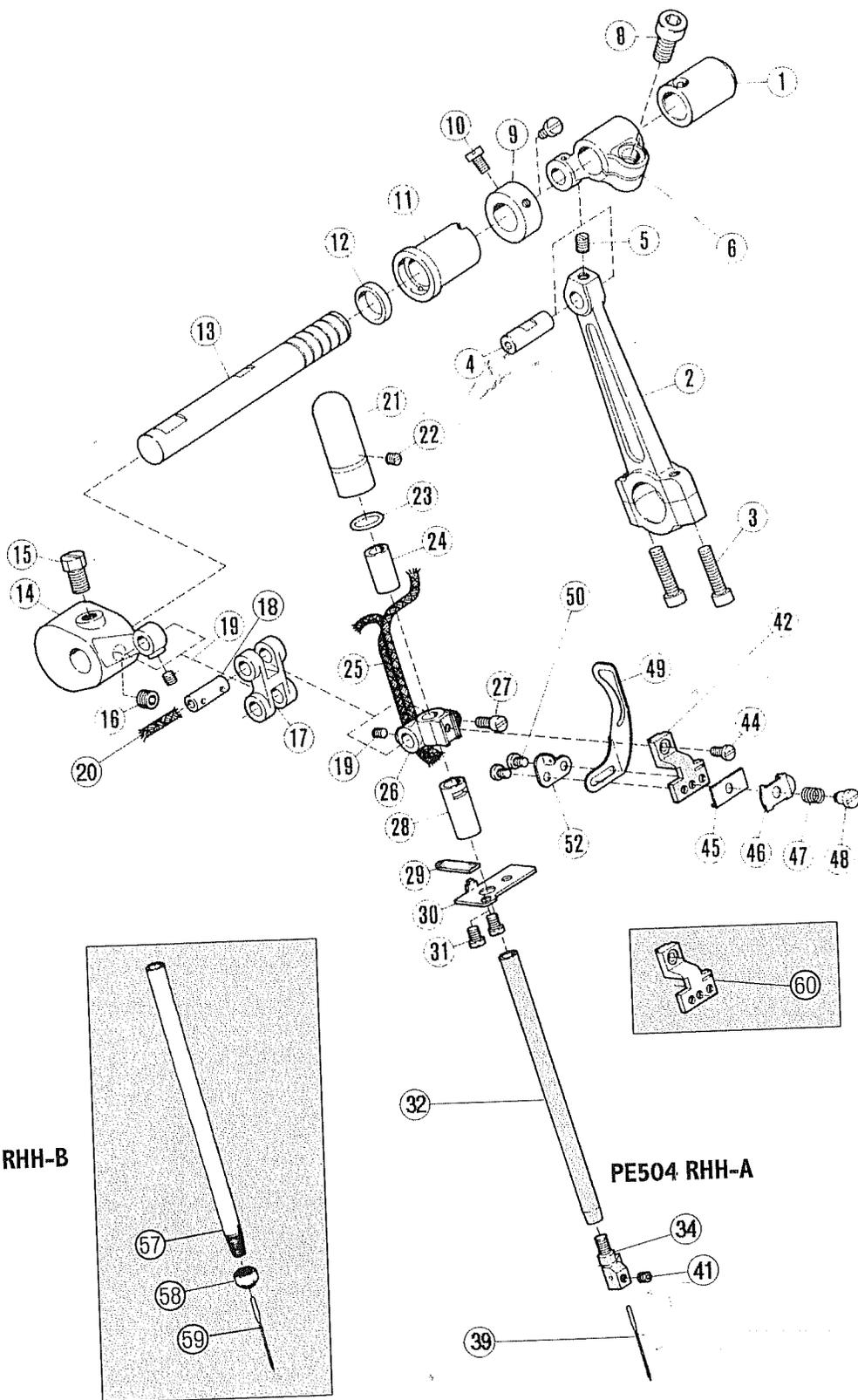
From the library of: Diamond Needle Corp

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

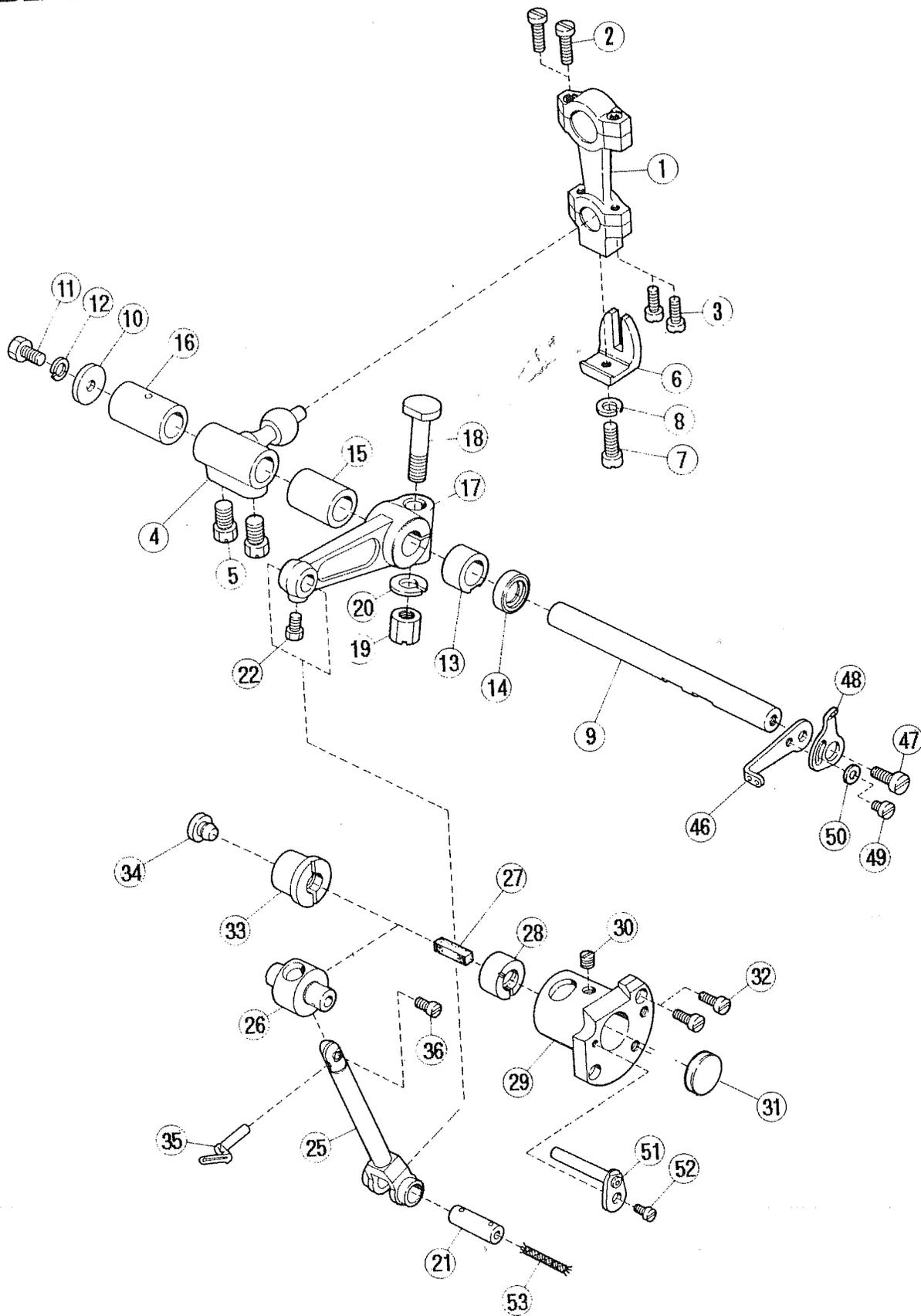


From the library of: Diamond Needle Corp

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



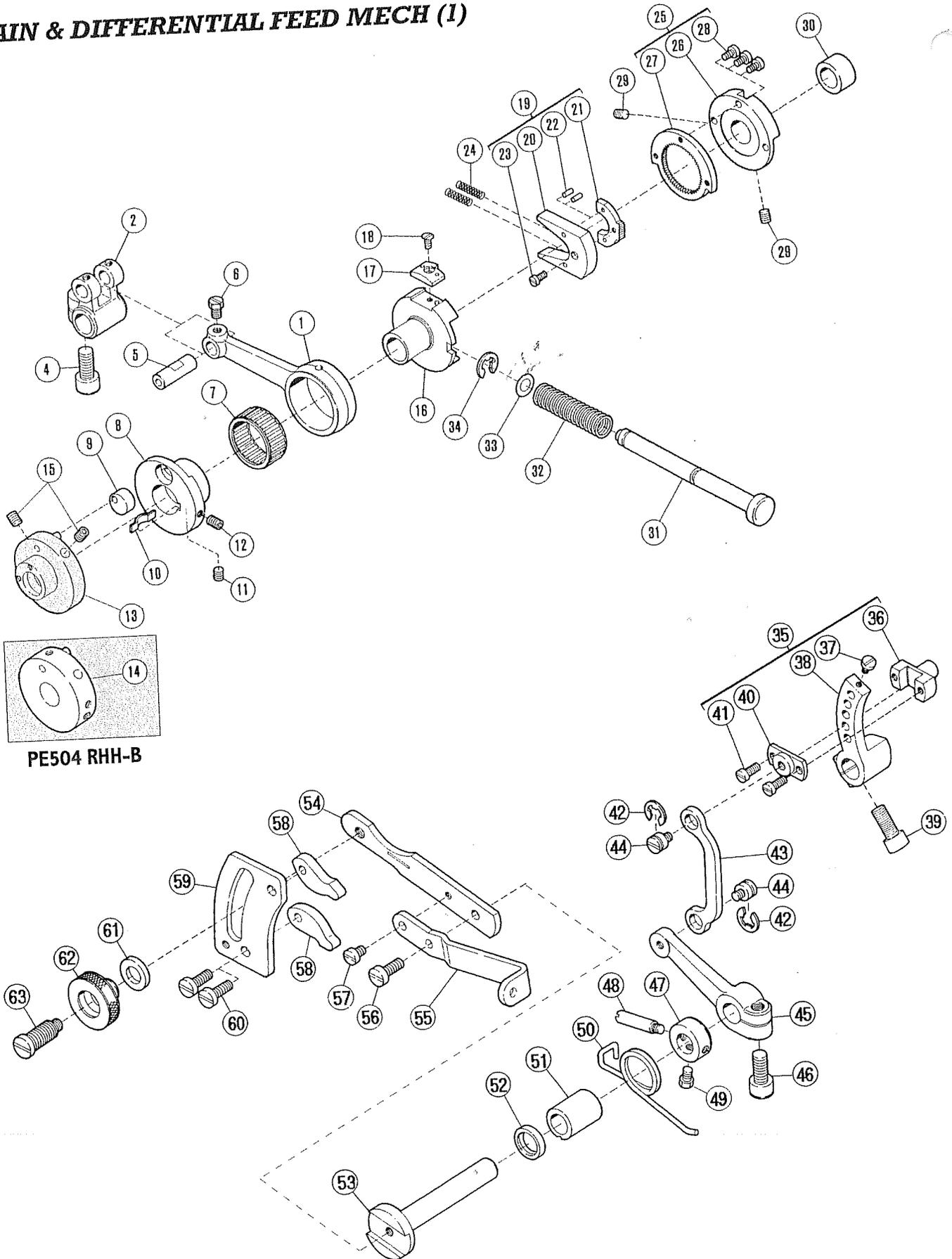
From the library of: Diamond Needle Corp

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

From the library of: Diamond Needle Corp

MAIN & DIFFERENTIAL FEED MECH (1)



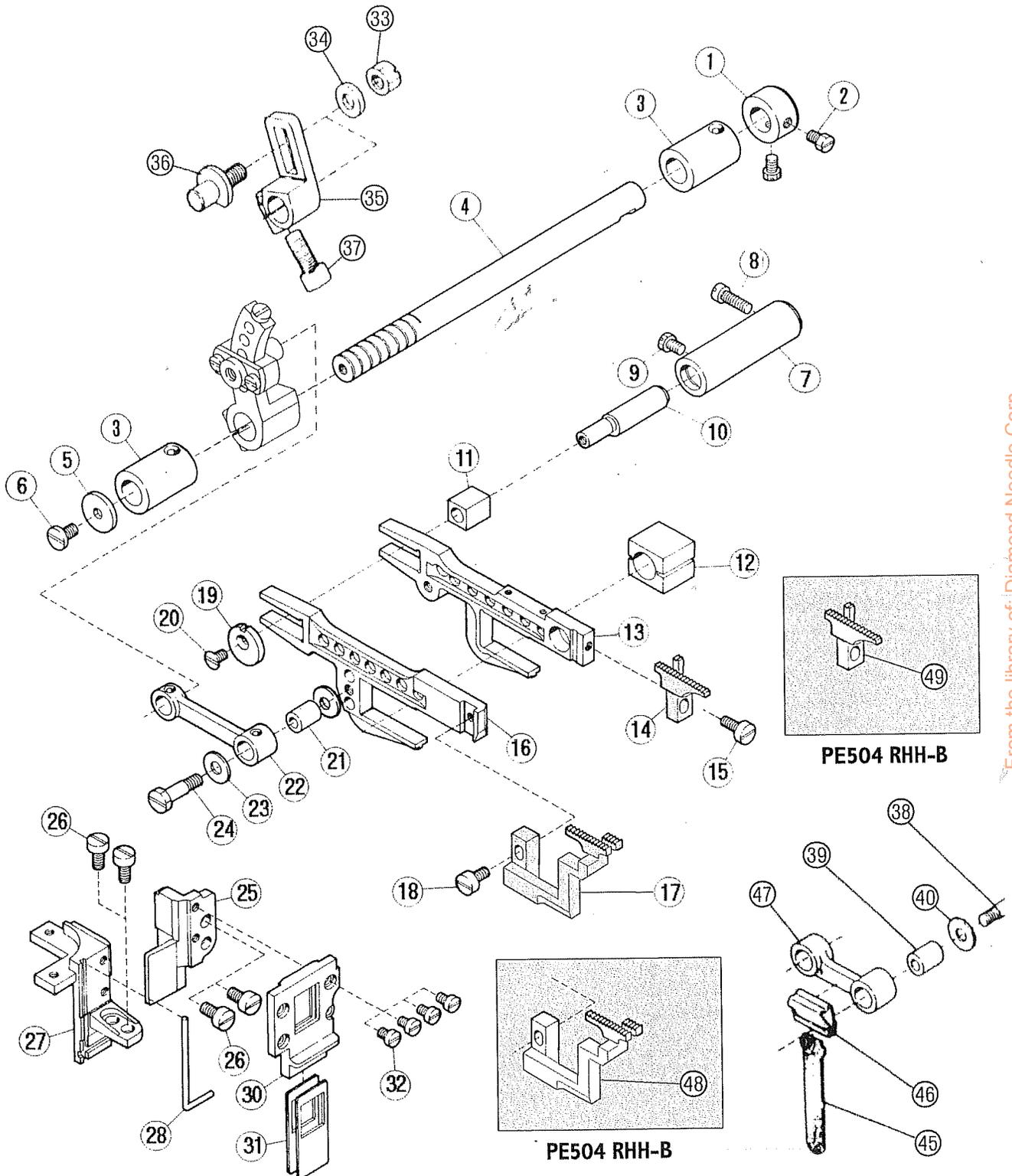
From the library of: Diamond Needle Corp

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				

From the library of: Diamond Needle Corp

MAIN & DIFFERENTIAL FEED MECH (2)

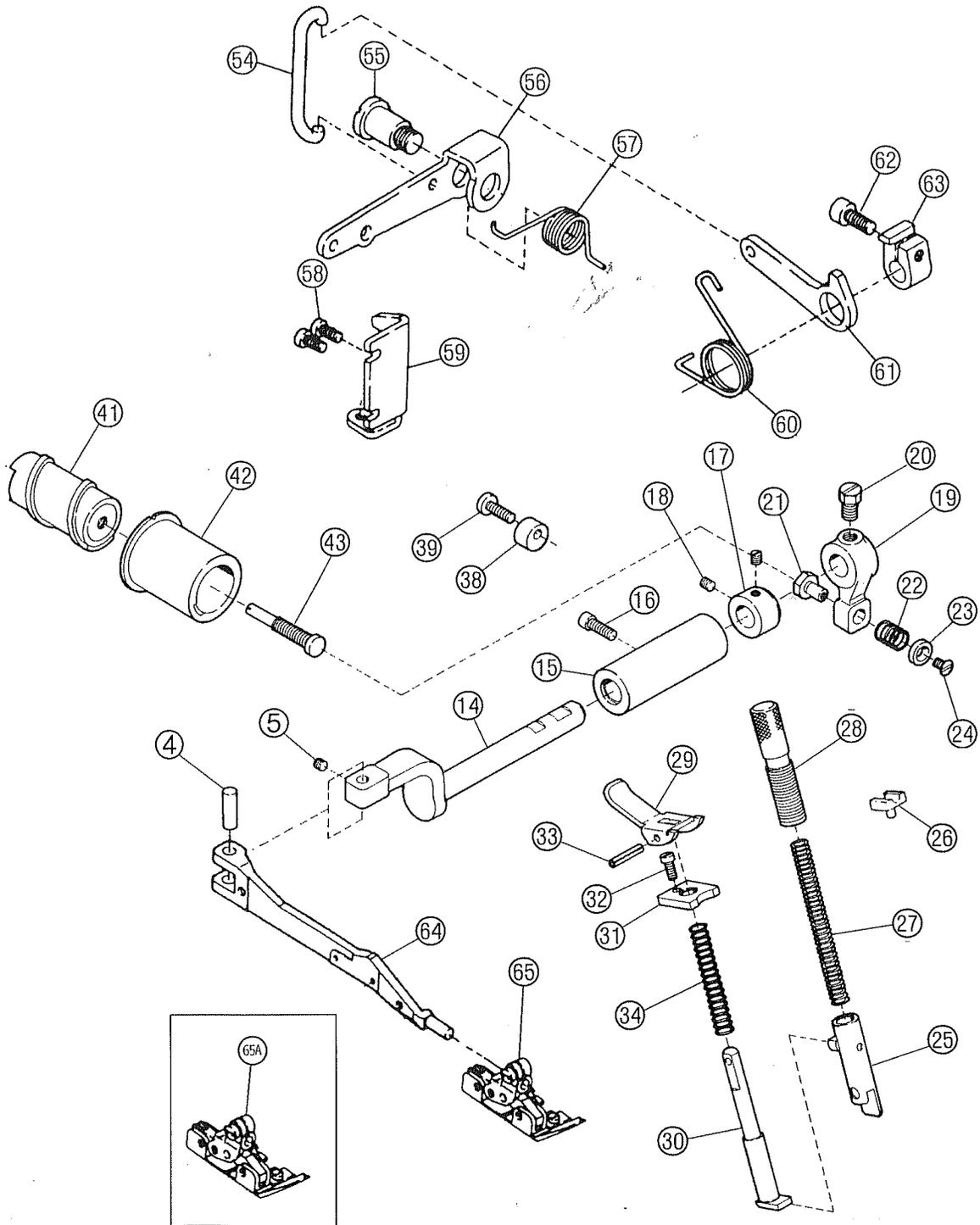


From the library of: Diamond Needle Corp

MAIN & 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



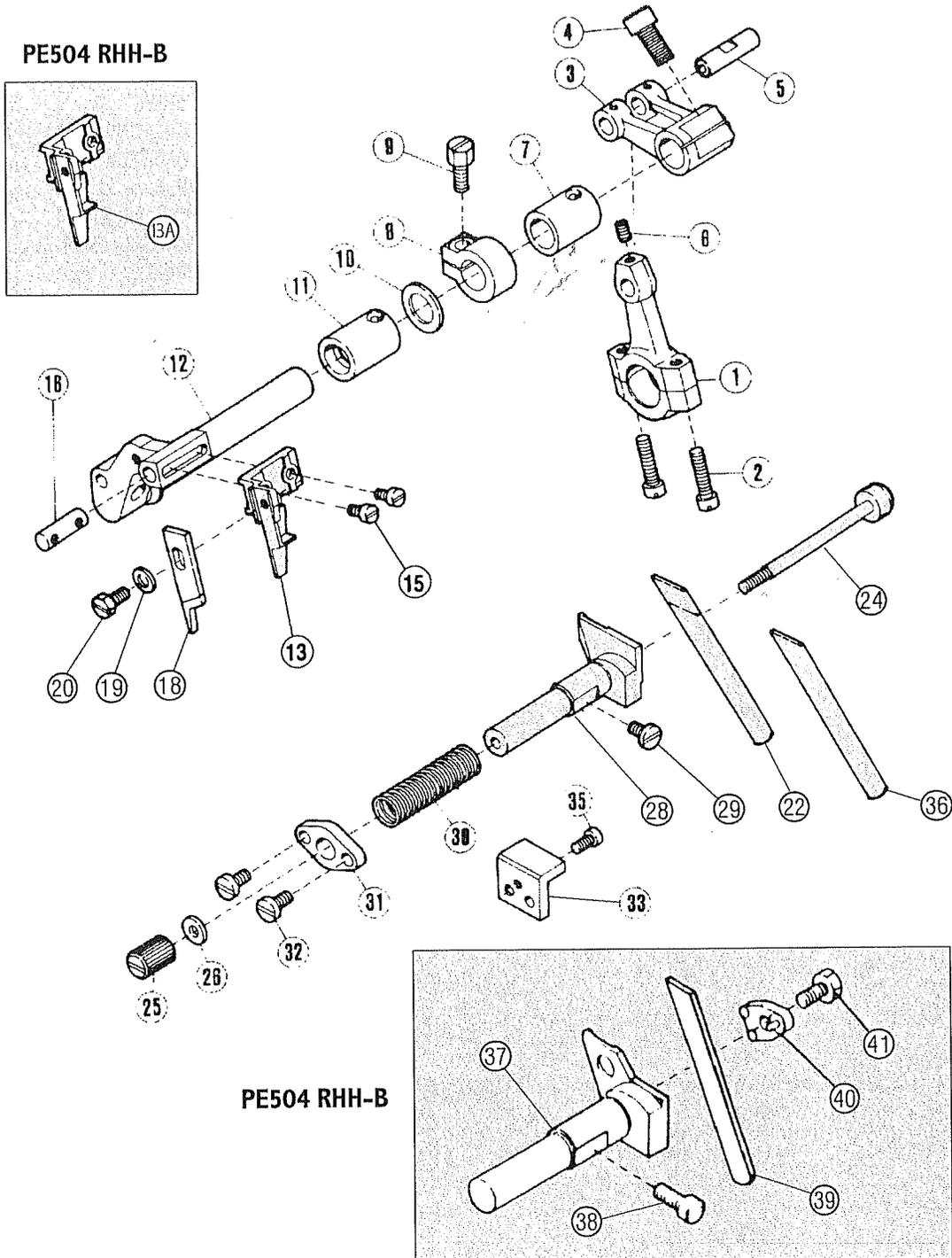
PE504 RHH-B

From the library of: Diamond Needle Corp

PRESSER FOOT & 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

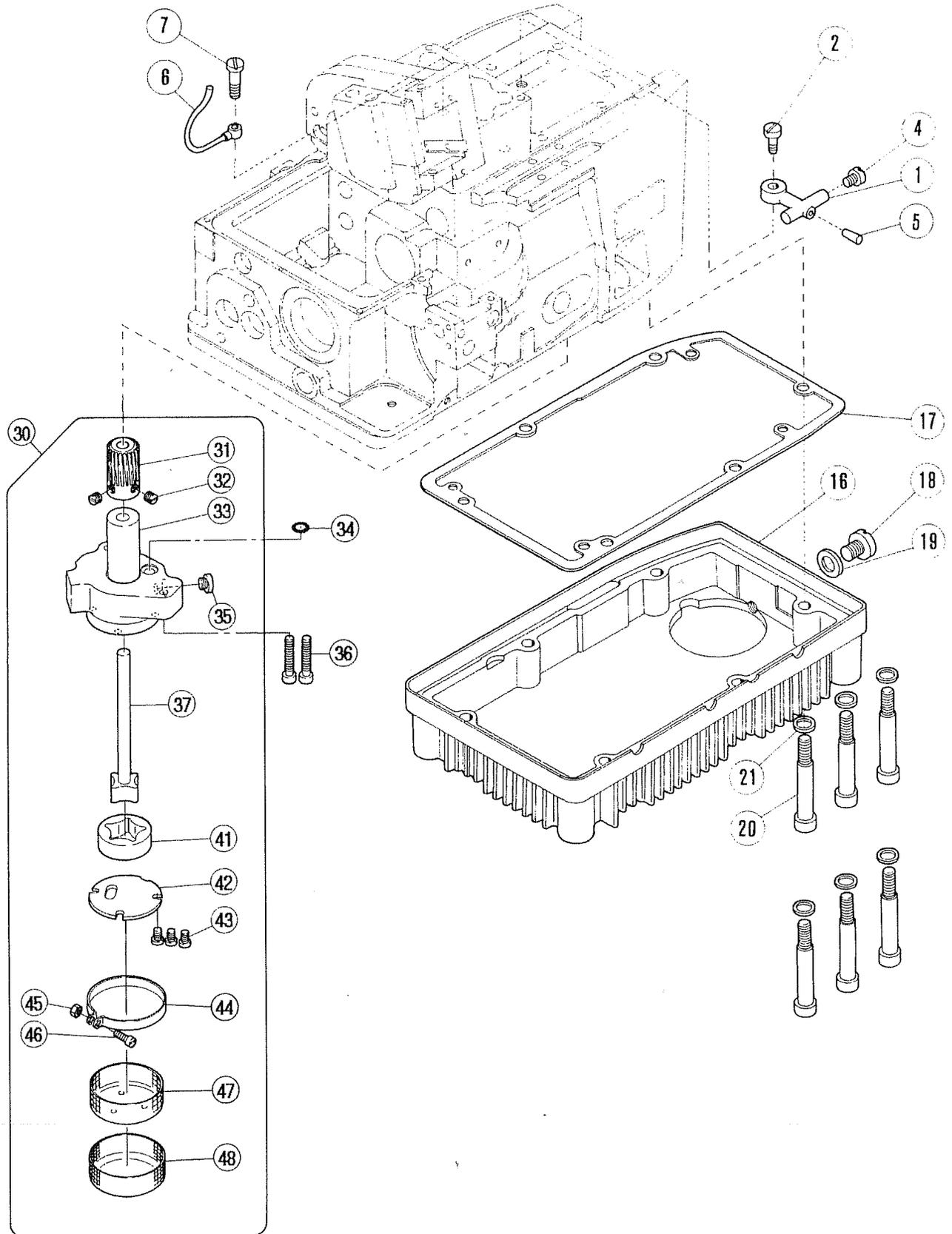


From the library of: Diamond Needle Corp

UPPER & 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



From the library of: Diamond Needle Corp

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

From the library of: Diamond Needle Corp

PARTS INDEX • Left Sewing Head

Part #	Description	Ref #	Page	Description	Ref #	Page
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
610680	Cushion Rubber	13	29	612900	Pin	22
610700	Screw	14	41	613300	Pump Gear Shaft	23
610800	Oil Splash Joint	15	53	613320	O-Ring	24
610800	Oil Splash Joint	16	53	613320	O-Ring	25
610800	Oil Splash Joint	17	53	613590	Oil Felt	26
610860	Screw	18	53	613600	Oil Felt	27
610860	Screw	19	53	613640	Washer	28
610860	Screw	20	53	613680	Gasket	29
610860	Screw	21	53	613780	Washer	30
610920	Retaining Ring	22	33	613980	Thread Tube	31
611040	Tension Spring (Heavy)	23	39	613980	Thread Tube	32
611100	Thrust Collar	24	37	613980	Thread Tube	33
611120	Tension Spring (Light)	25	41	614055	Housing	34
611120	Tension Spring (Medium)	26	43	614180	Latch Screw	35
611280	Plate	27	53	614260	Thrust Washer	36
611320	Gear	28	53	614260	Thrust Washer	37
611360	Pin	29	51	614360	Plug	23
611420	Spring	30	51	614520	Crankshaft Extension	24
611500	Collar	31	47	614580	Housing	25
611500	Thrust Washer	32	49	614810	Oil Tube	26
611560	Washer	33	53	614900	Pin	27
611600	Oil Wick	34	37	615100	Guide / Upper Looper Holder	28
611600	Oil Felt	35	55	615200	O-Ring	29
611615	Tube Clamp	36	53	615220	Cap	21
611615	Tube Clamp	37	53	615220	Cap	22
611615	Tube Clamp	38	53	615220	Cap	23
611615	Tube Clamp	39	55	615390	Washer	24
611620	Screw	40	43	616340	Feed Regulating Ratchet	25
611640	Washer	41	41	616400	Spring	26
611640	Washer	42	41	616680	Post Nut	27
611640	Washer	43	43	616680	Post Nut	28
611640	Washer	44	43	616680	Post Nut	29
611640	Washer	45	53	616700	Spring Bushing	30
611660	Washer	46	53	616700	Spring Bushing	31

PARTS INDEX • Left Sewing Head (Continued)

Part #	Description	Ref #	Page	Part #	Description	Ref #	Page
616700	Spring Bushing	32	43	618500	Screw	9	29
616720	Felt	33	39	618560	Screw Stud	10	39
616720	Felt	34	41	618560	Screw Stud	11	41
616720	Felt	35	43	618560	Screw Stud	12	43
616740	Cap	36	39	618600	Screw	13	45
616740	Cap	37	41	618600	Screw	14	47
616740	Cap	38	43	618620	Screw	15	49
617100	Hand Lift Lever	39	51	618640	Screw	16	45
617120	Bushing	40	51	618640	Screw	17	55
617265	Gear	41	53	618660	Screw	18	49
617360	Plug	22	29	618660	Screw	19	53
617380	Cover Plate	25	29	618680	Nut	20	55
617420	Oil Wick	26	37	618740	Screw	21	33
617440	Screw	27	37	618740	Screw	22	35
617440	Screw	28	51	618740	Screw	23	39
617540	Screw	29	41	618740	Screw	24	39
617540	Screw	30	43	618740	Screw	25	39
617540	Screw	31	45	618740	Screw	26	39
617540	Screw	32	49	618740	Screw	27	39
617600	Screw	33	47	618740	Screw	28	39
618120	Screw	34	41	618740	Screw	29	45
618120	Screw	35	43	618740	Screw	30	45
618120	Screw	36	47	618740	Screw	31	49
618120	Screw	37	49	618740	Screw	32	51
618140	Screw	23	31	618740	Screw	33	53
618140	Screw	24	33	618740	Screw	34	53
618140	Screw	25	33	618740	Screw	35	53
618140	Screw	26	41	618740	Screw	36	55
618140	Screw	27	45	618760	Screw	37	45
618140	Screw	28	53	618760	Screw	38	53
618200	Screw	29	51	618780	Screw	39	39
618200	Screw	30	51	618780	Screw	40	39
618200	Screw	53	51	618840	Screw	41	53
618200	Screw	54	51	619000	Screw	5	29
618280	Nut	4	31	619080	Screw	6	47
618320	Nut	14	31	619140	Screw	7	47
618340	Screw	18	29	619360	Screw	8	41
618340	Screw	25	31	619400	Screw	9	33
618340	Screw	26	33	619400	Screw	10	37
618340	Screw	27	41	619400	Screw	11	37
618340	Screw	28	47	619400	Screw	12	39
618340	Screw	29	49	619400	Screw	13	39
618354	Screw	30	39	619400	Screw	14	41
618354	Screw	31	55	619400	Screw	15	41
618380	Screw	7	31	619400	Screw	16	45
618380	Screw	8	41	619400	Screw	17	45
618400	Screw	9	37	619400	Screw	18	51
618420	Screw	10	35	619400	Screw	19	51
618420	Screw	11	51	619460	Screw	20	45
618440	Screw	12	33	619480	Screw	21	47
618460	Screw	13	33	619520	Screw	22	33
618460	Screw	14	37	619520	Screw	23	35
618460	Screw	15	47	619520	Screw	36	5
618460	Screw	16	49	619520	Screw	37	51
618460	Screw	17	53	619540	Screw	24	29

PARTS INDEX • Left Sewing Head (Continued)

Part #	Description	Ref #	Page	Part #	Description	Ref #	Page
619600	Screw	25	47	660275	Indicator Guide	12	53
619600	Stop Ring	26	47	660280	Washer	13	55
619625	Screw	27	39	660281	Spring	5	31
619740	Nut	28	47	660282	Ball	6	53
619820	Screw	29	33	660283	Set Plate / Presser Foot	7	51
619820	Screw	30	33	660284	Washer	8	45
619840	Screw	26	29	660284	Washer	9	49
619840	Screw	27	55	660285	Washer	10	45
619860	Screw	28	35	660287	Collar	11	37
620005	Pin	29	49	660287	Collar	12	49
620026	Screw	30	37	660288	Oil Felt	13	41
620026	Screw	31	41	660289	Oil Wick	15	29
620026	Screw	32	43	660289	Oil Wick	16	37
620026	Screw	33	45	660289	Oil Wick	17	41
620026	Screw	34	45	660290	Spring	18	49
620026	Screw	35	47	660291	Name Plate	33	29
620026	Screw	36	47	660292	Oil Felt	34	41
620026	Screw	37	49	660294	Spring Washer	35	55
620026	Screw	38	51	660295	Block / Feed Bar Guide	36	47
620033	Screw	39	35	660296	Upper Knife	37	49
620033	Screw	40	37	660297	Lower Knife	38	49
620033	Screw	41	45	660298	By-Pass Valve	39	53
620033	Screw	42	45	660299	Name Plate	40	33
620033	Screw	43	49	660300	O-Ring	41	41
620034	Feed Eccentric	44	45	660301	Needle Bearing	42	47
620037	Guide / Feed Eccentric	45	45	660302	Stop Ring	43	47
620038	Spring	46	45	660303	Thrust Washer	44	41
620039	Screw	47	45	660304	O-Ring	45	53
620042	Feed Regulating Eccentric	48	45	660305	Plug	46	35
640002	Screw	19	29	660306	Thumb Screw	47	51
640013	Screw	20	37	660307	Diff. Feed Crank	48	47
640013	Screw	21	41	660308	Plug	49	43
640013	Screw	22	43	660309	Gasket	10	29
640013	Screw	23	49	660310	Gasket	17	29
640018	Screw	24	41	660311	Oil Shield	27	29
640021	Screw	25	41	660312	Washer	2	31
640022	Bushing (Rear)	26	43	660313	Cloth Plate Latch Pin	9	31
640023	Bushing (Front)	27	43	660313	Cloth Latch Plate	21	31
640024	Oil Seal	28	43	660314	Spring	6	31
640025	Thread Guide (Left)	29	43	660315	Cushion Rubber	12	31
660085	Pin-Screw	30	35	660316	Hinge Pin	13	33
660126	Oil Wick	31	37	660317	O-Ring	14	33
660126	Oil Wick	32	41	660318	Thread Guide Bar	15	33
660127	Oil Felt	33	55	660319	Bracket	16	33
660130	Oil Filter	34	53	660320	Hinge	24	33
660132	Indicator Complete	35	53	660321	Hinge Spring	25	33
660133	Plug	36	55	660322	Gasket	26	33
660133	Plug	37	55	660323	O-Ring	27	35
660134	Indicator Support	38	53	660324	Cooling Fan	28	35
660135	Spring	39	45	660325	Balance Weight	29	35
660136	Spring Washer	40	45	660326	Bushing (Right)	30	49
660138	Worm	41	35	660327	Bushing	31	49
660235	Pin	42	55	660328	Oil Seal	32	37
660274	Pin	7	29	660328	Oil Seal	33	49
660274	Pin	11	29	660329	Tension / Guide 2 Needle	34	39

PARTS INDEX • Left Sewing Head (Continued)

Part #	Description	Ref #	Page	Part #	Description	Ref #	Page
660330	.....Connection / Upper Looper Drive	1	41	660380	.....By-Pass Pipe.....	15	53
660330	.....Connection/Lower Looper Drive	1	43	660381	.....O-Ring	16	53
660331	.....Guide / Connection	2	41	660382	.....Gasket	6	29
660331	.....Guide / Connection	3	43	660383	.....Spring	7	33
660332	.....Block / Connection	4	41	660383	.....Bushing.....	8	37
660332	.....Block / Connection	5	43	660384	.....Connection / Needle Drive	9	37
660333	.....Washer	6	41	660385	.....Crank / Ndle.Drive / Std.Lift	10	37
660334	.....Shaft / Upper Looper Drive.....	7	41	660386	.....Crank / Ndle.Drive / Hi Lift	11	37
660335	.....Washer	8	41	660388	.....Bushing.....	12	37
660335	.....Washer	9	47	660389	.....Lever / Needle Drive	13	37
660336	.....Bushing.....	10	41	660390	.....Washer	14	37
660337	.....Bushing.....	11	41	660391	.....Needle Bearing	15	37
660337	.....Bushing.....	12	47	660392	.....Pin.....	16	37
660338	.....Oil Felt.....	13	41	660393	.....Washer	17	37
660339	.....Lever / Upper Looper Holder	14	41	660394	.....Stud.....	18	37
660340	.....Pin.....	15	41	660395	.....Bracket	19	39
660341	.....Upper Looper Holder	16	41	660396	.....Washer	20	41
660342	.....Bushing.....	17	41	660412	.....Block / Diff. Feed Regulating.....	21	45
660343	.....Oil Release Plug	18	41	660413	.....Oil Return Pipe	14	29
660344	.....Oil Felt.....	19	41	660414	.....Washer	15	41
660345	.....Set Plate	20	41	660414	.....Washer	16	43
660347	.....Set Plate	21	41	660414	.....Washer	17	51
660348	.....Gasket	22	41	660415	.....Oil Felt	18	41
660349	.....Shaft / Lower Looper Lever	47	43	660416	.....Bushing.....	19	51
660350	.....Push Button	1	45	660417	.....Thrust Collar	20	51
660351	.....Stopper	2	45	660418	.....Bracket / Oil Flow Valve	21	53
660352	.....Spring	3	45	660419	.....Upper Looper Holder Assy	22	41
660353	.....connection / Feed Drive	4	45	660420	.....Needle Thread Retainer	17	39
660354	.....Feed Shaft.....	5	47	660421	.....Guide.....	18	39
660355	.....Bushing.....	6	47	660422	.....Spring	19	39
660356	.....Pin.....	7	47	660423	.....Washer	20	39
660357	.....Washer	8	47	660424	.....Guide.....	21	39
660358	.....Link / Main Feed	9	47	660425	.....Washer	22	39
660359	.....Bushing.....	10	47	660426	.....Cover Plate	16	29
660360	.....Block / Feed Bar Lift.....	11	47	660427	.....Belt Cover	17	33
660361	.....X.....Feed Bar Oil Seal	12	47	660428	.....Needle Thread Cover	18	33
660362	.....Bushing.....	13	45	660429	.....Fabric Guard	19	33
660363	.....Thumbnut	14	45	660430	.....Cover	20	33
660364	.....Diff. Feed Reulating Guide.....	15	45	660431	.....Top Cover	1	33
660365	.....Stopper	16	45	660432	.....Cloth Plate.....	1	31
660366	.....Diff. Feed Regulating Bar	17	45	660433	.....Latch	15	31
660367	.....Connection / Upper Knife Drive.....	1	49	660434	.....Spring	17	31
660368	.....Pin.....	2	49	660435	.....Flat Spring.....	18	33
660369	.....Guide / Lower Knife Holder.....	3	49	660436	.....Guide / Front Cover.....	19	33
660370	.....Clamp / Lower Knife	4	49	660437	.....Feed Eccentric Cover	27	31
660371	.....Oil Level Gauge	5	53	660438	.....Feed Bar Cover	22	31
660372	.....Indicator	6	53	660439	.....Upper Looper Holder Cover	24	31
660373	.....Oil Monitor Complete.....	7	53	660440	.....Crankshaft.....	1	35
660374	.....Name Plate / Oil Monitor	8	53	660441	.....Oil Seal	2	35
660375	.....Bracket / Oil Filter.....	9	53	660442	.....Shaft / Needle Drive	3	37
660376	.....Lubrication Block	10	53	660443	.....Balance Weight	4	37
660377	.....Screw	11	53	660444	.....Holder	1	37
660378	.....Oil Flow Adjust Pin	12	53	660445	.....Needle Holder Guide	2	37
660379	.....By-Pass Complete.....	13	53	660446	.....Ndle. Plate Bracket Assy	3	39
660380	.....By-Pass Pipe.....	14	53	660447	.....Ndle. Plate Support Complete	4	39

PARTS INDEX • *Left Sewing Head (Continued)*

Part #	Description	Ref #	Page	Part #	Description	Ref #	Page
660448	Needle Guard (Front)	5	39	660503	Bracket	14	41
660449	Needle Guard (Rear)	6	39	660503	Bracket	15	55
660450	Needle Guard (Front)	7	39	660504	Oil Felt	16	55
660451	Needle Guard (Rear)	8	39	660505	Oil Tube	17	55
660452	Needle Guard Bracket	9	39	660506	Plug	29	29
660453	Needle Thread Guide	10	39	660507	Washer / Oil Level Gauge	30	53
660454	Needle Thread Guide	11	39	660508	Washer	31	49
660455	Needle Thread Guide	12	39	660509	Pin	28	29
660455	Needle Thread Guide	13	39	660510	Presser Foot Spring	29	51
660456	Upper Looper Crank / Hi Lift	14	41	660511	Ball Bearing	30	35
660457	Bushing	15	41	660512	Ball Bearing Retainer	31	35
660458	Base/Upper Looper Holder Guide	16	41	660513	Flat Ring	32	35
660459	Looper Thread Guide Plate	17	41	660515	Cover	33	33
660460	Upper Looper Thread Take-Up	18	41	660516	Cover	34	33
660461	Lower Looper Crank / Hi Lift	19	43	660517	Worm Wheel	35	53
660462	Lower Looper screw	20	43	660518	Bushing	36	35
660463	Crank / Feed Drive	21	45	660519	Needle Thread Take-Up	37	39
660464	Crank / Main Feed	22	47	660520	Needle Guard (Rear)	38	39
660465	Main Feed Bar	23	47	660520	Movable Needle Guard	39	39
660466	Bracket / Main Feed Dog	24	47	660521	Lower Looper Lever	40	43
660467	Diff. Feed Crank Complete	25	47	660522	Lower Looper Thread Guide	41	43
660468	Link / Diff. Feed	26	47	660523	Lower Looper Thread Guide	42	43
660469	Diff. Feed Bar	27	47	660524	Lower Looper Thread Take-Up	43	43
660470	Link / Diff. Feed Regulating	28	45	660525	Pump Complete	44	53
660471	Lever / Diff. Feed Regulating	29	45	660526	Needle Thread Lubricator	1	55
660472	Shaft / Diff. Feed Regulating	30	45	660527	Thread Guide	2	55
660473	Spring	31	45	660528	Bracket	3	55
660474	Lever / Diff. Feed Regulating	32	45	660529	Oil Tube	4	55
660475	Indication Plate	33	45	660530	Foot Lift Lever	5	51
660476	Diff. Feed Regulating Base	34	45	660531	Spring	6	51
660477	Feed Bar Guide	35	47	660532	Front Cover	7	33
660478	Feed Bar Guide	36	47	660533	Needle Plate	8	39
660479	Guide / Feed Bar Oil Seal	37	47	660534	Needle Guard (Front)	9	39
660480	Crank / Upper Knife Drive	38	49	660535	Bracket / Ndle.Guard (Rear)	10	39
660481	Upper Knife Clamp	39	49	660536	Main Feed Dog Complete	11	47
660482	Lower Knife Holder	40	49	660537	Diff. Feed Dog	12	47
660483	Spring Retainer / Lower Knife	41	49	660538	Crank / Upper Knife Drive	13	49
660484	Presser Arm	1	51	660539	Upper Knife Clamp	14	49
660485	Intermediate Lever	2	51	660540	Lower Knife Holder	15	49
660485	Presser Bar	3	51	660541	Stopper / Presser Foot	55	51
660486	Spring	4	51	660542	Screw	56	51
660487	Pump	5	53	660543	Finger	57	51
660488	Oil Reserve	6	53	660544	Uncurler	58	51
660489	Needle Collar	7	55	660545	Fabric Guard	42	51
660490	Stopper	8	45	660545	Fabric Guard	43	51
660491	Upper Looper	9	41	660546	Needle Thread Guide	44	39
660492	Silicone Oil Reservoir Complete	10	55	660547	Needle Thread Guide	45	39
660493	Oil Reservoir Complete	11	53	660548	Needle Guide / Ndle. Holder	46	39
660494	Air Guide	12	53	660549	Needle Cooler	47	55
660495	Cloth Plate	29	31	660550	Bracket / Needle Cooler	48	55
660496	Plug	26	31	660551	Lower Looper Crank / Std. Lift	49	43
660497	Upper Looper Crank / Std. Lift	27	41	660552	Stopper / Front Cover	41	33
660499	Nut	11	31	660553	Ratchet Wheel Complete	42	45
660501	Binder (Specify Size)	12	55	660555	Upper Looper Holder Base	73	41
660502	Binder Bracket	13	55	660556	Oil Felt	74	41

PARTS INDEX • Left Sewing Head (Continued)

Part #	Description	Ref #	Page	Part #	Description	Ref #	Page
660557	Oil Distributor	75	53	660616	Screw	4	45
660558	Type Plate	30	29	660617	Screw	28	31
660559	Needle Plate Support	64	39	660618	Screw	29	51
660560	Plug	65	37	660619	Screw	3	31
660561	Screw	66	39	660620	Screw	4	39
660562	Screw	67	39	660621	Screw	5	37
660563	screw	68	41	660622	Screw	6	45
660563	Screw	69	43	660623	Screw	7	43
660563	Screw	70	51	660624	Screw	16	31
660564	Screw	19	31	660625	Screw	17	47
660565	Screw	20	35	660626	Screw	18	39
660566	Screw	20	31	660626	Screw	19	39
660566	Screw	21	35	660627	Screw	25	35
660566	Screw	22	39	660628	Screw	26	45
660567	Float	23	53	660629	Screw	27	39
660568	Eyelet	24	41	660629	Screw	28	39
660568	Eyelet	25	43	660630	Screw	29	41
660569	Silicone Oil Reservoir	26	55	660631	Hinge / Presser Arm	30	51
660570	Silicone Oil Regulator	27	55	660632	Shaft / Foot Lift	9	51
660571	Cap	28	55	660633	Link / Foot Lift Lever	10	51
660572	Collar	29	45	660634	Spring	11	51
660573	Presser Foot Holder	30	51	660635	Upper Looper Thread Guide	12	41
660574	Oil Filter Cap	31	53	660637	Stopper / Presser Arm	13	51
660575	Pin	32	37	660638	Magnet	14	53
660576	Machine Bed Complete	34	29	660639	Name Plate	32	49
660577	Machine Arm (Left)	8	29	660639	Magnet Bracket	33	53
660578	Machine Arm (Right)	4	29	660640	Oil Pipe	12	29
660580	Looper Avoiding Eccentric	5	45	660641	Thread Tension Complete	1	39
660581	Pulley	6	35	660642	Thread Tension Complete	2	43
660582	Feed Eccentric Retainer	7	45	660643	Thread Tension Complete	52	41
660583	Machine Bed Complete	35	29	660644	Thumbnut	53	45
660584	Machine Bed	1	29	660646	Guide / Diff. Feed Reg. Bar	54	45
660585	Ndle.Thread Lubricator Complete	2	55	730047	Ball Bearing	55	35
660586	Screw	3	51	730048	O-Ring	56	35
660590	Screw	3	29	730048	O-Ring	57	37
660597	Screw	4	51	730050	Hook Spring	58	33
660597	Screw	5	51	730052	Pin	31	29
660600	Screw	6	35	730053	Retaining Ring	32	35
660601	Screw	7	37	730061	Disc	33	39
660605	Screw	8	51	730061	Disc	34	41
660606	Screw	9	33	730061	Disc	35	43
660606	Screw	1	53	730094	Stop Ring	36	37
660607	Screw	2	33	730098	Washer	37	43
660608	Bolt	3	53	730111	Bushing	38	37
660609	Screw	4	33	730114	Needle Holder	39	39
660610	Screw	5	51	730116	Bushing	48	43
660611	Screw	6	41	730137	Chaincutter	49	51
660612	Stud	7	55	730142	Plug	50	43
660613	Nut	8	51	730167	Upper Knife Lever	51	49
660614	Screw	2	29	730204	Bushing	49	43
660615	Screw	3	43	PSM-130	Needle	50	39

PARTS INDEX • Right Sewing Head

Part #	Description	Ref #	Page	Part #	Description	Ref #	Page
240305	RUBBER BUMPER	63	63	611460	DISC	68	6
314100	DIFF. FEED SHAFT	77	53	611460	DISC	69	28
314365	FABRIC GUARD	63	21	611480	BEARING	67	17
610040	SCREW	67	22	611520	OIL SPLASH SCREW	85	7
610040	SCREW	85	46	611560	CLAMP SCREW NUT WASHER	75	20
610040	SCREW	75	3	611580	OIL WICK	75	53
610060	SCREW	73	27*	611600	OIL WICK	70	7
610100	SCREW	67	33	611600	OIL WICK	73	20
610100	SCREW	79	15	611620	SCREW	73	15
610100	HOUSING CAP SCREW	75	32	611620	SCREW	69	8
610100	SCREW	83	15	611620	SCREW	81	20
610100	GUIDE SCREW	83	35	611620	CRANK SCREW	75	5
610120	SCREW	79	18	611640	SPACER SCREW WASHER	65	14
610120	SCREWS	68	52	611640	GUIDE SCREW WASHER	69	6
610120	SCREW	69	21	611640	WASHER	69	13
610135	SCREW	73	50	611640	GUIDE SCREW WASHER	75	8
610140	SCREW	70	25	611640	WASHER	75	12
610180	SCREW	81	36	611660	WASHER	85	19
610200	SCREW	77	57	611720	GUIDE	73	45
610200	HINGE SCREW SHORT	63	35	611740	RETAINING RING	77	34
610200	LOCK SPRING SCREW	65	25	611740	RETAINING RING	77	42
610220	LOCK SPRING SCREW	63	26	611760	WASHER	65	7
610420	SCREW	71	31	611780	SPRING PLUNGER	81	30
610420	SET SCREW	65	9	611800	HINGE PIN	81	33
610420	COLLAR SCREW	81	18	611820	HINGE PIN	63	24
610440	PIN SCREW	83	6	611840	REGULATOR	81	38
610480	WASHER	83	19	611870	RETAINER BRACKET	73	60
610500	POST	71	35	611880	TAKEUP	73	49
610520	SPRING	71	33	611900	PIN WASHER	81	23
610560	SCREW	65	38	611920	GUIDE	71	36
610560	SCREW	68	18	611940	WASHER	77	61
610560	SCREW	68	22	611960	AUXILIARY SCREW WASHER	75	50
610680	CUSHION RUBBER	63	29	612000	OIL SIGHT GAUGE	66	17
610700	CLAMP SCREW	75	36	612040	BALL BEARING	67	25
610760	GUIDE	73	46	612060	BUSHING (LARGE)	67	24
610780	CLAMP STUD NUT WASHER	83	26	612080	BUSHING (CENTER)	67	21
610860	OIL SPLASH SCREW	85	2	612100	WASHER	67	16
610900	LOCK SPRING SCREW WASHER	65	26	612120	SPACER	67	15
610920	HINGE PIN STOP RING	63	38	612140	BALL BEARING	67	14
610960	PIN	73	18	612180	GASKET	67	12
610980	PIN	66	3	612200	WASHER	67	5
611040	SPRING (HEAVY)	68	4	612260	CONNECTION	73	2
611060	EYELET	63	61	612280	CRANK	75	4
611100	THRUST COLLAR	71	16	612300	OIL SEAL	77	52
611100	THRUST COLLAR	79	1	612300	BUSHING (FRONT) OIL SEAL	75	14
611100	COLLAR	81	17	612340	RIGHT LOOPER LEVER CRANK	75	17
611120	SPRING (LIGHT)	68	9	612380	BUSHING (FRONT)	75	28
611160	GUIDE	69	4	612480	NEEDLE BEARING	77	7
611160	GUIDE	75	6	612490	FEED DRIVE CRANK	77	2
611180	SPRING (MEDIUM)	68	11	612520	LOOPER LEVER	70	21
611180	SPRING (MODULE)	69	25	612540	LOOPER THREAD TAKEUP	71	20
611220	THRUST WASHER	73	9	612560	GUIDE	71	22
611240	UPPER KNIFE-CARB. TIPPED	83	18	612580	LOOPER THREAD GUIDE BRACKET	71	23
611260	THRUST COLLAR	65	8	612600	LOOPER THREAD TUBE	71	30
611420	SPRING	81	34	612620	FEED DRIVE CONNECTION	77	1
611440	CRANK (REAR)	73	6	612640	THRUST WASHER	79	5
611460	DISC	71	34	612640	THRUST WASHER	69	11

PARTS INDEX • Right Sewing Head (Continued)

Part #	Description	Ref #	Page	Part #	Description	Ref #	Page
612640	THRUST WASHER	75	10	614081	NEEDLE PLATE BRACKET	68	50
612680	BUSHING	79	21	614120	COLLAR	77	47
612700	BUSHING SCREW WASHER	79	23	614140	DIFF. FEED REG. LEVER	77	54
612720	CONNECTING LINK	79	22	614160	REGULATING SPRING	77	50
612730	FEED BAR	79	13	614180	SCREW PIN	77	48
612740	DIFFERENTIAL FEED BAR	79	16	614200	NEEDLE GUARD, REAR	68	26
612760	FEED BAR HINGE PIN	79	10	614220	NEEDLE GUARD, FRONT	68	24
612780	FEED BAR GUIDE BUSHING	79	7	614240	NEEDLE GUARD BRACKET	68	27
612800	DIFF. FEED REG. LEVER	77	45	614280	OIL FILTER	66	15
612820	DIFF. FEED REG. LINK	77	43	614300	WASHER	85	21
612840	REGULATING PLATE	77	59	614320	LIFT BLOCK (SPLIT)	79	12
612860	STOPPER	77	58	614360	PLUG	66	13
612880	UPPER KNIFE DRIVE CONN	83	1	614360	PLUG	66	16
612900	PIN	83	5	614430	SPACER	65	35
613000	UPPER KNIFE DRIVE CRANK	83	3	614440	SPACER	65	12
613020	BUSHING (RIGHT)	83	11	614480	THUMB NUT	77	62
613060	PIN	83	16	614520	CRANKSHAFT EXTENSION	67	28
613080	SPRING	83	30	614540	LOOPER AVOIDING SHAFT	71	13
613100	SPRING SEAT	83	31	614580	HOUSING	67	30
613120	GUIDE	83	33	614600	LEVER (FRONT)	77	55
613140	LOWER KNIFE-STEEL	83	36	614620	LEFT LOOPER THREAD TAKEUP	69	31
613160	CLAMP STUD	83	24	614640	AUXILIARY EYELET	75	48
613185	NEEDLE BAR	73	57	614680	FOOT LIFT CAM	81	41
613200	REGULATOR	70	26	614700	BUSHING	81	42
613220	FOOT LIFT LEVER	81	35	614760	PIN	77	5
613240	SPRING	81	40	614760	PIN	73	4
613320	"O" RING	85	34	614815	THRUST COLLAR	83	8
613360	SCREW	85	4	614820	OIL SPLASH SIGHT WINDOW	63	5
613360	WORM WHEEL	85	31	614880	HINGE	63	34
613440	OIL DISTRIBUTOR	85	1	614900	HINGE PIN	63	37
613460	OIL SPLASH PIPE COMPLETE	85	6	614920	HINGE SPRING	63	40
613520	LOCK SPRING	65	24	614960	LOOPER AVOIDING LINK	70	12
613530	LOCK SPRING LATCH	63	27	614980	PIN	70	14
613540	CUSHION RUBBER LEFT	65	28	615000	BLOCK	70	15
613560	CUSHION RUBBER FRONT	65	30	615020	THRUST WASHER	70	17
613580	GASKET	66	4	615040	COLLAR	70	18
613600	OIL FELT	75	27	615100	GUIDE	75	26
613640	CLAMP SCREW WASHER	70	23	615140	FEED BAR GUIDE (RIGHT)	79	25
613640	WASHER	70	28	615160	FEED BAR OIL SPLASH GUARD	79	31
613640	CLAMP SCREW WASHER	69	19	615180	INSERT PLATE	79	30
613680	GASKET	67	32	615200	GASKET	79	28
613700	TAKEUP EYELET	71	26	615220	HOUSING CAP	75	31
613720	LOWER KNIFE-CARBIDE	83	22	615240	LEFT LOOPER DRIVE CRANK	69	7
613780	WASHER	79	19	615280	LINK	70	3
613880	GEAR PUMP COMPLETE	85	30	615300	LINK PIN	70	4
613920	BUSHING (LOWER)	73	28	615320	LOOPER DRIVE SHAFT	70	8
613922	KEY	68	49	615390	WASHER	83	10
613923	NEEDLE PLATE SUPPORT	68	56	615400	SHAFT	73	13
613923	FRONT NEEDLE GUARD	68	58	615420	BUSHING (LEFT)	73	11
613925	SCREW	68	59	615440	BUSHING (RIGHT)	73	1
613927	BRACKET	68	51	615460	OIL SEAL	73	12
614000	RIGHT LOOPER LEVER	69	17	615480	PIN	75	21
614040	RETAINER BRACKET	73	42	615540	"O" RING	67	10
614045	NEEDLE PLATE	68	45	615560	DIFF. FEED REG. ASSY. (REF:#36-41)	77	35
614055	HOUSING	67	34	615580	SEGMENT (CRANK)	77	38
614060	THREAD GUIDE	73	52	615600	BLOCK	77	36
614080	FEED BAR SHAFT	79	4	615620	BLOCK COVER	77	40

PARTS INDEX • Right Sewing Head (Continued)

Part #	Description	Ref #	Page	Part #	Description	Ref #	Page
615740	PIN NUT WASHER	71	6	617260	UPPER KNIFE LEVER	83	12
615760	BUSHING (FRONT)	75	13	617280	NEEDLE BAR	73	32
615820	BUSHING FRONT	70	9	617340	SPRING	73	47
615900	LEVER	81	19	617360	PLUG	66	22
615920	PIN	81	21	617400	CHAIN FINGER	68	20
615940	PIN SPRING	81	22	617440	SCREW	79	8
615960	REGULATING SCREW STUD	81	43	617440	BUSHING SCREW	81	16
616000	RIGHT LOOPER LEVER	75	25	617540	THRUST WASHER SCREW	69	12
616100	BED COVER PLATE RIGHT	63	18	617540	THRUST WASHER SCREW	75	11
616120	GASKET	63	20	617600	SCREW	75	2
616140	CRANKSHAFT	67	18	618120	SPACER SCREW	65	13
616160	LEFT LOOPER DRIVE CONN	69	1	618120	SCREW	69	32
616160	RIGHT LOOPER DRIVE CONN	75	1	618120	SCREW	75	47
616220	LOOPER THREAD GUIDE	71	28	618140	SCREW	65	18
616240	FRONT COVER LEFT	63	43	618160	STOP SCREW	81	44
616260	UPPER KNIFE CLAMP MODIFIED	83	13	618200	AUXILIARY SCREW	75	49
616280	LOWER KNIFE HOLDER	83	28	618220	REGULATOR SCREW	70	27
616340	FD.REG.RACHET ASSY.(REF.#20-24)	77	19	618280	STOP SCREW WASHER	65	16
616360	POSITION GEAR	77	21	618300	LOOPER THREAD TENSION NUT	71	32
616365	POSITION GEAR BRACKET	77	20	618320	NUT	85	45
616400	SPRING	77	24	618325	NUT	73	58
616520	SPRING	77	32	618340	SCREW	71	24
616560	CRANK (FRONT)	73	14	618340	THRUST WASHER SCREW	79	6
616620	BUSHING (REAR)	75	16	618340	SCREW	63	15
616640	FACE PLATE	65	5	618340	SCREW	63	21A
616660	THREAD TAKEUP	75	46	618340	SCREW	63	28
616680	NUT	68	2	618340	SCREW	65	6
616680	NUT	69	23	618340	SCREW	68	17
616700	SPRING BUSHING	68	3	618340	SCREWS	68	46
616700	SPRING BUSHING	69	24	618340	SCREW	83	29
616720	CUSHION FELT	68	7	618350	THRUST COLLAR SCREW	83	9
616720	CUSHION FELT	69	27	618380	SCREW	68	25
616740	SPRING CUP	68	5	618380	SCREW	75	52
616740	SPRING CUP	69	26	618400	SCREW	65	29
616770	OIL SEAL COLLAR	67	9	618420	SCREW	77	41
616775	PLATE	67	11	618420	SCREW	68	23
616780	GUIDE	81	26	618420	BUSHING SCREW	81	32
616800	GASKET	63	3	618440	SCREW	73	31
616820	CUSHION	63	4	618460	SCREW	85	32
616840	NEEDLE THREAD TENSION COMPLETE	68	1	618480	SCREW	71	27
616860	THREAD TENSION COMPLETE	69	22	618500	SCREW	66	2
616930	PRESSER ARM	81	64	618520	SCREW	67	2
616960	FOOT LIFT LEVER SHAFT	81	14	618540	SCREW	67	3
616980	BUSHING, COMPLETE	81	15	618560	POST, LONG ENDED	68	10
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

PARTS INDEX • Right Sewing Head (Continued)

Part #	Description	Ref #	Page	Part #	Description	Ref #	Page
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	41
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	11
619180	STOP SCREW	65	37	620032	LOOPER AVOIDING	71	11
619180	STOP SCREW	81	37	620033	SET SCREW	77	11
619200	SCREW	73	3	620033	SET SCREW	77	21
619200	CAP SCREW	83	2	620034	FEED DRIVE ECCENTRIC	77	21
619220	SCREW	73	5	620035	RACHET WHEEL ASSY. (REF:#26-29)	77	21
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	11
619300	SCREW	67	23	620040	LOOPER AVOIDING ECCENTRIC	77	11
619320	CLAMP STUD NUT	83	25	620042	FEED REGULATING ECCENTRIC	77	11
619360	CLAMP SCREW	70	22	620043	BRACKET	77	21
619360	CLAMP SCREW	69	18	620044	WHEEL	77	21
619380	CLAMP SCREW NUT	75	19	620045	SCREW	77	21
619400	GENUINE SCREW	71	21	620052	STOPPER	77	11
619400	BLOCK SCREW	70	16	620053	SPACER	77	31
619400	SET SCREW	77	11	620054	O-RING	77	31
619400	SCREW	73	19	620055	PUSH BUTTON	77	31
619402	SCREWS	68	48	620227	NEEDLE BAR CAP	73	41
619420	SCREW	73	16	620238	RIGHT LOOPER	69	21
619440	CHAIN FINGER SCREW	68	21	620244	SPREADER	75	31
619460	SCREW	77	44	620270	LOOPER	70	21
619480	WASHER SCREW	79	20	629860	SCREW	73	41
619480	PIN SCREW	81	24	630113	NEEDLE HOLDER	73	31
619500	SCREW	77	63	630118	LINK	73	11
619520	LINK PIN SCREW	70	5	630122	MAIN FEED DOG	79	11
619520	SCREW	85	43	630125	DIFFERENTIAL FEED DOG	79	11
619520	SCREW	73	10	640002	SCREW	63	11
619580	SCREW	77	23	640006	THRUST WASHER	69	11
619600	SCREW	66	7	640009	THREAD GUIDE	68	11
619600	SCREW	79	32	640010	THREAD GUIDE	68	11
619600	GUIDE SCREW	75	7	640013	CAP SCREW	69	11
619625	SCREWS	68	47	640014	BUSHING REAR	70	11

PARTS INDEX • Right Sewing Head (Continued)

Part #	Description	Ref #	Page	Part #	Description	Ref #	Page
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 (carbide)
 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

