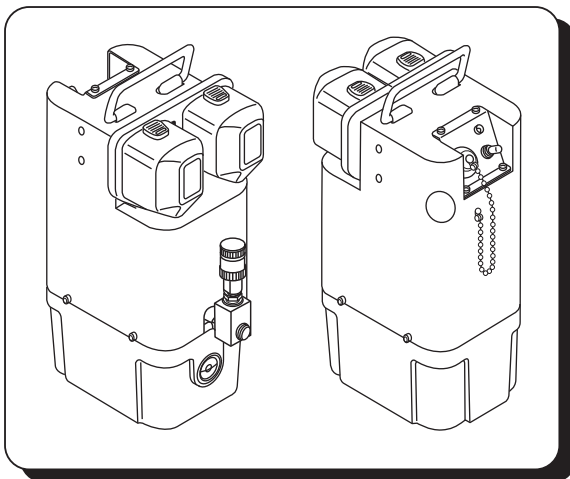


## Operating Instructions for BATTERY OPERATED HYDRAULIC PUMP Catalog Number: 13950-HLI



This Operator's Guide and Service Manual contains details on using the equipment and important notes for its use.

Provided that it is used in accordance with these instructions, the 13950-HLI should provide you with many years of excellent service.

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**IMPORTANT:** Read and understand all of the instructions and safety information in this manual before operating or servicing this tool.

## 1.0

## GENERAL INFORMATION

### 1.1

### DESCRIPTION

Cat. No. 13950-HLI is a high pressure, battery powered hydraulic pump. Properly used and maintained, this pump will give long, safe and satisfactory service. Improper use of this pump can be dangerous. **THIS PUMP SHOULD BE USED ONLY WITH HOSES, TOOLS, FITTINGS AND ACCESSORIES RATED FOR 10,000 PSI. (pounds per square inch) WORKING PRESSURE. (Burst or proof pressures are not working pressure.)**

### 1.2

### SAFETY RULES

**1. BE FAMILIAR WITH YOUR TOOL.**

Read the instruction manual. Become aware of its proper usage as well as the potential hazards.

**2. KEEP WORK AREA CLEAN AND WELL LIT.**

Poor lighting and cluttered areas invite accidents.

**3. USE SAFETY GLASSES.**

**4. DON'T ABUSE TOOL OR HOSE.**

Never carry or yank tool by the hose. Protect hose from heat, oil, sharp edges and heavy weights.

**5. MAINTAIN TOOL WITH CARE.**

Keep tool in good condition at all times. Keep it clean for best and safest performance.

**6. DISCONNECT PUMP FROM POWER SUPPLY** When not operating tool or when performing any type of service or repair.

**7. AVOID ACCIDENTAL STARTING.**

Remove hand or foot from control switch when not actually operating tool.

**8. DON'T OVER-REACH.**

Keep proper footing and balance at all times.

**9. BENCH MOUNT OR HANG TOOL ON A TOOL BALANCER.**

This frees the operator to better operate the tool.

**10. NEVER ATTEMPT TO MAKE A CONNECTION TO A "HOT" LINE.**

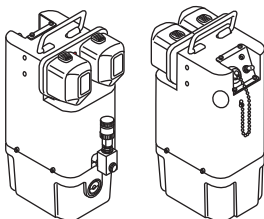
Never assume the power is **OFF!** Determine beforehand if any electrical hazards could exist when making a connection to a line or wire.

## 2.0

## PARTS & ACCESSORIES

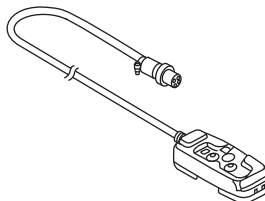
### 2.1

#### PUMP (13950-HLI)



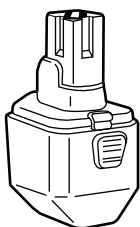
### 2.2

#### REMOTE CONTROL SWITCH



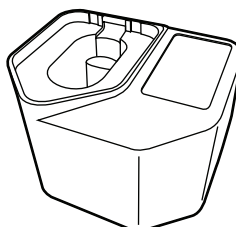
### 2.3

#### BATTERY PACK (144-BP-HLI)



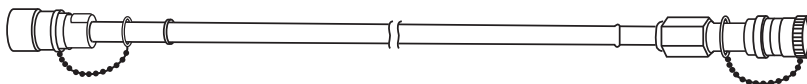
### 2.4

#### CHARGER (144-CHR-HLI)



### 2.5

#### HIGH PRESSURE HOSE



## 3.0

## SPECIFICATIONS

### 3.1

#### PUMP (13950-HLI)

**Pump Type:** Reciprocating Plunger Type

**Drive Unit:** For Single acting cylinders

**Rated Voltage:** 28.8V

**Usage:** Light Duty

**Rated Pressure:** 10,000 P.S.I.

**Oil Delivery:**

**High Pressure stage:**

18 cu. in./min. @10000 P.S.I.

**Low Pressure stage:**

108 cu. in./min. @ 300 P.S.I.

**Hydraulic Oil:** Shell Tellus T15 or Equiv.

**Oil Capacity:** 61 cu.in. (1 Liter)

**Dimensions:** 16" x 6" x 10"

**Weight:** 23 lbs. with 2 Batteries

### 3.2

#### BATTERY PACK (144-BAT-HLI)

**Battery Type:** Sealed Li-ION

**Output:** 14.4 V DC

**Capacity:** 3.0 Ah

**Dimension:** 3.5" L x 3" W x 5.3" H

**Weight:** 1.6 lbs.

## 4.0

## OPERATING INSTRUCTIONS

### 4.1

#### ATTACHING THE BATTERY

- 1) While pressing the latch, pull out the two batteries. (See Figure 1). To replace the two batteries push them back into place firmly.

**NOTE:** Always be sure to install and use the two batteries at the same time. Two batteries must be inserted into the cartridge slots because they are connected in series to activate 28.8V DC motor.

- 2) After attaching the batteries, check if they are in place securely by pulling the batteries without pressing the latch.

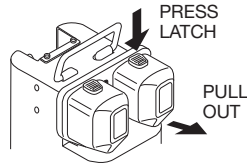


Figure 1

### 4.2

#### ATTACHING THE HYDRAULIC HOSE

- 1) Attach the hydraulic hose to the coupler of the hydraulic pump (See Figure 2).
- 2) Attach the application crimping head to the opposite side of the hose as in Step 1.

- 3) After attaching the hydraulic hose, check the engagement of the couplers. There should be no gap. If the couplers are not engaged properly, the ram will not advance or retract.

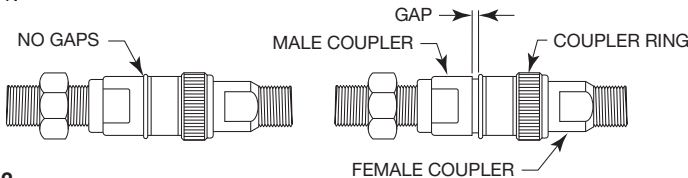


Figure 2

### 4.3

#### ATTACHING THE REMOTE CONTROL CORD

- 1) Attach the remote control cord to the pump.
- 2) Remove the cap from the receptacle at the pump.
- 3) Then insert the plug of the remote control cord and tighten the ring securely (See figure 3).

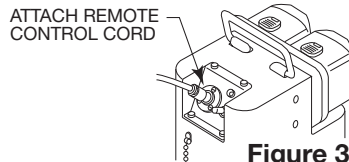


Figure 3

### 4.4

#### OPERATING THE COMPRESSION HEAD

This section describes how to control the pump.

- 1) Press the "UP" bottom on the remote control switch. The piston advances while the button is pressed. To retract the piston, press and hold the "Down" button. (See figure 4).
- 2) When the hydraulic pressure reaches 10,000 PSI, a "click" can be heard, the motor shuts off and compression is completed.
- 3) Press and hold the "Down" button to retract the piston. The operation is completed when the piston is fully retracted to its lowest position.

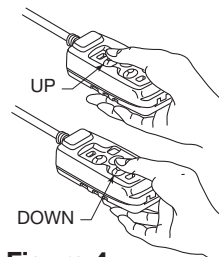


Figure 4

#### 4.5

#### STORING THE PUMP

- 1) Before storing the pump, fully retract the piston of the application crimping head.
- 2) Disconnect the hydraulic hose coupler at the pump and at the application crimping head. Reattach the dust caps to prevent damage or foreign materials from getting into the hydraulic system.
- 3) Remove the batteries.
- 4) Disconnect the remote control cord plug from the pump. Replace the receptacle cover.

#### 4.6

#### IMPORTANT OPERATING PRECAUTIONS

- 1) When connecting a hydraulic coupler, check that no foreign objects are attached to it. If the coupler has become dirty, clean it carefully before connecting it. Engaging the couplers with foreign objects will damage the seals and lead to oil leakage.
- 2) Make sure the hydraulic couplers are connected securely. If the unit is pressurized while the couplers are not connected correctly, there will be a damage to the seals or application crimping head.
- 3) Use the hose supplied with the pump. If using another type of hose is unavoidable, make sure that its length does not exceed 10 feet. The pump is designed for light duty operation. A long hose will overload the pump and cause malfunctions of the pump.
- 4) Although a flexible hose is used, do not bend it while pressure is being applied, or subject it to shocks from metal objects as this will shorten the working life of the hose and may also result in the hose bursting.
- 5) Never pull the hydraulic hose or remote control cord to move the pump.
- 6) If the pump is stored for an extended period below 23°F (-5°C), viscosity of oil increases. To ensure smooth operation, always use the pump after it has been kept at a temperature of 50°F to 77°F (10° to 25°C) for one hour.
- 7) Since the pump is designed for light duty use and uses the battery for power, ***the pump cannot be used continuously.*** Make sure that neither the motor or oil become hot. The pump should be allowed to cool down for 10 minutes after each 20 minute period of use.
- 8) Check the hydraulic oil regularly. Replenish the oil when its level becomes low. Use the designated oil when replenishing the hydraulic oil. **USE ONLY APPROVED HYDRAULIC OIL.**
- 9) The pump is a precision device and should not be dropped or subjected to shocks or other abuse.

## 5.0

## MAINTENANCE AND INSPECTION

### 5.1

### MAINTENANCE AND INSPECTION

- 1) Perform daily maintenance and check up to prevent pump break down.
- 2) Check the hydraulic oil level and its contamination visually through the oil gauge (See Figure 5). Add hydraulic oil as appropriate. If contamination of the oil is observed, replace hydraulic oil completely (approximately 1 liter). Use Shell Tellus T15 hydraulic oil or equivalent.
- 3) When replenishing or replacing the hydraulic oil, remove the air vent (See Figure 5).
- 4) Completely replace the hydraulic oil once every 6 months. **USE ONLY APPROVED HYDRAULIC OIL.**
- 5) Oil leaks may be repaired as follows: Remove the coupler at point of the leak and carefully remove the seal tape from the thread. Then wrap new seal tape one and a half times around the thread. Start wrapping the seal tape 1-2mm from the edge of the thread (See Figure 6). Tighten the coupler back into position with torque 22 - 35 lb. ft.
- 6) If the tool is maintained regularly, it should provide you with trouble free service. If a problem does occur please contact tool service.

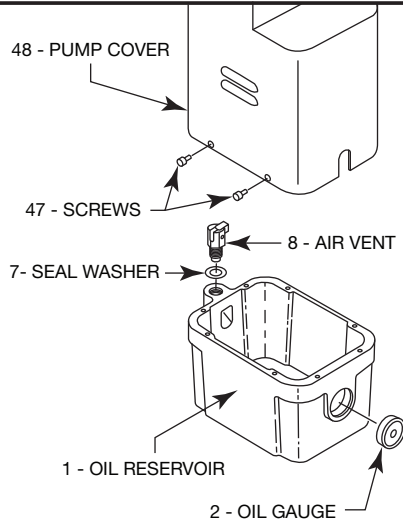


Figure 5

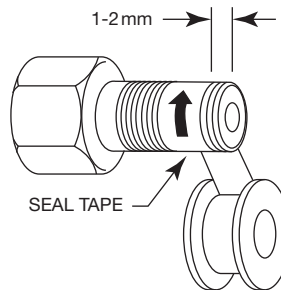


Figure 6

**6.0****TROUBLESHOOTING****6.1****TROUBLESHOOTING**

- 1) The power to this pump is provided by the batteries. If a problem occurs always charge or replace the batteries before considering other causes.
- 2) Low battery power will not allow the pump to pressurize. Again, charge or replace the batteries before considering other causes.
- 3) The oil delivery of this pump is small, so even slight oil leak will affect its performance. Inspect the hose connection to ensure no leaking exists.
- 4) The main causes of malfunctions are:
  - a) One of the parts requires repair
  - b) Contamination of the hydraulic oil
  - c) Clogging of the strainer
  - d) Mechanical wear.

Although repair can be carried out on site, it is recommended that all repairs and maintenance be carried out by our representatives

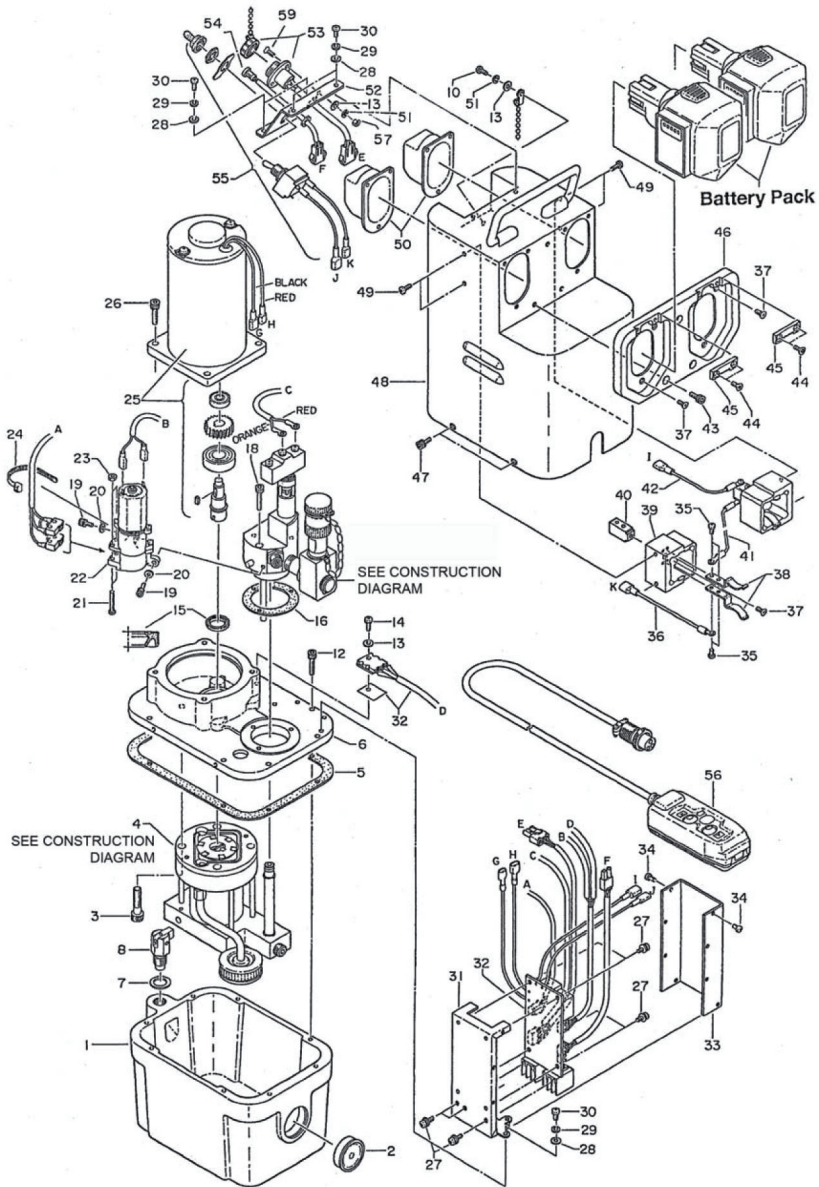
PROBLEM	CAUSE	SOLUTION
<b>When the button is pressed, nothing happens.</b>	<ul style="list-style-type: none"><li>• Defective electrical supply.</li><li>• Defective circuit board.</li><li>• Remote control connection wire is defective.</li></ul>	<ul style="list-style-type: none"><li>• Check electrical connections of battery and remote control cord.</li><li>• Consult tool service.</li><li>• Consult Tool Service.</li></ul>
<b>The pressure does not increase. (No pressure is measured at the head.)</b>	<ul style="list-style-type: none"><li>• Battery failure.</li><li>• Oil leaks.</li><li>• Not enough hydraulic oil.</li><li>• Clogging of the strainer.</li><li>• Pump mechanism broken.</li></ul>	<ul style="list-style-type: none"><li>• Charge or replace the batteries.</li><li>• Repair oil leak.</li><li>• Replenish hydraulic oil.</li><li>• Overhaul and remove blockage.</li><li>• Consult tool service.</li></ul>
<b>It takes a long time for the piston to advance.</b>	<ul style="list-style-type: none"><li>• Battery failure.</li><li>• Oil is hot.</li><li>• Oil leaks.</li><li>• Not enough hydraulic oil.</li><li>• Air is trapped in the hose or head.</li><li>• Pump mechanism broken.</li></ul>	<ul style="list-style-type: none"><li>• Charge or replace the batteries.</li><li>• Allow to cool.</li><li>• Repair leak.</li><li>• Replenish hydraulic oil.</li><li>• Consult tool service.</li><li>• Consult tool service.</li></ul>
<b>The piston does not retract to its lowest position.</b>	<ul style="list-style-type: none"><li>• Hydraulic couplers not fully engaged.</li><li>• Defective circuit board.</li><li>• Remote control connection lead is defective.</li><li>• Pump mechanism broken.</li></ul>	<ul style="list-style-type: none"><li>• Fully engage couplers.</li><li>• Consult tool service.</li><li>• Consult tool service.</li><li>• Consult tool service.</li></ul>

# 7.0

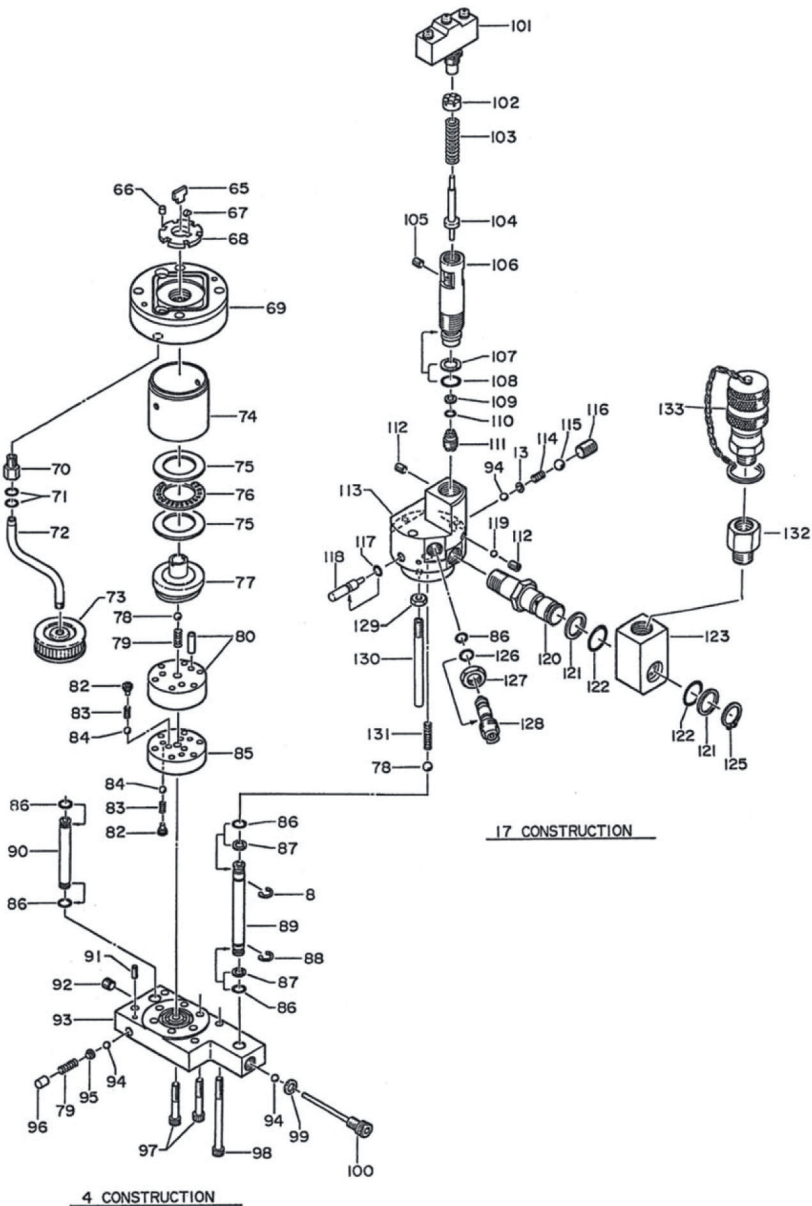
# PARTS BREAKDOWN

## 7.1

## PARTS DIAGRAM MODEL 13950-HLI 1 OF 2







## 7.0

## PARTS BREAKDOWN....Continued

### 7.3

### PARTS LIST MODEL 13950-HLI 1 of 2

NO.	DESCRIPTION	CODE	QTY.	NO.	DESCRIPTION	CODE	QTY.
1	OIL RESERVOIR	RCP-01	1	37	M3 X 8 SCREW (T.P.)	RCP-16	8
2	OIL GAUGE	RF-11	1	38	SOCKET	RCP-17	4
3	M8 X 35 SCREW	32C-02	4	39	CONTACT HOUSING	RCP-18	2
4	PUMP ASS'Y (65 THRU 100)	RCP-02	1	40	CONTACT BLOCK	RCP-19	2
5	GASKET (A)	RCP-03	1	41	WIRE (BLACK)	RCP-20	1
6	MAIN BASE	RCP-04	1	42	WIRE (YELLOW)	RCP-21	1
7	W-14 SI SEAL WASHER	RB-09	1	43	M5 X 18 SCREW	RC33-03	3
8	AIR VENT	13S-21	1	44	M5 X 10 SCREW	Y30-01	4
9	P-9 O-RING (A)	RF-38	1	45	STOPPER PLATE	RCP-22	2
10	M3 X 6 SCREW	13S-23	2	46	BATTERY BRACKET	RCP-23	1
11	AIR VENT NUT	13S-24	1	47	M5 X 10 SCREW	RF1-01	4
12	M5 X 22 SCREW	RF-07	8	48	PUMP COVER	RCP-24A	1
13	M3 FLAT WASHER	16-38	6	49	M3 X 10 SCREW (T.P.)	HR-24	4
14	M3 X 10 SCREW W/LOCK WASHER	RCP-05	1	50	BATTERY RETAINER	RCP-25	2
15	OS17233 OIL SEAL	RB-10	1	51	M3 LOCK WASHER	5N-61	4
16	GASKET (B)	RCP-06	1	52	SWITCH BASE	RCP-26	1
18	M4 X 25 SCREW	E3-100	3	53	RECEPTACLE	RCP-45	1
19	M4 X 10 SCREW	R351-08	2	54	LED LAMP	RCP-46	1
20	M4 FLAT WASHER	16-18	2	55	MAIN SWITCH	RCP-47	1
21	M2.3 X 25 SCREW	ROB-86	2	56	SWITCH ASS'Y	RCP-27	1
22	RELEASE UNIT	RCP-08	1	57	M3 HEX. NUT	RA-21	3
23	M2.3 HEX NUT	P500-22	2	59	M3 X 10 SCREW	E3-118	3
24	SKB-2M SK BINDER	HR-30	1				
25	MOTOR	RCP-09	1				
26	M6 X 20 SCREW	RF1-02	4				
27	M3 X 5 SCREW W/LOCK WASHER	RCP-10	7				
28	M4 FLAT WASHER	E3-101	11				
29	M4 LOCK WASHER	410-07	8				
30	M4 X 8 SCREW	RA-19	8				
31	UNIT BOX (1)	RCP-11	1				
32	CONTROL UNIT	RCP-12	1				
33	UNIT BOX (2)	RCP-13	1				
34	M2.6 X 5 SCREW (T.P.)	RCP-14	8				
35	M3 X 5 SCREW (T.P.)	ROB-94	8				
36	WIRE (RED)	RCP-15	1				

**7.0****PARTS BREAKDOWN****7.4****PARTS LIST MODEL 13950-HLI 2 of 2**

NO.	DESCRIPTION	CODE	QTY.	NO.	DESCRIPTION	CODE	QTY.
65	KEY (1)	RB-30	1	102	ADJUSTING SCREW	RCP-32	1
66	6 X 6 ROLLER	RB-31	6	103	SPRING (632)	RCP-33	1
67	KEY (2)	RB-32	1	104	PUSH PIN	RCP-34	1
68	ROTOR	RB-33	1	105	M3 X 4 SCREW (F.P.)	RCP-35	1
69	VANE CAP	FF-14	1	106	HOLDER	RCP-36	1
70	SUCTION JOINT	RCP-28	1	107	P10A BACK-UP RING (B.C.)	RB-66	1
71	P-8 O-RING	85-34	2	108	P-10A O-RING	RB-65	1
72	SUCTION PIPE	RCP-29	1	109	P-2 BACK-UP RING (B.C.)	RCP-37	1
73	STRAINER	RF-25	1	110	P-2 O-RING	RCP-38	1
74	DRUM	RB-35	1	111	PLUG	RCP-39	1
75	BEARING PLATE AS-1106	RB-36	2	112	M5 X 5 SCREW (F.P.)	510A-05	2
76	NEEDLE THRUST BEARING	RB-37	1	113	VALVE BODY	RCP-40	1
77	CAM ASS'Y	RF-26	1	114	SPRING (76)	16-39	1
78	1/4" BALL	26-22	2	115	9/32" BALL	16-40	1
79	SPRING (70)	RB-44	2	116	M10 X 12 SCREW (F.P.)	40-47	1
80	CYLINDER ASS'Y	RB-46A	1	117	P-3 O-RING	16-36	1
82	SPRING HOLDER	RB-48	6	118	RELEASE PIN	ROB-79	1
83	SPRING (4)	16-48	6	119	5/32" BALL	22-21	1
84	3/16" BALL	16-49	6	120	MALE SWIVEL JOINT	RF-22	1
85	CHECK VALVE (1)	RB-47	1	121	P-16 BACK-UP RING (B.C.)	22-24	2
86	P-7 O-RING	16-60	5	122	P-16 O-RING	22-25	2
87	P-7 BACK-UP RING (B.C.)	RB-49	2	123	FEMALE SWIVEL JOINT	RF-24	1
88	CE-10 SNAP RING	40-16	2	125	JG-16 SNAP RING	RF-23	1
89	HIGH PRESSURE PIPE	RCP-30	1	126	S-8 O-RING	R510A-08	1
90	LOW PRESSURE PIPE	RB-53	1	127	LOCK NUT	RCP-41	1
91	3 X 18 DRIVE PIN (AW)	RF-33	1	128	SAFETY VALVE ASS'Y	RCP-42	1
92	PT 1/8" SCREW	RB-55	1	129	M6 HEX. NUT	RCP-43	1
93	BASE	RF-32	1	130	EXHAUST PIPE	RCP-44	1
94	7/32" BALL	16-26	3	131	SPRING (598)	R150-13	1
95	BALL HOLDER	RB-58	1	132	ADAPTER 3/8" PT-M 3/8" NPT-F	P85-80	1
96	SPRING HOLDER (1)	RB-57	1	133	FEMALE COUPLER	FC-8/DP-8	1
97	M6 X 40 SCREW	RB-61	7				
98	M6 X 80 SCREW	E3-77	4				
99	COPPER GASKET (4)	26-20	1				
100	STOPPER SCREW	RB-60	1				
101	MICRO SWITCH A-20GQ-B	RCP-31	1				

For parts and service, contact the tool service center at 1-800-284-TOOL (8665).

**WARRANTY:** Thomas & Betts sells this product with the understanding that the user will perform all necessary tests to determine the suitability of this product for the user's intended application. Thomas & Betts warrants that this product will be free from defects in materials and workmanship for the period stated on the enclosed warranty card. Upon prompt notification of any warranted defect, Thomas & Betts will, at its option, repair or replace the defective product or refund the purchase price. Proof of purchase is required. Misuse or unauthorized modification of the product voids all warranties.

Limitations and Exclusions: **THE ABOVE WARRANTY IS THE SOLE WARRANTY CONCERNING THIS PRODUCT, AND IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE SPECIFICALLY DISCLAIMED. LIABILITY FOR BREACH OF THE ABOVE WARRANTY IS LIMITED TO COST OF REPAIR OR REPLACEMENT OF THE PRODUCT, AND UNDER NO CIRCUMSTANCES WILL THOMAS & BETTS BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

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