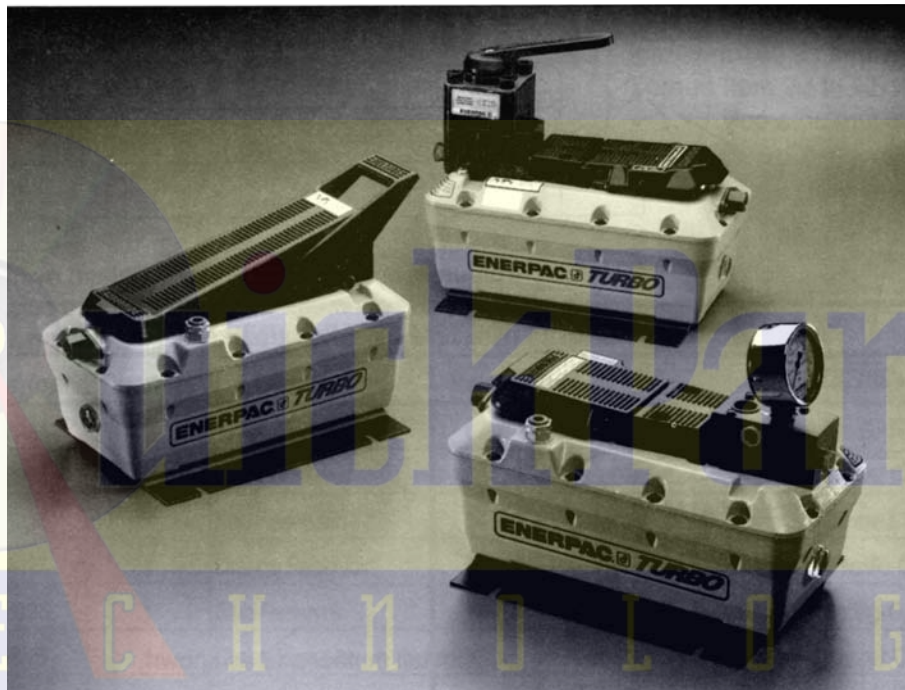


INSTALL ALL KIT COMPONENTS TO INSURE OPTIMUM PERFORMANCE OF THE REPAIRED PUMP.



NOTE: Storing the pump in the verticle position may cause it to loose its prime. If pump looses its prime:

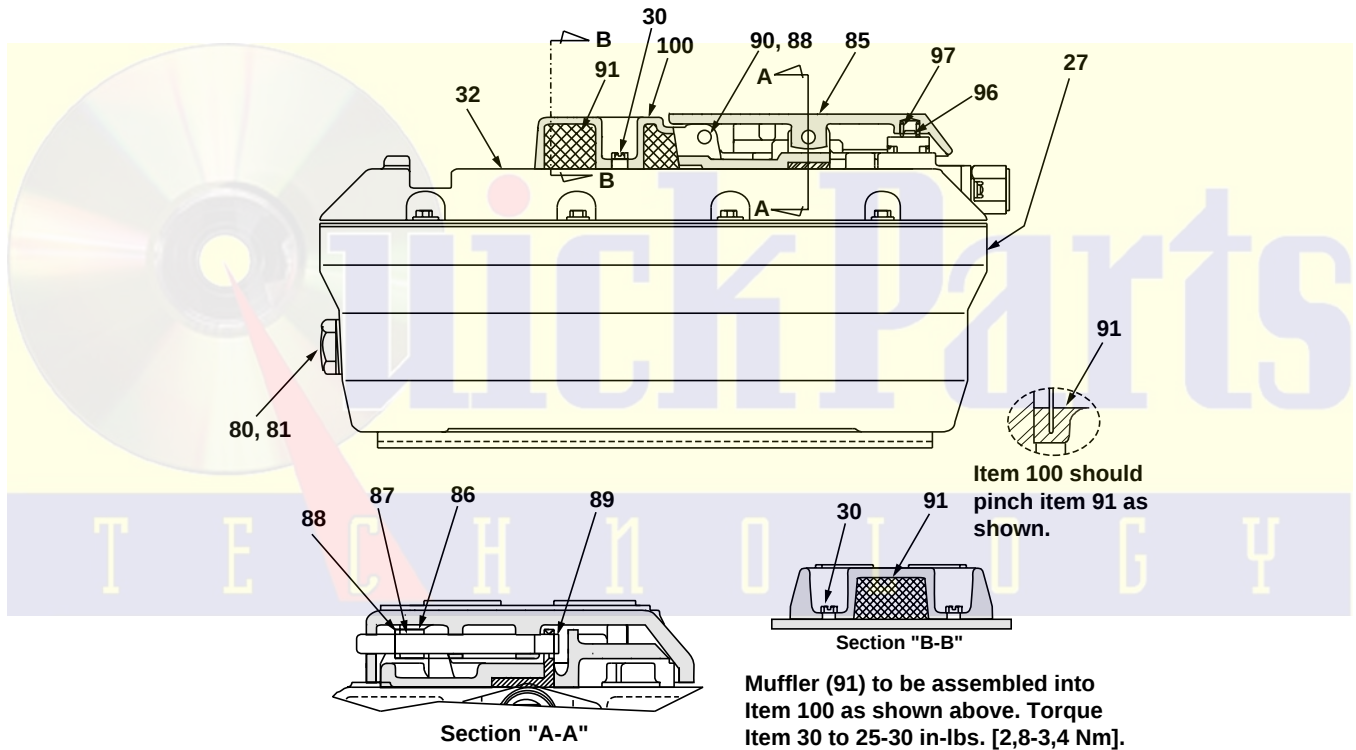
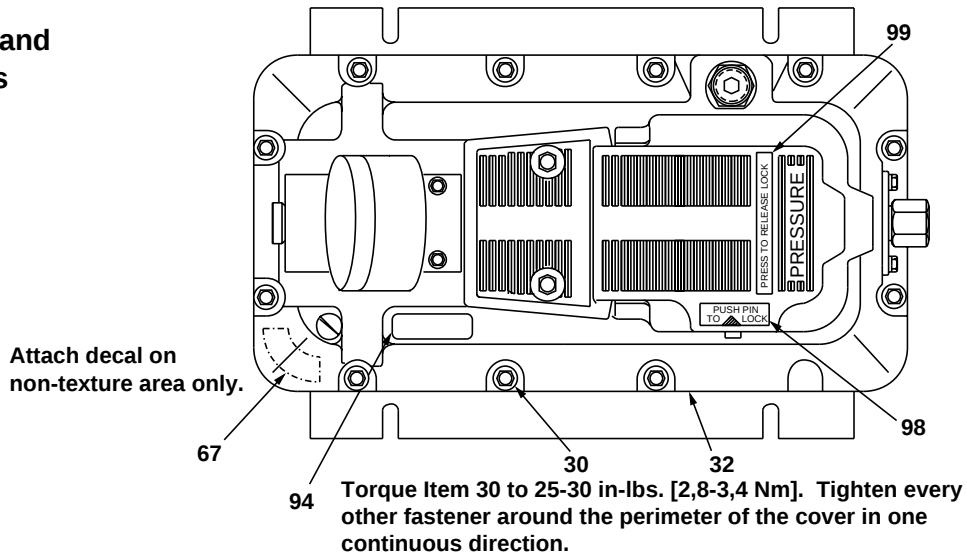
1. Remove cover.
2. Remove relief valve.
3. Fill high pressure tube with oil.
4. Replace relief valve. Apply Loctite 545 to threads and torque to 10-12 ft-lbs.
5. Replace pump cover. Tighten every other fastener around the perimeter of the cover in one continuous direction. Torque screws to 25-30 in-lbs. [2,8-3,4 Nm].

CONTENTS

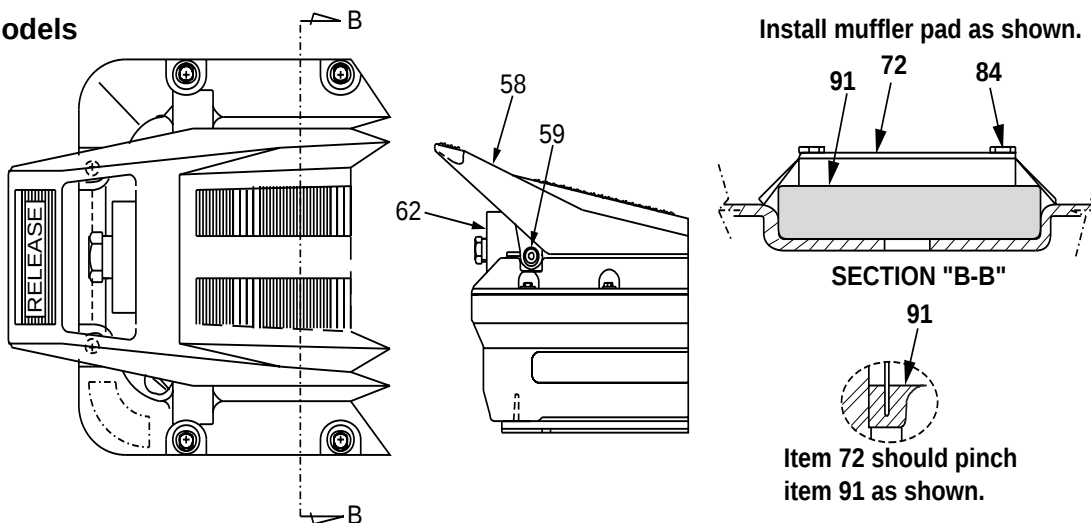
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Figure 1 - Reservoir Cover & Treadle

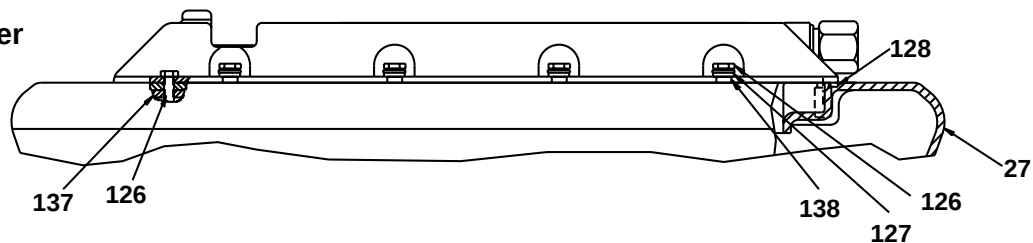
PAC, PAM, and
PAS Models



PAT Models



Models with 5 liter Reservoirs



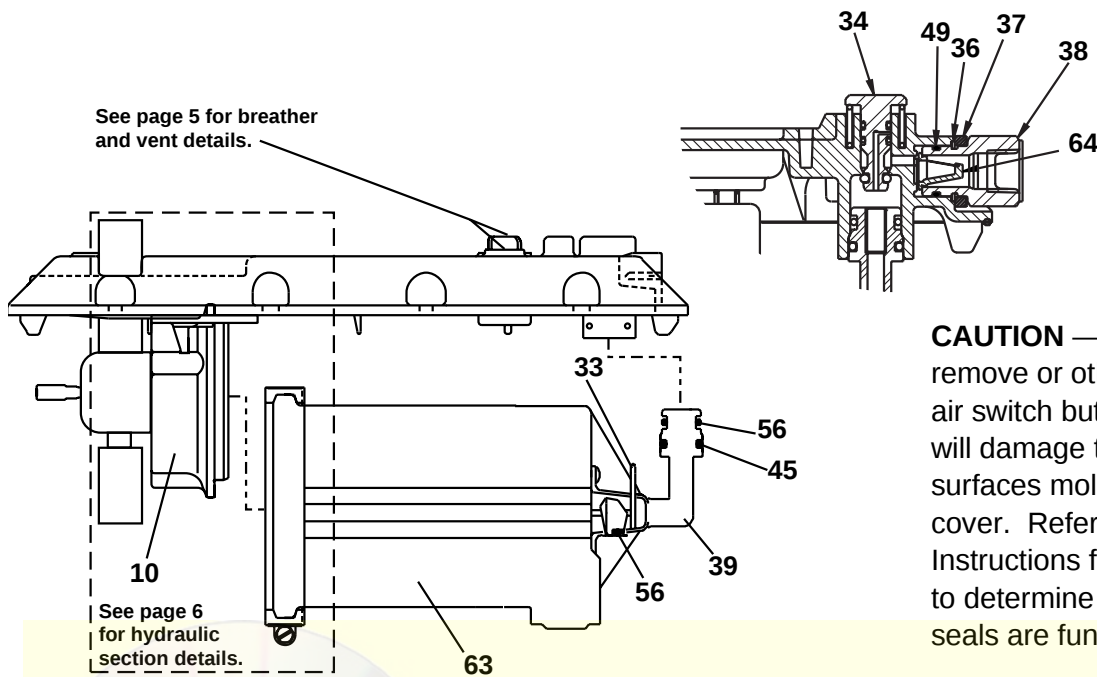
NOTE: To convert from the 2-liter reservoir to the 5-liter reservoir, order conversion kit PTR5L, which contains items 27, 126, 127, 128, 136, 137, and 138.

REPAIR PARTS LIST FOR FIGURE 1

Item	Part Number	Quantity	Description	Item	Part Number	Quantity	Description
27	DA5528025	1	Yellow 2 liter Reservoir	72	DA5690098	1	Muffler Cover-T Models
	DA7902025	1	Black 2 liter Reservoir	80	DC85900SR	1	Sight Glass Assy.
	DA7903025	1	Red 2 liter Reservoir	81	B1016123	1	Nut
	DA7904025	1	Orange 2 liter Reservoir	84	DC1523.028	2	Screw-T Models
	DA7905025	1	Blue 2 liter Reservoir	85	DA7937218	1	Treadle-C,M,S
	DA7906025	1	Green 2 liter Reservoir	86	DA8508110	1	Spring-C,M,S
	DA11095025	1	Translucent 2 liter Reservoir	87	DA8505186	1	Spacer-C,M,S
	DC975286	1	Black 5 liter Reservoir	88	DA8507349	1	Retaining Ring C,M,S Models
30	DA5938028	12	Hi Lo Screw	89	DA7940061	1	Latch Down Pin-C,M,S
32	DA4890020SR	1	Yellow Cover Assembly	90	DA7939061	1	Hinge Pin- C,M,S
See Fig. 2	DA7907020SR	1	Black Cover Assembly	91	DA8625116	1	Muffler- C,M,S,T
	DA79080S20R	1	Red Cover Assembly	94	DA6673026	1	Decal - C,M,S,T
	DA7909020SR	1	Orange Cover Ass'y.	96	DA8670013	1	Spring Guide-C,M,S
	DA7910020SR	1	Blue Cover Assembly	97	DA8506110	1	Spring-C,M,S
	DA7911020SR	1	Green Cover Assembly	98	DA8743026	1	Decal-C,M,S
	DA11098020	1	Translucent Cover Ass'y.	99	DA8744026	1	Decal-C,M,S
58	DA4849218	1	Treadle-T Models	100	DA7935111	1	Mounting Bracket Casting-C,M,S
59	DA4236242	2	Shoulder Screw -T Models only	126	DC1161046	1	Hex Hd. Mach. Screw
62	DA4836900SR	1	Release Valve Assembly (see page 9)	127	★ DC1162108	12	Sealing Washer
67	DA5789026	1	Caution Decal - 2 liter	128	★ DC714517	1	O-Ring Gasket Cover
	DA7931026	1	Caution Decal	137	DC973101	2	Reservoir Cover Plate
				138	★ DC1160186	12	Nylon Spacer

★Items included in and available only as part of Repair Kit. See Table 2 on back cover for Repair Kit ordering information.

Figure 2 - Cover Assembly Side View



CAUTION — Do not attempt to remove or otherwise service the air switch button (34). Removal will damage the sealing surfaces molded in the reservoir cover. Refer to the Service Instructions for test procedure to determine if the air button seals are functioning properly.

Replacement Reservoir Cover Includes:

1. air button assembly (34)
2. reservoir safety relief (44,65,66,75)
3. breather seals (52, 53)
4. reservoir vent (42, 43, 54, 92)
5. valve block-hydraulic tube seals (50, 51)
6. valve block gasket (95)

See Item 32 on page 3 for part numbers for the Replacement Cover Assemblies.

REPAIR PARTS LIST FOR FIGURE 2

Item	Part Number	Quantity	Description	Item	Part Number	Quantity	Description
10	DA4287111	1	Mounting Bracket	39	DA7059900	1	Elbow Assembly
33	★ DC1402017	1	Retaining Ring	45	★ DA5521149	1	Retaining Pin
34	not serviceable	1	Air Button Assembly	49	★ B1220503	1	O-Ring
36	★ DA5026349	1	Retaining Ring	56	★ B1009503	2	O-Ring
37	DA4847799	1	Stamped Bracket	63	DA4283900SR	1	Air Motor Assembly
38	DA5295034	1	Swivel Coupler	64	★ DA5015118SR	1	Filter

★ Items included in and available only as part of Repair Kit. See Table 2 on back cover for Repair Kit ordering information.

Figure 3 - Cover Assembly Tool

Use the cover assembly tool to push the retaining ring (item 132) onto the poppet (item 130).

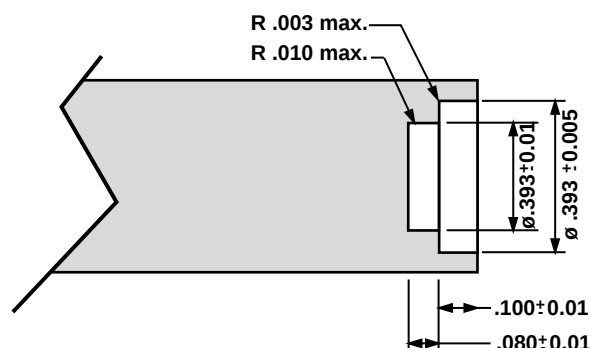
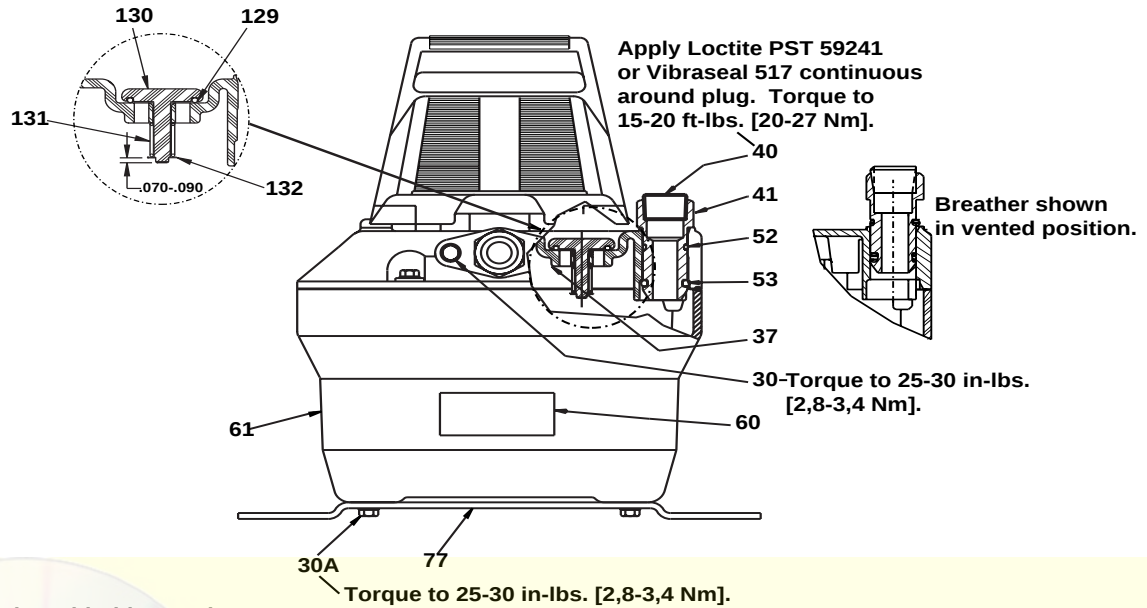
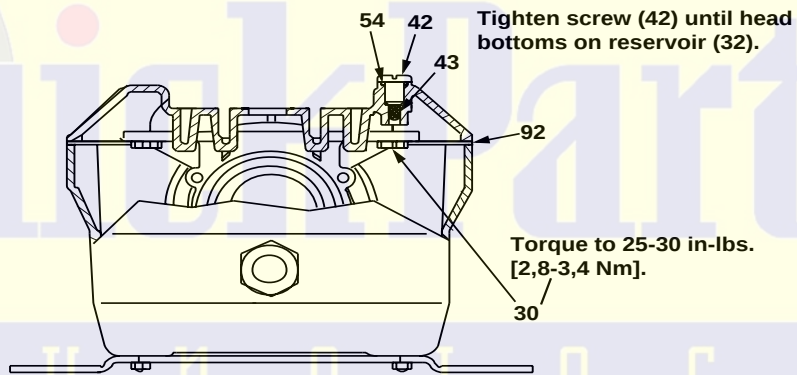
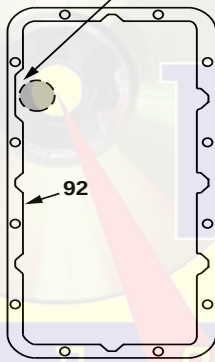


Figure 4 - Reservoir End View



Orient gasket with this opening next to the breather in the reservoir cover.



REPAIR PARTS LIST FOR FIGURE 4

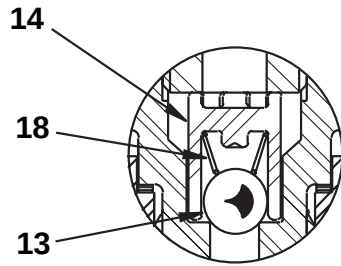
Item	Part Number	Quantity	Description	Item	Part Number	Quantity	Description
30	DA5938028	4	Hi Lo Screw	54	★ B1005503	1	Seal
30A	DA593028	4	Hi Lo Screw - 2 liter	60	DA4296026	1	Model Decal
	F866028	4	Hi Lo Screw - 5 liter	61	DA5529026	2	Enerpac Decal - 2 liter
37	DA4847799	2	Stamped Bracket		DA9348026	2	Enerpac Decal - 5 liter
40	A1009245	1	Plug	77	MTB1	1	Mounting Bracket Kit
41	DA4871118	1	Breather	92	★ DA6328167	1	Reservoir Gasket
42	DC1522.028	1	Pan Head Screw	129	★ B1224503	1	O-Ring
43	DA4390118	1	Filter	130	H DC708440	1	Poppet
52	★ DA5349503	1	Wear Coated O-Ring	131	H DC821110	1	Compression Spring
53	★ B1010503	1	O-Ring	132	★ DC822044	1	Star Washer

★ Items included in and available only as part of Repair Kit. See Table 2 on back cover for Repair Kit ordering information.

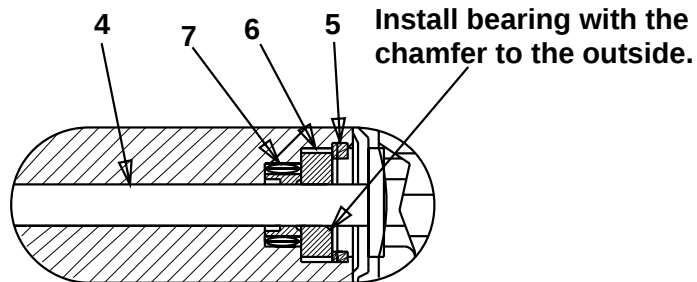
Figure 5 - Hydraulic Section Detail

NOTE: In 3,000 psi Turbo pumps, the step seal, item 7, is very difficult to install without the tools on page 7.

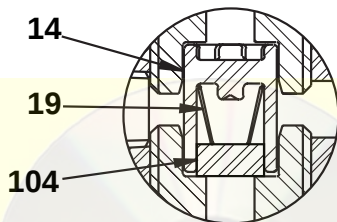
NOTE: On 5,000 psi Turbo pumps, you must have the tool shown on page 7 to install the step seal, item 7.



Detail F



Detail D

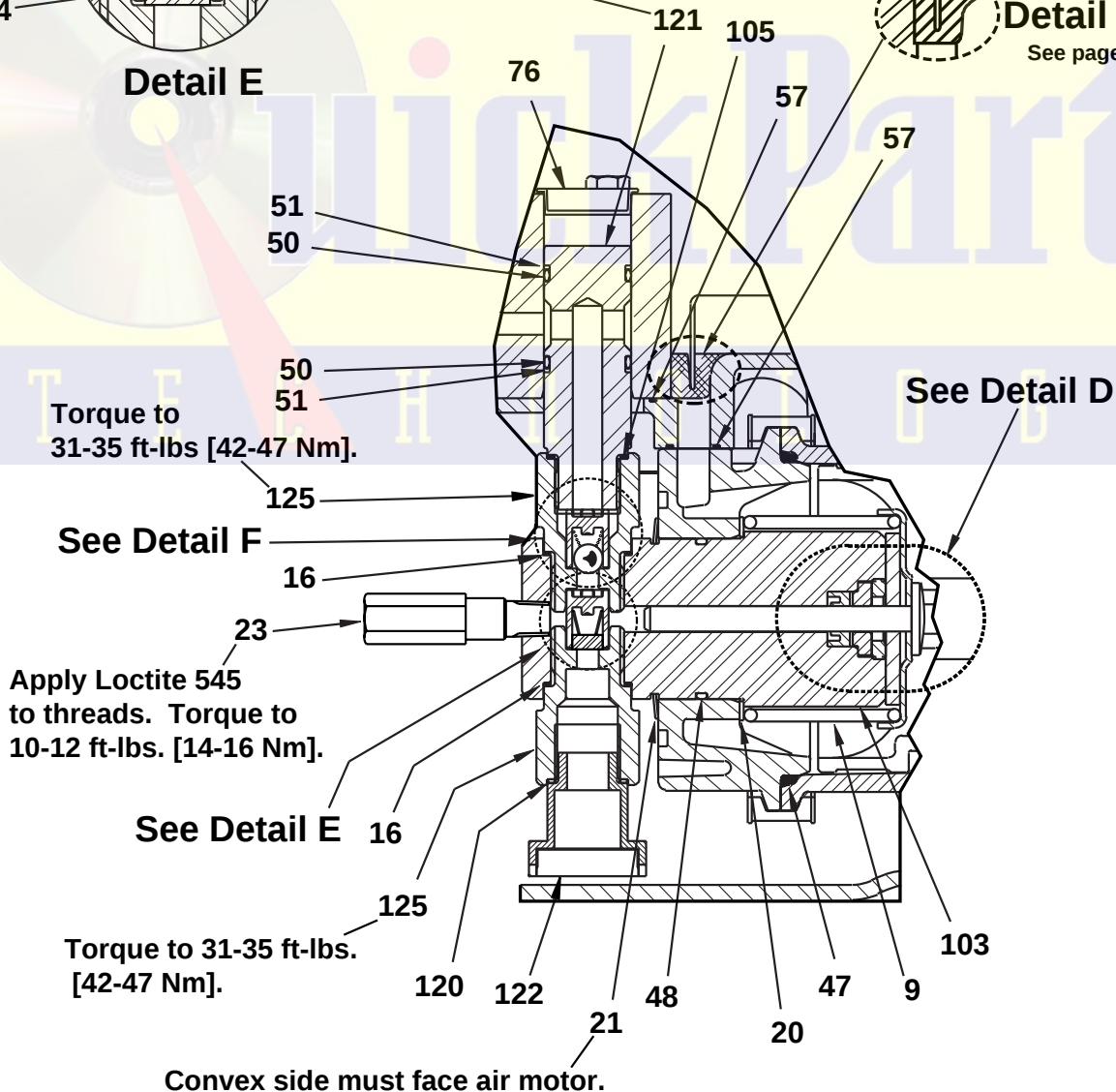


Detail E

Torque to 31-35 ft-lbs. [42-47 Nm].



Detail "J"
See page 2.



REPAIR PARTS LIST FOR FIGURE 5

Item	Part Number	Quantity	Description	Item	Part Number	Quantity	Description
4	DA1219040	1	Plunger (5*)	21	★ DA4343044	1	Bowed Retaining Ring
	CB185040	1	Plunger (3*)	23	DA8802900SR	1	Relief Valve Assembly
5	★ DA1204044	1	Bearing Retainer (5*)	47	★ B1282503	1	O-Ring
	★ DA7888044	1	Bearing Retainer (3*)	48	★ B1258503	1	O-Ring
6	★ DA5352155	1	Back-Up Bearing (5*)	50	★ B1016803	2	O-Ring
	★ DA9056108	1	Back-Up Bearing (3*)	51	H DA4974367	2	Back-Up Ring
7	★ DA5351476	1	Step Seal (5*)	57	★ DA12342037	1	Gasket Set
	★ DA9269476	1	Step Seal (3*)	76	DA5854009	1	Caplug (not w/Man. Vlv.)
8	DA4628108	1	Spring Washer (5*)	79	★ DA5976108	1	Rubber Washer (5*)
	DA9281108	1	Spring Washer (3*)		★ DA9280108	1	Rubber Washer (3*)
9	DA4285110	1	Spring	103	DC115030	1	Hydraulic Cylinder (5*)
13	★ B1007016	1	Ball		DC116030	1	Hydraulic Cylinder (3*)
14	★ DA3682013	2	Ball Guide	104	H DC4440	1	Poppet
16	★ DA3811167	2	Copper Gasket	105	H DC170167	1	Copper Gasket
18	DA4874110	1	Conical Spring	120	H B1221503	1	O-Ring
19	★ DA6911210	1	Conical Spring	121	DC5268SR	1	Pressure Tube
20	DA4298108	1	Washer	122	DC442900SR	1	Intake Tube
				125	DC283290SR	2	Seat

* Indicates first letter of model series — 5000 or 3000.

★ Items included in and available only as part or Repair Kit. See Table 2 on back cover for Repair Kit ordering information.

Figure 6 - 3,000 psi Tool

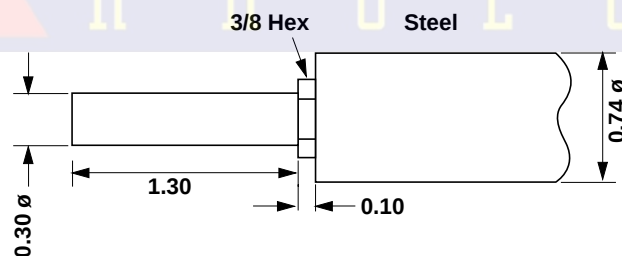


Figure 7 - 5,000 psi Tools

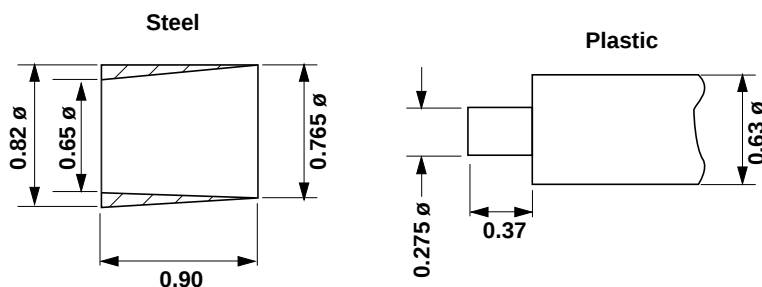
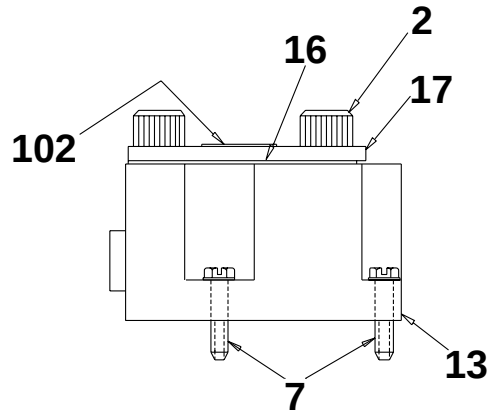


Figure 8 - Pump Manifolds

PAS Models



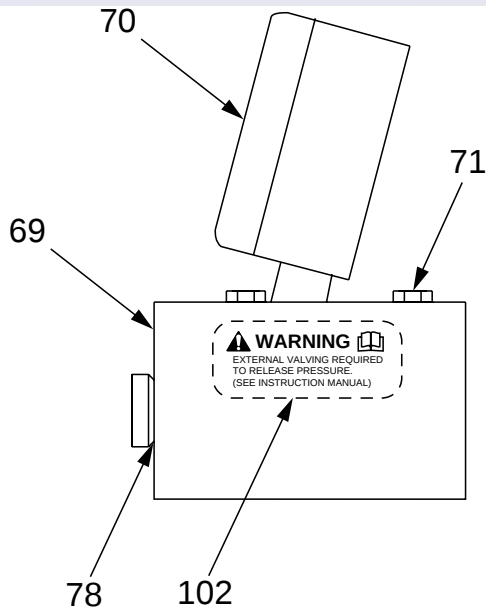
NOTE: Use PAC1053K to service PAS, PAN, and PAQ Model Pumps.

REPAIR PARTS LIST (S MODELS)

Item	Cetop 03—S (SAE #4) Manifold	Quantity	Description
2	B1323028	4	Socket Head Cap Screw
7	DC1523.028	4	Screw
13	DC94840SR	1	Manifold
16	★ DA9787037	1	Gasket
17	DA9788098	1	Cover
102	DA9554026	1	Warning Decal

★ Items included in and available only as part of Repair Kit. See Table 2 on back cover for Repair Kit ordering information.

PAC Models



REPAIR PARTS LIST (PAC MODELS)

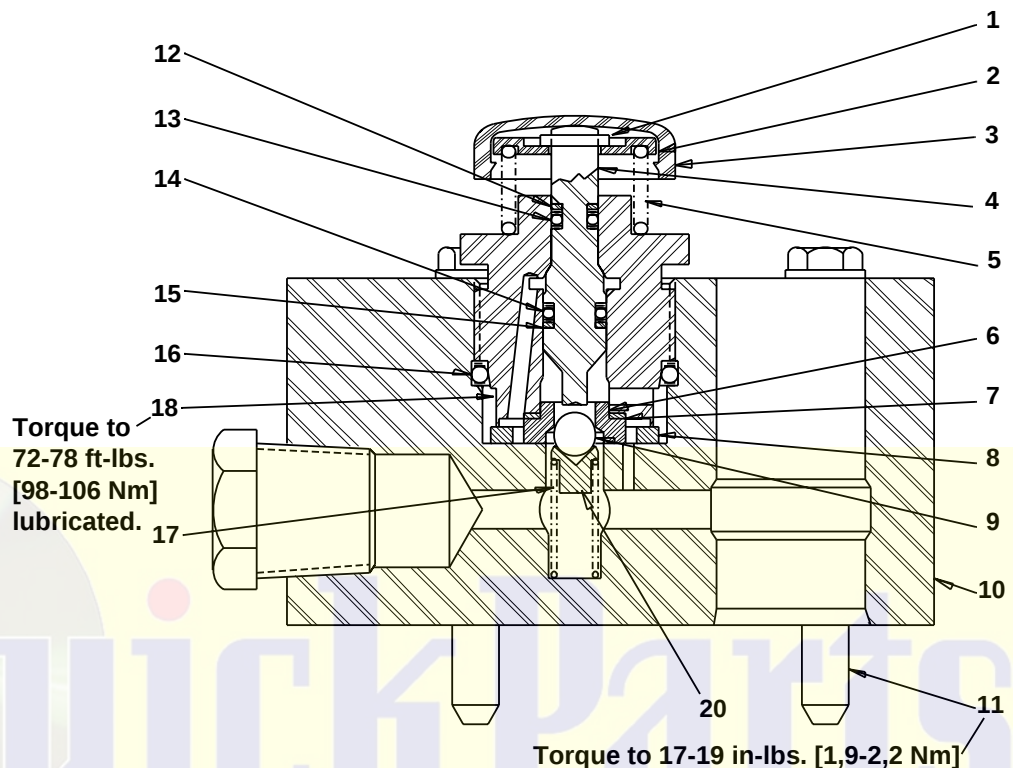
Item	Part Number	Quantity	Description
69	DA5307190	1	Valve Body - SAE Ports
	DA9747190	1	Valve Body-BSPP Ports
70	G2517L	1	2.5" Gauge 0-6,000 psi (SAE only)
70	A1008245	1	Hex Plug (BSPP only)
71	DA4294028	4	Thread Forming Screw
78	★ B1007503	1	O-Ring (SAE only)
102	DA9554026	1	Warning Decal

★ Items included in and available only as part of Repair Kit. See Table 2 on back cover for Repair Kit ordering information.

Figure 9 - Release Valve

NOTE: If the release valve has the letter "S" stamped on the top surface of the valve above the outlet port, the pump was manufactured with a shim washer between the valve body (10) and the ball seat (6). If the pump has this shim, reassemble with shim in place. If the shim is damaged, contact Enerpac Technical Services for a replacement valve assembly.

NOTE: Early production models did not use ball guide (20). When servicing an early production release valve assembly, the ball guide included in the Repair Kit (DA4836900K1) *should be installed.*

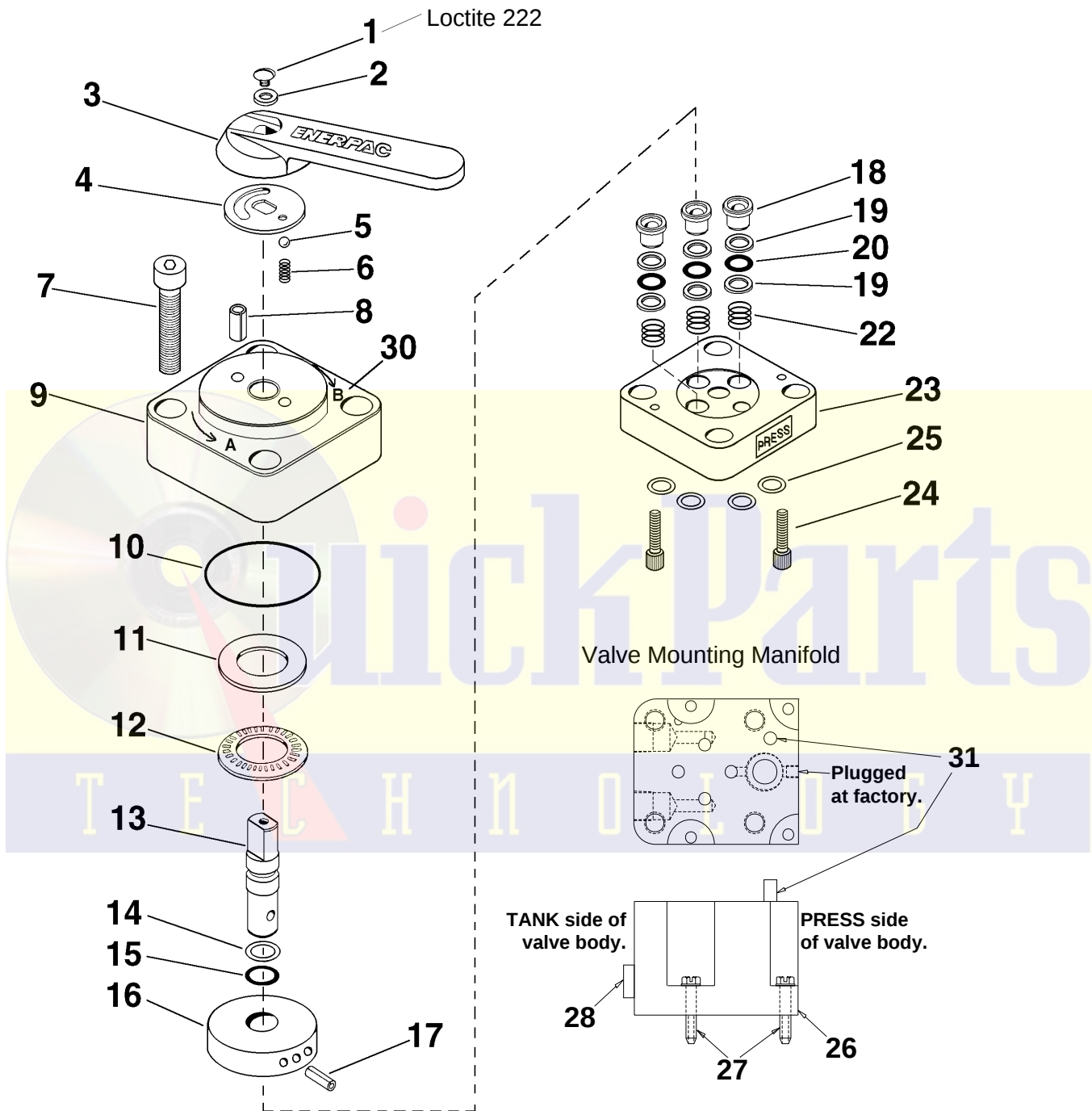


REPAIR PARTS LIST FOR FIGURE 9

Item	Part Number	Qty.	Description	Item	Part Number	Qty.	Description
1	★ DA5025349	1	Retaining Ring	11	DA4294028	4	Thread Forming Screw
2	DA4848108	1	Spring Washer	12	★ B1006564	1	Back-Up Washer
3	★ DA4831020	1	Cap	13	★ B1001503	1	O-Ring
4	DA4832040	1	Release Plunger	14	★ B1003503	1	O-Ring
5	★ DA6971110	1	Spring	15	★ B1008564	1	Back-Up Washer
6	★ CB581290	1	Ball Seat	16	★ B1118903	1	O-Ring
7	★ P20037	1	Gasket	17	★ CJ656110	1	Spring
8	★ CL344167	1	Gasket	18	DA4872013SR	1	Release Guide Ass'y.
9	★ B1006016	1	Ball	20	★ DA7572013	1	Ball Guide
10	DA4836900SR	1	Complete Valve Ass'y. NPT Ports				
	DA9742900SR	1	Complete Valve Ass'y. BSPP Ports				

★ Items included in and available only as part of Release Valve Repair Kit DA4836900K1.
One Release Valve Repair Kit is included in the Pump Repair Kit PAT1053K.

Figure 10 - Manual Valves (PAM Models)



NOTES:

1. Apply Loctite PST59241 or Vibraseal on threads of Item 28 NPT plugs only.
2. Torque Item 27 to 22-26 in-lbs.
3. Torque Item 7 to 28-34 ft-lbs.

IMPORTANT

Do not attempt to repair the pump by substituting another valve.
 The 4-way manual valve used on Turbo pumps is NOT
 INTERCHANGEABLE with a standard Enerpac VM-4 valve.
 Using a valve that is not designed for this mounting
 configuration may result in the reservoir becoming pressurized
 during operation.

For complete replacement valve, order:

DA5118900SR for NPT Ports

DA9744900SR for BSPP Ports.

Figure 10 - Manual Valves

Item No.	Part Number	Quantity	Description	Item No.	Part Number	Quantity	Description
1	★ A8076048	1	Screw	16	CH542950SR	1	Disc Assembly
2	★ B1086108	1	Washer	17	★ B1109057	1	Roll Pin
3	Y325070	1	Handle	18	★ DA9560041	3	Shear Seal
4	A8005071	1	Disc	19	★ B1011564	6	Back-Up Washer
5	★ B1006016	1	7/32" Ball	20	★ B1006503	3	O-Ring
6	★ A8039110	1	Spring	22	★ CB28110	3	Spring
7	B1389028	4	Bolt	23	CH539190	1	Body
8	★ B1126057	1	Roll Pin	24	B1326028	2	Bolt
9	CB324001	1	Valve Cap	25	★ B1111803	4	O-Ring
10	★ B1269503	1	O-Ring	26	DA5132840SR	1	Manifold - NPT Ports
11	CB327101	1	Bearing Plate		DA9745840SR	1	Manifold - BSPP Ports
12	CB328281	1	Bearing	27	DC1523.028	4	Screw
13	CH536104	1	Shaft	28	CS235006	2	Plug - BSPP Ports
14	★ B1012564	1	Back-Up Washer		R515245-2	2	Plug - NPT Ports
15	★ B1007503	1	O-Ring	30	DA5579026	1	Decal
				31	B1051057	1	Pin

★ Items included in and available only as part of Repair Kit DA5118900K.

NOTE: One Manual Valve Repair Kit is included in Pump Repair Kit PAM1053K.

Table 1 - Relief Valve Settings

Pump Model	Pressure Rating	Relief Valve Pressure Setting
PA_5_ _ _ _	5,000 psi	5,200 to 5,700 psi
PA_3_ _ _ _	5,000 psi	5,200 to 5,700 psi

For standard models with special pressure settings, the model number will have a "dash" followed by 4 more digits to indicate the pressure setting.

To determine the pressure setting, locate the model number stamp. The model number will be in the format PAYYYYYY - XXXX, where XXXX is the maximum pressure rating. The relief valve should be set from (XXXX + 250 psi) to (XXXX + 750 psi).

Table 2 - Repair Kit Application

Pump Model	Recommended Repair Kit
2 liter PAC, and PAS Models	PAC1053K
5 liter PAC, and PAS Models	PAC1105K
2 liter PAM Models	PAM1053K
5 liter PAM Models	PAM1105K
2 liter PAT Models	PAT1053K1*
5 liter PAT Models	PAT1105K

Reservoir size is indicated by the 7th position in the model number code: PAYYYYYY.

* PAT1053K1 Replaces Repair Kits PAT1102K and PAT1102K1.

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