



QS-2000A OPERATING MANUAL

CONTENTS:

- PARTS LIST**
- QS-2000A REQUIREMENTS**
- USING THE VAL-TEX #8607 AIR REGULATOR**
- LOADING AND OPERATING THE QS-2000A**
 - SEE ITEM 5 FOR SAFETY GAUGE INFORMATION**
- HYDRAULIC PUMP PERIODIC MAINTENANCE**
- HYDRAULIC PUMP INSTRUCTION SHEET**
- HYDRAULIC PUMP REPAIR PARTS SHEET / LIST**
- 2010 REGULATOR, SEPARATOR AND LUBRICATOR
OPERATION AND SERVICE INFORMATION (OPTIONAL)**
- MATERIAL SAFETY DATA SHEET – HYDRAULIC FLUID**



"Quality That Pays For Itself"

Val-Tex "Quick Stick" QS-2000A

Air / Hydraulic Lubrication Gun

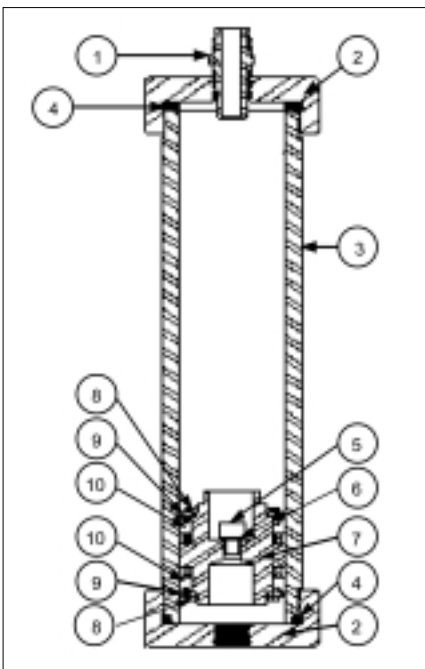
Delivery: 8 ounces / 30-60 seconds
Weight: 32 Lbs.
Lube Sealant Size: J, P, CT12
PSI Rating: 10,000
Overall Dimensions: 20" H X 11" W X 17" L
Priming: Self-Priming Air / Hydraulic
CFM Required: 9
Air Pressure Required: 75 - 100 PSI
Pressure Delivered through a 6 foot hose at 100 PSI:
 Lube Sealant - 8,000 PSI
 Valve Flush - 10,000 PSI
Gauge: Included
Lube Pack Compatible: Yes
Internal Relief Valve: Yes



The easy to operate Val-Tex QS-2000A is a fast, affordable, compact, rugged lubrication unit. The lightweight QS-2000A is easily portable and pumps lube sealant sticks, Lube Packs, and Valve Flush. The unit comes complete with a six foot, 3/8 inch I.D. high pressure hose, 15,000 PSI gauge, Gauge Guard, dual swivels, and a giant buttonhead coupler. The hydraulic pump requires only periodic maintenance and has an internal safety relief valve set at approximately 10,000 PSI to prevent over pressuring the unit.

Options available:

- Unit available with sealant barrel to fit K size lube sealant sticks (Part # QS-2000A-K).
- Air regulator (8607) rated to 3,000 PSI and gauge (2052L160) rated to 160 PSI. **Be sure to refer to your company's policies before using anything other than compressor air for your power source.**
- Sealant hose lengths up to 10 feet. We do not recommend hoses longer than 10 feet because of the output pressure drop.
- Moisture separator (5604-2) and airline lubricator (5904-2) for protection of the pump.



Part No.	Item#	Description	Qty.
QS-2001A		Frame	1
PA-133		Hydraulic Pump - 9 CFM	1
328030		Air Coupler	1
328034		Air Coupler Nipple	1
2016		Grease Hose Assembly	1
		Consists of:	
1420	1	Lube Pack Adapter	1
	6	Giant Buttonhead Coupler	1
1/4 CPLG		1/4" x 1/4" Coupling	1
321320		1/4" x 1/4" Straight Swivel	1
.25 TEE		1/4" Tee	1
15MGF		15,000 PSI Gauge	1
GC-250		Gauge Guard	1
43379		Adapter 1/4" X 1/2-27	1
20638		6' X 3/8" HP Hose	1
52752		1/2"-27 X 1/4" Z-Swivel	1
2017A		Hydraulic Line Assembly	1
2018		Grease Barrel Assembly	1
		Consists of:	
1407	2	Grease Barrel Cap	2
1409-R	3	Grease Barrel	1
1410	4	O-ring	2

Part No.	Item#	Description	Qty.
2008		Piston Assembly	1
		Consists of:	
1408-A	5	Cap Screw	1
1408-BA	6	Copper Washer	1
2008-1	7	Piston Body	1
2008-2	8	Snap Ring	2
2008-3	9	Retaining Ring	2
2008-4	10	Upper and Lower Seal Set	2
OPTIONS			
2019		Air Regulator Assembly	
		Consists of:	
8607		Air Regulator	1
2052L160		0-160 PSI Gauge	1
319700		Shut-Off / Bleeder Valve	1
5604-2		Moisture Separator	1
5904-2		Airline Lubricator	1
HF101		1 Gallon Hydraulic Fluid	1
		Various Hose Lengths	

QS-2000A Requirements

To obtain 10,000 PSI output requires 60-100 PSI of air at 9 CFM.

Moisture separator and lubricator (not included) are recommended on the air supply line to prolong the life of the pump.

If Using the Val-Tex #8607 Air Regulator

1. Install 160 psi air gauge (2052L160) in one of the LP ports on the regulator.
2. Regulator Specifications:
 - A. Regulator inlet capacity 3000 psi maximum
 - B. Output Adjustable 1-160 psi
 - C. Regulator preset at factory for 100 psi.

One (1) air inlet port is marked HP (High Pressure)

Two (2) air outlet ports are marked LP (Low Pressure)

Before Operating the Pump make sure all threaded connections are tight.

Loading and Operating the QS-2000A

1. Depress pump pedal to "release" position (as marked on pedal)
2. Using the handle (1413) supplied, remove sealant barrel cap (1407).
3. Use the handle (1413) to push piston assembly (2008) to the desired depth. When less than full capacity is required, use 1 oz. marking on handle.
4. Load Val-Tex lube sealant or Valve Flush as required. Remember to remove cellophane wrapper on sticks.

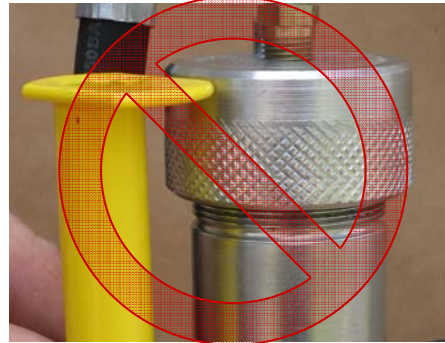
5. Replace sealant barrel (1407) cap. Tighten with handle (1413) provided.

WARNING: FAILURE TO COMPLY WITH THE FOLLOWING SAFETY PROCEDURE COULD RESULT IN SERIOUS INJURY: THE SEALANT CAP MUST BE COMPLETELY SCREWED ONTO THE BARREL BEFORE OPERATING THIS UNIT. THE YELLOW SAFETY GAUGE MUST BE LIFTED UP AND THE BOTTOM SIDE OF THE TAB MUST CLEAR THE TOP OF THE CAP.

SAFE



STOP



6. Activate pump by pressing the pedal to "pump" (as marked on pedal). Continue until material flows from end of hose. * Pedal requires constant pressure to maintain operation.

7. Before removing the coupler from the valve or when the hydraulic pump is not in use, release the pressure on the hydraulic pump.

8. When the cylinder is empty the pump will begin to stall. Stop the pump. Please refer to step #1.

WARNING! If the pump is activated when the sealant barrel cap (1407) is removed, the piston assembly (2008) can be pumped out of the cylinder.

* Dispose of any expelled material properly.

Periodic Maintenance For Pump

1. If automatic air line oiler is not installed, periodically lubricate air line using SAE No. 10 oil.
2. Refer to the Enerpac form L-2080 included with your hydraulic pump for periodic maintenance requirements on the PA-133.
3. Slowness or difficulty in returning piston assembly (2008) to the bottom of the cylinder can indicate the need to change hydraulic fluid and clean filter assembly referred to in form L1252 REV H (item 2FF). The fluid should be changed every 100 hours of operation. In dusty or dirty operating conditions, it may be necessary to change the oil more frequently.

L-2080 Rev. A 04/98

IMPORTANT RECEIVING INSTRUCTIONS

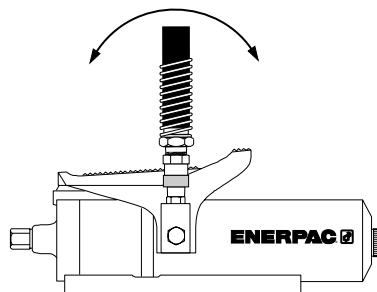
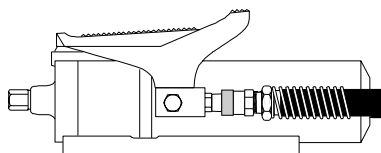
Visually inspect all components for shipping damage. If any shipping damage is found, notify carrier at once. Shipping damage is NOT covered by warranty. The carrier is responsible for all repair or replacement cost resulting from damage in shipment.

CONTENTS

ENGLISH 1-6 FRANCAIS 13-18 ITALIANO 25-30
DEUTSCH 7-12 ESPAÑOL 19-24 NEDERLANDS 31-36

DESCRIPTION

These air-powered hydraulic pumps are designed for use with single-acting cylinders and tools. The pump treadle may be operated by hand or foot for greater versatility. Swivel connection simplifies hydraulic connection and pump operation.



SAFETY INFORMATION

To avoid personal injury or property damage during system operation, read and follow all CAUTIONS, WARNINGS, and INSTRUCTIONS, included with or attached to each product. ENERPAC CANNOT BE RESPONSIBLE FOR DAMAGE OR INJURY RESULTING FROM UNSAFE USE OF PRODUCT, LACK OF MAINTENANCE, OR INCORRECT PRODUCT AND SYSTEM APPLICATION. Contact Enerpac when in doubt as to safety precautions or applications.

WARNING

Always wear proper personal protective gear when operating hydraulic equipment (i.e. safety glasses, gloves, etc.).

WARNING

The system operating pressure must not exceed the pressure rating of the lowest rated component in the system.

WARNING

Make sure that all system components are protected from external sources of damage, such as excessive heat, flame, moving machine parts, sharp edges, and corrosive chemicals.

WARNING

Disconnect air supply when pump is not in use. NEVER remove swivel air connector while air line is pressurized.

WARNING

The pump is equipped with an overload valve, preset for maximum operating pressure. DO NOT attempt to adjust the overload valve. If adjustment is required, contact an Enerpac Service Center. Adjustment by other than qualified personnel may cause malfunction, damage to the system, and/or personal injury.

SPECIFICATIONS

Model No.	PA-133, 7001	PA-166	PA-1150
Air Pressure	60 - 100 psi [4,1 - 6,9 bar]		
Air Consumption	9 CFM [15 m ³ /h]		
Oil Flow at 100 psi air	40 cu. in./min. at 0 psi [656 cu. cm/min at 0 bar] 8 cu. in./min. at 10,000 psi [131 cu. cm/min at 700 bar]		
Usable Oil Capacity	36 cu. in. [590 cu. cm]	72 cu. in. [1180 cu. cm]	80 cu. in. [1311 cu. cm]
Weight	12 lb. [5,45 kg]	16 lb. [7,27 kg]	18 lb. [8,18 kg]
dBa	85 dBa		

INSTALLATION

Adding Oil to the Reservoir

1. Hold pump on end as shown in Figure 1 and remove fill plug. On PA-1150 models, the fill plug is located on the side of the pump as shown in Figure 2.

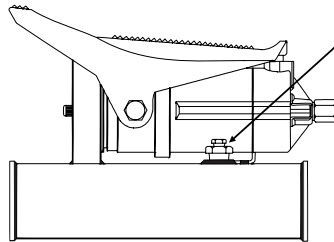


Figure 2

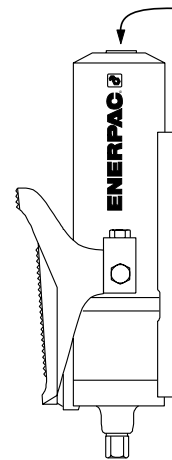


Figure 1

2. Fill to 1/2 " [1 cm] below the fill opening with Enerpac hydraulic oil. Use of fluids other than Enerpac hydraulic oil may cause damage and will void your warranty.

WARNING

Attempting to overfill the reservoir will cause the reservoir to become pressurized. If the reservoir is subjected to high pressure, the casing may rupture, causing personal injury and/or equipment damage.

3. Replace the fill plug and finger tighten.

CAUTION

DO NOT use a wrench. Over-tightening will tear the reservoir bladder.

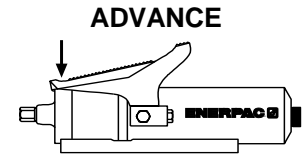
4. Tip the pump and check for leakage. If leakage occurs, remove the plug and check the plug seal for cuts or nicks. Replace the seal if necessary.
5. Replace the fill plug making sure the seal is centered properly on the plug. If leakage still occurs, remove oil and take pump to your nearest Enerpac Service Center.

OPERATION

1. Check the oil level in the pump, and add oil if necessary.
2. Check to make sure all air and hydraulic connections are secure before operating pump.

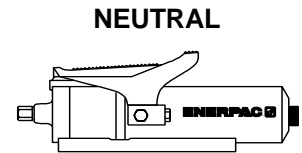
To Activate the Pump

Depress the ADVANCE end of the treadle as shown in Figure 6, and the air motor will be activated to pump hydraulic oil to the system.



To Hold Load Pressure

The air motor will stop and hold load pressure when the treadle is in the free NEUTRAL position. See Figure 6.



To Release Load Pressure

To release load pressure or retract a cylinder, depress the RELEASE end of the treadle as shown in Figure 6.

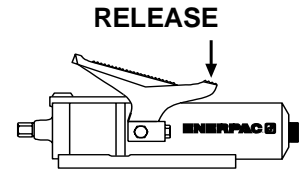


Figure 6

PRIMING THE PUMP

If pump does not operate properly, it may have lost its prime. Follow the procedure below to prime your pump, if necessary.

1. Fill pump with Enerpac hydraulic oil, if necessary. See filling instructions on page 2.
2. Place pump on horizontal surface.
3. Set air supply pressure to 30-40 psi [2,1 - 2,7 bar].
4. Move pump treadle to RELEASE position.
5. Depress the button under the treadle to activate pump. Operate pump in RELEASE position momentarily several times to allow oil to flow back into pump and fill passage ways.
6. To verify that pump is primed, operate as normal with cylinder attached. If cylinder does not advance, repeat step 5.

If pump still does not deliver oil, contact your Authorized Enerpac Service Center.

AIR FILTER REPLACEMENT

If the air motor does not perform as normal, check for a clogged air filter.

1. Shut off air pressure to the pump and release pressure in the line to the pump.

WARNING

NEVER remove swivel air connector while air line is pressurized.

2. Note the position of the retaining clip. It can only be secured by the smallest tang of the metal retainer. Grasp air line with one hand and pull the retaining clip with pliers.
3. Pull the swivel air connector out.
4. Carefully remove air filter.
5. Clean air filter with an air hose or replace with a new air filter.
6. Re-insert the air filter.
7. Put a thin film of grease on the o-ring of the swivel air connector.
8. Reassemble the swivel air connector and retaining clip. Be sure that clip is secured on the smallest tang of the metal retainer.
9. Check to make sure the swivel air connector is securely attached before turning the air pressure back on.

MAINTENANCE

1. Periodically check all hydraulic and air connections to be sure they are tight. Loose or leaking connections may cause erratic and/or total loss of operation. Replace or repair all defective parts promptly.
2. Periodically check the hydraulic oil level in your system. See filling instructions on page 2.
3. Change hydraulic oil after every 100 hours of operation. In dusty or dirty areas, it may be necessary to change the oil more frequently. To change the oil, drain used oil through the fill opening and fill reservoir to $\frac{1}{2}$ " [1 cm] below the fill opening with clean Enerpac hydraulic oil. Dispose of used oil in accordance with local regulations.

WARNING

The pump is equipped with an overload valve, preset for maximum operating pressure. DO NOT attempt to adjust the overload valve. If adjustment is required, contact an Enerpac Service Center. Adjustment by other than qualified personnel may cause malfunction, damage to the system, and/or personal injury.

Storage

When the unit will be stored for 30 days or more:

1. Wipe the entire unit clean.
2. Disconnect all air pressure and hydraulic lines to prevent accidental operation.
3. Cover the unit.
4. Store in a clean, dry environment. DO NOT expose equipment to extreme temperatures.

TROUBLESHOOTING

The following information is intended as an aid in determining if a problem exists. DO NOT disassemble the pump. For repair service, contact the Authorized Enerpac Service Center in your area.

Problem	Possible Cause	Solution
Pump fails to deliver oil.	Low fluid level.	Check the oil level and add oil according to instructions on page 2.
	Lack of air pressure.	Check air filter and replace if necessary (see page 5). Check air line and filter-regulator for obstructions or leaks. Check for damage to air motor.
	Pump has lost its prime.	Prime the pump according to the instructions on page 4.
Pump noise.	Low fluid level.	Check the oil level and add oil according to instructions on page 2.
	Lack of air pressure.	Check air filter and replace if necessary (see page 5). Check air line and filter-regulator for obstructions or leaks. Check for damage to air motor.
	Air motor section requires lubrication.	Place a few drops of oil in the air inlet port and cycle the motor several times to distribute the oil.
Oil leakage.	Worn or damaged parts.	Contact your local Authorized Enerpac Service Center for repairs.
	Loose connections.	Check that all connections are tight.
	Reservoir bladder torn.	Have reservoir bladder replaced by a qualified hydraulic technician.

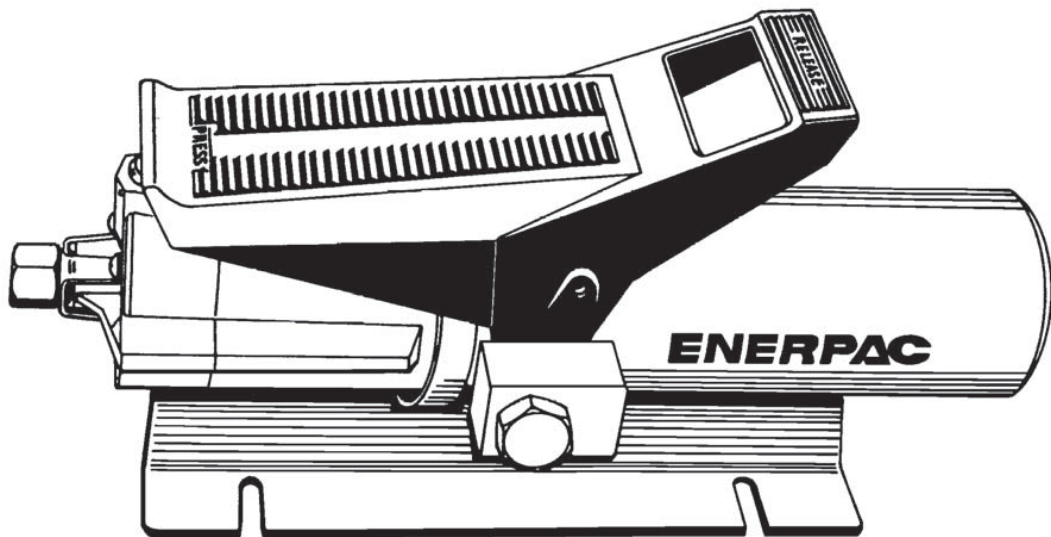
**PA-133, 7001, PA-135, PA-136
AIR HYDRAULIC PUMP**

L1252 Rev. L 02/11

PA135 - For Date Codes Beginning with the Letter "A" or "B"
PA133, 7001 & PA136 - For Date Codes Beginning with the Letter "C" or "D"

To Protect Your Warranty, Use Only ENERPAC Hydraulic Oil.

Enerpac recommends that all kit components be installed to insure optimum performance of the repaired product.



PA-133, 7001, PA-135, PA-136 Air Hydraulic Pump

Repair Parts List for Figure 1				
Item	Part Number	Qty.	Description	Fig. No.
1	DA5816900SR	1	Air Motor Assembly	
2A	CH210110	1	Spring	
2BB	★	1	Ball Seal	
2CC	★	1	O-Ring	
2D	★	2	Ball Seat	
2DD	CF318028	4	Cap Screw	
2E	★	2	Ball	
2EE	★	1	Conical Spring	
2FF	★	1	Filter	
2G	CH411013	1	Ball Guide	
2H	★	1	Ball	
2HH	DC1563013	1	Ball Guide	
2L	CH202950SR	1	Relief Valve Assy. (PA133 & PA135) (incl. items 9, 10, 14)	4
2L	CH207950SR	1	Relief Valve Assy. (PA136) (incl. items 9, 10, 14)	4
2N	DA2686299SR	1	Coupling V-Retainer	
2Z	★	1	Gasket	
5	A8009108SR	1	Washer (PA133) (incl. items 2A, 8, 52)	
5	DA1221108SR	1	Washer (PA135) (incl. items 2A, 8, 52)	
5	A8015108SR	1	Washer (PA136) (incl. items 2A, 8, 52)	
6	DA5290900SR1	1	Release Guide Assembly (incl. items 2BB, 2DD, 2EE, 2Z, 10)	2
7	CH203950SR	1	Hydraulic Cylinder Assy (PA133, 7001) (incl. items 2D, 2E, 8, 10)	5
7	DA1227950SR	1	Hydraulic Cylinder Assembly (PA135) (incl. items 2D, 2E, 8, 10)	5
7	CH208950W	1	Hydraulic Cylinder Assembly (PA136) (incl. items 2D, 2E, 8, 10)	5
8	CB180040	1	Plunger (PA133)	
8	DA1219040	1	Plunger (PA135)	
8	CB185040	1	Plunger (PA136)	
9	★	1	Ball Seat	
10	★	4	Gasket	
11	CL166950SR	1	Hydraulic Body Assembly	
14	★	1	Plug	
19	★	1	Back-Up Washer	
24	CF692950W	1	Coupler Assembly (incl. items 2D, 2G, 2H, 10)	3
26	CB108005SR	1	Base	
27	B1320028	2	Screw	
29	CB241218W	1	Treadle	
31	CF180900SR	1	Reservoir Assembly	
32	CL164950SR	1	Reservoir Cap (incl. item 19, 53)	
34	DA5015118SR	1	Filter Kit	
35	CK352950SR	1	Poppet Guide Assembly	
36	CL163950SR1	1	Coupler Kit	
52	★	1	Rubber Washer	
53	★	1	O-Ring	
54B	◆	1	Air Piston (new style)	
55B	◆	1	Glyd Ring	
56	◆	1	O-Ring	

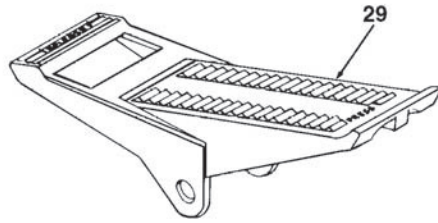
★ Indicates items included in and available only as part of Pump Repair Kit PA133K3.

◆ Indicates items included in and available only as part of Air Piston Repair Kit CK354950SR.

NOTE: The back-up washer, Item 19 (B1014565) may be purchased separately from Pump Repair Kit PA133K3. Filter Assembly (DA5015118SR) is available as a separate item.

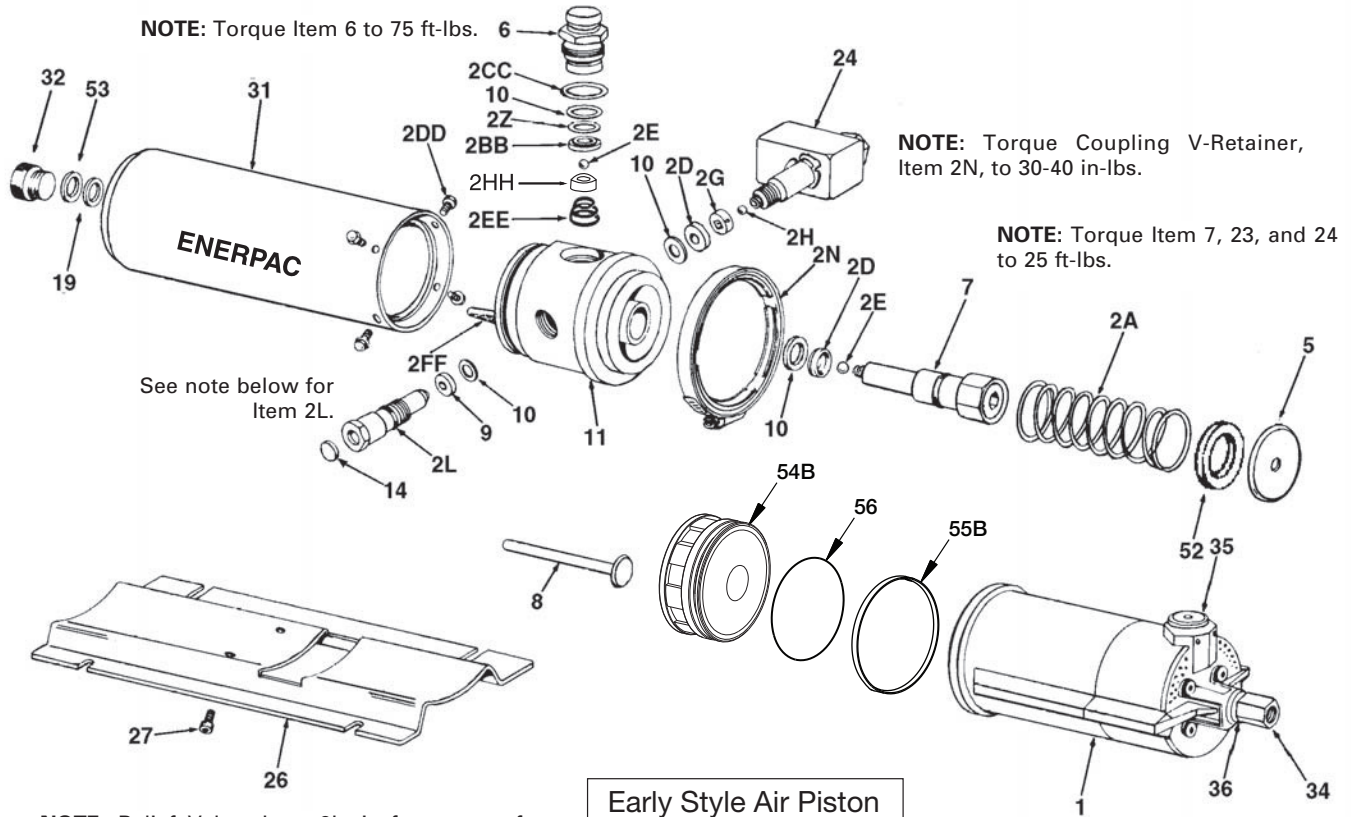
NOTE: Changes have been made in the design of the shuttle piston, end cover, and air cylinder that improve air motor performance. The new parts will not work when used with the existing old-style parts. If one of these parts requires replacement, a complete new air motor (DA5816900SR) must be used.

NOTE: Reservoir fill plug, Item 32, should be HAND TIGHTENED only. Do not use a pliers or wrench. Over-tightening will tear the reservoir bladder. Oil leaking out of the vent hole located at the rear of the reservoir is an indication of a torn bladder.



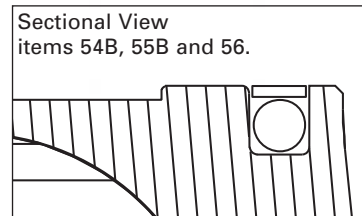
NOTE: Assemble ball guide, Item 2G, with outside chamfer facing ball seat, Item 2D).

NOTE: Closed end of spring, Item 2EE, must go toward the bottom of the hole.



NOTE: Relief Valve, Item 2L, is factory set for maximum pressure according to pump model. DO NOT adjust to a higher pressure.

When setting the relief valve, it should only be adjusted up to the desired pressure setting. To adjust for a lower pressure than that set at the factory, back off the adjusting screw and then adjust up to the desired pressure.



WARNING: To insure that the internal relief valve setting is correct, check the model number when servicing the product. The setting may require adjustment based on the pressure setting designated by the dash code (-XXXX) of the model number.

Figure 1, PA133, 7001, PA135, PA136 Air Hydraulic Pump

IMPORTANT:

Early style air piston assembly (items 54A and 55A) is no longer available. If replacement is required, new style air piston assembly (items 54B, 55B and 56) must be used. Order Repair Kit CK354950SR.

To replace an early style air piston assembly:

- Remove early style air piston (item 54A) and U-Cup seal (item 55A) from open end of air motor (item 1). These parts will not be reused and can be discarded.
- If not pre-installed, install O-Ring (item 56) and Glyd Ring (item 55B), into groove on new style air piston (item 54B).
- Apply grease to Glyd Ring (item 55B).
- Install new style air piston assembly (items 54B, 55B and 56) through open end of air motor (item 1).

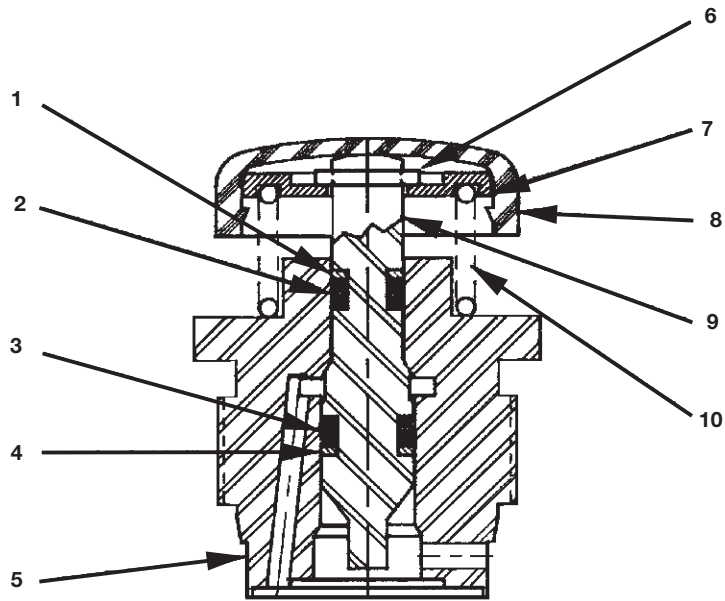


Figure 2, Release Plunger

Repair Parts List for Figure 2			
Item	Part Number	Qty.	Description
1	★	1	Back-Up Washer
2	★	1	O-Ring
3	★	1	O-Ring
4	★	1	Back-Up Washer
5	DA5290900SR1	1	Release Guide Assembly
6	★	1	Retaining Ring
7	DA4848108	1	Spring Washer
8	★	1	Cap
9	DA4832040	1	Release Plunger
10	★	1	Spring

★ Indicates items included in and available only as part of Release Plunger Kit DA4832040KR.

NOTE: The Release Plunger Repair Kit (DA4832040KR) and Release Guide Assembly (DA5290900SR1) also include items 2BB, 2CC, 2E, 2EE, 2Z, and 10 from the Air Pump Assembly (Figure 1).

NOTE: Repair Kit PA133K3 includes (1) DA4832040KR.

NOTE: Pumps manufactured prior to November 1991 have a release plunger assembly that uses a roller in place of the cap now being used. The roller (CB923281), dowel pin (CH200061), and spring washer (CH198108) are available for service in Roller Replacement Kit CB923281SR. To replace the release plunger or release body, order a complete assembly (DA5290900SR1).

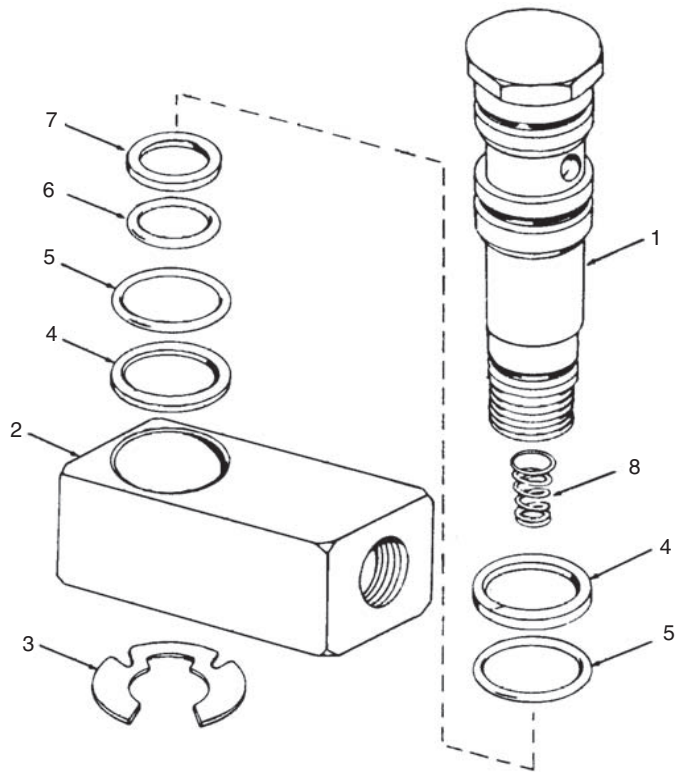


Figure 3, Swivel Coupler Assembly

Repair Parts List for Figure 3			
Item	Part Number	Qty.	Description
1	CJ205416	1	Coupler Stem
2	CJ204190	1	Coupler Body
3	★	1	Retaining Ring
4	★	2	Back-Up Washer
5	★	2	O-Ring
6	★	1	O-Ring
7	★	1	Back-Up Washer
8	★	1	Spring

★ Indicates items included in and available only as part of Swivel Coupler Kit CF692950K1.

NOTE: The Swivel Coupler Kit (CF692950W) contains items 2D, 2H, and 10 from the Air Pump Assembly (Figure 1).

NOTE: Repair Kit PA133K3 includes (1) CF692950K1.

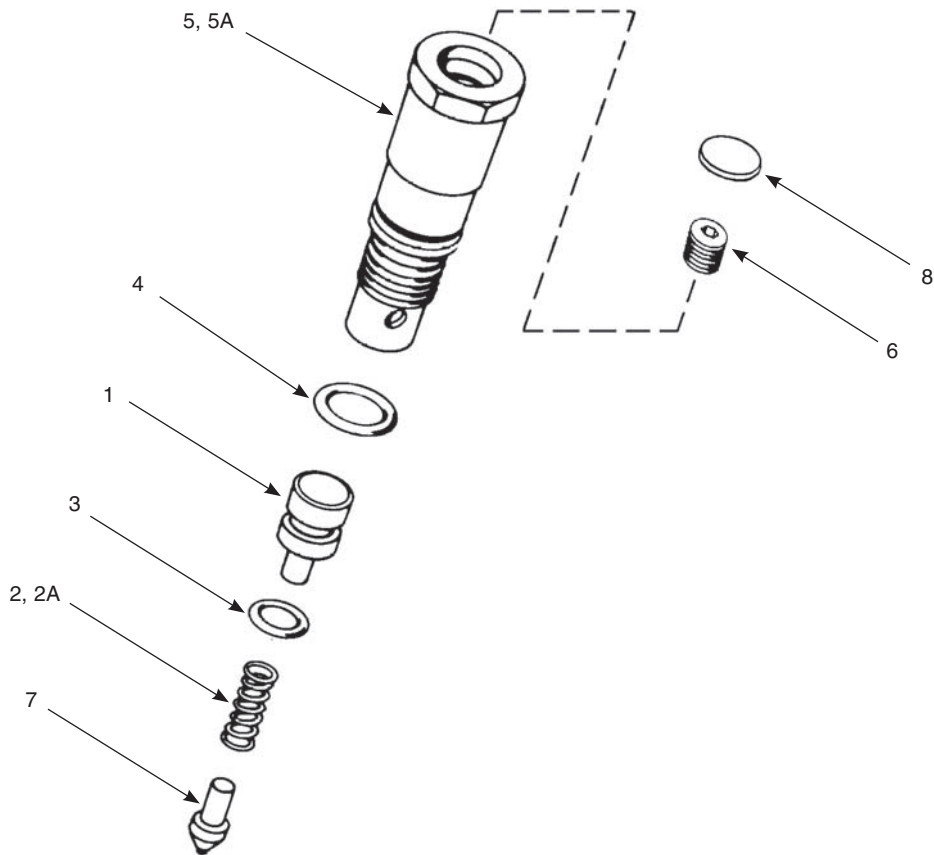


Figure 4, Relief Valve Assembly

Repair Parts List for Figure 4			
Item	Part Number	Qty.	Description
1	A8005007	1	Plug
2	★	1	Spring (PA133 & PA135)
2A	★	1	Spring (PA136)
3	★	1	O-Ring
4	★	1	O-Ring
5	CH202950SR	1	Release Valve Assembly (PA133 & PA135)
5A	CH207950SR	1	Release Valve Assembly (PA136)
6	L86028	1	Set Screw
7	CH180950W	1	Ball Guide Assembly
8	★	1	Plug

★ Indicates items included in and available only as part of Relief Valve Repair Kit CH202950K.

NOTE: The Relief Valve Repair Kit also includes Items 9 and 10 from the Air Pump Assembly, Figure 1.

NOTE: Relief Valve Repair Kit CH202950K contains two sizes of springs (item 2/2A). Use the spring from the kit that matches the spring removed from the relief valve.

NOTE: Repair Kit PA133K3 includes (1) CH202950K.

NOTE: Relief valve adjustments should only be performed by an Enerpac Authorized Service Center utilizing prescribed procedures and proper test equipment.

Apply one drop of Loctite #242 to threads or stake threads in Item 7 in only one place after assembly.

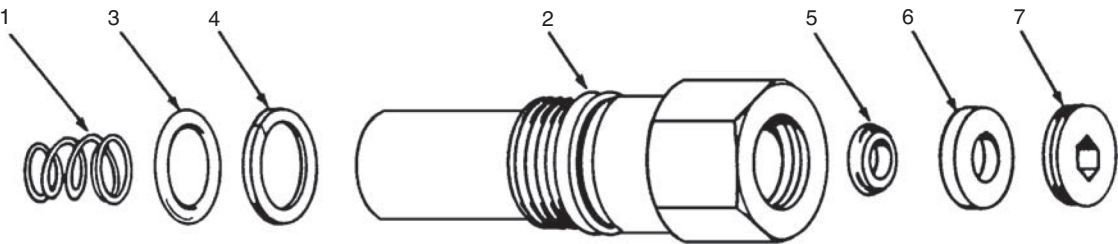


Figure 5, Hydraulic Cylinder

Repair Parts List for Figure 5			
Item	Part Number	Qty.	Description
Model PA133, 7001			
1	★	1	Spring
2	CH203950SR	1	Hydraulic Cylinder Assembly
3	★	1	O-Ring
4	★	1	Back-Up Washer
5	★	1	U-Cup
6	★	1	Back-Up Bearing
7	★	1	Bearing Retainer
Model PA135			
1	★	1	Spring
2	DA1227950SR	1	Hydraulic Cylinder Assembly
3	★	1	O-Ring
4	★	1	Back-Up Washer
5	★	1	U-Cup
6	★	1	Back-Up Bearing
7	★	1	Bearing Retainer
Model PA136			
1	★	1	Spring
2	CH208950W	1	Hydraulic Cylinder Assembly
3	★	1	O-Ring
4	★	1	Back-Up Washer
5	★	1	U-Cup
6	★	1	Back-Up Bearing
7	★	1	Bearing Retainer
★ Indicates items included in and available only as part of Hydraulic Cylinder Repair Kit HCRK1.			
NOTE: HCRK1 is a universal kit and will service any of the three hydraulic cylinders listed.			
NOTE: Hydraulic Cylinder Repair Kit HCRK1 also includes Items 2D, 2E, and 10 from the Air Pump Assembly (Figure 1).			
NOTE: Repair Kit PA133K3 includes (1) HCRK1.			

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All Enerpac products are guaranteed
against defects in workmanship and
materials for as long as you own them.

For the location of your nearest authorized
Enerpac Service Center, visit us at
www.enerpac.com

01/25/11

2010 REGULATOR, SEPARATOR AND LUBRICATOR

The most common issue with the QS-2000A is damage to the hydraulic pump because of dirty/wet air. A re-kit and repair of this problem is \$300-\$400 not including the cost of downtime, freight, aggravation, etc. The 2010 package will dramatically extend the life of the hydraulic pump and reduce downtime. Contact Val-Tex for more information to purchase this along with a new unit or a kit to easily install on QS-2000A's in the field.

COMPONENTS



2010 ASSEMBLED ON A UNIT



⚠ WARNING

To avoid unpredictable system behavior that can cause personal injury and property damage:

- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.
- Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.
- Medium must be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed in these instructions.
- Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.
- Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.

⚠ CAUTION

Polycarbonate bowls, being transparent and tough, are ideal for use with Filters and Lubricators. They are suitable for use in normal industrial environments, but should not be located in areas where they could be subjected to direct sunlight, an impact blow, nor temperatures outside of the rated range. As with most plastics, some chemicals can cause damage. Polycarbonate bowls should not be exposed to chlorinated hydrocarbons, ketones, esters and certain alcohols. They should not be used in air systems where compressors are lubricated with fire-resistant fluids such as phosphate ester and diester types.

Metal bowls are recommended where ambient and/or media conditions are not compatible with polycarbonate bowls. Metal bowls resist the action of most such solvents, but should not be used where strong acids or bases are present or in salt laden atmospheres. Consult the factory for specific recommendations where these conditions exist.

TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

⚠ WARNING

Product rupture can cause serious injury.
Do not connect regulator to bottled gas.
Do not exceed maximum primary pressure rating.

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use in general purpose compressed air systems only.

Maximum Recommended Pressure Drop:

	kPa	PSIG	bar
Particulate Filter	70	10	0.7

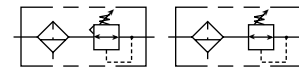
Operating Pressure Maximum

	kPa	PSIG	bar
Polycarbonate Bowl	1034	150	10.3
Metal Bowl	2068	300	21.0
Piston Drain	1207	175	12.0

Operating Temperature Range

Polycarbonate Bowl	Max. 49°C (120°F)
Metal Bowl	Max. 82°C (180°F)
Piston Drain	Max. 65.6°C (150°F)

Symbols



Filter / Regulator

Installation

1. The Filter / Regulator should be installed with reasonable accessibility for service whenever possible – repair service kits are available. Keep pipe or tubing lengths to a minimum with inside clean and free of dirt and chips. Pipe joint compound should be used sparingly and applied only to the male pipe – never into the female port. Do not use PTFE tape to seal pipe joints – pieces have a tendency to break off and lodge inside the unit, possibly causing malfunction. Also, new pipe or hose should be installed between the Filter / Regulator and equipment being protected.
2. The upstream pipe work must be clear of accumulated dirt and liquids.
3. Select a Filter / Regulator location as close as possible to the equipment being protected.
4. Install Filter / Regulator so that air flows into port labelled “IN” on body.

⚠ WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from The Company, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by The Company and its subsidiaries at any time without notice.

EXTRA COPIES OF THESE INSTRUCTIONS ARE AVAILABLE FOR INCLUSION IN EQUIPMENT / MAINTENANCE MANUALS THAT UTILIZE THESE PRODUCTS. CONTACT YOUR LOCAL REPRESENTATIVE.

5. Install Filter / Regulator vertically with the bowl drain mechanism at the bottom. Free moisture will thus drain into the sump ("quiet zone") at the bottom of the bowl.
6. Gauge ports are located on both sides of the Filter / Regulator body for your convenience. It is necessary to install a gauge or socket pipe plugs into each port during installation.

Operation

1. Both free moisture and solids are removed automatically by the filter.
2. Manual drain filters must be drained regularly before the separated moisture and oil reaches the bottom of the Baffle or End Cap.
3. The Filter Element should be removed and replaced when pressure differential across the filter is 69 kPa (10 PSIG).
4. Before turning on the air supply, disengage the Adjusting Knob by pulling upward. Turn Adjusting Knob counterclockwise until the compression is released from the Pressure Control Spring.
5. Then turn Knob clockwise and adjust regulator to desired downstream pressure. This permits pressure to build up slowly in the downstream line.
6. To decrease regulated pressure settings, always reset from a pressure lower than the final setting required. Example, lowering the secondary pressure from 550 to 410 kPa (80 to 60 PSIG) is best accomplished by dropping the secondary pressure to 350 kPa (50 PSIG), then adjusting upward to 410 kPa (60 PSIG).
7. When desired secondary pressure setting has been reached, push the Knob down to lock this pressure setting.

Service

- ⚠ **Caution:** Disconnect or shut off air supply and exhaust the primary and secondary pressures before servicing unit. Turning the adjusting knob counterclockwise does not vent downstream pressure on non-relieving regulators. Downstream pressure must be vented before servicing regulator.
- ⚠ **Caution:** Grease packets are supplied with kits for lubrication of seals. Use only mineral based grease or oils. Do not use synthetic oils such as esters. Do not use silicones.
- Note:** After servicing unit, turn on air supply and adjust regulator to the desired downstream pressure. Check unit for leaks. If leakage occurs, do not operate - conduct repairs and retest.

Servicing Filter Element - (Refer to Figure 1)

1. Unscrew and remove Bowl.
2. Unscrew the Element Retainer from Body and then remove Element.
3. Clean all internal parts and bowl before reassembling.
4. Install new element. **IMPORTANT:** The Filter / Regulator will not operate properly if the Deflector is not installed properly. The Deflector must be installed between the Element Retainer and the Filter Body.
5. Attach Element Retainer and finger tighten firmly.
6. Replace Bowl Seal. Lightly lubricate new seal to assist with retaining it in position.
7. Install Bowl into Body and tighten; hand tight, plus 1/4 turn.

Servicing Regulator - (Refer to Figure 1)

1. Disengage the Adjusting Knob by pulling upward. Turn Adjusting Knob counterclockwise until the compression is released from the Pressure Control Spring.
2. Remove the Bonnet and Bowl assemblies by unscrewing the Bonnet and Bowl from the body.
3. Remove Diaphragm Assembly from Bonnet Assembly.
4. Remove Element Retainer, Filter Element, Poppet Assembly, Poppet Return Spring.
5. Clean and carefully inspect parts for wear or damage. Wipe parts, clean with soapy water or denatured alcohol **but do not use denatured alcohol on plastic bowl or sight gauge.** If using compressed air to blow dry, be sure to wear appropriate eye protection. If replacement is necessary, use parts from service kits. Clean Bowl.

6. Lubricate O-rings with grease found in service kits.
7. Install Filter Element onto the Element Retainer and firmly tighten.
8. Install Poppet Return Spring, Poppet Assembly, and Element Retainer. **IMPORTANT:** The Filter / Regulator will not operate properly if the Deflector is not installed properly. The Deflector must be installed between the Element Retainer and Filter Body.
9. Install Diaphragm Assembly into Body Assembly. Assemble Bonnet Assembly onto Body and tighten per Figure 1.
10. Install Bowl into Body and tighten, hand tight, plus 1/4 turn.

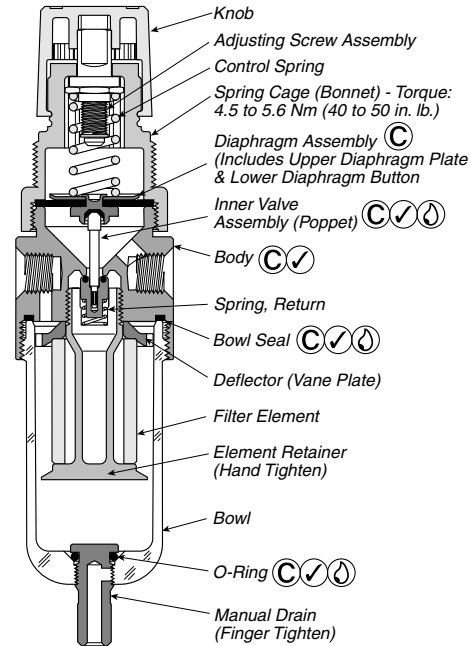


Figure 1

- ☰ Lightly grease with provided lubricant.
- ☑ Inspect for nicks, scratches, and surface imperfections. If present, reduced service life is probable and future replacement should be planned.
- Ⓒ Clean with lint-free cloth.

Service / Parts Kits Available

Description	B548 (1/8" & 1/4")
Bowl Kits	
Polycarbonate	BK504Y
Polycarbonate (with Piston Drain)	BK504SY
Zinc	BK505Y
Zinc (with Piston Drain)	BK505SY
Bowl Seal	GSK-504Z101
Cage Kit	
Standard	CKR364Y
"T" Option	CKR364T
Filter Element (5 Micron)	EK504VY
Filter Element (20 Micron)	EK504Y
Gauge, 0 to 60 (0 to 4 bar)	274Z60S
Gauge, 0 to 160 (0 to 11 bar)	274Z160S
Mounting Bracket	SA161X57
Piston Drain (Max. Pressure 150 PSIG)	RK504SY
Panel Mount Nut	R05X51
Regulator Repair Kit (Relieving)	RK549Y
Regulator Repair Kit (Non-Relieving)	RK548Y
Spring, 0-25 PSIG (0 to 1.7 bar)	SPR-375-1
Spring, 0-60 PSIG (0 to 4 bar)	SPR-376
Spring, 0-125 PSIG (0 to 8.6 bar)	SPR-377
Deflector (Vane Plate)	504Z75
Return Spring	SPR-80
Element Retainer	F504-0491P

! WARNING

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- Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.
- Medium must be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed in these instructions.
- Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
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- Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.

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TO CLEAN POLYCARBONATE BOWLS USE MILD SOAP AND WATER ONLY! DO NOT use cleansing agents such as acetone, benzene, carbon tetrachloride, gasoline, toluene, etc., which are damaging to this plastic.

Bowl guards are recommended for added protection of polycarbonate bowls where chemical attack may occur.

Introduction

Follow these instructions when installing, operating, or servicing the product.

Application Limits

These products are intended for use in general purpose compressed air systems only. For other applications, consult factory before use.

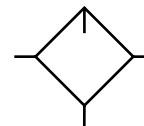
With Plastic Bowl

	kPa	PSIG	bar
Operating Pressure Maximum	1034	150	10.0
Operating Temperature Range	4°C to 49°C (40°F to 120°F)		

With Zinc Bowl

	kPa	PSIG	bar
Operating Pressure Maximum	2068	300	21.0
Operating Temperature Range	4°C to 82°C (40°F to 180°F)		

ANSI Symbols



Installation

L508 Lubricators are individually tapped (NPT) to allow direct mounting to piping. Before installing, blow out pipe line to remove scale and other foreign matter. This unit has DRYSEAL pipe threads; use pipe compound or tape sparingly to male threads only. Install units in pipe line so that flow is into port stamped "IN" on body. Install as near as possible to equipment serviced.

Lubricant

For average conditions, the use of high quality SAE #10 (S.U.V. 150-200 SEC @ 100°F) oil is recommended. Other lubricants, as specified by the maker of the equipment to be lubricated, may be used if not heavier than SAE #40 (S.U.V. 800 SEC @ 100°F).

! WARNING

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Filling

L508 Lubricators may be filled only under no pressure. To fill the lubricator, the air supply must be shut off and the remaining pressure in the system bled down to zero pressure. A long spout oil can must be used. Slowly remove fill plug and insert tip of spout to bottom of fill port recess. Fill to within 1/2" of top of bowl using correct oil.

Adjustment

The adjustment knob is factory set so that, when turned fully clockwise, no oil is delivered to the venturi for atomization, and equipment is not being lubricated. To initially adjust oil drip rate, turn on the air, start flow and set knob to obtain the desired drip rate, which is visible through the sight dome. After system reaches normal operating temperature, fine tune the drip rate as needed. As a start, one to two drops per minute is suggested, correct lubrication being a matter of experience and demand. Clockwise rotation of knob decreases oil feed rate. To check lubrication, hold a thumbnail or mirror near the equipment exhaust. A heavy film indicates over-lubrication and the drip rate should be reduced by turning knob to a lower setting. After final setting has been achieved, the knob may be removed to make the adjustment mechanism tamper resistant.

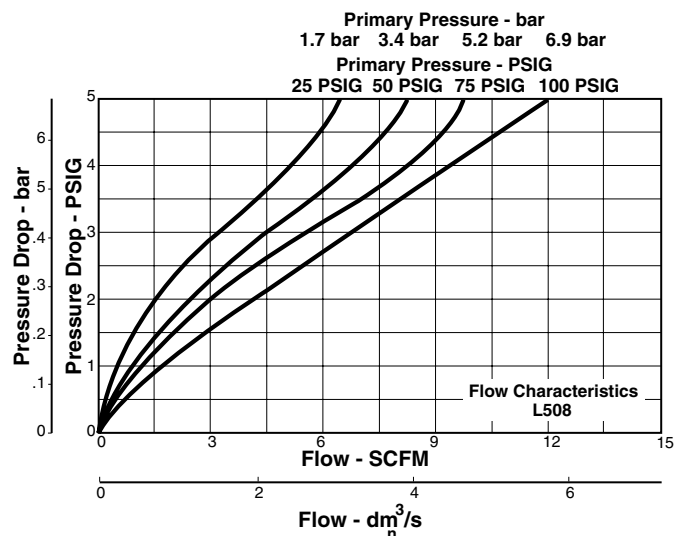
Cycling Applicator

If the lubricator is to be used in a cycling application, the conditions must be as follows:

The lubricator must stay pressurized during on AND off cycles. On cycle time must be at least 15 seconds, and the flow rate during each cycle must be at least 2 SCFM.

Maintenance - Cleaning

If both air and oil are kept clean, and the oil level never allowed below end of tube in the bowl, the lubricator should provide long periods of unattended service. Cessation of oil dripping through the sight dome, irrespective of knob adjustment, is an indication that cleaning is necessary. To clean, it is not necessary to remove lubricator from the line. Depressurize and disassemble using the drawing as a guide. In most instances, cleaning is needed only in the oil metering area. Pull off adjusting knob, unscrew sight dome assembly, remove inner drip spout and clean with household soap. **PLASTIC BOWLS AND SIGHT DOME MUST BE CLEANED WITH HOUSEHOLD SOAP ONLY.**

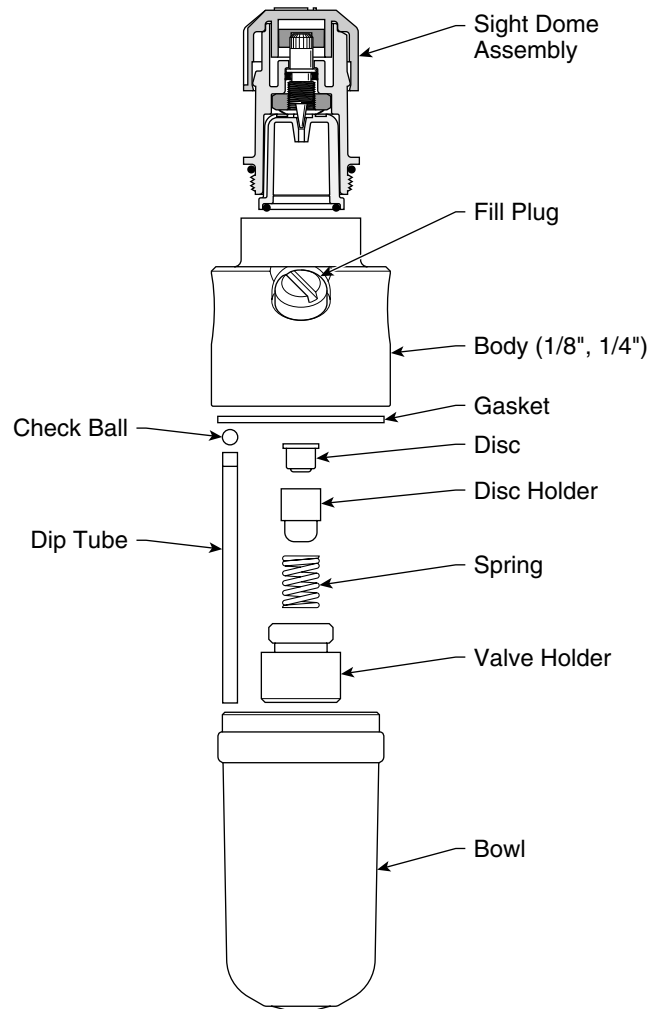


Service Kits / Parts Available

Description	Product Number	Bowl Type
Bowl Replacement Kit*		
Plastic	BK508Y	B
Zinc	BK509Y	D
Sight Dome Assembly (Includes Knob, Sight Dome, Needle Valve, Hex Nut, Spring Washer, Drip Spout, O-Rings)	RKL100	—
Fill Plug	SA508Y4	—
Gasket	GSK-504Z101	—
Check Ball	506Y106	—
Disc	508Z37	—
Disc Holder	508Y47-1	—
Spring	SPR-330	—
Dip Tube	L05Y74-1	—
Valve Holder	508Y30-1	—
Mounting Bracket Kit†	—	—

* Bowl kits include bowl seal.

† "X67" Mounting Bracket option must be ordered with lubricator from factory due to pre-drilled holes in lubricator head.



- Ⓐ Lightly grease with provided lubricant.
- Ⓢ Inspect for nicks, scratches, and surface imperfections. If present, reduced service life is probable and future replacement should be planned.
- Ⓒ Clean with lint-free cloth.

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: Enerpac HF Hydraulic Oil

STOCK NUMBER: HF100, 101, 102, 104, CM40885

Distributor:

Enerpac

720 West James Street

Columbus, WI 53925

Information Telephone: (920)-623-5280

Date Issued: 04-16-08

Supercedes: 02-05-07

Emergency Telephone: (877)777-2486

<u>MATERIAL</u>	<u>CAS#</u>	<u>% BY WEIGHT</u>
Lubricating Oil, Petroleum, Hydrotreated Paraffinic Additive	64742-58-1 Proprietary	> 99% < 1%

SECTION 1 -- HAZARDOUS INGREDIENTS

This material does not contain any chemical listed as a carcinogen or potential carcinogen by OSHA, IARC Monographs or National Toxicology Program.

SECTION 2 -- FIRE AND EXPLOSION HAZARDS

FLASH POINT: 376 degrees F LOWER & UPPER FLAMMABLE LIMIT: N/A

EXTINGUISHING MEDIA: CO2, dry chemical, foam, water spray; water fog.

FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus with a full-face piece. Avoid breathing fumes.

UNUSUAL FIRE & EXPLOSION HAZARDS: Toxic fumes may be evolved on burning or exposure to heat. Pressure may increase in overheat closed containers. Not sensitive to mechanical impact or static discharge.

SECTION 3 -- HEALTH HAZARD DATA

ORAL TOXICITY: Greater than 5000 mg/kg in rats. Based on data from components.

EYE IRRITATION: Not expected to cause eye irritation. Based on data from components.

SKIN IRRITATION: Not expected to cause skin irritation. Based on data from components.

TLV: None established. Oil mist = 5 mg/cu meter.

****EMERGENCY FIRST AID PROCEDURES****

SKIN: Wash skin thoroughly with soap and water. Get medical attention if irritation develops. Launder contaminated clothing before reuse. If product is injected under pressure into or under the skin; or into any part of the body; regardless of the appearance of the wound or its size, a physician should immediately evaluate the individual.

EYES: Flush eyes with plenty of water for 15 minutes. Get medical attention if eye irritation develops or persists.

INHALATION: Remove to fresh air. Get medical attention if breathing difficulty persists.

ORAL: Call a physician. Do NOT induce vomiting. Never give anything to an unconscious person by mouth.

SECTION 4 -- SPECIAL PROTECTION INFORMATION

VENTILATION PROCEDURE: Mechanical ventilation recommended.

EYE PROTECTION: Safety glasses recommended.

GLOVES PROTECTION: Neoprene or Nitrile rubber gloves recommended.

RESPIRATORY: Normally not required. Mask or respiratory for mists.

HYGIENE: Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products. Clean contaminated clothing, shoes and protective equipment before reuse.

SECTION 5 -- PHYSICAL DATA

VAPOR PRESSURE: Less than 0.01 mm Hg @ 20 degrees C

SPECIFIC GRAVITY: .875 approx. (water=1)

DENSITY: 7.3 LB/Gal.

PERCENT VOLATILE: Negligible

EVAPORATION RATE: Not Available

APPEARANCE: Blue liquid

pH: Not applicable

WATER SOLUBILITY: Insoluble

VAPOR DENSITY: Not available

ODOR: Mild Petroleum, oil.

SECTION 6 -- STABILITY

STABILITY: Stable

INCOMPATIBILITY: Avoid oxidizing agents.

POLYMERIZATION: Will not occur.

THERMAL DECOMPOSITION: Oxides of carbon.

SECTION 7 -- SPILL OR LEAK PROCEDURES

SPILL PROCEDURES: Prevent entry into sewers and waterways. Pick up free liquid for recycle/disposal. Absorb small amounts of inert material for disposal.

WASTE DISPOSAL: Disposal should be in compliance with current federal, state, and local laws. Materials may become hazardous waste through use. Consider recycling.

SECTION 8 -- TRANSPORTATION AND LABELING

DOT SHIPPING: Not Regulated

DOT ID NUMBER: None

EPA HAZARDOUS SUBSTANCES: None

PRECAUTIONARY LABELS: In compliance with hazard and right-to-know requirements where applicable.

DOT HAZARD CLASS: Not Regulated

SECTION 9 -- SPECIAL PRECAUTIONS

NFPA CODE: HEALTH: 1 FIRE: 1 REACTIVITY: 0

SPECIAL PRECAUTIONS: Keep containers closed when not in use. Do not handle or store near high heat or flames. Avoid breathing oil mists, wash skin thoroughly with soap and water after handling.

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