



QS-5000-C

OPERATING MANUAL

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"Quality That Pays For Itself"

Val-Tex QS-5000-C

Air / Hydraulic Lubrication Gun

- Delivery:** 8 oz. / 30-60 seconds
- Weight:** 153 Lbs.
- Lube Sealant Size:** V, P-4
- PSI Rating:** 10,000
- Overall Dimensions:** 46" H X 20" W X 26" L
- Priming:** Self-Priming Air / Hydraulic
- CFM Required:** 20
- Air Pressure Required:** 75 - 100 PSI
- Pressure Delivered through a 10 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

**EASIER TO TRANSPORT
SAME LARGE CAPACITY**



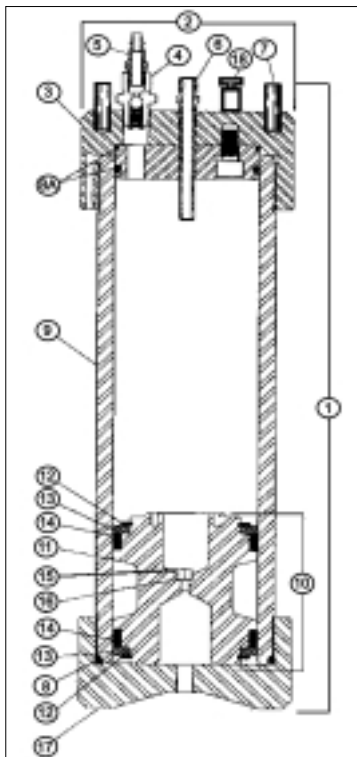
The Val-Tex **QS-5000-C** is a compact, easy to transport, fast, versatile, heavy duty lubrication unit that will pump large volumes of stick lube sealant, lube packs, and Valve Flush. The **QS-5000-C** is quickly separated into two parts by removing the cylinder for easy loading and unloading by one person. Assembly is as simple as inserting the two catch pins to secure the cylinder clamps to the frame.

The **QS-5000-C** has the largest stick lube sealant capacity in the valve lubrication industry. The Val-Tex five pound V-stick, four pound P-4 Lube Pack, and one gallon Valve Flush (VF-GAL) are designed to drastically reduce the frequency of loading.

The **QS-5000-C's** four inch pneumatic tires allow the unit to be maneuvered easily by one person. The rugged sealant cap wrench has 16 ounce graduations to allow the operator to control the amount of material being loaded. The unit comes complete with a 10 foot, 3/8 inch I.D. high pressure hose, quarter turn shut-off / bleeder valve, 15,000 PSI gauge, Gauge Guard, dual swivels, giant buttonhead coupler, and metal hydraulic fluid reservoir. The hydraulic pump requires only periodic maintenance and has an internal safety relief valve set at approximately 10,000 PSI to prevent over-pressuring.

Options Available

- Sight glass modification to the metal hydraulic pump reservoir allows the operator to monitor the amount of material being pumped.
- Air regulator (8607) rated for 3,000 PSI input 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.**
- Moisture separator (5604-2) and airline lubricator (5904-2) for protection of the pump.



Part No.	Item No.	Description	Qty.
5001A	1	Cylinder Assembly Complete	1
5001A-1	2	Sealant Cap Assembly Complete	1
5001A-1A	3	Sealant Cap	1
5001-1B	4	Air Return Fitting	1
328034	5	Air Quick Disconnect-Male	1
5001A-1C	6	Lube Pack Extension	1
5001-1D	7	Dowel Pin	6
5001-1E	8	Hydraulic End Cap O-ring	1
5001A-1F	8A	Sealant Cap O-rings	1
5001A-2	9	Cylinder Body	1
5001-3	10	Piston Assembly Complete	1
		Consists of:	
5001-3A	11	Piston Body	1
5001-3B	12	Snap Ring	2
5001-3C	13	Piston Seal Retainer	2
5001-3D	14	Upper & Lower Seal Sets	2
1408-A	15	Cap Screw Bleeder 5/16"-24NF	1
1408-BA	16	Copper Washer	1
5001A-4	17	Hydraulic End Cap	1
BB-12	18	1/2" NPT Body Bleed Fitting	1
5002-1-C		Hydraulic Hose Assembly	1
HQD-14-N-M		Hyd. Quick Disc. Nipple 1/4" (M)	1
HQD-14-C		Hyd. Quick Disc. Coupler 1/4" (F)	1
PA-6-M-2		Hydraulic Pump - Metal Reservoir	1
328030		Air Quick Disconnect (F)	1

Part No.	Description	Qty.
328034	Air Quick Disconnect (M)	1
5016	Sealant Hose Assembly	1
	Consists of:	
6	Giant Buttonhead Coupler	1
321320	Straight Swivel 1/4" X 1/4"	1
15MGF	15,000 PSI Gauge	1
GC-250	Gauge Guard	1
.25 TEE	1/4" Tee	1
38-120	Hose - 10' X 3/8"	1
331107	High Pressure Z-Swivel	1
319700	Shut-off / Bleeder Valve	1
1/4 IN CPLG	1/4"X1/4" Coupling	1
5020-C	Compact Cart	
	Consists of:	
5020-1-C	Sealant Cap Wrench	1
MINI-QS-5000	Compact Cart	1
5020-3	Pneumatic Tire	2
5020-4	Handle Grips - 1"	3
SC-14	1/4" G.B. Lube Fitting	1
OPTIONS		
2052L160	0-160 PSI Gauge	1
5035	O Shaped Sight Glass	1
5040	Hydraulic Fluid - 1 Gallon	1
8607	Air Regulator	1

10600 FALLSTONE ROAD • HOUSTON, TEXAS 77099-4390 • ORDER 1-800-627-9771 • PHONE (281) 530-4848 • FAX (281) 530-5225 • WWW.VALTEX.COM

QS-5000-C Requirements

A **minimum** of 20 CFM is required to operate the unit. The unit should be run with 100 to 125 PSI input pressure. Exceeding 125 PSI input pressure is not recommended and could damage the hydraulic pump.

To obtain 10,000 PSI output requires 100 to 125 PSI of input air at 20 CFM.

Moisture separator, oiler, and air line filter (these items are 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 regular.
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

1. Remove shipping plug from hydraulic pump and install vent filler cap (20937S) provided on the opposite end.
2. Remove shipping plug from sealant cap (5001A-1A) and install sealant hose assembly (5016).

Loading and Operating the QS-5000-C

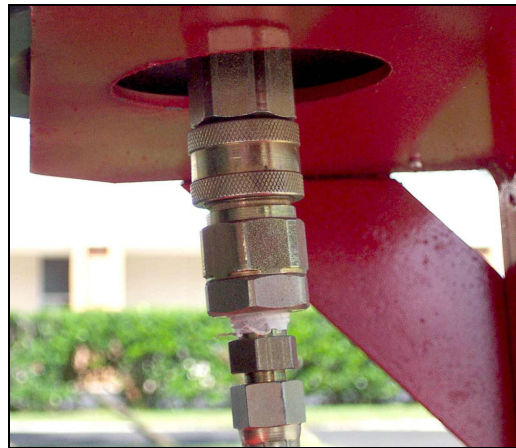
1. Move pump control lever to "release" position. (as marked on pedal)
2. Disconnect air supply from pump.
3. Close relief valve (319700) on material hose. (I) open (-) close
4. Close body bleed fitting on sealant cap.
5. Attach air supply to quick disconnect (328034) on sealant cap (5001A-1A). Allow approximately 60 seconds for piston to return to the bottom.
6. Disconnect the air supply from sealant cap.
7. Open the body bleed fitting on the sealant cap. Place a rag under and in front of the bleeder hole on the body bleed fitting to catch bleeding material. **DO NOT** place your hand in front of or stand in front of the bleeder hole. After the material passes through the bleeder hole, the trapped air pressure will vent. This allows the sealant cap to be more easily removed.
8. Close the body bleed fitting after the pressure has vented.
9. Using the sealant cap wrench supplied (5020-1-C), remove sealant cap. **DO NOT** attempt to remove the allen screw on the side of the sealant cap at any time!!!
10. Determine piston (5001-3) is all the way down. If not, replace sealant cap and proceed from step 5 above.
11. When less than full capacity is required, use the 16 ounce markings on the sealant cap wrench (5020-1-C) and activate the Hydraulic Pump (PA6-M-2) until the piston assembly reaches the proper position. **WARNING!** Piston Assembly (5001-3) can be pumped out of the cylinder.
12. Load Val-Tex lube sealant or Valve Flush as required. Remember to remove cellophane wrapper on sticks or cut the top of the bag open for the P-4 lube packs.
13. Replace sealant cap. Snugly tighten with sealant cap wrench provided. The cap is securely tightened when you cannot see any threads on the sealant cylinder.
14. Close the relief valve (319700) on material hose. (I) open (-) close
15. Open the body bleed fitting on the sealant cap.
16. Reattach air supply to hydraulic pump (PA6-M-2).

17. Activate pump by moving the pump control lever to "pump" position (as marked on pedal). Place a rag under and in front of the bleeder hole on the body bleed fitting to catch bleeding material. * **DO NOT** place your hand in front of or stand in front of the bleeder hole. As material passes through the bleeder hole, any trapped air should vent. Stop the pump when the air is vented.
 18. Close the body bleed fitting on the sealant cap.
 19. Open the relief valve (319700) on material hose. (I) open (-) close
 20. The QS-5000-C is now ready to service your valves.
 21. Before removing the coupler from the valve or when the hydraulic pump is not in use, release the pressure on the hydraulic pump and close relief valve (319700) on material hose.
 22. When the cylinder is empty the pump will begin to stall. Stop the pump. Please refer to step 1.
- * Dispose of any expelled material properly.

Detaching the Lubrication Cylinder

One of the unique features of the QS-5000-C is that you can detach the lubrication cylinder so one person can load and unload the entire unit. **Note:** Only perform this procedure when there is no pressure on the cylinder.

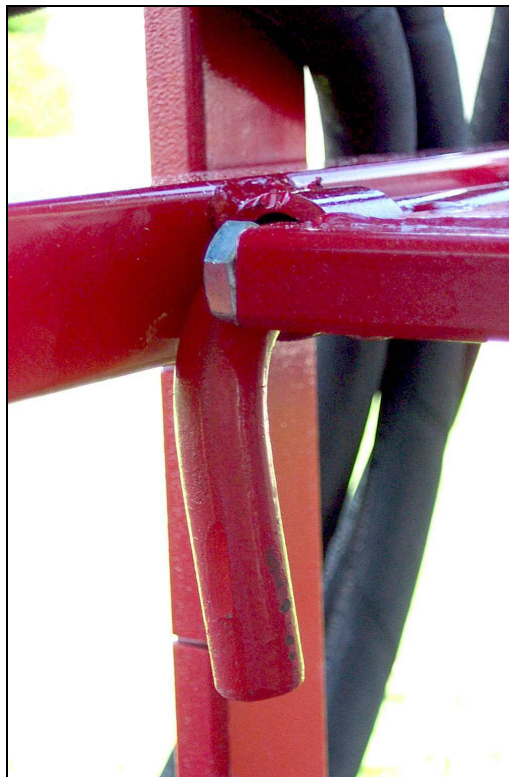
1. Disconnect the female hydraulic quick disconnect from the bottom of the lubrication cylinder.



2. Pull the two push pins holding each of the two bracket pins in place.



3. Pull both of the bracket pins to disengage the cylinder from the frame.



4. Carefully remove the cylinder. This will now allow you to more easily load or unload the unit from your vehicle.

Periodic Maintenance For Pump and Cart

1. If automatic air line oiler is not installed, periodically lubricate air line using SAE No. 10 oil.
2. Lubricate wheel bearings using quality wheel bearing grease.
3. Refer to the OTC Form 105001 and 100424 included with your hydraulic pump (5012) for periodic maintenance requirements on the PA6-2-M.
4. Slowness or difficulty in returning piston assembly (5001-3) to the bottom of the cylinder indicates the need to change hydraulic fluid and clean filter assembly (29682) referred to in Form 100424 item 12.

Recommended Storage Procedures

Follow the steps below for proper storage when the QS-5000-C is out of service for an extended period of time.

1. It is recommended to remove any product from the sealant cylinder.
2. Blow the piston down to the bottom of the sealant cylinder.
3. Coat the inside of the cylinder with a light oil. This should allow the piston to run smoothly when you take it out of storage. When you are ready to use the unit, make sure the hydraulic fluid is clean before you operate it. If it is not, change the hydraulic fluid.

RECOMMENDED REPLACEMENT FLUIDS FOR QS-5000

Plant Eng. Designation	ISO Viscosity Grade	Lubricant Type	Viscosity SUS at 100° F
GRADE-215-HP	46	High-pressure (anti-wear) hydraulic oil	194-236

Company Name	Product Number
Allube (Far Best Corp.)	Moly-Shield HM 215
Amalie Refining Co. (Div. of Witch Chemical)	AMA Oil 200
Anderson Oil & Chemical Co.	Windsor Hyd. Oil 45AW
Ashland Oil Inc. Valvoline Oil Div.	AW Oil #20
American Lubricants, Inc. (AmLube)	200 AW Hyd. Oil
Amoco Oil Co. (Standard Oil of Indiana)	Rykon Rykon Oil #46 or Amoco AW 46
Bel-Ray Co., Inc.	Raylene AW Hyd. Fluid #1
Benz Oil, Inc.	Petraulic 46-LC
Brooks Technology Co.	Versalene 610
Cato Oil & Grease	AW/AL Hyd. Oil 10
Davis-Howland Oil Corp.	DSL 46
Delta Resins & Refractories, Inc.	Deltalene Med. Hyd. Oil #931
Conoco, Inc.	Super Hyd. Oil 46
Darmex Industrial Corp.	Darmex Hyd. 100/200
Exxon Co. USA	Nuto 46
G & M Lubricants, Ltd.	330 Hydralube-Med.
Gard Oil Products, Inc.	HydraGard AW 46
Union Oil Company of California Western Region	Unax AW 46
Union Oil Company of California Eastern Region	Unax AW 46
United Refining Company	Emblem AW-200
World-Wide Lubricants, Ltd.	Moly Hyd. AW 225
White & Bagley of Michigan	Penn-Mar EP Hyd. Oil 225
Arthur C. Withrow Company	H Med. AW Hyd. Oil
Georgia-Carolina Oil Co.	G-C Hy-Press 15
International Refining & Manufacturing Co.	Imco HL-21
The Inter-State Oil Co.	Inter-State Resistal EP H-215
E.F. Houghton & Co.	Hydro-Drive HP-200
Imperial Oil & Grease	Molub-Alloy 602
Lubrication Analysis, Inc.	Hyd. Oil AW 250
Lubriplate Div. Fiske Brothers Refining Co.	HO-1
A. Margolis & Sons Corp.	Silogram TIP 100-20-7
Metal Lubricants Co.	Meltran AW-410
Mobil	DTE 25
Phillips Petroleum Co.	Magnus A Oil 46
Phoenix Petroleum Co., Ltd.	KS 302
Parr, Inc.	Hydroil AW 46
Pennzoil Co.	AW Hyd. Oil 46
Shell Oil Co.	Telius 46
Siegel Oil Co.	Titan AW Hyd. Oil #21
Southwestern Petroleum Co.	Swapco AW Hyd. Oil 704-10
Standard Oil Co. (Ohio) (Boron Oil Company)	Industron 48
Texaco, Inc.	Rando Oil HD 46
Tosco Corp. Western Region	Azalea AW 46
Tech Lube Corp.	TH10
Ultrachem, Inc.	Chemlube 217

52431
58356
203641-OTC
203641-PFPA4 SERIES
PA6 SERIES
PA50 SERIES
PA60
PA64**MODELS C, D, E, F, & G
AIR HYDRAULIC PUMP****Max. Pressure: See Pump Data Plate
Workstation Sound Pressure Level: 83 dB(A) at Rated Capacity**

Definition: An air hydraulic pump delivers hydraulic fluid under pressure through the use of compressed air as a power source.

SAFETY EXPLANATIONS

Two safety symbols are used to identify any action or lack of action that can cause personal injury. Your reading and understanding of these safety symbols is very important.



DANGER - Danger is used only when your action or lack of action will cause serious human injury or death.



WARNING - Warning is used to describe any action or lack of action where a serious injury can occur.

IMPORTANT - Important is used when action or lack of action can cause equipment failure, either immediate or over a long period of time.



WARNING: It is the operator's responsibility to read and understand the following safety statements,

- Only qualified operators should install, operate, adjust, maintain, clean, repair, or transport this machinery.
- These components are designed for general use in normal environments. These components are not specifically designed for lifting and moving people, agri-food machinery, certain types of mobile machinery or special work environments such as: explosive, flammable or corrosive. Only the user can decide the suitability of this machinery in these conditions or extreme environments. Power Team will supply information necessary to help make these decisions.

These instructions are intended for end-user application needs. Most problems with new equipment are caused by improper operation or installation. Detailed service repair instructions or parts lists can be obtained from your nearest Power Team facility (see listing).

SAFETY PRECAUTIONS

WARNING

General Operation

- All **WARNING** statements must be carefully observed to help prevent personal injury.
- Before operating the pump, all hose connections must be tightened with the proper tools. Do not overtighten. Connections should only be tightened securely and leak-free. Overtightening can cause premature thread failure or high pressure fittings to split at pressures lower than their rated capacities.
- Should a hydraulic hose ever rupture, burst, or need to be disconnected, immediately shut off the pump and release all pressure. Never attempt to grasp a leaking pressurized hose with your hands. The force of escaping hydraulic fluid could cause serious injury.
- Do not subject the hose to potential hazard such as fire, sharp surfaces, extreme heat or cold, or heavy impact. Do not allow the hose to be altered or kink, twist, curl, crush, cut, or bend so tightly that the fluid flow within the hose is blocked or reduced. Periodically inspect the hose for wear, because any of these conditions can damage the hose and possibly result in personal injury.
- Do not use the hose to move attached equipment. Stress can damage hose and possibly cause personal injury.
- Hose material and coupler seals must be compatible with the hydraulic fluid used. Hoses also must not come in contact with corrosive materials such as creosote-impregnated objects and some paints. Consult the manufacturer before painting a hose. Hose deterioration due to corrosive materials can result in personal injury. Never paint the couplers.
- Inspect machine for wear, damage, and correct function before each use. Do not use machinery that is not in proper working order, but repair or replace it as necessary.
- Replace worn or damaged safety decals.
- Modification of a product requires written Power Team authorization.
- Use only components with the same pressure rating when assembling a system or machine.

Pump

- Do not exceed the hydraulic pressure rating noted on the pump data plate or tamper with the internal high pressure relief valve. Creating pressure beyond the rated pressure can result in personal injury.
- Before replenishing the fluid level, retract the system to prevent overfilling the pump reservoir. An overfill can cause personal injury due to excess reservoir pressure created when cylinders are retracted.

Air Supply

- Shut off and disconnect the air supply when the pump is not in use or before breaking any connections in the system.

PREPARATION & SET-UP

Air Supply Hook-Up

Remove the thread protector from the air inlet of the pump. Select and install the threaded fittings which are compatible with your air supply fittings. The air supply should be 20 CFM (.57 M³/min.) and 100 PSI (7 BAR) at the pump to obtain the rated hydraulic pressure. Air pressure should be regulated to a maximum of 140 PSI (9 BAR). Secure your pump fitting to the air supply. See illustrations on following pages.

WARNING: If improperly used, pressurized equipment can be potentially hazardous. Therefore:

- Hydraulic connections must be securely fastened before building pressure in the system.
- Release all system pressure before loosening any hydraulic connection in the system.

Venting The Reservoir

To improve hydraulic fluid delivery and increase useable hydraulic fluid capacity, remove shipping plug and install filler/vent cap before using the pump.

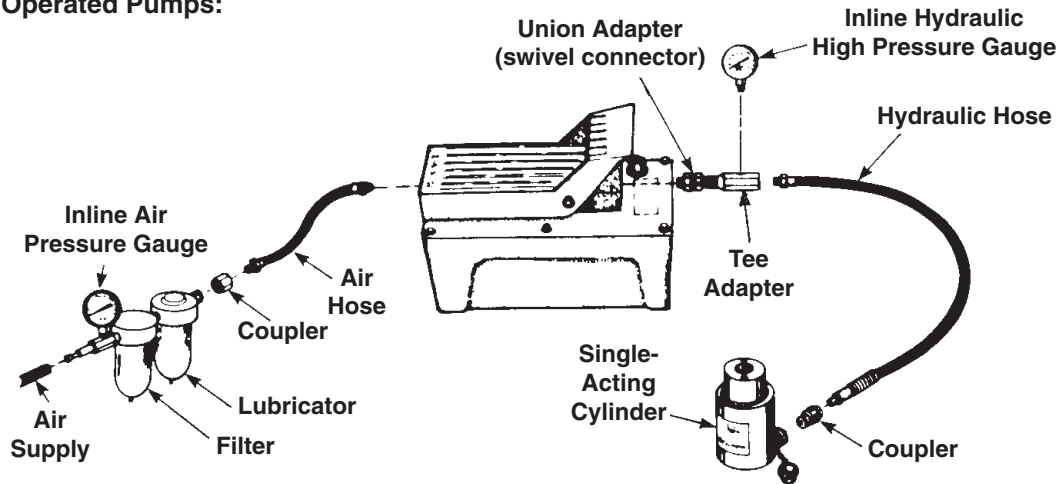
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Hydraulic Connections

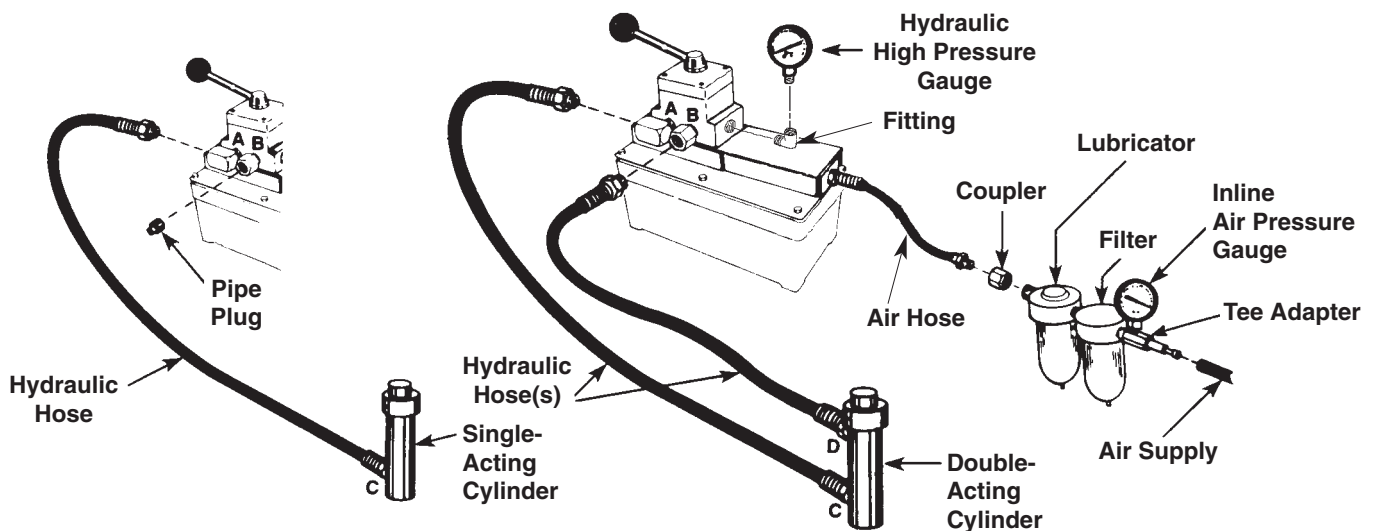
Clean all the areas around the fluid ports of the pump and cylinder. Inspect all threads and fittings for signs of wear or damage and replace as needed. Clean all hose ends, couplers and union ends. Remove the thread protectors from the hydraulic fluid outlets. Connect the hose assembly to the hydraulic fluid outlet and couple the hose to the cylinder. See illustrations below.

IMPORTANT: Seal all external pipe connections with a high-grade, nonhardening thread sealant. Teflon tape may also be used to seal hydraulic connections, provided only one layer of tape is used. Apply the tape carefully, two threads back, to prevent it from being pinched by the coupler and broken off inside the system. Any loose pieces of tape could travel through the system and obstruct the flow of fluid or cause jamming of precision-fit parts.

For Hand/Foot Operated Pumps:



For Manual Valve Operated Pumps:



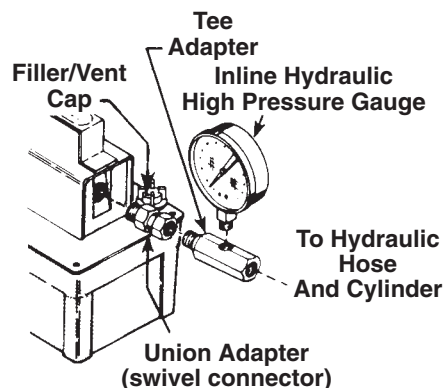
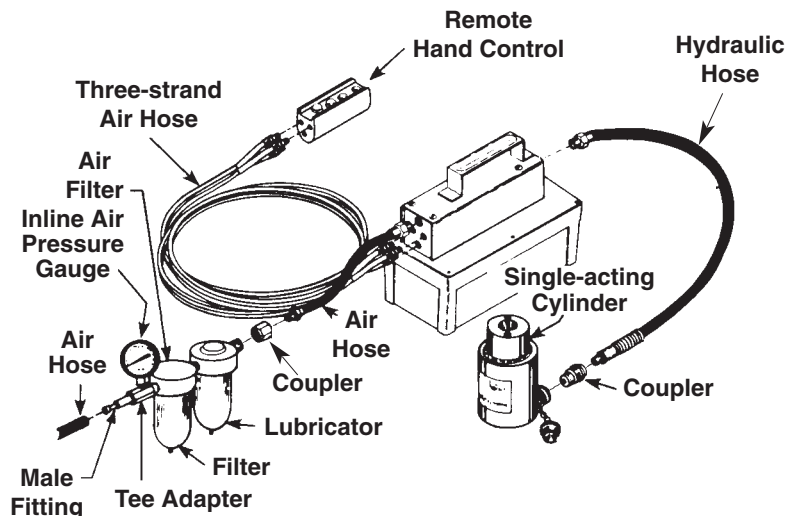
This pump is equipped with a two position, 3-way/4-way control valve for operating single- or double-acting hydraulic cylinders and requires attaching the hoses in the following manner:

When using a single-acting cylinder, attach one end of a hose to port "A" of valve and the end of the hose to the advance port "C" of the cylinder. Then install a pipe plug in valve port "B." If the hoses are frequently connected and disconnected, quick couplers should be used to prevent wear and tear on the fittings.

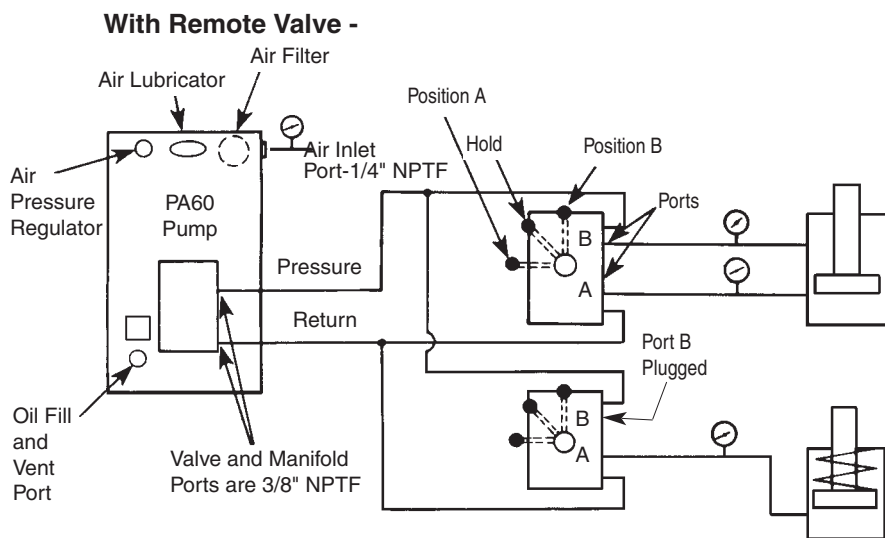
When using a double-acting cylinder, attach one hose to port "A" of valve and the other end of the hose to the advance port "C" of cylinder. Attach the second hose to valve port "B" and the other end of the hose to return port "D" of cylinder.



For Remote Controlled Pumps:



For Tandem Pumps:



1. Connect the pump to a remote 3-way/4-way valve.
2. Connect the fluid line from the fluid pressure port on the manifold to the pump pressure port on the valve.
3. Connect the fluid line from the fluid return port on the manifold to the pump return port on the valve.
4. Connect the cylinder(s) to the valve.

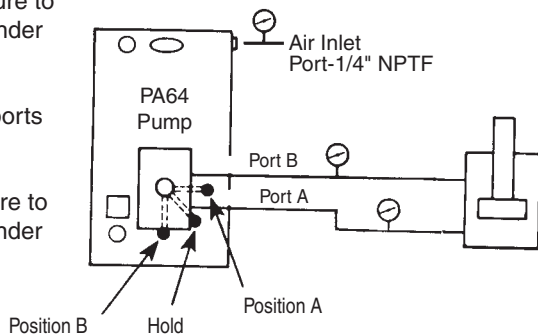
IMPORTANT: On all single pressure line applications, plug one port on the valve.

With Pump Mounted Valve -

Position A - Pressure to cylinder port A, cylinder port B to tank.

Hold - Neutral, all ports blocked.

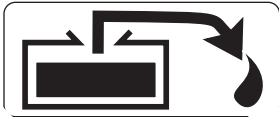
Position B - Pressure to cylinder port B, cylinder port A to tank.



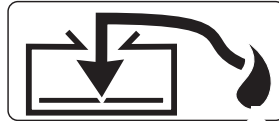
1. Connect the ports of the pump valve to cylinder(s). When port "A" is pressurized, port "B" becomes the return. When port "B" is pressurized, port "A" becomes the return.
2. Place the valve into the "A" or "B" position in order to pressurize the cylinder(s) or start the pump.

OPERATION

PICTOGRAM DEFINITIONS



Activating the pump with the pedal end marked with this pictogram, the flow of fluid is directed out of the reservoir.



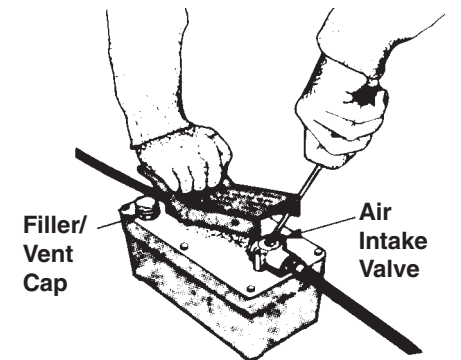
Activating the pump with the pedal end marked with this pictogram, the flow of fluid is directed back to the reservoir.

Priming The Pump Unit

Under certain circumstances it may be necessary to prime the pump unit. To accomplish this, perform the following procedure:

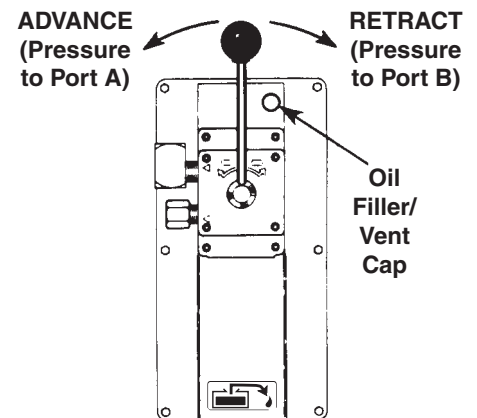
For Hand/Foot Operated Pumps:

1. Press the release end of the pedal while holding down the air intake valve with a flathead screwdriver. The air intake valve is located directly under the pedal in the area marked . The valve is depressed simultaneously with the area of the pedal during priming.
2. Allow the pump to cycle approximately 15 seconds.
3. Remove the screwdriver, and press the end of the pedal once more.
4. If the cylinder extends or pressure builds, the pump has been successfully primed. If the pump does not respond, repeat the procedure, jogging the air intake valve while holding the pedal in the position.



For Manual Valve Operated Pumps:

Disconnect the hose end at the advance port of the cylinder. Direct the hose end into a suitable container or back into the pump reservoir. Shift the valve to the ADVANCE position and depress the end of the foot pedal inscribed with . Allow the pump to cycle until fluid begins to flow freely into the container or reservoir. Reconnect the hose end to the cylinder advance port. Shift the valve to the ADVANCE position and reactivate the pump. If the cylinder extends or builds pressure, the pump has been successfully primed. If not, refer to the Trouble-shooting Guide of these instructions.



For Remote Controlled Pumps:

Depress the AND buttons on the remote hand control simultaneously and allow the pump to cycle for approximately fifteen seconds. Release both buttons and then depress the button once more. If the cylinder extends or pressure builds, the pump has been successfully primed. If the pump does not respond repeat the procedure. If pump still does not respond, tip pump upside down and repeat procedure.

For Tandem Pumps:

1. Connect the fluid line to the pressure port and keep the return port plugged. Place the other end of the fluid line in the pump filler hole.




NOTE: If the fluid lines are connected to a remote valve, shift the valve into the center position and plug both cylinder ports on the valve. This lets fluid circulate through the valve and back to the pump reservoir; thereby allowing the pump to prime.

2. Attach air line with shut-off valve to the pump.
3. Open the air valve. Pump will begin to reciprocate, and fluid will advance through the hose or fluid line and return to the pump reservoir. Allow the pump to cycle approximately 15 seconds.
4. Plug the manifold pressure port, or shift the valve to pressurize the circuit. If the pump builds pressure, it has been successfully primed.






Pump Operation




For Hand/Foot Operated Pumps:

1. To extend the cylinder, depress the pedal on the end marked .
2. To hold the cylinder in position, release the end of foot pedal marked with  to deactivate the pump.
3. To retract the cylinder, depress the pedal on the end marked .

For Remote Controlled Pumps:

1. To extend the cylinder, depress the button on the remote hand control marked .
2. To hold the cylinder in position, release the  button.
3. To retract the cylinder, depress the button on the remote hand control marked .

For Manual Valve Operated Pumps:

1. To extend the cylinder, shift the valve handle to the advance position and depress the end of the foot pedal inscribed with  to activate the pump.
2. To hold the cylinder in position, release the end of foot pedal inscribed with  to deactivate the pump.
3. To retract the cylinder, shift the valve handle to the retract position and depress the end of the foot pedal inscribed with  to activate the pump.

For Pumps With Air Regulators:

1. Open the air shut-off valve (if so equipped) or connect the air quick coupler (if so equipped).
NOTE: under certain circumstances the pump may need to be primed before operation. Refer to the method described in the section entitled "Priming the Pump Unit."
2. Slowly turn the air regulator control on unit clockwise to increase pressure, counterclockwise to decrease pressure. As air is admitted to the pump unit, it will begin to deliver fluid to the system. Continue to slowly turn the air regulator control clockwise until gauge reads the maximum hydraulic pressure rating as stated on the pumps data plate. A maximum hydraulic pressure reading should be obtained if air pressure is approximately 100 PSI (7 BAR).
3. Cycle the system several times by manually shifting the 3-way/4-way valve (if so equipped) or the remote valve (if so equipped). Set the air regulator to obtain the desired hydraulic pressure. When decreasing pressure, shift the valve after each adjustment before measuring actual hydraulic pressure.
4. Shut off and disconnect air supply to the pump and shift pump valve (if so equipped) or remote valve (if so equipped) two times to release all system pressure. Check fluid level with hydraulic system retracted. The pump is now ready for operation.

NOTE: • **The hydraulic pressure is increased or decreased by adjusting the air inlet pressure at the regulator.**

• On two stage pumps, the air pressure regulator that is mounted on the pump controls only the output from the high pressure stage. The output of the low pressure stage of the pump is determined by the air line pressure coming from the remote regulator. A remote regulator is required to control the air pressure from the air line. The independent functioning of the low and high pressure stages of this pump can best be described as follows. At the minimum air line pressure of 40 PSI (3 BAR), the low pressure stage of the pump will deliver 480 PSI (33 BAR) hydraulic pressure (with the pump regulator turned counterclockwise to prevent air pressure from activating the high pressure stage of the pump.) At the minimum air line pressure of 40 PSI (3 BAR) the high pressure stage of the pump will deliver 4,000 PSI (275 BAR) hydraulic pressure (with the pump regulator turned clockwise to allow air pressure to reach the high pressure stage.) Always remember that the pump regulator must be turned fully counterclockwise when the pump is used to produce 1,200 PSI (83 BAR) or less.

PREVENTIVE MAINTENANCE

- IMPORTANT:**
- Any repair or servicing that requires dismantling the pump must be performed in a dirt-free environment by a qualified technician.
 - Dispose of machine and fluids properly.

Lubrication

For Hand/Foot, Manual Valve, and Remote Control Operated Pumps:

If the pump is operated on a continuous duty cycle for extended periods, the manufacturer recommends installing an automatic air line oiler in the air inlet line as close to the pumping unit as possible. Set the unit to feed approximately one drop of oil per minute into the system. Use SAE grade oil, 5W to 30W.

For Tandem Pumps:

These models have an integral air pressure regulator, air filter and lubricator. Set the lubricator to feed one drop of oil per minute to the system. Use SAE grade oil, 5W to 30W. For servicing the air regulator, lubricator and filter system, see the operating and service instructions provided.

Bleeding Air From The System

During the first moments of operation or after prolonged use, a significant amount of air may accumulate within the hydraulic system. This entrapped air may cause the cylinder to respond slowly or behave in an unstable manner. To remove the air, run the system through several cycles (extending and retracting the cylinder) free of any load. The cylinder must be at lower level than the pump to allow air to be released through the pump reservoir.

Inspecting The Hydraulic Fluid Level

Check the fluid level in the reservoir after every 10 hours of use. Drain and replenish the reservoir with Power Team hydraulic fluid after every 300 hours of use approximately.

For pumps with a 105 cubic inch (1.7 l) reservoir capacity:

The fluid level should be 1/2 inch (12.7 mm) from the filler/vent cap with all cylinders retracted.

For pumps with a 2 gallon (7.6 l) reservoir capacity:

The fluid level should be 1-3/4 inch (44.5 mm) from the filler/vent cap with all cylinders retracted.



Next
Page

Draining And Flushing The Reservoir

IMPORTANT: Wipe the pump exterior completely clean before attempting this procedure!

1. Remove the screws that fasten the pump assembly to the reservoir. Remove the pump assembly from the reservoir. Do not damage the gasket, filter or safety valve.
2. Drain the reservoir of all fluid and refill half full with clean hydraulic fluid. Rinse the filter clean.
3. Place the pump assembly back onto the reservoir, and secure with two of the machine screws assembled in opposite corners of the housing.
4. Run the unit for several minutes. Use the same method described in the section titled "Priming the Pump Unit."
5. Drain and clean the reservoir once more.
6. Refill the reservoir with Power Team hydraulic fluid and replace the pump assembly (with gasket) on the reservoir and install the screws. Torque the screws as follows: For 105 cubic inch (1.7 l) reservoirs, torque to 25 to 30 inch pounds (2.8 to 3.4 N•m); for 2 gallon (7.6 l) reservoirs, torque to 35 to 45 inch pounds (4.0 to 5.0 N•m)

IMPORTANT: Drain and clean the other hydraulic system components (hoses, cylinders, etc.) before reconnecting them to the pump. This will prevent contaminated fluid from entering the pump again.

Refilling The Reservoir

If additional fluid must be added to the reservoir, use only Power Team hydraulic fluid (215 SSU @ 100° F [38° C]). Clean the entire area around the filler plug before adding fluid to the reservoir. Remove the filler plug, and insert a clean funnel with filter. The cylinder must be fully retracted and the air supply disconnected when adding the fluid to the reservoir.

Periodic Cleaning

IMPORTANT: The greatest single cause of failure in hydraulic pumps is dirt. Keep the pump and attached equipment clean to prevent foreign matter from entering the system.

A routine should be established to keep the pump as free from dirt as possible. All unused couplers must be sealed with thread protectors. All hose connections must be free of grit and grime. Any equipment hooked up to the pump should also be kept clean. Use only Power Team hydraulic fluid in this unit and change as recommended (every 300 hours).

ACCESSORIES

Gauges and accessories may not be included with the pump. However, a hydraulic gauge is strongly recommended whenever the pump is used!



- WARNING:**
- The gauge must be of the proper rating for the pressure used!
 - Use only Power Team approved accessories, hydraulic fluid, and repair parts!

Installing An In-line Air Pressure Gauge

1. Remove the male fitting from the air filter and install a tee adapter, with gauge, between the hose and air filter.
2. Install male fitting into the tee adapter and securely clamp the hose to the male fitting.

Installing An In-line Hydraulic Pressure Gauge

1. Remove the thread protector from the hydraulic outlet port and inspect the threads and fittings for signs of wear.
2. Install a tee adapter, with gauge, between the hose coupling and the pump hydraulic outlet port.
3. Tighten all connections securely! **DO NOT OVERTIGHTEN HOSE CONNECTIONS.**

Fire-Resistant Hydraulic Fluid

Flame Out 220™ fire-resistant hydraulic fluid is compatible with all Power Team hydraulic equipment. The use of this fluid does not require the changing of seals in any Power Team pump or cylinder and is available through your local Power Team distributor.

OPERATOR TROUBLESHOOTING GUIDE

If this guide does not resolve your pump problem,
contact an authorized hydraulic service center or a company headquarters listed on back sheet 5 of 5.

PROBLEM	CAUSE	SOLUTION
Pump reciprocates but no fluid delivery (cylinder will not extend)	<ol style="list-style-type: none"> 1. Low fluid level. 2. Pump not primed. 3. Fluid intake filter contaminated. 	<ol style="list-style-type: none"> 1. Add fluid as instructed in Preventive Maintenance section. 2. Prime pump as instructed in Operation section. 3. Remove reservoir and clean intake filter and reinstall.
Low fluid delivery (cylinder extends slowly)	<ol style="list-style-type: none"> 1. Inadequate air supply <ol style="list-style-type: none"> a. Check air input supply. b. Contamination, check air side of pump (plugged air inlet screen). 2. Hydraulic failure <ol style="list-style-type: none"> a. Check the fluid inlet filter for contamination. b. Air in hydraulic system. 	<ol style="list-style-type: none"> 1. a. Should be 20 CFM (.57 M³/min.) minimum. b. Clean and reassemble. 2. a. Remove reservoir and clean intake filter and reinstall. b. Bleed the system as described in the Preventive Maintenance section.
Pump will not build to maximum pressure (no visible leakage)	<ol style="list-style-type: none"> 1. Check the air supply. 2. Pressure regulator improperly adjusted (if so equipped). 	<ol style="list-style-type: none"> 1. 100 PSI (7 BAR) is required to obtain maximum pressure. 2. Adjust according to instructions in Operation section.
Pump builds pressure but will not hold system pressure	<ol style="list-style-type: none"> 1. Check the hydraulic connections and other system components for leakage, including 3 way/4 way valve (if so equipped). 	<ol style="list-style-type: none"> 1. Refit or repair as needed.
Pump will continue to run slowly even after desired pressure is reached.	<ol style="list-style-type: none"> 1. Output pressure equal to or higher than relief valve setting. 2. Defective 3-way/4-way valve or other components leaking. 	<ol style="list-style-type: none"> 1. Normal operation. 2. Repair or replace.
Excess oil spray from muffler.	<ol style="list-style-type: none"> 1. Air lubricator is set too rich (if so equipped). 	<ol style="list-style-type: none"> 1. Set at one drop per minute.

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FAX: 1-800-765-8326

For more information, Internet address: <http://www.powerteam.com> (or) <http://www.hytec.com>

EC Declaration of Incorporation

as defined by
European Communities Directive 89/392/EEC, Annex II(B)

MANUFACTURER'S NAME:

SPX POWER TEAM®

MANUFACTURER'S ADDRESS:

5885 11th Street
Rockford, Illinois 61109
USATelephone: 815-874-5556
Fax: 815-874-7853

TYPE OF EQUIPMENT: RECIPROCATING AIR PISTON HYDRAULIC PUMP.

ORDER NUMBER OR PART NUMBER: PA4 Series, PA6 Series, PA50 Series, PA60, PA64, 52431,
58356, 203641-OTC, 203641-PF.APPLICATION OF EC COUNCIL DIRECTIVE(S): 89/392/EEC as amended by 91/368/EEC, 93/44/EEC,
and 93/68/EEC.

STANDARD(S) TO WHICH CONFORMITY IS DECLARED: EN292-1, and EN292-2.

I, the undersigned, hereby declare that the equipment specified above conforms to the above European Communities Directive(s) and Standard(s). This product is not to be put into service until the machine has been declared in conformity with the provisions of the European Communities Directive(s).

PLACE: Owatonna, Minnesota USA



(Signature)

DATE:

1 JAN 1995

(date / month / year)

Michael S. O'Brien

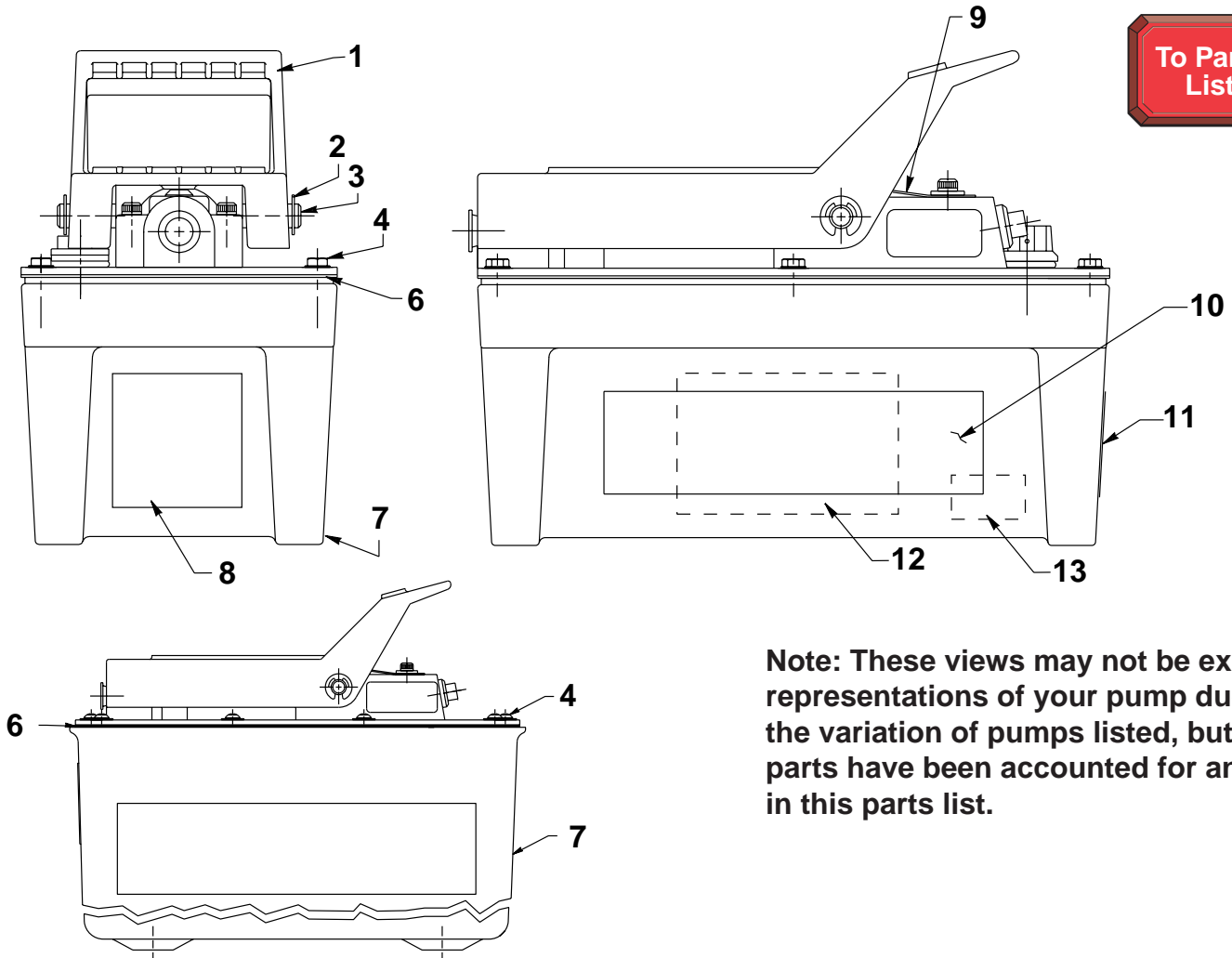
Director Quality / Technical Services

MODEL F AIR HYDRAULIC PUMP

This section covers these following pumps:

IMT200	PA6-CMS	PA6-PFAFF	PA6-2V	PA6M-CAR	PA6M-WCI	1U-7545
PA6	PA6-HUNT	PA6-PRO	PA6-2-FS-LR	PA6M-CHIEF	PA6M-1	203641-PF
PA6-AMH	PA6-HUTH	PA6-SEAL	PA6A	PA6M-DE-STA-CO	PA6M-1-CAR	58430
PA6-AW	PA6-HYDRA	PA6-TAL	PA6AM	PA6M-DK	PA6M-1-STEL	70130-Y12
PA6-AERO	PA6-KJ	PA6-2	PA6AUTO ROBOT	PA6M-PF	PA6M-2	(PA6M-DES-50)
PA6-AUTO	PA6-LUAM	PA6-2-CM	PA6E	PA6M-PFAFF	PA6N	910301
PA6-BEST	PA6-LUKAS	PA6-2E	PA6FACOM	PA6M-PL	PA6-SS	910303
PA6-CB	PA6-NT	PA6-2N	PA6M	PA6M-ROM	PA6V	

- More models are listed in Parts List 101950.-



Note: These views may not be exact representations of your pump due to the variation of pumps listed, but all parts have been accounted for and are in this parts list.

Two gallon reservoir.

Parts List, Form No. 101652, Back sheet 1 of 6

Item No.	Part No.	No. Req'd	Description
1	41322	1	Foot Pedal (For all except PA6AUTO ROBOT, PA6-TAL, PA6M-WCI, PA6-HUNT & PA6FACOM)
	58605	1	Foot Pedal (For PA6FACOM)
	58768BK9	1	Foot Pedal (For PA6AUTO ROBOT)
	47696BK2	1	Hand Pedal (For PA6-TAL)
2	*11032	2	Retaining Ring (For all except PA6M-WCI & PA6-HUNT; For 3/8 shaft)
3	28386	1	Pin (For all except PA6-TAL, PA6-HUNT & PA6M-WCI)
	215709	1	Pin (For PA6-TAL)
4	211060	6	Screw (#9-15 X 1" Lg.; Torque to 25/35 in. lbs.; For PA6, PA6-AERO, PA6-AMH, PA6-AUTO, PA6-BEST, PA6-CB, PA6-HUTH, PA6-KJ, PA6-NT, PA6A, PA6-TAL, PA6-PRO, 1U-7545, PA6-LUKAS, PA6-PFAFF, PA6AUTO ROBOT, PA6-SS & PA6-AW)
	211060	12	Screw (#9-15 X 1" Lg.; Torque to 25/35 in. lbs.; For IMT200)
	215952	6	Screw (10-24 X 5/8; Self-Tapping; Torque to 35/42 in. lbs.; For PA6-LUAM, PA6AM, PA6FACOM, PA6M, PA6M-CHIEF, PA6-HYDRA, PA6M-PF, PA6M-PL, PA6M-WCI, 203641-PF, 58430, PA6M-ROM, PA6M-CAR, 910301, 910303, PA6M-DE-STA-CO, PA6M-DES-50, PA6M-PFAFF, PA6M-DK & PA6-CMS)
	215952 & 251677	6	Screw (10-24 x 5/8; Self Tapping; Torque to 25/35 in. lbs.) and Seal Washer (.50 x .19; For PA6-SEAL only)
	215952	8	Screw (10-24 X 5/8; Self-Tapping; Torque to 25/35 in. lbs.; For PA6-HUNT)
	252168	10	Screw (Torque to 35/45 in. lbs.; For PA6-2 & PA6-2-FS-LR)
	252168	14	Screw (Torque to 35/45 in. lbs.; For PA6-2-CM)
	252952	12	Screw (1/4-20 UNC X 3/4 Lg; Apply Loctite 242 or equiv.; Torque to 35/45 in. lbs.; For PA6M-1, PA6M-1-CAR & PA6M-1-STEL)
	252952	10	Screw (1/4-20 UNC X 3/4 Lg; Apply Loctite 242 or equiv.; Torque to 35/45 in. lbs.; For PA6M-2)
6	*33853	1	Reservoir Gasket (For all except PA6-2, PA6-2E, PA6-2N, PA6-2V, PA6M-1, IMT200, PA6-HUNT, PA6-2-FS-LR & PA6M-2)
	*46271	1	Reservoir Gasket (For PA6M-1, IMT200, PA6M-1-CAR & PA6M-1-STEL)
	*47409	1	Reservoir Gasket (For PA6-2, PA6-2E, PA6-2N, PA6-2V, PA6M-2, PA6-2-FS-LR & PA6-2-CM)
	*47675	1	Reservoir Gasket (For PA6-HUNT)

Item No.	Part No.	No. Req'd	Description
7	61243	1	Reservoir (Plastic; For PA6, PA6-AERO, PA6-AMH, PA6-AUTO, PA6-BEST, PA6-CB, PA6-HUTH, PA6A, PA6AUTO ROBOT, PA6-NT, PA6-PRO, PA6-LUKAS, PA6-PFAFF, 1U-7545, PA6-TAL, PA6-SS & PA6-AW)
	41300WH2	1	Reservoir (Metal; For PA6-HYDRA, PA6AM, PA6M, PA6M-CHIEF, PA6M-WCI, PA6M-DE-STA-CO, PA6M-DES-50, PA6M-PL, PA6M-CAR, 910301, 910303, 58430, PA6-SEAL & PA6M-DK)
	350887OR7	1	Reservoir (For PA6M-ROM)
	61368	1	Reservoir (For IMT200)
	62007	1	Reservoir (For PA6-HUNT)
	41300RE2	1	Reservoir (For PA6FACOM & PA6M-PF)
	45846	1	Reservoir (For PA6-LUAM)
	309911	1	Reservoir (For PA6-KJ)
	64153OR9	1	Reservoir (For PA6M-1, PA6M-1-CAR & PA6M-1-STEL)
	40063OR9	1	Reservoir (2 gal. metal; For PA6M-2)
	61165	1	Reservoir (2 gal. plastic; For PA6-2, PA6-2-FS-LR & PA6-2-CM)
	41300BL11	1	Reservoir (For 203641-PF)
	41300BL6	1	Reservoir (For PA6M-PFAFF)
	41300BK2	1	Reservoir (For PA6-CMS)
8	*305494	1	Decal (For PA6-AERO, PA6-AMH, PA6-CB, PA6-LUAM, PA6-2, PA6-2E, PA6-2N, PA6-2V, PA6AUTO ROBOT, PA6M-PF, PA6M-WCI, 203641-PF, 58430, 910301, 910303, PA6-2-FS-LR, PA6M-1, PA6M-2, PA6-2-CM, PA6-AW, PA6M-1-CAR & PA6M-1-STEL)
	305494F	1	Decal (French; For PA6-PRO)
	251547	1	Instruction Decal (For HYP.23)
9	302466	1	Spring Clip (For all except PA6AUTO ROBOT, PA6M-CHIEF, PA6M-PF, PA6-HUNT & PA6M-WCI)
10	305496	1	Trade Name Decal (For PA6-AMH, PA6-AUTO, PA6-BEST, PA6-HUTH, PA6-HYDRA, PA6-NT, PA6M-CHIEF, PA6M-DE-STA-CO, PA6M-DES-50, PA6-TAL, PA6M-PL & PA6-SS)
	305496CE	1	Trade Name Decal (For PA6, PA6A, PA6AM, PA6M, PA6M-CAR & PA6-SEAL)
	213883	1	Trade Name Decal (For PA6AUTO ROBOT)
	350657	2	Decal (For PA6-CB)
	309219	2	Decal (For PA6-2-CM, PA6M-1-CAR & PA6M-1-STEL)
	309219CE	2	Decal (For PA6M-1, PA6-2 & PA6M-2)
	350643	2	Trade Name Decal (For 58430)
	13758	1	Trade Name Decal (For 1U-7545)
	212833	1	Trade Name Decal (For 910303)
	212834	1	Trade Name Decal (For 910301)
	252186	2	Trade Name Decal (For PA6-PFAFF & PA6M-PFAFF)
	350687	2	Trade Name Decal (For PA6-PRO)

Part numbers marked with an asterisk (*) are contained in a Repair Kit see sheet 6 of 6 for individual repair kit information.

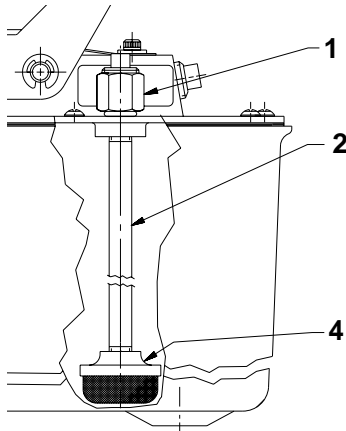
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Item No.	Part No.	No. Req'd	Description	Item No.	Part No.	No. Req'd	Description		
11	251762	1	Warning Decal (For PA6, PA6-2, PA6A, PA6M-KSHIM, PA6AM, PA6E, PA6M, PA6M-1, PA6M-2, PA6N, PA6M-CAR, PA6M-ROM, PA6-2-FS-LR, PA6V, PA6-2-CM, PA6-SS, PA6-AW, PA6M-1-STEL & PA6-CMS)	10177		4	Screw (1/4-20 UNC X 3/4 Lg; For pump mounting purposes only; For PA6M-2)		
	251762-CE	1	Warning Decal (For PA6-PFAFF, PA6-PRO, PA6M-DE-STA-CO, PA6M-DES-50 & PA6M-PFAFF)	10469		1	Straight Fitting (3/8 NPTF; For PA6-KJ)		
12	350568	1	Decal (For PA6AUTO ROBOT; Locate on opposite side as shown.)	250952		1	Plug Fitting (3/8 NPTF; For PA6-KJ)		
	250614	1	Decal (For 910303; Locate on opposite side as shown.)	16232		1	Plug Fitting (3/8 PTF; For PA6-LUAM; Note: Apply Thread sealant)		
13	251731	1	Decal (For 910303; Locate on opposite side as shown.)	212836		1	Decal (For 910301)		
				215951		2	Screws (1/4-20 X 3/4; For PA6-HUNT)		
				250707		1	Quick Coupler (For IMT200)		
				251617		1	Quick Coupler (For IMT200)		
				39910		1	Rubber Hose (8'; For IMT200)		
				252024		1	Serial Number Decal (PFAFF; For PA6-PFAFF)		
				253522		1	Serial Number Decal (PFAFF; For PA6M-PFAFF)		
				39910		1	Hydraulic Hose (For PA6M-1-STEL)		
				25599		1	Male Hose Half Coupler (For PA6M-1-STEL)		
				9800		1	Dust Cap (For PA6M-1-STEL)		
				9769		1	Hose (10' Polyurethane; For PA6-AMH)		
PARTS INCLUDED BUT NOT SHOWN 211060 4 Screw (#9-15 X 1" Lg.; Torque to 25/35 in. lbs.; For pump mounting purposes only; For PA6-HUTH, PA6-KJ, PA6N, PA6A, PA6, PA6-AW, PA6-AERO, PA6-AUTO, PA6-BEST, PA6-CB, PA6-TAL, PA6-LUKAS, PA6-PFAFF, PA6-PRO, PA6-SS)				215951 4 Screw (10-24 X 5/8; For pump mounting purposes only; For PA6-HYDRA)				Part numbers marked with an asterisk (*) are contained in a Repair Kit see sheet 6 of 6 for individual repair kit information.	
252168 4 Screw (1/4-10 X 1 Lg.; For pump mtg. purposes only; For PA6-2 & PA6-2-FS-LR)									

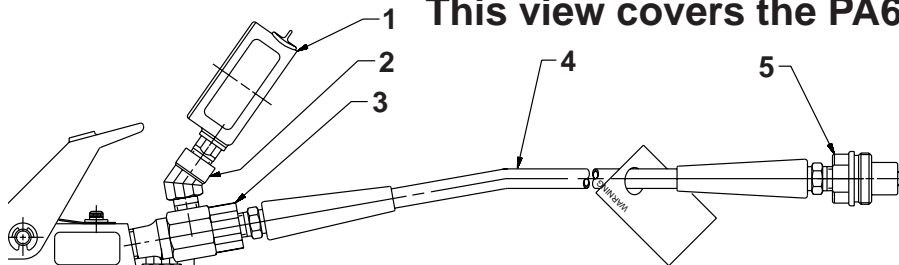


This view covers the PA6-2-CM Only.



Item No.	Part No.	No. Req'd	Description
1	253185	1	Straight Fitting (3/8 NPTF)
2	12753	1	Straight Fitting
4	15417	1	Suction Strainer

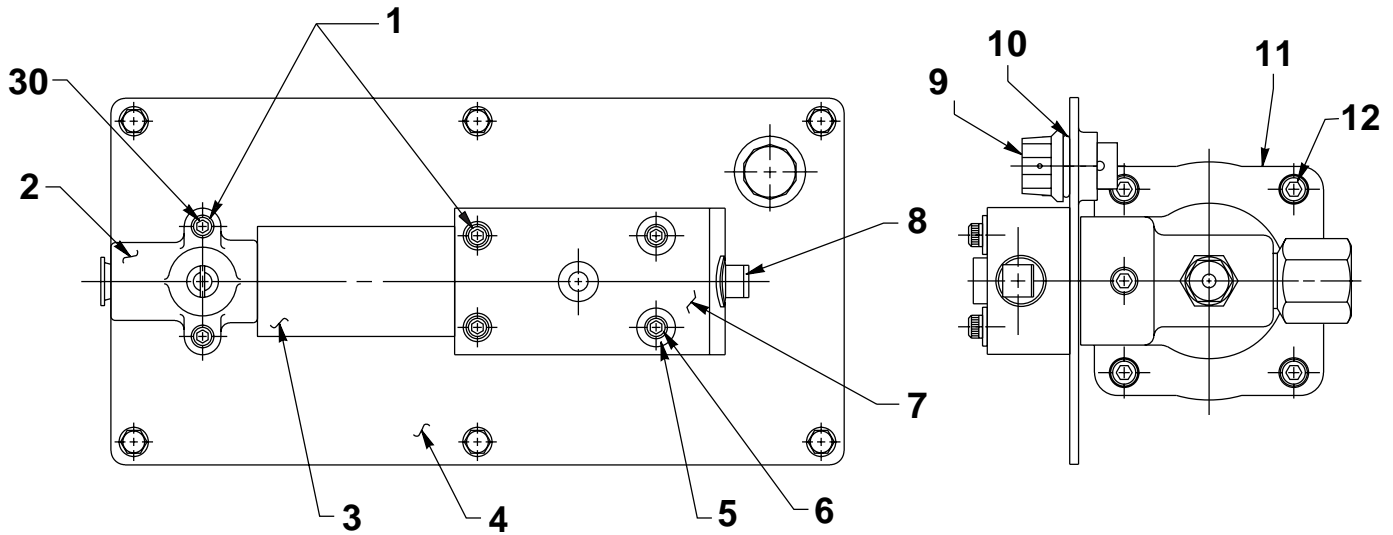
This view covers the PA6-SS Only.



Item No.	Part No.	No. Req'd	Description
1	9040	1	Guage (10,000 PSI, 2 1/2" Dia.)
2	10645	1	Fitting, Elbow (45 deg., 1/4 NPTF)
3	9670	1	Fitting, Tee (1/4 x 3/8 x 3/8)
4	350167	1	Hose (6' Rubber)
5	25599	1	Coupler, Hose Half

TOP & END VIEWS

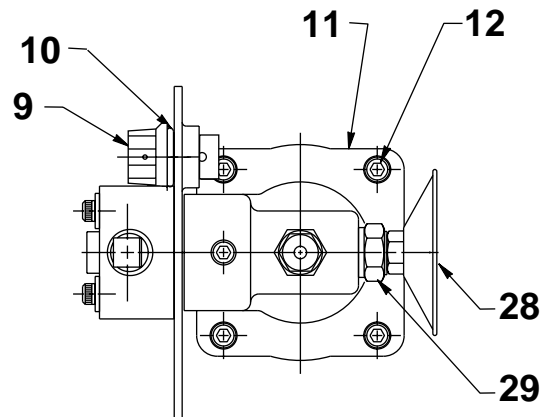
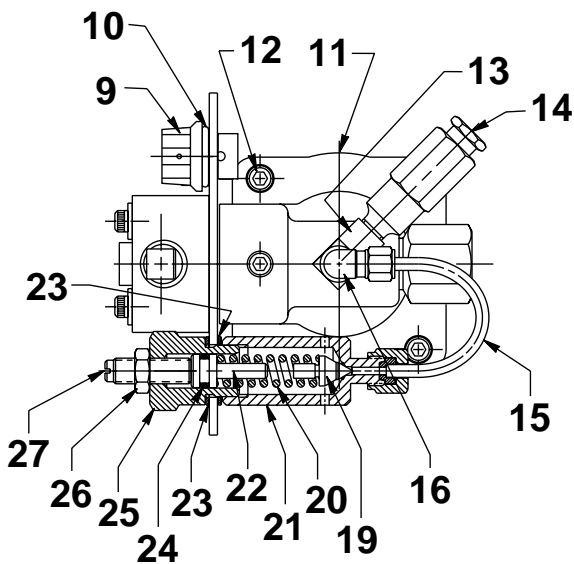
Note: These views may not be exact representations of your pump due to the variation of pumps listed, but all parts have been accounted for and are in this parts list.



ALTERNATE END VIEWS

For PA6AM & PA6A Only

For PA6-HYDRA Only



Item No.	Part No.	No. Req'd	Description	Item No.	Part No.	No. Req'd	Description
1	11151	4	Cap Screw (10-24 UNC X 1-1/4 Lg.; Torque to 50/60 in. lbs.; For all except PA6-HUNT)	8	11127	1	Pressure Plug (3/8 NPTF; For all except PA6-KJ, PA6-HUNT & PA6-SS)
	11151	2	Cap Screw (10-24 UNC X 1-1/4 Lg.; Torque to 50/60 in. lbs.; For PA6-HUNT)		11048	1	Plug Fitting (1/8 NPTF; For PA6-HUNT)
2	37199	1	Intake Air Valve Body (For all except PA6-TAL, IMT200 & PA6-HUNT)		12203	1	Straight Fitting (3/8 NPTF; For PA6-HUNT)
	309246	1	Intake Air Valve Body (For PA6-TAL)	252343		1	Plug Fitting (1/4 BSP; For PA6M-ROM)
	33843	1	Intake Air Valve Body (For IMT200)	9	251689	1	Breather/Filler Cap
	351348	1	Intake Air Valve Body (For PA6M-ROM)	10	*10273	1	O-ring (13/16 X 5/8 X 3/32; Nitrile; For all except PA6-2E, PA6-2V, PA6E & PA6V)
3	*29992	1	Foam Tube (For all except PA6-HUNT)		18999	1	O-ring (13/16 X 5/8 X 3/32; Viton; For PA6-2V & PA6V)
	15459	1	Muffler (For PA6-HUNT)	250157		1	O-ring (13/16 X 5/8 X 3/32; EPR; For PA6-2E & PA6E)
4	420965BK2	1	Cover Plate (For all except PA6-2, PA6-2E, PA6-2N, PA6-2V, PA6A, PA6AM, PA6M-1, PA6M-2, IMT200, PA6-HUNT, PA6-LUKAS)	11	64767	1	Pump Body
	421156BK2	1	Cover Plate (For PA6A & PA6AM)	12	17428	4	Soc. Hd. Cap Screw (1/4-20 UNC X 3-1/2 Lg.; Torque to 85/95 in. lbs. oiled. Note: Cross torque in increments of 30 in. lbs.)
	58688BK2	1	Cover Plate (For PA6M-1, IMT200, PA6M-1-CAR & PA6M-1-STEL)	13	18969	1	Tee Fitting (For PA6A & PA6AM)
	58706BK2	1	Cover Plate (For PA6-2, PA-2E, PA6-2N, PA6-2V, PA6M-2 & PA6-2-FS-LR)	14	-----	-	Relief Valve (When ordering a replacement relief valve refer to stamped number on the outside of the relief valve. See note below. Apply loctite 592 [Power Team #905516] or equiv. & torque to 150/170 in. lbs.)
	421173BK2	1	Cover Plate (For PA6-LUKAS)	15	253366	1	Tubing Assembly (For PA6A & PA6AM)
	421164BK2	1	Cover Plate (For PA6-HUNT)	16	16177	1	90° Elbow Fitting (For PA6A & PA6AM)
	59078BK2	1	Cover Plate (For PA6-2-CM)	19	21046	1	Valve Body (For PA6A & PA6AM)
5	11089	2	Washer (#10 bolt)	20	*10495	1	Spring (1/2 O.D. X 1-5/8 Lg.; For PA6A & PA6AM)
6	11435	2	Soc. Hd. Cap Screw (10-24 UNC x 1-3/4 Lg.; Torque to 50/60 in. lbs.; For all except PA6-HUNT)	21	22361	1	Valve Body (For PA6A & PA6AM)
	11151	2	Cap Screw (10-24 UNC X 1-1/4 Lg.; Torque to 50/60 in. lbs.; For PA6-HUNT)	22	21306	1	Spring Guide (For PA6A & PA6AM)
7	58563	1	Release Valve Body (For all except PA6M-CHIEF, PA6-TAL, PA6-HUNT & PA6M-PL)	23	10263	2	Special Washer (1" X .765 X 1/32; For PA6A & PA6AM; Note: Apply Permatex #80019 sealant or equiv. to both sides of <u>bottom</u> washer only.)
	58579	1	Release Valve Body (For PA6M-CHIEF, PA6-TAL & PA6M-PL)	24	*10268	1	O-ring (1/2 X 3/8 X 1/16; For PA6A & PA6AM)
	58817	1	Release Valve Body (For PA6-HUNT)	25	21305	1	Valve Cup (For PA6A & PA6AM)
	58858	1	Release Valve Body (For PA6M-ROM)				

Continued -

Part numbers marked with an asterisk (*) are contained in a Repair Kit see sheet 6 of 6 for individual repair kit information.

NOTE:

Standard relief valves are set at 10,100/10,700 PSI.
 Relief valves pre-set at special settings are available.
 Refer to your pump model number or contact Power Team Technical Services.



Parts List, Form No. 101652, Back sheet 3 of 6

Item No.	Part No.	No. Req'd	Description
26	10386	1	Hex Jam Nut (3/8-24 UNF; For PA6A & PA6AM)
27	22362	1	Valve Body (For PA6A & PA6AM)
28	29682	1	Filter (For PA6A-HYDRA)
29	350553	1	Tee Fitting (Torque to 40/50 ft. lbs. oiled; Apply permatex to external threads of the filter adapter; For PA6A-HYDRA)
30	11434	2	Screw (10-24 X 1/2 ; For PA6-HUNT)

PARTS INCLUDED BUT NOT SHOWN

205724	1	Attention Decal (For PA6-2V & PA6V)
215709	1	Pin (For PA6-TAL)

Item No.	Part No.	No. Req'd	Description
	250328	1	Attention Decal (For PA6-2E & PA6E)
	13270	1	Plastic Cap (For PA6-HUNT)
	16023	1	Cable Clamp (For PA6-HUNT)
	212830	1	Caution Decal (For 910301 & 910303)
	253283	1	Name Plate (For PA6FACOM)
	10474	1	90° Elbow Fitting (3/8 NPTF; For PA6-LUKAS)
	11127	1	Plug Fitting (3/8 NPTF; For PA6-LUKAS)



Part numbers marked with an asterisk (*) are contained in a Repair Kit see sheet 6 of 6 for individual repair kit information.

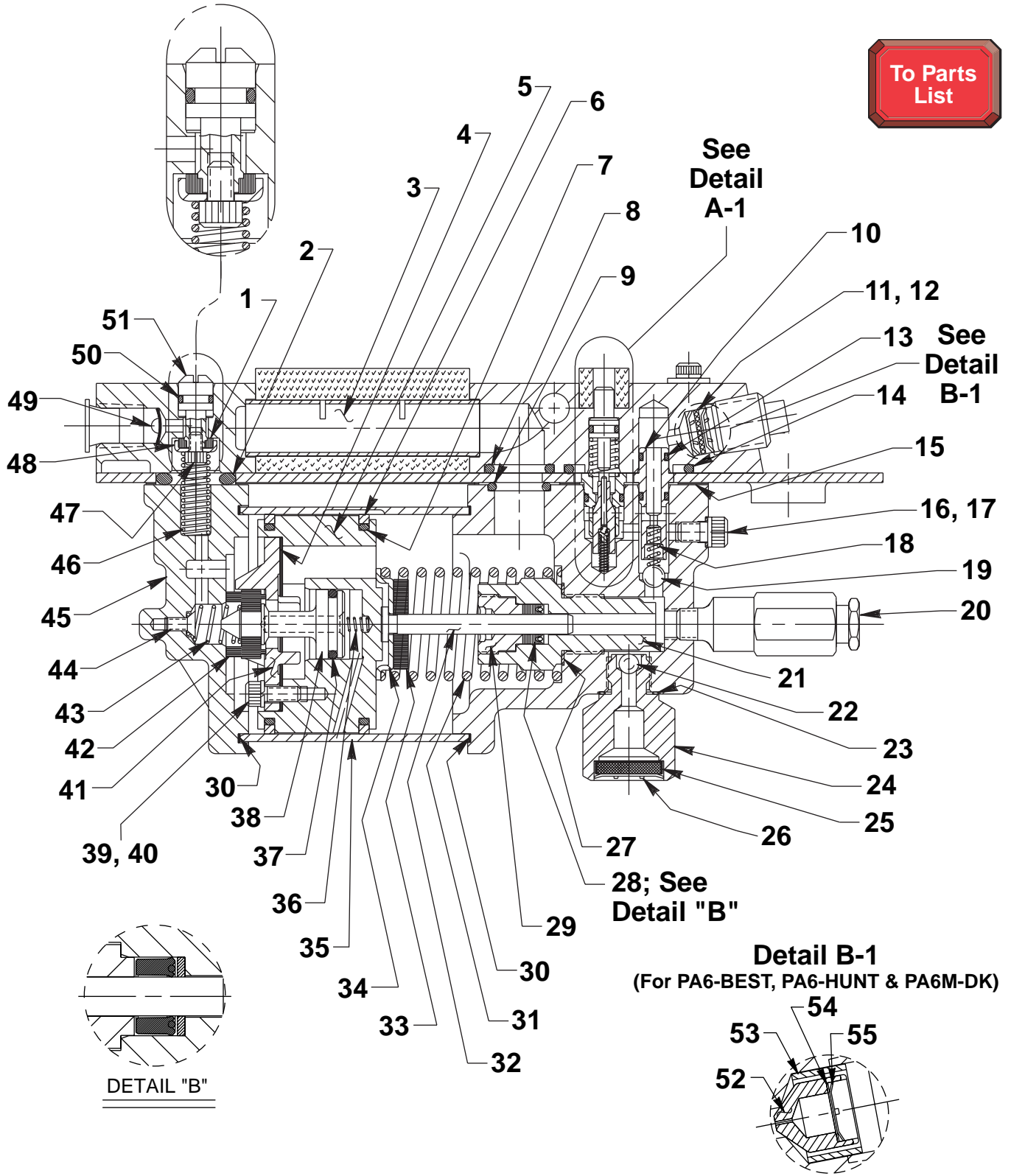
Refer to any operating instructions included with this product for detailed information about operation, testing, disassembly, reassembly, and preventive maintenance.

Items found in this parts list have been carefully tested and selected. **Therefore: Use only genuine Power Team replacement parts!**

Additional questions can be directed to our Technical Services Department.

BASIC PUMP ASSEMBLY

Note: These views may not be exact representations of your pump due to the variation of pumps listed, but all parts have been accounted for and are in this parts list.



Parts List, Form No. 101652, Back sheet 4 of 6

Item No.	Part No.	No. Req'd	Description	Item No.	Part No.	No. Req'd	Description
1	*28182	1	Air Valve Poppet (For all except PA6-TAL & PA6-HUNT)	15	*351021	1	Gasket
2	*251717	1	O-ring (1" x 5/8 x 3/16; For all except PA6E, PA6V, PA6-2E, PA6-HUNT & PA6-2V)	16	*10442	1	Washer (3/8 X 1/4 X 1/32)
	251718	1	O-ring (1" x 5/8 x 3/16; For PA6-2V & PA6V)	17	10002	1	Cap Screw (1/4-20 UNC X 3/8 Lg.; Torque to 90/110 in. lbs.)
	251719	1	O-ring (1" x 5/8 x 3/16; For PA6-2E & PA6E)	18	*10445	1	Compression Spring (5/32 O.D. X 3/4 Lg.)
3	28387	1	Muffler (For all except PA6-HUNT)	19	*10423	1	Steel Ball (9/32 Dia.; For all except PA6M-2, PA6-2, PA6-2E, PA6-2N, PA6-2V & PA6-2-FS-LR)
4	*28239	1	Gasket		*10423	2	Steel Ball (9/32 Dia.; For PA6M-2, PA6-2, PA6-2E, PA6-2N, PA6-2V & PA6-2-FS-LR)
5	52390	1	Piston Body	20	-----	-	Relief Valve (When ordering a replacement relief valve refer to stamped number on the outside of the relief valve. See note below. Apply loctite 592 [Power Team #905516] or equiv. & torque to 150/170 in. lbs.)
6	*14265	2	Piston Ring (For all except PA6-HYDRA & PA6-SEAL)	21	45278	1	Piston Cylinder (Torque to 90/100 ft. lbs. oiled.)
	*252347	2	Piston Ring (For PA6-HYDRA & PA6-SEAL)	22	*10375	1	Steel Ball (1/4 Dia.; For all except PA6-2E, PA6-2N, PA6-2V, PA6-2, PA6-2-FS-LR & PA6M-2)
7	*251835	2	O-ring (2-5/16 x 2-1/8 x 3/32; For all except PA6E, PA6V, PA6-2E, PA6-2V, PA6-HYDRA & PA6-SEAL)	23	*10261	1	Copper Washer (3/4 X 19/32 X 1/32)
	251865	2	O-ring (2-5/16 x 2-1/8 x 3/32; For PA6-2V & PA6V)	24	308893	1	Filter Adapter (Torque to 40/50 ft. lbs. oiled.; For all except PA6-2E, PA6-2N, PA6-2V, PA6-HYDRA, PA6-2, PA6M-2, PA6-2-FS-LR, PA6-HUNT & PA6-SEAL; See back sheet 5 of 6 for pumps with 2 gal. reservoirs.)
	251866	2	O-ring (2-5/16 x 2-1/8 x 3/32; For PA6-2E & PA6E)		308366	1	Filter Adapter (Torque to 40/50 ft. lbs. oiled.; For PA6-HUNT)
	252348	2	O-ring (2-5/16 x 2-1/8 x 3/32; For PA6-HYDRA & PA6-SEAL)		350553	1	Filter Adapter Torque to 40/50 ft. lbs. oiled, For PA6-SEAL)
8	*10276	1	O-ring (1" X 3/4 X 1/8; For all except PA6E, PA6V, PA6-2E & PA6-2V)	25	214578	1	Filter (For all reservoir sizes except 2 gal. reservoirs built after June 1, 1998; For all except PA6-SEAL)
	19026	1	O-ring (1" X 3/4 X 1/8; For PA6V & PA6-2V)		29682	1	Filter (For PA6-SEAL)
	250188	1	O-ring (1" X 3/4 X 1/8; For PA6E & PA6-2E)	26	214586	1	Retaining Ring (Internal; For all reservoir sizes except 2 gal. reservoirs built after June 1, 1998; PA6-HYDRA & PA6-SEAL)
9	*10272	1	O-ring (3/4 X 9/16 X 3/32; For all except PA6M, PA6M-DE-STA-CO, PA6-2E, PA6-2V, PA6V, PA6M-CAR, PA6E & PA6M-DK)	27	*10263	1	Copper Washer (1" X .765 X 1/32)
	*10272	2	O-ring (3/4 X 9/16 X 3/32; For PA6M, PA6M-CAR, PA6M-ROM, PA6M-DE-STA-CO & PA6M-DK)	28	*13934	1	U-cup & Backup
	18998	1	O-ring (3/4 X 9/16 X 3/32; For PA6-2V & PA6V)	29	*304295	1	Retainer (Note: See "INSTRUCTIONS FOR RETAINER REPLACEMENT" on back sheet 6 of 6)
	250194	1	O-ring (3/4 X 9/16 X 3/32; For PA6-2E & PA6E)	30	*17429	2	Backup Washer (2-15/16 X 2-3/4 X .045)
10	34378	1	Check Valve Body	31	*13938	1	Compression Spring (1.452 O.D. X 4-7/16 Lg.)
11	*250638	1	Filter Disc (For all except PA6-HYDRA, PA6-HUNT, PA6-BEST & PA6-SEAL)	32	28226	1	Piston
12	*11088	2	Retaining Ring (9/16 hole; For all except PA6-HYDRA, PA6-HUNT, PA6-BEST & PA6-SEAL)	33	203143	1	Bumper
13	*12522	2	O-ring (3/8 X 1/4 X 1/16; Urethane; For all except PA6E, PA6V, PA6-2E, & PA6-2V)	34	210994	1	Spring Guide
	11438	2	O-ring (3/8 X 1/4 X 1/16; For PA6V & PA6-2V)	35	37434	1	Air Cylinder (Note: Locate groove on upper half (top) of pump with chamfered tube end towards rear head as shown.)
	17715	2	O-ring (3/8 X 1/4 X 1/16; For PA6E & PA6-2E)				
	211053	2	O-ring (.37 x .25; For PA6M-1-STEL)				
14	*11841	1	O-ring (1-5/8 x 1-3/8 x 1/8; For all except PA6E, PA6V, PA6-2E & PA6-2V)				
	19035	1	O-ring (1-5/8 x 1-3/8 x 1/8; For PA6V & PA6-2V)				
	251695	1	O-ring (1-5/8 x 1-3/8 x 1/8; For PA6E & PA6-2E)				

Part numbers marked with an asterisk (*) are contained in a Repair Kit see sheet 6 of 6 for individual repair kit information.

NOTE:

Standard relief valves are set at 10,100/10,700 PSI.

Relief valves pre-set at special settings are available.

Refer to your pump model number or contact Power Team Technical Services.



Note: Shaded areas reflect last revision(s) made to this form.

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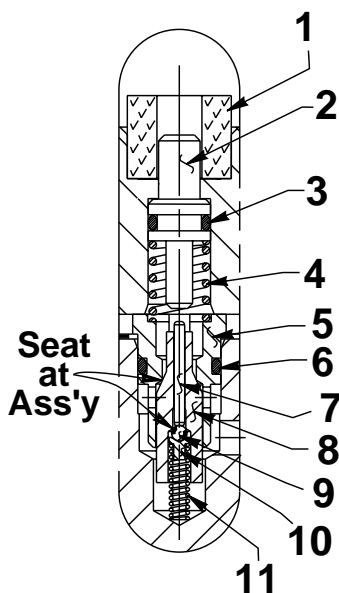
Item No.	Part No.	No. Req'd	Description	Item No.	Part No.	No. Req'd	Description
36	*12692	1	Compression Spring (3/16 O.D. X 1-11/16 Lg.)	48	28198	1	Seal Guide (For all except PA6-TAL & PA6-HUNT)
37	*211052	1	O-ring (.900 X .706 X .097; For all except PA6E, PA6V, PA6-2E & PA6-2V)	49	*216296	1	Filter Disc (For all except PA6-HUNT)
	250192	1	O-ring (.900 X .706 X .097; For PA6V & PA6-2V)	50	*10267	1	O-ring (7/16 X 5/16 X 1/16; For all except PA6V, PA6E, PA6-2E, PA6-TAL, PA6-HUNT & PA6-2V)
	250193	1	O-ring (.900 X .706 X .097; For PA6E & PA6-2E)		18974	1	O-ring (7/16 X 5/16 X 1/16; For PA6V & PA6-2V)
38	305475	1	Exhaust Valve Stem		13472	1	O-ring (7/16 X 5/16 X 1/16; For PA6E & PA6-2E)
39	*10241	3	Lockwasher (For #10 bolt)	51	33841	1	Actuator Button (For all except PA6-TAL & PA6-HUNT)
40	211054	3	Screw (#10-24 X 1/2 Lg.; Torque to 50/55 in. lbs.)	52	214584	1	Poppet (For PA6-BEST, PA6-HUNT & PA6M-DK)
41	33822	1	Piston End Plate	53	214583	1	Retaining Sleeve (For PA6-BEST, PA6-HUNT & PA6M-DK)
42	*28183	1	Piston Poppet	54	214596	1	Filter Disc (For PA6-BEST, PA6-HUNT & PA6M-DK)
43	*205679	1	Compression Spring (.485 O.D. X .915 Lg.)	55	12201	1	Internal Retaining Ring (3/8 Shaft; For PA6-BEST, PA6-HUNT & PA6M-DK)
44	*205674	1	Screw (8-32 UNC X 3/8 Lg.; Torque to 12/18 in. lbs.)				
45	51480	1	Rear Head (For all except PA6-HUNT)				
	37468	1	Rear Head (For PA6-HUNT)				
46	12691	1	Compression Spring (3/8 O.D. X 1-1/2 Lg.; For all except PA6-TAL & PA6-HUNT)				
47	13936	1	Soc. Hd. Cap Screw (8-32 UNC X 1/4 Lg.; For all except PA6-TAL & PA6-HUNT)				

PARTS INCLUDED BUT NOT SHOWN

14972	1	Plug Fitting (1/4 PTF; Replaces air pressure valve parts; For PA6-TAL)
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DETAIL "A-1"



Item No.	Part No.	No. Req'd	Description
1	*206504	1	Foam Tube
2	28227	1	Release Valve Button
3	*10266	1	O-ring (3/8 X 1/4 X 1/16; For all except PA6-2E, PA6-2V, PA6E & PA6V)
	11438	1	O-ring (3/8 X 1/4 X 1/16; For PA6-2V & PA6V)
	17715	1	O-ring (3/8 X 1/4 X 1/16; For PA6-2E & PA6E)
4	*13944	1	Compression Spring (3/8 O.D. X 1/2 Lg.; For all except PA6M-CHIEF, PA6-TAL & PA6M-PL)
	*251297	1	Compression Spring (For PA6-TAL, PA6M-CHIEF & PA6M-PL)
5	34377	1	Poppet Retainer
6	*15279	1	O-ring (1/2 X 3/8 X 1/16; For all except PA6-2E, PA6-2V, PA6E & PA6V)
	19775	1	O-ring (1/2 X 3/8 X 1/16; For PA6-2V & PA6V)
	17716	1	O-ring (1/2 X 3/8 X 1/16; For PA6-2E & PA6E)
7	13937	1	Dowel Pin (Note: Place tapered end toward ball.; For all except PA6-HUNT)
8	29037	1	Release Valve Poppet
9	*14443	1	Steel Ball (3/32 Dia.)
10	209736	1	Ball Retainer
11	*13959	1	Compression Spring (1/8 O.D. x 1/2 Lg.)

PARTS INCLUDED BUT NOT SHOWN

*15620	1	Oil Shaft Seal (For PA6-TAL, PA6M-CHIEF & PA6M-PL)
12184	2	Backup Washer (For PA6-HUNT)

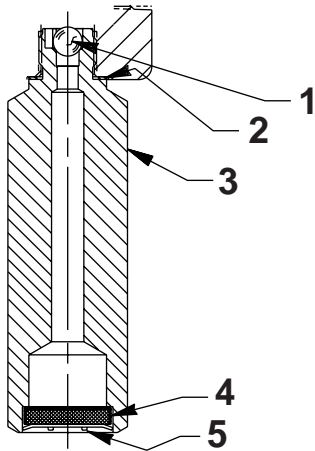
Part numbers marked with an asterisk (*) are contained in a Repair Kit see sheet 6 of 6 for individual repair kit information.

Sheet No. 5 of 6

Rev. 35 Date: 29 Mar. 2001

FILTER ADAPTER ASSEMBLY BEFORE 6/1/98

For 2 Gallon Reservoirs Only

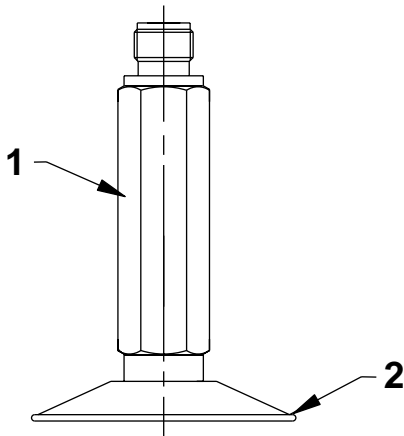


Item No.	Part No.	No. Req'd	Description
1	*10423	1	Ball (9/32 Dia.)
2	*10261	1	Special Washer (3/4 x 19/32 x 1/32)
3	48007	1	Filter Adapter (Torque to 40/50 ft. lbs. oiled.; For PA6-2E, PA6-2N, PA6-2V, PA6-2, PA6-HUNT, PA6-2-FS-LR, PA6M-2 & PA6-2-CM)
4	214578	1	Filter
5	214586	1	Retaining Ring (.63 x .015)

Part numbers marked with an asterisk (*) are contained in a Repair Kit see sheet 6 of 6 for individual repair kit information.

FILTER ADAPTER ASSEMBLY AFTER 6/1/98

For 2 Gallon Reservoirs Only
(Reference Part Number 48007)



Item No.	Part No.	No. Req'd	Description
1	422016	1	Filter Adapter
2	29682	1	Filter

REPAIR KITS**No. 300805**

PA6
PA6M
PA6M-DE-STA-CO
PA6M-DES-50
PA6N
58430
PA6M-CAR
PA6M-PFAFF
PA6M-ROM
PA6-SS
PA6-AW
PA6M-DK
PA6M-1-CAR
PA6-CMS

No. 300837

PA6-AERO
PA6-AMH
PA6-AUTO
PA6-BEST
PA6-CB
PA6-HUTH
PA6-KJ
PA6-LUAM
PA6-NT
PA6AUTO ROBOT
PA6FACOM
PA6M-PF
203641-PF
1U-7545
910301
910303
PA6-PRO
PA6-PFAFF

No. 300840

PA6A
PA6AM

No. 300831

PA6M-1
PA6M-1-STEL

No. 300848

PA6-2
PA6-2N
PA6M-2
PA6-2-FS-LR
PA6-2-CM

No. 300842

IMT200

No. 300849

PA6-LUKAS

No. 300817

PA6M-CHIEF
PA6M-PL

No. 300843

PA6-HUNT

No. 300964

PA6-HYDRA
PA6-SEAL

INSTRUCTIONS FOR RETAINER REPLACEMENT

Your pump's retainer is locked into place by one of the two following methods. Determine which method was used on your pump's retainer, then follow the appropriate steps to remove the old and install and stake the new.

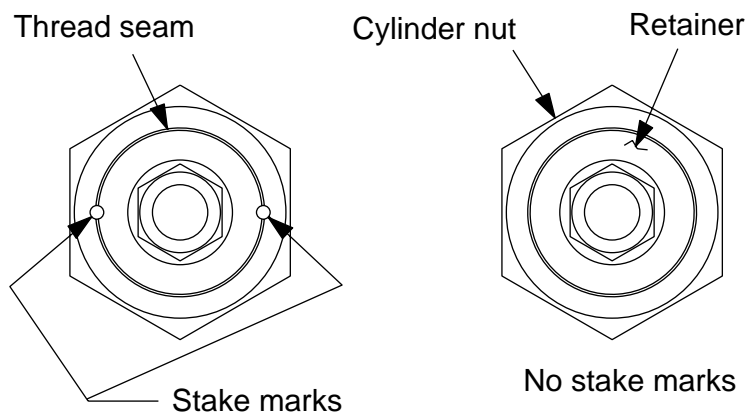
Method 1 - Retainer shows no sign of stake marks

1. This retainer has been locked in place with a Loctite product. To replace it, a moderate amount of heat needs to be applied to the cylinder nut (in the area of the retainer) to soften the existing Loctite allowing it to be removed.
2. Install the new retainer into the cylinder nut and torque to 80/100 in. lbs. **Note: Do not use a Loctite product this time but stake the new retainer in place according to instructions in Step 3.**
3. To lock retainer into place, use a center punch positioned in the seam between the retainer and the cylinder nut and stake the new retainer in two places approximately 180° apart.

Method 2 - Retainer has two stake marks in the seam between the retainer and the cylinder nut

1. For replacement of this retainer, the stake marks must be removed. Using a 1/8" or larger diameter drill bit, remove the existing stakes by drilling a short distance into the stake marks. Remove the retainer.
2. Install the new retainer into the cylinder nut and torque to 80/100 in. lbs.
3. To lock retainer into place, use a center punch positioned in the seam between the retainer and the cylinder nut and stake the new retainer in two places approximately 180° apart.

NOTE: Do not stake in the old stake marks.



SPX POWER TEAM

SPX Corporation-Fluid Power
5885 11th Street
Rockford, IL 61109-3699 USA
Phone: (815) 874-5556
Fax: (815) 874-7853

Internet Address:
<http://www.powerteam.com>

Tech. Services: (800) 477-8326
Fax: (800) 765-8326
Order Entry: (800) 541-1418
Fax: (800) 288-7031

Authorized Hydraulic Service Centers

Form No. 102301
Rev. 14 Date: 4 May, 2001
Litho In USA

UNITED STATES

ALABAMA

Birmingham 35203
Alabama Jack Co., Inc.
1140 5th Ave. N.
1-205-251-8156
1-800-749-5225
Mobile 36601
Lift Parts Service Co., Inc.
409 North Broad St.
P.O. Box 176
1-334-432-7749
Pelham 35124
Tool Specialty Inc.
141 Commerce CT
1-205-733-9292

ALASKA

Anchorage 99518
Construction Machinery, Inc.
5400 Homer Drive
1-907-563-3822

ARIZONA

Tucson 85714
Mechanics Tool Service
1301 E. Apache Park Pl.
1-520-889-8484

ARKANSAS

Little Rock 72206
Clark Hydraulic Service, Inc.
2901 Confederate Boulevard
1-501-375-1252

CALIFORNIA

Anaheim 92801
Jack-X-Change
1609 North Orangthorpe Way
1-714-871-4966
Benicia 94510
S & S Tool and Supply, Inc.
4680 E. 2nd St. Unit E
1-707-747-0166

Escondido 92029
Breezer Equipment and Supply
1566 Sterling Court
1-760-739-0888

Fremont 94538
S&S Tool & Supply
4547 Enterprise St.
1-510-226-8665

Fresno 93721
Kimmerle Brothers, Inc.
337 M St.
P.O. Box 151
1-559-233-1278

La Palma 90623
IDG California
6842 Walker St.
1-714-994-6960

San Francisco 94103-3793
Kimmerle Brothers, Inc.
226 Eleventh St.
1-415-431-1163

Santa Fe Springs 90670

Kimmerle Brothers, Inc.
12060 Florence Ave.
P.O. Box 3024
1-562-946-6771

Santa Rosa 95403
Rough Road Enterprise
1528 Copperhill Pkwy.
1-707-526-3151

South San Francisco 94080
C.H. Bull Co.
233 Utah Ave.
1-650-871-8440

West Sacramento 95691
L&G Specialties, Inc.
524 Houston St.
1-916-371-0958

COLORADO

Denver 80229
Fluid Power Tech
6510 N. Franklin
1-303-650-1500

Denver 80216
Hydraulic Energy Products
6800 Stapleton Dr. S.
1-303-333-7442

Fruita 81521
H & H Hydraulics, Inc.
912 19-1/2 Rd., Rt. 2
1-970-858-7442

CONNECTICUT

Bethel 06801
MBH Inc.
15 Taylor Ave.
P.O. Box 411
1-203-743-7622

Bridgeport 06605
Richard Dudgeon, Inc.
1565 Railroad Ave.
1-203-336-4459

New Haven 06519
A & L Eastern Hydraulics, Inc.
535 Columbus Ave.
1-203-777-2199

Terryville 06786
C & C Hydraulics, Inc.
116 Wolcott Road
1-860-582-0308

DELAWARE

Wilmington 19804-1108
Applied Power Equipment
7 Mecco Circle
1-302-994-0486

FLORIDA

Fort Lauderdale 33312
Broward Hydraulic Jack Service
3907 SW 12th Court
1-954-583-2504

Hialeah 33010
Miami Jack Service, Inc.
1011 E. Hialeah Dr.
1-305-883-6739

Jacksonville 32219
P & H Hydraulic Service
6530 Trixy St.
1-904-781-3558

Orlando 32805
Central Florida Hyd., Inc.
333 S. Norton Ave.
1-407-422-4826

Tampa 33606
Force Resources Inc.
1114 Carmen St.
1-813-254-4248

West Palm Beach 33404-3098
Hydraulic Supply Co.
7680 Central Industrial Dr.
1-561-863-6258

GEORGIA

Garden City 31408
Air Specialists, Inc.
5578 Export Blvd.
1-912-964-4175

Marietta 30060
Air Specialists, Inc.
598 Kirk Road
1-770-426-1722

Smyrna 30080
Reliable Hydraulics Inc.
5550 S. Cobb Drive
1-404-799-8554

HAWAII

Honolulu 96813
Air & Hydraulic Service
842 Ilaniwai St.
1-808-536-5291

IDAHO

Boise 83714
Twilann, Inc.
106 E. 35th St.
1-208-344-4534

ILLINOIS

East Hazelcrest 60429-0228
ASC Industries LTD
1416 W. 175th Street
1-708-799-5915

Loves Park 61111-3984
Moline Service Center
7308 Forest Hills Rd.
1-815-877-1777

Moline 61265-1633
Motion Industries Inc. IL39
232 38th St.
1-309-797-1111

Mundelein 61265-1633
Fax: 1-309-764-2417

Mundelein 61265-1633
Certified Power Inc.
1-847-573-3800

Peoria 61603-2207
Bemis Hyd. Jack & Equip. Co.
817 NE Adams
1-309-685-3011

Wood Dale 60191
Industrial Tool Products Co.
919 North Central Ave.
1-630-766-4040
Fax: 1-630-766-4166

INDIANA

Angola 46703
SOS Service Inc.
409 Hoosier Dr.
P.O. Box 208
1-219-665-3176

Evansville 47708
Brake Supply Company, Inc.
1300 West Lloyd Expressway
1-812-467-1000

Evansville 47710
Hydraulic Jack Service Co., Inc.
601 North Fulton Ave.
1-812-423-4891

Fort Wayne 46805
ABC Specialty Company
1075 Kenwood Ave.
1-219-483-8913

Indianapolis 46202
A & B Hydraulics, Inc.
220 N. Davidson
1-317-636-2417

Indianapolis 46203
Anderson Brothers Tool Repair
3531 Southeastern Ave.
P.O. Box 33638
1-317-356-6381

Plymouth 46563
Scotty's Hydraulic Service
1200 Markley Drive
1-219-935-5175

South Bend 46601-3398
River Bend Hose Specialty Inc.
1111 S. Main St.
1-219-233-1133

IOWA

Burlington 52601
Brozene's Hydraulic Service
1400 Mount Pleasant
1-319-752-4017

Davenport 52802
Five Cities Tool Service, Inc.
921 South Rolf St.
1-319-322-7068

Des Moines 50314-3107
Certified Power Inc.
Div. Component Technology Inc.
1221 Illinois St.
1-515-244-7411

Des Moines 50316
Hydra Quip, Ltd.
1780 E. Sheridan Ave.
1-515-265-1453

Des Moines 50313
Globe A&B Electric Motor Serv.
1727 Hull Ave.
1-515-265-8552

Jesup 50648

Christopherson & Sons
1350 12th St.
1-319-827-6815

KANSAS

Kansas City 66105
Acme Hydraulic Repair, Inc.
815 Kansas Ave.
1-913-321-6385

KENTUCKY

Ashland 41101
Air Equipment Sales & Service
109 Armco Blvd.
1-606-329-9500

Louisville 40213
Smiley's Air Tool, Inc.
4552 Poplar Level Road
1-502-966-3433

LOUISIANA

Baton Rouge 70816
Fix-It Tool Repair
10715 Cherry Hill Ave.
1-225-296-0400

New Orleans 70125
Beerman Precision, Inc.
4206 Howard Ave.
1-504-486-9391

West Lake 70669-0218
Rental Service Corp.
3301 Cities Service Hwy.
P.O. Box 218
1-318-882-6011

MAINE

Bangor 04402
N.H. Bragg & Sons
92 Perry Road
1-207-947-8611

Kittery 03904
Northeast Hydraulics, Inc.
63 Rt. 1 By-pass
1-207-439-0652

Portland 04102
Motion Industries, Inc.
190 Rand Rd.
1-207-828-4727

MARYLAND

Baltimore 21218
Baltimore Hydraulics, Inc.
708 E. 25th St.
1-410-467-8088

Baltimore 21218
Hydraulic Service, Inc.
3304 Barclay St.
1-410-467-9459

Cockeysville 21030
Zenmar Power Tools & Hoists
243 Cockeysville Road
P.O. Box 129
1-410-785-5793

MASSACHUSETTS

Hyde Park 02136
Precision Hydraulic Inc.
63 Sprague St. #8
1-617-361-4333
Springfield 01105
Block Hydraulic, Inc.
251 Taylor St.
1-413-734-3492
Walpole 02081
Ingersoll-Rand
50 School St.
1-508-668-6642
Westfield 01085
Toomey Associates, Inc.
1100 Russell Road
1-413-562-5192
Woburn 01801
New England Hyd. Serv. Co.
21 B 6th Rd.
1-781-932-8880

MICHIGAN

Burton 48509
Flint Hydraulic Repair, Inc.
4100 Davidson Road
1-810-742-1900
Detroit 48238
Detroit Jack & Tool Service
2285 Indiandale
1-313-867-2100
Grand Rapids 49512-2999
Great Lakes Hydraulics Inc.
4170 36th St. SE
1-616-949-8844
Kingsford 49802-4450
Northern Tool & Supply
1021 Pyle Drive
1-906-774-3991
Lansing 48910
Lakestate Hydraulics, Inc.
1305 S. Cedar Street, Ste 204
1-517-374-6001
Warren 48091
Hydraulic Service, Inc.
21251 Ryan Road
1-810-758-0100

MINNESOTA

Edina 55439-2404
Olsen Chain & Cable, Inc.
7225 Washington Ave. S.
1-612-944-7678
Hibbing 55746-1405
Sim Supply, Inc.
1001 7th Ave. E.
1-218-262-6125
Minneapolis 55408
Hyd. Jack & Equip. Serv. Co.
2601 Aldrich Ave. South
1-612-872-7177
Minnetonka 55345
Applied Products Inc.
6035 Baker Road
1-612-933-2224

MISSISSIPPI

Jackson 39204
Dixie Auto-Shop Equipment
1640 South Gallatin St.
1-601-948-5103

MISSOURI

Kansas City 66105
Acme Hydraulic Repair, Inc.
815 Kansas Ave.
1-913-321-6385
St. Louis 63110
Arrow Hydraulic
710 S. Newstead
1-314-371-2358

St. Louis 63103
Authorized Equip. Serv. Co.
3200 Chouteau Ave.
1-314-772-8024
St. Louis 63137-3538
Val Tech Hydraulics, Inc.
1100 Pershall Rd.
1-314-867-1100
Springfield 65802
Voris Hydraulics, Inc.
312 N. Delaware
1-417-869-7933

MONTANA

Billings 59101
Ed's Hydraulic Jack Repair
317 S. 25th St.
1-406-245-2078

NEBRASKA

Grand Island 68801
Midwest Hydraulics
1925 E. 4th St.
1-308-381-8220
Omaha 68117
Mark Hydraulics
4771 "G" Street
1-402-734-6734

NEVADA

N. Las Vegas 89030
Las Vegas Hydraulic
3780 Civic Center Dr.
1-702-643-0970
Sparks 89431
Reno Hyd. & Rebuild, Inc.
1808 Frazer Ave.
1-775-356-2703

NEW JERSEY

Newark 07104
Metro Hydraulic Jack Co.
1271 McCarter Hwy.
1-973-350-0111
Trenton 08638-6088
Sinclair Industrial Supply
93 Second Ave.
P.O. Box 55088
1-609-586-3300

NEW MEXICO

Albuquerque 87107
Banes Lubadraulic & Supply
3515 B Princeton, N.E.
1-505-884-1515
Farmington 87401
FJM Hydraulic Service
820 East Main
1-505-325-6743

NEW YORK

Brooklyn 11210
Five Boro Pneu-Tronics, Inc.
798 E. 43rd St.
1-718-338-8911
Buffalo 14211
Buffalo Hyd. Jack Service Inc.
488 Walden Ave.
1-716-893-6510
Holbrook 11741
Zo-Air Company, Inc.
1320-6 Lincoln Ave.
1-516-737-4242
Rensselaer 12144
Albany Hyd. & Lube Serv., Inc.
98-A Columbia Turnpike
1-518-462-5425
Rochester 14615
Buffalo Hyd. Jack Service, Inc.
629 Ramona
1-716-458-1850

Syracuse 13211-7326
Ace Hydraulic Service, Inc.
6720 VIP Pky.
1-315-454-8989

NORTH CAROLINA

Charlotte 28203
Hydraulic Eng. Prod.
2036 South Tryon St.
1-704-374-1306
Greensboro 27405
Tool & Equipment Supply, Inc.
807 Huffman Street
1-366-275-6124
Wilmington 28409
Wilmington Hydraulics
325 Forest Park Road
1-910-395-1205
Winterville 28590
S & S Repair Service, Inc.
1196 Pocosin Rd.
P.O. Box 102
1-252-756-5989

NORTH DAKOTA

West Fargo 58078
Air Tool Service & Supply
127 W. Main
1-701-282-6151

OHIO

Canton 44706-3552
Mazzella Wire Rope & Sling Co.
4664 Faircrest St. SW
1-330-484-0202
Cincinnati 45211
Eureka Tool & Hydraulic Serv.
3818 North Bend Road
P.O. Box 11153
1-513-661-3244
Cincinnati 45241
Ohio Hydraulics Inc.
2510 E. Sharon Rd.
1-513-771-2590
Cleveland 44113
A & A Hydraulic Repair Co.
Div. of McGivern Enterpr., Inc.
2735 Scranton Road
1-216-621-1133
1-800-992-9898 (Ohio only)
1-800-992-9899 (U.S.)
Cleveland 44114
Ohio Hyd. Jack Serv. Co.
1408 E. 25th
1-216-361-1828
Columbus 43215
Central Ohio Power Tool, Inc.
1042 Dublin Road
1-614-481-2111
Columbus 43215
Ohio Hyd. Serv. of Columbus
24 N. Grubb St.
P.O. Box 21444
1-614-221-8495
Fax: 1-614-221-6246
Dayton 45414
Armstrong Hydraulic Service
3336 Lodge Ave.
1-937-274-8043
Lima 45804
Lee's Hyd. Pneu. Serv., Inc.
2480 St. John's Rd.
1-419-229-0183
Lisbon 44432
Ohio Tool Systems
38301 Industrial Park
1-330-424-3684
Toledo 43612
J & G Sales
4253 Lewis Ave.
1-419-476-7771

Youngstown 44512
Pennsylvania Tool Sales & Serv.
625 Bev Rd.
1-330-758-0845
Fax: 1-330-758-6028

OKLAHOMA

Oklahoma City 73106
Commercial Tool Repair Inc.
1829 Linwood
1-405-232-2158
Oklahoma City 73109
Hydraulic Equipment Co.
515 South Broadway
1-405-235-3318
Tulsa 74146-5809
Mac's Hydraulic Jack Serv.
10312 E. 52nd Street
1-918-627-5505
Fax: 918-627-8808

OREGON

Eugene 97402
Les's Hydraulic Service
2550 W. 5th Avenue
1-541-343-4041
Fax: 1-541-343-2748
Portland 97205
Karn Repair Service
1215 SW 16th Ave.
1-503-228-8313
Fax: 1-503-228-8876
Roseburg 97470
Oregon Tool & Supply
276 S.E. Stevens
1-541-672-1935

PENNSYLVANIA

Carlisle 17013
Turner Hydraulics, Inc.
1605 Industrial Drive
P.O. Box 728
1-717-243-3329
Charlertoi 15022-2135
Tri-State Hydraulics, Inc.
1250 McKean Avenue
1-724-483-1790
Erie 16510
Leo's Pneumatics & Hyd.
1821 Franklin Avenue
1-814-899-0271
Harrisburg 17104
Fiduk's Industrial Service, Inc.
534 S. 23rd Street
1-717-561-0221
Philadelphia 19134
A/W Hydraulic & Tool Div.
2729 East Castor Ave.
1-215-289-5329
Pittsburgh 15224
J & M Hydraulic Service, Inc.
4063 Liberty Avenue
1-412-682-4554
Fax: 1-412-682-4580
Pittsburgh 15206
Mac's Jack & Equip. Serv., Inc.
121 Putnam St.
P.O. Box 5242
1-412-361-1555 or
1-412-361-1556
Pittsburgh 15219
Plant Service Company
23 Terminal Way
1-412-381-1873

RHODE ISLAND

Warwick 02888
Tri-Power Sales & Service
64 Minnesota Ave.
1-401-732-3390

SOUTH CAROLINA

Charleston 29405
Baldwin Brothers
2132 Spruill Ave.
1-843-744-6323
Columbia 29201
General Jack & Grease Gun
Service, Inc.
1013 Whaley St.
1-803-799-3132
Greenville 29602
Cline Hose & Hydraulics Inc.
601 Buncombe St.
P.O. Box 3477
1-864-233-7104
Sumter 29154
Fluid Power, Inc.
1320 S. Guignard Drive
1-803-773-1825
Fax: 1-803-775-0124

SOUTH DAKOTA

Rapid City 57701
Coon's Machine Shop
1120 Rapid St.
P.O. Box 1546 (Zip Code: 57709)
1-605-342-0336
Sioux Falls 57107
Hydraulic World, Inc.
123 N. Marion Road
1-605-334-7812

TENNESSEE

Knoxville 37917
Lubrication Equip. Service
2501 Mitchell St.
1-423-525-8401
Memphis 38126
Authorized Equipment Service
812 Polk Ave.
1-901-774-0850
Memphis 38104
Mid-South Hydraulic &
Equipment Repair, Inc.
319 S. Sommerville
1-901-526-3114
Nashville 37210
Johnson & White
Equipment Service, Inc.
1104 Fourth Ave. S.
1-615-256-0443

TEXAS

Amarillo 79101
V & S Industrial Supply, Inc.
1209 W. 7th St.
P.O. Box 2725
(Zip Code: 79105-2725)
1-806-374-5215
Corpus Christi 78409
Bush's Hydraulic Service
2012 N. Lexington Blvd.
1-361-289-0441
Dallas 75207
Hydraulic Serv. & Supply Co.
100 Howell St.
P.O. Box 565827
1-214-748-6015
Eagle Pass 78853-0823
Parts Service Supply Co., Inc.
160 Ford Street
P.O. Box 823
Telephone: 1-830-773-0311
Fax: 1-830-773-8775
Houston 77002
Hyd. Equipment Service, Inc.
1011 Rothwell
1-713-228-9601
Fax: 1-713-228-0931
Houston 77020
Jones Hydraulic Service, Inc.
5955 Armour Drive
1-713-674-9571

Houston 77055
Star Hydraulics & Tool Service
7012 Long Point
1-713-681-4105
1-800-925-7741

Longview 75602

Tejas Hydraulics, Inc.
715 S. Eastman Rd.
1-903-757-7502

Longview 75602

Texas Air Hyd. Serv. & Supply
2916 Gum Springs Road
1-903-757-8211

Odessa 79761-1193

Engine Service & Supply
1902 N. Andrews Hwy.
1-915-337-2386

Odessa 79761

Wagoner Machine &
Supply Co., Inc.
221 E. First St.
P.O. Box 1165 (Zip Code: 79760)
1-915-332-3882

San Antonio 78202

Mueller Hydraulic Service
515 N. Hackberry St.
1-210-224-5271

San Antonio 78215

Sankey Equipment Company
925 Avenue B
1-210-227-4178

Victoria 77901

Magic Industries
2304 S. Laurent St.
1-361-576-5187

Weslaco 78596

French's Service & Repair
408 South Texas
1-956-968-2651

Wichita Falls 76306

Wesbrooks, Inc.
2012 Sheppard Access Road
P.O. Box 534
1-940-723-4181

UTAH

Ogden 84401

All Hydraulics Inc.
1255 W. 2550 South
1-801-621-1323

Orem 84057

Geneva Hydraulic Inc.
345 S. Mountainway Rd.
P.O. Box 933
1-801-226-3911

Salt Lake City 84115

Gustin Hydraulics, Inc.
151 W. Commonwealth Ave.
1-801-487-0624

VIRGINIA

Alexandria 22314

D & S Repair Service, Inc.
20 South Dove St.
1-703-683-0009

Portsmouth 23702

Hyd. Service Company, Inc.
3215 Victory Blvd.
1-757-487-2513

Richmond 23220

Moore's Jack & Equip. Serv.
2403 North Lombardy St.
1-804-321-6623

Roanoke 24014

Stultz Machine Tools
& Equipment Inc.
1546 Brownlee Ave. SE
1-540-981-9359

South Boston 24592

Bo's Hydraulics
1138 Huell Matthews Hwy
1-804-575-7506

WASHINGTON

Auburn 98002

Karn Equipment, Inc.
328 37th St. NW #H
1-253-931-6630
Fax: 253-931-5543

Longview 98632-8118

C & H Industrial Tool & Supply
1160 3rd Avenue
P.O. Box 1807
1-360-423-6496
Fax: 1-360-423-0476

Seattle 98134

Jack's Inc.
24 South Idaho
1-206-624-4730
Fax: 1-206-624-2990

Seattle 98122

Universal Repair Shop
1611 Boylston Ave.
P.O. Box 22049
1-206-322-2726

Spokane 99202

Spokane Pump, Inc.
3626 E. Trent Ave.
1-509-535-9771

WEST VIRGINIA

Fairmont 26554

Gillette Repair Service
Route 8, Box 128A
1-304-366-3119

Huntington 25701

Dolin Supply Co., Inc.
215 Hal Greer Boulevard
1-304-529-4171
Fax: 1-304-529-6273

Nitro 25143

Mouldagraph Corporation
4134 1st Ave.
PO Box 99
1-304-759-2150

WISCONSIN

Appleton 54914-1736

Interstate Welding Sales Corp.
2626 W Wisconsin Ave.
1-920-734-7173

Green Bay 54311

Mac's Hydraulic Inc.
2785 Manitowoc Road
1-920-465-1313

Milwaukee 53215

Power Tool & Equipment Co.
2934 W. Burnham St.
1-414-384-0400

St. Francis 53235

Advance Hydraulics
2525 E. Crawford Ave.
1-414-481-1545

Waukesha 53186-1682

Kenrich Ind. Inc.
W229 N591 Foster Ct.
1-414-548-6200

WYOMING

Gillette 82716

Bighorn Hydraulics Inc.
507 N. Burma
1-307-687-0513

Rock Springs 82901

Trans Equipment & Supply
1889 Foothill Boulevard
1-307-382-6842
Fax: 1-307-382-6840

CANADA

ALBERTA

Calgary T2C 1J7

Complete Hydraulic Air Elec.
3513-78 Ave. SE, Unit A
1-403-720-0445
Fax: 1-403-720-0446

Calgary T2C 4L7

Hydra-Tech International Corp.
6060 86 Ave. SE
1-403-720-7740
Fax: 1-403-720-7758

Edmonton T5P 1G8

Ace Pneumatic & Hydraulic
Repair LTD
16847-110 Ave.
1-780-489-6447
Fax: 1-780-489-6525

Edmonton T6B 0A9

Air Electric Services LTD
6739-76 Ave.
1-780-465-0906
Fax: 1-780-469-1646

BRITISH COLUMBIA

Vancouver V5T 1C3

Hymach Industries LTD
90 East 3rd Ave.
1-604-879-5418
Fax: 1-604-879-3346
Telex: 04507810

MANITOBA

Winnipeg R3E 3N2

Berendsen Fluid Power
1521 Dublin Ave.
1-204-786-7436
Fax: 1-204-772-5082
Telex: 0755182

Winnipeg R2J 0H3

Dynamic Machine Corporation
1407 Dugald Rd.
1-204-982-4900

NEW BRUNSWICK

Moncton E1C 7H1

Maritime Tool Repair
31A Mark Ave.
1-506-382-8665

Saint John E2L 3V7

CE Petro Service
Div. Commercial Equipment LTD
100 Dunlop Lane
P.O. Box 2269
1-506-648-2200

NOVA SCOTIA

Pictou, B0K 1H0

Chisholm Industrial Supply LTD
2408 Braeshore Rd.
P.O. Box 172
1-902-396-6135

ONTARIO

Barrie L4N 2M4

Western Hydraulics
160 Brock Street
1-705-737-4130
Fax: 1-705-737-1765

Concord L4K 3Z8

Hydra Nor International LTD
80 Saramia Crescent
1-905-660-0510
Fax: 1-905-660-0515

Downsview M3N 1W7

Diversified Power Appl. Inc.
379 Oakdale Road
1-416-741-5467
Fax: 1-416-741-4756
Telex: 065-27209

Guelph N1K 1E8

Central Hydraulic
385 Michener Road
1-519-766-1120
Fax: 1-519-763-1604

Hamilton L8H 3P6

Hydraulic Service Centre
495 Rennie St.
1-905-545-8211

Nepean K2E 6T7

Schooner Ind. LTD
87 Bentley Ave.
1-613-224-5555

Thunder Bay P7E 3P2

Thunder Bay Hydraulics LTD
701 Montreal St.
1-807-623-3151
Fax: 1-807-623-5692
Telex: 073-4311

QUEBEC

Laval H7G 2Y9

LeCentre De Reparations
Hydrauliques Uptown LTD
464 Saint Hubert St.
1-514-387-6143
Fax: 1-514-667-8335
Telex: 05268508

Sept-Iles G4R 1M1

Specialite Hydraulique C.N. Inc.
453 Noel
1-418-962-4949

INTERNATIONAL

ARGENTINA

Buenos Aires

Sasu Maquinas y Herramientas
San Luis 2466 (CP1879) Quilmes
Phone: 5411 4200 6105
Fax: 5411 4200 9460

AUSTRALIA

Balcatta W.A. 6021

Afkos Industries
15 Macadam Place
Phone: (09) 345-4333

Carlton, N.S.W., 2218

Specialised Force Pty. Ltd.
159 Bellevue Road
Phone: (02) 547 1844

Doncaster East, Vic., 3109

Rex Industrial Pty., Ltd
32 Owens Street
Phone: (09) 9840 1722

Eagle Farm QLD. 4009

Simon Hydraulics
21 Lavarack Avenue
Phone: (07) 868-2388

Hexham N.S.W. 2322

K & R Hydraulics
175 Old Maitland Road
Phone: (024) 964-8636

Hindmarsh SA 5007

Speedie Hydraulic Service
37 Richard Street
Phone: (088) 346-1653

Kelmscott, W.A. 6111

Air & Hydraulic Power Centre
Unit 2/61 Brant Road
Phone: (09) 497-1778

Mornington TAS. 7018

Hydraulic & Pneumatic Eng.
90 Mornington Road
Phone: (036) 244-5755

Mt. Waverley VIC. 3149

SPX Power Team Australia
7 Expo Court
Phone: (03) 9562 8800

Northgate QLD. 4013

Specialised Force
1/68 Northlink Place
Phone: (073) 256-6011

Osborn Park W.A. 6917

Ace Industrial Dist.
52 Guthrie Street
Phone: (09) 446-5577

Paget, MACKAY QLD. 4740

Quality Maint. & Equip. Supplies
60 Archibald Street
Phone: (079) 524-1888

Peakhurst, N.S.W. 2210

Hoisting Equip. Specialists Pty. Ltd.
Unit 12/63 Norman Street
Phone: (02) 584-1177

Richmond SA 5033

Manual Hydraulics
17 Deacon Avenue
Phone: (08) 352-5379

Ringwood, Vic., 3134

Specialised Force Pty. Ltd.
6/21 Eugene Terrace,
Phone: (03) 9879-4833

AUSTRIA

A-2512 Tribuswinkel

Ulbrich Maschb. Exp. Imp.
Josefstahlerstraße 34
Telephone: 43-225280-2130
Fax: 43-225280-659

BELGIUM

B-4050 Chaud Fontaine

Hydrotools
32 Avenue des Thermes
Phone: 32-43659014
Fax: 32-43661351
B-9600 Ronse
Hydrauliek Morreels
Industriezone Klein Frankrijk
Schoonboekestraat 4 B
Phone: 32-55-212320
Fax: 32-55-210066
Telex: 85251

BRAZIL

São Paulo SP 04447-021

SPX Jurubatech
Av. N Sra. do Sabará, 4901
Phone: 55-11-5611-4177
Fax: 55-11-5611-2793

CHILE

Santiago

Ferreteria Amunategui, SA
B. O'Higgins 1395
Telephone: 56-2-696-8244
Fax: 56-2-672-1492

CHINA

Beijing 100101

China Bolting Engineering
0415 Huibin Office Building
8 Beichen Dong Street
Telephone: (10) 6499 3808
Fax: (10) 6499 3958
E-mail: trading@raymond-
cbe.net

Shanghai 200126

Hytorc (Shanghai) Trading Co.
No75, Bing Zhou Road, Pudong,
Telephone: (21) 5874-8861
Fax: (21) 5872-6617

COLOMBIA

Bogota

Ferreteria Industrial LTDA
Carrera 25 No. 17-64
A.A. 19343
Phone: 57 2774004
Fax: 57 12377157

COSTA RICA

San Jose

Capris, S.A.
Apartado 7-2400
32-54-55
Phone: 506-232-9111
Fax: 506-232-9182

CZECHOSLOVAKIA

CS-25168 Stirin Czechia

Ulbrich Hydroautomatik
Centr. Zona Kamenice 557
Tel.: 42-601210706
Fax: 42-2993047

EGYPT

Alexandria

Shehab Engineering
9. Gamal Dewedar Str.
Telephone: 20-2-2740831
Fax: 20-2-2703060

Cairo

Shehab Engineering
9. Gamal Dewedar Str.
Telephone: 20-2-2740831
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Fax: 49-231592645

D-45257 Essen

Hamm Hydraulik GmbH & Co.
Gasstraße 12
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Fax: 49-2018481199

D-86316 Friedberg

Pfaff Siberblau GmbH
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D-36469 Tiefenort HB

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Sun Source Integrated
 Servicios de Mexico, S.A. de C.V.
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San Juan

Astro Industrial Supply Inc.
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 Fax: 787-725-0049

QATAR**Doha**

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MATERIAL SAFETY DATA SHEET

Hydraulic Fluid

Part No.'s 9036, 9037, 9636, 9636-12, 9637, 9637-4, 9638, 9638-2 and 9616

For emergency information call (612) 347-0591

Material

Formula: Proprietary
Chemical Name or
Synonyms: Hydrocarbon Mixture

Important Components

<u>Ingredient</u>	<u>CAS No.</u>	<u>TVL (Oil Mist)</u>	<u>PEL</u>	<u>Approx. %</u>
Solv ref petr-base oil	64741-88-4	5 mg/m ³	---	90-96
Olefin Copolymer (oil)	64742-65-0	5 mg/m ³	---	0-5
VI Improver (Polymer)	68171-50-6			
Zinc Anti-Wear (LZ5178F) comp		(Contact Lubrizol Corp. 216-943-4200)		0-1

Physical Data

Appearance: Oily liquid; blue or amber in color
Odor: Mild
pH.: Neutral
Viscosity:
Melting or Freezing
Point:
Boiling Point: Above 600° F
Vapor Pressure
(mm Hg): Not Available
Vapor Density (air=1): Heavier than Air
Solubility in Water: Neg.
Percent Volatile
(by weight): Neg.
Specific Gravity
(water=1): 0.9
Evaporation Rate
(Butyl Acetate=1): Slower than Ether

Fire and Explosion Hazard Data

Flash Point: Above 350°
Auto Ignition Temp.:
Lower Explosion Limit
(%):
Upper Explosion Limit
(%):
Extinguishing Media: Foam, CO₂, Dry Chemical
Special Fire Fighting Procedure: Wear MSHA/NIOSH-approved, pressure-demand, self-contained breathing apparatus. Use water spray to cool fire-exposed containers.
Unusual Fire and Explosion Hazards: NFPA Hazard Identification: Health=2, Flammability=1, Reactivity=0

Health Hazard Data

Threshold Limit Value: 5 mg/m³ on oil mist
Effects of Overexposure: SARA Title III - Zinc content 0.04% wt.
Prolonged or repeated skin contact may cause irritation.

Emergency First Aid Procedures

Inhalation: Move subject to fresh air.
Eye and Skin Contact: Flush eyes with large amounts of water for at least 15 minutes. Consult a physician if irritation persists. Wash affected skin areas with soap and water.
Ingestion: DO NOT give anything by mouth or induce vomiting unless directed by physician. If unconscious, prevent aspiration of vomitus by placing face down in prone position with head turned to one side. Obtain immediate medical advice and/or attention.

Reactivity Data

Stability: Stable
Conditions to Avoid: Keep away from heat and flame.
Hazardous Decomposition Products: Oxidies, of carbon, zinc, phosphorous.
Hazardous Polymerization: Will not occur
Conditions to Avoid:
Incompatibility (materials to avoid): Strong oxiders

Spill or Leak Procedure

Steps to be taken in case material is released or spilled: Remove contaminated clothing and wash affected skin areas with soap and water. Wash clothing before reuse. Dike and contain spill with inert material (sand, earth, fuller's earth, etc.) and transfer liquid and solid diking material to separate containers for recovery or disposal. Floor may be slippery - use care to avoid fall. Keep spill out of all sewers and open bodies of water.
Waste Disposal Methods: Incinerate liquid in approved equipment. Landfill contaminated diking material according to current local, state and federal regulations.

Special Protection Information

Ventilation Type: Normal room ventilation
Respiratory Protection: None required under normal conditions of use.
Protective Gloves: Chemical Resistant
Eye Protection: Use goggles or face shield if eye contact may occur.
Other Protective Equipment: None

Storage and Labeling

Keep in cool, dry place away from ignition source.
Keep in containers and storage vessels closed when not in use.

This product's safety information is provided to assist our customers in assessing compliance with health/safety/environmental regulations. The information contained herein is based on data available to us and is believed to be accurate, although no guarantee or warranty is provided by SPX Power Team or SPX OTC, in this respect. Since the use of this product is within the exclusive control of the user, it is the user's obligation to determine the conditions of safe use of the product. Such conditions should comply with all Federal regulations concerning the product.

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