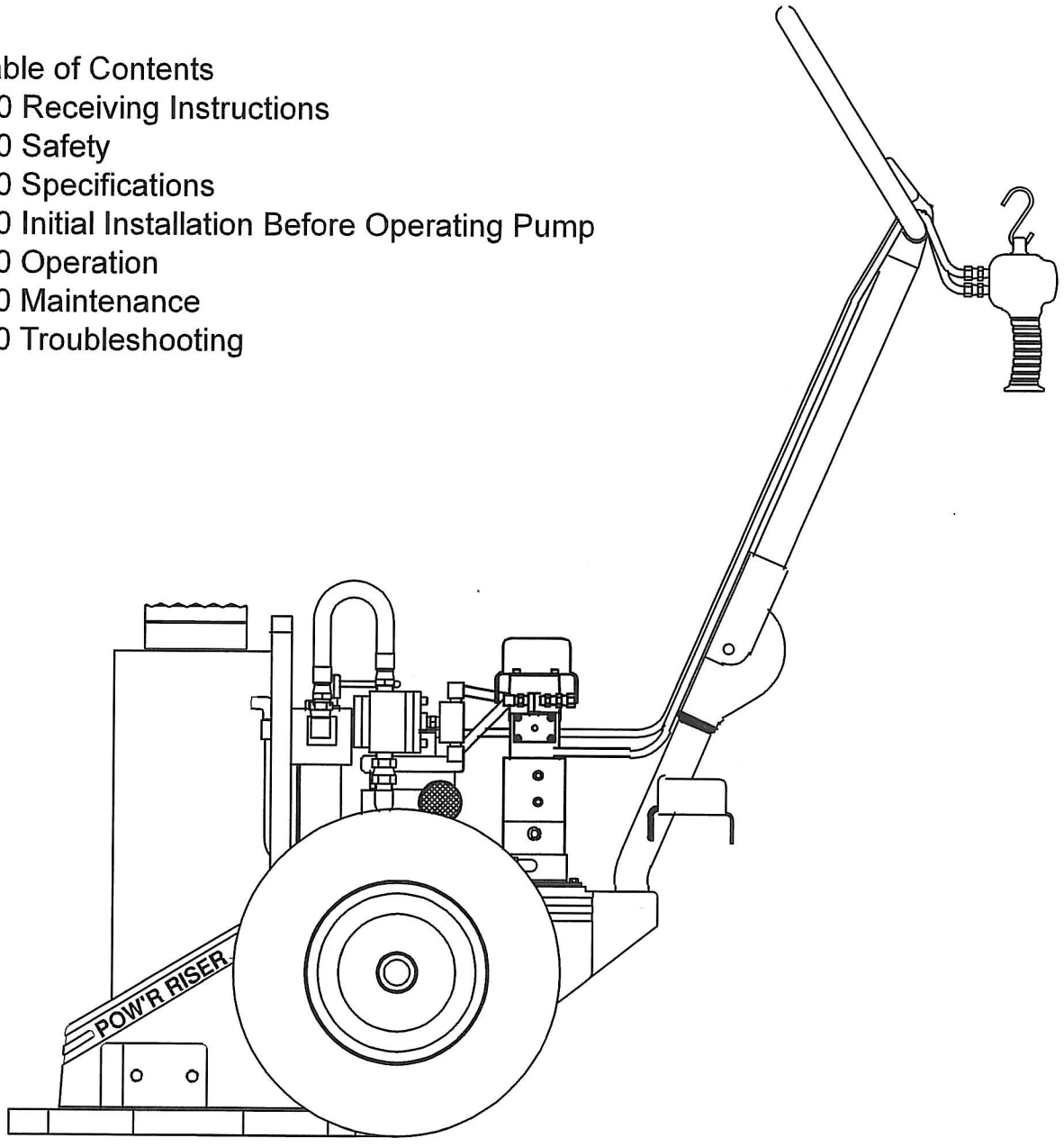
AME INTERNATIONAL
2324 Circuit Way Brooksville, FL 34604
Phone: 352.799.1111
Toll Free: 877.755.4AME (4263)
Fax: 352.799.1112
E-mail: sales@ameintl.net • www.ameintl.net

Instruction Sheet

Pow'r Riser Lifting Jacks
PR Series - Air Models

L54720 Rev. A 03/10

Table of Contents



OPERATING INSTRUCTIONS AT A GLANCE

1.0 RECEIVING INSTRUCTIONS

Important! Make sure to inspect all of the components for shipping damage. If damage is found, notify carrier at once. Shipping damage will not be covered by warranty. The carrier is responsible for all loss associated to shipping damage.

2.0 SAFETY

Make sure to read the instructions, warnings and precautions carefully. Follow any recommended safety precautions to avoid personal injury or damage to the unit. Enerpac cannot be responsible for any damage or injury from unsafe use, lack of maintenance or incorrect operation. In the event any questions or concerns arise, contact ENERPAC or a local Distributor for clarification.

The hydraulic system's maximum working pressure is 10,000 PSI (700kg/cm^2).

If you have never been trained on high-pressure hydraulic safety, consult your distributor or service center for a free Enerpac Hydraulic Safety Course.

Failure to comply with the following cautions and warnings could cause equipment damage, property damage or personal injury.

CAUTION is used to indicate correct operating or maintenance procedures and practices to prevent damage to, or destruction of equipment or other property.

WARNING indicates a potential danger that requires correct procedures or practices to avoid personal injury.

DANGER is only used when your action or lack of action may cause serious injury or even death.

***WARNING**: Wear proper personal protective gear when operating hydraulic equipment.*

***DANGER:** To avoid personal injury, keep hands and feet away from hydraulic unit and work-piece during operation. Do not handle pressurized hoses. Escaping oil under pressure can penetrate the skin, causing serious injury. If oil is injected under the skin, see a doctor immediately.*

***WARNING:** This jack is for lifting only!! Support the load after completing the lift by other appropriate means. Never get under a load supported by the jack. Never exceed the rated capacity of the jack. Allow at least ten percent margin of safety.*

***WARNING:** use jack only on solid surface compatible of supporting the load and base of the jack. Always center the load on the lifting saddle of the jack. If the jack is not perpendicular to the load slipping or loss of load is possible.*

***WARNING:** Distribute the load evenly when performing multiple lifts. Use only ENERPAC HF hydraulic oil, or approved equivalent. Failure to heed these warnings may cause loss of load or failure of the jack resulting in property damage or personal injury.*

***WARNING:** The internal relief valve must not be repaired adjusted except by an authorized service center.*

***WARNING:** Never set the relief valve to a higher pressure than the maximum rated pressure. Higher settings may result in equipment damage and/or personal injury.*

***CAUTION:** ENERPAC CAN NOT BE RESPONSIBLE for damage or injury from unsafe use application, or maintenance of this product. READ and follow all warnings, cautions, and instructions associated with this product. Do not remove warning labels, tags, or decals.*

***CAUTION:** Fully retract the cylinder and protect the entire unit from external damage. Keep Pow'r-Risers clean, avoid weld splatter, and store in a clean dry area. INSPECT ALL SYSTEM COMPONENTS BEFORE USE.*

***CAUTION:** Keep hydraulic equipment away from flames and heat. Excessive heat will soften packing and seals, resulting in fluid leaks. Heat also weakens hose materials and packing. For optimum performance do not expose equipment to temperatures of 65^0 C (170^0 F) or higher.*

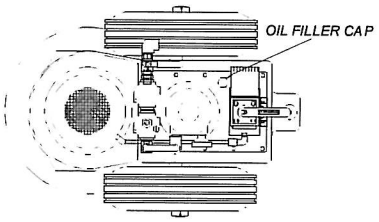
3.0 SPECIFICATIONS

Model	PR SERIES (Model numbers beginning with "PRA")
Operating Pressure	10,000 PSI (700kg/cm²)
Motor Rating	Air Motor 50 CFM 80 PSI
HP Reading (PSI)	60 ton = 6,000. 100 ton = 9,700. 150 ton = 10,200. 200 ton = 10,200.
Maximum Operating Temperature	170 ° F
Oil Capacity	5 Gallons.

4.0 INITIAL INSTALLATION BEFORE OPERATING SYSTEM

4.1 Working Pressure

The factory preset system pressure for 60 ton is 6,000psi, 100 ton is 9,700psi, 150 ton is 10,200psi, and 200 ton is 10,200psi.



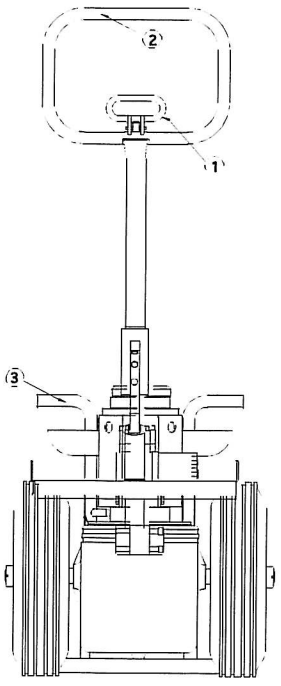
4.2 Adding Oil

The unit is shipped with the correct amount of oil. Verify oil level before by removing the OIL FILLER CAP and add ENERPAC HF hydraulic oil into reservoir if necessary. Oil level should not exceed 1" from the reservoir top plate cover.

WARNING: *Loose or improperly threaded fittings can be potentially dangerous if pressurized, however, severe over tightening can cause premature thread failure. Fittings need to be tightened secure & leak free. Never hold or stand directly in line with any hydraulic connections while pressurizing. Never grab, touch or in any way come in contact with a hydraulic pressure leak. Escaping oil can penetrate the skin and a serious injury can result.*

4.3 How to use the Handle Assembly

1. Push lever (callout #1) to release locking pin.
2. Raise handle assembly (callout #2) upward and pull handle assembly (callout #1) to engage lock pin into desired hole setting.
3. Pow'r-Riser can now be pushed or pulled (be mindful walking backwards) to work area.
4. If necessary, the Pow'r-Riser should be picked up by the lifting bar, or by the eyebolt for higher ton models (callout #3). Never attempt to pick jack up by handle assembly.



4.4 Using the Jack for the First Time

1. Locate the valve control and make sure it's in the neutral or center position (note: solenoid valves are in the center or neutral position when the button(s) are not depressed on pendant).
2. Connect an Air Source to the AIR SUPPLY VALVE (callout #4).
3. Open the AIR SUPPLY VALVE (callout #4) on the unit to turn the motor "on". Check for any leaks, repair as needed.

Shift the control valve to the advance and retract position and look for movement in cylinder. Check for any leaks, repair as needed. For Solenoid operation, use pendant control to operate cylinder movement.

5.0 OPERATION

5.1 Control Valves:

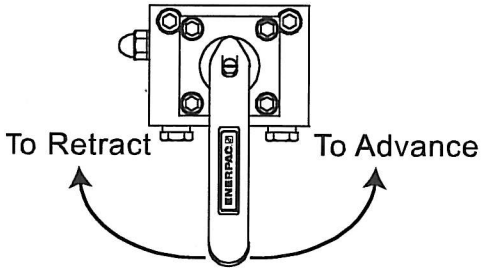
4-Way Manual Valve

- Shifting lever to right directs pump output to advance port.
- Shifting lever to left directs pump output to retract port.
- Center position is neutral/hold. Pump output is directed back to tank.

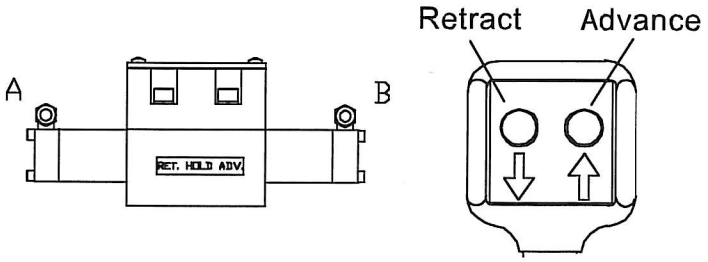
4-Way Solenoid Valve

- To Advance.....depress button to the ADV (UP) position.
- For Neutral/Hold.....release button(s).
- To Retract.....depress button to the RET (DOWN) position.

Manual Valve
handle position is in center.



Solenoid Valve; stays in center position until button is actuated



5.2 Basic Operating Instructions

TO RAISE LOAD:

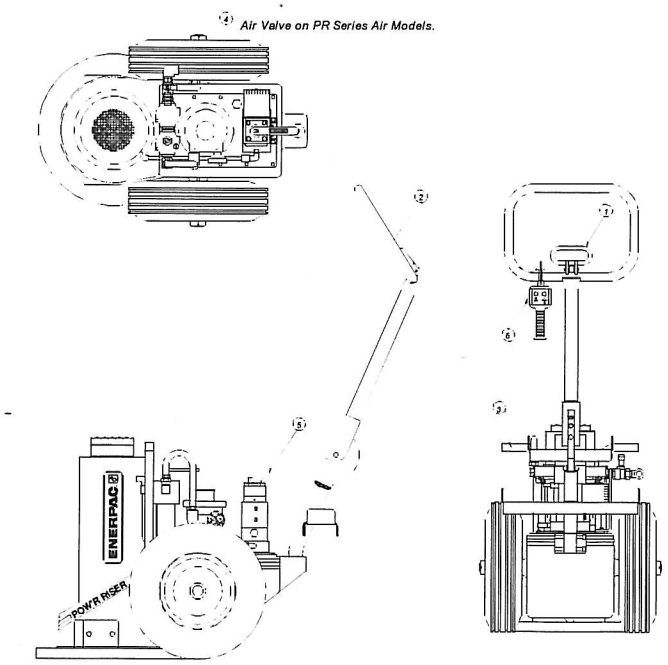
1. Push lever (callout #1) to release locking pin.
2. Raise handle assembly (callout #2) upward and pull handle assembly (callout #1) to engage lock pin into desired hole setting.
3. Pow'r-Riser can now be pushed or pulled (be mindful walking backwards) to work area.
4. The Pow'r-Riser must be positioned on a solid foundation with wooden or hard rubber pads between the load and the jack. ***IMPORTANT NOTE:*** The jack must be perpendicular to the load; jacking on an angle can result in the jack slipping out and loss of load.
5. Once the Pow'r-Riser has been placed on a solid support surface, final positioning can be accomplished by lowering the handle to its horizontal position to place the jack under the loads as required.
6. Be certain the air supply valve (callout #4) is in the "off" position. Check the control valve handle to be sure it is in the "IDLE" (neutral or center) position.
7. Open AIR SUPPLY VALVE (callout #4) to start the motor, then move the control valve handle (callout #5) or if equipped with pendant (callout #6) depress "UP" arrow button to advance cylinder.
8. When load has reached the proper level, move the control valve handle (callout #5) or if equipped with pendant (callout #6), release button to return valve back to center or neutral position. If there is to be no ram movement for more than one minute, ENERPAC recommends the motor be turned off to prevent overheating.

CAUTION: Special care must be taken to keep the load level. Leveling is best accomplished by throttling the air valve (callout #4), control valve handle (callout #5) or pendant (callout #6) if equipped.

9. Secure the load by using the proper Enerpac auxiliary U-rings and/or appropriate blocking or support stands. (Refer to the U-ring Stacking Instructions for details).

TO LOWER THE LOAD:

1. Shift the control valve handle (callout #5) or if equipped with pendant (callout #6) release button(s) to return valve back to center or neutral position.
2. Open air valve (callout #4) to start motor.
3. Shift the control valve handle (callout #5) or if equipped with pendant (callout #6) depress the up arrow button to advance the cylinder to clear auxiliary stands or U-rings, place the directional control valve handle in idle (neutral or center) position.
4. When the auxiliary stands or U-rings are removed, shift the control valve handle (callout #5) or if equipped with pendant (callout #6) depress the down arrow button to retract cylinder. Be mindful while lowering to ensure that the load is lowered evenly to prevent load shifting.
5. When piston has fully retracted, place directional control valve handle in idle (neutral or center) position and close air valve (callout #4) to shut off motor.



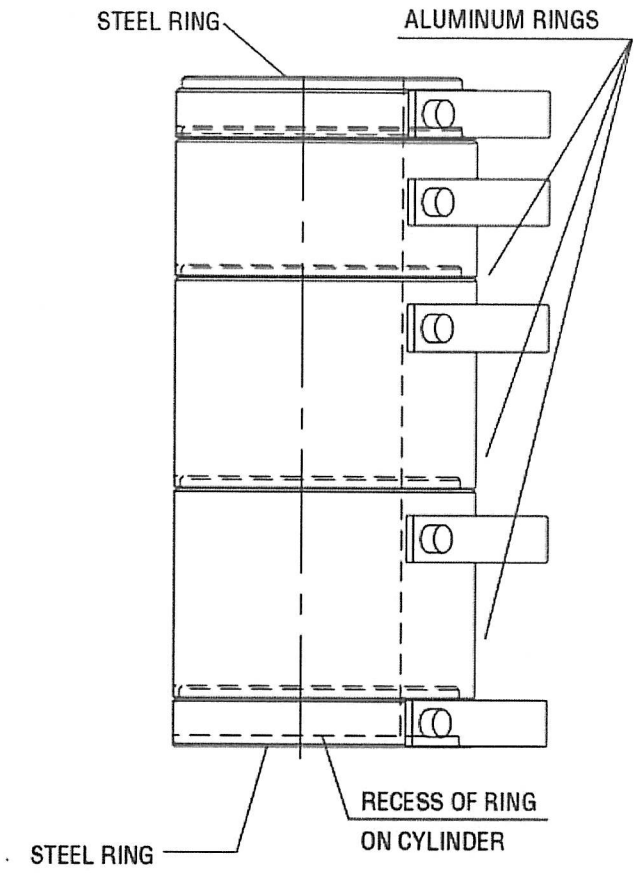
U-RING STACKING INSTRUCTIONS

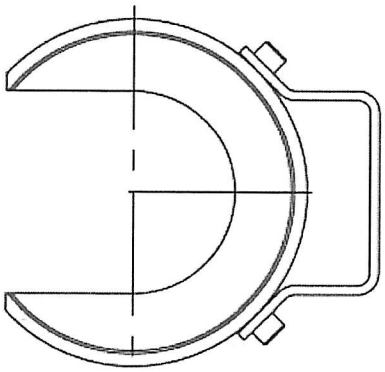
Assemble the U-Rings on top of the cylinder housing, around cylinder pistion with a 1 inch thick steel U-Ring.

Assemble aluminum ring or rings on top of steel ring on cylinder. Second steel ring must be on top of the aluminum rings.

An aluminum U-Ring must never be on the end of a U-Ring stack.

The number of aluminum U-Rings depends on the U-Ring set used.





5.3 Jacking Safely

You must know the weight of what you intend to lift and choose a jack with at least 20% more capacity.

Never crawl or place any part of your body under any load at any time. Insert lock rings as you lift. Jacks are meant for lifting only and should not be used to support the load for any period of time.

You should obtain and be familiar with the American National Standards Institute rules that apply to hydraulic rams and jacks (ASME ANSI B30.1).

5.4 After Completing the Job

Fully retract the cylinder, close air valve (#4) to shut off motor, shift the hydraulic controls several times to release system pressure. Store the unit in a clean, dry area.

6.0 MAINTENANCE

6.1 Periodic Maintenance

Change the hydraulic oil and clean the oil filter screen and magnet (located in the reservoir) twice a year. Use Enerpac HF hydraulic oil (model number HF-102 - 5 gallon container). Change the oil more frequently when used in extremely dusty areas or when the oil has been overheated. Using oil other than Enerpac Brand may void the pump warranty.

6.2 Maintain Oil Level

Check hydraulic oil level every 30 hours of operation. Add Enerpac HF hydraulic oil (model number HF-101 - 1 gallon container) when necessary. Oil level should be no more than 1" from top of reservoir plate – with cylinders retracted and motor off.

Change oil at least twice a year. The following conditions require more frequent oil changes:

- Rigorous duty, where oil temperature may reach 150° F.
- High humidity environment and extreme changes in temperature that can result in condensation inside the reservoir.
- Dirty or dusty environments that may contaminate the oil.
- Frequent connection and disconnection of hydraulic hoses and components.

6.3 Clean Oil Filter Screen Once a Year

Loosen and remove reservoir plate bolts. Lift pump unit off the reservoir, being careful not to damage the gasket. Unscrew screen from bottom of pump unit and clean with nonflammable solvent. Blow dry and reassemble. Keep areas around pump unobstructed to provide good air flow around the motor and pump. Keep the motor and pump as clean as possible.

6.4 Flush the Pump

If you suspect your pump has been contaminated or discover sludge or other deposits on internal components, you should thoroughly flush the pump. Remove the old oil from the reservoir, then thoroughly clean the reservoir and refill with a clean, nonflammable flushing oil. Reassemble the pump and motor to the reservoir.
Now run the pump in no load condition for 1 or 2 minutes maximum. Unplug the pump and remove the motor and pump assembly again. Now drain the flushing oil and re-clean the inside of the reservoir. (Make sure flushing fluid is also drained from pump assembly). Refill the reservoir with Enerpac HF hydraulic oil and reassemble the pump.

6.5 Air Motor and Filter Lubricator

The air motor is a precision built rotary motor. The top clearance (between rotor and bore) is .0015". The total end clearance (between the sides of the rotor and the end plates is .002". The vanes take up their own wear and will last 5,000-12,000 hours, depending upon speed, method of oiling, operating pressure, and lend itself to operating pressure above 100PSI (6.89 Bar-Metric). Allowing excess moisture or foreign particles from the air line to enter the motor will void the Enerpac warranty.

A moisture trap and filter has been installed in the air line ahead of motor. For efficiency of output and control of speed, use air line of not less then ¾ in pipe size. When coupling or connecting the motor to a drive member, avoid any end or side thrust on the output shaft and especially DO NOT HAMMER ON SHAFT.

The starting torque is less than the running torque and could vary depending on the position at which the vanes stop in relation to the air intake port. The speed and torque can be regulated by using a pressure regulator or a simple shut-off

6.5 Air Motor and Filter Lubricator – cont'd

valve. Lubrication is necessary for the shaft seal, and rust prevention. Each air powered jack is equipped with an automatic air line oiler set to feed 1-3 drops per minute. Use Kilfrost 400 pneumatic tool lubricant or equivalent. Excessive moisture in the line can cause rust formation in the motor and might also cause ice to form in muffler due to expansion of air through the motor.

If the motor is sluggish or inefficient, try flushing with solvent in well ventilated area. Disconnect the air line and muffler and add several teaspoons of solvent. Rotate the shaft by hand in both directions for a few minutes, again connect the air line and apply pressure slowly until there is no trace of solvent in exhaust air. (Keep face away from exhaust air). Check the muffler felts for grease, dirt, etc. If dirty, wash them in solvent. Replace the felts and connect the muffler. Relubricate the motor with a squirt of oil in the chamber. If the vanes need replacing, or foreign particles are present in motor chamber, an experienced mechanic may remove the end plate apposite the drive shaft end.

***DANGER**: To prevent explosive hazard, do not pump combustible liquids or vapors through these units.*

7.0 TROUBLESHOOTING

PROBLEM	CAUSE-SOLUTION
Sporadic Cylinder Action	• Air in the hydraulic system. Cycle jack up / down several times. Bleed cylinder piston assembly by removing vent and allowing air under piston to escape. Retighten vent. • Check reservoir oil level.
Noisy Operation	• Air in system. • Be sure the oil reservoir is filled to normal level. • Check all points where air might leak into system. • Clogged or blocked intake screen.
Pump Oil is Over Heating	• Oil viscosity too high. Replace with Enerpac HF hydraulic oil. • Check for high pressure leakage at the pump (leaking at plug or relief valve). • Oil level is low. Fill reservoir to normal level, or retrofit the pump with larger reservoir or heat exchanger.
Pump Runs But Will Not Pump Oil or piston rod moves but will not lift load.	• Check to make sure that external adjustable relief valve set properly. • Damaged O-Rings. Take to nearest Enerpac Authorized Service Center for repair. • Defective control valve. • Incorrect motor rotation, take to nearest Enerpac Authorized Service Center.
Piston Extends but will not retract.	• Check for internal pressure leaks, or leaking retract hoses. • Adjust internal Relief and retract side relief. • Defective O.C. Valve. Defective secondary lock valve. • Pump not developing enough pressure (2,500 PSI required for retraction).

NOTES: