

SIMPLEX®

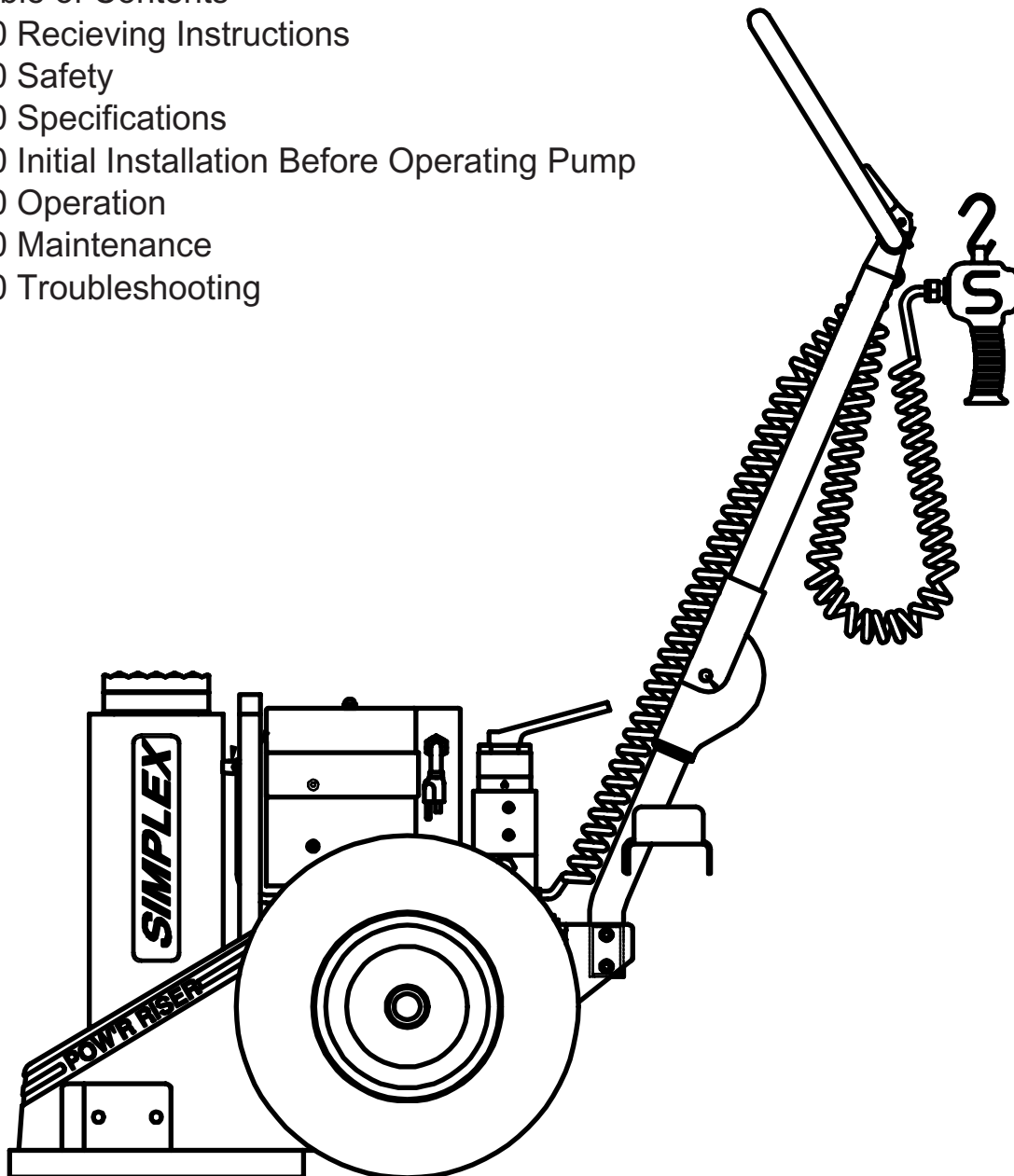
A Division Of Templeton, Kenly & Co., Inc.

Operating Instructions - Electric Pow'r-Riser Models

Table of Contents

- 1.0 Receiving Instructions
- 2.0 Safety
- 3.0 Specifications
- 4.0 Initial Installation Before Operating Pump
- 5.0 Operation
- 6.0 Maintenance
- 7.0 Troubleshooting

Reference # 54119
Revision C
05/2007



2525 Gardner Road . Broadview, Il. 60155 . (800)323-9114

Retrieve Technical Part Sheet Documentation, goto www.tksimplex.com

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. Simplex 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 SIMPLEX or a local Distributor for clarification.

The hydraulic system's maximum working pressure is 10,000 PSI (700kg/cm²).

If you have never been trained on high-pressure hydraulic safety, consult your distributor or service center for a free Simplex 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 SIMPLEX hydraulic oil, or approved equivalent. Failure to heed these warning may cause loss of load or failure of the jack resulting in property damage or personal injury.

WARNING: Never use electrical motors in an explosive atmosphere. Make sure the electrical connections are grounded. Check that your power supply agrees with the nameplate. 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: SIMPLEX 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° C (170° F) or higher.

3.0 SPECIFICATIONS

Component	115 Volt	230 Volt
Electrical Power Source	15 Amps 115 Volt Grounded 50/60HZ.	10 Amps 220 Volt Grounded 50/60 HZ.
Motor Rating	1 ½ HP Permanent Magnet 10 AMPS @ 10,000 PSI (700kg/cm ²)	1 ½ HP Permanent Magnet 6 AMPS @ 10,000 PSI (700kg/cm ²)
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.	

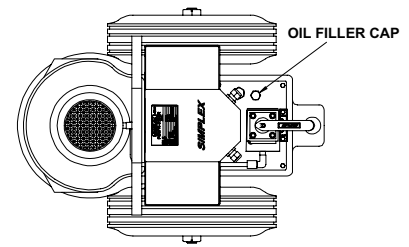
4.0 INITIAL INSTALLATION BEFORE OPERATING SYSTEM

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

Remove OIL FILLER CAP and add SIMPLEX Hydraulic Oil into reservoir. Oil level should not exceed 1" from the reservoir 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 Electrical

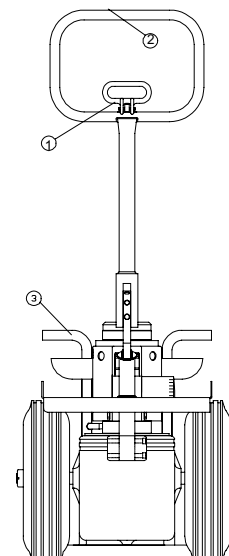
Check for proper electrical supply before connecting. Be sure the electrical connection is grounded. Check that your power supply agrees with the motor nameplate and/or Simplex model decal.

NOTE: THIS MOTOR MAY SPARK. DO NOT OPERATE IN AN EXPLOSIVE ATMOSPHERE OR IN THE PRESENCE OF CONDUCTIVE LIQUIDS.

- a. Do not use a power or extension cord that is damaged or has exposed wiring.
- b. All single phase motors come equipped with a three prong grounding type plug to fit the proper grounded type electrical outlet. Do not use a two prong ungrounded extension cord as the pump's motor must be grounded.

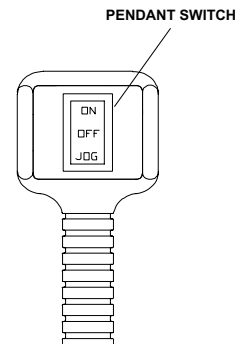
4.4 How to use the Handle Assembly

1. Push lever (callout #1) to release locking pin.
2. Raise handle assembly (callout #2) upward and pull handle assembly (#1) to engage lock pin into desire 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.



4.5 Using the Jack for the First Time

1. Locate the valve control and make sure it's in the neutral or center position.
2. Locate the power switch on the pendant and select to the "ON" position. Check for any leaks, repair as needed.
3. Shift the control valve to the advance and retract position and look for movement in cylinder. Check for any leaks, repair as needed.



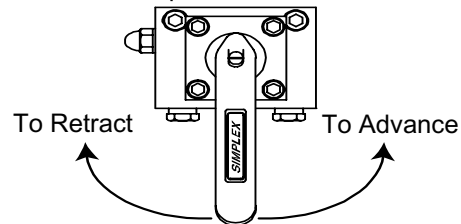
5.0 OPERATION

5.1 Control Valves:

4-Way Manual Valve

- Pushing lever to right directs pump output to "A" port.
- Pushing lever to left directs pump output to "B" port.
- Center position is neutral/hold. Pump output is directed back to tank.

3/4 Way Manual Valve;
handle position is in center.

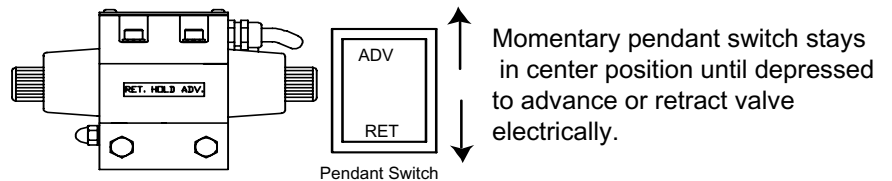


4-Way Solenoid Valve To

Advance...depress switch to the ADV position.

- For Neutral/Hold...release switch.
- To Retract...depress switch to the RET position.

3/4Way Solenoid Valve; stays in center position until switch is depressed



5.2 BASIC OPERATING INSTRUCTIONS

TO RAISE LOAD: (Refer to diagram on next page).

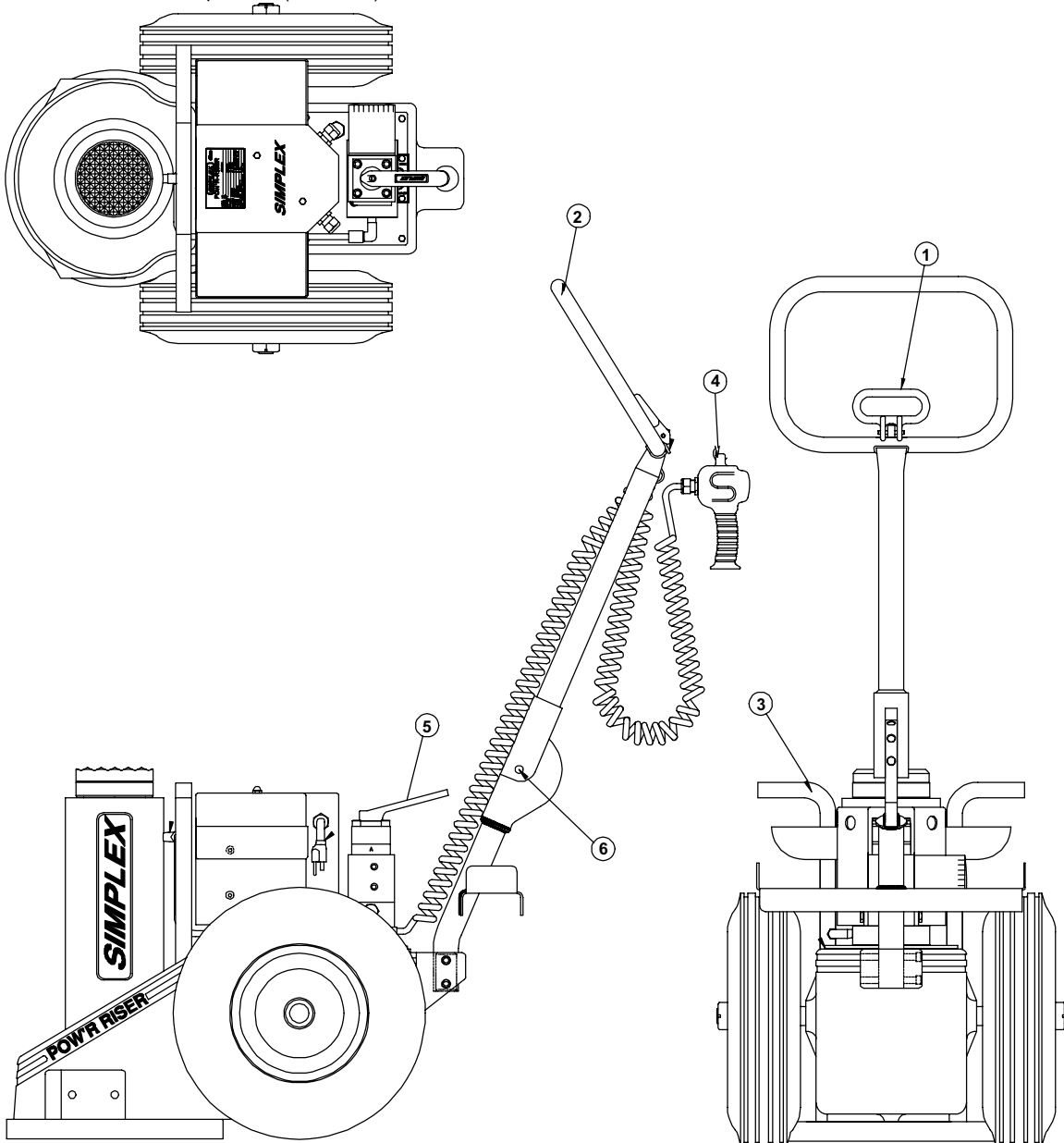
1. Push lever (callout #1) to release locking pin.
2. Raise handle assembly (callout #2) upward and pull handle assembly (callout #1) to engage lock pin into desired hole setting.
3. Pow'r-Riser can now be pushed or pulled (be mindful walking backwards) to work area.
4. The Pow'r-Riser must be positioned 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 scoot the jack under the loads as required.
6. Be certain the electrical switch (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. Depress the electrical switch (callout #4) to start the motor, then move the control valve handle (callout #5) to advance cylinder.
8. When load has reached the proper level, place the control valve handle (callout #5) back to center or neutral position. No Ram movement for more than one minute, SIMPLEX 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 jogging the electrical switch on the pendant (callout #4).

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

TO LOWER THE LOAD:

1. Shift the control valve handle (callout #5) to return valve back to center or neutral position
2. Depress the electrical switch on the pendant (callout #4) to start motor.
3. Shift the control valve handle (callout #5) to the advance position 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) to the retract position to lower the 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 turn off motor via pendant (callout #4).



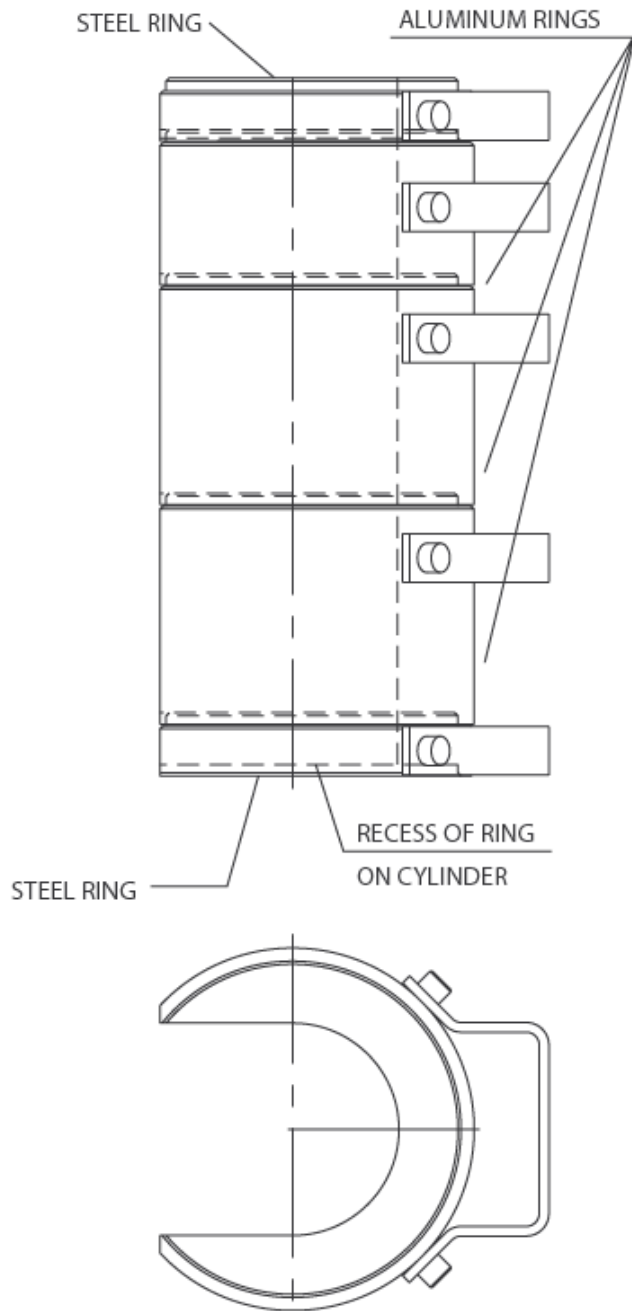
U-RING STACKING INSTRUCTION

Assemble the U-Rings on top of the cylinder housing, around cylinder piston 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.

A alluminum 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 10% 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, then unplug the power cord and 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 Simplex oil only, Model # AO5, 5 gallon). Change the oil more frequently when used in extremely dusty areas or when the oil has been overheated. Using oil other than Simplex Brand may void the pumps warranty.

WARNING: THE ELECTRICAL POWER CORD MUST BE DISCONNECTED FROM ELECTRICAL OUTLETS BEFORE PERFORMING MAINTENANCE OR REPAIR PROCEDURES.

6.2 Maintain Oil Level

Check hydraulic oil level every 30 hours of operation. Add Simplex oil (Model # AO1 – 1 gallon) 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^o 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 Simplex hydraulic oil and reassemble the pump.

7.0 TROUBLESHOOTING

PROBLEM	CAUSE-SOLUTION
Sporadic Cylinder Action	<ul style="list-style-type: none">• Air in the hydraulic system. Cycle jack up / down several times• Check reservoir oil level.
Motor Will Not Start	<ul style="list-style-type: none">• Be sure power cord is not damaged.• Check for tripped circuit breaker; be sure breaker is of adequate size.• Have motor checked for proper operation.• Have qualified electrician inspect for loose or faulty wiring or switch.
Noisy Operation	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Oil viscosity too high. Replace with Simplex 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.	<ul style="list-style-type: none">• Pump is not primed. Run the motor a few minutes.• Check to make sure that external adjustable relief valve set properly.• Damaged O-Rings. Take to nearest Simplex authorized service center for repair.• Defective control valve.• Incorrect motor rotation, take to nearest Simplex Authorized Service Center.
Piston Extends but will not retract.	<ul style="list-style-type: none">• Pump not developing enough pressure (2,500 PSI required for retraction).• Check for internal pressure leaks, or leaking retract hoses.• Adjust internal Relief and retract side relief.• Defective O.C. Valve. Defective secondary lock valve.

WARRANTY STATEMENT

SIMPLEX products are warranted to be free of defects in materials and workmanship under normal use for as long as the original purchaser owns them, subject to the guidelines and limitations listed. This warranty does not cover: normal wear & tear, cosmetic items, abuse, overloading, alterations, improper fluid, or use in a manner for which they are not intended. If the customer believes a product is defective, the product must be delivered, or shipped freight prepaid, to the nearest **SIMPLEX** Authorized Service Center for evaluation and repair.