

## WARNING HYDROSTATIC TEST PUMP SAFETY

Any piece of equipment can be dangerous if not operated properly. **YOU** are responsible for the safe operation of this equipment. The operator must carefully read and follow any warnings, safety signs and instructions provided with or located on the equipment. Do not remove, defeat, deface, or render inoperable any of the safety devices or warnings on this equipment. **IF** any safety devices or warnings have been removed, defeated, defaced, or rendered inoperable, **DO NOT USE THIS EQUIPMENT!!!**

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**High pressure spray can cause extremely serious injury. The pressure stream can pierce skin, damage eyes and burst eardrums. Use extreme caution! Never touch a leaking hose it will pierce your skin. Shut the unit down and release all pressure before handling it.**

**Always wear Eye Protection whenever operating this equipment.**

**⚠ WARNING:** Operating, servicing and maintaining this equipment can expose you to chemicals including engine exhaust, carbon monoxide and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize your exposure, avoid breathing exhaust, do not idle the engine except as necessary, operate and service your equipment in a well-ventilated area and wear gloves or wash your hands frequently when servicing your equipment. For more information go to [www.P65warnings.ca.gov](http://www.P65warnings.ca.gov)

Use extreme caution whenever operating, moving, loading or unloading this equipment. During and after operation the Muffler and other components are Extremely Hot and will cause Serious Burns.

Never operate power equipment of any kind if you are tired or if you are under the influence of alcohol, drugs, medication or any substance that could affect your ability or judgment. Be alert! If you get tired while operating this equipment, take a break. Tiredness may result in loss of control.

Provide adequate ventilation when operating this equipment. Internal combustion engines consume oxygen and give off deadly carbon monoxide gas.

### RICE HYDRO, INC. MANUFACTURER'S OPERATING INSTRUCTIONS

#### **CONNECTING THE PUMP:**

Check oil level in pump through sight glass on side of pump body.

Use 30w non-detergent oil. Midway through glass is full.

The accumulator head is equipped with a valve stem. Set the air pressure between 90 to 120 PSI.

Check oil level in engine crankcase, use (10W30) as needed.

Check oil level in the gear reduction, use (90W) as needed. Oil should be level with side plugs of unit.

Use unleaded gasoline in engine.

Connect inlet hose assembly provided. The pump **MUST** be either suction fed (out of a barrel or pond), or gravity fed (from a water truck).

#### **A PRESSURIZED LINE CANNOT BE USED TO SUPPLY WATER TO THE PUMP.**

Connect the supplied high-pressure outlet hose to the pump and the line to be tested.

Open the 1/4 turn ball valve on the outlet side.

Open hose bib located directly below the gauge. Close when water flows freely after starting pump.

#### **OPERATING THE PUMP:**

Start the engine, RPM has been preset. **DO NOT ADJUST.**

The pressure regulator has been preset for 300 PSI. ***To change this setting, you must make this adjustment while the water is flowing freely through the pump.*** To adjust pressure, first loosen the locknut. Turn the T-handle clockwise to increase the pressure. Turn the T-handle counterclockwise to decrease the pressure.

Adjustments to the T-handle should be in 1/2-turn increments. Re-tighten locknut after each turn to verify reached test pressure. Once test pressure has been reached, **shutoff engine and close ball valve simultaneously.**

A check valve on the **high**-pressure side of the pump prevents pressure from bleeding back to the pump.

Check for leaks. *If pressure drops: see trouble-shooting guide.*

#### **REMEMBER THESE CAUTIONS:**

**1.** Check all fluid levels prior to operating pump. **2.** Use a sound 3/4" or larger supply hose. **3.** NEVER connect the pump up to a pressurized line. **4.** NEVER close ("slam") the ball valve while the engine is running. **5.** Flush system thoroughly after each use. **6.** Protect the pump from freezing in cold climates, use anti-freeze.

**NEVER ADJUST PRESSURE REGULATOR WITH UNIT UNDER PRESSURE AND/OR BALL VALVE CLOSED.**

## **USING THE EXCLUSIVE RICE ENGINEERED FEATURE TO IDENTIFY LOSS**

1. After test pressure is reached stop engine and close ball valve.

Note the pressure reading on the gauge. Wait the specified time and then note any pressure drop.

*If there is a pressure drop*, at the end of the test period open the ball valve and re-establish the original test pressure.

Shutoff the engine and close the ball valve. Open the hose bib and draw out the water to duplicate the pressure drop (water lost). Collect this water in a container to be measured.

**IF YOU NEED TO LEAVE THE PUMP RUNNING TO LOCATE A LEAK YOU MAY DO SO WITHOUT FEAR OF DAMAGING THE PUMP SHOULD YOUR FEED DRUM RUN DRY. ONE OF THE FEATURES OF THE DIAPHRAGM PUMP IS ITS ABILITY TO BE RUN DRY WITHOUT RESTRICTIONS. TO DO THIS, THE INLET BALL VALVE AND OUTLET MUST NOT BE CLOSED OFF, ALLOWING AIR INSTEAD OF WATER TO BE TRANSFERRED FREELY INTO AND OUT OF THE UNIT. YOU MAY ALSO PUMP UP TO A 10% SOLUTION OF CHLORINE THROUGH THE PUMP WITH NO RESULTING DAMAGE.**

## **RECOMMENDED PERIODIC MAINTENANCE PROCEDURE**

Change engine oil after the first 5 hours of operation thereafter every 25 hours of use or every season.

Change the oil in the pump body after the first 50 hours of operation thereafter every 250 hours.

Change the gear lube after every 100 hours of use or every season.

## **COMPONENTS:**

5 H.P. gasoline powered, air cooled, 4-cycle engine.

500 PSI, 9.5 GPM positive displacement twin diaphragm pump with inner oil bath and gear reduction.

Manually operated pressure regulator provides variable psi settings up to 500 PSI MAXIMUM. Bypass is directed back to the inlet side of the pump

Stainless-steel liquid filled gauge for accurate readings.

1/4 turn stainless-steel ball valve with self-cleaning nylon seat to isolate output pressure.

1/2" check valve to hold pressure after engine shutdown.

Inlet hose, 9 foot, with strainer.

Hose bib for bleeding of air and loss definition.

3/4" X 8 ft., high-pressure outlet hose, with quick connect couplers (500 PSI working pressure with a 2000 PSI burst rating).

## **TROUBLE SHOOTING FOR DP-2B HYDROSTATIC TEST PUMP**

### **IF PUMP FAILS TO BUILD PRESSURE:**

1. Look for leaks in water supply hose and connections.
2. Supply hose is too small, 3/4" or larger diameter required. Strainer may be clogged.
3. Supply hose may be kinked or collapsed. Maximum 10 feet.
4. Pump may be sucking air. Small holes in supply hose are hard to find because air is drawn inward. Replace supply hose. Loose piping or connections.
5. T-Handle pressure regulator may be set incorrectly. Re-set **NO HIGHER** than 500 PSI.
6. Faulty pressure gauge, replace.
7. Pump is running too slow. Advance throttle on engine.
8. Pipeline being tested may have leaks, or open valve. Isolate pump and self-test, by placing a ball valve on the end of the outlet hose.
9. Foreign material may be lodged in a valve, preventing valve from seating properly. Remove cylinder head. Remove valve assemblies, clean and replace.
10. Airlock. With pump running, open and close bleed valves several times to remove air.
11. Diaphragms may be ruptured; oil in crankcase will be milky white. Drain oil from pump and install new diaphragms.
12. No air in accumulator head. Reset between 90-120 psi.

If the person receiving this handout will not be the user of the equipment, forward these instructions to the operator. **IF** there is any doubt as to the operation or safety of the equipment, **DO NOT USE!! CALL A TOOL SHED IMMEDIATELY!!!**

**FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN INJURY OR DEATH**