

Plug-It Products, Corp.
Rice Hydro, Inc. Manufacturer's Operating Instructions
Test Pump Model DPH-3B

CONNECTING THE PUMP:

1. Check oil level in pump through sight glass on front of pump body. Use 30w non-detergent oil. Middle of red dot is full.
2. The accumulator head is equipped with a valve stem. Set the air pressure between 90-120 PSI.
3. Check motor and belts, secured with no frays or tears.
4. Connect inlet hose assembly. 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. Never connect this unit to a water source such as a standpipe, hose bib, tap water faucet, etc. unless a 3B-PRESSURED Tank is attached to the unit. Connect the supplied high-pressure outlet hose to the pump and the line to be tested.
5. Open the $\frac{1}{4}$ turn ball valve on the outlet side of the pump.
6. Open hose bib located directly below the gauge. Close when water flows freely.

OPERATING THE PUMP:

1. Start the motor.
2. 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 $\frac{1}{2}$ turn increments. Re-tighten locknut after each turn to verify reached test pressure.
3. Once test pressure has been reached, shut off 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.
4. Check for leaks. If pressure drops: see troubleshooting guide.

REMEMBER THESE CAUTIONS:

1. Check all fluid levels prior to operating pump.
2. Use a sound $\frac{3}{4}$ " or larger supply hose.
3. NEVER connect the pump up to a pressurized line.
4. NEVER close ("slam") the ball valve while the motor is running.
5. Flush system thoroughly after each use.
6. Protect the pump from freezing in cold climates, use anti-freeze.
7. NEVER ADJUST THE PRESSURE REGULATOR WITH THE UNIT UNDER PRESSURE AND/ OR BALL VALVE CLOSED.

USING THE EXCLUSIVE RICE ENGINEERED FEATURE TO IDENTIFY LOSS

1. After test pressure is reached, stop motor and close ball valve.
2. Note the pressure reading on the gauge. Wait the specified time and then note any pressure drop.
3. If there is a pressure drop, at the end of the test period open the ball valve and re-establish the original test pressure.
4. Shutoff the engine and close the ball valve. Open the hose bib on the pump 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 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.

TROUBLESHOOTING FOR DPH-3B 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, $\frac{3}{4}$ " 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 550 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 & 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