INSTALLATION INSTRUCTIONS

Installation of the Giant Industries, Inc., pump is not a complicated procedure, but there are some basic steps common to all pumps. The following information is to be considered as a general outline for installation. If you have unique requirements, please contact Giant Industries, Inc. or your local distributor for assistance.

1. The pump should be installed flat on a base to a maximum of a 15 degree angle of inclination to ensure optimum lubrication.

2. Cavitation and/or compresssion of gases will lead to uncontrollable pressure spikes which can damage the pump and parts as well as cause injury to the operator or people nearby. The inlet to the pump should be sized for the flow rate of the pump with no unnecessary restrictions that can cause cavitation. If these pumps are to be operated at temperatures in excess of 86° F (30° C), be sure to contact Giant Industries. At higher temperatures it is important to insure a positive head (NPSH) to the pump to prevent cavitation. As the inlet temperature increases, the cooling system becomes less effective. For fluid temperatures above 120 °F (50 °C), an independent colling system should be installed.

3. The discharge plumbing from the pump should be properly sized to the flow rate to prevent line pressure loss to the work area. It is essential to provide a safety bypass valve between the pump and the work area to protect the pump from pressure spikes in the event of a blockage or the use of a shut-off gun. Teflon tape should be used to seal all joints.

4. Use of a dampener is necessary to minimize pulsation at drive elements, plumbing, connections, and other system areas. The use of a dampener with Giant Industries, Inc. pumps is optional, although recommended by Giant Industries, Inc. to further reduce system pulsation. Dampeners can also reduce the severity of pressure spikes that occur in systems using a shut-off gun. A dampener must be positioned downstream from the unloader.

5. Crankshaft rotation on Giant Industries, Inc. GP8100-R series pumps should be made in the direction designated by the black arrows on the pump gearcase. This is to ensure proper lubrication. Reverse rotation may be safely achieved by following a few guidelines available upon request from Giant Industries, Inc. Required horsepower for system operation can be obtained from the charts on pages 4-6.

Gear on right side from behind pump = optimal rotation: to the left

Gear on left side from behind pump = optimal rotation: to the right

The preferred/optimal direction of rotation ensures the motion of the conrods correctly distributes the oil onto the crosshead guides - which is a particular advantage where continuous operation is involved.

The pump can also be run against the recommended direction of rotation if operated periodically or at reduced pressure. If so, the pump has to be run in this direction to smooth out bearing areas. This is done by a one-time operation at zero pressure for at least 30 minutes; thereafter the pressure must be slowly increased over the next hour to the desired max. operating pressure after which the pump is then run at this pressure. The oil temperature is to be checked during this procedure.

Important! During operation, all rotating parts, shaft(s) and coupling, must be covered by a protective guard. Plunger area must have the cover plate (30) secured in place. Do not step or place weight on the cover plate (30).

6. Before beginning operation of your pumping system, remember: Check that the crankcase and seal areas have been properly lubricated per recommended schedules. Do not run the pump dry for extended periods of time. Cavitation will result in severe damage. Always remember to check that all plumbing valves are open and that pumped media can flow freely to the inlet of the pump.

Important! The service life of the seals is maximized if a minimal amount of leakage is present. A few drops of water can drip from each plunger every minute. Leakage has to be examined every day; the plunger seals must be changed should leakage become excessive (i.e. constant dripping).

Finally, remember that high pressure operation in a pump system has many advantages. But, if it is used carelessly and without regard to its potential hazard, it can cause serious injury.

Failure to comply with any of these conditions invalidates warranty

OPERATING INSTRUCTIONS

IMPORTANT OPERATING INSTRUCTIONS

Failure to comply with any of these conditions invalidates warranty

1. Prior to initial operation, add oil to crankcase so that oil level is between the two lines on the oil dipstick. DO NOT OVERFILL. **Use Industrial gear lube oil (ISO VG 220 GL4), such as Mobil Gear 630, Shell Omala oil 220 or Texaco Meropa 220.** Crankcase oil should be changed after the first 50 hours of operation, then at regular intervals of 1000 hours or less depending on operating conditions. In either case, the oil should be changed once per year.

Run pump for one (1) min at ZERO PSI before operating under pressure.

Important! When operating in high humidity or wide temperature fluctuations, oil must be changed if condensate or frothy oil occurs in crankcase.

2.Pump operation must not exceed rated pressure, volume or RPM. A pressure relief device must be installed in the discharge of the system to prevent the rated pressure from exceeding 10%. NPSH values must be observed.

3. Giant Triplex Plunger Pumps are suitable for pumping clean water and other non-aggressive or non-abrasive liguids with a specific weight close, or equal, to water. All media to be filtered to 200 microns. Before pumping other media, such as acids, alkalines, abrasive, explosive or toxic fluids, Giant Industries, Inc. must be consulted and approval - if granted - provided in writing. It is the responsibility of the equipment operator and/or end user to ensure that all pertinent safety regulations are adhered to.

4. Run the pump dry approximately 10 seconds to drain the water before exposure to freezing temperatures.

Important! The pump and cooling system must be emptied if there is a danger of frost. Note that travel wind, for example, can cause water in pumps fitted on open vehicles to freeze even if the outside temperature is above freezing point.
To empty the cooling circuit, remove the L-joints (K11) on the pump head (50). Blow out the circuit liquid at the joint connection (K11/K7) using compressed air.

5. Important! Inlet pressure not to exceed 29 PSI (2 bar) when using the integrated oil cooling system. If using the separate cooling system, the inlet pressure can be a maximum of 145 PSI (10 bar). Make sure that the suction pulsation is sufficiently dampened; water column resonance must be avoided.

6. The torque tension on the valve casing nuts (49A) should be checked after approximately 200 operating hours. Pump must be at zero pressure. See page 10 for torque values.