



## MECHANICAL WATER INJECTION INSTALLATION TIPS

- **PLUMBING:**
  - Tank: Minimum of 2 gallon tank with a feed and return port, must be installed above pump (gravity water flow) and ventilated to atmosphere.
  - Suction Line (tank to pump): Minimum 7/8" ID hose and 3/4" NPT fittings.
  - Strainer: Install between tank and pump.
  - Return circulation hose (Simpson valve to tank): Minimum 5/8" hose and 1/2" NPT fittings
  - High Pressure Line (pump to Simpson valve and Simpson valve to water manifold): 1/2" ID hose and 1/2" NPT fittings.
  - High Pressure Line (water manifold to nozzles)
    - Multi Port System: 3/16" or 1/8" ID hose and 3AN/1/8" NPT fittings.
  - Pressure Gauge: Install in water manifold.
  - Water pressure sensor: Install in water manifold.
  - Enderle style nozzles require 1/8" NPT bung.
  - FVP Spinner style nozzle kit: Drill a 3/4" hole and massage open for nozzle nut (51/64" drill bit is exact size).
    - Solder, tig weld, or mig weld bung to pipe. Brass body must be installed during welding process to prevent distortion and warpage.
- **WATER PRESSURE SWITCH** (turns dash light on when water pressure reaches 400psi):
  - "C" Terminal: Connect to battery 12V power.
  - "NO" Terminal: Connect wire to dash lamp for light on with pressure
  - "NC" Terminal: Connect wire to dash lamp for light off with pressure
- **SIMPSON WATER VALVE**
  - Connect inlet supply hose from pump.
  - Connect return circulation hose to tank.
  - Connect boost hose from intake manifold.
  - Connect outlet supply hose to water manifold.
  - Adjustment: One turn in on set bolt increases water turn on pressure by approx. 10 - 12psi. One turn out on set bolt decreases water turn on pressure by approx. 10 – 12 psi.
- **VICKERS VANE PUMP:**
  - Large Port (Inlet): 1" NPT
  - Small Port: (Outlet): 1/2" NPT
- **WATER:**
  - Use clean distilled water with water soluble lube (e.g., FVP p/n: WIL100). Mixture ration: 4 oz per gallon.
- **TEST & ADJUSTMENT:**
  - Fill system with water and lubricant. Assemble water nozzle and connect to plumbing. Install nozzle into measuring container. Use quick coupler and pressure regulator with shop air to set anticipated boost pressure to Simpson valve. Start engine, run at approx. 2800 RPM. Connect quick coupler, time for 15 seconds approx. time to make a pass down the track, disconnect coupler. Measure water delivered. Make adjustments to nozzle sizes and repeat process until desired volume is achieved.
- **OFF SEASON STORAGE:**
  - Drain water. Clean tank, strainer, and water nozzle assy. Cycle engine oil through pump.