

TSB-1001: WATER FILTER MANIFOLD RELIEF ORIFICE

It has been reported that in certain operational conditions, the water pressure measured on the exit side of the water booster pump builds pressure when in a "Dead Head" condition, when no water is flowing. With the intensifier in a "Dead Head" state, the exiting water from the booster pump has no place to go, thus discharging over an internal relief valve. This in turn provides the inlet of the water pump with higher water pressure therefore increasing the outlet water pressure. This cycle continues until the gage is maxed out, potentially damaging the pump.

There is a small orifice internal to the water filter manifold to allow for recirculation of the water during a dead head condition; however the orifice is too small to handle the volume of water produced by the pump. To solve the problem, a larger orifice is required.

This service procedure is for the modification of the pressure relief orifice size located inside the water filter manifold, 606120-2.

The following tools are required to perform this procedure:

- 5/16" Hex Wrench (Do not use ball end wrench)
- 1/8" Drill Bit (50HP model only)
- 3/16" Drill Bit (100HP model only)
- Suitable Electric Drill
- Flat Head Screwdriver

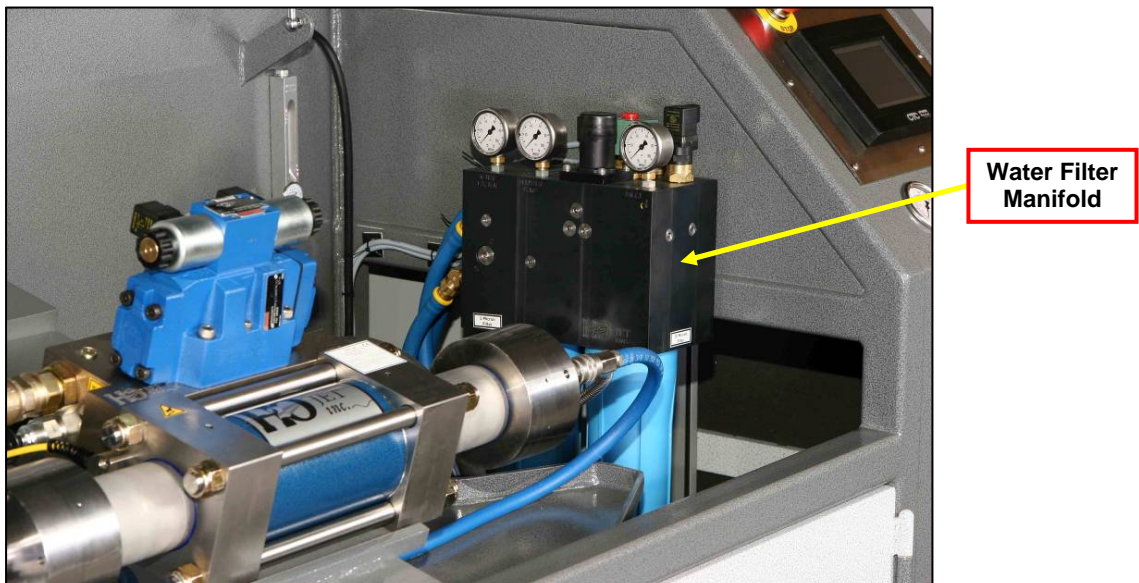


FIGURE 1

Disassembly:

1. Shut down the system.



Place the main electrical disconnect in the OFF position and bleed down all high-pressure lines. Place an "Out of Service" tag on the main electrical disconnect and lock it out. Failure to do so may result in damage to equipment or injury to personnel.

2. Locate the water filter manifold on your Advantage UHP pump. It is located under the top cover, near the right side of the intensifier. **See Figure 1.**
3. Locate the large plug directly below the After Filter pressure gauge. Remove using a 5/16" Hex Wrench. **See Figure 2.**
4. Carefully remove the Orifice Plug located beneath the large plug removed in step 3. Use a standard 5/16" hex wrench. Do not use a ball end hex wrench as damage may occur. **See Figure 3.**
5. Carefully drill out the orifice to the dimension specified below. **See Figure 4.**
 - 50HP Pump models: 1/8" (.125") drill.
 - 100HP Pump models: 3/16" (.188") drill.



FIGURE 2

Assembly:

6. Apply a small amount of O-Ring Lube to the o-ring of the large plug. Hydraulic oil may be used as a substitute.
7. Re-Install the orifice plug then the large plug, being careful not to cross the threads.
8. Remove lock out tag and start the pump.
9. Check for leaks.
10. With the orifice size change completed, the booster pump may require resetting the pressure output. The desired reading of the Booster Pump pressure gauge is 80 psi. If the pressure reads between 75 and 85 psi, skip to step 13. If not, continue to step 11.
11. Identify the Booster Pump located at the end of the Motor-Pump assembly. Locate the flat head screw in the center of the acorn nut on the side of the Booster Pump. **See Figure 5**
12. Turn the screw clockwise to increase pressure, counter-clockwise to decrease pressure. Adjust until the Booster Pump pressure reads between 75 and 85 psi.
13. The pump can now be returned to normal operation.



FIGURE 3

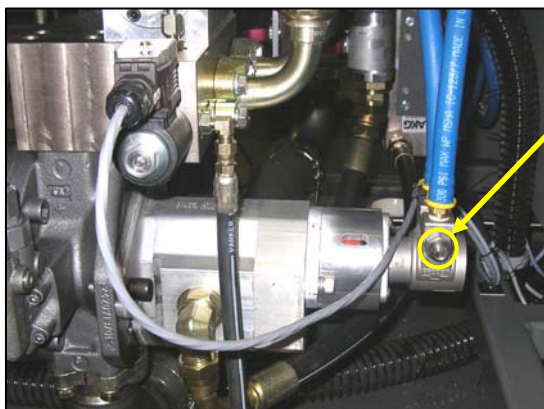


FIGURE 5

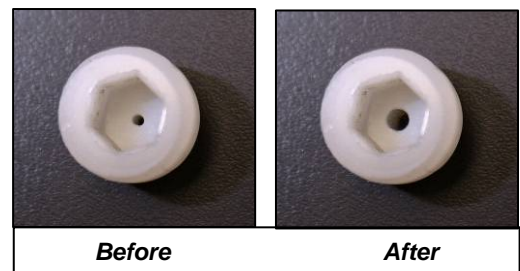


FIGURE 4