Bleeding Air from Parker P3 Piston Pumps

Pump Air Bleeding

The piston pumps on the power unit must be primed with oil prior to operation. If air becomes trapped in the pump for any reason, the pump may be damaged when the engine is started.

Air may be trapped in the piston pump:

- When a new piston pump is installed
- When an adjacent pump is replaced
- When hoses connected to the pump are replaced

Air must be bled from the piston pump before putting it back into service. See Figure 1 for a typical power unit with two Parker P3 piston pumps installed.

Direct Fill Method

To bleed air from the pump:

1. Employ lockout/tagout procedures.
2. Remove the plug in the airbleed port. See Figure 1.
3. Fill the pump case with up to 16 oz of hydraulic oil.
4. Reinstall the plug. Torque to 92 ft-lbs.
5. Start the engine and leave it at idle.
6. Observe the pressure of the pump in question from the Hydraulics Screen on the Wagner Smart Screen. Do not actuate any functions.
7. The pump should reach the standby pressure listed for that pump in the operating specifications within 30 seconds.
8. If the standby pressure is not within range, repeat steps 1-7 until the specified standby pressure is achieved.
9. If, after 3 attempts, the pump is still not properly primed, follow the instructions for pressurizing the hydraulic tank.

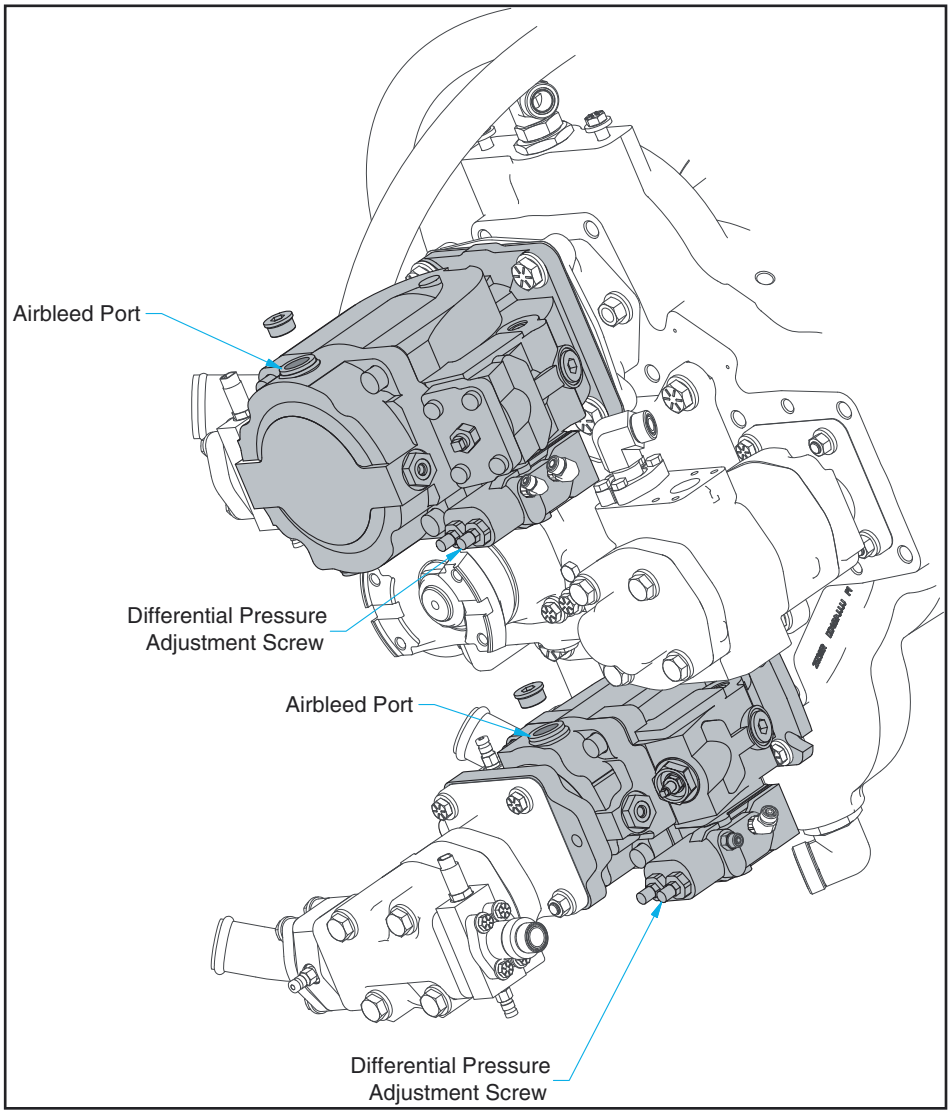

Figure 1 Typical Power Unit With Parker P3 Piston Pumps

Pressurizing Hydraulic Tank Method

1. Employ lockout/tagout procedures.
2. Remove the plug in the airbleed port. See Figure 1.
3. Pressurize the hydraulic tank:
   a. Open the petcock to temporarily depressurize the tank. See Figure 2.
   b. Close the petcock.
   c. Remove the breather assembly.
   d. Use pressurized air at the opening to re-pressurize the hydraulic tank. This should allow the oil to rise within the pump.
4. Allow the oil to reach the port opening in the pump.
5. Reinstall the plug. Torque to 92 ft-lbs.
6. Reinstall the hydraulic tank breather assembly.
7. Start the engine and leave it at idle.
8. Observe the pressure of the pump in question from the Hydraulics Screen on the Wagner Smart Screen. Do not actuate any functions.
9. The pump should reach the standby pressure listed for that pump in the operating specifications within 30 seconds.
10. If the standby pressure is not within range, repeat steps 1-9 until the specified standby pressure is achieved.

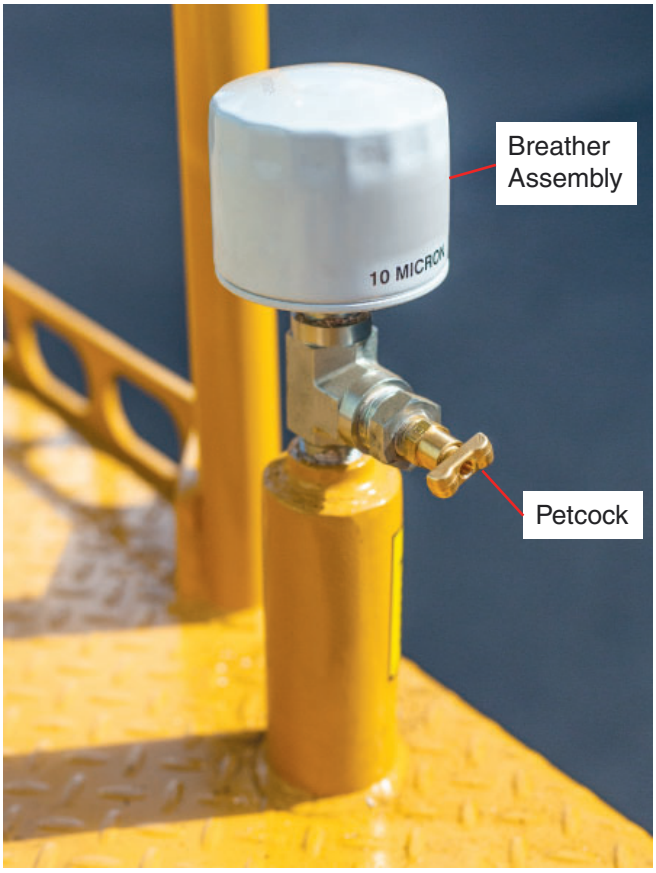

Figure 2 Hydraulic Tank Breather

Adjust Pressure

If air has been successfully bled from the pump, but the standby pressure is still not reading correctly, you may need to adjust the pressure at the pump.

1. Use a pressure gauge or the Hydraulics Screen on the Wagner Smart Screen to monitor the standby pressure of the pump in question.
2. Start the engine and leave at idle.
3. See Figure 1. Loosen the jam nut, and turn the differential pressure adjustment screw until the standby pressure is within the range shown in the operating specifications.
4. Tighten the jam nut.