

Pump Operation's Checklist

Note that these instructions apply only to Waterous fire pumps and accessories. If your fire apparatus is equipped with non-Waterous systems, please test them according to the manufacturer's recommendations.

Please read through the safety information in your operation and maintenance instructions prior to using your Waterous pump.

Setup

1. Move the apparatus to a safe operating area.
2. Set the apparatus parking brake.
3. Place wheel chocks.
4. Open the tank-to-pump valve.
5. Open the tank fill valve half-way.

Weekly Performance Checks

The following procedures should be performed at least weekly.

☞ Priming System

1. Check priming lubricant level (if applicable).
2. Fill priming lubricant tank with Prime-Safe™ lubricant (if applicable).
3. Operate the pump priming system(s) for twenty seconds.

☞ CAFS (Compressed Air Foam Systems)

1. Check compressor oil level, add ISO 68 hydraulic oil as necessary.
2. Check and clean the heat exchanger (oil cooler) Y strainer.
3. Engage the pump and CAF System per their respective operating instructions.
4. Run the compressor with air flowing for 15 to 20 minutes.
5. Disengage the CAF System and pump per their respective operating instructions.

Monthly Performance Checks

The following procedures should be performed at least monthly.

☞ Pump Shift Unit

1. Engage the pump per the transmission operating instructions.
2. Check all shift indicating lights for proper operation.

☞ Transfer Valve Actuator

1. (Model CP-3 pumps only) Add 1 oz. of calcium-based water pump grease through lube fitting.
2. With the pump at idle, operate the transfer valve between pressure (series) and volume (parallel) for at least two cycles.
3. Check all indicating lights for proper operation.

☞ Discharge Relief Valve System

1. Increase the pump discharge pressure to 150 psi.
2. With the pilot valve OFF, remove the strainer assembly. Clean the strainer and the orifice in the end of the rod.
3. Cover the strainer opening with your hand and slowly turn the pilot valve ON and OFF several times. Water should flow from the strainer opening in the ON position and the relief valve should open (amber light). Water flow should stop and the relief valve should close (green light) in the OFF position.
4. Check the strainer O-rings and replace if required; replace the strainer assembly (hand-tight only).
5. With the pilot valve OFF, turn the pressure adjustment handle counterclockwise until it stops.

Monthly Performance Checks Continued

6. Slowly turn the pilot valve ON. The relief valve should open (amber light) and the pump discharge pressure should drop.
7. Slowly turn the pilot valve OFF. The relief valve should close (green light) and the pump discharge pressure should rise back to 150 psi.
8. Repeat steps 6 and 7 until the system responds quickly when turned ON and OFF.
9. Reset the pilot valve to the desired setting and decrease the engine speed to idle.

☞ **Disengage the pump per the transmission operating instructions.**

☞ **Discharge Valves**

1. Open all discharge valve drains and disconnect any pre-connected fire hose.
2. With the pump flooded, open and close each discharge valve repeatedly until it operates smoothly.
3. After water flow has stopped, close all drains and reconnect the hoses.

☞ **Pump Master Drain**

CAUTION

Never open or close the pump drain valve while the pump is under pressure. Doing so may result in valve seal failure.

1. Open and close the drain valve several times to allow debris to flush after each pumping operation.
2. Refill the apparatus water tank.

☞ **Dry Vacuum Test**

1. Close the tank-to-pump valve and tank fill valve
2. Remove all caps, except on openings without valves.
3. Close all intake, discharge and drain valves.
4. Operate priming system to produce a vacuum of at least 22" Hg.

CAUTION

Operating the priming pump for more than one minute continuously may damage the electric motor.

5. Watch the intake (compound) gauge. Vacuum should not drop more than 10" of Hg in five minutes.

☞ **Intake Relief Valve System**

1. Clean the pilot valve strainer once per month or as needed. Remove the screen using a 24mm wrench. Clean and re-install.
2. Remove and clean the throttle screw from the pilot valve. If the bore is plugged, it can be flushed out with water.
3. Test the intake relief valve system with a pressurized water source capable of supplying continuous flow at 60 to 100 psi.
 - a. Set the pilot valve slightly above the source pressure and apply this pressure to the pump intake. The relief valve should remain closed.
 - b. Reduce the pilot valve setting to slightly below the source pressure. The relief valve should open, "dumping" a large volume of water.
 - c. Reset the pilot valve above the source pressure. Relief valve should close.

☞ **Miscellaneous Items**

1. Check the pump transmission lubricant level and refill if necessary.
2. Model KC Transmission only: Check the fluid level in the hydraulic shift reservoir and refill if necessary.
3. Check the condition of all intake strainers and anodes; replace if necessary.

The fire pump system should be performance tested on an annual basis per NFPA 1911, *Standard for Service Tests of Fire Pump Systems on Fire Apparatus*.