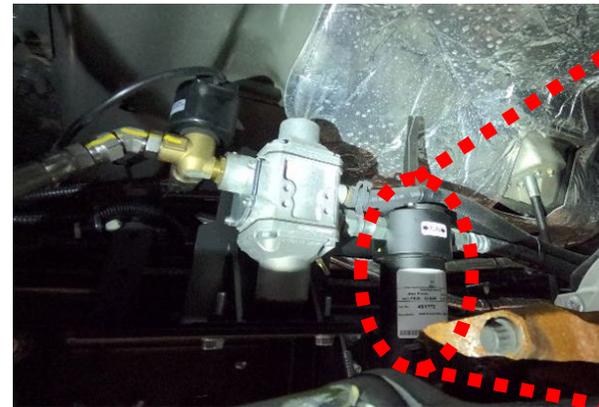
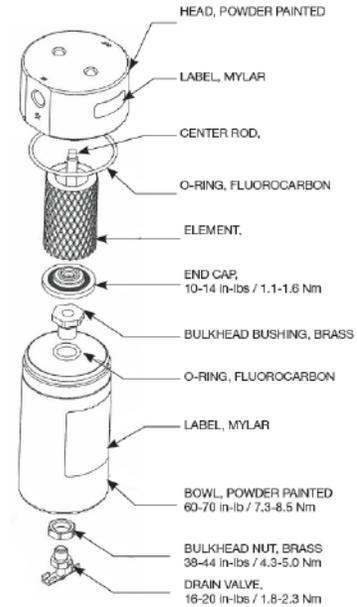


CNG System Maintenance / Inspection Item	Frequency
Replace Low- and High-Pressure Fuel Filters Low: UPS part # 4821237 (incl O-rings) High: UPS part # 4817451 (incl O-rings)	UPS PMI for LOF (5,000 mi, 200 engine hours, or 6 months whichever comes first)
Spark plugs	60,000 mi
Leak Test	UPS PMI
Component Visual Inspection	UPS PMI
CNG System Inspections*	Every 12 months

* Also, after any accident or thermal event

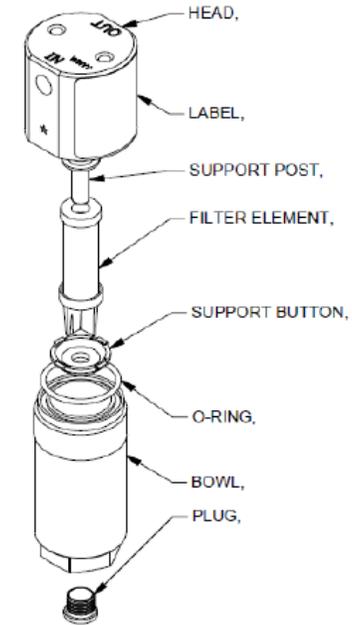
• Replacing the Element

- Open petcock to drain any fluid that may be present
 - NOTE: If oil present, contact PE to have filling station inspected for passing oil.
- Relieve system pressure **BEFORE** removing filter by shutting off main valve, start and run until engine shuts off
- With a strap wrench, unscrew bowl and remove the old element and O-ring
- Replace with new components supplied in UPS part # 4821237 (includes O-rings) and install bowl
- Torque to 64-66 in-lbs.
- Turn on main valve. Start vehicle and shut off. Test for leaks by using leak detection fluid or methane detection equipment



• Replacing the Element

- Relieve system pressure **BEFORE** removing filter by shutting off main valve, start and run until engine shuts off
- Remove drain plug with 1/4" hex key wrench to drain any liquid that may be present
 - NOTE: If oil present, contact PE to have filling station inspected for passing oil.
- Using a crescent wrench and the flat sections located on the bottom of the bowl, unscrew the bowl and remove old element and O-ring
- Replace with new components supplied in UPS part # 4817451 (includes O-rings) and install bowl
- Torque bowl to 30 ft-lbs.
- Torque drain plug to 27 ft-lbs.
- Test for leaks, with system pressurized, by using leak detection fluid or methane detection equipment

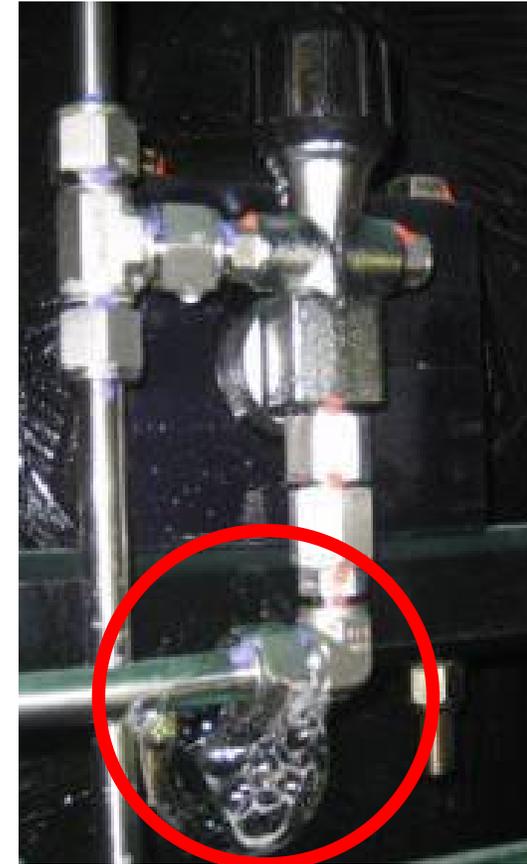


- Check for leaks using combustion gas detector
- If leak detected, check fittings and connections for leaks using leak detection solution (available at MDC. Part # 3026700)
- When a leak is present the solution will cause bubbles
- Always give it at least 10 minutes
- Not all leaks will be apparent
- After a few minutes even a tiny leak will appear in a foam like manner not necessary bubbles
- Example on next slide



Leak example with leak detection solution:

- Look for bubbling or foaming at point of leak
- Check for signs of damage to tubing



- Check wiring harnesses, fuel and coolant hoses
 - Securely attached
 - Free from abrasion
 - Free flowing – not kinked
- Check CNG cylinders and mounting system
 - Unacceptable
 - Damage to outer shell that does not conform to manufacture specifications
 - Damage to boss end
 - Any visible crack in frame or any other component
 - Damage to any plumbing component
 - Damage to the cylinder mounts

- Technicians must be trained and qualified to perform CNG cylinder inspections.
 - AFVI or comparable outside training
- Questionable findings during cylinder inspections must be communicated to local shop management.