

PARKER BOILER CO. SOLENOID TYPE FUEL GAS VALVES

UL Listed Solenoid Gas Valves may be furnished on Parker Boilers as Main or Pilot Gas Line Safety Shutoff Fuel Valves. Solenoid Gas Valves used for Safety Shutoff service are of the normally closed (N.C.) type; that is, they are closed to fuel flow until the coil is energized. Solenoid Valves of the Normally Open (N.O.) type may be furnished as Fuel Vent Valves when required by Insurance Company Standards. These N.O. Valves are open to flow until the coil is energized.

CAUTION: Normally Open Vent Valves must be piped outdoors to a safe point of discharge in compliance with Local Codes and Manufacture's Installation Instructions. Never use a Normally Closed Valve in place of a Normally Open Valve on a fuel vent line. Never use a Normally Open Valve in place of a Normally Closed Shutoff Valve on a Main or Pilot Gas Line.

WARNING: DO NOT ALLOW FUEL TO ACCUMULATE IN COMBUSTION CHAMBER. IF FUEL IS ALLOWED TO ENTER THE CHAMBER FOR LONGER THAN A FEW SECONDS WITHOUT IGNITING, AN EXPLOSIVE MIXTURE COULD RESULT.

CHECKOUT & SERVICING:

CAUTION:

1. Only qualified service technicians should attempt to service or repair gas valves, flame safeguard controls or burner systems.
2. Use utmost care during troubleshooting. Line voltage is present right at electrical terminations of most valves and in all controller circuits. Always open Main Line Disconnect Switch and depressurize valve before replacing or repairing valve.
3. Close all manual fuel shutoff valves if any trouble occurs.
4. Parker Boiler furnishes solenoid gas valves with the piping in a horizontal position and the solenoid vertical and upright. Do not alter this positioning.
5. Do not attempt to service or replace the valve without reading the valve manufactures exact service bulletin and safety warnings provided with specific valve.
6. Periodic inspection and leak testing of valve required. Organize a maintenance schedule based on environment and frequency of use, but no less frequently than monthly. Observe operation through several complete cycles to be sure the valve is functioning properly and shuts off with all safety and limit controls.

TROUBLESHOOTING:

During normal operation when the solenoid coil is energized, a Normally Closed Solenoid Valve will open and a Normally Open Solenoid Vent Valve, if furnished, will close. Most solenoid will make an audible noise when they are energized. If valve coil fails to energize, check for blown fuses, circuit breakers, loose connections and for a complete circuit through the boiler safety, limit and operating controls to the valve electrical terminations. With power at valve terminations check for open-circuited coil. Replacement coils are available for most solenoids however, failure of the coil may indicate other problems. Unless it is certain valve is otherwise in perfect operating condition, it is better to replace entire valve. Solenoids are designed for continuous duty service. When energized for long periods of time the solenoid housing becomes hot and can be touched by hand only for an instant. This is a safe operating temperature. The smoke and odor of burning coil insulation will indicate any excessive temperature.

If valve fails to open or close properly, first check that gas flow is in direction shown on valve and that inlet pressure to valve is within rating shown on valve [Parker Boiler maximum ½ PSI (14" W.C.) on natural gas and 1 PSI (27.7" W.C.) on L.P. gas]. If valve still fails to open or close properly or is noisy or sluggish in operation, replace valve.

WARNING:

INTERNAL REPAIR OF VALVES REQUIRES PERFORMING SEAT LEAKAGE, EXTERNAL LEAKAGE, AND OPERATIONAL TESTS ON THE VALVE WITH A NON-HAZARDOUS, NONCOMBUSTIBLE FLUID AFTER DISASSEMBLY AND RE-ASSEMBLY. IMPROPER ASSEMBLY OR DAMAGE TO INTERNAL COMPONENTS COULD CAUSE THE VALVE TO STICK IN UNSAFE POSITION. PERSONAL INJURY OR PROPERTY DAMAGE COULD RESULT. ALWAYS REPLACE INOPERATIVE OR DAMAGED VALVES WITH A NEW VALVE OR HAVE THE VALVE REPAIRED BY ORIGINAL VALVE MANUFACTURER.

When replacing valve, make certain the new valve is correct one for service with correct pressure and electrical ratings. Always pipe valve in direction of flow shown on valve. Apply pipe compound sparingly to male pipe threads only. If applied to valve threads the compound may enter the valve and cause operational difficulty. Avoid pipe strain by properly supporting and aligning piping. When tightening the pipe, do not use valve or solenoid as a lever. Locate wrenches applied to valve body or piping as close as possible to connection point. A drip leg is required to be installed upstream of all boiler gas controls by the installer. In addition, where fuel conditions or Code require it, a strainer or filter suitable for the service should be installed upstream. Always leak test a new valve and operate through several complete cycles to be certain valve functions properly.