How to Replace a Residential Standing Pilot Gas Valve

Caution: You will be exposed to gas fuel and very hot water.
If you are not comfortable with this procedure, call the services of a licensed plumbing contractor.
Certain portions of this procedure may need to be performed to local codes. If you are not familiar with those codes, call the services of a licensed plumbing contractor.

1. Shut off the gas to the unit. Shut off the water supply to the unit.
2. Connect a garden hose to the drain valve and open the drain valve. Lift the silver lever on the T&P valve to vent the unit and allow the water to drain.
3. While the water is draining, remove the gas line from the gas valve (1). Also unscrew the pilot supply tube (2), the thermocouple (3), and main gas supply tube (4) from the bottom of the valve. (See Figure 1).
4. When the water is drained, unscrew the gas valve. Should be counter clockwise as you are looking at it.
5. Replace with a new valve. Put plenty of pipe dope (or other sealer required by local code) on the threads of the valve.
6. Close drain valve; remove hose and turn water back on. Allow unit to refill. Leave T&P open until water comes out the drain line. Open a hot water faucet and allow it to run for about 30 seconds. This will evacuate all of the air from the tank.
7. Check for water leaks and tighten the gas valve if necessary.
8. Reinstall the thermocouple (do not over tighten), pilot supply tube and main gas supply tube to the gas valve. Do not use pipe dope or Teflon tape on the supply tube connections or thermocouple connections.
9. Reinstall the gas line to the valve. You will need pipe dope suitable for gas supply (or other sealer required by local code) on the black pipe connection to the gas valve.
10. WARNING: Never use an open flame to test for gas leaks, as bodily injury, property damage or death could result. The water heater and its gas connections must be leak tested at normal operating pressures before it is placed in operation. Turn on the manual gas shut-off valve near the water heater. Use a soapy water solution to test for leaks at all connections and fittings. Bubbles indicate a gas leak that must be corrected.
11. Set red temperature dial on thermostat to a safe position not to exceed 120 degrees. (See Figure 2).
12. Follow the relighting instructions in the Use and Care manual or on the sticker attached to the heater.

NOTE: Propane fueled water heaters may have Left-handed threads on the main supply tube (4). Use caution when removing and tightening to prevent stripping the threads on the new gas valve and supply tube.