



**TECHNICAL SERVICE DEPARTMENT**

**Technical Service Bulletin  
1-800-432-8373**



**Residential Standing Pilot Gas Troubleshooting Guide**

| <b>NATURE OF TROUBLE</b>  | <b>POSSIBLE CAUSES</b>   | <b>SERVICE</b>   |
|---|--|--|
| No Hot Water  | <ol style="list-style-type: none"> <li>1. Gas supply turned off</li> <li>2. Pilot not lit</li> <li>3. Main burner not lit</li> </ol>   | Turn on gas supply<br>See Unable to light pilot and Pilot does not stay lit<br>See Main burner will not stay lit   |
| Not Enough Hot Water  | <ol style="list-style-type: none"> <li>1. Thermostat set too low</li> <li>2. Burner orifice is clogged</li> <li>3. Low gas pressure</li> <li>4. Venting downdraft (or other improper draft)</li> <li>5. Clogged flue</li> <li>6. Defective thermostat</li> <li>7. Defective dip tube</li> <li>8. Heater is undersized</li> </ol>   | Adjust thermostat<br>Inspect and clean<br>Check gas supply pressure and manifold pressure<br>Check for proper up draft venting.<br>Check for other drafts that could blow out the pilot light<br>Inspect and clean flue way<br>Conduct partial draw test. Replace gas control valve<br>Check and replace dip tube<br>Adjust Peak Hour Demand   |
| Unable to light pilot   | <ol style="list-style-type: none"> <li>1. Gas supply turned off</li> <li>2. Gas cock knob dial not positioned correctly</li> <li>3. Defective thermocouple</li> <li>4. Defective safety magnet assembly</li> <li>5. Pilot burner orifice clogged</li> <li>6. Pilot tube pinched or clogged</li> <li>7. Poor thermocouple connection</li> <li>8. Air in gas line</li> <li>9. Thermostat's single use ECO is tripped</li> <li>10. Gas valve defective</li> </ol> | Turn on gas supply<br>Check lighting instructions. Set control knob<br>Check and replace thermocouple<br>Check and replace gas valve<br>Clean or replace<br>Clean, repair or replace<br>Check and tighten<br>Purge air from gas line<br>Check ECO and replace gas valve<br>Check gas valve   |
| Pilot does not light<br><br><br><br><br><br><br><br><br><br><br>Pilot does not stay lit | <ol style="list-style-type: none"> <li>1. Poor thermocouple connection</li> <li>2. Thermocouple defective</li> <li>3. Thermocouple not in pilot flame</li> <li>4. Defective safety magnet assembly</li> <li>5. Venting downdraft (or other improper draft)</li> <li>6. Clogged flue</li> <li>7. Pilot partially clogged</li> <li>8. Improper gas pressure</li> </ol>   | Tighten connection at gas valve<br>Check thermocouple and replace<br>Move tip of thermocouple so it is immersed in pilot flame<br>Check magnet and replace gas valve<br>Check for proper up draft venting.<br>Check for other drafts that could blow out the pilot light<br>Inspect and clean flue way<br>Inspect and clean supply tube and pilot burner<br>Check and adjust supply side |
| Main burner will not stay lit   | <ol style="list-style-type: none"> <li>1. Low gas pressure</li> <li>2. Main burner orifice clogged</li> <li>3. Main burner supply tube clogged or pinched</li> <li>4. Defective magnet assembly</li> </ol>   | Check gas supply pressure<br>Clean or replace<br>Clean, repair or replace<br>Check and replace gas control valve   |



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|  | <ul style="list-style-type: none"> <li>5. Defective thermocouple</li> <li>6. Poor thermocouple connection</li> <li>7. Defective main valve</li> <li>8. Improper venting</li> </ul>   | <ul style="list-style-type: none"> <li>Check and replace thermocouple</li> <li>Inspect and tighten</li> <li>Replace gas control valve</li> <li>Check venting for proper sizing and down drafts</li> </ul>                   |
| Scale on burner and pilot assemblies                             | <ul style="list-style-type: none"> <li>1. Condensation</li> <li>2. Contaminated atmosphere</li> </ul>  | <ul style="list-style-type: none"> <li>Excessive condensation caused by undersized heater, poor venting or continued use</li> <li>Check for contaminant causing chemicals near the heater</li> </ul>                        |
| Sooting  | <ul style="list-style-type: none"> <li>1. Combustion air inlets or flueway is restricted</li> <li>2. Not enough combustion or ventilation air supplied to room</li> <li>3. Improper gas pressure</li> <li>4. Burner orifice dirty</li> </ul> | <ul style="list-style-type: none"> <li>Remove obstruction or debris from heater or flueway</li> <li>Improve combustion air or ventilation air supply</li> <li>Check and adjust</li> <li>Inspect and clean</li> </ul>        |
| Yellow flame   | <ul style="list-style-type: none"> <li>1. Scale on top of burner</li> <li>2. Burner orifice dirty</li> <li>3. Flue way clogged</li> <li>4. Improper gas pressure</li> </ul>  | <ul style="list-style-type: none"> <li>Shut off heater; allow to cool; clean burner plate</li> <li>Inspect and clean</li> <li>Inspect and clean</li> <li>Check and adjust</li> </ul>  |
| Burner flame noisy (whistling)                                   | <ul style="list-style-type: none"> <li>1. Improper gas pressure</li> <li>2. Burner orifice dirty</li> </ul>  | <ul style="list-style-type: none"> <li>Check and adjust</li> <li>Inspect and clean</li> </ul>   |
| Burner flame floats  | <ul style="list-style-type: none"> <li>1. Improper gas pressure</li> <li>2. Wrong orifice</li> <li>3. Clogged flue</li> </ul>  | <ul style="list-style-type: none"> <li>Check and adjust</li> <li>Install correct orifice</li> <li>Inspect and clean flue way</li> </ul>   |
| Burner flame too high  | <ul style="list-style-type: none"> <li>1. Improper gas pressure</li> <li>2. Wrong orifice</li> </ul>   | <ul style="list-style-type: none"> <li>Check and adjust</li> <li>Install correct orifice</li> </ul>   |
| Water too hot (followed by pilot outage)                         | <ul style="list-style-type: none"> <li>1. Thermostat setting too high</li> <li>2. Thermostat out of calibration</li> </ul>   | <ul style="list-style-type: none"> <li>Adjust thermostat to lower setting</li> <li>Check and replace thermostat</li> </ul>  |
| Slow hot water recovery  | <ul style="list-style-type: none"> <li>1. Burner orifice clogged</li> <li>2. Excessive drafts</li> <li>3. Clogged flue</li> <li>4. Improper gas pressure</li> </ul>  | <ul style="list-style-type: none"> <li>Check and clean</li> <li>Locate and eliminate drafts</li> <li>Clean flue chamber</li> <li>Check and adjust</li> </ul>  |
| Noisy water heater (rumbling and sizzling)                       | <ul style="list-style-type: none"> <li>1. Scale or sediment build up in bottom of tank</li> <li>2. Baffles loose</li> <li>3. Condensation on main burner</li> </ul>  | <ul style="list-style-type: none"> <li>Clean tank</li> <li>Reset and tighten</li> <li>Inspect for condensation (normal) and tank leaks</li> </ul>   |
| Excessive relief valve operation                                 | <ul style="list-style-type: none"> <li>1. Excessive water pressure</li> <li>2. Excessive temperature</li> </ul>  | <ul style="list-style-type: none"> <li>Install proper pressure reducing valve on cold side</li> <li>Check for open or closed system. Install expansion tank.</li> <li>Check thermostat; lower setting or replace</li> </ul> |
| Rusty or black water   | <ul style="list-style-type: none"> <li>1. Anode rod dissolved</li> <li>2. Excessive sediment build-up</li> </ul>   | <ul style="list-style-type: none"> <li>Check anode rod and replace</li> <li>Drain tank; replace tank if sediment build up is excessive</li> </ul>   |
| Water heater is leaking (Gas water heaters produce condensation) | <ul style="list-style-type: none"> <li>1. Cold in or hot out joints</li> <li>2. T&amp;P valve</li> </ul>   | <ul style="list-style-type: none"> <li>Check joint and repair</li> <li>Check valve and replace</li> <li>(Caution: Do not confuse normal T&amp;P operation as a leaking tank. If the</li> </ul>                              |



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| that may drip on the floor.    | 3. Immersion thermostat or anode rod is loose<br>4. Inner tank has a pin hole | puddle dries up, then look for a T&P problem.)<br>Check, tighten and replace<br><br>Replace water heater   |
| Smelly water (rotten egg odor) | Bacteria formation inside water tank  | Clean tank using chlorine bleach<br>Replace anode rod if deteriorated<br>Add automatic chlorine feeder to cold water inlet side of tank            |
| Milky water                    | Aerated water   | Allow a glass of hot water to set for a few minutes. If the water turns clear, the condition is a natural occurrence. See water chemistry section. |