

## White Rodgers/Robertshaw Gas Valve Troubleshooting Chart

### Flammable Vapor Ignition Resistant Water Heaters

<u>SYMPTOM</u>	<u>PROBABLE CAUSE</u>	<u>CORRECTIVE ACTION</u>	<u>SERVICE PROCEDURE</u>
Pilot Will Not Light	<ol style="list-style-type: none"> <li>1. No incoming gas or too low gas pressure.</li> <li>2. Gas control knob set to wrong position.</li> <li>3. Pilot light button not being fully depressed when attempting to light pilot.</li> <li>4. Pilot orifice or pilot tube is obstructed or kinked.</li> <li>5. Pilot electrode not sparking to pilot.</li> <li>6. Piezo igniter not functioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Turn on gas supply and/or check line pressure.</li> <li>2. Review lighting instruction. Set combination/thermostat gas valve to correct position.</li> <li>3. Review lighting instruction. Fully depress pilot lighting button.</li> <li>4. Clean, repair or replace.</li> <li>5. Verify correct electrode position. Replace pilot assembly.</li> <li>6. Replace Piezo igniter.</li> </ol>	<ol style="list-style-type: none"> <li>1. See Service Procedure RG-V, Page 12.</li> <li>4. See Service Procedure RG-III, Page 10.</li> <li>5. See Service Procedure RG-III, Page 10.</li> <li>6. See Service Procedure RG-IV, Page 11.</li> </ol>
Pilot Will Not stay lit when button is released	<ol style="list-style-type: none"> <li>1. Poor thermocouple connection at combination thermostat/gas valve.</li> <li>2. Thermocouple not fully engaged in pilot assembly bracket.</li> <li>3. Pilot flame is not fully enveloping the thermocouple "hot" junction.</li> <li>4. Weak or defective thermocouple.</li> <li>5. Open ECO on combination thermostat/gas valve.</li> <li>6. Defective magnet in combination thermostat/gas valve.</li> <li>7. Resettable thermal switch has opened.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check connection at combination thermostat/gas valve. Proper tightness should be finger tight plus ¼ turn.</li> <li>2. Inspect thermocouple to ensure that it is fully engaged into pilot bracket.</li> <li>3. Adjust tip of thermocouple to be fully engulfed by pilot flame.</li> <li>4. Check thermocouple and replace if necessary.</li> <li>5. Check ECO continuity and replace combination thermostat/gas valve if necessary.</li> <li>6. Check magnet operation and replace combination thermostat/gas valve if necessary.</li> <li>7. Determine cause of switch activation. To reset, depress button on resettable thermal switch located on inner door.</li> </ol>	<ol style="list-style-type: none"> <li>4. See Service Procedure RG-II, Page 8</li> <li>5. See Service Procedure RG-V, Page 14</li> <li>6. See Service Procedure RG-V, Page 13</li> </ol>
Pilot will light but the main burner will not come on	<ol style="list-style-type: none"> <li>1. Combination thermostat/gas valve set too low for desired water temperature.</li> <li>2. Combination thermostat/gas valve temperature is satisfied.</li> <li>3. Insufficient gas supply or low gas pressure.</li> <li>4. Combination thermostat/gas valve has wide differential or is out of calibration.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust temperature dial on combination thermostat/gas valve.</li> <li>2. Check temperature dial setting on combination thermostat/gas valve.</li> <li>3. Check gas supply and line pressure.</li> <li>4. Check combination thermostat/gas valve for proper operation, replace if necessary.</li> </ol>	<ol style="list-style-type: none"> <li>2. See Installation &amp; operation manual.</li> <li>3. See Service Procedure RG-V, Page 12</li> <li>4. See Service Procedure RG-V, Page 12</li> </ol>
Pilot goes out periodically (after heating cycles, once a day, once a week etc.)	<ol style="list-style-type: none"> <li>1. Insufficient combustion air supply.</li> <li>2. Incorrect, clogged vent system/ vent terminal or location.</li> <li>3. Inconsistent gas supply or gas pressure.</li> </ol>	<ol style="list-style-type: none"> <li>1. Verify adequate combustion air is available to the unit. Check and clear Jacket slot openings of any dirt, dust, restrictions or other obstructions. Inspect flame arrestor plate and clean with stiff bristled brush and/or vacuum to remove any debris accumulation.</li> <li>2. Check venting for proper sizing and proper operation</li> <li>3. Check gas supply and line pressure.</li> </ol>	<ol style="list-style-type: none"> <li>1. See Service Procedure RG-VIII, Page 22</li> <li>3. See Service Procedure RG-V, Page 12</li> </ol>
Not enough hot water	<ol style="list-style-type: none"> <li>1. Combination thermostat/gas valve set too low for desired water temperature.</li> <li>2. Cold inlet water temperature is very cold.</li> <li>3. High demand periods.</li> <li>4. Incorrectly sized water heater for application.</li> <li>5. Combination thermostat/gas valve is out of calibration/not functioning.</li> <li>6. Out of spec dip tube is diluting hot water with cold water.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check dial on combination thermostat/gas valve.</li> <li>2. Extremely cold water going into the heater will decrease the amount of hot water produced. It may be necessary to temper incoming water supply.</li> <li>3. Adjust high demand usage.</li> <li>4. Contact Plumbing professional.</li> <li>5. Check combination thermostat/gas valve for proper operation, replace if necessary.</li> <li>6. Inspect dip tube and replace if necessary.</li> </ol>	<ol style="list-style-type: none"> <li>5. See Service Procedure RG-V, Page 12</li> <li>6. See Service Procedure RG-IX, Page 23</li> </ol>

How to test White Rodgers, Robertshaw, and Honeywell water heater gas valves: start page 14

<http://waterheatertimer.org/pdf/How-to-test-White-Rodgers-gas-valve.pdf>