

Robertshaw 1950-001

Robertshaw 1950-001 Thermopile Pilot Generator Instruction Manual

Model: 1950-001

1. PRODUCT OVERVIEW

The Robertshaw 1950-001 Thermopile, also known as a pilot generator or TP-75, is designed for use in self-powered gas control systems. Its primary function is to ensure a standing pilot light is operational, which is crucial for the proper ignition of the main burner gas when a call for heat occurs. This device detects the presence of a flame for safety purposes, enabling the gas control system to shut off gas flow to the burner if the pilot flame is not detected.

A thermopile is an assembly of multiple thermocouples, which collectively increase the millivolt output. The 1950-001 model features two-wire spade connectors for electrical connection.

Key Features:

- Easy burner installation with attached threaded nut.
- Stainless steel outer jacket for extended life and resistance to heat blistering.
- Combination of copper and nickel alloys for optimal electrical conductivity.
- Mica washer for insulation against shorting conditions.
- Designed for various applications due to available lengths.



Figure 1: Robertshaw 1950-001 Thermopile Pilot Generator. This image shows the complete thermopile unit, including the sensing tip, threaded nut, and the insulated wire with spade connectors.

2. SAFETY INFORMATION

WARNING: Installation and service must be performed by a qualified installer, service agency, or gas supplier. Failure to follow these instructions could result in fire or explosion, causing property damage, personal injury, or loss of life.

- Always turn off the gas supply to the appliance before installing, servicing, or replacing any components.
- Ensure proper ventilation during installation and operation.
- Check all gas connections for leaks after installation using a non-corrosive leak detection solution.
- Do not use this device for applications other than those specified by the manufacturer.
- Handle the thermopile carefully to avoid damage to the sensing tip or wiring.

3. INSTALLATION

The Robertshaw 1950-001 Thermopile is designed for straightforward installation in compatible gas appliances. It features a threaded nut for secure mounting and two-wire spade connectors for electrical hookup.

Installation Steps:

1. **Turn Off Gas and Power:** Before beginning, ensure the gas supply to the appliance is completely shut off and any electrical power is disconnected.
2. **Remove Old Thermopile:** Carefully disconnect the old thermopile from the gas valve and remove it from its mounting bracket. Note the orientation and connection points.
3. **Mount New Thermopile:** Insert the new Robertshaw 1950-001 thermopile into the pilot assembly bracket. Secure it using the attached threaded nut. Ensure the sensing tip is positioned correctly within the pilot flame path as per the appliance manufacturer's instructions.
4. **Connect Wiring:** Connect the two-wire spade connectors from the thermopile to the appropriate terminals on the gas control valve. Refer to the appliance wiring diagram for correct polarity, if specified.



Figure 2: Close-up of the two-wire spade connectors on the Robertshaw 1950-001 Thermopile. These connectors facilitate electrical hookup to the gas control valve.

5. **Check for Leaks:** After installation, slowly turn on the gas supply. Apply a non-corrosive leak detection solution to all gas connections to check for leaks. Bubbles indicate a leak, which must be corrected immediately.
6. **Restore Power and Test:** Restore electrical power to the appliance and test the pilot and main burner operation according to the appliance manufacturer's instructions.

4. OPERATION

The Robertshaw 1950-001 Thermopile operates by generating a small electrical current (millivolts) when its tip is heated by the pilot flame. This current signals the gas control valve that the pilot is lit and stable. The gas valve then allows the main burner to ignite when there is a call for heat from the thermostat.

If the pilot flame extinguishes, the thermopile cools down, and the electrical current ceases. This loss of signal causes the gas control valve to close, shutting off the gas supply to both the pilot and main burner, thereby ensuring safety by preventing unignited gas from accumulating.

5. MAINTENANCE

Regular maintenance of your gas appliance, including the pilot assembly and thermopile, is essential for safe and efficient operation. While the thermopile itself requires minimal maintenance, periodic inspection is recommended.

- **Visual Inspection:** Annually inspect the thermopile for any signs of physical damage, corrosion, or excessive carbon buildup on the sensing tip.
- **Cleaning:** If carbon buildup is present, gently clean the thermopile tip with a soft brush. Avoid abrasive materials that could damage the surface.
- **Pilot Flame Check:** Ensure the pilot flame consistently impinges on the thermopile tip. An improperly adjusted pilot flame can lead to intermittent operation or premature failure of the thermopile.
- **Wiring Integrity:** Check the wiring and spade connectors for secure connections and any signs of fraying or damage.

If the thermopile shows signs of wear or fails to generate sufficient millivolts, it should be replaced by a qualified technician.

6. TROUBLESHOOTING

If your gas appliance is experiencing issues related to pilot ignition or main burner operation, the thermopile may be a contributing factor. Here are some common troubleshooting steps:

- **Pilot Will Not Stay Lit:** This is a common symptom of a failing thermopile or an improperly adjusted pilot flame. Ensure the pilot flame is strong and consistently engulfs the thermopile tip. If the pilot flame is good but still won't stay lit, the thermopile may not be generating enough millivolts and might need replacement.
- **Main Burner Does Not Ignite:** If the pilot light is on but the main burner does not ignite when there is a call for heat, check the connections between the thermopile and the gas valve. A weak signal from the thermopile can prevent the main valve from opening.
- **Intermittent Operation:** If the appliance works sometimes but not others, check for loose wiring connections or a thermopile that is on the verge of failure. Temperature fluctuations can sometimes affect a weak thermopile.

For complex issues or if you are unsure about any troubleshooting steps, it is recommended to contact a qualified service technician.

7. SPECIFICATIONS

Brand	Robertshaw
Model Name	1950-001
Part Number	GID-511302
Material	Stainless Steel

Included Components	Tinnerman clip
Special Feature	Safety Shutoff, Easy Installation
Item Weight	1.6 ounces
Product Dimensions	36 x 1 x 1 inches
Fuel Type	Propane (compatible with natural gas systems as well)
Power Source	Fuel Powered (self-generating millivolts)
Recommended Uses	Commercial, Residential gas appliances
Ignition System Type	Thermopile
GTIN / UPC	00662013637309

8. WARRANTY INFORMATION

Specific warranty details for the Robertshaw 1950-001 Thermopile are typically provided at the point of purchase or can be obtained directly from Robertshaw or an authorized distributor. Generally, products are covered against defects in materials and workmanship for a limited period from the date of purchase. Please retain your proof of purchase for warranty claims.

9. CUSTOMER SUPPORT

For technical assistance, replacement parts, or further information regarding the Robertshaw 1950-001 Thermopile, please contact your local Robertshaw distributor or visit the official Robertshaw website. When contacting support, please have your product model number (1950-001) and any relevant purchase information available.