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enviro EC-009

Enviro EC-009 Thermocouple Instruction Manual

Model: EC-009 | Brand: Enviro



INTRODUCTION

This manual provides comprehensive instructions for the safe and effective use of your Enviro EC-009 Thermocouple. Please read this manual thoroughly before installation and operation to ensure proper function and longevity of the product. The Enviro EC-009 is designed for reliable temperature sensing in compatible heating appliances, such as gas fireplaces and stoves.

SAFETY INFORMATION

Always adhere to the following safety guidelines:

- Ensure power is disconnected from the appliance before installation or maintenance.
- Installation should be performed by a qualified technician if you are unsure of the process.
- Do not modify the thermocouple in any way.
- Use only genuine Enviro replacement parts.
- Refer to your appliance's specific manual for compatibility and installation procedures.

PRODUCT OVERVIEW

The Enviro EC-009 Thermocouple is a safety device designed to sense the presence of a pilot flame in gas-fired appliances. When heated by the pilot flame, it generates a small electrical current that signals the gas valve to remain open. If the pilot flame extinguishes, the thermocouple cools, the current stops, and the gas valve closes, preventing gas leakage.



Figure 1: Enviro EC-009 Thermocouple. This image shows the full length of the copper-colored thermocouple wire, coiled, with its two distinct ends: a pointed brass tip (the hot junction) and a threaded brass fitting (the cold junction) for connection to the gas valve.

SETUP AND INSTALLATION

Installation of the EC-009 Thermocouple typically involves replacing an existing thermocouple in a gas appliance. Follow these general steps, but always refer to your appliance's specific service manual for detailed instructions:

- 1. Disconnect Power and Gas:** Turn off the gas supply to the appliance and disconnect all electrical power.
- 2. Locate Old Thermocouple:** Identify the existing thermocouple, usually positioned near the pilot light assembly.
- 3. Remove Old Thermocouple:** Carefully unscrew the thermocouple's threaded end from the gas valve and detach the tip from its mounting bracket near the pilot.
- 4. Install New Thermocouple:**
 - Mount the tip of the new EC-009 thermocouple securely in the pilot assembly bracket, ensuring it is directly in the pilot flame's path.

- Route the thermocouple wire carefully, avoiding kinks or sharp bends, to the gas valve.
- Thread the cold junction end of the thermocouple into the designated port on the gas valve. Tighten firmly but do not overtighten.

5. **Restore Gas and Power:** Slowly turn the gas supply back on and restore electrical power.

6. **Test Operation:** Light the pilot and ensure it remains lit. Test the main burner operation according to your appliance's instructions.

Note: Proper positioning of the thermocouple tip in the pilot flame is critical for correct operation. The tip should be fully enveloped by the flame.

OPERATING PRINCIPLE

The Enviro EC-009 Thermocouple operates on the Seebeck effect, where a temperature difference between two dissimilar electrical conductors (the hot and cold junctions) creates a voltage. In your appliance:

- The **hot junction** (the tip) is heated by the pilot flame.
- The **cold junction** (the threaded end) remains at a lower ambient temperature at the gas valve.
- This temperature difference generates a small millivolt current.
- This current flows to the gas valve's safety magnet, holding it open and allowing gas to flow to the pilot and main burner.
- If the pilot flame goes out, the hot junction cools, the current drops, and the safety magnet releases, closing the gas valve and shutting off the gas supply.

This mechanism ensures that gas only flows when a pilot flame is present, enhancing safety.

MAINTENANCE

The Enviro EC-009 Thermocouple is a robust component designed for long-term reliability. Regular maintenance is generally not required for the thermocouple itself, beyond ensuring its proper positioning and cleanliness. However, consider the following:

- **Annual Inspection:** During annual servicing of your gas appliance, have a qualified technician inspect the thermocouple for any signs of damage, corrosion, or improper positioning.
- **Cleaning:** If soot or debris accumulates on the thermocouple tip, it can impede its ability to sense the flame. Gently clean the tip with a soft brush or cloth when the appliance is cool and gas supply is off. Do not use abrasive materials.
- **Replacement:** Thermocouples have a finite lifespan. If your pilot light frequently goes out or the main burner fails to ignite reliably, a failing thermocouple is a common cause and replacement may be necessary.

TROUBLESHOOTING

If you experience issues with your gas appliance related to the pilot or main burner, the thermocouple may be a factor. Here are common symptoms and potential solutions:

Symptom	Possible Cause	Solution
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Symptom	Possible Cause	Solution
Pilot light won't stay lit after releasing button.	Thermocouple not generating enough voltage. Pilot flame not fully enveloping thermocouple tip. Faulty gas valve safety magnet.	Check thermocouple positioning; adjust if necessary. Clean thermocouple tip. Replace thermocouple. Consult a qualified technician for gas valve inspection.
Main burner won't ignite, but pilot is lit.	Weak thermocouple signal. Other appliance issues (e.g., thermostat, main gas valve).	Ensure pilot flame is strong and fully heating thermocouple. Replace thermocouple if suspect. Consult appliance manual or technician for other causes.
Pilot light goes out intermittently.	Drafts affecting pilot flame. Weak pilot flame. Failing thermocouple.	Check for drafts and seal if possible. Adjust pilot flame if adjustable (refer to appliance manual). Replace thermocouple.

Important: If you are unable to resolve an issue, or if you suspect a gas leak, immediately turn off the gas supply and contact a qualified service technician.

SPECIFICATIONS

Attribute	Detail
Model Number	EC-009
Brand	Enviro
Material	Copper
Measurement Accuracy	±2%
Mounting Type	Pilot Light Mount
Package Dimensions	4 x 3.6 x 0.3 inches; 1.59 ounces
Manufacturer	proparts1
Date First Available	December 18, 2019

WARRANTY INFORMATION

This Enviro EC-009 Thermocouple is covered by a standard manufacturer's warranty against defects in materials and workmanship. For specific warranty terms, duration, and claim procedures, please refer to the documentation provided with your original purchase or contact Enviro customer support. Keep your proof of purchase for warranty claims.

CUSTOMER SUPPORT

For technical assistance, replacement parts, or further inquiries regarding your Enviro EC-009 Thermocouple, please contact Enviro customer support or the retailer from whom you purchased the product. When contacting support, please have your product model number (EC-009) and purchase details ready.

You may also find additional resources and FAQs on the official Enviro website (if applicable, link would be here, but none provided).

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