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› LDCRE SP20075 SP20305A Natural Gas Water Heater Pilot and Igniter Assembly Replacement Kit User Manual

## LDCRE SP20075 SP20305A

# LDCRE SP20075 SP20305A Natural Gas Water Heater Pilot and Igniter Assembly Replacement Kit User Manual

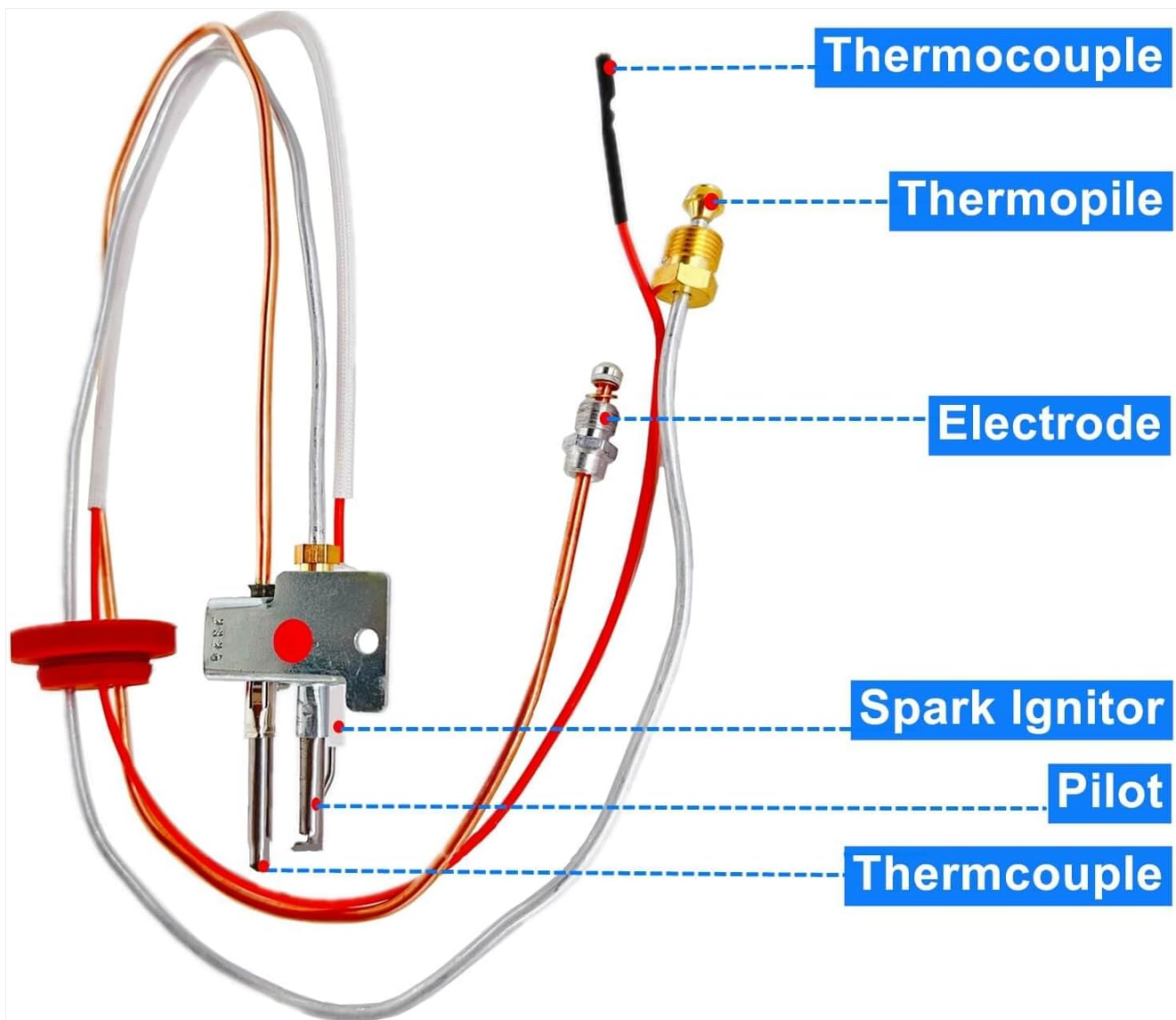
For Natural Gas Water Heaters Compatible with Rheem, PROTECH, GE, Richmond

## 1. INTRODUCTION

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This manual provides comprehensive instructions for the installation, operation, and maintenance of the LDCRE SP20075 SP20305A Pilot and Igniter Assembly Replacement Kit. This kit is designed to restore proper function to natural gas water heaters experiencing issues with pilot light ignition or thermocouple failure, ensuring a continuous and stable hot water supply.

The assembly includes essential components such as the pilot, igniter, and thermocouple, which are critical for the safe and efficient operation of your water heater.



**Figure 1:** Labeled components of the pilot and igniter assembly, including the thermocouple, thermopile, electrode, spark ignitor, and pilot tube.

## 2. IMPORTANT SAFETY INFORMATION

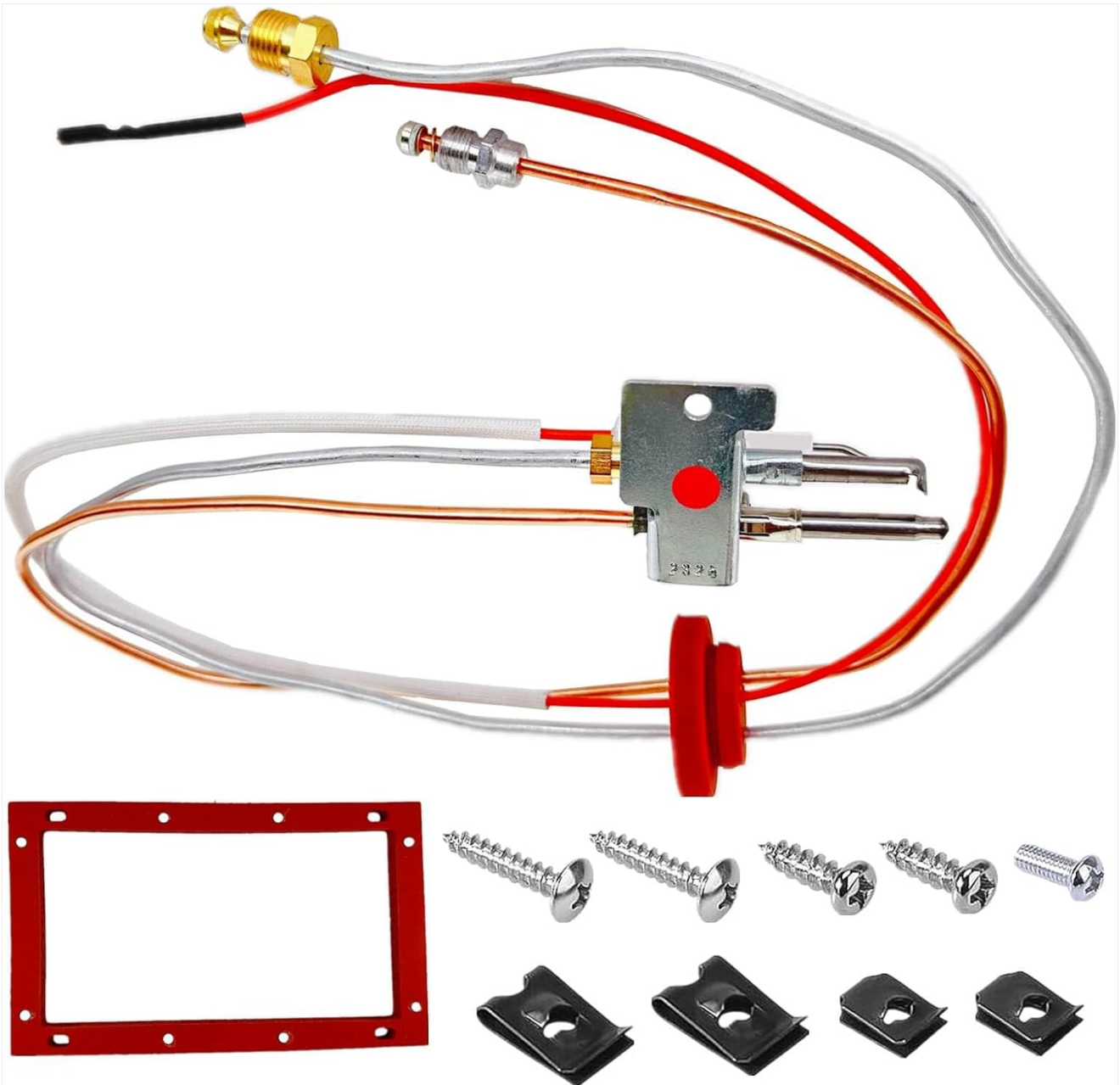
**WARNING:** Installation and service of this kit should only be performed by a qualified service technician. Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or loss of life. Read the installation, operating, and maintenance instructions thoroughly before installing or servicing this equipment.

- Always turn off the gas supply and disconnect electrical power to the water heater before attempting any installation or maintenance.
- Ensure adequate ventilation in the work area.
- After installation, always check for gas leaks using a soap and water solution. Apply the solution to all gas connections. If bubbles appear, a leak is present. Tighten connections or replace parts as necessary and re-test.
- Be aware of the signs of a gas leak: a rotten egg smell, hissing or whistling sounds near the water heater, or physical damage to the water heater or gas line. If you suspect a gas leak, immediately evacuate the area, do not operate any electrical switches, and contact your gas provider or emergency services.
- Wear appropriate personal protective equipment (PPE) such as gloves and eye protection during installation.

## 3. PACKAGE CONTENTS

The LDCRE SP20075 SP20305A Pilot and Igniter Assembly Replacement Kit includes the following components:

- 1 x Pilot Assembly (includes pilot burner, igniter, and thermocouple)
- 1 x Burner Door Gasket
- 4 x Clips
- 5 x Screws



**Figure 2:** Contents of the replacement kit, showing the pilot assembly, gasket, clips, and screws.

## 4. COMPATIBILITY

This pilot and igniter assembly replacement kit is compatible with various natural gas water heater models from brands such as Rheem, PROTECH, GE, and Richmond. Please verify your water heater's model number against the list below to ensure compatibility before purchasing and installation.

### **Compatible Rheem, PROTECH, GE, Richmond Water Heater Models:**

- 42V40S PROF, 42V50S PROF, 22V40 PROF, 22V50 PROF, 42V40 PROF, 42V50-40 PROF
- RHG PRO40-40F, RHG PRO50-40F, RHG50-50F
- Fury 20V30F, 22V40F1, 22V40SF, 42V40F, 42V40SF, 42V50SF, 42VR50-40F, 42V50-40F, 42V50-50F, 22V40-36F1, 22V30S-30F, 42VR40-40F
- RHG PRO50-40F, 42V40F, 22V30F, 3WA59, 3WA61, 3WA62, 3WA63, 3WA64, GG50T06AVH00, AS39845,

If your specific model is not listed, please consult your water heater's manual or contact the manufacturer to confirm compatibility with part numbers SP20075 or SP20305A.

# Fit for Rheem GE

Smart water Heater  
Natural Gas Water Heater



Figure 3: Visual representation of compatible water heater brands.

## 5. INSTALLATION INSTRUCTIONS

The following steps outline the general procedure for replacing the pilot and igniter assembly. Always refer to your specific water heater's service manual for detailed instructions and safety precautions.

1. **Preparation:** Turn off the gas supply to the water heater at the main gas valve and disconnect the electrical power. Allow the water heater to cool down completely.
2. **Access the Burner Assembly:** Locate and remove the outer and inner access panels to expose the burner assembly and pilot light area.

3. **Disconnect Old Assembly:** Carefully disconnect the gas line to the pilot, the thermocouple, and the igniter wires from the control valve and the burner assembly. Note the routing of all components for reassembly.
4. **Remove Old Assembly:** Unfasten any clips or screws holding the old pilot and igniter assembly in place and carefully remove it from the water heater.
5. **Install New Gasket:** If applicable, replace the old burner door gasket with the new one provided in the kit. Ensure it is properly seated to prevent gas leaks.
6. **Install New Assembly:** Position the new pilot and igniter assembly in the same location as the old one. Secure it with the provided clips and screws. Ensure the pilot tube, thermocouple, and igniter electrode are correctly oriented within the burner chamber.
7. **Connect New Assembly:** Reconnect the gas line to the pilot, the thermocouple, and the igniter wires to the control valve. Ensure all connections are tight and secure. The thermocouple connection to the gas control valve is critical for safety and proper operation.
8. **Check for Gas Leaks:** Turn the gas supply back on. Apply a soap and water solution to all gas connections. If bubbles appear, immediately turn off the gas, tighten the connection, and re-test. Repeat until no bubbles are observed.
9. **Restore Power and Test:** Restore electrical power to the water heater. Follow your water heater's instructions to light the pilot and test the main burner operation.

# Easy to install

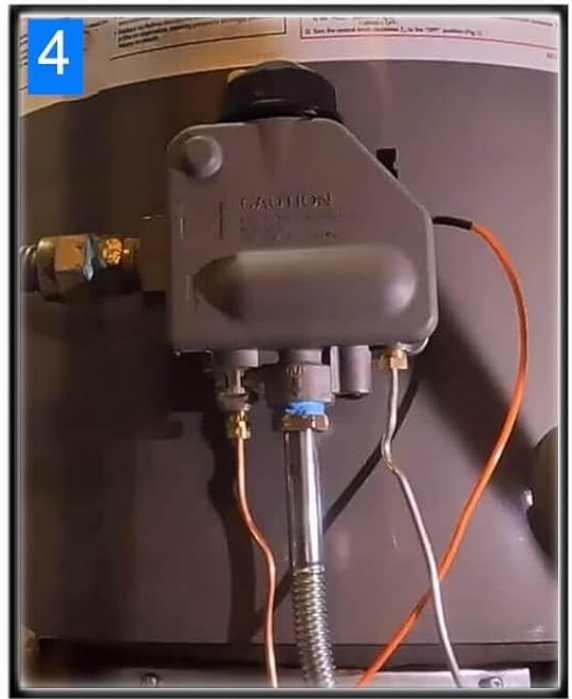
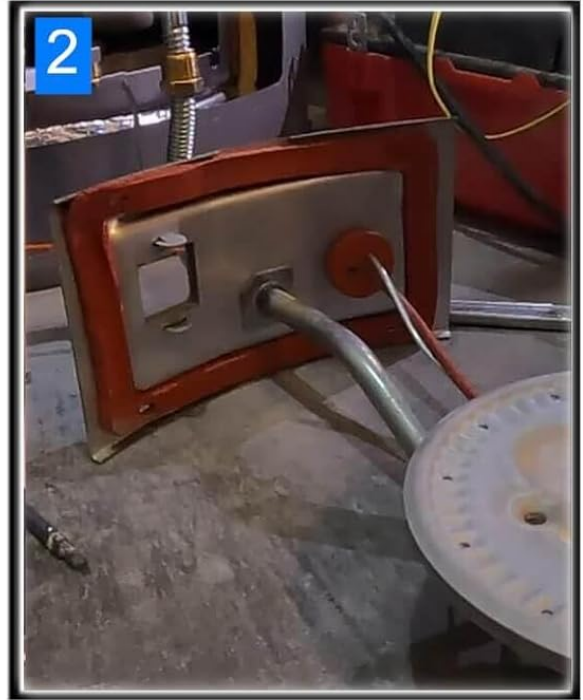
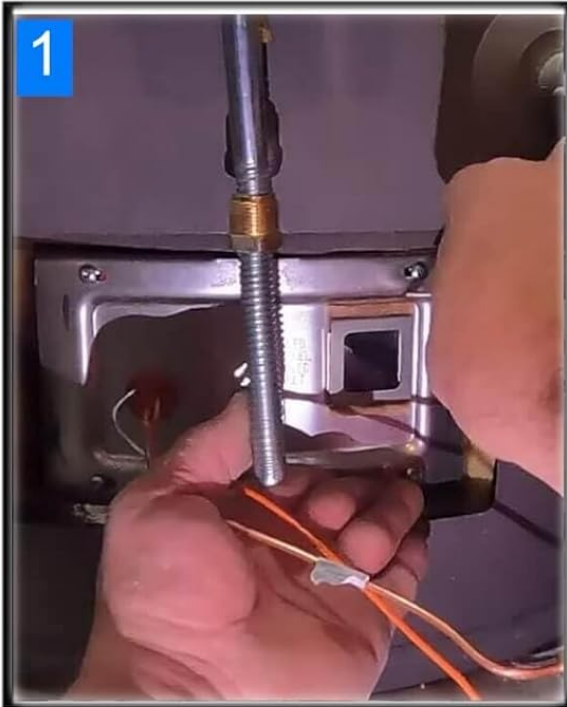


Figure 4: Visual guide to the installation process, from accessing the burner to reconnecting the control valve.

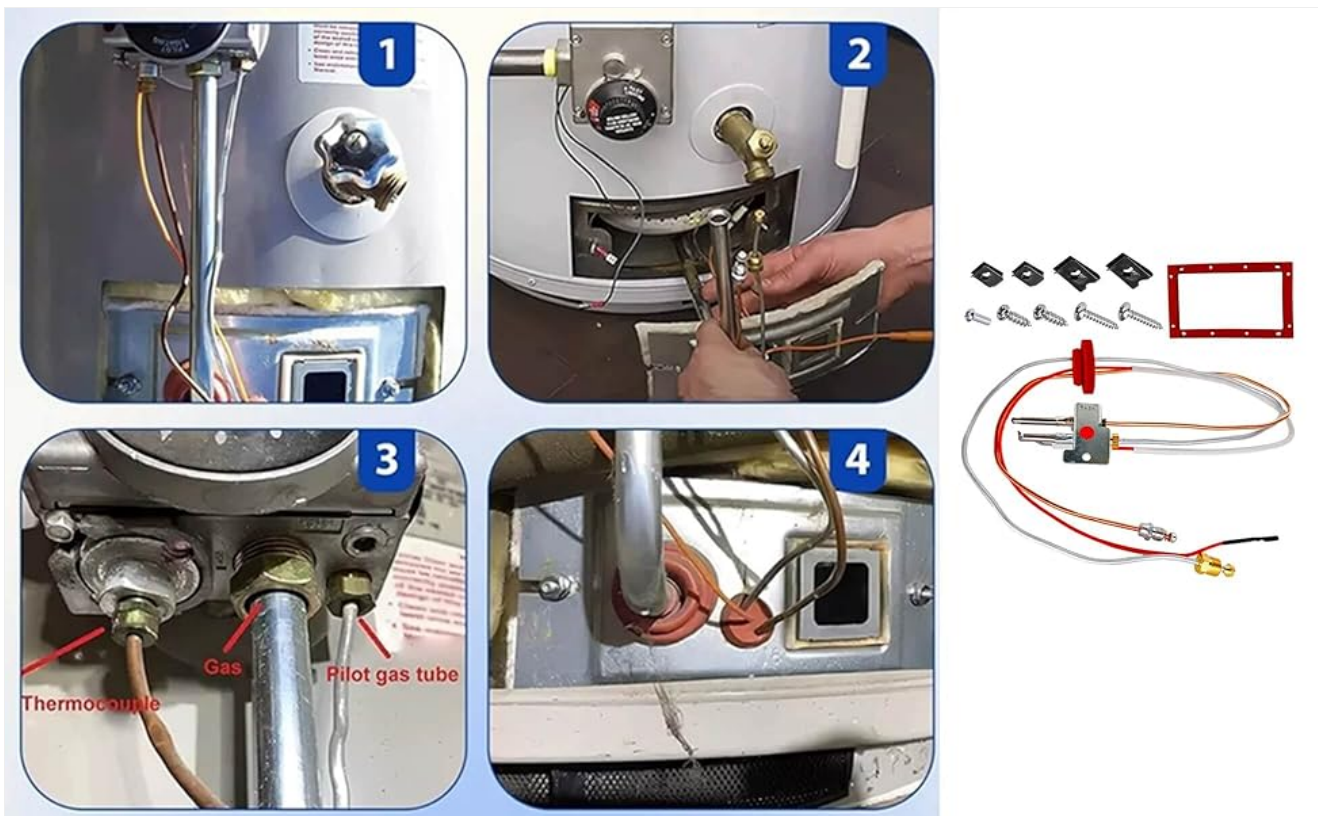


Figure 5: Illustrative diagram of the pilot assembly's position relative to the water heater tank.

## 6. OPERATION

The pilot and igniter assembly is a crucial component for the safe and automatic operation of your natural gas water heater. The igniter creates a spark to light the pilot flame. Once the pilot flame is established, it heats the thermocouple. The thermocouple generates a small electrical current that signals the gas control valve to remain open, allowing gas to flow to the main burner when hot water is needed.

If the pilot flame goes out, the thermocouple cools down, stopping the electrical current and causing the gas control valve to close, thereby shutting off the gas supply to both the pilot and main burner. This safety feature prevents uncombusted gas from accumulating.

## 7. MAINTENANCE

Regular inspection of your water heater's pilot and burner area can help identify potential issues before they lead to system failure. While the pilot and igniter assembly itself requires minimal maintenance, consider the following:

- **Visual Inspection:** Periodically check the pilot flame. It should be a strong, steady blue flame. A weak, yellow, or flickering flame may indicate a problem with gas pressure or a dirty pilot orifice.
- **Cleanliness:** Ensure the area around the pilot and burner is free from dust, lint, or debris, which can obstruct airflow or interfere with ignition.
- **Thermocouple Condition:** Visually inspect the thermocouple for any signs of damage or corrosion. Ensure it is properly positioned within the pilot flame.
- **Gas Leak Check:** Re-check gas connections for leaks annually using the soap and water method described in the safety section.

Any significant issues or concerns should prompt a call to a qualified service technician.

## 8. TROUBLESHOOTING

This section addresses common issues related to the pilot and igniter assembly. Always ensure safety precautions are followed before attempting any troubleshooting steps.

Problem	Possible Cause	Solution
Pilot light does not ignite.	No gas supply, faulty igniter, clogged pilot orifice.	Check gas supply valve. Ensure igniter is sparking (listen for click). Clean pilot orifice if clogged (professional service recommended).
Pilot light ignites but does not stay lit.	Faulty thermocouple, thermocouple not properly heated by pilot flame, loose thermocouple connection.	Ensure pilot flame fully engulfs the thermocouple tip. Tighten thermocouple connection at the gas control valve. If issues persist, the thermocouple may be faulty and require replacement (which this kit provides). When relighting, hold the pilot button for at least 60 seconds, or longer if necessary, to allow the thermocouple to heat sufficiently.
Water heater does not heat.	Pilot light out, main burner not igniting, gas control valve issue.	Check pilot light status. If pilot is lit, ensure the main burner ignites when hot water is called for. If not, there may be an issue with the gas control valve or thermostat (professional service recommended).
Smell of gas.	Gas leak.	<b>Immediately turn off gas supply, evacuate the area, and contact your gas provider or emergency services. Do not operate any electrical switches.</b>



Figure 6: Detailed view of the pilot assembly, highlighting the thermocouple and igniter components.

## 9. SPECIFICATIONS

- **Model Numbers:** SP20075, SP20305A
- **Part Type:** Pilot and Igniter Assembly Replacement Kit
- **Fuel Type:** Natural Gas
- **Item Weight:** Approximately 5.3 ounces
- **Package Dimensions:** Approximately 8.23 x 5.79 x 1.34 inches
- **Batteries Required:** No
- **Manufacturer:** LDCRE

## 10. WARRANTY AND SUPPORT

For warranty information or technical support regarding the LDCRE SP20075 SP20305A Pilot and Igniter Assembly Replacement Kit, please refer to the documentation provided with your purchase or contact the seller directly. Keep your proof of purchase for any warranty claims.