Allparts Equipment & Accessories 108084-03

Superior Desa 108084-03 Propane Pilot Assembly Instruction Manual

Model: 108084-03

Brand: Allparts Equipment & Accessories

Introduction

This instruction manual provides essential information for the proper installation, operation, maintenance, and troubleshooting of the Superior Desa 108084-03 Original OEM Propane Pilot Assembly. This component is designed for direct vent fireplaces, gas logs, and stoves, ensuring safe and efficient operation of your heating appliance.

The 108084-03 pilot assembly is an OEM replacement part, featuring high-quality SIT OEM components. It includes a thermopile thermogenerator to operate the main valve, an 11/32 ASA-DNC fine thread thermocouple to sense the pilot flame, an ignitor wire and ceramic probe, and the pilot tube. The assembly also includes the necessary bracket for mounting near the burner.



Figure 1: Superior Desa 108084-03 Propane Pilot Assembly, showing all components including the pilot tube, thermocouple, thermopile, and ignitor wire.

Safety Information

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operating, and maintenance instructions thoroughly before installing or

servicing this equipment.

- Always ensure the gas supply to the appliance is turned off before attempting any installation or maintenance.
- Installation and service must be performed by a qualified installer, service agency, or gas supplier.
- This pilot assembly is designed for direct vent systems only. Do not use with unvented hearth appliances.
- Check for gas leaks after installation using a soap solution. Never use an open flame.
- Ensure adequate ventilation during and after installation.

Setup and Installation

The 108084-03 pilot assembly is an OEM direct replacement part. While designed for easy installation, professional installation is highly recommended due to the nature of gas appliances.

Required Tools:

- Adjustable wrench or appropriate size open-end wrenches
- Screwdriver set
- Gas leak detection solution (soap and water mixture)

Installation Steps:

1. **Turn off Gas Supply:** Locate the main gas shut-off valve for your fireplace, gas logs, or stove and turn it to the "OFF" position.
2. **Disconnect Old Pilot Assembly:** Carefully disconnect the existing pilot assembly. This typically involves unscrewing the pilot tube, thermocouple, and thermopile connections from the gas valve, and detaching the ignitor wire. Note the routing of all wires and tubes.
3. **Remove Old Bracket:** Unfasten the old pilot assembly bracket from its mounting position near the burner.
4. **Compare Assemblies:** Before installing, compare the new 108084-03 assembly with your old one to ensure compatibility, especially the bracket design and the length of the pilot tube, thermocouple, and thermopile (approximately 24 inches for this model).



Figure 2: Side view of the pilot assembly, highlighting the various tubes and wires.

5. **Install New Bracket:** Secure the new pilot assembly bracket in the correct position near the burner.
6. **Connect New Pilot Assembly:**
    - Connect the pilot tube to the gas valve.
    - Connect the thermocouple (11/32 ASA-DNC fine thread) to the gas valve.
    - Connect the thermopile/thermogenerator wires to the appropriate terminals on the gas valve.
    - Connect the ignitor wire to the ignitor module.

Ensure all connections are hand-tight, then tighten with a wrench an additional quarter turn. Do not overtighten.



Figure 3: Close-up view of the pilot assembly, showing the ignitor, thermocouple, and thermopile connections.

7. **Check for Leaks:** Turn the main gas supply back on. Apply a soap and water solution to all gas connections. Bubbles indicate a leak. If a leak is detected, turn off the gas supply immediately, tighten the connection, and re-check. Repeat until no leaks are present.
8. **Test Ignition:** Follow your appliance's instructions to light the pilot and main burner to ensure proper operation.

Operating Principles

The Superior Desa 108084-03 pilot assembly is a critical safety and operational component in your direct vent gas appliance. Its primary functions are:

- **Pilot Flame Ignition:** The ignitor wire and ceramic probe create a spark to light the pilot flame when the appliance is initiated.
- **Flame Sensing (Thermocouple):** The thermocouple generates a small electrical current when heated by the pilot flame. This current signals the gas valve that the pilot is lit, allowing the main burner to operate. If the pilot flame extinguishes, the thermocouple cools, the current drops, and the gas valve automatically shuts off the gas supply to

the main burner, preventing uncombusted gas from accumulating.

- **Main Valve Operation (Thermopile/Thermogenerator):** The thermopile generates a larger millivolt current when heated by the pilot flame. This current is used to power the main gas valve, enabling it to open and supply gas to the main burner when called for by the appliance's controls (e.g., thermostat, remote control).

Proper operation of the pilot assembly is essential for the safe and reliable functioning of your direct vent fireplace, gas logs, or stove.

Maintenance

Regular maintenance helps ensure the longevity and safe operation of your pilot assembly and gas appliance.

- **Annual Inspection:** It is recommended to have your gas appliance, including the pilot assembly, inspected annually by a qualified service technician.
- **Pilot Flame Check:** Periodically observe the pilot flame. It should be strong, steady, and blue, enveloping the tip of the thermocouple and thermopile. A weak, yellow, or flickering flame may indicate a problem.
- **Cleaning:** Gently clean any dust or debris from the pilot assembly components, especially the thermocouple and thermopile, using a soft brush or compressed air. Ensure the gas supply is off before cleaning.
- **Connection Integrity:** Visually inspect all gas connections for any signs of corrosion or damage. If any issues are suspected, contact a qualified technician.

Troubleshooting

If you experience issues with your pilot assembly or gas appliance, refer to the following common troubleshooting steps. For complex issues, always consult a qualified service technician.

Problem	Possible Cause	Solution
Pilot light won't stay lit.	Weak or dirty thermocouple. Loose thermocouple connection. Insufficient pilot flame.	Clean or replace thermocouple. Tighten thermocouple connection at the gas valve. Check for obstructions in pilot orifice; adjust pilot flame if possible (consult appliance manual).
Main burner won't ignite, but pilot is lit.	Faulty thermopile/thermogenerator. Loose thermopile connections. Gas valve issue.	Check thermopile voltage (requires multimeter, professional recommended). Replace if faulty. Ensure thermopile wires are securely connected to the gas valve. Contact a qualified technician for gas valve diagnosis.
No spark from ignitor.	Loose ignitor wire. Cracked ceramic insulator on ignitor. Faulty ignitor module (if applicable).	Check and secure ignitor wire connection. Inspect ceramic for damage; replace pilot assembly if damaged. Consult appliance manual or technician.

Always turn off the gas supply before attempting any repairs or inspections. If you are unsure about any step, contact a qualified professional.

Specifications

Feature	Detail
Model Number	108084-03
Brand	Allparts Equipment & Accessories (OEM: Superior Desa International, SIT Controls)
Fuel Type	LPG Propane Gas
Power Source	Millivolt
Ventilation Type	Direct Vent (Not for unvented appliances)
Thermocouple Thread	11/32 ASA-DNC
Component Lengths (approx.)	Pilot tube, thermocouple, thermopile, ignitor wire: 24 inches
Included Components	3-Way Pilot Flame Hood with LPG Injector, Ceramic Electrode with Wire, Side Mounting Bracket, Thermocouple, Thermopile Generator
Material	Metal
Product Dimensions	2"D x 3"W x 3"H (Assembly)
Item Weight	16 ounces (1 pound)

Warranty Information

This product is covered by a Limited Warranty. For specific details regarding the terms and conditions of the warranty, please refer to the documentation provided with your purchase or contact Allparts Equipment & Accessories directly.

Return Policy: A 30-day refund/replacement policy is typically offered for this product. Please check your purchase details for the exact return policy applicable to your order.

Support and Contact

For further assistance, technical support, or inquiries regarding your Superior Desa 108084-03 Propane Pilot Assembly, please contact Allparts Equipment & Accessories.

Allparts Equipment has been providing replacement parts and accessories since 1988. They are a USA-based company with hands-on experience in the field.

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Disclaimer: This manual is for informational purposes only. Always consult a qualified professional for installation and service of gas appliances.