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Pentair 77707-0251

Pentair 77707-0251 Combustion Air Blower Replacement Kit User Manual

For MasterTemp and Sta-Rite Max-E-Therm Pool and Spa Natural Gas Heaters

1. Introduction

This manual provides instructions for the installation and maintenance of the Pentair 77707-0251 Combustion Air Blower Replacement Kit. This kit is designed to replace the combustion air blower in compatible Pentair and Sta-Rite natural gas pool and spa heaters. Proper installation and adherence to safety guidelines are crucial for safe and efficient operation.

2. Safety Information

WARNING: Installation and service of this product must be performed by a qualified professional. Failure to follow these instructions can result in fire, explosion, property damage, personal injury, or death.

- Always disconnect power to the heater before attempting any service or installation.
- Turn off the gas supply to the heater before beginning work.
- Ensure proper ventilation when working on gas appliances.
- Check for gas leaks after installation using a soap solution. Never use an open flame.
- Wear appropriate personal protective equipment (PPE) such as gloves and eye protection.
- Refer to your heater's main instruction manual for additional safety precautions.

3. Compatibility

The Pentair 77707-0251 Combustion Air Blower Replacement Kit is compatible with the following pool and spa natural gas heater models:

- Pentair MasterTemp Natural Gas Heater Models: 175NA, 200NA
- Pentair Sta-Rite Max-E-Therm Natural Gas Heater Model: 200NA

4. Package Contents

Verify that all components are present and undamaged before beginning installation:

- Combustion Air Blower Assembly
- Single Volt Blower Adapter
- Gasket
- Pressure Switch Hoses (3)
- Mounting Hardware (screws, nuts)
- Orifice and Gasket



Figure 1: All components included in the Pentair 77707-0251 Combustion Air Blower Replacement Kit.

5. Setup and Installation

This section outlines the general steps for replacing the combustion air blower. Always refer to your specific heater's service manual for detailed, model-specific instructions.

5.1 Preparation

1. Disconnect all electrical power to the heater at the circuit breaker.

2. Turn off the gas supply to the heater.
3. Allow the heater to cool completely if it has been in operation.
4. Remove the heater's access panels to expose the combustion air blower.

5.2 Removing the Old Blower

1. Carefully disconnect the electrical wiring from the existing blower. Note the wiring configuration for reassembly.
2. Disconnect any pressure switch hoses connected to the blower.
3. Unscrew and remove the mounting hardware securing the old blower to the heater.
4. Gently remove the old blower assembly and discard it properly.

5.3 Installing the New Blower

1. Ensure the mounting surface is clean and free of debris.
2. Place the new gasket (included in the kit) onto the mounting flange of the new combustion air blower.
3. Position the new blower assembly onto the heater's mounting location.
4. Secure the blower using the new mounting hardware provided in the kit. Tighten fasteners evenly.
5. Connect the electrical wiring to the new blower, ensuring correct polarity and secure connections. Use the single volt blower adapter if necessary.
6. Connect the pressure switch hoses to the appropriate ports on the new blower. Refer to the heater's diagram for correct hose routing.
7. Install the new orifice and gasket as per your heater's specific instructions.



Figure 2: Side view of the combustion air blower assembly, showing the motor and housing.

5.4 Post-Installation Checks

1. Replace all heater access panels.
2. Restore the gas supply to the heater.
3. Check all gas connections for leaks using a non-corrosive soap solution. Bubbles indicate a leak. If a leak is detected, turn off the gas supply immediately and rectify the issue before proceeding.
4. Restore electrical power to the heater.
5. Initiate the heater's startup sequence and observe the blower's operation. Ensure it runs smoothly and quietly.

6. Operating Principles

The combustion air blower is a critical component of your natural gas heater's combustion system. Its primary function is to draw in fresh air and mix it with natural gas in the correct ratio for efficient and safe combustion. The blower creates a

positive pressure within the combustion chamber, ensuring that exhaust gases are properly vented. The heater's control system monitors the blower's operation via pressure switches to ensure safe ignition and continuous operation.

7. Maintenance

Regular inspection of the combustion air blower and its associated components can help ensure reliable heater operation.

- **Annual Inspection:** Have a qualified service technician inspect the blower annually for signs of wear, corrosion, or unusual noise.
- **Cleanliness:** Ensure the air intake for the blower is free from obstructions, debris, or insect nests. A clogged intake can restrict airflow and affect combustion efficiency.
- **Hose Integrity:** Periodically check the pressure switch hoses for cracks, kinks, or loose connections. Replace any damaged hoses immediately.
- **Electrical Connections:** Verify that all electrical connections to the blower are secure and free from corrosion.

8. Troubleshooting

If your heater is experiencing issues related to combustion air, consider the following troubleshooting steps. Always ensure power and gas are disconnected before inspecting components.

- **Blower Not Running:**
  - Check electrical connections to the blower.
  - Verify that the heater's control board is sending power to the blower.
  - Inspect the blower motor for any visible damage or obstructions.
- **Unusual Noise from Blower:**
  - A grinding or squealing noise may indicate worn bearings.
  - Vibrations could be due to loose mounting or an unbalanced impeller.
  - If the noise persists, the blower may need replacement.
- **Heater Not Igniting (Blower Related):**
  - Ensure the pressure switch hoses are correctly connected and free of blockages.
  - Verify that the pressure switches are functioning correctly (this typically requires a multimeter and knowledge of the heater's control system).
  - Check for any obstructions in the blower's intake or exhaust pathways.

For complex issues or if you are unsure about any troubleshooting step, contact a qualified service technician.

9. Specifications

Feature	Specification
Model Number	77707-0251
Product Dimensions	12 x 12 x 12 inches (approximate, assembled kit)
Item Weight	12.18 pounds
Compatibility	Pentair MasterTemp 175NA, 200NA; Sta-Rite Max-E-Therm 200NA

Voltage	Single Volt (adapter included)

10. Warranty and Support

For warranty information regarding the Pentair 77707-0251 Combustion Air Blower Replacement Kit, please refer to the official Pentair warranty documentation provided with your original heater or available on the Pentair website. Keep your proof of purchase for warranty claims.
For technical support, parts inquiries, or to locate a qualified service professional, please contact Pentair customer service or visit their official website:

- **Pentair Official Website:** www.pentair.com
- **Customer Support:** Refer to the website for current contact numbers and support options.

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