ClimaTek ClimaTek Rplm for Rheem 42-24335-02

ClimaTek Furnace Vent Air Pressure Switch (Rheem 42-24335-02) Instruction Manual

Model: ClimaTek Rplm for Rheem 42-24335-02

Introduction

This manual provides instructions for the installation, operation, and maintenance of the ClimaTek Furnace Vent Air Pressure Switch, a direct replacement for Rheem Part # 42-24335-02. This component is essential for ensuring the safe and efficient operation of your gas furnace by monitoring the vent system's air pressure.

Safety Information

- Always disconnect power to the furnace at the main service panel before attempting any installation or maintenance. Verify power is off using a voltage tester.
- Installation should be performed by a qualified technician if you are not familiar with HVAC systems.
- Wear appropriate personal protective equipment (PPE) such as gloves and eye protection.
- Ensure all connections are secure and correct before restoring power.
- Refer to your furnace's specific service manual for detailed wiring diagrams and safety procedures.

Product Overview

The ClimaTek Furnace Vent Air Pressure Switch is designed to detect proper airflow in the furnace's vent system. If the pressure is not within the specified range, the switch prevents the furnace from operating, ensuring safe exhaust of combustion gases.

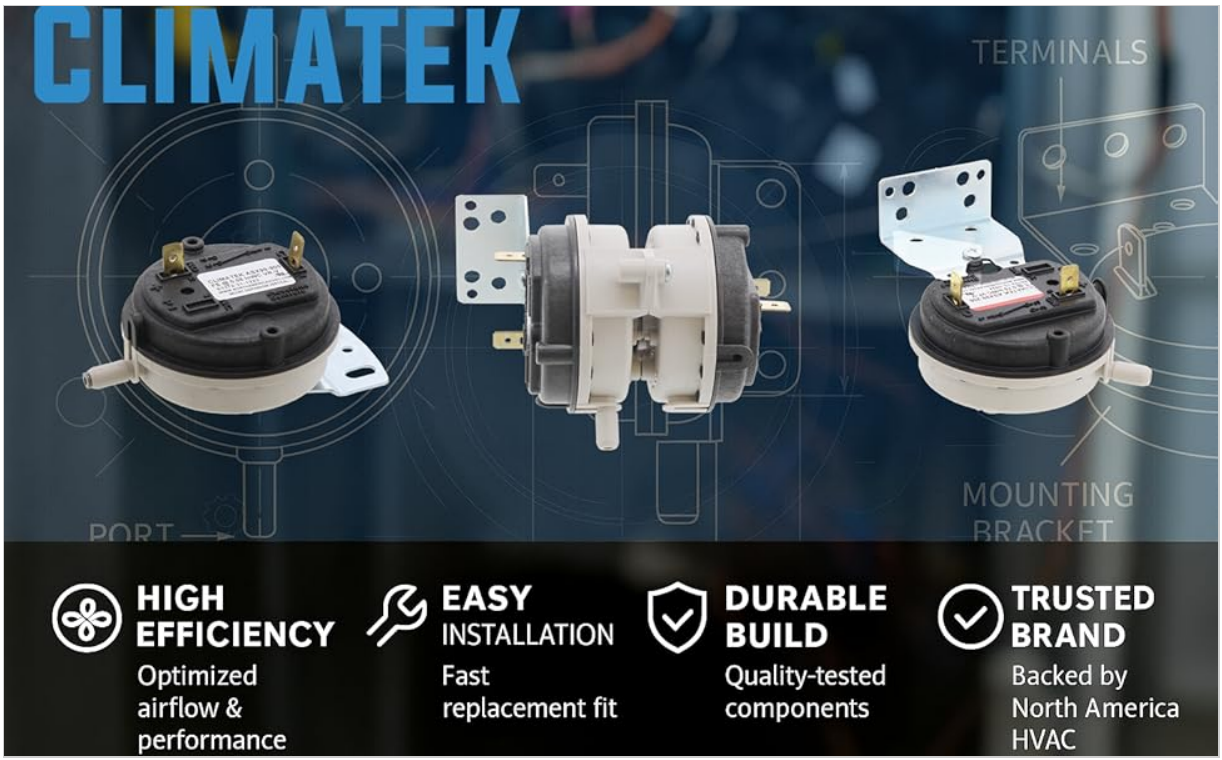

Image: Overview of the ClimaTek Furnace Vent Air Pressure Switch, highlighting its port, terminals, and mounting bracket. This image illustrates the key physical features of the pressure switch.

Specifications

Feature	Detail
Brand	ClimaTek
Model Number	ClimaTek Rplm for Rheem 42-24335-02
Operation Mode	Automatic
Contact Type	Normally Open
Connector Type	Crimp
Terminal Type	Screw
Mounting Type	Flush Mount
Actuator Type	Diaphragm
Compatible Devices	Rheem furnaces with part number 42-24335-02
Item Weight	2.82 ounces
Product Dimensions	6 x 6 x 6 inches

Installation

1. **Power Disconnection:**
   Disconnect all electrical power to the furnace at the main service panel. Verify power is off using a voltage tester.

2. **Locate Existing Switch:**
   Identify the current pressure switch in your furnace. Note its mounting position, electrical connections, and the vacuum hose connection.
3. **Disconnect Components:**
   Carefully disconnect the vacuum hose from the old switch. Then, disconnect the electrical wires from the terminals. Note which wire connects to the "Common" terminal and which to the "Normally Open (NO)" terminal.
4. **Remove Old Switch:**
   Unscrew or unclip the old pressure switch from its mounting bracket.
5. **Install New Switch:**
   Mount the new ClimaTek pressure switch in the same location. The mounting bracket may differ slightly from the original; if necessary, carefully swap the bracket from the old switch to the new one if mounting holes align, or adjust the new bracket for proper fitment. Ensure the switch is securely fastened.
6. **Connect Vacuum Hose:**
   Attach the vacuum hose to the port on the new pressure switch. It is recommended to inspect and replace the vacuum hose if it shows signs of wear or cracking. A 3/16" ID by 5/16" OD high-temperature silicone tube is often suitable.
7. **Connect Electrical Wires:**
   Connect the electrical wires to the new switch's terminals. Typically, the powered lead (e.g., purple wire) connects to the Common terminal, and the other lead (e.g., brown wire) connects to the Normally Open (NO) terminal. Refer to your furnace's wiring diagram for confirmation. Ensure connections are tight.
8. **Verify Clearance:**
   After installation, ensure there is adequate clearance around the switch and its connections, especially if the furnace faceplate will cover the area. Slight adjustments to the bracket or wire routing may be necessary.
9. **Restore Power:**
   Once all connections are secure and verified, restore power to the furnace.

Operation

When the furnace calls for heat, the inducer motor starts, creating a negative pressure (vacuum) in the vent system. This negative pressure is sensed by the pressure switch through the vacuum hose. If the pressure reaches the required threshold, the diaphragm inside the switch activates, closing the Normally Open (NO) contacts. This signals the furnace control board that the vent system is operating correctly, allowing the ignition sequence to proceed and the burners to ignite. If the correct pressure is not detected, the switch remains open, preventing the furnace from firing, thus acting as a safety device.

Maintenance

- **Regular Inspection:**
  Periodically inspect the pressure switch and its connections during routine furnace maintenance.
- **Hose Condition:**
  Check the vacuum hose for cracks, blockages, or deterioration. Replace the hose if any damage is observed.
- **Port Cleanliness:**
  Ensure the port on the pressure switch and the corresponding port on the inducer motor are free from debris or condensation.
- **Electrical Connections:**
  Verify that electrical connections to the switch are clean and secure.
- **Testing:**

A qualified technician can test the switch's operation using a manometer to verify it opens and closes at the correct pressure differential.

Troubleshooting

If your furnace is experiencing issues related to the pressure switch, consider the following:

- **Furnace Not Starting (No Ignition):**

  Symptom: Inducer motor runs, but burners do not ignite, and the furnace may display an error code related to the pressure switch (e.g., four flashes for Rheem).

  Possible Causes: Clogged vacuum hose, cracked vacuum hose, blocked inducer motor port, faulty pressure switch (stuck open), or improper wiring.

  Action: Check the vacuum hose for obstructions or damage. Ensure the inducer motor port is clear. Verify electrical connections. If these are clear, the pressure switch may be faulty and require replacement.

- **Furnace Cycles On and Off Rapidly (Short Cycling):**

  Symptom: Furnace ignites but then shuts off prematurely, often repeating the cycle.

  Possible Causes: Intermittent pressure switch failure (sticking), partial blockage in the vent system, or issues with the inducer motor.

  Action: Inspect the vent system for obstructions. Check the vacuum hose. A pressure switch that is intermittently failing may need replacement.

- **Furnace Runs Continuously (No Shut-off):**

  Symptom: Furnace continues to run even when the thermostat is satisfied, or the inducer motor runs constantly.

  Possible Causes: Pressure switch stuck in the closed position.

  Action: Disconnect power and inspect the switch. If it appears to be stuck, it requires replacement.

Always consult a qualified HVAC technician for complex troubleshooting or repairs.

Warranty and Support

This ClimaTek product is manufactured to high-quality standards. For specific warranty details, please refer to the product packaging or contact ClimaTek customer support.
For technical assistance or support, please visit the official ClimaTek website or contact their customer service department.