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› ClimaTek 1/5 HP Condenser Fan Motor Instruction Manual (Replaces Rheem Ruud Protech 51-21854-01)

ClimaTek ClimaTek Rplm for RHM 51-21854-01

ClimaTek 1/5 HP Condenser Fan Motor Instruction Manual

Model: ClimaTek Rplm for RHM # 51-21854-01

INTRODUCTION

This manual provides essential instructions for the safe and effective installation, operation, and maintenance of your ClimaTek 1/5 HP Condenser Fan Motor. This motor is designed as an upgraded replacement for specific Rheem, Ruud, Weather King, and Corsaire HVAC units. Please read this manual thoroughly before proceeding with any installation or maintenance.

SAFETY INFORMATION

WARNING: Risk of Electric Shock and Injury.

- Always disconnect power to the HVAC unit at the circuit breaker or fuse box before attempting any installation, maintenance, or repair.
- Capacitors can store a dangerous electrical charge even after power is disconnected. Always discharge the capacitor(s) using an insulated screwdriver before handling.
- Installation should only be performed by qualified personnel with experience in HVAC electrical systems.
- Wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves.
- Ensure all wiring connections are secure and comply with local electrical codes.
- Do not operate the motor if it is damaged or if any components are missing.

COMPATIBILITY

This ClimaTek Condenser Fan Motor is an upgraded replacement designed for the following original equipment manufacturer (OEM) part numbers:

- Rheem, Ruud, Protech Part # 51-21854-01
- Rheem, Ruud, Protech Part # 51-21854-02
- Rheem, Ruud, Protech Part # 51-21826-01
- Rheem, Ruud, Protech Part # 51-20682-01

It is suitable for replacing 1/5 HP and 1/6 HP, 208-230 volt motors with side mounting screws.

SETUP AND INSTALLATION

1. **Power Disconnection:** Ensure the power to the HVAC unit is completely disconnected at the main breaker. Verify with a voltage tester.
2. **Discharge Capacitor:** Locate the existing run capacitor. Using an insulated screwdriver, carefully discharge the capacitor by shorting its terminals.
3. **Remove Old Motor:** Disconnect the wiring from the old motor and capacitor. Unbolt the old motor from its mounting bracket. Carefully remove the fan blade from the old motor shaft. Note the orientation of the fan blade for correct reinstallation.
4. **Install Fan Blade:** Attach the existing fan blade to the shaft of the new ClimaTek motor. Ensure it is securely fastened and at the correct height.
5. **Mount New Motor:** Secure the new motor to the condenser unit's mounting bracket using the side mounting screws. Ensure it is stable and properly aligned.

6. Wiring:

This motor typically supports both 3-wire and 4-wire configurations. Refer to the wiring diagram provided on the motor label or included documentation. Common wiring involves connecting the two 120V legs from the contactor, with one 120V leg going to the common terminal on the capacitor before continuing to the motor. The difference between 3-wire and 4-wire setups often relates to how the capacitor is integrated.

Rotation: The motor's rotation (Clockwise - CW or Counter-Clockwise - CCW) is critical for proper airflow. The motor may have wires that need to be cut and connected in a specific way to set the desired rotation. Verify the required rotation for your unit before making final connections. If unsure, consult a professional or the original unit's service manual.

7. **Capacitor Replacement:** It is highly recommended to replace the run capacitor when replacing the fan motor. Ensure the new capacitor matches the microfarad (μF) and voltage ratings specified for the new motor. Connect the new capacitor according to the motor's wiring diagram.
8. **Secure Wiring:** Route all wires safely, ensuring they are not in contact with moving parts (like the fan blade) or sharp edges. Use wire ties if necessary.
9. **Restore Power:** Once all connections are secure and verified, restore power to the HVAC unit.
10. **Test Operation:** Observe the fan motor's operation. Ensure it spins freely, in the correct direction, and without unusual noise or vibration.



Image: Climatek 1/5 HP Condenser Fan Motor. This image shows the motor with its wiring harness, ready for installation. Note the mounting points on the side of the motor casing.

OPERATING INSTRUCTIONS

Once properly installed, the Climatek Condenser Fan Motor operates automatically as part of your HVAC system. It will engage when the air conditioning or heat pump system calls for cooling or heating, ensuring proper airflow across the condenser coil for efficient heat exchange.

No direct user interaction is required for the operation of the fan motor itself. Ensure your HVAC thermostat is set to the desired mode (Cool, Heat, or Auto) and temperature.

MAINTENANCE

Regular maintenance helps ensure the longevity and efficient operation of your condenser fan motor. Always disconnect power before performing any maintenance.

- **Annual Inspection:** Annually inspect the motor for any signs of wear, corrosion, or damage. Check wiring for

fraying or loose connections.

- **Clean Fan Blades:** Periodically clean the condenser fan blades and coil to remove dirt, leaves, and debris that can impede airflow and put strain on the motor.
- **Motor Housing:** Keep the motor housing clean and free of obstructions.
- **Lubrication:** This motor is typically sealed and does not require lubrication. Do not attempt to lubricate unless specifically instructed by the manufacturer.

TROUBLESHOOTING

If you experience issues with your condenser fan motor, consider the following troubleshooting steps. Always disconnect power before inspecting the unit.

Problem	Possible Cause	Solution
Motor does not start or hums	No power to the unit Faulty run capacitor Incorrect wiring Motor seized	Check circuit breaker. Test and replace capacitor if faulty. Verify wiring against diagram. Inspect motor shaft for obstructions; replace motor if seized.
Motor runs but fan blade does not turn	Loose fan blade on shaft Obstruction preventing blade rotation	Tighten set screw on fan blade. Remove obstruction.
Motor runs in wrong direction	Incorrect rotation wiring	Refer to wiring diagram to adjust rotation wires.
Excessive noise or vibration	Loose mounting bolts Unbalanced fan blade Motor bearing wear	Tighten mounting bolts. Inspect fan blade for damage or debris; clean or replace if necessary. Replace motor if bearings are worn.

If these steps do not resolve the issue, contact a qualified HVAC technician or the manufacturer for further assistance.

SPECIFICATIONS

- **Brand:** ClimaTek
- **Model:** ClimaTek Rplm for RHM # 51-21854-01
- **Horsepower (HP):** 1/5 HP (replaces 1/5 HP & 1/6 HP)
- **Voltage:** 208-230 Volts
- **Material:** Copper (windings)
- **Mounting:** Side mounting screws
- **Replaces Part Numbers:** 51-21854-01, 51-21854-02, 51-21826-01, 51-20682-01

WARRANTY INFORMATION

For specific warranty terms and conditions, please refer to the documentation included with your purchase or contact the seller or ClimaTek directly. Warranty coverage typically applies to manufacturing defects and may vary.

SUPPORT

If you require technical assistance, have questions regarding installation, or need to report a product issue, please contact the seller through your purchase platform or visit the official ClimaTek website for support resources.

For general inquiries, you may also refer to the ClimaTek store on Amazon:[ClimaTek Store](#)

Ask a question about this manual

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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