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› Packard 45117 Furnace Blower Fan Motor User Manual

Packard 45117

Packard 45117 Furnace Blower Fan Motor User Manual

Model: 45117 | Brand: Packard

1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of the Packard 45117 Furnace Blower Fan Motor. This motor is a 1/3 HP, 1075 RPM, 115 Volt, 4-speed Permanent Split Capacitor (PSC) type, designed for use in furnace and air handler systems. It serves as a replacement for various models, including Carrier HC41AE117A, HC41AE117, HC41SE122A, and GE 5KCP39GGS336S.

Please read this manual thoroughly before proceeding with any installation or maintenance to ensure proper function and safety.

2. SAFETY INFORMATION

WARNING: Electrical shock hazard. Disconnect all power to the furnace or air handler unit before installing, servicing, or removing the motor. Failure to do so can result in serious injury or death.

- Always ensure the power supply matches the motor's voltage requirements (115 Volts).
- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves.
- All wiring must comply with national and local electrical codes.
- If you are not qualified to perform electrical work, seek assistance from a licensed HVAC technician or electrician.
- Ensure proper grounding of the motor.

3. PRODUCT OVERVIEW

The Packard 45117 is a robust furnace blower motor designed for reliable performance. It features a durable metal and plastic construction, ball bearings for smooth operation, and multiple speed settings to optimize airflow.



Image 3.1: Front view of the Packard 45117 motor, showing the shaft, motor housing, and multi-colored wiring harness with terminal connectors. This image illustrates the overall design and electrical connections.



Image 3.2: Side view of the Packard 45117 motor, highlighting the ventilation grilles and the sturdy construction of the motor casing. The connection diagram label is visible on the side.



Image 3.3: Close-up view of the motor shaft, which connects to the blower wheel. The shaft is designed for secure attachment and efficient power transfer.

4. SPECIFICATIONS

The following table details the technical specifications for the Packard 45117 Furnace Blower Fan Motor:

Feature	Specification
Model Number	45117
Horsepower (HP)	1/3 HP (0.33 HP)
Voltage	115 Volts
Amps	4.40 Amps
RPM	1075 RPM
Speeds	4 Speeds

Feature	Specification
Hertz	60 Hz
Motor Type	PSC (Permanent Split Capacitor)
Capacitor Required	5MFD 370 VAC
Motor Rotation	CCWLE (Counter-Clockwise Lead End)
Bearings	Ball Bearings
Enclosure	Open
Insulation Class	B
Overload Protection	Automatic
NEMA Frame	48
Mounting Option	Mounting Studs
Shaft Dimension (In.)	1/2 x 4 5/8
Material	Metal, Plastic
Item Weight	10.9 Pounds
UPC	840899129068
Cross Reference	Carrier HC41AE117, HC41AE117A, HC41SE122A; GE 5KCP39GGS336S



48 - Frame Motor

Horse Power: 1/3
Volts: 115
RPM: 1075
Amps: 4.4
Rotation : CCWLE
Bearing : Ball
Capacitor Required : 5MFD/370V
Motor Type : PSC
Hertz : 60
Shaft Dimension (In.) : 1/2 x 4 5/8
Speeds : 4



Stock No. 45117

Packardonline.com Made In China

Cross Reference:
HC41AE117

45117



Image 4.1: Detailed view of the specification label on the Packard 45117 motor, showing key electrical and physical parameters, including horsepower, voltage, RPM, and the connection diagram.

5. SETUP AND INSTALLATION

Proper installation is crucial for the safe and efficient operation of your new blower motor. Follow these steps carefully:

5.1 Pre-Installation Checks

1. **Disconnect Power:** Ensure all electrical power to the furnace or air handler unit is completely shut off at the circuit breaker. Verify with a voltage tester.
2. **Verify Compatibility:** Confirm that the Packard 45117 motor is the correct replacement for your existing motor. Check model numbers and specifications.
3. **Required Capacitor:** Obtain a 5MFD 370 VAC run capacitor if you do not already have one or if your existing capacitor is not compatible or is faulty. This motor requires an external run capacitor.
4. **Tools:** Gather necessary tools, which may include screwdrivers, wrenches, wire strippers, electrical tape, and a multimeter.

5.2 Removal of Old Motor

1. Carefully label all wires connected to the old motor and its capacitor before disconnecting them. Take photos for reference.
2. Disconnect the old motor's wiring and capacitor.
3. Remove the mounting hardware securing the old motor to the blower housing.
4. Slide the old motor out of the blower wheel. Note the position and depth of the shaft within the blower wheel for proper alignment during new motor installation.

5.3 Installation of New Motor

1. **Mounting:** Slide the new Packard 45117 motor into the blower wheel, ensuring the shaft is inserted to the correct depth as noted during removal. Secure the motor to the blower housing using the mounting studs and appropriate hardware. Ensure the motor is firmly seated and aligned.
2. **Wiring Connections:** Refer to the connection diagram on the motor label (Image 4.1) and your labeled wires from the old motor. The Packard 45117 motor typically has the following wire colors for speed selection:
 - **White:** Common (Line)
 - **Black:** High Speed (Line)
 - **Blue:** Medium Speed (Line)
 - **Red:** Low Speed (Line)
 - **Brown/White & Brown:** Capacitor connections

Connect the appropriate speed wire from your furnace control board to the desired speed wire on the motor. Connect the common wire. Ensure all connections are secure using the provided terminal connectors or suitable alternatives. Insulate any unused speed wires individually to prevent short circuits.

3. **Capacitor Connection:** Connect the 5MFD 370 VAC capacitor to the brown and brown/white wires from the motor. Ensure the capacitor is securely mounted and its terminals are properly insulated.
4. **Final Checks:** Double-check all wiring connections for tightness and correctness. Ensure no wires are pinched or obstructing moving parts. Manually spin the blower wheel to confirm it rotates freely without rubbing against the housing.
5. **Restore Power:** Once all checks are complete, restore power to the furnace or air handler unit at the circuit breaker.



Image 5.1: Close-up of the multi-colored wire terminals on the Packard 45117 motor, showing the spade connectors ready for installation. Proper connection of these wires is essential for correct motor operation.

6. OPERATION

The Packard 45117 motor is designed for continuous operation within its specified parameters. Once installed and wired correctly, the motor will operate according to the signals from your furnace or air handler's control board, utilizing its 4-speed capabilities to provide appropriate airflow for heating or cooling cycles.

- The motor's speed is determined by which speed wire (Black, Blue, or Red) is energized by the control board.
- Ensure the furnace or air handler is set to the desired mode (Heat, Cool, Fan On) and temperature.
- Listen for smooth operation. Any unusual noises should be investigated immediately.

7. MAINTENANCE

The Packard 45117 motor is designed for minimal maintenance. However, periodic checks can help ensure its longevity and efficient operation:

- **Cleaning:** Annually, or more frequently in dusty environments, disconnect power and inspect the motor and

blower wheel for dust and debris accumulation. Clean with a soft brush or vacuum cleaner. Excessive dust can impede airflow and cause the motor to overheat.

- **Bearings:** This motor features sealed ball bearings, which do not require lubrication. Do not attempt to oil the bearings.
- **Wiring Inspection:** Periodically check all electrical connections for tightness and signs of wear or corrosion.
- **Capacitor Check:** If the motor experiences starting issues or runs sluggishly, have the run capacitor tested by a qualified technician.

8. TROUBLESHOOTING

Before performing any troubleshooting, ensure all power to the unit is disconnected.

Problem	Possible Cause	Solution
Motor does not start or hums but doesn't spin	◦ No power supply ◦ Faulty run capacitor ◦ Incorrect wiring ◦ Motor shaft seized or obstructed	◦ Check circuit breaker and power connections. ◦ Test or replace the 5MFD 370 VAC capacitor. ◦ Verify wiring against the connection diagram. ◦ Inspect blower wheel and motor shaft for obstructions; ensure free rotation.
Motor runs but airflow is weak	◦ Incorrect speed setting ◦ Dirty blower wheel or air filter ◦ Ductwork issues	◦ Ensure the correct speed wire is connected for the desired airflow. ◦ Clean the blower wheel and replace the air filter. ◦ Inspect ductwork for blockages or leaks.
Motor is excessively noisy	◦ Loose mounting hardware ◦ Unbalanced blower wheel ◦ Foreign object in blower housing	◦ Tighten all mounting bolts. ◦ Inspect blower wheel for damage or debris causing imbalance. ◦ Remove any foreign objects from the blower housing.
Motor overheats and shuts off	◦ Insufficient airflow/ventilation ◦ Overload condition ◦ Incorrect voltage	◦ Ensure blower wheel and motor are clean and unobstructed. ◦ Verify the motor is not undersized for the application. ◦ Confirm power supply voltage is 115V.

9. WARRANTY AND SUPPORT

The Packard 45117 Furnace Blower Fan Motor comes with a limited warranty. For specific details regarding warranty coverage, terms, and conditions, please refer to the documentation provided with your purchase or contact Packard customer support.

For technical assistance, troubleshooting beyond this manual, or warranty claims, please contact the manufacturer directly. You may find additional information and support resources on the official Packard website: Packardonline.com.