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Carrier HK61EA006

Carrier HK61EA006 Fan Blower Control Board Instruction Manual

1. Introduction

This instruction manual provides essential information for the safe and effective handling, installation, operation, and maintenance of the Carrier HK61EA006 Fan Blower Control Board. This component is a factory-authorized replacement part designed to meet Carrier Corporation specifications, ensuring optimal system performance and reliability in HVAC furnace systems. Please read this manual thoroughly before proceeding with any procedures.

2. Safety Information

WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury, or loss of life. Installation and service must be performed by a qualified installer or service agency.

- Always disconnect all electrical power to the furnace or air handler before installing or servicing this control board. Failure to do so can result in electrical shock, personal injury, or death.
- Verify that the replacement board matches the original part number to ensure compatibility and proper system function.
- Handle the control board with care to avoid damage to electronic components. Static electricity can damage sensitive components; use appropriate electrostatic discharge (ESD) precautions.
- Ensure all wiring connections are secure and correctly matched according to the system's wiring diagram.
- Do not bypass any safety devices or controls.

3. Product Overview

3.1 Product Features

- Factory Authorized Part: HK61EA006 Circuit Board.
- Fan Control Circuit Board with Time Delay functionality.
- Replaces / Supersedes various part numbers including 1171734, 103972, 122621, CEPL130541-01, CEBD430541-10A, and others.

3.2 Product Description

The Carrier HK61EA006 is an OEM (Original Equipment Manufacturer) fan blower control board designed for Carrier and Bryant HVAC systems. This circuit board manages the operation of the furnace's blower fan, often incorporating a time delay relay for controlled fan cycling. As a factory-authorized part, it is engineered to integrate seamlessly with

existing Carrier Corporation equipment, ensuring proper function and longevity of the heating and cooling system.

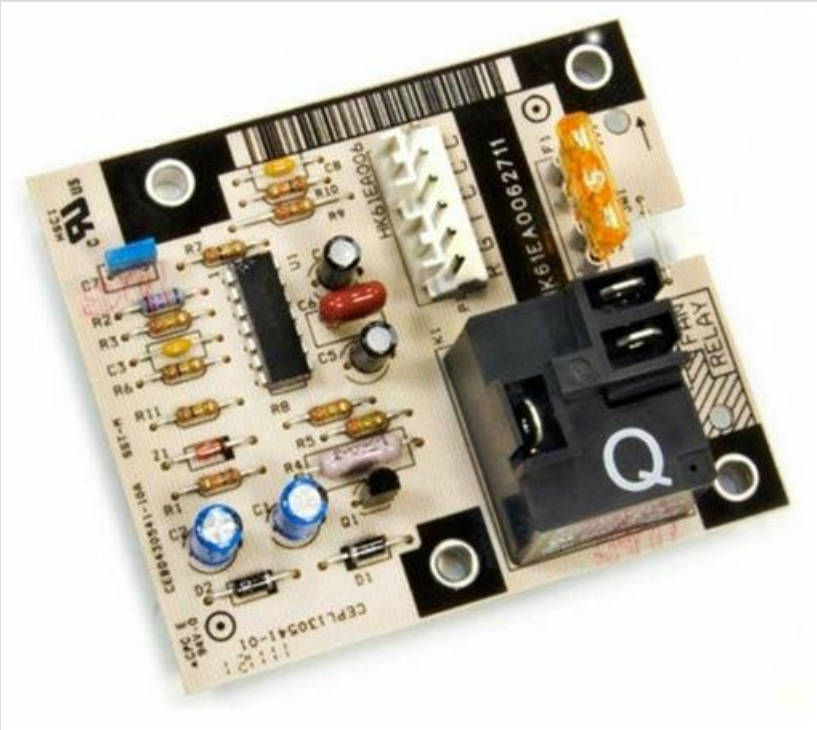


Figure 1: Front view of the Carrier HK61EA006 Fan Blower Control Board, showing various electronic components, connectors, and the time delay relay.

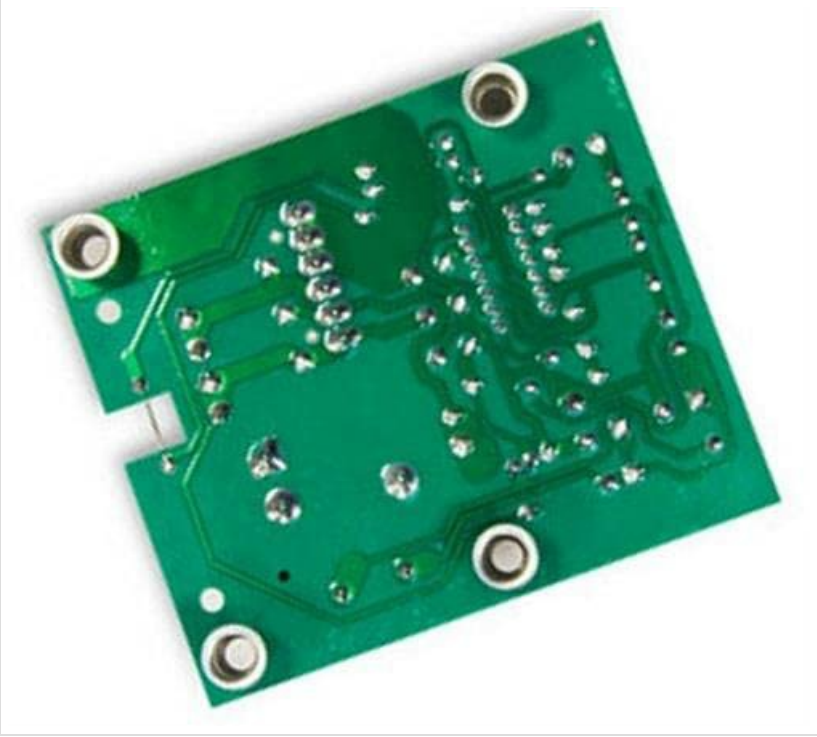


Figure 2: Back view of the Carrier HK61EA006 Fan Blower Control Board, illustrating the circuit traces and solder points.

4. Installation Guidelines

Installation of the Carrier HK61EA006 Fan Blower Control Board should only be performed by a qualified HVAC technician. Incorrect installation can lead to system malfunction, damage to the unit, or safety hazards. The following steps are general guidelines; always refer to the specific wiring diagrams and service instructions for your particular HVAC unit.

1. **Power Disconnection:** Turn off all electrical power to the furnace or air handler at the main service panel. Verify

power is off using a voltage meter.

2. **Access Control Board:** Locate and open the access panel to the furnace's control compartment.
3. **Document Wiring:** Before disconnecting any wires, take clear photographs or make a detailed diagram of all wire connections to the existing control board. Note the position and color of each wire.
4. **Disconnect Wires:** Carefully disconnect all wires from the old control board.
5. **Remove Old Board:** Unmount the old control board from its housing. Note any mounting hardware or clips.
6. **Install New Board:** Mount the new HK61EA006 control board in the same position as the old one, securing it with the appropriate hardware.
7. **Connect Wiring:** Reconnect all wires to the new control board, ensuring each wire is attached to its corresponding terminal as documented in step 3. Double-check all connections for security and accuracy.
8. **Close Access Panel:** Securely close the furnace access panel.
9. **Restore Power:** Restore electrical power to the furnace or air handler at the main service panel.
10. **Test System:** Initiate a heating or cooling cycle to verify proper operation of the blower fan and overall system functionality. Observe for any unusual noises or behaviors.

5. Operating Principles

The Carrier HK61EA006 control board operates automatically within the HVAC system. Its primary function is to manage the blower fan's operation based on signals received from the thermostat and other system components. When a call for heating or cooling is initiated, the board processes these signals to engage the blower fan at the appropriate speed and for the necessary duration, often incorporating a time delay to optimize system efficiency and comfort. The board continuously monitors system conditions to ensure the fan operates as required for proper air circulation.

6. Maintenance Recommendations

The HK61EA006 control board is designed for reliable, long-term operation with minimal maintenance. However, periodic inspection of the HVAC system by a qualified technician can help ensure its longevity and prevent potential issues.

- **Annual Inspection:** Have a qualified HVAC technician inspect the furnace or air handler annually. During this inspection, the technician can check the control board for any signs of wear, corrosion, or loose connections.
- **Cleanliness:** Ensure the control compartment remains clean and free of dust, debris, or moisture, which can interfere with electronic components.
- **Wiring Integrity:** Periodically, or during routine service, check that all wiring connections to the board are secure and free from damage.
- **Environmental Conditions:** Ensure the HVAC unit is not exposed to extreme temperatures or humidity beyond its operational design, as this can affect electronic components.

7. Troubleshooting

This section provides guidance for common issues related to the fan blower control board. For complex problems or if you are unsure about any step, contact a qualified HVAC technician.

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Blower fan does not run when heating/cooling is called, but outdoor unit (AC) may operate.	Faulty control board, incorrect wiring, or thermostat issue.	Verify thermostat settings. Check all wiring connections to the control board. If connections are correct and the thermostat is functioning, the control board may need replacement.
Blower fan runs continuously, even when heating/cooling is not called.	Faulty control board relay, thermostat fan setting, or shorted wiring.	Check thermostat fan setting (ensure it's set to 'Auto' not 'On'). Inspect wiring for any shorts. If these are not the cause, the control board's relay may be stuck, requiring board replacement.
System not responding to thermostat commands.	No power to the board, faulty thermostat, or damaged control board.	Ensure power is supplied to the furnace. Check thermostat functionality. Inspect the control board for visible damage.

8. Specifications

The following are the technical specifications for the Carrier HK61EA006 Fan Blower Control Board:

Specification	Detail
Model Number	HK61EA006
Brand	Carrier
Manufacturer	Carrier / ICP
Item Weight	8 ounces
Operation Mode	Automatic
Mounting Type	Surface Mount
Connector Type	Through Hole or Surface Mount
Specification Met	OEM (Original Equipment Manufacturer)

9. Warranty Information

Warranty coverage for the Carrier HK61EA006 Fan Blower Control Board is typically provided by the manufacturer or the seller at the point of purchase. Specific warranty terms, duration, and conditions can vary. It is recommended to retain your purchase receipt and contact the original seller or Carrier customer support directly for detailed warranty information.

10. Customer Support

For technical assistance, installation questions, or troubleshooting beyond the scope of this manual, please contact a qualified HVAC service technician. For product-specific inquiries or to locate authorized service providers, refer to the official Carrier website or contact their customer service department.

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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