DUCANJK13326.310

Generic Replacement Furnace Control Circuit Board (ICM AF1706 / TRANE X13650798-02) User Manual

Model: DUCANJK13326.310

1. Introduction

This manual provides essential information for the installation, operation, and maintenance of the Generic Replacement Furnace Control Circuit Board, compatible with ICM AF1706 and TRANE X13650798-02 models. This circuit board is designed as a direct-fit replacement to ensure reliable performance in your furnace system. Please read these instructions carefully before proceeding with installation or any service.

2. Safety Information

WARNING: Electrical Shock Hazard. Disconnect power before servicing.

- Always disconnect all electrical power to the furnace unit before installing, servicing, or removing the control board. Failure to do so can result in severe personal injury or death.
- Installation and servicing should only be performed by a qualified HVAC technician.
- Ensure all wiring connections are secure and correctly matched according to the furnace manufacturer's specifications.
- Wear appropriate personal protective equipment (PPE), including safety glasses and insulated gloves.
- Verify that the replacement board is compatible with your specific furnace model before installation.

3. Product Overview

The Generic Replacement Furnace Control Circuit Board serves as the central control unit for your furnace, managing various functions such as ignition, fan operation, and safety limits. This aftermarket replacement is designed to meet industry standards for fit, form, and function, offering a durable solution for your HVAC system.

- **High Quality Reliable Aftermarket Replacement:** Engineered to meet industry standards for fit, form, and function.
- **Easy Installation:** Features a direct-fit design, typically requiring no special tools or modifications for

replacement.

- **Durable Materials:** Constructed to resist heat, corrosion, and wear, ensuring long-lasting, consistent performance.

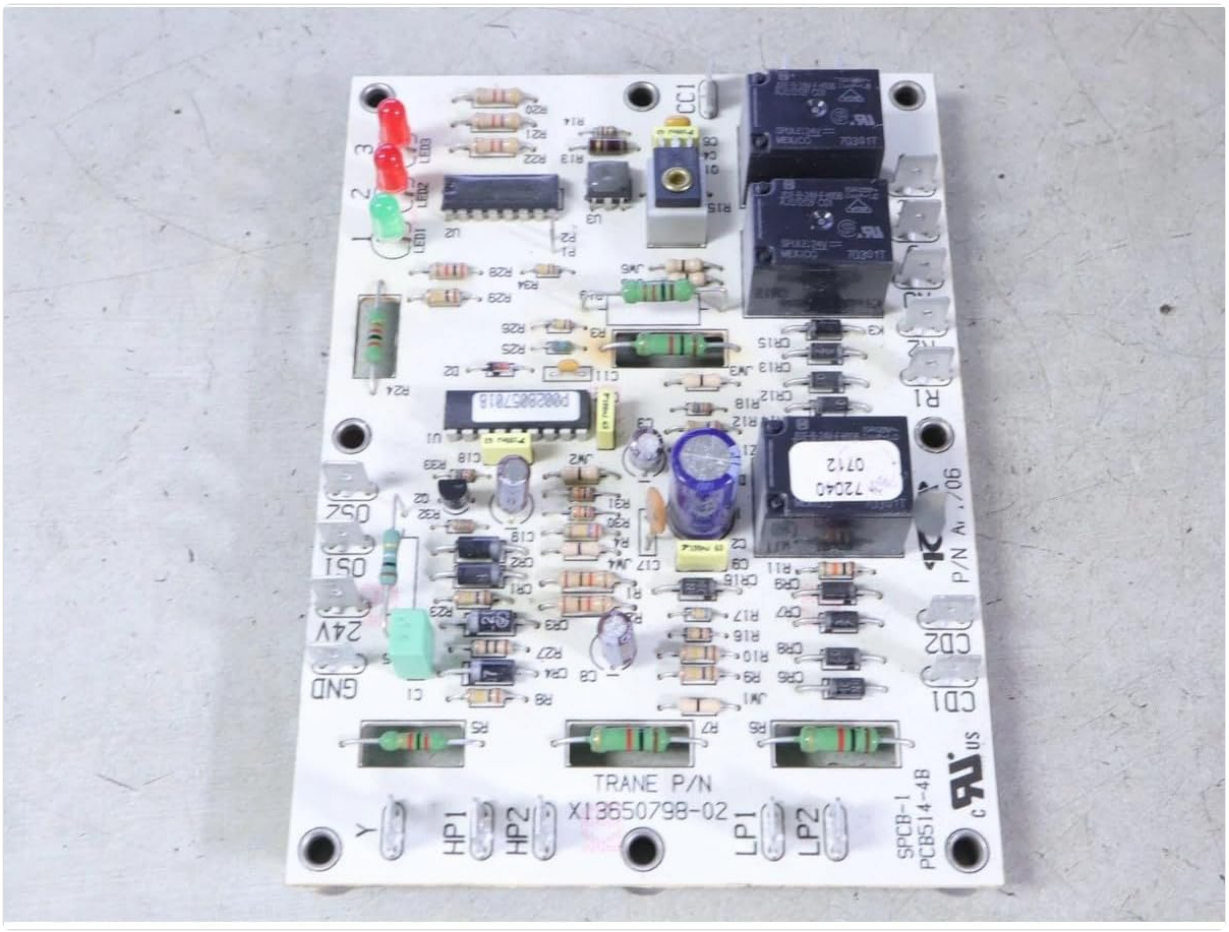

Figure 1: Top view of the control board, displaying its electronic components and layout. This image shows the component side of the circuit board, including relays, resistors, capacitors, and indicator LEDs.

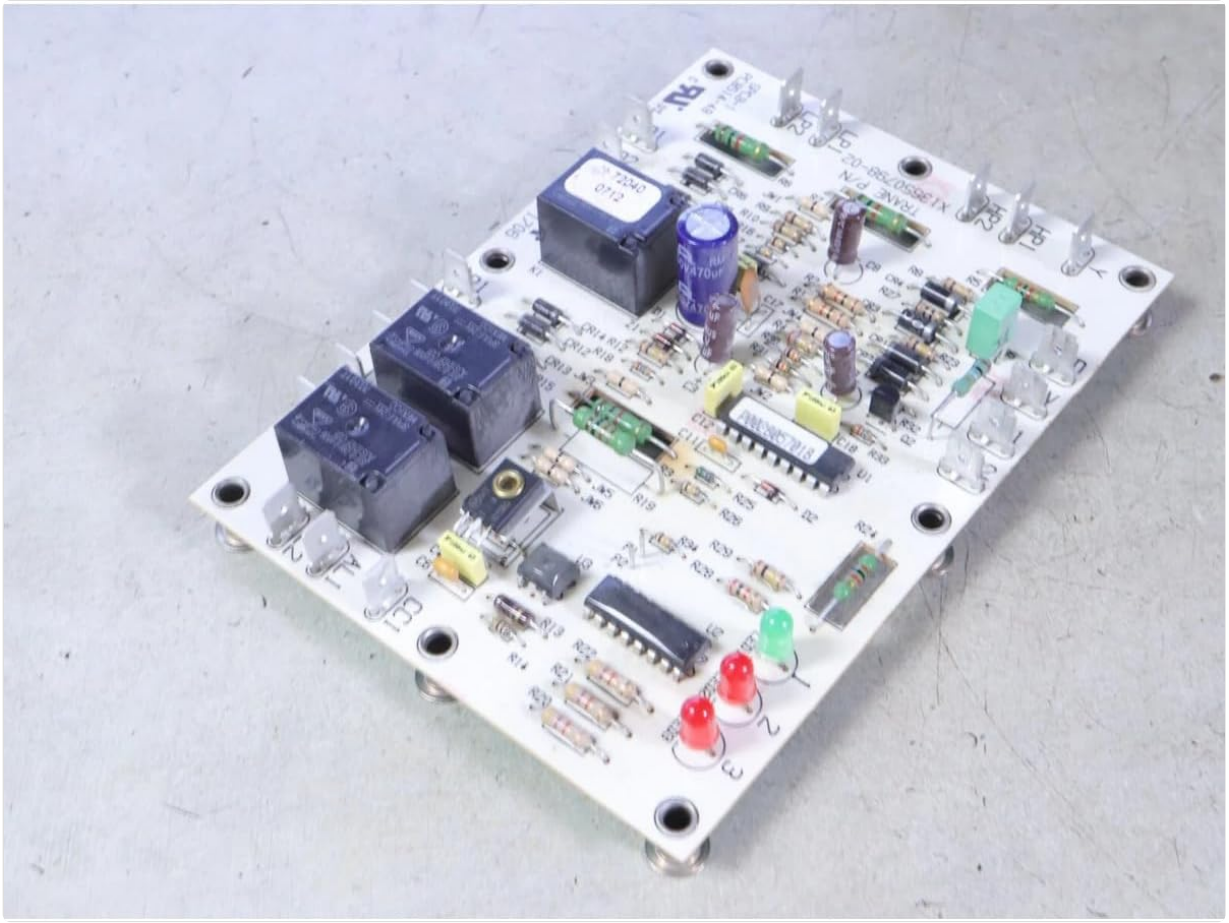

Figure 2: Angled perspective of the control board, providing a clearer view of the component height and connection pins. This view helps in understanding the physical dimensions and connector placement.

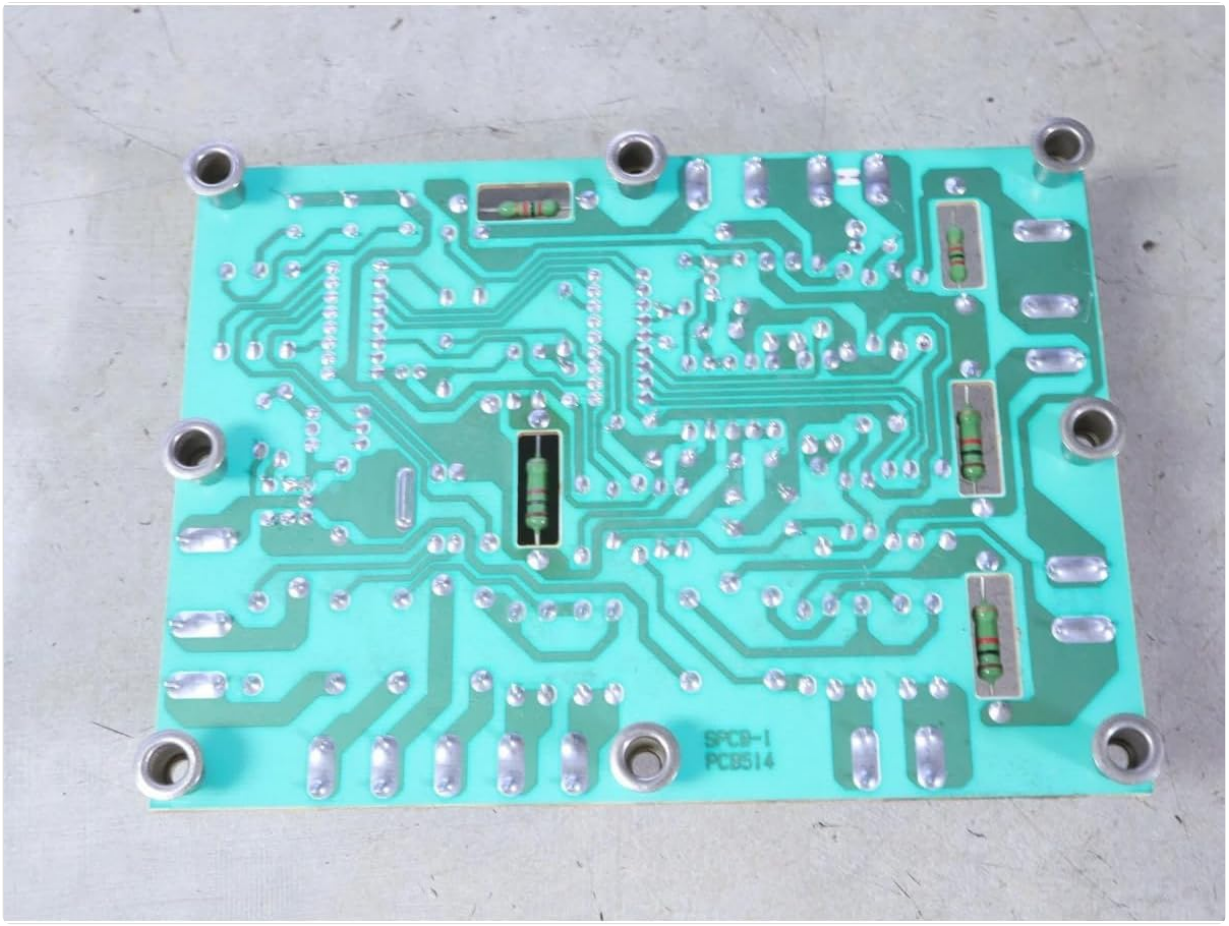

Figure 3: Bottom view of the control board, illustrating the printed circuit board (PCB) traces and solder connections. This image is useful for verifying the board's construction and integrity.

4. Setup and Installation

This section outlines the general steps for replacing a furnace control circuit board. It is highly recommended that installation be performed by a certified HVAC professional.

1. **Disconnect Power:** Turn off all electrical power to the furnace at the main service panel. Verify power is off using a voltage tester.
2. **Access the Control Board:** Open the furnace access panel to locate the existing control board.
3. **Document Wiring:** Before disconnecting any wires, take clear photos of the existing wiring connections. Label each wire and its corresponding terminal on the old board. This step is crucial for correct re-installation.
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 how it was secured (screws, clips, etc.).
6. **Install New Board:** Mount the new Generic Replacement Furnace Control Circuit Board in the same location and orientation as the old board. Ensure it is securely fastened.
7. **Connect Wiring:** Refer to your photos and labels to connect all wires to the corresponding terminals on the new board. Double-check every connection for accuracy and tightness.
8. **Close Access Panel:** Securely close the furnace access panel.
9. **Restore Power:** Turn on the electrical power to the furnace at the main service panel.
10. **Test Operation:** Initiate a heating cycle to verify that the furnace operates correctly. Observe for proper ignition, fan operation, and any error codes.

Note: Always refer to your specific furnace manufacturer's service manual for detailed wiring diagrams and installation procedures.

5. Operating Instructions

Once correctly installed, the furnace control circuit board operates automatically as part of your furnace system. It receives signals from the thermostat and other sensors to manage the heating cycle, including:

- **Ignition Sequence:** Controls the sequence of events for safe and efficient ignition of the burner.
- **Fan Operation:** Manages the blower fan for circulating heated air throughout your home.
- **Safety Monitoring:** Monitors various safety limits (e.g., high temperature, flame sensing) and shuts down the furnace if a fault is detected.
- **Diagnostic Codes:** Many boards include diagnostic LEDs that flash codes to indicate specific operational statuses or fault conditions. Consult your furnace manual for the meaning of these codes.

No direct user interaction with the control board is required during normal operation.

6. Maintenance

The furnace control circuit board itself typically requires no routine maintenance. However, regular maintenance of the overall furnace system is crucial for its longevity and proper function, which indirectly benefits the control board.

- **Annual Professional Inspection:** Have your furnace inspected and serviced annually by a qualified HVAC technician.

- **Air Filter Replacement:** Regularly replace or clean your furnace's air filter as recommended by the furnace manufacturer. A dirty filter can restrict airflow, leading to overheating and potential stress on components, including the control board.
- **Keep Area Clean:** Ensure the area around the furnace is clean and free of dust, debris, and obstructions.
- **Inspect Wiring:** During professional servicing, ensure all wiring connections to the control board are secure and free from corrosion.

7. Troubleshooting

If your furnace is experiencing issues after installing the replacement control board, consider the following troubleshooting steps. Always ensure power is disconnected before inspecting internal components.

Symptom	Possible Cause	Solution
Furnace not starting or no power.	Incorrect wiring, blown fuse, tripped circuit breaker, thermostat issue.	Verify all wiring connections are correct and secure. Check furnace fuse and house circuit breaker. Ensure thermostat is set to heat and calling for heat.
Blower fan not operating.	Incorrect fan wiring, faulty fan motor, control board issue.	Check fan wiring connections. If the fan motor is suspected, professional diagnosis is required.
Furnace cycles on and off rapidly (short cycling).	Dirty air filter, restricted airflow, faulty high-limit switch, oversized furnace.	Replace air filter. Check for blocked vents. Consult a technician for high-limit switch or sizing issues.
Diagnostic LEDs flashing error codes.	Specific system fault.	Refer to your furnace manufacturer's manual for the interpretation of specific flash codes and recommended actions.

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

8. Specifications

Specification	Detail
Model Number	DUCANJK13326.310
Compatible Replacements	ICM AF1706, TRANE X13650798-02
Manufacturer	DUCANJK
Part Number	DUKCANJ13326.310
Item Weight	1 pounds (approx. 0.45 kg)
Product Dimensions	1 x 1 x 1 inches (approx. 2.54 x 2.54 x 2.54 cm)
Included Components	None (Control board only)

Specification	Detail
ASIN	B0GSF73JLP
Date First Available	March 13, 2026

9. Warranty Information

Based on available product information, there is no explicit warranty provided for this replacement control board. Please consult your point of purchase for any return or exchange policies.

10. Support

For technical assistance, installation guidance, or troubleshooting beyond the scope of this manual, it is strongly recommended to contact a qualified and certified HVAC technician. Attempting repairs without proper knowledge and tools can lead to further damage or personal injury.
For product-specific inquiries regarding your purchase, please contact the seller directly through the platform where the item was acquired.