Technical Publications
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K183 INDOOR BLOWER MOTOR RELAY KIT

INSTALLATION INSTRUCTIONS FOR THE K183 INDOOR BLOWER MOTOR RELAY KIT (85W66) USED WITH FURNACES EQUIPPED WITH CONSTANT TORQUE INDOOR BLOWER MOTORS

⚠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 licensed professional installer (or equivalent), service agency or the gas supplier.

Shipping & Packing List

Package 1 of 1 contains:

1 - Relay (43G4901)
2 - #6-32 x 3/8” screws
2 - 3/16” quick connect termination adapters
1 - Wire nut

Application

This relay kit is used with constant torque furnaces matched with a two-stage air-conditioner or two-stage heat pump to provide different indoor fan speeds during Y1 and Y2 cooling or heat pump operation.

⚠WARNING

This relay is used with furnaces equipped with constant torque blower motors ONLY. Do not install on furnaces equipped with standard PSC or variable speed blower motors.

Installation

⚠WARNING

Disconnect power before servicing unit.

Shut off main gas supplies to appliance until installation is complete.

ELECTROSTATIC DISCHARGE (ESD)
Precautions and Procedures

⚠CAUTION

Electrostatic discharge can affect electronic components. Take precautions to neutralize electrostatic charge by touching your hand and tools to metal prior to handling the control.

1. Turn off electrical and gas supplies to the furnace.
2. Remove the access panel(s).
3. Drill two 1/8” holes 1-1/2” apart in the upper left hand corner of the control box (see figure 1).
4. Use the provided screws and install the relay in the control box.
5. Wire the relay as shown on Page 2.

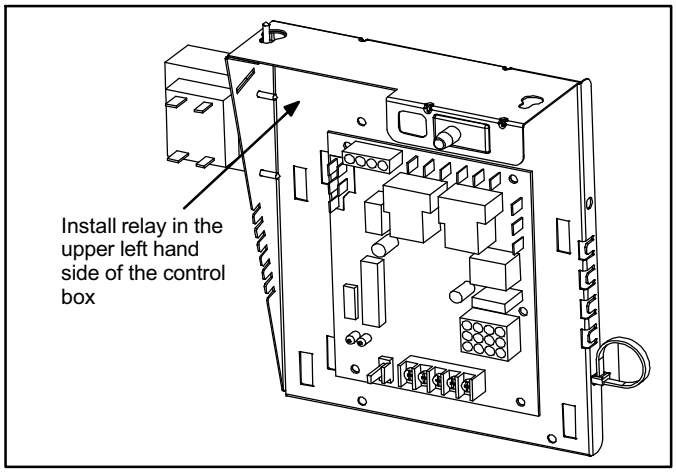

Figure 1. Control Box

Operation

On a second-stage cool demand the thermostat will output a Y2 signal and send 24 volts to relay coil. The N.O. relay contacts 5 and 9 will close and contacts 1 and 9 will open. This will direct the cooling blower signal from the integrated control to the appropriate motor speed tap for second-stage cool speed.

On a first-stage cool demand the thermostat removes the Y2 signal and the relay is de-energized. The N.C. contacts 1 and 0 send the blower signal from the integrated control to the appropriate motor speed tap for first-stage cool speed.

Wiring

1. Use the provided wire nut and secure the blue wire to the Y2 thermostat wire (see figure 2).
2. Connect the black relay wire with the forked connector to “C” on the control terminal strip.
3. Install one of the quick-connect termination adapters on an unused PARK terminal that will be used as a junction point for the wires in steps 4 and 5.
4. Plug the black relay wire onto one terminal of the adapter installed in step 3.
5. Disconnect the motor speed tap from the COOL terminal and plug it onto the other terminal of the adapter installed in step 3 (this is second-stage cool)
6. Plug the yellow relay wire onto the “COOL” tap just vacated.
7. Determine which motor speed tap is needed for 1st stage cool and remove that connector from the integrated control (FAN, HEAT, PARK terminals). (For the purpose of illustrating, this diagram shows the FAN terminal being vacated.)
8. Install the second quick-connect termination adapter to the vacated terminal (FAN for this illustration).
9. Plug the motor speed tap (FAN for this illustration) onto one terminal of the quick-connect termination adapter just installed.
10. Plug the red relay wire onto the other terminal of the second quick-connect termination adapter.
11. Restore electrical and gas supplies to the furnace. Refer to the furnace unit installation instructions for start-up and check-out procedures.

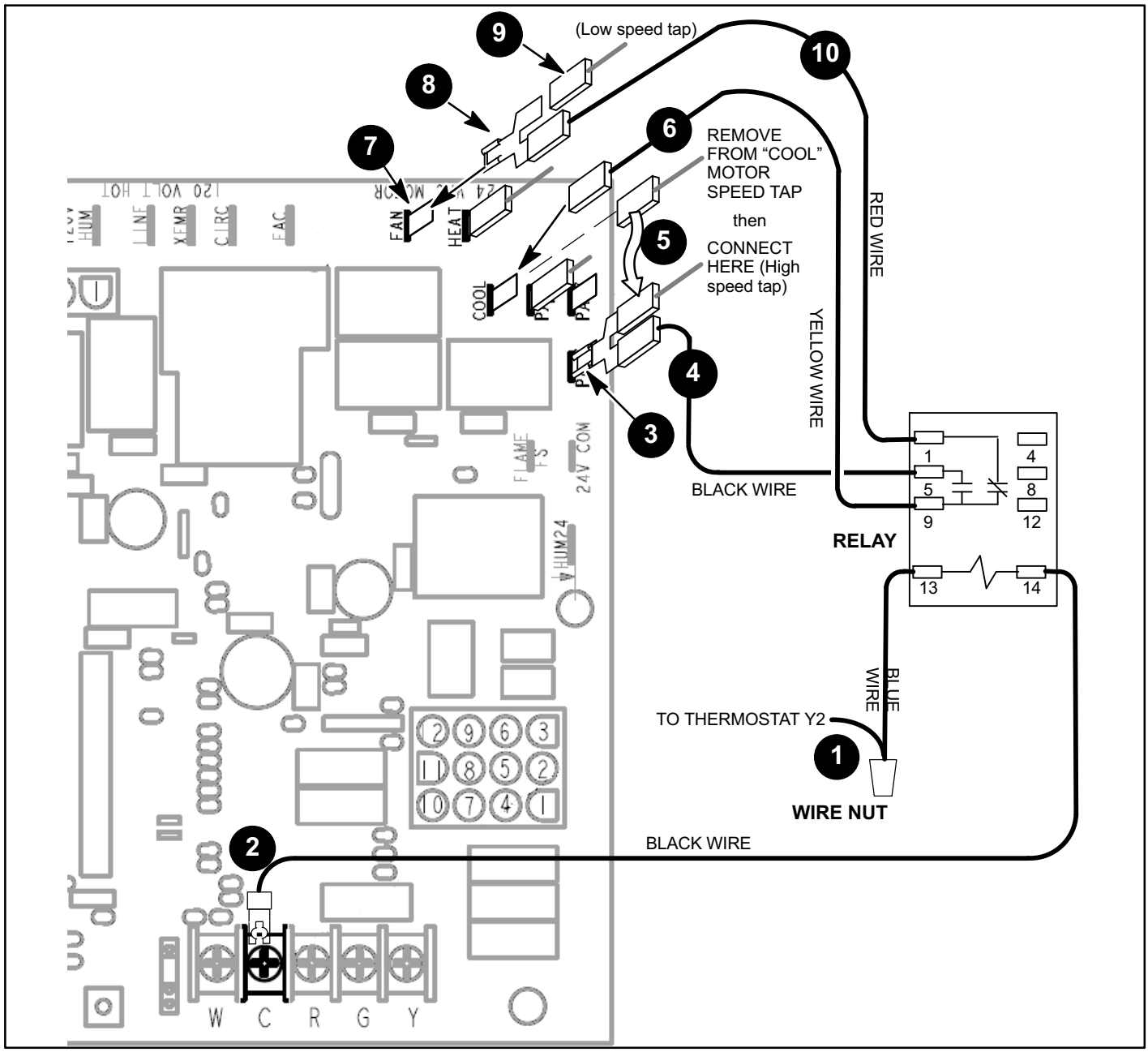

Figure 2. Connecting Relay to Integrated Furnace Control