

INSTALLATION INSTRUCTIONS

Electric Heat Sections

Used with Blower Coil Units

ELECTRIC HEAT SECTIONS
505,084M (0655012-30)
05/15
Supersedes 09/11

TP Technical
Publications
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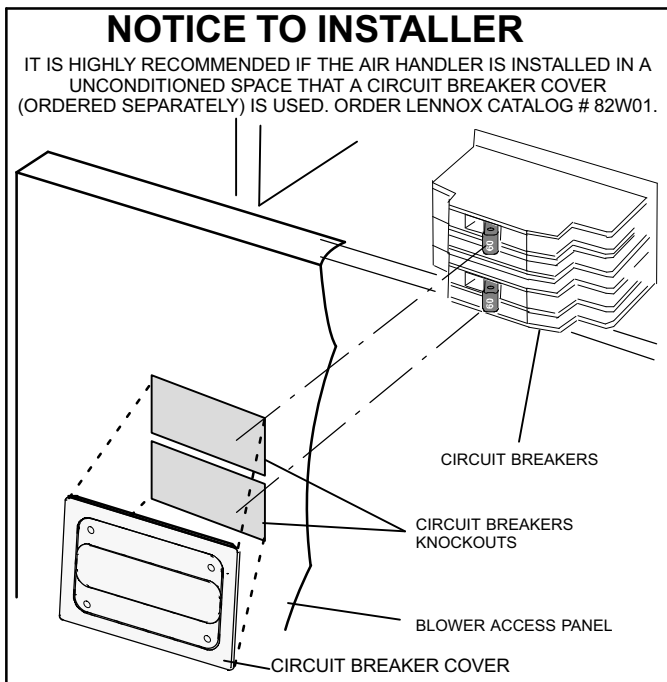
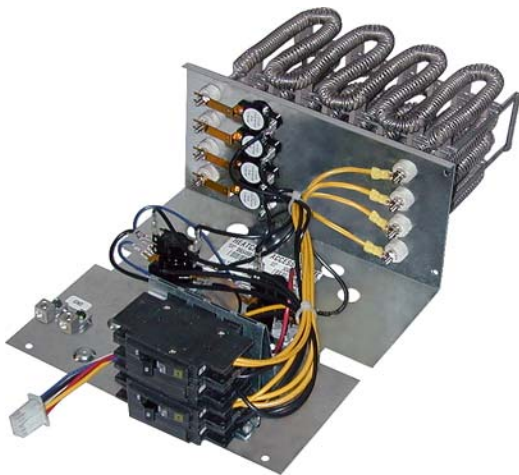


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RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

! WARNING

Improper installation, adjustment, alteration, service or maintenance can cause personal injury, loss of life, or damage to property.

Installation and service must be performed by a licensed professional installer (or equivalent) or a service agency.

! CAUTION

Physical contact with metal edges and corners while applying excessive force or rapid motion can result in personal injury. Be aware of, and use caution when working near these areas during installation or while servicing this equipment.

Electric Heat Sections

The electric heat sections provide field installed electric heat for coil blower series air handler units.

Table 1 shows the available heat sections. Refer to the engineering handbook for specific heat section applications.

Table 1

Element Plate Kit	Heater Kw Rating	Stage	Termination Type
0655009-01	5	1	Pig Tail Connector
0655009-02	5	1	Terminal Block
0655009-03	5	1	Circuit Breaker
0655009-04	7.5	1	Circuit Breaker
0655009-05	7.5	1	Terminal Block
0655009-06	10	1	Terminal Block
0655009-07	10	1	Circuit Breaker
0655009-09	15	2	Circuit Breaker
0655009-11	20	2	Circuit Breaker

Shipping and Packing List

Package 1 of 1 contains

1 - Assembled electric heat section

Check equipment for shipping damage. If you find any damage, immediately contact the last carrier.

General Information

These instructions are intended to be a general guide and do not supersede any local or national codes. Installation must conform with the local building codes and with the latest editions of the National Electric Code.



Be sure to disconnect all power to the unit while you install and service this equipment. Use proper tools and protective equipment during installation and service.

Installation of blower section with or without optional electric heat must conform with standards in the National Fire Protection Association (NFPA) "Standard for Installation of Air Conditioning and Ventilation Systems NFPA No. 90A," and "Standard for Installation of Resident Type Warm Air Heating and Air Conditioning System, No. 90B," the manufacturer's installation instructions, and local municipal building codes.

Heat Section Installation

Before installing the unit, check information on the unit rating plate to ensure that the unit meets the job specification, proper electrical power is available, and that proper duct clearances are maintained.

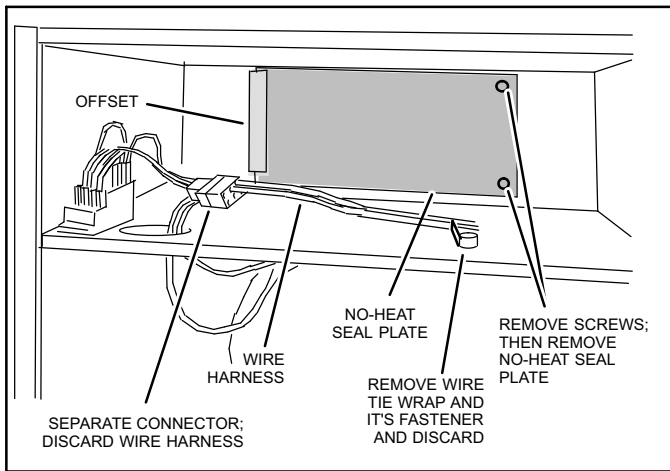


Figure 1. Prepare to Install Heat Element

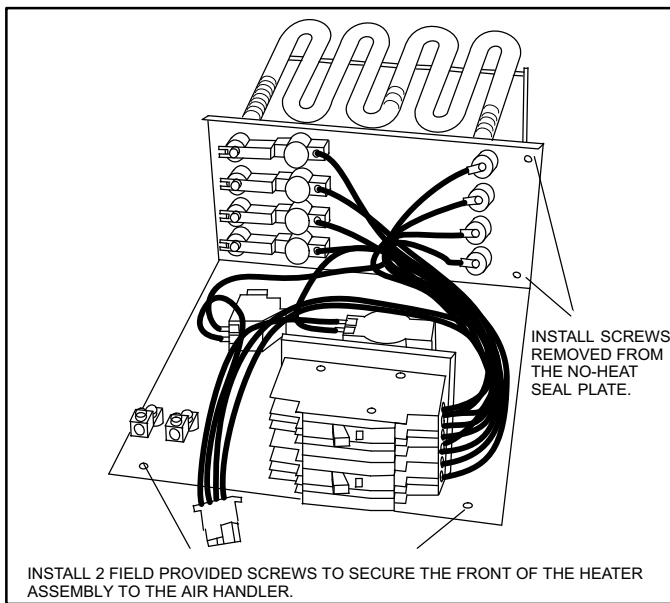


Figure 2. Installing the Heat Element Assembly

! WARNING

Before installing or servicing unit, be sure ALL power to the unit is OFF. More than one disconnect switch may be present. *Electrical shock can cause personal injury or death!*

NOTE - If installing heat sections at the same time as the air handler unit, install the electric heat section in the air handler unit before setting the air handler unit and attaching the plenum.

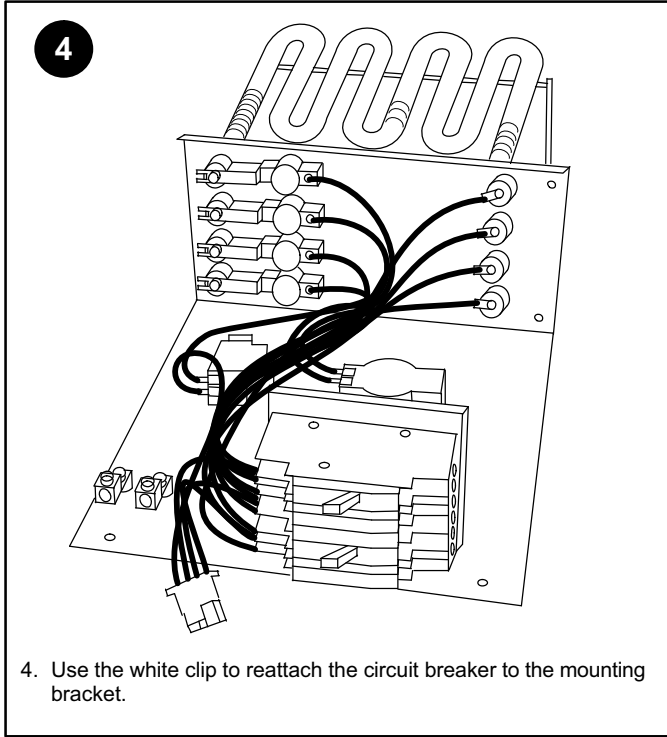
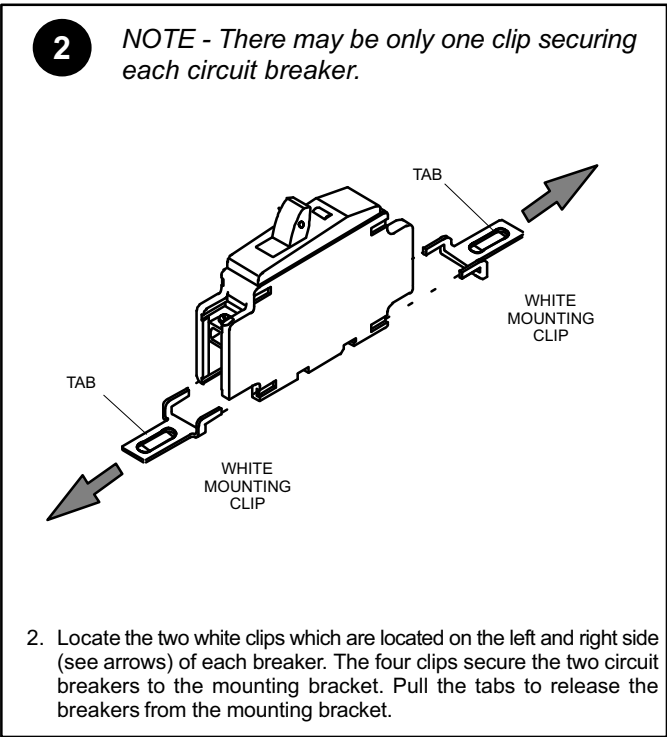
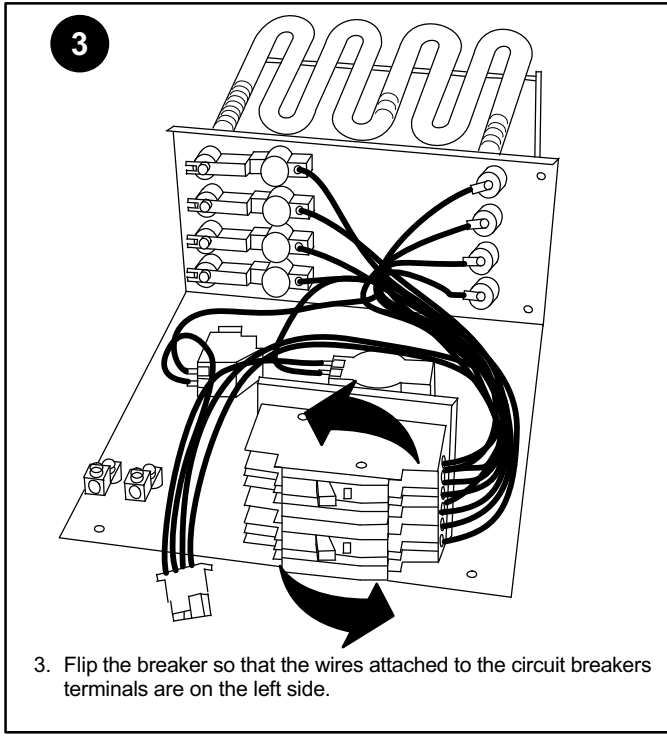
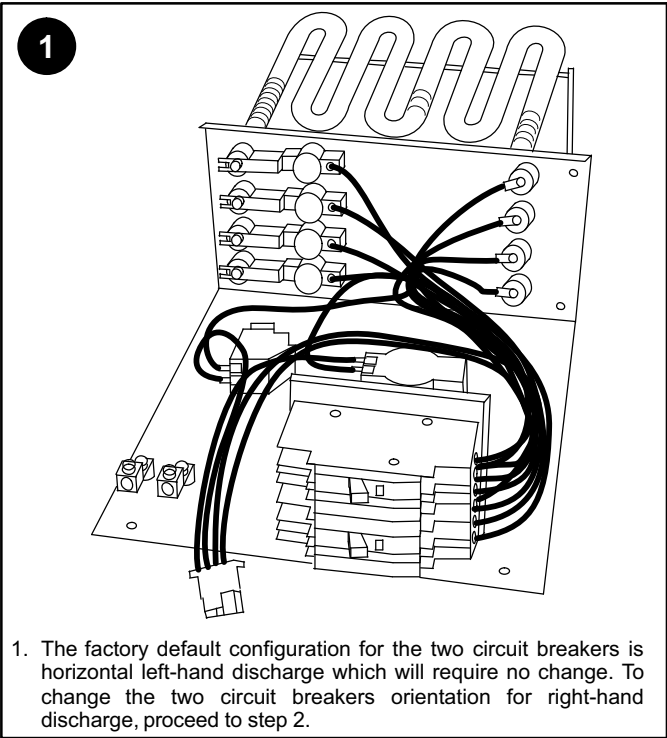
1. Shut off all power to the air handler unit. More than one disconnect may be required.
2. Remove blower section access panel and keep the 6 screws to reattach access panel after installing heat elements.
3. Disconnect any existing field supply wires and pull them out of the air handler. Remove the wire tie and its fastener - if not removed, it will prevent the heat element's base from resting properly in the compartment.
4. Remove the no-heat seal plate in the air handler frame. See figure 1.
5. Slide the electric heat section into the blower section. Be careful that the heating elements do not rub against the sheet metal opening when they slide into the blower section. The side opposite the side with the mounting holes should slip behind the offset. The mounting holes should then line up with holes in the air handler control box.
6. Secure the electric heater assembly into place with the screws that were removed from the heat element panel. Install two field-provided #8 SDST screws in the front of the electric heater assembly (see figure 2).

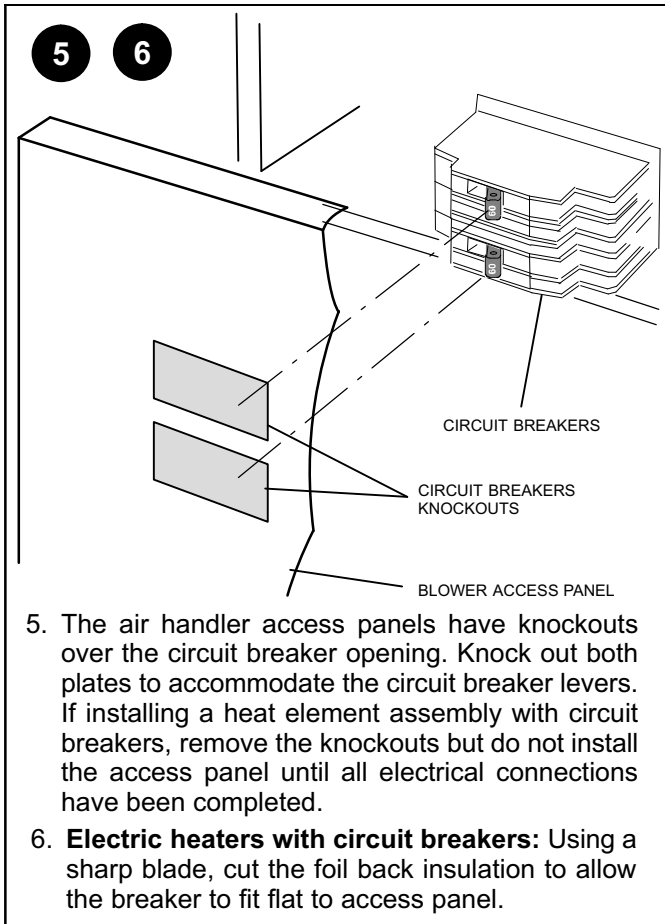
! WARNING

Foil face insulation must be cut to eliminate the possibility for any frayed foil to coming in contact with any main or low voltage connections. Insulation must be kept a minimum of 1/2" away from any electrical connection.

Changing Circuit Breaker Orientation

The coil blower comes from the factory setup for horizontal left-hand discharge which will require no change in the circuit breaker orientation. However, if the coil blower is installed in a horizontal right-hand discharge position, the breaker will need to be rotated 180° so that the **UP** position of the breaker is the **ON** position. The circuit breaker orientation change is required by UL 1995, Article 26.18 (25 Sep 2005).





in accordance with tables 310-16 and 310-17 in the National Electric Code, ANSI/NFPA No. 70 or tables 1 through 4 in the Canadian Electric Code, Part I, CSA Standard C22.1.

Refer to figure 5 for typical low voltage field wiring for air handler/condensing unit and heat pump applications. Figure 8 is a diagram of the air handler connections and the heater elements high-voltage wiring.

1. Make wiring connections as follows -

Heaters equipped with circuit breakers—Connect field power supply wiring to circuit breaker(s). Figure 3 shows L1, L2 and ground (GND) connections for a 2-breaker configuration.

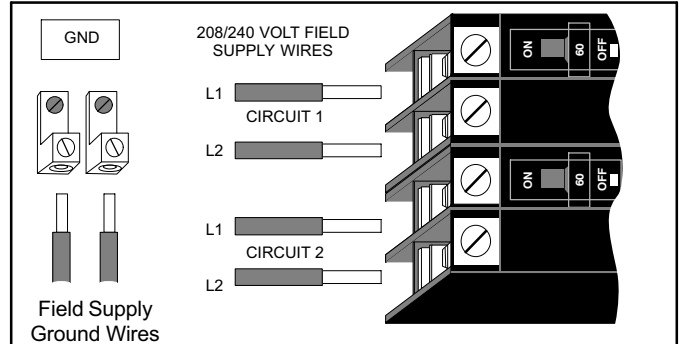


Figure 3. Field Power Supply Wiring

Heaters equipped with terminal blocks—Connect field power supply wiring to terminal block(s). Figure 4 shows L1, L2 and ground (GND) connection for a terminal block configuration.

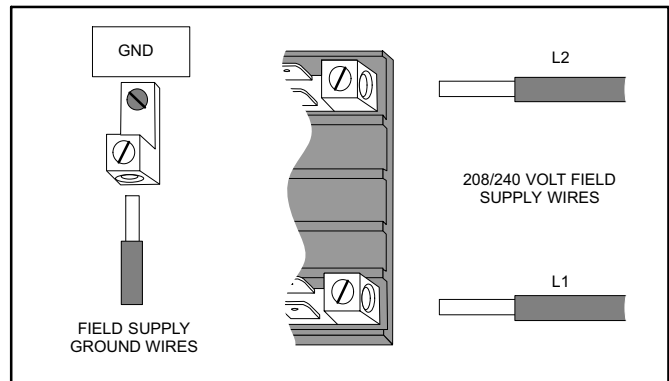


Figure 4. Terminal Block Connections

2. Remove the interface harness from the air handler unit and connect the 6-pin connector on the heater assembly to the mating connector on the air handler unit.
3. For applications using a two-stage room thermostat and/or an outdoor thermostat, connect wiring as shown in figure 5.

Blower Speed Connections

When using the electric heat sections with coil blower series air handler units, you must adjust the blower speed according to the size of electric heat and air handler unit. The **minimum blower setting** for each blower size with any heat sections in

Electrical Connections

⚠ WARNING

Electric shock hazard. Be sure all power supplies have been disconnected before making electrical connections. Failure to do so can result in death or electrical shock.

⚠ WARNING

USE COPPER CONDUCTORS ONLY.

NOTE - Refer to the nameplate on the air handler unit for minimum circuit ampacity and maximum overcurrent protection size.

The air handler units are provided with openings to be used with 1-1/2 inch trade size (1-31/32 inch diameter) conduit.

If you want a single point power supply, refer to the nameplate on the single point power supply accessory for minimum circuit ampacity and maximum overcurrent protection size. Select the proper supply circuit conductors

any application is **LOW**, except for 0655009-11 (20kw) which should be set to a minimum of **HIGH** speed. See specific air handler installation instructions for blower speed adjustment procedure and location.

Unit Start-Up

1. After all electrical connections have been completed and jumpers configured (if required), replace the blower compartment access cover.

2. Restore power to the unit.
3. If using an electro-mechanical room thermostat, set the thermostat heat anticipator to 0.4 amps.
4. Set the thermostat above room temperature.
5. Check the heat pump and the heat section for normal operation.
6. Set the thermostat to desired setting.
7. Affix the wiring diagram sticker to blower scroll, aligned with CB unit wiring diagram sticker.

Wiring Diagrams

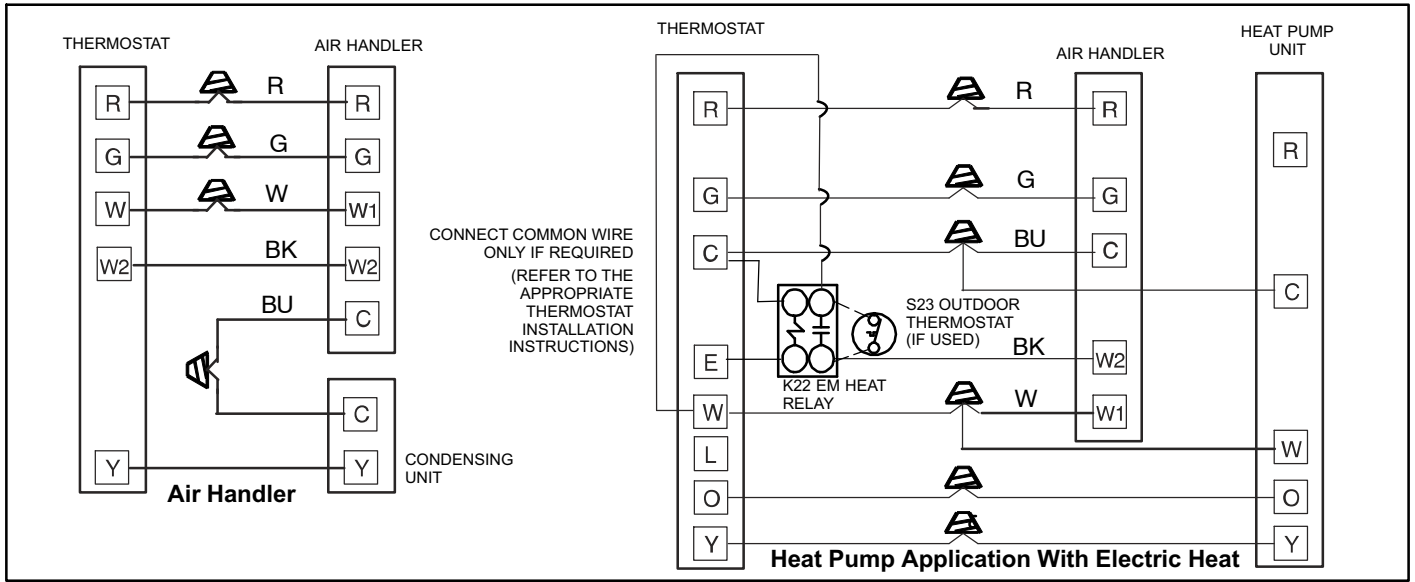
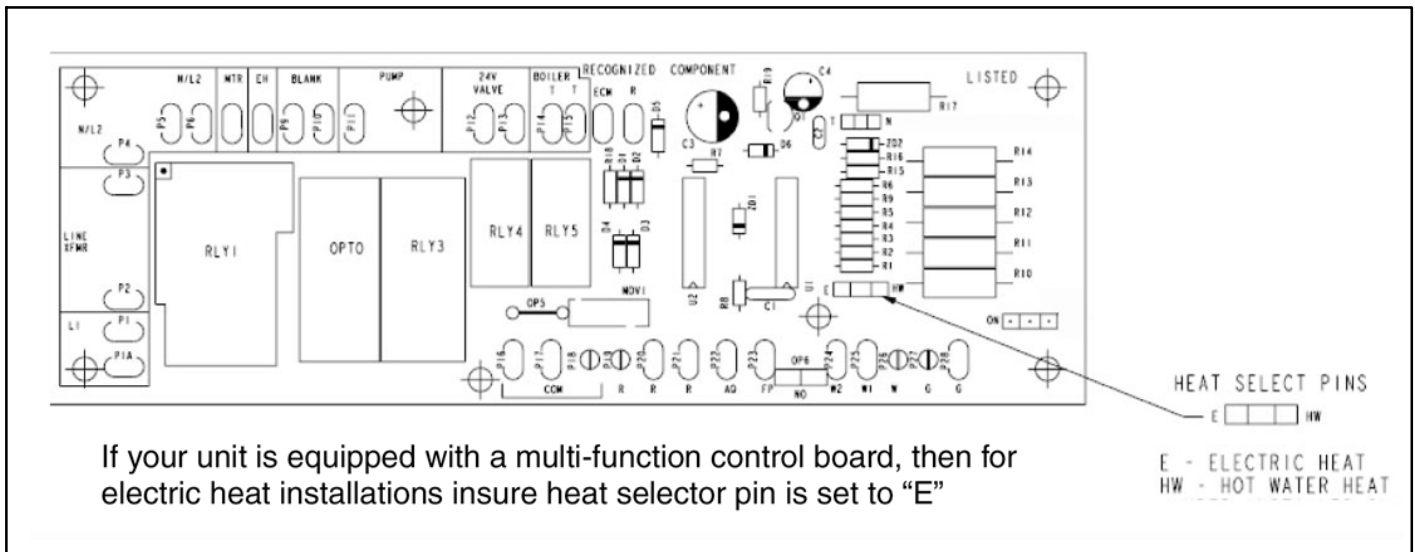


Figure 5. Low Voltage Field Wiring Electric Heat



If your unit is equipped with a multi-function control board, then for electric heat installations insure heat selector pin is set to "E"

HEAT SELECT PINS
 E HW
 E - ELECTRIC HEAT
 HW - HOT WATER HEAT

Figure 6. Heat Selector Pin

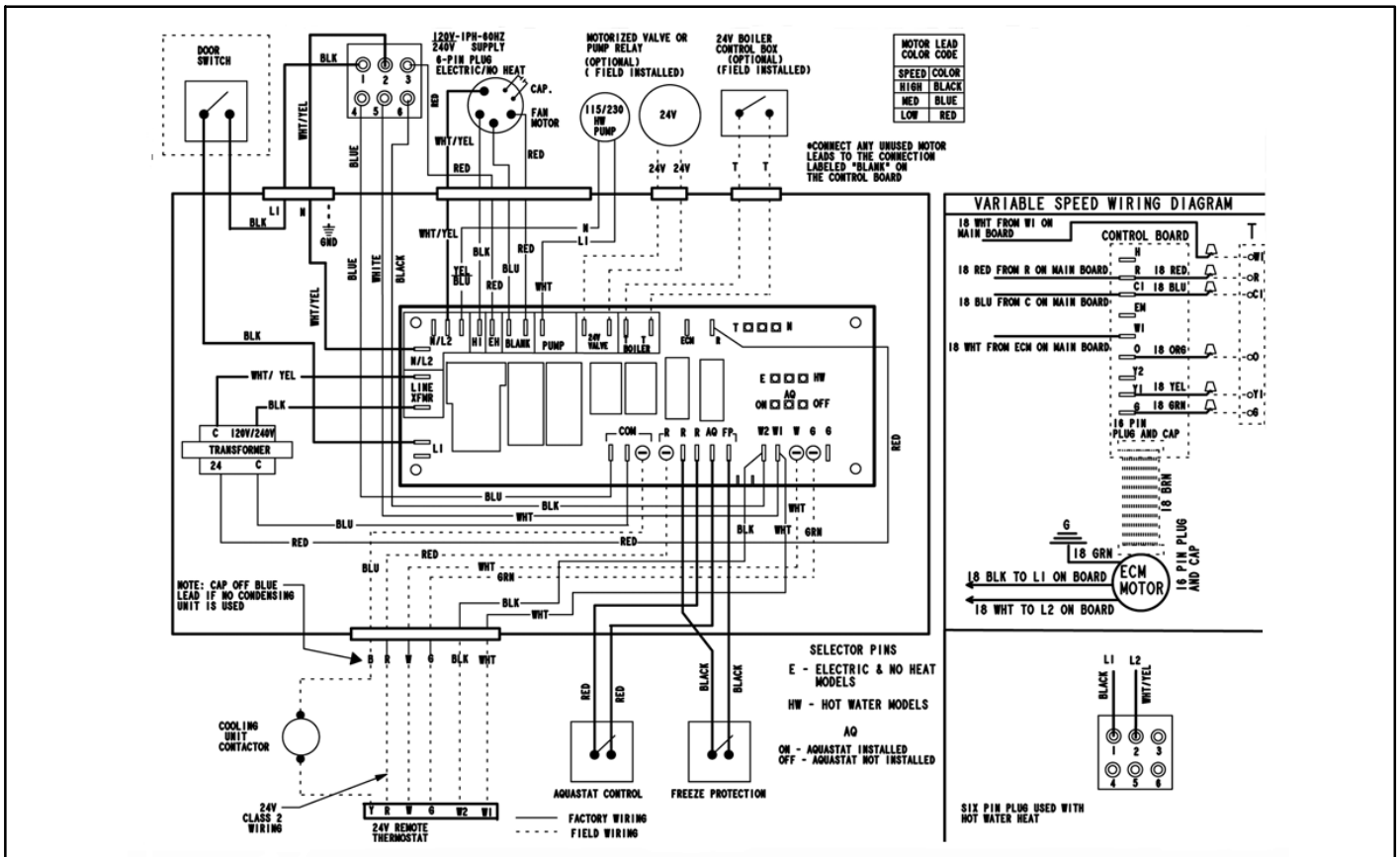


Figure 7. Field Wiring Diagram Electric Heat & Hot Water Heat (B Series & MX Series Models Only)

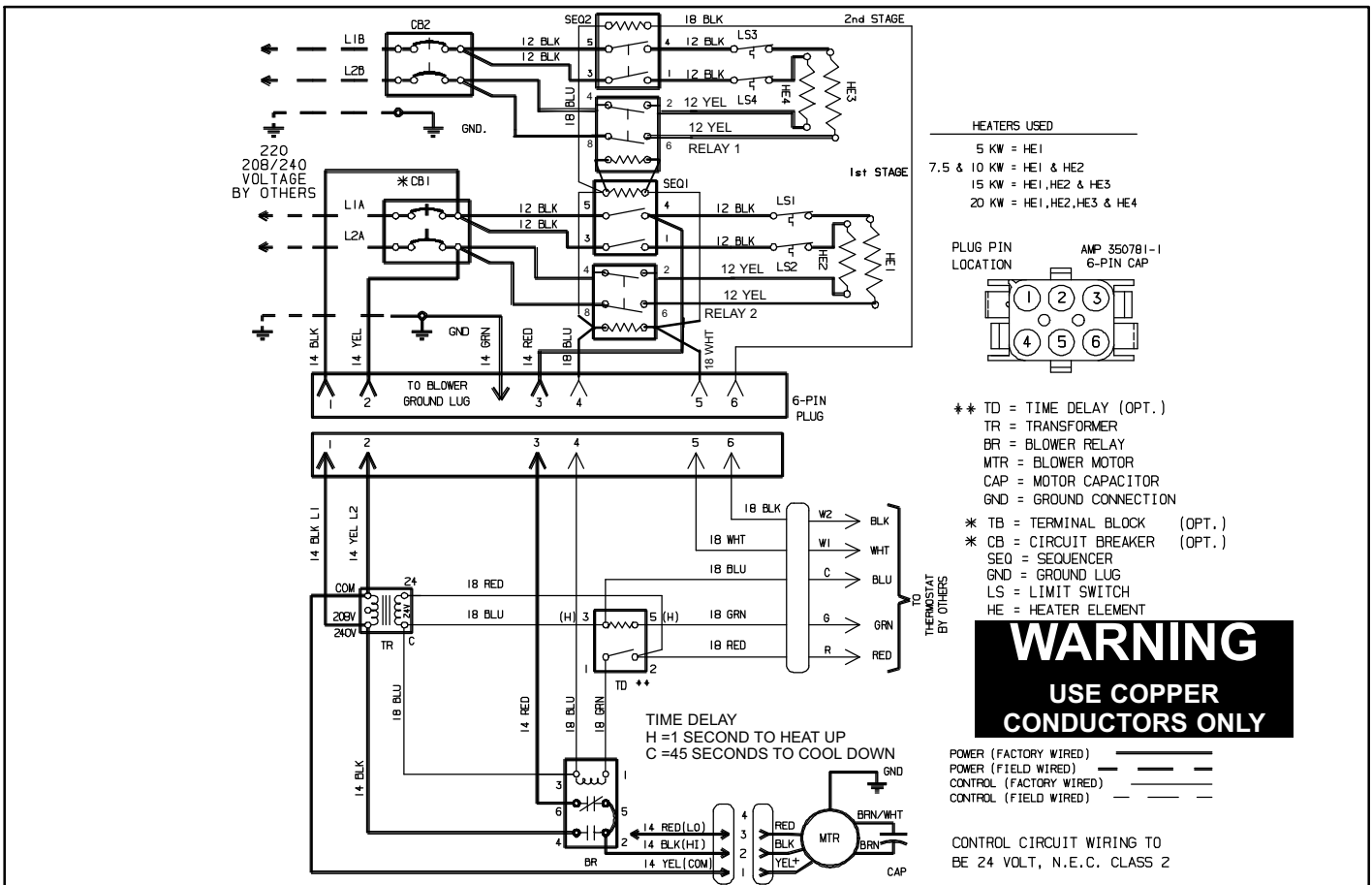


Figure 8. Field Wiring Diagram - Electric Heat and Air Handler