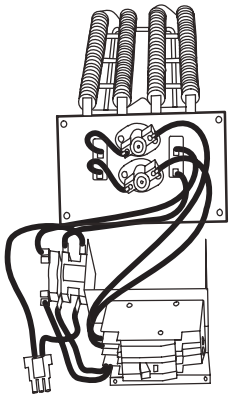

THIS MANUAL MUST BE LEFT WITH THE HOMEOWNER FOR FUTURE REFERENCE

Shipping and Packing List

Package 1 of 1 contains:

1 – Assembled electric heat section

1 – Circuit breaker cover

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

⚠ 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 HVAC installer or equivalent, service agency, or the gas supplier.

⚠ CAUTION

As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

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 air handler 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.

INSTALLATION INSTRUCTIONS

ECBA25 Electric Heat Sections

Used with Air Handler Units

ELECTRIC HEAT SECTIONS
507848-01 (111003162)
01/2020

Electric Heat Sections

The electric heat sections provide field-installed electric heat for air handler units.

The ECBA25 electric heat section is available with 4, 5, 7.5, 10, 12.5, 15 and 20 KW elements.

Refer to the applicable indoor unit product specifications bulletin (EHB) for heat section applications.

Heat Section Installation

⚠ 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!*

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.

***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 air handler access panel and keep the six screws to reattach access panel after installing heat elements.

3 - Disconnect any existing field supply wires and pull them out of the air handler. Disconnect and remove wiring harness and fastener (see figure 1). If not removed, these items will prevent the heat section’s base from resting properly in the compartment.

4 - Remove the no-heat seal plate in the air handler frame (see figure 1).

***NOTE** – If a small heater is installed in the unit, the installer will need to remove the no-heat plate and break it apart at the perforations and reinstall the two pieces so the smaller heater can be installed into the unit.*

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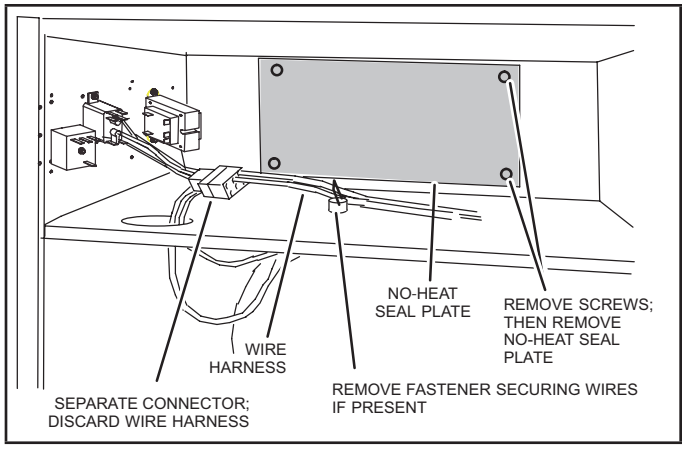


FIGURE 1. Prepare to Install Heat Element

5 - Slide the electric heat section into the air handler. Be careful that the heating elements do not rub against the sheet metal opening when they slide into the air handler. 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).

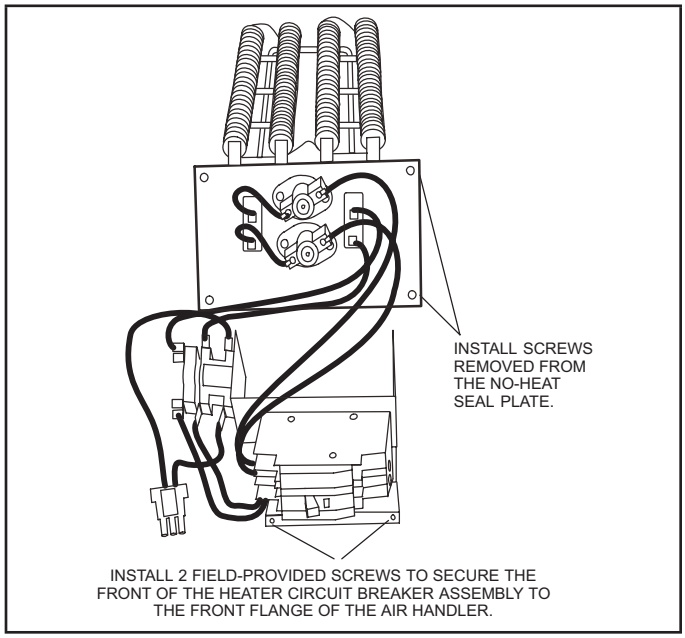


FIGURE 2. Installing the Heat Element Assembly

7 - The air handler's access panels have a cover plate that is fastened with a screw and will need to be positioned to fit either one breaker or two, but do not install the access panel until all electrical connections have been completed.

⚠ WARNING

Foil face insulation must be cut to eliminate the possibility for any frayed foil to come 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 air handler comes from the factory ready for horizontal right hand discharge installation. Always rotate the breaker so up is the ON position in all orientations. The circuit breaker orientation change is required by UL 1995, Article 26.18 (25 September 2005).

1 - Locate the one clip located on the right side (see arrow) of each breaker (see figure 3). The clip secures the circuit breaker to the mounting bracket. Pull the clip to release the breaker from the mounting bracket and rotate the breaker to the proper postition.

NOTE - There may be only one clip securing each circuit breaker.

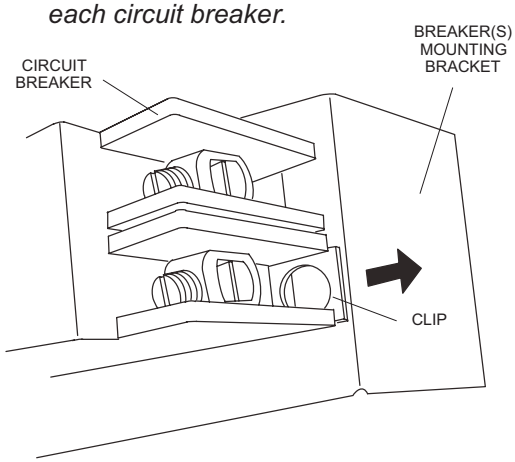


FIGURE 3. Circuit Breaker Clip

2 - Install the circuit breaker cover plate.

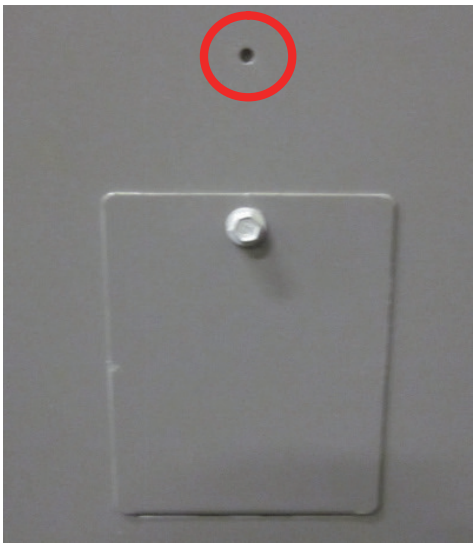


FIGURE 4. Circuit Breaker Cover Plate

***NOTE** – If electric heat kit has only one circuit breaker, the breaker cover plate needs to be moved up and installed over the opening without the circuit breaker. Fasten the breaker cover plate to the access panel using the circled hole in figure 4. If the electric heat kit has two circuit breakers, the breaker cover plate is not required.*

Electrical Connections

⚠ WARNING

Electric shock hazard! - Disconnect all power supplies before servicing.

Replace all parts and panels before operating.

Failure to do so can result in death or electrical shock.

⚠ IMPORTANT

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 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 13 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 high-voltage wiring.

1 - Make wiring connections as follows: **Heaters equipped with circuit breakers** — Connect field power supply wiring to circuit breaker(s). Figure 5 shows **L1**, **L2** and ground **(GND)** connections for a 2-breaker configuration.

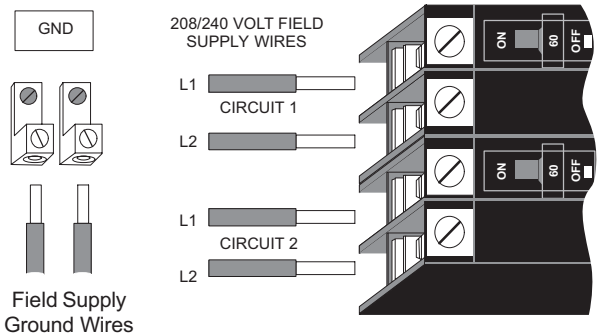


FIGURE 5. Field Power Supply Wiring

Heaters equipped with terminal blocks — Connect field power supply wiring to terminal block(s). Figure 6 shows **L1**, **L2** and ground **(GND)** connection for a terminal block configuration.

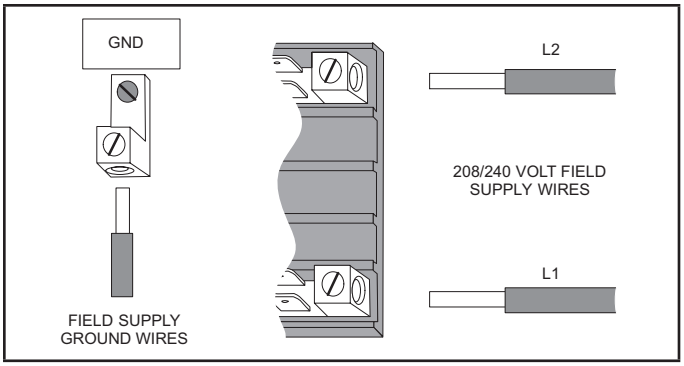


FIGURE 6. Terminal Block Connections

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 figures 9 and 10.

Circuit Breaker Cover Installation

1 - Remove any installed patch plates still present.

2 - Remove paper backing from the adhesive around the perimeter of the back side of the circuit breaker cover (figure 7).

3 - Position the breaker cover over the air handler circuit breaker opening.

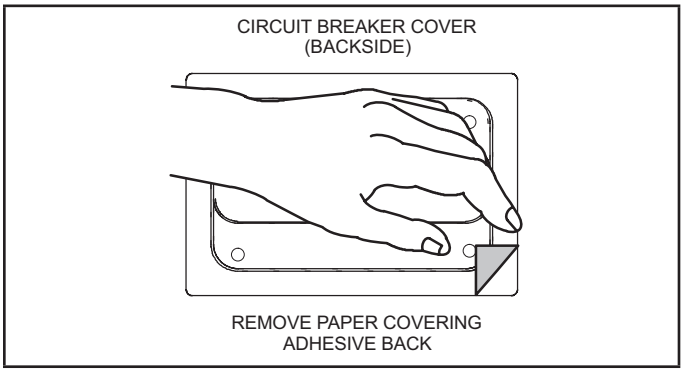


FIGURE 7. Remove Paper Cover

⚠ IMPORTANT

Confirm air tight seal between breaker cover and air handler access panel. Apply a thin silicone bead to the adhesive back seat to ensure air tight seal.

Failure to seal circuit breaker cover will allow warm moist air to be pulled into control panel which can create condensation to form on the circuit breaker and other electrical components within the control panel.

Air Handler Speed Connections

When using the electric heat sections with air handler units, you must adjust the air handler speed according to the size of electric heat and air handler unit.

- For air handlers with PSC motors, speed tap for electric heat in upflow and horizontal position is medium. Use high speed tap for downflow position.
- For air handlers with variable speed motors, see air handler instruction for additional information.

See applicable air handler installation instructions for air handler speed adjustment procedure and location.

Unit Start-Up

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

2 - Restore power to the unit.

3 - If using an electromechanical room thermostat, set the thermostat heat anticipator to 0.4 amps.

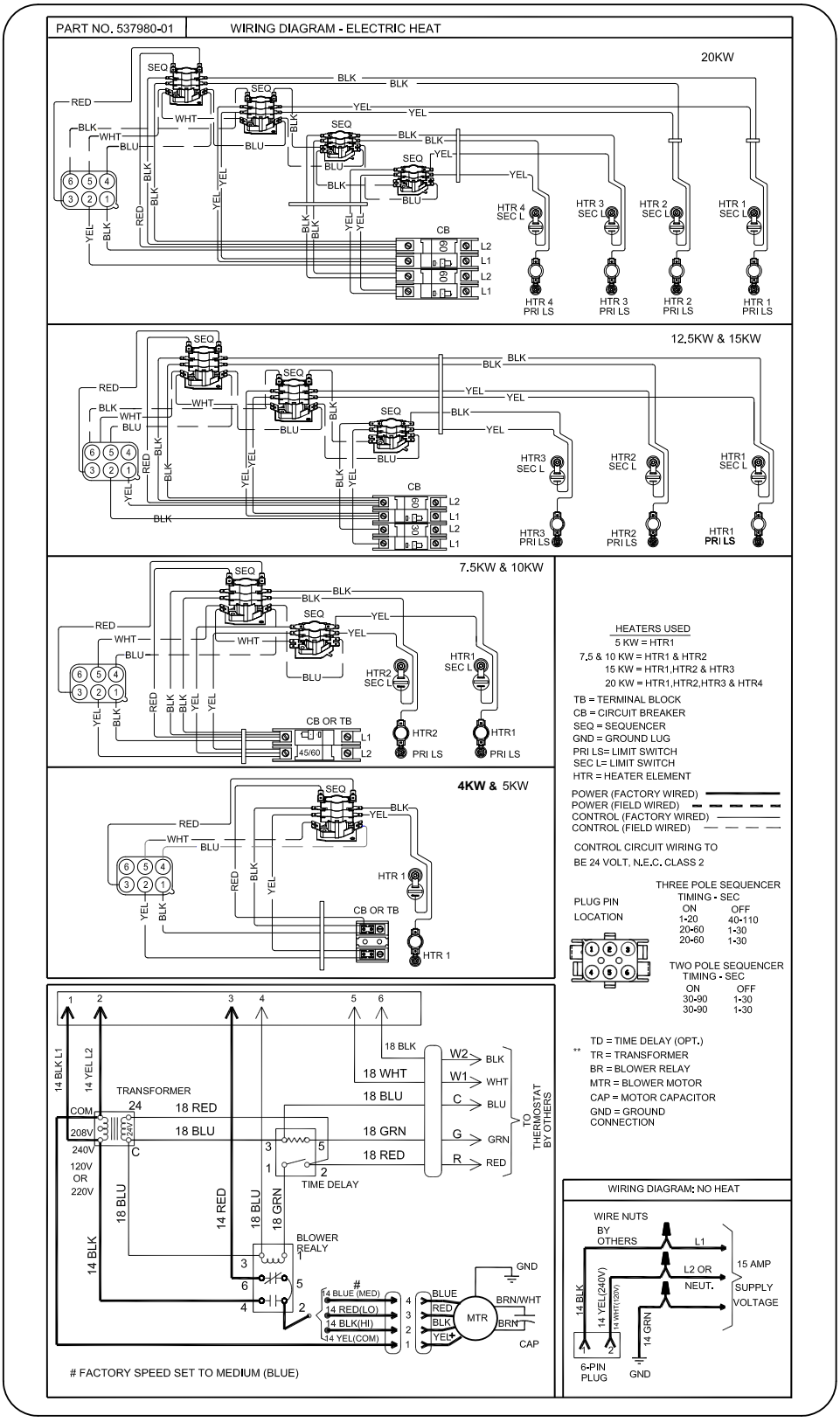
4 - Set the thermostat above room temperature.

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 air handler scroll, aligned with circuit breaker unit wiring diagram sticker.

Wiring Diagrams



LENNOX	ELECTRIC HEAT
PSC LABEL WIRING DIAGRAM	

FIGURE 8. Typical Wiring Diagram – CBA25UH Air Handler with Electric Heat – PSC

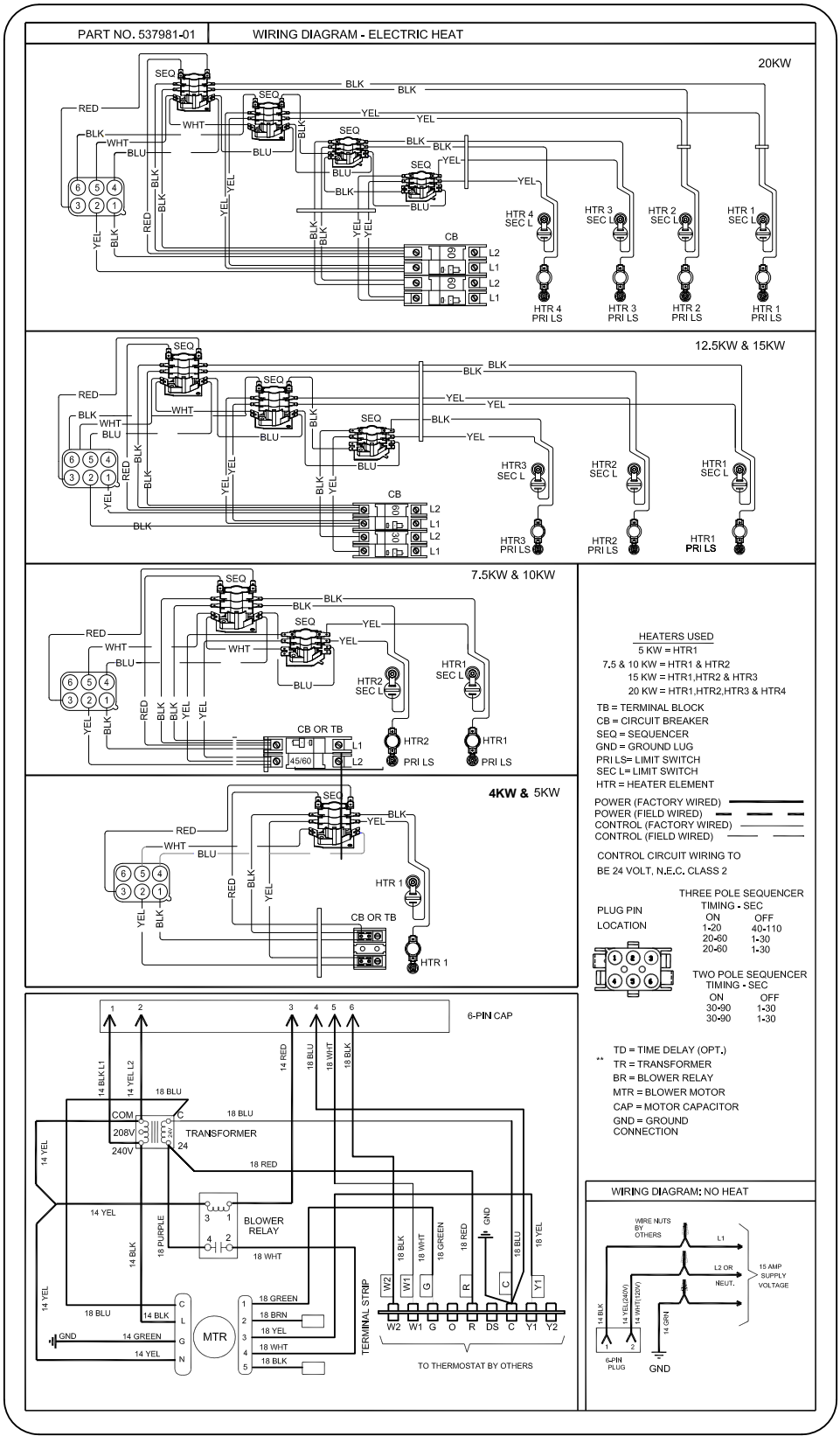
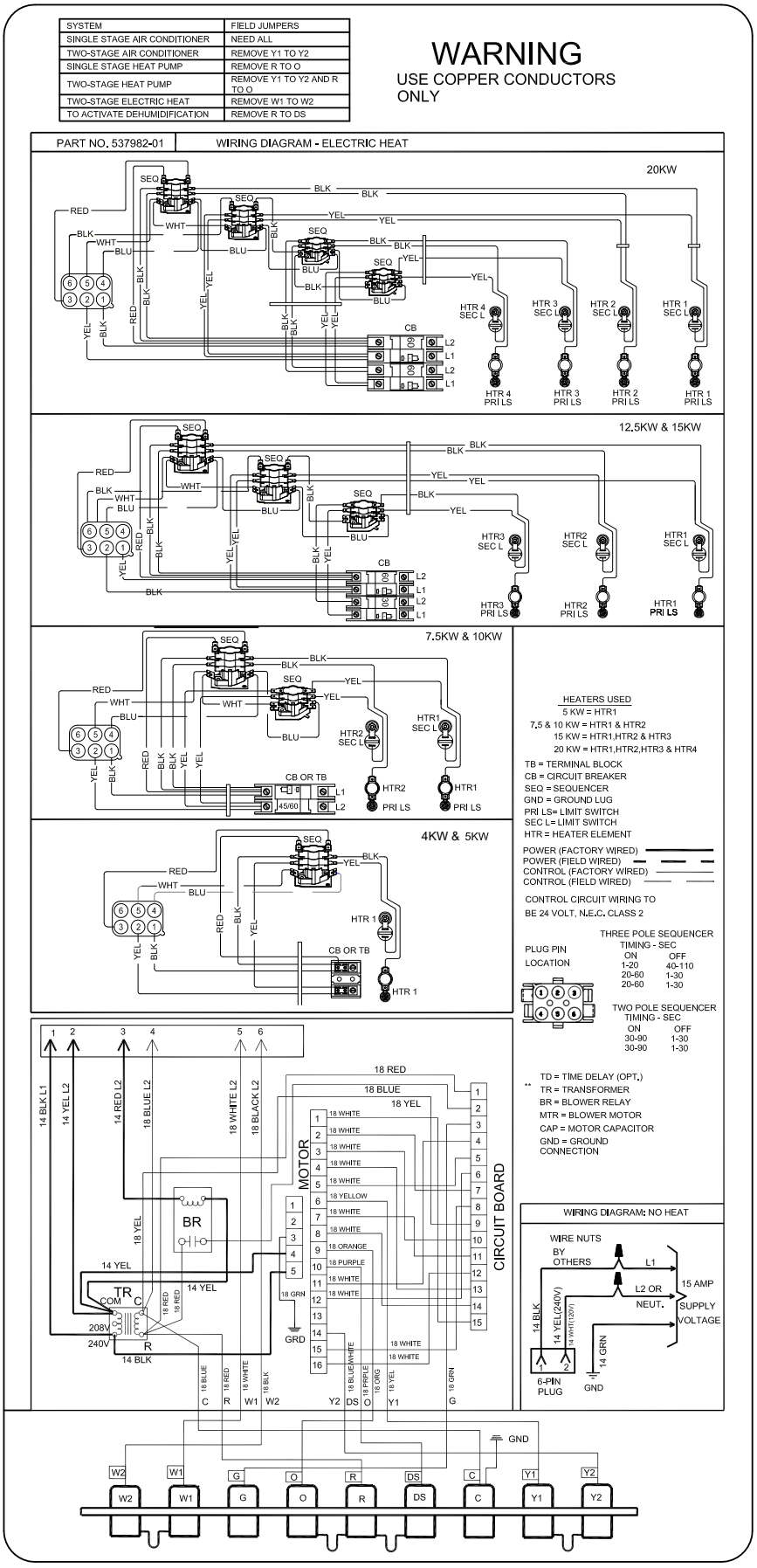


FIGURE 9. Typical Wiring Diagram – CBA25UH Air Handler with Electric Heat – CT



LENNOX ELECTRIC HEAT
VARIABLE SPEED LABEL WIRING DIAGRAM

FIGURE 10. Typical Wiring Diagram – CBA25UHV Air Handler with Electric Heat – (Variable-Speed Motor)