

**Electric
Heater
Model
WWX Series**

**INSTALLATION AND
OPERATING INSTRUCTIONS**
WARREN ELECTRIC HEATERS
FOR TEMPSTAR / INTERCITY PRODUCTS
DATE: 8-29-94

**Air
Handler
Model
BA3, BH3, BH5,
BCM, BUHA**

GENERAL

This Warren Technology electric heater is engineered, designed, and approved to be installed in the BA3, BH3, BH5, BCM, BUHA Series. Before proceeding, check the heater label for correct voltage and KW requirements.

Installation and servicing should be performed by trained service personnel. Before installing the heater, inspect thoroughly for shipping damage. Notify the shipper immediately if any damage is found. Check all porcelain insulators for breakage and inspect heater element wire to see that none have been deformed. Clean all dirt, dust, and moisture from equipment. Check for proper clearances of live parts, between phases, and to ground. Make sure that all required barriers are in place. Check conductors run in multiple to insure that they are properly phased. Use copper conductors only.

Refer to Manual J, published by Air Conditioning Contractors of America for estimating heating requirements.

WARNING

Disconnect ALL Electrical Power before installation. Failure to do so may result in Electrical Shock.

NOTE

Check the supply ductwork on the Indoor Blower Section prior to heater installation. Ductwork must be installed with one (1) minimum clearance to unprotected combustible material within three (3) feet of connection to indoor section. Cabinet may be installed with zero inches clearance to combustible material.

HEATERS WITH CIRCUIT BREAKERS

Circuit breakers, mounted on a subbase assembly can be extended to match the unit door panel knockout of the 2 1/2 to 5 ton models.

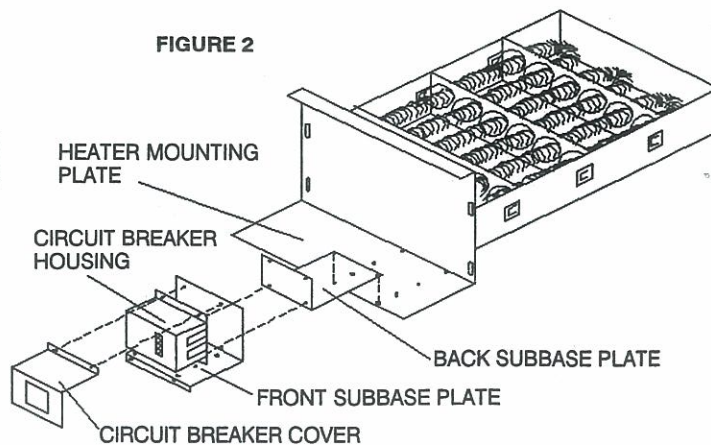
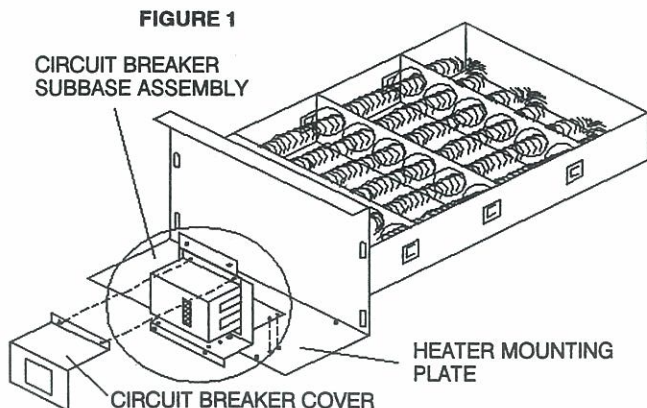
- Remove the 4 screws securing the circuit breaker subbase assembly to the heater mounting plate.

For 2 1/2 to 3 ton units see Figure 1.

- Reposition the subbase assembly as shown in Figure 1 and secure it with the 4 screws removed.

For BH5 Series 4 and 5 ton units see Figure 2.

- Remove the 4 screws securing the circuit breaker housing to the front and back subbase plates. Flip the back subbase plate around where the short side is now up against the front subbase plate. Secure the breaker housing to the front and back panels with 2 of the 4 screws previously removed.
- Reposition the revised subbase assembly as shown in figure 2 and secure it with 2 screws.
- Remove knockout in blower door panel to match circuit breaker(s) location.
- Install Circuit Breaker cover over circuit breaker(s) using existing screws in breaker assembly, after wiring is complete.



HEATER INSTALLATION

This heater can only be installed in the front side of the air handler cabinet.

Install heater as follows:

1. Refer to the base unit installation instructions as required.
2. Remove access plate of air handler.
3. Remove internal heater cover plate. Save sheet metal screws.
4. Remove the conduit knockout in blower cabinet for electrical connections. Install the appropriate size conduit connector.
5. Remove shipping screw(s) inside control section.
6. Install heater assembly into the air handler access opening. Secure with sheet metal screws from cover plate.
7. Connect heater line voltage wires (wires have spade terminals) as follows:
 - Black wires to #1 on blower terminal board.
 - Yellow wires to #2 on blower terminal board.
 - Brown wire to #5 on blower relay.

CAUTION

15-30KW heaters have a Black LOW voltage wire; 30KW heaters also have a Brown LOW voltage wire. These LOW voltage wires should not have spade terminals on them. **DO NOT CONNECT LOW VOLTAGE WIRES WITH THE LINE VOLTAGE WIRES.**

8. Remove the strain relief securing low voltage blower wires from the top of the blower cabinet. Add heater low voltage wires to these low voltage blower wires and reinstall the strain relief.
9. Complete line voltage electrical connections at circuit breakers or terminal board.
10. Replace heater cover and blower door.

ELECTRICAL CONNECTIONS

CAUTION: Before proceeding, verify that all wiring is correct per factory approved schematic. Notify factory immediately of any discrepancies.

All electrical connections, wire sizes and conduit sizes must comply with the requirements of State and Local codes and the National Electrical Code.

Refer to air handler unit instructions for recommended wiring procedure.

Heaters with factory installed fuses or circuit breakers may be installed on a branch circuit protected by either a fuse or a circuit breaker. For all other heaters, the branch circuit must be protected by a fuse or a circuit breaker supplied by others.

Make all wire spliced connections inside air handler unit. Separate all wires from incoming power leads.

Check that all electrical terminal connections, clamps, screws, etc. are tight before start-up.

HEATERS WITH CIRCUIT BREAKERS ONLY

Heaters with circuit breakers that do not meet local code requirements for a unit disconnect switch must include a separate disconnect switch(es) located within sight of the unit.

All power within the cabinet will be "off" when circuit breakers are in the "off" position (except for power supply connections to the circuit breaker).

GROUNDING

Permanently ground heaters in accordance with State and Local Codes and the National Electrical Code. For multiple circuit models, connect a ground for each circuit.

OVERCURRENT PROTECTION

Recommended sizes for fuses or circuit breakers are listed in the ELECTRICAL DATA TABLE in the column labeled "Maximum Overcurrent Protection".

STAGING

Sequencers control the staging for the heater elements in 10 KW increments (or less, for odd multiples of 5 KW).

The wires that control the electric heat stages are identified on the wiring diagrams. Some electronic indoor thermostats can be used to stage the heater for multiple stages of electric heat. When using an electronic indoor thermostat, refer to the wiring diagram to select wires to connect for proper staging sequence.

NOTE

When using an indoor thermostat for staging, make sure that staging occurs by breaking the 24V "common" leg and not the "hot" leg.