Electric Heater Model WBC Series 208/240-1-60 208/240-3-60 480-3-60	INSTALLATION INSTRUCTIONS WARREN TECHNOLOGY Date: 12-09-11	Air Handler Models Lennox, Armstrong, Ducane, Airease, Concord. CBX25UH, BCS3, BCE3 Size 018-060

GENERAL

This Warren Technology electric heater is engineered, designed, and listed to be installed in the Lennox, Armstrong, Ducane, Airease, and Concord air handler(s) referenced above. Before proceeding, check the heater label for correct voltage and KW requirements. Before installing the heater inspect thoroughly for shipping damage. Notify carrier 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 and make sure that all required barriers are in place.** Check conductors run in multiple to insure that they are properly phased. **Verify that all elements are properly secured in their ceramic holders. The information contained in this document is intended for use by a qualified technician, familiar with the safety procedures and equipped with required tools and test instruments.** Failure to follow instructions contained in this manual may result in malfunction, property damage, personal injury and/or death.

WARNING ⚠

Before performing service or maintenance operations on system, turn off all main power switches. There may be more than one disconnect. Turn off accessory heater power switch if applicable. Electrical shock can cause personal injury. ***TAG DISCONNECT SWITCH (ES) WITH A SUITABLE WARNING LABEL.***

HEATER INSTALLATION

1. Refer to base unit installation instructions as required. Affix Warren installer label to equipment access door.

2. Installation of heater should be done prior to unit installation.

3. Remove blower access panel(s) of the air handler.

4. If the heater assembly incorporates circuit breakers;
   a. Some units may require for the breakers to be rotated in order to comply with NEC. Check unit installation instructions for configuration details.
   b. Remove necessary circuit breaker knockouts from blower access panel.
   c. Cut out any metal initiations which are in the way of the breaker opening.
   d. Cut the insulation behind the circuit breaker plate.
   e. Clean area around the circuit breaker hole (on blower access panel) and apply the circuit breaker cover (see Fig. 5).

5. Remove air handler heater cavity cover plate and discard. Save screws for Heater installation.

6. Insert the heater assembly into the heater compartment cavity of the air handler. These heater models are provided with a sliding wrapper to assist in the insertion process and to prevent damage to heating elements (see fig. 1). The left side heater should slip behind the offset (see fig. 2). Heater with Airflow position is critical for the proper operation of the heater.

7. Secure the heater to the air handler using (6) screws. Use (4) screws on the heater compartment and (2) screws provided to mount the terminal block or breaker bracket (see fig. 4).

8. Connect the heater assembly's 6-pin socket to its mating (6) pin connector on the air handler (see fig. 3)).

FIG. 1 - Heater assembly insertion.

FIG. 2 - Installed heater plate.

FIG. 3 – Connected (6) pin socket.

9. Remove the appropriate knockouts in the air handler for making electrical connections to the heater.

10. Refer to schematic provided for wiring information and electrical connections. Make all wiring connections per applicable field wiring diagrams.

ELECTRICAL CONNECTIONS

All electrical connections should be made inside the air handler and comply with the National Electrical Code (NEC), State and Local Codes. Main power supply, minimum wire sizes, circuits, fusing, etc. is shown on the corresponding schematic wiring diagram and/or installer label. Be sure all electrical terminal connections are tight and secure. Replace access panel(s) of the air handler, removed in step 3.

Air Handler Speed Connections

Adjust air handler speed according to the size of the electric heat and air handler size. Air Handler speed tap for Upflow and Horizontal position is MEDIUM. For Down Flow set to HIGH speed. Refer to air handler base instructions for speed adjustments.

FIG. 4 - Bracket installation.

BREAKER COVER

Installation of breaker cover to blower access door:

1) Clean the area around the breaker knock out on the blower access door. The surface must be clean, dry, and free of grease and oil.
2) Peel off the protective film on the back of the breaker cover and press breaker cover firmly onto the access door. **Note: Verify, that the breaker cover completely seals against the Air Handler Unit door (see fig.5).**

START-UP and CHECKOUT

1. Refer to base unit installation instructions as required.
2. Check that all circuit breakers short circuit interrupting ratings are adequate.
3. **Check for loose terminal connections.**
4. Verify that the 6 pin socket plug is seated correctly in to mating four-pin plug on the control board.
5. Turn on unit and power heater.
6. **Check that airflow across heater is at or above the minimum recommended.**

CAUTION: When commissioning any AHU with electric heat, **ALWAYS** check to see if the heater is cycling on its automatic reset high temperature limit when the system is producing the highest temperature leaving the AHU coil (Heat pump on, etc.). **If** the heater is cycling, increase the air flow by increasing the fan speed or lowering the ductwork static pressure until cycling stops.

7. Adjust if required.
8. Set thermostat to call for heat.
9. Check operation of heater.

FIG. 5 - Installed breaker cover

CAUTION: Verify that all wiring is correct per the factory approved schematic before proceeding. Notify factory immediately of any discrepancies.

Any modifications or repairs to this equipment without written permission from the factory will be done at the installers own risk and expense.

Circuit Breakers - Malfunction will interrupt power to unit. *Check for cause of failure, correct, and reset circuit breaker.*

Limit Switches - Malfunction prevents heating element(s) from being energized. *Replace switch if malfunction occurs.*

Contactor - Malfunction will cause heater to not come on or not shut off. *Replace faulty contactor. Do not attempt to replace coil or dress contacts.*

ELECTRIC HEATER PACKAGE CONTENTS

1. Heater assembly
2. Installation instructions
3. Installer label
4. Schematic
5. (4) Screws
6. Breaker cover (breaker models only)