Electric Heater Model WRX Series 208/240-60-1 208/240-60-3 480-60-3	INSTALLATION INSTRUCTIONS WARREN TECHNOLOGY Date: 08-18-2017	Air Handler Models RHEEM/RUUD (U,R)HLA24-60 / (U,R)HSA18-48 (U,R)HLL24-60 / (U,R)HSL18-48 RHKA(L)18-60 / RHPL(LP) 24-48 RHML,RHPN,RHMV 24-60 / HFE 18-60 RH1T,RH2T,RH1P,RH1V,RH2V 18-60 THERMAL ZONE TZHLA(L),TZHSA(L) 24-60 WEATHER KING WH1T, WH1P 18-60

GENERAL

This Warren Technology electric heater is engineered, designed, and listed to be installed in the Rheem / Ruud/ Thermal Zone, Weather King 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 (see details on page 2). Check unit installation instructions for configuration details.
   b. Remove necessary circuit breaker knockouts from blower access panel. Cut out any metal initiations which are in the way of the breaker opening.
   c. Cut the insulation behind the circuit breaker plate. For 2 and 3 circuit breakers, additional insulation may need to be removed.
   d. Clean area around the circuit breaker hole (on blower access panel) and apply the circuit breaker cover.

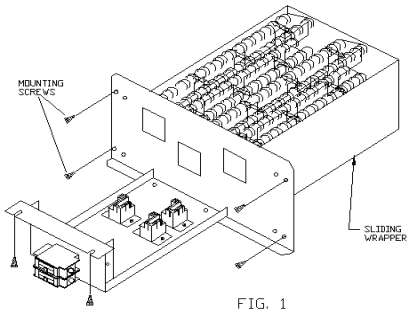

FIG. 1

5. Remove air handler heater cavity cover plate and discard. Save screws.
6. Insert the heater assembly into the heater compartment cavity of the air handler. Some heater models are provided with a sliding wrapper to assist in the insertions process and to prevent damage to heating elements.
7. Secure the heater to the air handler using six screws. Use 4 screws on the heater compartment and 2 on the front heater tab flange. Reference Figure 1.
8. Connect the heater assembly's 4-pin socket to its corresponding connector on the unit.
9. Remove the appropriate knockouts in the air handler for making electrical connections to the heater.
10. Connect the wire leads from the heater assembly to the Power Supply terminal block.
11. Refer to schematic provided for wiring information and electrical connections. Make all wiring connections per applicable field wiring diagrams.

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.

TO TURN BREAKERS

Reference base unit installation instructions for additional details regarding position orientation. In order to comply with NEC, circuit breakers operated in the vertical position must be oriented such that the "on" position points upwards. These modifications and installation of the electric heater assembly should be done prior to unit installation.

A. Lift breaker's plastic tab with hole away from the breaker, until breaker releases from bracket.
B. Rotate circuit breaker(s) 180 degrees.
C. Verify all connections are secure.
D. Confirm that circuit breaker handle(s) will be in the up position when installed.
E. Proceed with the standard installation procedure referenced above.

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 align the bottom of the cover plastic boot with the lower breaker knockout section on the door (see fig. 2).
3) Press breaker cover firmly onto the access door. **Note: Verify, that the breaker cover completely seals against the Air Handler Unit door (see fig.3).**

FIG. 3

LINE VOLTAGE CONNECTIONS

Reference base unit installation instructions for power entry location. To minimize air leakage, seal field wiring entry point.

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 4 pin socket plug is seated correctly in to matting four-pin plug.
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.

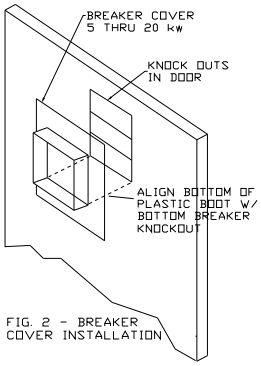

FIG. 2 - BREAKER COVER INSTALLATION

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.*

FAN SPEED vs MAX. KW			
		* FAN SPEED	
AHU SIZE	MAX KW	COOLING ONLY	HEAT PUMP
018 / 17	10	LOW	HIGH
024 / 17	10	LOW	HIGH
030 / 17	15	LOW	HIGH
036 / 17	15	LOW	HIGH
036 / 21	15	LOW	HIGH
042 / 21	20	LOW	HIGH
048 / 21	20	LOW	HIGH
048 / 24	20	LOW	HIGH
060 / 24	25	LOW	HIGH

* IF APPLICATION EXCEEDS 0.5" OF STATIC, FAN MUST BE SET TO HIGH SPEED ONLY. CONSULT AIR HANDLER INSTALLATION INSTRUCTIONS TO ADJUST FAN SPEEDS.

ELECTRIC HEATER PACKAGE CONTENTS

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