

INSTALLATION & OPERATING INSTRUCTIONS for HKR & HKRF SERIES of ELECTRIC HEAT KITS

WARNINGS

- ◆ ENSURE THAT ALL POWER IS DISCONNECTED PRIOR TO ATTEMPTING INSTALLATION OF THIS HEATER KIT. BE MINDFUL THAT THERE MAY BE MORE THAN ONE DISCONNECT SERVICING THIS EQUIPMENT.
- ◆ WHEN INSTALLED IN A GARAGE, THE ELEMENTS MUST BE AT LEAST 18" ABOVE THE FLOOR.
- ◆ FAILURE TO FOLLOW THESE INSTRUCTIONS CAN CAUSE FIRE, EXPLOSION, ELECTRICAL SHOCK, PROPERTY DAMAGE, PERSONAL INJURY, OR DEATH.
- ◆ IF THIS APPLIANCE IS INSTALLED IN AN ENCLOSED AREA SUCH AS A GARAGE OR UTILITY ROOM WITH ANY CARBON MONOXIDE (CO) PRODUCING APPLIANCE (i.e. AUTOMOBILE, FURNACE, WATER-HEATER ETC.), ENSURE THE AREA IS PROPERLY VENTILATED.
- ◆ A MEANS OF STRAIN RELIEF AND CONDUCTOR PROTECTION MUST BE PROVIDED AT THE SUPPLY WIRE ENTRANCE.
- ◆ THIS APPLIANCE MUST BE INSTALLED FOLLOWING THE ANSI/NFPA70 (NATIONAL ELECTRICAL CODE) AND OTHER APPLICABLE CODES. IF IN DOUBT, CONTACT THE LOCAL AUTHORITY HAVING JURISDICTION.

USE COPPER CONDUCTORS ONLY

Some localities require the installer be licensed. Contact the local authority if in doubt.

Refer to the series and rating plate for proper application.



Attention Installing Personnel


As a professional installer, you have an obligation to know the product better than the customer. This includes all safety precautions and related items.


Prior to actual installation, thoroughly familiarize yourself with this Instruction Manual. Pay special attention to all safety warnings. Often during installation or repair, it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is **your** responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific good safety practices...follow them.

The precautions listed in this Installation Manual are intended as supplemental to existing practices. However, if there is a direct conflict between existing practices and the content of this manual, the precautions listed here take precedence.

**DANGER**
PELIGRO


CARBON MONOXIDE POISONING HAZARD

Special Warning for Installation of Furnaces or Air Handling Units in Enclosed Areas such as Garages, Utility Rooms or Parking Areas

Carbon monoxide producing devices (such as an automobile, space heater, gas water heater, etc.) should not be operated in enclosed areas such as unventilated garages, utility rooms or parking areas because of the danger of carbon monoxide (CO) poisoning resulting from the exhaust emissions. If a furnace or air handler is installed in an enclosed area such as a garage, utility room or parking area and a carbon monoxide producing device is operated therein, there must be adequate, direct outside ventilation.

This ventilation is necessary to avoid the danger of CO poisoning which can occur if a carbon monoxide producing device continues to operate in the enclosed area. Carbon monoxide emissions can be (re)circulated throughout the structure if the furnace or air handler is operating in any mode.

CO can cause serious illness including permanent brain damage or death.

B10259-216

CAUTION

TO AVOID POSSIBLE PERSONAL INJURY, USE EXTREME CAUTION IF USING POWER TOOLS TO REMOVE THE SMALL BREAKER MOUNTING BRACKETS. THE BRACKETS MAY QUICKLY ROTATE AND CAUSE INJURY.

The supply power must be in the off position. There may be more than one means of disconnect servicing this product.

Standard Air Handler Installation

1. Check for physical damage. If any is observed, **DO NOT** install this kit.
2. Remove the upper access panel from the air handler.
3. Remove the block-off plate from the air handler.
4. Slide the heater kit into the slot following the direction of airflow decal attached to the heater faceplate and secure using the screws previously removed.

Items 5 through 8 & 11 pertain to kits that contain circuit breakers.

5. Remove the circuit breaker mounting bracket, leaving the circuit breakers connected.
6. When installing in an AEPT, AR, ARPF, ARPT, or ARUF model, mount the circuit breaker mounting bracket in the upper right. Screws should be inserted through the blower deck from the blower side. The plastic mounting pin should be inserted in the hole provided on the upper right side of the jacket. When installing in a MBE or MBR model, mount the circuit breaker mounting bracket in the upper right. Screws should be inserted in the holes provided on the upper right side of the jacket.
7. The breaker must be inserted in the correct orientation (i.e. the "off" position is down). When installed in the horizontal position, the direction does not matter.

In some cases, it will be easier to wire the breakers before reinserting them into the mounting bracket.

8. Insert power leads into the lugs provided on the circuit breaker and tighten.

THE POWER LEADS MUST BE ROUTED THROUGH A MEANS OF STRAIN RELIEF AS THEY ENTER THE CABINET.

9. Remove the multi-pin connector with the jumper wire and discard. Insert the one contained in the kit. It can be inserted in one position only.
10. Insert the ground wire into the lug(s) provided for that purpose.
11. Break out the appropriate area of the plastic circuit breaker cover on the access panel on the air handler. Rotate if necessary.
12. Replace panel and check operation.

WARNING

HIGH VOLTAGE
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.



- Apply the wiring diagram over the one found on the air handlers. On the "AEPT & MBE" Airhandler wiring diagram which is included, mark an "X" on the wiring diagram according to the number of Heater Element rows installed.

3 Phase Unit Installation

- Follow steps 1 through 4 from above.
- Using the two 1" screws provided, mount the terminal block on the right hand side of the heater panel on the airhandler (mounting holes are provided).
- Wire the terminal block leads to the transformer as per the wiring diagram.
- Insert 1 phase power leads into lugs provided on the terminal block and tighten
- Insert 3 phase power leads into lugs provided on the contactor and tighten.


THE POWER LEADS MUST BE ROUTED THROUGH A MEANS OF STRAIN RELIEF AS THEY ENTER THE CABINET.

- Follow steps 9, 10, 12, and 13 from above.


**GPC/GPH "H" Series
Dedicated Horizontal Package Equipment Installation**

IMPORTANT NOTE: A separate power supply is required for the HKR heater kit.

Check for physical damage. If any is observed, **DO NOT** install this kit.



WARNING



HIGH VOLTAGE
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

- Disconnect all power to the unit, both indoor and outdoor.
- Remove the control box cover and blower panel.
- Remove cover to the electric heat kit box.
- Break out appropriate knockout for electric heat kit based on KW of element (# of elements).
- Slide the heater kit into the slot following the direction of airflow decal for package unit operation attached to the heater faceplate and secure with screws provided.

Items 6 through 8 & 12 pertain to kits that contain circuit breakers.

- Remove the circuit breaker mounting bracket from the heater element, leaving the circuit breakers connected.

- When installing in the GPC/GPH "H" Series Package Units, attach the circuit breaker mounting bracket inside the top left corner of the electric heat kit box. See Figure A. **NOTE:** The circuit breaker mounting bracket is provided with two (2) sheet metal screws. Remove the screws prior to installation and re-attach as shown in Figure B.

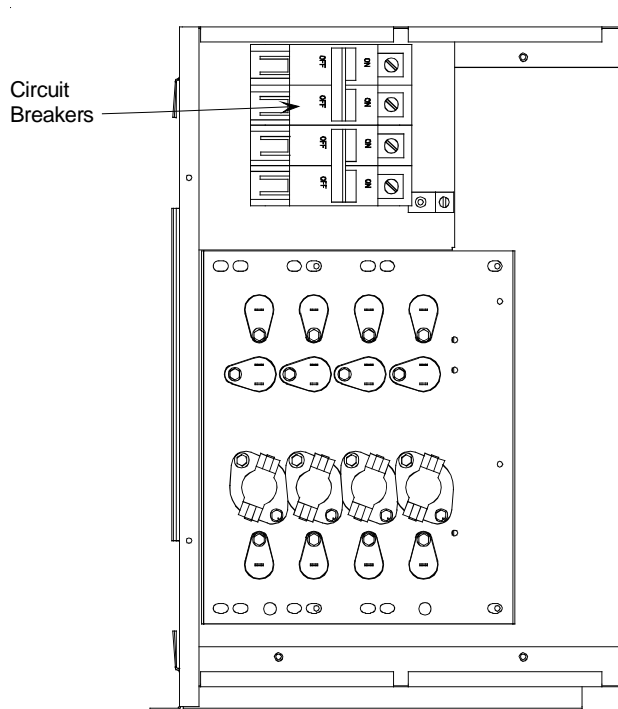


Figure A

- The breaker must be mounted in the correct orientation (i.e. the "off" position is left). In some cases, it will be easier to wire the breakers before inserting them into the electric heat kit box. See Figure A.

- Insert the power leads into the lugs provided on the circuit breaker or terminal block and tighten.

IMPORTANT NOTE: The power leads must be routed through the outer cabinet with a watertight electrical connector, sized appropriately for the electrical power supply. (See NEC, National Electric Code.)

- Remove the protection plug side (male plug) and discard. Insert the one provided in the electric heat kit. It can be inserted in one position only.
- Insert the ground wire into the lug(s) provided for that purpose.
- Break out the appropriate area of the electric heat kit cover, previously removed for the circuit breaker provided in the heater kit. See Step 3.
- Replace electric heat kit cover. **NOTE:** To replace the electric heat kit cover, slightly tip the cover and insert only the notches under the flanges on the top and bottom of the box. Secure with screws. See Figure B.

Ensure breaker is in the ON position. Replace blower panel cover and check operation through the room thermostat.

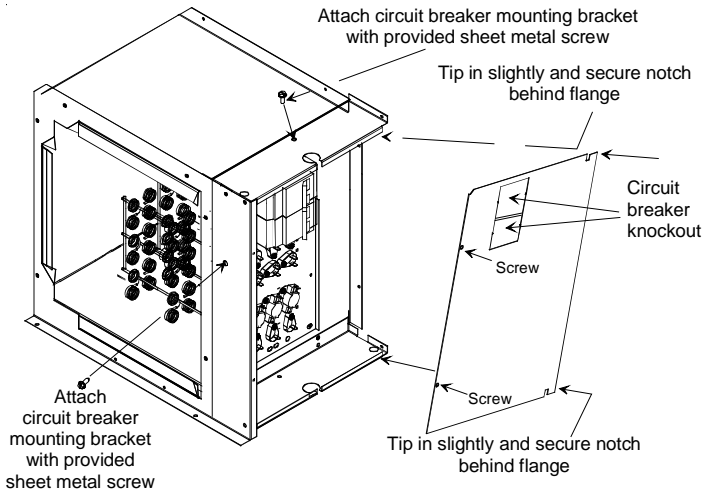


Figure B



Figure 1

14. RESTORE POWER.
15. Apply the wiring diagram provided for package unit models adjacent to the wiring diagram supplied on the inside of the unit control box cover.
16. When proper operation is ensured, replace the control box cover and resume normal operation.

5. Remove the two screws holding the rear mounting plate. Note the orientation of the heater box covers for reassembly.
6. *For three phase HKR kits only*, remove the contactor from the HKR mounting bracket, leaving the wires connected. Attach contactor to rear mounting plate as shown in Figure 2.

**GPH/GPC "M" Series
Multi-Position Package Equipment Installations**

IMPORTANT NOTE: A separate power supply is required for the HKR heater kit.

Check for physical damage. If any is observed, **DO NOT** install this kit.

| | |
|--|--|
| WARNING | |
| <p>HIGH VOLTAGE DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.</p> | |



Figure 2

1. Disconnect all power to the unit, both indoor and outdoor.
2. Remove control box door.
3. Remove blower door.
4. Locate heater box. Remove the two screws holding the heater box cover in place. See Figure 1.

7. Install heater element(s) with the 4 pointed screws included in the unit literature bag. Note the air flow direction label located on the heater element base shown in Figure 3. Orientate the heating element base to match airflow direction on package unit blower assembly.

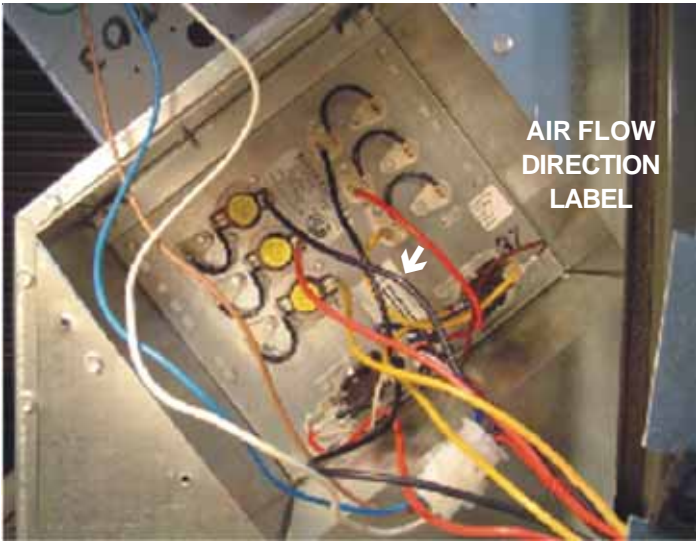


Figure 3

8. **For single phase HKR kits only**, mount the breaker (or terminal block) to the rear mounting plate using the 4 blunt tip screws included in the unit literature bag. The screw heads should all be located on the outside of the mounting plate as shown in Figure 4.

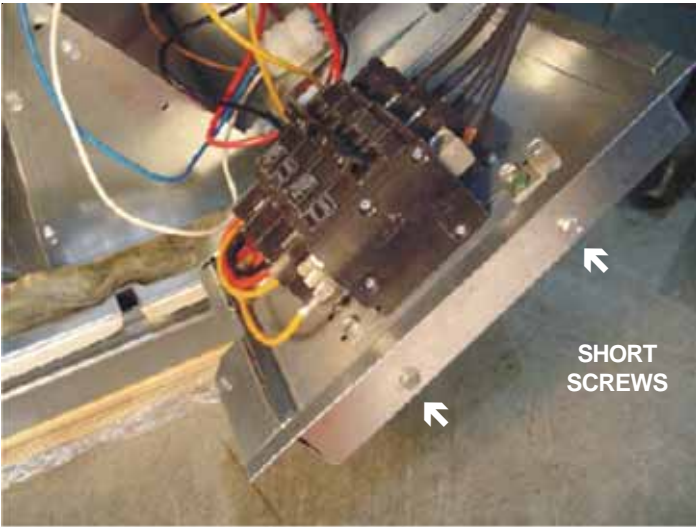


Figure 4

9. Locate the 9-pin harness in the unit and remove the male plug.
10. Connect the 9-pin plug from the unit to the 9-pin plug in the heater kit.
11. Feed 9-pin harness wires through the rubber grommet, and feed HKR wires through the plastic bushing in the rear mounting plate. See Figure 5.

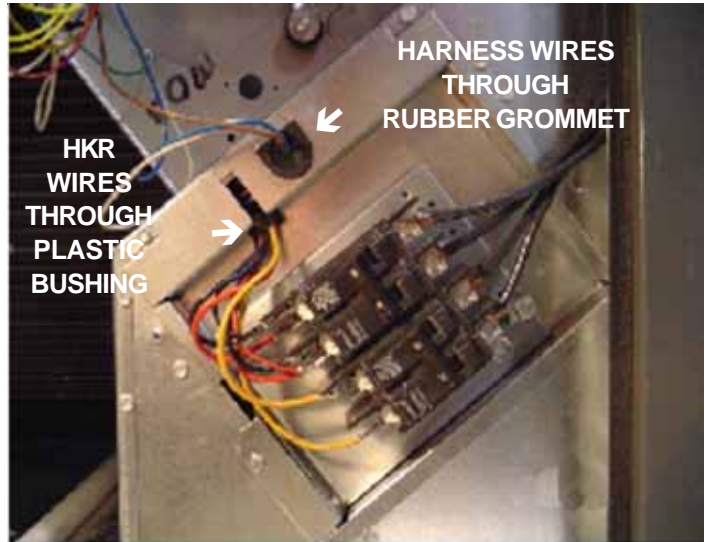


Figure 5

12. Install rear mounting plate with the 2 screws removed in step 6.
13. Connect the line voltage leads to the breaker(s), terminal block, or contactor as applicable.
14. If heat kit includes breakers, remove rectangular knockout(s) from outside cover as required for access.
15. Install the cover with the 2 screws removed in step 4, routing the line voltage wires through the rubber grommet as shown in Figure 6.

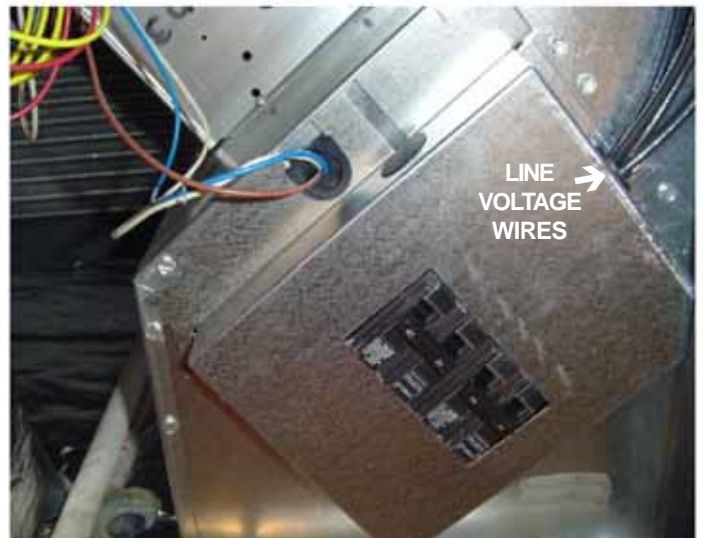


Figure 6

16. Install control box door and blower door.
17. Reconnect power and test.

This page intentionally left blank.

This page intentionally left blank.

Quality Makes the Difference!

“All of our systems are designed and manufactured with the same high quality standards regardless of size or efficiency. We have designed these units to significantly reduce the most frequent causes of product failure. They are simple to service and forgiving to operate. We use quality materials and components. Finally, every unit is run tested before it leaves the factory. That’s why we know. . . **There’s No Better Quality.**”

Visit our web sites at www.goodmanmfg.com or www.amana-hac.com for information on:

- Products
- Warranties
- Customer Services
- Parts
- Contractor Programs and Training
- Financing Options