

Accessory Emergency Heat Package 50RQ900291 Single-Package Heat Pumps

INSTALLATION

General —The accessory emergency heat package may be installed on any 50RQ,PQ unit. The package consists of a control box assembly containing the following components:

- 1 Emergency Heat Terminal Block HY84FC117
- 1 Heater Relay (HR-1) HN61KK324
- 1 Heater Relay (HR-2) HN61KL016
- 1 Outdoor Air Thermostat (OAT.) HH22QA040

One or 2 additional outdoor thermostats may be installed if required. Mount additional thermostat(s) in the control box as follows:

1. Remove control box cover.
2. Remove thermostat barrier (See Fig. 1).

3. Attach additional thermostat(s) to barrier using field supplied 8-32 machine screws. Using field supplied wire, connect the additional thermostat(s) to control box components as shown in Fig. 2.
4. Replace barrier in control box.
5. Using screws taped to control box mounting plate, secure control box to compressor access panel corner post (see Fig. 1 and 3).
6. Using field supplied wire, connect the control box to the conditioned space and base unit. For 50RQ,PQ006 units, wire in accordance with Fig. 4, for 50RQ,PQ008/010 units, wire in accordance with Fig. 5. Enclose wiring in field-supplied conduit as required. Conduit to be "Sealtite" or equal. There are 2 conduit connection holes in bottom of control box.

Use 1 hole for wiring entering the control box from the conditioned space and the other for all wiring leaving the control box to the base unit. (Note: A portion of the wiring is routed in 1 hole and directly out the other and is not connected to the control box terminal block). See Fig. 1 and Fig. 3.

Outdoor Thermostat(s) — A 3-ft capillary tube connects the thermostat bulb to the thermostat body. If space is available inside of control box and control box is *not* in direct sunlight, capillary tubes may be left in box. For best performance, locate capillary tube(s) outside of box. Pull 1- to 2-in. of capillary tubing thru the rubber grommet in bottom of control box, neatly bend tubing and locate under control box. Bulb(s) must not be in direct sunlight. Bulb(s) must be in a shaded location to sense true outdoor temperature. Shield bulb(s) with suitable field supplied material if required. An outdoor thermostat is required for each stage of heat. This instruction covers 2 stages of heat for the 50RQ,PQ units. Three stages of heat are available for 39 Kw heat only. If 3 stages of heat are required, contact the Carrier representative for appropriate installation instructions.

Refer to building heat load calculations for correct thermostat setting

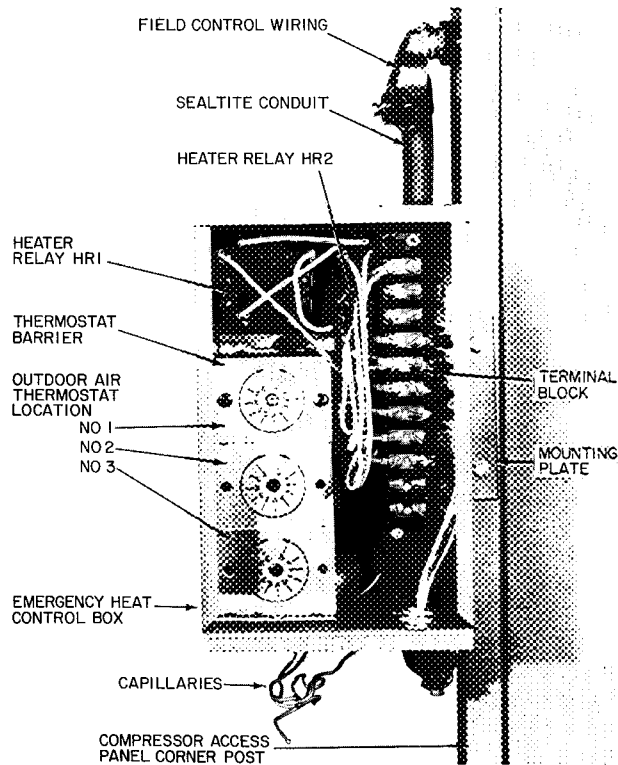
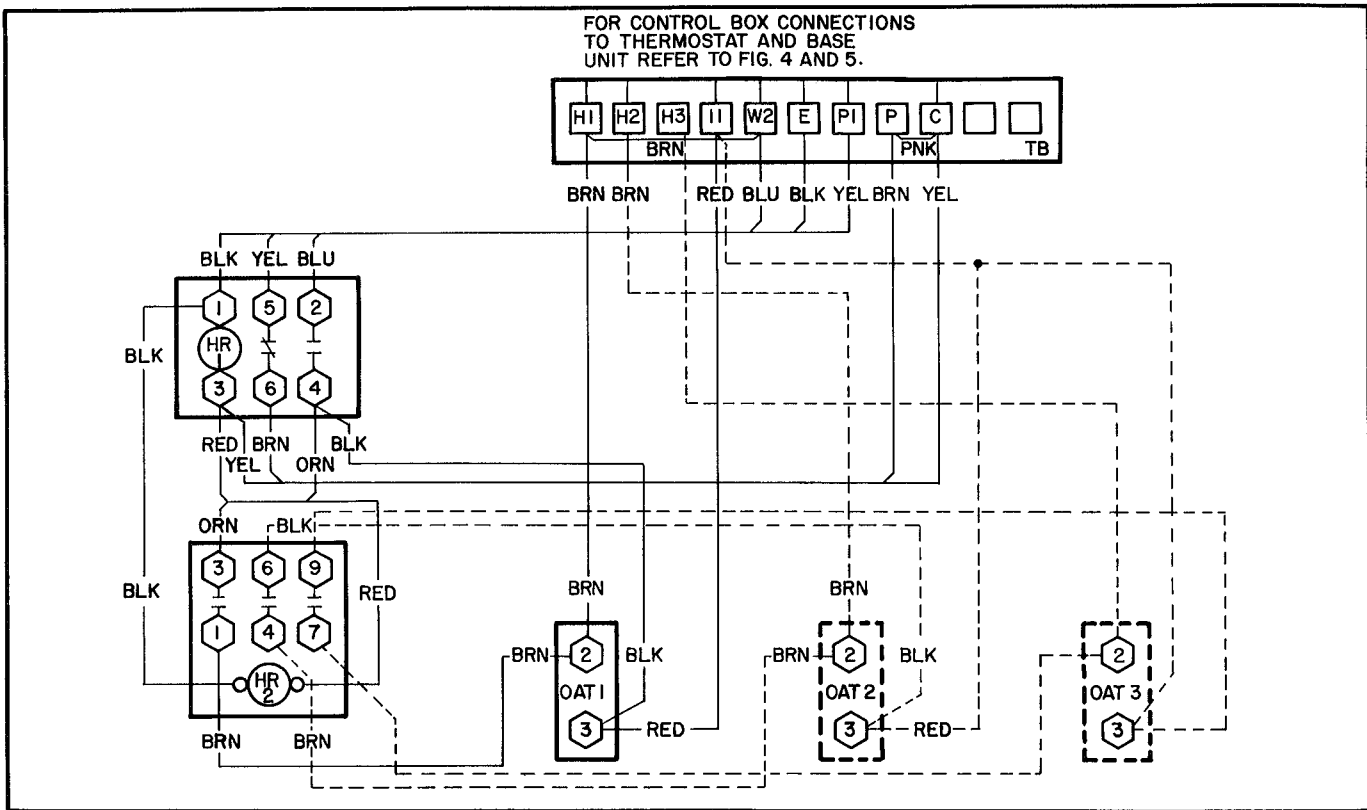


Fig. 1 — Accessory Emergency Heat Control Box Installation

EMERGENCY HEAT CONTROL BOX



- HR — Heater Relay
- OAT — Outdoor Air Thermostat
- TB — Terminal Block
- Factory Wiring
- - - Field Wiring
- Terminal Block Connections (Marked)
- ⬡ Component Connections (Marked)
- Component Connections (Unmarked)
- ⌋ Field Splice

Fig. 2 — Schematic Diagram, Accessory Emergency Heat Control Box, 50RQ,PQ

Outdoor Thermostat Setting — Set the outdoor thermostat temperature indicating dial for each individual installation. If more than 1 thermostat is used, set additional thermostats in sequence to allow additional strip heaters to come on as the outdoor temperature lowers. Before heaters can come on (except during defrost cycle):

1. The outdoor temperature must be below the setting of the outdoor thermostat.
2. The room temperature must be 2 F below the setting of the room thermostat so that the contacts on the second step of the thermostat can close. An outdoor thermostat setting that is higher than necessary results in excess operating costs; too low a setting prevents heaters from coming on when they are needed.

• On completion of outdoor thermostat setting, replace cover on the control box.

Emergency Heat Operation — If a safety device is tripped, the compressor locks out thru the operation of the Signal-LOC™ circuit. When this occurs, the indicator light comes on at the room thermostat.

The switch at the room thermostat can then be moved to EMERGENCY HEAT, bypassing the compressor and the outdoor thermostat(s). The second stage of heating at the room thermostat then activates the resistance heaters to satisfy space requirements — regardless of outdoor temperature. If desired, the compressor can be manually locked out by setting the thermostat to EMERGENCY HEAT. Under either condition — a tripped safety device or manual lockout, the indicator light at the thermostat is illuminated.

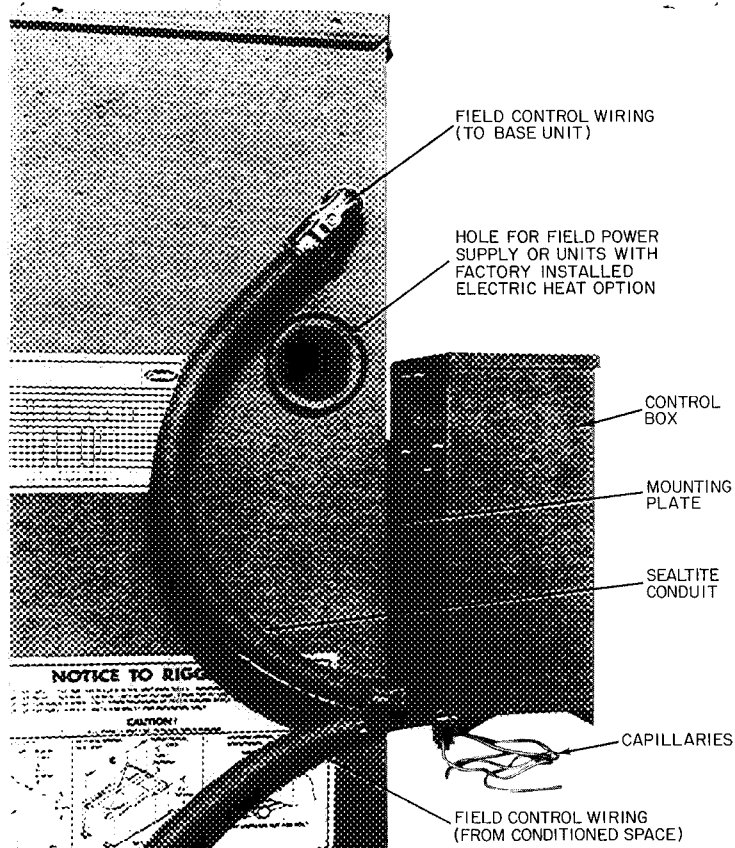
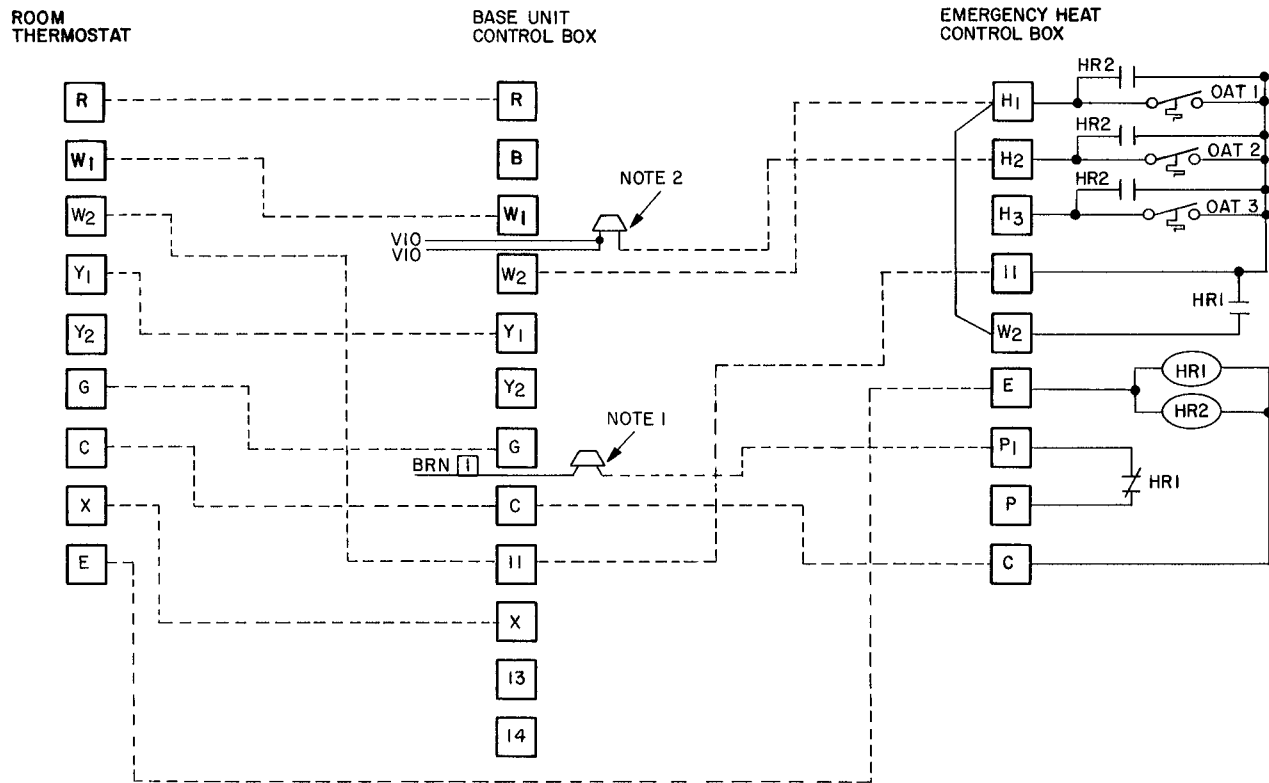


Fig. 3 – Accessory Electric Heat Control Box Installation – Condenser End View



- HR** – Heater Relay
- OAT** – Outdoor Air Thermostat
- Field Splice
- Factory Wiring
- Field Wiring

NOTES

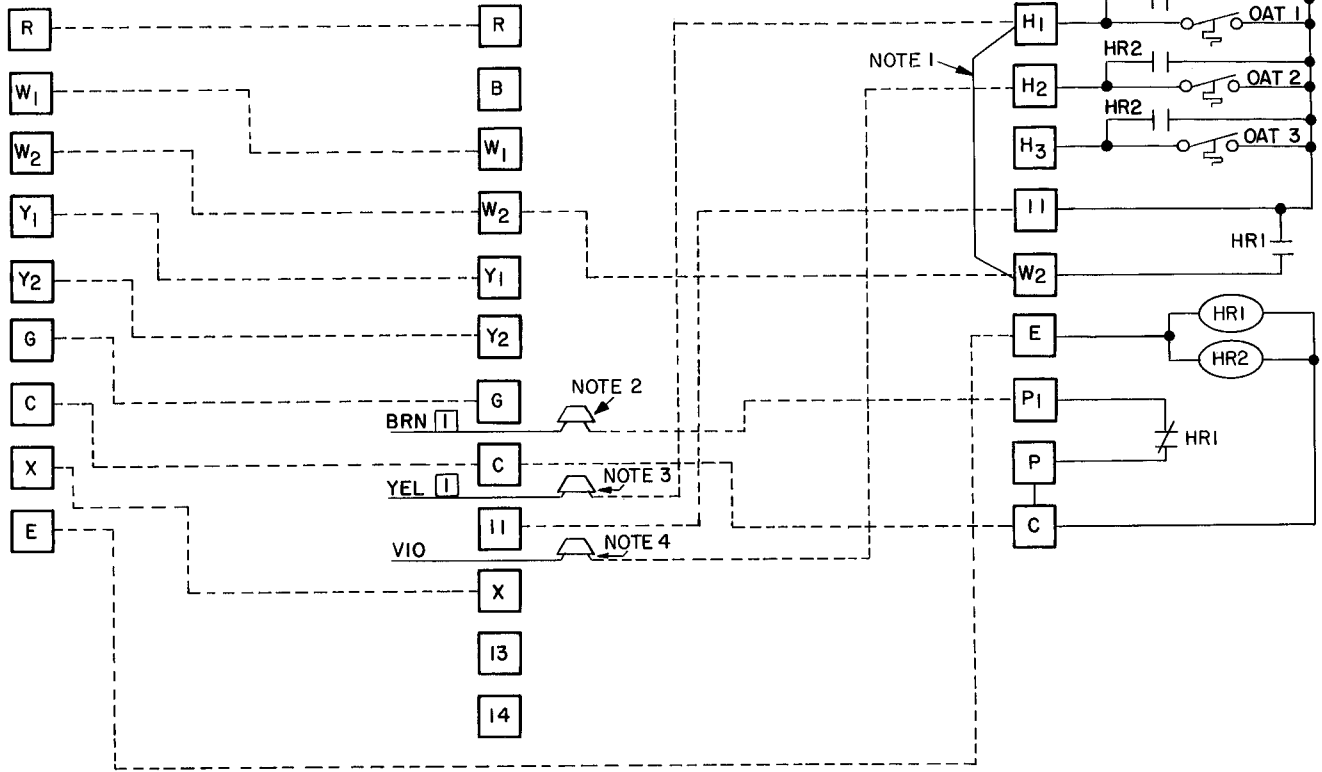
- 1 Remove brown wire with marker **1** from C in base unit control box and field splice to P1 in emergency heat control box for all operations
- 2 For 2 outdoor air thermostat operation, remove both violet wires from W2 in base unit control box and field splice to H2 in emergency heat control box




Fig. 4 – Emergency Heat Wiring Connection Diagram, 50RQ,PQ006

ROOM
THERMOSTAT

BASE UNIT
CONTROL BOX

EMERGENCY HEAT
CONTROL BOX



- HR — Heater Relay
- OAT — Outdoor Air Thermostat
-  Field Splice
-  Factory Wiring
-  Field Wiring

NOTES:

- 1 Remove jumper wire between H1 and W2 in emergency heat control box for all operations
- 2 Remove brown wire with marker 1 from C in base unit control box and field splice to P1 in emergency heat control box for all operations
- 3 For 1 OAT operation, remove yellow wire with marker 1 from terminal 11 in base unit control box and field splice to H1 in emergency heat control box
- 4 For 2 OAT operation, repeat step in Note 3 and remove violet wire from terminal 11 in base unit control box and field splice to H2 in emergency heat control box

Fig. 5 — Emergency Heat Wiring Connection Diagram, 50RQ,PQ008/010

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