

Large Rooftop Units 20 to 65 Ton Accessory Heat Package 50/60 Hz

Cancels: IIK 558G,H-240-5 IIK 558G,H-240-8
3/15/98

Installation Instructions

Part Numbers: CRHEATER124A00 through CRHEATER135A00

GENERAL

Read these instructions entirely before installing the accessory electric heaters into the base rooftop unit. See Table 1 for accessory heater data.

⚠ WARNING

Turn off all power to unit before installing the accessory electric heater package. All wiring must comply with applicable national and local codes.

A 90-degree elbow must be used in the return duct or a straight return duct must terminate with a grille securely attached, so that if tools are dropped while working on a unit, they will not enter the occupied space.

NOTE: A 90-degree elbow must be provided in the ductwork to comply with UL (Underwriters' Laboratories) codes for use with electric heat.

Outlet grille must not lie directly below unit discharge.

⚠ WARNING

Failure to follow these instructions on clearances, 90-degree ductwork, and location of outdoor grilles could result in personal injury and property damage from fire or falling objects.

⚠ CAUTION

Field modification of electric heat staging may result in overriding of electric heat safety switches and therefore is prohibited.

INSTALLATION

1. Unpack accessory. Package contains 2 (20-45 ton units) or 3 (50-65 ton units) heater assemblies.
2. Remove electric heat section access panels from the base rooftop unit (Fig. 1) and open the base unit's main control box access door(s).
3. Remove the 2 (20-45 ton units) or 3 (50-65 ton units) heater box cover plates from the base unit's electric heat vestibule plates (Fig. 2). Cut the insulation that covers the opening in the vestibule plates. Save the screws.
4. Place one heater assembly into each opening and push until the heater assembly makes contact with the electric heat vestibule plate (Fig. 3).
5. Open the hinged front cover on each heater assembly and, using the screws removed from the heater box front cover plates, secure the heater assemblies to the heater vestibule plates.

Table 1 — Accessory Heater Data

ACCESSORY HEATER PART NUMBER	BASE UNIT DESCRIPTION	HEATER/BASE UNIT VOLTAGE	HEATER kW*
CRHEATER124A00	CV: 20-45 tons VAV: 20-30 tons, 40 tons	208-230/3/60	36
CRHEATER125A00†	CV: 20-45 tons	208-230/3/60	72
CRHEATER126A00	CV: 20-45 tons VAV: 20-30 tons, 40 tons	460/3/60, 380/3/60, 400/3/50	36
CRHEATER127A00	CV: 20-45 tons	460/3/60, 380/3/60, 400/3/50	72
CRHEATER128A00**	CV: 20-45 tons VAV: 20-30 tons, 40 tons	575/3/60	36
CRHEATER129A00**	CV: 20-45 tons	575/3/60	72
CRHEATER130A00	CV: 50-65 tons VAV: 50-65 tons	208/230-3-60	54
CRHEATER131A00	CV: 50-65 tons	208/230-3-60	108
CRHEATER132A00	CV: 50-65 tons VAV: 50-65 tons	380-3-60, 400-3-50, 460-3-60	54
CRHEATER133A00	CV: 50-65 tons	380-3-60, 400-3-50, 460-3-60	108
CRHEATER134A00	CV: 50-65 tons VAV: 50-65 tons	575-3-60	54
CRHEATER135A00	CV: 50-65 tons	575-3-60	108

LEGEND

CV — Constant Volume
VAV — Variable Air Volume

*kW rated at 240, 480, and 600 volts.

†Not available for horizontal heat pump units 50EWQ.

**Not available for 50EJQ,50EWQ units.

Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.

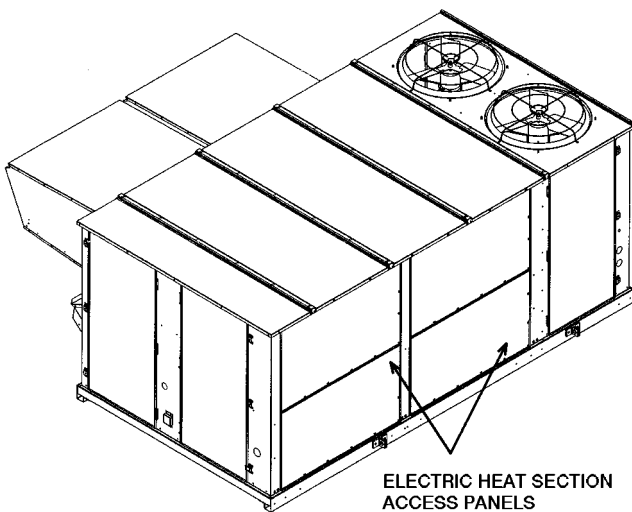


Fig. 1 — Heat Section on Typical Base Unit

6. There is a square plate with a plug button located in the bulkhead between the condenser and heater sections (Fig. 3). Remove the square plate from the bulkhead. Save screws. Remove the plug button and place one 1-1/4-in. connector (field supplied) into each hole of the square plate, one on the condenser side and one on the heater side.

7. Run all the wires connected to the heater assemblies through the connectors. Place varnish cloth into the opening of each connector to prevent air and water leakage. Add RTV sealant to the connectors and back side of square plate. Tighten the connectors. Reattach square plate using screws from Step 6.

8. Remove the base unit control box access cover.

9. Plug the heater assembly control wires into plastic low voltage plugs, PL-10 and PL-11, located in the bottom of the base unit control box (Fig. 4). Also, refer to the accessory heat package wiring schematic in Fig. 5.

On 50-65 ton units, a low voltage adapter is supplied to connect the two heater assembly control wires to PL-11. See Fig. 6.

10. Route the heater power wires through the grommet in the bottom of the control box (Fig. 4). Refer to unit power schematic located on the back side of the control panel access door and to the accessory heat package wiring schematic located on the inside front cover of the heater assembly (also, see Fig. 5). Connect the wires to the main power terminal block (TB1 in Fig. 4) as follows:

- 2 black wires to TB1-21 (20-45 ton)
- 3 black wires to TB1-21 (50-65 ton)
- 2 yellow wires to TB1-22 (20-45 ton)
- 3 yellow wires to TB1-22 (50-65 ton)
- 2 blue wires to TB1-23 (20-45 ton)
- 3 blue wires to TB1-23 (50-65 ton)

11. Check that the supply power wiring is sufficient to handle the load. The base unit information plate has the necessary data to determine this. The upper section of the information plate has the MCA (minimum circuit amps) and MOCP (maximum overcurrent protection) values for a unit with no electric heaters. The lower section of the information plate has information for a unit with accessory electric heat installed.

Match the accessory package model number on the accessory heater packing crate with one of the accessory model numbers from the lower portion of the information plate to determine the appropriate power wiring for handling the unit electrical load.

12. Once the heater package has been identified, mark the appropriate space on the lower section of the information plate.
13. Note the MCA and MOCP values for the heater package, and connect the properly sized power wiring and disconnect. The factory-supplied power terminal block is capable of handling the required wire gage.
14. Check DIP (dual in-line package) Switch 7 (Fig. 4) to be sure it is closed.
15. Replace the base unit control box access cover. Close and secure the base unit control box access door, the heater assembly hinged covers, the heat section access panels, and any other doors or covers that are open.
16. Apply power to the unit.
17. For thermostat-controlled units, set the thermostat to call for heat and check the heating effect at the supply air ducts. For room sensor-controlled units, initiate the field test on the main controller as described in the unit installation instructions and check for electrical current to the heaters.

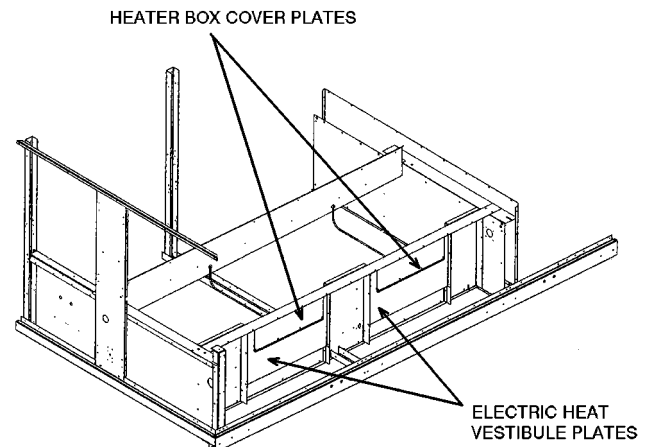


Fig. 2 — Heat Section With Access Panels Removed

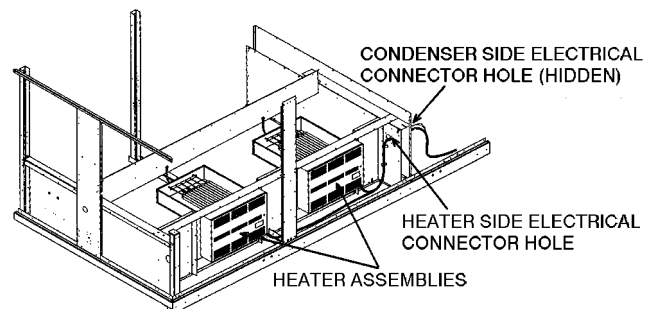


Fig. 3 — Heat Section With Heater Assemblies Inserted

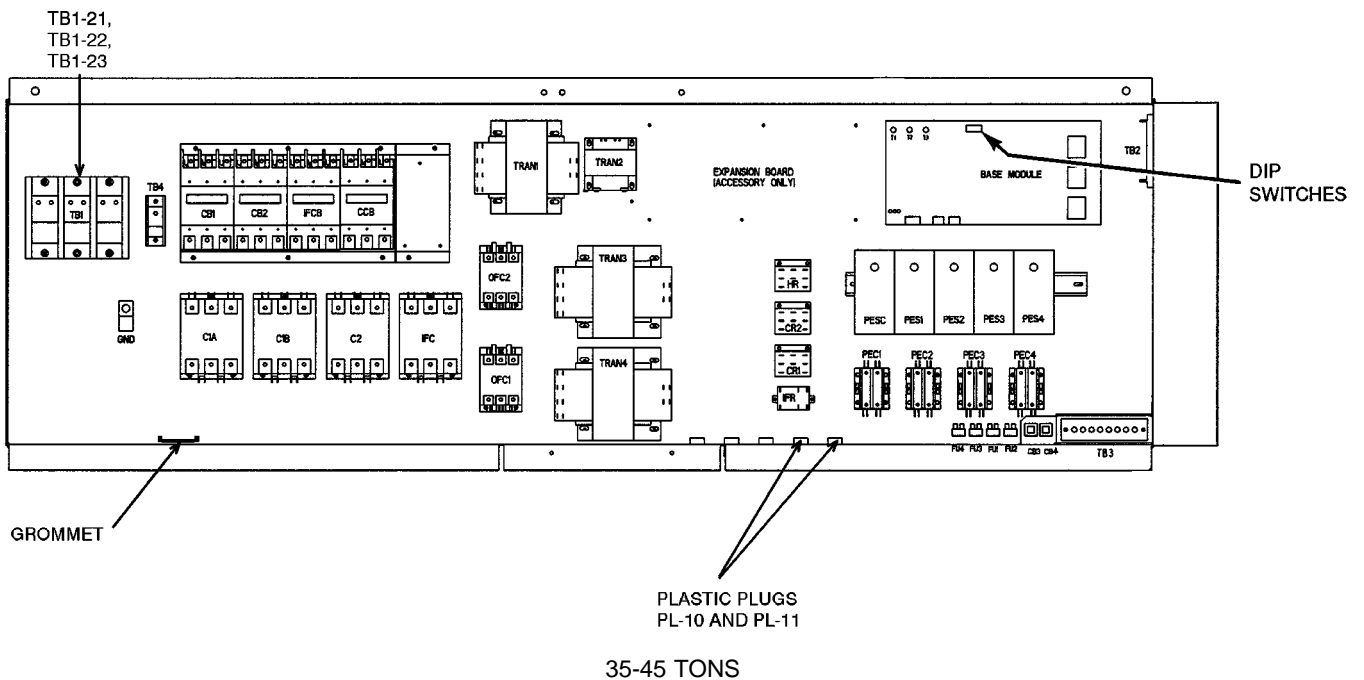
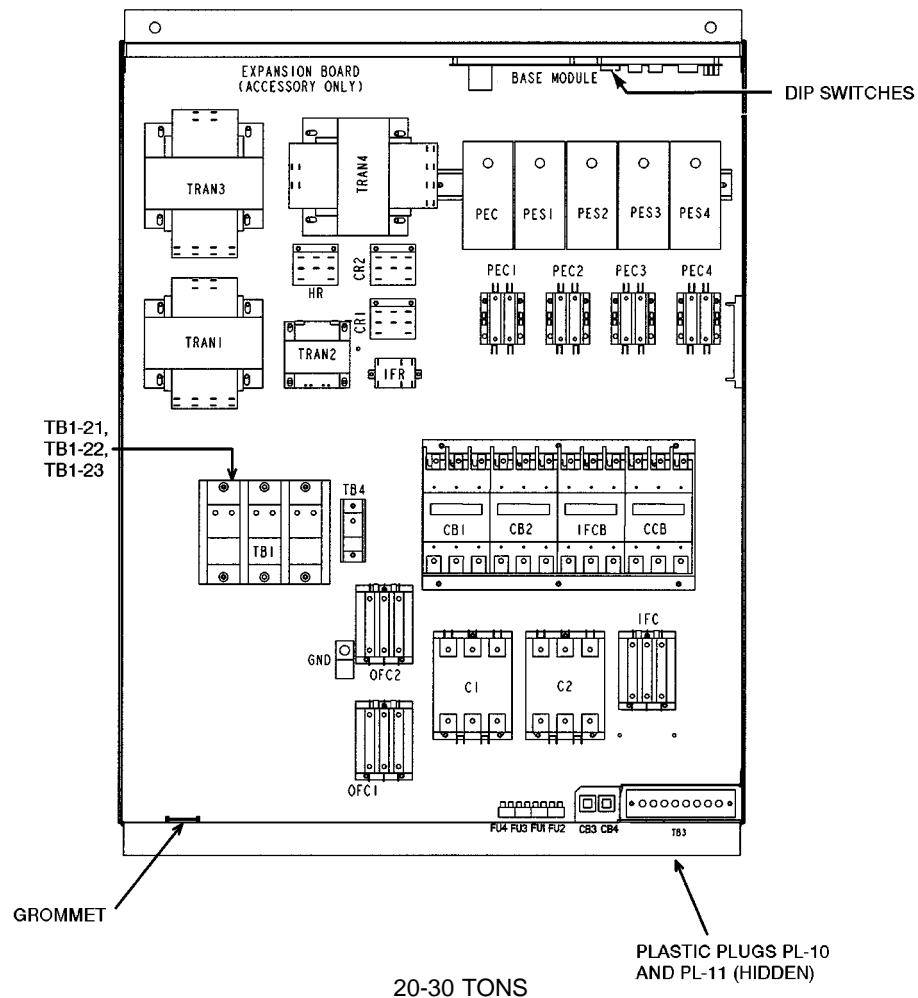
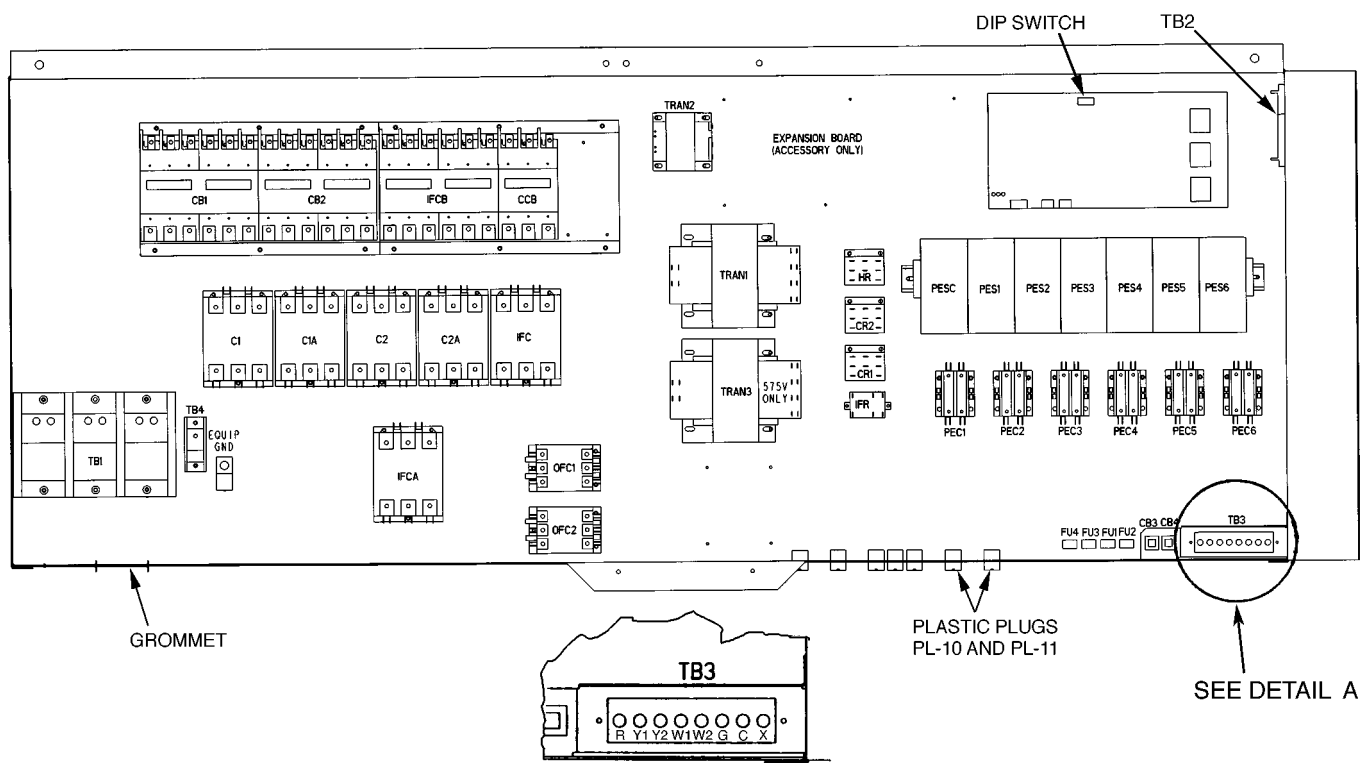


Fig. 4 — Control Box Diagrams



DETAIL A

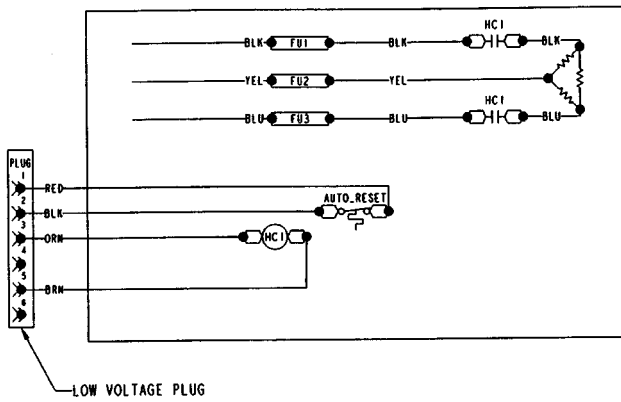
50-65 TONS

LEGEND

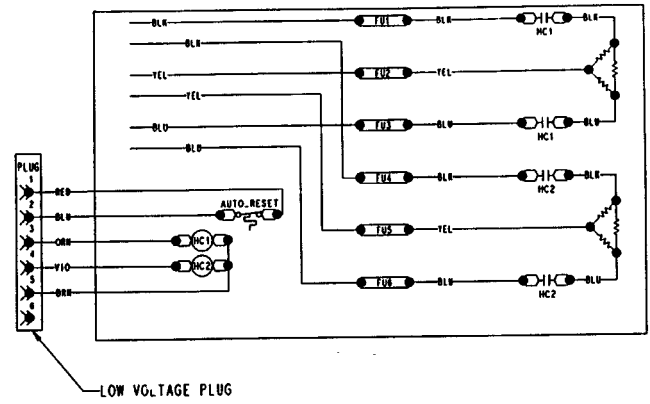
C — Contactor/Compressor
CB — Circuit Breaker
DIP — Dual In-Line Package
FU — Fuse
HR — Heater Relay
IF — Indoor Fan

OF — Outdoor Fan
PEC — Power Exhaust Controller
PES — Power Exhaust Switch
TB — Terminal Block
TRAN — Transformer

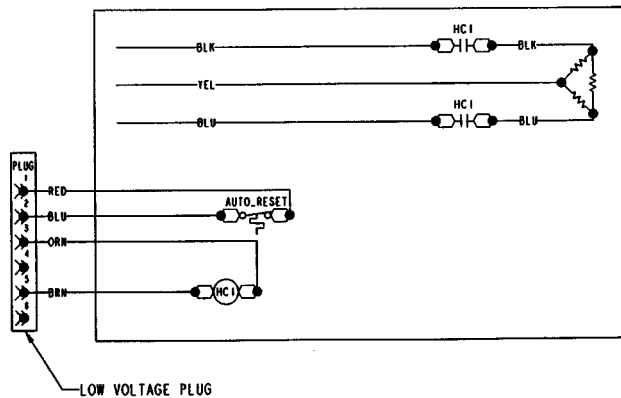
Fig. 4 — Control Box Diagrams (cont)



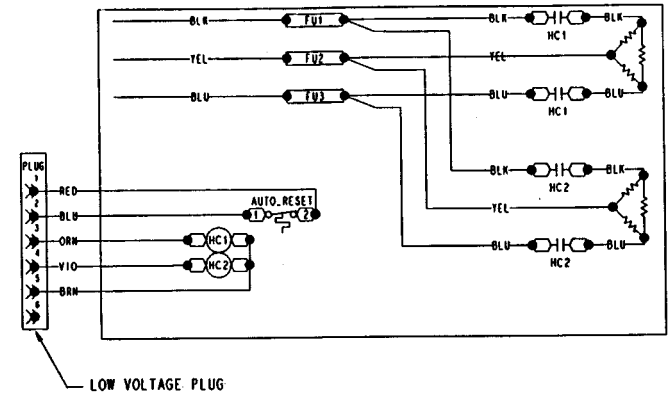
CRHEATER124A00, 130A00
(240 V, 18 kW*)



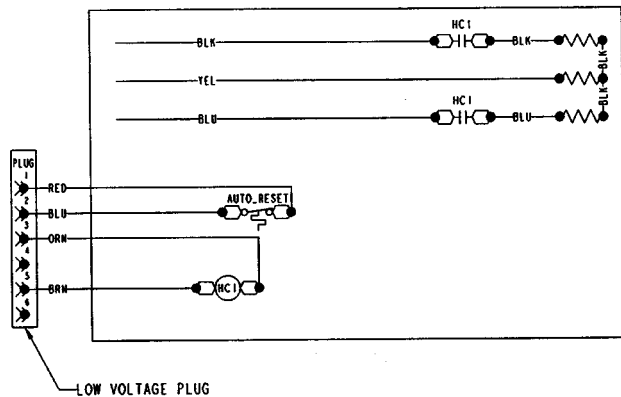
CRHEATER125A00, 131A00
(240 V, 36 kW†)



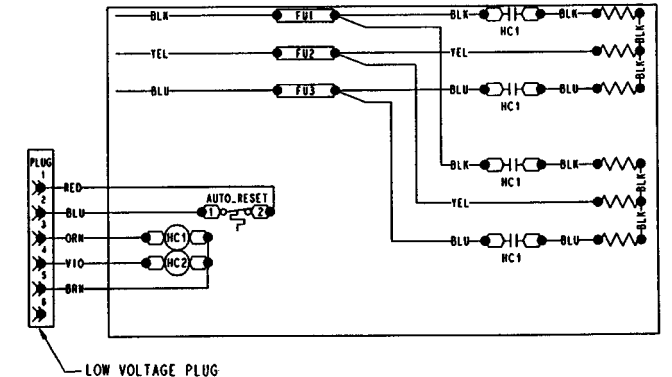
CRHEATER126A00, 132A00
(480 V, 18 kW*)



CRHEATER127A00, 133A00
(480 V, 36 kW†)



CRHEATER128A00, 134A00
(600 V, 18 kW*)



CRHEATER129A00, 135A00
(600 V, 36 kW†)

*Two heater assemblies total 36 kW. Three heater assemblies total 54 kW.

†Two heater assemblies total 72 kW. Three heater assemblies total 108 kW.

Fig. 5 — Accessory Heat Package Wiring Schematic

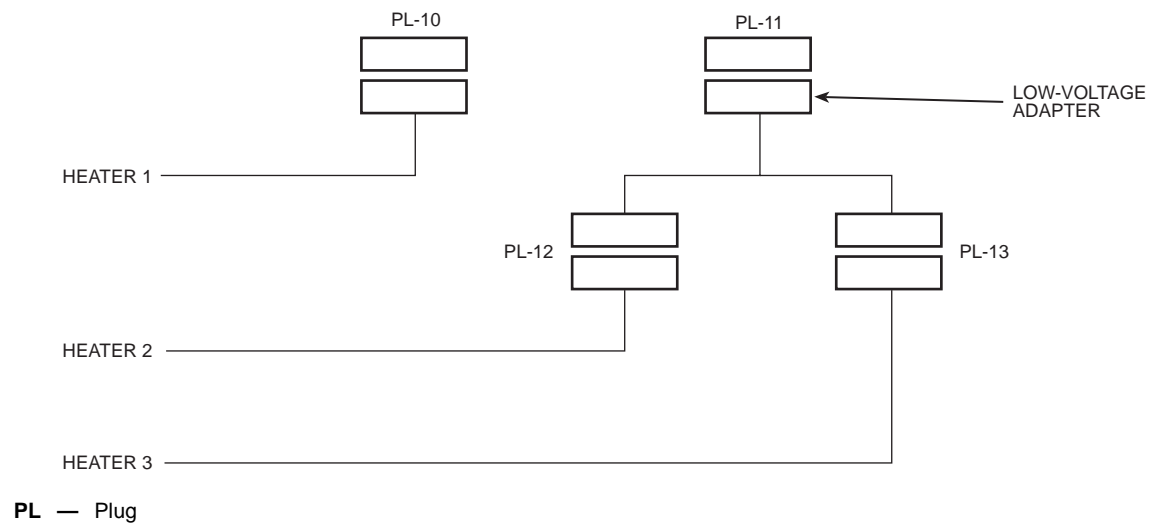


Fig. 6 — Low-Voltage Adapter Location (50-65 Ton Units)

