
INSTALLATION INSTRUCTIONS

Electric Heat Packages

Models:

EHW3SC-A05	EHWA60C-B15	EHWA60C-B18	EHWA42CD-A10
EHW3SC-A10	EHWA48C-B18	EHWA42C-C09	EHWA72CD-A15
EHW3SC-A15	EHWA42C-C05	EHWA42C-C15	EHWA42CD-B09
EHW3SC-A20	EHWA60C-C09	EHWA42C-F07	EHWA60CD-B15
EHW3SC-B06	EHWA60C-C15	EHWA42C-F12	EHWA48CD-B18
EHW3SC-B09	EHWA42C-E09	EHWA48C-A05	EHWA42CD-C09
EHW3SC-B15	EHWA42C-E15	EHWA42C-A10	EHWA60CD-A05
EHW3SC-C06	EHWA60C-F07	EHWA60C-A15	EHWA72CD-B09
EHW3SC-C09	EHWA60C-F12	EHWA42C-B06	EHWA60CD-A10
EHW3SC-C15	EHWA72C-A05	EHWA42C-B09	EHWA42CD-A15
EHWA42C-A05	EHWA72C-A10	EHWA42C-B15	EHWA42CD-B18
EHWA60C-A10	EHWA42C-A15	EHWA42C-B18	EHWA48CD-A05
EHWA72C-A15	EHWA42C-A20	EHWA48C-C09	EHWA48CD-A10
EHWA60C-A20	EHWA72C-B06	EHWA72C-C15	EHWA48CD-B09
EHWA42C-B05	EHWA72C-B09	EHWA72CD-A05	EHWA42CD-A05
EHWA60C-B06	EHWA48C-B15	EHWA72CD-B06	EHWA60CD-B09
EHWA60C-B09			

For Use with W**AC Series
Wall-Mounted Air Conditioners



Bard Manufacturing Company, Inc.
Bryan, Ohio 43506
www.bardhvac.com

Manual: 2100-731C
Supersedes: 2100-731B
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Description of Equipment

The EHWA series electric heater packages are field-installable heater packages suitable for use with Bard wall mount air conditioners. The packages consist of the electric heat strip, the heater control base (which includes the heat contactors and circuit breaker or toggle or rotary disconnects), installation instructions and wiring diagrams. See Table 1 on page 4 for nominal electrical data and BTU output. **Before installation, check unit serial plate to ensure the heater package model to be installed is listed as a heater package that is suitable for use with the Bard wall mount** (see Figure 6 on page 15).

Important

The equipment covered in this manual is to be installed by trained, experienced service and installation technicians.

Shipping Damage

Upon receipt of equipment, the carton should be checked for external signs of shipping damage. If damage is found, the receiving party must contact the last carrier immediately, preferably in writing, requesting inspection by the carrier's agent.

Unpacking Electric Heat Package

Remove the heat package from the shipping carton. The heat package must consist of the following:

- Basic heater
- Electric heat control base and wiring
- Installation instructions
- One (1) wiring diagram, to be applied to unit
- One (1) adhesive label to re-mark serial plate to indicate new model number. This is attached to the front of these instructions.
- Two (2) ladder ties to bundle the wires together

Recommended Installation Tools

- Personal protection equipment, including gloves and safety glasses
- 5/16" nut driver
- Phillips head screwdriver
- Straight head screwdriver
- Needle nose pliers
- Multimeter

TABLE 1
Electrical Data and BTU Output

Heater Package Model	Volts	Phase	Nominal KW	Nominal BTU	Heater Package Model	Volts	Phase	Nominal KW	Nominal BTU
EHW3SC-A05	240/208	1	5/3.75	17,065/12,800	EHWA60CD-B15	240/208	3	15/11.25	51,200/38,400
EHW3SC-A10	240/208	1	10/7.5	34,130/25,600	EHWA48CD-B18	240/208	3	18/13.5	61,430/46,100
EHW3SC-A15	240/208	1	15/11.25	51,200/38,400	EHWA42CD-B18	240/208	3	18/13.5	61,430/46,100
EHW3SC-A20	240/208	1	20/15	68,260/51,200	EHWA48CD-B09	240/208	3	9/6.75	30,600/23,030
EHW3SC-B06	240/208	3	6/4.5	20,475/15,356	EHWA60CD-B09	240/208	3	9/6.75	30,600/23,030
EHW3SC-B09	240/208	3	9/6.75	30,600/23,030	EHWA72CD-B06	240/208	3	6/4.5	20,475/15,356
EHW3SC-B15	240/208	3	15/11.25	51,200/38,400	EHWA72CD-B09	240/208	3	9/6.75	30,600/23,030
EHW3SC-C06	480	3	6	20,500	EHWA42C-C05	480	3	5	17,065
EHW3SC-C09	480	3	9	30,700	EHWA60C-C09	480	3	9	30,700
EHW3SC-C15	480	3	15	47,000	EHWA60C-C15	480	3	15	47,000
EHWA42C-A05	240/208	1	5/3.75	17,065/12,800	EHWA42C-C09	480	3	9	30,700
EHWA60C-A10	240/208	1	10/7.5	34,130/25,600	EHWA42C-C15	480	3	15	47,000
EHWA72C-A15	240/208	1	15/11.25	51,200/38,400	EHWA48C-C09	480	3	9	30,700
EHWA60C-A20	240/208	1	20/15	68,260/51,200	EHWA72C-C15	480	3	15	47,000
EHWA72C-A05	240/208	1	5/3.75	17,065/12,800	EHWA42CD-C09	480	3	9	30,700
EHWA72C-A10	240/208	1	10/7.5	34,130/25,600	EHWA42C-E09	220/200	3	9	30,700
EHWA42C-A15	240/208	1	15/11.25	51,200/38,400	EHWA42C-E15	220/200	3	15	47,000
EHWA42C-A20	240/208	1	20/15	68,260/51,200	EHWA60C-F07	415	3	7	23,877
EHWA48C-A05	240/208	1	5/3.75	17,065/12,800	EHWA60C-F12	415	3	12	37,600
EHWA42C-A10	240/208	1	10/7.5	34,130/25,600	EHWA42C-F07	415	3	7	23,877
EHWA60C-A15	240/208	1	15/11.25	51,200/38,400	EHWA42C-F12	415	3	12	37,600
EHWA60CD-A05	240/208	1	5/3.75	17,065/12,800					
EHWA60CD-A10	240/208	1	10/7.5	34,130/25,600					
EHWA42CD-A15	240/208	1	15/11.25	51,200/38,400					
EHWA48CD-A05	240/208	1	5/3.75	17,065/12,800					
EHWA48CD-A10	240/208	1	10/7.5	34,130/25,600					
EHWA42CD-A05	240/208	1	5/3.75	17,065/12,800					
EHWA72CD-A05	240/208	1	5/3.75	17,065/12,800					
EHWA42CD-A10	240/208	1	10/7.5	34,130/25,600					
EHWA72CD-A15	240/208	1	15/11.25	51,200/38,400					
EHWA42C-B05	240/208	3	5/3.75	17,065/12,799					
EHWA60C-B06	240/208	3	6/4.5	20,475/15,356					
EHWA60C-B09	240/208	3	9/6.75	30,600/23,030					
EHWA60C-B15	240/208	3	15/11.25	51,200/38,400					
EHWA48C-B18	240/208	3	18/13.5	61,430/46,100					
EHWA48C-B15	240/208	3	15/11.25	51,200/38,400					
EHWA60C-B18	240/208	3	18/13.5	61,430/46,100					
EHWA42C-B06	240/208	3	6/4.5	20,475/15,356					
EHWA42C-B09	240/208	3	9/6.75	30,600/23,030					
EHWA42C-B15	240/208	3	15/11.25	51,200/38,400					
EHWA42C-B18	240/208	3	18/13.5	61,430/46,100					
EHWA72C-B06	240/208	3	6/4.5	20,475/15,356					
EHWA72C-B09	240/208	3	9/6.75	30,600/23,030					
EHWA42CD-B09	240/208	3	9/6.75	30,600/23,030					

Field Wire Sizing

Reference the tables below for field wire sizing. Make sure to obtain the correct Maximum Overcurrent Protection (MOP) device size on the unit serial plate that correlates to the heater package installed. For anything other than this, please refer to the most current edition of the NFPA 70 (National Electric Code) directly.

IMPORTANT: While this electrical data is presented as a guide, it is important to electrically connect properly sized fuses and conductor wires in accordance with the National Electric Code and all local codes.

TABLE 2
Field Wire Sizing

NFPA 70 (NEC 2020 Edition)	
Table 240.6(A)	Table 310.16 (75°C)
Overcurrent Protection Device (Circuit Breaker)	Minimum Field Power Wire Size (AWG) Copper Only
15	14
20	14
25	12
30	10
35	10
40	8
45	8
50	8
60	6
70	4
80	4
90	3
100	3
110	2
125	1
150	1/0
175	2/0
200	3/0

TABLE 2 NOTES:

Table 310.16 Ampacities of Insulated Conductors with Not More than Three Current-Carrying Conductors in Raceway, Cable or Earth (Directly Buried) (NFPA 70 [NEC 2020 Edition]).

Ampacities provided in the Table 3 do not take into consideration the voltage drop.

Please reference Table 310.6 for conductor types to be used.

Do not use conductors with a temperate rating of less than 75°C.

Section 310.16 shall be referenced for Conditions of Use (NFPA 70 [NEC 2020 Edition]).

Section 310.15(B) shall be referenced for ampacity correction factors where the ambient temperature is other than 30°C (86°F) (NFPA 70 [NEC 2020 Edition]).

TABLE 3
Field Wire Sizing

NFPA 70 (NEC 2020 Edition)	
Table 250.122	
Overcurrent Protection Device (from Unit Serial Plate)	Minimum Ground Wire Size (AWG) Copper Only
15	14
20	12
21-60	10
61-100	8
101-200	6

TABLE 3 NOTE:

See Installation Restrictions in Section 250.120 (NEC 2020 Edition).

Wiring Main Power

1. On all installations, size unit power supply wiring for the minimum circuit ampacity requirement for the unit and heater package combination listed on the unit serial plate.

For existing installations, addition or upgrading of a heater package may require that larger supply wires be run to the unit. Resize all power supply wires for the minimum circuit ampacity rating listed on the unit serial plate that is applicable for the combination of unit and heater package.

WARNING

Install properly sized power supply leads for the unit/heater combination minimum circuit ampacity as listed on the unit serial plate. Hazard of fire. Failure to install properly sized conductors could result in fire causing damage, bodily injury or death.

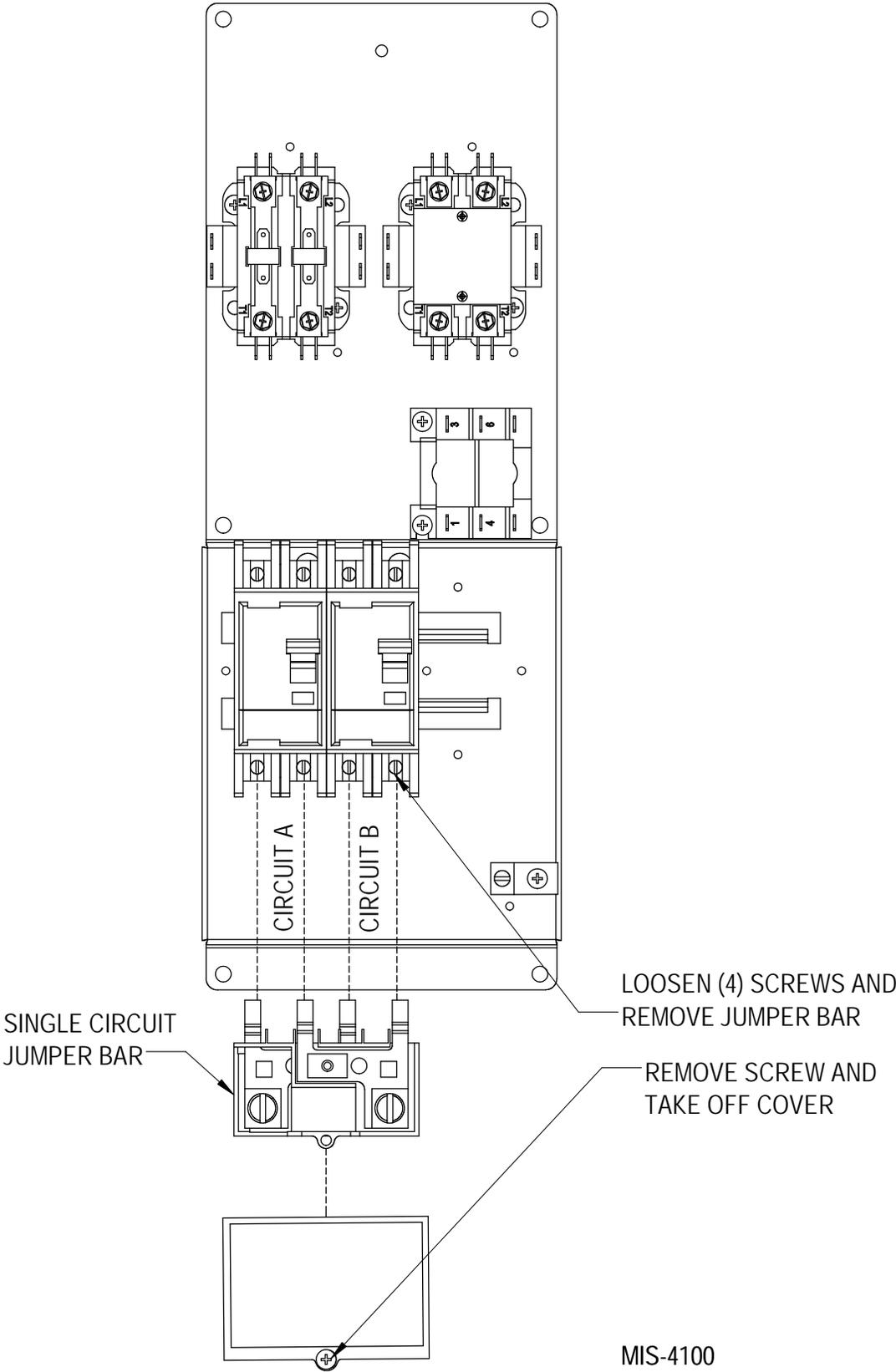
2. All heater packages covered by this manual are factory wired for a single supply circuit. The following heater packages are field convertible to a dual supply circuit if required or desired.

EHW3SC-A15
EHW3SC-A20
EHWA42C-A15
EHWA42C-A20
EHWA42CD-A15
EHWA60C-A15
EHWA72C-A10

3. To convert the above heater packages to dual circuit configuration before installation, loosen four (4) screws holding jumper bar in place and remove jumper bar. Circuit A + B are now identified on the heater package (see Figure 1).

Wire should be sized to the minimum circuit ampacity as specified on the serial plates of units that accept these heater packages for circuits A + B.

FIGURE 1
Electrical Connections



INSTALLATION

Installation of Heater Package

1. Disconnect all power to unit before installation.

WARNING

Disconnect all power to unit before installing heater package. Hazard of electrical shock. Failure to disconnect power could result in injury or death.

2. Before installation, check unit serial plate to ensure that the heater package model to be installed is listed as a heater package suitable for use with the unit.

Under no circumstances shall a heater package be installed in a unit if the model number of the heater package does not appear on the unit serial plate.

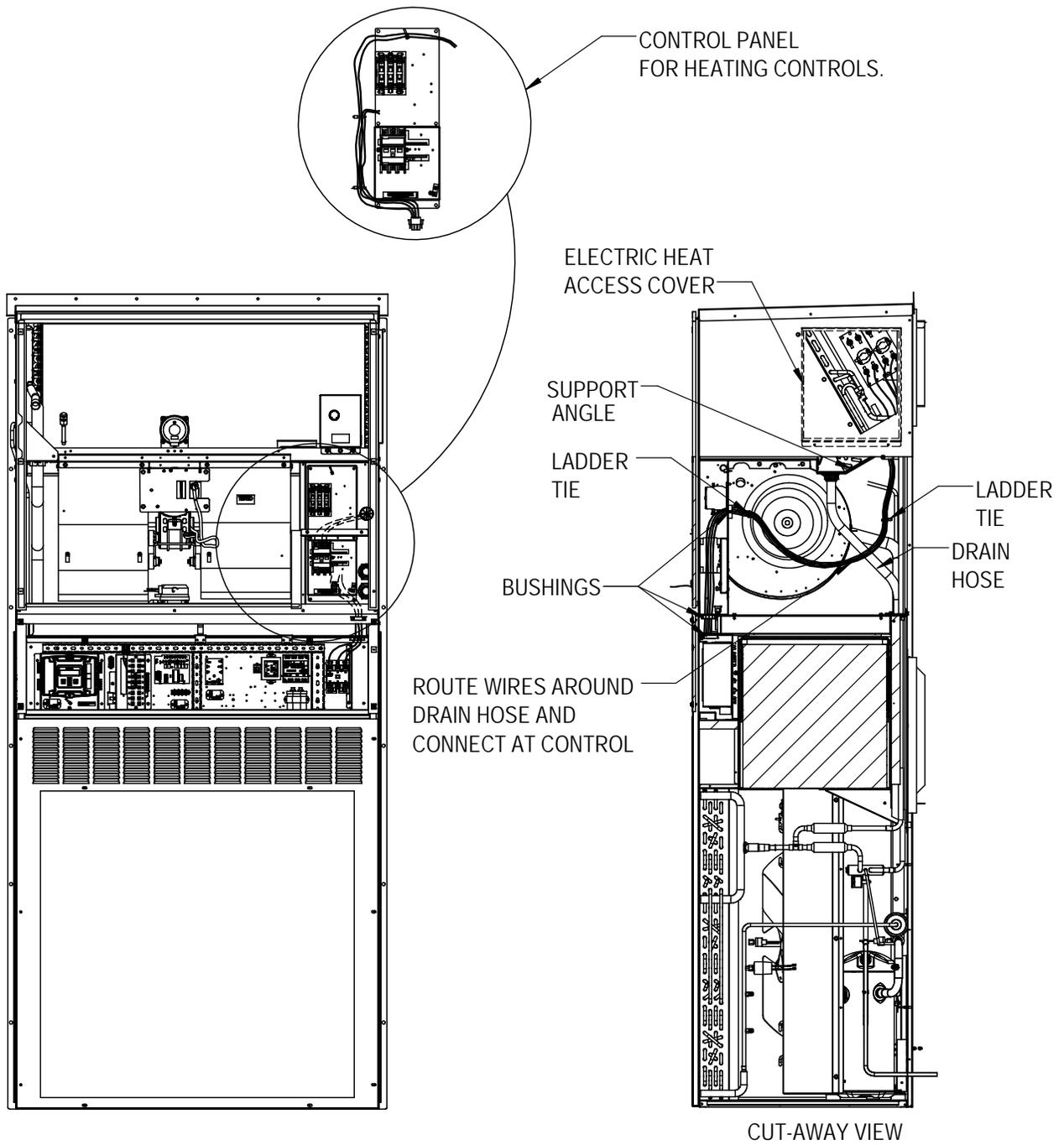
WARNING

Install only heater packages listed on unit serial plate. Hazard of fire or electrical shock. Failure to install listed heater package could result in fire, injury or death.

3. Remove electric heater access panel, side access cover and control panel covers, both inner and outer (see Figure 2 on page 8).
4. All heaters are installed with the thermal cutoffs positioned to the top of the unit. Install heat strip(s) through heater access opening. Position heat strip support rod in heater support hole 1, 2 or 3 as indicated in Table 4 on page 10 and Figure 3 on page 11. Secure in place with two (2) sheet metal screws in mounting holes. On heater packages with two heat strips, install 9KW or 10KW heater first in position closest to the outlet air frame (see Figures 4E and 4F on page 13).

5. Install heater control base into top of control panel as shown in Figure 5 on page 14. Secure with four (4) sheet metal screws provided.
6. Plug male 6-pin connector into mating connector mounted in control panel (see Figure 5).
7. Connect red compressor supply lead to L1 of terminal block. Connect black compressor supply lead to L2 of terminal block. If 3 phase, connect yellow supply lead to L3 of terminal block. See Figure 5 and wiring diagram.
8. Route wires from heater control base around the back side of the drain hose and up to the heater package through the bushing. Use the included ladder ties evenly spaced apart to bundle the wires together (see Figure 5).
9. Wire heater package per wiring diagram supplied with this heater package. All wires are stamped with wire numbers that correspond with terminal numbers on the wiring diagram and stamped numbers on the heat strip. Limit switch wires are terminated with insulated quick connect terminals. See appropriate Figure 4 on page 13 or 14.
10. Attach adhesive wiring diagram directly above unit wiring diagram on inner control panel cover.
11. Recheck all wiring. Break out appropriate circuit breaker tabs on inner control panel cover to allow trip lever to protrude. Replace control panel and heater access panels
12. Resupply power to the unit and check for proper operation.
13. Re-mark serial plate with self-adhesive label attached to the front of this manual (see Figure 6 on page 15).

FIGURE 2
Installation of Heater Package

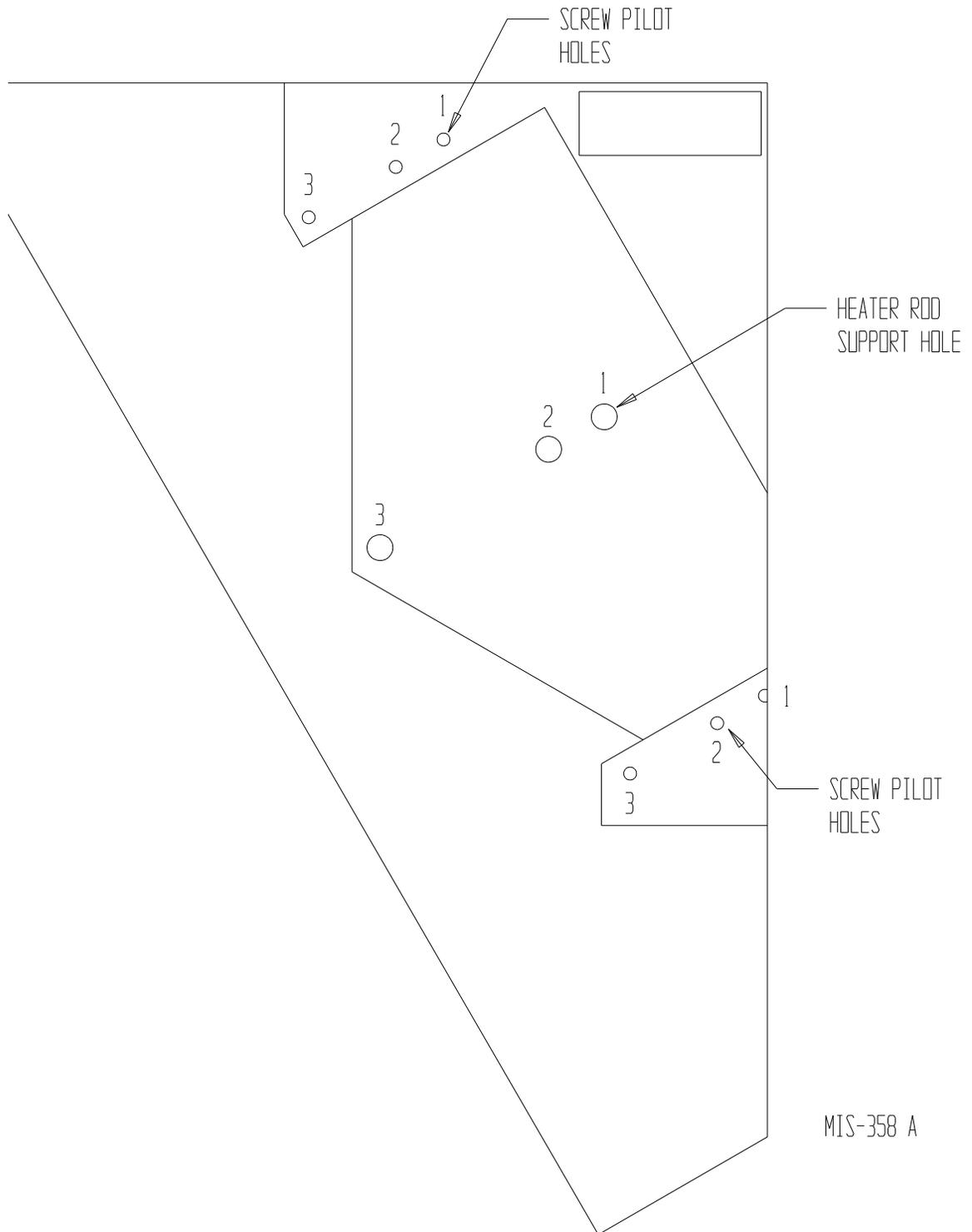


MIS-4099 A

TABLE 4
References to Figures 3 and 4 by Model Number

Heater Package Model	Figure 3 Rod Support and Screw Mounting Position	Figure 4 Heater Terminal Identification Drawing	Heater Package Model	Figure 3 Rod Support and Screw Mounting Position	Figure 4 Heater Terminal Identification Drawing
EHW3SC-A05	1	4A	EHWA60CD-B15	1 + 3	4E
EHW3SC-A10	1	4B	EHWA48CD-B18	1 + 3	4E
EHW3SC-A15	1 + 3	4D	EHWA42CD-B18	1 + 3	4E
EHW3SC-A20	1 + 3	4F	EHWA48CD-B09	1	4C
EHW3SC-B06	1	4C	EHWA60CD-B09	1	4C
EHW3SC-B09	1	4C	EHWA72CD-B06	1	4C
EHW3SC-B15	1 + 3	4E	EHWA72CD-B09	1	4C
EHW3SC-C06	1	4C	EHWA42C-C05	1	4C
EHW3SC-C09	1	4C	EHWA60C-C09	1	4C
EHW3SC-C15	1 + 3	4E	EHWA60C-C15	1 + 3	4E
EHWA42C-A05	1	4A	EHWA42C-C09	1	4C
EHWA60C-A10	1	4B	EHWA42C-C15	1 + 3	4E
EHWA72C-A15	1 + 3	4D	EHWA48C-C09	1	4C
EHWA60C-A20	1 + 3	4F	EHWA72C-C15	1 + 3	4E
EHWA72C-A05	1	4A	EHWA42CD-C09	1	4C
EHWA72C-A10	1	4B	EHWA42C-E09	1	4C
EHWA42C-A15	1 + 3	4D	EHWA42C-E15	1 + 3	4D
EHWA42C-A20	1 + 3	4F	EHWA60C-F07	1	4C
EHWA48C-A05	1	4A	EHWA60C-F12	1 + 3	4E
EHWA42C-A10	1	4B	EHWA42C-F07	1	4C
EHWA60C-A15	1 + 3	4D	EHWA42C-F12	1 + 3	4E
EHWA60CD-A05	1	4A			
EHWA60CD-A10	1 + 3	4B			
EHWA42CD-A15	1	4D			
EHWA48CD-A05	1	4A			
EHWA48CD-A10	1	4B			
EHWA42CD-A05	1	4A			
EHWA72CD-A05	1	4A			
EHWA42CD-A10	1	4B			
EHWA72CD-A15	1 + 3	4D			
EHWA42C-B05	1	4C			
EHWA60C-B06	1	4C			
EHWA60C-B09	1	4C			
EHWA60C-B15	1 + 3	4E			
EHWA48C-B18	1 + 3	4E			
EHWA48C-B15	1 + 3	4E			
EHWA60C-B18	1 + 3	4E			
EHWA42C-B06	1	4C			
EHWA42C-B09	1	4C			
EHWA42C-B15	1 + 3	4E			
EHWA42C-B18	1 + 3	4E			
EHWA72C-B06	1	4C			
EHWA72C-B09	1	4C			
EHWA42CD-B09	1	4C			

FIGURE 3
Rod Support and Screw Mounting Positions



**FIGURE 4
A Through D**

FIGURE 4A

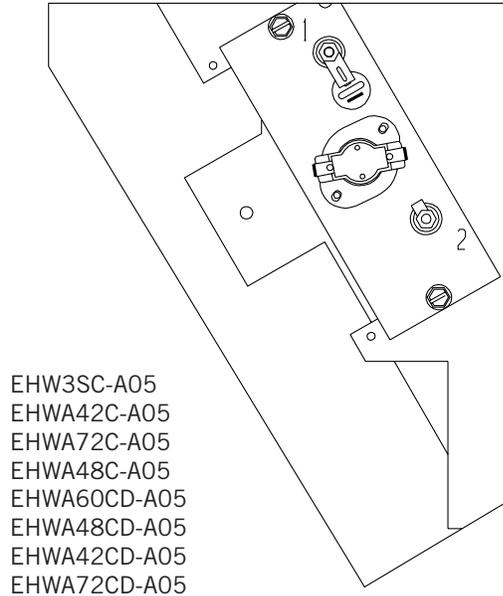


FIGURE 4C

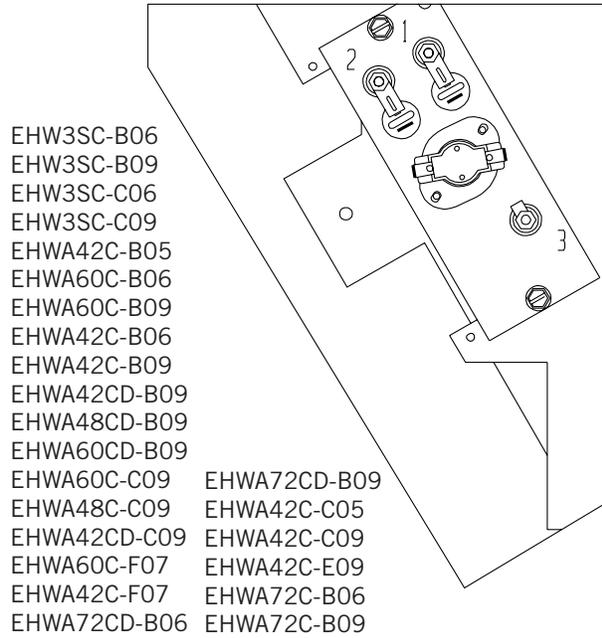


FIGURE 4B

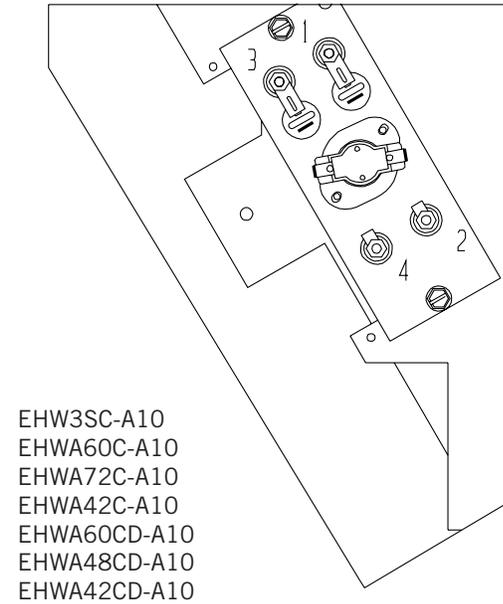
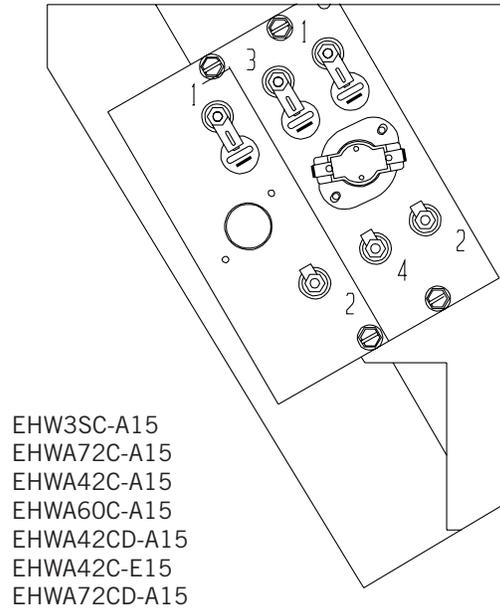


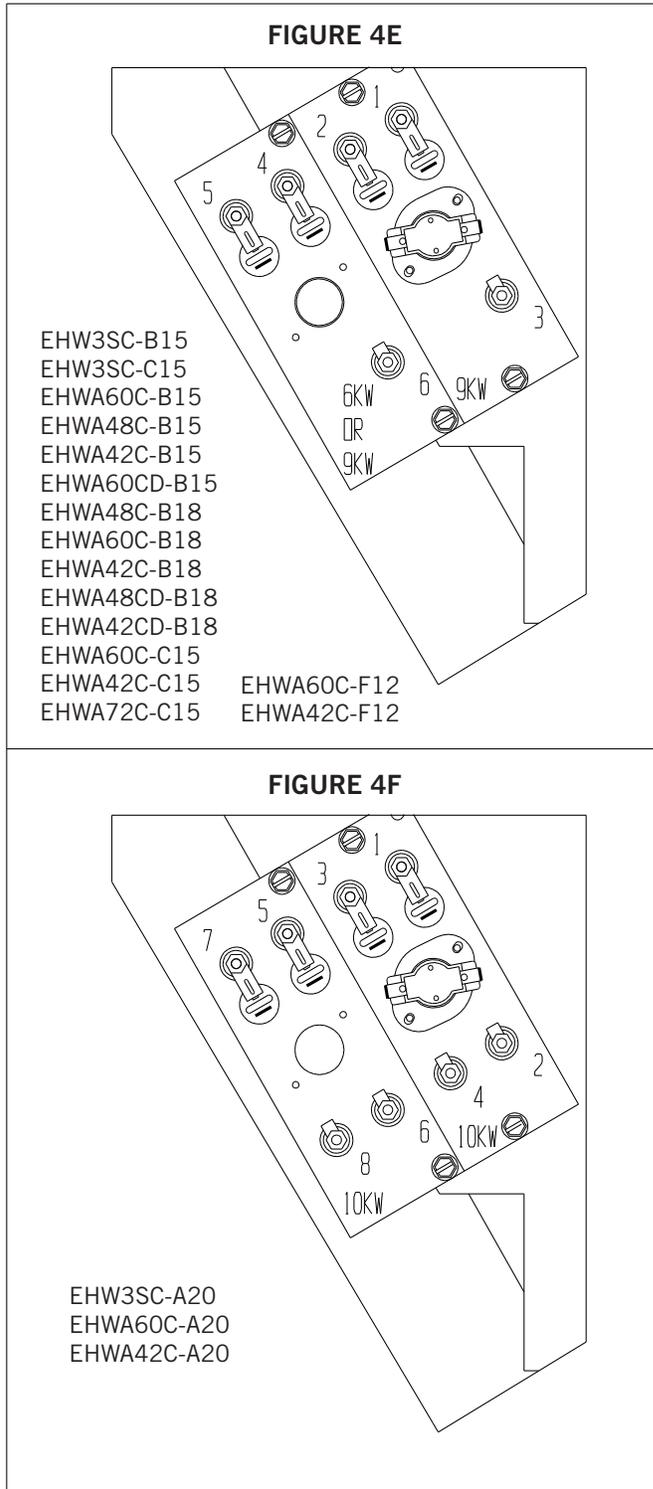
FIGURE 4D



NOTE: THERMAL CUTOFFS TO BE AT
TOP OF AIR FRAME WHEN INSTALLING.

MIS-420 F

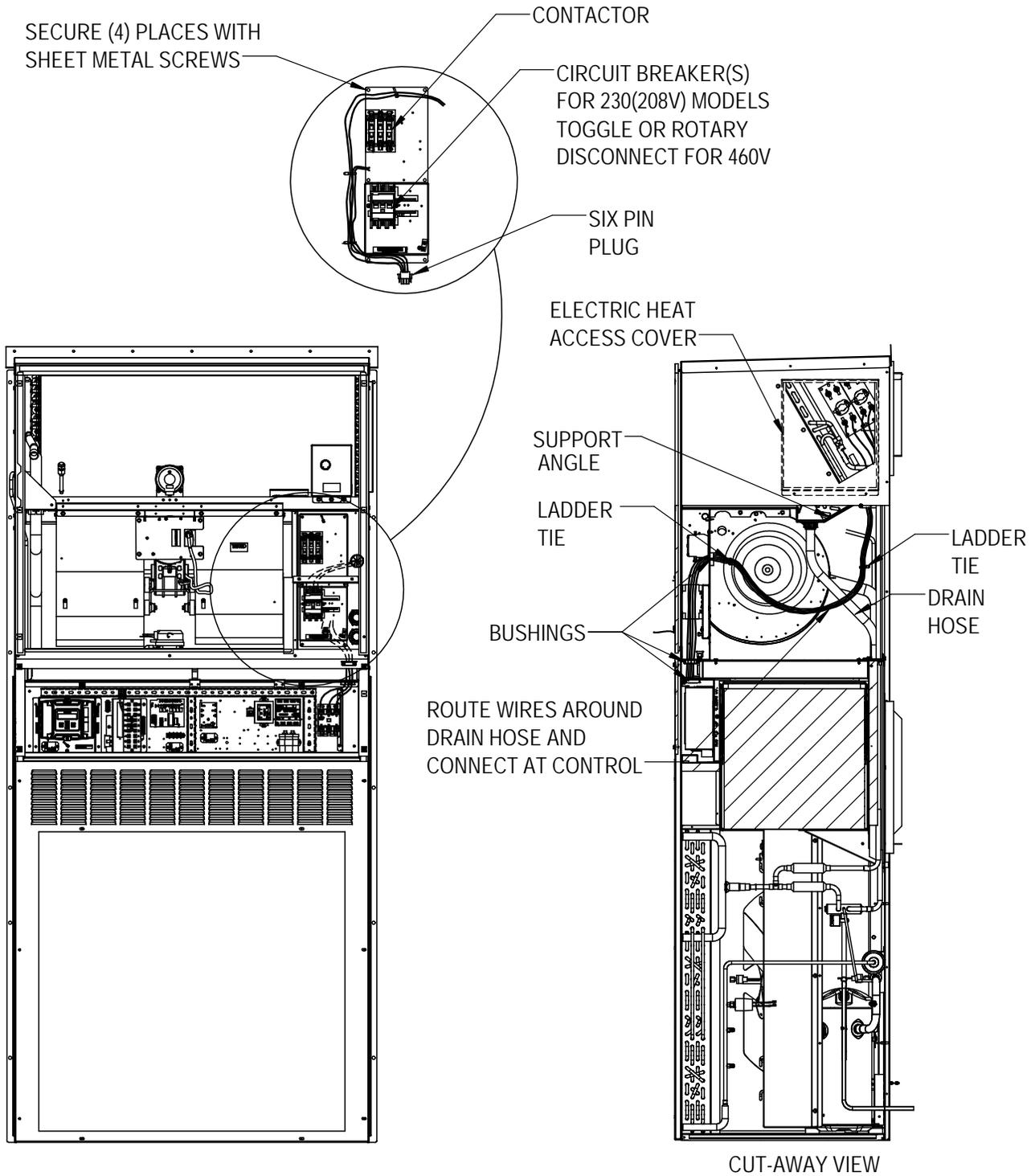
**FIGURE 4
E and F**



NOTE: THERMAL CUTOFFS TO BE AT TOP OF AIR FRAME WHEN INSTALLING.

MIS-421 E

FIGURE 5
Installing Heater Base and Connecting Wiring



MIS-4098 A

**FIGURE 6
Serial Plate Label**

INSTALL ONLY HEATER PACKAGES LISTED HERE.

BARD MANUFACTURING COMPANY, 1914 RANDOLPH DRIVE

(X)	()	()	()	()	()	()
()	(X)	()	()	()	()	()
()	()	(X)	()	()	()	()
()	()	()	(X)	()	()	()
()	()	()	()	(X)	()	(X)

MODEL
 () JWA361-A0012345
 () JWA361-A0512345
 (X) JWA361-A0812345
 () JWA361-A1012345
 () JWA361-A1512345

APPROVED HEATER PACKAGE
 NONE
 EHWA03-A05
 EHWA03-A08
 EHWA03-A10
 EHWA03-A15

BRANCH CIRCUIT SELECT CURRENT 17 OPERATION

SERIAL NUMBER 125H920711193-01 UL FILE NO.

SUITABLE FOR OUTDOOR USE

COMPRESSOR	VAC	HZ	PH	ELECTRICAL
OUTDOOR MOTOR	230/208	60	1	HP
INDOOR MOTOR	230/208	60	1	1/5
	230/208	60	1	1/3
HEATER PACKAGE				KW
EHWA03-A05	240/208	60	1	5/3.75
EHWA03-A08	240/208	60	1	8/6
EHWA03-A10	240/208	60	1	10/7.5
EHWA03-A15	240/208	60	1	15/11.25

FACTORY CHARGED R22: -- FACTORY
 68 OZ. DESI
 -- CLEAR

ASSURE THAT SERIAL PLATE IS CLEAN AND DRY, REMOVE APPROPRIATE LABEL STRIP FOR KW REQUIRED AND REMARK SERIAL PLATE AS SHOWN FOR THE HEATER PACKAGE THAT IS INSTALLED