
INSTALLATION INSTRUCTIONS

ELECTRIC HEAT PACKAGES

Models:	EHW02A-A08L	EHW70A-B09L
	EHWA02-A10L	EHWA02A-A05L
	EHWA03-A05L	EHWA03-A08L
	EHWA03-A10L	EHWA03-A15L
	EHWA03-B09L	EHWA03-C15L
	EHWA05-A05L	EHWA05-A10L
	EHWA05-A15L	EHWA05A-C09L
	EHWA05A-C15L	EHWA05-B09L
	EHWA05-B15L	EHWA24-B06L
	EHWA37-B15L	EHWA3S-B06L
	EHWA4S-A05L	EHWA4S-A10L
	EHWA4S-A15L	EHWA4S-A20L
	EHWA5S-A05L	EHWA5S-A08L
	EHWA5S-A10L	EHWA5S-A15L
	EHWA5S-A20L	EHWA5S-B06L
	EHWA5S-B09L	EHWA5S-B15L
	EHWA5S-C06L	EHWA5S-C09L
	EHWA5S-C15L	EHWA60-B09L
	EHWA70-A05	EHWC03-C09L

**FOR USE WITH SH, WA AND WH SERIES
WALL MOUNTED AIR CONDITIONERS
AND HEAT PUMPS
(See Tables 1A — 1C for Model Usage Matrix)**



Bard Manufacturing Company, Inc.
Bryan, Ohio 43506
Since 1914...Moving, ahead just as planned.

Manual: 2100-557
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Climate Control Solutions

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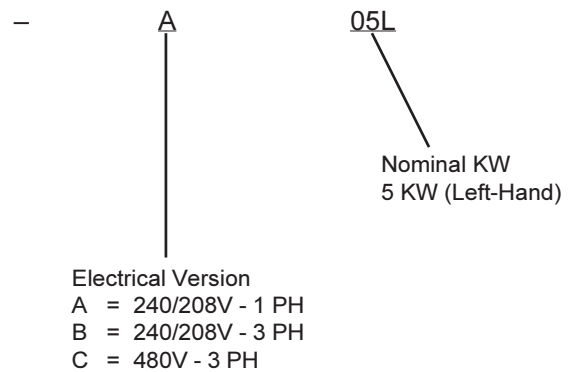
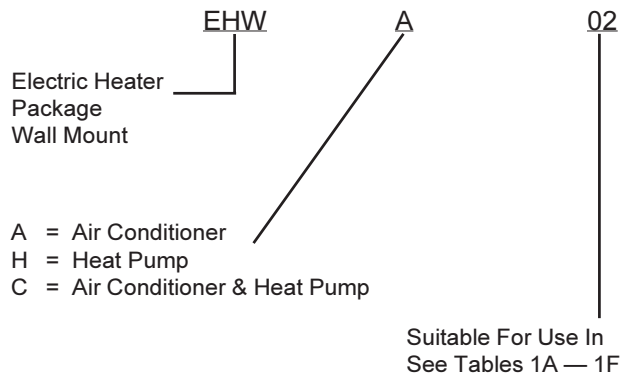
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BARD MANUFACTURING COMPANY, INC.
BRYAN, OHIO 43506

MODEL NOMENCLATURE LEGEND



DESCRIPTION

The EHWA, EHWH and EHWC Series electric heater packages are field installable heater packages suitable for use with Bard Wall Mount air conditioners and heat pumps. The packages consist of the electric heat strip, the heater control base which includes the heat contactors, and circuit breaker, rotary or toggle disconnects, installation instructions and wiring diagrams. See Tables for nominal electrical data and BTU output. **Before installation, check unit serial plate to insure the heater package model that you intend to install is a listed heater package that is suitable for use with the Bard Wall Mount unit.** See Figure 6.

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 THE ELECTRIC HEAT PACKAGE

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

1. Basic heater
2. Electric heat control base and wiring.
3. Installation instructions.
4. Wiring diagram (2), one to be applied to unit.
5. Adhesive label to remark serial plate to indicate new model number. This is attached to the front of these instructions.

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.

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.

**TABLE 1A
R-410A APPROVED HEATER USAGE MATRIX**

240/220V 1 Phase	W17L1-A	W18L1-A	W24L1-A	W30L1-A	W36L1-A	W42L1-A	W48L1-A	W60L1-A	W70L1-A	WL3S2-A	WL4S2-A	WL5S2-A
EHWA02A-A05L	X	X	X									
EHWA02A-A08L	X	X	X									
EHWA02A-A10L	X	X	X									
EHWA03-A05L				X	X							
EHWA03-A08L				X								
EHWA03-A10L				X	X							
EHWA03-A15L				X	X							
EHWA05-A05L						X	X	X				
EHWA05-A10L						X	X	X	X			
EHWA05-A15L						X	X	X	X			
EHWA4S-A05L										X	X	
EHWA4S-A10L										X	X	
EHWA4S-A15L										X	X	
EHWA4S-A20L										X	X	
EHWA5S-A05L												X
EHWA5S-A08L										X	X	X
EHWA5S-A10L												X
EHWA5S-A15L												X
EHWA5S-A20L												X
EHWA70-A05									X			

**TABLE 1B
R-410A APPROVED HEATER USAGE MATRIX**

240/220V 230/208V 3 Phase	W24L1-B	W30L1-B	W36L1-B	W42L1-B	W48L1-B	W60L1-B	W70L1-B	WL3S2-B	WL4S2-B	WL5S2-B
EHWA03-B09L		X	X							
EHWA05-B09L				X	X					
EHWA05-B15L				X	X	X	X			
EHWA24-B06L	X									
EHWA37-B15L		X	X							
EHWA3S-B06L								X		
EHWA5S-B06L									X	X
EHWA5S-B09L								X	X	X
EHWA5S-B15L								X	X	X
EHWA60-B09L						X				
EHW70A-B09L							X			

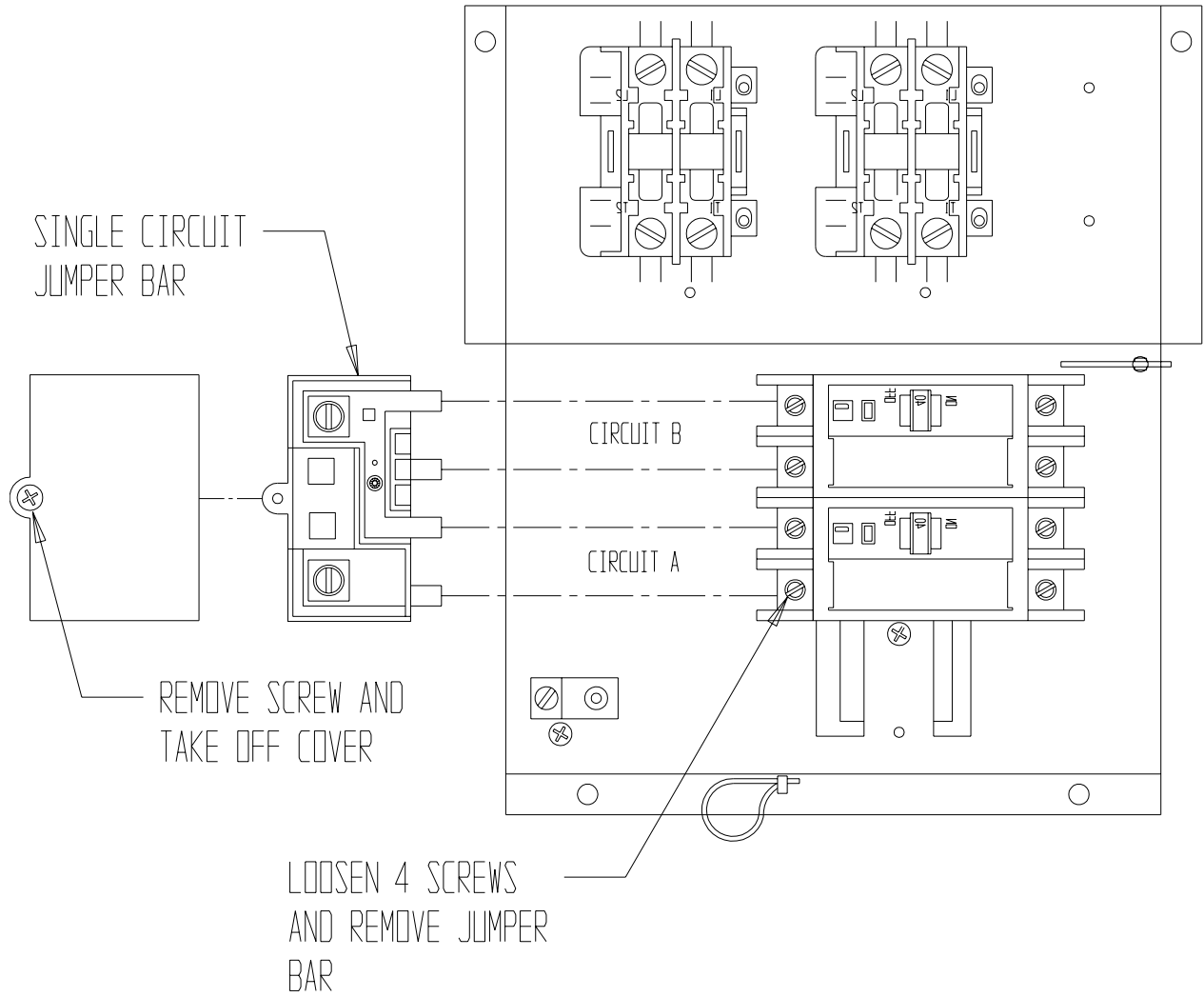
**TABLE 1C
R-410A APPROVED HEATER USAGE MATRIX**

415V 460V 3 Phase	W30L1-C	W36L1-C	W42L1-C	W48L1-C	W60L1-C	W70L1-C	WL3S2-C	WL4S2-C	WL5S2-C
EHWC03-C09L	X	X							
EHWA03-C15L	X	X							
EHWA05A-C09L			X	X	X	X			
EHWA05A-C15L			X	X	X	X			
EHWA5S-C06L							X	X	X
EHWA5S-C09L							X	X	X
EHWA5S-C15L							X	X	X

**TABLE 2
ELECTRICAL DATA AND BTU OUTPUT**

Heater Package Model	Volts	Phase	Nominal KW	Nominal BTU
EHWA02A-A05L	240/208	1	5 / 3.75	17,065 / 12,800
EHW02A-A08L	240/208	1	8 / 6	27,300 / 20,475
EHWA02-A10L	240/208	1	10 / 7.5	34,130 / 25,600
EHWA03-A05L	240/208	1	5 / 3.75	17,065 / 12,800
EHWA03-A08L	240/208	1	8 / 6	27,300 / 20,475
EHWA03-A10L	240/208	1	10 / 7.5	34,130 / 25,600
EHWA03-A15L	240/208	1	15 / 11.25	51,195 / 23,035
EHWA05-A05L	240/208	1	5 / 3.75	17,065 / 12,800
EHWA05-A10L	240/208	1	10 / 7.5	34,130 / 25,600
EHWA05-A15L	240/208	1	15 / 11.25	51,195 / 23,035
EHWA4S-A05L	240/208	1	5 / 3.75	17,065 / 12,800
EHWA4S-A10L	240/208	1	10 / 7.5	34,130 / 25,600
EHWA4S-A15L	240/208	1	15 / 11.25	51,195 / 23,035
EHWA4S-A20L	240/208	1	20 / 15	68,260 / 51,200
EHWA5S-A05L	240/208	1	5 / 3.75	17,065 / 12,800
EHWA5S-A08L	240/208	1	8 / 6	27,300 / 20,475
EHWA5S-A10L	240/208	1	10 / 7.5	34,130 / 25,600
EHWA5S-A15L	240/208	1	15 / 11.25	51,195 / 23,035
EHWA5S-A20L	240/208	1	20 / 15	68,260 / 51,200
EHWA70-A05	240/208	1	5 / 3.75	17,065 / 12,800
EHWA03-B09L	240/208	3	9 / 6.75	30,715 / 23,035
EHWA05-B09L	240/208	3	9 / 6.75	30,715 / 23,035
EHWA05-B15L	240/208	3	15 / 11.25	51,195 / 38,400
EHWA24-B06L	240/208	3	6 / 4.5	20,475 / 15,350
EHWA37-B15L	240/208	3	15 / 11.25	51,195 / 38,400
EHWA3S-B06L	240/208	3	6 / 4.5	20,475 / 15,350
EHWA5S-B06L	240/208	3	6 / 4.5	20,475 / 15,350
EHWA5S-B09L	240/208	3	9 / 6.75	30,715 / 23,035
EHWA5S-B15L	240/208	3	15 / 11.25	51,195 / 38,400
EHWA60-B09L	240/208	3	9 / 6.75	30,715 / 23,035
EHW70A-B09L	240/208	3	9 / 6.75	30,715 / 23,035
EHWC03-C09L	480	3	9	30,715
EHWA03-C15L	480	3	15	51,195
EHWA05A-C09L	480	3	9	30,715
EHWA05A-C15L	480	3	15	51,195
EHWA5S-C06L	480	3	6	20,475
EHWA5S-C09L	480	3	9	30,715
EHWA5S-C15L	480	3	15	51,195

FIGURE 1
WIRING – MAIN POWER



MIS-2907

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

EHWA03-A15L
 EHWA05-A15L
 EHWA4S-A10L
 EHWA4S-A15L
 EHWA5S-A10L
 EHWA5S-A15L

3. To convert the above heater packages to dual circuit configuration before installation, loosen four (4) screws holding jumper bar in place. Remove jumper bar. Circuits 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.

INSTALLATION

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 insure that the heater package model that you intend to install is listed as a heater package suitable for use with the unit.

Under no circumstance 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

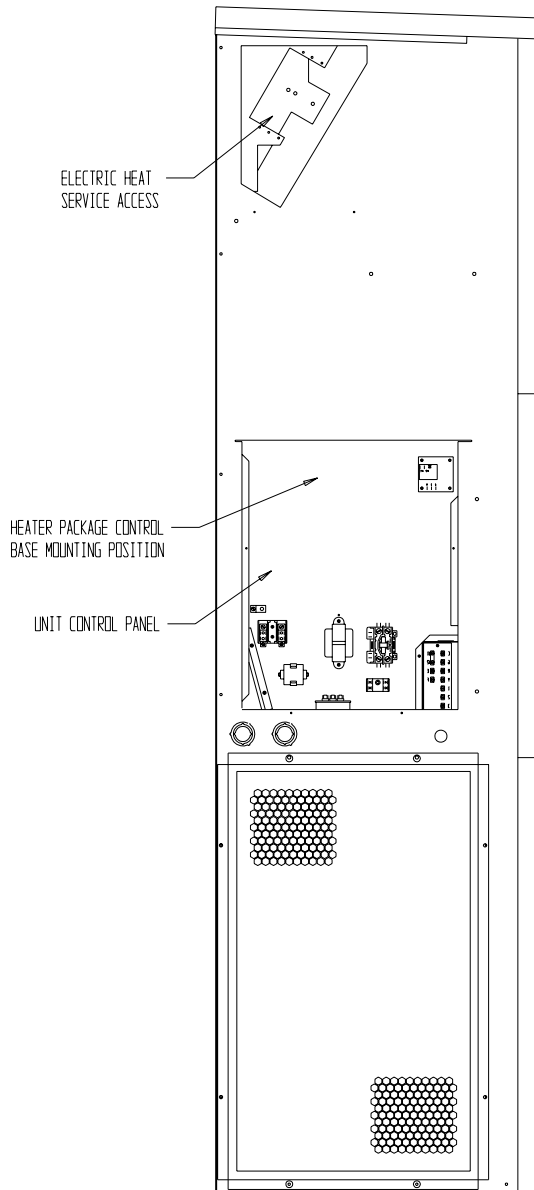
Install only heater packages listed on unit serial plate. Hazard of fire or electrical shock. Failure to install listed heater package could result in fire, injury or death.

3. Remove electric heater access panel and control panel cover, both inner and outer. See Figure 2.
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 1 and Figure 3.

On heater packages with two (2) heat strips, install 9KW heater first in position closest to the outlet air frame. See Figure 4E and 4G.

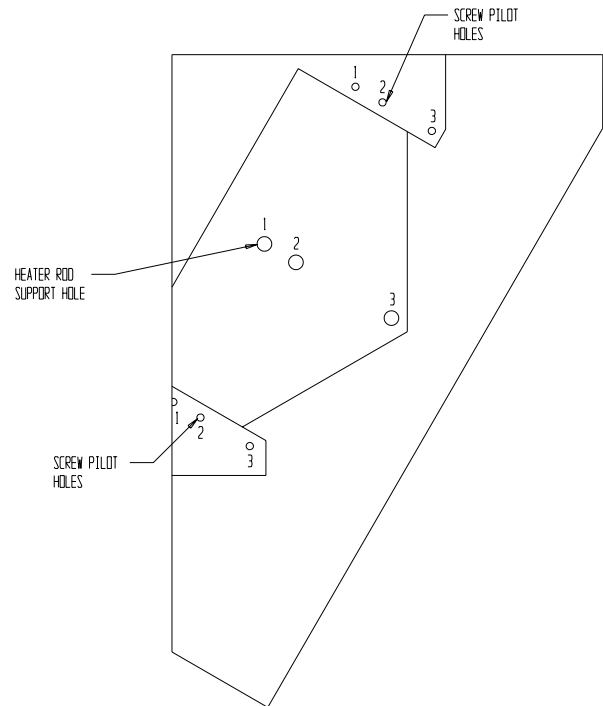
5. Install heater control base into top of control panel as shown in Figure 5. Secure with four (4) sheet metal screws provided.
6. Plug male six (6) pin connector into mating connector mounted in control panel. See Figure 5.
7. Connect red compressor supply lead to L1 of terminal block. Connect black compressor supply lead to L2 of terminal block. If three phase, connect yellow supply lead to L3 of terminal block. See Figure 5 and wiring diagram.
8. Route wires from heater control base up through raceway in top right corner of control panel to the heaters. 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 Figure 5.
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. Remark serial plate with self-adhesive label attached to the front of this manual. See Figure 6.

FIGURE 2
ELECTRIC HEATER ACCESS PANEL
AND CONTROL PANEL COVER LOCATIONS



MIS-2906

FIGURE 3
SCREW MOUNTING HOLES



MIS-2905

**TABLE 3
REFERENCES TO FIGURES 3 AND 4
FOR MODEL NUMBER**

Heater Package Model Number	Figure 4 Heater Terminal Identification Drawing	Figure 3 Rod Support and Screw Mounting Position
EHWA02A-A05L	4A	1
EHWA02A-A08L	4B	1
EHWA02-A10L	4B	1
EHWA03-A05L	4A	1
EHWA03-A08L	4B	1
EHWA03-A10L	4B	1
EHWA03-A15L	4D	2
EHWA05-A05L	4A	1
EHWA05-A10L	4B	1
EHWA05-A15L	4E	1 + 3
EHWA4S-A05L	4A	1
EHWA4S-A10L	4B	1
EHWA4S-A15L	4D	2
EHWA4S-A20L	4F	1 + 3
EHWA5S-A05L	4A	1
EHWA5S-A08L	4B	1
EHWA5S-A10L	4B	1
EHWA5S-A15L	4D	2
EHWA5S-A20L	4F	1 + 3
EHWA70-A05	4A	1
EHWA03-B09L	4C	1
EHWA05-B09L	4C	1
EHWA05-B15L	4G	1 + 3
EHWA24-B06L	4C	1
EHWA37-B15L	4D	1 + 3
EHWA3S-B06L	4C	1
EHWA5S-B06L	4C	1
EHWA5S-B09L	4C	1
EHWA5S-B15L	4G	1 + 3
EHWA60-B09L	4C	1
EHW70A-B09L	4C	1
EHWC03-C09L	4C	1
EHWA03-C15L	4G	1 + 3
EHWA05A-C09L	4C	1
EHWA05A-C15L	4G	1 + 3
EHWA5S-C06L	4C	1
EHWA5S-C09L	4C	1
EHWA5S-C15L	4G	1 + 3

**FIGURE 4
A THROUGH D**

FIGURE 4A

EHWA02A-A05L
EHWA03-A05L
EHWA05-A05L
EHWA4S-A05L
EHWA5S-A05L
EHWA70-A05

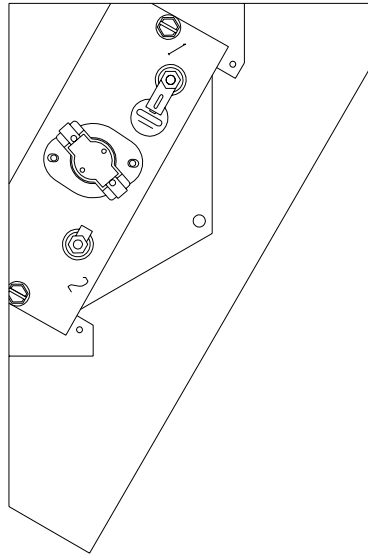


FIGURE 4C

EHWA03-B09L
EHWA05-B09L
EHWA24-B06L
EHWA3S-B06L
EHWA5S-B06L
EHWA5S-B09L
EHWA60-B09L
EHW70A-B09L
EHW03-C09L
EHWA05A-C09L
EHWA5S-C06L
EHWA5S-C09L

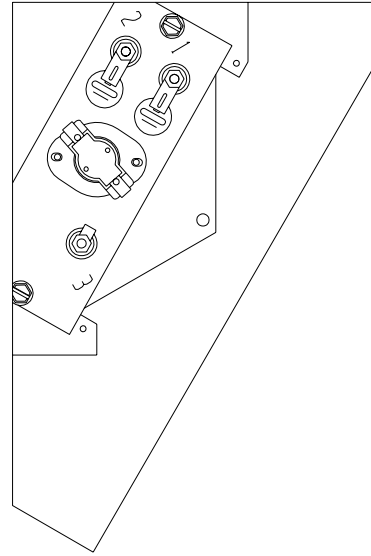


FIGURE 4B

EHW02A-A08L
EHWA02-A10L
EHWA03-A08L
EHWA03-A10L
EHWA05-A10L
EHWA4S-A10L
EHWA5S-A08L
EHWA5S-A10L

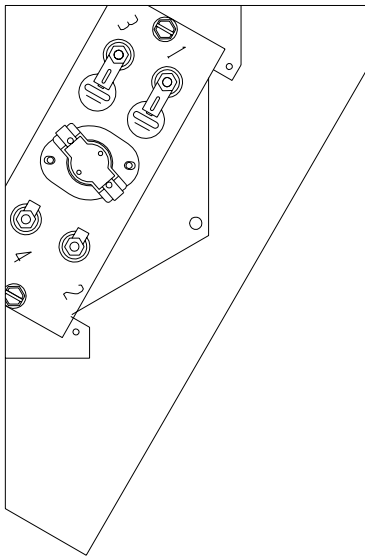
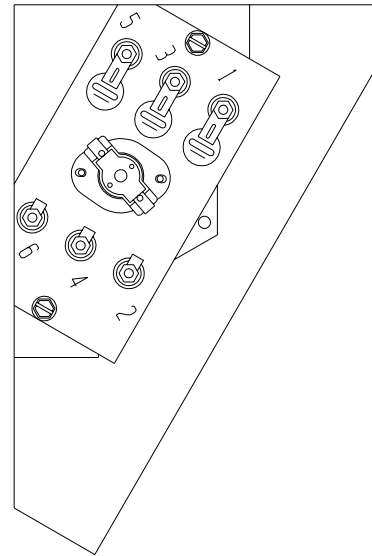


FIGURE 4D

EHWA03-A15L
EHWA4S-A15L
EHWA5S-A15L
EHWA37-B15L

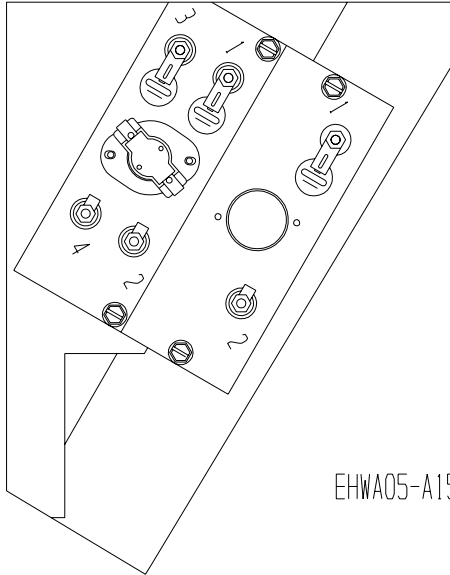


NOTE: THERMAL CUTOFFS TO BE AT
TOP OF AIR FRAME WHEN INSTALLING.

MIS-2910

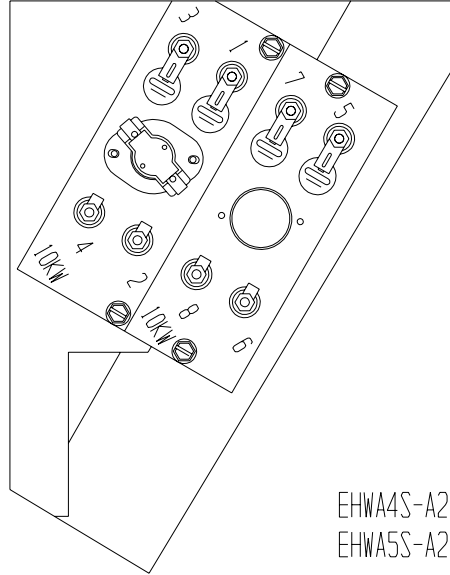
**FIGURE 4
E THROUGH G**

FIGURE 4E



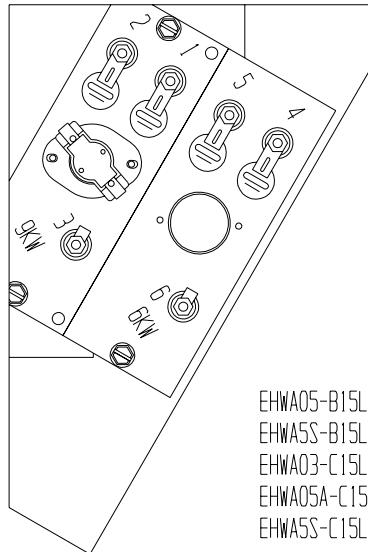
EHWA05-A15L

FIGURE 4F



EHWA4S-A20L
EHWA5S-A20L

FIGURE 4G

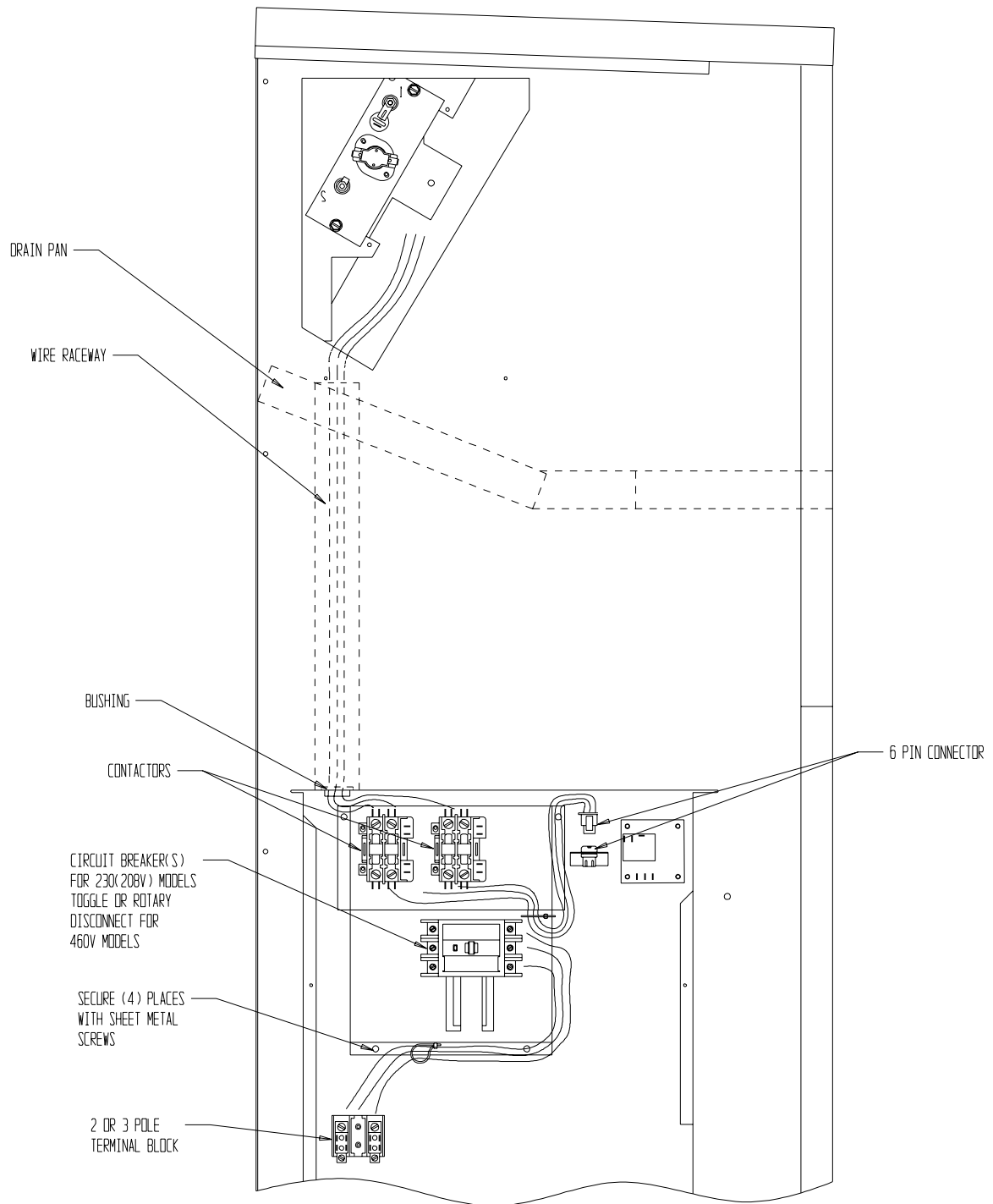


EHWA05-B15L
EHWA5S-B15L
EHWA03-C15L
EHWA05A-C15L
EHWA5S-C15L

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

MIS-2911

**FIGURE 5
INSTALLING HEATER BASE
AND CONNECTING**



MIS-2904

**FIGURE 6
SERIAL PLATE SHOWING
APPROVED HEATER PACKAGES**

INSTALL ONLY HEATER PACKAGES LISTED HERE.

BARD MANUFACTURING COMPANY, 1914 RANDOLPH DRIVE

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

(1)
APPROVED
HEATER
PACKAGE

MODEL	VAC	HZ
() WA361-A0012345	230/208	60
() WA361-A0512345	230/208	60
(X) WA361-A0812345	230/208	60
() WA361-A1012345	230/208	60
() WA361-A1512345	230/208	60

BRANCH CIRCUIT SELECT CURRENT 17 OPERATION

SERIAL NUMBER 125H92071193-01 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
				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

FACTORY CHARGED R22: 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