
INSTALLATION INSTRUCTIONS

ELECTRIC HEAT PACKAGES

Models:

EHWA3S-B06	EHWA4S-A05
EHWA4S-A10	EHWA4S-A15
EHWA4S-A20	EHWA5S-A05
EHWA5S-A08	EHWA5S-A10
EHWA5S-A15	EHWA5S-A20
EHWA5S-B06	EHWA5S-B09
EHWA5S-B15	EHWA5S-C06
EHWA5S-C09	EHWA5S-C15

**FOR USE WITH WA SERIES
WALL MOUNTED AIR CONDITIONERS
SEE TABLE 1 FOR MODEL USAGE**



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

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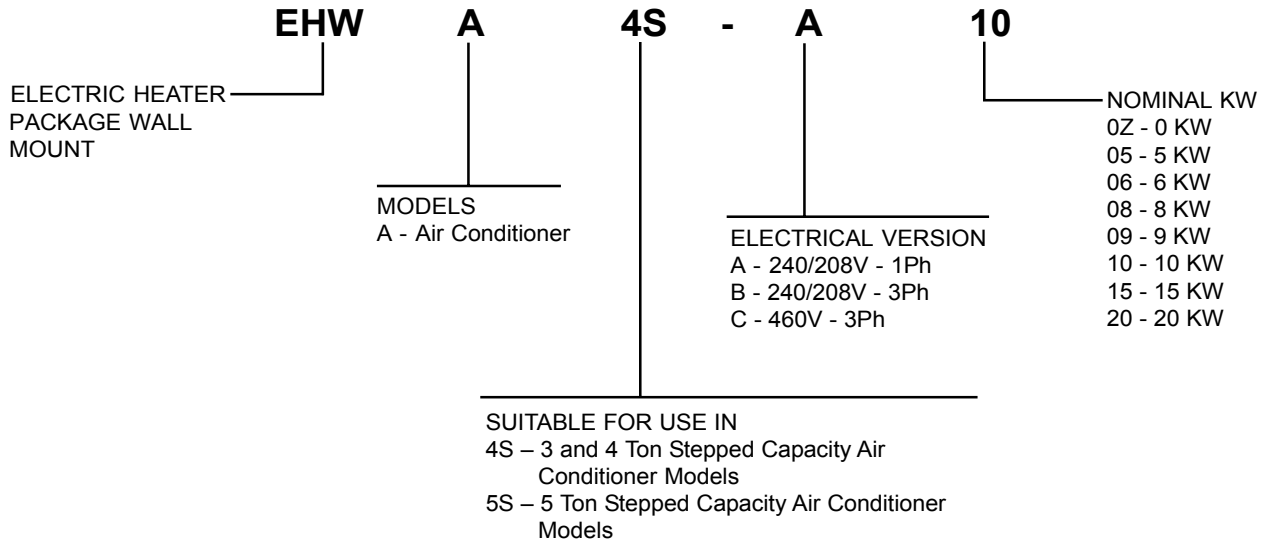
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GENERAL INFORMATION

NOMENCLATURE



DESCRIPTION OF EQUIPMENT

The EHWA series electric heater packages are capable of being field-installed and 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 of pull disconnects, installation instructions and wiring diagrams. See Table 1 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 listed as a heater package that is suitable for use with the Bard wall mount hi boy unit. See Table 1 and 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 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.

**TABLE 1
HEATER USAGE BY MODEL MATRIX**

Air Conditioner Models		-A00 Models 230/208-1		-B00 Models 230/208-3		-C00 Models 460-3	
		Heater Model #	KW	Heater Model #	KW	Heater Model #	KW
WA3S1	EHWA4S-A05	5	EHWA3S-B06 EHWA5S-B09 EHWA5S-B15	6 9 15	EHWA5S-C06 EHWA5S-C09 EHWA5S-C15	6 9 15	
	EHWA5S-A08	8					
	EHWA4S-A10	10					
	EHWA4S-A15	15					
	EHWA4S-A20	20					
WA4S1	EHWA4S-A05	5	EHWA5S-B06 EHWA5S-B09 EHWA5S-B15	6 9 15	EHWA5S-C06 EHWA5S-C09 EHWA5S-C15	6 9 15	
	EHWA5S-A08	8					
	EHWA4S-A10	10					
	EHWA4S-A15	15					
	EHWA4S-A20	20					
WA5S1	EHWA5S-A05	5	EHWA5S-B06 EHWA5S-B09 EHWA5S-B15	6 9 15	EHWA5S-C06 EHWA5S-C09 EHWA5S-C15	6 9 15	
	EHWA5S-A08	8					
	EHWA5S-A10	10					
	EHWA5S-A15	15					
	EHWA5S-A20	20					

- Designed for adding Electric Heat to 0 KW Units
- Circuit Breaker Standard on 230/208V Models
- Disconnect Standard on 460V Models
- UL Listed
- CUL Listed

 WARNING
<p>Only use factory provided heaters in approved combinations of heater models to unit models as shown on this table. Failure to use approved combinations as shown or modification to heaters, could result in fire causing damage, bodily injury or death.</p>

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 your 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.

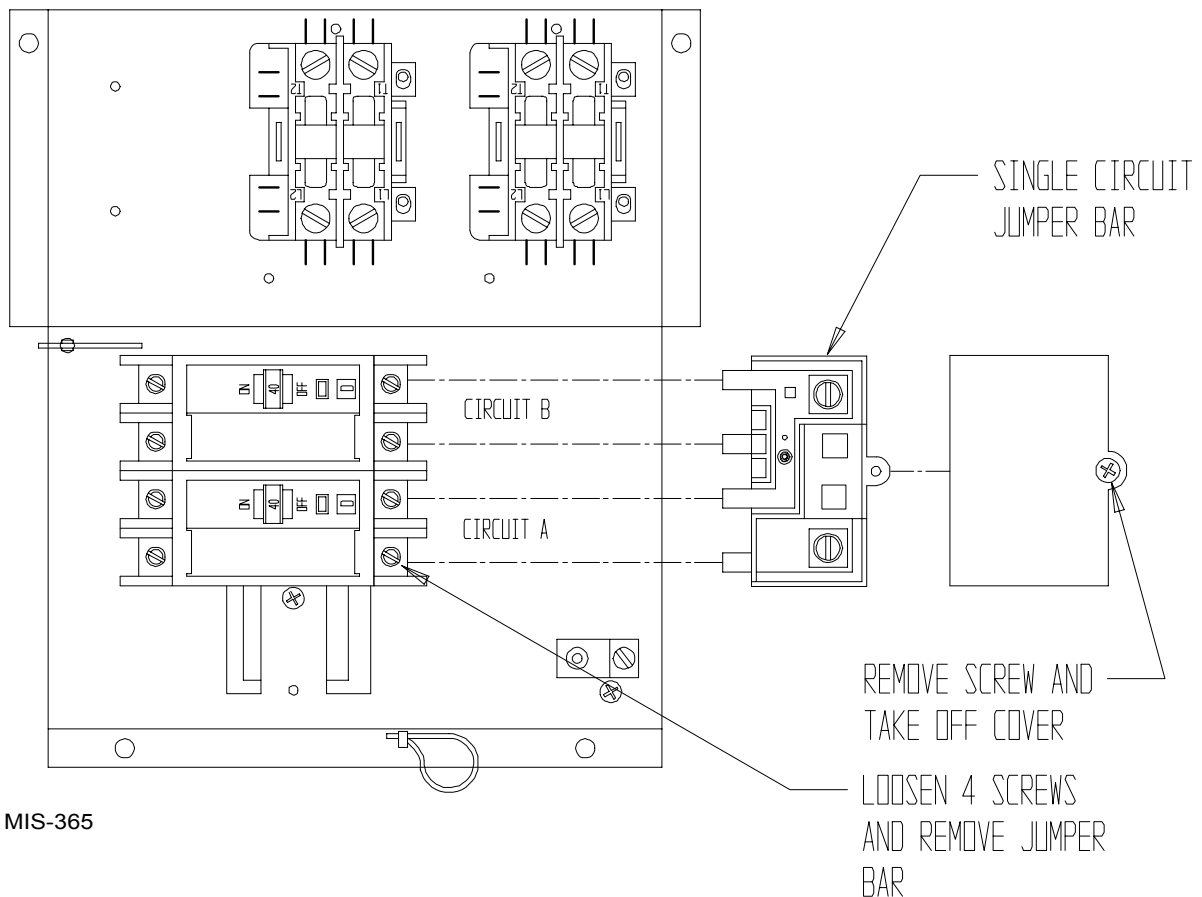
2. All heater packages covered by this manual are factory-wired for a single supply circuit. The following heater packages are field convertible to a dual or triple supply circuit if required or desired:

EHWA4S-A10	EHWA4S-A15
EHWA4S-A20	EHWA5S-A10
EHWA5S-A15	EHWA5S-A20

3. To convert the above heater packages to dual circuit configuration before installation, loosen 6 screws holding jumper bar in place. Remove jumper bar. Circuit A + B + C 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 + C.

**FIGURE 1
ELECTRICAL CONNECTIONS**



**TABLE 2
ELECTRICAL DATA AND BTU OUTPUT**

Electric Heat Table														
Nominal KW	At 240V (1)				At 208V (1)				At 480V (2)			At 460V (2)		
	Kw	1-Ph Amps	3-Ph Amps	Btuh	Kw	1-Ph Amps	3-Ph Amps	Btuh	Kw	3-Ph Amps	Btuh	Kw	3-Ph Amps	Btuh
5.0	5.0	20.8		17,065	3.75	18.0		12,799						
6.0	6.0		14.4	20,478	4.50		12.5	15,359	6.0	7.2	20,478	5.52	6.9	18,840
8.0	8.0	33.3		27,304	6.00	28.8		20,478						
9.0	9.0		21.7	30,717	6.75		18.7	23,038	9.0	10.8	30,717	8.28	10.4	28,260
10.0	10.0	41.7		34,130	7.50	36.1		25,598						
15.0	15.0	62.5	36.1	51,195	11.25	54.1	31.2	38,396	15.0	18.0	51,195	13.80	17.3	47,099
20.0	20.0	83.3		68,260	15.00	72.1		51,195						

(1) These electric heaters are available in 230/208V units only.

(2) These electric heaters are available in 480V units only.

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 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 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

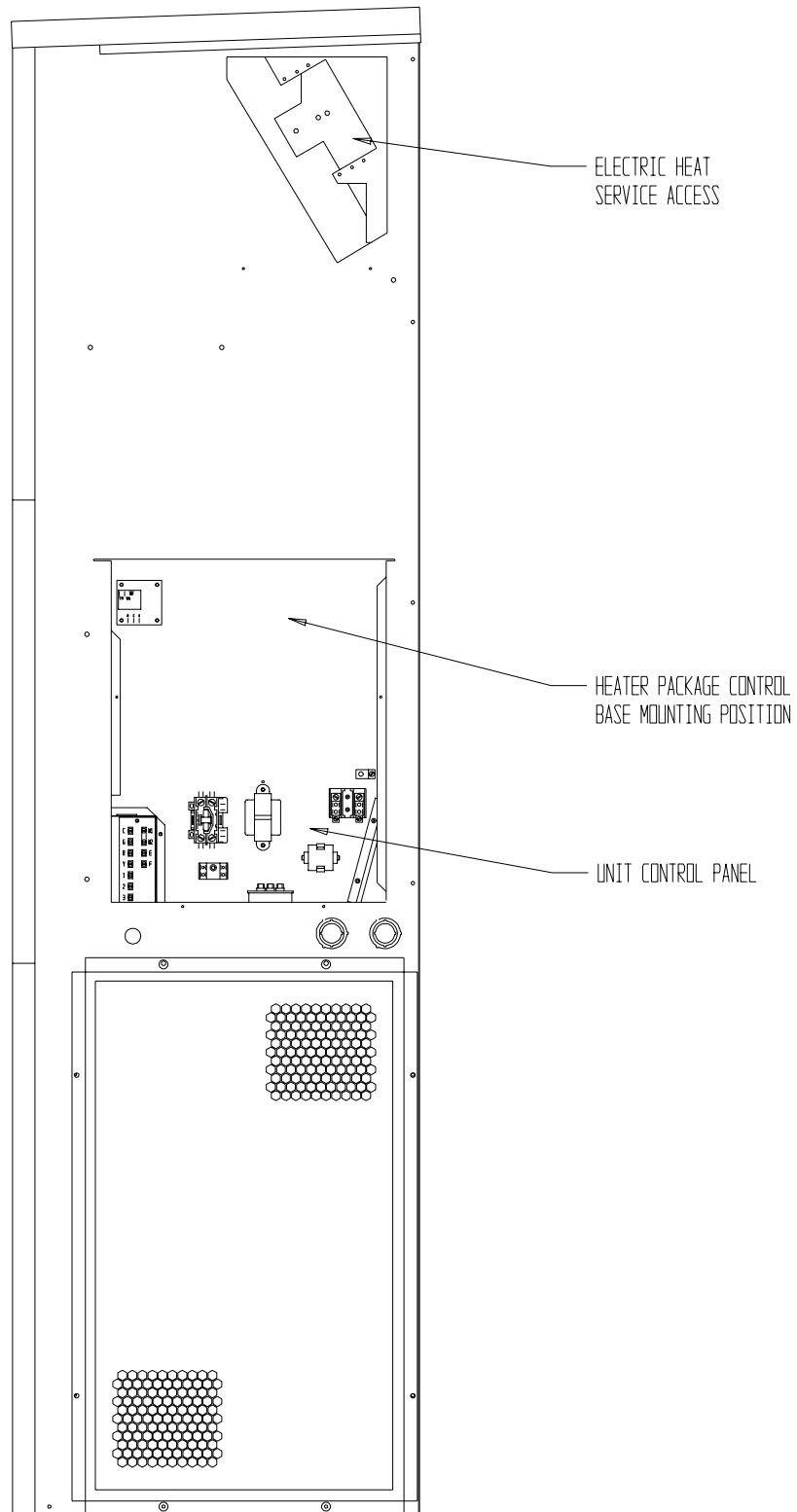
Install only heater packages listed on unit serial plate. Hazard of fire or electrical shock. Failure to install listed heater package could result in fire, injury or death.

3. Remove electric heater access panel and control panel cover, both inner and outer. See Figure 2.
4. All heaters are installed with the line break limits 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. Secure in place with 2 sheet metal screws in mounting holes as indicated in Table 1 and Figure 3.

On heater packages with 2 heat strips 10KW heater first in position closest to the outlet air frame. See Figures 4C.

5. Install heater control base into top of control panel as shown in Figure 5. Secure with 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. See Figure 5 and wiring diagram.
8. Route wires from heater control base up through raceway or grommet 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. Low voltage limit switch wires are terminated with insulated quick connect terminals. See Figure 4.
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
INSTALLATION OF HEATER PACKAGE
WA3S, WA4S AND WA5S MODELS

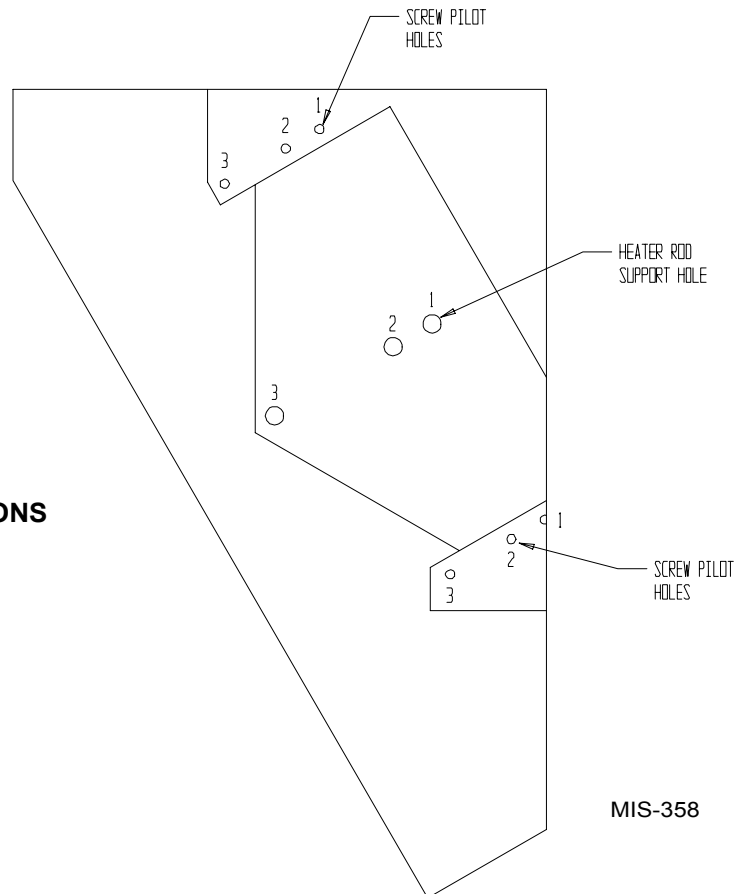


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TABLE 3
REFER TO FIGURES 3 AND 4

Heater Package Model Number	Figure 4 Heater Terminal Identification Drawing	Figure 3 Rod Support and Screw Mounting Position
EHWA4S-A05	4A	1 + 1
EHWA4S-A10	4B	1 + 1
EHWA4S-A15	4C	2 + 2
EHWA4S-A20	4D	1 + 1 & 3 + 3
EHWA5S-A05	4A	1 + 1
EHWA5S-A08	4B	1 + 1
EHWA5S-A10	4B	1 + 1
EHWA5S-A15	4C	2 + 2
EHWA5S-A20	4D	1 + 1 & 3 + 3
EHWA3S-B06	4B	1 + 1
EHWA3S-C06	4B	1 + 1
EHWA3S-C09	4B	1 + 1
EHWA4S-C06	4B	1 + 1
EHWA5S-B09	4B	1 + 1
EHWA5S-B15	4D	1 + 1 & 3 + 3
EHWA5S-C06	4B	1 + 1
EHWA5S-C09	4B	1 + 1
EHWA5S-C15	4D	1 + 1 & 3 + 3

FIGURE 3
ROD SUPPORT AND
SCREW MOUNTING POSITIONS



**FIGURES 4A - 4D
HEATER TERMINAL IDENTIFICATION DRAWINGS**

FIGURE 4 A

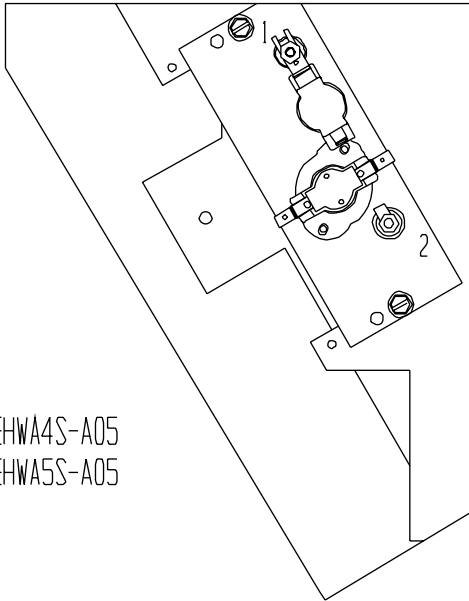


FIGURE 4 B

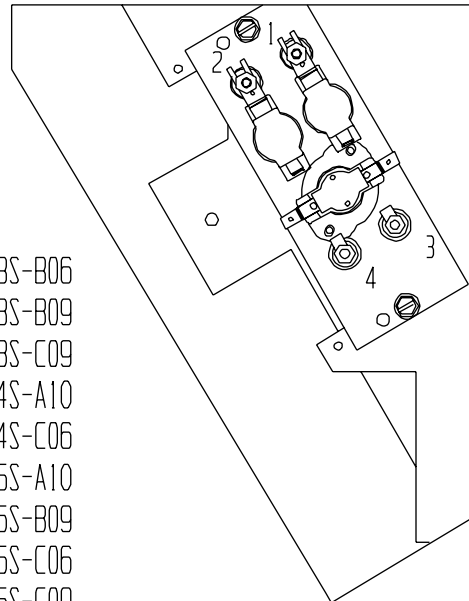


FIGURE 4 C

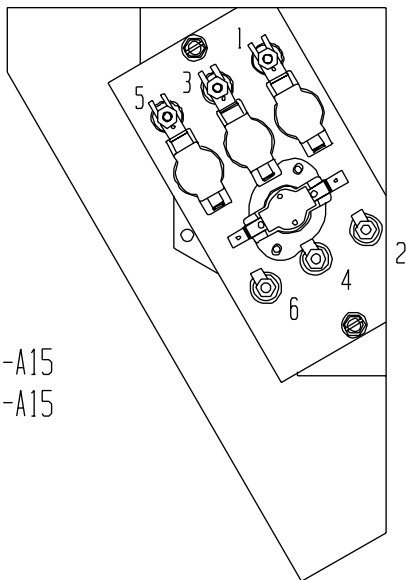
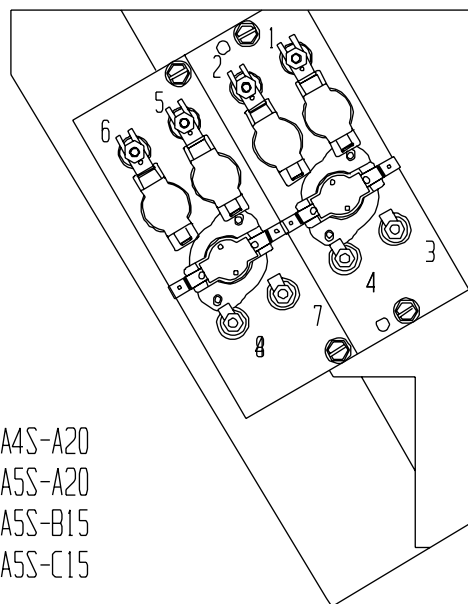


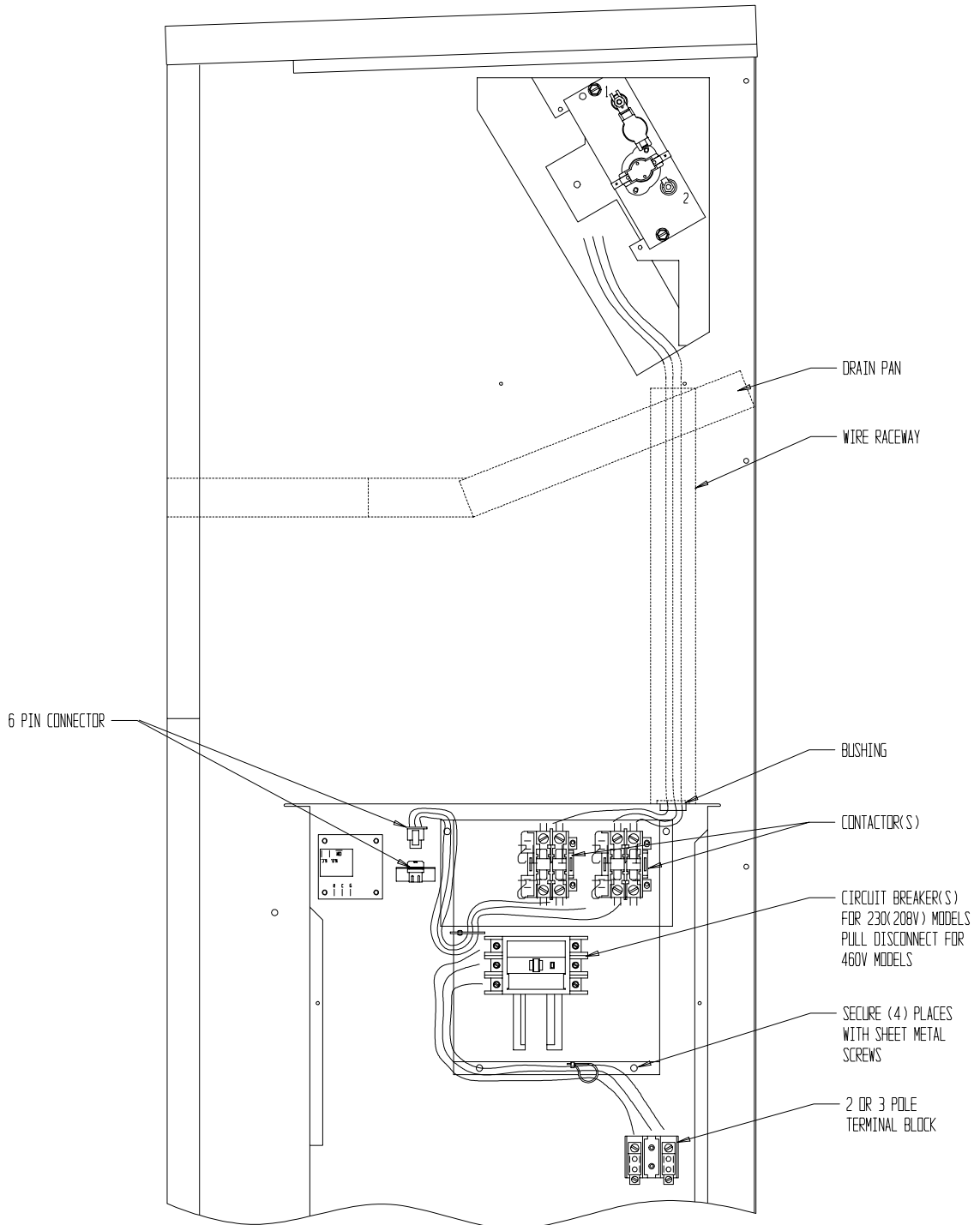
FIGURE 4 D



NOTE: LIMIT DEVICES TO BE AT
TOP OF AIR FRAME WHEN INSTALLING.

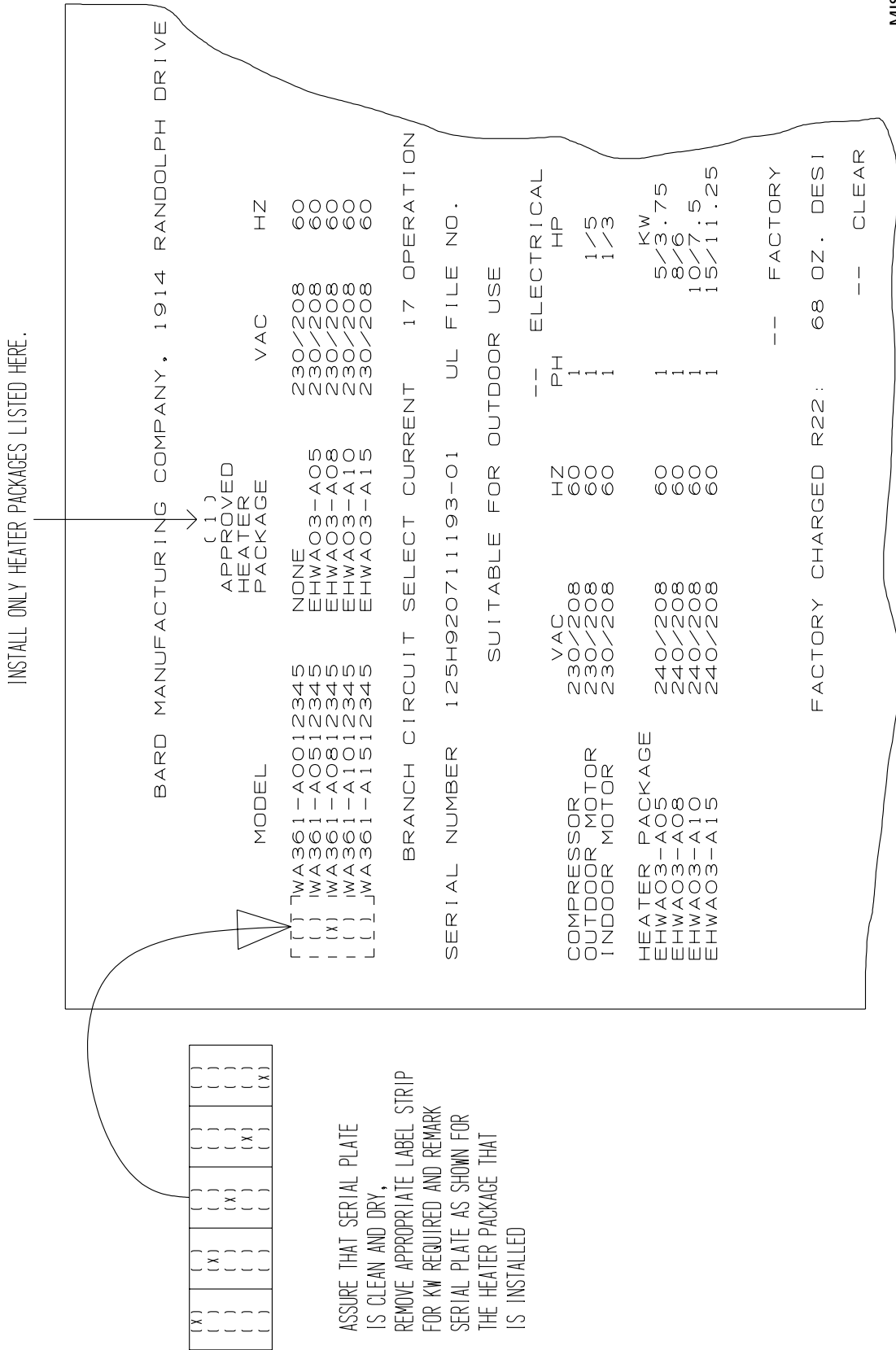
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**FIGURE 5
WIRING DIRECTIONS
WA3S, WA4S AND WA5S MODELS**



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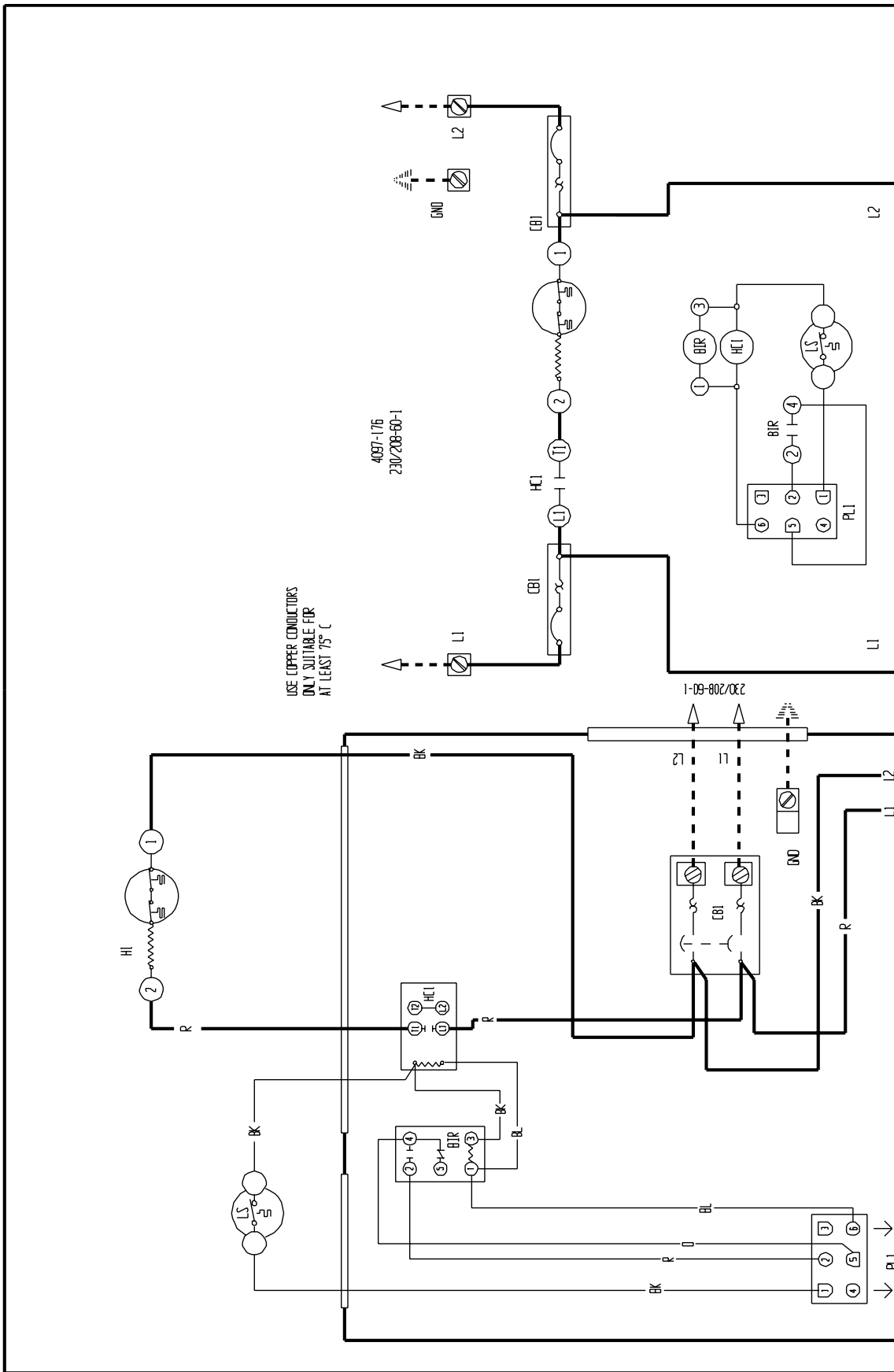
**FIGURE 6
MARKING SERIAL PLATE LABEL**

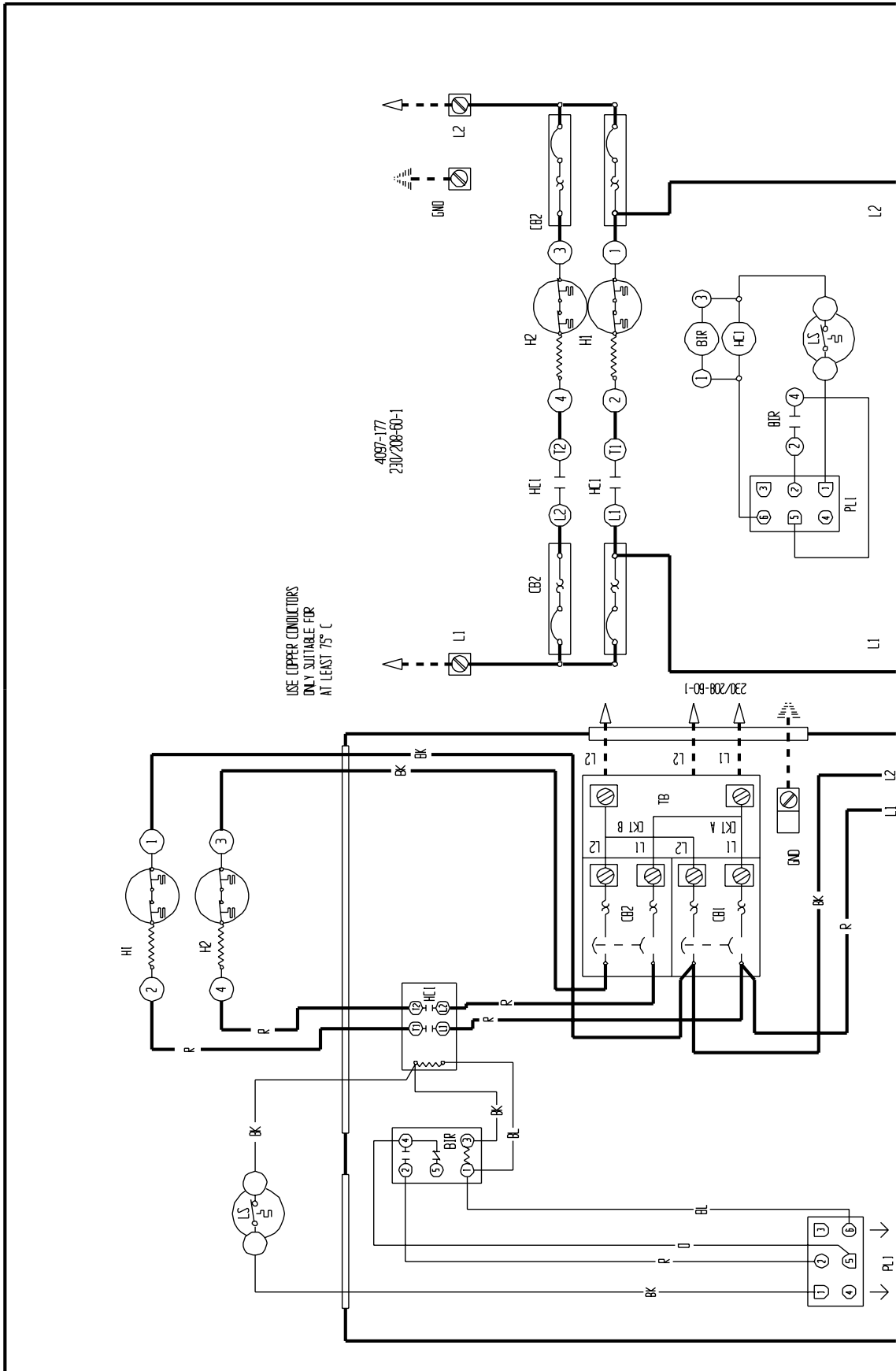


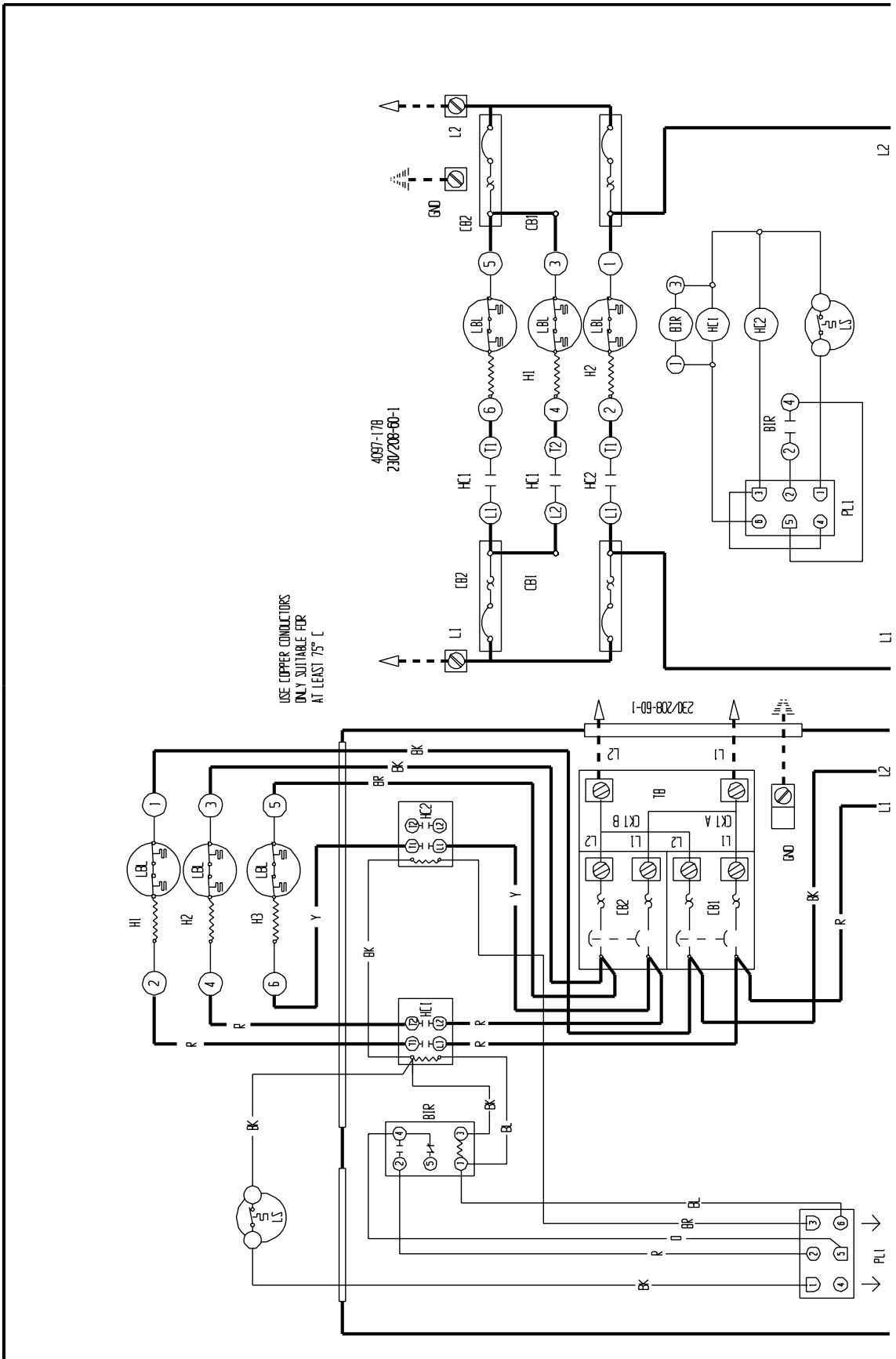
ASSURE THAT SERIAL PLATE IS CLEAN AND DRY, REMOVE APPROPRIATE LABEL STRIP FOR KW REQUIRED AND REMARK SERIAL PLATE AS SHOWN FOR THE HEATER PACKAGE THAT IS INSTALLED

**TABLE 4
ELECTRIC HEAT WIRING DIAGRAM MODEL USAGE**

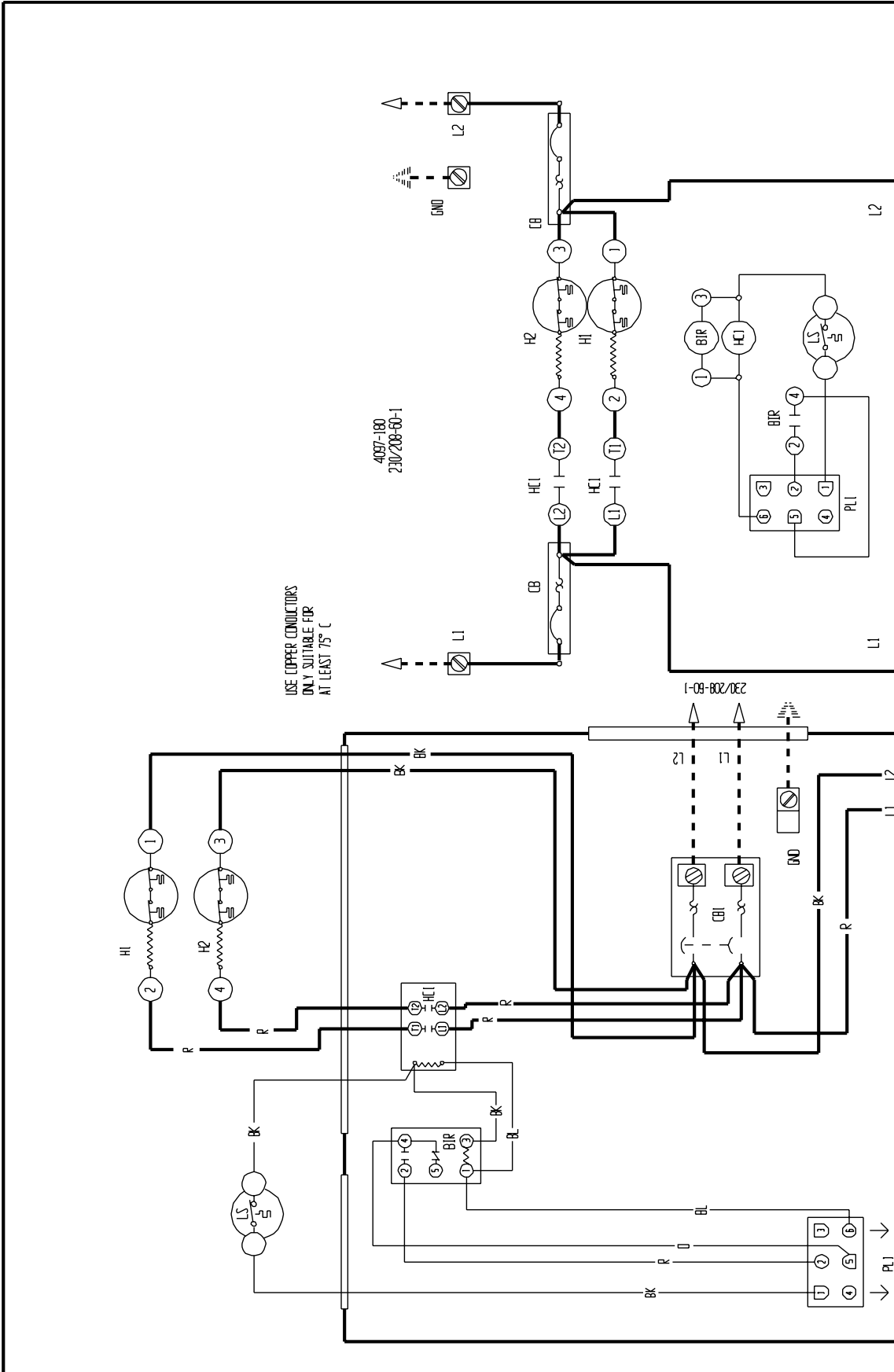
	EHWA3S-B06	EHWA4S-A05	EHWA4S-A10	EHWA4S-A15	EHWA4S-A20	EHWA5S-A05	EHWA5S-A08	EHWA5S-A10	EHWA5S-A15	EHWA5S-A20	EHWA5S-B06	EHWA5S-B09	EHWA5S-B15	EHWA5S-C06	EHWA5S-C09	EHWA5S-C15
4097-176		X				X										
4097-177			X					X								
4097-178				X					X							
4097-179					X					X						
4097-180							X									
4097-240	X										X	X				
4097-241													X			
4097-340														X	X	
4097-341																X



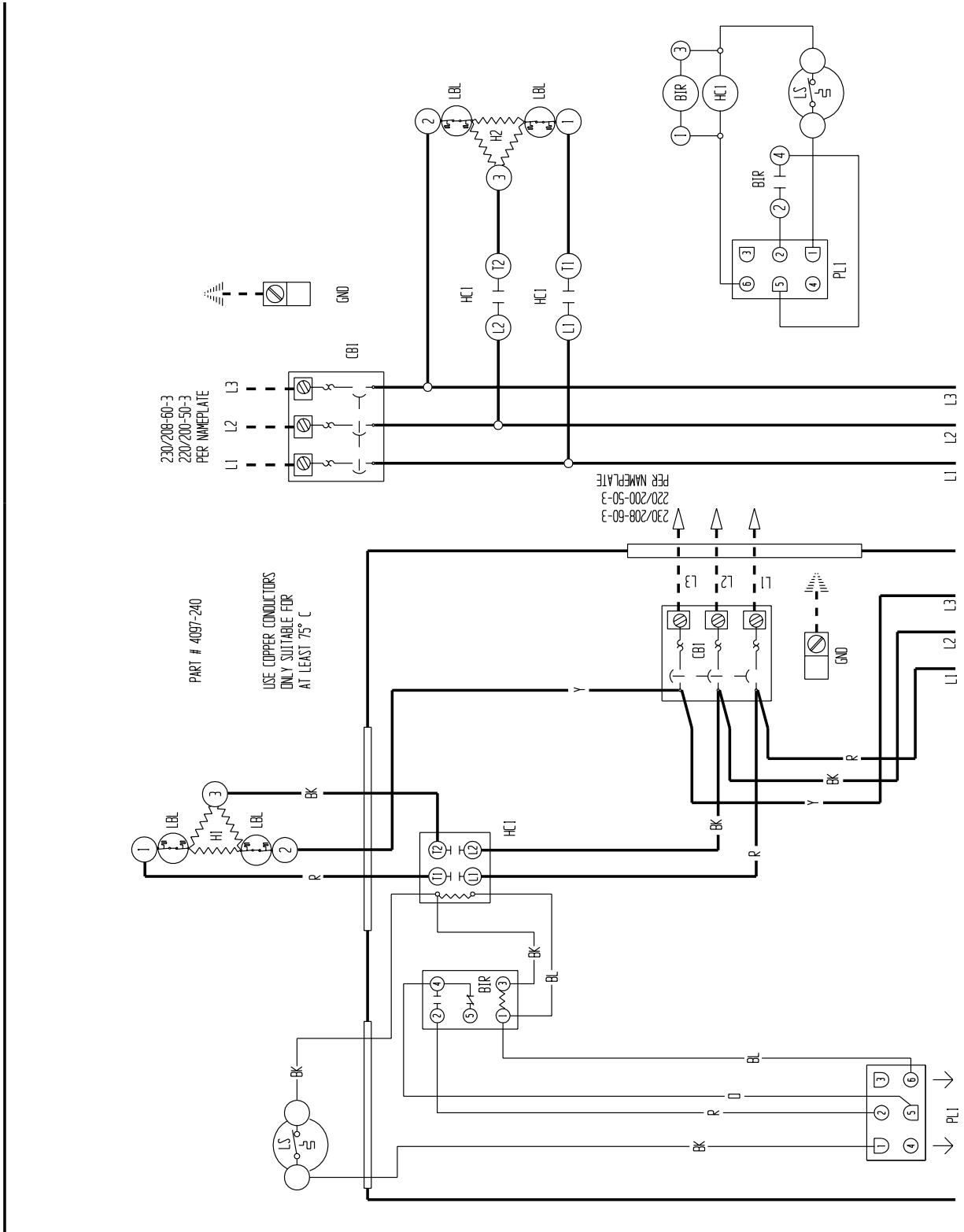




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4097-240



4097-241

