
INSTALLATION INSTRUCTIONS

ELECTRIC HEAT PACKAGES

Models:	EHWH02A-A04	EHWA24A-A04
	EHWH02A-A08	EHWA02-A05
	EHWH24-B06	EHWA02A-A08
	EHWH24B-C06	EHWA02A-A10
	EHWH30-A05	EHWA24-B06
	EHWH36-A05	EHWA03-A05
	EHWH30-A10	EHWA03-A08
	EHWH36-A10	EHWA03-A10
	EHWH36-A15	EHWA03-A15
	EHWH03-B06	EHWA03-B06
	EHWH03-B09	EHWA03-B09
	EHWH36-B15	EHWA03-B15
	EHWH03A-C15	EHWA03A-C15
	EHWC03A-C06	
	EHWC03A-C09	EHWH31DB06
	EHWH26-A05	EHWH31-B06
	EHWH31-A05	EHWH31-C06
	EHWH31-A08	EHWH31DA08

**FOR USE WITH SH, WA AND WH SERIES
WALL MOUNTED AIR CONDITIONERS
AND HEAT PUMPS**

(See Tables 1A, 1B and 1C for Model Usage Matrix)



CLIMATE CONTROL SOLUTIONS

BARD MANUFACTURING COMPANY
Bryan, Ohio 43506
Since 1914...Moving ahead just as planned.

Manual: 2100-268D
Supersedes: 2100-268C
File: Volume III, Tab 16
Date: 01-21-03

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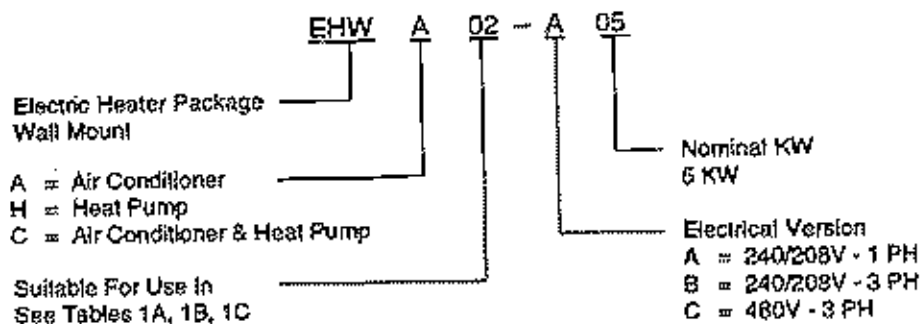
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MODEL NOMENCLATURE LEGEND



DESCRIPTION

The EHWA, EHWH and EHWC series electric heater packages are field installable heater packages suitable for use with Bard wall mount hi boy 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 or 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 a heater package that is suitable for use with the Bard wall mount hi boy 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
APPROVED HEATER USAGE MATRIX

240/220 V 1 Phase	WA182-A	WA182-D	WA242-A	WA242-D	WA242HA	WA253-A	WA253-D	WA302-A	WA302-D	WA361-A	WA361-D	WA372-A	WA372-D	WE262-D	WE301-D	WE371-D	WH183-A	WH242-A	WH242DA	WH261-A	WH301-A	WH301DA	WH301LA	WH311-A	WH361-A	WH361DA	WH361HA	WH361LA	SH311DA	SH261DA
EHWA02-A05	X						X																							
ERWA02A-A08	X	X		X		X	X																							
EHWA02A-A10	X		X			X																								
EHWA03-A05								X	X	X	X	X	X		X	X														
EHWA03-A08								X	X	X	X	X	X		X	X														
EHWA03-A10								X	X	X	X	X	X		X	X														
EHWA03-A15								X																						
EHWA24A-A04			X			X																								
EHWF02A-A04			X																											
EHWF02A-A08																														
EHWF26-A05																					X									
EHWF30-A05																					X	X								
EHWF30-A10																					X	X								
EHWF31-A05																					X	X								
EHWF31-A08																					X	X								
EHWF36-A05																					X	X								
EHWF36-A10																					X	X								
EHWF36-A15																					X	X								
EHWR31DA08																													X	X

**TABLE 1B
APPROVED HEATER USAGE MATRIX**

240/220 V 230/208 V 3 Phase	WA242-B	WA242HB	WA242TB	WA253-B	WA302-B	WA361-B	WA361-E	WA361HB	WA361TB	WA372-B	WA372-E	WA372TB	WH242-B	WH242DB	WH262-B	WH301-G	WH301DB	WH301LB	WH311-B	WH361-B	WH361DB	WH361LB	SH311DB	SH261DB
	EHWA03-B06					X	X	X		X	X	X	X						X				X	
EHWA03-B09					X	X			X	X		X										X		
EHWA03-B15					X	X			X															
EHWA24-B06	X	X	X	X																				
EHWH03-B06																X	X			X	X			
EHWH03-B09								X								X	X			X	X			
EHWH24-B06													X	X										
EHWH31-B06															X				X					
EHWH36-B15																				X				
EHWH31DB06																							X	X

**TABLE 1C
APPROVED HEATER USAGE MATRIX**

415 V 460 V 3 Phase	WA242-F	WA253-F	WA302-C	WA302-F	WA302TF	WA361-C	WA361-F	WA361TF	WA372-C	WA372-F	WA372TF	WE252-F	WE301-F	WE371-F	WH242-C	WH242DC	WH262-C	WH301-C	WH301DC	WH311-C	WH361-C	WH361DC
	EHWC03A-C06			X			X			X									X	X		X
EHWC03A-C09			X	X	X	X	X	X	X	X	X		X	X				X	X		X	X
EHWA03A-C15			X	X	X	X	X	X	X	X	X		X	X								
EHWH03A-C15																		X			X	
EHWH24B-C06	X	X										X			X	X						
EHWH31-C06																	X			X		

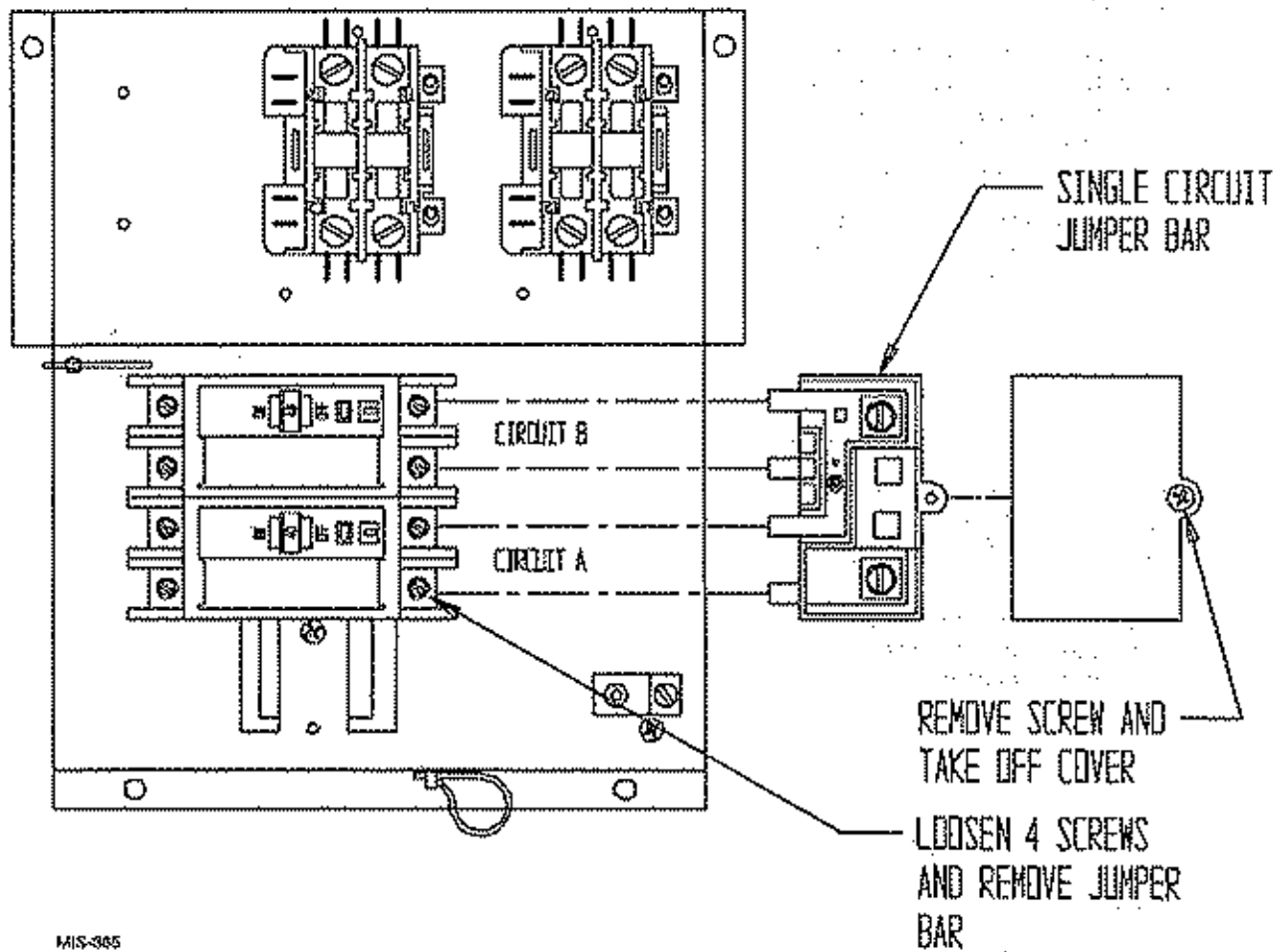
WARNING

Only use factory provided heaters in approved combinations of heater models to unit models as shown in table 1A, 1B and 1C. Failure to use approved combinations as shown or modification to heaters could result in fire causing damage, bodily injury or death.

**TABLE 2
ELECTRICAL DATA AND BTU OUTPUT**

Heater Package Model	Volts	Phase	Nominal KW	Nominal BTU
EHWA24A-A04	240/208	1	4 / 3	13,650 / 10,240
EHWA02-A05	240/208	1	6 / 3.75	17,065 / 12,800
EHWA02A-A08	240/208	1	8 / 6	27,300 / 20,475
EHWA02A-A10	240/208	1	10 / 7.5	34,130 / 25,600
EHWA24-B06	240/208	3	6 / 4.5	20,475 / 15,350
EHWH02A-A04	240/208	1	4 / 3	13,650 / 10,240
EHWH02A-A08	240/208	1	8 / 6	27,300 / 20,475
EHWH24-B06	240/208	3	6 / 4.5	20,475 / 15,350
EHWH24B-C09	480	3	9	30,715
EHWA03-A05	240/208	1	5 / 3.75	17,065 / 12,800
EHWA03-A08	240/208	1	8 / 6	27,300 / 20,475
EHWA03-A10	240/208	1	10 / 7.5	34,130 / 25,600
EHWA03-A15	240/208	1	15 / 11.25	51,195 / 23,035
EHWA03-B06	240/208	3	6 / 4.5	20,475 / 15,350
EHWA03-B09	240/208	3	9 / 6.75	30,715 / 23,035
EHWA03-B15	240/208	3	15 / 11.25	51,195 / 38,400
EHWA03A-C15	480	3	15	51,195
EHWH30-A05	240/208	1	5 / 3.75	17,065 / 12,800
EHWH30-A10	240/208	1	10 / 7.5	34,130 / 25,600
EHWH36-A05	240/208	1	5 / 3.75	17,065 / 12,800
EHWH36-A10	240/208	1	10 / 7.5	34,130 / 25,600
EHWH36-A15	240/208	1	15 / 11.25	51,195 / 38,400
EHWH03-B06	240/208	3	6 / 4.5	20,475 / 15,350
EHWH03-B09	240/208	3	9 / 6.75	30,715 / 23,035
EHWH36-B15	240/208	3	15 / 11.25	51,195 / 38,400
EHWC03A-C06	480	3	6	20,475
EHWC03A-C09	480	3	9	30,715
EHWH03A-C15	480	3	15	51,195
EHWH26-A05	240/208	1	6 / 3.75	17,065 / 12,800
EHWH31-A05	240/208	1	5 / 3.75	17,065 / 12,800
EHWH31-A08	240/208	1	8 / 6	27,300 / 20,475
EHWH31-B06	240/208	3	6 / 4.5	20,475 / 15,350
EHWH31-C06	480	3	6	20,475
EHWH31DA08	240/208	1	8 / 6	27,300 / 20,475

FIGURE 1
WIRING - MAIN POWER



MIS-365

- 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-A15

EHWH30-A10

EHWH36-A10

EHWH36-A15

- 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 package for circuits A + B.

INSTALLATION

- 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.

- 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.

- Remove electric heater access panel and control panel cover, both inner and outer. See Figure 2.
- 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.
- Install heater control base into top of control panel as shown in Figure 4. Secure with four (4) sheet metal screws provided.
- Plug mail six (6) pin connector into mating connector mounted in control panel. See Figure 5.
- 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 4 and wiring diagram.
- Route wires from heater control base up through raceway in top right corner of control panel to the heaters. See Figure 5.
- 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 4.
- Attach adhesive wiring diagram directly above unit wiring diagram on inner control panel cover.
- 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.
- Resupply power to the unit and check for proper operation.
- 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

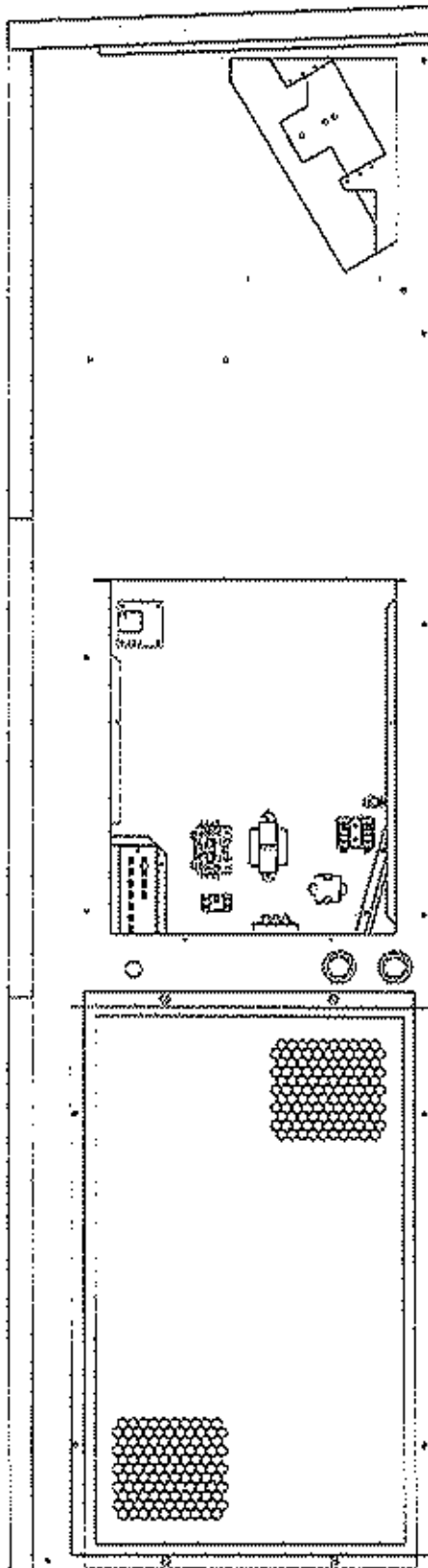
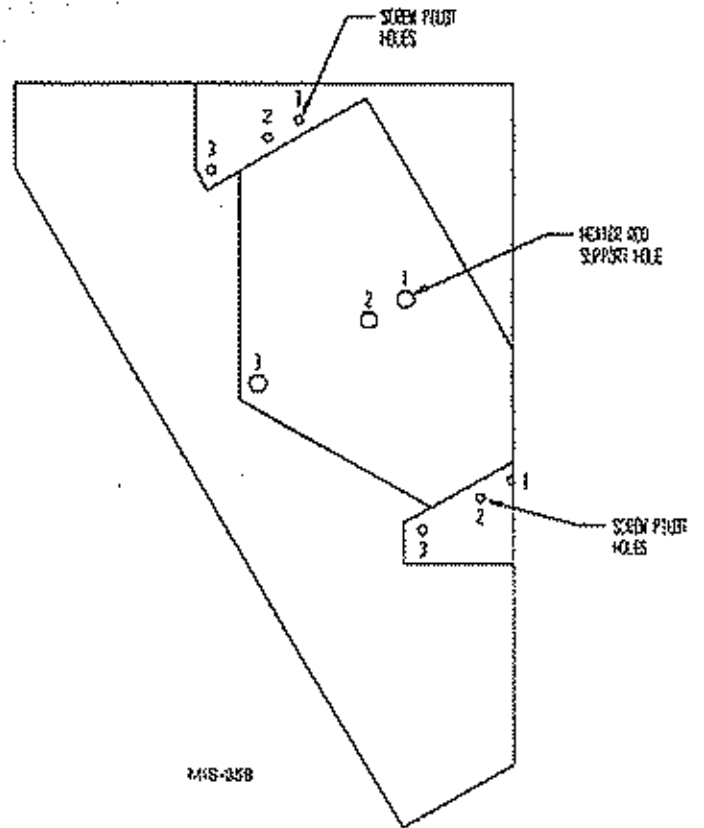


FIGURE 3
SCREW MOUNTING HOLES



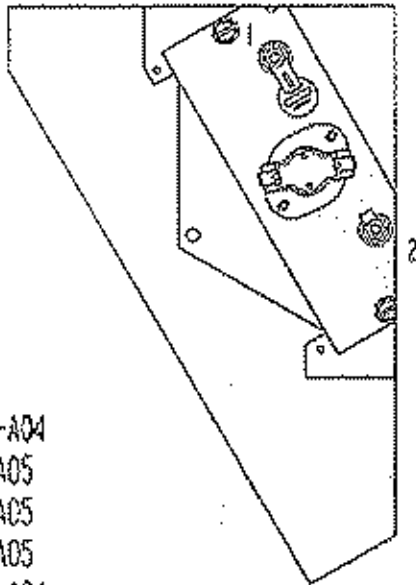
MIS-618

**TABLE 3
REFERENCES TO FIGURES 4 AND 5
FOR MODEL NUMBER**

	Heater Package Model Number	Figure 4 Heater Terminal Identification Drawing	Figure 3 Rod Support and Screw Mounting Position
1.	EHWA02-A05	4A	1
2.	EHWA02A-A08	4B	1
3.	EHWA02A-A10	4B	1
4.	EHWA03-A05	4A	1
5.	EHWA03-A08	4B	1
6.	EHWA03-A10	4B	1
7.	EHWA03-A15	4D	2
8.	EHWA03-B06	4C	1
9.	EHWA03-B09	4C	1
10.	EHWA03-B15	4D	2
11.	EHWA03A-C15	4E	1 + 3
12.	EHWA24-B06	4C	1
13.	EHWC03A-C06	4C	1
14.	EHWC03A-C09	4C	1
15.	EHWH02A-A04	4A	1
16.	EHWH02A-A08	4B	1
17.	EHWH03-B06	4C	1
18.	EHWH03-B09	4C	1
19.	EHWH03A-C15	4E	1 + 3
20.	EHWH24-B06	4C	1
21.	EHWH24B-C06	4C	1
22.	EHWH30-A05	4A	1
23.	EHWH30-A10	4B	1
24.	EHWH36-A05	4A	1
25.	EHWH36-A10	4B	1
26.	EHWH36-A15	4D	2
27.	EHWH36-B15	4E	1 + 3
28.	EHWA24A-A04	4A	1
29.	EHWH26-A05	4A	1
30.	EHWH31-A05	4A	1
31.	EHWH31-A08	4B	1
32.	EHWH31-B06	4C	1
33.	EHWH31-C06	4C	1
34.	EHWH31DB06	4C	1
35.	EHWH31DA08	4B	1

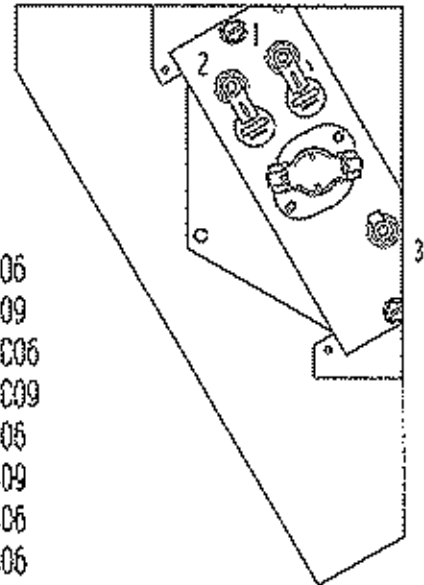
**FIGURE 4
A THRU D**

FIGURE 4A



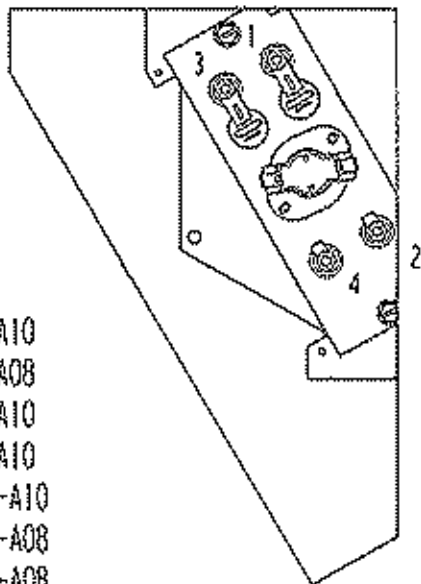
EHWA24A-A04
 EHWH36-A05
 EHWH30-A05
 EHWAO3-A05
 EWHH02A-A04
 EHWAO2-A05

FIGURE 4C



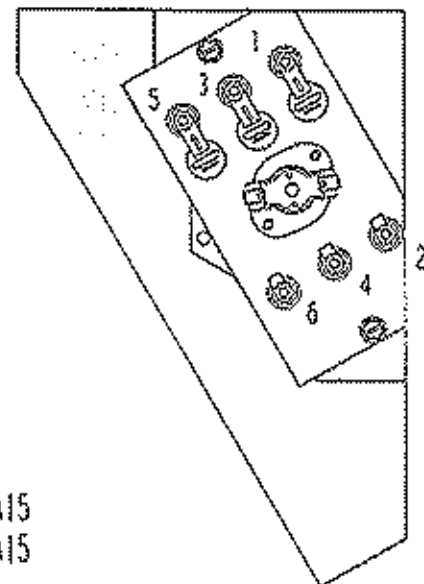
EHWAO3-B06
 EHWAO3-B09
 EHWCO3A-C06
 EHWCO3A-C09
 EWHH03-B06
 EWHH03-B09
 EHWH24-B06
 EHWH24-B06
 EHWH24B-C06
 EHWH310B06

FIGURE 4B



EHWAO3-A10
 EHWAO3-A08
 EHWH30-A10
 EHWH36-A10
 EHWAO2A-A10
 EHWAO2A-A08
 EWHH02A-A08
 EWHH310A08

FIGURE 4D

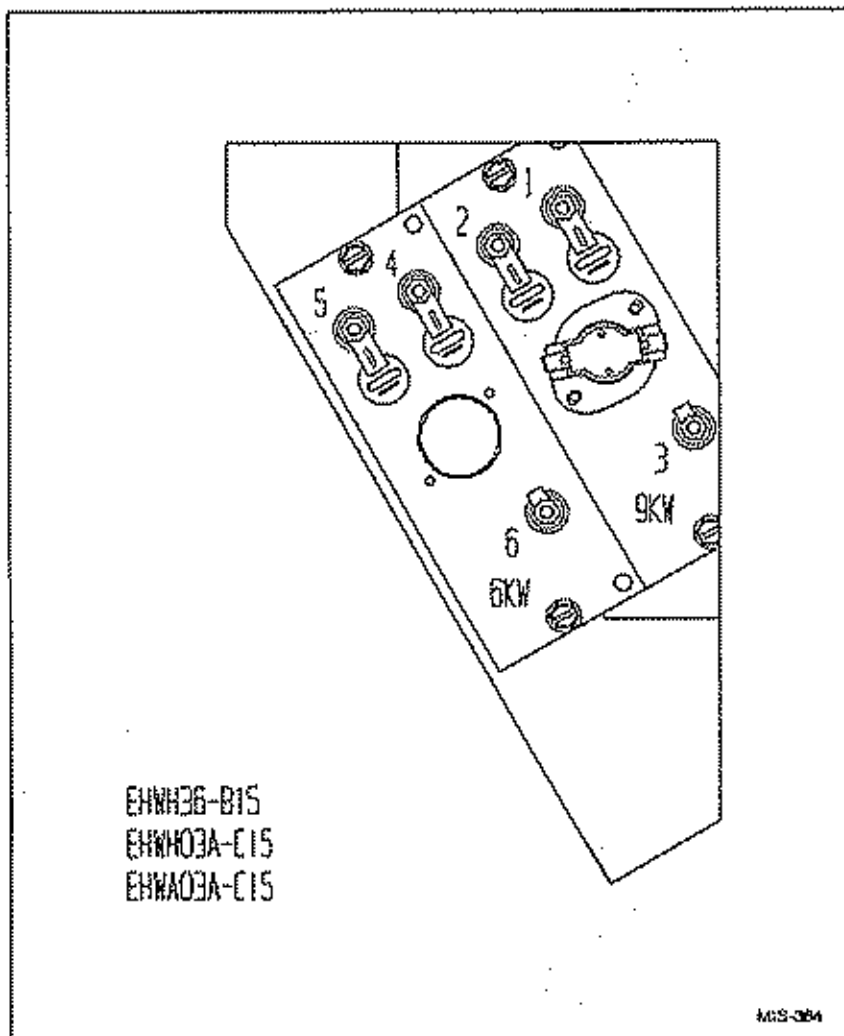


EWHH36-A15
 EHWAO3-A15

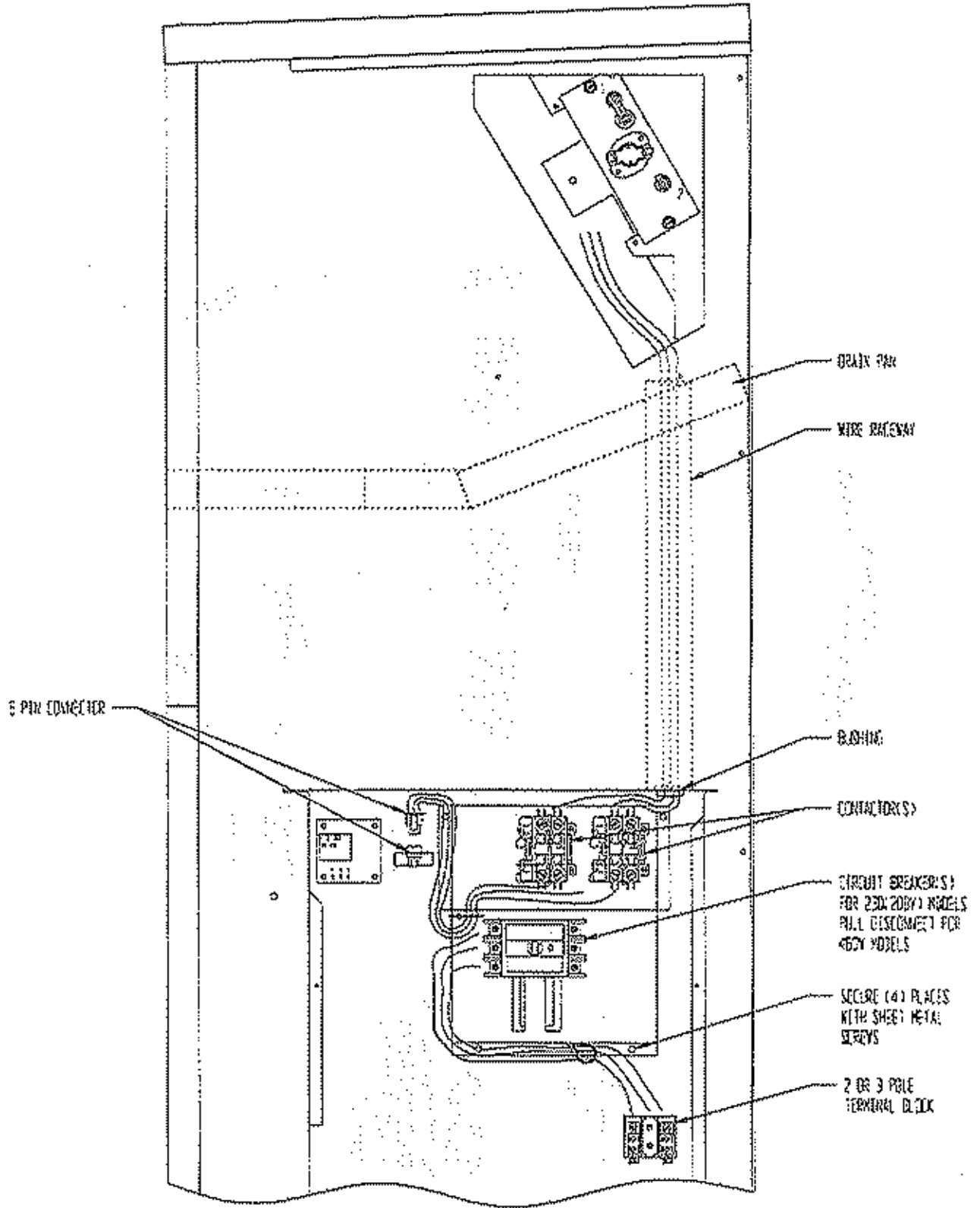
NOTE: THERMAL CUTOFFS TO BE AT
 TOP OF AIR FRAME WHEN INSTALLING.

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 063A

FIGURE 4E
INSTALL HEATER PACKAGE WITH
TWO HEAT STRIPS

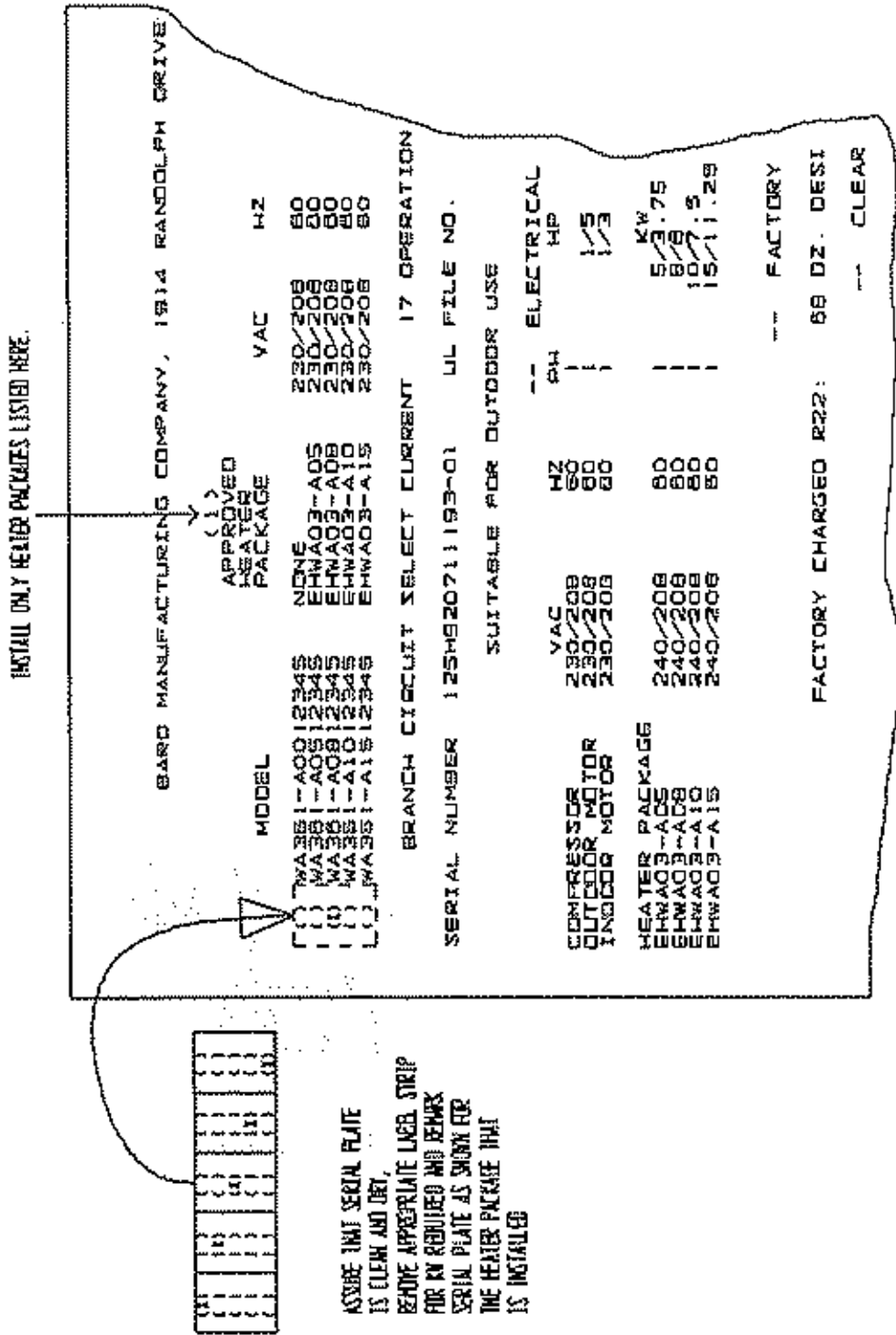


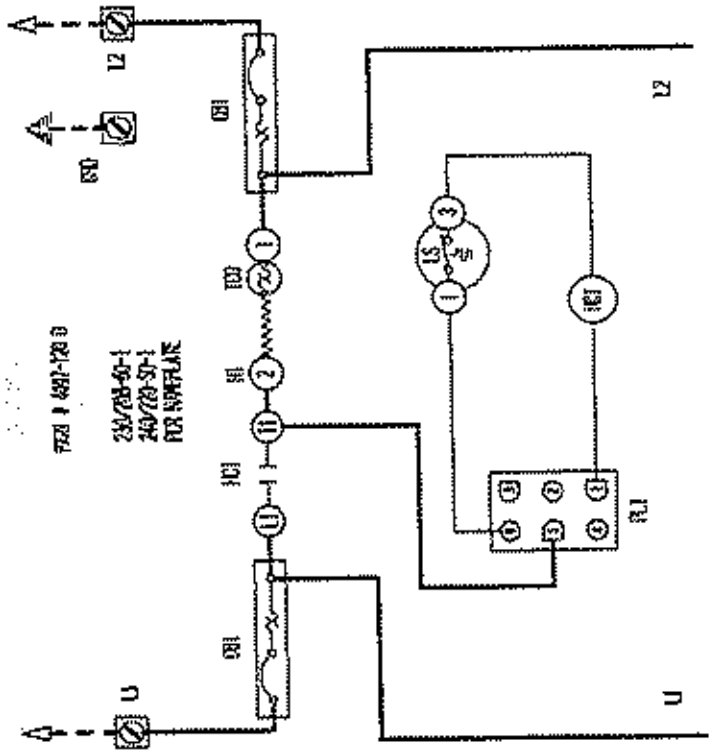
**FIGURE 5
INSTALLING HEATER BASE
AND CONNECTING**



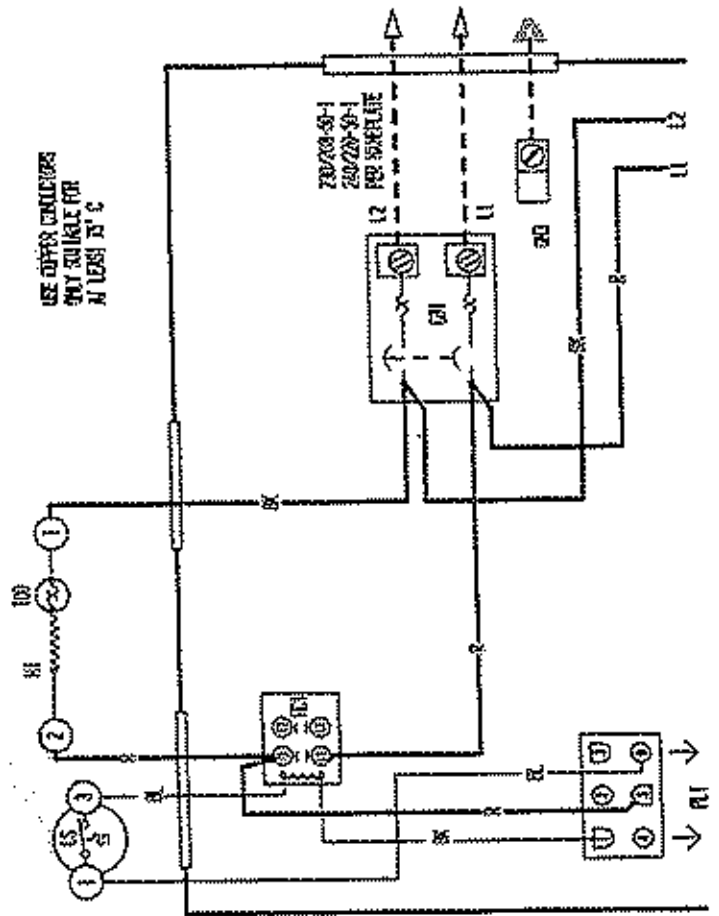
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FIGURE 6
SERIAL PLATE SHOWING
APPROVED HEATER PACKAGES



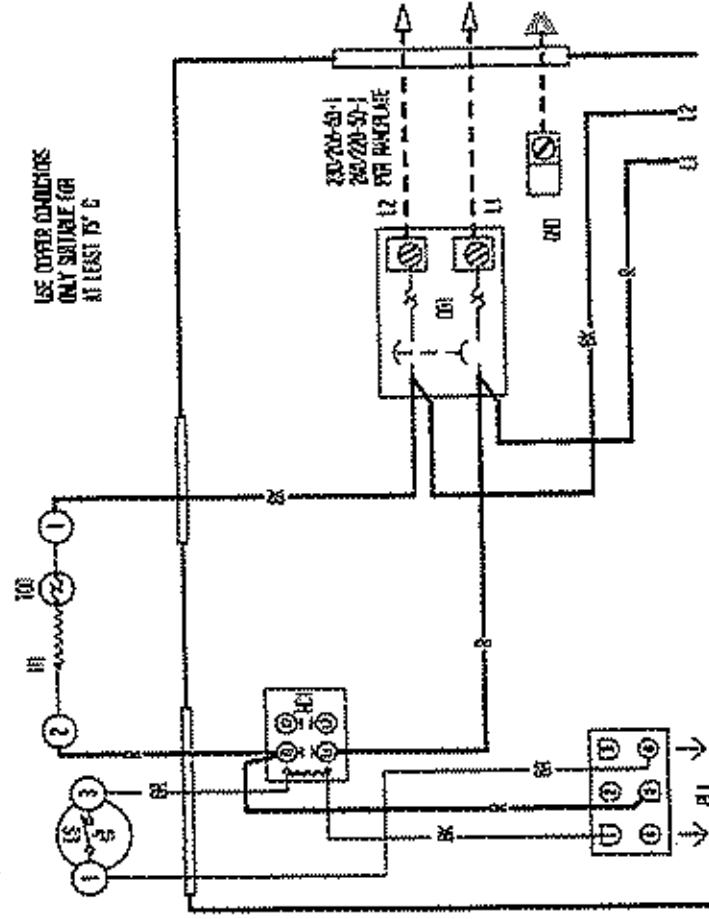
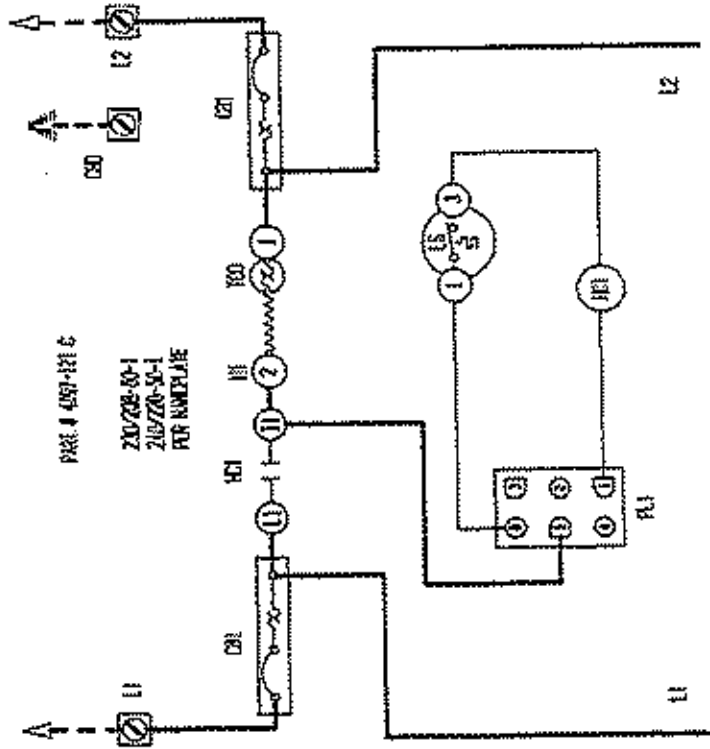


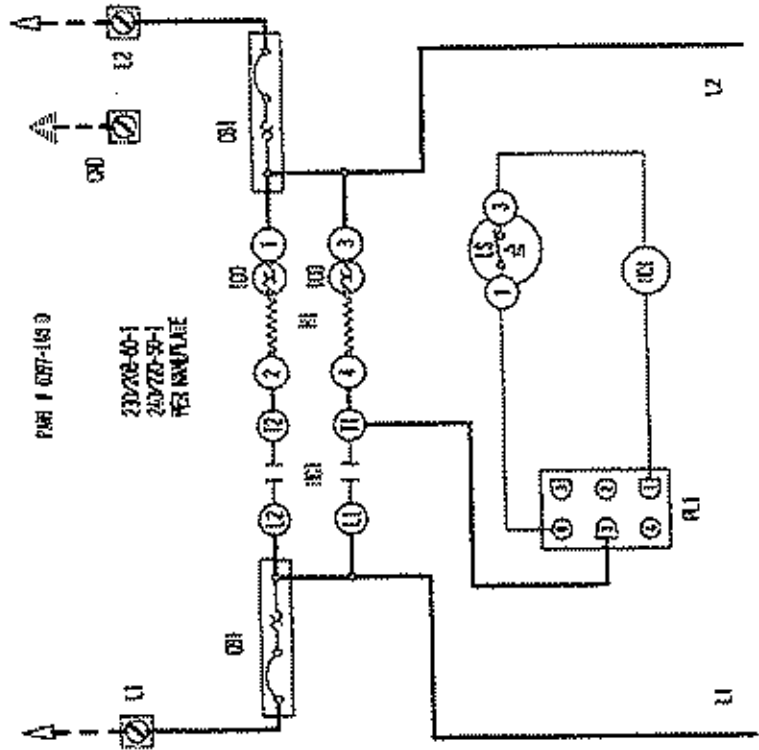
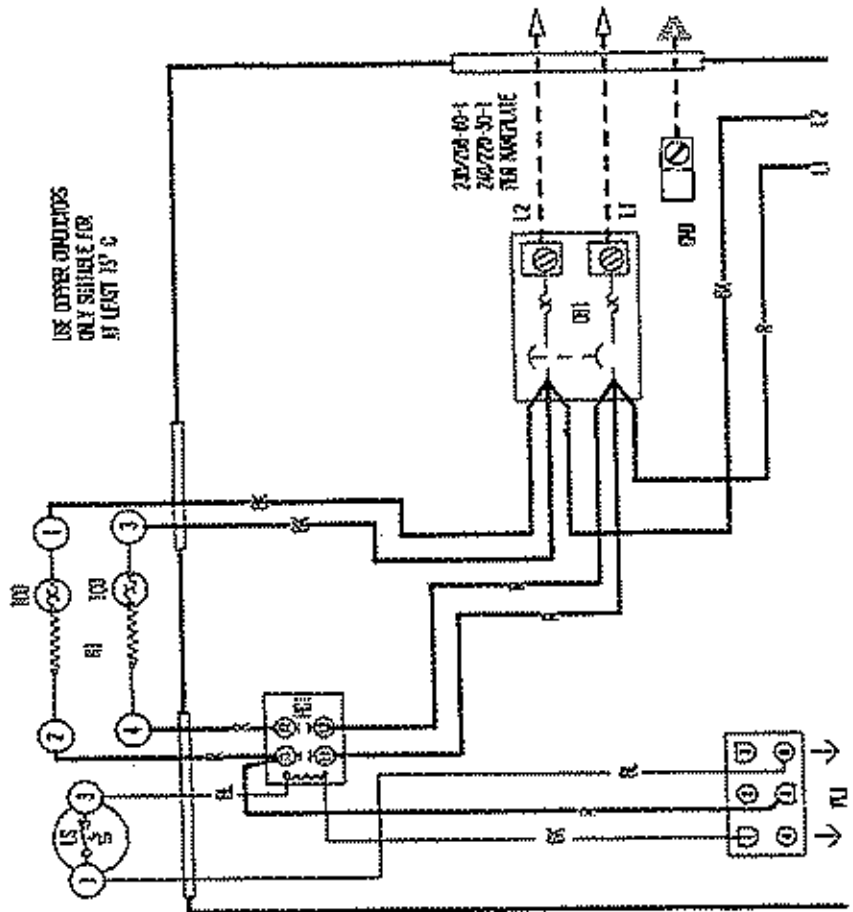
723 1 481-128 0
 230/230-50-1
 240/230-50-1
 FOR SURFLARE

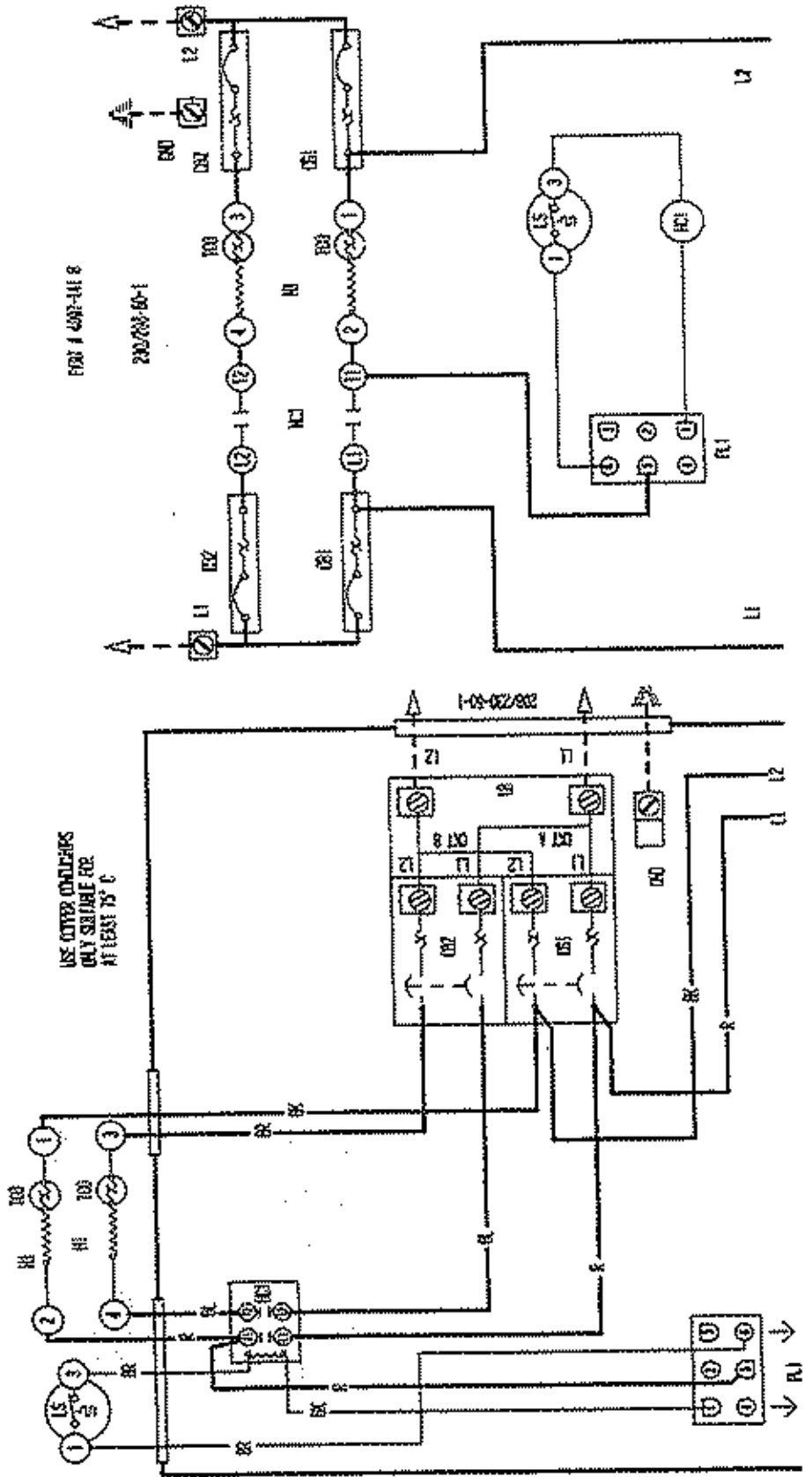


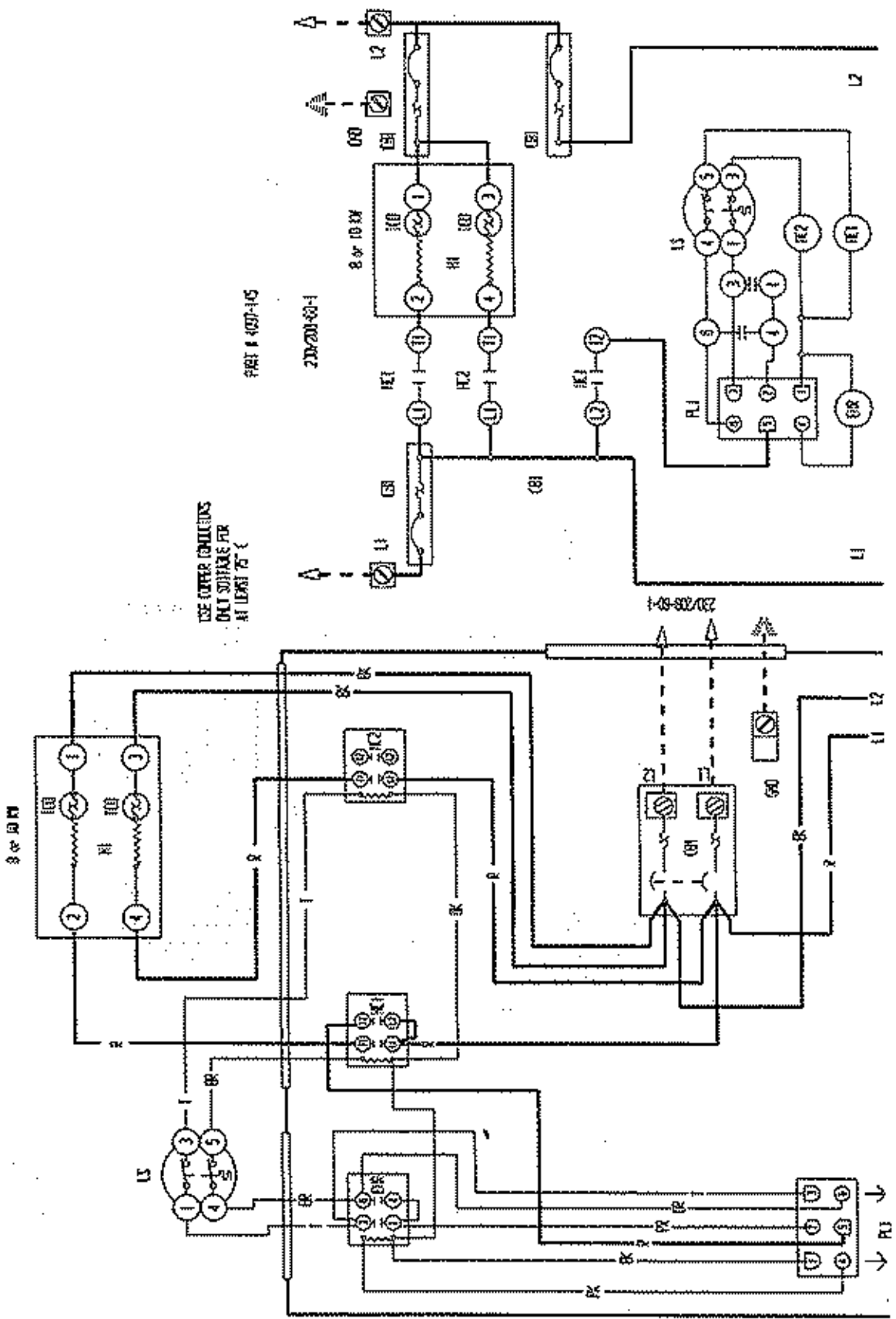
USE OTHER TERMINALS
 ONLY SUITABLE FOR
 AT LEAST 5°C

230/230-50-1
 240/230-50-1
 FOR SURFLARE









USE OTHER DIMENSIONS
ONLY SUITABLE FOR
AT LEAST 75°C

PART # 4007-105

220/230V 50-1

3 φ 10 HP

220/230V 50-1

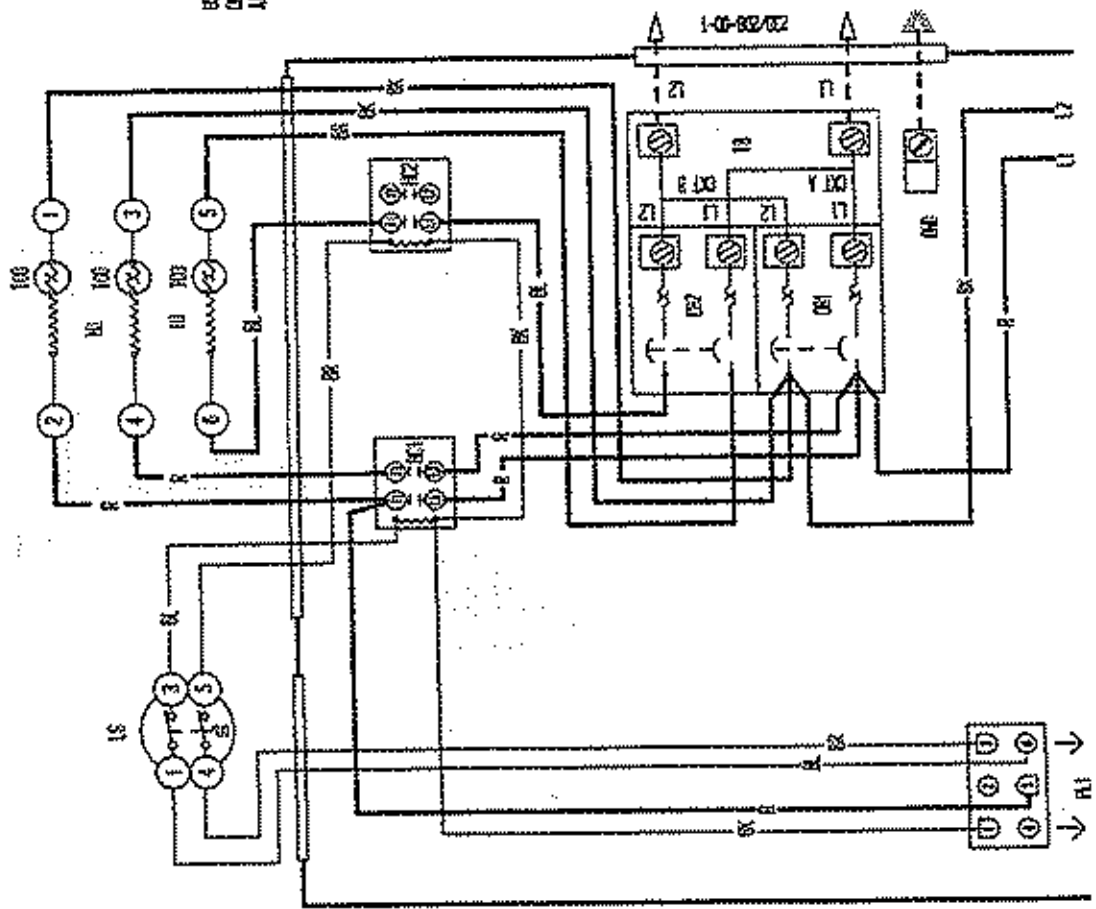
L2

L1

L1 L2

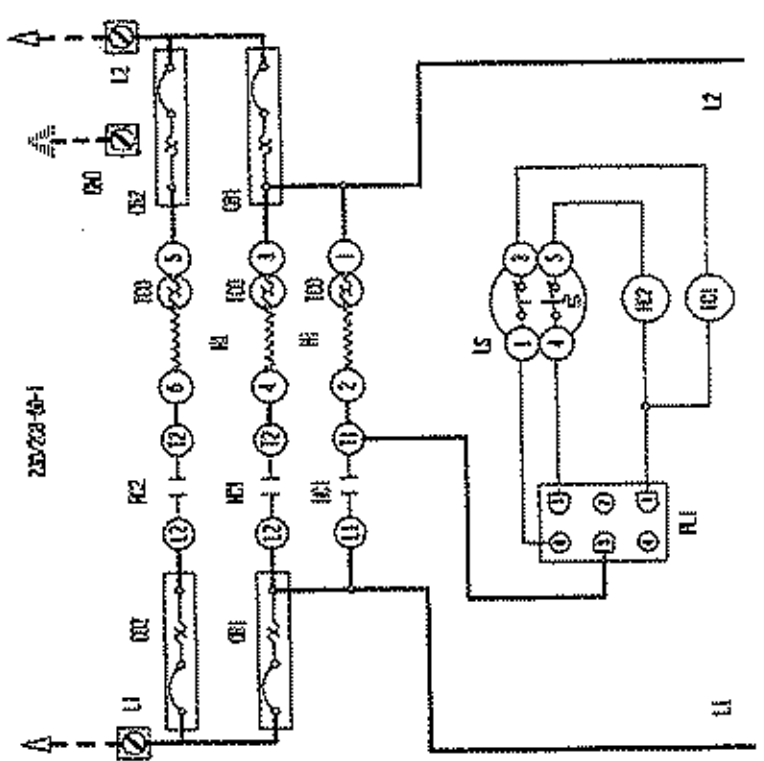
R1 R2

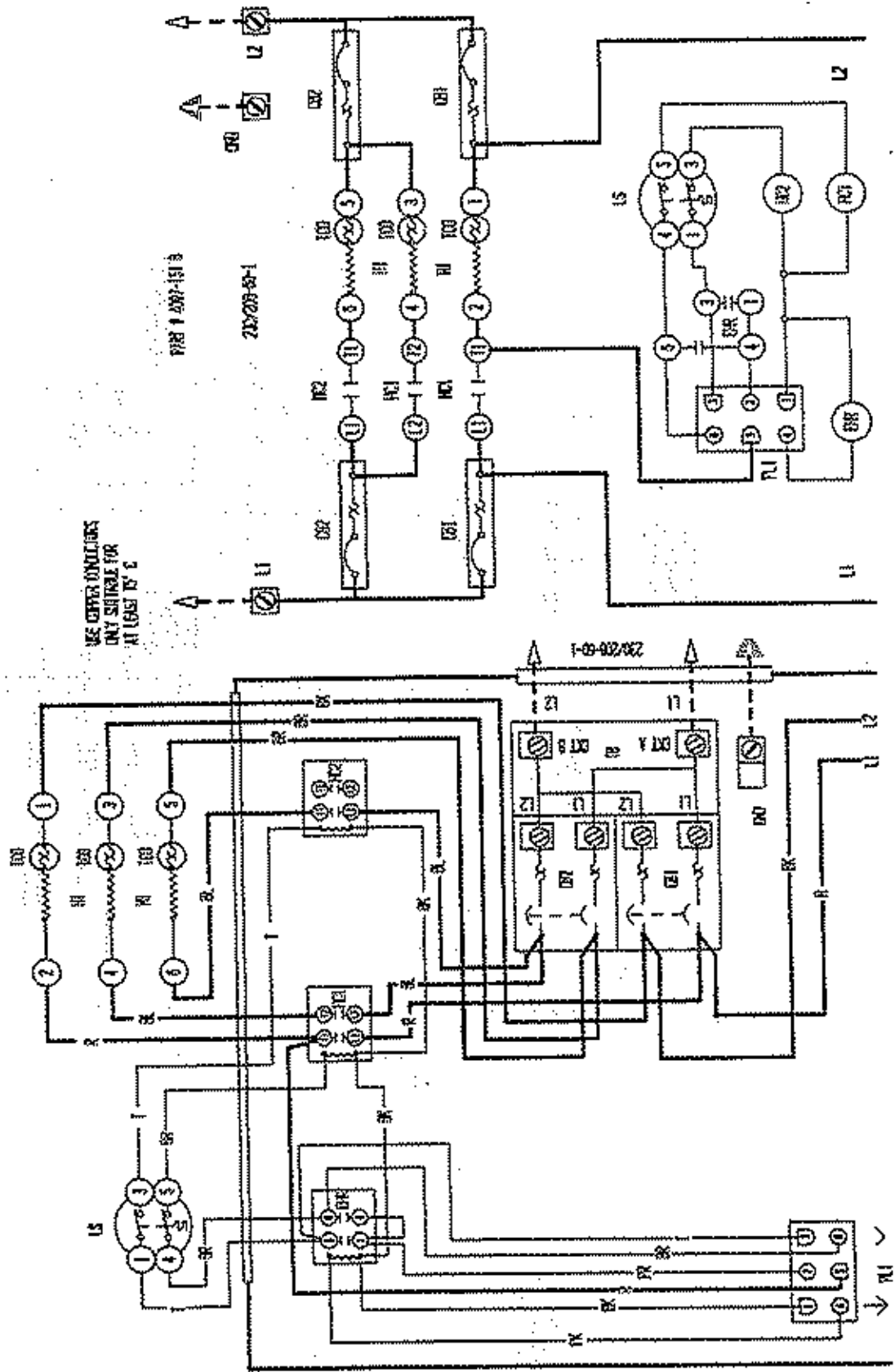
R1 R2



SEE OTHER DRAWINGS
ONLY SUITABLE FOR
AT LEAST 15°C

FIG. 1 (REV. 10/1/68)



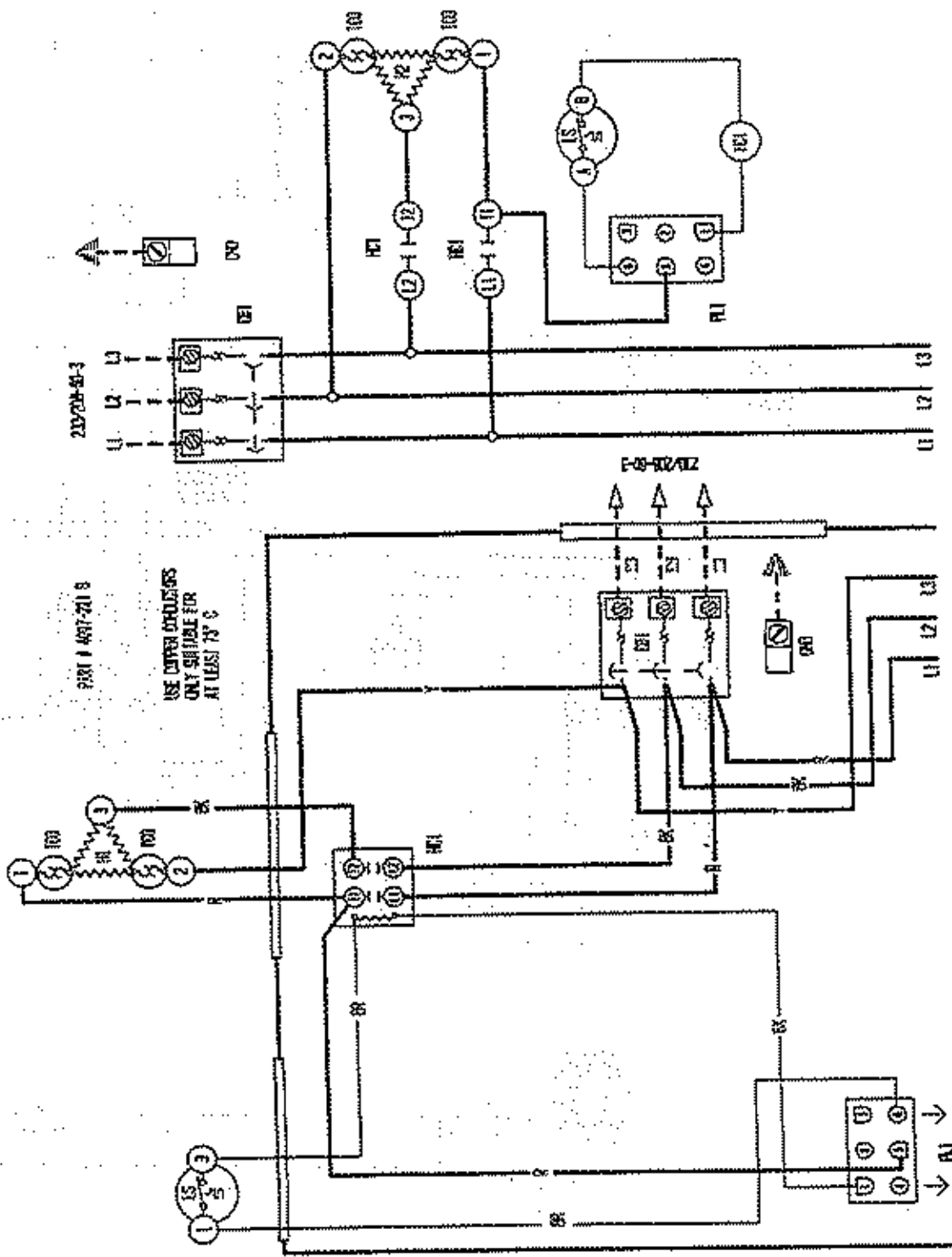


USE COPPER TERMINALS
ONLY SUITABLE FOR
AT LEAST 10°C

23/28-61

23/28-61

23/28-61

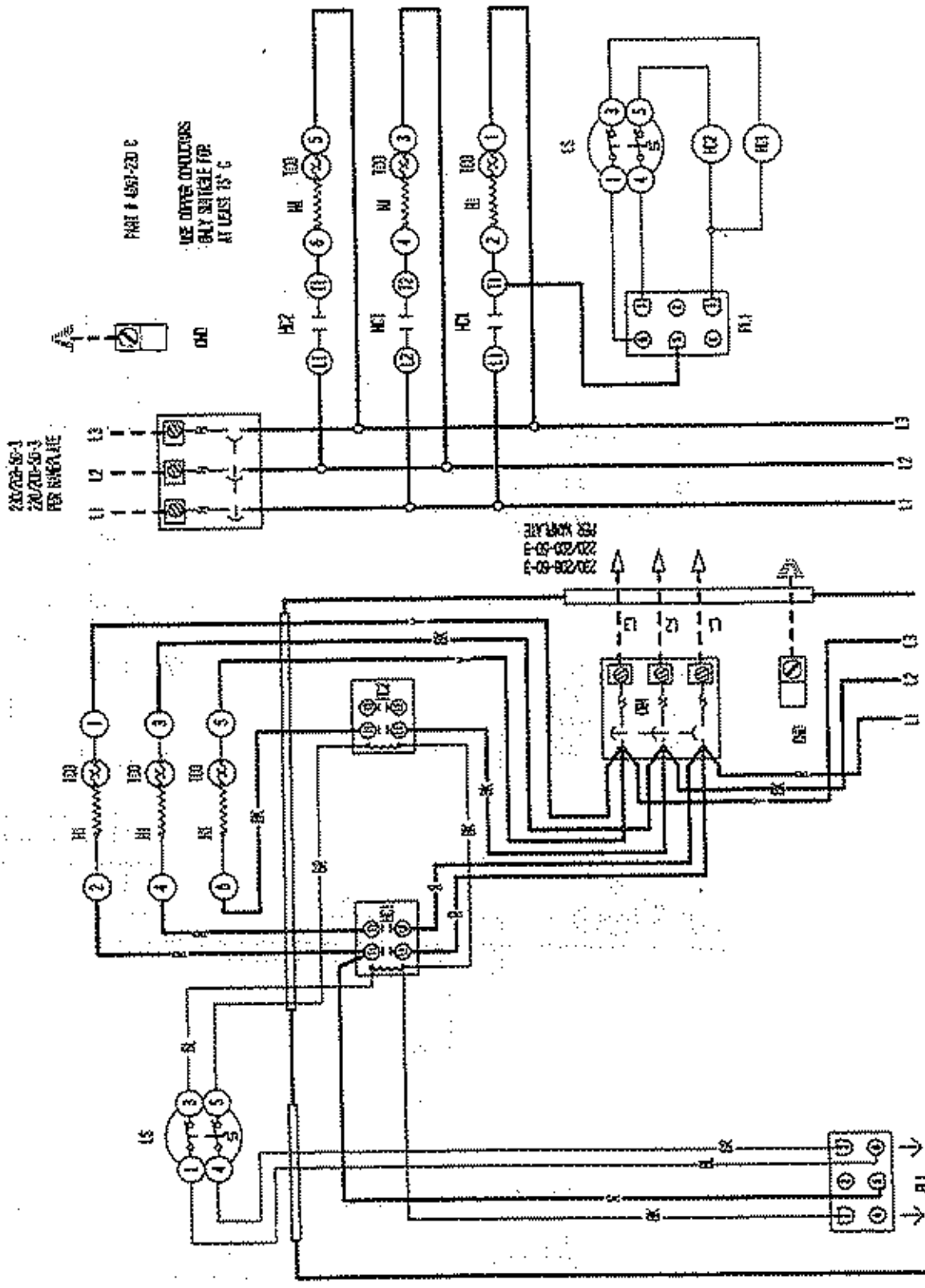


230/200-41-3

PART # 4817-211 B
 USE DIPPER SWITCHES
 ONLY SUITABLE FOR
 AT LEAST 75° C

F-25-R2/RZ

R1

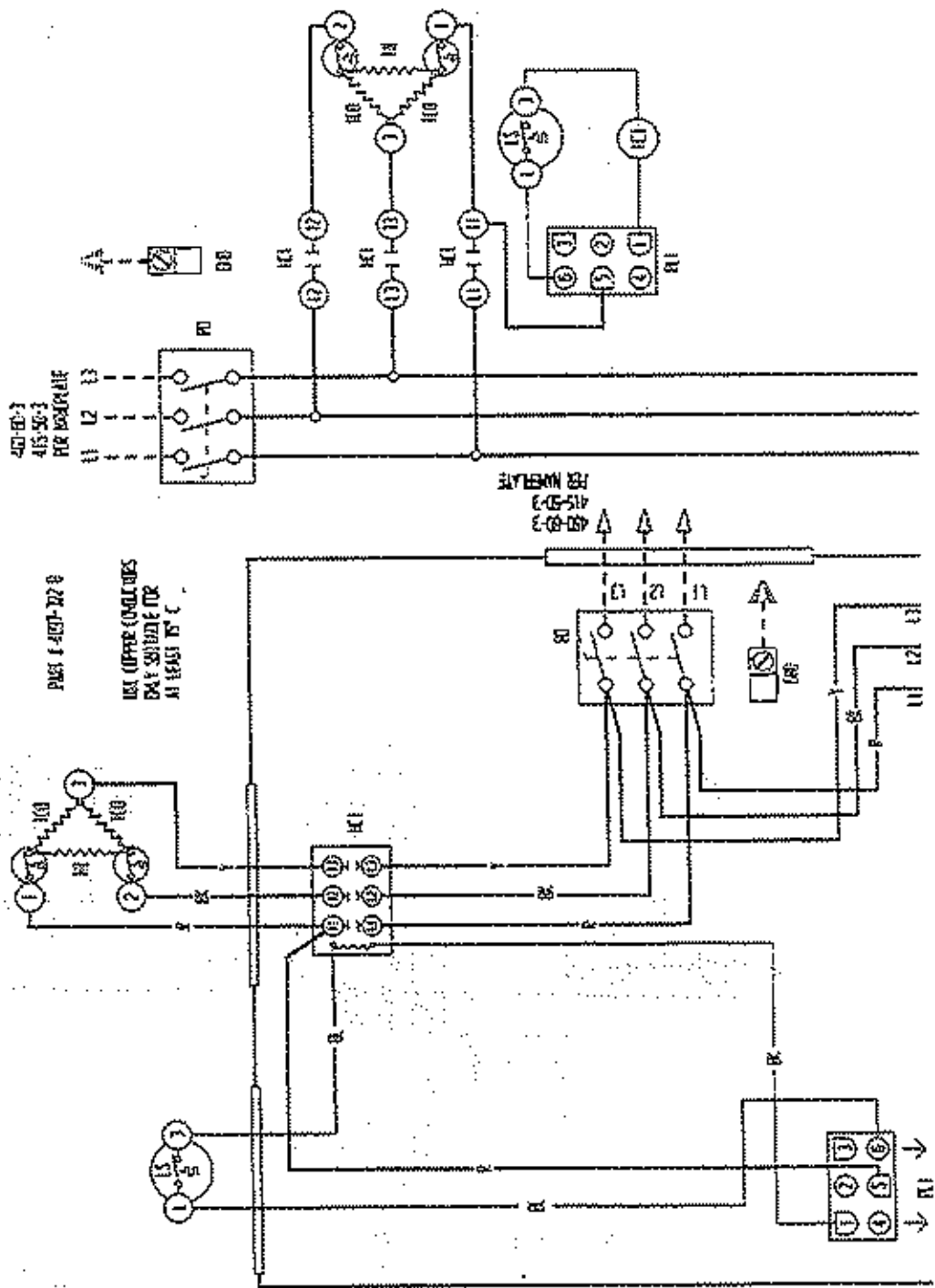


PART # 4851-230 C

USE OVER CURRENTS
ONLY SENSE FOR
AT LEAST 75° C

230/230-50-1
230/230-50-3
PER WIRING

230/230-50-1
230/230-50-3
PER WIRING



PART 1 400-22-2
 1ST OFFER (MILITARY)
 2ND OFFER (CIVILIAN)
 3RD OFFER (MILITARY)

40-50-3
 415-50-3
 FOR BATTERY

40-50-3
 415-50-3
 FOR BATTERY

