



SERVICE MANUAL

FOR

6535 SERIES HIGH EFFICIENCY

PACKAGED HEAT PUMPS

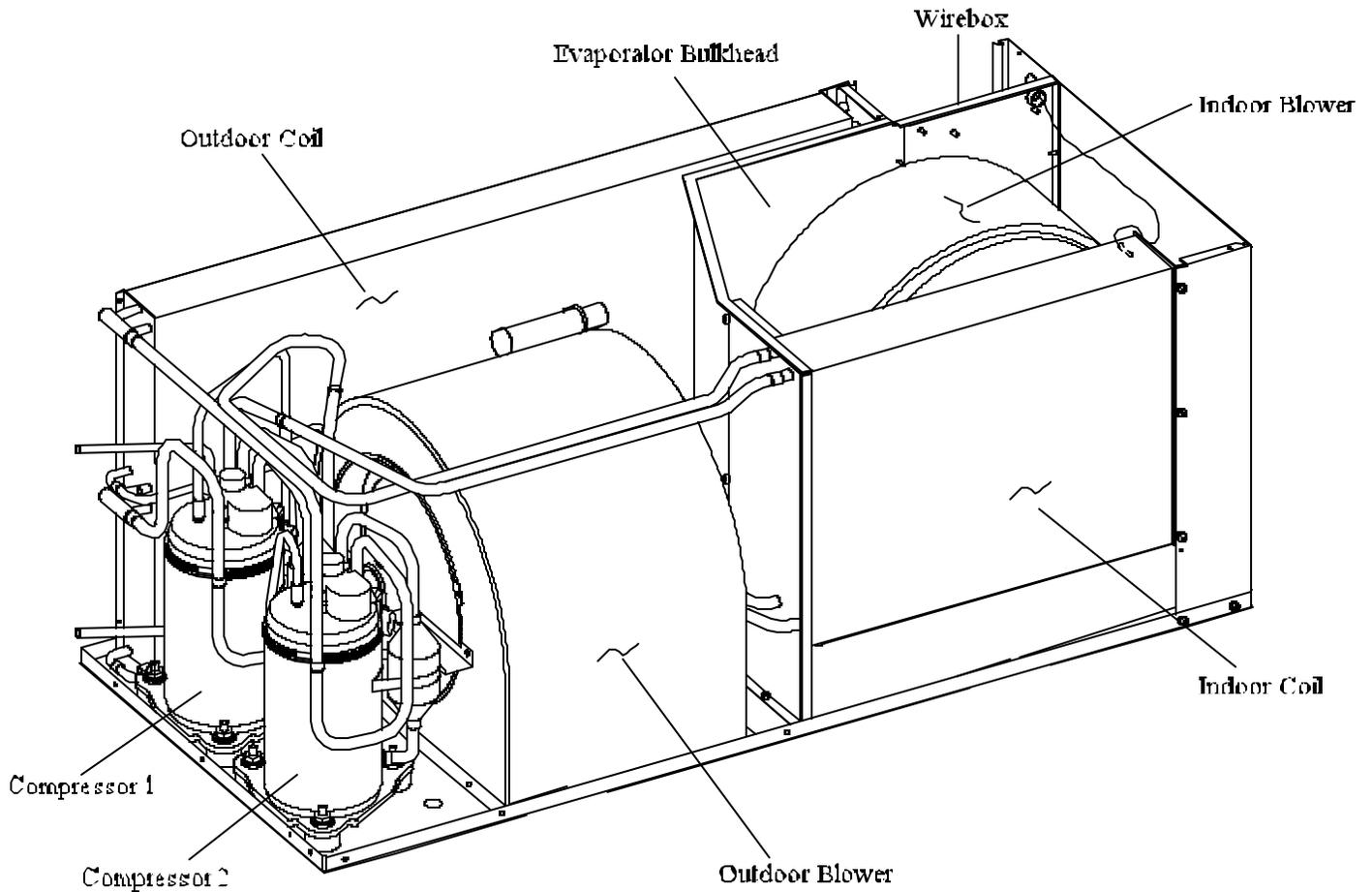


TABLE OF CONTENTS

1.	Warnings	2
2.	Accessibility Of Appliance	3
3.	Unit Dimensions And Specifications	3
4.	Unit Specifications And Identification	3
5.	Unit Depiction Figures	4
6.	General Information	5
7.	Thermostat Specifications	5
	A. 6535-3451 Coleman-mach Series Thermostat	5
	B. 6535-3351 Coleman-mach Series Thermostat	7
8.	Heat Pump Operation Sequence Cooling Mode	10
9.	Heat Pump Operation Sequence Heating Mode	10
10.	Wirebox Component Checkout	
	A. Wirebox Component Checkout 6535 (-) Series	11
	B. Wirebox Component Checkout 6535 (A) Series	12
11.	Service Problems And Possible Solutions	13
12.	Electrical Diagnostic Flow Charts	14
	A. Cooling Mode Operation.	15
	A.1 No Cooling; Cooling Mode (Green L.E.D. Light Circuit)	16
	A.2 No Indoor Blower Low Speed; Cooling Mode	17
	A.3 No Indoor Blower High Speed; Cooling Mode	18
	A.4 Compressor #1 Checkout; Cooling Mode	19
	A.5 Compressor #2 Checkout; Cooling Mode	20
	B. Heating Mode Operation.	21
	B.1 No Heating; Electric Heat Mode (Green L.E.D. Light Circuit)	22
	B.2 No Indoor Blower; Electric Heat Mode	23
	B.3 Compressor #1 Checkout; Electric Heat Mode	24
	B.4 Compressor #2 Checkout; Electric Heat Mode	25
	B.5 No Reversing Valve Operation Electric Heat Mode	26
	C. Outdoor Blower Motor; Heating or Cooling Mode	
	C.1 No Outdoor Blower Low Speed	27
	C.2 No Outdoor Blower High Speed	28
13.	Wiring Diagram - 6535 (-) Series	29
14.	Wiring Diagram - 6535 (A) Series	30

1. WARNINGS

IMPORTANT NOTICE

These instructions are for the use of qualified individuals specially trained and experienced in installation of this type equipment and related system components.

Installation and service personnel are required by some states to be licensed. PERSONS NOT QUALIFIED SHALL NOT INSTALL NOR SERVICE THIS EQUIPMENT.

SHOCK HAZARD

TO PREVENT THE POSSIBILITY OF SEVERE PERSONAL INJURY, DEATH, OR EQUIPMENT DAMAGE DUE TO ELECTRICAL SHOCK, ALWAYS BE SURE THE POWER SUPPLY TO THE APPLIANCE IS DISCONNECTED BEFORE DOING ANY WORK ON THE APPLIANCE. THIS CAN NORMALLY BE ACCOMPLISHED BY SWITCHING

THE BREAKER FOR THE AIR CONDITIONER TO OFF, DISCONNECTING ALL EXTERNAL ELECTRICAL CONNECTIONS AND CORDS, SWITCHING ON BOARD ELECTRICAL GENERATORS AND INVERTOR TO OFF, AND REMOVING THE CABLE FROM EACH POSITIVE TERMINAL ON ALL STORAGE AND STARTING BATTERIES.

CAREFULLY FOLLOW ALL INSTRUCTIONS AND WARNINGS IN THIS BOOKLET TO AVOID DAMAGE TO THE EQUIPMENT, PERSONAL INJURY OR FIRE.

WARNING

Improper installation may damage equipment, can create a hazard and will void the warranty.

The use of components not tested in combination with these

units will void the warranty, may make the equipment in violation of state codes, may create a hazard and may ruin the

equipment.

2. ACCESSIBILITY OF APPLIANCE

The accessibility of this appliance will vary from one installation to another. It shall be left to the service technicians.

judgement, the best method of attaining access to perform service.

3. UNIT DIMENSIONS AND SPECIFICATIONS

PACKAGE HEAT PUMP MODEL NUMBER BREAKDOWN FOLLOWS:

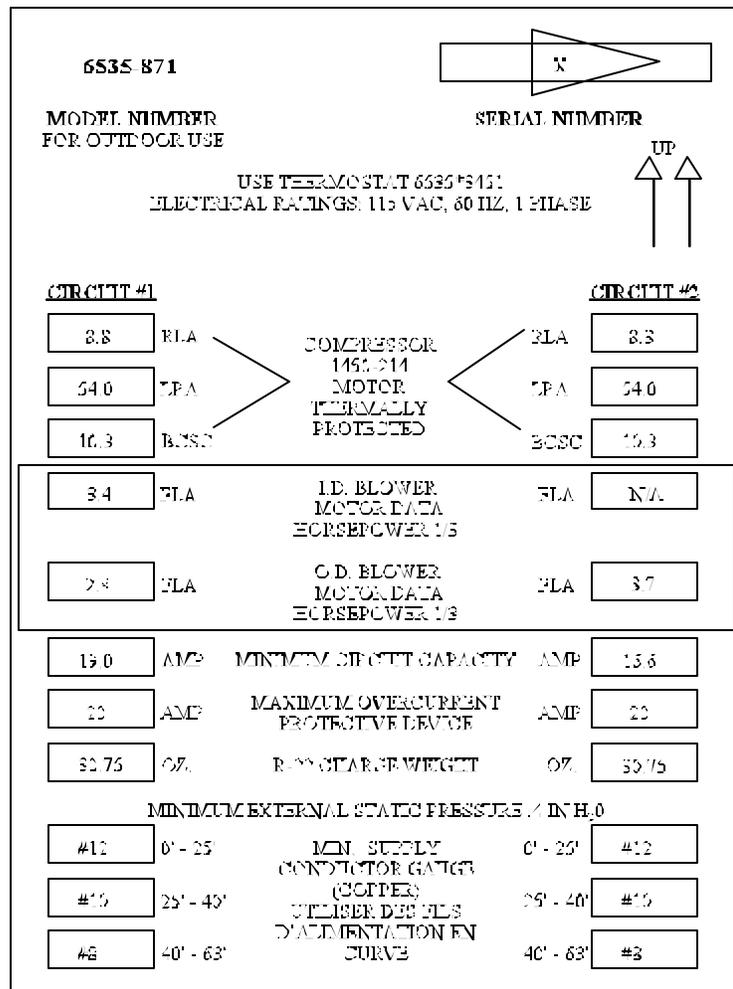
6 5 3 5 - X 7 1

Model Series

Revision
Letter

6 - Panasonic Compressor(s)
7 - Sanyo Compressor(s)
8 - Tecumseh Compressor(s)

4. UNIT SPECIFICATIONS AND IDENTIFICATION



6. GENERAL INFORMATION

This packaged heat pump mounts below the floor of the vehicle. The innovative design makes it possible to maintain a smooth, free-flowing roof line for the vehicle. It also relocates all noise and condensate drainage off the roof to below the floor of the vehicle.

The heat pump contains a dual compressor system. It combines the capacity of two roof mounted units into one highly efficient and compact package.

Each compressor is connected to a separate refrigeration circuit. The system can be operated with a single compressor when the air conditioning requirement is low, or with two compressors when maximum performance is required.

This heat pump operates a two-stage system. The first compressor and refrigeration circuit is referred to as "1st Stage". The second compressor and refrigeration circuit is referred to as "2nd Stage". First and second stage will operate as indicated below.

1st stage (the first compressor and refrigeration circuit), will operate when:

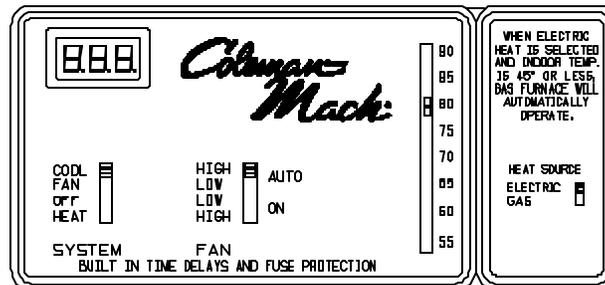
- 1) The thermostat is demanding cooling or electric heating,
- 2) The vehicle is being powered by either shore line or the on-board generator.

2nd stage (the second compressor and refrigeration circuit), will operate when:

- 1) The thermostat senses room temperature that is 2 degrees or higher than the setpoint temperature on the thermostat.

Switching and control of 1st and 2nd stage cooling is automatic. When the cooling demand does not require that both systems operate, stage two will shut down leaving stage one in operation. **Heat operation always energizes both stages,** however, only stage one operates if power is not available to circuit #2.

7. THERMOSTAT SPECIFICATIONS



7A. THERMOSTAT - 6535-3451 COLEMAN-MACH SERIES THERMOSTAT

SET TEMP. RANGE:	55 TO 90 DEGREES F.
DISPLAY TEMPERATURE:	-20 TO 160 DEGREES F.
SCALE:	DEGREES FAHRENHEIT
DISPLAY FORMAT:	LIQUID CRYSTAL DISPLAY
RESOLUTION:	ONE DEGREE F.
ACCURACY:	± 2% OF DISPLAY TEMPERATURE RANGE
SAMPLING RATE:	EVERY 30 SECONDS
POWER SOURCE:	12 VDC NON-REGULATED, NON-FILTERED ± 2 VOLTS
OPERATING TEMPERATURE:	-10 TO +55 DEGREE C.
OUTPUT LOAD:	40 mA MINIMUM TO 1.5 AMP MAXIMUM FOR EACH OUTPUT

SAFEGUARDS:	STATIC ELECTRICITY PROTECTION TO END USER AFTER INSTALLATION
	ANTI-STATIC PACKAGING TO BE USED FOR SHIPMENT
	SPIKE PROTECTION TO 400 VDC ON R+ TERMINAL

DEFAULT MODE:

CONFORMAL COATING ON P.C. BOARD PROTECTION FROM MOISTURE WHEN THE THERMOSTAT IS SWITCHED TO HEAT AND ELECTRIC HEAT IS SELECTED ON THE SUB-BASE, AND THE OUTDOOR TEMPERATURE FALLS TO A POINT AT WHICH THE HEAT PUMP SHUTS DOWN (USUALLY BETWEEN 25 - 40 DEGREES), THE SUB-BASE WILL AUTOMATICALLY ALSO CALL FOR GAS FURNACE OPERATION IF THE INDOOR TEMPERATURE DROPS TO 45 DEGREES. GAS FURNACE OPERATION WILL SHUT OFF AT 60 DEGREES. THE USER SHOULD SWITCH THE SUB-BASE TO GAS HEAT IF THIS OCCURS.

6535-3451 Thermostat Operation

The heat pump is operated from the wall mounted thermostat. This thermostat will also operate the 12VDC furnace connected to this thermostat.

no effect on the operation of the cooling blower. Fan switch positions and their resulting function are listed below:

Identification and operational descriptions for all thermostat switches and display are listed below:

- 1. Liquid Crystal Display - The display will be visible any time the system is in operation. The display will remain visible while the thermostat is on and powered.
- 2. System Switch - The system switch has four positions to control the operation of the heating and air conditioning systems. They are as follows:

HIGH AUTO - When in the high automatic position, the cooling blower operates at high speed and cycles off and on with the 1st stage compressor. 2nd stage cooling will cycle on and off as needed having no effect on cooling blower operation.

LOW AUTO - When in the low automatic position, the cooling blower operates at low speed and cycles off and on with the 1st stage compressor. 2nd stage cooling will cycle on and off as needed having no effect on cooling blower operation.

COOL - When in the cool position, 1st and 2nd stage cooling will cycle from the cooling system setpoint. Blower operation will be controlled by the position of the Cooling Fan Switch.

LOW ON - When in the low on position, the cooling blower operates continuously at low speed. Stage 1 and Stage 2 compressors cycle on and off as needed.

HEAT - When in the heat position, the heating system will cycle from the heating system setpoint. Heat will be by electricity (heat pump) or gas as selected on sub-base. The gas heating blower will operate per the heating system manufacturer specifications.

HIGH ON - When in the high on position, the cooling blower operates continuously at high speed. Stage 1 and Stage 2 compressors cycle on and off as needed.

OFF - When in the off position, no thermostat or system operation will occur.

During heat pump operation, the blower operates at high speed with heat demand.

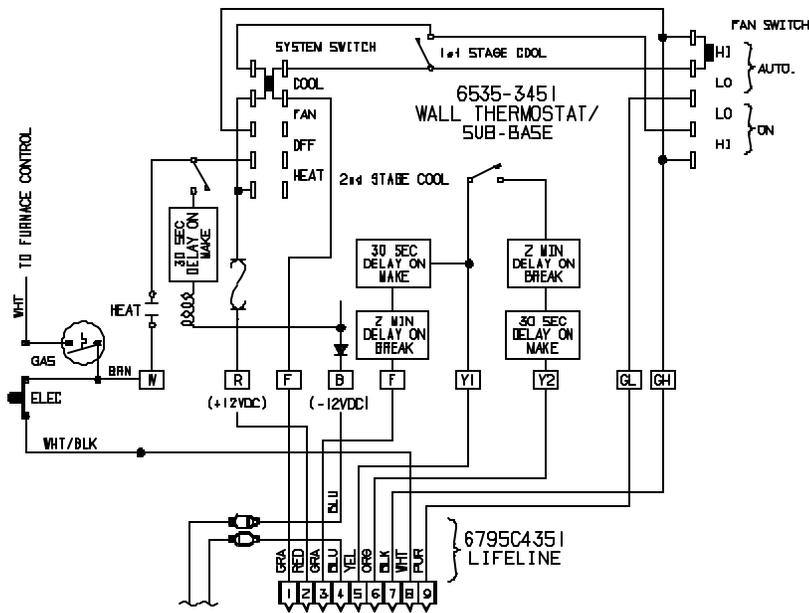
FAN - When in the fan position, the **cooling blower** will operate continuously at high speed.

- 4. Heat Source Switch - The heat source switch has two positions to control the operation of the heating systems. They are as follows:

- 3. Cooling Fan Switch - The fan switch has four positions from which to control the operation of the cooling blower. The fan switch controls operation of the cooling blower only after the system switch is placed into the COOL position. With the system switch in any other position, the fan switch will have

ELECTRIC - When in the electric heat position, the heat pump will cycle from the heating system setpoint. Gas heat default is as described above in the thermostat specifications

GAS - When in the gas heat position, the furnace will cycle from the heating system setpoint.

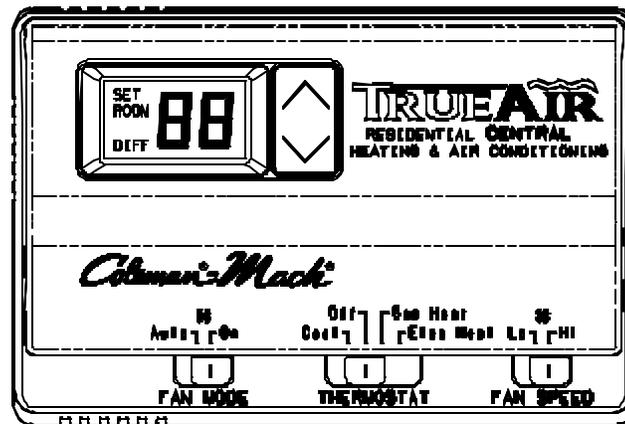


		1
3	F Freeze Switch & Exclusion Relay	FY Freeze Switch & Exclusion Relay
	+12 VDC	
6	Y2 Cooling Compressor #2	Y1 Cooling Compressor #1
		B Neg L2 VDC
	GL Indoor Fan Low	GH Indoor Fan High
	W Heat Pump	
		7

6535-3451 Thermostat Wiring

The thermostat operation switches the 12VDC + to all output terminals

7B. THERMOSTAT - 6535-3351 COLEMAN-MACH SERIES THERMOSTAT



6535-3351 THERMOSTAT OPERATION

The display indicates room temperature and the word ROOM is shown on the LCD until the temperature selector is pressed; at which time the display temporarily indicates the setpoint temperature and the word SET is shown on the LCD. Each time the UP arrow is pressed, the setpoint will increase. Each time the DOWN arrow is pressed, the setpoint will decrease. Once the temperature selector button is no longer pressed for a few seconds, the room temperature will again be displayed, and the word ROOM will be displayed on the LCD.

In electric heat mode, if the heat pump is unable to satisfy the thermostat, DIFF will flash on the thermostat LCD when 2nd stage heating is required to satisfy the thermostat.

In gas heat mode, the gas furnace will provide the only source of heat and the heat pump is locked out.

NOTE

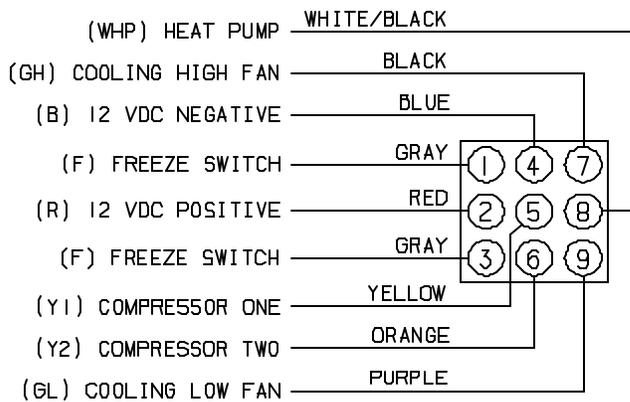
The temperature displays in degrees Fahrenheit as a factory set default (See Figure 2). To display in degrees Celsius, move the jumper

marked “F” and “C” to bridge between middle pin and position “C”.

6535-3351 Heat Pump Thermostat Example To Bring On Gas Furnace as 2nd Stage Heat

<u>Setpoint</u>	<u>Indoor Temp.</u>	<u>Operation</u>
70	70+	No functions occur
↓↓↓	69	Heat Pump turns on (Primary heat source)
	71	Heat Pump turns off (Thermostat satisfied)
	69	Heat Pump turns on
	65	Gas Furnace turns on (Heat Pump not able to satisfy Thermostat) (First strike for 2 nd stage heat counter)
	71	Heat Pump and Gas Furnace turn off (Thermostat satisfied)
	69	Heat Pump turns on
	65	Gas Furnace turns on (Heat Pump is again unable to satisfy Thermostat), (2 nd stage heat counter reaches 3 rd strike and Heat Pump is locked out for 2 hours), 2nd stage heat counter is reset if Heat Pump is running for more than 20 minutes and does not call for 2nd stage heat
	71	Gas Furnace turn off (Thermostat satisfied)
	69	Gas Furnace turns on (Becomes Primary heat source)
	71	Gas Furnace turns off (Thermostat Satisfied)
	↓↓↓	After 2 hour lockout
	69	Heat Pump turns on (Resumes as Primary heat source)
	65	Gas Furnace turns on (Becomes primary heat source) (Heat Pump is locked out for another 2 hours)
	71	Gas Furnace turns off (Thermostat Satisfied)
	↓↓↓	After 2 hour lockout
	69	Heat Pump turns on (Resumes as primary heat source)
	71	Heat Pump turns off (Thermostat satisfied) (2nd stage heat counter is reset any time Heat Pump satisfies thermostat setpoint and does not need Gas Furnace)

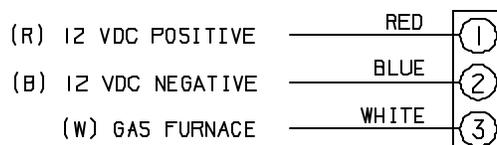
The word “DIFF” will flash on LCD when 2nd stage heat is operating.



There is a 30 second delay between Stage 1 and Stage 2. Heat pump operation.

There is also a 3 minute anti-short cycle delay time of 3 minutes for cooling.

6535-3351 Thermostat Wiring



The thermostat operation switches the 12VDC + to all output terminals

6535-335 2-stage Heat Pump Thermostat Operation Table

	Mode Switch	Fan Mode Switch	Fan Speed Switch	Calling	Operation
1	Cool	Auto	Lo	No	No functions occur in this mode
2	Cool	Auto	Lo	Stage 1 1° Above Set	ID fan low, compressor #1 and OD blower low cycle as needed
3	Cool	Auto	Lo	Stage 2 2° Above Set	ID fan low, compressors #1 & #2 and OD blower high cycle as needed
4	Cool	On	Lo	No	ID fan low continuous
5	Cool	On	Lo	Stage 1 1° Above Set	ID fan low continuous, compressor #1 and OD blower low cycle as needed
6	Cool	On	Lo	Stage 2 2° Above Set	ID fan low continuous, compressors #1 & #2 and OD blower high cycle as needed
7	Cool	Auto	Hi	No	No functions occur in this mode
8	Cool	Auto	Hi	Stage 1 1° Above Set	ID fan high, compressor #1 and OD blower low cycle as needed
9	Cool	Auto	Hi	Stage 2 2° Above Set	ID fan high, compressors #1 & #2 and OD blower high cycle as needed
10	Cool	On	Hi	No	ID fan high continuous
11	Cool	On	Hi	Stage 1 1° Above Set	ID fan high continuous, compressor #1 and OD blower low cycle as needed
12	Cool	On	Hi	Stage 2 2° Above Set	ID fan high continuous, compressors #1 & #2 and OD blower high cycle as needed
13	Off	Auto	Lo or Hi	No	No functions occur in this mode
14	Off	On	Lo	No	ID fan low continuous
15	Off	On	Hi	No	ID fan high continuous
16	Gas Heat	Auto or On	Lo or Hi	No	No functions occur in this mode
17	Gas Heat	Auto or On	Lo or Hi	Stage 1	Heater will be energized to run
18	Gas Heat	Auto or On	Lo or Hi	Stage 2	There is no provision for 2 nd stage heat when operating in the gas heat mode
19	Elec Heat	Auto or On	Lo or Hi	No	No functions occur in this mode
20	Elec Heat	Auto or On	Lo or Hi	Stage 1	Heat pump will run ID fan high, both compressors, OD fan high and both reversing valves
21	Elec Heat	Auto or On	Lo or Hi	Stage 2 *See Note*	Heat pump will run ID fan high, both compressors, OD fan high and both reversing valves plus the heater will be energized to run

8. A TYPICAL COOLING CYCLE OF THE HEAT PUMP

Begins with a call from the wall thermostat for High or Low fan (customer choice).

Indoor fan starts on the selected speed.

Within a few seconds the thermostat will call for cooling.

Compressor 1 starts.

Outdoor fan starts 2 seconds later (Low Speed).

1 minute later the thermostat calls for second stage cool (subject to 2 degree temp. differential).

Compressor 2 starts, the outdoor fan goes off (subject to available 115 volt power supply).

Outdoor fan starts again 2 seconds later (High Speed).

Both systems operate to satisfy the thermostat.

Both compressors shut off at setpoint temperature.

When the thermostat calls for cooling again it will start by calling for stage one only.

If the heat pump is unable to keep up with the load, stage 2 will start again when the indoor temperature is 2 degrees above the setpoint.

9. A TYPICAL HEATING CYCLE OF THE HEAT PUMP (Electric Heat Mode)

Begins with a call from the wall thermostat for Electric Heat.

Indoor fan starts on High Speed.

Both reversing valves switch to heat mode.

Compressor 1 starts.

Outdoor fan starts 2 seconds later (Low Speed).

30 seconds later the Heat Pump circuit board will energize the Compressor Relay #2.

Compressor 2 starts, the outdoor fan goes off (subject to available 115 volt power supply).

Outdoor fan starts again 2 seconds later (High Speed).

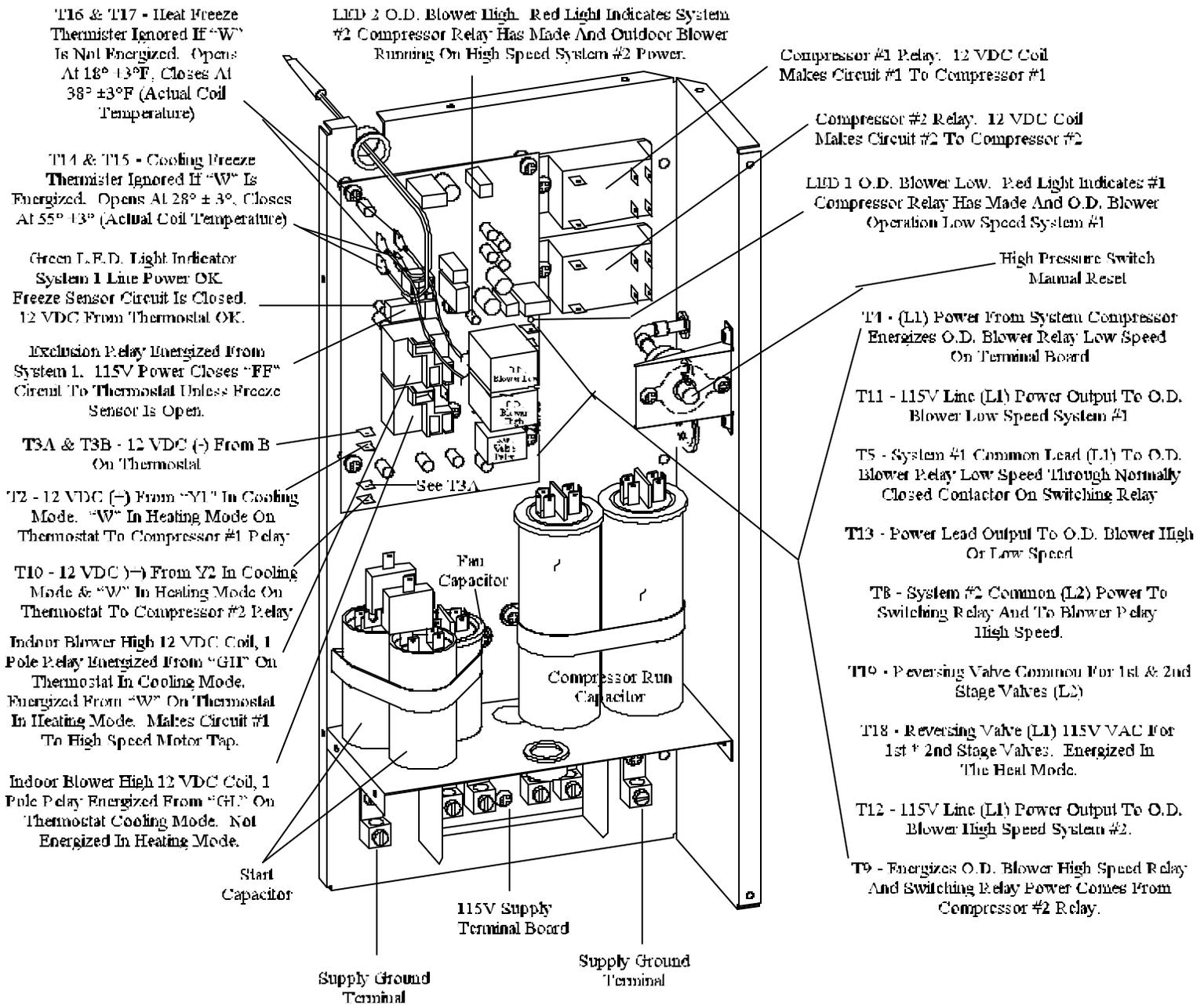
Both systems operate to satisfy the thermostat.

Both compressors shut off at set point temperature.

If the Heat Pump is unable to maintain the coach temperature, the thermostat will automatically cycle the furnace on. The new True-Air Thermostats (Electric Heat Mode) will call for second stage (Furnace) heating operation anytime the temperature inside the coach is more than 5 degrees cooler than the customers chosen setpoint temperature. It is entirely possible the furnace and the heat pump may both operate at the same time to satisfy the thermostat.

10A. WIREBOX COMPONENT CHECKOUT

6535 “-” Model Unit

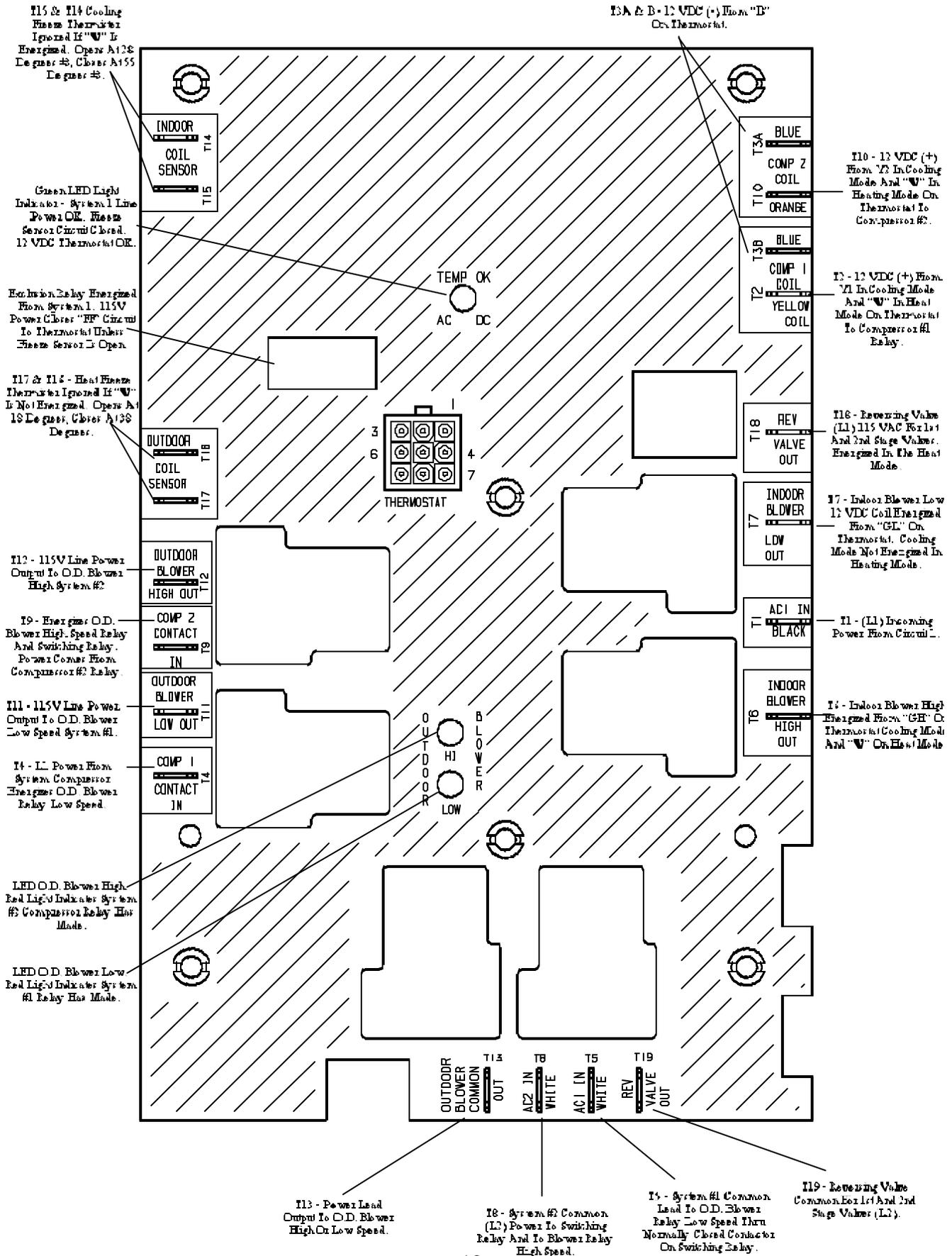


Notes: The drawing above depicts a typical control box for the 6535 “-” Model Heat Pump only.

Heat Pump control boxes beginning with the “A” model do not have a high pressure switch.

The Heat Pump Printed Circuit Board has changed from time to time, the terminal designations and board components as noted above may have changed locations on the board. *Use the above drawing only as a reference.*

10B. WIREBOX COMPONENT CHECKOUT 6535 "A" Model Printed Circuit Board



11. SERVICE PROBLEMS AND POSSIBLE SOLUTIONS

COOLING MODE

<u>Problems</u>	<u>Possible Solutions</u>
1. Nothing Runs - Cooling Mode	No A/C Voltage, No 12 VDC, Thermostat, Wiring, P.C. Board, High Pressure Switch Open
2. IDFM* Runs, No Compressor, No ODFM*	Cooling Freeze Thermister - (Insufficient Indoor Air Flow), Thermostat, Wiring, Compressor, Contactor, P.C. Board
3. IDFM* Runs, ODFM* Runs, No Compressor	Insufficient Voltage To Unit, Run Capacitor, Start Device, Overload, Wiring, Compressor
4. IDFM* Runs, Compressor Runs, No ODFM*	Run Capacitor, Fan Motor, P.C. Board, Wiring, Fuse On Motor Black Wire
5. Compressor Runs, ODFM* Runs, No IDFM*	Thermostat, Run Capacitor, Wiring, Fan Motor, P.C. Board, Air Flow Restriction, High Ambient Temperature, Undersized Refrigeration System, Very Little Or No Refrigerant Charge, Compressor
6. Compressor, ODFM*, IDFM* Runs, Insufficient Cooling	Thermostat, Wiring, P.C. Board, Reversing Valve
7. Compressor, ODFM*, IDFM* Runs, Unit Is Heating While In Cool Mode	

HEATING MODE

<u>Problems</u>	<u>Possible Solutions</u>
1. Nothing Runs - Heat Mode	No A/C Voltage, No 12 VDC, Thermostat, Sub-base, Wiring, P.C. Board, High Pressure Switch Open
2. IDFM* Runs, No Compressor, No ODFM*	Heating Freeze Thermister, Low Outdoor Ambient Conditions, Wiring, Compressor, Contactor, P.C. Board
3. IDFM* Runs, ODFM* Runs, No Compressor	Insufficient Voltage To Unit, Run Capacitor, Start Device, Overload, Wiring, Compressor
4. IDFM* Runs, Compressor Runs, No ODFM*	Run Capacitor, Fan Motor, Wiring, P.C. Board, Fuse On Motor Black Wire
5. Compressor Runs, ODFM* Runs, No IDFM*	Run Capacitor, Fan Motor, Wiring, P.C. Board
6. Compressor Runs, ODFM* Runs, IDFM* Runs, Insufficient Heating	Air Flow Restriction, Low Ambient Temperature, Undersized Refrigeration System, Very Little Or No Refrigerant Charge, Compressors
7. Compressor, ODFM*, IDFM*, Unit Is Cooling While In Heat Mode	Wiring, P.C. Board, Reversing Valve

* IDFM - Indoor Fan Motor

* ODFM - Outdoor Fan Motor

12. ELECTRICAL DIAGNOSTIC FLOW CHARTS 6535 SERIES

With the use of these flow charts, you will be able to quickly identify a non-working problem. Determine if the problem is high or low voltage and then solve the problem.

IMPORTANT NOTICE

When using a jumper wire to diagnose a low voltage problem, Never Short Any Positive Terminal to Ground or the Terminal Marked "B". Serious thermostat or P.C. Board damage may occur.

To use these flow charts, start at the top left corner. Check what is indicated in that box. If the answer to what is indicated is No, work horizontally until you find the problem. When the answer is Yes or OK, work the chart downward until you locate the problem. Do Not Move Downward on any chart until all preceding steps have been confirmed good. Do Not start in the middle of any chart without knowing everything previous (upward on the chart) is OK or you may replace the wrong part.

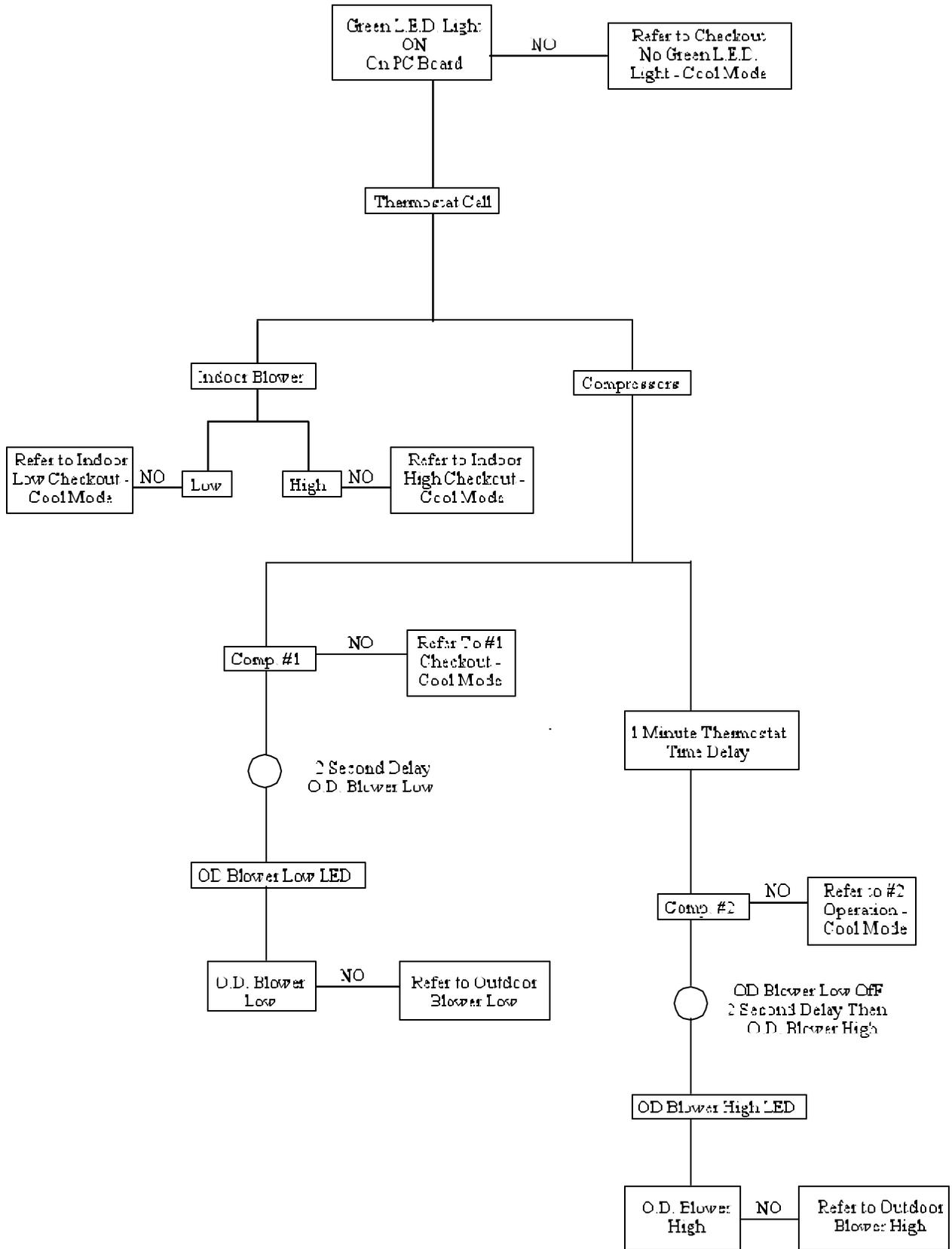
**! WARNING - SHOCK
HAZARD**

To prevent the possibility of severe personal injury, death, or equipment damage due to electrical shock, always be sure the power supply to the appliance is disconnected before doing any work on the appliance. This can normally be accomplished by switching the breaker for the air conditioner to off, disconnecting all external electrical connections and cords, switching on board electrical generators and INVERTOR to off, and removing the cable from each positive terminal on all storage and starting batteries.

DANGER

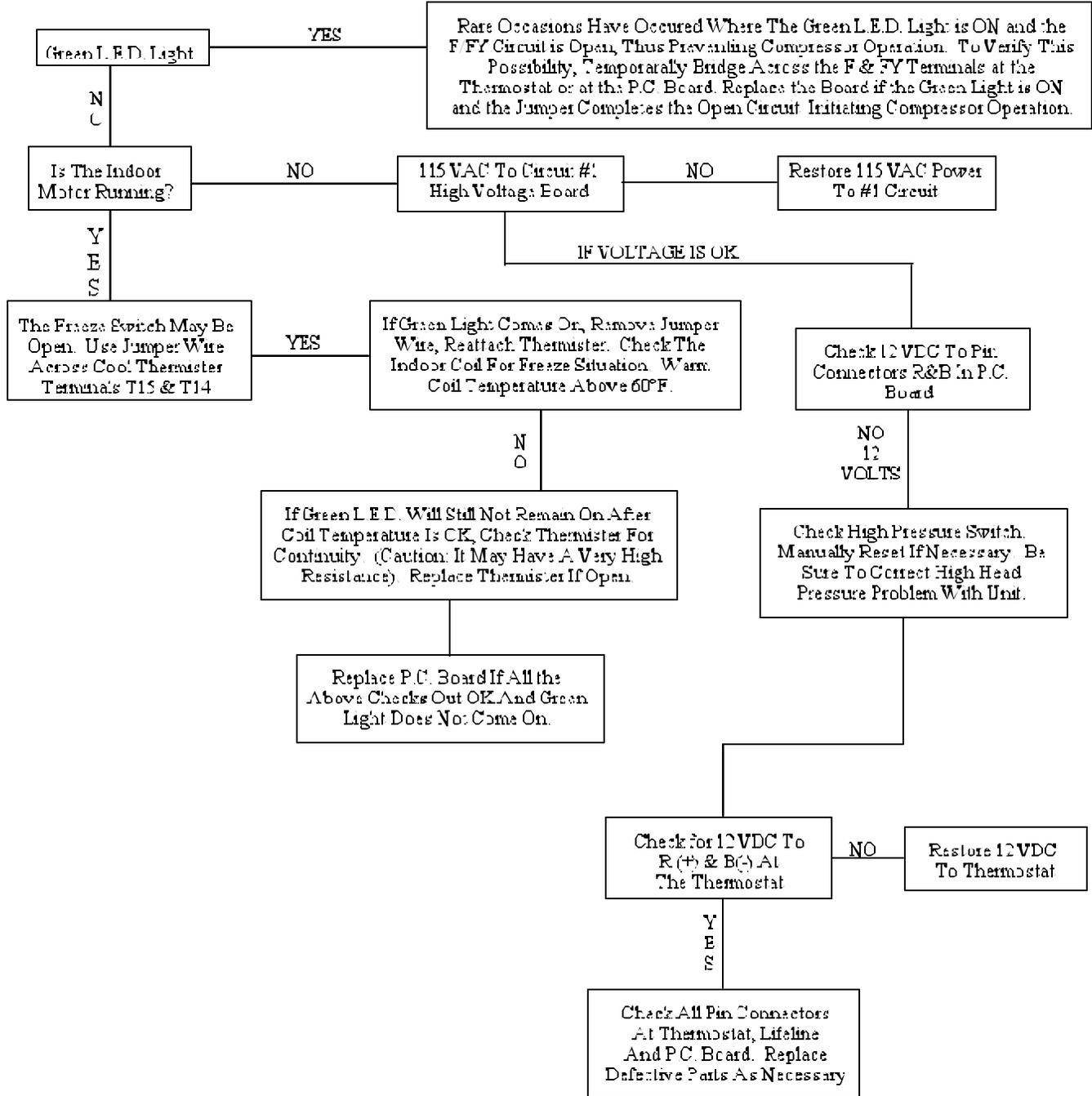
SOME DIAGNOSTIC TESTING MAY BE DONE ON ENERGIZED CIRCUITS. ELECTRICAL SHOCK CAN OCCUR IF NOT TESTED PROPERLY. TESTING TO BE DONE BY QUALIFIED TECHNICIANS ONLY

12A. HEAT PUMP OPERATION SEQUENCE; COOLING MODE



12A.1 No Cooling; Cooling Mode

No Green L.E.D. light F/FY Circuit Open to The Thermostat



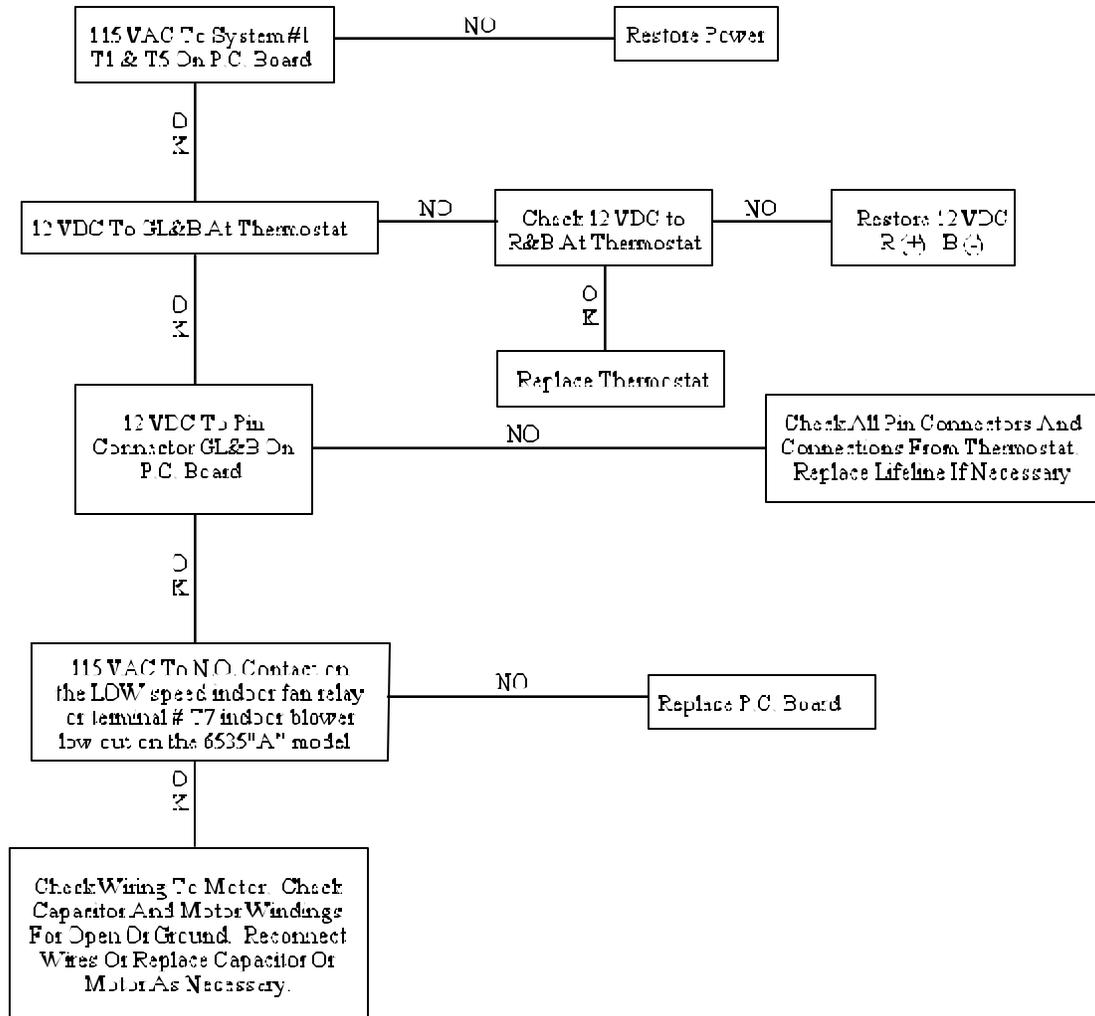
* Outdoor Thermostat Is Ignored In The Cooling Mode When "Y" Is Energized

Note: The green light on the board has some new functions on the 6535 "A" model. If the light is on solid, everything is OK. If the light is blinking slowly, the unit is in a 3 minute time delay. If the light is blinking fast, there is either no line voltage to Circuit 1 or one of the thermistors are open. If the light is not on at all there is no 12VDC power to the thermostat or the PC Board.

12A.2 No Indoor Blower Low Speed; Cooling Mode

Thermostat Set To Low Cool

Note: All operating functions subject to thermostat time delays.



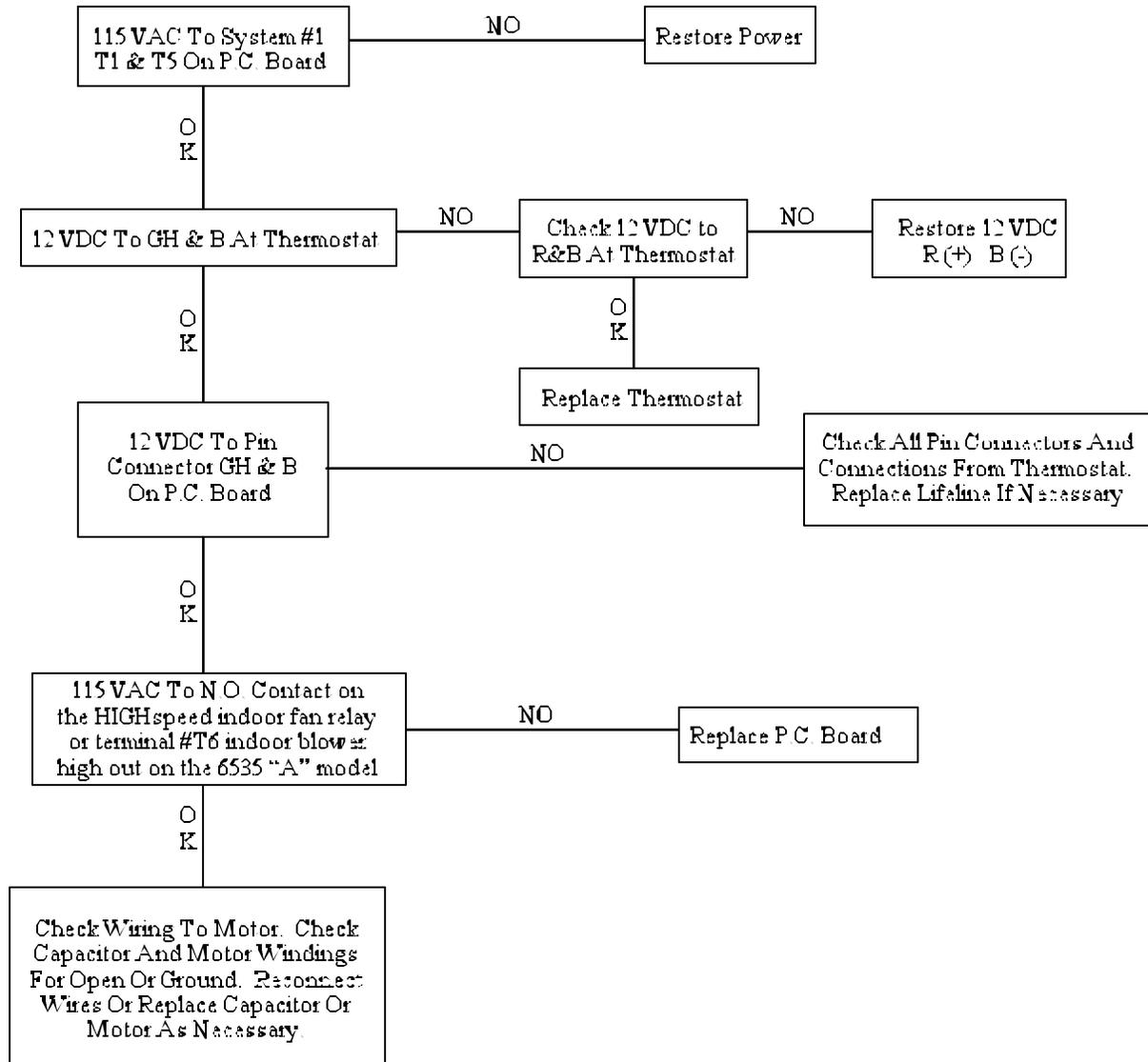
Important Notice:

If the unit is equipped with a high pressure switch and this switch opens, it opens the 12 VDC (-) negative circuit from the thermostat to the P.C. Board and all heat pump functions are dead. Be sure to correct the root problem causing the high head pressure. If any heat pump function operates, the switch is OK.

12A.3 No Indoor Blower High Speed; Cooling Mode

Thermostat Set To High Cool

Note: All operating functions subject to thermostat time delays.



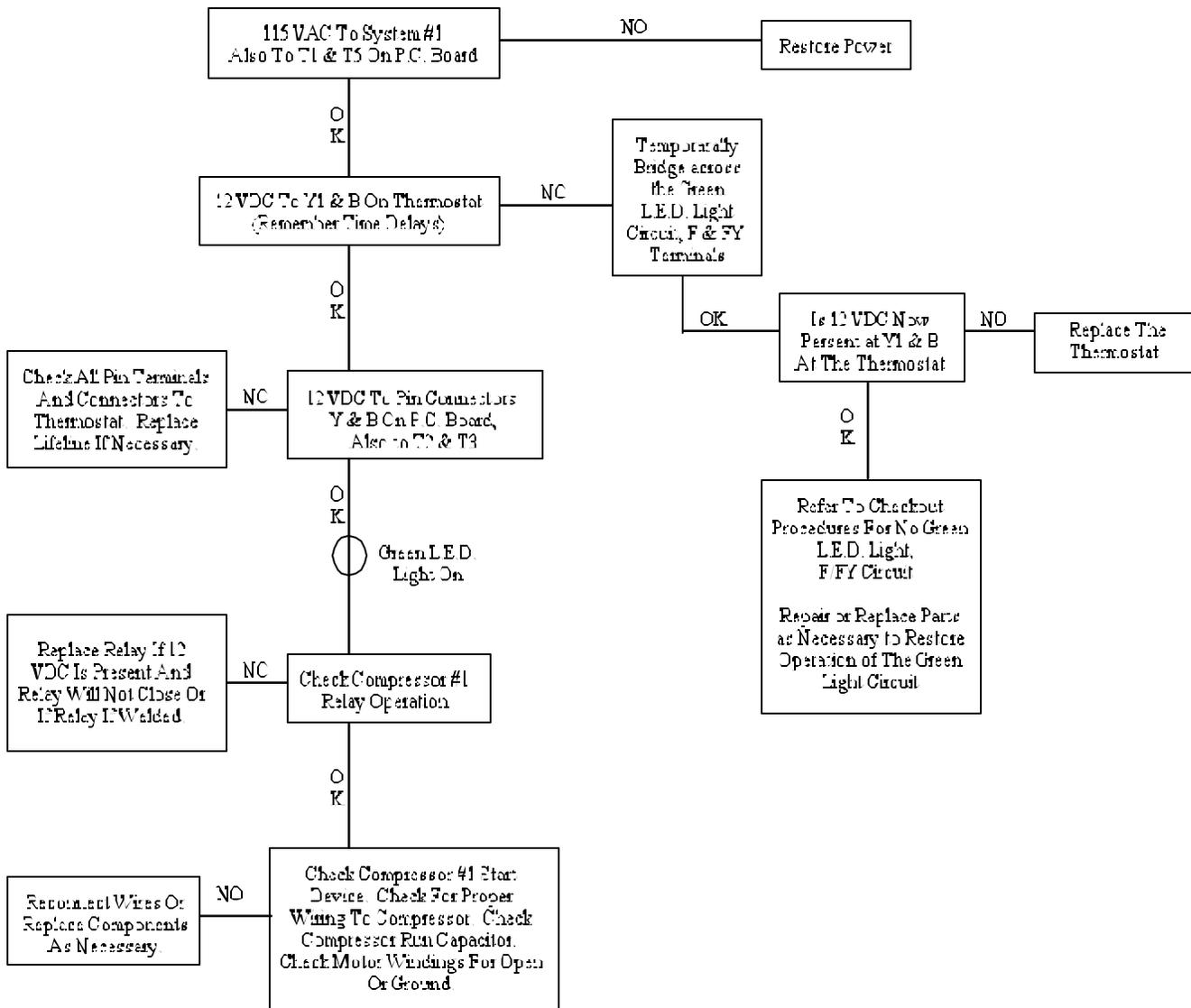
Important Notice:

If the unit is equipped with a high pressure switch and this switch opens, it opens the 12 VDC (-) negative circuit from the thermostat to the P.C. Board and all heat pump functions are dead. Be sure to correct the root problem causing the high head pressure. If any heat pump function operates, the switch is OK.

12A.4 Compressor #1 Checkout; Cooling Mode

Thermostat Calling For Cooling

Note: All operating functions subject to thermostat time delays



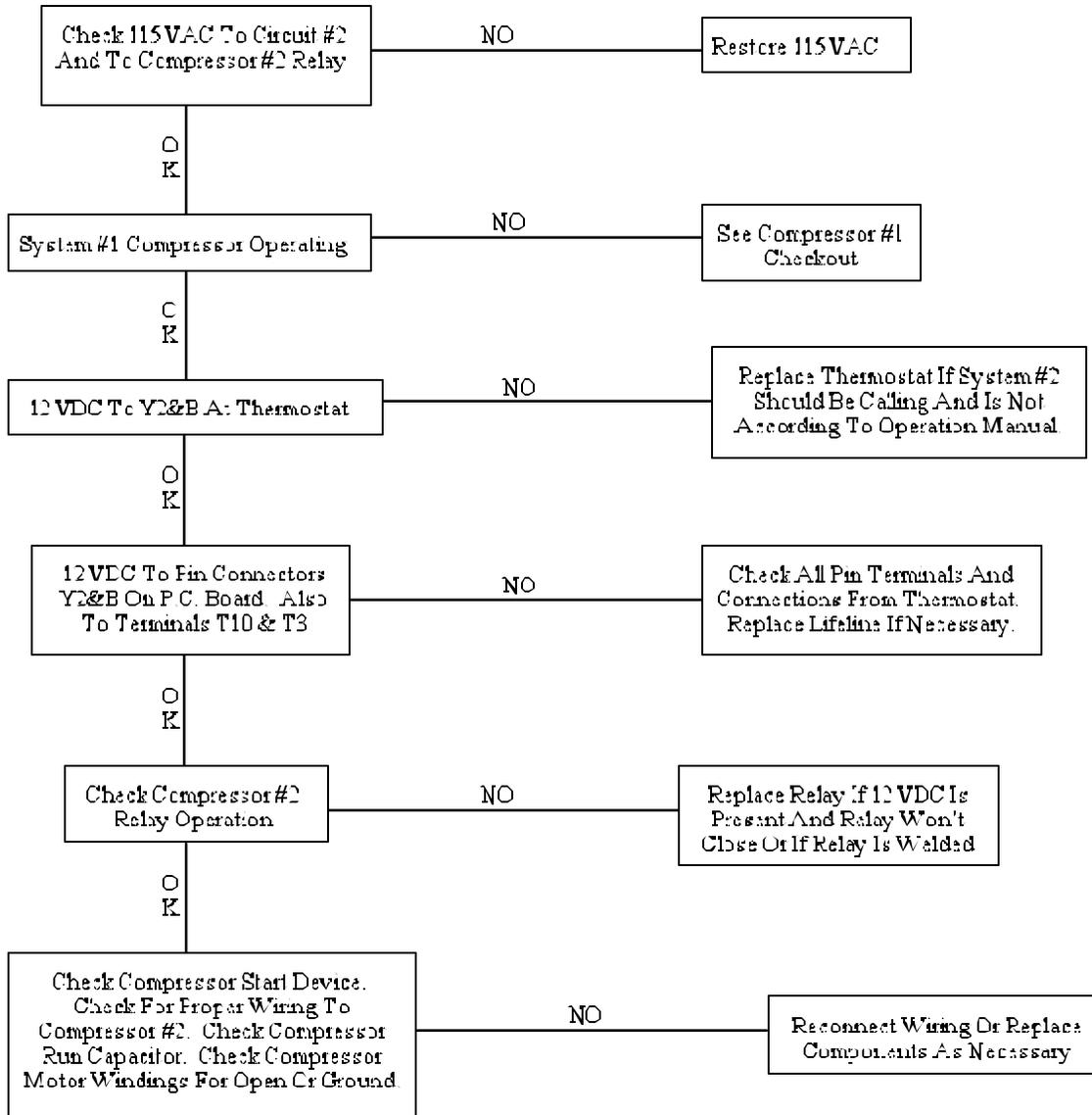
Important Notice:

If the unit is equipped with a high pressure switch and this switch opens, it opens the 12 VDC (-) negative circuit from the thermostat to the P.C. Board and all heat pump functions are dead. Be sure to correct the root problem causing the high head pressure. If any heat pump function operates, the switch is OK.

12A.5 Compressor #2 Checkout; Cooling Mode

Thermostat Calling For Cooling

Note: All operating functions subject to thermostat time delays



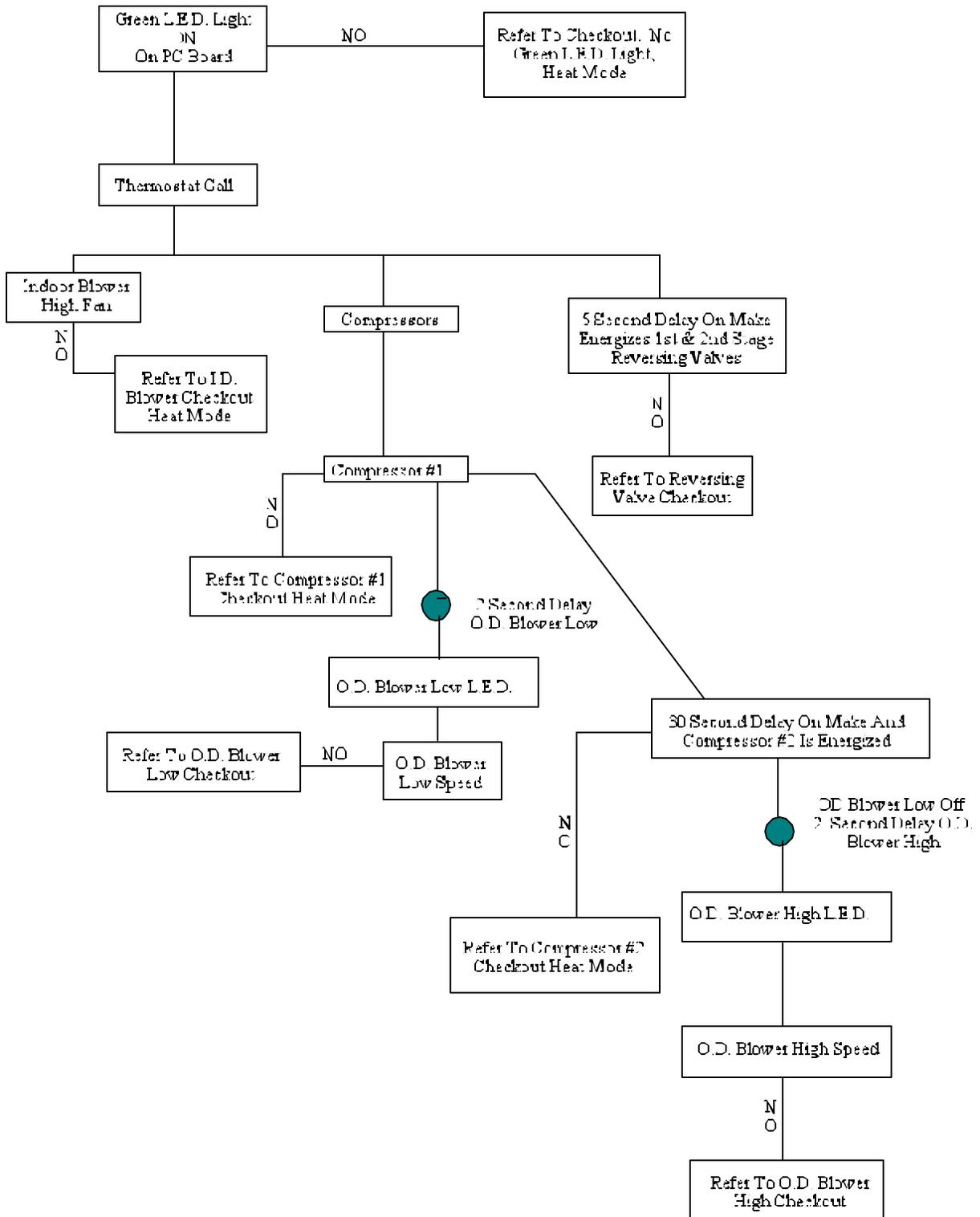
Important Notice:

If the unit is equipped with a high pressure switch and this switch opens, it opens the 12 VDC (-) negative circuit from the thermostat to the P.C. Board and all heat pump functions are dead. Be sure to correct the root problem causing the high head pressure. If any heat pump function operates, the switch is OK.

Note:

Some coach manufacturers connect their energy management systems in series with the 12VDC call for compressor #2. This is usually done between the output Terminals on the P.C. Board and the Compressor #2 relay coil.

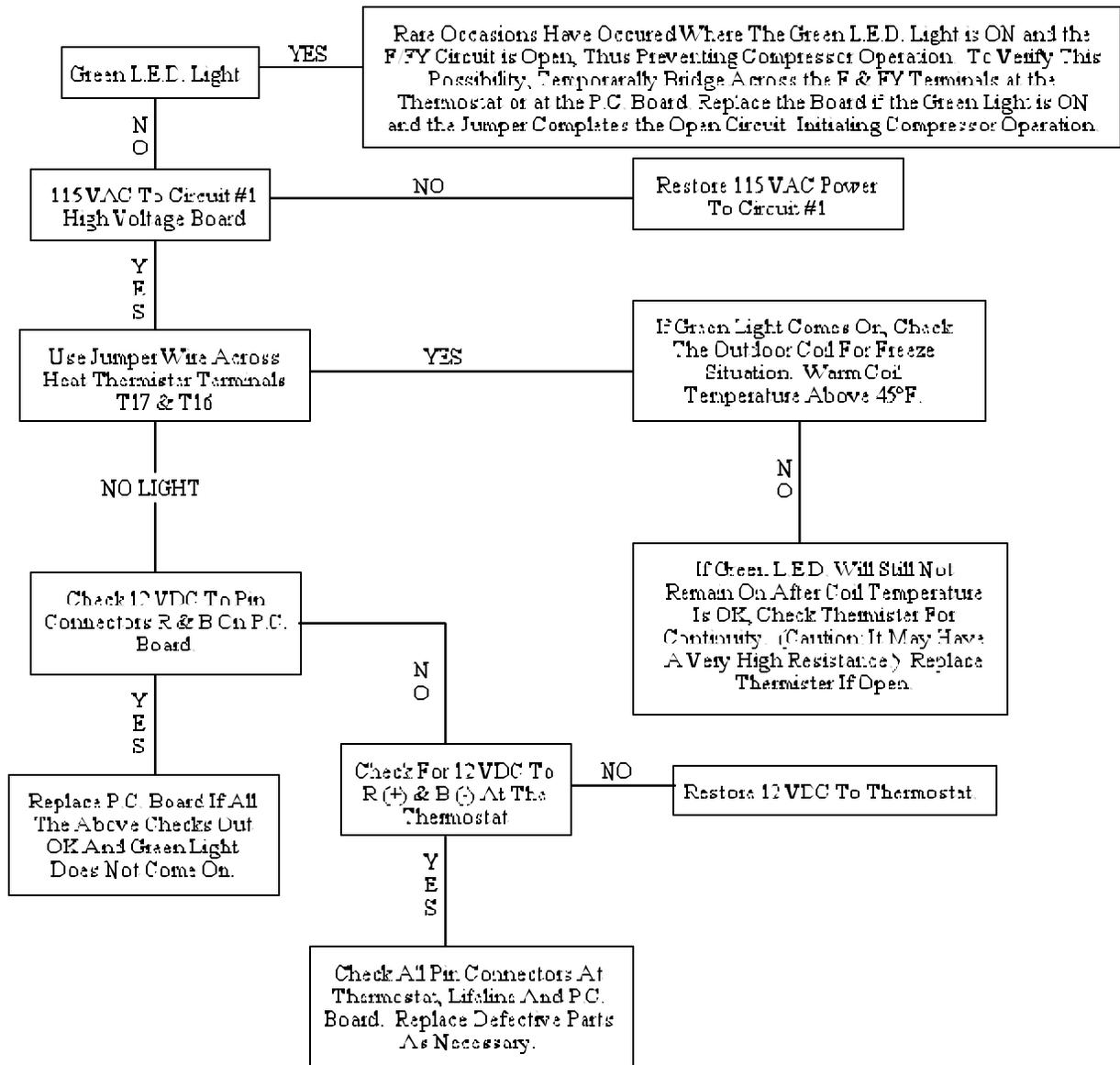
12B. HEAT PUMP OPERATION SEQUENCE HEATING MODE



12B.1 No Heating; Electric Heat Mode

(Green L.E.D. Light Circuit)

F/FY Circuit Open to The Thermostat



* Indoor Thermistor Is Ignored When "W" Is Energized

Note:

The green light on the board has some new functions on the 6535 "A" model. If the light is on solid, everything is OK. If the light is blinking slowly, the unit is in a 3 minute time delay. If the light is blinking fast, there is either no line voltage to Circuit 1 or one of the thermistors are open. If the light is not on at all there is no 12VDC power to the thermostat or the PC Board.

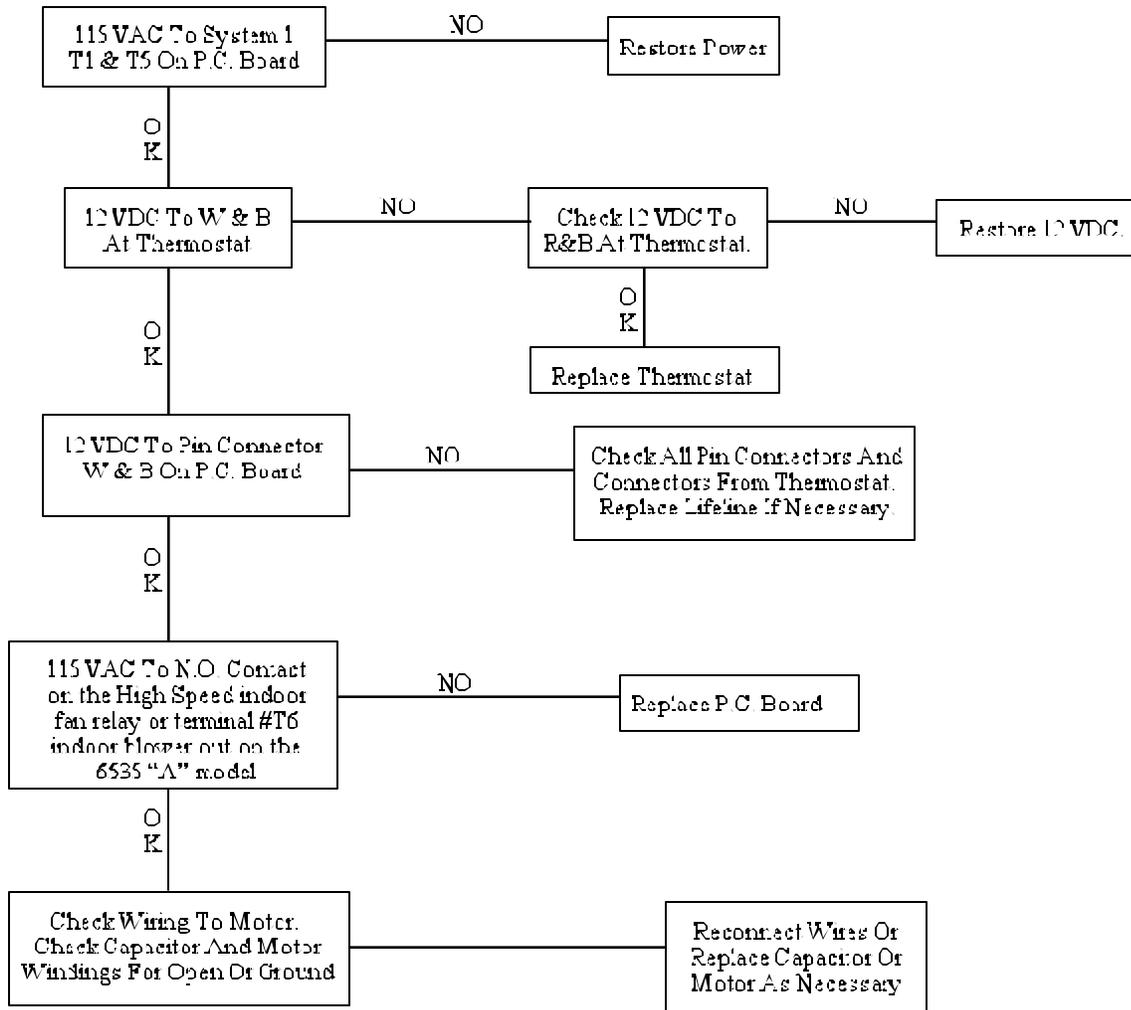
Important Notice:

If the unit is equipped with a high pressure switch and this switch opens, it

Opens the 12 VDC (-) negative circuit from the thermostat to the P.C. Board and all heat pump functions are dead. Be sure to correct the root problem causing the high head pressure. If any heat pump function operates, the switch is OK.

12B.2 No Indoor Blower; Electric Heat Mode

Note: Only High Fan Speed Is Energized In The Heating Mode.
All Operating Functions Subject To Thermostat Time Delays.

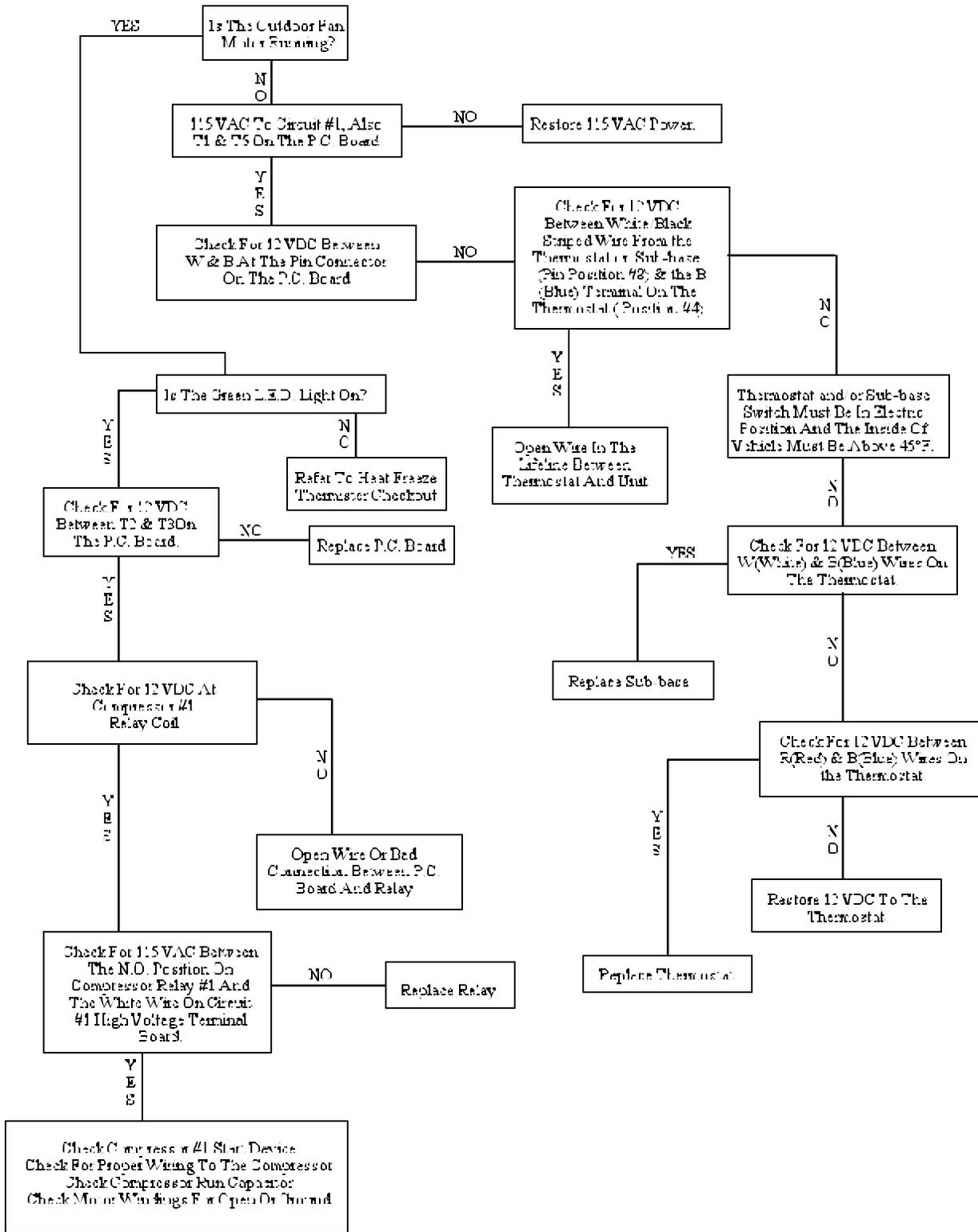


Important Notice:

If the unit is equipped with a high pressure switch and this switch opens, it opens the 12 VDC (-) negative circuit from the thermostat to the P.C. Board and all heat pump functions are dead. Be sure to correct the root problem causing the high head pressure. If any heat pump function operates, the switch is OK.

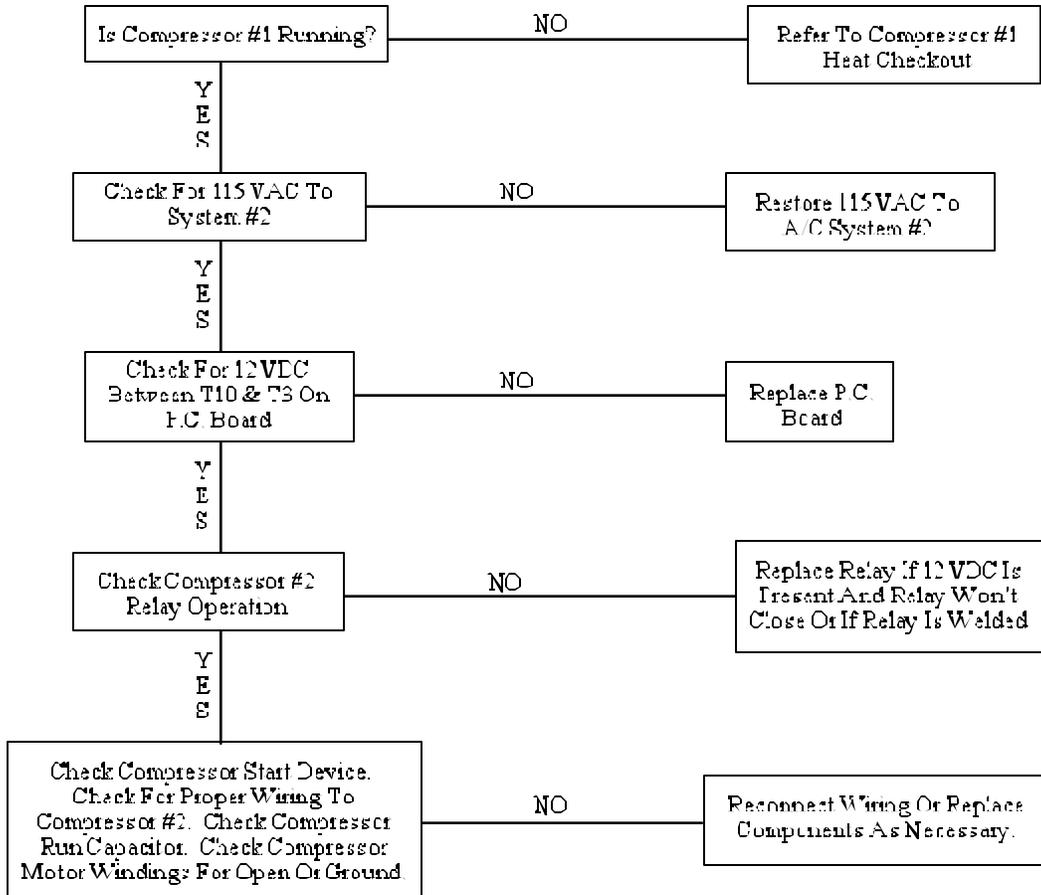
12B.3 Compressor #1 Checkout; Electric Heat Mode

Note: All Operating Functions Subject To Thermostat And P.C. Board Time Delays.
Thermostat or Sub-base Must Be In The Electric Mode.



12B.4 Compressor #2 Checkout; Electric Heat Mode

Note: All Operating Functions Subject To Thermostat And P.C. Board Time Delays.
Thermostat or Sub-base Must Be In The Electric Mode.



Important Notice:

If the unit is equipped with a high pressure switch and this switch opens, it opens the 12 VDC (-) negative circuit from the thermostat to the P.C. Board and all heat pump functions are dead. Be sure to correct the root problem causing the high head pressure. If any heat pump function operates, the switch is OK.

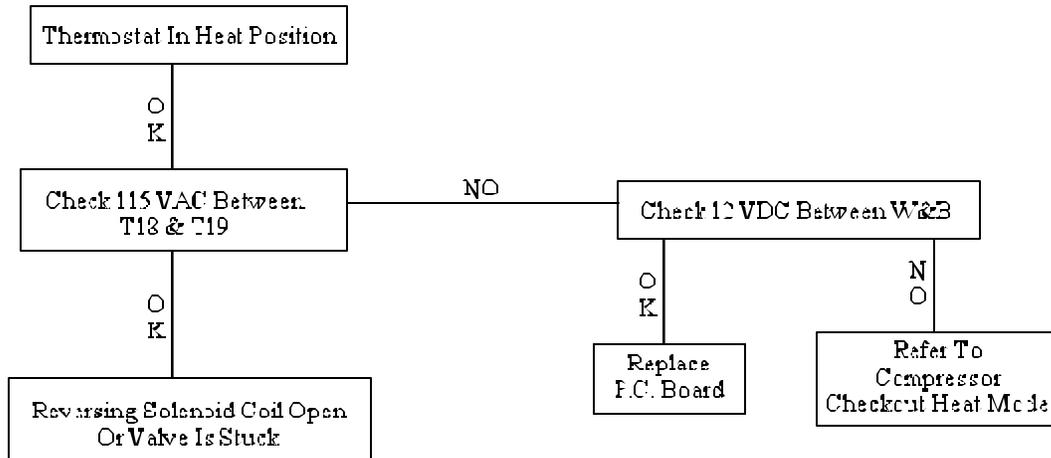
Note:

Some coach manufacturers connect their energy management systems in series with the 12VDC call for compressor #2. This is usually done between the output terminals on the P.C. Board and the Compressor #2 relay coil.

12B.5 No Reversing Valve Operation Electric Heat Mode

Note: All Operating Functions Subject To Thermostat And P.C. Board Time Delays.
Thermostat and/or Sub-base Must Be In The Electric Mode.

Note: If the Compressors or Fan Motors are not Running, Refer To Proper Checkouts.



Important Notice:

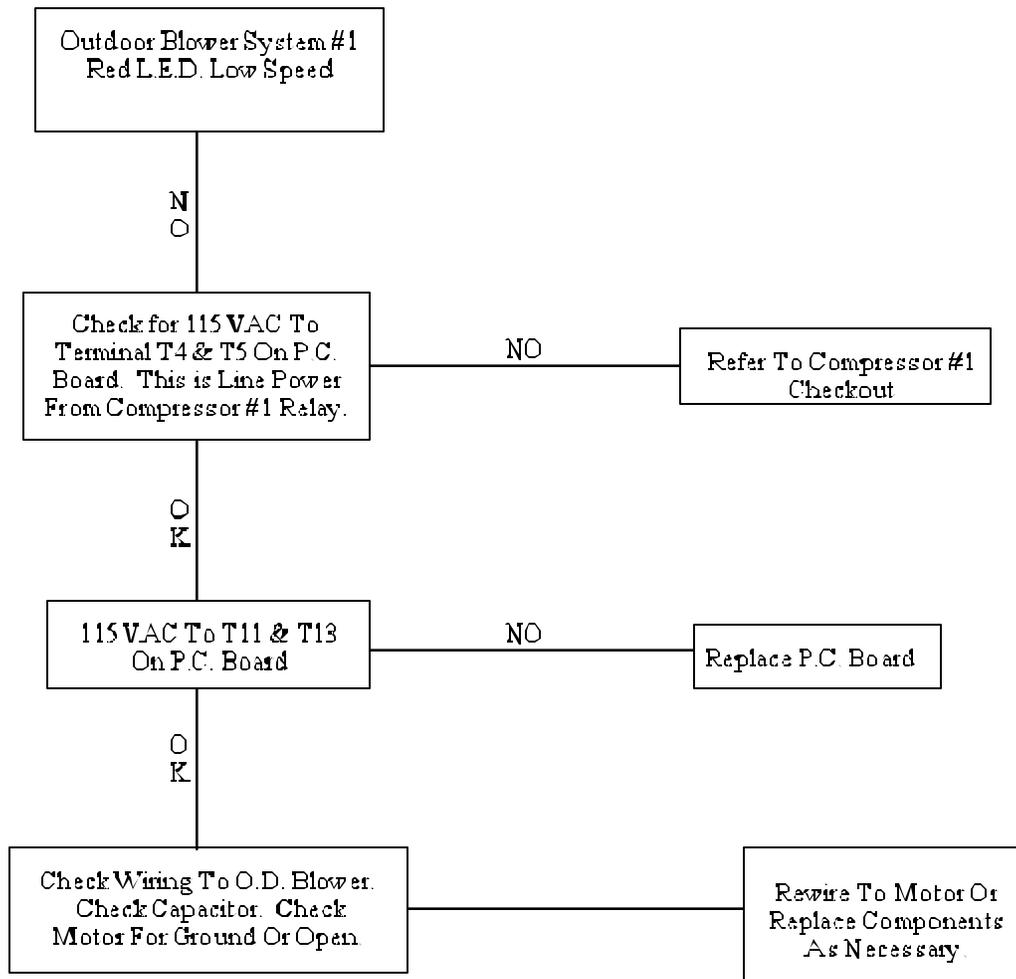
If the unit is equipped with a high pressure switch and this switch opens, it opens the 12 VDC (-) negative circuit from the thermostat to the P.C. Board and all heat pump functions are dead. Be sure to correct the root problem causing the high head pressure. If any heat pump function operates, the switch is OK.

Note:

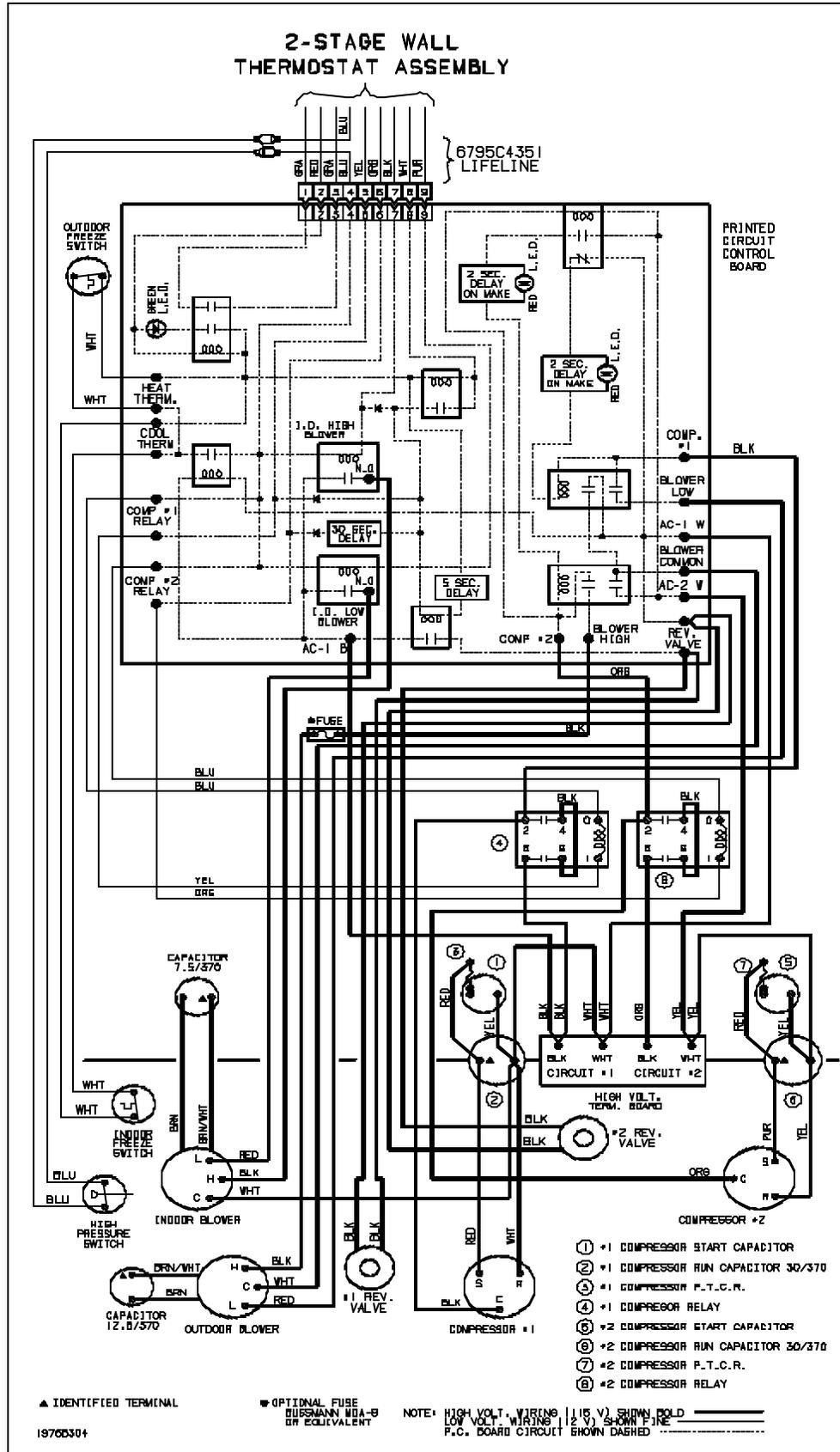
Reversing Valve Solenoid Is Energized In The Electric Heat Mode
Once The Reversing Valve Solenoid Has Energized, The P.C. Board Locks The Valve Into An Energized Position Until The Wall Thermostat Is Placed In The Cool Position And Actually Has A Demand For Cooling,

12C. OUTDOOR BLOWER MOTOR; HEATING OR COOLING MODE

12C.1 No Outdoor Blower Low Speed



13. WIRING DIAGRAM - 6535 (-) SERIES





RV Products
A Division of Airxcel, Inc.
P.O. Box 4020
Wichita, KS 67204