

INSTALLATION AND OPERATING INSTRUCTIONS

FOR 6535-335*

2 STAGE HEAT PUMP WALL THERMOSTAT

APPLICATION

The 6535-335* thermostat is intended for use with an RV Products 2 stage heat pump. The thermostat connects to the heat pump with a 9 pin plug through a lifeline. The OEM (Original Equipment Manufacturer) must supply the 12 VDC wiring and the furnace control wiring which connects to the 3 pin plug on the thermostat. The OEM supplies the mating receptacle for the 3 pin plug. RV Products suggests the thermostat wiring be minimum 18 gauge. The furnace control circuit must not exceed 1 amp. The thermostat is equipped with a replaceable fast-acting 2 amp fuse located on the base of the thermostat. The fuse is designed to “open” if the furnace is mis-wired or there is a short in the system. Before replacing fuse, the cause of the failure must be located and corrected.

INSTALLATION INSTRUCTIONS

BE SURE ALL ELECTRICAL POWER HAS BEEN DISCONNECTED FROM THE HEAT PUMP AND THE POWER SUPPLY.

These instructions are provided for the proper mounting of the thermostat itself. An Operation Chart is provided to show thermostat capabilities.

A. THERMOSTAT LOCATION

This thermostat is a sensitive instrument. For accurate temperature control and comfort, the following considerations should be taken into account:

1. Locate the thermostat on an inside wall about five feet above the floor. Pick a dry area where air circulation is good.
2. Do not install the thermostat where there are unusual heating conditions; such as direct sunlight, heat producing appliances (television, radio, wall lamp, etc.) or a furnace or air conditioner supply register.

B. WIRING THE WALL THERMOSTAT

OEM must supply mating parts to connect these thermostats per Figure 1. The plugs must be connected to motorcoach wiring harness before the base is secured to the wall.

6535-335* Thermostat Assembly With Plugs

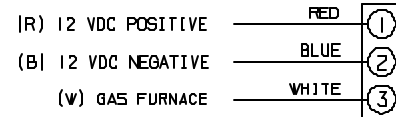
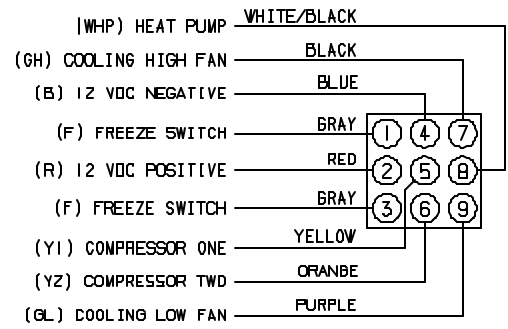
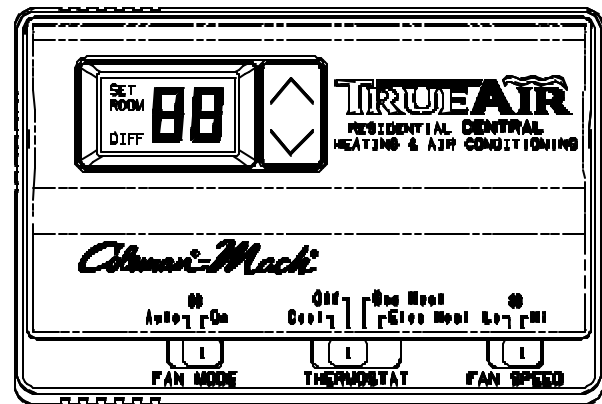
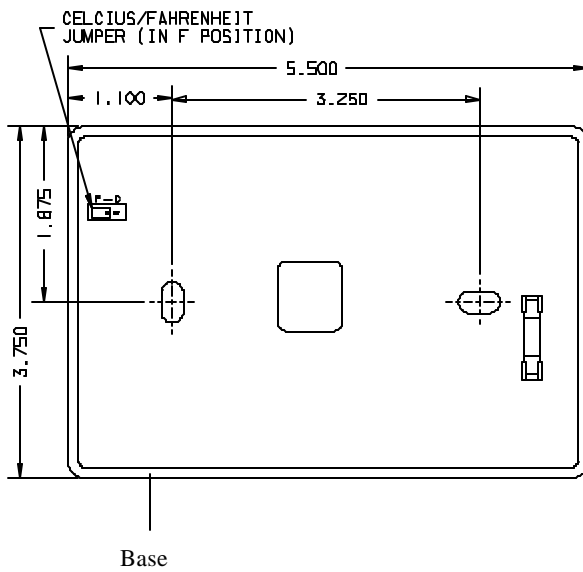


FIGURE 1

C. ATTACHING THE WALL THERMOSTAT

1. Separate the thermostat body from the base by gently pulling at the top and bottom. See Figure 2.
2. Attach the new thermostat base to the wall at the desired mounting location.



6535-335 Thermostat

FIGURE 2

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”.

Refer to operation table (pages 2 & 3) for a more detailed listing of operation sequence.

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

OPERATION

The chart below shows the system functions with the 6535-335* thermostat. After the entire air conditioning system (and furnace system) is installed, check each position function.

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 |



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