



# 1987-93 Ford Mustang

Control Panel Kit  
(473097)



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## Additional Information:

- 1987-89 Ford Mustang will require updating the control panel bezel to the 1990-93 style. This control panel bezel is included in this kit. Replacement control panel bezels can also be purchased separately (Vintage Air PN: 490087).



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## Packing List: Control Panel Kit (473097)

No.	Qty.	Part No.	Description
1.	1	473096	Control Panel Assembly
2.	1	232007-VUR	Control Harness, Gen IV/Gen 5 Universal
3.	1	231520	Ground Wire, 12" White, 16 GA
4.	1	490087	Bezel, Control Panel

**\*\* Before beginning installation, open all packages and check contents of shipment. Please report any shortages directly to Vintage Air within 15 days. After 15 days, Vintage Air will not be responsible for missing or damaged items.**

1



2



3



4



**NOTE: Images may not depict actual parts and quantities. Refer to packing list for actual parts and quantities.**



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## OEM Control Panel Removal

1. Carefully pry the control panel bezel off from the bottom (See Photo 1, below).
2. Remove (4) T20/7mm screws from the OEM control panel (See Photo 2, below).
3. Slide the OEM control panel out from the slot, then disconnect the cable plug, (3) electrical plugs and a vacuum gang plug from the rear of the panel (See Photo 3, below).

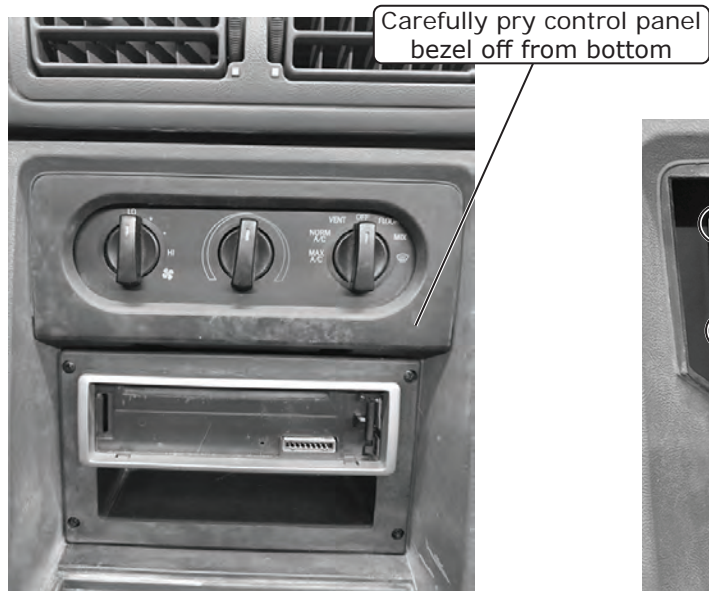


Photo 1

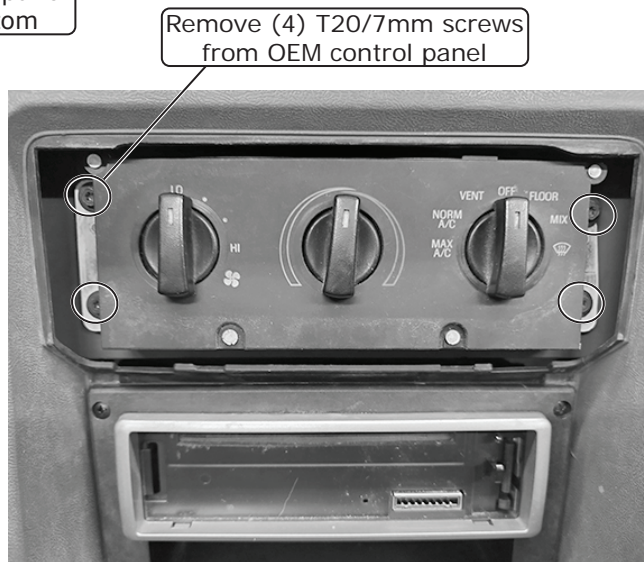


Photo 2

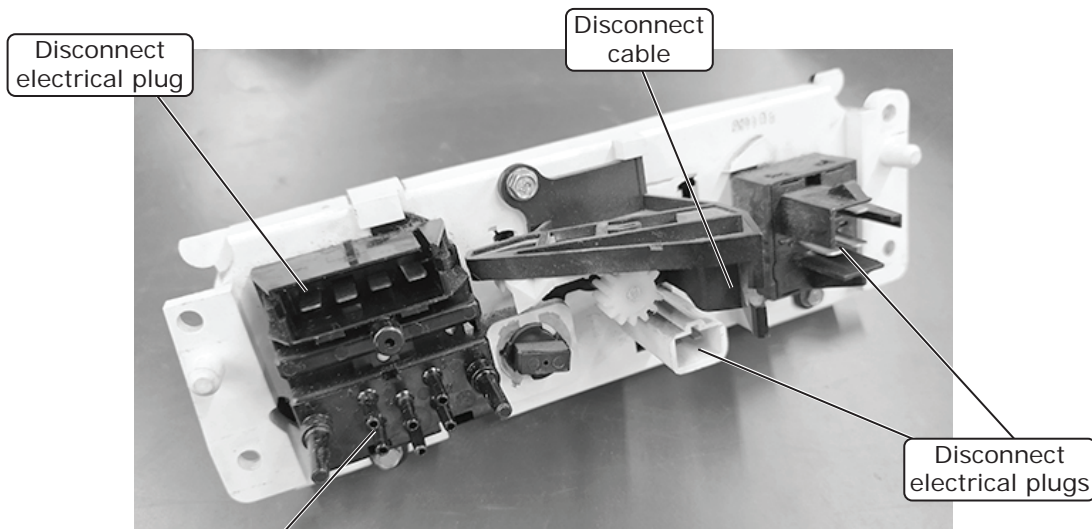


Photo 3



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## Control Panel Installation

1. Connect the control panel harness (if not already connected). Route it through the opening, toward the ECU to be connected later (See Photo 1, below).
2. Install the new control panel using the previously removed screws (See Photos 2 and 3, below). Center the control panel in the opening and adjust it as needed before fully tightening screws. **NOTE: Install the bezel, then check alignment of the control panel. Remove the bezel and adjust panel if necessary.**
3. Tighten screws.
4. Install the bezel by sliding the top part up, then clicking it in at the bottom (See Photo 4, below).

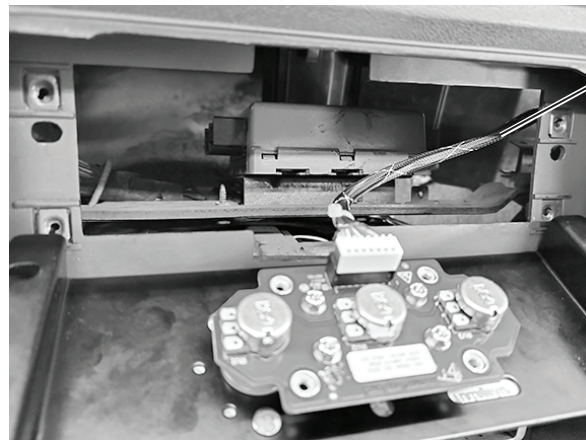


Photo 1



Photo 2

Photo 3



Photo 4



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## Control Harness Installation

1. Plug the Gen IV/Gen 5 Universal control harness connector into the ECU (See Photo 1, below). **NOTE: The ECU module is located on the front of the evaporator cowl bracket.**

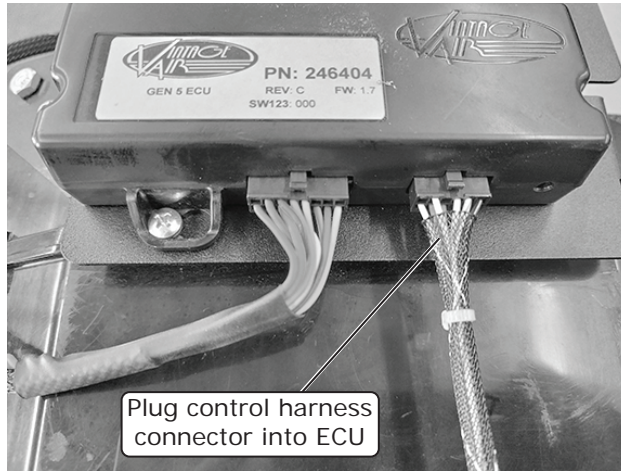


Photo 1



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## **Control Panel Calibration Procedure**

On Vintage Air Gen IV and Gen 5 systems using cable converters or replacement electronic controls, it is necessary to calibrate the system to your specific control panel. This procedure ensures that the travel of your control panel levers or knobs is translated into precise control of the blower speed, temperature blend and mode door position. Please carefully read and understand these procedures before beginning. The procedure may be repeated as many times as necessary to get it right.

### **Gen IV Systems:**

In preparation for calibration, you will need to attach the supplied white ground jumper wire (PN 231520) to a suitable chassis ground. This jumper wire must be easily connected to the gray programming wire located in the main Gen IV wiring harness next to the compressor relay. During the calibration procedure, you will connect the white jumper to the gray program wire, which will "teach" the Gen IV ECU the upper limits of the control levers or knobs. The blower will momentarily change speeds, signaling that the upper limits have been "learned". You will move the levers or knobs to opposite extreme positions of their travel and then disconnect the white jumper. The blower will pulse on/off, signaling that the lower limits have been learned and that the calibration procedure is complete.

### **Gen 5 Systems:**

In preparation for calibration, you will need to attach the supplied white ground jumper wire (PN 231520) to a suitable chassis ground. This jumper wire must be easily connected to the gray programming wire located in the main Gen 5 wiring harness, see the Gen 5 wiring diagram and instructions for more information. During the calibration procedure, you will connect the white jumper to the gray program wire, and ground, which will then put the ECU into calibration mode. When the ECU is in calibration mode, the blower will default to medium speed and the ECU will flash a solid red light. Once in calibration mode you will cycle the controls as indicated in the calibration procedure on the next page. When complete, the jumper and program wire will be disconnected. The blower will turn off indicating calibration is complete.

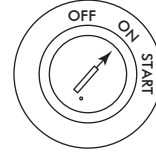


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## Control Panel Calibration Procedure (Cont.)

**NOTE:** Supplied white ground lead may be connected to a good ground source and used for Step 3. After calibrating, insulate the gray lead end so that it does not accidentally become grounded and lose calibration.

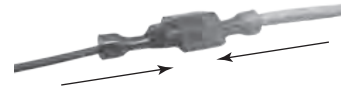
1. Turn on the ignition switch (Do not start the engine).



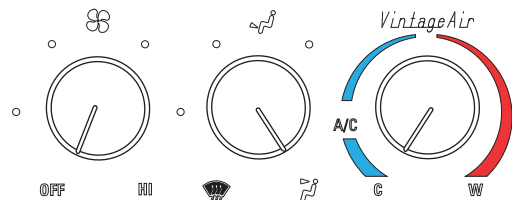
2. Move the control levers/knobs to the positions shown.



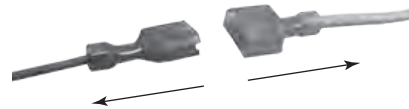
3. Connect the white jumper wire to the gray program wire. Wait approximately 5 seconds for the blower speed to change if using a Gen IV system, if using a Gen 5 system wait for the blower to default to medium speed.



4. Move the control levers/knobs to the positions shown.



5. Disconnect the white jumper wire from the gray program wire. The blower speed will change if using a Gen IV system, and will shut off if using a Gen 5 system, indicating completion of the calibration procedure.



6. Confirm proper operation of controls. Repeat procedure if necessary. When finished, tape over program wire connector with electrical tape to prevent accidental contact with chassis ground.

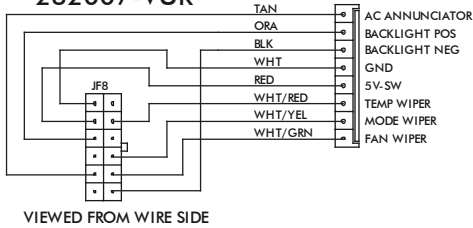




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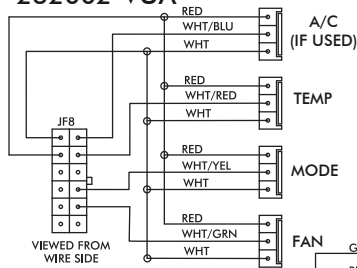
# Gen IV Wiring Diagram

## 232007-VUR



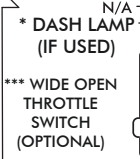
VIEWED FROM WIRE SIDE

## 232002-VUA

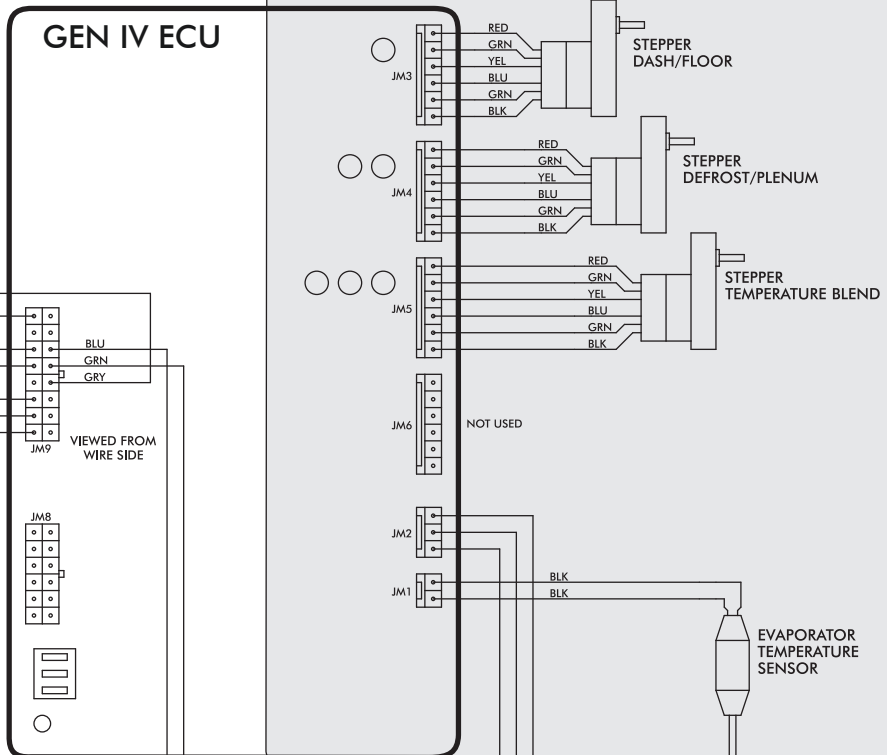


VIEWED FROM WIRE SIDE

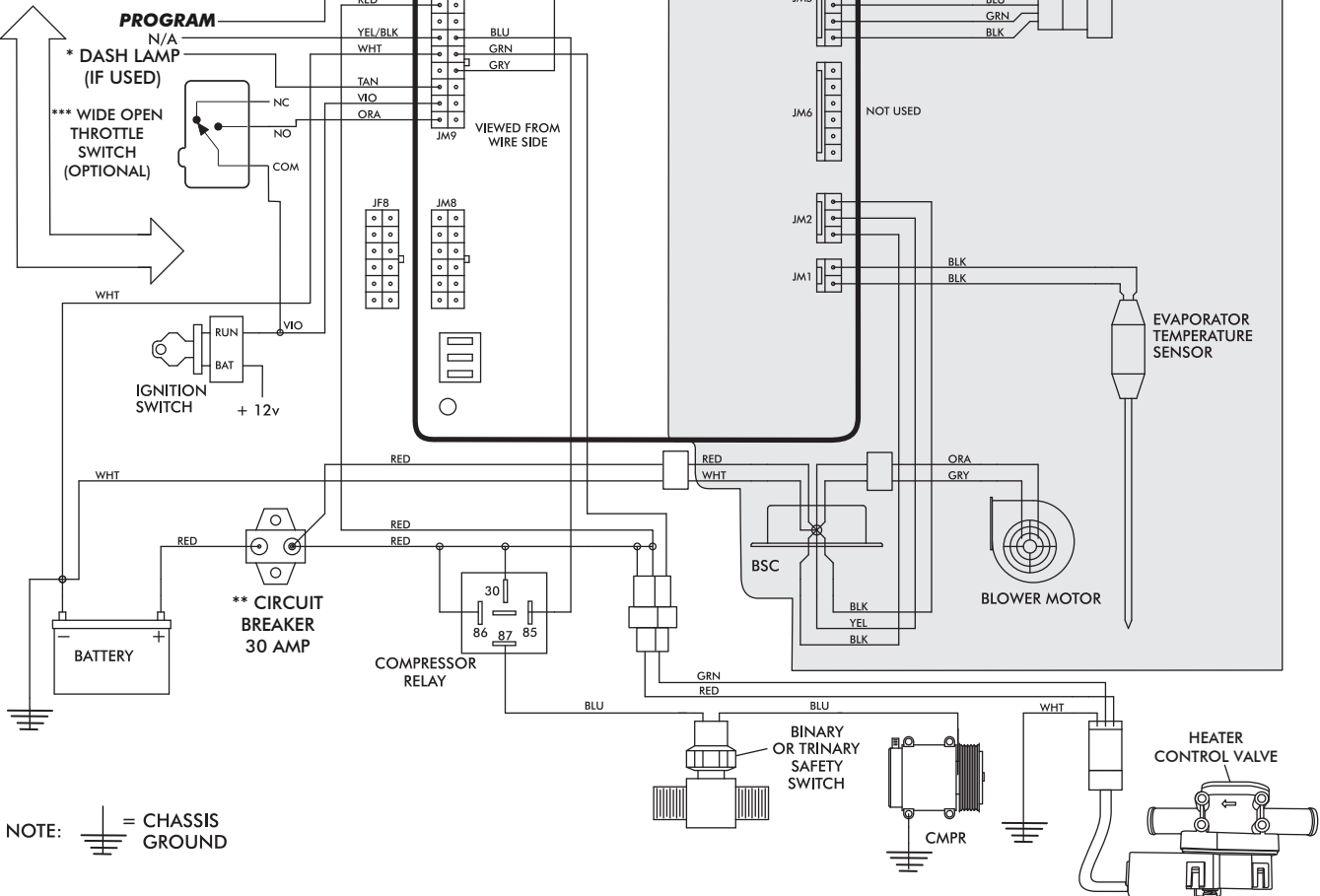
## PROGRAM



## GEN IV ECU



## PRE-WIRED



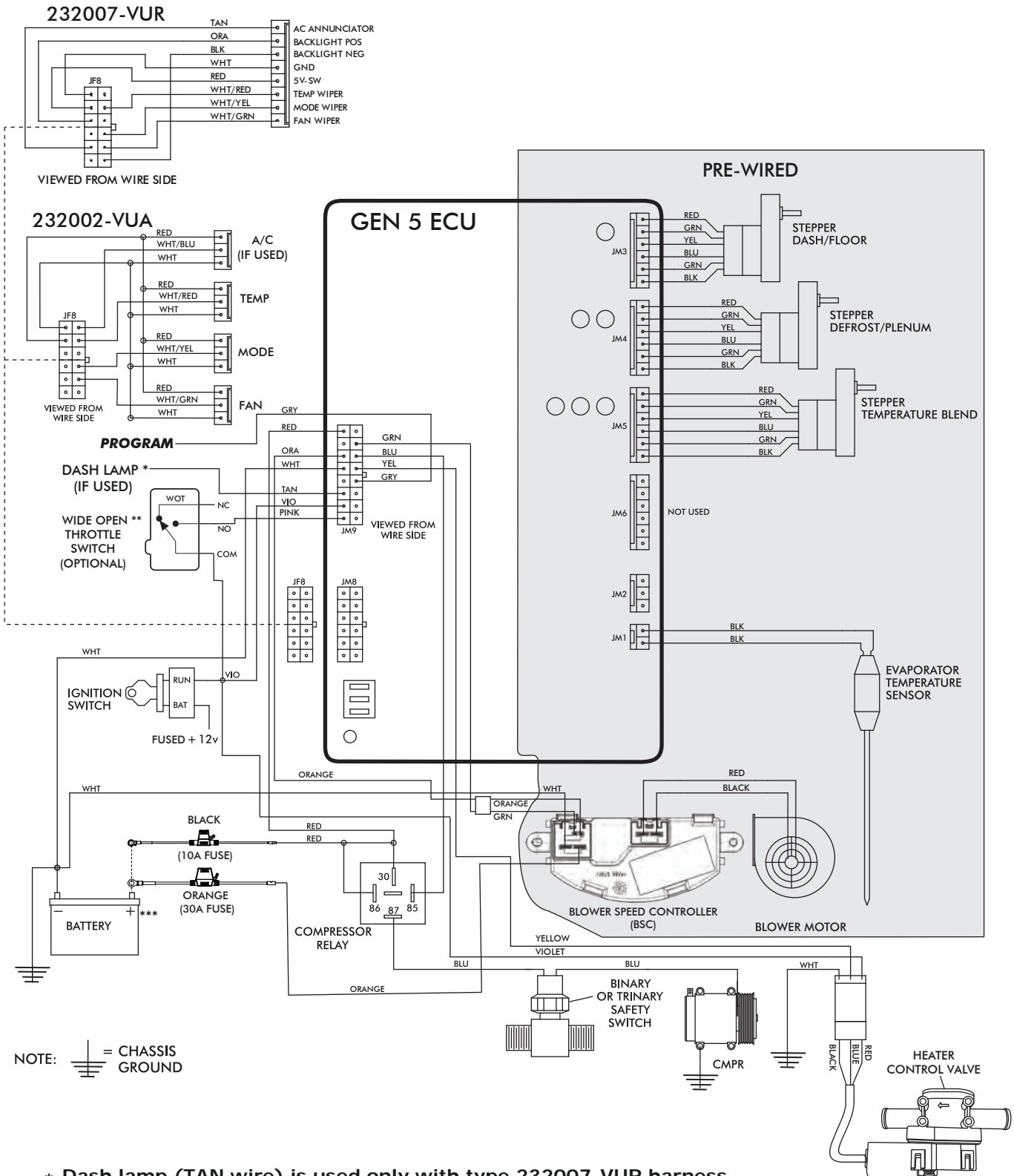
NOTE: = CHASSIS GROUND

- \* Dash lamp is used only with type 232007-VUR harness.
- \*\* Warning: Always mount circuit breaker as close to the battery as possible. (NOTE: Wire between battery and circuit breaker is unprotected and should be carefully routed to avoid a short circuit).
- \*\*\* Wide open throttle switch contacts close only at full throttle, which disables A/C compressor.



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# Gen 5 Wiring Diagram



NOTE: = CHASSIS GROUND

- \* Dash lamp (TAN wire) is used only with type 232007-VUR harness.
- \*\* Wide open throttle switch contacts close only at full throttle, which disables A/C compressor.
- \*\*\* Install fuse assemblies at or as near to the battery as possible.



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## Operation of Controls

On Gen IV and Gen 5 systems with three lever/knob controls, the temperature control toggles between heat and A/C operations. To activate A/C, move the temperature lever/knob all the way to cold and then back it off to the desired vent temperature. For heat operation, move the temperature lever/knob all the way to hot and then adjust to the desired vent temperature. The blower will momentarily change speed, each time you toggle in and out of heat and A/C operations, to indicate the change. **NOTE: For proper control panel function, refer to Pages 7 and 8 for calibration procedure.**

### Blower Speed

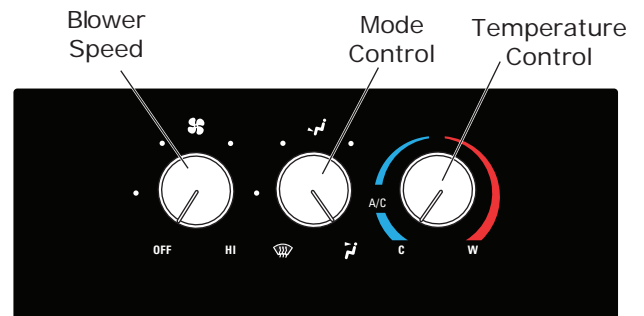
This lever/knob controls blower speed, from OFF to HI.

### Mode Control

This lever/knob controls the mode positions, from DASH to FLOOR to DEFROST, with a blend in between.

### Temperature Control

This lever/knob controls the temperature, from HOT to COLD.



## A/C Operation

### Blower Speed

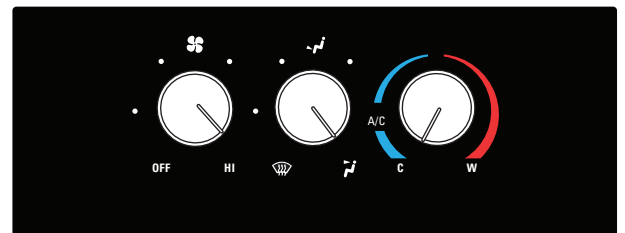
Adjust to desired speed.

### Mode Control

Adjust to desired mode position (DASH position recommended).

### Temperature Control

For A/C operation, adjust to coldest position to engage compressor (adjust between HOT and COLD to reach desired temperature).



## Heat Operation

### Blower Speed

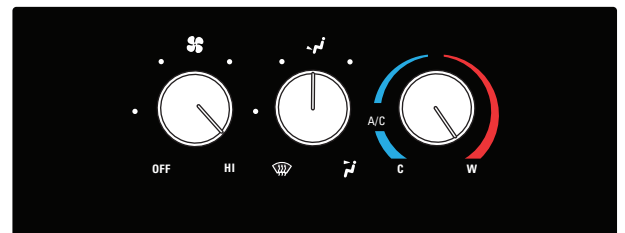
Adjust to desired speed.

### Mode Control

Adjust to desired mode position (FLOOR position recommended).

### Temperature Control

For maximum heating, adjust to hottest position (adjust between HOT and COLD to reach desired temperature).



## Defrost/De-fog Operation

### Blower Speed

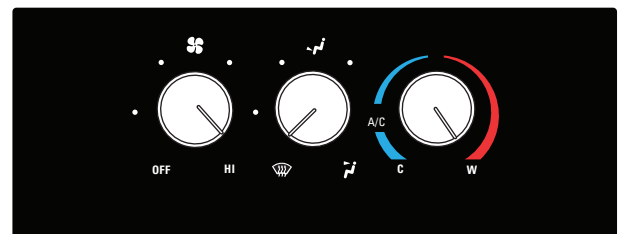
Adjust to desired speed.

### Temperature Control

Adjust to desired temperature.

### Mode Control

Adjust to DEFROST position for maximum defrost, or between FLOOR and DEFROST positions for a bi-level blend (Compressor is automatically engaged).





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2.	1	232007-VUR	Control Harness, Gen IV/Gen 5 Universal
3.	1	231520	Ground Wire, 12" White, 16 GA
4.	1	490087	Bezel, Control Panel

Checked By: \_\_\_\_\_  
Packed By: \_\_\_\_\_  
Date: \_\_\_\_\_

1



2



3



4



**NOTE:** Images may not depict actual parts and quantities.  
Refer to packing list for actual parts and quantities.