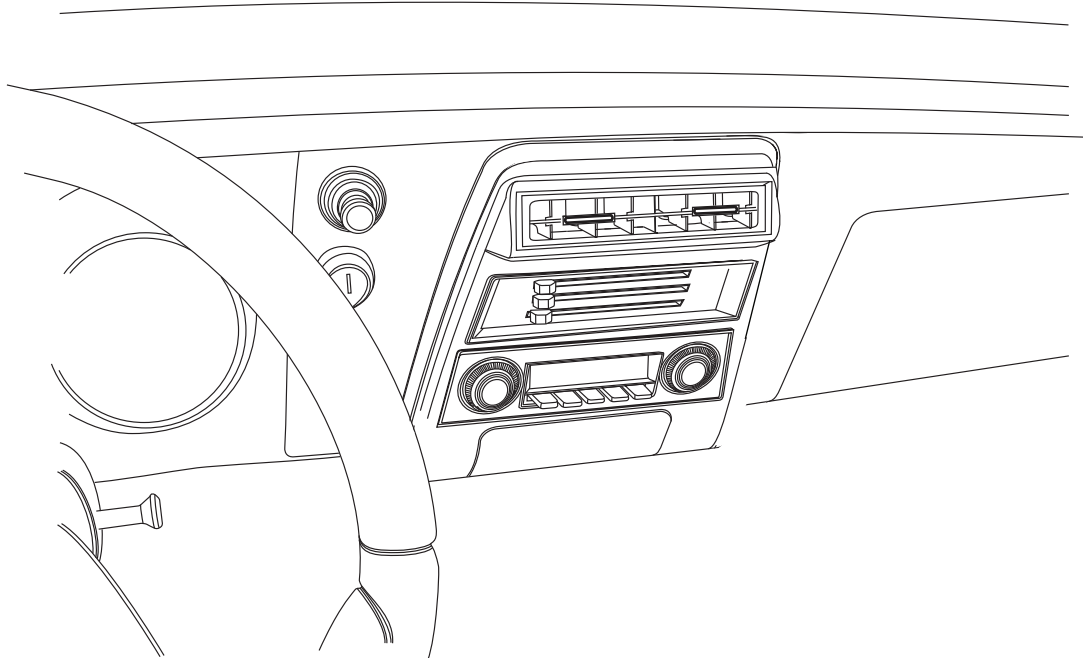




**1967-68 Chevrolet Camaro/  
Pontiac Firebird**  
*without* Factory Air  
**Control Panel Conversion Kit**  
**475168**



18865 Goll St. San Antonio, TX 78266  
Phone: 800-862-6658  
Sales: [sales@vintageair.com](mailto:sales@vintageair.com)  
Tech Support: [tech@vintageair.com](mailto:tech@vintageair.com)  
[www.vintageair.com](http://www.vintageair.com)



www.vintageair.com

# Table of Contents

Cover.....	1
Table of Contents.....	2
Packing List/Parts Disclaimer.....	3
Control Panel Removal, Placard Installation.....	4
Placard Installation (Cont.).....	5
Control Panel Assembly Modification, Control Panel Assembly Mounting Clamp & Nylon Sleeve Installation.....	6
Mode Cable Converter Assembly Installation.....	7
Mode Control Harness Installation.....	8
Temperature Cable Converter Assembly & Control Harness Installation.....	9
Temperature Control Harness Installation (Cont.), Blower Speed Cable Converter Assembly Installation.....	10
Blower Speed Control Harness Installation.....	11
Final Steps.....	12
Control Panel Calibration Procedure.....	13
Control Panel Calibration Procedure (Cont.).....	14
Gen IV Wiring Diagram.....	15
Gen 5 Wiring Diagram.....	16
Operation of Controls.....	17
Packing List.....	18

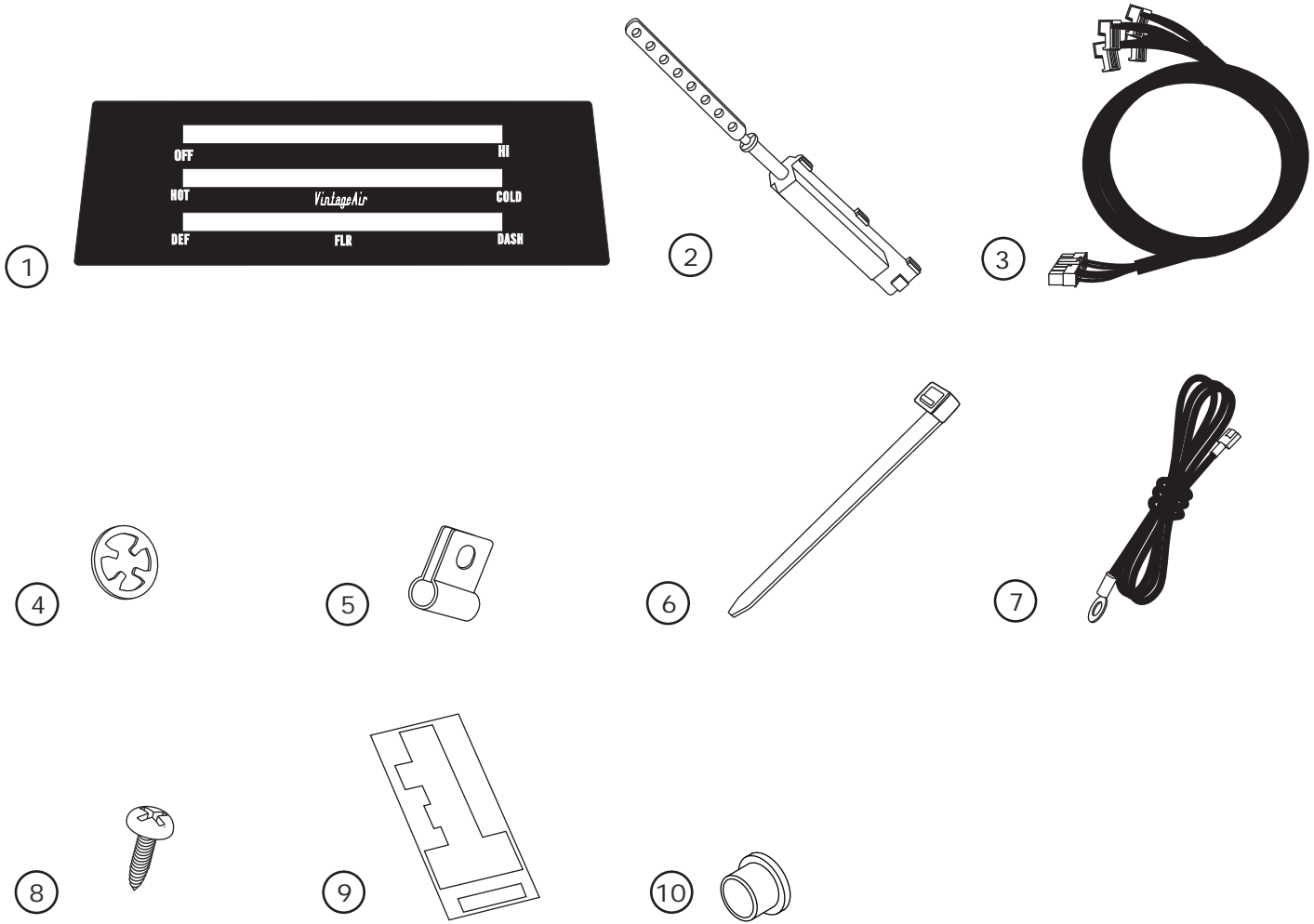


www.vintageair.com

## Packing List: Control Panel Kit (475168)

No.	Qty.	Part No.	Description
1.	1	484166	Label, Control Panel Mode
2.	3	112002-SUA	Cable Converter Assembly
3.	1	232002-VUA	Control Harness, Gen IV/Gen 5 Universal
4.	3	65976-VUE	Push-on Ring, 3/16"
5.	3	491010-VUR	Clamp, Cable Converter
6.	5	21301-VUP	Tie Wrap, 4"
7.	1	231520	Ground Wire
8.	4	18235-VUB	Screw, #8 x 1/2", Pan Head
9.	1	484170	Label Backing
10.	3	182536	Sleeve, .160" ID x .197" OD x .125" L, Nylon

**\*\* 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.**



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



www.vintageair.com

## Control Panel Removal

### Perform the Following:

1. Remove (4) OEM screws from the dash bezel, under the dash (retain) (See Figure 1, below).
2. Remove the OEM control panel from the dash (retain).
3. Disconnect the cables and wires from the back side of the OEM controls (discard).
4. Remove the (2) screws securing the OEM fan switch to the top of the control panel. Remove the fan switch from the control panel (discard).

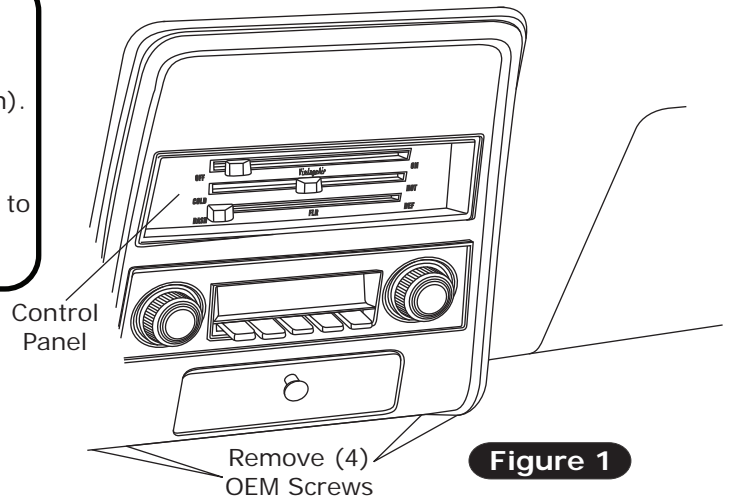


Figure 1

## Placard Installation

**NOTE:** The OEM control panel placard can be used with this system. However, the bottom of the placard will not depict actual mode settings. The actual mode settings are shown on the replacement placard mode label that comes with this kit. To use the replacement placard mode label, you must modify parts of the control panel assembly as described below. We leave it up to you, the customer, to decide if you would like to use the OEM placard or the replacement placard mode label.

### To Use the Replacement Placard Mode Label:

1. Remove the (3) lever knobs (See Figure 1, below).
2. Remove the (4) control panel face plate mounting rivets. Drill out the rivets using a 9/64" drill bit (See Figure 1, below).
3. Remove the OEM control panel face plate, placard and OEM backing plate from the control panel. Orient the OEM backing plate as shown in Figure 1, below. Using a suitable method, cut along the inside edge of the flange as shown.

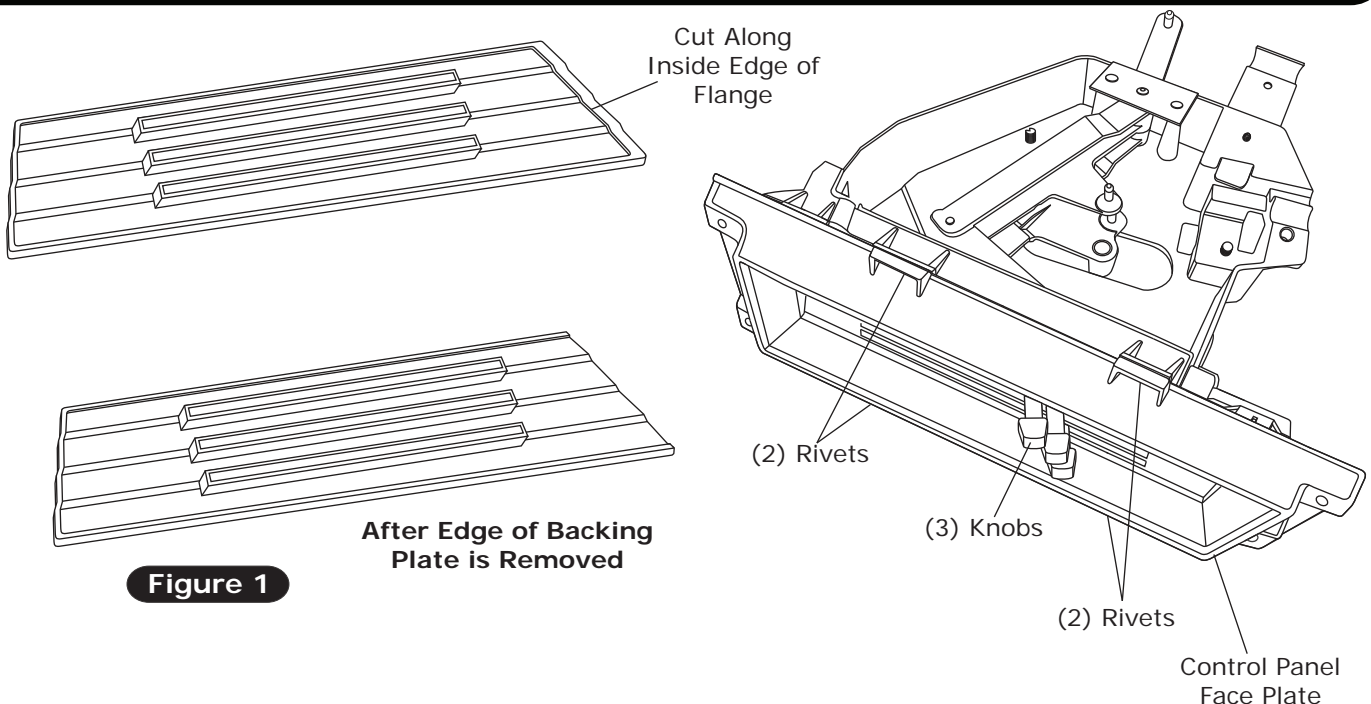


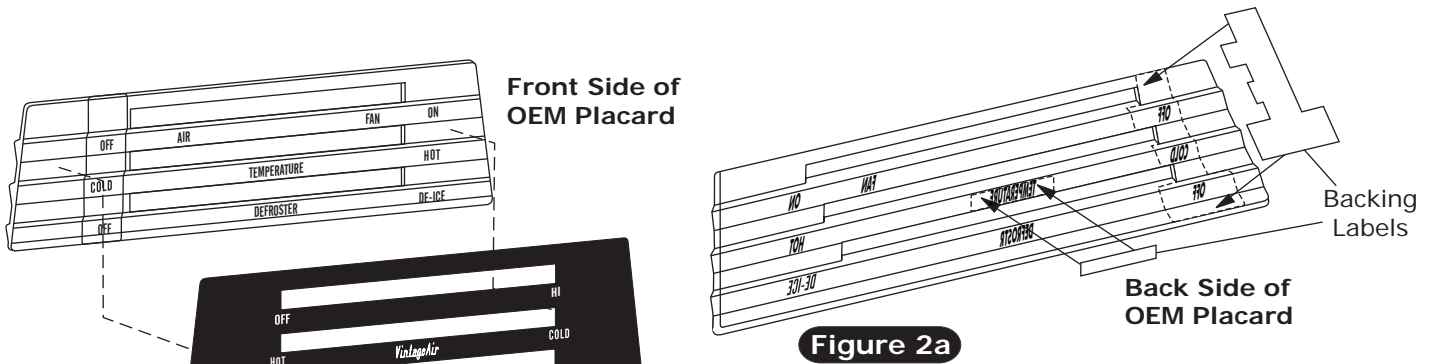
Figure 1



www.vintageair.com

## Placard Installation (Cont.)

1. Locate the OEM placard. Turn the placard over, and apply the white backing labels to the back side of the OEM placard as shown in Figure 2a, below. **NOTE: These white stickers are applied to the back side of the control panel placard to balance the amount of light across the face of the control panel.**
2. Install replacement placard fan mode label on the front side of the OEM placard (See Figure 2a, below).
3. Remove OEM light baffle (discard) (See Figure 2, below).
4. Install OEM backing plate, placard and control panel face plate. Secure control panel face plate to control panel using (4) #8 x 1/2" pan head screws (See Figure 2, below).
5. Reinstall knobs (See Figure 2, below).



Replacement Mode Label

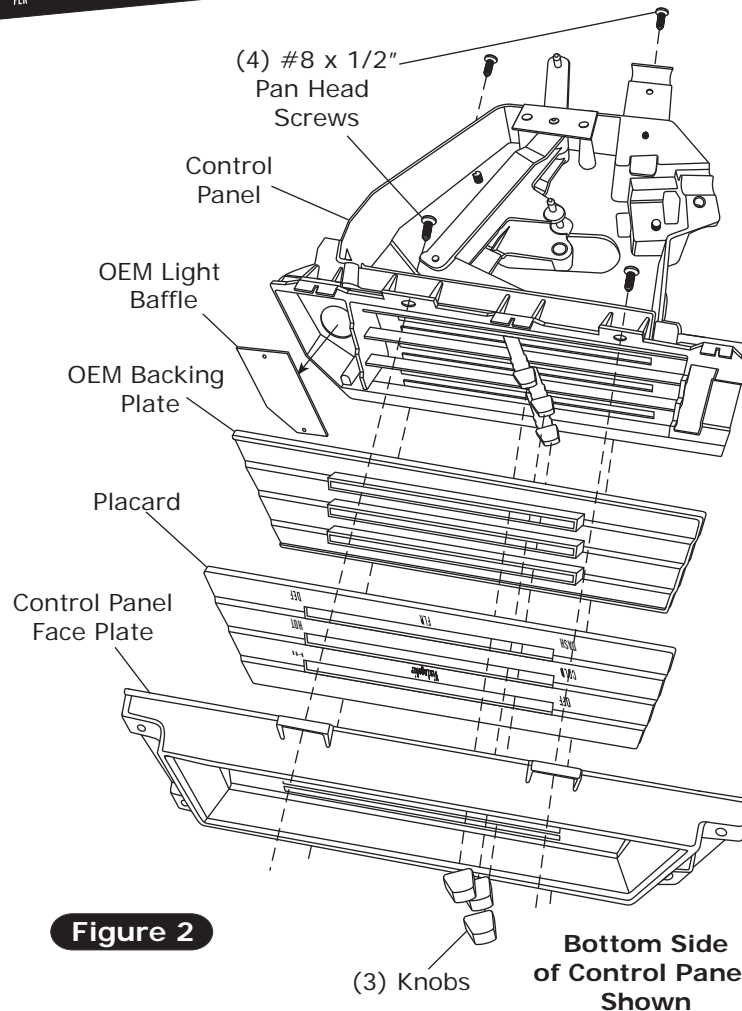


Figure 2

Bottom Side of Control Panel Shown



www.vintageair.com

## Cable Converter Assembly Modification

1. Locate the (3) cable converter assemblies. Using a pair of wire cutters, cut the cable converter actuator rods as shown in Figure 4, below.
2. Trim each cable converter rod, rounding off corners as shown in Figure 4, below.

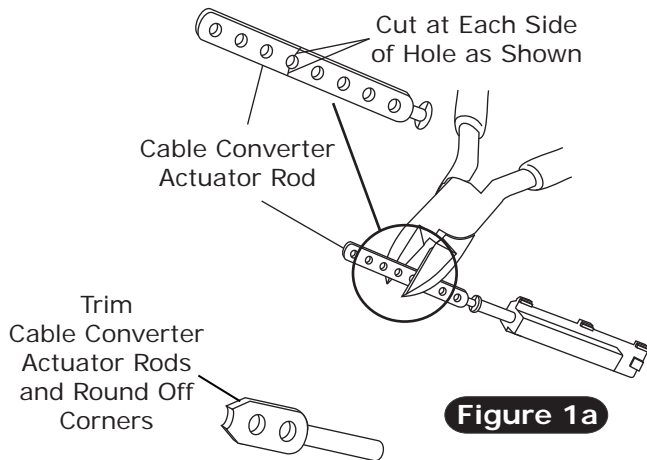


Figure 1a

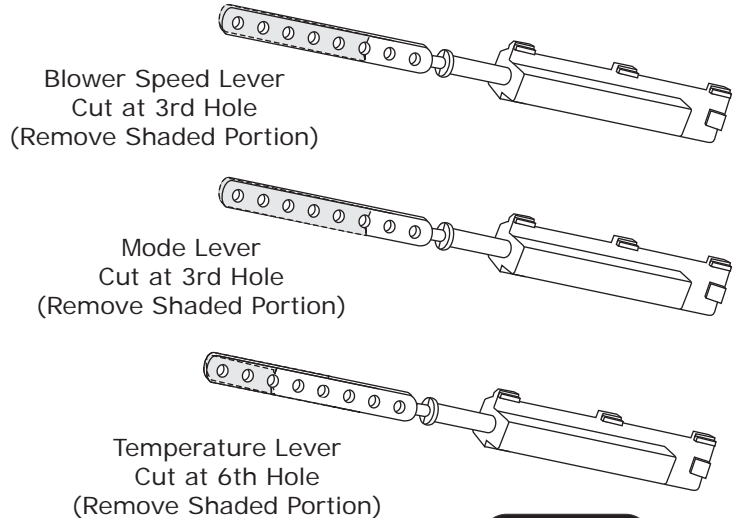


Figure 1

## Cable Converter Assembly Mounting Clamp & Nylon Sleeve Installation

1. Install cable converter assembly mounting clamps. **NOTE: Orient clamps in relation to the (3) housing snaps on the cable converter assembly (See Figure 1, below).**
2. Install (3) .125" L nylon sleeves into the cable converter assembly actuator rod as shown in Photos 1 & 2, below.

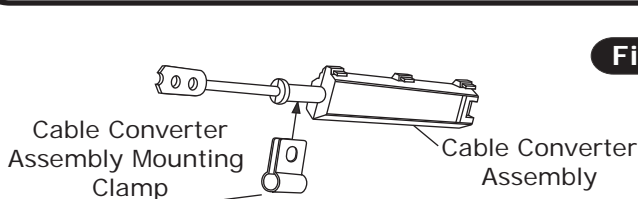


Figure 1

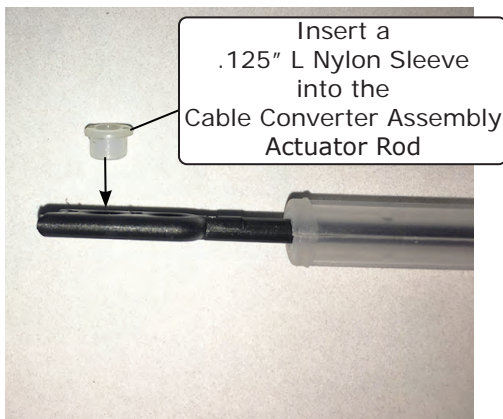
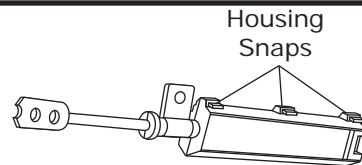


Photo 1

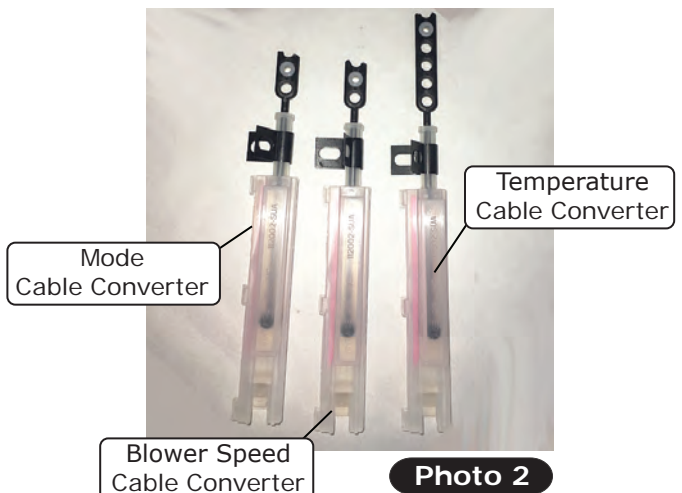


Photo 2

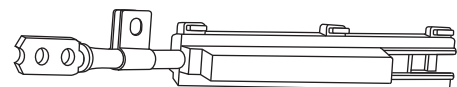
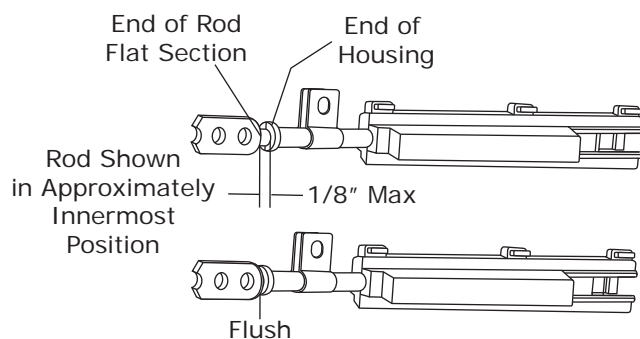
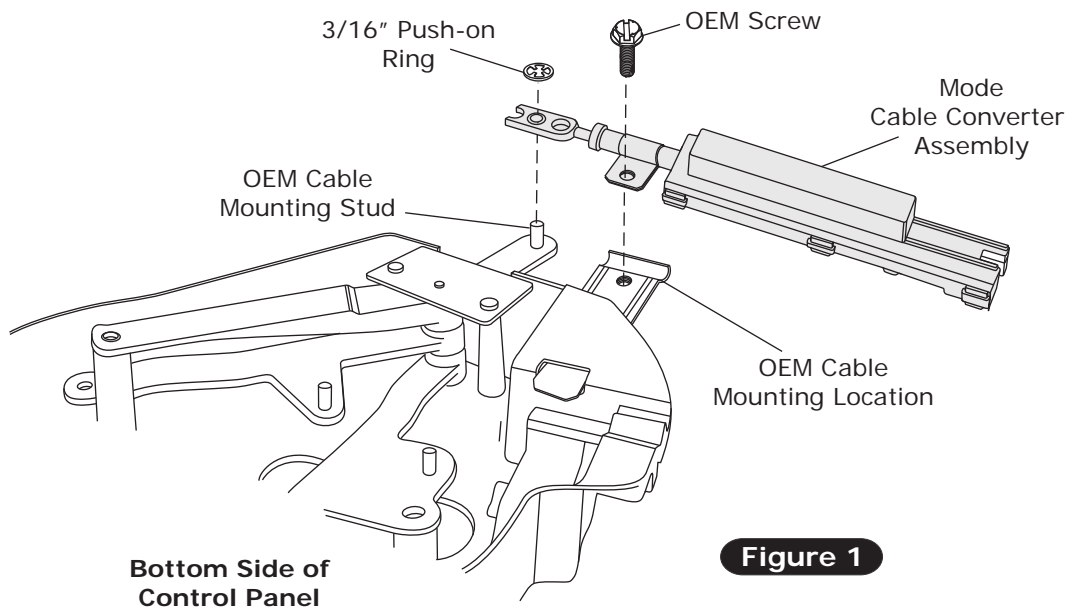
Orient Cable Converter Assemblies and Install Mounting Clamps as Shown.



www.vintageair.com

## Mode Cable Converter Assembly Installation

1. Turn the control panel over, with bottom side facing up.
2. Install the cable converter assembly onto the Mode lever (See Figure 1, below).
3. Install the cable converter push rod onto the OEM cable mounting stud on the lever.
4. Secure the cable converter assembly onto the OEM control panel using the OEM screw in the OEM cable clamp mounting location (See Figure 1, below).
5. Since the cable converter assembly can slide back and forth in the clamp before the screw is tightened, position the cable converter assembly such that the flat part of the rod is as close to flush as possible with the end of the housing at the lever's innermost position (See Figure 1, below).
6. Secure the cable converter lever push rod onto the OEM cable mounting stud using a 3/16" push-on ring as shown in Figure 1, below.



**NOTE: Do not allow rod to separate housing when rod is in innermost position.**

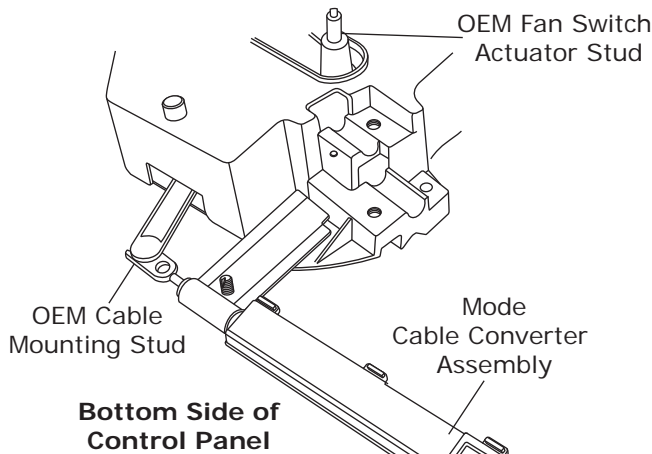




www.vintageair.com

# Mode Control Harness Installation

1. Remove the OEM fan switch actuator stud (See Figure 1 and photos, below). **NOTE: The fan switch actuator stud removal is required to allow clearance for the duct hoses. Failure to remove the stud will result in a punctured duct hose.**
2. Locate the control panel wiring harness, and plug the corresponding connector into the correct cable converter assembly as shown in Figure 1, below.
3. Once the connector is correctly plugged into the cable converter assembly, secure the wires to the cable converter assembly using one of the supplied tie wraps. The tie wrap must be located between the end of the wire jacket and the step in the cable converter housing, forcing a bend in each wire as it passes over the step in the cable converter housing. The head of the tie wrap must fall on the edge of the housing to remain tight. Ensure that the tie wraps are tight enough that the wires cannot move (See Figure 2, below).



Before Stud Removal

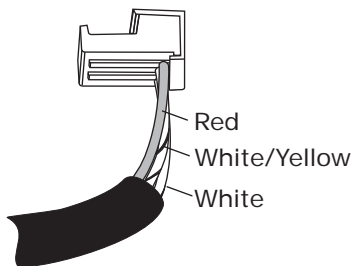


Figure 1



After Stud Removal

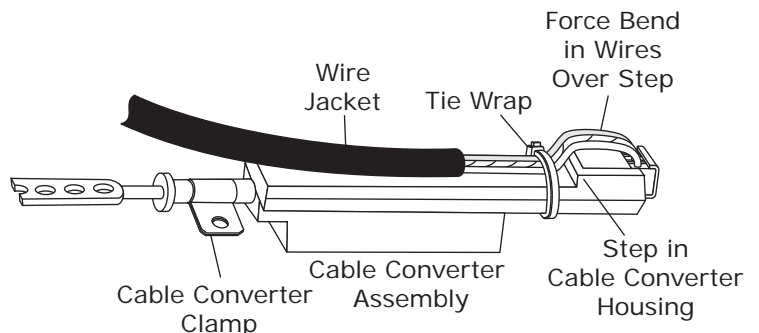
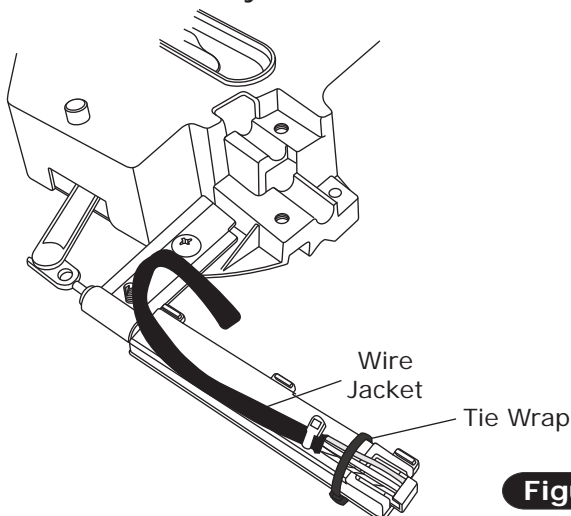


Figure 2





www.vintageair.com

## Temperature Cable Converter Assembly & Control Harness Installation

1. Install the cable converter assembly onto the Temperature lever.
2. Install the cable converter push rod onto the OEM cable mounting stud on the lever.
3. Secure the cable converter assembly onto the OEM control panel using the OEM screw in the OEM cable clamp mounting location (See Figure 1, below).
4. Since the cable converter assembly can slide back and forth in the clamp before the screw is tightened, position the cable converter assembly such that the flat part of the rod is as close to flush as possible with the end of the housing at the lever's innermost position.
5. Secure the cable converter lever push rod onto the OEM cable mounting stud using a 3/16" push-on ring.
6. Locate the control panel wiring harness, and plug the corresponding connector into the correct cable converter assembly as shown in Figure 2, below.

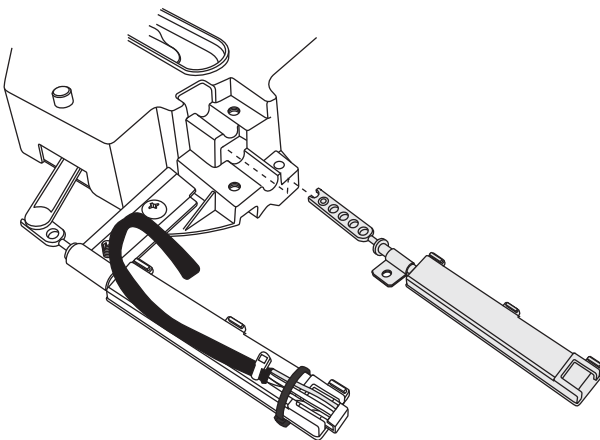
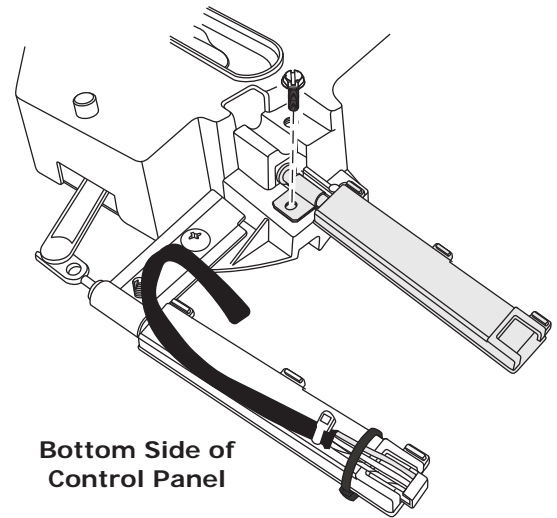


Figure 1



Bottom Side of  
Control Panel

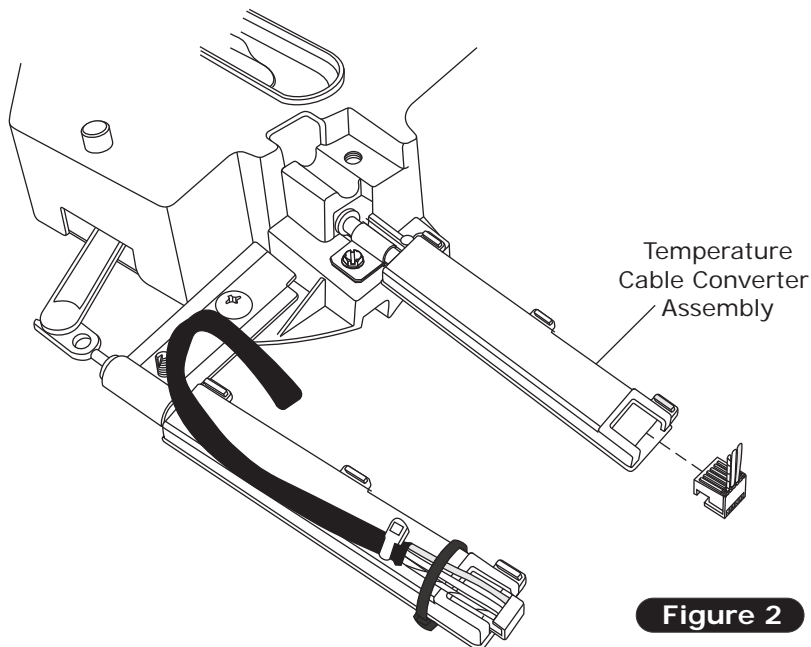
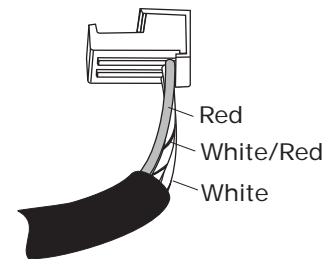


Figure 2



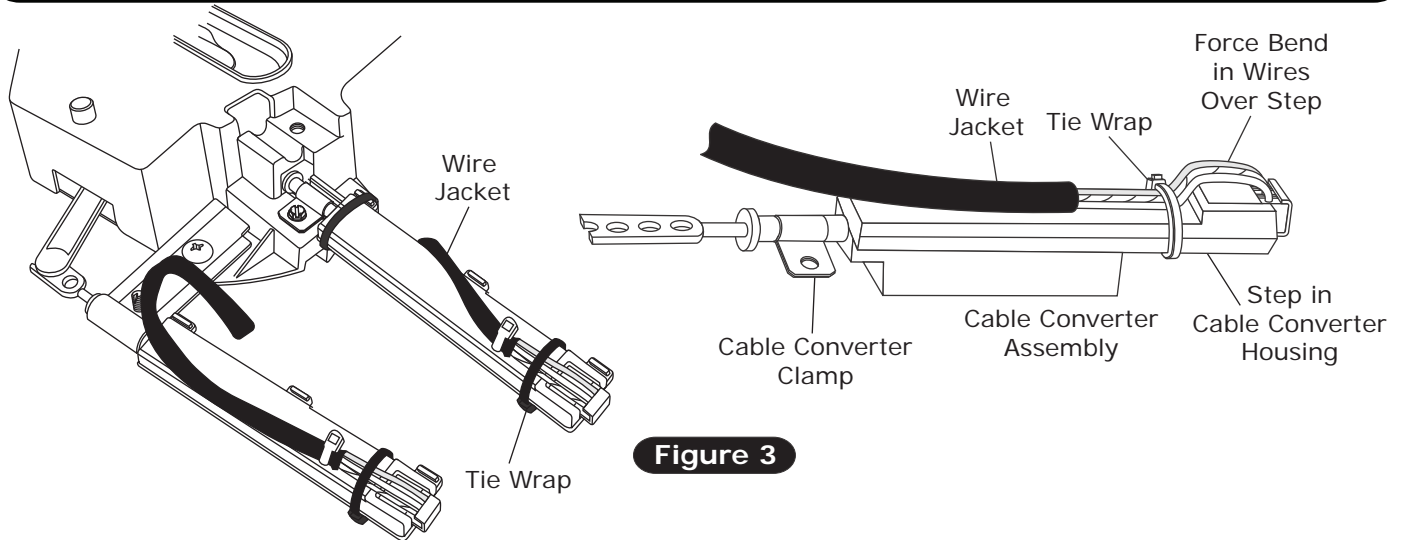
Temperature Cable Converter  
Assembly



www.vintageair.com

## Temperature Control Harness Installation (Cont.)

1. Once the connector is correctly plugged into the cable converter assembly, secure the wires to the cable converter assembly using one of the supplied tie wraps. The tie wrap must be located between the end of the wire jacket and the step in the cable converter housing, forcing a bend in each wire as it passes over the step in the cable converter housing. The head of the tie wrap must fall on the edge of the housing to remain tight. Ensure that the tie wraps are tight enough that the wires cannot move (See Figure 3, below).



## Blower Speed Cable Converter Assembly Installation

1. Install the cable converter assembly onto the blower speed lever.
2. Install the cable converter push rod onto the OEM cable mounting stud on the lever.
3. Secure the cable converter assembly onto the OEM control panel using the OEM screw in the OEM cable clamp mounting location (See Figure 1, below).
4. Since the cable converter assembly can slide back and forth in the clamp before the screw is tightened, position the cable converter assembly such that the flat part of the rod is as close to flush with the end of the housing at the lever's innermost position.
5. Secure the cable converter lever push rod onto the OEM cable mounting stud using a 3/16" push-on ring.

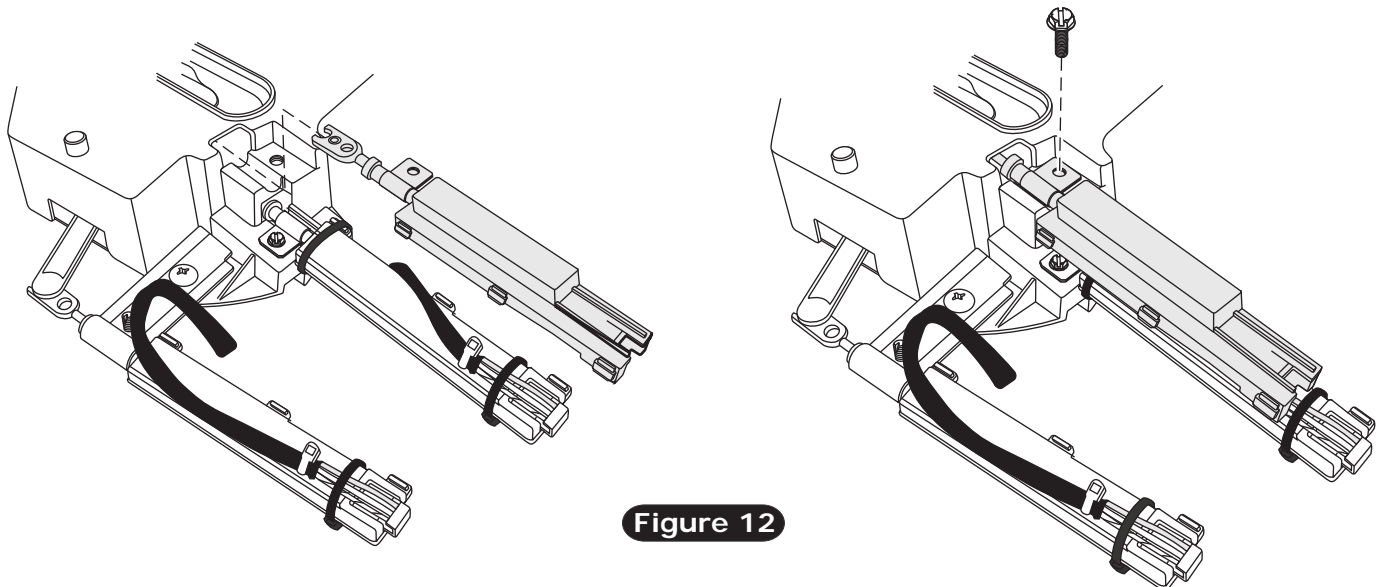


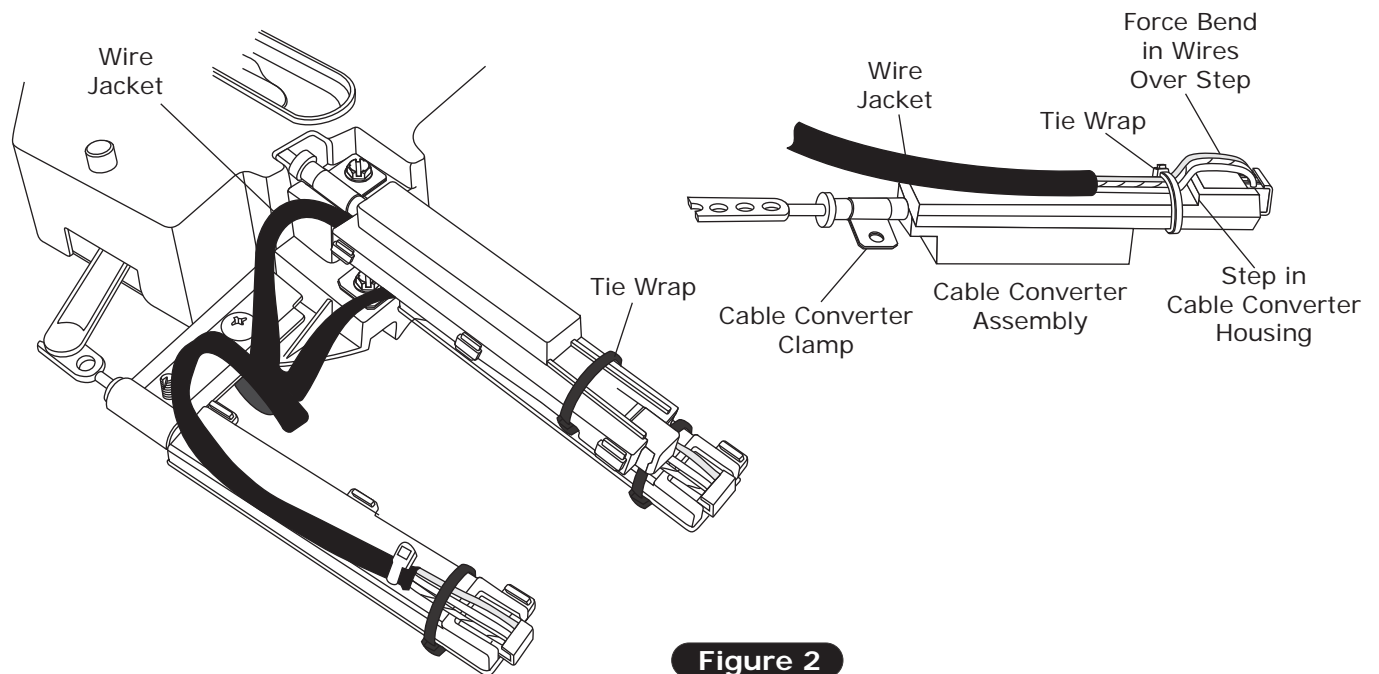
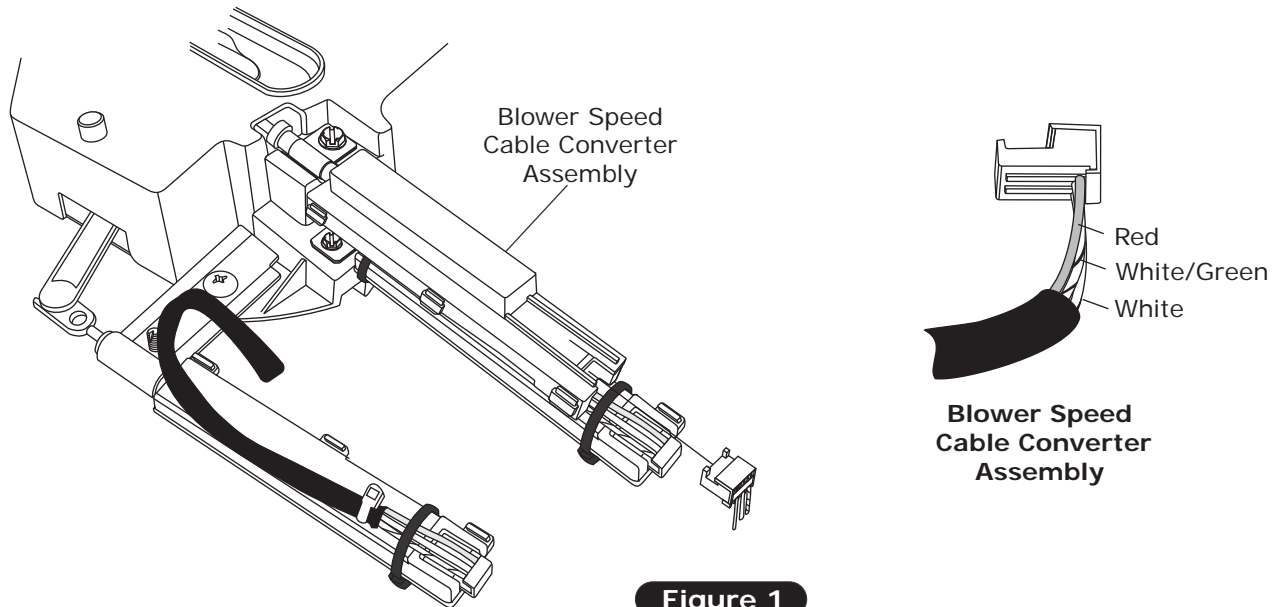
Figure 12



www.vintageair.com

## Blower Speed Control Harness Installation

1. Locate the control panel wiring harness, and plug the corresponding connector into the correct cable converter assembly (See Figure 1, below).
2. Once the connector is correctly plugged into the cable converter assembly, secure the wires to the cable converter assembly using one of the supplied tie wraps. The tie wrap must be located between the end of the wire jacket and the step in the cable converter housing, forcing a bend in each wire as it passes over the step in the cable converter housing. The head of the tie wrap must fall on the edge of the housing to remain tight. Ensure that the tie wraps are tight enough that the wires cannot move (See Figure 2, below).



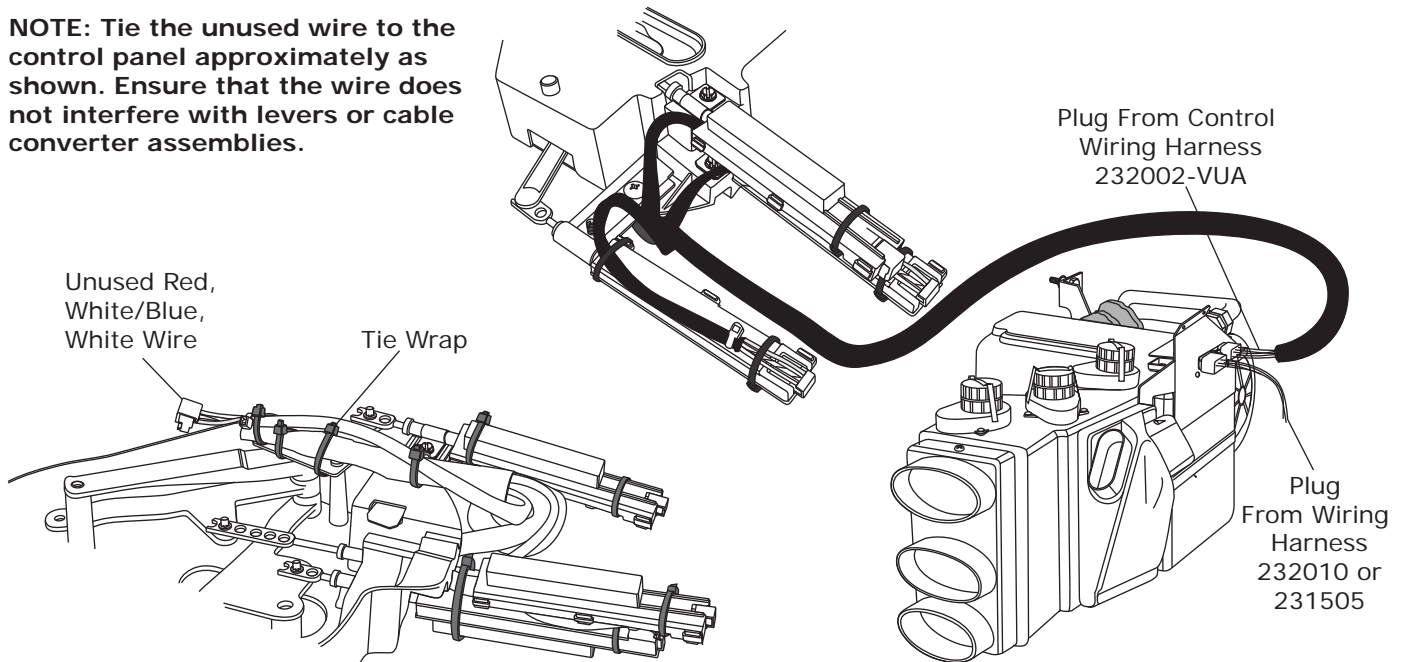


www.vintageair.com

## Final Steps

1. Using the supplied tie wraps, tie the wires to the control panel. Confirm that wires are secured and do not interfere with lever operation or cable converter assembly.
2. Install control panel into dash using OEM screws. To ease installation, rotate control panel slightly and pass the cable converter assemblies through the dash opening first. As the cable converter assemblies pass through the dash opening, rotate the control panel back the opposite direction to fit control panel into the dash. **NOTE: Make sure cable converter assemblies clear the duct hose behind the left side of the dash opening. Do not force the control panel into the dash. Forcing the control panel into the dash will damage the cable converter assemblies and/or duct hose.**
3. Plug the wiring harnesses into the ECU module on the sub case.
4. Wire according to the wiring diagram on Page 15 or 16.
5. Calibration procedure and operation instructions:
  - A. Calibrating the control panel will set the range of travel for the cable converters connected to the OEM control panel levers. Performing this procedure will set the limits of the cable converters at their highest and lowest points.
  - B. Locate the gray wire with an unused connector in the wiring harness near the two cable harness relays. This wire is labeled PROGRAM on the wiring diagram.
  - C. It will be necessary to ground the gray wire for approximately five seconds while moving the controls, so it is sometimes helpful to attach one end of the white jumper to the vehicle's ground (for example, the chassis) and have the other end ready to connect to the gray PROGRAM wire when the procedure requires it.
  - D. To calibrate the control panel, follow the calibration procedures on Pages 13 & 14.

**NOTE: Tie the unused wire to the control panel approximately as shown. Ensure that the wire does not interfere with levers or cable converter assemblies.**





[www.vintageair.com](http://www.vintageair.com)

## **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:**

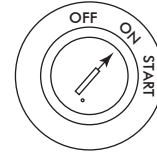
In preparation for calibration, you will need to attach the supplied white ground jumper wire (PN 231520) to a suitable chassis ground. This jumper wire must be easily connected to the gray programming wire located in the main Gen 5 wiring harness, see the Gen 5 wiring diagram and instructions for more 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.



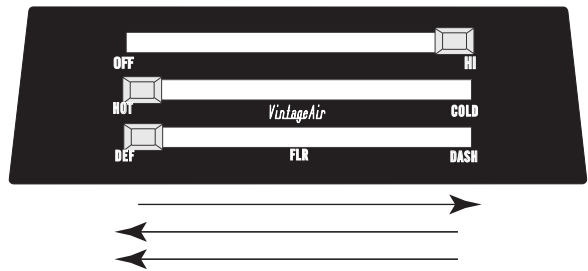
www.vintageair.com

# Control Panel Calibration Procedure (Cont.)

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



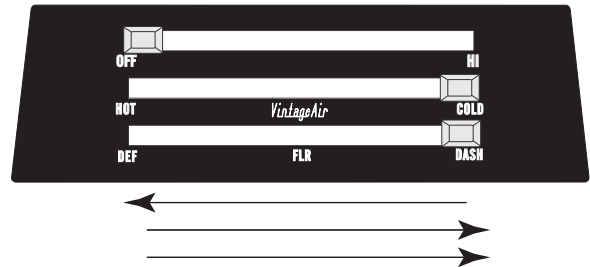
2. Move the control levers/knobs to the positions shown.



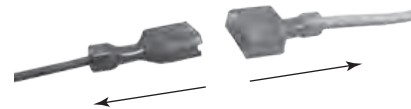
3. Connect the white jumper wire to the gray program wire. Wait approximately 5 seconds for the blower speed to change if using a Gen IV system, if using a Gen 5 system wait for the blower to default to medium speed.



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.

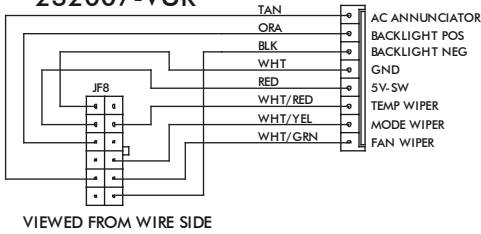




www.vintageair.com

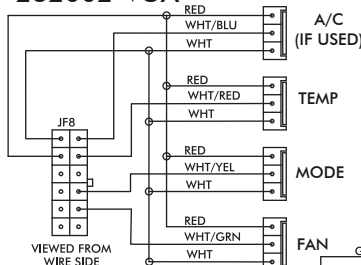
# Gen IV Wiring Diagram

232007-VUR



VIEWED FROM WIRE SIDE

232002-VUA



VIEWED FROM WIRE SIDE

**PROGRAM**

N/A

\* DASH LAMP (IF USED)

\*\*\* WIDE OPEN THROTTLE SWITCH (OPTIONAL)



WHT

IGNITION SWITCH + 12v

BAT

RUN

WHT

VIO

BATTERY

\*\* CIRCUIT BREAKER 30 AMP

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

RED

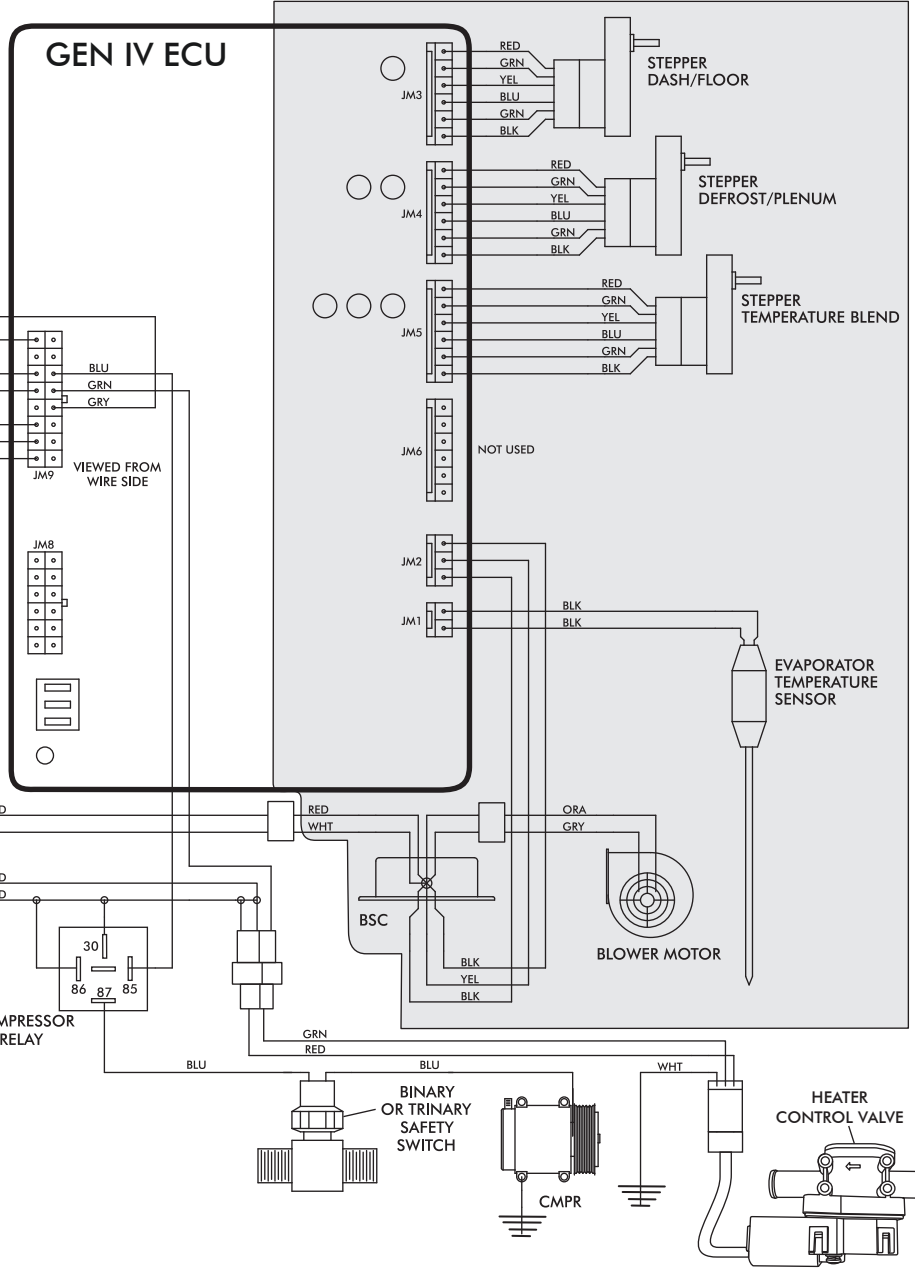
RED

RED

RED

NOTE: = CHASSIS GROUND

**GEN IV ECU**



\* Dash lamp is used only with type 232007-VUR harness.

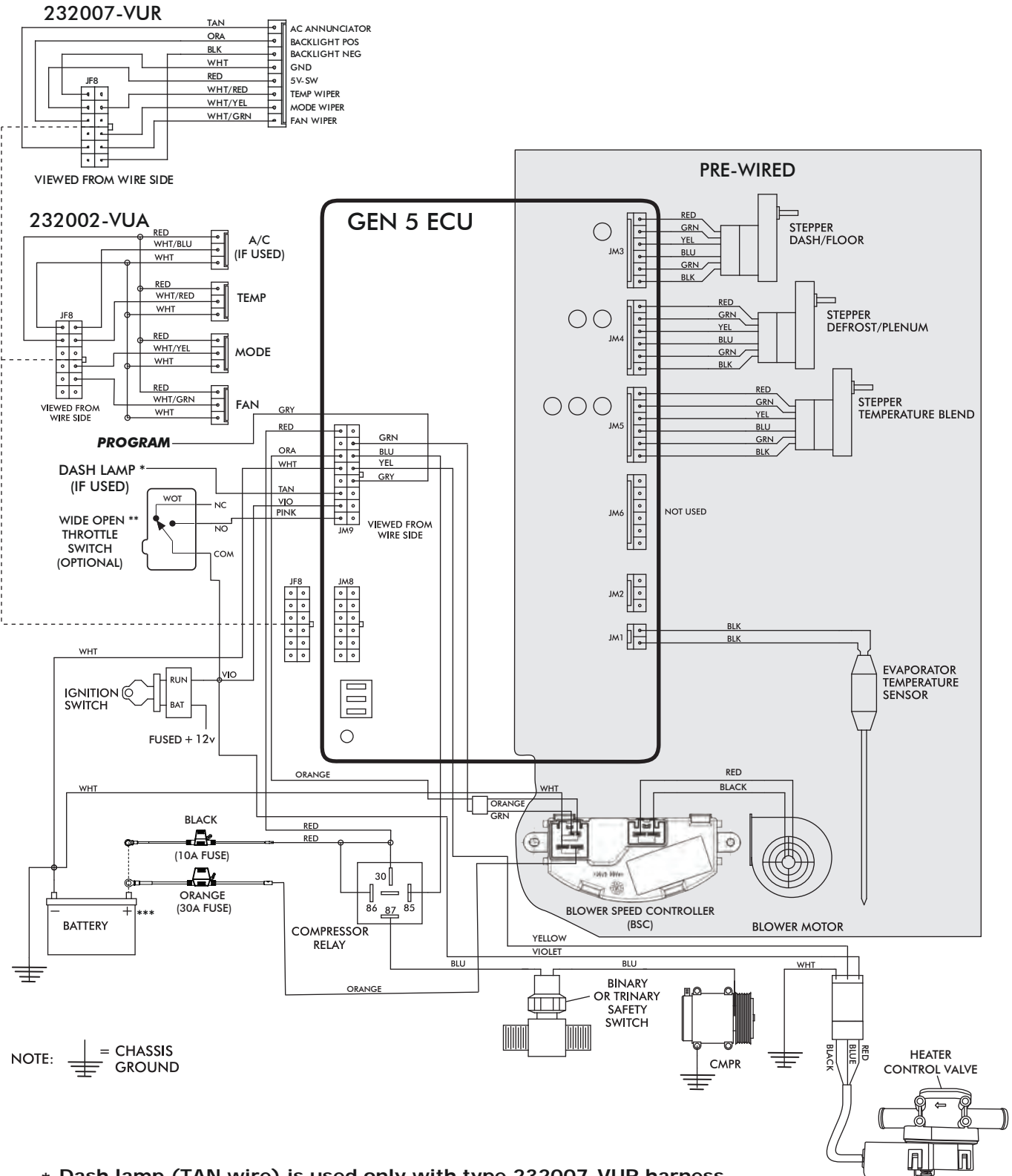
\*\* Warning: Always mount circuit breaker as close to the battery as possible. (NOTE: Wire between battery and circuit breaker is unprotected and should be carefully routed to avoid a short circuit).

\*\*\* Wide open throttle switch contacts close only at full throttle, which disables A/C compressor.



www.vintageair.com

# 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.



www.vintageair.com

## Operation of Controls

On Gen IV or 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 13 & 14 for calibration procedure.**

### Blower Speed

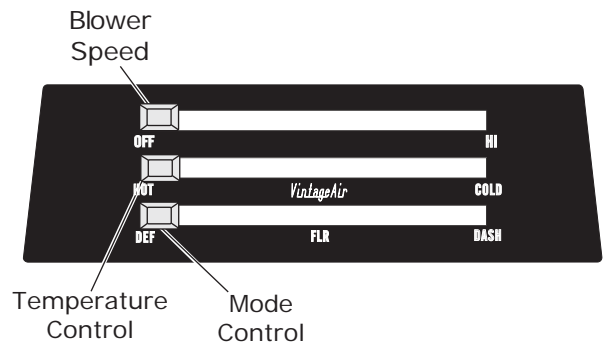
This lever/knob controls blower speed, from OFF to HI.

### 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

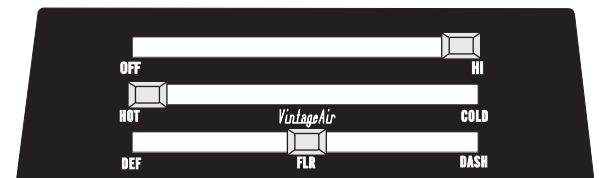
Adjust to desired speed.

### 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.

### Mode Control

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

### Temperature Control

Adjust to desired temperature.



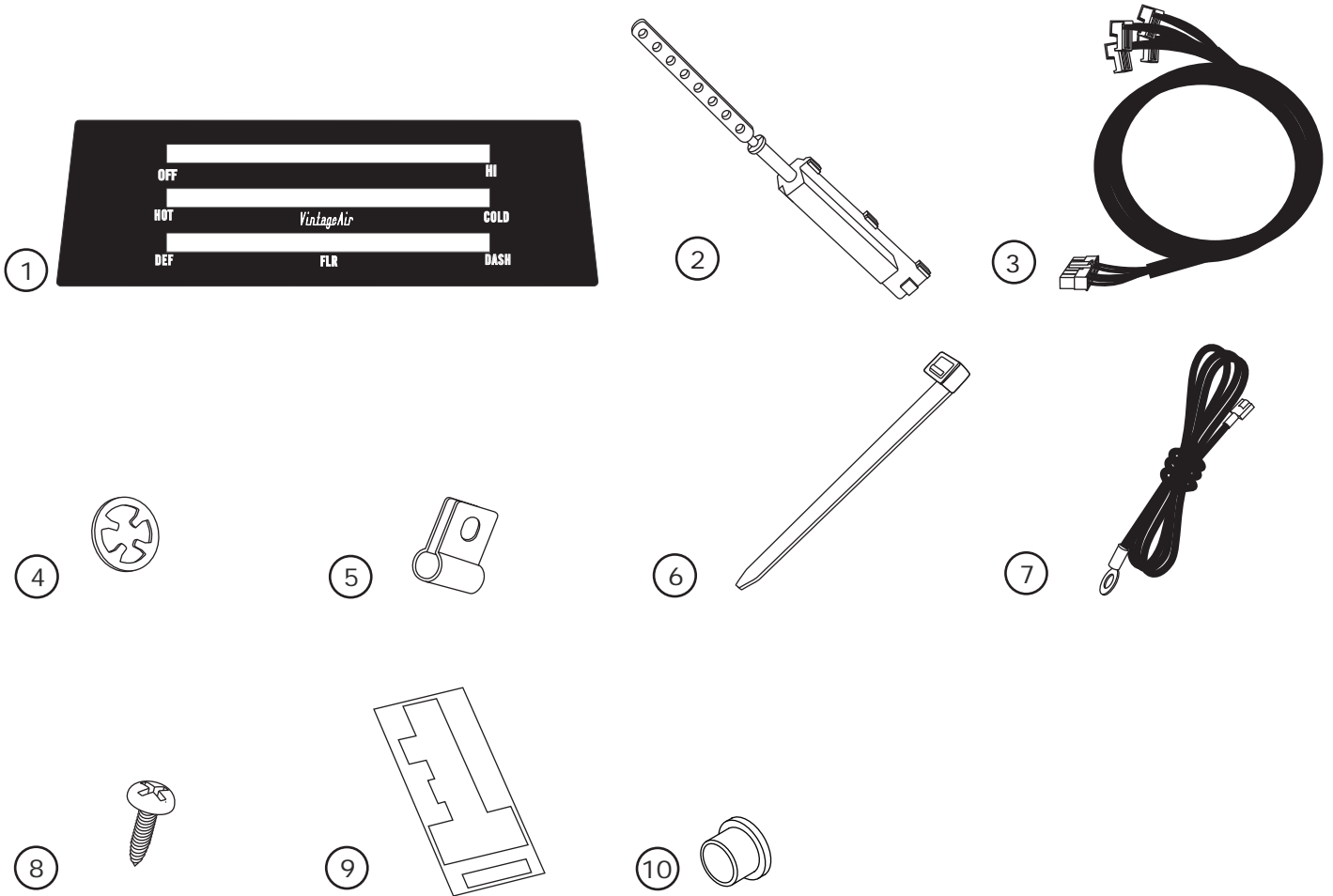


www.vintageair.com

## Packing List: Control Panel Kit (475168)

No.	Qty.	Part No.	Description
1.	1	484166	Label, Control Panel Mode
2.	3	112002-SUA	Cable Converter Assembly
3.	1	232002-VUA	Control Harness, Gen IV/Gen 5 Universal
4.	3	65976-VUE	Push-on Ring, 3/16"
5.	3	491010-VUR	Clamp, Cable Converter
6.	5	21301-VUP	Tie Wrap, 4"
7.	1	231520	Ground Wire
8.	4	18235-VUB	Screw, #8 x 1/2", Pan Head
9.	1	484170	Label Backing
10.	3	182536	Sleeve, .160" ID x .197" OD x .125" L, Nylon

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



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