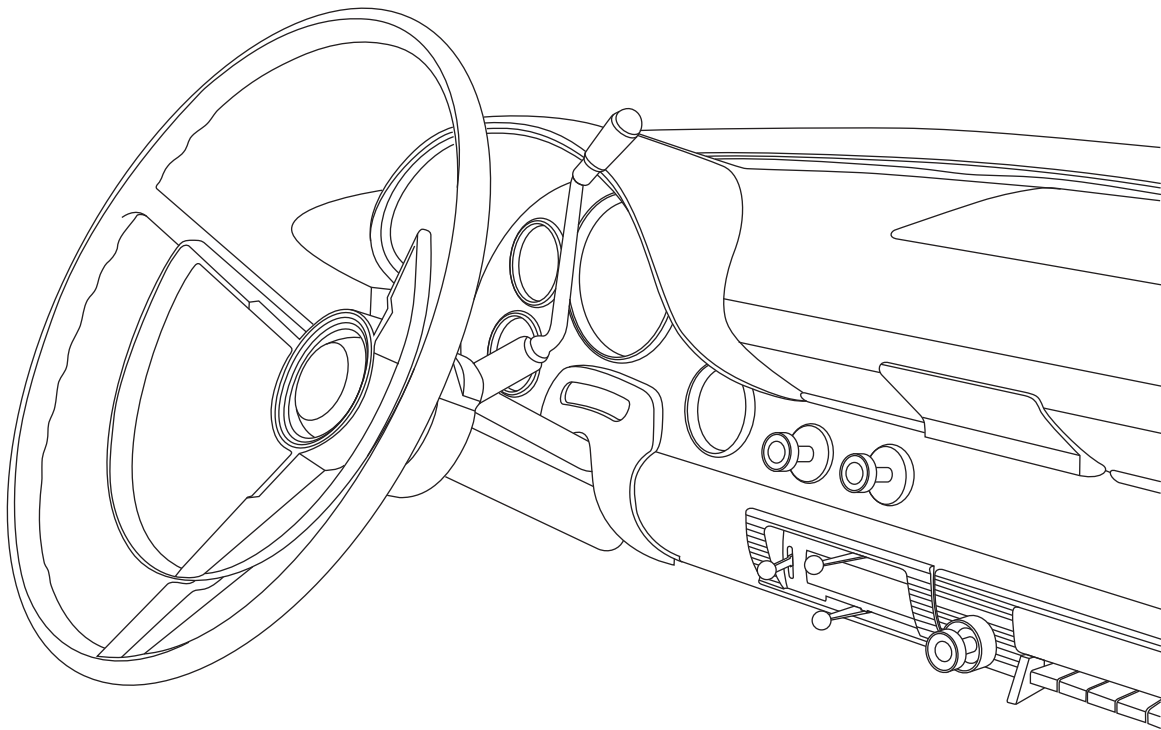




1956 Ford Passenger Car

Control Panel Conversion Kit (473156)



18865 Goll St. San Antonio, TX 78266
Phone: 800-862-6658
Sales: sales@vintageair.com
Tech Support: tech@vintageair.com
www.vintageair.com



www.vintageair.com

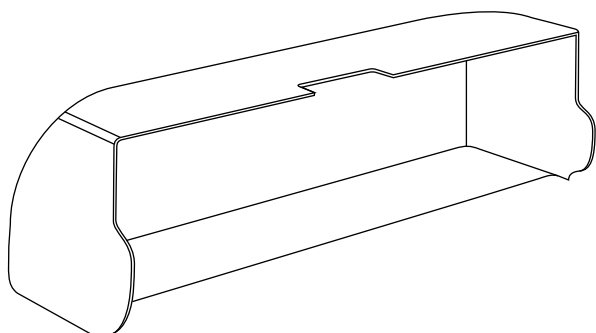
Table of Contents

Cover.....	1
Table of Contents.....	2
Packing List/Parts Disclaimer.....	3
Removing OEM Control Panel.....	4
Mode Control Lever Modification.....	5
Mode Control Lever Modification (Cont.).....	6
Cable Converter Assembly Modification, Cable Converter Assembly Mounting Clamp Installation.....	7
Temperature Cable Converter Installation, Mode Cable Converter Installation.....	8
Blower Switch Assembly.....	9
Blower Switch Assembly (Cont.).....	10
Blower Switch Assembly (Final).....	11
Control Harness Installation.....	12
Control Panel Reinstallation, Control Harness Final Steps, Final Steps.....	13
Control Panel Calibration Procedure.....	14
Control Panel Calibration Procedure (Cont.).....	15
Gen IV Wiring Diagram.....	16
Gen 5 Wiring Diagram.....	17
Operation of Controls.....	18
Packing List.....	19

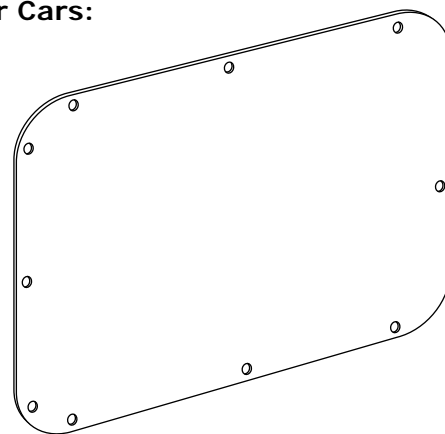
Important Notice—Please Read

This control panel is designed to work with a Gen IV evaporator unit equipped with a 246204-PUA ECU (all ECU's on Gen 5 evaporators will work with this control). Please confirm that your unit has the proper ECU prior to installing the control panel as shown below. A replacement ECU can be purchased from Vintage Air if needed.

Other Vintage Air parts available for 1956 Ford Passenger Cars:



Glove Box
496143



Firewall Plate
648232

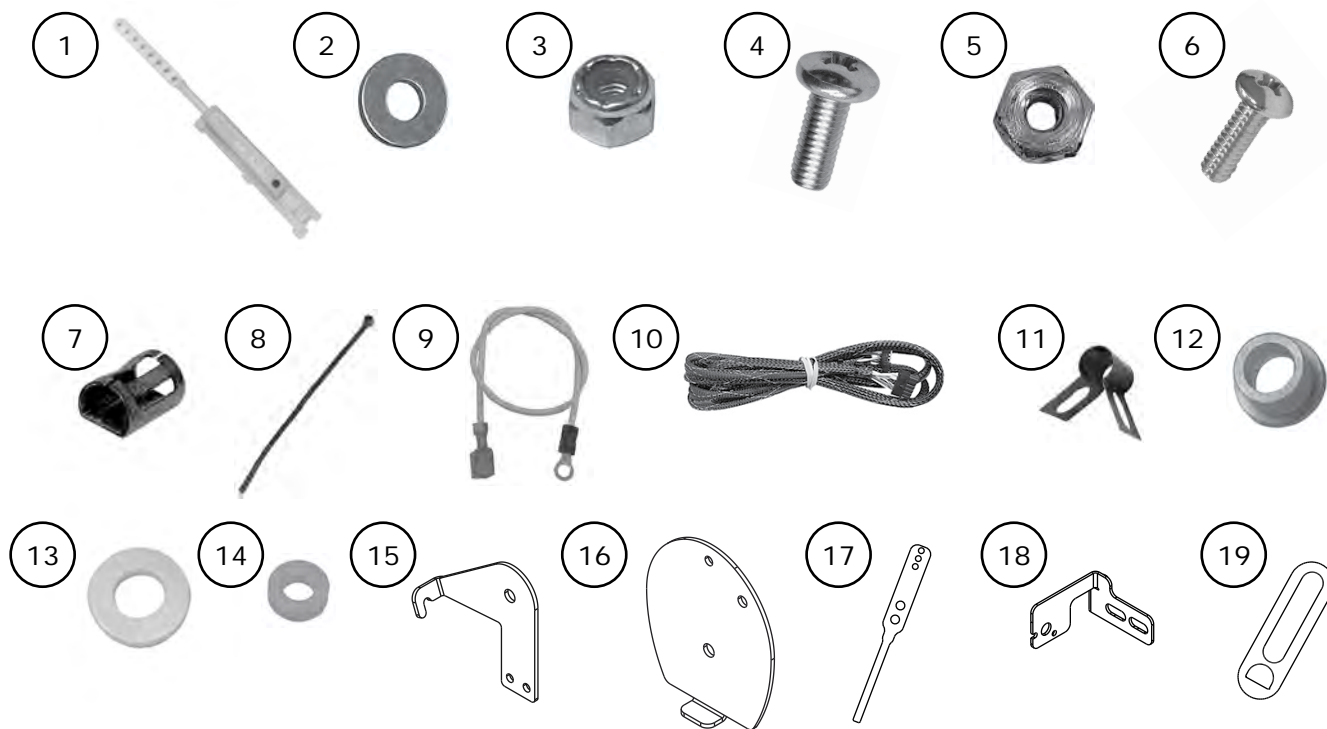


www.vintageair.com

Packing List: Control Panel Kit (473156)

No.	Qty.	Part No.	Description
1.	2	112002-SUA	Assembly, Cable Converter
2.	2	18123-VUB	Washer, 3/16" x 1/2", Flat
3.	1	18147-VUB	Locknut, 10-32
4.	2	18250-VUB	Screw, 10-32 x 1/2", Pan Head
5.	4	18412-VUB	Locknut, 4-40
6.	4	18413-VUB	Screw, 4-40 x 3/8"
7.	1	187570	D-Clip, 6mm
8.	6	21301-VUP	Tie Wrap, 4"
9.	1	231520	Ground Wire, 12" White, 16 GA with 1/4" Male Spade
10.	1	232002-VUA	Control Harness, Gen IV/Gen 5, Universal
11.	2	491010-VUR	Clamp, Cable Converter
12.	1	49701-VUI	Nylon Bushing
13.	2	49704-VUI	Washer, .194" ID x .375" OD x .032", Flat Nylon
14.	1	49705-VUI	Washer, 1/8", Nylon Flat
15.	1	642055	Bracket, Control Panel, Mode Lever
16.	1	642056	Bracket, Control Panel, Mode Plate
17.	1	643107	Bracket, Lever
18.	1	643108	Bracket, Main
19.	1	643116	Bracket, Cam

**** 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

Removing OEM Control Panel

Perform the following:

1. Remove (2) 1/4-20 OEM nuts attaching the control panel to the dash (retain). See Figure 1 and Photo 1, below.
2. Disconnect all cables and wires from the back side of the OEM controls (discard, but retain hardware).
3. Remove the OEM control panel (retain).
4. Remove the OEM blower speed and mode control knobs (retain).
5. Remove the OEM retaining spring and washer from the bottom of the control panel as shown in Photo 2, below (discard).
6. Remove the mode control lever from the control panel (retain).
7. Remove the OEM screw on the back of the blower switch bracket as shown in Photo 3, below (retain).
8. Remove the OEM blower switch (discard).

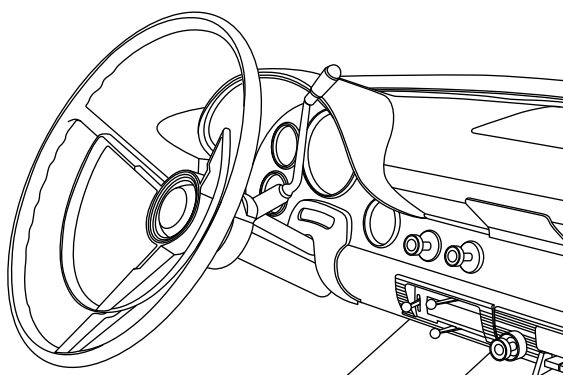


Figure 1



Photo 1

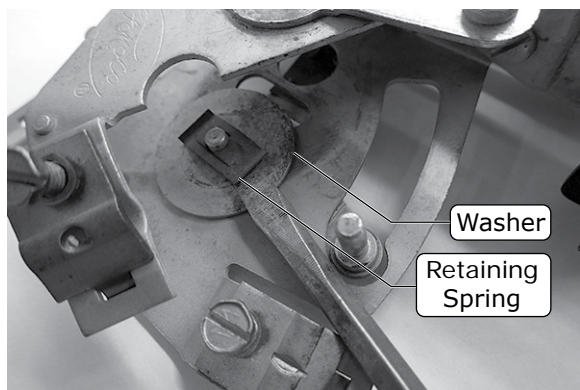


Photo 2

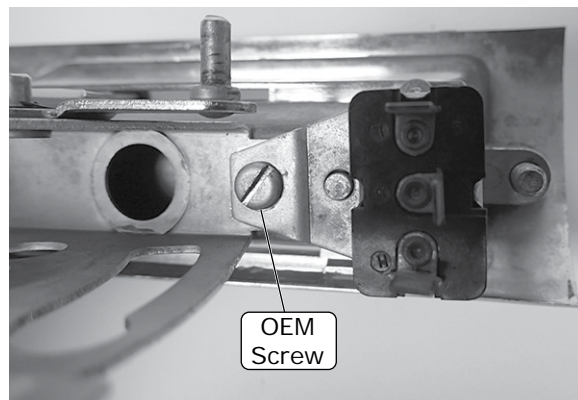


Photo 3



www.vintageair.com

Mode Control Lever Modification

1. Separate the mode control lever from the factory cable adapter by grinding off (2) rivets from the factory cable adapter as shown in Photo 1, below. **NOTE: Discard the factory cable adapter.**
2. Assemble the mode control lever with the mode lever bracket using (2) 4-40 screws and (2) 4-40 nuts as shown in Photos 2 & 3, below. **NOTE: Make sure the nuts face opposite the bent portion of the bracket as shown in Photo 6, below.**
3. Insert a 10-32 screw through the hole in the mode lever bracket. Slide a 1/8" nylon spacer onto the screw as shown in Photo 4, below.
4. Install the mode lever bracket assembly into the mode plate with the bent portion of the lever and plate facing downward as shown in Photo 5, below.
5. Screw on a 10-32 nut as shown in Photo 6, and tighten until seated. Then, back the nut off a 1/4 turn. **NOTE: Do not overtighten the nut, as this will cause the controls to bind.**

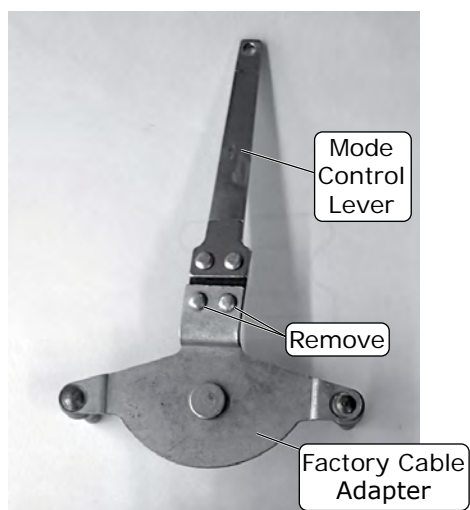


Photo 1

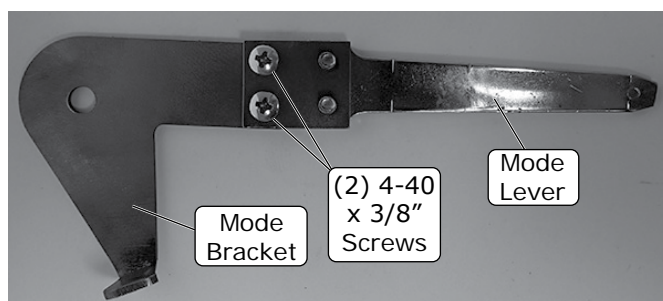


Photo 2

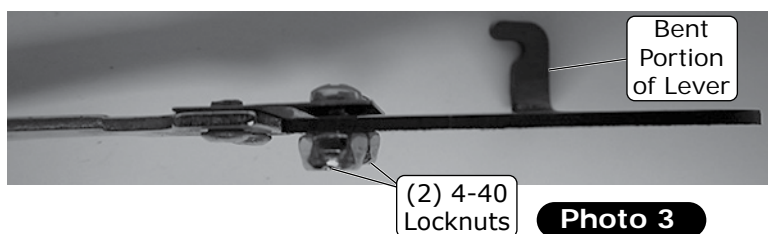


Photo 3

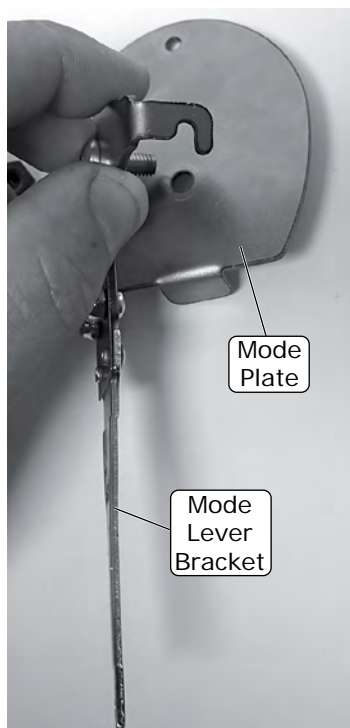


Photo 5

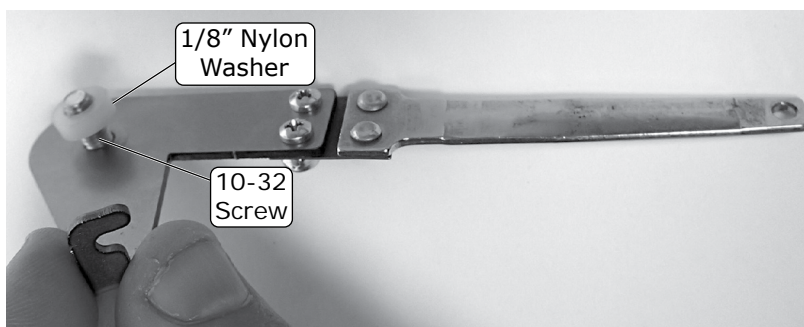


Photo 4

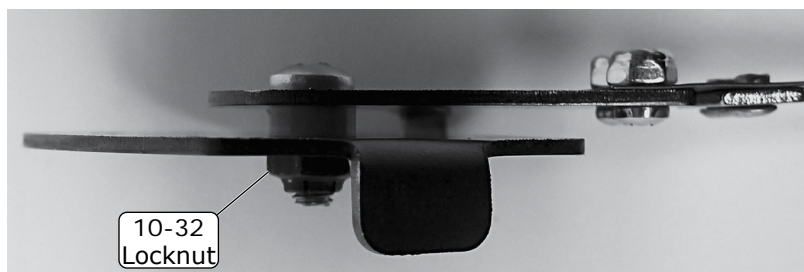


Photo 6



www.vintageair.com

Mode Control Lever Modification (Cont.)

6. Insert the mode lever assembly into the control panel through the front bezel slot as shown in Photo 7, below.
7. Insert the bent portion of the base plate into the existing hole on the control panel as shown in Photo 8, below.
8. Using the base plate hole located in the rear center portion of the bracket as a reference, mark and drill a 7/64" hole into the control panel as shown in Photo 9, below. **NOTE: Remove the mode lever assembly from the control panel before drilling.**
9. After drilling the hole, insert the mode lever assembly back into the control panel through the front bezel slot. Secure the mode lever assembly to the control panel using a 4-40 screw and 4-40 nut as shown in Photo 10, below.

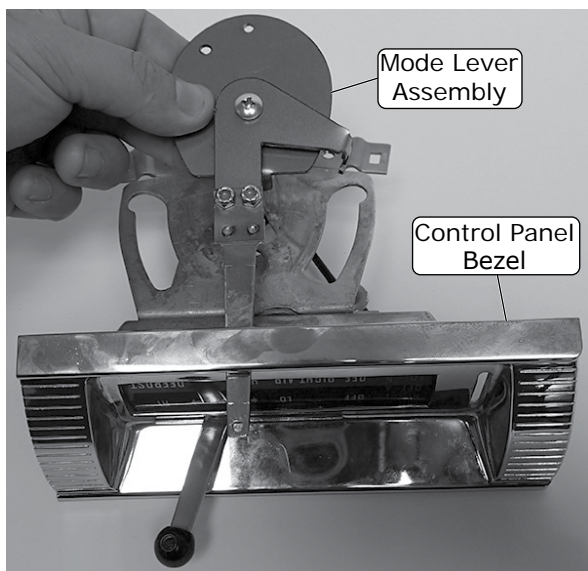


Photo 7

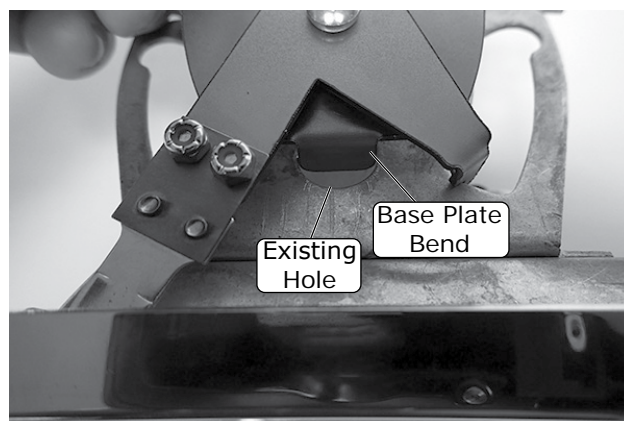


Photo 8

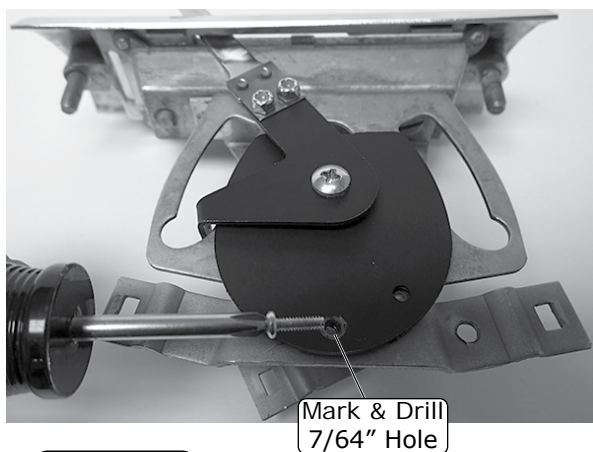


Photo 9

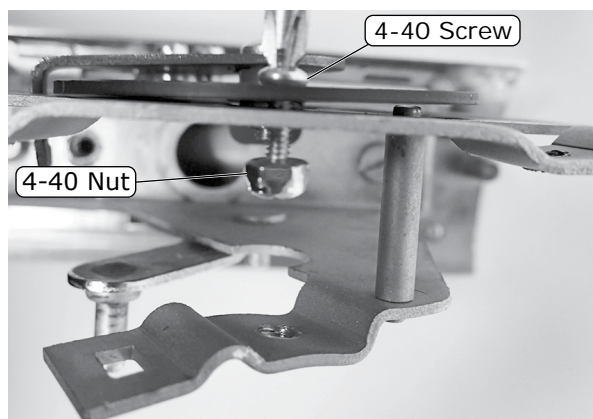


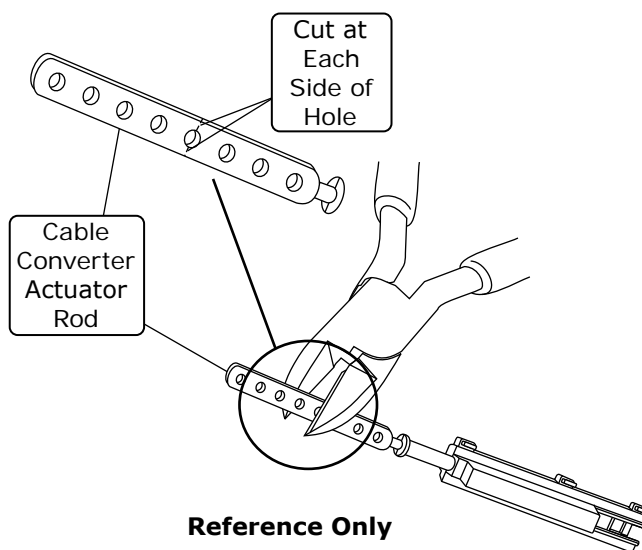
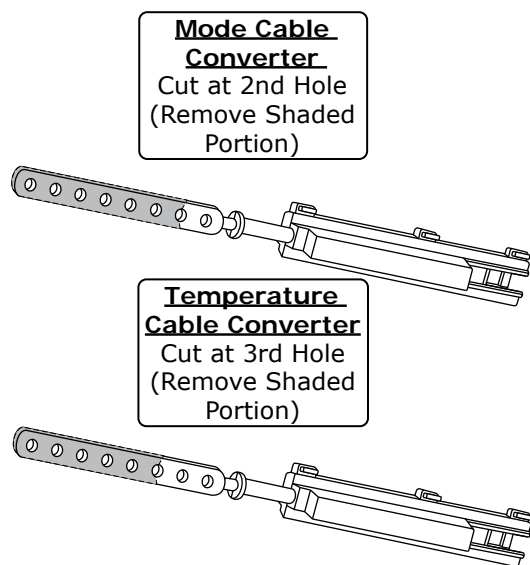
Photo 10



www.vintageair.com

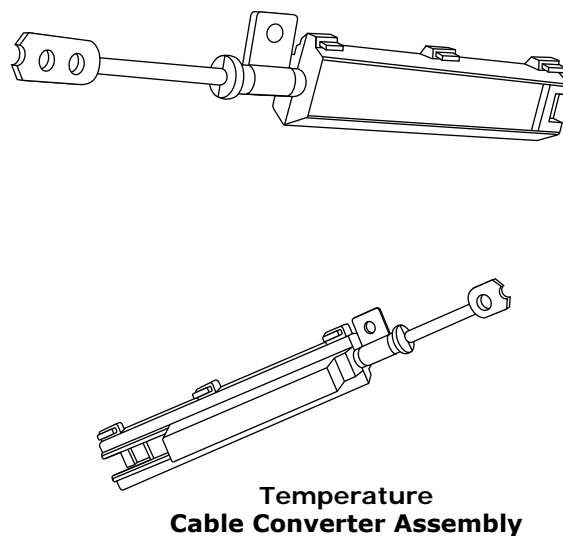
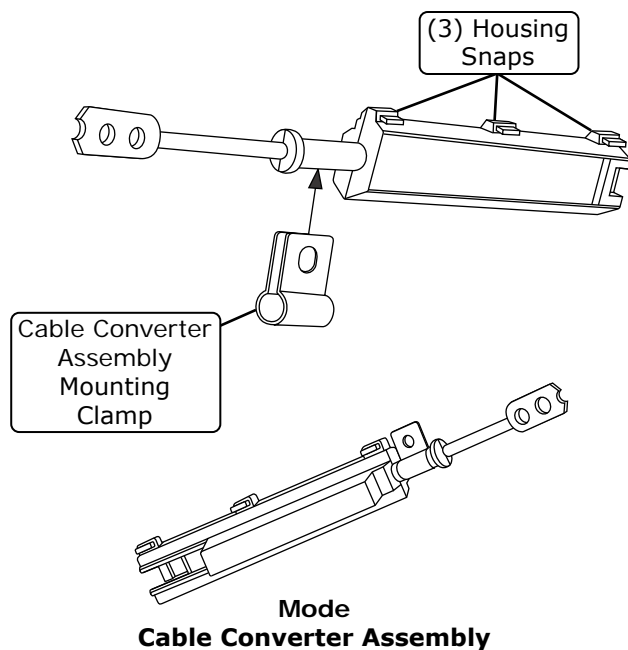
Cable Converter Assembly Modification

1. Locate the (2) cable converter assemblies. Using wire cutters, cut the cable converter actuator rods as shown below.



Cable Converter Assembly Mounting Clamp Installation

1. Install the cable converter assembly mounting clamps as shown below. **NOTE: Orient clamps in relation to the (3) housing snaps on the cable converter assembly.**





www.vintageair.com

Temperature Cable Converter Installation

1. After cutting the cable converter assembly to the correct length, attach to the temperature control lever using the OEM cable mounting location and cable mounting stud as shown in Photos 1 & 2, below.
2. Secure the temperature cable converter clamp to the control panel using a flat washer and the OEM screw as shown in Photo 2, below.

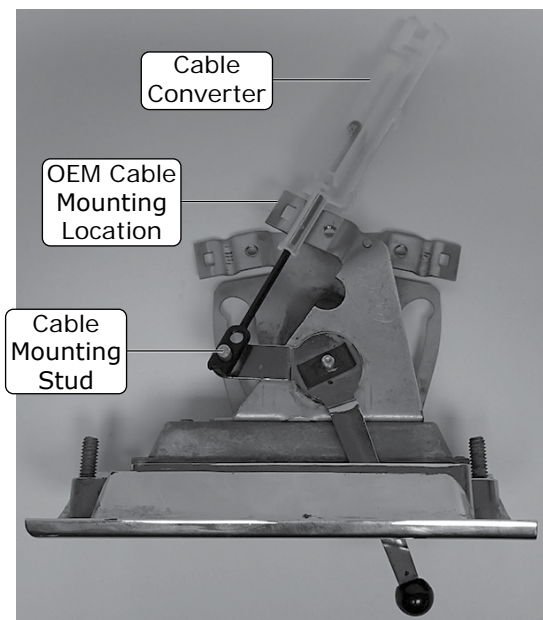


Photo 1

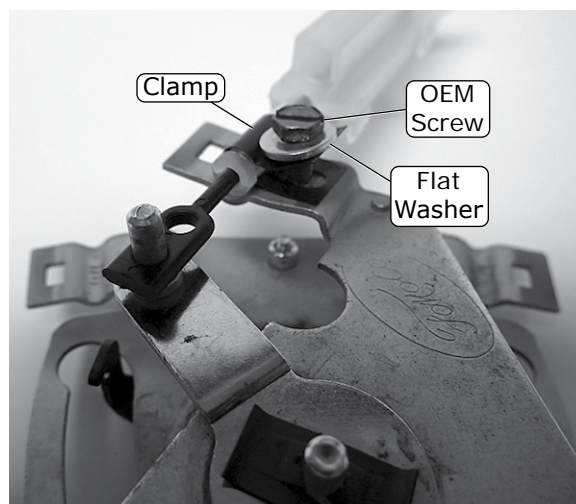


Photo 2

Mode Cable Converter Installation

1. After cutting the cable converter assembly to the correct length, roll the open hole of the mode cable converter over the mode control lever end as shown in Photo 1, below.
2. Secure the mode cable converter clamp to the control panel using a flat washer and the OEM screw as shown in Photo 2, below.

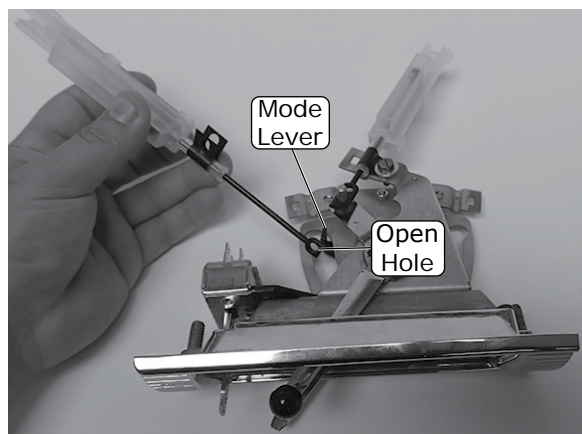


Photo 1

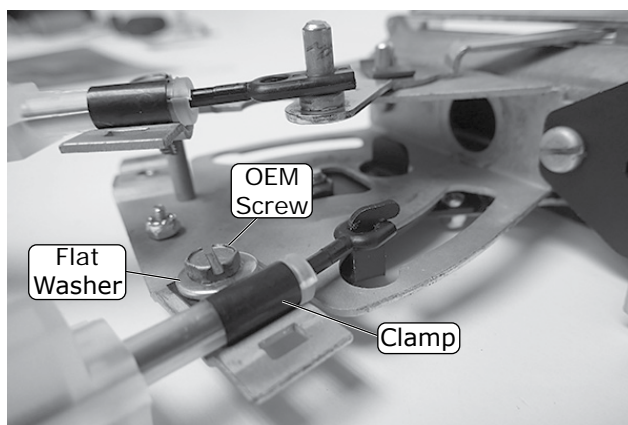


Photo 2



www.vintageair.com

Blower Switch Assembly

1. Locate the parts shown in Photo 1, below.
2. Install a 4-40 x 3/8" screw into the lever bracket as shown in Photo 2, below.
3. Install a nylon bushing onto the 4-40 x 3/8" screw (See Photo 3, below).

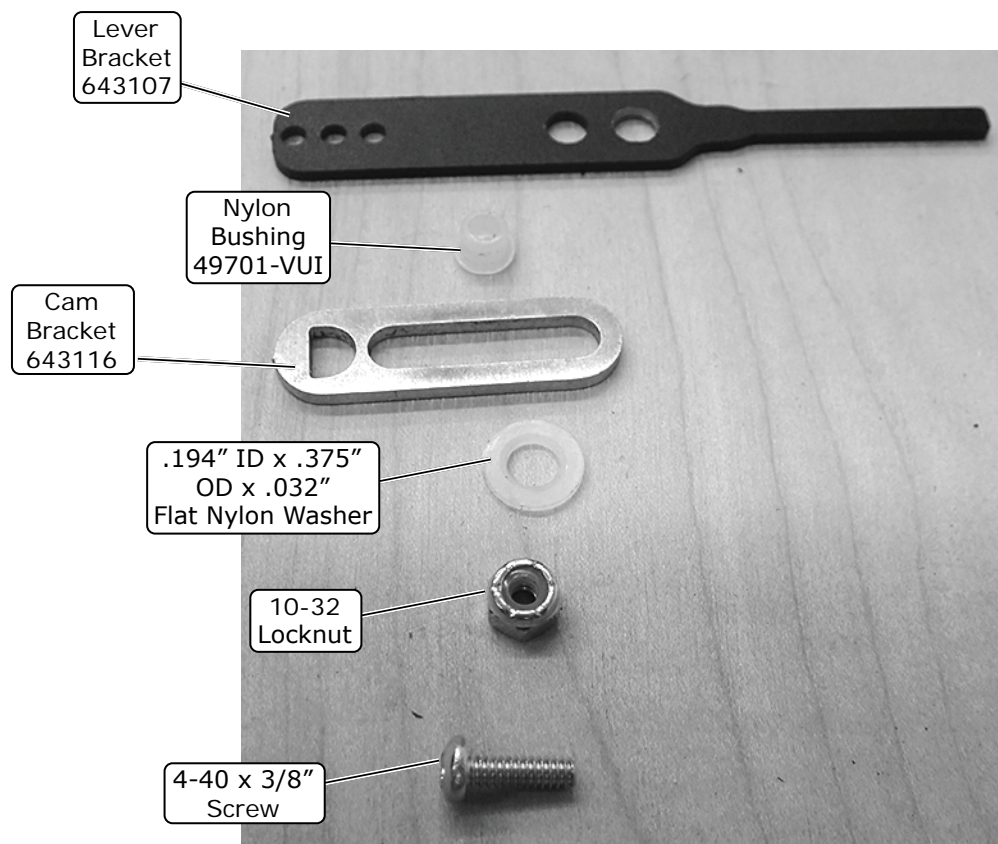


Photo 1

Install 4-40 x 3/8" screw into lever bracket



Photo 2

Install nylon bushing onto 4-40 x 3/8" screw



Photo 3



www.vintageair.com

Blower Switch Assembly (Cont.)

4. Install the cam bracket over the nylon bushing (See Photo 4, below).
5. Install the .194" ID x .375" OD x .032" flat nylon washer (See Photo 5, below).
6. Secure using the 4-40 locknut (See Photo 6, below). Tighten till snug then back off nut 1/4 turn. **NOTE: The cam bracket needs to freely move over the nylon bushing to operate correctly.**
7. Install the rotary pot switch into the main bracket (See Photos 7 and 8, below).

Install cam
bracket over
nylon bushing

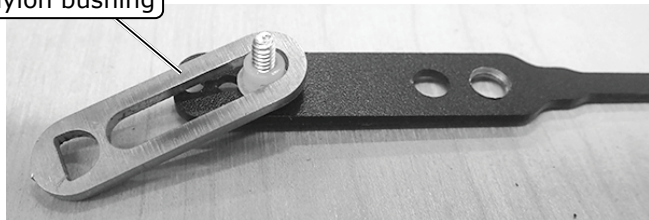


Photo 4

Install .194" ID x
.375" OD x .032"
flat nylon washer

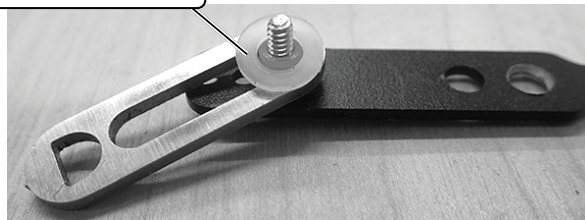


Photo 5

Secure
using 4-40
locknut

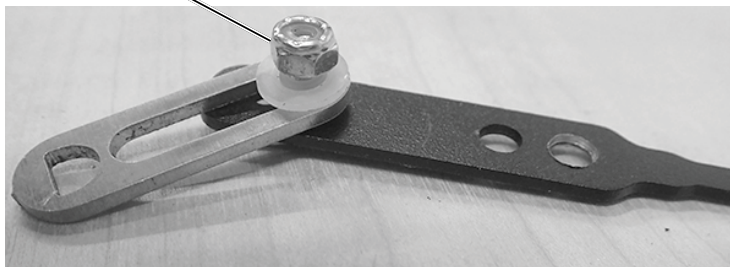


Photo 6

Rotary
Pot
Switch

Main
Bracket
643108

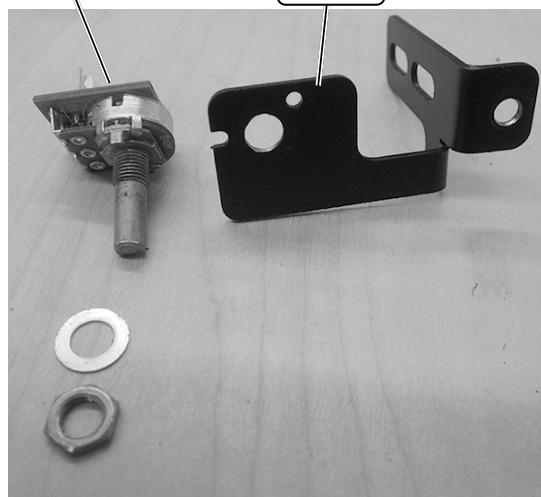
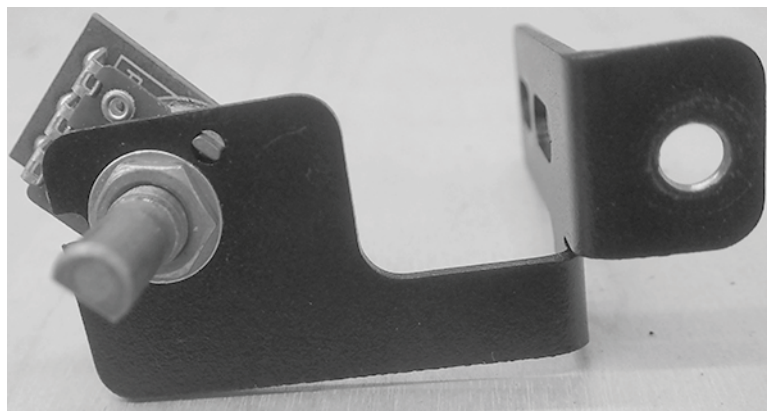


Photo 7



Rotary Pot Installed

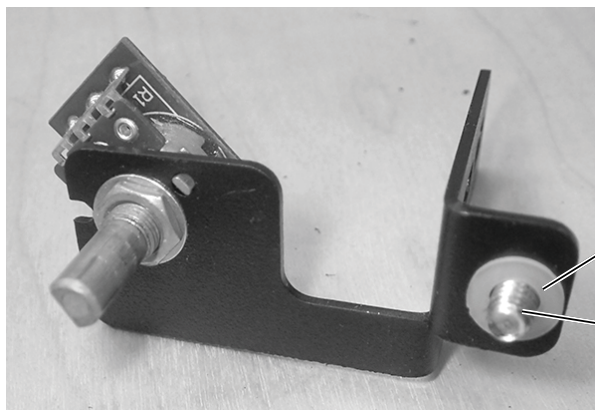
Photo 8



www.vintageair.com

Blower Switch Assembly (Final)

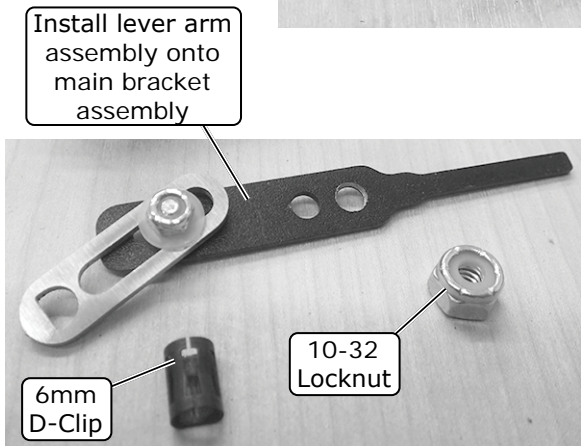
8. Install the 10-32 x 1/2" pan head screw into the main bracket and install the .194" ID x .375" OD x .032" flat nylon washer (See Photo 9, below).
9. Install the lever arm assembly onto the main bracket assembly then secure using the 6mm D-clip and 10-32 locknut (See Photos 10 and 11, below). Tighten till snug then back off nut 1/4 turn. Test the function of the lever adjust if necessary.
10. Install the blower switch main bracket assembly onto the control panel using the OEM screw (See Photo 12, below).
11. Install the OEM knob onto the blower lever (See Photo 13, below).



Install .194" ID x
.375" OD x .032"
flat nylon washer

Install 10-32 x 1/2"
pan head screw

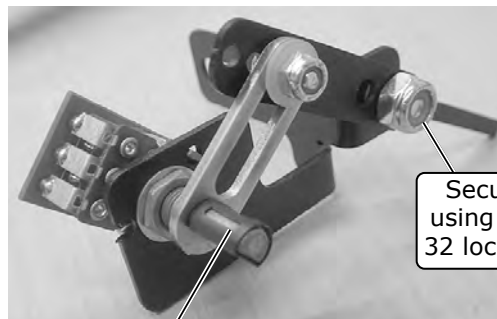
Photo 9



Install lever arm
assembly onto
main bracket
assembly

6mm
D-Clip

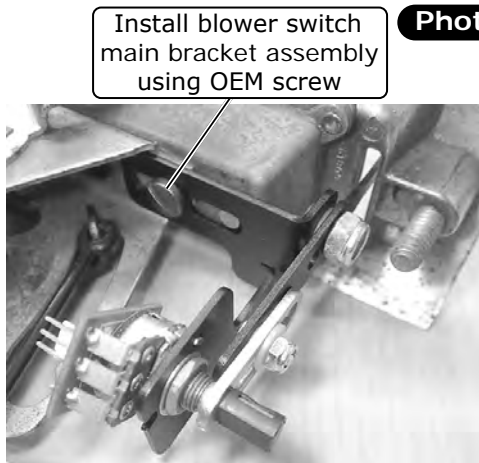
10-32
Locknut



Secure
using 10-
32 locknut

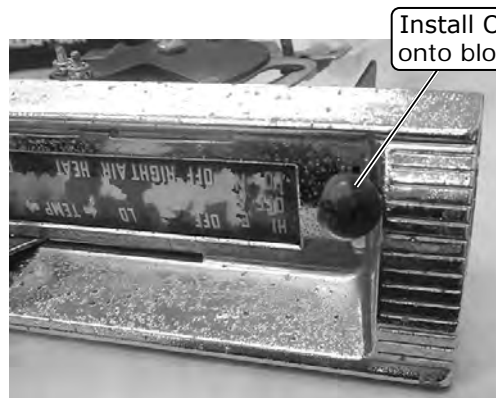
Secure using
6mm D-Clip

Photo 11



Install blower switch
main bracket assembly
using OEM screw

Photo 12



Install OEM knob
onto blower lever

Photo 13



www.vintageair.com

Control Harness Installation

1. Locate the control panel wiring harness, and plug the corresponding wires into the correct cable converter assembly as shown in Photo 1, below.
2. Once the wires are correctly plugged into each cable converter assembly, secure the wires to the cable converter assembly using the supplied tie wraps. **NOTE: 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.**
3. Install the wiring harness onto the rotary pot then secure the wiring to the rotary pot using the provided tie wrap (See Figure 1, below).

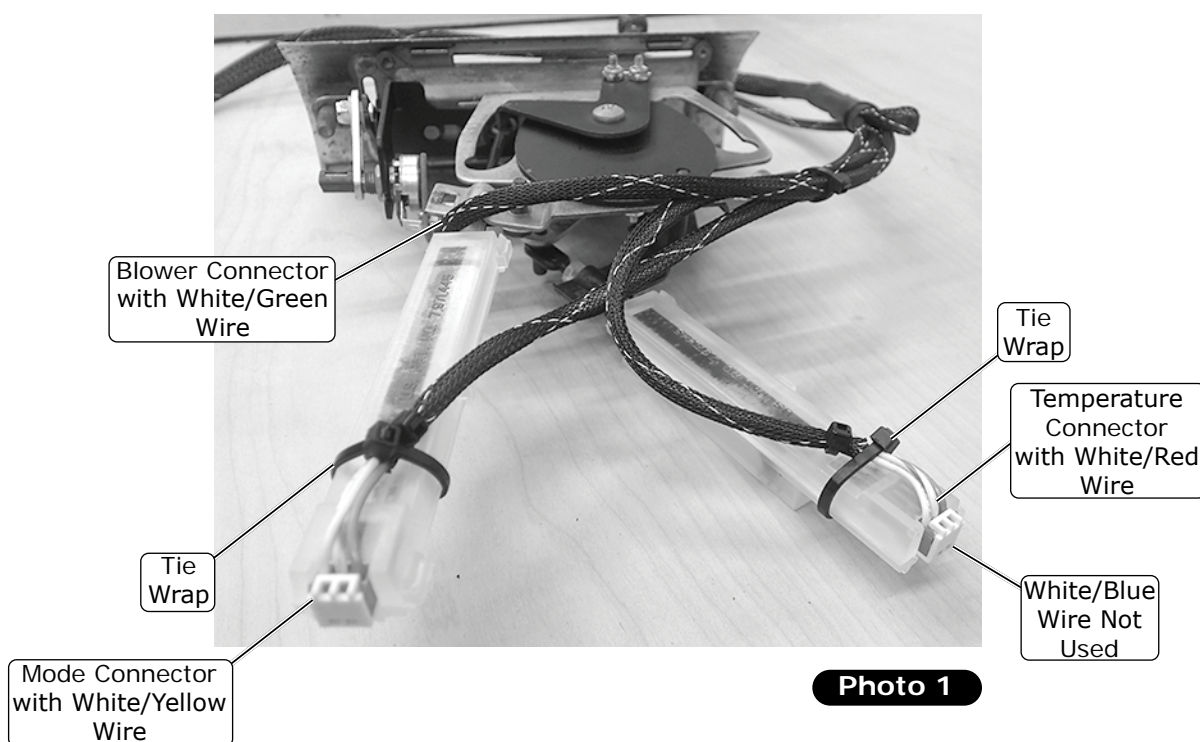


Photo 1

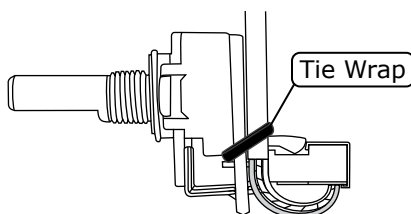


Figure 1



www.vintageair.com

Control Panel Reinstallation

1. Reinstall control panel knobs.
2. Reinstall control panel into dash using previously removed 1/4-20 OEM nuts. **NOTE: Be mindful of cable converter clearance during installation.**

Control Harness Final Steps

1. Use a tie wrap to secure the white/blue wire to the harness (See Photo 1, below). It will not be used.
2. Confirm that the wires are secured and do not interfere with lever operation or cable converter assembly.

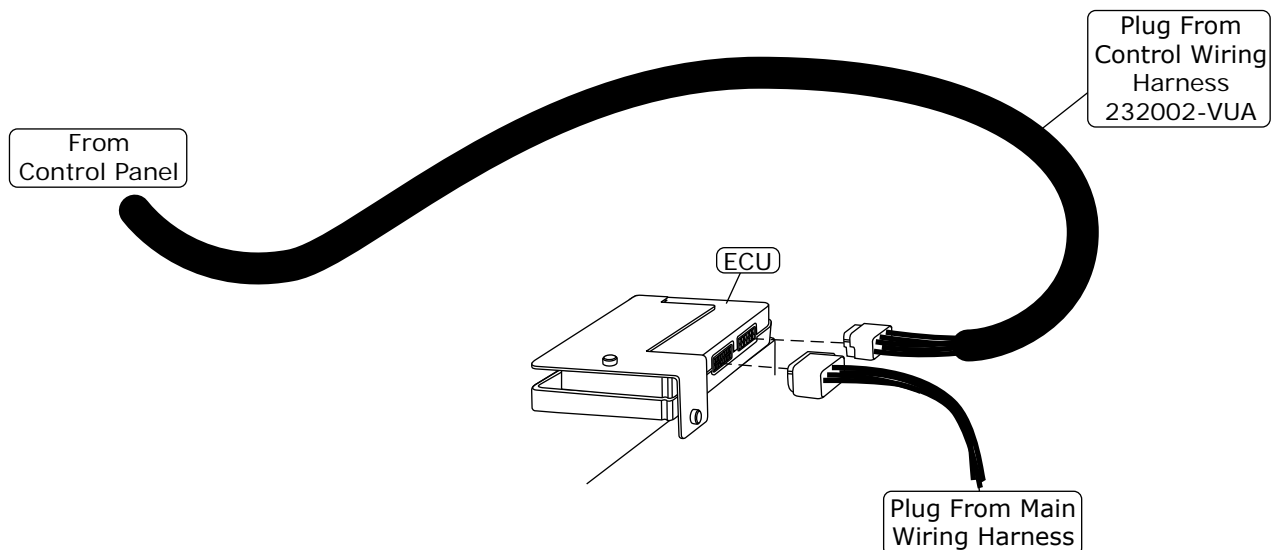


Use a tie wrap to secure white/blue wire to harness

Photo 1

Final Steps

1. Plug the wiring harnesses into the ECU module on the sub case.
2. Wire according to the wiring diagram on Page 16 or 17.
3. 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 cable harness relay. 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 14 & 15.





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:

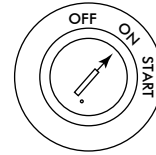
In preparation for calibration, you will need to attach the supplied white ground jumper wire (PN 231520) to a suitable chassis ground. This jumper wire must be easily connected to the gray programming wire located in the main Gen 5 wiring harness, see the Gen 5 wiring diagram and instructions for more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



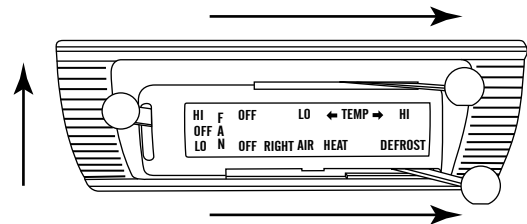
www.vintageair.com

Control Panel Calibration Procedure (Cont.)

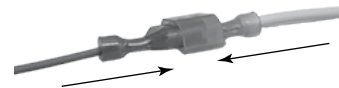
1. Turn on the ignition switch (Do not start the engine).



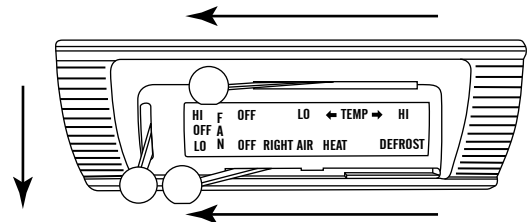
2. Move the control levers/knobs to the positions shown.



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.



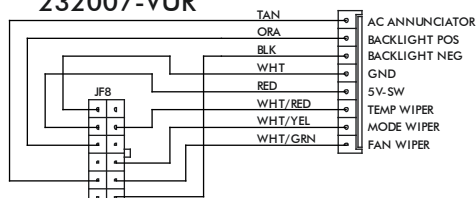
5. Disconnect the white jumper wire from the gray program wire. The blower speed will change if using a Gen IV system, and will shut off if using a Gen 5 system, indicating completion of the calibration procedure.



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.

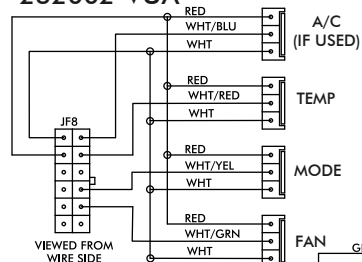


232007-VUR



VIEWED FROM WIRE SIDE

232002-VUA

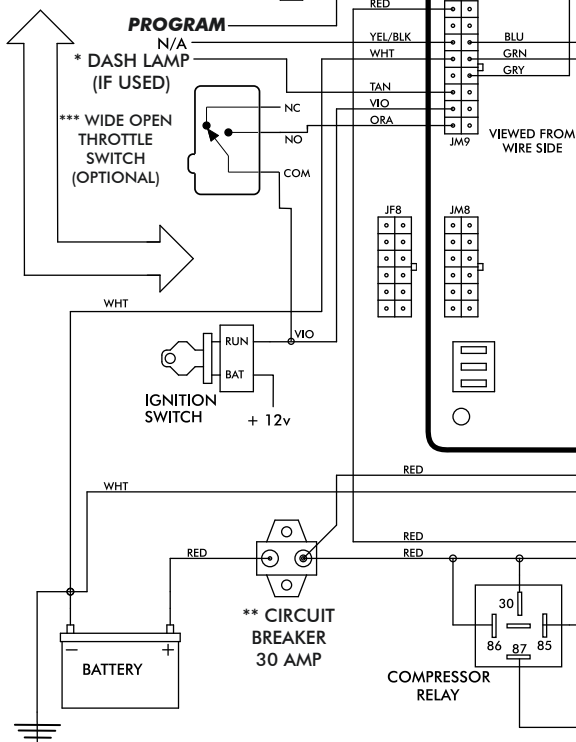



VIEWED FROM

PROGRAM

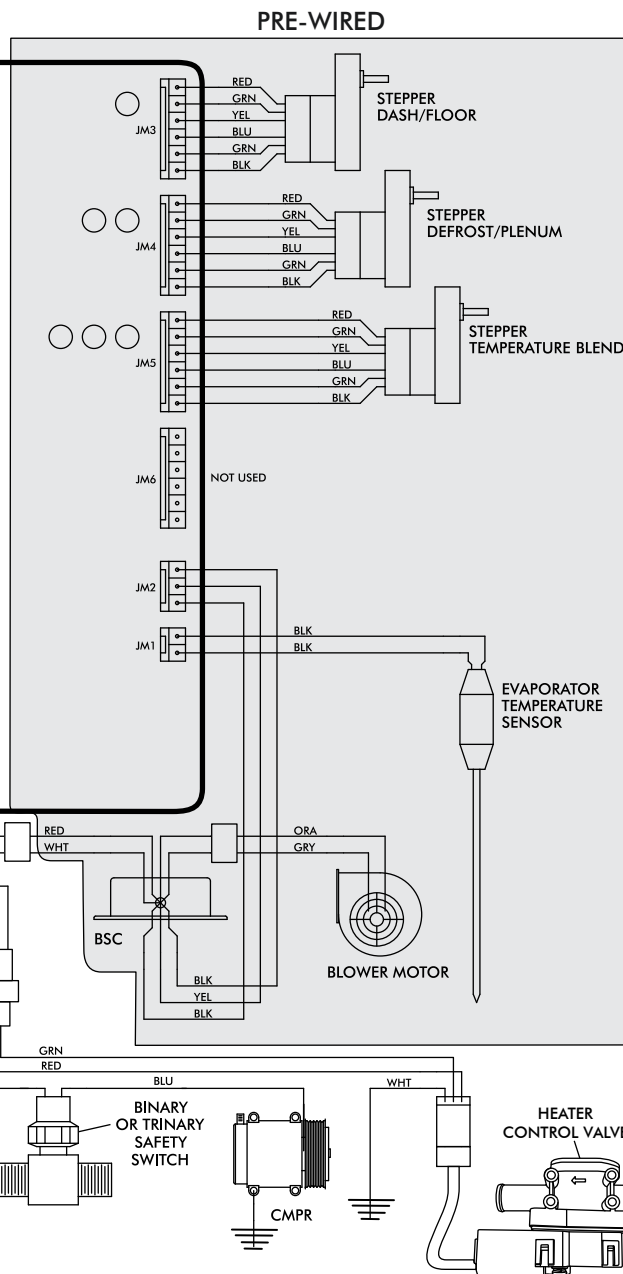
* DASH LAM (IF USED)

*** WIDE OPEN
THROTTLE
SWITCH
(OPTIONAL)



NOTE:  = CHASSIS GROUND

GEN IV ECU

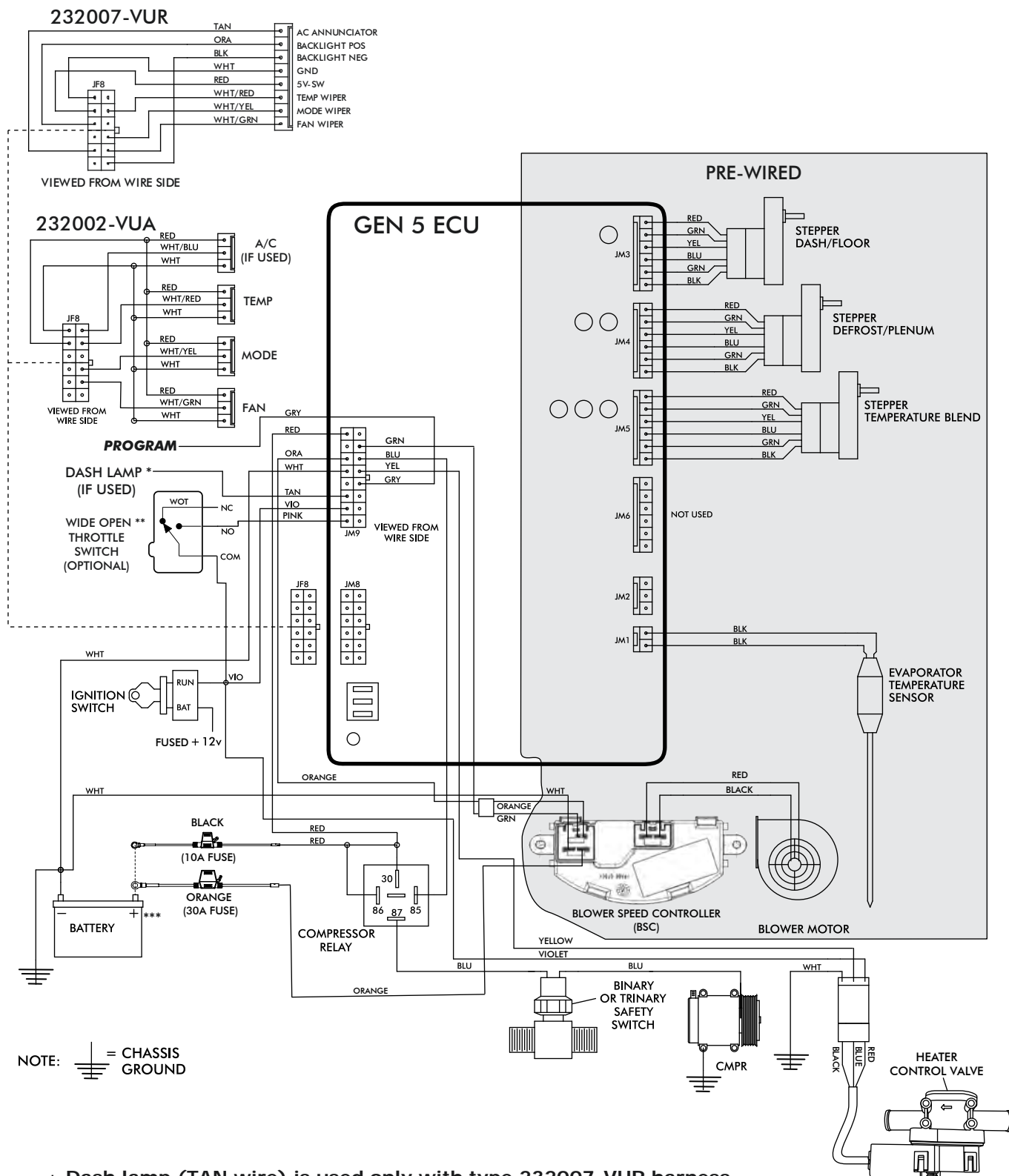


- * Dash lamp is used only with type 232007-VUR harness.
- ** **Warning:** Always mount circuit breaker as close to the battery as possible. (NOTE: Wire between battery and circuit breaker is unprotected and should be carefully routed to avoid a short circuit).
- *** Wide open throttle switch contacts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



www.vintageair.com

Gen 5 Wiring Diagram



* 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 14 and 15, for calibration procedure.**

Blower Speed

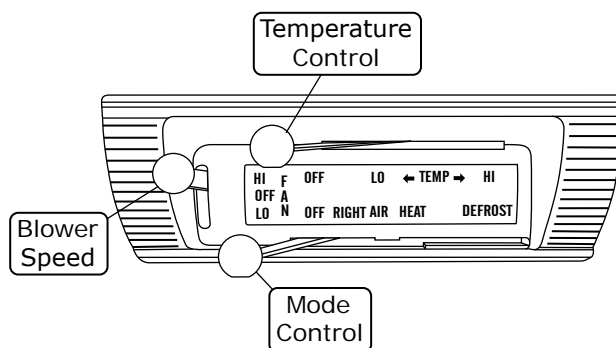
This lever/knob controls blower speed, from OFF to HI.

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

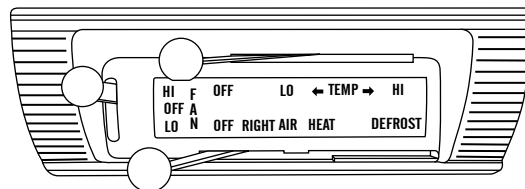
Adjust to desired speed.

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

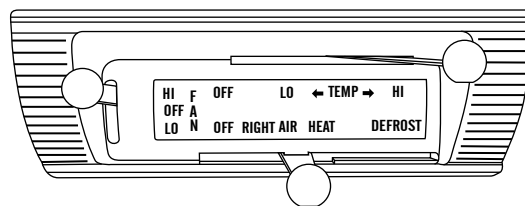
Adjust to desired speed.

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

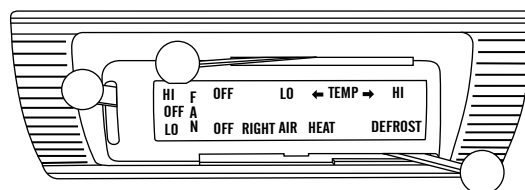
Adjust to desired speed.

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).



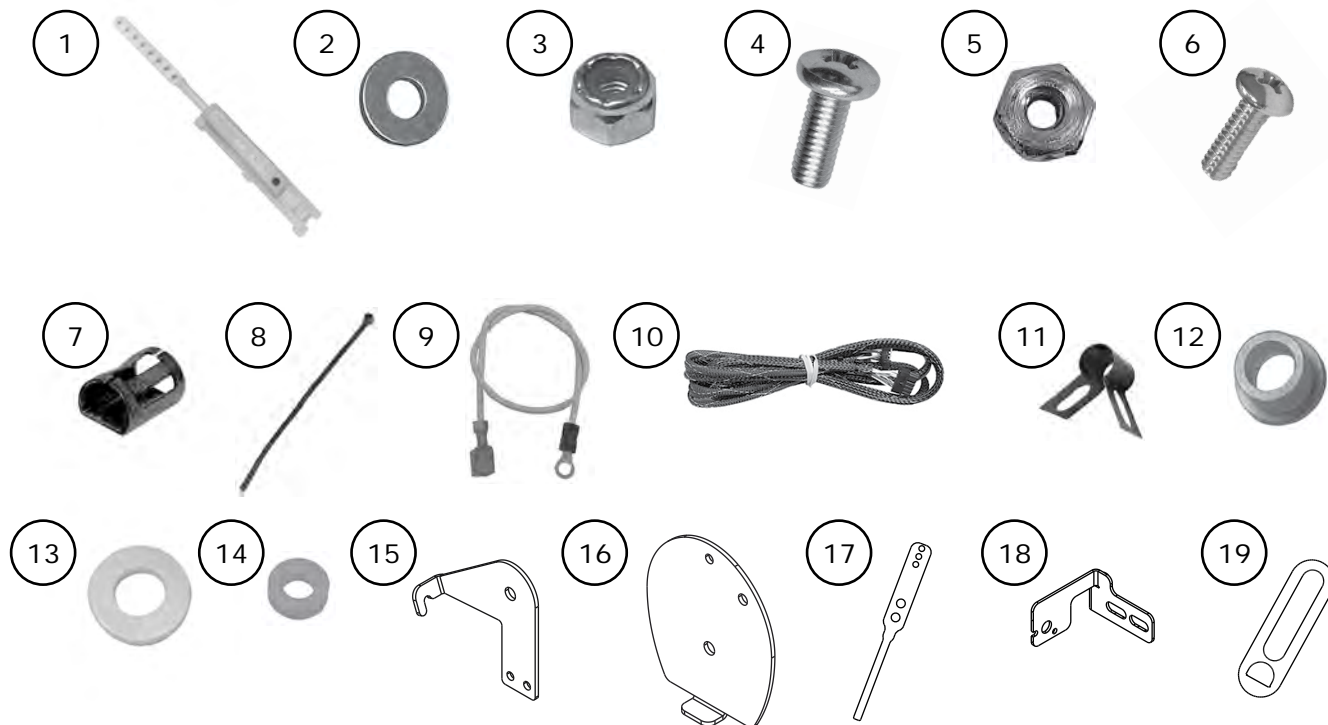


www.vintageair.com

Packing List: Control Panel Kit (473156)

No.	Qty.	Part No.	Description
1.	2	112002-SUA	Assembly, Cable Converter
2.	2	18123-VUB	Washer, 3/16" x 1/2", Flat
3.	1	18147-VUB	Locknut, 10-32
4.	2	18250-VUB	Screw, 10-32 x 1/2", Pan Head
5.	4	18412-VUB	Locknut, 4-40
6.	4	18413-VUB	Screw, 4-40 x 3/8"
7.	1	187570	D-Clip, 6mm
8.	6	21301-VUP	Tie Wrap, 4"
9.	1	231520	Ground Wire, 12" White, 16 GA with 1/4" Male Spade
10.	1	232002-VUA	Control Harness, Gen IV/Gen 5, Universal
11.	2	491010-VUR	Clamp, Cable Converter
12.	1	49701-VUI	Nylon Bushing
13.	2	49704-VUI	Washer, .194" ID x .375" OD x .032", Flat Nylon
14.	1	49705-VUI	Washer, 1/8", Nylon Flat
15.	1	642055	Bracket, Control Panel, Mode Lever
16.	1	642056	Bracket, Control Panel, Mode Plate
17.	1	643107	Bracket, Lever
18.	1	643108	Bracket, Main
19.	1	643116	Bracket, Cam

Checked By: _____
Packed By: _____
Date: _____



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