1970-73 Datsun 240 Z

Control Panel Conversion Kit

(479025)

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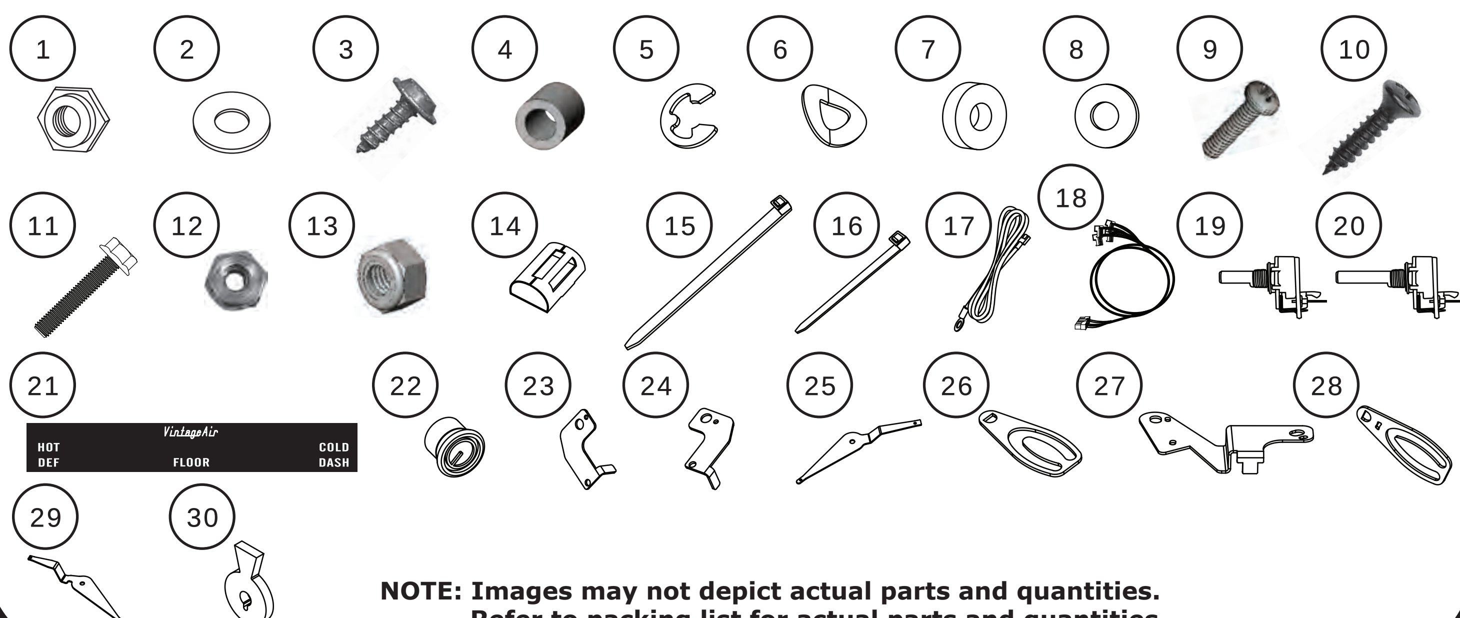
Additional Info: Please Read Before Beginning

- **If your vehicle has the <u>OPTIONAL</u> factory backlit control panel, some steps will vary and additional modifications will be required for fitment. Proceed to Page 11 to start backlit control panel procedures.**

Packing List: Control Panel Kit (479025)

No.	Qty.	Part No.	Description
1.	1	117002	Nut, Rotary Pot
2.	2	18122-VUB	Washer, #6, Flat
3.	1	182353	Screw, #8 x 1/2", Wide Head
4.	2	182537	Spacer, .186" O.D. x .115" I.D. x .186" Length, Nylon
5.	1	182925	E-Clip, 5-7mm
6.	1	182926	Washer, Single Wave Spring, M6
7.	2	182927	Spacer, .500" O.D. x .260" I.D. x .188" Length
8.	3	183817	Spacer, .750" O.D. x .330" I.D. x .032" Length, Nylon
9.	2	183998	Screw, 4-40 x 1/2"
10.	2	18402-VUB	Screw, #4 x 1/2"
11.	1	184032	Bolt, M6 x 1 x 35mm, Flange
12.	2	18412-VUB	Locknut, 4-40
13.	1	186021	Locknut, M6-1.0
14.	2	187570	D-Clip, 6mm
15.	4	21300-VUP	Tie Wrap, 11"
16.	4	21301-VUP	Tie Wrap, 4"
17.	1	231520	Ground Wire, 12" White, 16 GA with 1/4" Male Spade
18.	1	232002-VUA	Control Harness, Universal
19.	3	246018-0	Rotary Pot Assembly
20.	1	246018-3	Rotary Pot Assembly, Long Shaft
21.	1	484125	Control Panel Label
22.	1	497004	Knob, Black
23.	1	641200	Bracket, Middle, Cable Converter
24.	1	641201	Bracket, Bottom, Cable Converter
25.	1	641203	Lever, Control Panel Bottom
26.	2	641204	Cam Linkage, Control Panel
27.	1	641205	Bracket, Potentiometer
28.	2	641206	Cam Linkage, Backlit Control Panel
29.	1	641994	Lever, Control Panel Middle
30.	1	641999	Plate, Speed Control Knob Backing

**** 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.

OEM Control Panel Disassembly

Perform the following:

1. Remove the OEM blower control and slide knobs as shown in Photos 1 and 2, below.
2. Remove the OEM cable clamp screws (retain), then remove the cables as shown in Photos 3 and 4, below.
3. Remove the (4) screws securing the lever assembly to the control panel (See Photo 5, below).
4. Remove the lever assembly from the control panel as shown in Photo 6, below.

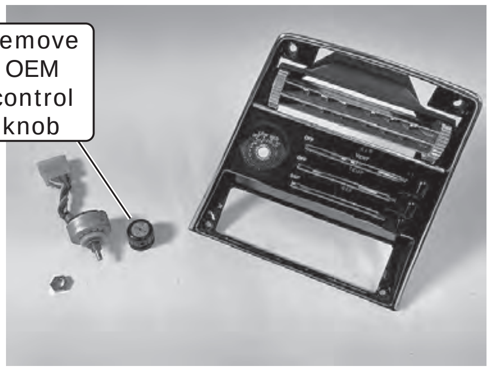
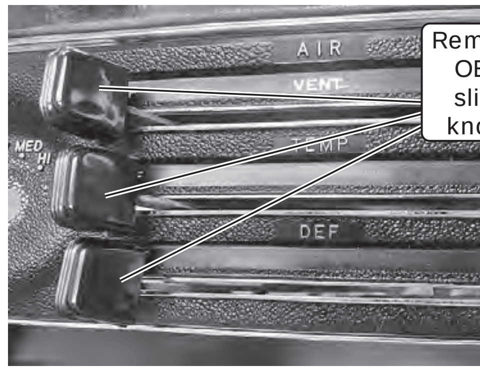


Photo 1



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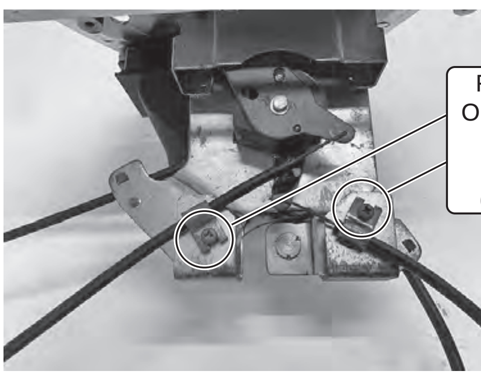

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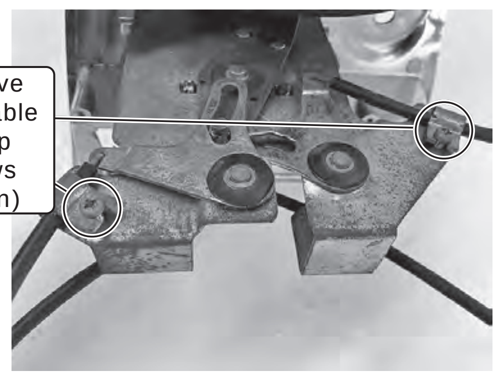

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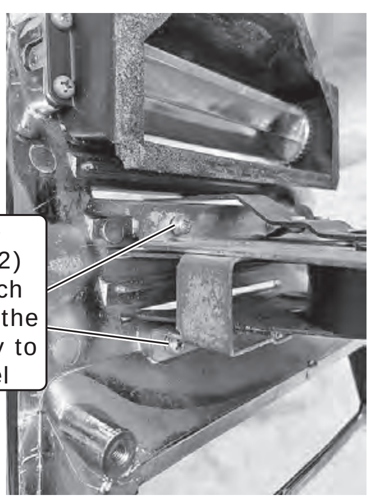

Photo 5

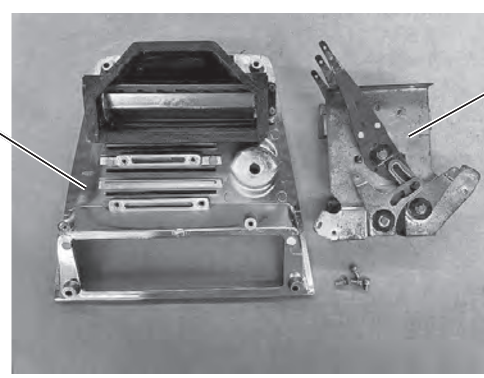

Photo 6

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OEM Control Panel Disassembly (Final)

5. Remove the E-clip securing the bottom (2) "TEMP" and "DEF" levers, then carefully remove the first lever by slightly lifting and sliding out (See Photos 7 and 8, below). **NOTE: Cover with hand while removing lever, as spring loaded detent may eject.**

6. Remove the plastic spacer (retain) and detent assembly as shown in Photo 9, below.

7. Remove the second lever as shown in Photo 10, below. **NOTE: The top "AIR" lever will no longer be used and may be removed, along with the accompanying components. It is not required for the installation (See Photo 11, below).**

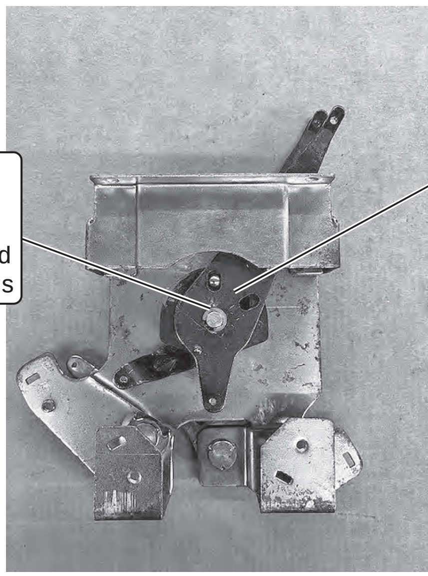
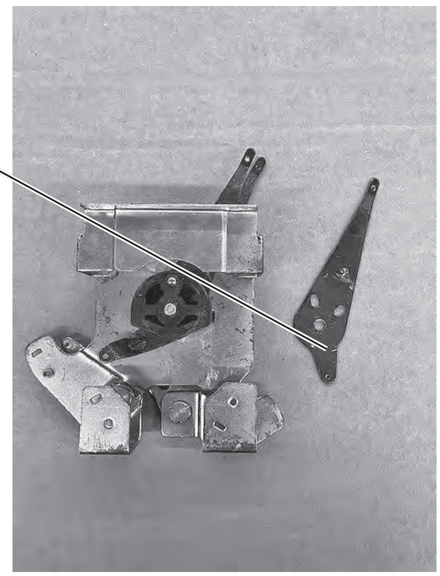


Photo 7



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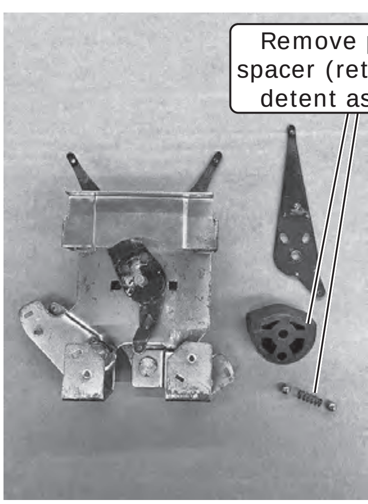

Photo 9

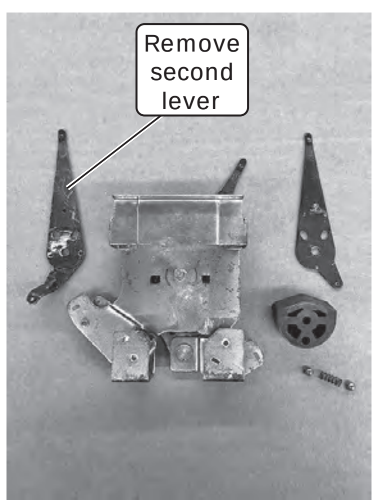

Photo 10

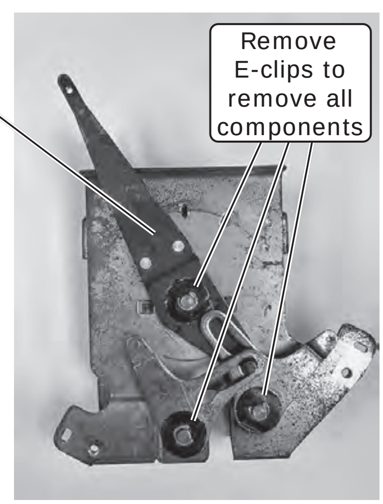

Photo 11

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Control Panel Label Installation

1. Once the lever assembly is separated from the dash panel, clean and prepare the panel for the new label installation by removing any dirt or oils with rubbing alcohol, ensuring the surface is smooth. If factory labels are in good condition, you may apply new labels over them. If the labels are peeling or flaking, it is recommended to remove them before installing the new labels (See Photo 1, below).

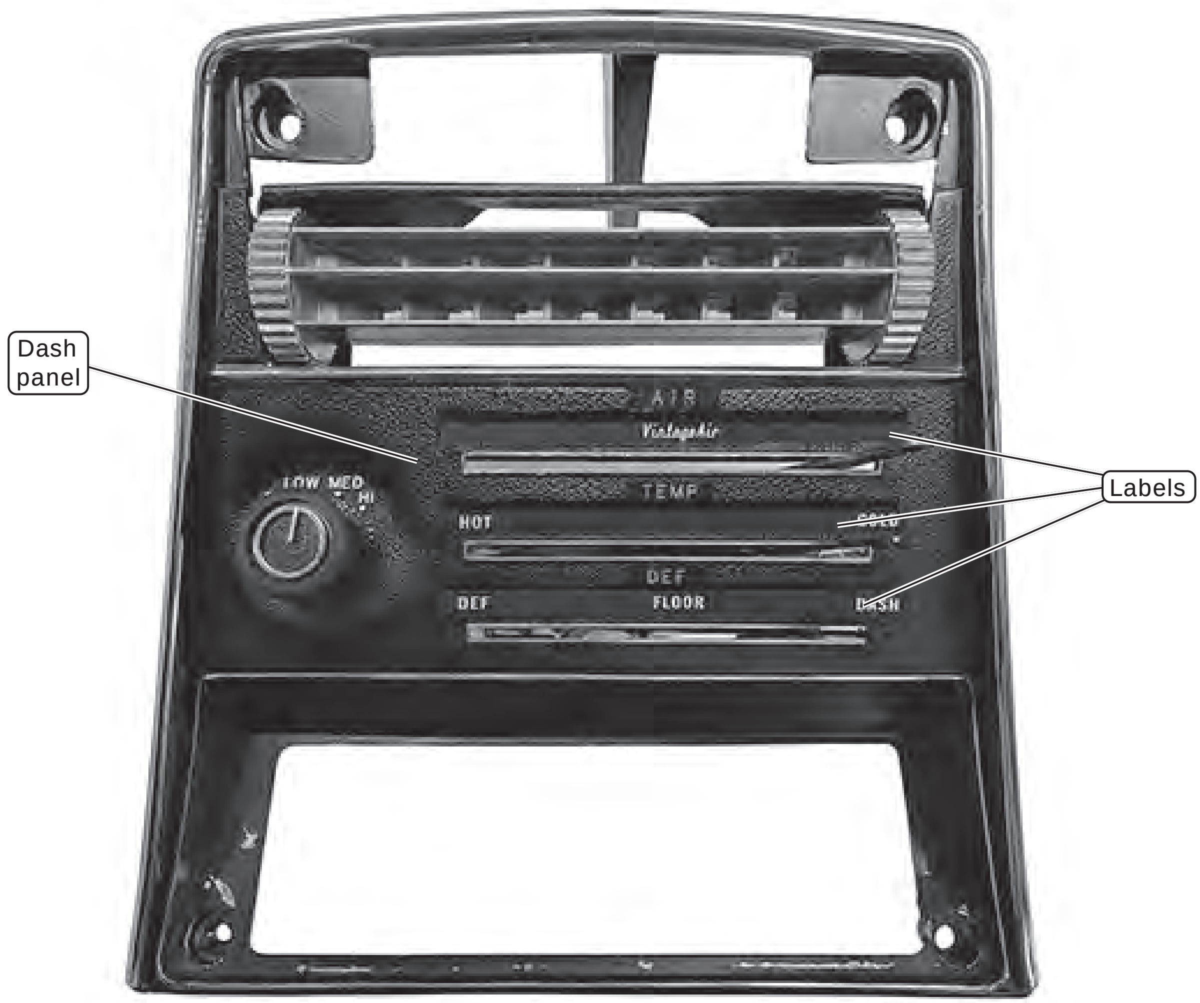

Photo 1

Control Panel Assembly

1. Install a nylon spacer, the control panel middle lever, the OEM plastic spacer, and the control panel bottom lever as shown in Photos 1, 2, 3, and 4, below.

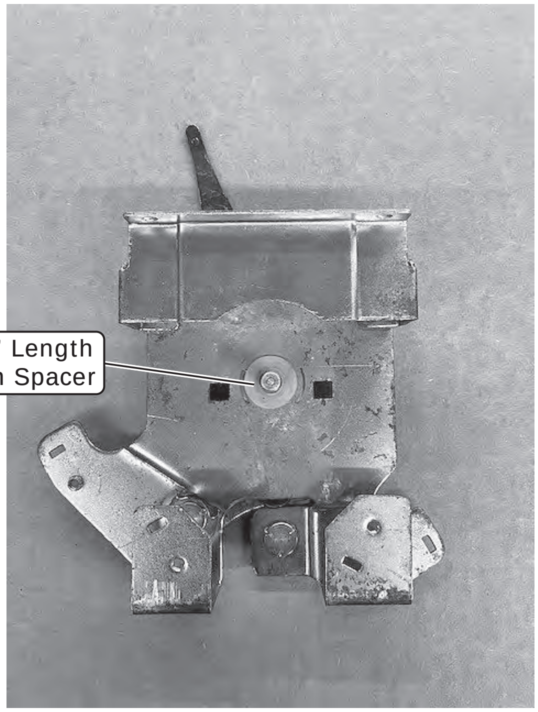

Photo 1

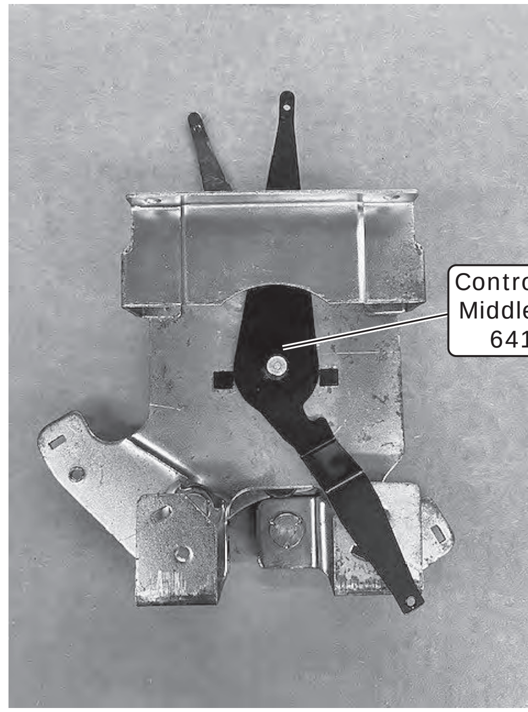

Photo 2

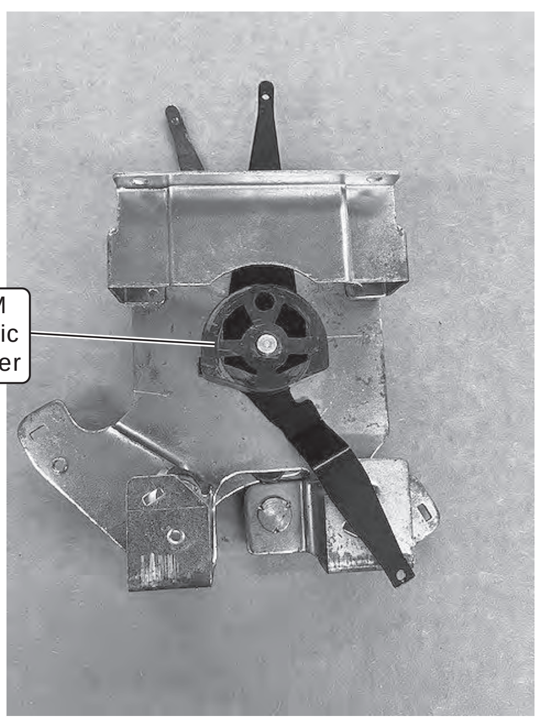

Photo 3

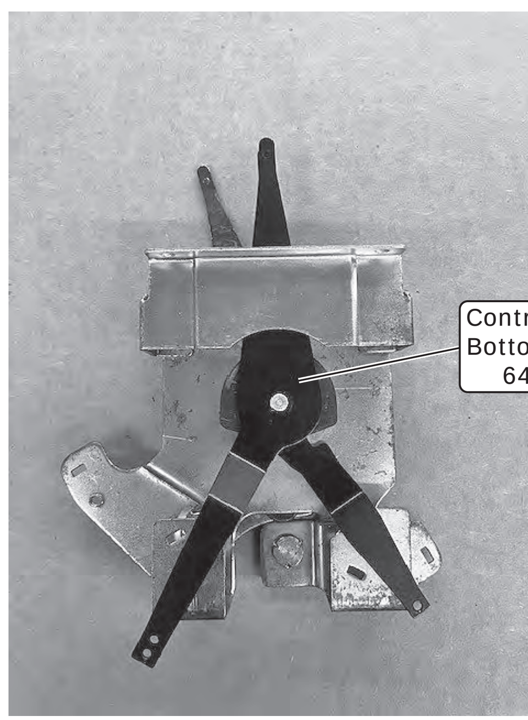

Photo 4

Control Panel Assembly (Cont.)

2. Install a wave spring washer and 5-7mm E-clip as shown in Photo 5, below.
3. Using the OEM cable clamp screws, install the middle and bottom cable converter brackets and (2) rotary pots as shown in Photos 6 and 7, below.
4. Assemble linkage as shown in Photos 8, 9 and 10, below. **NOTE: Do not overtighten hardware.**

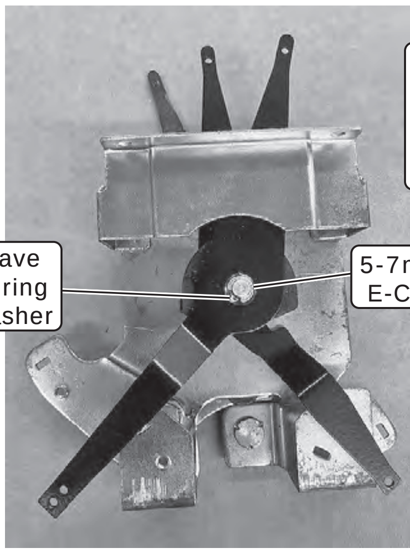

Photo 5

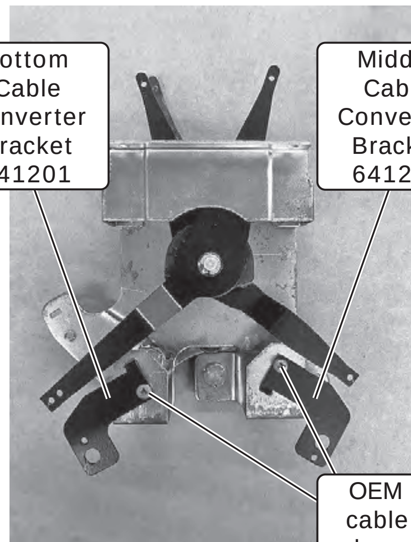

Photo 6

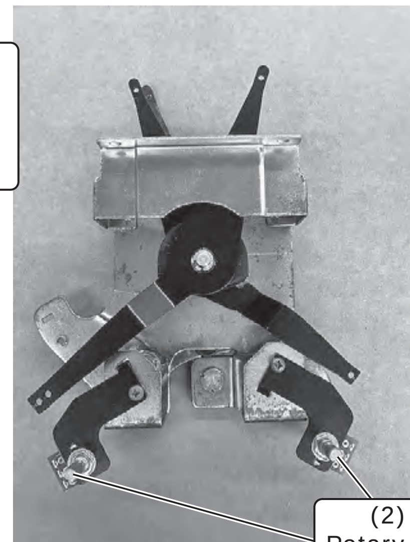

Photo 7

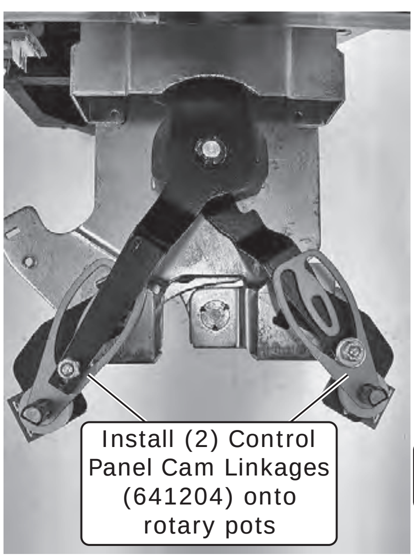

Photo 8

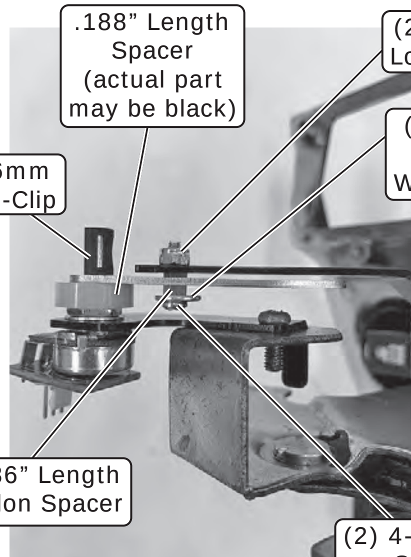

Photo 9

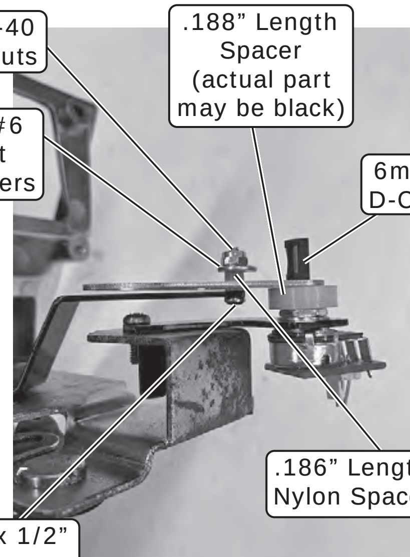

Photo 10

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Control Panel Assembly (Cont.)

5. Reinstall the lever assembly into the dash panel, then secure it with the (4) OEM screws as shown in Photos 11 and 12, below.

6. Install the OEM knobs onto the levers using the OEM screw and (2) #4 x 1/2” screws as shown in Photo 13, below. **NOTE: If you have chosen to retain the OEM “AIR” lever, the knob will install using the OEM hardware.**

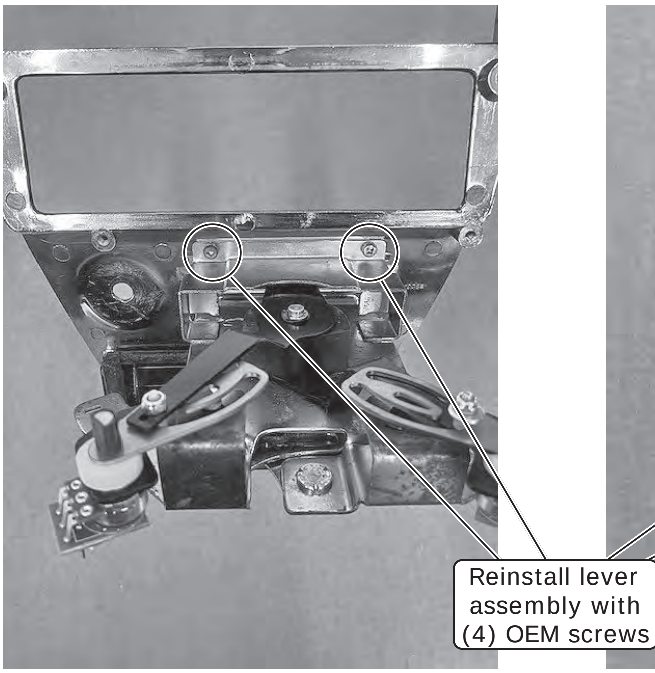


Photo 11

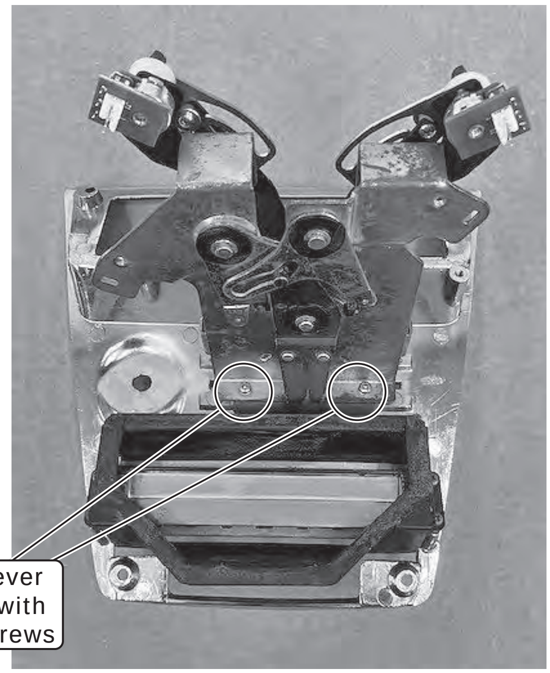


Photo 12

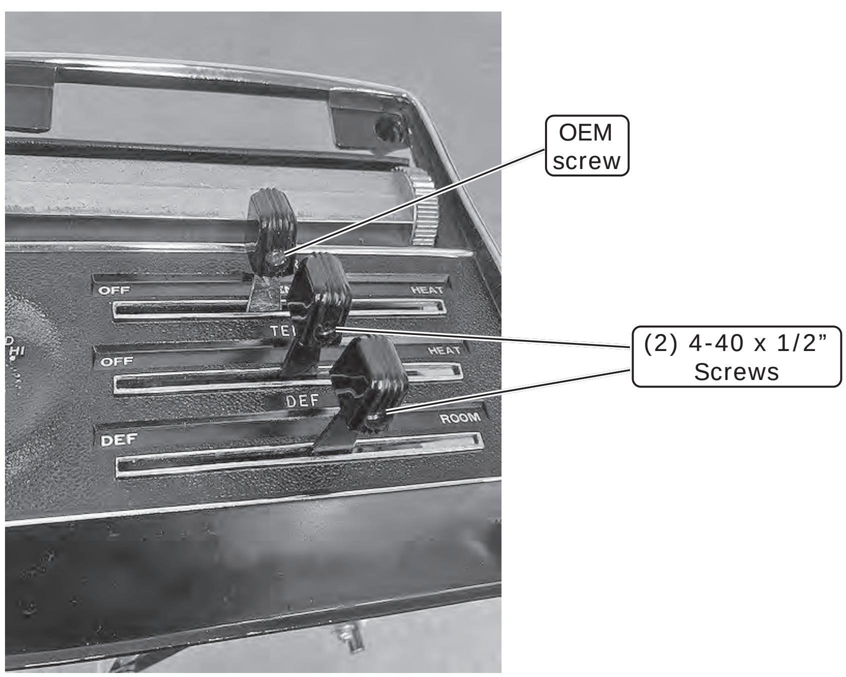


Photo 13

Control Panel Assembly (Final)

7. Identify the speed control knob backing plate and the rotary pot nut, then install them as shown in Photos 14, 15 and 16, below.
8. Install the rotary pot assembly and the black knob as shown in Photos 17, 18 and 19, below.

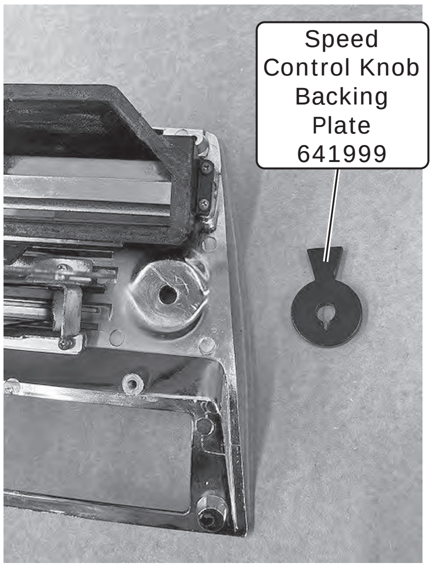


Photo 14

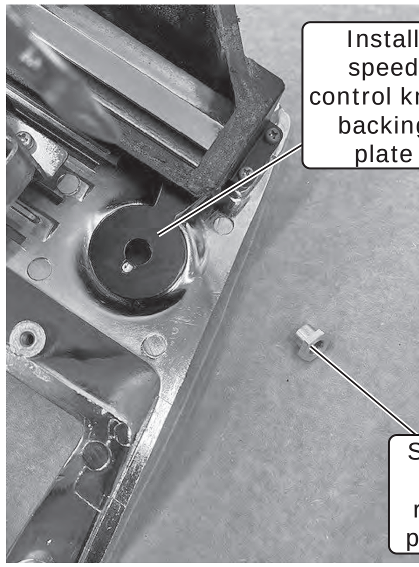


Photo 15

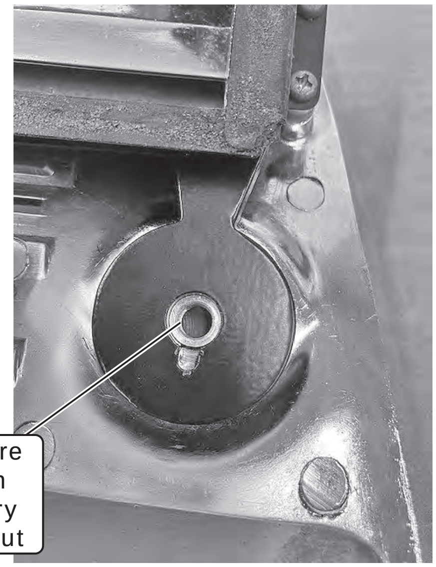


Photo 16

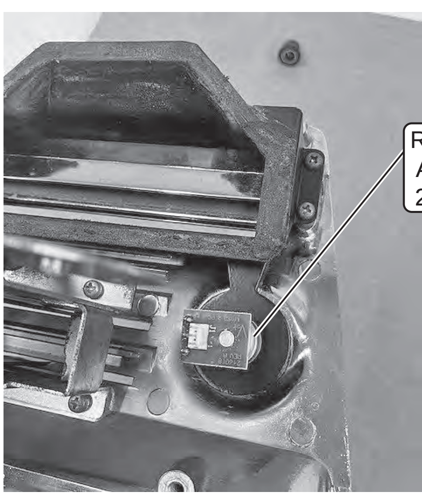


Photo 17

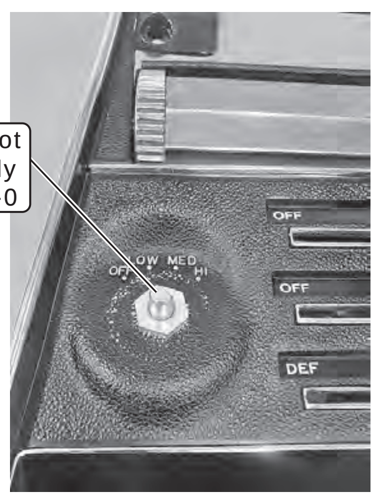


Photo 18

Photo 19

Factory Backlit Control Panel Disassembly

Perform the following:

1. Remove the control panel from the vehicle.
2. Remove the cables from the brackets.
3. Remove the (4) OEM screws to remove the lever bracket from the face plate (retain screws).
4. Remve the center louver and hardware from the face plate. (retain all parts).
5. Disassemble the bracket until it is bare (retain all parts).
6. Leave the center louver assembly and (2) upper screws to retain assembly to the face plate (See Photos 1 and 2, below).

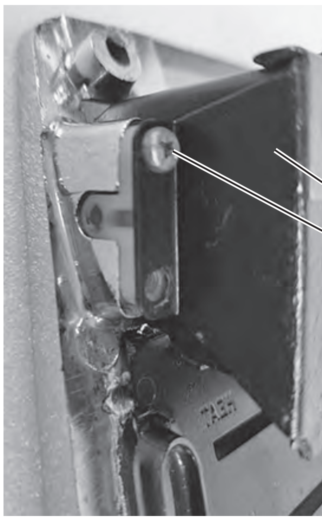


Photo 1

Leave center louver assembly and (2) upper screws to retain assembly to face plate

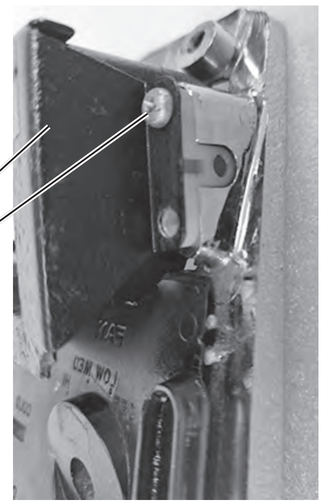


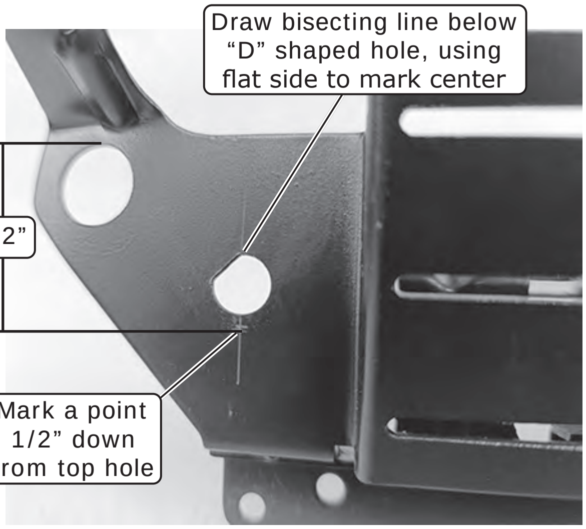
Photo 2

Factory Backlit Control Panel Modification

1. Draw a bisecting line below the “D” shaped hole, using the flat side to mark the center (See Photo 1, below).
2. Mark a point 1/2” down from the top hole (See Photo 1, below).
3. Drill an 1/8” hole (See Photo 2, below).

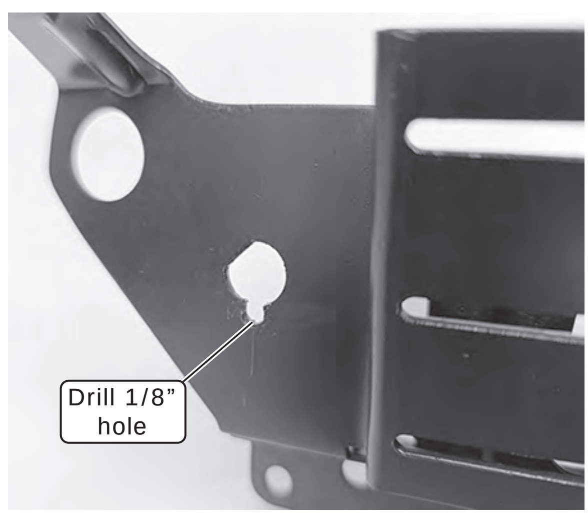
Draw bisecting line below “D” shaped hole, using flat side to mark center

1/2”



Mark a point 1/2” down from top hole

Photo 1



Drill 1/8” hole

Photo 2

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Factory Backlit Control Panel Assembly

NOTE: To make the assembly easier, some steps are performed with the bracket upside down from the way it will be installed into the vehicle.

1. Install the long shaft potentiometer into the bracket from the back side. Install the washer and the nut to secure the potentionmeter to the bracket (See Photo 1, below).
2. Using the exploded figure below for reference, install the hardware and slide levers onto the bracket assembly. **NOTE: Do not overtighten the nut.**
3. Install the potentiometer bracket onto the OEM bracket assembly. Secure it using a #8 x 1/2” pan head screw (See Photo 2, below).
4. Bend the potentiometer bracket tab forward to secure the bracket (See Photo 3, below).

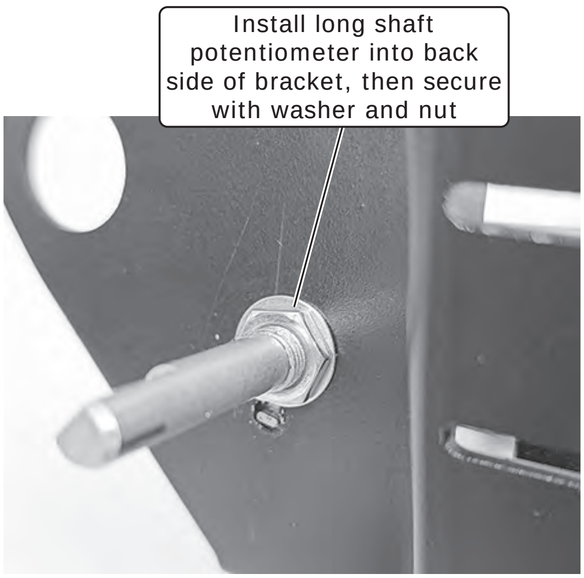


Photo 1

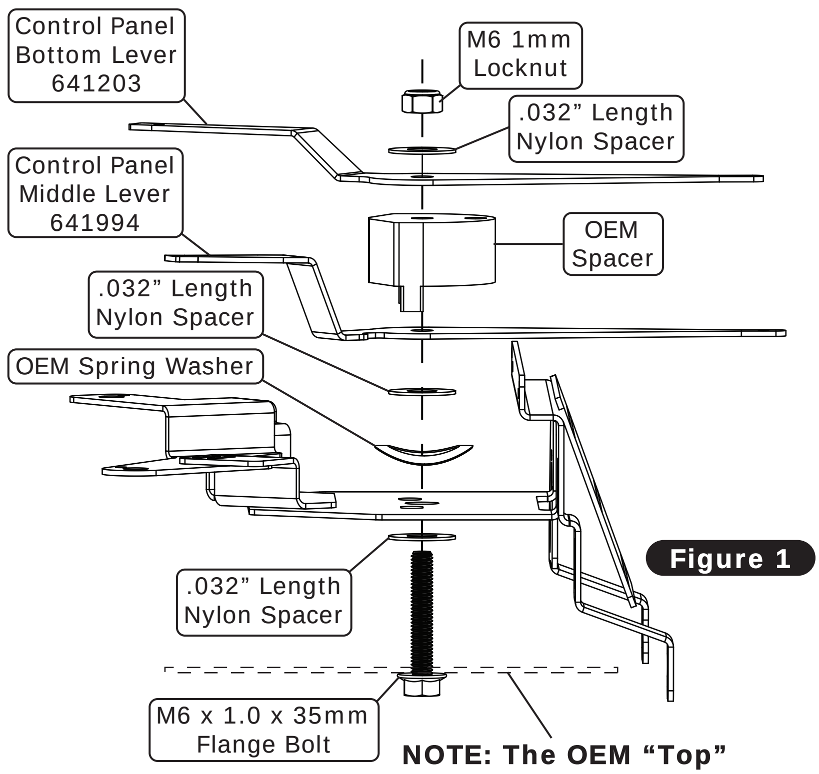


Figure 1

NOTE: The OEM “Top” lever can be reinstalled onto bottom of assembly, but it will not be funtional.

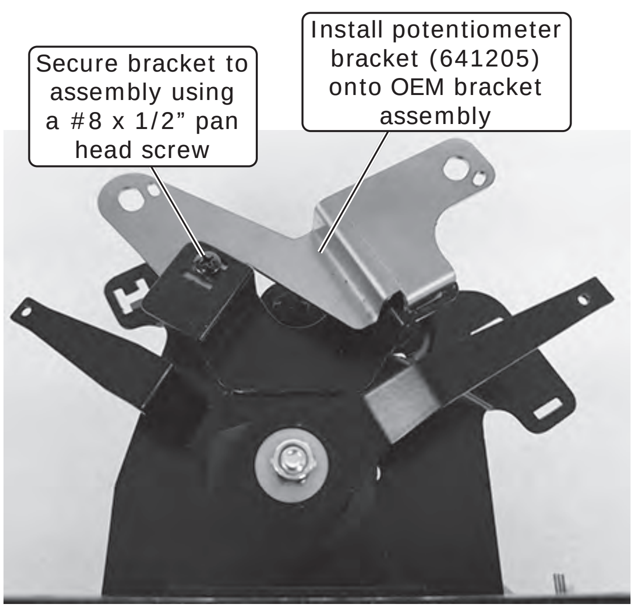


Photo 2

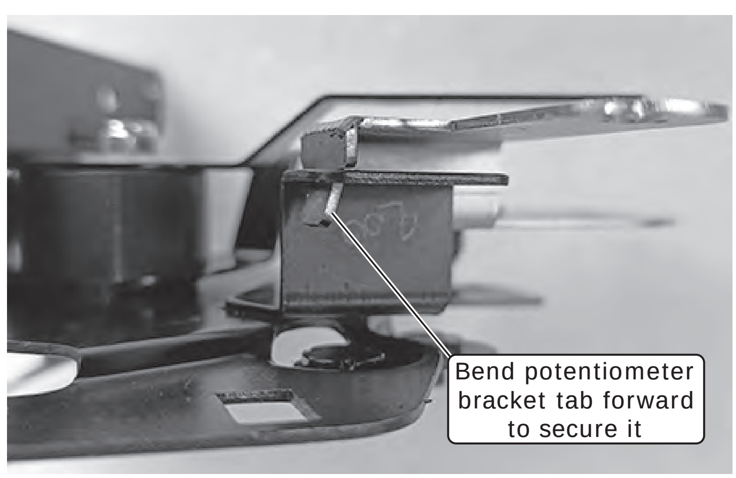


Photo 3

Factory Backlit Control Panel Assembly (Cont.)

5. Install the (2) rotary pot assemblies onto the potentiometer bracket as shown in Photo 4, below. Secure them to the bracket using the washers and nuts. **NOTE: Leave slightly loose at this time.**
6. On the control panel middle lever, temporarily install the backlit control panel cam linkage onto the rotary pot assembly. Install a 4-40 x 1/2” screw, 4-40 locknut, .186” length nylon spacer and #6 flat washer onto the lever and through the backlit control panel cam linkage as shown in Figure 2, below.
7. Adjust the rotary pot assembly in the slot until it makes contact with the “V” of the backlit control panel cam linkage. Tighten the potentiometer nut at this time.
8. Remove the backlit control panel cam linkage from the rotary pot assembly and lever, then install the .188” length spacer onto the rotary pot assembly.
9. Reinstall the backlit control panel cam linkage onto the rotary pot assembly and lever, then secure with the 6mm D-clip as shown in Photo 5, below.

Photo 4

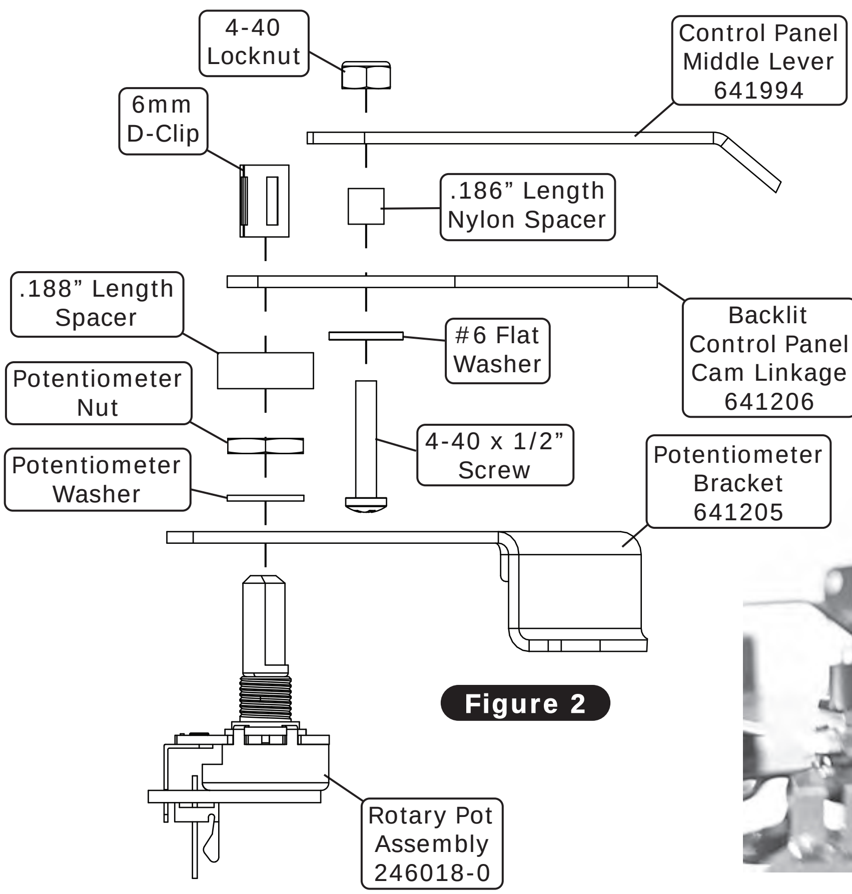


Figure 2

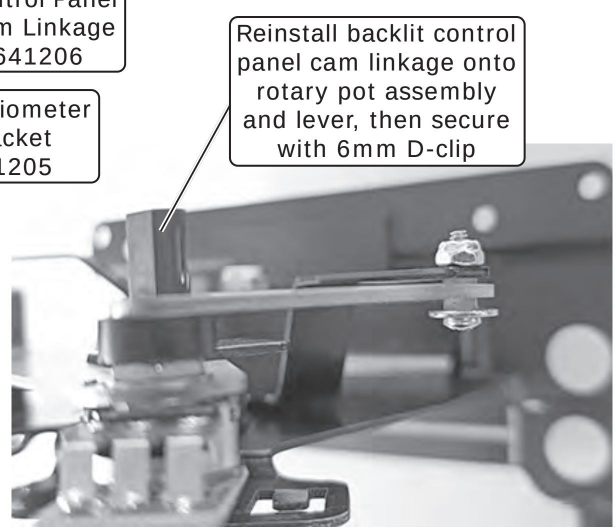


Photo 5

Factory Backlit Control Panel Assembly (Final)

10. Repeat Steps 6-9 on Page 13 for the control panel bottom lever installation (See Figure 3, below for reference).

11. Photo 6, below shows the final installation after adjustments.

12. Ensure all levers operate smoothly.

13. Lever preload may be adjusted by tightening or loosening the M6 flange bolt and locknut.

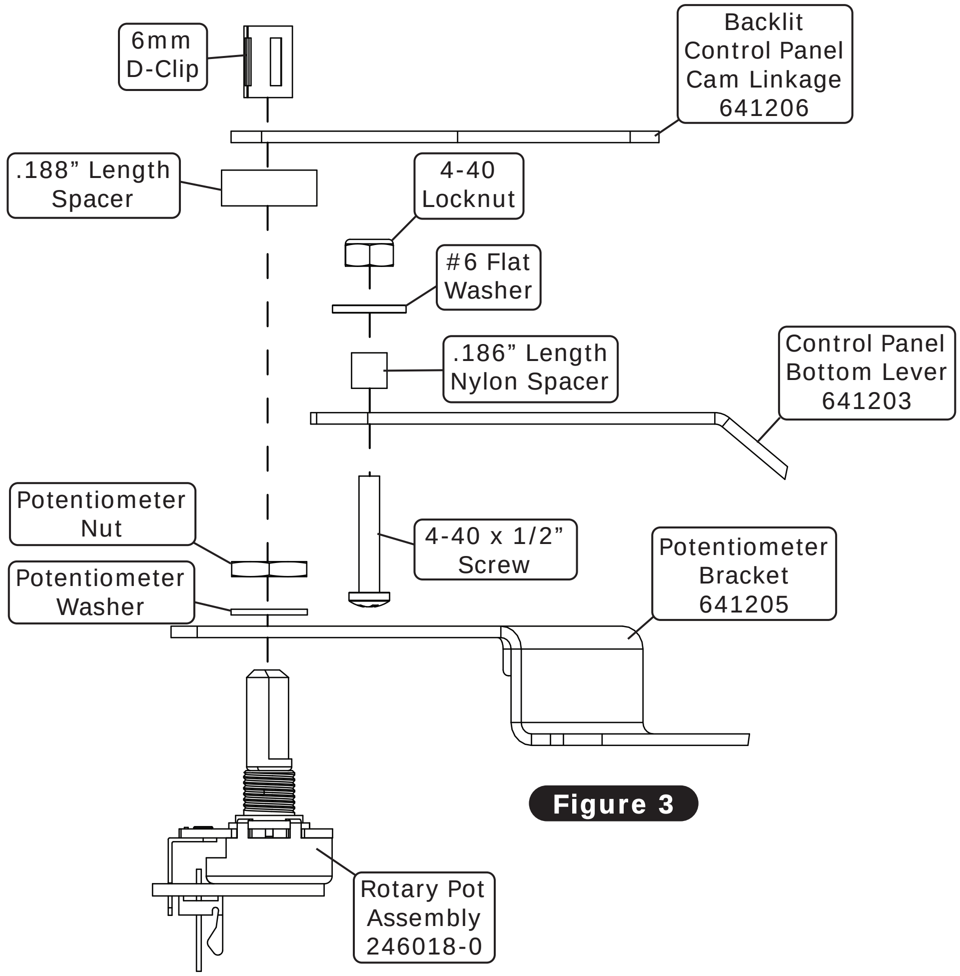
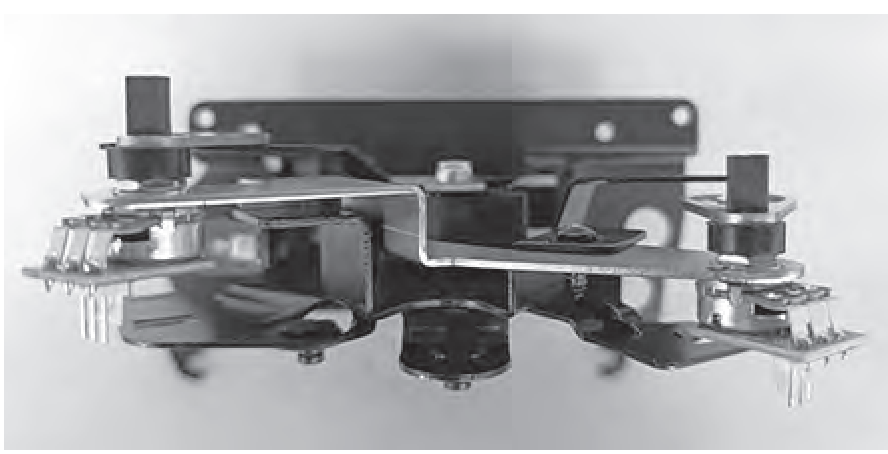


Figure 3



After Adjustement and Installation View **Photo 6**

Factory Backlit Control Panel Installation

1. Reinstall the lever bracket assembly onto the OEM bezel and secure it using the OEM hardware (See Photo 1, below).
2. Install the black knob onto the long shaft potentiometer (See Photo 2, below).
3. Install the OEM knobs onto the levers and secure them with 4-40 x 1/2" screws (See Photo 3, below).

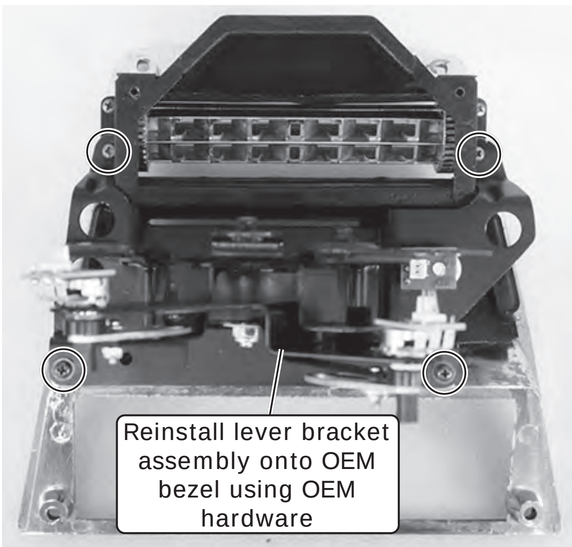


Photo 1

Photo 2

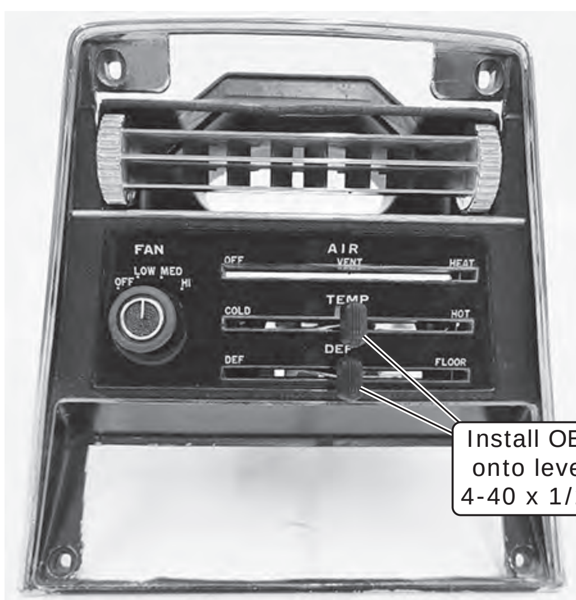


Photo 3

NOTE: No labeling updates for the backlit control panel are currently available. Please refer to Page 21 for operation of controls.

Factory Backlit Control Panel Center Louver Modification and Installation

NOTE: Due to additional brackets on the backlit control panels, (2) corners of the center louver hose adapter must be trimmed to allow fitment on the bezel. Some minor bending or adjustments may be necessary to the levers to ensure smooth operation.

1. Mark and trim the lower corners of the center vent hose adapter as shown in Photo 1, below.
2. Place the center vent hose adapter onto the center louver and mark the flange predrilled holes (See Photo 2, below).
3. Drill (2) 1/8” holes as shown in Photo 3, below.
4. Install the center vent hose adapter onto the flange and secure using (2) #8 x 3/4” screws (See Photo 4, below).

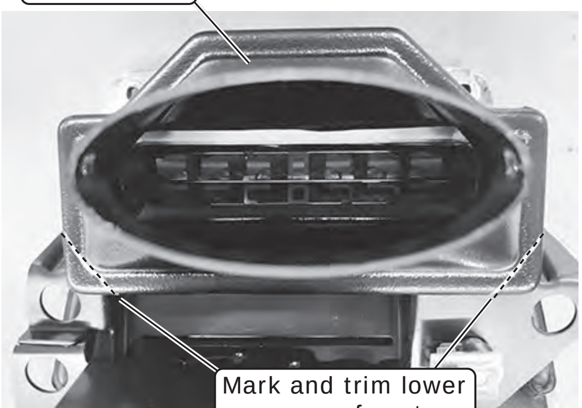


Photo 1

Photo 2

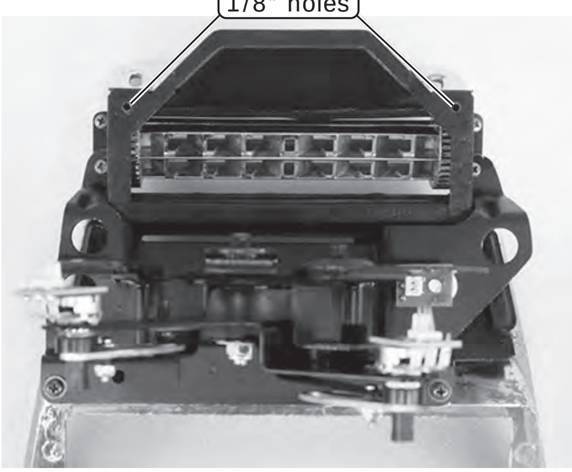


Photo 3

Photo 4

Control Panel Wiring

1. Plug the connector with the green/white wire into the Blower Speed rotary switch (See Photo 1, below).
2. Plug the connector with the red/white wire into the Temperature rotary switch (middle lever) (See Photo 1, below).
3. Plug the connector with the yellow/white wire into the Mode rotary switch (bottom lever) (See Photo 1, below).
4. The connector with the blue/white wire is not used for this application. Tie wrap the wiring to the harness. Wire connections and securements shown in Photo 2, below. **NOTE: Be sure harness is secured and tied away from moving components.**

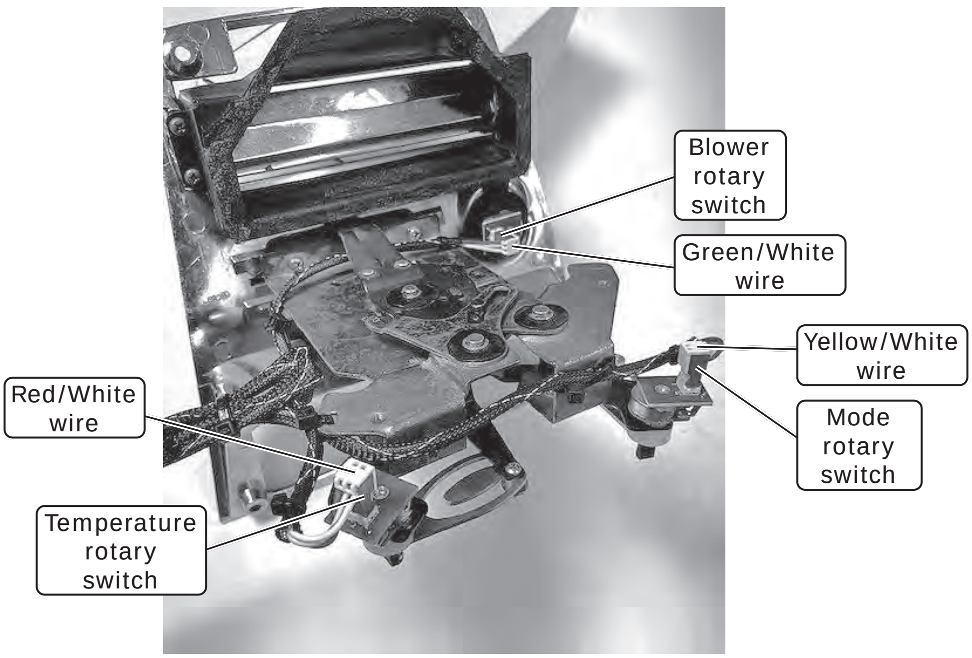


Photo 1

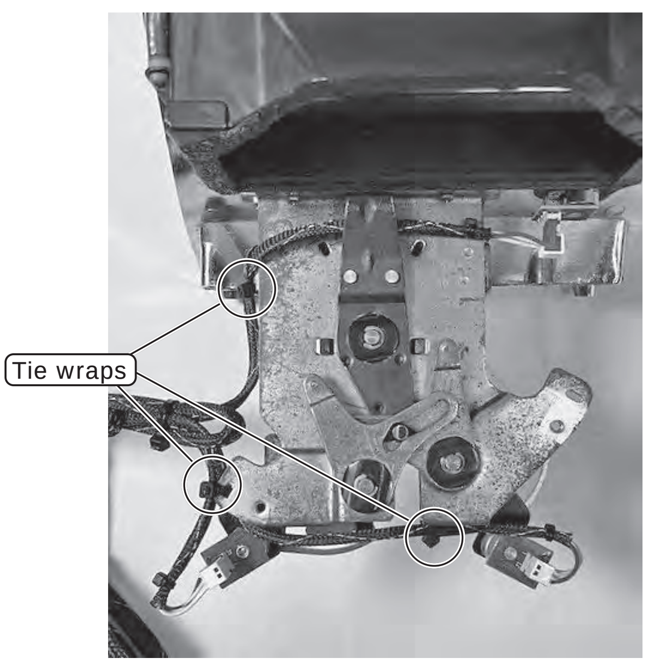


Photo 2

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:

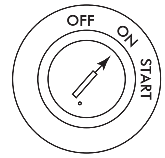
In preparation for calibration, you will need to attach the supplied white ground jumper wire (PN 231520) to a suitable chassis ground. This jumper wire must be easily connected to the gray programming wire located in the main Gen IV wiring harness next to the compressor relay. During the calibration 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:

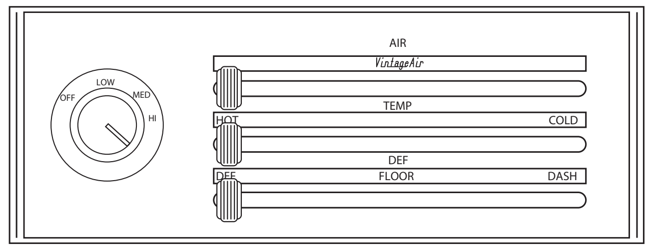
In preparation for calibration, you will need to attach the supplied white ground jumper wire (PN 231520) to a suitable chassis ground. This jumper wire must be easily connected to the gray programming wire located in the main Gen 5 wiring harness, see the Gen 5 wiring diagram and instructions for more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

Control Panel Calibration Procedure (Cont.)

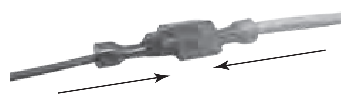
1. Turn on the ignition switch (Do not start the engine).



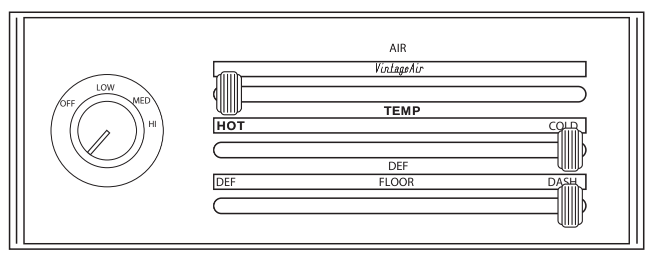
2. Move the control levers/knobs to the positions shown.



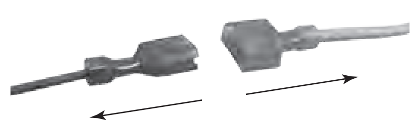
3. Connect the white jumper wire to the gray program wire. Wait approximately 5 seconds for the blower speed to change if using a Gen IV system, if using a Gen 5 system wait for the blower to default to medium speed.



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

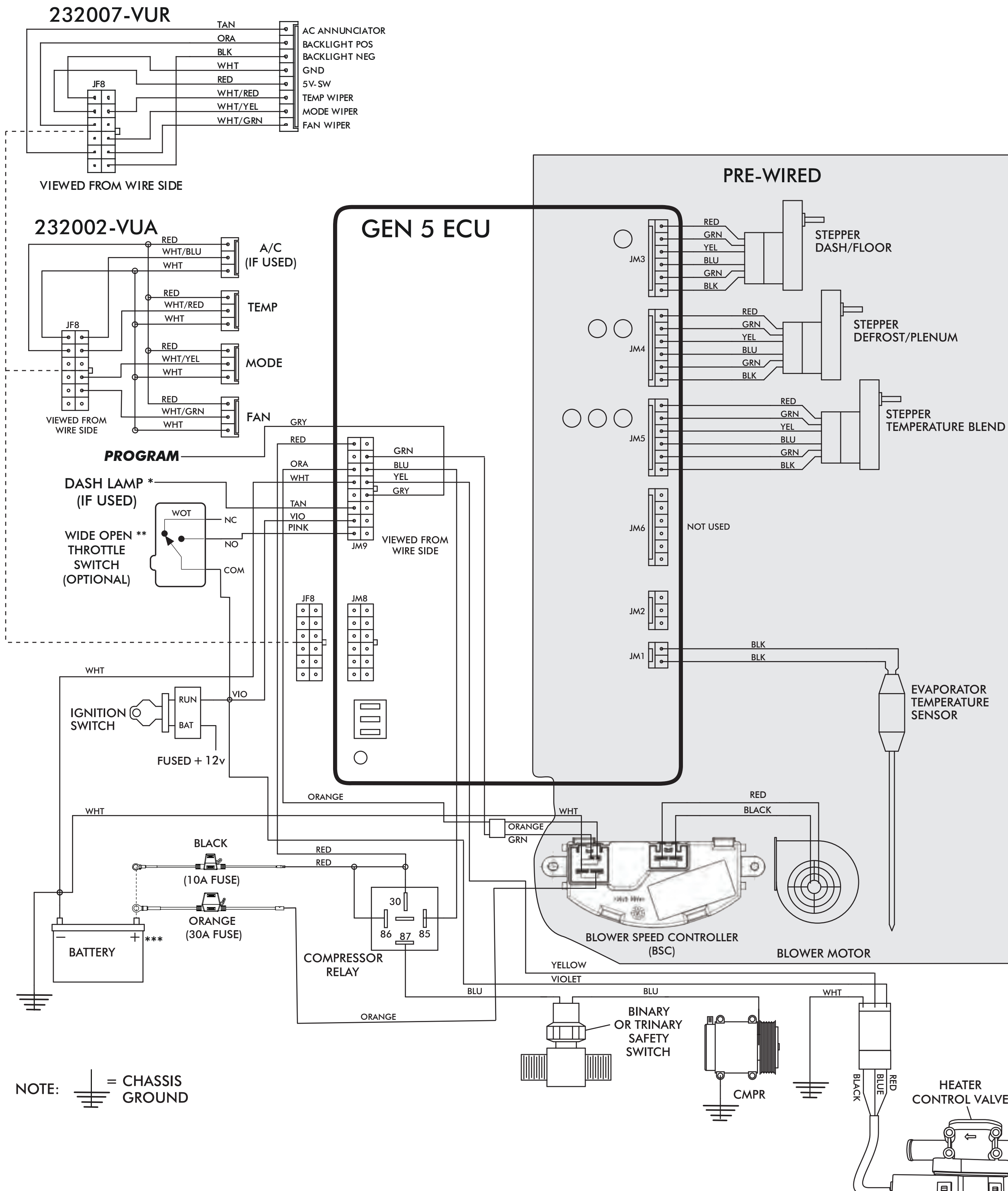


5. Disconnect the white jumper wire from the gray program wire. The blower speed will change if using a Gen IV system, and will shut off if using a Gen 5 system, indicating completion of the calibration procedure.



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.

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.

Operation of Controls

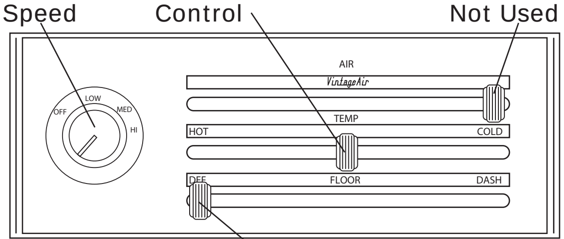
On Gen 5 systems with three lever/knob controls, the temperature control toggles between heat and A/C operations. To activate A/C, move the temperature lever/knob all the way to cold and then back it off to the desired vent temperature. For heat operation, move the temperature lever/knob all the way 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 Page 18 and 19 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.

Blower Speed
Temperature Control
Not Used



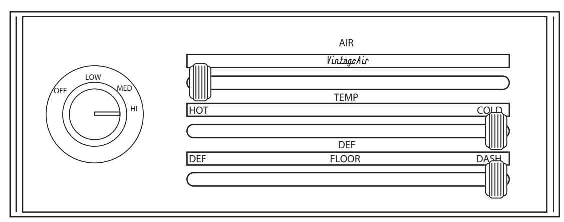
Mode Control

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).

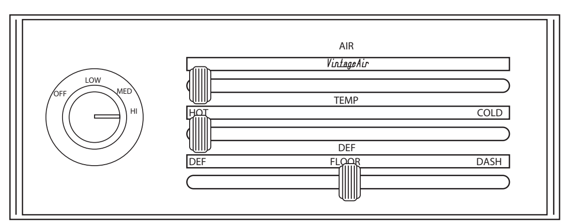


Heat Operation

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).

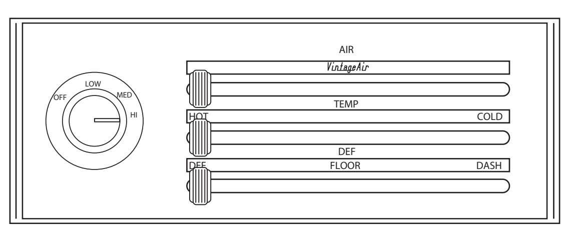


Defrost/De-fog Operation

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).

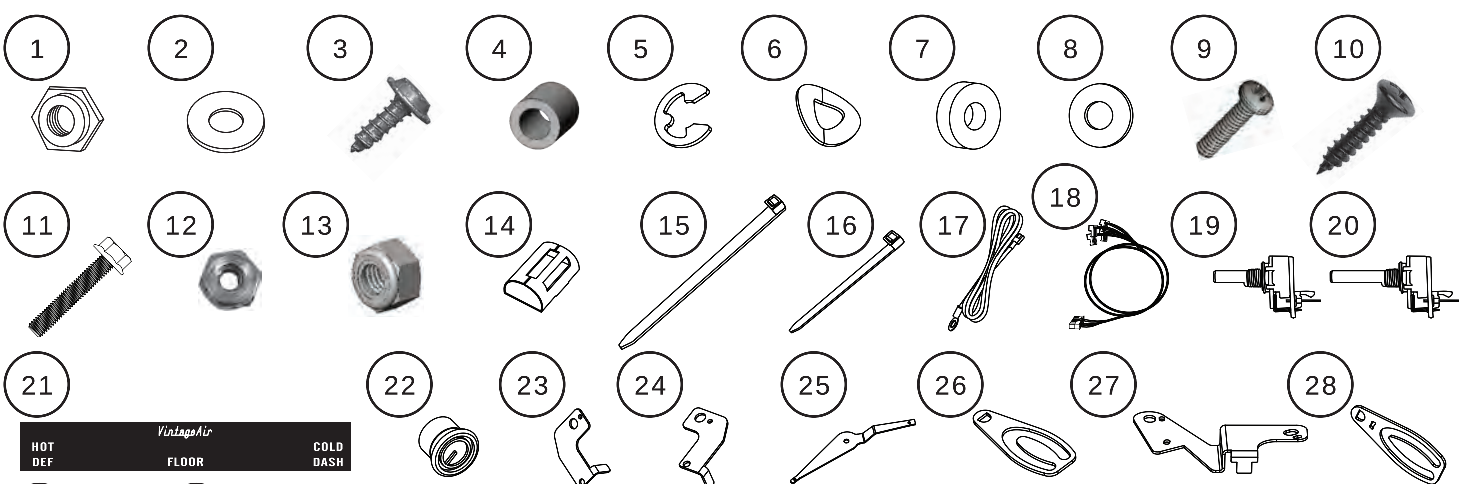


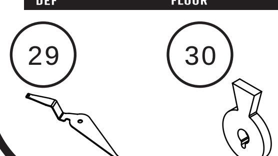
www.vintageair.com

Packing List: Control Panel Kit (479025)

No.	Qty.		Part No.	Description
1.	1	______	117002	Nut, Rotary Pot
2.	2	______	18122-VUB	Washer, #6, Flat
3.	1	______	182353	Screw, #8 x 1/2”, Wide Head
4.	2	______	182537	Spacer, .186” O.D. x .115” I.D. x .186” Length, Nylon
5.	1	______	182925	E-Clip, 5-7mm
6.	1	______	182926	Washer, Single Wave Spring, M6
7.	2	______	182927	Spacer, .500” O.D. x .260” I.D. x .188” Length
8.	3	______	183817	Spacer, .750” O.D. x .330” I.D. x .032” Length, Nylon
9.	2	______	183998	Screw, 4-40 x 1/2”
10.	2	______	18402-VUB	Screw, #4 x 1/2”
11.	1	______	184032	Bolt, M6 x 1 x 35mm, Flange
12.	2	______	18412-VUB	Locknut, 4-40
13.	1	______	186021	Locknut, M6-1.0
14.	2	______	187570	D-Clip, 6mm
15.	4	______	21300-VUP	Tie Wrap, 11”
16.	4	______	21301-VUP	Tie Wrap, 4”
17.	1	______	231520	Ground Wire, 12” White, 16 GA with 1/4” Male Spade
18.	1	______	232002-VUA	Control Harness, Universal
19.	3	______	246018-0	Rotary Pot Assembly
20.	1	______	246018-3	Rotary Pot Assembly, Long Shaft
21.	1	______	484125	Control Panel Label
22.	1	______	497004	Knob, Black
23.	1	______	641200	Bracket, Middle, Cable Converter
24.	1	______	641201	Bracket, Bottom, Cable Converter
25.	1	______	641203	Lever, Control Panel, Bottom
26.	2	______	641204	Cam Linkage, Control Panel
27.	1	______	641205	Bracket, Potentiometer
28.	2	______	641206	Cam Linkage, Backlit Control Panel
29.	1	______	641994	Lever, Control Panel, Middle
30.	1	______	641999	Plate, Speed Control Knob, Backing

Checked By: ______________
Packed By: ______________
Date: ______________





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