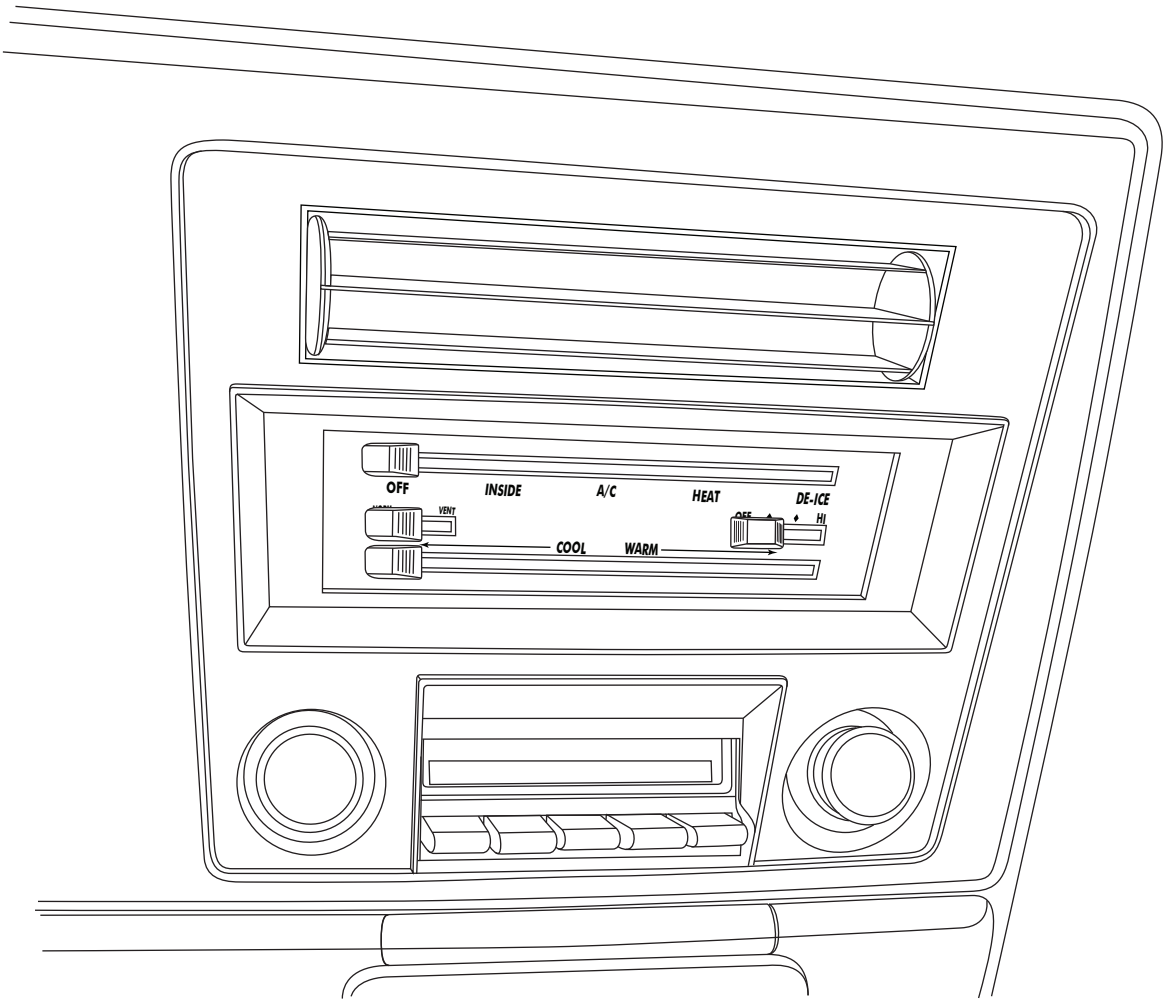
an ISO 9001:2008 Registered Company

1969 Firebird

with **A/C**

Control Panel Conversion Kit

474165



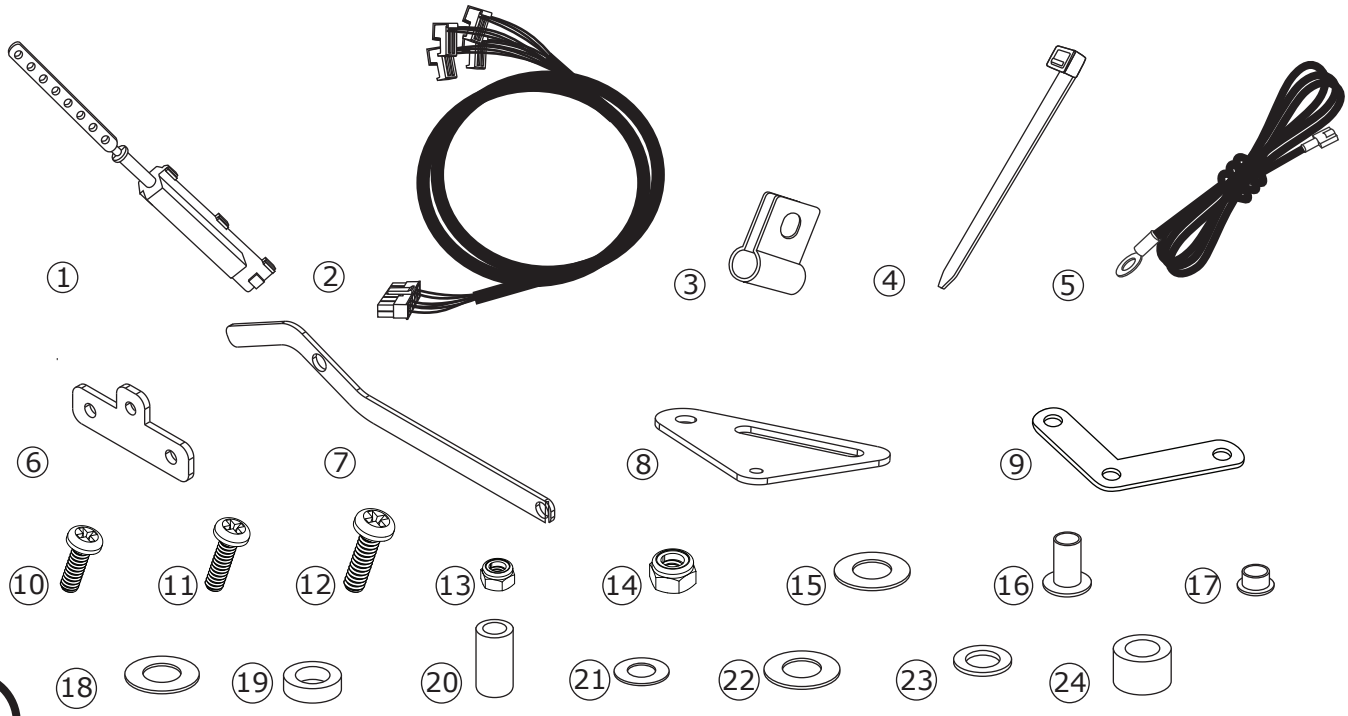
18865 Goll St. San Antonio, TX 78266 ph: 210-654-7171 fax: 210-654-3113

Table of Contents

Packing List: 1969 Firebird Control Panel Conversion Kit (474165)

No.	Qty.	Part No.	Description
1.	3	112002-SUA	Slide Pot Assembly
2.	1	232002-VUA	Gen IV Universal Control Harness
3.	3	491010-VUR	Slide Pot Clamp
4.	5	21301-VUP	4” Tie Wrap
5.	1	231520	Ground Wire
6.	1	644014	69 Firebird Blower Switch Pivot Bracket
7.	1	644015	69 Firebird Blower Switch Lever
8.	1	644016	69 Firebird Heat/Cool Control Bracket
9.	1	644012	69 Firebird w/ A/C Mode Control Lever
10.	4	18413-VUB	4-40 X 3/8” PH Pan Head Screw
11.	3	18400-VUB	4-40 X 5/8” PH Pan Head Screw
12.	2	18113-PSR	8-32 X 3/4” PH Pan Head Screw
13.	6	18412-VUB	4-40 Nyloc Nut
14.	2	18602-NSR	8-32 Nyloc Nut
15.	4	18657-JSS	#8 Flat Washer
16.	3	49700-VUI	1/8” Nylon Insert
17.	1	49701-VUI	Nylon Bushing
18.	2	49704-VUI	1/16” Nylon Flat Washer
19.	2	49705-VUI	1/8” Nylon Flat Washer
20.	1	180041-SSR	.313 OD x .128 ID/.198 ID x .375 L Nylon Spacer
21.	3	18123-VUB	SAE Flat Washer 3/16” X .500
22.	1	186009-WSR	1/16” Nylon Spacer/Washer
23.	2	180383	.250 OD x .140 ID x .065 L Nylon Flat Washer
24.	3	180384	.375 OD x .188 ID x .188 L Nylon Flat Washer

**** 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.**



Removing OEM Control Panel

1. Remove the (4) OEM mounting screws from behind the dash (See Figure 1, below).
2. Remove the control panel.

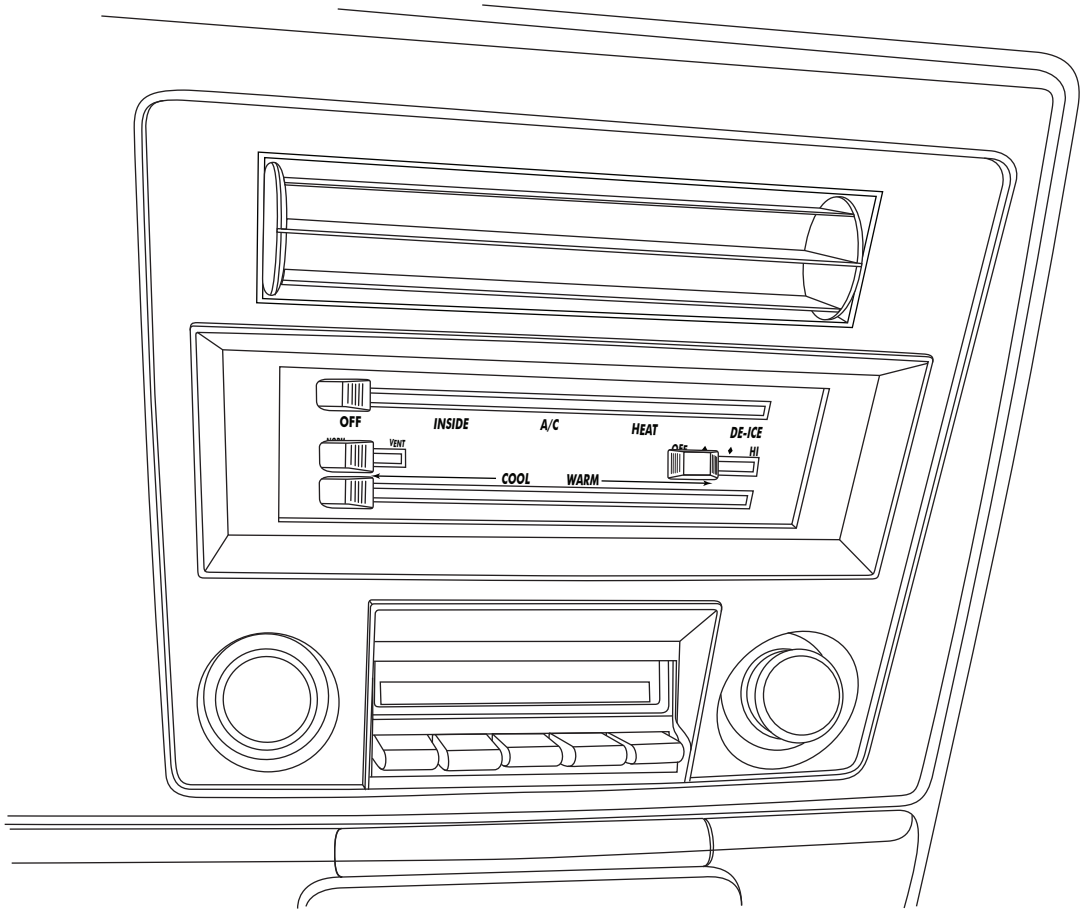


Figure 1

Removing OEM Control Panel (Cont.)

1. Disconnect and remove all cables and wires from control panel.
2. Remove brackets and blower switch from control panel (See Figures 2 and 2b, below).
3. File or trim 1/8” from temperature cable mounting location (See Figure 2a, below).

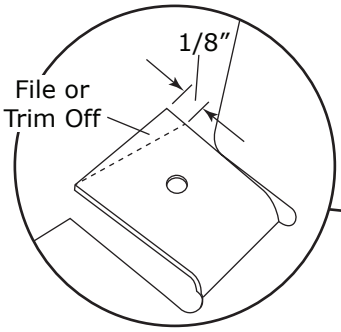


Figure 2a

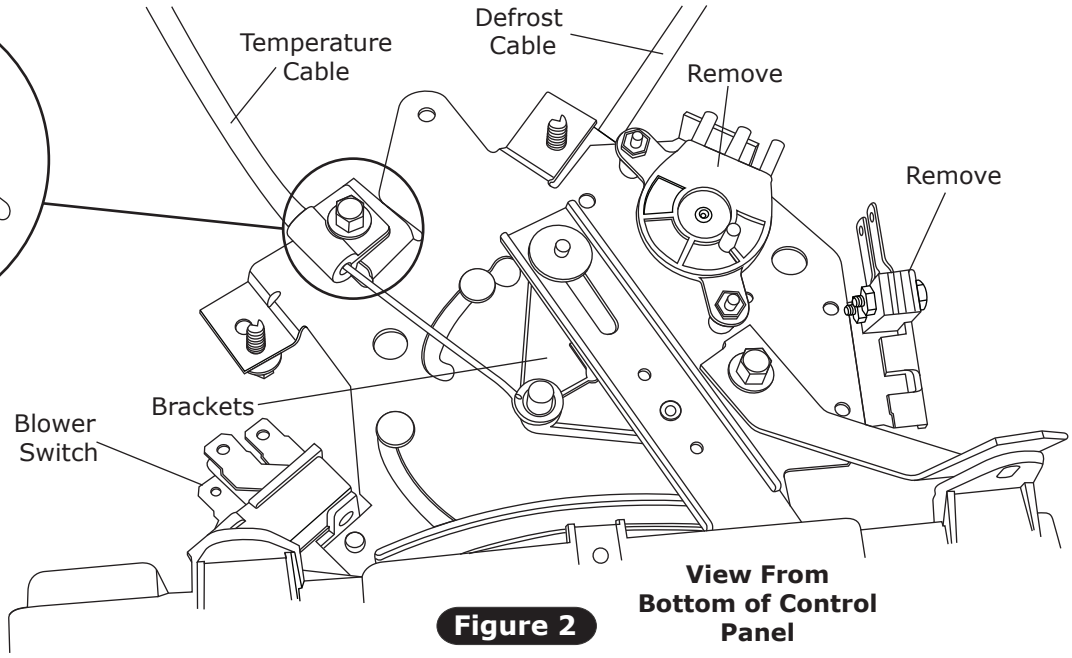
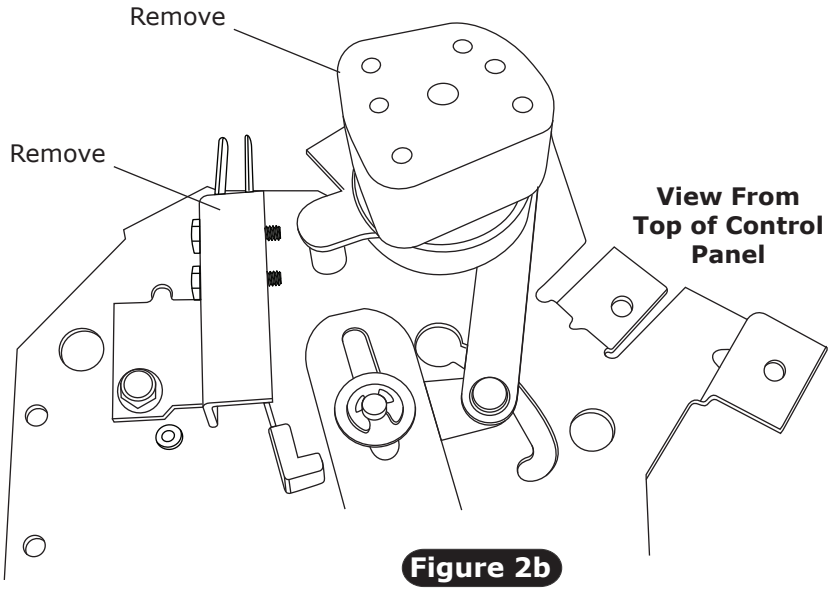


Figure 2

View From Bottom of Control Panel



View From Top of Control Panel

Figure 2b

Slide Pot Assembly Modifications

1. Locate the three slide pot assemblies. Using a pair of wire cutters, cut slide pot actuator rods as shown in Figure 3, below.

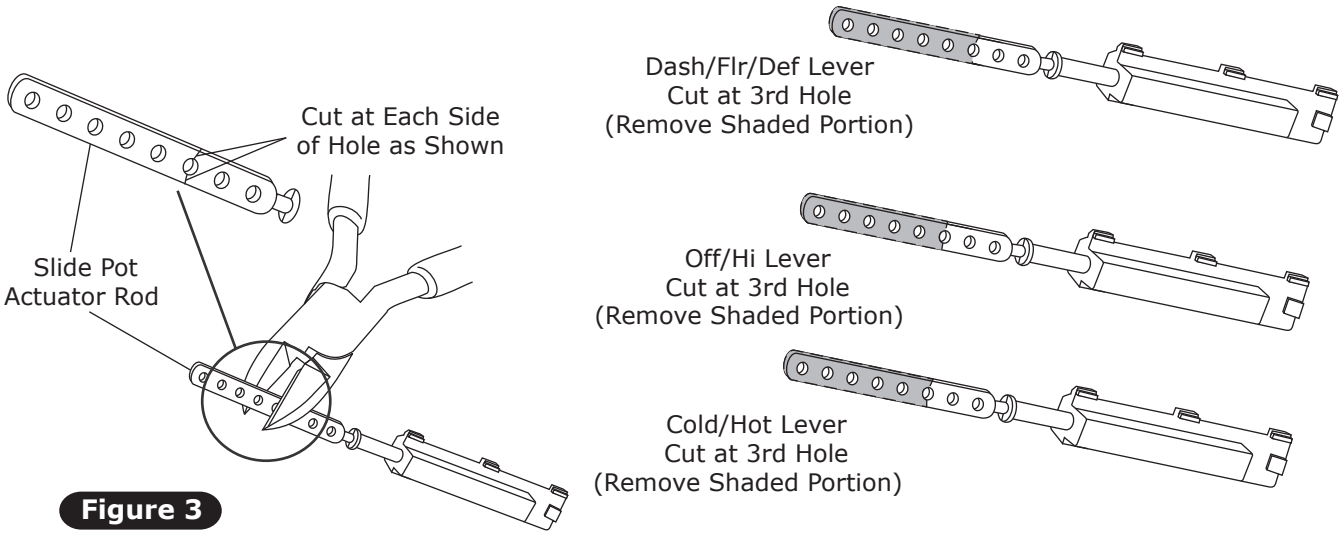


Figure 3

Slide Pot Assembly Mounting Clamp Installation

1. Install slide pot assembly mounting clamps (See Figure 4, below).

2. Orient slide pot and install mounting clamps as shown in Figure 4,below. **NOTE: Orient clamps in relation to the (3) housing snaps on slide pot assembly.**

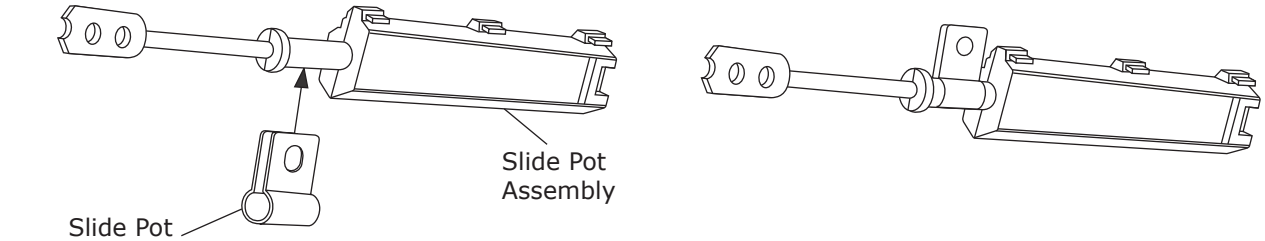
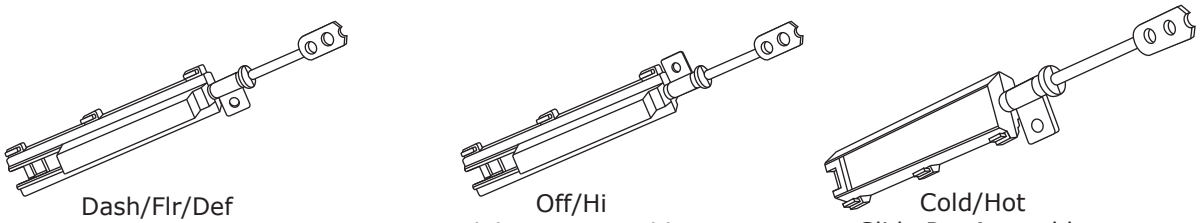


Figure 4



Dash/Flr/Def Pot Assembly 112002-SUA

Off/Hi Slide Pot Assembly 112002-SUA

Cold/Hot Slide Pot Assembly 112002-SUA

Dash/Floor/Defrost Slide Pot Assembly Installation

1. Install A/C mode control lever on OEM mode cam as shown in Figure 5, below.

2. Install slide pot push rod on A/C mode lever as shown in Figure 5a, below.

3. Install A/C mode control lever/OEM mode cam on OEM mode control lever as shown in Figure 5, below.

4. Install slide pot on control panel as shown in Figure 5c, below.

5. Since the slide pot assembly can slide back and forth in clamp before screw is tightened, position 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.

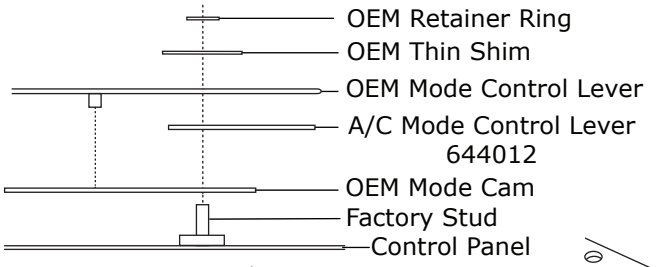
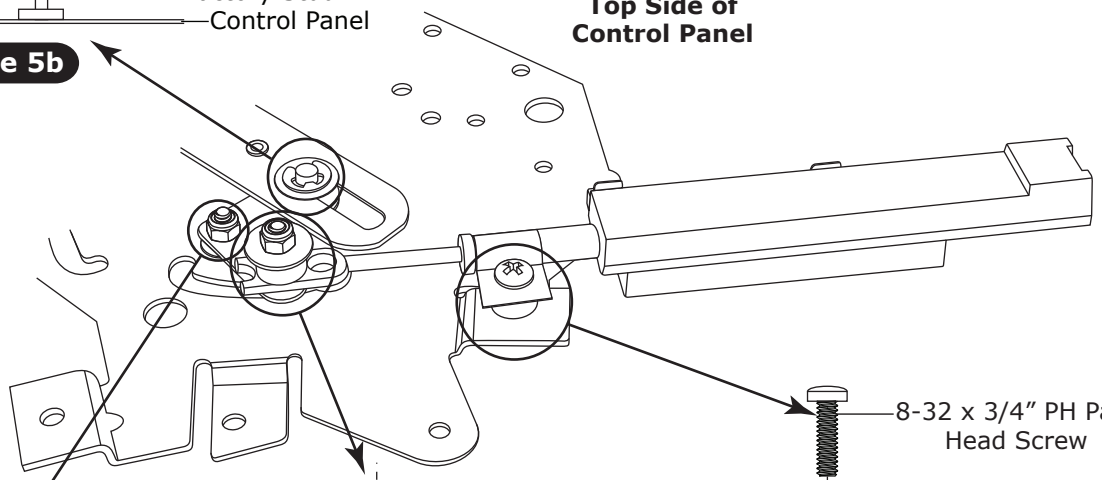


Figure 5b



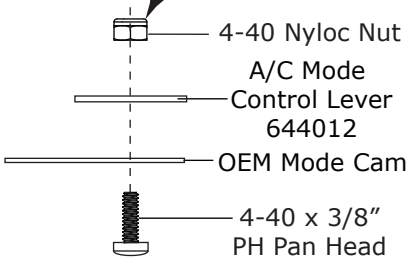
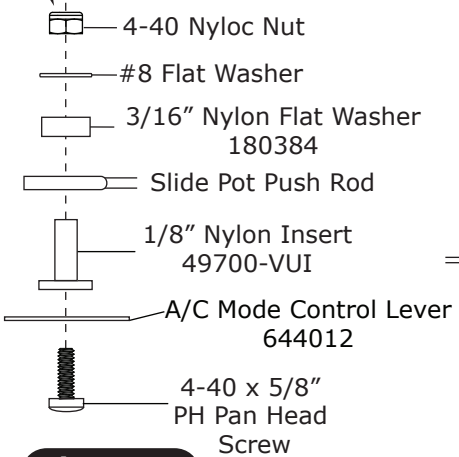


Figure 5



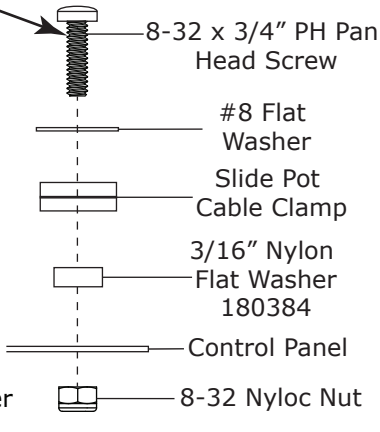


Figure 5c

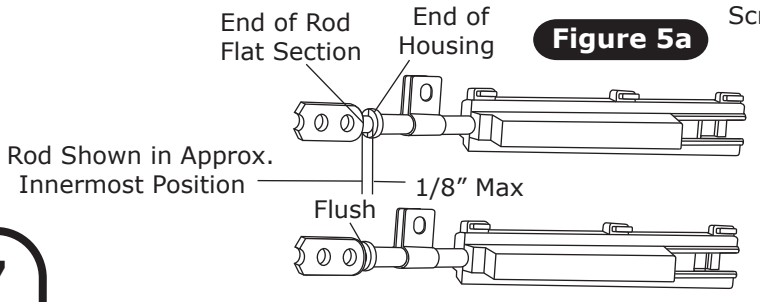
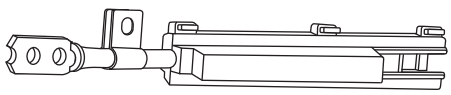


Figure 5a



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

Dash/Floor/Defrost Slide Pot Assembly Installation (Cont.)

1. Locate the control panel wiring harness, and plug the corresponding wire into the correct slide pot assembly as shown in Figure 6, below.

2. Once the wire is correctly plugged into the slide pot assembly, secure wire to the slide pot assembly using tie wraps (supplied) (See Figure 6a, below). The tie wrap must be located between the end of the wire jacket and the step in the slide pot housing, forcing a bend in each wire as it passes over the step in the slide pot housing. The head of the tie wrap must fall on the edge of the housing, as shown, to remain tight. Ensure that the tie wraps are snug enough that the wires cannot move (See Figure 6a, below).

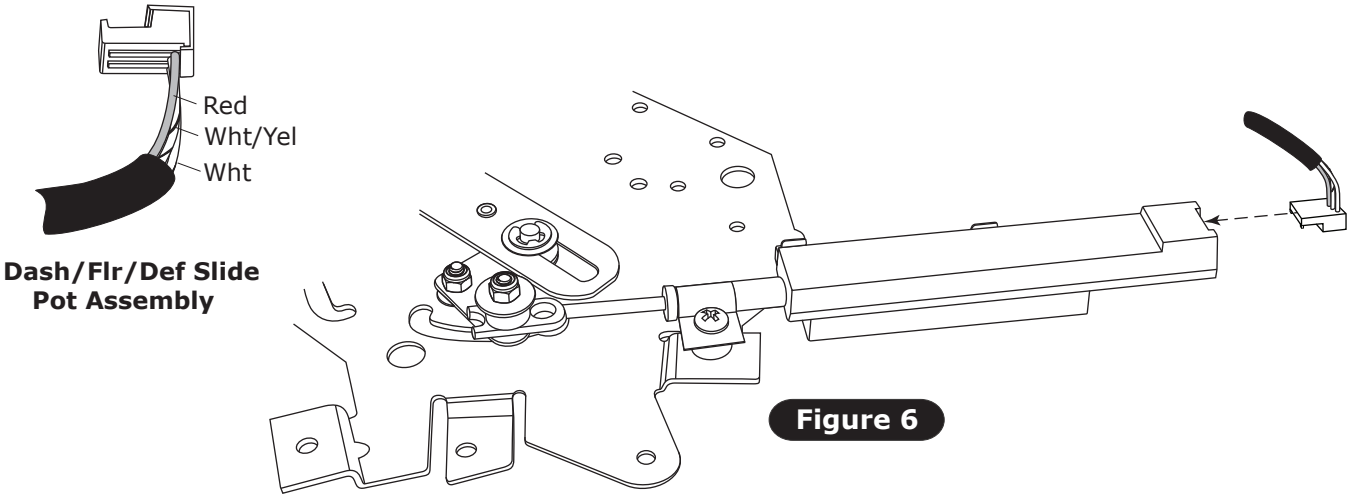
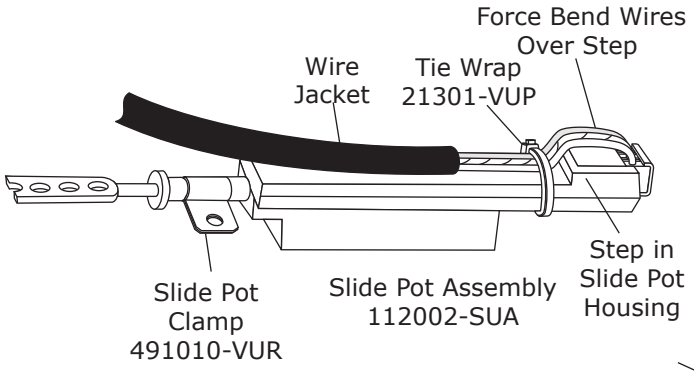


Figure 6



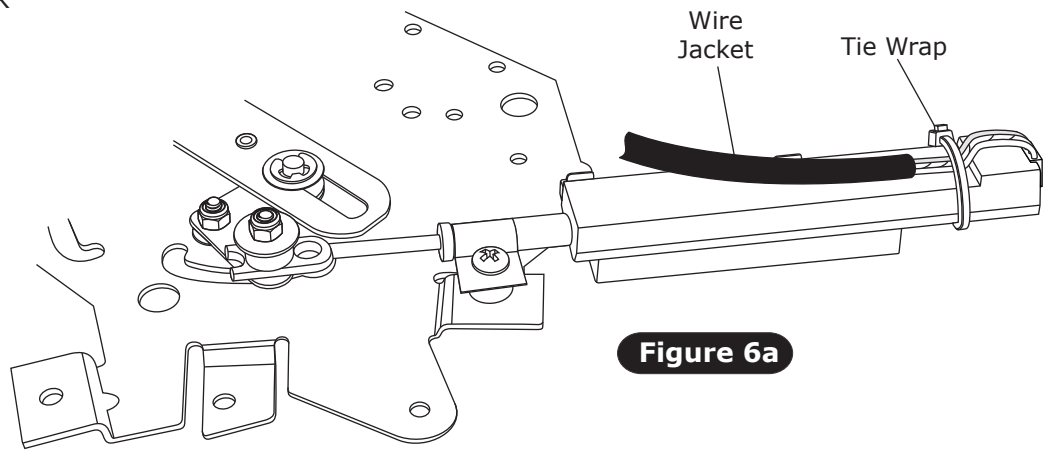


Figure 6a

Off/Hi
Slide Pot Assembly Installation

1. Install blower switch lever onto blower switch pivot bracket as shown in Figure 7, below.
2. Install blower switch pivot bracket assembly onto control panel as shown in Figure 7a, below.
3. Install slide pot assembly onto blower switch lever as shown in Figure 7b, below.
4. Install slide pot assembly onto OEM control panel mounting location using OEM screw.

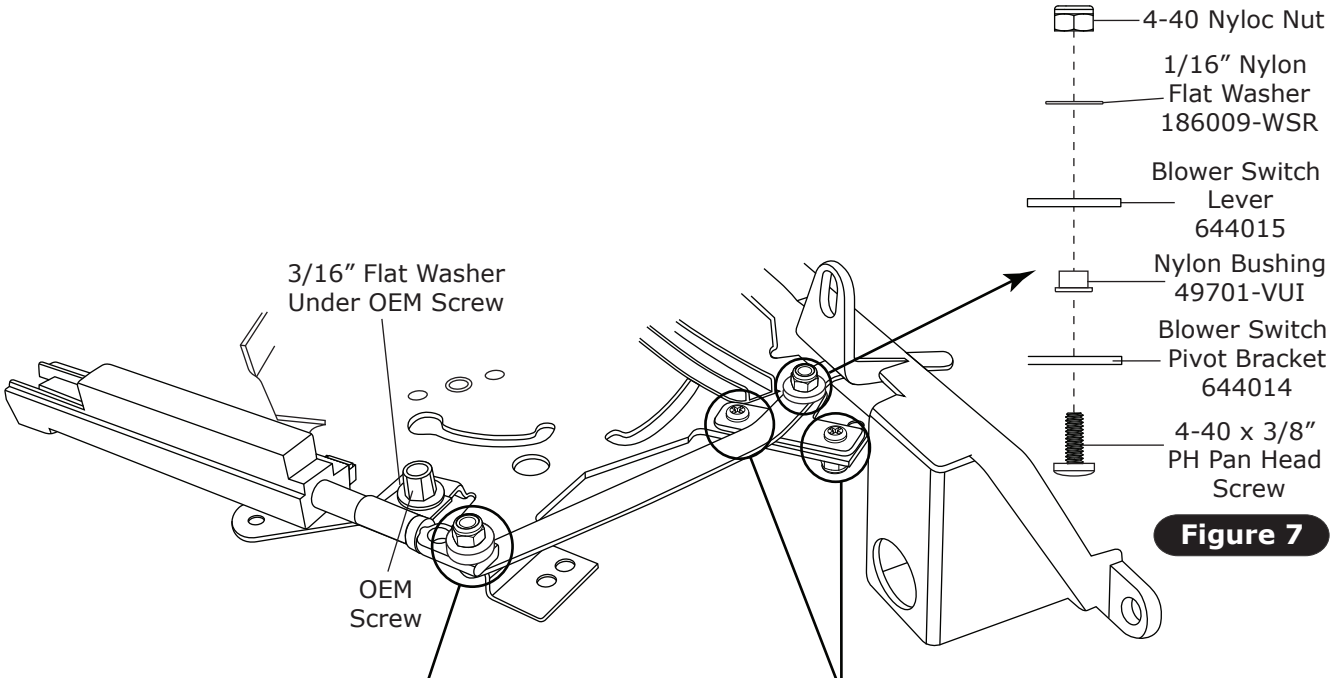


Figure 7

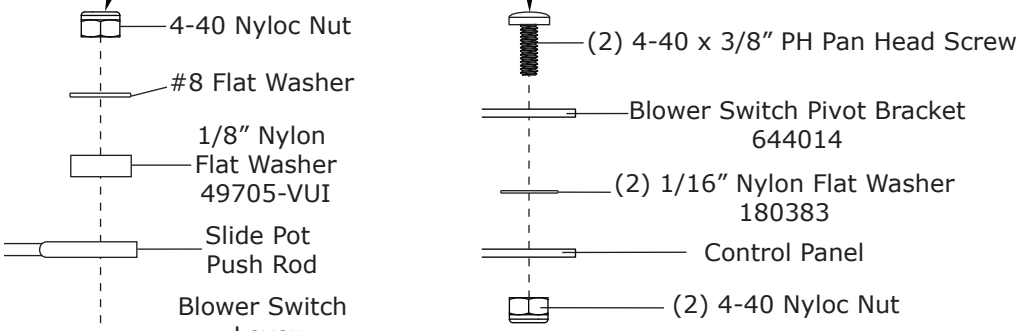


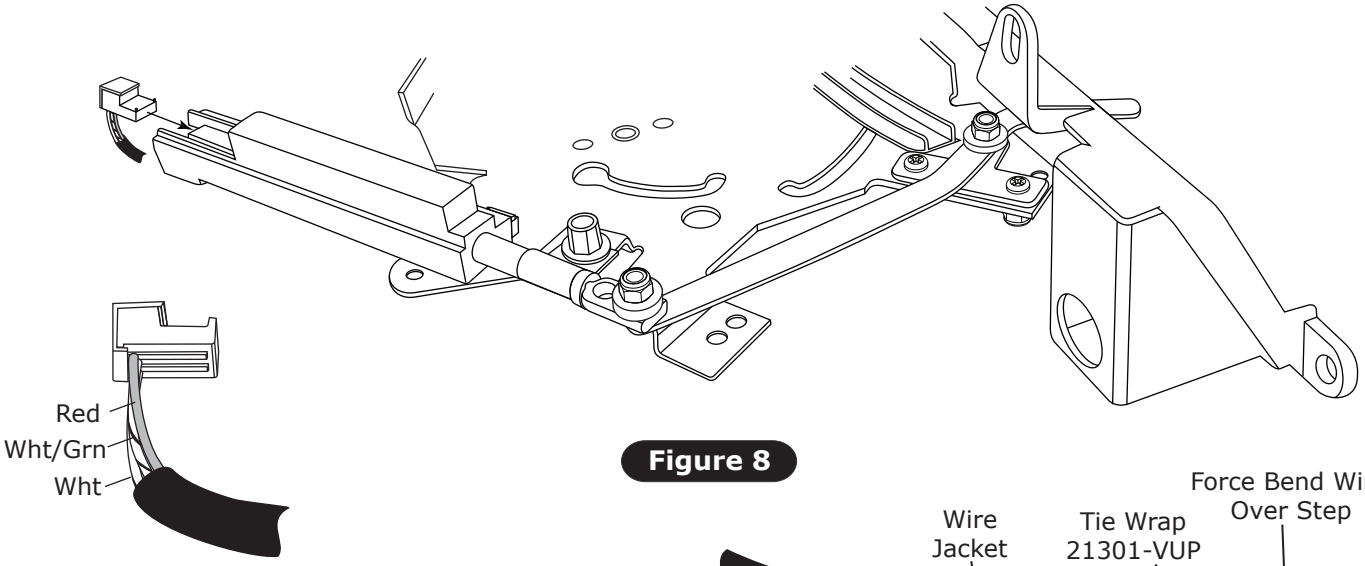
Figure 7a

Figure 7b

Off/Hi
Slide Pot Assembly Installation (Cont.)

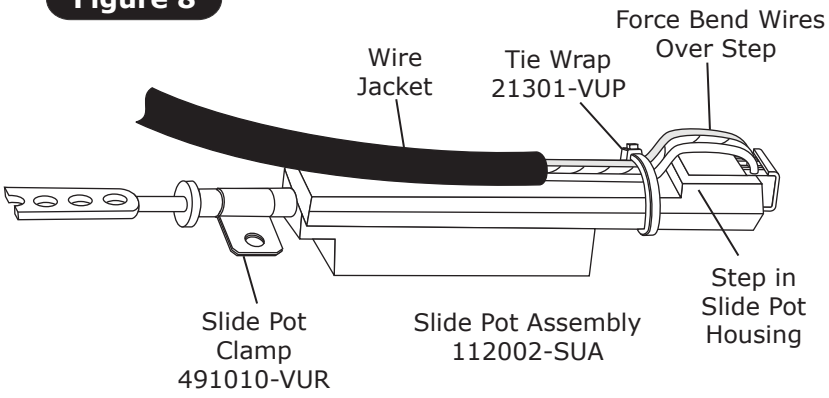
1. Locate the control panel wiring harness, and plug the corresponding wire into the correct slide pot assembly as shown in Figure 8, below.

2. Once the wire is correctly plugged into the slide pot assembly, secure wire to the slide pot assembly using tie wraps (supplied) (See Figure 8a, below). The tie wrap must be located between the end of the wire jacket and the step in the slide pot housing, forcing a bend in each wire as it passes over the step in the slide pot housing. The head of the tie wrap must fall on the edge of the housing, as shown, to remain tight. Ensure that the tie wraps are snug enough that the wires cannot move (See Figure 8a, below).



Off/Hi Slide Pot Assembly

Figure 8



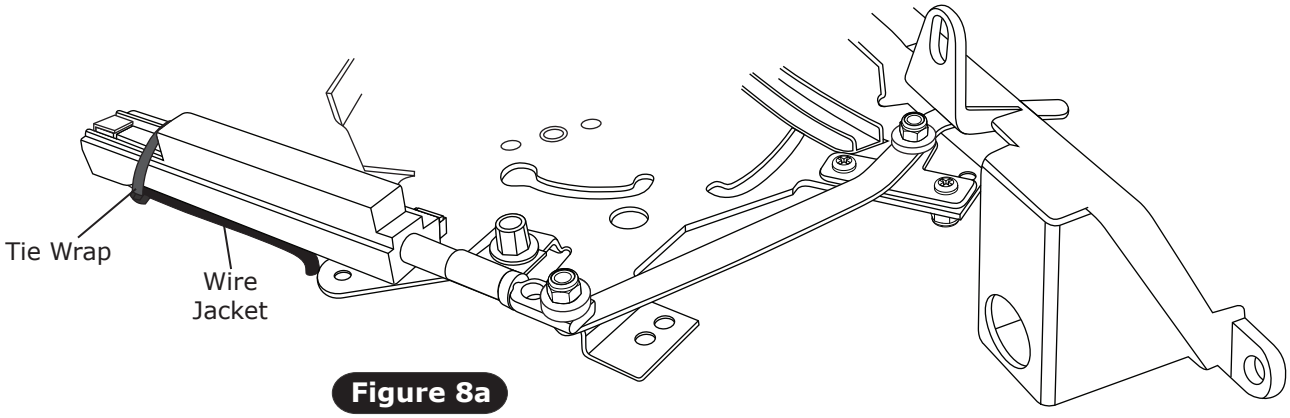


Figure 8a

Cold/Hot
Slide Pot Assembly Installation

1. Install OEM Heat/Cool control lever, Heat/Cool control bracket and slide pot assembly as shown in Figure 9, below.

2. Secure the slide pot assembly to the control panel as shown in Figures 9a and 9b, below.

3. Since the slide pot assembly can slide back and forth in the the clamp, before the screw is tightened, position 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.

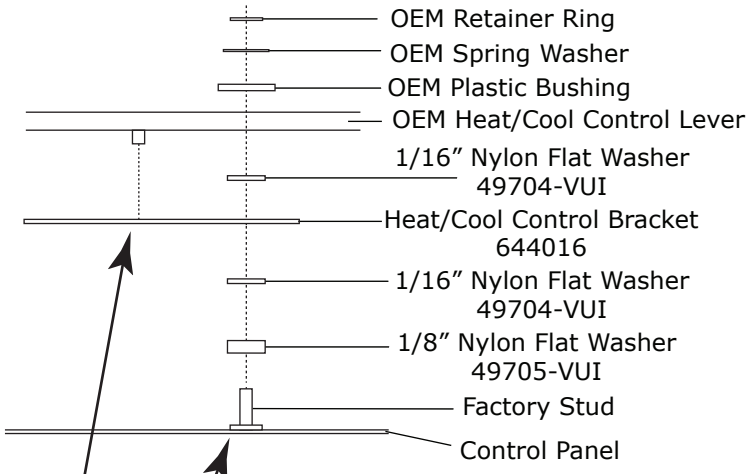


Figure 9

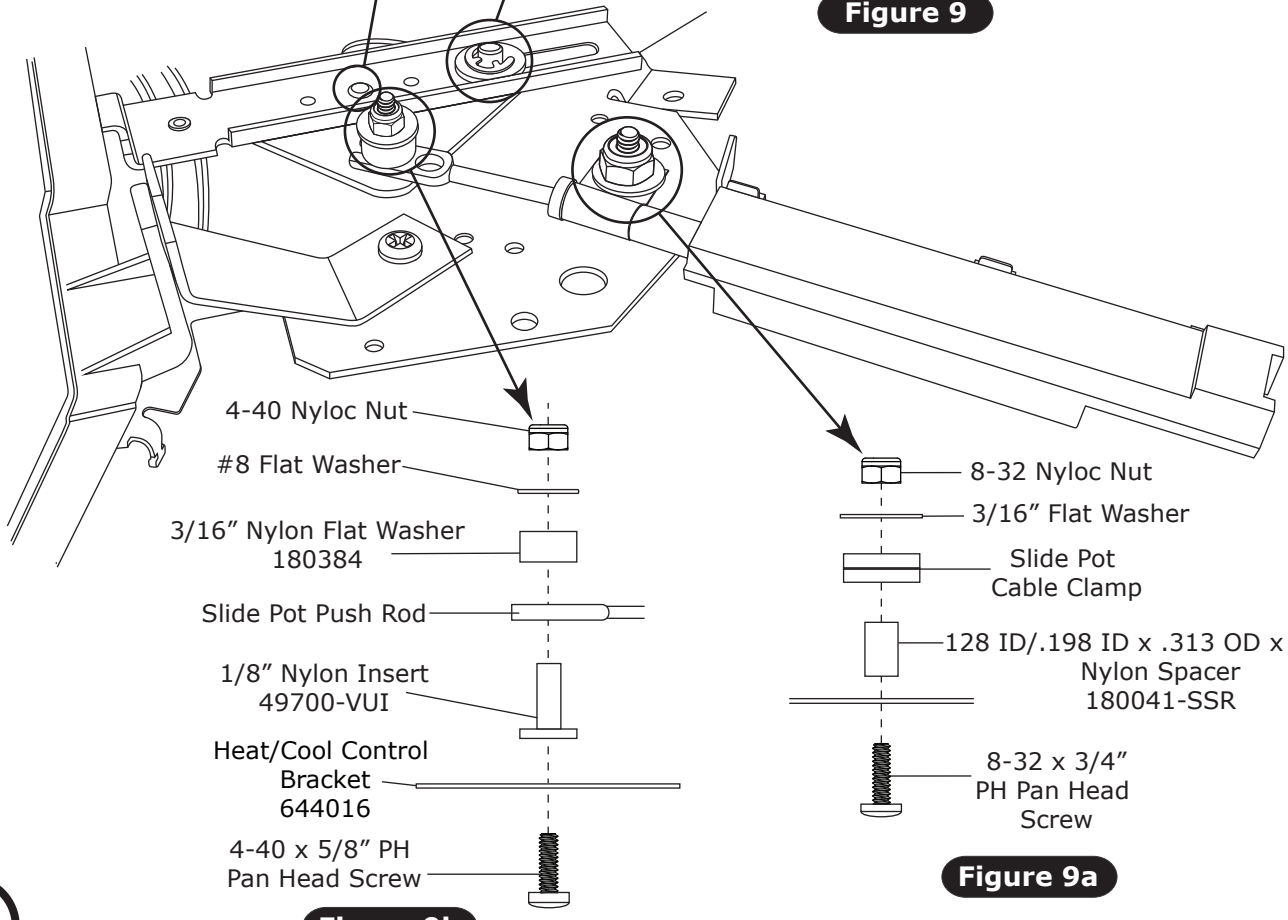


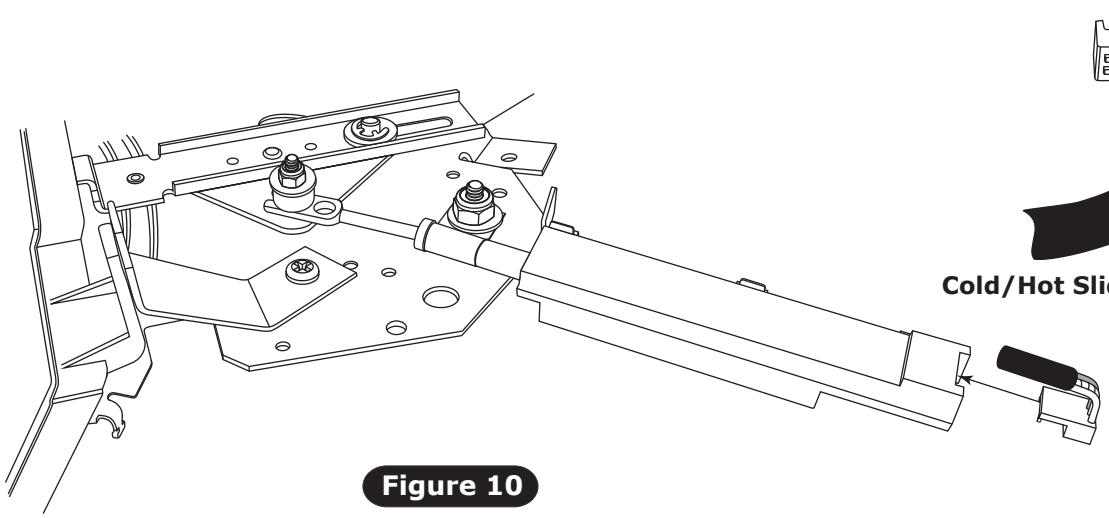
Figure 9b

Figure 9a

Cold/Hot Slide Pot Assembly Installation (Cont.)

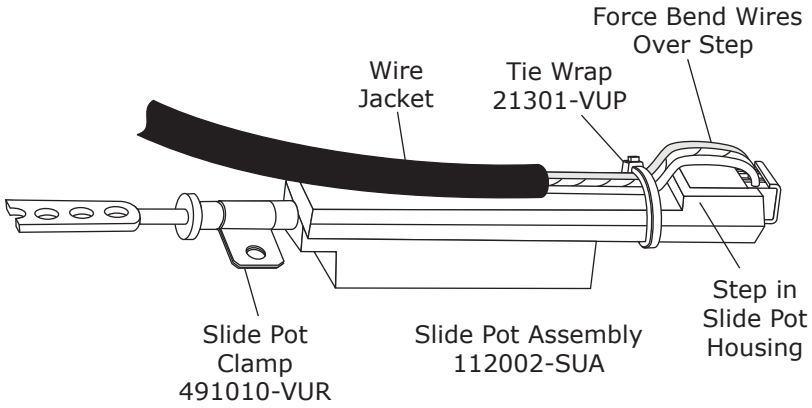
1. Locate the control panel wire harness, and plug the corresponding wire into the correct slide pot assembly as shown in Figure 10, below.

2. Once the wire is correctly plugged into the slide pot assembly, secure wire to the slide pot assembly using tie wraps (supplied) (See Figure 10a, below). The tie wrap must be located between the end of the wire jacket and the step in the slide pot housing, forcing a bend in each wire as it passes over the step in the slide pot housing. The head of the tie wrap must fall on the edge of the housing, as shown, to remain tight. Ensure that the tie wraps are snug enough that the wires cannot move (See Figure 10a, below).



Cold/Hot Slide Pot Assembly

Figure 10



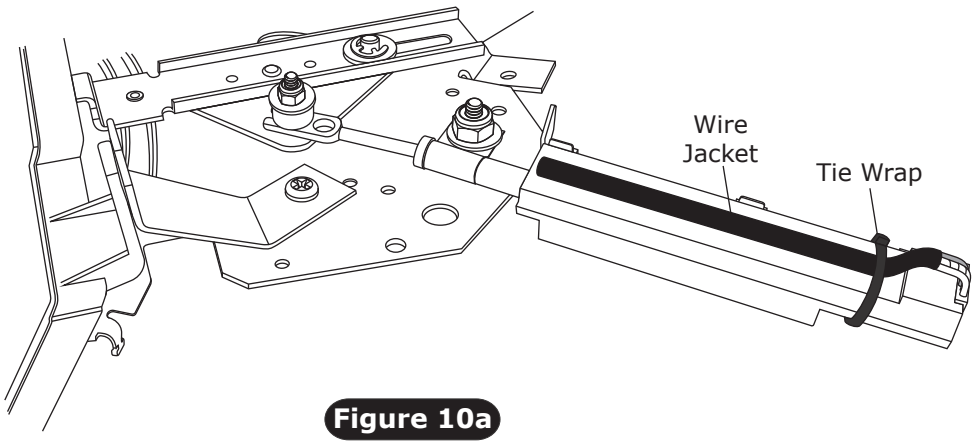


Figure 10a

Final Steps

1. Using the supplied tie wraps, tie the wires, including the unused wire, to the control panel. Confirm that wires are secure and do not interfere with lever operation or slide pot assembly.

2. Install control panel from behind dash. **NOTE: Make sure slide pot assemblies clear duct hose behind the left side of dash opening. Do not force the control panel into the dash. Forcing the control panel into the dash will damage slide pot assemblies and/or duct hose.**

3. Plug the wiring harnesses into the ECU module on the sub case (See Figure 11, below).

4. Wire according to wiring diagram on Page 15.

5. Calibration procedure and operation instructions:

A. Calibrating the control panel will set the range of travel for the slide pots connected to the OEM control panel levers. Performing this procedure will set the limits of the slide pots 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 PRGM on the wiring diagram on Page 15.

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 wire to the vehicle's ground (for example, the chassis) and have the other end ready to connect to the gray PRGM wire when the procedure requires it.

D. To calibrate the control panel, follow the calibration procedures on Pages 13 & 14.

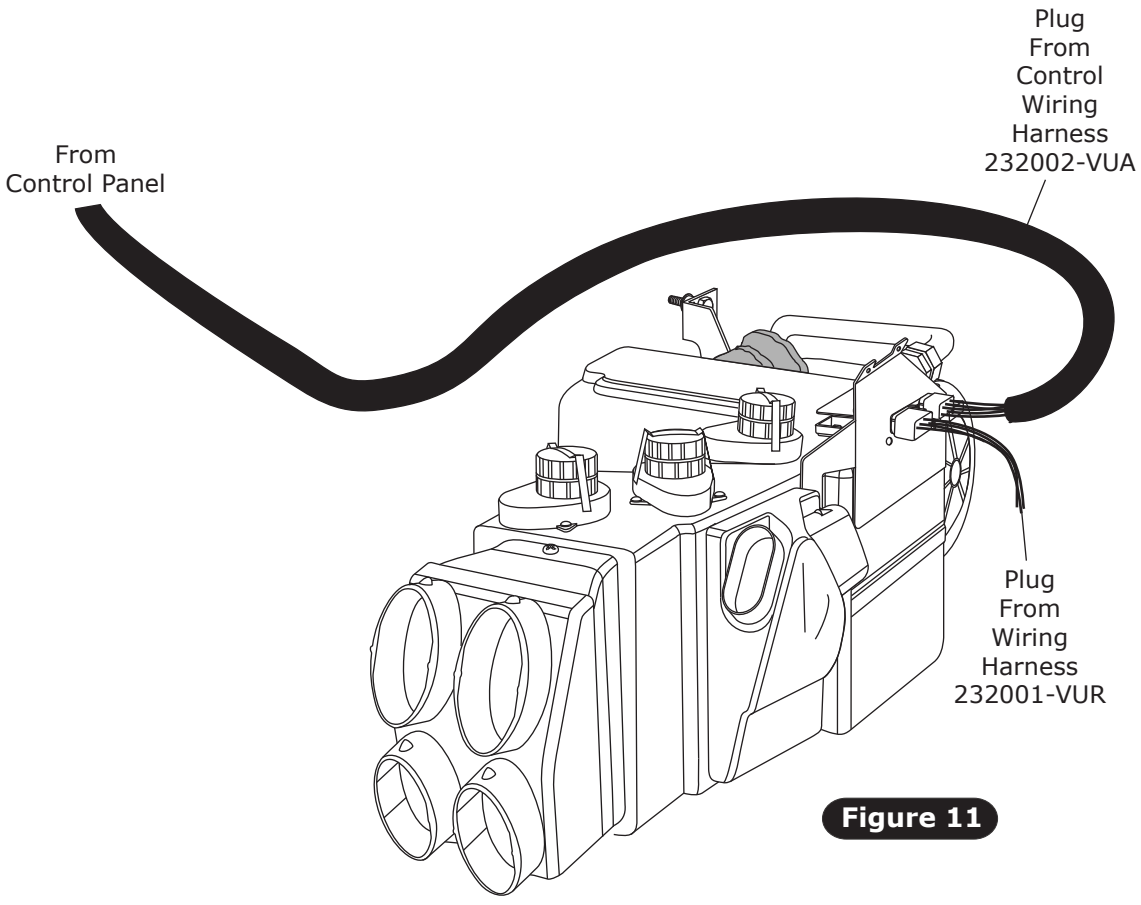
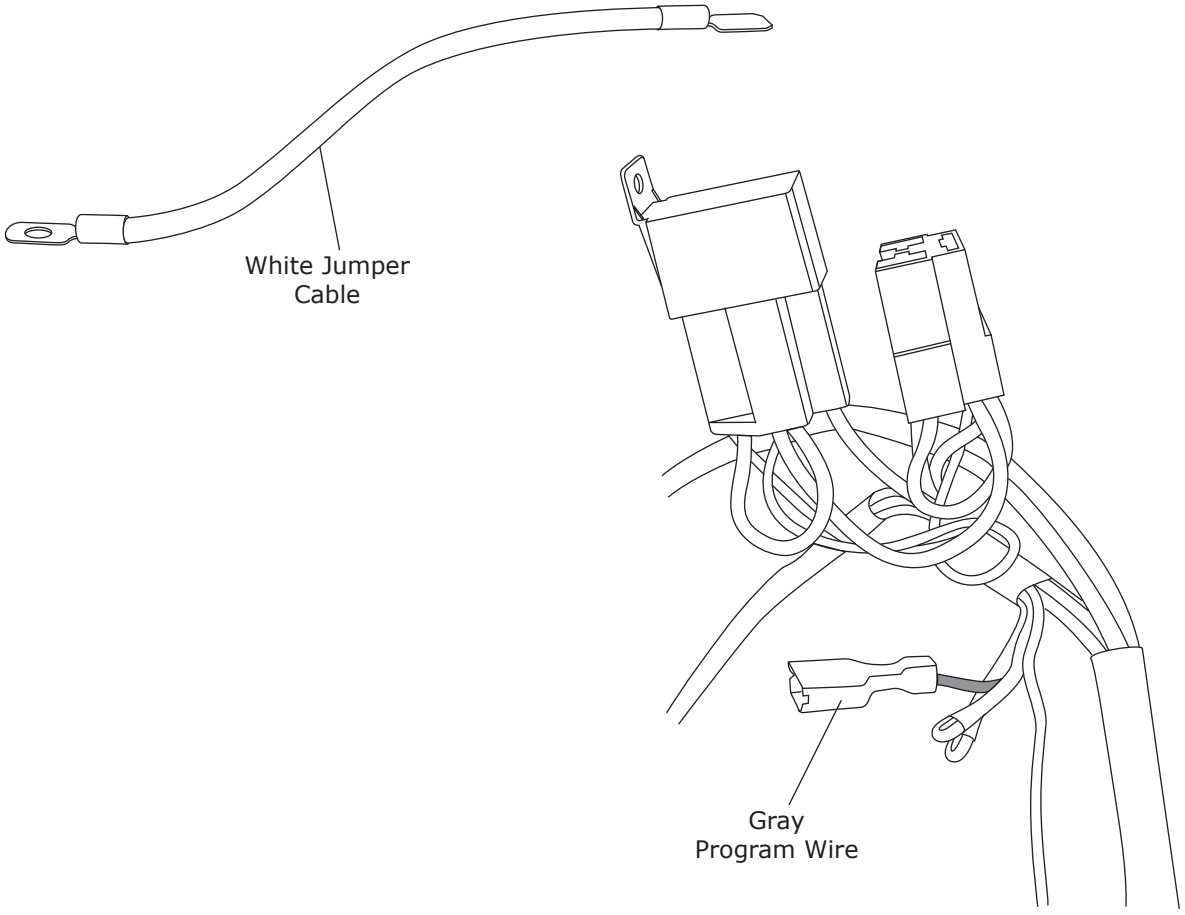


Figure 11

Control Panel Calibration Procedure

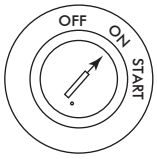
On Vintage Air Gen IV systems using factory controls, it is necessary to calibrate the system to your specific control panel. This procedure ensures that the stroke of your control panel levers or knobs is translated into precise control of the fan speed, temperature blend and mode door position. Please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

In preparation for calibration, you will need to attach the supplied white ground jumper wire 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 relays. 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 again change speeds, signaling that the lower limits have been learned and that the calibration procedure is complete.

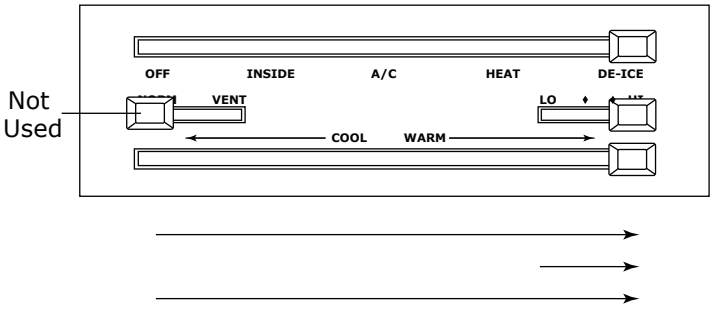


Control Panel Calibration Procedure (Cont.)

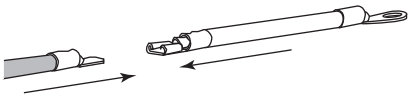
1. Turn on the ignition switch (Do not start the engine).



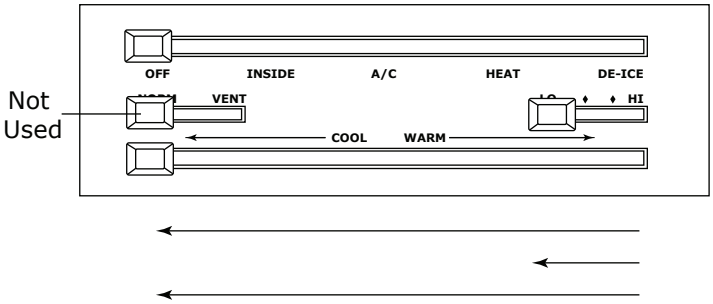
2. Move the control levers/knobs to the position shown.



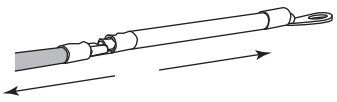
3. Connect the white jumper wire to the gray program wire. Wait for the blower speed to change (Approximately 5 seconds).



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

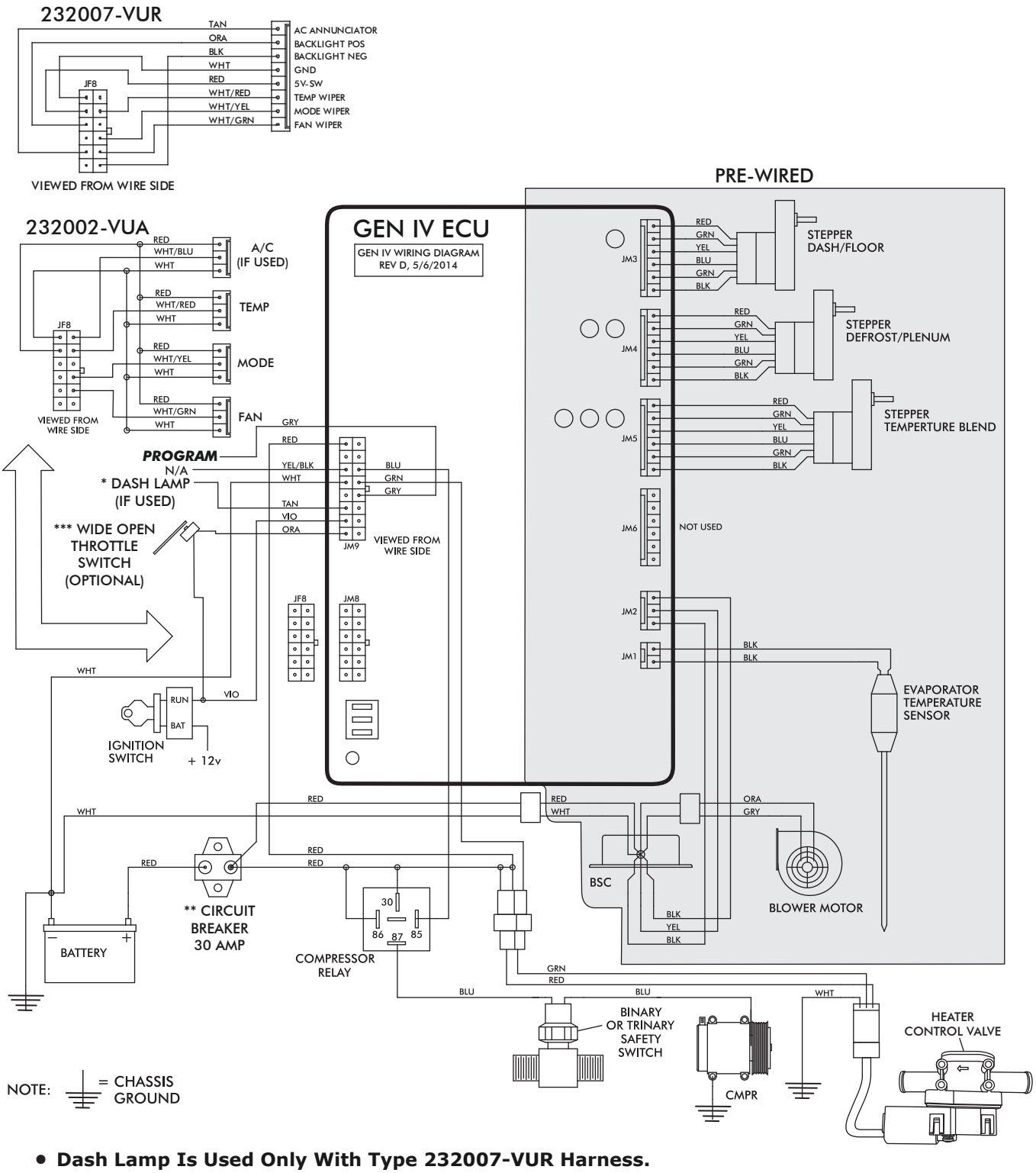


5. Disconnect the white jumper wire from the gray program wire. The blower speed will change, indicating completion of the calibration procedure.



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.

Wiring Diagram



- **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.**

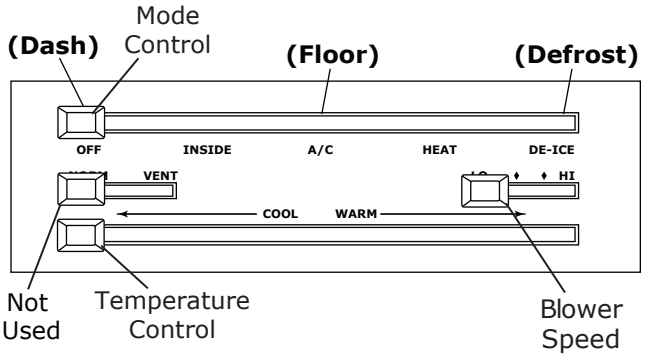
Operation of Controls

On Gen IV 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 between operations, to indicate the change. **NOTE: For proper control panel function, refer to control panel instructions 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.

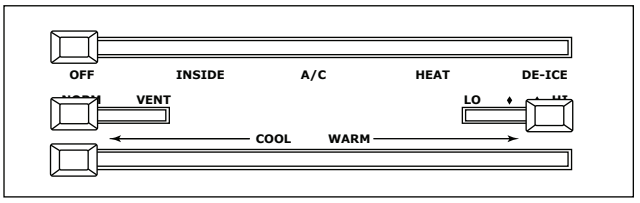


A/C Operation

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).

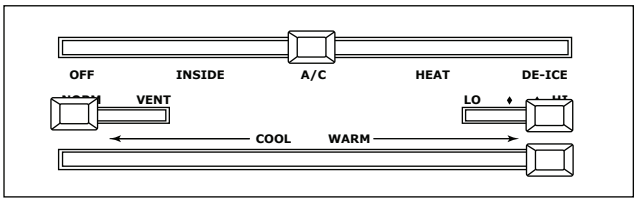


Heat Operation

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).

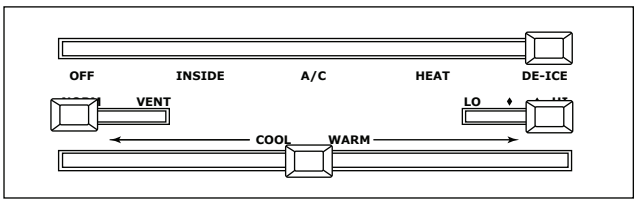


Defrost/De-fog Operation

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).



Packing List: 1969 Firebird Control Panel Conversion Kit (474165)

No.	Qty.	Part No.	Description	
1.	3	112002-SUA	Slide Pot Assembly	
2.	1	232002-VUA	Gen IV Universal Control Harness	
3.	3	491010-VUR	Slide Pot Clamp	
4.	5	21301-VUP	4” Tie Wrap	
5.	1	231520	Ground Wire	
6.	1	644014	69 Firebird Blower Switch Pivot Bracket	
7.	1	644015	69 Firebird Blower Switch Lever	
8.	1	644016	69 Firebird Heat/Cool Control Bracket	
9.	1	644012	69 Firebird w/ A/C Mode Control Lever	
10.	4	18413-VUB	4-40 X 3/8” PH Pan Head Screw	
11.	3	18400-VUB	4-40 X 5/8” PH Pan Head Screw	
12.	2	18113-PSR	8-32 X 3/4” PH Pan Head Screw	
13.	6	18412-VUB	4-40 Nyloc Nut	
14.	2	18602-NSR	8-32 Nyloc Nut	
15.	4	18657-JSS	#8 Flat Washer	
16.	3	49700-VUI	1/8” Nylon Insert	
17.	1	49701-VUI	Nylon Bushing	
18.	2	49704-VUI	1/16” Nylon Flat Washer	
19.	2	49705-VUI	1/8” Nylon Flat Washer	
20.	1	180041-SSR	.313 OD x .128 ID/.198 ID x .375 L Nylon Spacer	
21.	3	18123-VUB	SAE Flat Washer 3/16” X .500	
22.	1	186009-WSR	1/16” Nylon Spacer/Washer	
23.	2	180383	.250 OD x .140 ID x .065 L Nylon Flat Washer	
24.	3	180384	.375 OD x .188 ID x .188 L Nylon Flat Washer	

Checked By: _____
Packed By: _____
Date: _____